INFORMATION HANDOUT

For Contract No. 03-0F3104
At 03-ED-49-23.6/24.5

Identified by
Project ID 0300000078

Part 1
PERMITS

United States Army Corps of Engineers

(SPK-2015-01041)

WATER QUALITY

California Regional Water Quality Control Board

Central Valley Region
WDID #5A09CR00157

State Water Resources Control Board

Water Quality Order No. 2003-0017-DWQ

State Water Resources Control Board - Notice of Applicability - Dewatering

Water Quality Order No. 2003-0003-DWQ

AGREEMENTS

California Department of Fish and Wildlife

Notification No. 1600-2015-0279-R2

RIGHT OF ENTRY PERMITS

Department of Parks and Recreation

MATERIALS INFORMATION

Foundation Report for South Fork American River Bridge, Number 25-0153

Foundation Report for Soil Nail Wall

Revised Final Hydraulic Report for South Fork American River Bridge

Asbestos and Lead-Containing Paint Survey Report

Water Surface Elevation/Flow Information

Water Source

Exclusionary Devices for Roosting Bats & Nesting Birds for the South Fork American River Bridge

Part 2
MATERIALS INFORMATION

El Dorado Irrigation District Standard Detail Drawings for Water, Sewer, and Recycled Water

El Dorado Irrigation District Technical Specifications

Part 3
MATERIALS INFORMATION

CVIN - Underground Plant Construction Specifications

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

April 13, 2016

Regulatory Division (SPK-2015-01041)

California Department of Transportation
Attn: Mr. Jess Avila
703 B Street
Marysville, California 95901

Dear Mr. Avila:

We are responding to your April 8, 2016 request for a Department of the Army permit for the South Fork American River Bridge Replacement (EA 03-0F310) project. The approximately 2.8-acre project site is located on the South Fork American River at the State Route 49 crossing, Latitude 38.808611°, Longitude -120.901395°, El Dorado County, California.

Based on the information you provided to this office, the South Fork American River Bridge Replacement project involves replacing the State Route 49 Bridge over the South Fork American River, in accordance with the plans in your April 8, 2016, pre-construction notification. The specific activities that require the discharge of dredged or fill material in waters of the United States are the placement of bridge piers, erosion control, and temporary trestles below the ordinary high water mark of the South Fork American River. These activities will result in the permanent loss of approximately 0.145 acres of stream bed and bank habitats and temporary impacts to an additional 0.315 acres.

We have determined activities in waters of the U.S. associated with the project are authorized by Nationwide Permit Number (NWP) NWP 14 Linear Transportation Projects. You must comply with all terms and conditions of the NWP, applicable regional conditions, and project-specific special conditions. Information about the NWP and regional conditions are available on our website at *www.spk.usace.army.mil/Missions/Regulatory/Permitting/NationwidePermits.aspx*. In addition, your work must comply with the following special conditions:

1. To mitigate for the permanent loss of 0.145 acres of river bed and bank habitats, you shall purchase 0.29 American Aquatic Resource Credits from the National Fish and Wildlife Foundation's (NFWF) Sacramento District California In-Lieu Fee Program for the American Service Area. Contact information for NFWF can be found on their website at: www.nfwf.org/ilf. Evidence of this purchase shall be provided to the Corps prior to initiation of construction activities within waters of the U.S.

2. You shall submit to the Corps a plan for dewatering of the project area. Any proposed dewatering plans must be approved, in writing, by the Corps prior to the commencement of any construction activities in waters of the U.S.

3. You shall restore all temporary impacts to waters of the U.S. and adjacent upland areas within 100 feet of waters of the U.S. to their original contour and condition within 30 days following completion of construction activities. In order to ensure compliance with this condition, you shall:

a. Prior to initiation of any construction activities within waters of the U.S., submit to the Corps, for review and approval in writing, a plan for the restoration of temporary impact areas prior to initiation of any construction activities. You shall include the following information within this plan:

(1) A description of and drawings showing the existing contours (elevation) and existing vegetation of the temporary impact areas. This information shall include site photographs taken of the temporary impact area.

(2) The methods used to restore the site to the original contour and conditions, as well as a plan for the revegetation of the site following construction activities;

(3) The proposed schedule for the restoration activities, and;

b. Within 30 days following completion of restoration activities, submit to the Corps a report describing the restoration activities including color photographs of the restored area. The compass angle and position of all photographs shall be similar to pre-construction photographs.

4. You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of this permit authorization. You shall ensure that a copy of the permit authorization and associated drawings are available for quick reference at the project site until all construction activities are completed.

5. You shall comply with all terms and condition of your February 26, 2016, Section 401 Water Quality Certification.

Within 30 days after completion of the authorized work, you must sign the enclosed Compliance Certification and return it to this office.

This verification is valid until March 18, 2017, when the existing NWPs are scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date the NWP is modified, reissued, or revoked, you will have 12 months from the date of the modification, reissuance or revocation to complete the activity under the present terms and conditions. Failure to comply with the

general and regional conditions of this NWP, or the project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization.

We would appreciate your feedback on this permit action including your interaction with our staff. At your earliest convenience, please tell us how we are doing by completing the Corps' Regulatory Program national customer service survey found on our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx.*

Please refer to identification number SPK-2015-01041 in any correspondence concerning this project. If you have any questions, please contact William Ness at 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *William.W.Ness@usace.army.mil*, or telephone at 916-557-5268.

Sincerely,

Paul Maniccia

Paul Maniccia
Chief, Enforcement and Special Projects Unit

Enclosure

cc: (w/o encl)

George Day, Central Valley Regional Water Quality Control Board,
gday@waterboards.ca.gov

COMPLIANCE CERTIFICATION

Permit File Name: South Fork American River Bridge Replacement (EA 03-0F310)

Action ID: SPK-2015-01041

Nationwide Permit Number: NWP 14 Linear Transportation Projects.

Permittee: State of California Department of Transportation
Attn: Mr. Jess Avila
703 B Street
Marysville, California 95901

County: El Dorado

Date of Verification: April 13, 2016

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Sacramento District

DLL-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the U.S. Army Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____

Permittee Signature Date

26 February 2016

Jess Avila
California Department of Transportation
703 B Street
Marysville, CA 95901

CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION; CALIFORNIA DEPARTMENT OF TRANSPORTATION, SOUTH FORK AMERICAN RIVER BRIDGE PROJECT (WDID #5A09CR00157), EL DORADO COUNTY

ACTION:

1. ☐ Order for Standard Certification
2. ■ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This Order serves as a Water Quality Certification (Certification) action that is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to § 13330 of the California Water Code and § 3867 of the California Code of Regulations (CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR § 3855(b) of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required § 3833 of the California Code of Regulations.

4. This Certification is no longer valid if the project (as described) is modified, or coverage under § 404 of the Clean Water Act has expired. The California Department of Transportation shall notify the Central Valley Water Board within 7 days of the project completion.

5. All reports, notices, or other documents required by this Certification or requested by the Central Valley Water Board shall be signed by a person described below or by a duly authorized representative of that person.

   a. For a corporation: by a responsible corporate officer such as (1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; (2) any other person who performs similar policy or decision-making functions for the corporation; or (3) the manager of one or more manufacturing, production, or operating facilities if *authority* to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor.

   c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official.

6. Any person signing a document under Standard Condition No. 5 shall make the following certification, whether written or implied:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

TECHNICAL CERTIFICATION CONDITIONS:

In addition to the above standard conditions, The California Department of Transportation shall satisfy the following:

1. The California Department of Transportation shall notify the Central Valley Regional Water Quality Control Board (Central Valley Water Board) in writing at least **seven (7) days** in advance of the start of any work within waters of the United States. The notification shall include the name of the project and the WDID number, and shall be sent to the Central Valley Water Board Contact indicated in this Certification.

2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. The California Department of Transportation shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed Project shall be adequately informed and trained regarding the conditions of this Certification.

4. The California Department of Transportation shall perform surface water sampling:
   a) when performing any in-water work;
   b) in the event that project activities result in any materials reaching surface waters; or
   c) when any activities result in the creation of a visible plume in surface waters.

   The monitoring requirements in Table 1 shall be conducted upstream out of the influence of the Project, and approximately 300 feet downstream of the work area. The sampling frequency may be modified for certain projects with written approval from Central Valley Water Board staff.

Table 1:

Parameter	Unit	Type of Sample	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab(1)	Every 4 hours during in-water work	(4)
Settleable Material	mL/L	Grab(1)	Every 4 hours during in-water work	(2)
Visible construction related pollutants (3)	Observations	Visual Inspections	Continuous throughout the construction period	—

(1) Grab samples shall be taken at mid-depth and be collected at the same time each day to get a compete representation of variations in the receiving water.
(2) Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant.
(3) Visible construction-related pollutants include oil, grease, foam, fuel, petroleum products, and construction-related, excavated, organic or earthen materials.
(4) A hand-held field meter may be used, provided that the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Certification shall be maintained at the Project site.

As appropriate, surface water monitoring shall occur at mid-depth. A surface water monitoring report shall be submitted to the Central Valley Water Board Contact indicated in this Certification within two weeks of initiation of sampling and every two weeks thereafter. In reporting the monitoring data, the California Department of Transportation shall arrange the data in tabular form so that the sampling locations, date, constituents, and concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the Project complies with Certification requirements. The report shall include surface water sampling results, visual observations, and identification of the

turbidity increase in the receiving water applicable to the natural turbidity conditions specified in the turbidity criteria below.

If no monitoring is conducted, the California Department of Transportation shall submit a written statement to the Central Valley Water Board Contact indicated in the Certification stating, "No monitoring was required." with the Notice of Completion.

5. The Central Valley Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised June 2015 (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Turbidity and settleable matter limits are based on water quality objectives contained in the Basin Plan and are part of this Certification as follows:

   a) Activities shall not cause turbidity increases in surface water to exceed:

      i. where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTU;

      ii. where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;

      iii. where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;

      iv. where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;

      v. where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTUs over background turbidity. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be used with prior approval of the Central Valley Water Board staff.

   b) Activities shall not cause settleable matter to exceed 0.1 mL/L in surface waters as measured in surface waters within approximately 300 feet downstream of the Project.

6. The California Department of Transportation shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter or other water quality objectives are exceeded.

7. Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement or absorbent material.

No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. The California Department of Transportation must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.

8. The California Department of Transportation shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the Project. The Plan must detail the Project elements, construction equipment types and location, access and staging and construction sequence. The Plan must also address the potential of responding to a spill or prevention of spills occurring within the Project site.

9. Asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering surface waters. Concrete must completely be cured before coming into contact with surface waters. Surface water that contacts wet concrete must be pumped out and disposed of at an appropriate off-site commercial facility, which is authorized to accept concrete wastes.

10. Creosote-treated wood products or any other treated wood products that are highly flammable and/or toxic to aquatic life shall not be installed in surface waters. A method of containment must be used below the bridge(s), boardwalk(s), and/or temporary crossing(s) to prevent debris from falling into the water body as feasible.

11. An effective combination of erosion and sediment control Best Management Practices (BMPs) shall be implemented and adequately working during all phases of construction.

12. All areas disturbed by Project activities shall be protected from washout or erosion.

13. All temporarily affected areas shall be restored to pre-construction contours and conditions upon completion of construction activities.

14. This Certification does not allow permanent water diversion of flow from the receiving water. This Certification is invalid if any water is permanently diverted as a part of the Project.

15. If temporary surface water diversions and/or dewatering are anticipated, the California Department of Transportation shall develop and maintain on-site a Surface Water Diversion and/or Dewatering Plan(s). The Plan(s) shall include the proposed method and duration of diversion activities. The Surface Water Diversion and/or Dewatering Plan(s) must be consistent with this Certification.

16. When work in a flowing stream is unavoidable and any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream, to maintain beneficial uses of waters of the State below the dam. Construction, dewatering, and removal of temporary cofferdams shall not violate Technical Certification Condition 5 of this Certification.

17. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel which will cause little or no siltation. Stream flow shall be temporarily diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses.

18. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the receiving water. The California Department of Transportation shall notify the Central Valley Water Board as soon as practicable of any spill of petroleum products or other organic or earthen materials with written follow up within 5 days.

19. The California Department of Transportation shall apply for a name change or amendment to this Certification should any of the following occur:

    a) a change in the ownership of all or any portion of the Project;

    b) any change in the Project description;

    c) any change involving discharge amounts, temporary impacts, and/or permanent impacts; and/or

    d) amendments, modifications, revisions, extensions, and/or changes to the United States Army Corps of Engineers' Nationwide Permit #14, the United States Fish and Wildlife Service decision document(s), and/or the California Department of Fish and Wildlife Streambed Alteration Agreement.

20. The California Department of Transportation shall submit a copy of the final, signed and dated Lake or Streambed Alteration Agreement issued by the California Department of Fish and Wildlife within 14 days of issuance to the Central Valley Water Board Contact indicated in this Certification.

    The California Department of Transportation shall comply with all California Department of Fish and Wildlife requirements, including but not limited to those requirements described in the Lake or Streambed Alteration Agreement.

21. The California Department of Transportation shall obtain coverage under an NPDES permit for dewatering activities that result in discharges into surface water and/or shall obtain Waste Discharge Requirements (WDRs) for dewatering activities that result in discharges to land from the Central Valley Water Board.

22. The Conditions in this water quality certification are based on the information contained in the California Department of Transportation's application and in the attached "Project Information Sheet." If the Project, as described in the application and the attached Project Information Sheet, is modified or changed, this Certification is no longer valid until amended by the Central Valley Water Board.

23. The California Department of Transportation shall implement each of the mitigation measures specified in the approved Mitigated Negative Declaration for the Project, as they pertain to biology, hydrology and water quality impacts as required by § 21081.6 of the Public Resource Code and § 15097 of the California Code of Regulations.

24. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under the applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with water quality standards and other pertinent requirements incorporated into this certification.

    a) If The California Department of Transportation or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the California Department of Transportation is subject to civil monetary liabilities, for each day of violation, or criminal liability.

    b) In response to a suspected violation of any condition of this certification, Central Valley Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Water Code, § 1051, 13165, 13267 and 13383) In response to any violation of the conditions of this certification, the Central Valley Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

    c) The California Department of Transportation shall allow the staff of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the Project premises for inspection, including taking photographs and securing copies of Project-related records, for the purpose of assuring compliance with this Certification and determining the ecological success of the Project.

25. Staff of the Central Valley Water Board has prepared total maximum daily load (TMDL) allocations that, once approved, would limit methylmercury in storm water discharges to the Sacramento-San Joaquin Delta. The Central Valley Water Board has scheduled these proposed allocations to be considered for adoption. When the Central Valley Water Board adopts the TMDL and once approved by the Environmental Protection Agency, the discharge of methylmercury may be limited from the proposed project. The purpose of this condition is to provide notice to the California Department of Transportation that methylmercury discharge limitations and monitoring requirements may apply to this project in the future and also to provide notice of the Central Valley Water Board's TMDL process and that elements of the planned construction may be subject to a TMDL allocation.

26. The California Department of Transportation shall provide the Central Valley Water Board Contact indicated in this Certification a Notice of Completion (NOC) no later than 30 days after the Project completion. The NOC shall demonstrate that the project has been carried out in accordance with the project description in the Certification and in any amendments approved. The NOC shall include a map of the project location(s), including final boundaries of any on-site restoration area(s), if appropriate, and representative pre and post construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation

STORM WATER QUALITY CONDITIONS:

The California Department of Transportation shall also satisfy the following additional storm water quality conditions:

1. California Department of Transportation shall comply with their General NPDES Permit Order No 2012-0011-DWQ (NPDES No. CAS 000003) issued by the State Water Resources Control Board

2. During the construction phase, the California Department of Transportation must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:

    a) a Water Pollution Control Plan (WPCP) must be prepared during the project planning and design phases and before construction;
    b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.

3. The California Department of Transportation must minimize the short and long-term impacts on receiving water quality from the Project by implementing the following post-construction storm water management practices:

    a) minimize the amount of impervious surface;
    b) reduce peak runoff flows;
    c) provide treatment BMPs to reduce pollutants in runoff;

d) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;
e) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
f) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges);
g) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected pollutant load increases in surface water runoff;
h) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion/ sediment loss;
i) control post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

George Day, Senior Water Resource Control Engineer
Central Valley Regional Water Quality Control Board
364 Knollcrest Drive, Suite 205, Redding, California 96002
gday@waterboards.ca.gov
(530) 224-4859

WATER QUALITY CERTIFICATION:

I hereby issue an Order certifying that any discharge from the California Department of Transportation, South Fork American River Bridge Project (WDID# 5A09CR00157) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification (General WDRs)."

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in compliance with conditions of this Certification, the California Department of Transportation's application package, and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the *Water Quality Control Plan for the Sacramento River and San Joaquin River*, Fourth Edition, revised June 2015 (Basin Plan).

Any person aggrieved by this action may petition the State Water Quality Control Board to review the action in accordance with California Water Code § 13320 and California Code of Regulations, Title 23, § 2050 and following. The State Water Quality Control Board must receive the petition by 5:00 p.m., 30 days after the date of this action, except that if the thirtieth day following the date of this action falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Quality Control Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

for

(for) Pamela C. Creedon
Executive Officer

DLW:sjs

Enclosure: Water Quality Order No. 2003-0017 DWQ

cc w/o enclosures: Ms. Mary Pakenham-Walsh, U.S. Army Corp of Engineers, Sacramento
Department of Fish and Wildlife, Region 2, Rancho Cordova
U.S. Fish and Wildlife Service, Sacramento
Mr. Bill Jennings, CALSPA, Stockton
Cassandra Evenson, California Department of Transportation, Marysville

cc w/o Enclosures by email: U.S. EPA, Region 9, San Francisco
Mr. Bill Orme, SWRCB, Certification Unit, Sacramento

PROJECT INFORMATION

Application Date: 18 November 2015

Application Deemed Complete: 24 February 2016

Applicant: Jess Avila
California Department of Transportation
703 B Street
Marysville, CA 95901

Project Name: South Fork American River Bridge Project

Application Number: WDID No. 5A09CR00157

U.S. Army Corps File Number:

Type of Project: Bridge Replacement

Project Location: Section 18, Township 11 North, Range 10 East
Latitude: 38.809° and Longitude: -120.901°

County: El Dorado County

Receiving Water(s) (hydrologic unit): South Fork American River, American River Hydrologic Unit No.514.32 – Coloma HSA

Water Body Type: Riparian

Designated Beneficial Uses: The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised June 2015 (Basin Plan) has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include, but are not limited to: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Hydropower Generation (POW); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD) and Wildlife Habitat (WILD). A comprehensive and specific list of the beneficial uses applicable for the project area can be found at http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml.

Project Description (purpose/goal): The South Fork American River Bridge Project is located on State Route (SR) 49 from post mile (PM) 23.66 to 24.42 in El Dorado County, within the communities of Coloma and Lotus.

Project purpose is to preserve integrity of highway facility and meet seismic standards by rehabilitating or replacing South Fork American River Bridge. Old piers 5 & 6 located in active channel will be removed per Caltrans Standard Specifications & Special Provisions. New structure will span active channel. SR 49 will be realigned to meet the new structure configuration.

New bridge construction and old pier demolition will require temporary dewatering and/or clear water diversion. Temporary trestle for construction Stages 1 (2017/18) & 2 (2018/19) will require placement of approximately 25 drilled or driven piles. Trestle will remain in place for duration of project, thus, no seasonal work period proposed for in water work. Contractor responsible for determining method and developing plan that must be approved by RWQCB prior to any dewatering activities. Volume of material necessary for temporary dewatering/ water diversion activities includes 400 cy clean river rock, 200 cy concrete k-rail, 210 cy structural material for cofferdams, trestles and scaffolding.

Existing maintenance access and staging area below bridge will be used. Vegetation and tree removal proposed to begin fall/ winter 2016/17. All temporary and permanent impacts to riparian habitat shall be mitigated off-site due to preexisting recreation land use and threat it would pose to the success of on-site restoration efforts. Temporary impact area on floodplain and riverbanks will be stabilized through standard erosion control measures.

The project will permanently impact 0.12 acre(s)/40 linear feet and/or temporarily impact 0.69 acre(s)/560 linear feet of waters of the United States.

Preliminary Water Quality Concerns: Construction activities including soil disturbance, excavation, cutting/filling, and grading activities could result in increased erosion and sedimentation and may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: The California Department of Transportation will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. The California Department of Transportation will conduct turbidity and settleable matter testing during in-water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: Approximately 85 cubic yards of concrete piers will be excavated from 0.12 acres of waters of the United States.

Approximately 400 cubic yards of river rock, 200 cubic yards of k-rail, and 210 cubic yards of foundation structure material will be placed into 0.12 acres of waters of the United States.

Dredge Volume: N/A

California Integrated Water Quality System Impact Data: The Project will permanently impact 0.12 acre/40 linear feet of riparian area from fill/excavation activities.

Table 1: Impacts from Fill and/or Excavation Activities

Fill Type	Permanent			Temporary		
	Acres	Linear Feet	Cubic Yards	Acres	Linear Feet	Cubic Yards
Stream Channel						
Stream Total	--	--	--	0.25	300	--
Riparian Area						
Riparian Area Total	0.12	40	--	0.44	260	--
Total Impacts	**0.12**	**40**	**--**	**0.69**	**560**	**--**

Notes
NA Not Applicable

United States Army Corps of Engineers Permit Type: [Nationwide Permit #14 (Linear Transportation Projects).

Department of Fish and Wildlife Lake or Streambed Alteration Agreement: The California Department of Transportation applied for a Lake or Streambed Alteration Agreement on 13 November 2015.

Possible Listed Species: State or Federally-threatened species are listed in the Section 401 Water Quality Certification Application or IS-MND.

Status of CEQA Compliance: The California Department of Transportation is the Lead Agency responsible for compliance with the California Environmental Quality Act for the South Fork American River Bridge Project pursuant to § 21000 et seq. of the Public Resources Code. The California Department of Transportation approved the Mitigated Negative Declaration on 6 March 2015. The California Department of Transportation filed a Notice of Determination with the State Clearinghouse on 13 March 2015 (State Clearinghouse Number 2014102053).

Compensatory Mitigation: The Central Valley Water Board is not requesting compensatory mitigation for the South Fork American River Bridge Project. The Project will not result in permanent fill below the high water mark.

Application Fee Provided: An application fee of $2,025.00 was submitted on 13 November 2015 and an additional fee of $2,025.00 was submitted on 22 February 2016. A total fee of $4,050.00 has been submitted to the Central Valley Water Board as required by § 3833(b)(3)(A) and § 2200(a)(3) of the California Code of Regulations.

DISTRIBUTION LIST

Mr. Matt Kelley
U.S. Army Corp of Engineers
Redding Regulatory Office
152 Hartnell Avenue
Redding, CA 96002-1842
(Tehama, Glenn, Shasta, Plumas, Glenn, Modoc and Lassen Counties)

Ms. Mary Pakenham-Walsh,
U.S. Army Corp of Engineers
Sacramento District Office
1325 J Street
Sacramento, CA 95814-2922
(Butte County)

R9-WTR8-Mailbox@epa.gov
Wetlands Section Chief (W-3)
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

United States Fish & Wildlife Service
Sacramento Fish & Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

Ms. Donna Cobb
Department of Fish and Wildlife,
Region 1
601 Locust Street
Redding, CA 96001
(Shasta, Tehama, Lassen, Siskiyou and Modoc)

Department of Fish and Wildlife
Region II
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
(Butte, Glenn and Plumas)

Mr. Bill Orme
WB-DWQ-Stateboard401@waterboards.ca.gov
State Water Resources Control Board, Certification Unit
P.O. Box 944213
Sacramento, CA 94244-2130

Bill Jennings
CA Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204

Cassandra Evenson
California Department of Transportation
703 B Street
Maysville, CA 95901

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY ORDER NO. 2003 - 0017 - DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR DREDGED OR FILL DISCHARGES THAT HAVE RECEIVED STATE WATER QUALITY CERTIFICATION (GENERAL WDRs)

The State Water Resources Control Board (SWRCB) finds that:

1. Discharges eligible for coverage under these General WDRs are discharges of dredged or fill material that have received State Water Quality Certification (Certification) pursuant to federal Clean Water Act (CWA) section 401.

