

VENTURA COUNTY TRANSPORTATION COMMISSION

EMERGENCY CONSTRUCTION SERVICES TO PROVIDE SLOPE STABILITY FOR THE SESPE CREEK OVERFLOW RAILROAD BRIDGE

SCOPE OF WORK

1 BACKGROUND AND SUMMARY

The Sespe Creek Overflow railroad bridge is located at approximately Milepost (MP) 423.44 on the Santa Paula Branch Line (SPBL) railroad, west of Fillmore, California. On January 10, 2023, heavy rain, stream flow, and accumulated debris washed out approximately 90-feet of the railroad bridge. Reconstruction of three spans on the western end of the bridge is required to restore functionality to the Fillmore-Piru segment of the SPBL railroad. On February 5, 2024, a second wash out occurred due to heavy rain and increased flow caused additional erosion, which exposed an additional 50-feet of track and resulted in a vertical cut-bank.

2 SCOPE OF WORK

Whenever “Commission” or “Authority” is referenced in the scope of work it will be understood as the Ventura County Transportation Commission (VCTC). The scope of work for this project is to execute an emergency slope stabilization repair to the recently formed vertical cut-bank at the railroad bridge approach, which involves removal and salvage of the suspended track, demolition and disposal of existing precast backwall and piles, and installation of temporary countermeasures for scour prior to the next winter storms. Due to seasonal/environmental factors, the on-site construction window in the creek bed is limited to August through November 30, 2024, during the driest period of the year. Any work outside of the creek bed after November 15 will require written permission from the Commission. Off-site activities to prepare for the on-site construction activities must advance once work is authorized to proceed. Prior to commencing work, Contractor must confirm and obtain all necessary permits incidental to perform this work, including traffic control with the County if necessary.

All work must conform to the Scope of Work, Special Provisions (Attachment 1), Exhibits (Attachment 2), Water Diversion Guide (Attachment 3), References (Attachment 4), Material Quantities (Attachment 5), and Declining Amphibian Populations Task Force (DAPTF) Decontamination Protocol (Attachment 6). Contractor must submit a detailed Site Specific Work Plan for all activities and obtain approval from the Commission’s Engineer prior to commencing work. Product data must be submitted to the Commission’s Engineer and approved prior to ordering material. Changes to scope of work will need to be submitted for approval to the Commission and requires approval prior to commencing any work that deviates from the scope of work provided herein.

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ATTACHMENT 1: SPECIAL PROVISIONS

SPECIAL PROVISIONS

1 GENERAL REQUIREMENTS

1-1 EMERGENCY CONTRACTING AUTHORITY

This contract is for emergency work as authorized by Public Contract Code §22050.

1-2 DURATION OF CONTRACT

The Contractor shall provide labor, equipment and materials as directed by the Commission from Notice-to-Proceed date until Work is Complete, or until the contract is terminated. Completion time is 45 days from Start of Work, unless extended in writing by the Commission.

1-3 CONSTRUCTION SCHEDULE

1-3.1 Notice-to-Proceed (NTP)

The issuance of Notice-to-Proceed (NTP) by the Commission initiates period of performance but it does not constitute the Contractor's authority to enter upon the site of the Work.

1-3.2 Right-Of-Entry (ROE)

Only after the railroad Right-of-Entry (ROE) permit has been obtained, does the Contractor have authorization to enter the railroad right-of-way (ROW). A ROE permit will be issued by railroad operator Sierra Northern Railway (SERA) at no cost to the Contractor. Entry upon the site without authority will be treated as trespassing.

1-3.3 Mobilization And Demobilization

Mobilization shall not commence until NTP has been issued and the Contractor meets all other requirements included in Section 1-3.

1-3.4 Potholing

The Contractor must submit a dig ticket and pothole prior to the start of construction.

1-3.5 Starting Work

The Contractor may start work at any time after NTP is issued but work shall begin within 15 Days after the starting date for the Contract, or at such other time as may be indicated in the Special Provisions. The actual date on which the Contractor starts work will not affect the required time for completion as provided for in Section 1-2.

1-3.6 Seasonal Restrictions

All work in the creek bed must be completed prior to November 16, 2024, unless extended in writing by the Commission. Work cannot extend beyond November 30, 2024.

1-3.7 Material Quantities

The Contractor shall field verify the quantity of materials 5 working days prior to the NTP. The Contractor must coordinate with the railroad operator, SERA, to enter the ROW to perform field verification.

1-4 CONTRACTOR'S WORKING HOURS

As a courtesy to local residents, Contractor shall abide by the County of Ventura Noise Ordinance, which prohibits loud or raucous noise between 9:00 PM and 7:00 AM the next day. In addition, pile driving is only allowed during the daytime hours of 7:30 AM through 6:00 PM, unless specifically approved by the Commission. Work is allowed on weekends and holidays.

1-5 COMMISSION PERSONNEL AND AUTHORITY

The Project Manager, as identified in this contract, has authority to direct the work to be performed, including work that may be considered a Contract Change Order.

1-6 MODIFICATIONS TO SCRRA STANDARD SPECIFICATIONS

All approvals will be obtained through the Commission or its designated appointee. Whenever "Authority" is referenced in the SCRRA Standard Specifications (Attachment 4), it will be understood as the Ventura County Transportation Commission.

1-7 SUBMITTALS

Submittals shall be provided, at the Contractor's expense: as required in this section, when required by the Exhibits or Special Provisions, or when requested by the Engineer. Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittals. Each submittal shall be included in the Contract Unit Price or lump sum bid price for the various bid items.

The Contractor must provide at minimum all the following Submittals to the Engineer within 15 days of NTP:

- a. Baseline Schedule
- b. Day-to-Day Schedule
- c. Potholing Plan
- d. Health and Safety Plan
- e. Site-Specific-Work Plan
- f. Riprap Product Data
- g. Pile Product Data
- h. Backfill Product Data
- i. Rock Slope Protection Fabric Data
- j. Class 2 Aggregate Base Data

1-7.1 Submittal Procedures

All submittals must be verified by the Commission for conformance against the Scope of Work for the Contract.

- a. Processing Time: Allow time for submittal review, resubmittals may be necessary.
- b. Concurrent Consultant and/or Commission Review: Allow for 2 complete working days from date of submittal to allow concurrent consultants and Commission review.

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- c. External Review: Allow 2 additional working day from date of submittal to allow for external review.

1-7.2 Day-to-Day Schedule

The Contractor must provide at a minimum all the following items in the day-to-day schedule:

- a. Work Duration
- b. Work Schedule (e.g., five 8-hour days, four 10-hours days, six 9-hour days)
- c. Work Activities
- d. Start and End Times

1-8 WATER POLLUTION CONTROL

The Contractor is not required to submit a Stormwater Pollution Prevention Plan (SWPPP) or Stormwater Pollution Control Plan (SWPCP).

1-9 BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices (BMPs) are addressed in SCRRA Standard Specifications 01 57 19 and are the minimum requirements to be met by the Contractor. The Contractor shall comply the Regional General Permit (RGP) 63 for BMPs. Where there is a discrepancy between the RGP 63 and the standard specifications, the regulation will govern. BMPs are incidental to the work and no separate measurement or payment will be made to the Contractor.

1-9.1 Drainage Control

The Contractor shall maintain drainage within and through the Work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when necessary to protect the Work, provided their use does not create a hazard or nuisance to the public. Such dams shall be removed from the site as soon as their use is no longer necessary.

1-9.2 Decontamination Protocol

The Contractor shall comply with the "Declining Amphibian Populations Task Force Fieldwork Code of Practice" protocols, included as Attachment 6.

1-9.3 Final Cleaning

At the completion of the Work, the Contractor shall remove all waste materials and rubbish from and about the project, as well as all tools, construction equipment, temporary facilities, machinery, and surplus materials. The Contractor shall use only cleaning materials recommended by the manufacturer of the surface to be cleaned and use cleaning materials only on surfaces recommended by the cleaning material manufacturer. The Contractor shall broom-clean all paved surfaces and rake-clean other surfaces of grounds. After cleaning, the Contractor shall maintain the worksite in a clean condition until it is accepted by the Commission.

1-10 WATERSHED PROTECTION

Any work within the creek bed will require a ROE permit from Ventura County Watershed Protection District prior to mobilizing into creek. The ROE permit fees will be waived for the Contractor.

1-11 COORDINATION WITH RAILROAD OPERATOR

The Santa Paula Branch Line railroad is out of service within the project area for the duration of the project. However, the Contractor will be expected to coordinate with the railroad operator, SERA, as needed.

1-12 PAYMENT

The Contractor will be paid based on the pay items in the Schedule of Values (Refer to Attachment 4: SCRRA Standard Specifications Section 01 29 73). Disbursement of the pay items will be in accordance with the requirements for Payments.

When the plans have been altered, or when disagreement exists between the Contractor and the Commission as to the accuracy of the plan quantities, or when the line or grade within the Contract Limits of Work differ from what is shown on the Drawings, either party shall have the right to request, in writing, a change to the noted quantity. This request should be made before any Work is started that would affect the measurement.

2 DIVERSION, CONTROL, AND REMOVAL OF WATER

2-1 SCOPE

This item shall consist of the diversion, control, and removal of all water entering into the construction area or otherwise affecting construction activities and shall be performed to the extent possible in accordance with the Water Diversion Guide in Attachment 3. The Contractor shall also refer to Attachment 3 Section 5 for dewatering guidelines.

Prior to beginning of work involving diversion, control and removal of water, the Contractor shall submit a water control plan to the Commission. In the event circumstances change during the course of construction that would require changes to the original water control plan, a revised water control plan shall be promptly submitted to the Engineer in each instance. No responsibility shall accrue to the Commission as a result of the plan or as a result of knowledge of the plan. Construction and operation of the diversion, control, and removal shall be in accordance with the water control plan submitted, except deviations therefrom specifically approved by the Commission. All works installed by the Contractor in connection with dewatering, control, and diversion of water but not specified to become a permanent part of the Work, shall be removed and the site restored, insofar as practical, to its original condition prior to completion of construction or when directed by the Commission.

