

CITY OF MERCED
Planning Department

TO: Bicycle Advisory Commission
FROM: Bill King, Principal Planner
DATE: December 8, 2015
SUBJECT: Highway 59 & Olive Avenue/Santa Fe Avenue Caltrans Roundabout

BACKGROUND

By way of an applicant for a prospective development located at the northwest corner of the State Highway (SH) 59 North and Santa Fe/Olive Avenue intersection, the City of Merced Planning Department became aware of Caltrans' interest to modify said intersection, including the possible installation of a roundabout. A Class I Bikeway, which connects North Merced with Central Merced, utilizes this signalized intersection (Attachment 1). This is of particular concern as this is the only Class I facility in the City that links these areas.

As you are aware, Caltrans recognizes the importance of the creation, maintenance, and enhancement of local bicycle and pedestrian travel, and each year spends and/or funnels millions to fill gaps in bikeway and sidewalk networks, certainly not to create them. The City views any project to improve "travel" intersections as an opportunity to improve all forms of mobility. From this perspective we seek your input.

PROJECT DESIGN

Efforts by Caltrans to improve traffic flow and air quality impacts are welcomed. Attached is a preliminary Project Study Report (PSR) of the contemplated improvements to the intersection (Attachment 2).

Signalized Intersection:

An existing traffic conflict exists where the Class I pathway enters the intersection. Vehicles travelling northbound on SH 59 that turn right onto eastbound Olive Avenue have trouble yielding to pedestrians and cyclists that are travelling on the Class I bikeway, which is also used by pedestrians. Improved signage, lane markings and other structures that create a safe passage across the intersection are needed.

Roundabout Design Option:

Roundabouts can be more efficient at moving vehicular traffic than signalized intersections; this is due to the removal of the traffic signal. On the other hand, loss of the traffic signal removes the current method used by cyclists to safely cross the intersection. The proposal also includes a "free-right" turn from SR 59 North to eastbound Olive Avenue that would cross the Class I facility. The plans for a roundabout show at-grade multi-use crosswalks without traffic controls on all four approaches of the intersection. Users would need to wait, watch and cross; islands are provided in case this movement style cannot be accomplished in a single move.

PROJECT SITE IMAGES

An aerial image of the site is provided in Attachment 1. The picture below is of the multi-use path on the east side of northbound SR 59 facing Olive Avenue.



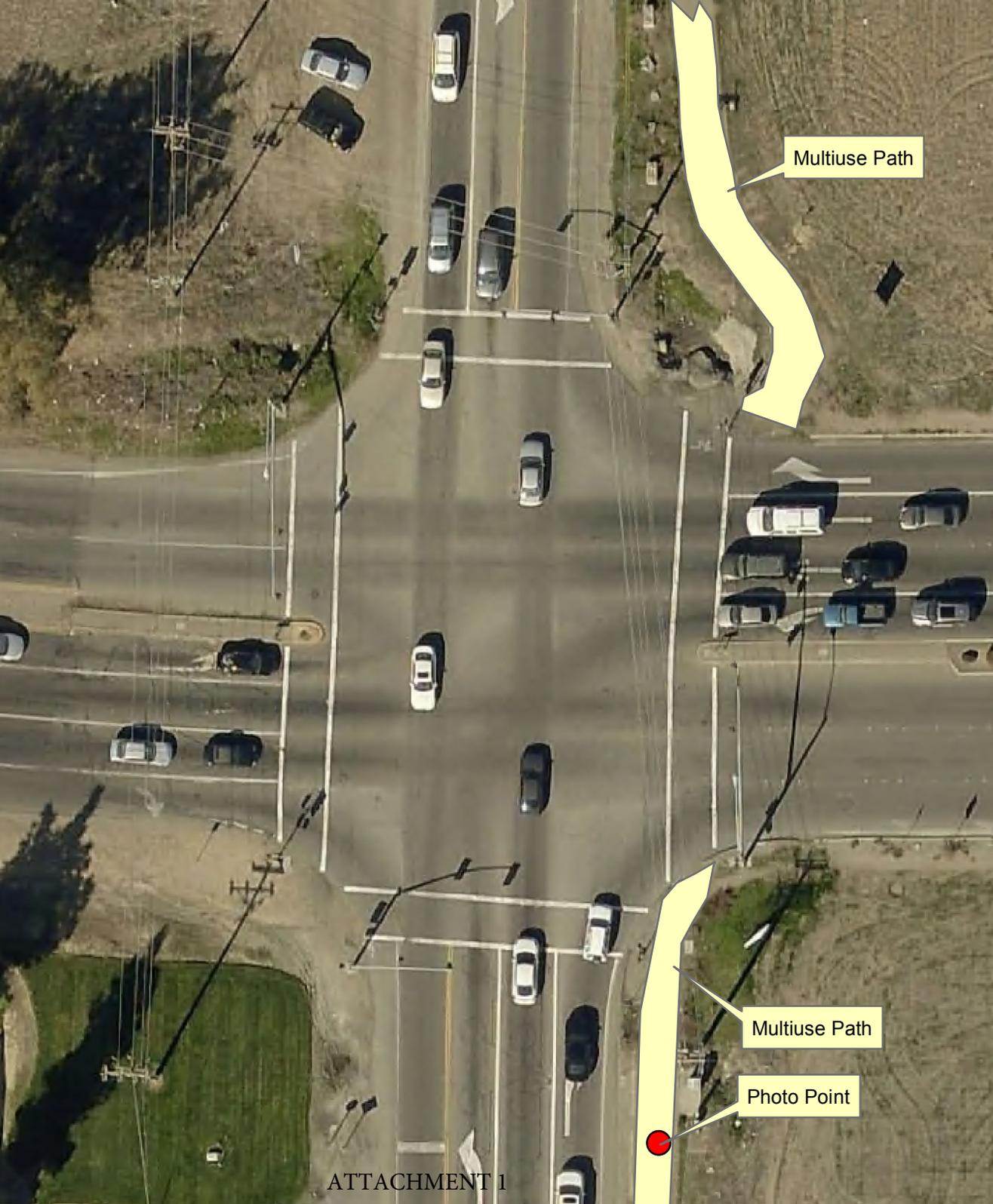
ACTION

Staff seeks input from the City's Bicycle Advisory Commission (BAC) to discuss local issues and concerns related to bicycle use and travel in this area. Also welcomed is discussion of various design options that the BAC may be aware of that would be a good fit for the site. Comments will be considered and amended as appropriate by City Staff, then forwarded to Caltrans.

Caltrans' notes that there will be time for additional public comments in the future.

Attachments:

1. Aerial Image of the site showing the Class I Bikeway
2. Project Study Report (PSR)



Multiuse Path

Multiuse Path

Photo Point

Project Study Report

To

Request for Programming in the 2014 SHOPP

On Route 59 in Merced County

Between 0.1 mile north of Cooper Avenue

And South Fork Black Rascal Creek

APPROVAL RECOMMENDED:

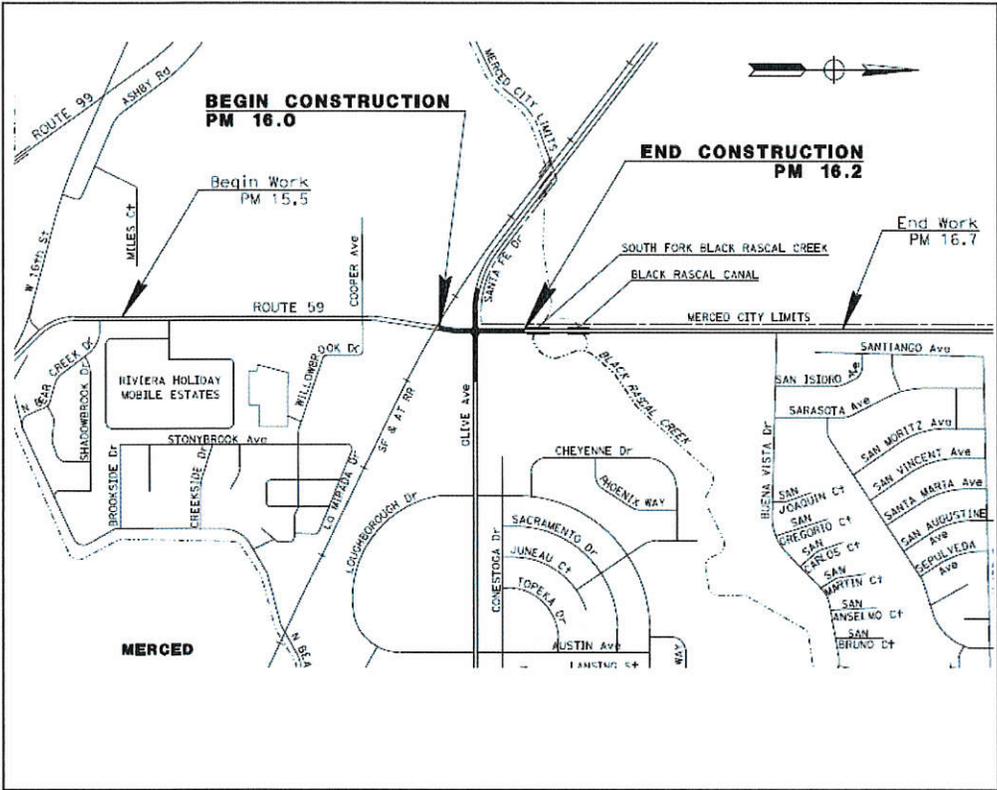
IORZUA AKUVA, *PROJECT MANAGER*

APPROVED:

DENNIS T. AGAR, *DISTRICT DIRECTOR*

DATE

Vicinity Map



This project study report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.


REGISTERED CIVIL ENGINEER

11/10/15
DATE



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1. INTRODUCTION

It is proposed to improve the safety of the signalized intersection of State Route (SR) 59 and Santa Fe Drive/Olive Avenue in Merced County. Three alternatives are proposed: Alternative 1 proposes to construct a two-lane roundabout, Alternative 2 proposes to leave the existing traffic signals in place while improving other aspects of the intersection, and Alternative 3 is the No-Build Alternative. The limits of this project are in Merced County in the City of Merced from 0.1 mile north of Cooper Avenue to South Fork Black Rascal Creek. Alternative 1 (Roundabout) is the Alternative recommended for programming.

