

# PROJECT STUDY REPORT

## To

### Request Programming in the 2016 SHOPP

PROJECT LOCATION: On Route 9 in Santa Cruz County, in and near Santa Cruz from Route 1 to 0.4 mile north of Glen Arbor Road (Ben Lomond).

APPROVAL RECOMMENDED:

  
\_\_\_\_\_  
JAMES ESPINOSA, DISTRICT PROGRAM MANAGER

APPROVAL RECOMMENDED:

  
\_\_\_\_\_  
DOUG HESSING, PROJECT MANAGER

APPROVED:

  
\_\_\_\_\_  
TIMOTHY M. GUBBINS, DISTRICT DIRECTOR

  
\_\_\_\_\_  
DATE

This project initiation document 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.

  
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REGISTERED CIVIL ENGINEER

  
\_\_\_\_\_  
DATE



## **1. INITIATING OFFICE/INITIATOR**

The Program Manager for the State Highway Operation and Protection Program (SHOPP) Storm Water Mitigation Program has established that a project is needed that meets the qualification for the Program.

This Project Initiation Document provides conceptual approval of the proposal and a recommendation to program the project into the 2016 SHOPP. A Project Report will serve as final approval of the proposal.

## **2. PURPOSE AND NEED**

### **Purpose:**

Caltrans is required to comply with the Statewide National Pollution Discharge Elimination System (NPDES) Permit [Order No. 2012-0011- Division of Water Quality (DWQ) effective July 01, 2013]. The permit requires Caltrans to obtain compliance credits annually in addition to control erosion. The proposed project would credit Caltrans 7.96 Compliance Units (CUs) towards meeting its compliance requirements. The improvements would provide source control solutions minimizing sediments from Caltrans right-of-way ultimately discharging to the San Lorenzo River.

### **Need:**

Caltrans annually inspects roadside slopes, drainage systems and other BMPs to identify chronic erosion problems. The Statewide NPDES Permit (Order No. 2012-0011-DWQ) requires Caltrans to maximize erosion control and soil stabilization. Along Route 9, there are 22 drainage systems that are substandard and inefficient due to an increase in flows or aging of the system. Along Route 9, there are 22 drainage systems that are substandard and inefficient due to an increase in flows or aging of the system.

## **3. DEFICIENCY SUMMARY**

The purpose of this Project Initiation Document (PID) is to improve drainage facilities at 22 locations that contribute to the discharge of sediment into the San Lorenzo River. These locations are on State Route 9 in Santa Cruz County from PM .09 to 7.53. This project was initiated by Pete Riegelhuth and the District 05 NPDES as a result of a regulatory order from the Central Coast Regional Water Quality Control Board (RWQCB). Caltrans is a named stakeholder in the San Lorenzo River Sediment Total Maximum Daily Load (TMDL). This TMDL requires Caltrans to reduce

sediment loading to the San Lorenzo River Watershed. By addressing a functionally obsolete and undersized drainage system, sediment loading from Caltrans right of way will be reduced.

The scope of work for this project includes the installation of new or redundant drainage systems where plugging, overtopping, or flooding occur causing erosion. This involves the reconstruction and replacement of existing substandard inlets with more efficient inlets, modifying outlets, installing trench drains across some local roads paralleling Route 9. At most locations culverts will be upgraded to at least 24" in diameter. Some aggregate concrete swales are being constructed adjacent to Route 9 to allow water to discharge into inlets more efficiently. At various locations it is proposed to run butt fusion welded High Density Polyethylene (HDPE) down the slopes to an appropriate area to outlet (See Attachment E). Permanent erosion control and slope stabilization measures will be installed to stabilize disturbed soils and prevent erosion. See Attachment A for the Project Vicinity Map and Attachment B for the Title Sheet. Attachment C lists all 22 locations with their existing condition and proposed solutions and categorizes each location into 4 Sediment Source Control Areas.

#### **4. PROJECT PROPOSAL**

R/W:

It is anticipated that no right of way would be purchased; however, temporary construction and permanent easements will be required.