2-2 MEASUREMENT AND PAYMENT

Payment of Water Diversion is based on the water level being at approximately Elevation 430 as shown in the photos.

The contract price for such work includes full compensation for installation, operation, maintenance, and removal of diversion and control works, regardless of the number of times necessary, and includes all labor equipment, tools, tests, services, materials, and all other necessary and incidental items required to complete the Work.

The contract price for such work will include full payment for all materials, labor, equipment, and other in accordance with the Exhibits, the Special Provisions, and as directed by the Engineer and no additional compensation will be allowed.

3 RIP RAP, BACKFILL, AND CLASS 2 AGGREGATE BASE

3-1 SCOPE

Earthwork may be performed prior to riprap placement at the boundary of the fill area. Soil may need to be removed and recompacted to create a working surface. This would be at the Contractor's option or means and methods.

The Contractor shall restore the scour hole by placing Class 1 riprap on the compacted soil behind the abutment. The top of the stone should reach an approximate elevation 430 as shown in the Exhibits. The 12" thick section of compacted Class 2 aggregate base shall be installed on top of the Class 1 riprap.

Class 8 rock slope protection fabric shall be installed surrounding the backfill, between the Class 2 aggregate base and backfill material.

At the bridge approach, the Contractor shall install backfill from the bottom of the exposed piles behind the abutment, up to the bottom of existing subballast elevation, as shown on Exhibits, or as directed by the Engineer. The Contractor shall tie in new material to the existing embankment and the County repairs.

3-2 MATERIALS

Backfill and Class 2 Aggregate Base materials shall conform to the SCRRA Standard Specifications. Class 8 rip rap, Class 1 rip rap, and Class 8 rock slope protection fabric shall confirm to Caltrans Highway Design Manual (HDM).

3-3 INSTALLATION

Backfill material, as identified in the Exhibits, shall be compacted to 90-95% directly below the railroad track, and 15' from centerline of existing track in either direction in accordance with current SCRRA Standard Specifications and AREMA MRE guidelines. The Contractor shall install the backfill at a 2:1 slope as indicated on the Exhibits and establish smooth transitions to the existing ground line. The Contractor may not extend the backfill beyond the ordinary high-water mark per the RGP 63.

Class 2 Aggregate base shall be compacted to 95% where installed.

Class 8 and Class 1 rip rap shall be installed "loose" (NOT grouted) per Method B of the Caltrans HDM.

Class 8 RSP Fabric shall be placed in two layers as shown in the Exhibits and per the Caltrans HDM.

3-4 MEASUREMENT AND PAYMENT

Payment of backfill will be paid for at the contract unit price per cubic yard. The contract price for such work will include full payment for all materials, labor, equipment, and other incidentals required to place backfill in accordance with the Plans, the Special Provisions, and as directed by the Engineer and no additional compensation will be allowed.

Payment for construction of riprap shall be made at the Contract Unit Price per ton of riprap rock class placed. Such payment shall be considered full compensation for furnishing all labor,

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material, riprap, shattering the remaining grouted riprap, equipment, tools and incidentals necessary to complete the work including subgrade preparation.

4 DEMOLITION

4-1 SCOPE

The Contractor shall remove and salvage the rail segment over the washed-out portion of the railroad bridge. The Contractor shall remove and segregate timber ties and track OTM hardware of removed rail segment to be stored on the railroad ROW in a location as directed by SERA for proper disposal by SERA. Timber ties shall be isolated should any rain event happen during the removal or storage period.

Remove and salvage detached railroad bridge handrail posts and cables. Positively secure handrail cables to the remaining handrail posts attached to undamaged railroad bridge segment. Remove and dispose of abutment precast backwall and exposed piles.

Salvaged material will be stored on the railroad ROW in a nearby yard. Location for stored material will be directed by SERA.

4-2 PAYMENT

Refer to SCRRA Standard Specifications 31 11 50 for Measurement and Payment.

5 PILE DRIVING

5-1 SCOPE

The Contractor shall drive piles outside of the high dry bank line of the channel within the railroad ROW as directed by the Engineer. Refer to SCRRA Standard Specifications 31 80 21 Piling.

5-2 MATERIAL

The material will consist of HP 10x57 steel piles.

5-3 MEASUREMENT AND PAYMENT

Payment of piles will be paid for at the contract unit price per linear foot. The contract price for such work will include full payment for all materials, labor, equipment, and other incidentals required to drive piles in accordance with the Plans, the Special Provisions, and as directed by the Engineer and no additional compensation will be allowed.

6 BID LIST OPTION 1

6-1 SCOPE

The Contractor shall procure and install rip rap in the event of an emergency during the winter storm season from December 1, 2024, to March 30, 2025. The Contractor shall install rip rap as directed by the Commission in the event of an emergency. This work shall only be undertaken upon explicit instruction from the Commission and within the time frame

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specified by the Commission at the time of the emergency. Contractor shall refer to SCRRA Standard Specifications 01 23 00 Part 1 Options (Attachment 4).

6-2 MATERIAL AND INSTALLATION

The material consists of Class 8 rip rap via Method B installation per the Caltrans HDM.

6-3 MOBILIZATION

Mobilization toward Option 1 in the Bid List would be considered a second mobilization.

6-4 PAYMENT

Payment for Option 1 will be based on the unit prices submitted with the Contractor's bid. The rip rap will be paid on a per cubic yard basis, and the total amount payable will be determined by the actual quantity of riprap placed as verified by the Engineer. The Contractor is required to submit detailed invoices supported or other appropriate documentation for verification by the Engineer.

7 QUALITY CONTROL AND MATERIALS TESTING

7-1 QUALITY CONTROL TESTS AND INSPECTIONS

Quality Control tests and inspections shall be the sole responsibility of the Contractor. Refer to SCRRA Standard Specifications 01 40 00 (Attachment 4).

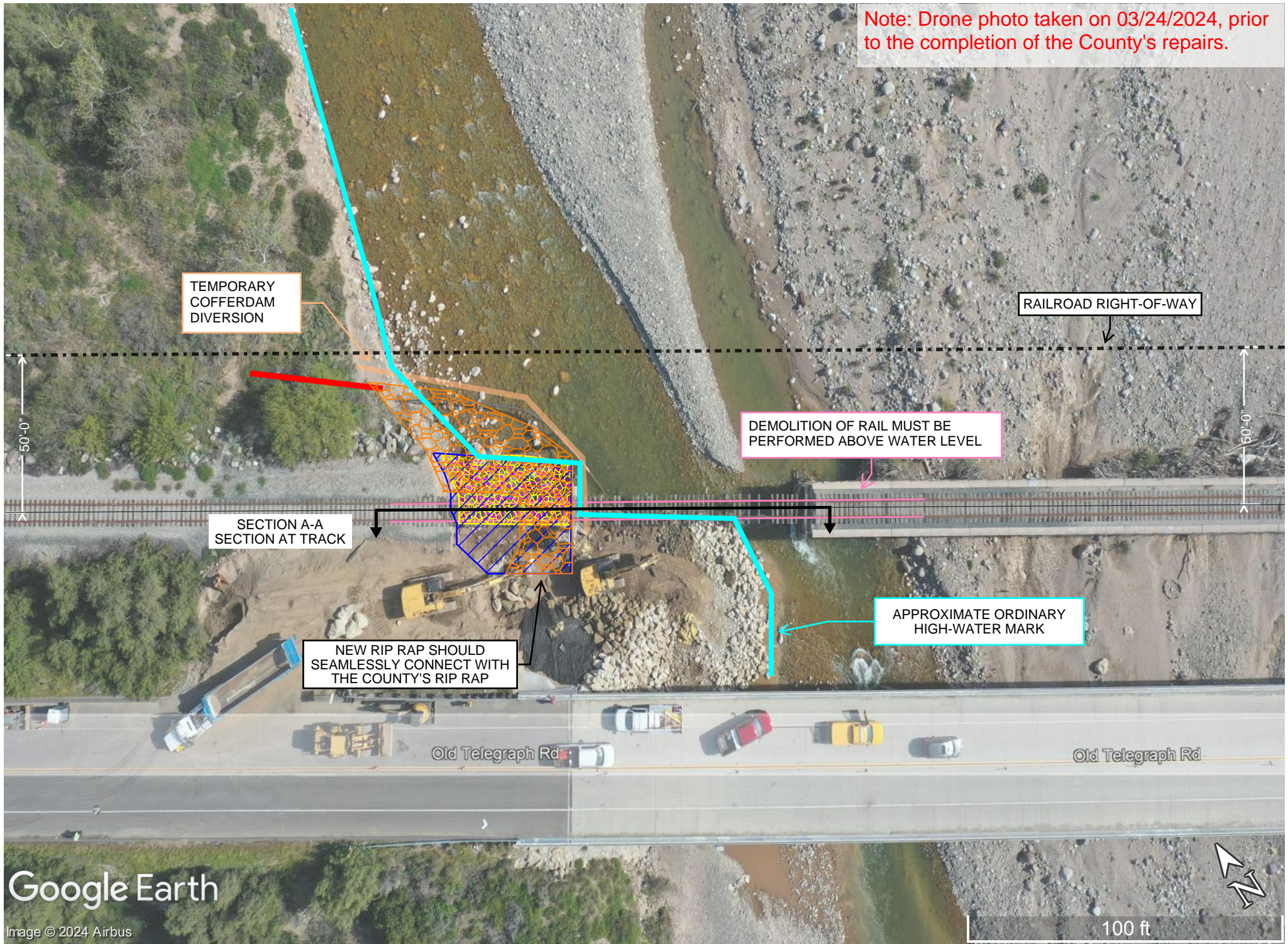
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ATTACHMENT 2: EXHIBITS

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL SAFETY CODES, REGULATIONS, AND SPECIFICATIONS FOR THIS CONTRACT.
2. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD VENTURA COUNTY TRANSIT COMMISSION AND THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
3. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM THE OPERATION TO THE SATISFACTION OF THE ENGINEER. REFER TO SPECIAL PROVISIONS SECTION 1-9.3 FOR CLEAN UP AND RESTORATION.
4. SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" IS VALID. THE CONTRACTOR SHALL CALL THE UNDERGROUND SERVICE ALERT (811 OR 1-800-422-4133) TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION TO OBTAIN A DIG TICKET.
5. VENTURA COUNTY TRANSIT COMMISSION IS NOT A MEMBER OF DIG ALERT. THE CONTRACTOR SHALL CONTACT SIERRA NORTHERN RAILWAY A MINIMUM OF FIVE (5) DAYS PRIOR TO BEGINNING CONSTRUCTION TO MARK SIGNAL AND COMMUNICATION CABLES AND CONDUITS TO ASSURE CABLE AND CONDUITS HAVE BEEN MARKED.
6. EXHIBITS ARE NOT TO SCALE, REFER TO QUANTITIES IN SCOPE OF WORK ATTACHMENT 5. PER THE SPECIAL PROVISIONS SECTION 1-3.7, THE CONTRACTOR SHALL FIELD VERIFY MATERIAL QUANTITIES PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL REFER TO THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT WATER DIVERSION GUIDE FOR COFFERDAM CONSTRUCTION, SEE SCOPE OF WORK ATTACHMENT 3.