Alternative 1 (Roundabout), has a current total capital outlay cost estimated to be \$3,280,000 consisting of \$2,953,700 for capital outlay construction and \$325,738 for capital outlay right-of-way (See **Attachment C**). For this alternative, additional right-of-way and utility relocation is anticipated. This project has been assigned a Project Development Category of 5 as it falls under the category of projects with minimal economic, social, or environmental significance. This project will be amended into the 2014 State Highway Operation and Protection Program (SHOPP) with funding in the 2017/2018 fiscal year proposed from the Safety Improvements Program (201.010).

| | | |
|--|--|---------------------------------|
| Project Limits | 10-Mer-59-PM 16.0/16.2 | |
| Number of Alternatives | 3 | |
| Programmable Project Alternative | Alternative 1 (Roundabout) | |
| | Current Cost Estimate: | Escalated Cost Estimate: |
| Capital Outlay Support | \$2,503,000 | \$2,680,000 |
| Capital Outlay Construction | \$2,953,700 | \$3,227,588 |
| Capital Outlay Right-of-Way | \$325,738 | \$395,937 |
| Funding Source | 201.010 | |
| Funding Year | 2017/2018 | |
| Type of Facility | two-lane conventional highway | |
| Number of Structures | None | |
| SHOPP Project Output | 60 crashes reduced for project life | |
| Anticipated Environmental Determination or Document | Categorical Exclusion/Categorical Exemption | |
| Legal Description | In Merced County in Merced from 0.1 mile north of Cooper Avenue to South Fork Black Rascal Creek | |
| Project Development Category | 5 | |

2. BACKGROUND

Within the project limits, SR 59 is an urban two-lane conventional highway traversing south to north serving as a local street within the City of Merced. The highway consists of two 12 foot lanes and eight foot shoulders on level terrain. Railroad tracks cross SR 59 approximately 260 feet south of the intersection, and the highway narrows at the South Fork Black Rascal Creek Bridge approximately 550 feet north of the intersection. The posted speed along SR 59 is 45 mph. The intersection is situated along Merced City limits which borders Merced County. Santa Fe Drive, a four-lane county road intersects SR 59 from the west. Intersecting from the east, is Olive Avenue which is a six-lane city road. The posted speed limit along Santa Fe Drive and Olive Avenue are 55 and 45 mph, respectively. The intersection is located within a commercial area, however residential developments exists at the adjacent intersections to the south and east. The northwest, northeast, and southeast quadrants of the intersection are currently undeveloped. As-built records show that this intersection was signalized in 1966 with additional signal modifications completed in 1978. District 10 Permits has informed the PDT of plans for future commercial development in the northwest quadrant of the intersection. The right of way along SR 59 is not access controlled.

3. PURPOSE AND NEED

Purpose:

The project purpose is to improve the safety of the signalized intersection.

Need:

The project is needed to reduce the severity and number of rear-end and broadside collisions at this intersection.

4. DEFICIENCIES

This location was initiated by a Table C investigation which appeared on the table four times during the period from 2008 to 2012. The Traffic Investigation Report (TIR) used a three-year study period between 10/01/08 to 9/30/11 to generate the Table B which listed 33 reported collisions. Of the 33 reported collisions, there were 16 rear-ends and five broadside collisions. The most recent collision data from 10/01/11 to 10/31/13 listed six report collisions with four being rear-ends cause by speeding. See the table below for the accident rates of this location compared to the State average:

| Study Period | Actual | | | State Average | | |
|--------------------|--------|------|-------|---------------|------|-------|
| | Fat | F+I | Total | Fat | F+I | Total |
| 10/01/08 - 9/30/11 | 0.000 | 0.42 | 1.38 | 0.001 | 0.11 | 0.27 |

The TIR identified the primary collision pattern as rear-end type collisions and cited the primary collision factors as speeding and other violations. Rear-end type collisions are common at signalized intersections due to the multitude of actions taken during different signal phases. Driver characteristics such as being inattentive, speeding, or following too closely all decrease reaction time to make a stop decision. Typically, an increase in rear-end type collisions can be closely associated with an increase in traffic congestion. However, a Traffic Operations analysis based on existing AM and PM Peak Hour traffic counts on 2/03/15 to 2/04/15, collected using MioVision video monitoring indicated an existing Level of Service (LOS) ranging between B and C at the SR 59 and Santa Fe Road/Olive Avenue intersection. It appears operationally, the intersection functions at acceptable Levels of Service during the existing AM and PM Peak Hours. Additional analysis will be conducted during the PA&ED phase of the project using forecasted volumes.

Reviewing the access management of the roads approaching the intersection reveals several indicators of why rear-ends are exacerbated at this intersection. As shown by the TASAS Selective Accident Retrieval (TSAR), the majority of all the collisions are occurring in the left and right-turn lanes. As traffic queues beyond the capacity of the lane, vehicles queued are susceptible to rear-end type collisions by traffic proceeding in the thru movement. The speed differential between the high speeds on the highway/county/city roads and turning lanes are observed to be approximately 20 mph on most approaches. Based on aerial photographs, the length of the left and right-turn lanes appear to be based on storage with either short or non-existent deceleration lengths. Without sufficient lengths for deceleration, drivers entering turning lanes are required to decelerate in the thru lane. Allowing drivers to decelerate in the thru lane is acceptable in lower volume locations which may have been applicable when this intersection was first constructed, however recent residential development within the vicinity has increased present day volumes. SR 59 currently serves a high volume of local traffic as new residential communities continue to be developed north of this intersection. Aerial photographs reveal several constraints on the highway that discourages providing standard deceleration lengths for the turn lanes. On SR 59, south of this intersection is Cooper Avenue, a signalized intersection which is spaced less than a quarter mile (approximately 1000 feet) away. Studies have shown that reducing the distance between traffic signals decreases the flow of traffic, could increase congestion, and increase the incidents of collisions. The southern approach on SR 59 is also constrained by the railroad which is 260 feet limit line to the limit line of the tracks. On the northern approach, SR 59 is constrained by South Fork Black Rascal Creek Bridge where lengthening the left-turn lane would require bridge modifications. One observation to note is that there is no existing right-turn lane on the northern approach at this time. Heading eastbound on Olive Avenue, left-turn access to several driveways has limited the available deceleration length of the left-turn lane at the SR 59 intersection. Several driveways on Olive Avenue are located within the right-turn lane for westbound traffic which increases the potential for collisions due to traffic weaving.

The Traffic Collision Reports (TCR) showed that the five broadside collisions were caused by factors such as drivers failing to yield and no intersection controls present. Review of the TCRs do not indicate a pattern of broadside collisions caused by roadway deficiencies other than driver behavioral influences.

5. CORRIDOR AND SYSTEM COORDINATION

Route Description

SR 59 is a secondary south to north highway serving Merced County, and throughout much of its extent is built to conventional highway standards. The route serves local traffic, and serves regional agricultural goods movement. South of the City of Merced, SR 59 provides an alternative transportation corridor when managing traffic incidents on SR 99 and SR 152. Within the City of Merced, south of SR 99, SR 59 serves as an important local street. North of SR 99, SR 59 has a diminished role of connecting Snelling with Merced, and links to County Route J 59, that continues north to SR 132 and SR 120.

At this time, it is unclear the status of SR 59. There has been discussion of a realignment farther west, along the proposed Atwater/Merced Expressway and Buhach Road, that might relinquish portions of SR 59 between Bellevue Road and Mission Avenue.

System Designation

SR 59 is functionally classified as a minor arterial or major collector for its entire extent, making it ineligible for inclusion on the National Highway System. For the project locations, SR 59 is on the freeway and expressway system, requiring a facility that is minimally expressway, with a concept LOS of D. The route is a Terminal Access (TA) truck route consistent with the provisions of the Surface Truck Assistance Act of 1982 (STAA). The route is not included in the State Scenic Highway System, and is accessible to bicycles or pedestrians.

Planning Horizon

- Concept LOS “D” for rural locations, and LOS “D” for urban
- Concept facility four lane expressway by 2030
- Ultimate Transportation Concept facility, four lane expressway

6. ALTERNATIVES

Three alternatives are considered for this project. Alternative 1 proposes to construct a roundabout, Alternative 2 proposes to install driver awareness items and reduce queuing, and Alternative 3 is the No Build Alternative which would leave the existing highway facility unchanged. Alternative 1 was selected by the PDT as the Programmed Alternative for this project.

A. Alternative 1 (Roundabout)

It is proposed for Alternative 1 to construct a multi-lane roundabout at the intersection of SR 59 and Santa Fe Road/Olive Avenue in Merced County (See **Attachment B**). Constructing a roundabout at this intersection will be effective in reducing the conflict points for head-on and broadside collisions. Having minimal delay, the roundabout will increase intersection capacity which will reduce queue lengths and improve the LOS. By reducing queue lengths and eliminating the need for turning lanes, it is expected that rear-end type collisions will decrease resulting in improvements to the safety and operational performance of this intersection.

The roundabout will be designed to include two circulating lanes and accommodate STAA trucks. However, the presence of non-standard loads or oversized vehicles will be verified in the Project Approval and Environmental Document (PA&ED) phase. Use of truck aprons may be needed to minimize the footprint of a larger inscribed circle diameter if the presence of larger design vehicles are determined. The roundabout will include a bypass lane for northbound SR 59 to eastbound Olive Avenue traffic which will be separated from the circulating lane with concrete curb and gutter. Although bicyclist are allowed to traverse the roundabout as a motor vehicle, pedestrian and bicycle facilities will be included. Pedestrians and bicyclists will be able to navigate around the roundabout by using a shared path constructed behind a landscape buffer. Construction of the new shared path will conform to the City of Merced's existing and proposed bicycle path and sidewalks. Realignment and reconstruction of the local roads prior to the roundabout will be necessary.

The inscribed circle diameter will follow the FHWA's guidelines for a multi-lane roundabout. Generally, diameters for multi-lane roundabouts range between 150 to 250 feet. Preliminarily, the proposed inscribed circle diameter for this intersection will be 220 feet to accommodate STAA trucks. Due to the location of the intersection, a high speed approach design for the splitter islands will be used on the eastbound and westbound approaches. Wider splitter islands consisting reversing curves are required to separate traffic and ensure proper speed reduction entering the roundabout. The length of the splitter islands will range from 200 to 300 feet and will be comprised of concrete curb and gutter. The operating speed of the roundabout is a critical aspect in terms of safety performance with the severity of collisions directly tied to speed. As recommended by FHWA, the roundabout will be designed to allow maximum entering speeds ranging between 25 and 30 mph. The total circulating

width will vary between 28 to 32 feet as it is desirable to provide only the minimum width necessary. Preferably, the cross slope of the approach and circulating lanes will be two percent sloping outward from the splitter and central island. The entry and exit widths for each lane will vary between 12 and 15 feet based on the turning radius of the design vehicle. A mountable truck apron will line the inside edge of the roundabout's central island which will allow these vehicles and their trailers to safely maneuver through the roundabout. Design of the proposed roundabout will be consistent with National Cooperative Highway Research Program (NCHRP) 672 and Highway Design Manual (HDM) Index 405.10 with no nonstandard features being proposed at this time.

Traffic Operations has recommended that a minimum 250 feet of storage space is provided to the gated crossings based on the Institute of Transportation Engineers (ITE) 2010 Intermountain Conference study. Currently, the existing storage length is approximately 260 feet and efforts in the final design will strive to maintain or exceed the existing length. The study also noted two types of risks associated with roundabouts near rail crossings. One risk is that the circulatory area of the roundabout may become gridlocked while the gated crossings are down. The second risk is that vehicles may queue up to the railroad crossing on the southbound approach. Strategies to mitigate these risks will be evaluated if the roundabout alternative is chosen during the PA&ED phase.

Currently, storm water run-off from the intersection sheet flows into adjacent undeveloped parcels and infiltrates. Some drainage inlets exist which channel the run-off into unlined ditches on the northwest quadrant. The proposed drainage system would be comprised of drainage inlets located along the concrete curb on the outside edges of the roundabout. The drainage inlets will intercept and discharge the runoff into either new ditches or a new basin. A Hydraulic Recommendation will be requested in the PA&ED phase to determine the amount of hydraulic capacity required. Providing a basin may provide opportunities for future permanent storm water treatment credits. If a basin is used, a chain linked fence may be needed to prevent encroachment depending on the presence and depth of standing water.