Disposal Site:

The contractor is responsible for the proper disposal of pavement, removed culverts and excess material at an approved facility per Caltrans Standard Specifications and Special Provisions.

Utilities:

Utility conflict is not anticipated; however, final determination will be made during the PA&ED phase of the project.

Environmental:

See Attachment H for the Preliminary Environmental Assessment Report.

Traffic Handling:

Traffic handling during construction of all locations will be handled by using one way traffic control with flaggers and a pilot car. No detours are anticipated. Detour mapping will follow at the PA&ED phase. See Attachment J for the Traffic Management Plan.

**5. FUNDING/PROGRAMMING**

The proposed project is a candidate for programming into the 2016 State Highway Operations and Protection Program (SHOPP) for delivery in the 2019/20 fiscal year.

**Senate Bill 45 (SB45) – Chaptered in 1997**

The component categories shown in the funding table below are as identified in Senate Bill 45 (SB 45), which are as follows:

- Project Approval and Environmental Document (PA&ED): Completion of all permits and environmental studies
- Plans, Specifications and Estimates (PS&E): Preparation of plans, specifications, and estimates
- Right of Way (R/W) Support and Capital –The acquisition of rights-of-way
- Construction (Constr.) Support and Capital – Construction and construction management and engineering, including surveys and inspection.

The total current construction cost estimate is \$ 1,846,000

The total current right of way capital estimate is \$167,000.

The total current right of way and construction capital is \$2,013,000.

It has been determined that this project is eligible for Federal-Aid Funding.

Project Cost Component	Fiscal Years					Total
	2015/16	2016/17	2017/18	2018/19	2019/20	
R/W Capital					\$214	\$214
CON Capital					\$2,356	\$2,356
Subtotal Capital by FY					\$2,570	\$2,570
PA&ED Support		\$745				\$745
PS&E Support			\$1,192			\$1,192
R/W Support			\$1,287			\$1,287
CON Support					\$812	\$812
Subtotal Support by FY		\$745	\$2,479		\$812	\$4,036
Total Project Cost by FY		\$745	\$2479		\$3,382	\$6,606

*Note: All costs X \$1,000. Support categories are the same as those identified by SB 45. Support Costs escalated at 3% for all years. Construction Capital escalated at 5% per year. Right of Way Capital estimate is escalated at 5% per year. Support Cost ratio: 157 % (All Support Costs divided by the sum of the escalated Construction Capital and escalated R/W Capital.*

Estimate See Attachment D

## 6. SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)
PROGRAM PROJECT	M015	7/1/2016
BEGIN ENVIRONMENTAL	M020	8/1/2016
PA & ED	M200	10/4/2017
Right of Way Requirements to R/W Engineering	M224	1/17/2018
Reg R/W (Delivery of Certified Appraisal Maps to Right of Way)	M225	4/26/2018
PS&E TO DOE	M377	7/9/2019
RIGHT OF WAY CERTIFICATION	M410	4/27/2020
READY TO LIST	M460	5/4/2020
FUND ALLOCATION	M470	7/28/2020
HEADQUARTERS ADVERTISE	M480	08/19/2020
AWARD	M495	10/16/2020
APPROVE CONTRACT	M500	10/30/2020
CONTRACT ACCEPTANCE	M600	11/01/2021
END PROJECT	M800	12/30/2022

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### **Workplan Assumptions, Constraints and Risks**

- The project will be programmed in the 2016 SHOPP cycle.
- The project will be completed within the plan in the programming documents. If there are changes to the scope, schedule, or cost a Project Change Request (PCR) may be needed to document the changes.
- The workplan will be monitored and controlled by the Project Development Team (PDT) through-out the project's lifecycle.
- Project Development Team (PDT) members will identify and communicate changes (assumptions, constraints, risks, scope, schedule and / or budget) to the appropriate Task Manager and Project Manager immediately so that the Team may assess potential actions, impacts and categorize (avoid, transfer, mitigate, exploit, share, enhance or accept) the proposed change to the project. Accepted changes to the initial scope of work whether they are an increase or a decrease will be assessed by the PDT and the workplan will be re-examined as needed to adjust the budget in hours and/or dollars to address the accepted changes.
- The workplan was developed using a "Bottoms-Up" approach at the lowest Work Breakdown Structure (WBS) level and then rolled up to "WBS Level 5 - the Major Task Level". Prior to any charges occurring on a task the PDT may choose to change the level that a task is planned at.