Note: Drone photo taken on 03/24/2024, prior to the completion of the County's repairs.



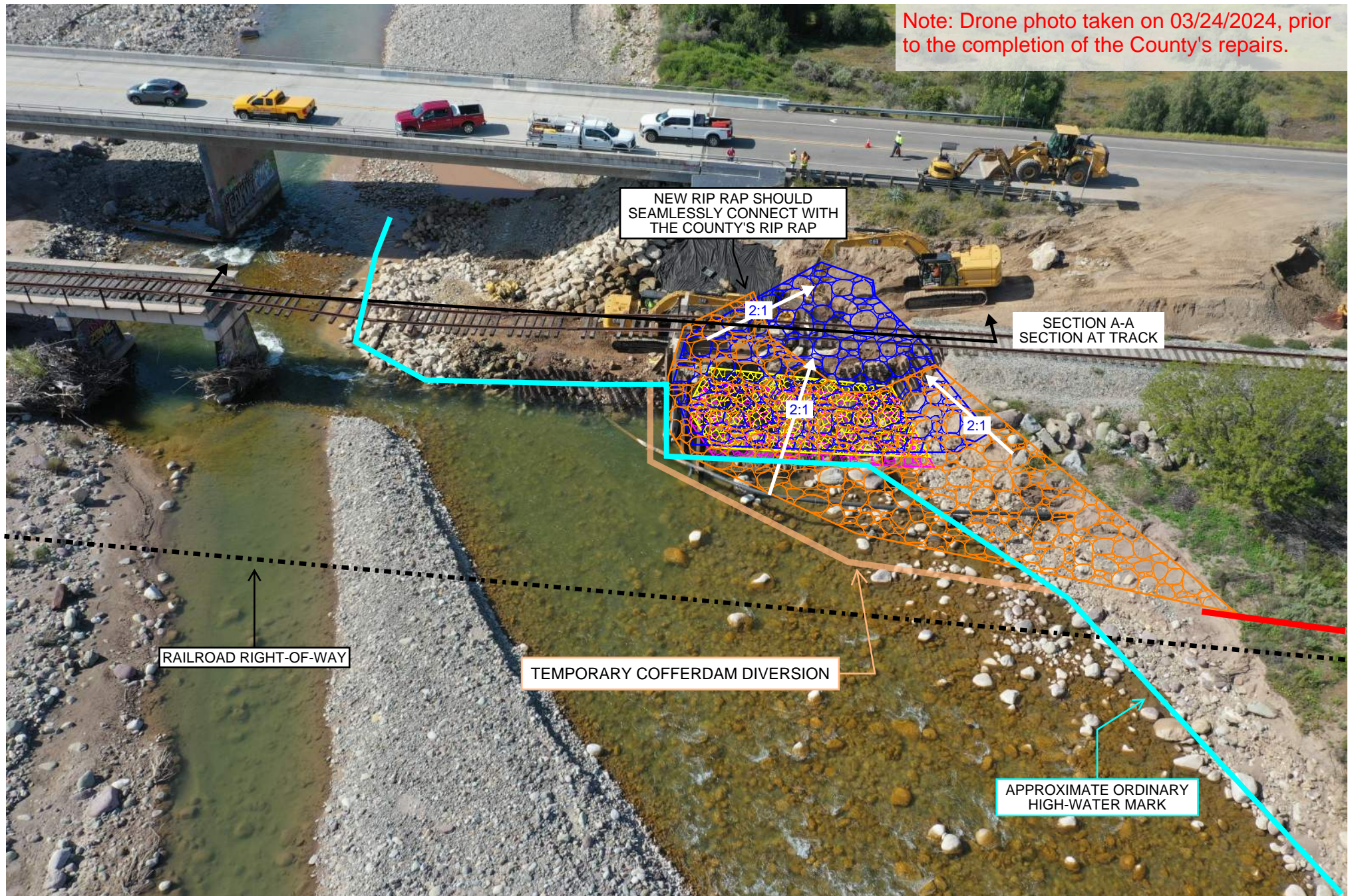
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Image © 2024 Airbus

- | | | | | |
|------------------------------|-------------|-----------------|---------------------|----------------|
| --- VCTC RIGHT-OF-WAY LIMITS | BACKFILL | CLASS 1 RIP RAP | CLASS 2 BASE | * NOT TO SCALE |
| CL OF TRACK | H-PILE WALL | CLASS 8 RIP RAP | TEMPORARY COFFERDAM | |

08/21/2024

Note: Drone photo taken on 03/24/2024, prior to the completion of the County's repairs.