2. Discharges of dredged or fill material are commonly associated with port development, stream channelization, utility crossing land development, transportation water resource, and flood control projects. Other activities, such as land clearing, may also involve discharges of dredged or fill materials (e.g., soil) into waters of the United States.

3. CWA section 404 establishes a permit program under which the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into waters of the United States.

4. CWA section 401 requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to a water of the United States (including permits under section 404) to obtain Certification that the proposed activity will comply with State water quality standards. In California, Certifications are issued by the Regional Water Quality Control Boards (RWQCB) or for multi-Region discharges, the SWRCB, in accordance with the requirements of California Code of Regulations (CCR) section 3830 et seq. The SWRCB's water quality regulations do not authorize the SWRCB or RWQCBs to waive certification, and therefore, these General WDRs do not apply to any discharge authorized by federal license or permit that was issued based on a determination by the issuing agency that certification has been waived. Certifications are issued by the RWQCB or SWRCB before the ACOE may issue CWA section 404 permits. Any conditions set forth in a Certification become conditions of the federal permit or license if and when it is ultimately issued.

5. Article 4, of Chapter 4 of Division 7 of the California Water Code (CWC), commencing with section 13260(a), requires that any person discharging or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the State,[1] file a report of waste discharge (ROWD). Pursuant to Article 4, the RWQCBs are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to CWC section 13269. These General WDRs fulfill the requirements of Article 4 for proposed dredge or fill discharges to waters of the United States that are regulated under the State's CWA section 401 authority.

[1] "Waters of the State" as defined in CWC Section 13050(e)

6. These General WDRs require compliance with all conditions of Certification orders to ensure that water quality standards are met.

7. The U.S. Supreme Court decision of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (the *SWANCC* decision) called into question the extent to which certain "isolated" waters are subject to federal jurisdiction. The SWRCB believes that a Certification is a valid and enforceable order of the SWRCB or RWQCBs irrespective of whether the water body in question is subsequently determined not to be federally jurisdictional. Nonetheless, it is the intent of the SWRCB that all Certification conditions be incorporated into these General WDRs and enforceable hereunder even if the federal permit is subsequently deemed invalid because the water is not deemed subject to federal jurisdiction.

8. The beneficial uses for the waters of the State include, but are not limited to, domestic and municipal supply, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources.

9. Projects covered by these General WDRs shall be assessed a fee pursuant to Title 23, CCR section 3833.

10. These General WDRs are exempt from the California Environmental Quality Act (CEQA) because (a) they are not a "project" within the meaning of CEQA, since a "project" results in a direct or indirect physical change in the environment (Title 14, CCR section 15378); and (b) the term "project" does not mean each separate governmental approval (Title 14, CCR section 15378(c)). These WDRs do not authorize any specific project. They recognize that dredge and fill discharges that need a federal license or permit must be regulated under CWA section 401 Certification, pursuant to CWA section 401 and Title 23, CCR section 3855, et seq. Certification and issuance of waste discharge requirements are overlapping regulatory processes, which are both administered by the SWRCB and RWQCBs. Each project subject to Certification requires independent compliance with CEQA and is regulated through the Certification process in the context of its specific characteristics. Any effects on the environment will therefore be as a result of the certification process, not from these General WDRs. (Title 14, CCR section 15061(b)(3)).

11. Potential dischargers and other known interested parties have been notified of the intent to adopt these General WDRs by public hearing notice.

12. All comments pertaining to the proposed discharges have been heard and considered at the November 4, 2003 SWRCB Workshop Session.

13. The RWQCBs retain discretion to impose individual or general WDRs or waivers of WDRs in lieu of these General WDRs whenever they deem it appropriate. Furthermore, these General WDRs are not intended to supersede any existing WDRs or waivers of WDRs issued by a RWQCB.

IT IS HEREBY ORDERED that WDRs are issued to all persons proposing to discharge dredged or fill material to waters of the United States where such discharge is also subject to the water quality certification requirements of CWA section 401 of the federal Clean Water Act (Title 33 United States Code section 1341), and such certification has been issued by the applicable RWQCB or the SWRCB, unless the applicable RWQCB notifies the applicant that its discharge will be regulated through WDRs or waivers of WDRs issued by the RWQCB. In order to meet the provisions contained in Division 7 of CWC and regulations adopted thereunder, dischargers shall comply with the following:

1. Dischargers shall implement all the terms and conditions of the applicable CWA section 401 Certification issued for the discharge. This provision shall apply irrespective of whether the federal license or permit for which the Certification was obtained is subsequently deemed invalid because the water body subject to the discharge has been deemed outside of federal jurisdiction.

2. Dischargers are prohibited from discharging dredged of fill material to waters of the United States without first obtaining Certification from the applicable RWQCB or SWRCB.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 19, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Gary M. Carlton
Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.

Debbie Irvin
Clerk to the Board

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

27 April 2016

Jess Avila, P.E.
California Department of Transportation
703 B Street
Marysville, CA 95901

CERTIFIED MAIL
91 7199 9991 7035 8421 0987

NOTICE OF APPLICABILITY

WATER QUALITY ORDER 2003-0003-DWQ, STATEWIDE WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES TO LAND WITH A LOW THREAT TO WATER QUALITY, CALIFORNIA DEPARTMENT OF TRANSPORTATION, SOUTH FORK AMERICAN RIVER BRIDGE PROJECT (EA NO. 03-0F310), EL DORADO COUNTY

On 21 March 2016, the California Department of Transportation (Caltrans) submitted a Notice of Intent (NOI) and Drainage Monitoring Plan to obtain coverage under Water Quality Order No. 2003-0003-DWQ, *Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality* (hereafter General Order) for construction dewatering. The submittals contain all the information required to evaluate applicability of the General Order; therefore, the NOI is complete. Based on the information provided in the NOI, the discharge meets the conditions of the General Order. The discharge is hereby covered under General Order No. 2003-0003-DWQ. You are hereby assigned order 2003-0003-DWQ-0147 for this discharger. Please include this number on all correspondence related to this discharge.

PROJECT LOCATION

Caltrans proposes to replace the existing South Fork American River Bridge, in El Dorado County, located approximately one mile north of Coloma on State Route (SR) 49 and Post Mile (PM) 23.99. The bridge replacement project area is approximately 12.7 acres. The net disturbed soil area is estimated to be 5 acres and includes the total area within the cut/fill limits, minus the existing impervious areas that will remain. The bridge replacement project includes contractor staging areas inside the flood plain.

The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition,* revised October 2011 (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board. Pursuant to §13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.

PROJECT DESCRIPTION

The purpose of the bridge replacement project is to meet seismic requirements. The proposed bridge will have sidewalks to facilitate pedestrian traffic from the bridge into the commercial areas and will span a length of 519 feet. Both ends of the new bridge will have abutments, which will consist of driven H-Piles where dewatering is not anticipated to occur. The bridge will consist of three piers, each with two five-foot diameter piles installed approximately 72 to 86 feet below ground surface (bgs). The bridge will be built in two parallel halves (west bound direction and east bound direction) over two seasons with three piles constructed during each season. Season 1 is planned to begin in mid-April 2017 and Season 2 will begin in November 2017.

Construction of the six cast-in-drilled-hole piles will involve installing an 8-foot diameter steel shell casings using either impact or vibratory methods, to a depth of approximately 16 feet bgs, drilling 5-foot diameter pile shafts through the steel shell casings down to a specified depth (72 to 82 feet bgs), removing soil within the pile shafts, placing steel reinforcing, and placing concrete within the drilled pile shafts. Groundwater encountered in the pile shafts will remain until reinforced steel and concrete are placed, at which time the pile shafts will be dewatered.

Dewatering volumes for the project are estimated to be 72,000 gallons over the project timeline. Three piles will be constructed during each season with the work expected to take four days to build for a total of 12 days of drilling and dewatering for each season. Assuming full volume of the pile shaft, dewater volumes are estimated to be 10,000 to 12,000 gallons per pile. A dewatering volume of 36,000 gallons is estimated each season with approximately 3,000 gallons of dewatering per day.

The pumped groundwater from the pile shafts will be stored in on-site Baker Tanks that have an estimated capacity of 5,000 gallons each. Because the water will be in contact with poured concrete, which is known to elevate pH levels, a neutralizing agent will be added to the water to maintain a pH range between 6.5 and 8.4 prior to discharging to land. Water in the tanks will be sampled twice per shift (approximately every 4 hours) to ensure pH levels are within the specified range. The majority of the tested and neutralized water will be used for compaction efforts, with a small portion of the water used for dust control at the project site.

FACILITY-SPECIFIC REQUIREMENTS

The General Order and this NOA regulate construction dewatering from the Caltrans South Fork American River Bridge Project.

1. Water generated during construction dewatering shall be disposed of as described in the NOI and in accordance with the requirements contained in the General Order.
2. Construction dewatering discharge at a location or in a manner different from that described in the NOI is prohibited.
3. All technical reports required herein that involve evaluation, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, section 6735, 7835, and 7835.1. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

4. Analytical results shall be submitted on a semi-annual basis in accordance the General Order's Monitoring and Reporting Program.
5. The Discharger shall submit the required annual fee (as specified in the annual billing issued by the State Water Resources Control Board) until the NOA is officially terminated.
6. Failure to abide by the conditions of the General Order, including its monitoring and reporting requirements, and this letter authorizing applicability could result in enforcement actions, as authorized by provisions of the California Water Code.

DOCUMENT SUBMITTALS

All monitoring reports and other correspondences should be converted to searchable Portable Document Format (PDF) and submitted electronically. Documents less than 50 MB should be emailed to:

centralvalleysacramento@waterboards.ca.gov.

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or any documentation submitted to the mailing address for this office:

Facility Name: Caltrans, South Fork American River Bridge Project, El Dorado County		
Program: Non-15 Compliance	Order: 2003-003-DWQ-0147	CIWQS Place ID: 823174

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to:

Central Valley Regional Water Quality Control Board
ECM Mailroom
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

Now that the NOA has been issued, the Board's Compliance and Enforcement section will take over management of your case. Kenny Croyle is your new point of contact for any questions about the Waiver. If you find it necessary to make a change to your permitted operations, Kenny will direct you to the appropriate Permitting staff. You may contact Kenny at (916) 464-4676 or at kcroyle@waterboards.ca.gov.

Andrew Altevogt For

PAMELA C. CREEDON
EXECUTIVE OFFICER

Enclosure: Water Quality Order No. 2003-0003-DWQ

cc w/ enc: Sean Cross, Caltrans, North Region
cc w/o enc: El Dorado County Environmental Health Department, Placerville

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

EDMUND G. BROWN, Jr. *Governor*
Charlton H. Bonham, *Director*

APR 25 2016
Date

Jess Avila
California Department of Transportation
703 B Street
Marysville, CA 95901

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2015-0279-R2

Dear Mr. Avila:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the South Fork American Bridge Project (Project). Before the California Department of Fish and Wildlife (Department) may issue an Agreement, it must comply with the California Environmental Quality Act (CEQA). In this case, the Department, acting as a responsible agency, filed a notice of determination (NOD) on the same date it signed the Agreement. The NOD was based on information contained in the Mitigated Negative Declaration the lead agency prepared for the Project.

Under CEQA, filing a NOD starts a 30-day period within which a party may challenge the filing agency's approval of the Project. You may begin your Project before the 30-day period expires if you have obtained all necessary local, state, and federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this matter, please contact Juan Lopez Torres, Senior Environmental Scientist (Specialist) at (916) 358-2951 or Juan.Torres@wildlife.ca.gov.

Sincerely,

Tina Bartlett
Regional Manager

ec: Juan Lopez Torres, Senior Environmental Scientist (Specialist), Juan.Torres@wildlife.ca.gov.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
NORTH CENTRAL REGION
1701 NIMBUS ROAD, SUITE A
RANCHO CORDOVA, CA 95670

STREAMBED ALTERATION AGREEMENT (REVISION 2)
NOTIFICATION NO. 1600-2015-0279-R2

CALIFORNIA DEPARTMENT OF TRANSPORTATION
SOUTH FORK AMERICAN BRIDGE PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (Department) and the California Department of Transportation (Permittee) as represented by Jess Avila.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified the Department on November 23, 2016, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, the Department has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located on State Route (SR) 49, at post mile (PM) 23.98 within the South Fork American River, in the County of El Dorado, State of California. The project is located on the Coloma U.S. Geological Survey (USGS) 7.5-minute quadrangle, R06W, T13N, Section 3. Latitude 38.8087°, Longitude -120.9014°.

Exhibit A Figure 1 includes a map depicting the project location.

PROJECT DESCRIPTION

The proposed project includes replacing then existing bridge with a new bridge. In order to accommodate new bridge construction, the roadway alignment would shift to the north, and be built one half at time using staged construction to minimize the shift. The bridge will have 12-foot standard lanes, 8-foot shoulders, 6-foot sidewalks, and see-through bridge rails. The new structure would have continuous sidewalks on both sides of the bridge with longer segments west of the new bridge, and a shorter sidewalk segment to the east of the new bridge. Due to the centerline shift of the new bridge, the

roadway widening will extend from the bridge and on to the existing roadway both west and east on SR 49. To the west, the project will connect near the Marshall Road intersection and to the east the project will connect near the Marshall Gold Discovery State Historic Park. To the west of the bridge, the variable width two-way left turn lane and median islands would be replicated. The new design will include additional median islands with improved contrast features to provide traffic calming and a 12 feet wide two-way left turn lane. Designated turn lanes would be placed where needed. Roadway profile and super correction work will be incorporated into the project. The Lotus Road intersection, as well as driveways, including Little Road, would be reconstructed to meet current design standards. Roadway profile and super correction work, would be incorporated into the project. R/W acquisition would be required because the new bridge's alignment shifts and the continued segments of the roadway require sight distance and standard roadway design.

Old piers 5 and 6 located in active channel will be removed per Caltrans Standard Specifications and Special Provisions. New structure will span active channel. SR 49 will be realigned to meet the new structure configuration. New bridge construction and old pier demolition will require temporary dewatering and/or clear water diversion. Temporary trestle for construction stages will require placement of approximately 25 drilled or driven piles. Trestle will remain in place for duration of project. Volume of material necessary for temporary dewatering/ water diversion activities includes 400 cy clean river rock, 200 cubic yards concrete k-rail, 210 cubic yards structural material for cofferdams, trestles and scaffolding. Existing maintenance access and staging area below bridge will be used during construction. Rock slope protection will be only placed at the new bridge abutments.

The proposed project will result in 0.12 acres of permanent impacts and 0.44 acres of temporary impacts to Department jurisdictional areas consisting of riparian habitat.

Exhibit A Figure 2 includes the impact area and **Figure 3** includes the project plans.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: nesting birds and aquatic and terrestrial plant and wildlife species.

The adverse effects the project could have on the fish or wildlife resources identified above include: loss of natural bed or bank; change in contour of bed, channel or bank; degradation of channel; loss of bank stability during construction; increase of bank erosion during construction; restriction or increase in sediment transport; debris transport impedance (from culverts and bridges); short-term release of contaminants (e.g., incidental from construction); colonization by exotic plant or animal species; change to, or loss or decline of natural bed substrate; direct take of fish and other aquatic species; disruption to nesting birds and other wildlife: direct take of terrestrial species; disturbance from project activity; loss or impediment of terrestrial animal species travel routes due to temporary structures (e.g., survey tape, sandbags, erosion protection materials etc.); diversion of flow water from, or around, activity site; dewatering; impediment to migration

of aquatic and terrestrial species during construction; and direct loss of resources for aquatic organisms.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to Department personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify the Department if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, the Department shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that Department personnel may, with notification to the Resident Engineer, enter the project site at any time to verify compliance with the Agreement.

1.5 Does Not Authorize "Take." This Agreement does not authorize "take" of any listed species. Take is defined as hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture, or kill. If there is potential for take of any listed species to occur, the Permittee shall consult with the Department as outlined in FGC Section 2081 and shall obtain the required state and federal threatened and endangered species permits.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 Work Period in Dry Weather Only. Work within the flowing water shall be restricted to periods of low stream flow and dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation. Construction activities

halted due to precipitation may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 20% or less chance of precipitation, provided low stream flow conditions are still present. If a construction phase may cause the introduction of sediments into the stream: 1) no phase of the project shall be started, unless all work for that phase and all associated erosion control measures are completed prior to the onset of precipitation; and 2) no phase of the project shall commence unless all equipment and materials are removed from the channel at least 12 hours prior to the onset of precipitation and all associated erosion control measures are in place prior to the onset of precipitation. No work shall occur during a dry-out period of 24 hours after the above referenced wet weather. Weather forecasts shall be documented and provided upon request by the Department.

2.2 Nesting Birds. If Permittee begins project activities during the nesting period for birds (February 1 to September 1), then the Permittee shall avoid impacts to nesting birds. Permittee shall initiate pre-construction surveys to identify any nesting birds that construction activities have the potential to impact. If active nests are found, the Permittee shall notify the department and a temporary no-disturbance buffer as approved by the Department shall be created to protect the nest and the birds. No habitat removal or any other work shall occur within the temporary disturbance buffer (even if the nest continues active beyond September 1st) until the young have fledged and will no longer be impacted by the project.

If a lapse in project-related work of fifteen (15) calendar days or longer occurs, another focused survey and consultation with the Department shall be required before project work can be reinitiated.

2.3 Environmentally Sensitive Areas (ESAs). No more than five (5) calendar days prior to the start of project activities, the Permittee shall establish ESAs in the project area to prevent encroachment of construction personnel and equipment into areas of any known sensitive resources within or near the work area will be flagged to ensure that no activities are conducted in those areas. All potential sensitive habitats and native trees that can be reasonably avoided during construction activities shall be identified as ESAs. All construction personnel shall avoid ESAs. The Permittee shall avoid ESAs when siting all staging areas, spoils disposal areas, borrow pits, and construction equipment access routes. The ESAs will be identified on all engineering plans or construction specifications. The Permittee shall inspect the flagging before the start of each work day and the Permittee shall maintain the flagging until the completion of the project.

2.4 Biological Monitor. A qualified biologist shall be onsite to monitor all activities that result in the clearing of sensitive habitat as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas. Permittee shall flag the limits of grading and the jurisdictional areas, perform necessary surveys, and take photographs during the construction process, as required by this Agreement. The biological monitor is required to halt construction activities in coordination with the

Resident Engineer if threatened or endangered species are identified and notify the appropriate agencies immediately.

2.5 Temporary trestle. **No later than 30 days prior to the construction of the temporary trestle**, Permittee shall submit for approval the detailed trestle construction plans. The plans should include any applicable minimization measures to protect aquatic life present within the river.

2.6 Water Diversion Plan. If flowing water is present or reasonably anticipated, the Permittee shall submit for approval a detailed water diversion and/or dewatering plan to the Department **no later than 10 days prior commencing construction activities**. Dewatering structures may include the use of sand bag, Port-a-dams, water bladder dams, K-rails or driven sheet metal coffer dams. The Department will review the proposed water diversion method, to approve the plan or provide the requirements for that approval. The Permittee may not commence the dewatering of the stream and/or the diversion of water without the explicit approval from the Department.

2.7 Maintain Water Quality. Permittee shall divert flow in a manner that prevents turbidity, siltation, or pollution and provides flows to downstream reaches. Flows to downstream reaches shall be provided during all times that the natural flow would have supported aquatic life. Said flows shall be sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Normal flow shall be restored to the affected stream immediately upon completion of work at that location.

2.8 Bat Surveys. Using an appropriate combination of structure inspection, sampling, exit counts, and acoustic surveys, the Department-approved Qualified Biologist(s) shall survey each structure and the surrounding area that may be impacted by the project for bats. If bats are found using any bridges or culverts within the project area, the biologist shall identify the bats to the species level, and evaluate the colony to determine its size and significance. The bat survey shall include: 1) the exact location of all roosting sites (location shall be adequately described and drawn on a map), 2) the number of bats present at the time of visit (count or estimate), 3) each species of bat present shall be named (include how the species was identified), 4) the location, amount, distribution and age of all bat guano shall be described and pinpointed on a map, and 5) the type of roost: night roost (rest at night while out feeding) versus a day roost (resting during the day) must also be clearly stated. **The results of the bat survey shall be submitted to Department for review and concurrence no later than 30 days prior to the installation of exclusionary devices.**

If any structures house a maternity colony of bats, construction activities shall not occur during the recognized bat breeding season (March 1 to October 1). This agreement does not authorize the take of adult or juvenile bats.

2.9 Bridge-dwelling Wildlife Protection. Permittee shall comply with the following bridge-dwelling wildlife protection measures if bridge-dwelling wildlife is detected in the bridges or culverts. All contractors, subcontractors, and employees shall also comply with these measures and it shall be the responsibility of Permittee to ensure compliance.

2.9.1 The Department-approved Qualified Biologist(s) shall design and direct implementation of exclusionary devices designed to prevent birds and bats from utilizing bridges, culverts, and/or any other structures before any construction activities begin. Exclusionary devices shall be installed on all bridges prior to the initiation of nesting season (February 1) each construction year. Exclusionary devices shall cover both the sides and bottom of each bridge. Passage underneath each bridge (through the channel) shall not be impeded. Exclusionary materials shall be installed within seven (7) days of surveying the bridge for bridge-dwelling wildlife, shall not pose an entanglement risk to wildlife, and shall be regularly maintained. Exclusionary materials shall not be installed if nesting bird activity is detected. If bats are found using any bridge, roost entrances shall be fitted with one-way doors that allow bats to exit but prevent entrance for a period of several days to encourage bats to relocate.

2.9.2 Bridge widening designs shall contain and be constructed with similar structural features to encourage continued roosting by bats. Replacement roosts shall have comparable thermal stability and durability, the same or similar search image, and the same cryptic roosting conditions as the roosts they replace. The new bat roosting structures (i.e., light-weight concrete panels) shall be installed within the vicinity of the project area. Construction and installation of roosting structures shall be supervised by the Department-approved Qualified Biologist(s).The total length of the roosting structures shall be no less than one-half the total length of the expansion joints, or other suitable roosting structures, that will impacted during construction. The roosting structures shall remain in place following construction and shall not be removed. **Bat roosting structures shall be installed as soon as possible.** A plan on the construction, placement, and timing of installation of the alternative roosting structures shall be submitted to the Department for review and concurrence **no later than 60 days after the execution of this Agreement.**

2.9.3 No gasoline or diesel engines shall be stored or operated under any bridge, unless the bridge has been cleared of all bats.

2.9.4 All night work (dusk until dawn) in the vicinity of the structure (i.e., roadway widening, resurfacing, lighting, lane-closure setup, etc.) shall have concurrence from the Department and the Qualified Biologist(s) prior to any work or scheduling of any work between March 1 and October 1.

2.9.5 Construction activities on, under, or around, or within close proximity to bridges/culverts will be limited to October 1 to March 1, unless all bats have been excluded from the structure and concurrence has been received from the Department.

2.9.6 Vegetation removal around structures shall be minimized.

2.9.7 If any roosting bats are discovered within the structure during construction activities all work shall stop on, under, around, or within 500-feet of the structure.

2.10 Best Management Practices. Permittee shall actively implement best management practices (BMPs) to prevent erosion and the discharge of sediment in to streams and lakes during project activities. BMPs shall be monitored daily and repaired if necessary to ensure maximum erosion and sediment control. All fiber rolls, straw waddles, and/or hay bales utilized within and adjacent to the project site shall be free of nonnative plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

2.11 Pollution and Litter. Permittee shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws and it shall be the responsibility of Permittee to ensure compliance.

2.11.1 Permittee shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter a lake, streambed, or flowing stream or be placed in locations that may be subjected to high storm flows.

2.11.2 Spoil sites shall not be located within a lake, streambed, or flowing stream or locations that may be subjected to high storm flows, where spoil shall be washed back into a lake, streambed, or flowing stream where it will impact streambed habitat and aquatic or riparian vegetation.

2.11.3 Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from project related activities shall be prevented from contaminating the soil and/or entering the waters of the state. These materials, placed within or where they may enter a lake, streambed, or flowing stream by Permittee or any party working under contract or with the permission of Permittee, shall be removed immediately.