The central and splitter islands will provide an opportunity for landscaping and planting. Geography, maintenance, and the current drought status of the area will impact which landscaping features will be taken into consideration. Typical landscape features include vegetation, however taking into consideration the absence of irrigation and required routine maintenance, hardscaping may be preferred. The central island will be mounded to prevent headlights from shining through which could obscure visibility from oncoming traffic. This will allow motorists to focus on traffic approaching from the left when yielding at the approaches. Unique community features will be considered in the PA&ED phase to tie the area into the local surroundings.

Illumination of the intersection will be required to improve visibility. Options include high mast lighting in the central island which may be discouraged due to the close

proximity of residential areas, or conventional lighting along the approaches to the roundabout. Advance warning signs will be placed in order to warn motorists approaching the roundabout. Some of the approaches currently have flashing beacons which can be used or salvaged as advanced roundabout warning. Service is available by connecting to any one of the existing utility poles carrying overhead electrical lines located along SR 59. The new electrical conduits will be trenched three feet underground with service access placed within the concrete shared use path. Several underground utilities have been observed in the field including water, gas, sewer, television, electrical power, and telephone.

This alternative may require 0.31 acres of additional right of way from three parcels. Temporary construction easements may be necessary when staging for construction and tying in driveways for existing private businesses. Several utility poles and utility covers are anticipated to be relocated. Access to existing underground utilities may be required to be adjusted to grade. Based on the orientation of the center of the roundabout, utility covers may be located in an area within the splitter island, concrete curb, truck apron, or other roundabout related features which may be undesirable to the utility owners. Raising awareness and keeping the utility companies engaged will minimize delay. Utility verification will be completed during the PA&ED phase, and positive location necessary to determine the depth and location of these facilities. Once survey information is provided during the PA&ED phase, there will be an opportunity to refine the design and determine the extent of new right of way acquisitions and temporary construction easements.

The current capital outlay cost for this alternative is as follows (See **Attachment C**):

| | |
|---------------------|--------------------|
| Roadway | \$2,953,700 |
| Structures | \$ 0 |
| <u>Right of Way</u> | <u>\$ 325,738</u> |
| Total | \$3,280,000 |

The capital cost for this alternative is within the Safety Index threshold and therefore eligible for programming.

B. Alternative 2 (Other Viable Strategies)

Alternative 2 proposes to develop strategies other than a roundabout which may reduce collisions at the intersection. Strategies may include increasing driver awareness, providing more deceleration lengths on the turn lanes, increasing the capacity of the intersection, or a combination of the ones listed. Increasing driver awareness can be achieved by signal improvements such as the installation of 12-inch signal lenses, advance detection on the approaches, signal retiming, and phasing and cycle improvements. Amongst these strategies, lengthening the deceleration lane lengths on the highway and local roads may be the most beneficial. This can be

achieved by closing the left-turn access points in the raised median along the city road (Olive Avenue), allowing only right-in right-out access from the driveways. This will provide the existing left-turn lane room to be lengthened to the standard deceleration length. The county road (Santa Fe Drive) can be lengthened by restriping the median, since there is currently a 12-foot median present. Increasing the capacity on the highway can be achieved by widening the northbound approach at the railroad tracks and by constructing a right-turn lane on the SR 59 northern approach which may help to relieve the congestion. These alternatives will be studied in the PA&ED phase when survey data and detailed Traffic Operation analysis of the future conditions are available.

C. Alternative 3 (No-Build)

This is the “No-Build” alternative. This alternative is not preferred as it does not address the collision patterns.

7. COMMUNITY INVOLVEMENT

It is anticipated there will be citizen and local agency participation throughout the study. There will be an opportunity for public meetings and hearings during the PA&ED phase. The local agencies have expressed interest in this project and will have opportunities to be involved in future Project Development Team meetings throughout the project development process.

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

The anticipated environmental document for Alternative 1 (Roundabout) is a Categorical Exclusion under the National Environmental Policy Act (NEPA) and a Categorical Exemption under the California Environmental Quality Act (CEQA).

This document level was based on the following assumptions:

- No sensitive environmental resources are present within the project footprint or that any resources present can be avoided.
- A Biological Opinion is not needed for this project.

9. FUNDING/PROGRAMMING

Funding

This project will be amended into the 2014 SHOPP with funding in the 17/18 fiscal year from the Safety Improvements Program (201.010). It has been determined that this project is eligible for Federal-aid funding.

Programming

The following escalation rates were used in the formulation of the costs in the table below: construction capital (3%), right of way capital (5%), and support cost (3.1%).

| Fund Source | Fiscal Year Estimate | | | | | | | | |
|----------------------|-----------------------------------|-------|-------|---------|-------|-------|-------|--------|---------|
| | Prior | 15/16 | 16/17 | 17/18 | 18/19 | 19/20 | 20/21 | Future | Total |
| 20.10.201.010 | | | | | | | | | |
| Component | In thousands of dollars (\$1,000) | | | | | | | | |
| PA&ED Support | | \$579 | \$83 | | | | | | \$662 |
| PS&E Support | | | \$73 | \$445 | \$119 | | | | \$637 |
| Right-of-Way Support | | | \$41 | \$87 | \$26 | \$27 | \$21 | | \$202 |
| Construction Support | | | | | \$604 | \$501 | \$74 | | \$1,179 |
| Right-of-Way | | | | \$396 | | | | | \$396 |
| Construction | | | | \$3,228 | | | | | \$3,228 |
| Total | | \$579 | \$197 | \$4,156 | \$749 | \$528 | \$95 | | \$6,304 |

The support cost ratio is 74%.

The support costs were based on Alternative 1 (Roundabout), and the following assumptions were made which resulted in a higher support cost ratio:

- Roundabouts are a new design concept for District 10 which indicates a significant learning curve.
- Roundabout Alternative will involve Landscape Architect, Electrical Design, Traffic Design, Traffic Operations, Environmental, and Right of Way during project development.
- Complex construction staging will impact design, surveys and construction.

10. SCHEDULE

This schedule assumes that the Milestone M020 Begin Environmental is initiated with State only funds.

| Project Milestones | | Milestone Date (Month/Day/Year) |
|----------------------------|------|------------------------------------|
| PROGRAM PROJECT | M015 | 3/22/16 |
| BEGIN ENVIRONMENTAL | M020 | 2/06/16 |
| PA & ED | M200 | 1/11/17 |
| PS&E TO DOE | M377 | 3/07/18 |
| RIGHT OF WAY CERTIFICATION | M410 | 6/15/18 |
| READY TO LIST | M460 | 6/29/18 |
| HEADQUARTERS ADVERTISE | M480 | 9/24/18 |
| AWARD | M495 | 11/15/18 |
| APPROVE CONTRACT | M500 | 11/30/18 |
| CONTRACT ACCEPTANCE | M600 | 11/29/19 |
| END PROJECT | M800 | 3/29/21 |

11. RISKS

A Risk Management Plan has been prepared cataloging the risks identified by the Project Development Team (See **Attachment H**).

12. FHWA COORDINATION

This project is considered to be an Assigned Project in accordance with the current FHWA and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

13. PROJECT REVIEWS

| | | | |
|---------------------------|------------------------|------|-----------------|
| Scoping team field review | _____ | Date | <u>5/30/15</u> |
| District Program Advisor | <u>Larry Hernandez</u> | Date | <u>10/30/15</u> |
| District Maintenance | <u>Ali Juma</u> | Date | <u>10/30/15</u> |
| Project Manager | <u>Iorzua Akuva</u> | Date | <u>10/30/15</u> |
| Merced County | <u>Steven Rough</u> | Date | <u>10/19/15</u> |
| Circulation Review | _____ | Date | <u>10/30/15</u> |
| Constructability Review | _____ | Date | <u>10/30/15</u> |

14. PROJECT PERSONNEL

| Name | Caltrans Function | Telephone Number |
|-----------------|--------------------------|-------------------------|
| Iorzua Akuva | Project Manager | (209) 941-1958 |
| Jose A. Huerta | Design Manager | (209) 948-7902 |
| Allen Lao | Project Engineer | (209) 948-3888 |
| Janet Bailey | Environmental Manager | (209) 942-6045 |
| Anthony Dorn | Right-of-Way Manager | (209) 948-3858 |
| Larry Hernandez | Traffic Safety | (209) 948-7859 |

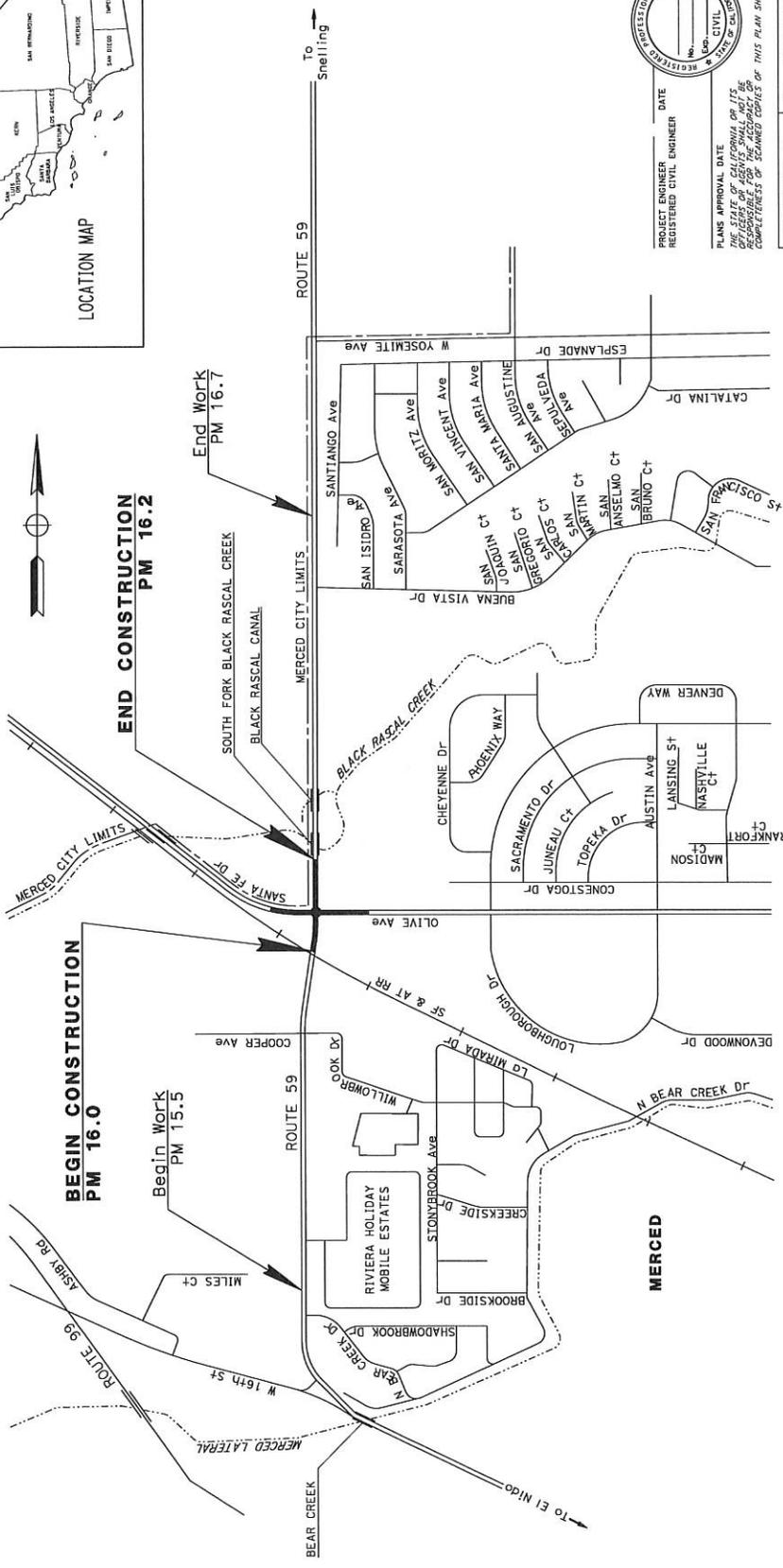
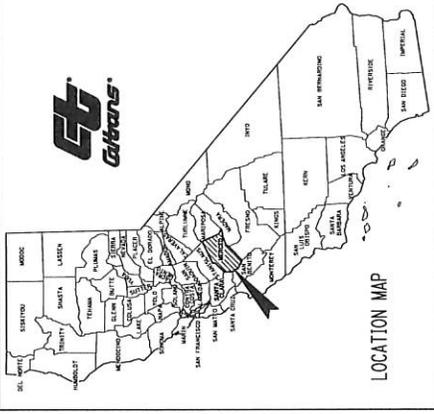
15. ATTACHMENTS (Number of Pages)