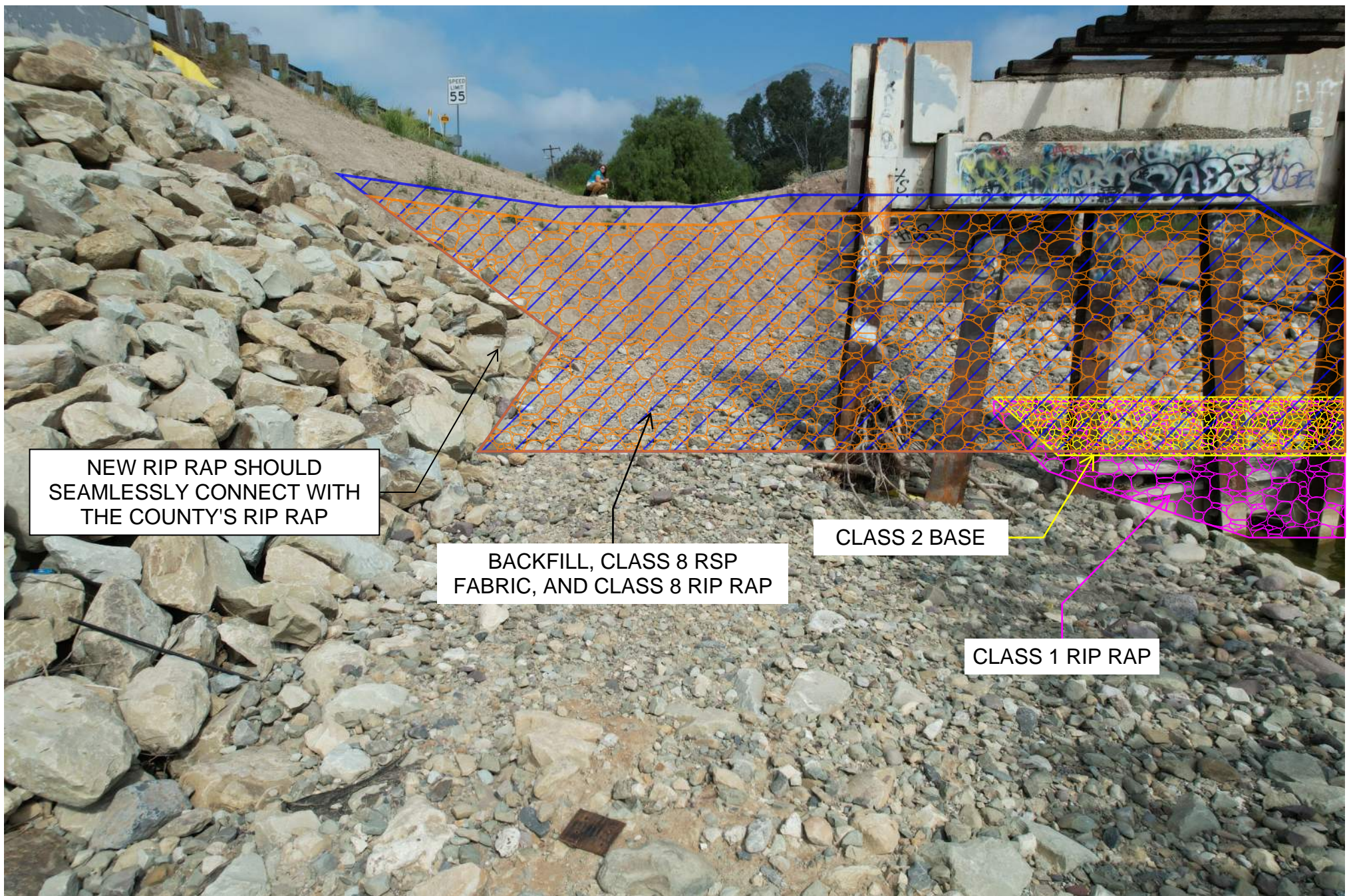


- BACKFILL
- CLASS I RIP RAP
- VCTC RIGHT-OF-WAY LIMITS




- H-PILE WALL
- CLASS 2 BASE
- CLASS 8 RIP RAP



- APPROXIMATE ORDINARY HIGH WATER MARK
- TEMPORARY COFFERDAM

* NOT TO SCALE

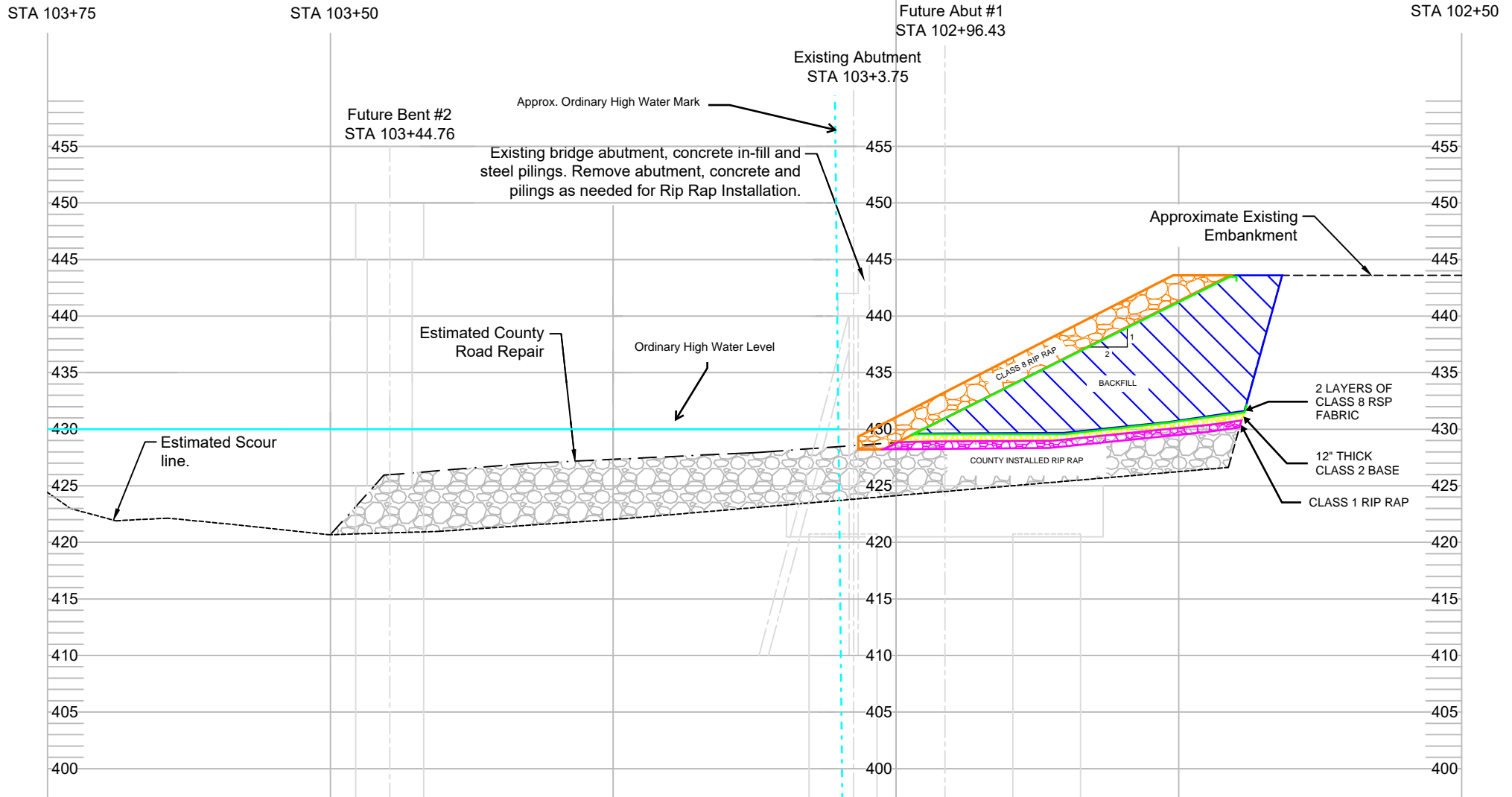


Note: Photo taken on 06/12/2024, after the completion of the County's repairs.

-  BACKFILL
-  CLASS 2 BASE
-  CLASS 8 RIP RAP

-  CLASS 1 RIP RAP
-  CLASS 8 RSP FABRIC

STA 103+00



SECTION A-A,
SECTION AT CL OF TRACK
Not to Scale

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ATTACHMENT 3: WATER DIVERSION GUIDE

WATER DIVERSION GUIDE

FOR THE

**VENTURA COUNTY
MAINTENANCE PROGRAM EIR**

VENTURA, CALIFORNIA

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1.0 INTRODUCTION

1.1 BACKGROUND

The Ventura County Watershed Protection District's (District) ongoing maintenance program focuses on the proper operation and function of the District's flood control facilities. Routine maintenance and repair activities preserve the engineered flow conveyance and retention capacities of the District's flood control facilities and prevent/remove the accumulation of obstructing vegetation and sediments that could increase existing flood or erosion hazards.

This Water Diversion Guide was developed in conjunction with the 2008 Maintenance Program Environmental Impact Report (Program EIR) to address potential impacts to water quality and aquatic habitat during routine maintenance and repair activities. This guidance provides detailed Best Management Practices (BMPs) for the District and its contractors to use during water diversion activities to reduce environmental impacts to hydrology, water quality, and aquatic habitat.

1.2 PURPOSE

During routine maintenance and repair operations, flowing or ponded water may be present at a flood control facility. Water flowing through work areas can potentially impact downstream water quality through the discharge of sediment, debris, construction materials and other pollutants. Construction activity may also impact water quality or native aquatic life by altering flow channels and hydrology, mechanically damaging aquatic habitat or contributing to siltation and turbidity.

Temporary water diversion is required during a routine maintenance or repair activity when work in flowing or ponded water has the potential to negatively impact water quality or native aquatic life. A water diversion facility must be constructed, operated, maintained, and removed to minimize impacts. BMPs implemented as part of the water diversion reduces water quality impacts by minimizing the discharge of sediments and other pollutants from the work area. BMPs for the protection, removal, and relocation of native aquatic life during water diversion reduce impacts to aquatic life. Water quality monitoring is usually required during the operation and removal of a water diversion. The results of water quality monitoring can be used to assess the performance of BMPs and address any potential impacts to water quality from the water diversion.

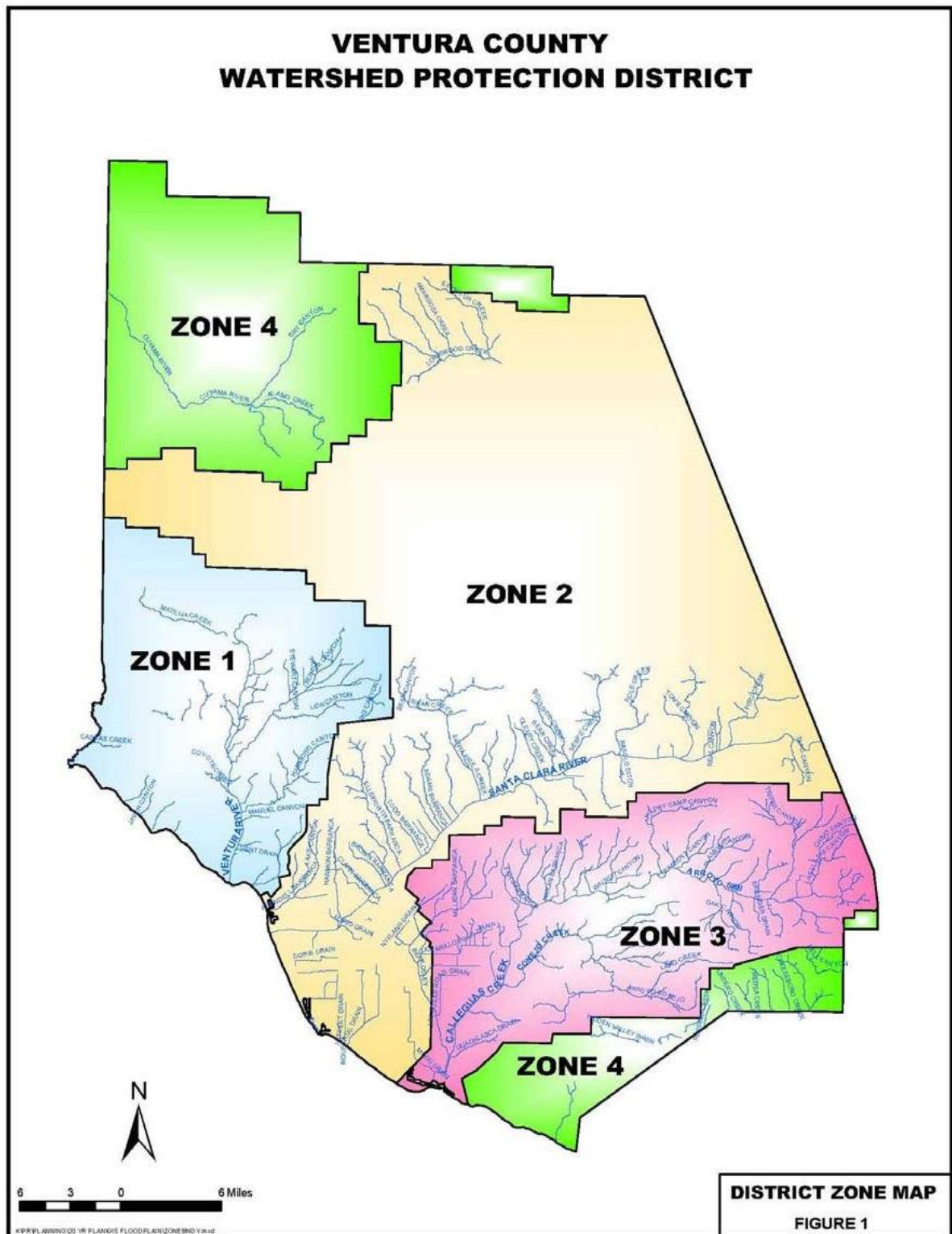
1.3 DISTRICT ZONES

The District operates and maintains projects that have been either constructed by the District or constructed by others and transferred to the District. The District has divided Ventura County into four management zones (Table 1-1 and Figure 1).