2.11.4 No broken concrete, cement, debris, soil, silt, sand, bark, slash, sawdust,

rubbish, or washings thereof, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 100 feet of the high water mark of any lake, streambed, or flowing stream.

2.11.5 No equipment maintenance or fueling shall be done within or near any lake, streambed, or flowing stream where petroleum products or other pollutants from the equipment may enter these areas under any flow.

2.12 Inspection of Project Equipment. Permittee shall inspect all vehicles, watercraft, tools, waders and boots, and other project-related equipment and remove all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the project site.

2.13 Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.

2.14 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.

2.15 Staging and Storage Areas. Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located more than fifty (50) feet from the stream channel and banks within the Department jurisdiction. All equipment and fuel stored on site shall be bermed to contain any spilled material and shall be protected from rain. Berms shall consist of plastic covered dirt or sand bags.

2.16 Invasive Species. Permittee shall conduct project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.), from one project site and/or waterbody to another. Prevention BMPs and guidelines for invasive plants can be found on the California Invasive Plant Council's website at: http://www.cal-ipc.org/ip/prevention/index.php and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website: http://www.protectyourwaters.net/.

2.17 Site Restoration. All exposed/disturbed areas and access points within the stream left barren of vegetation as a result of the construction activities, such as staging areas, shall be restored using locally native grass and/or forb seeds, locally native grass plugs and/or a mix of quick growing sterile non-native grass with locally

native grass/forb seeds. Seeded areas shall be covered with broadcast straw and/or seeded erosion control blankets.

3. Compensatory Measures

3.1 **Within 120 days from the execution of this Agreement**, Permittee shall provide to the Department proof of purchase of 0.80 acres of mitigation credits from the Cosumnes Floodplain Mitigation Bank.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Notification of Project Initiation. The Permittee shall notify the Department two (2) working days prior to beginning work. Notification shall be submitted as instructed in Contact Information section below. Email notification is preferred.

4.2 Notification of Project Completion. Upon completion of the project activities described in this Agreement, the project activities within the watercourse work area shall be digitally photographed. Photographs shall be submitted to the Department within fifteen (15) days of completion. Photographs and project commencement notification shall be submitted as instructed in Contact Information section below. Email submittal is preferred.

CONTACT INFORMATION

Any communication that Permittee or the Department submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or the Department specifies by written notice to the other.

To Permittee:

California Department of Transportation
Jess Avila
703 B Street
Marysville, CA 95901
Phone: 530-741-4533
Email: jess.avila@dot.ca.gov

Contact

Cassandra Evenson
703 B Street
Marysville, CA 95901
Phone: 530-740-4906
Email: cassandra.evenson@dot.ca.gov

To The Department:

Department of Fish and Wildlife
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
Attn: Lake and Streambed Alteration Program
Notification #: 1600-2015-0279-R2
Phone: 916-358-2885
Fax: 916-358-2912
Email: R2LSA@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute the Department's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

The Department may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before the Department suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before the Department suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused the Department to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes the Department from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects the Department's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq*. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

The Department may amend the Agreement at any time during its term if the Department determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by the Department and Permittee. To request an amendment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter the Department approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to the Department a completed Department "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). The Department shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of the Department's signature, which shall be: 1) after Permittee's signature; 2) after the Department complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at https://www.wildlife.ca.gov/Conservation/CEQA/Fees.

TERM

This Agreement shall expire **March 31, 2019,** unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

Exhibit A – Figure 1 Project Location
Figure 2 Project Impact Area
Figure 3 Project Plans

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify the Department in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR PERMITTEE

Jess Avila — 4-20-16

Jess Avila
Project Manager

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Jen Burrows — 4/21/16

Tina Bartlett
Regional Manager

Date

Prepared by: Juan Torres
Senior Environmental Scientist (Specialist)

Exhibit A. Figure 1 – Project Location

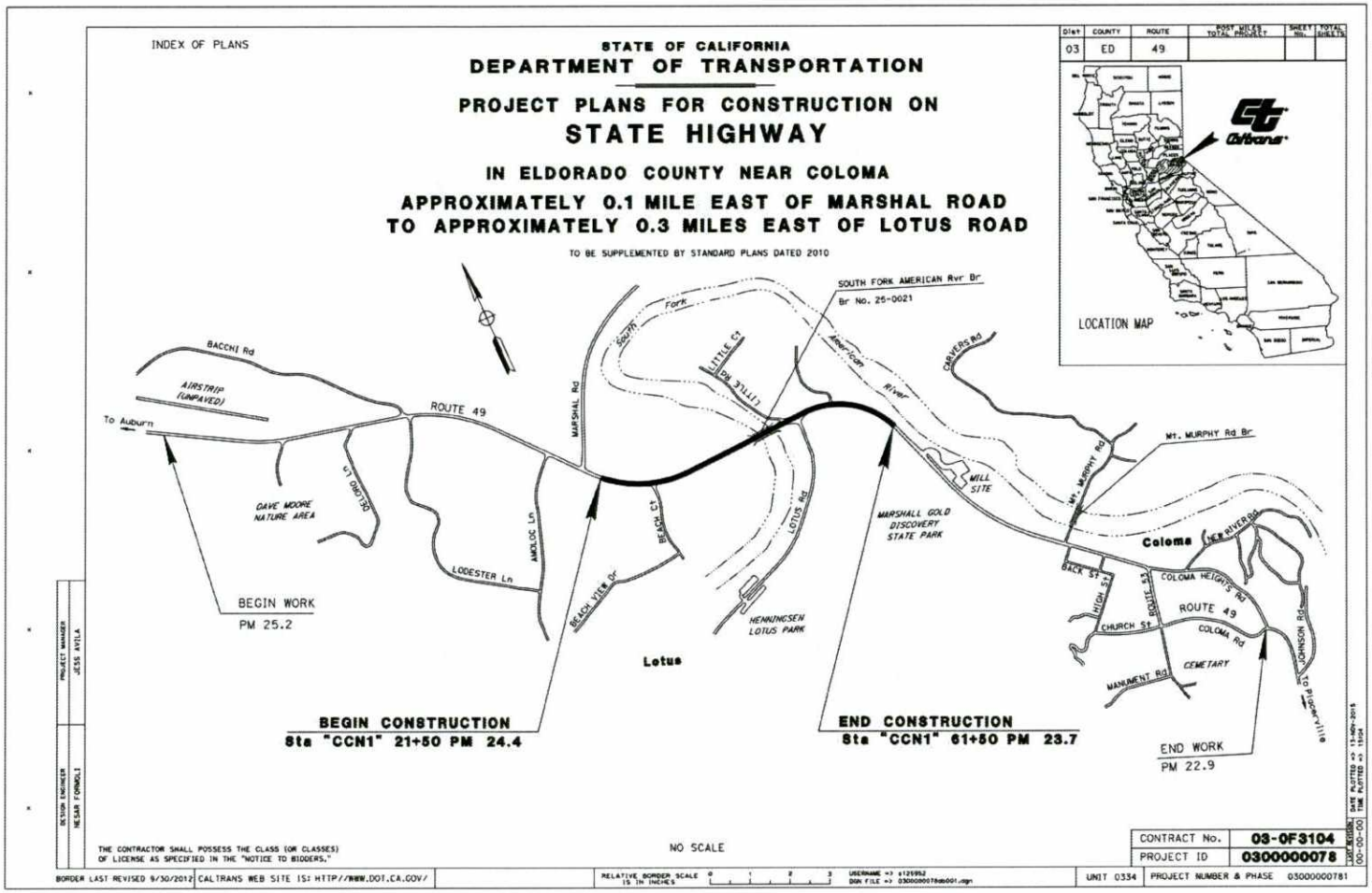
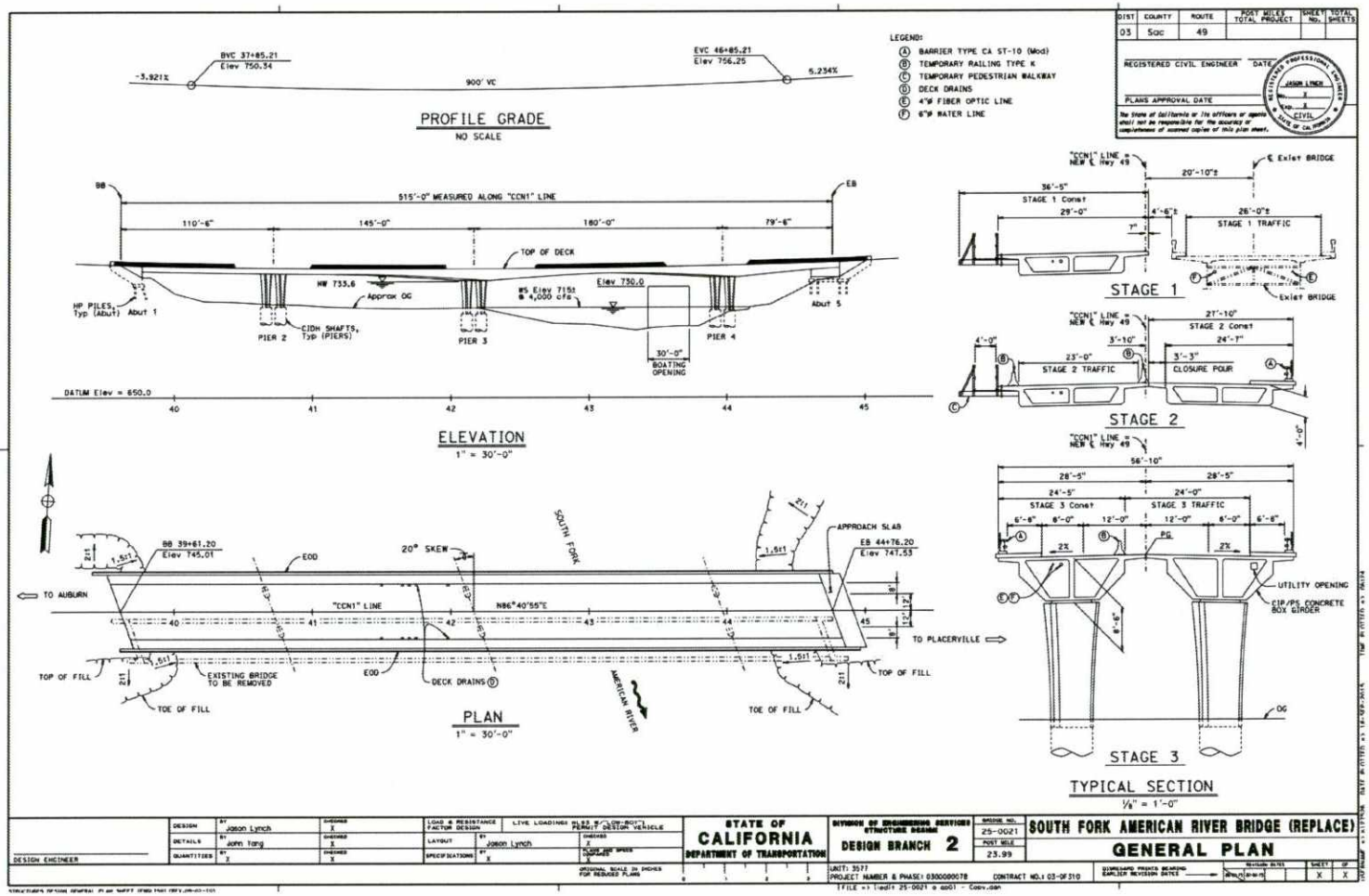


Figure 2 – Impact Area

Figure 3 – Project Plans



STATE AGENCY RIGHT OF ENTRY PERMIT

Granting Agency: Department of Parks and Recreation
Permittee: California Department of Transportation

Project: SF American River 49 Bridge Replacement, State Route 49, Marshall Gold Discovery SHP

Dist. Gold Fields District		Co.El Dorado	Rte. 49		PM 23.6
Parcel No.:006-134-01-100; 006-133-01-100; 006-133-04-100			Exp Auth:		

This Right of Entry Permit (Permit) is made and entered into this 26th day of April, 2016, between the State of California, acting by and through its Department of Parks and Recreation, hereinafter called State Parks, and the California Department of Transportation, hereinafter called Permittee; State Parks and Permittee may hereinafter be referred to as a Party, or collectively the Parties.

RECITALS

- **Whereas**, the State owns, operates and maintains the State Park known as Marshall Gold Discovery SHP, in the County of El Dorado, State of California; and
- **Whereas**, Permittee has applied to State Parks for permission to access Marshall Gold Discovery SHP for purposes of carrying out Permittee's South Fork American River Bridge Replacement Project (the Project); and
- **Whereas**, State Parks desires to accommodate Permittee's application for permission to enter Marshall Gold Discovery SHP for purposes of the Project, as provided herein and as, and to the extent, such Project may be ultimately described, permitted, approved and conditioned by Permittee's environmental document entitled South Fork American River Bridge Seismic Retrofit/Replacement MND and NOD SCH# 2014102053 and dated 6/1/15 the Environmental Document, attached hereto as Exhibit "A" and herein incorporated by reference, and as may be conditioned by any other regulatory agency having jurisdiction, if applicable.

TERMS AND CONDITIONS

Now therefore, State Parks by this Permit hereby grants to the Permittee permission to enter upon the specified State Park property, conditioned upon the agreement of the Parties that this Permit does not create or vest in Permittee any interest in the real property herein described or depicted, that the Permit is revocable and non-transferable, and that the Permit is further subject to the following terms and conditions:

1. **Project Description:** By this Permit, the State Parks hereby grants to the Permittee permission to enter onto those lands depicted and/or described on Exhibit "B" (the Property), attached hereto and herein incorporated by this reference, solely for the purpose of the replacement of the South Fork American River Bridge Replacement Project, the limits of which are described in the Environmental Document.

2. **Permit Subject to Laws and Regulatory Agency Permits:** This Permit is expressly conditioned upon Permittee's obtaining any and all regulatory permits or approvals required by the relevant regulatory agencies for the Project and Permittee's use of the Property, and upon Permittee's compliance with all applicable municipal, state and federal laws, rules and regulations, including all State Park regulations. Permittee shall, at Permittee's sole cost and expense, comply with the Project Description, and requirements and mitigations contained in the Environmental Document.

   Prior to commencement of any work, Permittee shall obtain all such legally required permits or approvals and submit to the State Parks full and complete copies of all permits and approvals, including documentation related to or referenced in such permits and approvals, along with the corresponding agency contact and telephone numbers, and related California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) documentation as applicable.

3. **Term of Permit:** This Permit shall only be for the period beginning on May 1, 2016, and ending on January 12, 2019, or as may be reasonably extended by written mutual agreement of the Parties.

4. **Consideration:** Permittee agrees to pay State Parks the sum of zero and No/100 Dollars ($) as consideration for the rights granted by this Permit. Payment is due upon execution of this Permit.

5. **Permit Subject to Existing Claims:** This Permit is subject to existing contracts, permits, licenses, encumbrances and claims which may affect the Property.

6. **Waiver of Claims and Indemnity:** Each party agrees to indemnify and defend the other in the event of any claim, demand, causes of action, judgments, obligations or liabilities, and all reasonable litigation and attorneys' expenses which each party may suffer as a direct and proximate result of the violation of any law, breach of any term of this permit, negligence or other wrongful act by a party to this Lease or such party's employees, representatives, contractors, or any other person or persons acting within the direct control or authority of such party or its employees. Permittee will further cause indemnification and waiver of claims in favor of State of California to be inserted in each contract that Permittee executes for the provision of services in connection with the Project for which this Permit is granted.

7. **Contractors:** Permittee shall incorporate the terms, conditions and requirements contained herein when contracting out all or any portion of the work permitted hereunder. Permittee shall be responsible for ensuring contractor/subcontractor compliance with the terms and conditions contained herein. Failure of Permittee's contractors to abide by State Parks' terms and conditions shall constitute default by Permittee (see DEFAULT paragraph below) allowing State Parks to terminate this Permit and seek all legal remedies.

8. **Insurance Requirements:** As a condition of this Permit and in connection with Permittee's indemnification and waiver of claims contained herein, Permittee shall require and ensure that all contractors and subcontractors have adequate insurance meeting the coverage requirements in this provision as follows:

A. Commercial Contractors/Subcontractors

Contractor/subcontractor(s) shall maintain motor vehicle liability with limits of not less than $1,000,000 per accident. Such insurance shall cover liability arising out of a motor vehicle, including all owned, hired, and non-owned motor vehicles.

Contractor/subcontractor(s) shall maintain statutory Workers' Compensation and employer's liability insurance coverage in the amount of $1,000,000/employee/disease/each accident, for all its employees who will be engaged in the performance of work on the Property, including special extensions where applicable. Said policy shall include a waiver of subrogation in favor of State Parks. If the permittee has no employees and/or the owner(s) have elected not to be covered by workers' compensation, Contractor/subcontractor shall provide State Parks with a written confirmation that Contractor/subcontractor is not required to be, and/or has elected not to be, covered by Workers' Compensation.

Contractor/subcontractor(s)shall procure commercial general liability insurance at least as broad as the most commonly available ISO policy form CG 0001 covering premises operations, products/completed operations, personal/advertising injury and contractual liability with limits not less than $1,000,000 per occurrence and $2,000,000 general aggregate. Said policy shall apply separately to each insured against whom any claim is made or suit is brought subject to the Contractor/subcontractor limits of liability

Each policy of insurance required by this provision shall: (a) be in a form, and written by an insurer, reasonably acceptable to State Parks; (b) be maintained at Contractor/subcontractor's sole expense; and (c) require at least thirty (30) days written notice to State Parks prior to any cancellation, non-renewal or material modification of insurance coverage.

Insurance companies issuing such policies shall have a rating classification of "A-" or better and financial size category ratings of "VII" or better according to the latest edition of the A.M. Best Key Rating Guide. All Insurance companies issuing such policies shall be licensed admitted insurers or eligible surplus lines insurers authorized to do business in the State of California.

Said motor vehicle liability and commercial general liability policies shall contain an endorsement naming the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION as an additional insured at no cost to State Parks.

Permittee shall provide to State Parks evidence that the insurance required to be carried by this Permit, including the endorsements affecting the additional insured status and waiver of subrogation, is in full force and effect and that premiums therefore have been paid. Such evidence shall, at State's discretion, be in either the form of an ACORD Form (Certificate of Insurance) or DPR Form 169A (Certificate of Insurance for Concession Contracts/Special Events), or a certified copy of the original policy, including all endorsements.

Permittee's contractor/subcontractor(s) shall be responsible for any deductible or self-insured retention contained within the insurance program.

Should Permittee's contractor/subcontractor(s) fail to keep the specified insurance in effect at all times, Permittee shall be considered to be in default of this Permit, and State Parks may, in addition to any other remedies it has, terminate this Permit.

Any insurance required to be carried shall be primary and not excess to any other insurance carried by State.

Coverage shall be in force for the complete term of this Permit, including any extension thereof, and for all work being done for which this Permit is required.

9. **Reservation of Rights:** State Parks reserves the right to use the Property in any manner, provided such use does not unreasonably interfere with Permittee's rights herein.

10. **Access Limits and Conditions:** Access to the Property shall be limited to the access designated by State Parks.

- Permittee shall get Marshall Gold Sector Superintendent approval on size, location and wording of any temporary warning signs at APN 006-133-04-100 prior to installation of the sign(s). These warning signs will be placed on a removable skid-like frames that will not involve any ground disturbance.
- Permittee will install silt fencing as a warning barrier on northwestern side of the project area to protect the nearby historic ditch from any potential damage as discussed with State Park Archaeologist.
- As discussed with the State Park Archeologist, as much as possible, Permittee will recreate the new road bed within Marshall Gold Discovery SHP to look as much as possible like the current one.
- Prior to the start of any work, Caltrans will delineate the ROE area with with stakes and install temporary orange fencing between TCE areas and non-TCE State Park property.
- Establish photo monitoring stations at each corner of the ROE areas, and photo document pre-construction conditions within each ROE area. Photos will be sent to State Parks environmental scientist Cara Allen by email at cara.allen@parks.ca.gov prior to the start of ground disturbance activities and installment of best management practices (BMP). All photos will be taken in landscape orientation and provide the widest range of view as possible.
- Soil control measures will be installed within or around the ROE areas prior to its use or any ground disturbance activities adjacent to the ROE area that could create unstable soil conditions. Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in some straw wattles) which may cause entrapment of wildlife, will not be used.
- Paved streets adjacent to the Park will be swept or washed at the end of each day, or as required, to remove excessive accumulations of silt and/or mud which could have resulted from project-related activities.
- No track-mounted or heavy-wheeled vehicles will be driven through the ROE areas during the rainy season or when soils are saturated to avoid compaction of damage to soil structure.
- Caltrans will regularly inspect and maintain all soil control measures within and adjacent to the ROE area until all construction within the Caltrans right of way has been completed, embankments stabilized and the ROE areas are no longer needed. All BMP materials within the ROE areas will be removed and disposed of properly by Caltrans upon termination of permit or when use of ROE area is no longer needed, whichever comes first.
- Vegetation will be removed in order to access the edge of the Caltrans right of way and operate equipment within the ROE areas. Vegetation to be cleared and grubbed or trimmed includes both native and nonnative vegetation per the "Coloma - State Park Temparary Construction Easements" plant list provided by Caltrans on April 25, 2016 (attached). The species surveyed and recorded on the list are not rare or protected and only those listed may be removed for the purposes of the ROE permit. All vegetation removed within the ROE areas will be recorded by Caltrans and submitted to State Parks environmental scientist Cara Allen by email within 30 days of vegetation removal activities within the ROE areas. Photo documentation will be recorded directly after clearing and grubbing activities and submitted with the survey report of vegetation removed. For removal of any tree greater than 4" diameter at breast height (DBH), the tree will be measured (DBH), noted if alive or dead prior to removal and identified in the survey report.
- To prevent the spread of noxious plant species, all construction vehicles, equipment and materials will be inspected prior to introduction to ROE areas as indicated in the environmental document, "South Fork American River Bridge Seismic Retrofit/Replacement MND and NOD SCH# 2014102053" (p.65) to help prevent the introduction of invasive exotic weeds in ROE areas. Permittee shall conduct project activities in a manner that prevents the introduction, transfer and spread of invasive species.
- Original contours within the ROE areas will be restored when work within the ROE area is completed.

- When all work has been completed within a ROE area, Caltrans will reseed the disturbed areas within the ROE area with a native grass seed mix approved by the State Park Environmental Scientist. The State Park Environmental Scientist has reviewed and approved the attached "Native Seed Mix to be Planted After Construction".

11. **Notice of Work:** Any required notices to State Parks shall be sent to the authorities in charge of Marshal Gold Discovery State Historic Park named below. At least forty-eight (48) hours prior to any entry upon the Property for any of the purposes hereinabove set forth, Permittee shall provide the State Parks contact[s] named below with written notice of Permittee's intent to enter the Property. Permittee shall also notify the State Parks contact[s] listed below in writing at least forty-eight (48) hours prior to any change in the Project schedule or cessation or completion of work. Should State Parks personnel need to contact Permittee, State Parks shall notify Permittee's contact person listed below:

STATE PARKS:
Contact: Barry Smith, Sector Superintendent
District: Gold Fields/Marshall Gold Discovery SHP
Address: 7806 Folsom Auburn Road
Folsom, CA 95630
Telephone: (530) 622-3027
Email: Barry.Smith@parks.ca.gov

PERMITTEE'S CONTACT:
Contact: Robert Ericksen, Sr Trans Engineer

Address: 11323 Sanders Dr.
Rancho Cordova, CA 95742
Telephone: (916) 858-8627
Email: bob.eriksen@dot.ca.gov

12. **Limits of Work:** In no event shall this Permit authorize work in excess or contrary to the terms and conditions of any regulatory agency permit or approval. Under no circumstances, whether or not authorized by any regulatory agency, other permit or any person or entity other than State, shall work exceed that which is authorized by this Permit.

13. **Public Safety:** Permittee shall erect orange plastic temporary construction fencing and appropriate signage prior to commencement of work to prevent public access to the construction zone. Permittee shall remove such fencing within two (2) days after the completion of work. Permittee shall take, and shall cause its contractors or subcontractors to take, any and all necessary and reasonable steps to protect the public from harm in connection with the Project or implementation of this Permit.