- A. Location map (1)
- B. Alternative 1: Roundabout Layout (1)
- C. Cost Estimate: Alternative 1 (8)
- D. Micro-Preliminary Environmental Analysis Report (PEAR) (6)
- E. Storm Water Data Report-signed cover sheet (1)
- F. Right of Way Datasheet (3)
- G. Traffic Management Plan Checklist (4)
- H. Risk Management Plan (RMP) (1)

INDEX OF PLANS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY
 IN MERCED COUNTY
 IN MERCED
 FROM 0.1 MILE NORTH OF COOPER AVENUE
 TO SOUTH FORK BLACK RASCAL CREEK
 TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

| | | | | |
|-------|--------|-------|--------------------------|--------------------|
| Dist# | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL SHEETS |
| 10 | Mer | 59 | 16.0/16.2 | |



PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA, BY ITS OFFICER OF AGENTS, SHALL NOT BE COMPLETELY RESPONSIBLE FOR THE COMPLETENESS OF THE PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 STATE OF CALIFORNIA

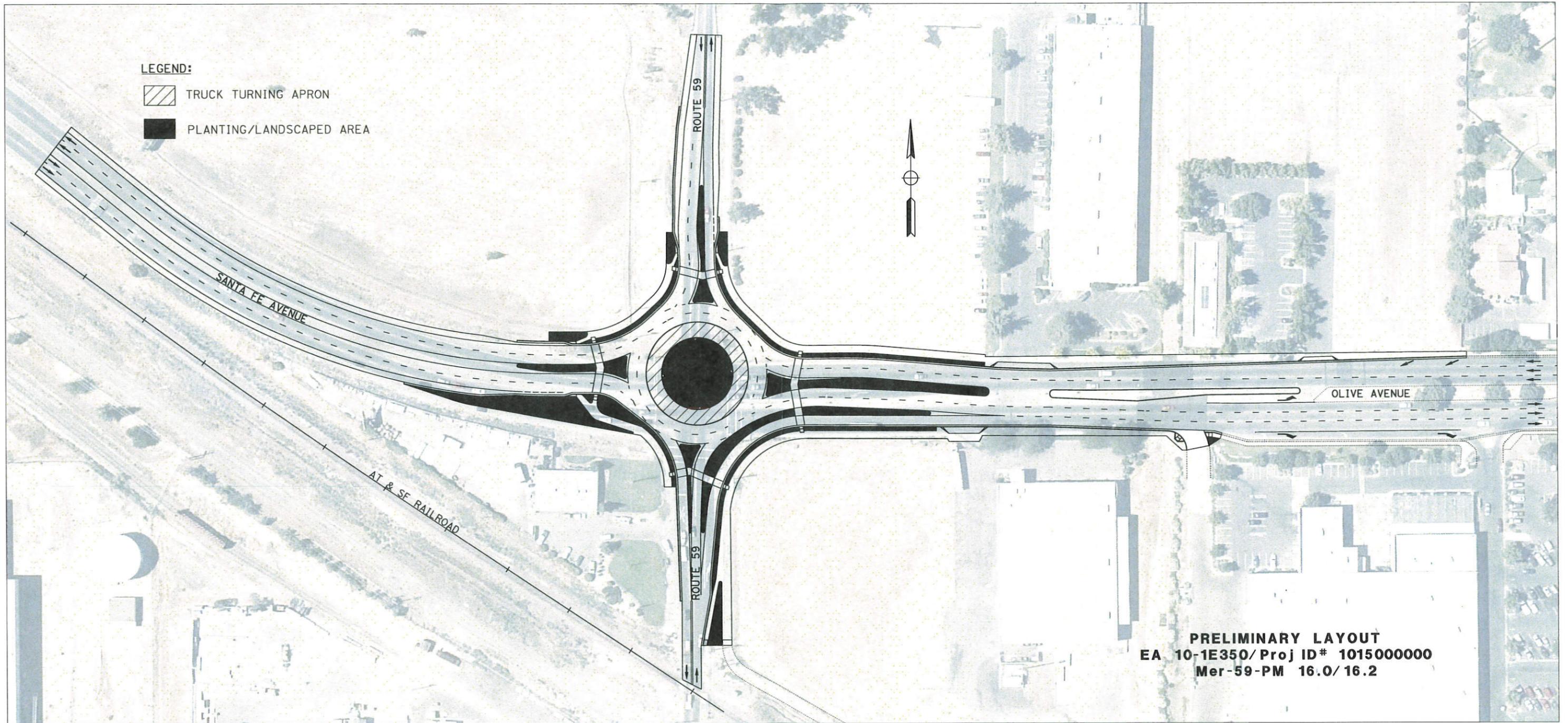
| | |
|--------------|------------|
| CONTRACT No. | 10-1E3504 |
| PROJECT ID | 1015000106 |

UNIT 1457 PROJECT NUMBER & PHASE 1015000106

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

DATE PLOTTED => 06-AUG-2015
 LAST REVISION

NO SCALE
 RELATIVE DIMENSION SCALE 0 1 2 3
 USERNAME => e134982
 DGN FILE => e1e3500d01.dgn



Planning Cost Estimate

Project ID: 1015000029

Type of Estimate : Project Study Report
 Program Code : 201.010
 Project Limits : 10-Mer-59-PM 16.0/16.2
 Description: Roundabout
 Scope : Construct Roundabout
 Alternative : 1

| | Current Cost | Escalated Cost |
|---|---------------------|---------------------|
| ROADWAY ITEMS | \$ 2,953,700 | \$ 3,227,588 |
| STRUCTURE ITEMS | \$ - | \$ - |
| SUBTOTAL CONSTRUCTION COST | \$ 2,953,700 | \$ 3,227,588 |
| RIGHT OF WAY | \$ 325,738 | \$ 395,937 |
| TOTAL CAPITAL OUTLAY COST | \$ 3,280,000 | \$ 3,624,000 |
| PA/ED SUPPORT | \$ 659,000 | \$ 662,000 |
| PS&E SUPPORT | \$ 598,000 | \$ 637,000 |
| RIGHT OF WAY SUPPORT | \$ 187,000 | \$ 202,000 |
| CONSTRUCTION SUPPORT | \$ 1,059,000 | \$ 1,179,000 |
| TOTAL CAPITAL OUTLAY SUPPORT COST* | \$ 2,503,000 | \$ 2,680,000 |
| TOTAL PROJECT COST | \$ 5,800,000 | \$ 6,350,000 |

If Project has been programmed enter Programmed Amount \$ -
 Date of Estimate (Month/Year) Month / Year 10 / 2015
 Estimated Date of Construction Start (Month/Year) 11 / 2018
 Number of Working Days 200 Working Days
 Estimated Mid-Point of Construction (Month/Year) Month / Year 4 / 2019
 Number of Plant Establishment Days 0 Days

Estimated Project Schedule

PID Approval November 30, 2015
 PA/ED Approval January 11, 2017
 PS&E March 17, 2018
 RTL June 29, 2018
 Begin Construction December 1, 2018

Approved by Project
Manager



(209)941-1958

Project Manager

Date

Phone

I. ROADWAY ITEMS SUMMARY

| Section | Cost |
|-------------------------------|---------------------|
| 1 Earthwork | \$ 225,000 |
| 2 Pavement Structural Section | \$ 675,000 |
| 3 Drainage | \$ 81,500 |
| 4 Specialty Items | \$ 23,000 |
| 5 Environmental | \$ 201,200 |
| 6 Traffic Items | \$ 567,500 |
| 7 Detours | \$ - |
| 8 Minor Items | \$ - |
| 9 Roadway Mobilization | \$ 88,700 |
| 10 Supplemental Work | \$ 240,900 |
| 11 State Furnished | \$ 260,100 |
| 12 Contingencies | \$ 590,800 |
| 13 Overhead | \$ - |
| TOTAL ROADWAY ITEMS | |
| | \$ 2,953,700 |

Estimate Prepared By Huoncs LE (TE) 10/15/15 209-948-7905
Name and Title Date Phone

Estimate Reviewed By ALLEN LAO, PE 11/03/15 (209)948-3888
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.

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 1: EARTHWORK

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|----------|-----------------|---------|
| 160101 Clearing & Grubbing | LS | x | = \$ | - |
| 170101 Develop Water Supply | LS | x | = \$ | - |
| 190101 Roadway Excavation | CY | 1,900 | x 30.00 = \$ | 57,000 |
| 190103 Roadway Excavation (Type Y) ADL | CY | x | = \$ | - |
| 190105 Roadway Excavation (Type Z-2) ADL | CY | x | = \$ | - |
| 192037 Structure Excavation (Retaining Wall) | CY | x | = \$ | - |
| 193013 Structure Backfill (Retaining Wall) | CY | x | = \$ | - |
| 193031 Pervious Backfill Material (Retaining Wall) | CY | x | = \$ | - |
| 194001 Ditch Excavation | CY | 5,600 | x 30.00 = \$ | 168,000 |
| 198001 Impored Borrow | CY | x | = \$ | - |
| 198007 Imported Material (Shoulder Backing) | TON | x | = \$ | - |
| XXXXXX Some Item | | x | = \$ | - |

| | |
|--------------------------------------|-------------------|
| TOTAL EARTHWORK SECTION ITEMS | \$ 225,000 |
|--------------------------------------|-------------------|