**TABLE 1-1
SUMMARY OF DISTRICT ZONES**

Zone No.	Watershed	Major Drainages	Cities and Communities
1	Ventura River Watershed	Ventura River, San Antonio Creek, tributaries in the Ojai Valley	Ojai, Ventura, Oak View, Casitas Springs, Live Oak Acres, Meiners Oaks
2	Santa Clara River Watershed and Oxnard Plain	Santa Clara River and its tributaries, various Oxnard Plain drains	Piru, Fillmore, Santa Paula, Ventura, El Rio, Saticoy, Oxnard, Port Hueneme, Nyeland Acres
3	Calleguas Creek Watershed	Arroyo Conejo, Arroyo Simi, Arroyo Santa Rosa Creek, Conejo Creek, Arroyo Las Posas Calleguas Creek, Revolon Slough	Simi Valley, Moorpark, Camarillo, Thousand Oaks, Newbury Park, Somis
4	Potrero Creek Watershed, Upper Cuyama River Watershed	Potrero Creek, Medea Creek	Agoura Hills, Westlake Village

FIGURE 1
DISTRICT MANAGEMENT ZONES



2.0 FACILITY TYPES AND DESCRIPTIONS

A variety of basin and linear facilities are maintained by the District. A comprehensive list of the District's facilities and their location, dimensions, capacities, and other pertinent information is included in the District's Catalog of Facilities (2008 Environmental Protection Measures for the ongoing Routine Operations and Maintenance Program EIR, Appendix C, periodically updated) and the Debris and Detention Basin Manual (EIR Appendix D, updated December 2017). The main types of linear facilities are Open Channel; Open Channel Inlets, Outlets, and Transitions; Bank Protection and Related Facilities; and Pipe and Box Culverts (Underground Facilities). There are about 216 miles of maintained linear facilities with open channels accounting for one-half of the total. There are 56 debris and detention basins that are maintained by the District.

2.1 OPEN CHANNELS

2.1.1 Channel Types

More than 50 percent of the District's linear facilities are some type of open channel. The most abundant type is the reinforced rectangular or trapezoidal concrete channel. This is a fully lined concrete structure with either a trapezoidal or rectangular (vertical wall) channel geometry. Some of the open channels are graded, earthen channels or unlined channels, while others are grouted (i.e., concreted) riprap channels with earthen bottoms. Channel geometries for earthen channels are usually trapezoidal.

Open channels in the District can be categorized as "improved" or unimproved" channels. Improved channels have been designed for a specific storm flow conveyance capacity, with engineering drawings that specify a certain width and depth. Most "improved" channels are fully or partially lined with concrete. "Improved" earthen channels have design dimensions that must be maintained. "Unimproved" channels are full earthen channels or channels with bank protection (i.e., riprap, gunite) and a soft bottom that do not have engineered design specifications but are maintained to specific configurations as part of the District's ongoing maintenance program.

2.1.2 Maintenance Activities in Channels

Several types of routine maintenance and repair operations are conducted by the District on an annual basis. Any of these activities can occur at a facility with flowing or ponded water that would require a water diversion and appropriate BMPs.

2.1.2.1 Channel Cleanout

The District is the Principal co-permittee of the Ventura Countywide NPDES Permit and responsible for implementation of the Ventura Countywide Stormwater Quality Management Program (VCSQMP)¹. The VCSQMP requires co-permittees to routinely clean catch basins, drainage facilities, detention/retention basins, and reinforced concrete open channels at least once each year prior to the wet season. At most sites, sediments are removed from the channel bottom using an excavator or a crane working from the top of the banks.

¹ The Ventura Countywide Stormwater Quality Management Program (VCSQMP) complies with the requirements of the Ventura Countywide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (Order R4-2010-0108; NPDES Permit No. CAS004002) issued by the Los Angeles Regional Water Quality Control Board (RWQCB).

2.1.2.2 Channel Bed and Bank Repair

Repair activities include the re-shaping and compaction of earthen channels to repair erosion damage, replacement of damaged concrete in lined channels and other in-kind replacement bank protection. Minor additions of rock riprap and/or concrete may occur in locations with repetitive scour or erosion damage. These types of repairs do not substantially alter the facility footprint or change the type of construction.

2.2 DEBRIS AND DETENTION BASINS

The District operates and maintains 56 debris and detention basins. The number, location, and capacity of the District's detention basins are provided in the VCWPD Debris and Detention Basin Manual. They are typically located in headwaters above developed areas. The basins are usually formed by the construction of an earthen dam that may or may not have rock facing. If basin volumes or dam designs exceed certain state criteria, they are regulated by the California State Division of Safety of Dams (DSOD). State-size facilities store more than 50 acre-feet of water or have dams that are more than 25 feet high.

2.2.1 Debris Basins

Most of the District basins are "debris basins" which capture large debris (sediment, boulders, trees, etc.) during winter storms. These types of basins function by allowing flood waters to pond in the basin, thereby slowing water velocity so that debris and sediment settle out in the basin.

2.2.2 Detention Basins

The District maintains several "detention basins," which detain large volumes of water during the early phases or peak of a storm event, then slowly release the water over time. These basins reduce the peak downstream flows, which reduces flooding.

2.2.3 Maintenance Operations

Basins require a certain storage volume to perform in accordance with the design criteria. As sediments accumulate, the design storage volume is decreased, and the basin will not function as designed. Hence, sediments must be removed to maintain the design volume. Basins are cleaned on an as-needed rather than annual basis. A debris basin "cleanout" occurs in advance of each upcoming rainy season and/or immediately following the rainy season if any sediment and debris have accumulated to fill approximately 25% of the design capacity. If the watershed upstream of the basin is burned in the preceding five years, the basins will be cleaned in advance of the rainy season and may be cleaned several times per year until the vegetation in the watershed recovers.

3.0 ASSESSING FIELD CONDITIONS

Prior to a maintenance or repair activity in a channel or basin with ponded or flowing water, the District or its contractor will determine the need for a water diversion, the appropriate type of water diversion and appropriate BMPs for the activity. This requires the District or its contractor to perform a pre-construction assessment of field conditions, including the type of facility, flow conditions and the potential for aquatic habitat.

3.1 ASSESSMENT OF FLOW CONDITIONS

3.1.1 Open Channels

Some open channels within the District have year-round or perennial flow. Most substantial flows occur in the channels during and immediately following rain events. However, water can be present year-round due to “nuisance” discharges from storm drains, high ground water seeping from “weepholes” in concrete lined channels and agricultural return flows. Some channels have perennial flows due to permitted discharges from water or wastewater treatment plants.

Although the rainy season runs approximately from October to April, intermittent flows can be present any time of the year due to urban or agricultural discharges or monsoonal storms. Provisions for water diversions should always be incorporated into project planning. For coastal facilities, the influence of tidal flows will need to be taken into consideration.

Water diversion and incorporation of appropriate BMPs during a routine maintenance or repair operation in an open channel is indicated under the following flow conditions:

- The maintenance or repair activity is to be conducted in the rainy season between October and April.
- The channel is normally dry, but intermittent urban or agricultural discharge may occur.
- The channel conveys tidal flows or is tidally influenced,
- The channel conveys perennial flows from either man-made or natural upstream sources.
- Flow or ponded water is present in an earthen bottom channel.
- Flows or ponded water within a concrete-lined channel are 2 inches or deeper. Routine cleaning of dry or nearly dry concrete lined channels with less than 2 inches of water is conducted with downstream BMPs (e.g. wattles) to prevent turbidity.

3.1.2 Debris and Detention Basins

A water diversion is needed in a debris or detention basin when water is either flowing into the basin or ponded within it and the maintenance activity will potentially impact downstream water quality or aquatic habitat. Water may be ponded within a basin due to groundwater seepage or retained storm flows. A water diversion with appropriate BMPs is indicated for routine maintenance under the following flow conditions:

- Water is flowing or may flow into the basin from an upstream source.
- Water is ponded within the basin.

3.2 ASSESSMENT OF POTENTIAL AQUATIC HABITAT

Most District flood control facilities in the District are managed to minimize riparian, wetland, and aquatic habitat. However, measures must be taken during water diversions to protect aquatic habitat and species if they are present. Facilities that convey flows for sensitive species are identified in the Catalog of Facilities (Table 3-1).

A biological survey must be conducted by a qualified biologist for facilities with potential habitat for native aquatic species prior to initiation of the water diversion and any maintenance or repair activity. Prior to initiating work the District must determine if the following conditions that may require a biological survey are present at the facility:

- The facility may support special status species (Table 3-1).
- The facility supports wetland or riparian vegetation, or aquatic wildlife, or these resources occur downstream.
- The facility is an earthen bottom channel or debris basin with ponded or flowing water.
- The facility conveys perennial or intermittent flows from a man-made or natural upstream source.
- The facility conveys tidal flows or flows that are tidally influenced.
- The facility is a concrete-lined channel conveying flows deeper than two inches.

Prior to initiating work, if the District or its contractor observes the above conditions at a facility with flowing or ponded water, the District will assign a qualified biologist to conduct the biological survey.

**TABLE 3-1
WATERSHED SUMMARY OF POTENTIAL SPECIAL STATUS SPECIES**

Watershed	Zone	Aquatic Sensitive Species with Potential to Occur
Ventura River	1	California Red-Legged Frog, Southwestern Pond Turtle, Southern Steelhead, Tidewater Goby
Santa Clara River	2	Arroyo Toad, Southwestern Pond Turtle, Southern Steelhead, Tidewater Goby
Calleguas Creek	3	Arroyo Chub, Southwestern Pond Turtle
Malibu Creek	4	Southwestern Pond Turtle

If the pre-construction biological survey indicates that the facility or reach downstream of the facility has the potential for native aquatic habitat, BMPs for the protection of aquatic life must be implemented as part of the water diversion. BMPs for the protection and relocation of aquatic life are included in Section 5.6 of this document and additional recommendations or requirements may be provided by the qualified biologist as part of the survey.

If the biological survey indicates the potential presence of a threatened, endangered, or sensitive aquatic species, District requirements for the protection of listed species must be implemented as

required under the District's biological opinion and take permit for that species or other appropriate documentation.