14. **Compliance with Monitoring and Mitigation Measures:** Resource monitoring and mitigation measures identified by District Environmental Scientist shall be completed in accordance with and to the satisfaction of the District Superintendent or designee.

Permittee's activities conducted under this Permit shall comply with all State and Federal environmental laws, including, but not limited to, the Endangered Species Act, CEQA, and Section 5024 of the Public Resources Code.

Any of Permittee's archaeological consultants working within the boundaries of the Property shall obtain a permit from the California State Parks Archaeology, History & Museums Division prior to commencing any archaeological or cultural investigations of the Property.

Permittee shall immediately advise State Parks's contact person if any new site conditions are found during the course of permitted work. State Parks will advise Permittee if any new historical resources (including archaeological sites), special status species, threatened/endangered species protocols, or other resource issues are identified within the Project site. Permittee shall abide by District Superintendent or designee's instructions to protect the resource(s) during the permitted work or risk revocation of the Permit.

Permittee shall make all excavation activities on the Property available to the State Parks Archaeologist for observation and monitoring. During excavation, the State Parks archaeological monitor may observe and report to the State Parks on all excavation activities. State Parks archaeological monitor shall be empowered to stop any construction activities as necessary to protect significant cultural resources from being disturbed.

In the event that previously unknown cultural resources, including, but not limited to, dark soil containing shell, bone, flaked stone, groundstone, or deposits of historic trash are encountered during Project construction by anyone, work will be suspended at that specific location, and the Permittee's work will be redirected to other tasks, until after a State-qualified archaeologist has evaluated the find and implemented appropriate treatment measures and disposition of artifacts, as appropriate, in compliance with all applicable laws and department resource directives.

If human remains are discovered during the Project, work will be immediately suspended at that specific location and the District Superintendent or designee shall be notified by Permittee. The specific protocol, guidelines and channels of communication outlined by the California Native

American Heritage Commission (NAHC), and/or contained in Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.9 et seq., will be followed. Those statutes will guide the potential Native American involvement in the event of discovery of human remains.

Permittee shall provide a written work schedule to State Parks so that the State Parks archaeological monitor can arrange to be on site on the necessary days. Permittee shall provide reasonable advance notice of and invite the District Superintendent or designee to any preconstruction meetings with the prime contractor or subcontractors.

15. **Restoration of Property:** Permittee shall complete the restoration, repair, and revegetation of the Property in consultation with, and to the satisfaction of, the State Parks Environmental Scientist within one (1) year after completion of the Project or the expiration or termination of this Permit, whichever comes first. This obligation shall survive the expiration or termination of this Permit.

16. **Right to Halt Work:** The State Parks reserves the right to halt work and demand mitigation measures at any time, with or without prior notice to Permittee, in the event the State Parks determines that any provision contained herein has been violated, or in the event that cessation of work is necessary to prevent, avoid, mitigate or remediate any threat to the health and safety of the public or State Parks park personnel, or to the natural or cultural resources of the state park.

18. **Use Restrictions:** The use of the Property by Permittee, including its guests, invitees, employees, contractors and agents, shall be restricted to the daytime hours between sunrise and sunset on a day-by-day basis, unless otherwise approved in advance in writing by State Parks. No person shall use or occupy the Property overnight.

Activities on the Property shall be conducted only in a manner which will not interfere with the orderly operation of the state park. Permittee shall not engage in any disorderly conduct and shall not maintain, possess, store or allow any contraband on the Property. Contraband includes, but is not limited to: any illegal alcoholic beverages, drugs, firearms, explosives and weapons.

Roads and trails where motorized vehicles are normally prohibited may be used for vehicle access by Permittee, its employees, agents or contractors for patrol, maintenance or repair purposes only, and only to the extent specified by State Parks, and shall be otherwise subject to all other conditions and/or restrictions of this Permit and any applicable laws, state park regulations and state park policies.

Permittee shall not use or allow the Property to be used, either in whole or in part, for any purpose other than as set forth in this Permit, without the prior written consent of the State Parks.

19. **State Parks' Right to Enter:** At all times during the term of this Permit and any extension thereof, there shall be and is hereby expressly reserved to State Parks and to any of its agencies, contractors, agents, employees, representatives, invitees or licensees, the right at any and all times, and any and all places, to temporarily enter upon said Property to survey, inspect, or perform any other lawful State Parks purposes.

Permittee shall not interfere with State Parks' right to enter.

20. **Protection of Property:** Permittee shall protect the Property, including all improvements and all natural and cultural features thereon, at all times at Permittee's sole cost and expense, and Permittee shall strictly adhere to the following restrictions:

    (a) Permittee shall not place or dump garbage, trash or refuse anywhere upon or within the Property, except in self-contained trash receptacles that are maintained to State Parks' satisfaction by Permittee.

    (b) Permittee shall not commit or create, or suffer to be committed or created, any waste, hazardous condition or nuisance in, on, under, above or adjacent to the Property.

    (c) Permittee shall not cut, prune or remove any vegetation upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

    (d) Permittee shall not disturb, move or remove any rocks or boulders upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(e) Permittee shall not grade or regrade, or alter in any way, the ground surface of the Property, except as herein permitted, or subsequently approved in writing by the District Superintendent.

(f) Permittee shall not bait, poison, trap, hunt, pursue, catch, kill or engage in any other activity which results in the taking, maiming or injury of wildlife upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(g) Permittee shall not use, create, store, possess or dispose of hazardous substances (as defined in the California Hazardous Substances Act) on the Property except as herein permitted, or subsequently approved in writing by the District Superintendent.

(h) Permittee shall exercise due diligence to protect the Property against damage or destruction by fire, vandalism and any other causes.

21. **Default:** In the event of a default or breach by Permittee of any of the terms or conditions set forth in this Permit, State Parks may at any time thereafter, without limiting State Parks in the exercise of any right of remedy at law or in equity which State Parks may have by reason of such default or breach:

(a) Maintain this Permit in full force and effect and recover the consideration, if any, and other monetary charges as they become due, without terminating Permittee's right to use of the Property, regardless of whether Permittee has abandoned the Property; or

(b) Immediately terminate this Permit upon giving written notice to Permittee, whereupon Permittee shall immediately surrender possession of the Property to State Parks and remove all of Permittee's equipment and other personal property from the Property. In such event, State Parks shall be entitled to recover from Permittee all damages incurred or suffered by State Parks by reason of Permittee's default, including, but not limited to, the following:

(i) any amount necessary to compensate State Parks for all the detriment proximately caused by Permittee's failure to perform its obligations under this Permit, including, but not limited to, compensation for the cost of restoration, repair and revegetation of the Property, which shall be done at State Parks' sole discretion and compensation for the detriment which in the ordinary course of events would be likely to result from the default; plus

(ii) at State Parks' election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

22. **State Parks' Right to Cure Permittee's Default:** At any time after Permittee is in default or in material breach of this Permit, State Parks may, but shall not be required to, cure such default or breach at Permittee's cost. If State Parks at any time, by reason of such default or breach, pays any sum or does any act that requires the payment of any sum, the sum paid by State Parks shall be due immediately from Permittee to State Parks at the time the sum is paid. The sum due from Permittee to State Parks shall bear the maximum interest allowed by California law from the date the sum was paid by State Parks until the date on which Permittee reimburses State Parks.

23. **Revocation of Permit:** The State Parks shall have the absolute right to revoke this Permit for any reason upon ten (10) days written notice to Permittee. Written notice to Permittee may be accomplished by electronic or facsimile transmission, and the notice period set forth in this paragraph shall begin on the date of the electronic or facsimile transmission, or, if sent by mail, on the date of delivery. If Permittee is in breach of the Permit or owes money to the State Parks pursuant to this Permit, any prepaid monies paid by Permittee to State Parks shall be held and applied by the State Parks as an offset toward damages and/or amounts owed. Nothing stated herein shall limit the State Parks' exercise of its legal and equitable remedies.

24. **Recovery of Legal Fees:** In any action brought to enforce or interpret any provisions of this Permit or to restrain the breach of any agreement contained herein, or for the recovery of possession of the Property, or to protect any rights given to the State Parks against Permittee, and in any actions or proceedings under Title 11 of the United States Code, if the State Parks shall prevail in such action on trial or appeal, the Permittee shall pay to the State Parks such amount in attorney's fees in said action as the court shall determine to be reasonable, which shall be fixed by the court as part of the costs of said action.

25. **Voluntary Execution and Independence of Counsel:** By their respective signatures below, each Party hereto affirms that they have read and understood this Permit and have received independent counsel and advice from their attorneys with respect to the advisability of executing this Permit.

26. **Reliance on Investigations:** Permittee declares that it has made such investigation of the facts pertaining to this Permit, the Property and all the matters pertaining thereto as it deems necessary, and on that basis accepts the terms and conditions contained in this Permit. Permittee acknowledges that State Parks has made, and makes, no representations or warranties as to the condition of the Property, and Permittee expressly agrees to accept the Property in its as-is condition for use as herein permitted.

27. **Entire Agreement:** The Parties further declare and represent that no inducement, promise or agreement not herein expressed has been made to them and this Permit contains the entire agreement of the Parties, and that the terms of this agreement are contractual and not a mere recital.

28. **Warranty of Authority:** The undersigned represents that they have the authority to, and do, bind the person or entity on whose behalf and for whom they are signing this Permit and the attendant documents provided for herein, and this Permit and said additional documents are, accordingly, binding on said person or entity.

29. **Assignment:** This Permit shall not be assigned, mortgaged, hypothecated, or transferred by Permittee, whether voluntarily or involuntarily or by operation of law, nor shall Permittee let, sublet or grant any license or permit with respect to the use and occupancy of the Property or any portion thereof, without the prior written consent of State Parks.

30. **Choice of Law:** This Permit will be governed and construed by the laws of the State of California.

STATE OF CALIFORNIA
Department of Parks and Recreation

By: _____ for
Name: Jason De Wall
Title: District Superintendent
Gold Fields District

STATE OF CALIFORNIA
Department of Transportation

By: _____
Name: Tadj A. Ratajczak
Title: Senior Right of Way Agent
Address: 703 B St, Marysville, CA 95901
Phone: (530) 741-4557; Fax: (530) 741-4490

Exhibit A – Right of Entry Permit

Caltrans SF American River 49 Bridge Replacement, State Route 49, Marshall Gold Discovery SHP

- **Environmental Documents**
  - SCH# 2014102053 - South Fork American River Bridge Seismic Retrofit/Replacement MND and NOD (incorporated by reference).
  - Project Evaluation Form (DPR 183) and 5024 - Caltrans ROE Permit – Hwy 49 Bridge Project.
  - "Coloma State Park" TCE Plant List.
  - Native Seed Mix To Be Planted After Construction

State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

PROJECT CONCEPT

PROJECT TITLE Caltrans ROE Permit – Hwy 49 Bridge Project		PARK UNIT NAME Marshall Gold Discovery SHP
DISTRICT NAME Gold Fields District		FACILITY NO.
PROJECT MANAGER Barry Smith	PHONE NO. (530) 622-3027	EMAIL Barry.Smith@parks.ca.gov
DISTRICT PROJECT MANAGER Jim Micheaels	PHONE NO. (916) 988-0513	EMAIL Jim.Micheaels@parks.ca.gov
PROJECT BID DATE N/A	CONSTRUCTION START DATE Need ROE by May 2016	FUNDING SOURCE

PROJECT DESCRIPTION

Caltrans has requested a right of entry permit for temporary construction access to three small portions of Marshall Gold Discovery SHP property along Highway 49 at the north end of the park unit for their Hwy 49 Bridge Project. The construction access is needed in order to implement the project as designed. The temporary access needed is as follows:

APN 006-134-01-100 – 265 square feet for maneuvering construction equipment with tires or tracks. This area will not be used for staging, fueling or cleaning equipment. Prior to use the area will be cleared of vegetation and grubbed. Grubbing includes ground disturbance activities that remove unwanted material from underground. Caltrans will reseed the area with native seed mix following construction.

APN 006-133-01-100 – 770 square feet for maneuvering construction equipment with tires or tracks. This area will not be used for staging, fueling or cleaning equipment. Prior to use the area will be cleared of vegetation and grubbed. Grubbing includes ground disturbance activities that remove unwanted material from underground. Caltrans will reseed the area with native seed mix following construction.

APN 006-133-04-100 – 8 square feet for installation of temporary signage warning river users of the bridge construction downstream. One or two signs would be installed on free-standing skids in the upland area of the North Beach boat launch and take out area.

This temporary right of entry access is needed for the period from May 1, 2016 through January 12, 2019. There will be no permanent improvements on State Park lands.

DOCUMENTS ATTACHED

- ☒ 7.5 minute (quad) map of project area *(**Required**)*
- ☒ Site Map *(**Required** - Scale should show relationship to existing buildings, roads, landscape features, etc.)*
- ☐ DPR 727 Accessibility Review and Comment Sheet (***Required** – Attach DPR 727 or emailed project exemption from the Accessibility Section.)*
- ☐ Sea-level Rise Worksheet (*for coastal park units)*
- ☐ Graphics (*Specify - photos, diagrams, drawings, cross-sections, etc.)*:
- ☐ Other (*Specify)*:

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

REGULATORY REQUIREMENTS

IS AN APPLICATION, PERMIT, OR CONSULTATION REQUIRED?	YES	MAYBE	NO	CONTACT
Coastal Development Permit	☐	☐	☒	☐
DFG Stream Alteration Permit	☐	☐	☒	☐
State & Federal Endangered Species Consultation	☐	☐	☒	☐
Corps of Engineers 404 Permit	☐	☐	☒	☐
RWQCB or NPDES Permit	☐	☐	☒	☐
DPR Right to Enter or Temporary Use Permit	☒	☐	☐	☐
PRC 5024 Review	☐	☒	☐	☐
Stormwater Management Plan	☐	☐	☒	☐
Encroachment Permit *(Specify Agency)*:	☐	☐	☒	☐
Native American Consultation	☐	☒	☐	☐
Other *(Specify)*:	☐	☐	☐	☐

COMMENTS:

DEPARTMENT POLICY COMPLIANCE

	YES	NO
HAS A GENERAL PLAN BEEN APPROVED FOR THE UNIT?	☒	☐
If YES, is the project consistent with the GP?	☒	☐
If NO, what is the project justification?		
Is it a temporary facility? (No permanent resource commitment)	☐	☐
Health and Safety?	☐	☐
Is it a Resource Management Project?	☐	☐
Is it repairing, replacing, or rehabilitating an existing facility?	☐	☐
IS THE PROJECT WITHIN A CLASSIFIED SUBUNIT?		
Natural Preserve	☐	☒
Cultural Preserve	☐	☒
State Wilderness	☐	☒
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S CULTURAL RESOURCE MANAGEMENT DIRECTIVES?	☒	☐
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S OPERATIONS MANUAL CHAPTER 0300?	☒	☐

COMMENTS:

SUPERINTENDENT PROJECT CONCEPT APPROVAL OR DESIGNEE	TITLE	DATE
	SRS V	3/31/16

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

RESOURCES

Explain all 'Yes' or 'Maybe' answers in the "Evaluation and Comments" section (reference by letter and number). Attach additional pages, if necessary.

YES	MAYBE	NO	A. EARTH – *WILL THE PROJECT:*
☐	☐	☐	1. Create unstable soil or geologic conditions?
☐	☐	☐	2. Adversely affect topographic features?
☐	☐	☐	3. Adversely affect any unusual or significant geologic features?
☐	☐	☐	4. Increase wind or water erosion?
☐	☐	☐	5. Adversely affect sand deposition or erosion of a sand beach?
☐	☐	☐	6. Expose people, property, or facilities to geologic hazards or hazardous waste?
☐	☐	☐	7. Adversely affect any paleontological resource?

YES	MAYBE	NO	B. AIR – *WILL THE PROJECT:*
☐	☐	☐	1. Adversely affect general air quality or climatic patterns?
☐	☐	☐	2. Introduce airborne pollutants that may affect plant or animal vigor or viability?
☐	☐	☐	3. Increase levels of dust or smoke?
☐	☐	☐	4. Adversely affect visibility?

YES	MAYBE	NO	C. WATER – *WILL THE PROJECT:*
☐	☐	☐	1. Change or adversely affect movement in marine or fresh waters?
☐	☐	☐	2. Change or adversely affect drainage patterns or sediment transportation rates?
☐	☐	☐	3. Adversely affect the quantity or quality of groundwater?
☐	☐	☐	4. Adversely affect the quantity or quality of surface waters?
☐	☐	☐	5. Expose people or property to flood waters?
☐	☐	☐	6. Adversely affect existing or potential aquatic habitat(s)?

YES	MAYBE	NO	D. PLANT LIFE – *WILL THE PROJECT:*
☐	☐	☐	1. Adversely affect any native plant community?
☐	☐	☐	2. Adversely affect any unique, rare, endangered, or protected plant species?
☐	☐	☐	3. Introduce a new species of plant to the area?
☐	☐	☐	4. Adversely affect agricultural production?
☐	☐	☐	5. Adversely affect the vigor or structure of any tree?
☐	☐	☐	6. Encourage the growth or spread of alien (non-native) species?
☐	☐	☐	7. Interfere with established fire management plans or practices?

YES	MAYBE	NO	E. ANIMAL LIFE – *WILL THE PROJECT:*
☐	☐	☐	1. Adversely affect any native or naturalized animal population?
☐	☐	☐	2. Adversely affect any unusual, rare, endangered, or protected species?
☐	☐	☐	3. Adversely affect any animal habitat?
☐	☐	☐	4. Introduce or encourage the proliferation of any non-native species?

YES	MAYBE	NO	F. CULTURAL RESOURCES – *WILL THE PROJECT:*
☐	☐	☒	1. Adversely affect a prehistoric or historic archeological site, or tribal cultural resource?
☐	☐	☒	2. Adversely affect a prehistoric or historic building, structure, or object?
☐	☐	☒	3. Cause an adverse physical or aesthetic effect on an eligible or contributing building, structure, object, or cultural landscape?
☐	☐	☒	4. Diminish the informational or research potential of a cultural resource?
☐	☐	☒	5. Increase the potential for vandalism or looting?
☐	☐	☒	6. Disturb any human remains?
☐	☐	☒	7. Restrict access to a sacred site or inhibit the traditional religious practice of a Native American community?

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

YES	MAYBE	NO	G. AESTHETIC RESOURCES – *WILL THE PROJECT:*
☐	☐	☒	1. Adversely affect a scenic vista or view?
☐	☐	☒	2. Significantly increase noise levels?
☐	☐	☒	3. Adversely affect the quality of the scenic resources in the immediate area or park-wide?
☐	☐	☒	4. Create a visually offensive site?
☐	☐	☒	5. Be incompatible with the park design established for this unit or diminish the intended sense of "a special park quality" for the visitor?

YES	MAYBE	NO	H. RECREATIONAL RESOURCES – *WILL THE PROJECT:*
☐	☒	☐	1. Be in a public use area?
☐	☐	☒	2. Have an adverse effect on the quality of the intended visitor experience?
☐	☐	☒	3. Have an adverse effect on the quality or quantity of existing or future recreational opportunities or facilities?
☐	☐	☒	4. Have an adverse effect on the accessibility of recreational facilities (e.g., ADA requirements)?

YES	MAYBE	NO	I. SEA-LEVEL RISE AND EXTREME EVENTS (COASTAL UNITS ONLY):
☐		☐	1. Has this project been evaluated for potential impacts from sea-level rise, coastal storm surge, and other extreme events, using the Department's Sea-Level Rise and Extreme Events Guidance Document or an equivalent process? *Please attach the Sea-Level Rise Worksheet (provided in the guidance document) or other detailed evaluation.*
☐	☐	☐	2. Based on the evaluation described above, will the project be adversely impacted by frequent flooding or permanent inundation during its expected lifetime?

☒ Non-coastal unit

EVALUATION AND COMMENTS

H-1. A temporary warning sign of downstream construction at Hwy 49 bridge is proposed for the North Beach River Access.

ENVIRONMENTAL REVIEW

To Be Completed by Qualified Specialist(s) ONLY.
Attach additional reviews or continuation pages, as necessary.

TRIBAL LIAISON COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

☒ Reviewer is Designated District/Service Center/Division **Tribal Liaison or Designee** Tribal Liaison Contact

☒ NAHC Listed Tribe(s) contacted (attach correspondence record for contact and findings) As per Bill Larson the CalTrans archaeologist for this project, ,CalTrans completed the Native American consultation for this project

Findings:

☐ Project action does not have potential to affect "tribal cultural" resources (explain)

Check more than one box if tribes provide differing responses, and describe all consultations below.

☐ Tribe(s) did not respond

☐ Tribe(s) approved project as written

☐ Tribe(s) approved project with treatments or conditions

☐ Tribe(s) and DPR unable to reach mutual agreement on project treatments or conditions

Explain

As per Bill Larson the CalTrans archaeologist for this project, ,CalTrans completed the Native American consultation for this project

SIGNATURE	PRINTED NAME
Jenifer A. Padgett 3-18-16	Jenifer A. Padgett

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

TITLE	DATE
Associate State Archaeologist	3-18-2016

ARCHEOLOGIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

- ☐ No PRC 5024 necessary (provide justification)
- ☒ PRC 5024 attached; project approved as written
- ☐ PRC 5024 attached, conditions necessary
- ☐ PRC 5024 attached, mitigations and/or potential significant impacts

Explain

Please refer to the attached PRC 5024 review.

SIGNATURE	PRINTED NAME
Jenifer A. Padgett	Jenifer A. Padgett
TITLE	**DATE**
Associate State Archaeologist	3-18-2016

HISTORIAN COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

- ☒ No PRC 5024 necessary (provide justification)
- ☐ PRC 5024 attached, project approved as written
- ☐ PRC 5024 attached, conditions necessary
- ☐ PRC 5024 attached, mitigations and/or potential significant impacts

Explain

While the Highway 49 bridge replacement ROE project is technically within the boundaries of the NHL, the temporary easements will not impact any historic resources. The vegetation that will be removed is not part of a historic landscape and the proposed reseeding is with native vegetation.

SIGNATURE	PRINTED NAME
Dan Osanna	Dan Osanna
TITLE	**DATE**
Environmental Program Manager I	2/24/16

ENVIRONMENTAL SCIENTIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

- ☐ No Impact
- ☐ Impact(s), see conditions/mitigations below or on attached page(s)
- ☐ Potential Significant Impact

Explain

See next page

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

ENVIRONMENTAL SCIENTIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

☒ Impact(s), see conditions/mitigations below or on attached page(s)

Explain

Correspondence with Caltrans right of way agent Steve Mattos and environmental planner Kristen Stubblefield have identified the main use of the right of entry (ROE) areas as access to their property boundary (right of way) in order to add fill to the existing right of way. This action will allow them to laterally extend the shoulder of the road to match the level of the road; currently, the roadside shoulder is narrow and then slopes down to the edge of the right of way.

Prior to the start of any work, Caltrans will delineate the ROE area with with stakes and install temporary orange fencing between TCE areas and non-TCE State Park property.

Establish photo monitoring stations at each corner of the ROE areas, and photo document pre-construction conditions within each ROE area. Photos will be sent to State Parks environmental scientist Cara Allen by email at cara.allen@parks.ca.gov prior to the start of ground disturbance activities and installment of best management practices (BMP). All photos will be taken in landscape orientation and provide the widest range of view as possible.

Soil control measures will be installed within or around the ROE areas prior to its use or any ground disturbance activities adjacent to the ROE area that could create unstable soil conditions. Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in some straw wattles) which may cause entrapment of wildlife, will not be used.

Paved streets adjacent to the Park will be swept or washed at the end of each day, or as required, to remove excessive accumulations of silt and/or mud which could have resulted from project-related activities.

No track-mounted or heavy-wheeled vehicles will be driven through the ROE areas during the rainy season or when soils are saturated to avoid compaction of damage to soil structure.