SECTION 2: PAVEMENT STRUCTURAL SECTION

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|----------|-----------------|---------|
| 150771 Remove Asphalt Concrete Dike | LF | x | = \$ | - |
| 150860 Remove Base and Surfacing | CY | x | = \$ | - |
| 153103 Cold Plane Asphalt Concrete Pavement | SQYD | 2,000 | x 10.00 = \$ | 20,000 |
| 1532XX Remove Concrete (type) | CY | x | = \$ | - |
| 250401 Class 4 Aggregate Subbase | CY | x | = \$ | - |
| 260201 Class 2 Aggregate Base | CY | 1,300 | x 40.00 = \$ | 52,000 |
| 290201 Asphalt Treated Permeable Base | CY | x | = \$ | - |
| 365001 Sand Cover | TON | x | = \$ | - |
| 374002 Asphaltic Emulsion (Fog Seal Coat) | TON | x | = \$ | - |
| 374492 Asphaltic Emulsion (Polymer Modified) | TON | x | = \$ | - |
| 3750XX Screenings (Type XX) | TON | x | = \$ | - |
| 377501 Slurry Seal | TON | x | = \$ | - |
| 390095 Replace Asphalt Concrete Surfacing | CY | 200 | x 85.00 = \$ | 17,000 |
| 390132 Hot Mix Asphalt (Type A) | TON | 3,700 | x 70.00 = \$ | 259,000 |
| 390136 Minor Hot Mix Asphalt | TON | x | = \$ | - |
| 390137 Rubberized Hot Mix Asphalt (Gap Graded) | TON | x | = \$ | - |
| 393003 Geosynthetic Pavement Interlayer | SQYD | x | = \$ | - |
| 39405X Shoulder Rumber Strip (HMA, Type XX Inden | STA | x | = \$ | - |
| 394071 Place Hot Mix Asphalt Dike | LF | x | = \$ | - |
| 394090 Place Hot Mix Asphalt (Misc. Area) | SQYD | x | = \$ | - |
| 397005 Tack Coat | TON | 20 | x 600.00 = \$ | 12,000 |
| 401000 Concrete Pavement | CY | x | = \$ | - |
| 401108 Replace Concrete Pavement (Rapid Strength | CY | x | = \$ | - |
| 404092 Seal Pavement Joint | LF | x | = \$ | - |
| 404094 Seal Longitudinal Isolation Joint | LF | x | = \$ | - |
| 413112A Repair Spalled Joints (Polyester Grout) | SQYD | x | = \$ | - |
| 413115 Seal Existing Concrete Pavement Joint | LF | x | = \$ | - |
| 420102 Groove Existing Concrete Pavement | SQYD | x | = \$ | - |
| 420201 Grind Existing Concrete Pavement | SQYD | x | = \$ | - |
| 731502 Minor Concrete (Misc. Const) | CY | 700 | x 450.00 = \$ | 315,000 |
| 731530 Minor Concrete (Textured Paving) | SQFT | x | = \$ | - |
| XXXXXX Some Item | | x | = \$ | - |

| | |
|---------------------------------------|-------------------|
| TOTAL STRUCTURAL SECTION ITEMS | \$ 675,000 |
|---------------------------------------|-------------------|

SECTION 3: DRAINAGE

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|-----------------------------|--|----------|-----------------|-----------------------|
| 150206 | Abandon Culvert | LF | x | = \$ - |
| 150805 | Remove Culvert | LF | x | = \$ - |
| 150820 | Modify Inlet | EA | x | = \$ - |
| 152430 | Adjust Inlet | LF | x | = \$ - |
| 155003 | Cap Inlet | EA | x | = \$ - |
| 193114 | Sand Backfill | CY | x | = \$ - |
| 510502 | Minor Concrete (Minor Structure) | CY | 15 x | 100.00 = \$ 1,500 |
| 510512 | Minor Concrete (Box Culvert) | CY | x | = \$ - |
| 62XXXX | XXX" APC Pipe | LF | x | = \$ - |
| 64XXXX | XXX" Plastic Pipe | LF | x | = \$ - |
| 650018 | 24" RCP Pipe | LF | 600 x | 70.00 = \$ 42,000 |
| 66XXXX | XXX" CSP Pipe | LF | x | = \$ - |
| 68XXXX | Edge Drain | LF | x | = \$ - |
| 69XXXX | XXX" Pipe Downdrain | LF | x | = \$ - |
| 70XXXX | XXX" Pipe Inlet | LF | x | = \$ - |
| 70XXXX | XXX" Pipe Riser | LF | x | = \$ - |
| 70XXXX | 24" Flared End Section | EA | 4 x | 600.00 = \$ 2,400 |
| 703233 | Grated Line Drain | LF | x | = \$ - |
| 721017 | Rock Slope Protection (Facing, Method B) | CY | 30 x | 300.00 = \$ 9,000 |
| 721420 | Concrete (Ditch Lining) | CY | x | = \$ - |
| 721430 | Concrete (Channel Lining) | CY | x | = \$ - |
| 729010 | Rock Slope Protection Fabric | SQYD | 20 x | 100.00 = \$ 2,000 |
| 750001 | Miscellaneous Iron and Steel | LB | 2,300 x | 2.00 = \$ 4,600 |
| XXXXXX | Additional Drainage | LS | 1 x | 20,000.00 = \$ 20,000 |
| 731504 | Minor Concrete (Curb and Gutter) | CY | x | = \$ - |
| TOTAL DRAINAGE ITEMS | | | | \$ 81,500 |

SECTION 4: SPECIALTY ITEMS

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|------------------------------|---|----------|-----------------|---------------------|
| 070012 | Progress Schedule (Critical Path Method) | LS | 1 x | 1,000.00 = \$ 1,000 |
| 150662 | Remove Metal Beam Guard Railing | LF | x | = \$ - |
| 150668 | Remove Terminal Systems | EA | x | = \$ - |
| 1532XX | Remove Barrier (Insert Type) | LF | x | = \$ - |
| 153250 | Remove Sound Wall | SQFT | x | = \$ - |
| 190110 | Lead Compliance Plan | LS | 1 x | 2,000.00 = \$ 2,000 |
| 49XXXX | CIDH Concrete Piling (Insert Diameter) | LF | x | = \$ - |
| 510060 | Structural Concrete (Retaining Wall) | CY | x | = \$ - |
| 510133 | Class 2 Concrete (Retaining Wall) | CY | x | = \$ - |
| 510524 | Minor Concrete (Sound Wall) | CY | x | = \$ - |
| 5110XX | Architectural Treatment (Insert Type) | SQFT | x | = \$ - |
| 511048 | Apply Anti-Graffiti Coating | SQFT | x | = \$ - |
| 5136XX | Reinforced Concrete Crib Wall (Insert Type) | SQFT | x | = \$ - |
| 518002 | Sound Wall (Masonry Block) | SQFT | x | = \$ - |
| 520103 | Bar Reinf. Steel (Retaining Wall) | LB | x | = \$ - |
| 800320 | Fence (CL-4 chain link) | LF | 2,000 x | 10.00 = \$ 20,000 |
| 832001 | Metal Beam Guard Railing | LF | x | = \$ - |
| 839310 | Double Thrie Beam Barrier | LF | x | = \$ - |
| 839521 | Cable Railing | LF | x | = \$ - |
| 83954X | Transition Railing (Insert Type) | EA | x | = \$ - |
| 8395XX | Terminal System (Type CAT) | EA | x | = \$ - |
| 8395XX | Alternative Flared Terminal System | EA | x | = \$ - |
| 8395XX | End Anchor Assembly (Insert Type) | EA | x | = \$ - |
| 839561 | Rail Tensioning Assembly | EA | x | = \$ - |
| 839XXX | Crash Cushion (Insert Type) | EA | x | = \$ - |
| 83XXXX | Concrete Barrier (Insert Type) | LF | x | = \$ - |
| XXXXXX | Some Item | | x | = \$ - |
| TOTAL SPECIALTY ITEMS | | | | \$ 23,000 |

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|----------|-----------------|-------------|
| Biological Mitigation | LS | x | = \$ | - |
| 071325 TEMPORARY REINFORCED SILT FENCE | LF | x | = \$ | - |
| 071325 Temporary Fence (Type ESA) | | | | |
| <u>Subtotal Environmental</u> | | | | <u>\$ -</u> |

5B - LANDSCAPE AND IRRIGATION

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|---|------|----------|-----------------|------------------|
| 200001 Highway Planting (Hardscape) | LS | 1 x | 90,000.00 = \$ | 90,000 |
| 20XXXX XXX" (Insert Type) Conduit (Use for | LF | x | = \$ | - |
| 20XXXX Extend XXX" (Insert Type) Conduit | LF | x | = \$ | - |
| 201700 Imported Topsoil | CY | x | = \$ | - |
| 2030XX Erosion Control (Type __) | SQYD | x | = \$ | - |
| 203021 Fiber Rolls | LF | x | = \$ | - |
| 203026 Move In/ Move Out (Erosion Control) | EA | x | = \$ | - |
| 204099 Plant Establishment Work | LS | x | = \$ | - |
| 204101 Extend Plant Establishment (X Years) | LS | x | = \$ | - |
| 208000 Irrigation System | LS | x | = \$ | - |
| 208304 Water Meter | EA | x | = \$ | - |
| 209801 Maintenance Vehicle Pullout | EA | x | = \$ | - |
| XXXXXX Vegetation Control (Minor concrete) | | | | |
| <u>Subtotal Landscape and Irrigation</u> | | | | <u>\$ 90,000</u> |

5C - NPDES

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|----------|-----------------|--------|
| 130100 Job Site Management | LS | 1 x | 60,000.00 = \$ | 60,000 |
| 074017 Prepare WPCP | LS | 1 x | 1,200.00 = \$ | 1,200 |
| 074019 Prepare SWPPP | LS | x | = \$ | - |
| 074023 Temporary Erosion Control | SQYD | x | = \$ | - |
| 074027 Temporary Erosion Control Blanket | SQYD | x | = \$ | - |
| 074028 Temporary Fiber Roll | LF | x | = \$ | - |
| 074032 Temporary Concrete Washout Facility | EA | x | = \$ | - |
| 074033 Temporary Construction Entrance | EA | x | = \$ | - |
| 074035 Temporary Check Dam | LF | x | = \$ | - |
| 074037 Move In/ Move Out (Temporary Erosion Cont | EA | x | = \$ | - |
| 074038 Temp. Drainage Inlet Protection | EA | x | = \$ | - |
| 074041 Street Sweeping | LS | 1 x | 30,000.00 = \$ | 30,000 |
| 074042 Temporary Concrete Washout (Portable) | LS | 1 x | 2,000.00 = \$ | 2,000 |
| XXXXXX Some Item | | | | |

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

| | | | | |
|--|----|-----|---------------|-------|
| 066595 Water Pollution Control Maintenance Sharing | LS | 1 x | 3,000.00 = \$ | 3,000 |
| 066596 Additional Water Pollution Control** | LS | 1 x | 5,000.00 = \$ | 5,000 |
| 066597 Storm Water Sampling and Analysis*** | LS | 1 x | 1,200.00 = \$ | 1,200 |
| 130330 Storm Water Annual Report | LS | 1 x | 3,000.00 = \$ | 3,000 |

Subtotal NPDES (Without Supplemental Work) \$ 93,200

*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.

| | |
|----------------------------|-------------------|
| TOTAL ENVIRONMENTAL | \$ 183,200 |
|----------------------------|-------------------|

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|---|------|----------|-----------------|-------------------|
| 150760 Remove Sign Structure | EA | x | = \$ | - |
| 151581 Reconstruct Sign Structure | EA | x | = \$ | - |
| 152641 Modify Sign Structure | EA | x | = \$ | - |
| 5602XX Furnish Sign Structure | LB | x | = \$ | - |
| 5602XX Install Sign Structure | LB | x | = \$ | - |
| 56XXXX XXX" CIDHC Pile (Sign Foundation) | LF | x | = \$ | - |
| 860090 Maintain Existing Traffic Management | LS | x | = \$ | - |
| 860810 Inductive Loop Detectors | EA | x | = \$ | - |
| 86055X Lighting & Sign Illumination | LS | 1 x | 100,000.00 = \$ | 100,000 |
| 8607XX Interconnection Facilities | LS | x | = \$ | - |
| 8609XX Traffic Monitoring Stations | LS | x | = \$ | - |
| 860XXX Signals & Lighting | LS | x | = \$ | - |
| 8611XX Ramp Metering System (Location X) | LS | x | = \$ | - |
| 8611XX Ramp Metering System (Location X) | LS | x | = \$ | - |
| 86XXXX Fiber Optic Conduit System | LS | x | = \$ | - |
| XXXXX Some Item | | | | |
| <i>Subtotal Traffic Electrical</i> | | | | \$ 100,000 |