3.3 GROUNDWATER DEWATERING

A high-water table is usually associated with a basin but may also occur within channels. Maintenance and repair activities requiring excavation below the water table require groundwater dewatering to maintain a dry work area. The RWQCB prohibits activities involving wet excavations (i.e., excavations below the seasonal high-water table) unless authorized by an NPDES or Waste Discharge Requirement.

To comply with the requirements established by the Los Angeles RWQCB for groundwater dewatering, the following applies to maintenance or repair activities requiring excavation.

- In non-coastal areas, groundwater tables fluctuate seasonally, and high groundwater may be avoided by scheduling maintenance and repair activities in the dry season.
- A minimum 5-foot buffer zone must be maintained above the existing activities, unless authorized by RWQCB.
- If groundwater dewatering is proposed or anticipated, the District will file a Report of Waste Discharge to the RWQCB and obtain any necessary NPDES permits/ Waste Discharge Requirements prior to discharging groundwater to a waterway.
- If groundwater is encountered without the benefit of appropriate permits, the District or District contractor will cease all activities in the areas where groundwater is present until the RWQCB is notified and the necessary NPDES permits/Waste Discharge Requirements are obtained.

4.0 WATER DIVERSION METHODS

4.1 WATER DIVERSION COMPONENTS

The purpose of water diversion is to prevent flowing or tidal waters from entering a work area. In general, the work area may be isolated by the impounding of flows behind a coffer dam or within an in-stream excavated basin. Flows from the coffer dam or excavated basin are routed around or through the work area by a bypass system. The bypass system may consist of a pipeline, excavated channel, lined flume, or a bermed portion of the existing channel. Because of the potential of the water diversion to impact water quality and potential aquatic life, appropriate BMPs must be incorporated into the design and operation of the water diversion. Water diversion design and planning must typically consider the following:

- Design and construction of cofferdam or excavated basin
- Design of bypass system
- Management of sediment
- Bypass outlet
- Water quality monitoring
- Protection of aquatic species and habitat
- Equipment and website use

4.2 COFFERDAMS

4.2.1 Types of Cofferdams

Temporary cofferdams are used to keep flowing or ponded water out of facility work areas. Cofferdams are used with bypass systems to divert water either around or through the work area. Cofferdams can be generally categorized as transverse or longitudinal, and with or without tidal conditions (Figure 2). BMPs for the design and construction of cofferdams are provided in Section 5 of this document.

Coffer dams may be constructed of sandbags or native earthen materials wrapped in visqueen, inflatable dams, compacted earth, brick and mortar, or k-rails. In earthen bottom channels, coffer dams may be constructed from materials excavated from the temporary low-flow channel. Inflatable dams (e.g., bladders) should only be used in channels/waterways that have a relatively flat substrate (i.e., concrete lined channels or similar). Pipes (with or without rubber donuts or sandbags) should not be placed beneath the bladder. In addition, sandbag cofferdams are ineffective at preventing water seepage unless plastic (e.g., visqueen) is placed underneath.

As described in Section 5.7.3, no wet concrete product shall encounter any flowing or standing water at any time to avoid pH water quality impacts. Areas where raw cement or grout are applied or where concrete curing or finishing operations are conducted to construct a cofferdam shall be separated from any ponded or diverted water flows until fully dried/cured. All equipment involved with the concrete or grouting operations shall be located within a contained area while using any slurry or concrete product.

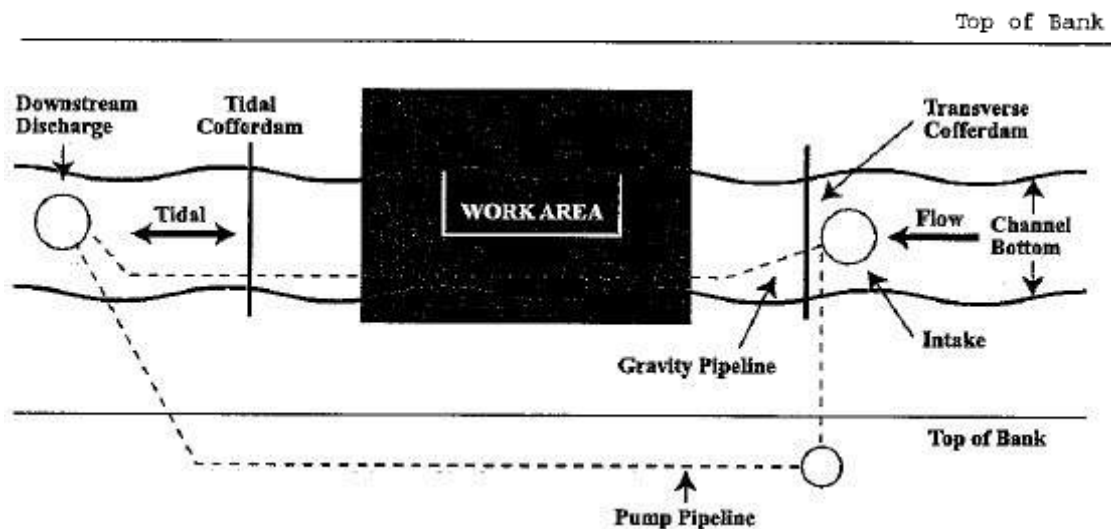
4.2.1.1 Transverse Cofferdam

Transverse cofferdams are used in channels or basins to span the entire cross-section of the facility upstream of the maintenance or repair activity. Water is impounded upstream of the cofferdam and a bypass system is used to route flows through or around the work area.

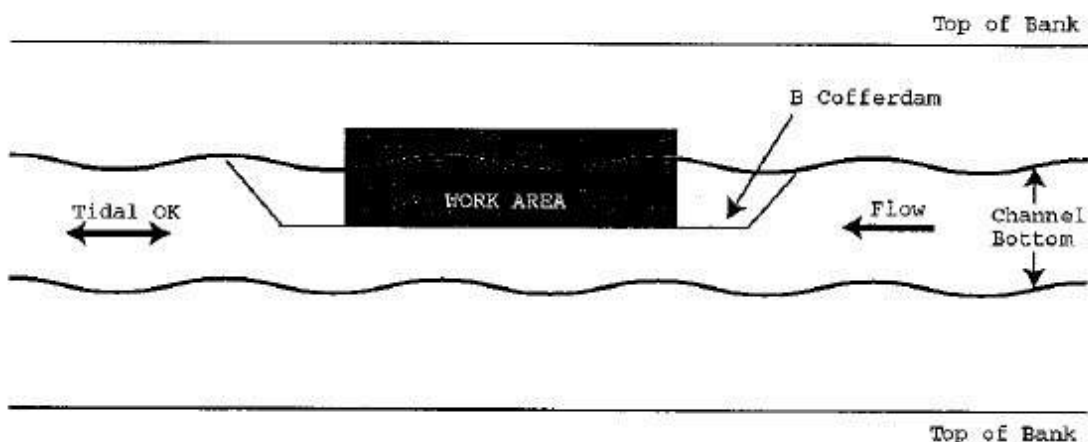
4.2.1.2 Longitudinal Cofferdam

A longitudinal cofferdam allows work to proceed in a portion of the channel while allowing natural flow to continue along the remaining part of the channel. Longitudinal cofferdams are typically constructed parallel to the channel or basin banks. Water quality monitoring is not required when the flow is simply moved to one side of the channel using a longitudinal cofferdam and bypass system as shown below.

FIGURE 2
COFFERDAM AND BYPASS SYSTEMS
Plan View of Transverse Cofferdam and Bypass System



Plan View of Longitudinal Cofferdam and Bypass System



4.2.1.3 Tidal Cofferdams

In channels that convey tidal flows or are tidally influenced, transverse or longitudinal cofferdams may be constructed. A transverse coffer dam in a tidally influenced channel may require a cofferdam both upstream and downstream of the work area. The downstream transverse cofferdam must be constructed at a height adequate to retain tidal flows and must be sturdy enough to withstand tidal surge. If a longitudinal cofferdam is constructed, the bypass channel must have adequate flow capacity to accommodate tides. Tidal cofferdams should be installed and removed at low tide.

4.3 BYPASS SYSTEMS

Bypass systems are used to divert water impounded by an upstream cofferdam around or through the work area. Bypass systems typically consist of pipelines, excavated low-flow channels or constructed channels or flumes. A berm constructed in the channel bottom may also be used to route low flows around the work area. Selection of a bypass system design depends on the type of facility and activity, cofferdam design, flow conditions, and presence of aquatic habitat.

Transverse and tidal cofferdams diversions typically incorporate a pipeline to convey water through the work area. The pipeline may operate by gravity flow or require water to be pumped. Low flow conditions or channel geometry in an earthen bottom channel may require the excavation of an upstream basin and standpipe to facilitate pumping (Figure 3).

**FIGURE 3
INTAKE CONFIGURATIONS**



Bypass systems for longitudinal cofferdams may consist of an open channel formed by the cofferdam or berm, an excavated low-flow channel adjacent to the work area, a constructed open flume, or a pipeline.

Outlet protection may be required as part of a bypass system to reduce the velocity and energy of concentrated flows by placing temporary devices or rock at pipe outlets. Outlet protection helps prevent scour in earthen bottom channels and prevents erosion and reduces turbidity.

5.0 WATER DIVERSION BEST MANAGEMENT PRACTICES

5.1 GENERAL WATER DIVERSION BMPS

5.1.1 Maintenance and Repair Planning

Prior to maintenance and/or repair activities, the District must determine if a water diversion is necessary and incorporate any water diversion into pre-project planning. Planning for water diversions during maintenance and repair activities should incorporate and identify the following:

- A pre-maintenance biological survey must be conducted by a qualified biologist for facilities with potential habitat for native aquatic species prior to initiation of the water diversion and any construction work (Section 3.2).
- Proposed cofferdam construction methods, materials, and installation, maintenance and removal requirements.
- Identification of erosion control BMPs, including methods, materials, and installation, maintenance and removal requirements.
- A map or drawing indicating the location of cofferdams, type and location of bypass system, anticipated water retention depth, cofferdam height, and location of downstream discharge point.
- Location of proposed upstream and downstream water quality monitoring sites.