Caltrans will regularly inspect and maintain all soil control measures within and adjacent to the ROE area until all construction within the Caltrans right of way has been completed, embankments stabilized and the ROE areas are no longer needed. All BMP materials within the ROE areas will be removed and disposed of properly by Caltrans upon termination of permit or when use of ROE area is no longer needed, whichever comes first.

Vegetation will be removed in order to access the edge of the Caltrans right of way and operate equipment within the ROE areas. Vegetation to be cleared and grubbed or trimmed includes both native and nonnative vegetation per the "Coloma - State Park Temporary Construction Easements" plant list provided by Caltrans on April 25, 2016 (attached). The species surveyed and recorded on the list are not rare or protected and only those listed may be removed for the purposes of the ROE permit. All vegetation removed within the ROE areas will be recorded by Caltrans and submitted to State Parks environmental scientist Cara Allen by email within 30 days of vegetation removal activities within the ROE areas. Photo documentation will be recorded directly after clearing and grubbing activities and submitted with the survey report of vegetation removed. For any tree removed its diameter at breast height will be measured and provided in the survey report along with its qualitative health rating.

To prevent the spread of noxious plant species, all construction vehicles, equipment and materials will be inspected prior to introduction to ROE areas as indicated in the environmental document, "South Fork American River Bridge Seismic Retrofit/Replacement MND and NOD SCH# 2014102053" (p.65) to help prevent the introduction of invasive exotic weeds in ROE areas. Permittee shall conduct project activities in a manner that prevents the introduction, transfer and spread of invasive species.

Original contours within the ROE areas will be restored when work within the ROE area is completed.

When all work has been completed within a ROE area, Caltrans will reseed the disturbed areas within the ROE area with a native grass seed mix approved by the State Park Environmental Scientist.

SIGNATURE C. Allen	PRINTED NAME Cara Allen
TITLE Environmental Scientist	DATE 4-26-16

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

MAINTENANCE CHIEF/SUPERVISOR (REQUIRED FOR ALL FINDINGS)

COMMENTS:

SIGNATURE	PRINTED NAME
TITLE	**DATE**

ENVIRONMENTAL COORDINATOR REVIEW

YES	MAYBE	NO	CUMULATIVE IMPACTS
☐	☒	☐	1. Will the project be conducted in conjunction with or at the same time as other projects at the park?
☐	☐	☒	2. Will the project be part of a series of inter-related projects?
☐	☐	☒	3. Are there any other projects that must be completed for any part of this project to become operational?
☐	☐	☒	4. Are there any other projects (including deferred maintenance) that have been completed or any probable future projects that could contribute to the cumulative impacts of this project?
☐	☐	☒	5. Are any of the projects that relate to the proposed work outside the General Plan?

COMMENTS:

1.) Project will be coordinated with any others to avoid cumulative impacts.

RECOMMENDATION:

- ☐ Not a project for the purposes of CEQA compliance.
- ☐ Project is De Minimus; register in logbook
- ☒ The project is exempt. File a Notice of Exemption.
- ☐ A Negative Declaration should be prepared.
- ☐ A Mitigated Negative Declaration should be prepared.
- ☐ An EIR should be prepared.

SIGNATURE	PRINTED NAME Jim Michaels
TITLE Senior PRS	**DATE** 4/1/16

DISTRICT SUPERINTENDENT REVIEW

PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

DISTRICT SUPERINTENDENT REVIEW

COMMENTS:

I acknowledge any constraints placed on the project as a result of the specialists' comments above and recommend the project proceed.

DISTRICT SUPERINTENDENT APPROVAL SIGNATURE	TITLE	DATE
	SPSV	3/31/16

Coloma – State Park Temporary Construction Easements

TCE #1 (West side of SR-49)

Within TCE

Scientific Name	Common Name	% Cover	Notes
Rubus armeniacus	Himalaya Blackberry	65	
Calocedrus decurrens	Incense Cedar	33	No specimens > 4" DBH within TCE
	Unknown Deciduous Tree	2	DBH 4"

Tree and blackberry cover the site with a closed canopy, no herbaceous undergrowth

Adjacent to TCE

Bromus diandrus – Ripgut Brome
Quercus wislezenii – Interior Live Oak
Ailanthus altissima – Tree of Heaven
Torilis arvensis – Field Hedgeparsley
Artemesia douglasiana - Mugwort
Hypericum perforatum – Klammath Weed
Trifolium #1 – Clover (No flowers)
Trifolium #2 – Clover (No flowers)

TCE #2 (East side of SR-49)

Within TCE

Scientific Name	Common Name	% Cover	Notes
Bromus diandrus	Ripgut Brome	90	Dominates site
Anthriscus caucalis	Bur Chervil	2	
Artemesia douglasiana	Mugwort	2	
Rubus armeniacus	Himalaya Blackberry	2	
Quercus lobata	Valley Oak	1	Sapling
Torilis arvensis	Field Hedgeparsley	1	
Vicia sativa	Spring vetch	1	
Vinca major	Periwinkle	1	

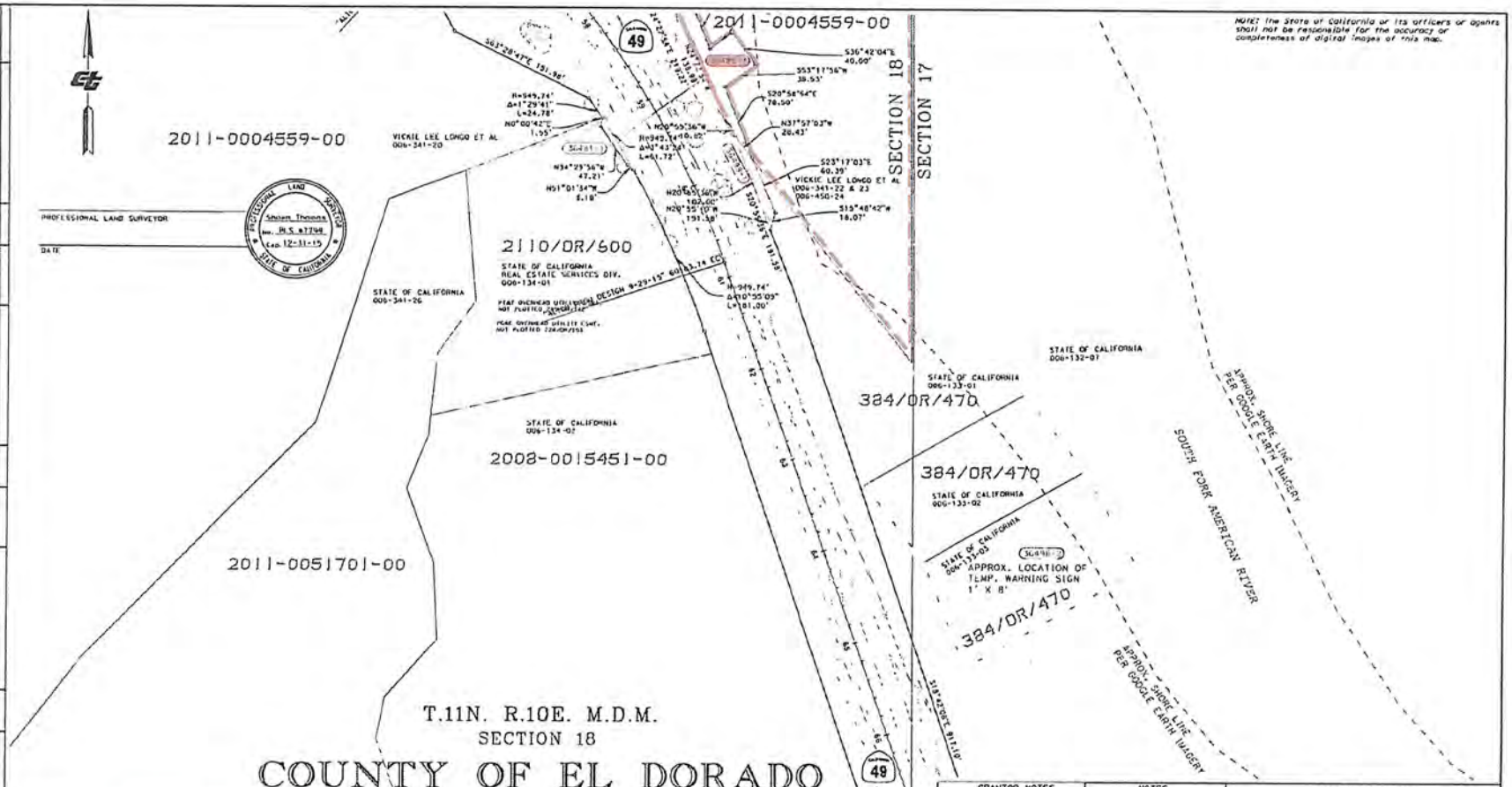
PROJECT EVALUATION (PEF)

Project ID No. _____

PCA No. _____

North Beach sign where Caltrans will either 1) mount their Warning sign to below Parks sign or 2) install a similar two post sign for the Warning sign.

Caltrans right of way photos



PARCEL #	TITLE CODE	GRANOR/GRANTEE	AREAS (square feet or as noted) TOTAL	REQUIRED	(UF)	EXCESS	(UF)	REMAINDER	REMARKS	RECORDATION TYPE	DATE	DOC. #
36481-1	TCE	STATE OF CALIFORNIA	4,537 AC.	195					TCE EXPIRES 01-12-2019			
36498-1	TCE	STATE OF CALIFORNIA	1,57 AC.	710					TCE EXPIRES 01-12-2019			
36498-2	TCE	STATE OF CALIFORNIA	1,53 AC.	8					TCE EXPIRES 01-12-2019			

R/W PROJECT SURVEYOR: SHAWN THOMAS			
DATE	REVISIONS	BY	DATE
07-01-15	CREATED APPRAISAL MAP	SHAWN THOMAS	06-01-15
07-06-15	ADDED APN AND TCE EXPR. DATE	SHAWN THOMAS	06-15-15
08-28-15	ADDED 1 TCE & MARKING SIGNS	SHAWN THOMAS	09-15-15
	ADDED SESIONS AND MORE	SHAWN THOMAS	09-15-15
	DROPPED 36481-1 & 2		

REVISIONS	BY	DATE
CHANGED PARCEL 36498-1 TO 2 & TCE	SHAWN THOMAS	
ADDED PARCEL 36498-2		
PER DESIGN DROPPED 36497-1	SHAWN THOMAS	
ADDED SESIONS AND MORE	SHAWN THOMAS	

REVISIONS	BY	DATE

REVISIONS	BY	DATE

GRANTOR NOTES

(1) Areas shown include underlying fee in the adjoining public way.
(2) Acreages
Indicates Underlying Fee (UF) Area
Indicates Indeterminate UF
(TITLE CODES)
Indicates Rights Only
Fee
Easement (Case)
TCE=Temp Construction Lease
Interior Temp Lease (See Remarks)
Other (See Remarks)
(3) (TYPE)
GD=Grant Deed
ED=Easement deed
QC=Quitclaim
TD=Trustee's deed
DE=Grantor's easement deed
QE=Grantee's quitclaim deed
FOC=Final Order of Condemnation
HE=Highway easement deed
RL=Relinquishment
VAC=Vacation
JUA=Joint use agreement
CE=Consent to cement use agreement
(4) Document or Instrument Number

NOTES

Coordinates and bearings are on CCS NAD 83 (1991.35), Zone 2. Distances and enclosing grid distances.
Divide by 0.9999286 to obtain ground distances.
All distances are in feet unless otherwise noted.

LEGEND

Access Prohibited
Access Superseded
Existing R/W Superseded
Access Opening (Private)
(N) Indicates Radial Bearing
Indicates Found Monuments as noted
Indicates calculated point. (Does not imply monument set)
Title to State
Required for Ownership

STATE OF CALIFORNIA
CALIFORNIA STATE TRANSPORTATION AGENCY
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY
APPRAISAL MAP
OF310-4

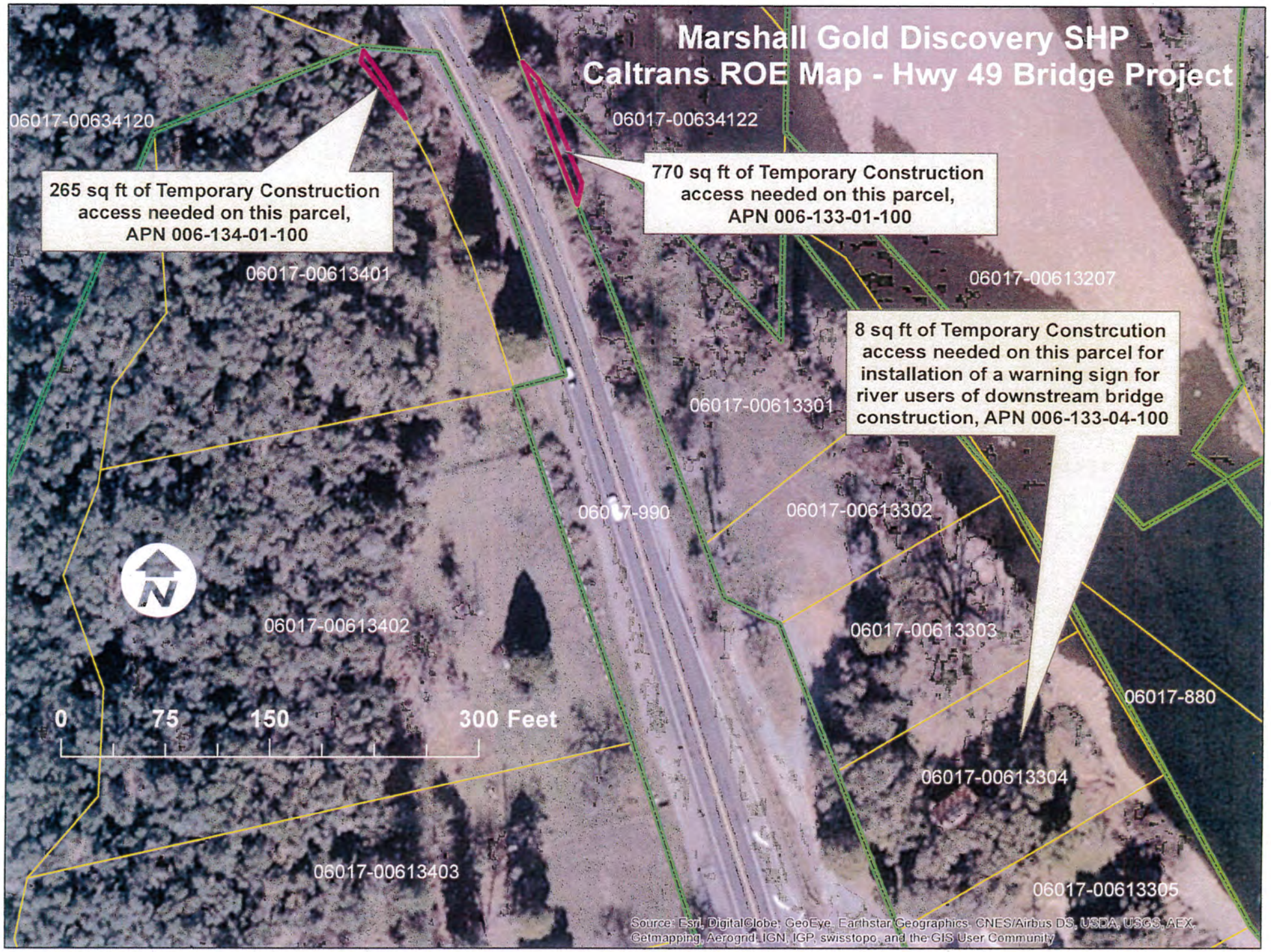
FOR PREVIOUS R/W INFORMATION SEE MAP(S)SCAN 006968

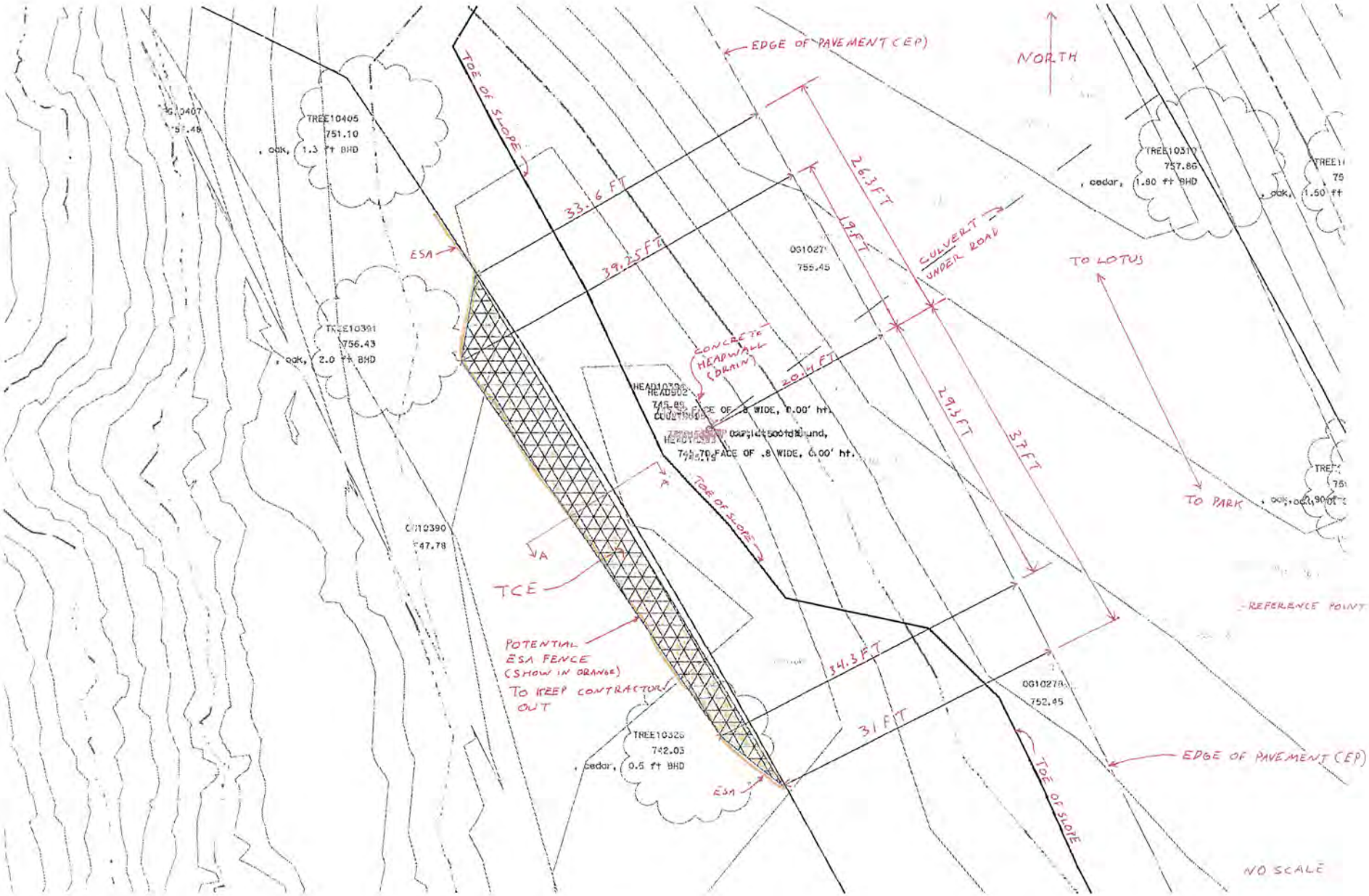
SCALE: 1" = 50'
FEET 0 25 50 100 150

TO DESIGN: EA(s)10F310 FARTHF
DRAFTED BY: SHAWN THOMAS CHECKED BY: [illegible]

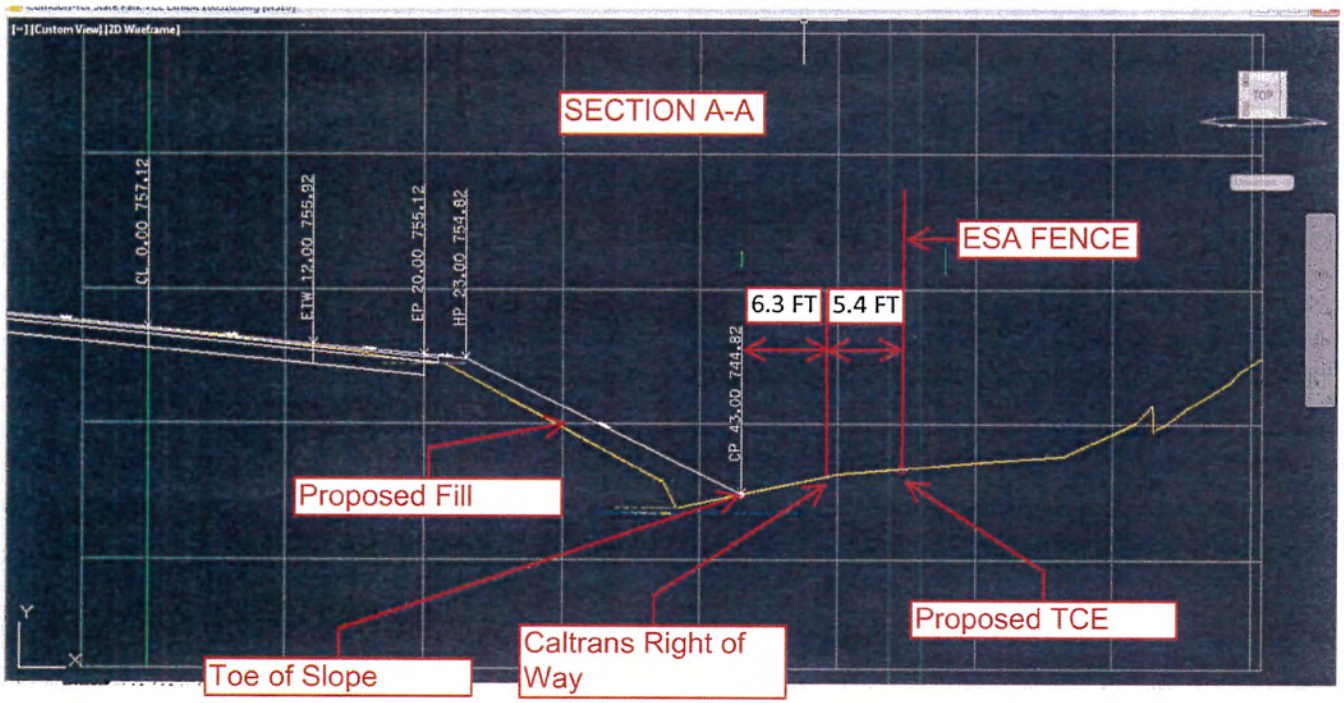
DISTRICT	COUNTY	ROUTE	SHEET PM	SHEET NO.	TOTAL SHEETS
03	ED	49	22.6	4	6

PROJECT ID 1039000016

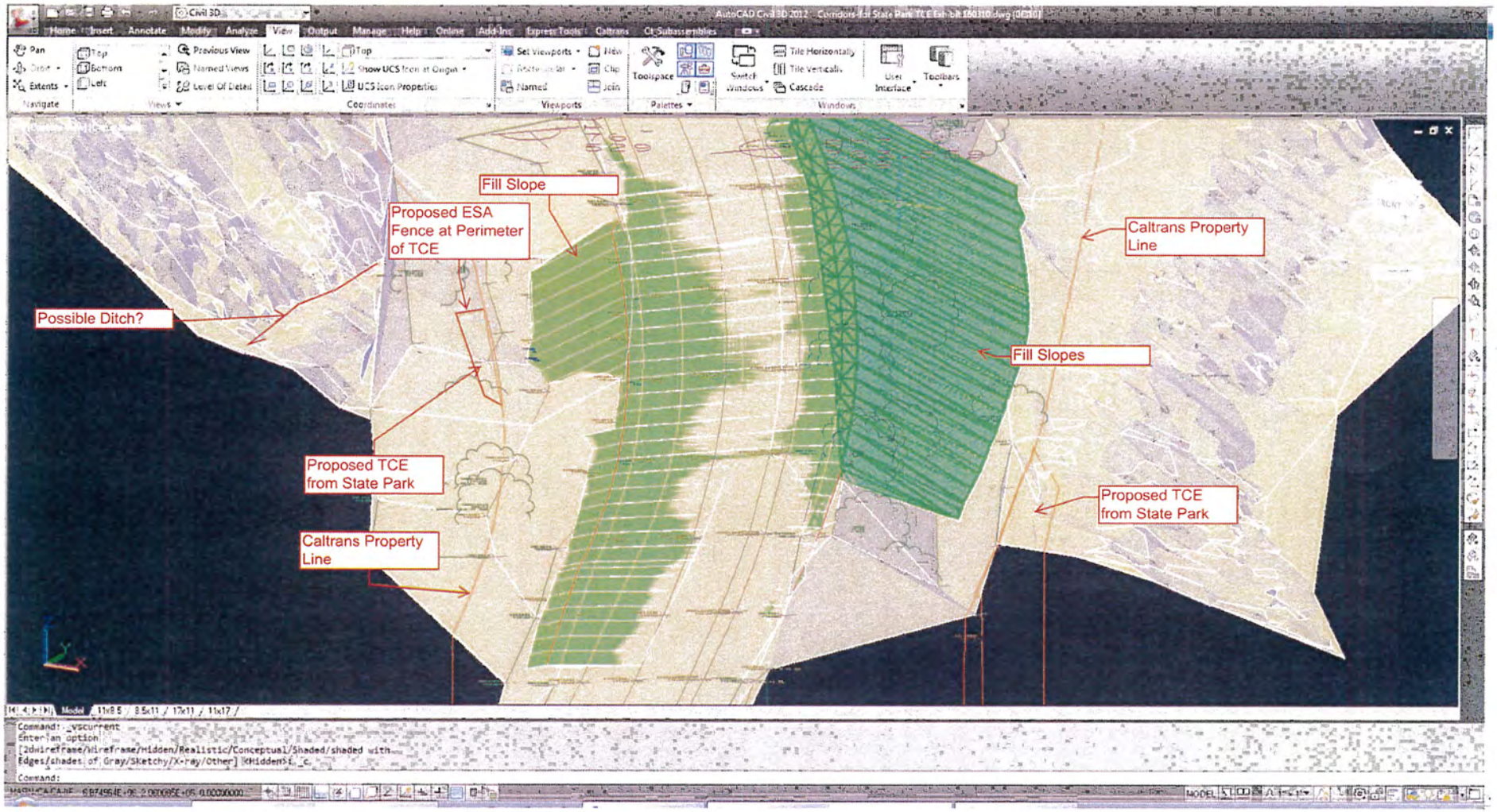

Marshall Gold Discovery SHP
Caltrans ROE Map - Hwy 49 Bridge Project
06017-00634120
265 sq ft of Temporary Construction access needed on this parcel, APN 006-134-01-100
06017-00613401
06017-00634122
770 sq ft of Temporary Construction access needed on this parcel, APN 006-133-01-100
06017-00613207
8 sq ft of Temporary Constrcution access needed on this parcel for installation of a warning sign for river users of downstream bridge construction, APN 006-133-04-100
06017-00613301
06017-990
06017-00613302
06017-00613402
06017-00613303
06017-880
0 75 150 300 Feet
06017-00613304
06017-00613403
06017-00613305
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community