6B - Traffic Signing and Striping

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|----------|-----------------|------------------|
| 120090 Construction Area Signs | LS | 1 x | 10,000.00 = \$ | 10,000 |
| 150701 Remove Yellow Painted Traffic Stripe | LF | 6,000 x | 0.50 = \$ | 3,000 |
| 150710 Remove Traffic Stripe | LF | 12,000 x | 0.50 = \$ | 6,000 |
| 150713 Remove Pavement Marking | SQFT | x | = \$ | - |
| 150742 Remove Roadside Sign | EA | x | = \$ | - |
| 152320 Reset Roadside Sign | EA | x | = \$ | - |
| 152390 Relocate Roadside Sign | EA | x | = \$ | - |
| 566011 Roadside Sign (One Post) | LS | 1 x | 5,000.00 = \$ | 5,000 |
| 566012 Roadside Sign (Two Post) | LS | 1 x | 5,000.00 = \$ | 5,000 |
| 560XXX Furnish Sign Panels | SQFT | x | = \$ | - |
| 560XXX Install Sign Panels | SQFT | x | = \$ | - |
| 82010X Delineator (Class X) | EA | x | = \$ | - |
| 84XXXX Permanent Pavement Delineation | LS | 1 x | 20,000.00 = \$ | 20,000 |
| <i>Subtotal Traffic Signing and Striping</i> | | | | \$ 49,000 |

6C - Stage Construction and Traffic Handling

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|---|------|----------|-----------------|-------------------|
| 120100 Traffic Control System | LS | 1 x | 200,000.00 = \$ | 200,000 |
| 120120 Type III Barricade | EA | x | = \$ | - |
| 120143 Temporary Pavement Delineation | LS | 1 x | 50,000.00 = \$ | 50,000 |
| 12016X Channelizer | EA | x | = \$ | - |
| 128650 Portable Changeable Message Signs | LS | 1 x | 68,500.00 = \$ | 68,500 |
| 129000 Temporary Railing (Type K) | LF | x | = \$ | - |
| 129100 Temp. Crash Cushion Module | EA | x | = \$ | - |
| 129099A Traffic Plastic Drum | LS | 1 x | 50,000.00 = \$ | 50,000 |
| 860400 Lighting (temporary) | LS | x | = \$ | - |
| XXXXXX Temporary Construction Roadway | LS | 1 x | 50,000.00 = \$ | 50,000 |
| <i>Subtotal Stage Construction and Traffic Handling</i> | | | | \$ 418,500 |

| | |
|----------------------------|-------------------|
| TOTAL TRAFFIC ITEMS | \$ 567,500 |
|----------------------------|-------------------|

SECTION 7: DETOURS

Include constructing, maintaining, and removal

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|---------------------------------------|------|----------|-----------------|---------------------|
| 0713XX Temporary Fence (Type X) | LF | x | = \$ | - |
| 07XXXX Temporary Drainage | LS | x | = \$ | - |
| 120143 Temporary Pavement Delineation | LF | x | = \$ | - |
| 1286XX Temporary Signals | EA | x | = \$ | - |
| 129000 Temporary Railing (Type K) | LF | x | = \$ | - |
| 190101 Roadway Excavation | CY | x | = \$ | - |
| 198001 Imported Borrow | CY | x | = \$ | - |
| 198050 Embankment | CY | x | = \$ | - |
| 250401 Class 4 Aggregate Subbase | CY | x | = \$ | - |
| 260201 Class 2 Aggregate Base | CY | x | = \$ | - |
| 390132 Hot Mix Asphalt (Type A) | TON | x | = \$ | - |
| XXXXXX Some Item | LS | x | = \$ | - |
| TOTAL DETOURS | | | | \$ - |
| SUBTOTAL SECTIONS 1-7 | | | | \$ 1,773,200 |

SECTION 8: MINOR ITEMS

| | | | | |
|---|----|-----------|--------|-------------|
| 8A - Americans with Disabilities Act Items | | | | |
| ADA Items | | | 0.0% | \$ - |
| 8B - Bike Path Items | | | | |
| Bike Path Items | | | 0.0% | \$ - |
| 8C - Other Minor Items | | | | |
| Other Minor Items | | | 0.0% | \$ - |
| Total of Section 1-7 | \$ | 1,773,200 | x 0.0% | = \$ - |
| TOTAL MINOR ITEMS | | | | \$ - |

SECTIONS 9: MOBILIZATION

| | | | | |
|---------------------------|-------------------|----|-----------|------------------|
| Item code | | | | |
| 999990 | Total Section 1-8 | \$ | 1,773,200 | x 5% = \$ 88,660 |
| TOTAL MOBILIZATION | | | | \$ 88,700 |

SECTION 10: SUPPLEMENTAL WORK

| Item code | Unit | Quantity | Unit Price (\$) | Cost |
|--|------|-----------|-----------------|-------------------|
| 066015 Federal Trainee Program | LS | x | = \$ | - |
| 066063 Traffic Management Plan - Public Informati | LS | 1 | x 6,000.00 | = \$ 6,000 |
| 066090 Maintain Traffic | LS | 1 | x 100,000.00 | = \$ 100,000 |
| 066094 Value Analysis | LS | x | = \$ | - |
| 066204 Remove Rock & Debris | LS | x | = \$ | - |
| 066222 Locate Existing Cross-Over | LS | x | = \$ | - |
| 066670 Payment Adjustments For Price Index Fluct | LS | 1 | x 25,000.00 | = \$ 25,000 |
| 066700 Partnering | LS | 1 | x 12,000.00 | = \$ 12,000 |
| 066866 Operation of Existing Traffic Management & | LS | x | = \$ | - |
| 066920 Dispute Review Board | LS | x | = \$ | - |
| | | x | = \$ | - |
| <i>Cost of NPDES Supplemental Work specified in Section 5C</i> | | | | <i>= \$ 9,200</i> |
| Total Section 1-8 | \$ | 1,773,200 | 5% | = \$ 88,660 |
| TOTAL SUPPLEMENTAL WORK | | | | \$ 240,900 |



Micro-PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

Project Information

| | | | | |
|--|----------------|----------------------|---------------|--------------------|
| District: 10 | County: MER | Route: 59 | PM: 16.1/16.2 | EA: 10-1E350 |
| | | | | Proj ID:1015000000 |
| Project Title: Merced 59 Intersection Improvements | | | | |
| Project Manager | John Roccanova | Phone # 209-948-7058 | | |
| Env. Senior | Janet Bailey | Phone # 209-941-1919 | | |
| Planner | Andrew Chan | Phone # 209-948-7879 | | |
| Project Engineer | Allen Lao | Phone # 209-948-3888 | | |

Project Description

Purpose and Need

The purpose is to improve safety by eliminating points where traffic conflicts leading to head-on collisions. The need is to reduce the number and severity of collisions at the intersection.

Description of Work

The California Department of Transportation (Caltrans) proposes to construct a roundabout at the SR 59/Olive Avenue intersection in Merced County. Work activities include:

Alternative 1 (Roundabout):

- Grinding, paving, widening for roundabout configuration and realignment of roadways
 - Roadway excavation depths of approximately 2 feet
 - Roadway excavation may generate excess soil to be disposed of
- Constructing concrete sidewalk, driveways, curb and gutter
- Adding drainage inlets and pipes
- Installing lighting and cast-in-drilled-hole concrete piles (2.5 ft. diameter, 5 ft. depth)
- Trenching for electrical conduits (3 ft. depth)
- Placing thermoplastic striping and pavement markers
- Installing landscaping (hardscape/vegetation) in center and splitter islands
 - New landscaping may include new irrigation systems

Anticipated Environmental Approval

CEQA

CE

NEPA

CE (23 USC 326)

Estimated length of time (in months)

7 Months

Summary Statement

A Categorical Exemption under CEQA and a Categorical Exclusion under NEPA are anticipated for this project. This environmental document level was scoped based on a preliminary review of the potential resources within the project limits. Field studies were not conducted, and technical studies have been deferred to the 0 Phase. In addition, this determination is based on the following assumptions and risks:

- It is assumed that no sensitive environmental resources are present within the project footprint or that any resources present can be avoided.
- It is assumed that a Biological Opinion is not needed for this project.

Risks

- If there are any changes to the scope of the project, additional technical studies or an elevated environmental document may be required. This would have a high impact to schedule and moderate impact to cost.
- If the project generates public controversy, a higher level environmental document may be required. This would have a high impact to schedule and moderate impact to cost.

Disclaimer

This report is not an environmental document or determination. The above information and recommendations are based on the project description provided in this report. The discussion and conclusions provided by this Micro-PEAR are approximate and based on a cursory review of existing records, databases, and mapping tools to estimate the potential for probable environmental effects. The purpose of this report is to provide a preliminary level of environmental analysis to support the Project Initiation Document. Changes in project scope, alternatives, existing environmental conditions, and/or environmental laws or regulations will require a re-evaluation of this report.

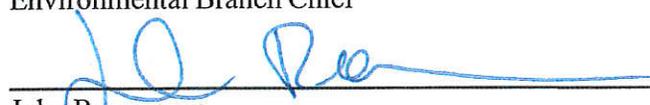
Approval



Janet Bailey
Environmental Branch Chief

10/8/15

Date



John Roccanova
Project Manager

10/8/15

Date

REQUIRED ATTACHMENTS:

- Attachment B: Estimated Resources by WBS Code
- Attachment D: PEAR Environmental Commitments Cost Estimate (Standard PSR)

OPTIONAL ATTACHMENTS:

- Attachment A: PEAR Environmental Studies Checklist

Attachment A: PEAR Environmental Studies Checklist

| | | | | |
|-------------------------------------|-------------|------------|-----------------|---------------------|
| District: 10 | County: MER | Route: 059 | PM: 16.10/16.20 | EA: 10-1E350 |
| Project Title: Construct Roundabout | | | | Proj ID: 1015000000 |

| | Not Anticipated | Memo to File | Report Required | Risk L M H | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|---------------|--|
| Land Use | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Coastal Zone | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Wild & Scenic River Consistency | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Growth | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Farmlands/Timberlands | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Community Impacts | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Community Character and Cohesion | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Relocations | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Environmental Justice | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Utilities/Emergency Services | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Visual/Aesthetics | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Screening Memo | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |
| Archaeological Survey Report | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Historic Resources Evaluation Report | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Historic Property Survey Report | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Historic Resource Compliance Report | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Section 106 / PRC 5024 & 5024.5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Native American Coordination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Finding of Effect | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Data Recovery Plan | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Memorandum of Agreement | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Tribal Lands | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Other | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| ARPA Permit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Hydrology and Floodplain | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Water Quality | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |
| Stormwater Runoff | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Geology, Soils, Seismic and Topography | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Paleontology | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |
| PER | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| PMP | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Hazardous Waste/Materials | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |

| | Not Anticipated | Memo to File | Report Required | Risk L M H | Comments |
|---|-------------------------------------|-------------------------------------|-------------------------------------|------------|-----------------------------------|
| ISA (Additional) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| PSI | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Other | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Air Quality | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | Interagency Consultation Required |
| Noise and Vibration | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |
| Energy and Climate Change | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Natural Environment Study | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Natural Environment Study (MI) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Section 7 Formal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Section 7 Informal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Section 7 No effect | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |
| Section 10 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| USFWS Consultation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| NMFS Consultation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Species of Concern | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Wetlands & Other Waters/Delineation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 404(b)(1) Alternatives Analysis | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Invasive Species | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Coastal Management Plan | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| DFG Consistency Determination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| HMMP | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Other | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Cumulative Impacts | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Context Sensitive Solutions | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Section 4(f) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 1600 Agreement Coordination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 2081 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 401 Certification Coordination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Tribal 401 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 404 Permit Coordination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Local Coastal Development Permit Coord. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| State Coastal Development Permit Coord. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| NPDES Coordination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| US Coast Guard (Section 10) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| TRPA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |

| | Not Anticipated | Memo to File | Report Required | Risk L M H | Comments |
|---|-------------------------------------|--------------------------|--------------------------|------------|----------|
| BCDC | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| State Lands Commission Lease Agreement | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Bureau of Reclamation Encroachment Permit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |

Central Region Environmental Division Mitigation Compliance Cost Estimate (MCCE)

This MCCE is for: **PEAR**

Dist - Co - Rte - PM: 10-MER-059-16.10 EA: 10-1E350
 Project Name: _____ Alternative #: _____
 Project Description: Construct Roundabout
 Env. Senior: Janet Bailey Phone Number: 209-941-1919
 Project Manager: John Rocanova Phone Number: 209-948-7058
 MCCE Prepared By: Andrew Chan Date: 10/6/2015 Phone Number: 209-948-7879

| PA&ED | FY | Acres or Credits | ROW | FY | Construction | FY |
|-------------|----|------------------|-------------|----|--------------|----|
| 232 Dollars | | | 050 Dollars | | 042 Dollars | |

| Biological | | |
|--------------------------|--|---------------------|
| Migratory Bird Exclusion | | \$18,000 18/19 |
| Permit Fees | | |
| CDFW Document Filing Fee | | \$0 |
| TOTAL | | \$0 \$18,000 |

Comments _____

Approved By:  Date: 10/8/15
 Environmental Branch Chief
 If mitigation totals more than \$1,000,000: _____ Date: _____
 Environmental Office Chief
 If Right of Way Capital (050) is needed: _____ Date: _____
 Right-of-Way Office Chief, Mitigation



Dist-County-Route: 10-Mer-59
Post Mile Limits: PM 16.0/16.2
Project Type: Roundabout
Project ID (EA): 10 1500 0106 (10-1E350K)
Program Identification: 20.10.201.010
Phase: PID
 PA/ED
 PS&E

Regional Water Quality Control Board: Region 5, Central Valley, Fresno Office

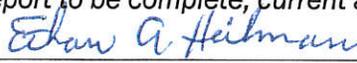
Estimate Construction Start Date: 12/01/2018
Separate Dewatering Permit (if yes, permit number)
Erosivity Waiver

Construction Completion Date: 12/01/2019
Yes Permit # _____ No
Yes Date: _____ No

This Storm Water Data Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based.



Allen Lao, Registered Project Engineer 10/12/15
Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:
 10/12/2015
for _____
James Espinosa, CR Environmental NPDES SW Manager Date

Memorandum

To: Grace Magsayo
D-10

Date: 8/25/2015

Attn Allen Lao
D-10
Jose Huerta
D-10

File: CD 10 EA 1E350K Alt 1
Co MER RTE 59

DESCRIPTION:
In Merced at West Olive Avenue/Santa Fe Drive

From: Department of Transportation
Division of Right of Way Central Region

Subject: RIGHT OF WAY DATA SHEET

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 7/30/2015

The following assumptions and limiting conditions were identified:

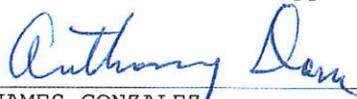
Appraisal

The design of the roundabout will require additional Right of Way from 3 or more parcels, and 2 TCEs. Native material from excavating for the new lanes will require disposal. The Data Sheet request indicated environmental mitigation was not required for this project and it did not contain a MCCE.

Utility

Per field review, Nine (9) joint poles in conflict: Electric (PG&E), Telephone (AT&T), and possible Cable (Comcast). Water and sewer facilities need to be confirmed by Merced Irrigation District. Petroleum pipeline running North/ South on the west side of the road. Three Manhole covers within the project limits.

Right of Way Lead Time will require a minimum of 22 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.

for 
JAMES GONZALEZ
Assistant Region Division Chief, Right of Way
(209)948-7844

Right Of Way Cost Estimate

| | Current Year 2015 | Contingency Rate | Right of Way Escalation Rate | Escalated Year 2019 |
|-----------------------------|----------------------|------------------|---------------------------------|------------------------|
| Acquisition: | \$87,953 | 25% | 5% | \$106,907 |
| Mitigation: | \$0 | 25% | 5% | \$0 |
| State Share of Utilities: | \$233,625 | 25% | 5% | \$283,973 |
| Expert Witness: | \$0 | 25% | 5% | \$0 |
| Relocation Assistance: | \$0 | 25% | 5% | \$0 |
| Demolition and Clearance: | \$0 | 25% | 5% | \$0 |
| Title and Escrow: | \$4,161 | 25% | 5% | \$5,057 |
| Ad Signs: | \$0 | 25% | 5% | \$0 |
| Total Current Value: | \$325,738 | | | \$395,937 |

If RW Cost Est fields are blank, Costs = \$0

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 18

| Cost Break Down | |
|-----------------|--------|
| Pot Hole | 17,000 |
| Mitigation | |
| Land | 0 |
| Bank | 0 |
| Permit Fees | 0 |

RR Involvement

| | |
|---|----------|
| Railroad Facilities or Right of Way Affected? | Yes |
| Const/Maint Agreement: | No |
| Service Contract: | No |
| Right of Entry: | No |
| Clauses: | Yes |
| Estimated Lead-time | 2 months |

Parcel Data

| | | | |
|--|----------|--------------------|----------|
| # of Parcel Type X: | 0 | | |
| # of Parcel Type A: less than \$10,000 non-complex | 3 | | |
| # of Parcel Type B: more than \$10,000 non-complex | 0 | | |
| # of Parcel Type C: complex, special valuation | 0 | | |
| # of Parcel Type D: most complex and time consuming | 0 | # of Duals Needed: | 0 |
| Totals: | 3 | Totals: | 0 |

of Excess Parcels: 0

Misc R/W Work

| | |
|-------------------------|---|
| # of RAP Displacements: | 0 |
| # of Clearance/Demos: | 0 |
| # of Const Permits: | 0 |
| # of Condemnations: | 0 |

Utilities

| | |
|---|---|
| U4-1: Owner Expense | 2 |
| U4-2: State Expense, Conventional no Fed Aid | 2 |
| U4-3: State Expense, Freeway no Fed Aid | 0 |
| U4-4: State Expense, both with Fed Aid | 2 |
| U5-7: Utility verification, no relocation/potholing | 0 |
| U5-8: Utility verification, w/ some relocation/potholing | 0 |
| U5-9: Utility verifications, relocation/potholing required | 4 |

EA: 10-1E350K ALT: 1

Parcel Area

| | |
|---------------------|-------|
| Total R/W Required: | 13068 |
| Total Excess Area: | 0 |

General Description of R/W and Excess Lands Required (zoning, use, major improvements, critical or sensitive parcels, etc.):

The design of the roundabout will require additional Right of Way from 3 or more parcels, and 2 TCEs.

General Description of Utility Involvement:

Per field review, Nine (9) joint poles in conflict: Electric (PG&E), Telephone (AT&T), and possible Cable (Comcast). Water and sewer facilities need to be confirmed by Merced Irrigation District. Petroleum pipeline running North/ South on the west side of the road. Three Manhole covers within the project limits.

Is there a significant effect on assessed valuation:

No

Were any previously unidentified sites with hazardous waste or material found:

No

Are RAP displacements required:

No

of single family:

0

of multi-family:

0

of business/nonprofit:

0

of farms:

0

Sufficient replacement housing will be available without last resort housing:

0

Are material borrow or disposal sites required:

No

Are there potential relinquishments or abandonments:

No

Are there any existing or potential airspace sites:

No

Are environmental mitigation parcels required:

No

Data for evaluation provided by:

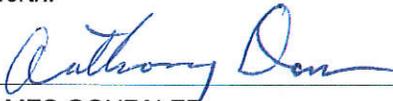
| | | |
|---------------------------------|----------------|-----------|
| Estimator: | Ron Cassidy | 8/20/2015 |
| Railroad Liaison Agent: | Gina Pippenger | 8/12/2015 |
| Utility Relocation Coordinator: | Stuart Reenan | 8/14/2015 |

I have personally reviewed this Right of Way Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

Date

ENTERED PMCS 8/25/2015

BY: Yolanda T Jackson

for 
 JAMES GONZALEZ
 Assistant Region Division Chief, Right of Way

D-10 TRANSPORTATION MANAGEMENT PLAN CHECKLIST

District - Project No: 10 1500 0106
 Date Prepared: August 24, 2015
 Prepared By: J. Noriega / J. Hernandez
 Requested By: Allen Lao

Co.-Rte.-P.M. MER-59-16.0/16.2
 Location: 0.1 Miles North of Cooper Avenue to South Fork Black Rascal Creek

Stage of Project (X box) PID PSR PR PS&E

Description: Construct Roundabout

Date Signed
 Date Signed
 Date Signed
 Date Signed

| REQUIRED | RECOMMENDED | NOT APPLICABLE | BEES Item No. | COMMENTS | ITEM COST | REQUIRED IN SPEC. |
|----------|-------------|----------------|---------------|----------|-----------|-------------------|
|----------|-------------|----------------|---------------|----------|-----------|-------------------|

1.0 Public Information Strategies

- 1.1 Brochures and Mailers
- 1.2 Media Releases (& minority media sources)
- 1.3 Paid Advertising
- 1.4 Public Information Center
- 1.5 Public Meetings/Speakers Bureau
- 1.6 Project Telephone Hotline
- 1.7 Internet, E-Mail
- 1.8 Local cable TV and News
- 1.9 Notification to Impacted groups
(i.e. bicycle users, pedestrians with disabilities, others)
- 1.10 Project Web Page
- 1.11 Caltrans Public Information Office
- 1.12 Consultant Public Information Office
- 1.13 Other items

| | | | | | | |
|---|---|---|--------|---|-------|--|
| X | | | | RE to hand-deliver to business/residences. | | |
| X | | | | | | |
| | | X | | | | |
| | X | | | See comments below. | | |
| | X | | 066063 | Designer to add to budget if public meeting is added. | | |
| | | X | | | | |
| | | X | | | | |
| | | X | | | | |
| X | | | | Designer to verify impacted groups. | | |
| | | | | | | |
| | X | | | Web page could be linked to local City pg. | | |
| X | | | 066063 | Items 1.1 to 1.11 to be handled by CT PIO. | \$18K | |
| | | X | | | | |
| | | X | | | | |