5.1.2 Operation and Maintenance

- The water diversion and work area dewatering system must be in place and functional before in-channel work can begin.
- While the water diversion is in place, it must be operational 24 hours a day.
- Inspection and maintenance of the water diversion and associated erosion and sediment control BMPs should be conducted daily.
- Maintenance and/or repair activities shall not be conducted during a rainfall event.
- During cofferdam operation, all water from upstream shall always be allowed to pass downstream to maintain aquatic life below the water diversion.

5.1.3 Removal Post-Maintenance

- The cofferdam, bypass system, and erosion control will be removed when the work is completed. Removal normally proceeds downstream in an upstream direction.
- Remove temporary fill as appropriate, such as access ramps diversion structures or earthen cofferdams. Earthen material excavated from the channel bottom for the construction of temporary in-channel berms or channels may be left in place with recontouring to allow proper flows post project.
- Normal flows should be restored to the affected stream immediately upon completion of work.

5.2 COFFERDAMS**5.2.1 General Design Considerations for Cofferdams**

- Cofferdams will be designed with adequate height to retain dry weather flows and anticipated storm flows or be removed prior to storms.
 - Cofferdam height for non-tidally influenced channels should generally be higher than the normal high-water mark.
 - Cofferdam height is to be established by the District based on facility dimensions and conditions, existing flow conditions, time of year, and other pertinent factors.
- Cofferdam construction will be adequate to prevent seepage into or out of the work area.
- Cofferdams may be constructed from sandbags wrapped in visqueen, inflatable dams, compacted earth, brick and mortar, k-rails, or other appropriate material.
- Seepage shall be prevented to the extent feasible using plastic (e.g., visqueen) or sealants.
- Cofferdams constructed of earth or other erodible materials will be enclosed by erosion control measures, such as filter fabric, silt-fencing, or other appropriate materials.
- Materials used for the construction of earthen cofferdams will not incorporate contaminated sediments; i.e., concrete, pavement, trash, or debris.
- Longitudinal cofferdams in low-flow channels may be constructed from alluvium excavated from the channel and compacted on-site.

5.2.2 Inspection and Maintenance

- Inspect all system components twice a day.
- Check for water seepage under the dam and general integrity of the dam, repair as needed.
- Repair all leaks immediately.
- In concrete-lined facilities, the upstream water collection pool shall be cleaned and cleared of sediment and debris regularly to prevent water quality deterioration.
- Clean all debris, dust, loose materials from the work area daily.
- Place wattles, filter fabric, and silt fencing across the flow stream downstream of the work area to catch/filter water in case it is unintentionally discharged the work area:
- Clean water intake to prevent/correct clogging.

5.2.3 Removal

- Once project work is complete, reintroduce water into the channel in a manner that avoids turbidity.
- Remove imported construction materials.
- After removal of the cofferdam, dismantle the bypass system and restore disturbed area to pre-construction grades.
- Flows in an earthen bottom channel may be left within the temporary low-flow channel if re-introduction of the flows to the work area would result in excessive discharge of sediment downstream.

5.3 BYPASS SYSTEMS**5.3.1 General Considerations for Bypass Systems**

- Flows within the bypass will be maintained to the greatest extent feasible in order to maintain adequate water quality and quantity to support fish and other aquatic life.
- During the water diversion, the following upstream and downstream monitoring will be conducted:
 - pH, temperature, dissolved oxygen, turbidity, and total suspended solids (and/or other constituents as required by current permits) monitoring will be implemented.
 - Monitoring will generally be conducted daily during the first week of diversion activities, and then on a weekly basis, thereafter, until the in-stream work is complete.
 - Results of the analyses will be retained by the District and submitted to regulatory agencies as required.

5.3.2 Open Channel Bypass Systems

- An open channel bypass will be protected from erosion or spillage of material from channel and basin banks and slopes using readily available BMPs.
 - BMPs include the placement of filter fabric, silt fencing, straw bales, sandbags on cofferdam banks, channel banks, and slopes.
- An upstream silt catchment basin may be constructed so that silt or other deleterious materials are not allowed to pass into the open channel. The silt catchment basin should be monitored and cleaned/repared weekly.
- For facilities that support sensitive species or in perennial streams, an open bypass channel or flume may be required in conjunction with a longitudinal cofferdam.

5.3.3 Pipeline Bypass Systems

- Bypass systems with pipelines may be gravity flow or pumped as necessary.
- When using a gravity flow system, the pipeline must slope continuously downgrade and, therefore, may have to pass through or near the work area.
- Intakes and/or excavated basins may be required for gravity flow or pump-fed bypass systems (see Figure 3).
 - Turbulence around the intake and associated turbidity can be reduced by means of ponding water behind the cofferdam or in an excavated sump.
 - In earthen bottom channels or basins, the intake pipe end should be substantially above the bottom of the ponded water or excavated basin as shown in Figure 3 to avoid discharge of sediments.
 - For gravity systems, a standpipe arrangement is very effective (see Figure 3). An intake filter can also be used to screen out sediment but can be easily clogged.
 - All intakes systems with pumps must be fitted with screens.
- Outlet protection should be incorporated at the pipe outlet to prevent generation of turbidity erosion, and scour. Refer to Outlet Protection BMPs in this Section.
- As dry weather flows vary, the contractor may select the proper size pump in the field. A backup pump should be provided.
- Bypass pipes have the potential to heat the water and may require shading to prevent temperature increases in diverted water.

5.4 SEDIMENT CONTROL ACTIVITIES

- Work areas, channel banks, or stockpile areas adjacent to the water diversion area that could be subject to erosion during storm events will be stabilized with erosion control measures.
 - Appropriate erosion control materials include silt fencing, sandbags, filter fabric, coir rolls, or wattles.
 - In low flow channels, an upstream silt basin may be constructed so that silt or other deleterious materials settle out before passing through the water diversion area.
 - Erosion control methods used to prevent siltation should be monitored and cleaned/repared weekly.
- Sediment may be discharged downstream as a result of returning flows to the original low-flow channel:
 - When returning flows, minimize the discharge of sediment by installing filter fabric, wattles, or silt fencing downstream of the work area.
 - Bypass flows should be introduced into the dewatered area at the lowest velocity possible to minimize potential erosion and turbidity.
- Water diversions are not typically used by the District during clean-outs of concrete-lined channels devoid of fish or aquatic life where flows are minimal (less than 2 inches deep) and channel widths are narrow (25 feet or less). In low-flow concrete-lined channels, the District uses small bulldozers or “bobcats” working upstream to downstream within the channel bottom to scrape sediment, trash, and debris into piles for collection. In-stream BMPs typically used by the District for this type of channel clean-out include primary and secondary placement of wattles (net-wrapped coir rolls/wattles) downstream of the work area across the channel width. In low-flow conditions, 6-inch diameter wattles are adequate to contain and filter flows within a concrete-lined channel. Proper placement and removal of the wattles prevents the discharge of sediment and debris downstream of the work area.

5.5 OUTLET PROTECTION

- Place effectively sized outlet protection underneath pipeline outlet of where diverted water is discharged into stream.
- Rock aprons are the most common type of outlet protection for high flows; however, erosion control fabric, wattles, or silt fencing may be installed at the outlet to provide additional velocity reduction.
- Energy dissipation or other protection may not be necessary if the discharge is to an existing hardened structure (culvert, riprap, or concrete), to deep water or a heavily vegetated area.
- When designing the outlet project, consider flow depth roughness, gradient, side slopes, discharge rate, and velocity.
- If the discharge is to a tidal area, it may be necessary to equip the discharge pipe with a flap gate to prevent tidal flows from backing up into the intake.

5.6 AQUATIC LIFE PROTECTION MEASURES

If the results of the pre-construction biological survey indicate that the facility has the potential for native aquatic life, protective measures shall be taken during water diversions to prevent entrapment and mortality of fish and amphibians. If the survey determines that the aquatic life present at the site is and will be only composed of invasive or exotic species, no further action to protect aquatic species during the water diversion is necessary.

The following are minimum measures to be undertaken to protect native aquatic life during the construction, operation, and removal of a water diversion. During construction of the water diversion and during removal, a qualified biologist will be onsite to oversee measures undertaken to prevent entrapment and mortality of native aquatic life. Recovery and replacement of aquatic life may be undertaken by personnel under the supervision of the qualified biologist. For listed and sensitive species, only a qualified biologist with the proper permits may conduct such activities.

5.6.1 Prior to Cofferdam Construction

- Prior to construction of cofferdams, the channel section shall be isolated at the upstream and downstream ends and aquatic organisms removed and relocated by a qualified biologist.
 - Block nets shall be secured upstream and downstream of the channel section fully spanning the cross section of flow.
 - Block nets shall be secured into the substrate in soft channel bottoms or weighted across the channel cross section in hard bottom channel.
 - A seine net shall be used within the isolated area to recover fish, macro-invertebrates, and amphibians under the direction of the biologist.
 - Recovered aquatic life may be placed and transported in water-filled buckets to be released downgradient of the work site.
 - A minimum of three full channel sweeps should be conducted to remove aquatic organisms prior to commencement of dewatering.
 - Alternatives to seine netting, such as electro-shock must be approved by CDFW/NMFS first and then implemented by the site biologist.
 - After initial seine netting and removal of aquatic life, cofferdams may be constructed within the area isolated by the block nets.

5.6.2 Protection of Aquatic Life During Bypass Operation

- Pump inlets and outlets shall be protected using an appropriate mesh screen:
 - Mesh size will be based on protection of smallest native fish or amphibian species as established by field survey.
 - Default mesh size is 5 mm.
- Bypass pipelines will be adequately sized to pass flows and maintain existing water flows downstream of the work area.

5.6.3 Dewatering of Work Area

- Seine nettings of organisms shall continue during dewatering of the dry work space under supervision of the qualified biologist.

- All block nets should be periodically checked for impingement of fish or other wildlife and cleaned of debris to avoid collapse.