EDGE OF PAVEMENT (EP)
NORTH
TOE OF SLOPE
TREE10405
751.10
, oak, 1.3 ft BHD
TREE10317
757.86
, cedar, 1.80 ft BHD
33.6 FT
26.3 FT
19 FT
CULVERT UNDER ROAD
ESA
39.25 FT
OG10271
755.45
TO LOTUS
TREE10391
756.43
, oak, 2.0 ft BHD
CONCRETE HEADWALL (DRAIN)
20.4 FT
29.3 FT
37 FT
TO PARK
TOE OF SLOPE
A
TCE
REFERENCE POINT
POTENTIAL ESA FENCE (SHOW IN ORANGE) TO KEEP CONTRACTOR OUT
34.3 FT
OG10278
752.45
31 FT
TREE10326
742.03
, cedar, 0.5 ft BHD
ESA
EDGE OF PAVEMENT (EP)
TOE OF SLOPE
NO SCALE

NORTH
CULVERT
TO LOTUS
TO PARK
52 FT
(EP) EDGE OF PAVEMENT
PROPERTY LINE (PL)
R/W
TOE (BOTTOM) OF SLOPE
47.4 FT
53.6 FT
EP
102 FT
75.6 FT
SIGN
11 FT
TOE
43.5 FT
17 FT
3 FT
54 FT
POLE
2.8 FT
10.8 FT
B
TCE
= REFERENCE POINTS
NO SCALE


[-] [Custom View] [2D Wireframe]
SECTION A-A
CL 0.00 757.12
ETW 12.00 755.82
EP 20.00 755.12
HP 23.00 754.82
CP 43.00 744.82
6.3 FT
5.4 FT
ESA FENCE
Proposed Fill
Toe of Slope
Caltrans Right of Way
Proposed TCE
TOP
Y
X

Possible Ditches



ISOMETRIC VIEW- LOOKING TOWARDS LOTUS AWAY FROM PARK AT PROPOSED FILL SLOPES AND TCEs

Log No.:
CEQA No.:

California Department of Parks and Recreation
Historical Review ☐ Archaeological Review ☒ Both ☐
Project Evaluation
(P.R.C. 5024, 5024.5 and E.O. W-26-92)

PROJECT: CalTrans ROE Permit-Hwy 49 Bridge Project
PARK UNIT: Marshall Gold Discovery **DISTRICT:** Gold Fields
Project Manager: Barry Smith **Date:** 3-16-2016
Contact Phone #: 530-622-3027 **FAX #:** **Email:** barry.smith@parks.ca.gov
PROJECT DESCRIPTION / DEFINE A.P.E. BOUNDARY:
The PEF states:

Caltrans has requested a right of entry permit for temporary construction access to three small portions of Marshall Gold Discovery SHP property along Highway 49 at the north end of the park unit for their Hwy 49 Bridge Project. The construction access is needed in order to implement the project as designed. The temporary access needed is as follows:

APN 006-134-01-100 – 265 square feet for maneuvering construction equipment with tires or tracks. This area will not be used for staging, fueling or cleaning equipment. Prior to use the area will be cleared of vegetation and grubbed. Grubbing includes ground disturbance activities that remove unwanted material from underground. Caltrans will reseed the area with native seed mix following construction.

APN 006-133-01-100 – 770 square feet for maneuvering construction equipment with tires or tracks. This area will not be used for staging, fueling or cleaning equipment. Prior to use the area will be cleared of vegetation and grubbed. Grubbing includes ground disturbance activities that remove unwanted material from underground. Caltrans will reseed the area with native seed mix following construction.

APN 006-133-04-100 – 8 square feet for installation of temporary signage warning river users of the bridge construction downstream. Either an existing State Parks sign post will be utilized to mount the Caltrans sign (see attached photo, Caltrans sign would be placed directly below Parks sign) or, Caltrans will install another two post sign near the aforementioned Parks sign in the upland area of the North Beach boat launch and take out area. Excavation for the post holes would be required for the latter option.

This temporary right of entry access is needed for the period from May 1, 2016 through January 12, 2019. There will be no permanent improvements on State Park lands.

Source of Funding/Amount: N/A

CULTURAL RESOURCES:
HISTORIC ☐ ARCHAEOLOGICAL ☐ TRADITIONAL CULTURAL PROPERTY (TCP) ☐ NONE ☒
POTENTIALLY PRESENT (i.e. potentially buried resources or survey inconclusive due to inaccessibility) ☐
APE visited by Cultural Resources Staff Yes ☒ No ☐
Name: Jenifer A. Padgett Date: several times, most recently 3-9-2016
Methods of Inventory:
Records Review ☒ Site History Research ☒ Field Survey ☒ Subsurface Testing ☐ Other
Explain Findings:

The APE for this project lies within the boundaries of Marshall Gold Discovery State Historic Park National Register District #66000207. Marshall Gold Discovery SHP is also a National Historic Landmark (NHL) and contains within its boundaries three California Historical Landmarks: No. 143, the Marshall Monument; No. 530, the Gold Discovery Site; and No. 748, Coloma Road – Coloma. There are no known sites or contributors to the National Register or National Landmark status within the APE of this project.

This CalTrans Right of Entry project extends from their existing Highway 49 right of way. CalTrans wishes to temporarily extend their existing Right of Way laterally, in two small pieces, on both sides of Highway 49. On the northwestern edge side of the project area, CalTrans needs to extend their Right of Way in a wedge-shaped piece that parallels Highway 49. The widest part of the wedge will be on the northern edge and will extend laterally approximately 5.4 feet on to State Park owned land. The wedge will taper southeast, back to the Highway 49 Right of Way, over a distance of 50 feet. The State Park land in question is located at the base of the built-up highway in a flat that might have once been a small section of

dredger channel. At present, the channel has been highly disturbed because of previous road building and the installation of a culvert. No intact tailings were observed on either side of the channel. If it was a dredger channel, the integrity has been compromised to a point where it is almost unidentifiable. I think it might be the remnant of a dredger channel because it is approximately the right size and configuration for a dredge and because of historic photos that show similar channels and dredger tailings in the vicinity. The channel fragment no longer has the ability to convey its method of inception. The only historic feature found on the western side of the project area is a small section of historic ditch (which morphs into a road a little further south) which located on the slope west of the channel. At my behest, CalTrans has designated the ditch as an "environmentally sensitive area" which will be fenced off with orange silt fencing during the bridge project.

The second area of State Parks owned land I which CalTrans wants to extend their right of way is on the eastern side of Highway 49. This is a ~12'foot wide by 100 foot long strip of land runs parallel to the highway along the toe-slope of the built-up road grade for Highway 49.. No artifacts or features were observed in this location.

One of the two warning signs will be placed on an existing sign post and the other will be placed on a temporary, removable "skid-like" frame which will obviate the need for ground disturbance and will be completely removable when the project is completed.

NEGATIVE SURVEY DETERMINATION:

☐ **NO EFFECT: No Historical Resources Present**

[If no cultural resources are present, or potentially present within the project APE, no further documentation is required. Proceed to review section VII. APPROVAL AND CERTIFICATION for signature]

I. EXISTING CONDITIONS/RESOURCE STATUS Attach appropriate documentation (DPR 523 forms, etc.):

A. Resources within APE: [Site Number(s)/Description(s)/Date of Latest Recordation Form(s)/Additional Documentation (reports, studies, etc)]: Marshall Gold Discovery State Historic Park (NHL #66000207). Individual contributors to the nomination were not identified in the NHL.

B. Newly identified resources recorded or updated previous records?: Yes ☐ No ☒
Explain/List: Currently, the CA Dept. of Parks and Recreation is completing an update of this park's National Register Nomination however, this updated nomination will not be included with this 5024 review.

II. ELIGIBILITY DETERMINATION(S) (use continuation page [separate file] for additional resources identified):

A. Resource Evaluation and Significance (If resource is nominated or listed, do NOT fill out section IIB below. Attach appropriate recordation forms to review package. If not, move to section IIB below).
Resource Name / Site Number: Marshall Gold Discovery State Historic Park (National Register District #66000207)
Resource Type is: Individual Building/Structure ☐ Archaeological Site(s) ☐ Landscape District ☐
Historic District ☒ Archaeological District ☐ TCP ☐ National Historic Landmark ☒ Cultural Preserve ☐
Nominated for ☐ or Listed ☒ on: California Register: Yes ☒ No ☐ **National Register:** Yes ☒ No ☐
(If Nominated: Eligibility Concurrence status by OHP: Yes ☐ No ☐ In process ☐)

B. Site/Structure Eligibility Determination (for newly recorded, non-nominated or listed resources):
Not Eligible ☐
Explain (include documentation of negative DOE):

Potentially Eligible ☐
Criteria: A – Events ☐ B – People ☐ C—Design ☐ D—Information ☐
Significance Statement:
Integrity Discussion:

III. DPR POLICY COMPLIANCE

A. Is project consistent with General Plan?: Yes ☒ No ☐ **GP date:** 1979
B. If no General Plan, is project scope consistent with current resource use?: Yes ☒ No ☐
C. Is project consistent with Cultural Resource Management Directives?: Yes ☒ No ☐
Comments: The stated goal of the Marshall Gold Discovery General Plan is, "to perpetuate the cultural values at this historic unit (*sic*) requires preserving the principal elements of the natural setting in which the historic events took place." Temporarily extending an ROE to CalTrans along the pre-existing Highway 49 corridor will not have any effect on any of

the principal historic elements that pertain to gold discovery or Marshall Gold Discovery SHP's National Register listing. The ROE and the warning signage are temporary and reversible.

IV. IMPACT ASSESSMENT

A. Historic Resources

Historic Facility Name(s): National Register of Historic Places District/National Historic Landmark #66000207, California Historical Landmarks No. 748, No. 530, No. 143

Will the proposed project impact historic resources? Yes ☐ No ☒

Describe impacts or non-impacts and provide Comments: Although the CalTrans ROE Permit is within the boundaries of the historic district, the road is not a contributing element to the NRHP district nor is it a listed property within the NHL. The ROE will have **NO IMPACT** on the National Register of Historic Places District/National Historic Landmark #66000207

Is proposed project consistent with Secretary of Interior's Standards and Guidelines?: Yes ☒ No ☐

Explain: The ROE is temporary and reversible.

B. Archaeological Resources

Site Number(s): none

Archaeological Site Type: Historic ☐ Prehistoric ☐ Unknown ☐

Will the proposed project impact archaeological resources? Yes ☐ No ☐

Describe impacts or non-impacts and provide Comments:

Is proposed project consistent with Secretary of Interior's Standards and Guidelines in relation to archaeological resources?: Yes ☐ No ☐

Explain:

V. TREATMENTS AND MITIGATION

A. Would project redesign lessen resource impacts?: Yes ☐ No ☒

Explain: As designed this project will not impact the NRHP District or any contributing features within it.

B. Are appropriate treatment measures included within project scope?: Yes ☒ No ☐

Explain: The only additional recommendations would be:

> Put up silt fencing as a warning barrier on northwestern side of the project area to protect the nearby historic ditch from any potential damage.
>
> As much as possible, recreate the new road bed to look as much as possible like the current one. Within the park boundaries, the newer road features should endeavor to look as much like the old road as possible.
>
> Regarding the two desired warning signs: one of the warning signs will be attached to existing sign poles and the other will be placed on a removable skid-like frame that will not involve any ground disturbance.

C.. Does treatment involve salvaging historic fabric or excavating archaeological deposits?: Yes ☐ No ☒

If yes, has a recordation program or archaeological treatment plan been approved by a senior-level CRS? Yes ☐ No ☐

Explain:

D. In order to bring the project into compliance with the Secretary of the Interiors Standards, the project should proceed with the following modifications or special provisions (Identify specific treatment measures): Please refer to Section VI. subsection B of this document. No additional treatment measures are needed.

Log No.: CEQA No.:

VI. DETERMINATION

A. Is documentation sufficient for Determination of Effect?: Yes ☒ No ☐
If no, check below:
☐ NO DETERMINATION OF EFFECT CURRENTLY POSSIBLE
Explain:

If Yes: the reviewer has sufficient documentation to determine that the Proposed Project will have:

☐ No Effect: No Historical Resources Present (See Section)
☐ No Effect: No Historical Resources Affected
☒ No Adverse Effect
☐ Adverse Effect

on the Historical or Archaeological Resources of the State Park System.

B. **Explain:** Although this project takes place in a NRHP district, this section of Highway 49 is removed from the historic center of the Coloma.

- Put up silt fencing as a warning barrier on northwestern side of the project area to protect the nearby historic ditch from any potential damage.
- As much as possible, recreate the new road bed to look as much as possible like the current one. Within the park boundaries, the newer road features should endeavor to look as much like the old road as possible.
- Regarding the two desired warning signs: one of the warning signs will be attached to existing sign poles and the other will be placed on a removable skid-like frame that will not involve any ground disturbance.
- In the event that previously unknown cultural resources are encountered during the project by anyone, an archaeologist will be notified. The archaeologist may put work on hold at that specific location and contractors will be redirected to other tasks. A DPR-qualified archaeologist will record and evaluate and implement avoidance measures to insure preservation and/or data recovery.
- In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate DPR personnel.
- The DPR Sector Superintendent (or authorized representative) will notify the County Coroner in accordance with §7050.5 of the California Health and Safety Code.
- If the coroner determines the remains represent Native American interment, the Native American Heritage Commission in Sacramento would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete, per PRC §5097.98.

Has a Secondary Review of this DOE been completed by a Cultural Resource Specialist?: Yes ☐ No ☒

VII. APPROVAL AND CERTIFICATION

(APPROVAL OF THIS PROJECT IS CONTINGENT ON PROJECT SCOPE NOT BEING CHANGED FROM ABOVE DESCRIPTION. IF SCOPE IS CHANGED, PROJECT MANAGER MUST CONTACT CULTURAL RESOURCE REVIEWER(S) FOR POTENTIAL REVIEW.)

Primary Reviews:

Historical Review
I recommend this project be Approved ☐ Not Approved ☐ Approved Conditionally ☐

Explain:

Historical Reviewer: Date:

Title: Phone #:

Hours Spent on Evaluation:

Archaeological Review
I recommend this project be Approved ☐ Not Approved ☐ Approved Conditionally ☒
Explain: Please see Section VI-Determination of this document for recommendations.

Archaeological Reviewer: Jenifer A. Padgett **Date:** 3-17-2016

Title: Associate State Archaeologist **Phone #:** 916-988-0205

Hours Spent on Evaluation: 6, including field visit.

Restoration Architect Review
I recommend this project be Approved ☐ Not Approved ☐ Approved Conditionally ☐
Explain:

Architectural Reviewer: **Date:**

Title: **Phone #:**

Hours Spent on Evaluation:

Secondary Review:
I recommend this project be Approved ☐ Not Approved ☐ Approved Conditionally ☐
Explain:

Secondary Reviewer:

Title: **Phone #:**

Comments:

Log No.: CEQA No.:

Project Manager:
I understand that this project as proposed or modified may affect historical or archaeological resources. I will insure that all treatment measures necessary for the project to confirm with Historic Preservation standards and professional guidelines will be carried out as specified above. If project scope is changed, I will contact cultural resource reviewer(s) for potential re-review.

Project Manager:

Title: Phone #:

Date: FAX #:

Note: All review packages must include a project map and appropriate documentation. For archaeological surveys, attach DPR 649 (or equivalent) with coverage map and site records. For historic structures, attach DPR 523 or 750. For archaeological sites, attach DPR 523.

Coloma – Sttae Park Temporary Construction Easements

TCE #1 (West side of SR-49)

Within TCE

Scientific Name	Common Name	% Cover	Notes
Rubus armeniacus	Himalaya Blackberry	65	
Calocedrus decurrens	Incense Cedar	33	No specimens > 4" DBH within TCE
	Unknown Deciduous Tree	2	DBH 4"

Tree and blackberry cover the site with a closed canopy, no herbaceous undergrowth

Adjacent to TCE

Bromus diandrus – Ripgut Brome
Quercus wislezenii – Interior Live Oak
Ailanthus altissima – Tree of Heaven
Torilis arvensis – Field Hedgeparsley
Artemesia douglasiana - Mugwort
Hypericum perforatum – Klammath Weed
Trifolium #1 – Clover (No flowers)
Trifolium #2 – Clover (No flowers)

TCE #2 (East side of SR-49)

Within TCE

Scientific Name	Common Name	% Cover	Notes
Bromus diandrus	Ripgut Brome	90	Dominates site
Anthriscus caucalis	Bur Chervil	2	
Artemesia douglasiana	Mugwort	2	
Rubus armeniacus	Himalaya Blackberry	2	
Quercus lobata	Valley Oak	1	Sapling
Torilis arvensis	Field Hedgeparsley	1	
Vicia sativa	Spring vetch	1	
Vinca major	Periwinkle	1	

Caltrans SF American River 49 Bridge Replacement, State Route 49 - Right of Entry Permit for Marshall Gold Discovery SHP

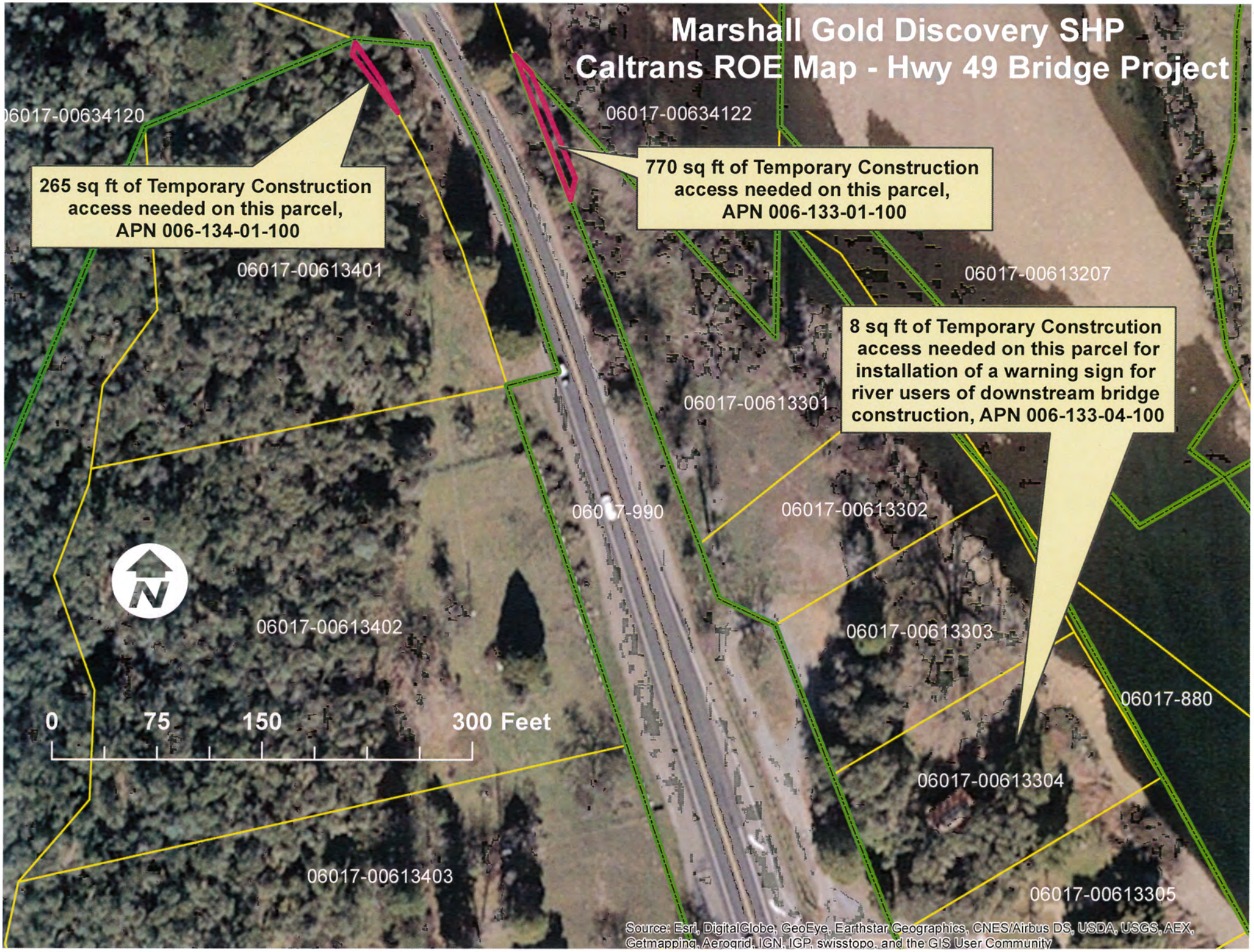
NATIVE SEED MIX TO BE PLANTED AFTER CONSTRUCTION:

PLANT NAME	PERCENT GERMINATION	POUNDS PURE LIVE SEED PER ACRE
Achillea millefolium Common Yarrow	70%	1
Brmus carinatus Calfiornia Brome	80%	11
Elymus glaucus Blue wildrye	80%	10
Elymus trachycaulus Slender wheatgrass	75%	6
Eschscholzia californica California poppy	75%	4
Lotus purshianus Purshing	70%	14
Lupinus albifrons Silver Lupine	60%	15
Lupinus bicolor Dwarf lupine	60%	15
Mimulus aruantiacus Sticky monkey flower	70%	1
Nassella pulchra Purple needlegrass	60%	10
Poa secunda Pine bluegrass	70%	1
	Total	**92**

Exhibit B – Right of Entry Permit

Caltrans SF American River 49 Bridge Replacement, State Route 49, Marshall Gold Discovery SHP

- **Maps Depicting ROE lands**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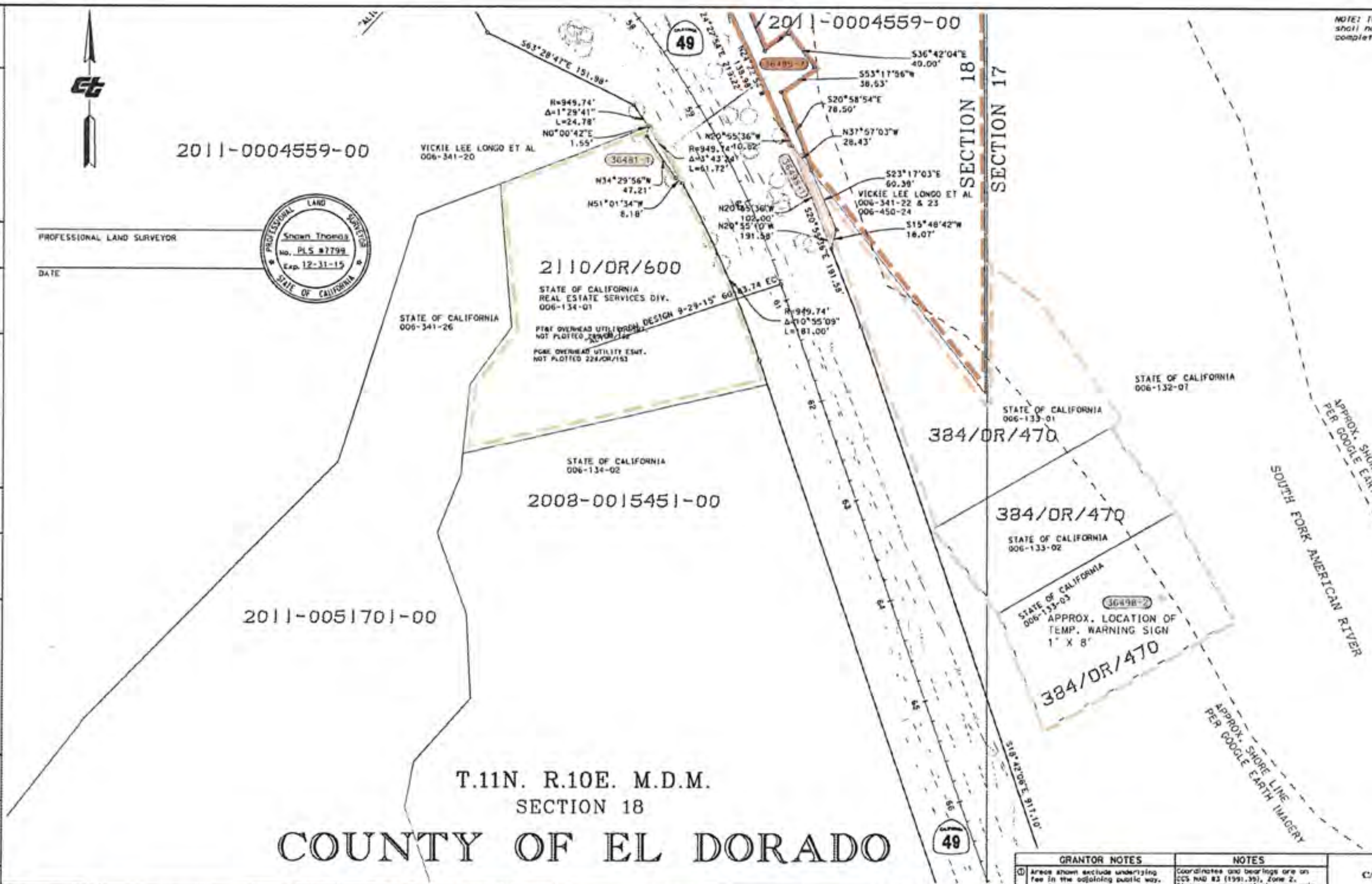
8 sq ft of Temporary Constrcution access needed on this parcel for installation of a warning sign for river users of downstream bridge construction, APN 006-133-04-100
06017-00613301
06017-990
06017-00613302
06017-00613402
06017-00613303
06017-880
0
75
150
300 Feet
06017-00613304
06017-00613403
06017-00613305
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



NOTE: The State of California or its officers or agents shall not be responsible for the accuracy or completeness of digital images of this map.

R/W PROJECT SURVEYOR: SHAWN THOMAS		
DATE	REVISIONS	BY
07-01-15	CREATED APPRAISAL MAP	SHAWN THOMAS
07-02-15	ADDED APN AND TCE EXP. DATE	SHAWN THOMAS
08-26-15	ADDED 3 TCE'S WARNING SIGNS 36463-3 & 4 AND 36485-8, 36463-1 & 2 DROPPED 36485-1 & 2	SHAWN THOMAS

DATE	REVISIONS	BY
09-01-15	CHANGED 36481-1 TO A TCE	SHAWN THOMAS
	ADDED PARCEL 36498-2	SHAWN THOMAS
09-15-15	PER DESIGN DROPPED 36497-1	SHAWN THOMAS
09-29-15	ADDED DESIGN'S ALIGNMENT	SHAWN THOMAS

PARCEL#	TITLE CODE ②	GRANTOR/GRANTEE	AREAS (square feet or as noted) TOTAL	REQUIRED①	(UF)	EXCESS①	(UF)	REMAINDER	REMARKS	RECORDATION TYPE③	DATE	DOC.#④
36481-1	TCE	STATE OF CALIFORNIA	1.32 AC.	265					TCE EXPIRES 01-12-2019			
36498-1	TCE	STATE OF CALIFORNIA	1.57 AC.	270					TCE EXPIRES 01-12-2019			
36498-2	TCE	STATE OF CALIFORNIA	1.57 AC.	8					TCE EXPIRES 01-12-2019			

GRANTOR NOTES

① Areas shown exclude underlying fee in the adjoining public way.
Ac=acres
[ ] Indicates Underlying Fee (UF) Area
[?] Indicates Indeterminate UF
② TITLE CODES:
A=Access Rights Only
F=Fee
E=Easement (Ease)
TCE=Temp Construction Ease
T=Other Temp Ease (see Remarks)
O=Other (see Remarks)
③ TYPE:
GD=Grant deed
ED=Easement deed
QC=Quitclaim
DD=Director's deed
DE=Director's easement deed
DQ=Director's quitclaim deed
FOC=Final Order of Condemnation
HE=Highway easement deed
REL=Relinquishment
VAC=Vacation
JUA=Joint use agreement
CCUA=Consent to common use agreement
④ Document or Instrument number

NOTES

Coordinates and bearings are on CCS NAD 83 (1991.35), Zone 2.
Distances and stationing are grid distances.
Divide by 0.999726 to obtain ground distances.
All distances are in feet unless otherwise noted.

LEGEND

Access Prohibited
Access Superseded
Existing R/W Superseded
Access Opening (Private)
(R) Indicates Radial Bearing
Indicates Found Monument as noted
Indicates calculated point. (Does not imply monument set)
Title to State
Required for Others

STATE OF CALIFORNIA
CALIFORNIA STATE TRANSPORTATION AGENCY
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY
APPRAISAL MAP
OF310-4

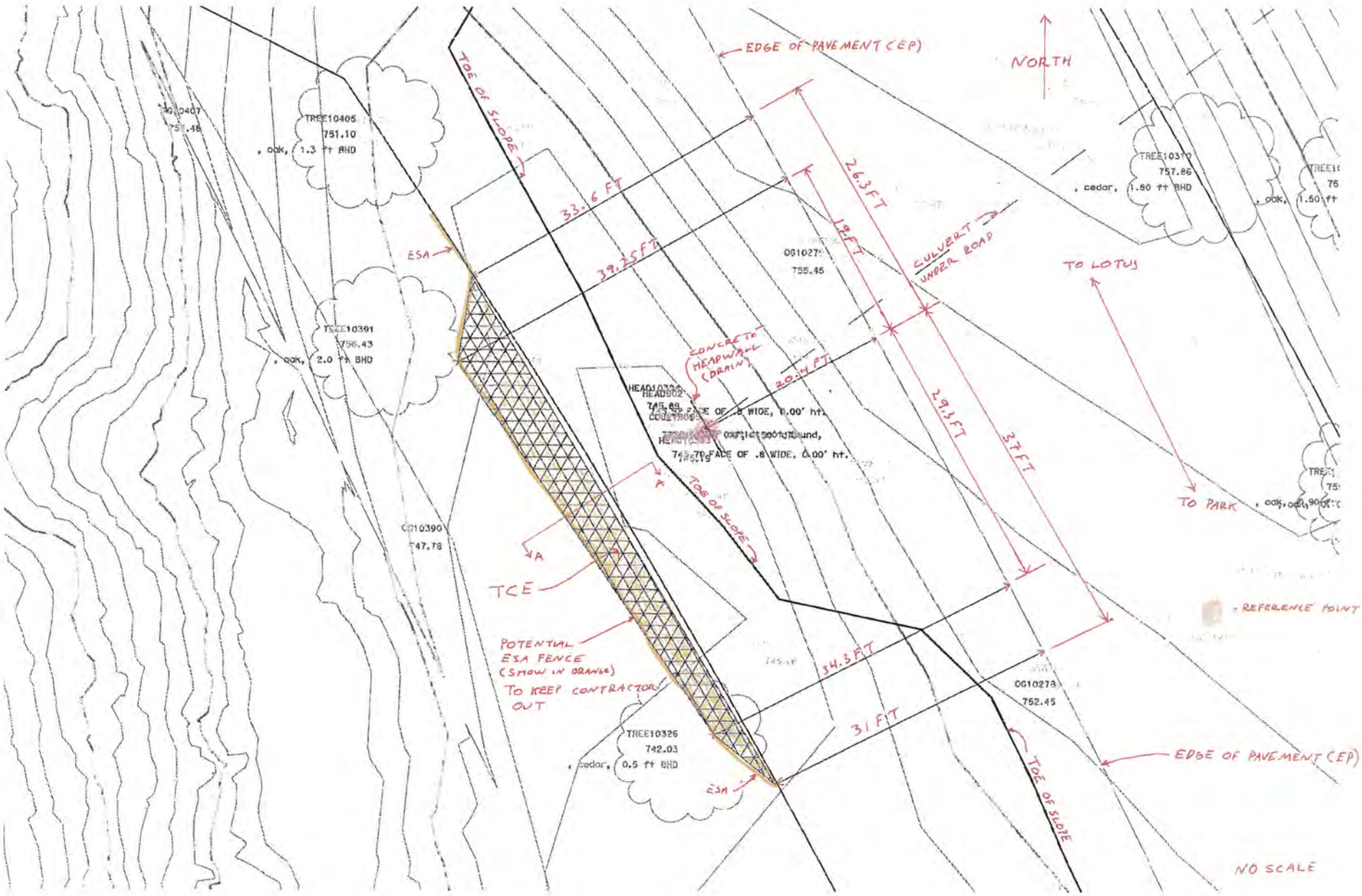
FOR PREVIOUS R/W INFORMATION SEE MAP(S) SCAN 00G896R

SCALE: 1" = 50'
FEET 0 25 50 100 150

TO DESIGN:# EA(s):0F310 FA#:##
DRAFTED BY: SHAWN THOMAS CHECKED BY:####

DISTRICT	COUNTY	ROUTE	SHEET PM	SHEET NO.	TOTAL SHEETS
03	ED	49	21.6	4	6

PROJECT ID: 0300000078


EDGE OF PAVEMENT (EP)
NORTH
TOE OF SLOPE
TREE10405
751.10
, oak, 1.3 ft BHD
TREE10391
756.43
, oak, 2.0 ft BHD
OG10390
747.78
ESA
33.6 FT
39.25 FT
26.3 FT
18 FT
CULVERT UNDER ROAD
OG10279
755.45
TREE10310
757.86
, cedar, 1.80 ft BHD
TO LOTUS
CONCRETE HEADWALL (DRAIN)
20.4 FT
29.3 FT
37 FT
TO PARK
TOE OF SLOPE
A
TCE
POTENTIAL ESA FENCE (SHOW IN ORANGE) TO KEEP CONTRACTOR OUT
34.3 FT
31 FT
OG10278
752.45
TREE10326
742.03
, cedar, 0.5 ft BHD
ESA
TOE OF SLOPE
EDGE OF PAVEMENT (EP)
= REFERENCE POINT
NO SCALE

NORTH
CULVERT
TO LOTUS
TO PARK
52FT
(EP) EDGE OF PAVEMENT
TOE
R/W PROPERTY LINE (PL)
TOE (BOTTOM) OF SLOPE
47.4FT
53.6FT
EP
102FT
75.6FT
43.5FT
SIGN
11FT
TOE
17FT
3FT
EP
54FT
POLE
2.8FT
0.8FT
TOE
PL
R/W
B
B
TCE
= REFERENCE POINTS
NO SCALE

M e m o r a n d u m

Serious Drought.
Help Save Water!

To: MANODE KODSUNTIE
Chief,
Structures Design Branch 2

Date: January 28, 2016

File: 03-ED-49- 23.99
03-0F310K
(0300000078)
S. Fork American River
(Replace)
Br. No. 25-0153

Attention: Jason Lynch
Senior Bridge Engineer,
Structure Design 2

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report (FR).

Scope of work

Per your request memo dated April 1, 2015, the Office of Geotechnical Design North (OGD-N) has prepared this Foundation Report (FR) for the proposed replacement of the existing South Fork American River Bridge (Br. No 25-0153) located on State Route (SR) 49, at Post Mile 23.99 near Coloma, in El Dorado County. The project proposes to replace the existing bridge because it has been identified as scour critical. The proposed new bridge will accommodate and improve safety for vehicular, bicycle and pedestrian traffic.

The Office geotechnical Design North completed a foundation investigation in August 2015, for the proposed new bridge. This Foundation Report is based on a review of the General Plan dated July 4, 2015, the Foundation Plan dated January 8, 2016, the As-Built records, and the foundation investigation completed in August 2015. The foundation investigation included subsurface soil drilling, sampling, in-situ tests and laboratory tests. The data generated during this surface and subsurface investigation, the foundation and design data received from the Office of Structure Design (OSD), and information from a review of other pertinent geological publications and documents, also form the basis of this Foundation Report. Materials reviewed for this report include the following:

1. Preliminary Foundation Report (PFR) for South Fork American River Bridge, dated May 1, 2015.
2. Project Report for the Proposed Bridge over South Fork American River, dated March

2015 (March10, 2015).
3. South Fork American River Bridge (Replace), Structure Type Selection, dated August 11, 2015.
4. Final Foundation Loads, January 19, 2016.
5. Structure Type Selection, August 11, 2015.
6. Revised Final Hydraulic Report, South Fork American River Bridge Replacement, by Ginger Lu, dated August 20, 2015.
7. General Plan, South Fork American River Bridge (Replace), dated July 4, 2015.
8. Foundation Plan, South Fork American River Bridge, dated January 8, 2016.
9. Geology of California (Norris and Webb, 2nd Edition).
10. Geologic Map of the Sacramento Quadrangle (scale 1:250,000), compiled by D.L. Wagner, C.W. Jennings, T.L. Bedrossian and E. J. Bortugno, (published 1981, second printing, 1987).

Project Description

This project proposes to replace the existing South Fork American River Bridge (Br. No 25-0021), "in order to meet current seismic design standards" (March 10, 2015 Project Report). The existing bridge has also been identified as scour critical (Structure Type Selection, August 11, 2015).

The project proposes to construct a new bridge on a new alignment to the north (upstream) of the existing bridge. The new alignment will be approximately 20 feet 10 inches (centerline to centerline) upstream of the existing bridge alignment. The proposed new bridge is planned to be wider than the existing bridge in order to improve safety for vehicular and pedestrian traffic.

The superstructure of the new bridge will be a four-span structure, 519 feet long by 56 feet 10 inches wide, consisting of cast-in-place/ Prestressed (CIP/PS) concrete box girder, supported by piers consisting of two oval shaped column piers on CIDH/Shaft foundation.

Additionally, SR 49 is proposed to be realigned and widened within the project limits beyond both ends of the proposed new bridge. This will involve the construction of new curbs, gutters, sidewalks, and retaining walls to meet current standards.

The existing bridge is a two lane structure built in 1951 to carry traffic over the South Fork of the American River on SR 49. It is approximately 504 ft long and consists of seven spans. The deck consists of reinforced concrete on two steel plate girders which

are supported by reinforced concrete pier walls founded on spread footings. The abutments are also founded on spread footings.

Field Investigation and Testing Program

The Office of Geotechnical Design-North conducted a subsurface investigation in January, February, and August, 2015, for the proposed replacement. The investigation generated site-specific surface and subsurface geology data and other information, which were utilized in the preparation of this Foundation Report.

Six mud rotary soil/rock borings were completed during January/February/August 2015 for the proposed project. The mud rotary borings were advanced using a self-casing wireline drilling method with a diamond bit for rock coring. The maximum depth achieved was 100 feet into soil and bedrock (Boring RC-15-002). Standard Penetration Test (SPT) sampling was performed in soil and decomposed rock zones. Soil and rock core samples were collected and labeled in core boxes and stored in the Translab core room. A summary of the borings drilled during the subsurface investigation is provided in Table 1 below.

Table 1: January/February/August 2015 Subsurface Exploration Summary for South Fork American Bridge (Br. No. 25-0153).

Boring No.	Approx. Location (CCN1 Line)	Date Completed	Drill Rig ID	Hammer Type	Hammer Efficiency (%), and date of Hammer Testing	Surface Elevation of Boring (OG) (ft)	Boring Depth (ft)	Approx. Depth to weathered Granitic Bedrock (ft)
RC-15-001	28' Left Sta. 39+98	1/14/15	CS2000 (6832)	Automatic	92 5/8/14	720	70	15
RC-15-002	20.8' Left Sta. 40+79	1/8/15	CS2000 (6832)	Automatic	92 5/8/14	716.5	100	10
RC-15-003	C/L Sta. 41+98	1/16/15	CS100 (8123)	Automatic	93 5/23/14	713.5	79	10
RC-15-004	14.6 Right Sta. 44+04	1/22/15	CME 85 (7388)	Automatic	70 4/26/13	742 (Bridge Deck) 714 (OG)	92	1
RC-15-005	5.4' Right Sta. 45+20	2/5/15	CME 85 (7388)	Automatic	70 4/26/13	748	85	6
RC-15-006	12.5' Right Sta. 39+35	8/12/15	B-47 (4785)	Safety Hammer	44 6/2/14	745	60	38

The following datum was used on the Foundation Plan dated January 8, 2016, to reference horizontal and vertical elevations for of the proposed structure:

Horizontal: North American Datum (NAD83)
Vertical: National Geodetic Vertical Datum (NGVD29)

The subsurface geologic data will be provided on the Project Log of Test Borings (LOTBs).

Laboratory Testing Program

Selected soil/rock samples were submitted to the soils laboratory for analyses. The soil samples were analyzed for corrosion and rock samples were tested for Unconfined Compressive Strength (UCS). Corrosion test results are provided under the Corrosion Section below. The UCS test results for rock samples are shown in Table 2 below.

Table 2: Unconfined Compressive Strength Test Results (South Fork American River Bridge Br. 25-0153)

Sample No.	Location	Sample depth (ft)	Sample Type	Unconfined Compressive Strength (psi)
RC-15-001-08	Boring RC-15-001	38.4 to 39	Rock (granite)	899
RC-15-001-10	Boring RC-15-001	49-50	Rock (granite)	8767
RC-15-005-12	Boring RC-15-005	55.2-55.8	Rock (weathered granite)	83.36
RC-15-005-16	Boring RC-15-005	76-77	Rock (granite)	8235
RC-15-005-17	Boring RC-15-005	80-81	Rock (granite)	19753

ASTM D7012 Method C was generally followed to determine the unconfined compressive strength of the rock samples listed in the table 2 above. For the intensely weathered granitic rock (sample No. RC-15-005-12), ASTM Method D2166 was generally followed to test for the UCS.

It should be noted that the results presented above reflect the strengths of only the granitic rock samples analyzed and not necessarily that of the entire granitic bedrock underlying the bridge site. The wide variability of the UCS for the above rock samples may be due, in large part, to the varying degree of weathering of the rock sample. The laboratory results are also attached to this report.

Site Geology and Subsurface Conditions

The Geology of California (Norris and Webb, Second Edition) indicates that the project bridge (Br No. 25-0153) is located within the Sierra Nevada geomorphic province of California. According to the Geologic Map of the Sacramento Quadrangle compiled by D.L. Wagner, C.W. Jennings, T.L. Bedrossian and E. J. Bortugno, (published 1981), the bridge site is located on the western foothills of the Sierra Nevada. The site is underlain by recent stream alluvium over bedrock. The bedrock is Mesozoic granitic rocks (Mzg) comprised predominantly of granite to granodiorite of Upper Jurassic to Lower Cretaceous age (Wagner, Jennings, Bedrossian and Bortugno, 1981).

A subsurface study was conducted by the State of California, Division of Highways, at the existing bridge site circa 1950. This study consisted of seven 1-inch sampler (soil) borings. "Blows per foot" were made with a 12" drop using a 28 lb. hammer (As-Built LOTBs, February, 1950). Based on the (LOTBs) dated February 6, 1950, the alluvium consists of loose to very dense silty sand with gravel, sand with gravel, sandy gravel with cobbles and sandy gravelly cobbles, and boulders, which lies over decomposed granite. The maximum thickness of the alluvial material was 15 feet near the location of the existing Pier 6 (As-Built LOTBs, 1950).

The field investigation conducted in January/February/August 2015, by OGD-N, for the new bridge, explored a maximum depth of approximately 100 feet (Boring RC-15-002, Table 1). One boring was drilled near the footprint of each proposed new support location of the new replacement structure. The subsurface soil/rock encountered during this 2015 foundation investigation consists of fill material at the abutments, and granular native materials comprised of sandy/silty gravel, cobbles, and boulders in a sand and silt matrix, which overlies weathered granitic bedrock. The granitic rock is decomposed and soft from the surface, becomes fresh, hard to very hard at depth. Alternating zones of soft and hard granitic rock often occur within the profile.

The soil/rock layers encountered can be generalized as follows:

Fill

- Fill material (encountered only at Abutments 1 & 5) comprised mainly of loose to medium dense silty sand, (Borings RC-15-005 and RC-15-006). At Abutment 1 (RC-15-006) the fill is approximately 20 feet thick and lies over stream alluvium. The fill material at the proposed Abutment 5 was approximately 6 feet thick and lies directly over weathered granitic rock

Alluvium

- Upper layer of recent stream alluvium comprised of loose to medium dense silty and sandy gravel and cobbles with occasional boulders. The thickness of the alluvial layer ranges from one foot (RC-15-004) to 15 feet (RC-15-001).

Granitic Bedrock

- Below the alluvium, is granitic bedrock decomposed to very dense poorly graded fine to coarse angular sand with trace clay. The decomposed granite (DG) may extend 30 to 40 feet deep in some borings. Some relict granite structures can occasionally be recognized in the weathered residuum, which often contained patches of brown iron oxide coloration.

- At depth, the DG grades into intensely weathered and moderately fractured granite which can exhibit varying degrees of weathering, fracturing, and hardness. This layer in general may extend to depths of 60 to 70 feet below original ground surface (OG).

- The above layer usually merges below into moderately to slightly weathered to fresh granite at generally about 70 feet deep from OG. In general, the fresh granite is usually light gray, or mottled/spotted gray brown, medium to coarse grained, massive, moderately to slightly fractured rock. Most of the fractures are generally in-filled/healed by secondary minerals. Hardness ranges from hard to very hard for fresh rock samples. The fractures/joints are predominantly near vertical, and the fracture surfaces were generally rough and mostly filled or lined with clay or secondary minerals.