2.0 Traveler Information Strategies

- 2.1 Changeable Message Signs (permanent)
- 2.2 Changeable Message Signs (portable)
- 2.3 Special Construction Signs
- 2.4 Traveler Information Systems (CHIN/Internet)
- 2.5 Highway Advisory Radio "HAR" (fixed or mobile)
- 2.6 Radar Speed Sign
- 2.7 Traffic Management Team
- 2.8 Revised Transit Schedules/ Maps
- 2.9 Bicycle community information
- 2.10 Other items

| | | | | | | |
|---|--|---|--------|--------------------|-------|---|
| | | X | | | | |
| X | | | 128652 | See comments below | \$54K | X |
| | | X | 120690 | | | |
| X | | | 861985 | As required. | | X |
| | | X | 860520 | | | |
| | | X | 066064 | | | |
| | | X | | | | |
| | | X | | | | |
| X | | | | Same as Item 1.9. | | |
| | | X | | | | |

3.0 Incident Management

- 3.1 COZEEP
- 3.2 Freeway Service Patrol (tow truck service patrol)
- 3.3 Traffic Surveillance Stations (loops or CCTV)
- 3.4 Transportation Management Center
- 3.5 Traffic Control Inspector (Caltrans)
- 3.6 Traffic Management Team
- 3.7 On-site Traffic Advisor (contractor)
- 3.8 Other Items

| | | | | | | |
|---|---|---|--------|---|--------|--|
| X | | | 066062 | See comments below | \$720K | |
| | | X | 066065 | | | |
| X | | | 066876 | Existing to remain &/or provide new stations. | | |
| X | | | | | | |
| | X | | | | | |
| X | | | | As needed. | | |
| | X | | | | | |
| | | X | | | | |

4.0 Construction Strategies

- 4.1 Delay damage clause
- 4.2 Night work
- 4.3 Weekend Work
- 4.4 Extended Weekend Closures
- 4.5 Planned Lane Closures
- 4.6 Planned Ramp Closures/Connector Closure
- 4.7 Total Facility Closure
- 4.8 Project Phasing
- 4.9 Truck Traffic Restrictions
- 4.10 Reduced Lane Widths
- 4.11 Temporary K-Rail
- 4.12 Temporary Traffic Screens
- 4.13 Construction Regulatory Temporary Traffic Control Zones
- 4.14 Traffic Control Improvements

| | | | | | | |
|---|---|---|--------|-----------------------------------|--|---|
| | | X | | | | |
| X | | | | Per Lane Closure Charts | | X |
| | | X | | | | |
| | | X | | | | |
| X | | | | Per Lane Closure Charts. | | X |
| | | X | | | | |
| X | X | | | Per Lane Closure Charts. | | X |
| | X | | | As per stage construction if any. | | |
| | | X | | | | |
| | | X | 129000 | | | |
| | | X | 129150 | | | |
| | | X | | No request submitted | | |
| X | | | | As necessary. | | |

Replace "Reserved" in section 12-4.05F with:

| Chart no. F1 Conventional Highway Lane Requirements | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----|---|---|---|---|---|--|---|---|---|----|----|----|---------------|----|----|----|----|----|----|----|----|----|----|----|--|
| County: Merced . | | | | | | | Route/Direction: 59/Southbound - Northbound | | | | | | | PM: 16.0/16.2 | | | | | | | | | | | | |
| Closure limits: Approximately 0.1 mile south and 0.1 north of Olive Ave | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| Mon-Thu | R | R | R | R | R | R | | | | | | | | | | | | | | | | | R | R | R | |
| Fri | R | R | R | R | R | R | | | | | | | | | | | | | | | | | | | | |
| Sat | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sun | | | | | | | | | | | | | | | | | | | | | | | | R | R | |

Legend:

R Provide at least 1 through traffic lane, not less than 10 feet in width, for use by both directions of travel
(Reversing Control)

Work allowed within the highway where shoulder or lane closure is not required

REMARKS:

1. See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these special provisions for additional closure restrictions.
2. Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2017

Replace section 12-4.05H with:

12-4.05H City Street Closures

| Chart no. H1 City Street Requirements and Hours of Work | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----|---|---|---|---|---|---|---|---|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Location: Olive Avenue | | | | | | | | | | Direction: Westbound/Eastbound | | | | | | | | | | | | | | | |
| Closure limits: Intersection of SR59/Olive Avenue | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Mon-Thu | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | 1 | 1 | 1 |
| Fri | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| Sat | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sun | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |

Legend:

1 Provide at least 1 city street lane open in direction of travel

Work allowed within the highway where shoulder or lane closure is not required

REMARKS:

- See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these special provisions for additional closure restrictions.
- Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2017.

Risk Input Sheet

| Risk Input Sheet | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|-------------|----------------|-----------------------|--|----------------------|---|--|-----------|-------------------|---------------------------------|------------|---------------------|------------------------|------------------|-------------------------|--|---|-----------|---|--|----------------|-------------------------------|---------------------|
| DIST- EA 10-1E350 | | | | Project Name: MER 59 Santa Fe / W. Olive Intersection Safety Project | | | | | | Project Manager: John Roccanova | | | | | | Date Register Created: September 24, 2015 | | | Date Register Last Updated: | | | | |
| CO - RTE - PM 10-Mer-59-PM 16.0/16.2 | | | | Telephone: (209)948-7058 | | | | | | | | | | | | | | | | | | | |
| Item | Risk ID | Status of Risk | Opportunity or Threat | RBS Risk Category | Date Risk Identified | Risk Description | Root Cause(s) | Objective | Probability (P) | L/NL | Impact (I) | Overall Risk Rating | Risk Owner | Risk Owner Phone | Risk Owner Mobile Phone | Risk Owner Email Address | Risk Trigger(s) | Strategy | Response Actions | Primary WBS | Additional WBS | Status Date & Review Comments | Next Review Date |
| AUTO | AUTO | DROP DOWN | DROP DOWN | DROP DOWN | POP UP on DBL CLICK | MANUAL ENTRY | MANUAL ENTRY | DROP DOWN | DROP DOWN | | DROP DOWN | AUTO | MANUAL ENTRY | MANUAL ENTRY | MANUAL ENTRY | MANUAL ENTRY | MANUAL ENTRY | DROP DOWN | MANUAL ENTRY | PULL DOWN SELECTION | MANUAL ENTRY | MANUAL ENTRY | POP UP on DBL CLICK |
| 1 | 10-1E350-01 | Active | Threat | PM | 09/24/15 | Cost exceeds allowable Safety Index | Scope Creep | COST | 2=Low (10-19%) | Linear | 4 =High | Med | Design &PPM | (209) 948-7058 | | John.Roccanova@dot.ca.gov | PA&ED process | ACCEPT | Adjust scope accordingly to address safety issues | 175 CIRCULATE DRAFT ENVIRONMENTAL DOCUMENT AND SELECT PREFERRED PROJECT ALTERNATIVE IDENTIFICATION | | | PA&ED |
| 2 | 10-1E350-02 | Active | Threat | DESIGN | 09/24/15 | Unanticipated design issues | Roundabouts are uncommon in this region and may have unanticipated issues. | SCOPE | 2=Low (10-19%) | Linear | 4 =High | Med | Design | (209) 948-7902 | | Jose.Huerta@dot.ca.gov | Schedule delays to work out design issues. | ACCEPT | Design will coordinate as needed | 230 PREPARE DRAFT PS&E | | | PA&ED |
| 3 | 10-1E350-03 | Active | Threat | CON | 09/24/15 | Unanticipated construction costs and delays | Staging and Traffic Handling Plan changes due to Roundabout configuration issues | COST | 2=Low (10-19%) | Linear | 4 =High | Med | Const | (209) 948-7902 | | Jose.Huerta@dot.ca.gov | Contractor delays and claims | ACCEPT | Design will coordinate with Const early in the process to minimize risks | 270 CONSTRUCTION ENGINEERING AND GENERAL CONTRACT ADMINISTRATION | | | PA&ED |
| 4 | 10-1E350-04 | Active | Threat | DESIGN | 09/24/15 | Unanticipated storm drainage design issues | Currently no underground or overland drainage to creek, all infiltration | SCOPE | 3=Med (20-39%) | Linear | 3 =Med | Med | Design/SW | (209) 948-7902 | | Jose.Huerta@dot.ca.gov | Detailed design of aits | ACCEPT | Design will coordinate with storm water and hydraulics staff. | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 5 | | Active | Threat | DES | 09/24/15 | | | TIME | 2=Low (10-19%) | Linear | 3 =Med | Low | Design & Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | | TRANSFER | | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 6 | 10-1E350-06 | Active | Threat | ENV | 10/06/15 | Unanticipated PA&ED costs and delays | Endangered species - | TIME | 2=Low (10-19%) | Linear | 4 =High | Med | Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | If vernal pool fairy shrimp or burrowing owls are found within project limits | MITIGATE | Address accordingly with resource agency | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 7 | 10-1E350-07 | Active | Threat | ENV | 10/06/15 | Unanticipated PA&ED costs and delays | Endangered species - bird and raptor | TIME | 2=Low (10-19%) | Linear | 3 =Med | Low | Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | Discovering an active nest | AVOID | No-work buffers of 165 or 565 feet (depending on date) must be established. If buffers cannot be maintained, required consultation with wildlife agency | 270 CONSTRUCTION ENGINEERING AND GENERAL CONTRACT ADMINISTRATION | | | Const |
| 8 | 10-1E350-08 | Active | Threat | R/W | 09/24/15 | Long Lead Schedule | R/W Acquisition | TIME | 1=Very Low (1-9%) | Linear | 4 =High | Low | R/W | (209) 941-6567 | | Anthony.Dom@dot.ca.gov | Detailed design of aits | ACCEPT | Work with HQ for Long Lead Status approval | 175 CIRCULATE DRAFT ENVIRONMENTAL DOCUMENT AND SELECT PREFERRED PROJECT ALTERNATIVE IDENTIFICATION | | | PA&ED |
| 9 | 10-1E350-09 | Active | Threat | ENV | 10/06/15 | Unanticipated PA&ED costs and delays | Eligible cultural sites | TIME | 2=Low (10-19%) | Linear | 2 =Low | Low | Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | If bridges are found eligible for the Historic Register or artifacts are discovered | MITIGATE | Address accordingly | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 10 | 10-1E350-10 | Active | Threat | R/W | 09/24/15 | Unidentified utilities and the relocation may delay the project if more than 15 months to RTL | Utility Relocation | TIME | 2=Low (10-19%) | Linear | 3 =Med | Low | R/W | (209) 941-6567 | | Anthony.Dom@dot.ca.gov | Pot holing | ACCEPT | Work with utility companies early to ID potential conflicts. | 180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 11 | 10-1E350-11 | Active | Threat | ENV | 10/06/15 | Unanticipated PA&ED costs and delays | Changes in Scope | SCOPE | 2=Low (10-19%) | Linear | 4 =High | Med | Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | Scope change and/or scope creep | ACCEPT | Determine scope of work early in PA&ED | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |
| 12 | 10-1E350-12 | Active | Threat | ENV | 10/06/15 | Unanticipated PA&ED costs and delays | Higher level Env. Doc. due to public controversy | TIME | 2=Low (10-19%) | Linear | 4 =High | Med | Environmental | (209) 941-1919 | | Janet.Bailey@dot.ca.gov | High public opposition to roundabouts or the project in general | ACCEPT | Produce a higher level Env. Doc. | 165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT | | | PA&ED |