5.6.4 Maintaining Flow Through Work Site

- For water diversions where an open flow channel is maintained or an alternative flow channel is excavated, measures shall be taken to ensure that adequate flows are maintained and that aquatic organisms are not trapped or stranded.
- Flow downstream of the work site shall be maintained during construction and operation of the cofferdams.
- A downstream coffer dam shall be constructed in tidal areas for downstream flow protection (water surges upstream of the work area have occurred unexpectedly at times; water may overtop the upstream coffer dam and enter the work area).

5.6.5 Re-establishing Flows Post-construction

- During flows into an existing channel from a temporary channel, the qualified biologist shall survey the de-watered temporary channel to ensure that aquatic organisms are not trapped or stranded.
 - Trapped or stranded organisms will be placed in water-filled buckets for transport and release into the existing flow channel.
 - Applicable to diversions in soft bottom channels: if aquatic life has established itself within a temporary channel during the time of construction, flows may be left within the temporary channel.

5.7 EQUIPMENT AND VEHICLE USE

5.7.1 Equipment Operation

- Stationary equipment such as motors, pumps, generators, and welders located within or adjacent to the channel or basin will be positioned over adequately sized secondary containment.
- Access to the work site via existing roads and access ramps will be shown on the project plans. If no ramps are available in the immediate area, a temporary ramp may be constructed within the flagged work area. Any temporary ramp will be removed upon completion of the project.

5.7.2 Equipment Maintenance During Construction

- Any equipment or vehicles driven and/or operated within or adjacent to the channel or basin should be checked and maintained daily, to prevent leaks of materials that could be deleterious to aquatic life if introduced to water. All maintenance will occur in a designated offsite area. The designated area will include a drain pan or drop cloth and absorbent material to clean up spills.
- Fueling and equipment maintenance will be done in a designated area removed from the area of the channel or basin such that no petroleum products or other pollutants from the equipment may enter these areas via rainfall or runoff. The designated area will include a drain pan or drop cloth and absorbent materials to clean up spills.

5.7.3 Spill Prevention, Control, and Containment

- Prior to maintenance or repair activities, the District or Contractor will identify the methods, materials, and procedures for spill prevention, control, and containment. This information will be incorporated into the contract documents. Spill containment methods should address the types of materials and equipment to be used at the site. Materials for the containment of spills (i.e., absorbent materials, silt fencing, filter fabric, coir rolls) should be identified and be available onsite prior to commencement of maintenance and/or repair activities.
- Any accidental spill of hydrocarbons or coolant that may occur within the work area will be cleaned immediately. Absorbent materials will be maintained within the work area for this purpose.
- No wet concrete product will encounter any flowing or standing water at any time. Areas where raw cement or grout are applied or where concrete curing or finishing operations are conducted will be separated from any ponded or diverted water flows by a cofferdam or silt-free, exclusionary fencing. All equipment involved with the concrete or grouting operations will be located within a contained area while using any slurry or concrete product. The protective berm or other structure will be in place prior to maintenance and/or repair activities.
- Any spill of the grout, concrete curing, or wash water adjacent to or within the work area will be removed immediately.
- During concrete spill clean-up operations and until cessation of maintenance and/or repair activities, pH monitoring will be conducted daily upstream and downstream of the spill site. The results of post-spill pH monitoring will be submitted to the District and kept with the contract documents.
- If vacuum trucks are used to clean up a spill into ponded or diverted water, the vacuum hose should be placed in a 3-to-4 square foot area and protected on all sides by exclusionary fencing to prevent the migration of contaminants. The intake of the vacuum hose should be protected with 5 mm mesh screen to prevent uptake of aquatic life or as determined by regulatory permits.

6.0 REGULATORY SUMMARY

Many of the District's facility maintenance activities occur in watercourses or basins where such activities are regulated by state, federal, or local agencies. The District obtains both individual project permits as well as long-term permits to address routine maintenance and repair activities. This section of the Guidance describes the applicable regulatory authorities and permit requirements for the maintenance program.

6.1 FEDERAL AGENCIES

6.1.1 U.S. Army Corps of Engineers

Activities that result in the discharge of dredged or fill material in natural watercourses (such as bank stabilization and channel shaping) are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Most of the District's maintenance and repair activities are permitted under Nationwide Permits (NWP) No. 3, No. 31, and No. 33. Alternatively, maintenance actions in this program may be authorized under a Regional General Permit or Individual Permits.

6.1.2 U.S. Fish and Wildlife Service and National Marine Fisheries Service (NMFS)

The requirements of the Endangered Species Act (ESA) apply to any project permitted under a CWA Section 404. An ESA Section 7 Incidental Take Permit is needed if action taken for a project would have the potential to adversely affect listed species or designated critical habitat, either directly or indirectly. Section 7 consultation process takes place concurrent with the Section 404 permit review process. Facilities that convey flows for sensitive species are identified in the Catalog of Facilities.

6.2 STATE AGENCIES

6.2.1 Regional Water Quality Control Board

The Regional Water Control Board (RWQCB) Los Angeles Region administers both the Section 401 Water Quality Certification Program and programs under Section 402 of the CWA, including the National Pollutant Discharge Elimination System (NPDES) in Ventura County.

6.2.1.1 Section 401 Water Quality Certification

The RWQCB requires a Section 401 Water Quality Certification for any activity undertaken under a Section 404 permit. Projects that require water diversions during maintenance and/or repair activities are required by the RWQCB to submit a separate Water Diversion Plan. This Update to the District's 2007 Water Diversion Guide incorporates measures in compliance with the current Section 401 certification requirements for water diversions undertaken by the District. .

6.2.1.2 Section 402

Section 402 of the Clean Water Act governs the NPDES which regulates point source discharges to waters of the United States. The RWQCB issues both NPDES permits for point source discharges to surface water and groundwater.

A maintenance or repair activity undertaken by the District may require the submittal of a Notice of Intent (NOI) for coverage under the California Construction General Stormwater Permit. This permit requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP). If a water diversion is needed, the appropriate BMPs are incorporated into the SWPPP.

Waste Discharge Requirements (WDRs) can be required for water diversions, dewatering activities or any type of pumping and release of water. Short-term water diversions for District routine maintenance does not normally require WDRs unless there is a need for groundwater dewatering. Groundwater dewatering operations are not covered under this Guidance or the Maintenance Program EIR and will be permitted separately under the following general permit: *Order No.: R4-2018-0125 (Permit No. (CAG 994004), General National Pollutant Discharge Elimination System and Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the State Board on September 13, 2018.*

6.2.2 California Department of Fish and Wildlife

The modification to the bed, bank, and/or vegetation in a natural drainage (and certain man-made drainages) is regulated by the California Department of Fish and Wildlife (CDFW) under Section 1600 of the Fish and Game Code. Such modifications require a Streambed Alteration Agreement. A Section 2081 review process for state listed threatened and endangered species will take place concurrent with the Streambed Alteration Agreement permit review process.

EMERGENCY CONSTRUCTION SERVICES TO PROVIDE SLOPE STABILITY FOR THE SESPE CREEK
OVERFLOW RAILROAD BRIDGE

ATTACHMENT 4: REFERENCES

TABLE OF REFERENCES

[SCRRRA STANDARD SPECIFICATIONS](#) (Hyperlink)

[SCRRRA DESIGN CRITERIA MANUAL](#) (Hyperlink)

[SITE SPECIFIC WORK PLAN](#) (Hyperlink)

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ATTACHMENT 5: MATERIAL QUANTITIES

Approximate Material Quantities			
SPECIAL PROVISION NUMBER	ITEM/WORK DESCRIPTION	UNIT	QUANTITY
2-1	Diversion system	LS	1
3-1	Structure Backfill	CY	360.0
3-1	Class 2 Aggregate Base	CY	23.7
3-1	Class 1 Rip Rap (Rock Slope Protection), Method B Installation	CY	118.0
3-1	Class 8 Rock Slope Protection Fabric	SQYD	450.0
3-1	Class 8 Rip Rap (Rock Slope Protection), Method B Installation	CY	275.0
4-1	Remove and dispose timber ties and hardware	TF	250
4-1	Remove and dispose abutment precast concrete backwall panels and piles	LS	1
4-1	Remove and salvage jointed rail	TF	250
4-1	Salvage and Removal of Existing Cable Handrail	LS	1.0
5-1	Furnish and Deliver Pile (HP10x57 each) (Approximately 43ft barrier @ 2'3" pile spacing)	LF	767.9
5-1	Drive Steel Pile (HP10x57 each) (Approximately 43ft barrier @2'3" pile spacing)	LF	767.9
OPTION 1			
6-1	Option 1.A Procure and Install Emergency Rip Rap	CY	165.0

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ATTACHMENT 6: DECLINING AMPHIBIAN POPULATIONS TASK FORCE
(DAPTF) DECONTAMINATION PROTOCOL

The Declining Amphibian Populations Task Force Fieldwork Code of Practice

- A. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each work site.
- B. Boots, nets, traps, and other types of equipment used in the aquatic environment should then be scrubbed with 70 percent ethanol solution and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond, wetland, or riparian area.
- C. In remote locations, clean all equipment with 70 percent ethanol or a bleach solution, and rinse with sterile water upon return to the lab or "base camp" Elsewhere, when washing-machine facilities are available, remove nets from poles and wash in a protective mesh laundry bag with bleach on the "delicates" cycle.
- D. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable gloves¹ and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean them as directed above and store separately at the end of each field day.
- E. When amphibians are collected, ensure that animals from different sites are kept separately and take great care to avoid indirect contact (e.g., via handling, reuse of containers) between them or with other captive animals. Isolation from unsterilized plants or soils which have been taken from other sites is also essential. Always use disinfected and disposable husbandry equipment.
- F. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.
- G. Used cleaning materials and fluids should be disposed of safely and, if necessary, taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

For further information on this Code, or on the Declining Amphibian Populations Task Force, contact John Wilkinson, Biology Department, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK. E-mail: DAPTF@open.ac.uk Fax: +44 (0) 1908-654167

¹ Latex gloves should not be used. They are toxic to amphibians. Use vinyl or nitrile disposable gloves instead.