The project support budget (in dollars) was developed from the accepted workplan (in hours by task) based upon the "Rate Matrix" as loaded into Project Resource and Schedule Management (PRSM) as of April 27, 2015 and includes an escalation factor of 3% for each year through 2020,

### **7. RISKS**

The attached Risk Register is a living document and was prepared to assess, respond and monitor identified project risks that may occur throughout the life of the project. The Risk Register will be reassessed throughout the projects lifecycle and is designed as a tool to help the Project Development Team and Project Sponsor in their decisions regarding project alternatives and objectives and encourages the project team to take appropriate measures to minimize adverse impacts to the project scope, schedule or cost. The Risk Register cannot identify all risks in advance of occurrence for a project, some risks are unknown.

However, some of the risks that are known are associated with the acquisition of right of way and some potential environmental challenges. Due to right of way constraints, many of the drainage systems within the limits of the project discharge directly to private property. To upgrade these systems, entrance to these properties will be required. This

will be accomplished by “Permits to Enter” to allow State employees to conduct their environmental studies and by both Temporary and Permanent Construction Easements to allow the State’s contractors to perform their work during the construction phase of the project. There is the risk that obtaining these permits could be delayed which could cause a slip in the project schedule.

In addition, if results from field surveys results in Formal Consultation with the United States Fish and Wildlife Service those locations triggering the requirement for consultation would be dropped from the project. Also, if too many locations are determined not to fall within a Categorical Exempt (CE), the functional teams will reevaluate the scope of the project and only include locations that can be done within a CE. Reevaluation of the scope of the project will change the schedule of the project and may require a Project Change Report (PCR). See the Risk Register for a listing of risks for this project (Attachment “G”)

The project scope, schedule or cost shown within this programming document does not include quantitative impacts identified within the Risk Register.

## **8. 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.

## **9. ATTACHMENT**

- A. Project Vicinity Map
- B. Project Title Sheet
- C. List of Locations
- D. Cost Estimate
- E. Typical Cross Section
- F. Storm Water Data Report-signed cover sheet
- G. Risk Register
- H. Preliminary Environmental Assessment Report
- I. Aerials and Photographs of Locations
- J. Traffic Management Plan

**10. DOCUMENT DISTRIBUTION**

<b>Division / Program / Office</b>	<b>Contact Person</b>	<b>No. of Copies</b>
HQ Division of Design	Design Report Routing	1
HQ Division of Engineering Serv.	Division of Engineering Services	5
HQ Environmental	Bob Pavlik	1
HQ Traffic Ops/Traffic Safety Program	Shaila Chowdhury	1
Project Manager	Doug Hessing	1
Design Manager	Scott A. Shaver	2
Construction Manager	Jennifer Wilson	1
District Maintenance	Lance Gorman Kelly McClain	2
District Traffic Management	Jacques Van Zeverter	1
District Traffic Operations	Paul Mc Clintic	1
District Traffic Safety (electronic copy)	Mark Ballentine Deb Larson	2
Region Traffic Design	Mohammed Qatami	1
Region Materials	Doug Lambert	1
Region Environmental	Susan Schilder-Thomas	1
Region Right of Way	Marshall Garcia	1
District Planning	Claudia Espino	1
Region Landscape	Dennis Reeves	1
PPM (Scanned electronic copy)	Linda Araujo	1
Surveys (Electronic copy)	Jeremy Villegas Bob Fredricks	1
District Records (Electronic copy)	Beverly Connolly	1
Region Records	Victoria Pozuelo	1