- In general, the rock profile exhibits highly variable hardness due to variation in the degree of weathering and fracturing of the granitic bedrock. In places, erratic blocks of moderately fresh or fresh, and hard to very hard rock occur within areas of soft rock mass.

Hard and very hard slightly weathered to fresh grano-diorite rock layers were encountered at approximately between 38 and 40 feet depth, and at 53 and 55 feet depth in Boring RC-15-006 located at Abutment 1. These two grano-diorite rock layers occurred within weathered granite.

Groundwater

Groundwater level was measured over a period of approximately three weeks, as shown in the table below. Table 3 below indicates recorded groundwater measurements during January/February, 2015.

Table 3: Groundwater measurement in Boring RC-15-002 (Br. No. 25-0153)

Date	Top of boring Elevation (ft)	Measured Groundwater Elevation (ft)	Groundwater Depth from OG (ft)
1/15/15	716.5	710.02	6.3
1/16/15	716.5	710.02	6.3
1/20/15	716.5	710.0	6.5
1/22/15	716.5	709.90	6.6
1/26.15	716.5	709.70	6.8
2/02/15	716.5	709.80	6.7

The groundwater elevation was approximately 710 feet in February 2015.

Scour Evaluation

A scour evaluation report titled "Geotechnical Evaluation for Scour Critical Program" prepared for this bridge by the Office of Geotechnical Support, dated April 27, 2006, concluded that the weathered granitic bedrock within the channel is considered susceptible to scour.

The Revised Final Hydraulic Report (FHR) for this project, dated August 20, 2015 has concluded, based on results of the recent subsurface investigation, that the streambed materials (stream alluvium and decomposed granite bedrock), are considered to be erodible.

The referenced hydraulic report has indicated that there is no potential for contraction and long-term degradation scour at the bridge site. The report also states that “the design flood will not reach the bridge elements” at Abutment 5.

The scour regime at the piers and at Abutment 1 is as shown in Table 4 below.

Table 4: Pier and Abutment 1 Scour for the new bridge

Substructure Scour (ft) for Proposed Structure				
Substructure	***Pier 4***	***Pier 3***	***Pier 2***	***Abutment 1***
Pressure/Contraction Scour	**0**	**0**	**0**	**..**
Long-term Degradation	**0**	**0**	**0**	**0**
Local Scour	**19.4**	**20.8**	**12.6**	**..**
Total scour	**19.4**	**20.8**	**12.6**	**5.7**

According to the Revised Final Hydraulic report dated August 20, 2015, "the scour elevations are the elevations where the bottoms of the scour holes can reach, and hence all substructure foundations must be deeper than the calculated scour elevations in the Scour Data Summary (NGVD 29 & NAVD 88)."

Based on the Hydraulic report, the scour values based on erodible streambed for the proposed subsurface are reproduced in table 5 below.

Table 5: *Scour Data Summary*

Scour Data Summary (Q_{1997} = 90,000 cfs)				
Substructure	***Pier 4***	***Pier 3***	***Pier 2***	***Abutment 1***
Total Scour Depth (ft)	**19.4**	**20.8**	**12.6**	**5.7**
Channel Elevation (ft, NGVD29)	**705.1**	**705.1**	**715.6**	**720.4**
Scour Elevation (ft, NGVD 29)	**685.7**	**684.3**	**703.0**	**714.7**

Corrosion Evaluation

Caltrans considers a site to be corrosive to foundation elements if one or more of the following conditions exist(s) for the representative soil and/or water samples taken at the site:

- pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater.

Table 6 below shows laboratory corrosion test results for soil samples collected during the foundation investigations for this project.

Table 6: Corrosion Test Summary Report (Br. No. 25-0153)

SIC Number (TL101)	Sample Location (Boring Number)	Sample Type	Sample Depth (ft)	Minimum Resistivity (ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
C874584	RC-15-006 (Abut 1 fill)	Soil	0.5 - 5	3019	7.62	-	-
C874581	RC-15-001	Soil	0 - 5	5301	7.04	-	-
C874582	RC-15-001	W/G*	20 - 25	17859	8.07	-	-
C874579	RC-15-005 (Abut 8 fill)	Soil	1 - 5	6054	7.41	-	-
C874580	RC-15-005 (Abut 8)	W/G	10 - 15	13883	7.05	-	-

Note*: W/G = weathered granitic rock; Abutments & Piers refer to "As-Built."

Based on the corrosion test summary report, this site is not corrosive to foundation elements.

Seismic Recommendations

Based on the 2015 LOTBs for the project, V_{S30} (the weighted average shear wave velocity for the top 100 feet of foundation material) of 2,500 ft/s (760 m/s) is considered to be applicable to the foundation material for the proposed bridge replacement.

Based on the "Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations, November 2012", the design ground motion is the highest spectral acceleration as obtained by any or a combination of the following three methods at the proposed bridge.

1) Statewide minimum deterministic spectrum requirements with MMax of 6.5, for a vertical strike-slip event with a rupture distance of 7.5 miles.
2) Use of the nearest active fault and near active fault factors as shown on the ARS Online Tool (Version 2.3.06).
3) The USGS 5% Probability of Exceedance in 50 years (975 year return period).

The recommended ARS curve is an envelope of methods 1 and 3 stated above. The peak ground acceleration is estimated to be 0.20 g. The recommended ARS curve is presented on **Plate No. 1**.

Based on the Department of Conservation Map No. 6 "2010 Fault Activity Map", the potential for surface fault rupture at the site is absent because there are no known faults that are Holocene or younger in age that fall within 1,000 feet. Furthermore, based on the Department of Conservation Special Studies the structure does not fall within an Alquist-Priolo Earthquake Fault Zone.

Liquefaction at the site is considered negligible.

As-Built Foundation Data

The existing bridge is founded on spread footings. The footings were designed for a footing pressure of 5 TSF and are founded on weathered granite bedrock at the elevations shown in the table below.

Table 7: As-Built footing data for the existing bridge built in 1951

Support Location	Footing Elevation (ft)	Footing Pressure (tsf)
Abutment 1	702/700	5.0
Pier 2	708	5.0
Pier 3	708	5.0
Pier 4	704	5.0
Pier 5	700	5.0
Pier 6	692	5.0
Pier 7	711	5.0
Abutment 8	720	5.0

Foundation Recommendations

The foundation recommendations provided below for the proposed new South Fork American River Bridge are based on the project General Plan dated July 4, 2015, and the Foundation Plan dated January 8, 2016.

A. Abutment Foundations

The proposed new South Fork American River Bridge (Br. No. 25-0153) as indicated on the General and Foundation Plans cited above, may be supported on Steel H-piles (HP) at Abutments 1 and 5.

The design and analysis of the axial geotechnical resistance of the H-piles recommended below were performed using the computer software program “Driven”, version 1.2, dated March 10, 2001, by the Federal Highway Administration (FHWA).

The specified tip elevations are based on the nominal resistance of all the piles. The overburden pressure of, and skin friction within the existing and the proposed new embankment fills have been ignored in the design of all the piles for the proposed abutments.

Table 8: Abutment Foundations Design Recommendations (Br. No. 25-0153)

Abutments Foundation Design Recommendations												
Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load per pile (kips)		Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elev. (ft)	Specified Tip Elev. (ft)	Required Nominal Driving Resistance (kips)
						Strength/Construction		Extreme Event				
			Total	Permanent		Comp. (ϕ = 0.7)	Tension (ϕ = 0.7)	Comp. (ϕ = 1.0)	Tension (ϕ = 1.0)			
Abut. 1	HP 14x89	727.17	100	65	1	175	5	n/a	n/a	700 (a-I) 717 (b-I) 710 (c)	700	350
Abut. 5	HP 10x57	735.42	115	65	1	165	0	n/a	n/a	709 (a-I) 723 (c)	709	240

Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (b-I) Tension (Strength Limit), (c) Settlement.
2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral, and tolerable settlement.
3. The nominal driving resistance required is equal to the nominal resistance needed to support the factored load.

B. Pier Foundations

The proposed new South Fork American River Bridge (Br. No. 25-0153), as indicated on the General and Foundation Plans cited above, may be supported on 60-inch Cast-in-Drilled-Hole (CIDH) piles with 96-Inch Permanent Steel Casings (PSC) at Piers 2, 3, and 4.

The design and analysis of the CIDH pile capacities provided in this report are based on the FHWA procedures presented in "Drilled Shafts: Construction Procedures and LRFD Design Methods", Publication No. FHWA-NHI-10-016, FHWA GEC 010, May, 2010.

Table 9: Pier Foundations Design Recommendations (Br. No. 25-0153)

	Pier Foundation Design Recommendations												
Support Location	Pile Type	Total Scour (Elev.) (ft)	Cut-off Elevation (ft)	Service-I Limit State Load per Support (kips)		Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elev. (ft)	Specified Tip Elev. (ft)	Steel Casing Specified Tip Elev. (ft)
							Strength/ Construction		Extreme Event				
				Total	Permanent		Comp. (ϕ = 0.7)	Tension (ϕ = 0.7)	Comp. (ϕ = 1.0)	Tension (ϕ = 1.0)			
Pier 2 (Left & Right)	96-Inch CIDH Permanent Steel Casing 60-Inch CIDH	703	711	1700	1300	1	2600	n/a	n/a	n/a	645 (a-I, c), 670 (d)	645	695
Pier 3 (Left & Right)		684.3	706	2500	2000	1	3600	n/a	n/a	n/a	639 (a-I, c), 675 (d)	639	690
Pier 4 (Left & Right)		685.7	708	2500	2000	1	3900	n/a	n/a	n/a	630 (a-I, c), 678 (d)	630	692

Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (c) Settlement, (d) Lateral Load.
2. The CIDH specified tip elevation shall not be raised.
3. Design tip elevation for Lateral Load was provided by Structure Design.

Table 10: PILE DATA TABLE

Location	Pile Type	Nominal Resistance		Casing Specified Tip Elev. (ft)	Design Tip Elev. (ft)	Specified Tip Elev. (ft)	Required Nominal Driving Resistance (kips
		Compression (kips)	Tension (kips)				
Abut. 1	HP 14x89	250	10	n/a	700 (a) 717 (b) 710 (c)	700	350
Pier 2 (Left &Right)	96-Inch CIDH Permanent Steel Casing, 60-Inch CIDH	3720	n/a	695.0	645 (a, c) 670 (d)	645	n/a
Pier 3 (Left & Right)		5150	n/a	690.0	639 (a, c) 675 (d)	639	n/a
Pier 4 (Left & Right)		5580	n/a	692.0	630 (a, c) 678 (d)	630	n/a
Abut. 5	HP 10x57	240	0	n/a	709 (a) 723 (c)	709	240

Notes:
1. Design Tip Elevations are controlled by; (a) compression; (b) tension; (c) settlement; (d) lateral load.
2. The Specified Tip Elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.

Construction Considerations

1. Groundwater was encountered at this site during the geotechnical field investigation and shall be considered during all phases of construction and pile installation. Groundwater surface elevations fluctuate seasonally and may occur at elevations different from those provided in this report, and on the Log of Test Boring Sheets (LOTBs).

2. The granitic bedrock encountered at this project site is extremely variable in hardness, ranging from soft to very hard. The rock mass is erratic, consisting of massive, fractured, moderately hard and very hard blocks within intensely weathered to decomposed material.

Abutments 1 and 5

3. Installation of the H-piles in new embankment fill shall be in conformance with the provisions in Section 49-2.01C(4) of the 2015 Standard Specifications.

4. At Abutments 1 and 5 of the new bridge (No. 25-0153), we recommend that the piles be driven to the specified tip elevations provided in this report. However, if during driving a pile achieves 2 x the required nominal resistance below the specified tip for tension, as determined by Section 49-2.01A(4)(c) “Department Acceptance,” of the 2015 Standard Specifications, it shall be considered adequate and may be cut off upon the approval of the Engineer.

5. Any pile that does not achieve bearing at the recommended specified pile tip elevation should be re-struck after a minimum of one day (24 hours) setup time.

6. Due to the presence of cobbles and boulders and old concrete debris in the fill and alluvium, difficult pile driving should be anticipated at Abutment 1. Hard pile driving should also be anticipated through the decomposed granitic rock at Abutment 5.

7. Due to the anticipated hard driving referred to above, H-pile driving shoes are recommended for all the steel H-piles at Abutment 1, to ensure pile integrity and limit damage to the piles during driving.

8. At the Engineer's discretion, if the H-piles run during pile driving, lugs may be added to the H-piles in order to achieve bearing at the specified tip elevations. If needed, the lugs shall be installed in accordance with Bridge Construction Memo 130-5.0.

9. The piles at all the support locations shall be impact driven to the specified elevations and shall not be installed by vibratory method.

10. The bearing capacity of the piles will be field verified in accordance with Section 49-2.01A (4) (c) "Department Acceptance", of the 2015 Standard Specifications.

11. Specialty equipment may be required to install battered steel H-piles. The contractor should be prepared to alternate from battered to vertical installation methods of the steel H-piles.

Piers 2, 3 and 4

12. Alluvial material comprised of sand, cobbles and boulders overlie the bedrock at the proposed locations of Piers 2 and 4 may cause difficulties for casing installations.

13. The permanent steel casing is designed as a structural component that requires lateral resistance within the zone of the permanent casing. Install the permanent steel casing in a drilled hole and follow Section 49-3.02C(6) of the 2015 Standard Specifications.

14. The CIDH piles capacities are entirely derived from the side resistance (skin friction) from the rock below the permanent casing. The piles must, therefore, be installed to the recommended tips specified in the pile data table to achieve the required capacity.

15. Due to the variable hardness and erratic nature of the granitic bedrock, the contractor should anticipate variable drilling conditions at all the proposed pier locations. Variable drilling conditions may involve alternating between soft and hard drilling techniques.

16. Based on the LOTB for the project, the DG encountered under the bridge site was saturated. Therefore, potential caving conditions during and after drilling should be anticipated.

17. Rotation of drill tooling may dislodge blocks of fractured granitic bedrock (cobble to boulder size) from the boring wall into the boring.

19. The following conditions were experienced during drilling of the geotechnical borings for this project:

- difficulties involving the loss of drilling fluids into the alluvium and into the fractures in the granitic bedrock.
- difficulties due to advancing the boring through alternating zones of decomposed soft granitic bedrock, and very hard granitic bedrock.

20. The contractor should exercise caution while drilling the shafts for the CIDH piles to avoid rapid insertion and removal of drilling tools that may result in scouring of the decomposed granitic bedrock wall.

21. Drilling for the CIDH piles, rebar cage placement, and concrete pour must be completed in one continuous operation.

22. The tools and equipment that are planned to be used for pile installation should be described in the Contractor's drilled shaft installation plan, and the equipment actually used during construction documented in the construction records.

23. The Office of Geotechnical Design-North should be invited to the CIDH pre-construction meeting.

Project Information

"Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

Data and information attached with the project plans are:

A. Log of Test Borings, South Fork American River Bridge (Replace), Br. No. 25-0153.

Data and information included in the Information Handout provided to the bidders and contractors are:

A. Foundation Report, South Fork American River Bridge (Replace), date January 28, 2016.

Data and information available for inspection at the District Office:

A. None.

Data and information available for inspection at the Transportation Laboratory

A. Soil/Rock Cores.

The recommendations contained in this memorandum are based on specific project information regarding structure type, location and design loads that have been provided by Structure Design. If any conceptual changes to the structure are proposed during final project design, the Office of Geotechnical Design-North should review those changes to determine if the foundation recommendations herein provided are still applicable.

If you have any questions or need further information regarding this report, please contact Abu Barrie at (916) 227-1043, Luke Leong (916) 227-1081, Xing Zheng at 916-227-1036, or John Huang at 916-227-1037.

Report by:

ABUBAKARR BARRIE
Engineering Geologist
Office of Geotechnical Design-North

Supervised by:

REGISTERED PROFESSIONAL ENGINEER
QIANG HUANG
No. C055671
Exp. 12/31/16
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JOHN HUANG. P.E.
Senior Materials and Research Engineer
Office of Geotechnical Design-North

LUKE LEONG. P.E.
Transportation Engineer-Civil
Office of Geotechnical Design-North

REGISTERED PROFESSIONAL ENGINEER
LUKE LEONG
No. C 63525
Exp. 9/30/16
CIVIL
STATE OF CALIFORNIA

Reviewed by:

REGISTERED GEOLOGIST
XING ZHENG
No. 2130
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA
exp. 3/31/2017

XING ZHENG. RG.
Engineering Geologist
Office of Geotechnical Design-North

Attachment: 1. ARS Curve
2. Laboratory Results

cc:

Jess Avila, District Project Manager (E-copy)
Kristen Stubblefield, District Environmental Planner (E-copy)
Eskinder Taddese, Project Liaison Engineer (E-copy)
Qiang Huang, Chief, OGD-N Branch C
Shawn Wei, Chief, OGD-N Branch D
GeoDog

South Fork American River Bridge

Br. No. **25-0153**

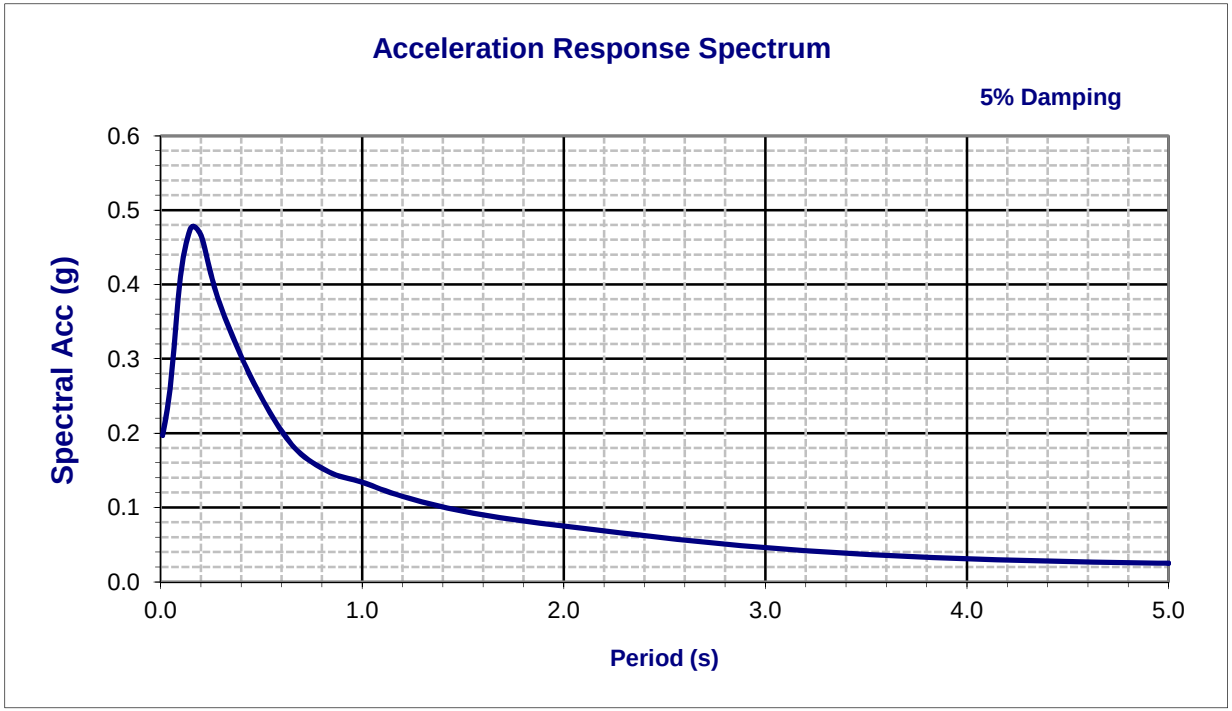
EFIS **300000078**

Lat. 38.8086

Long. -120.9010

Control: Min. Deterministic & Probabilistic

Period (s)	Sa(g)
0.010	0.197
0.050	0.267
0.100	0.414
0.150	0.476
0.200	0.466
0.250	0.413
0.300	0.369
0.400	0.303
0.500	0.248
0.600	0.203
0.700	0.171
0.850	0.146
1.000	0.134
1.200	0.115
1.500	0.095
2.000	0.075
3.000	0.046
4.000	0.031
5.000	0.025



Notes

Please note the Design ARS curve is based on the minimum deterministic spectrum & USGS 5% probability of exceedance in 50 years (975 years return period).

DIVISION OF
ENGINEERING SERVICES
OFFICE OF GEOTECHNICAL SUPPORT
GEOTECHNICAL LABORATORY
5900 Folsom Boulevard
Sacramento, CA 95819

Date: 6/23/2015

To: Abu Barrie / GDN

From: Lilibeth C. Purta / (916) 227-5239

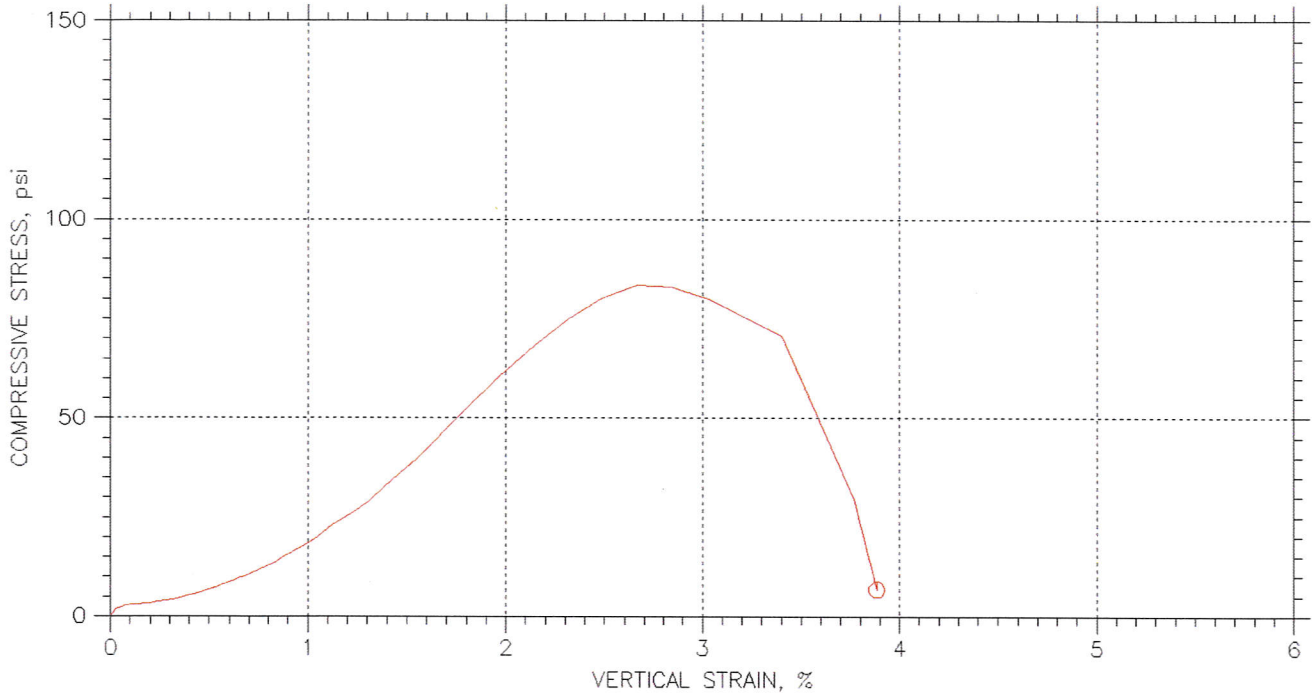
RE: Laboratory Test Report -- EA: 03-0F3101
Project: 0300000078
GL 15-028

Final test results.

Note: All remaining test specimens will be disposed of in 30 calendar days from the release date of the final test results.

AASHTO R18

UNCONFINED COMPRESSION TEST REPORT



Symbol		⏲
Test No.		Q15-041
Initial	Diameter, in	2.22
	Height, in	5.37
	Water Content, %	1.12
	Dry Density, pcf	135.4
	Saturation, %	
	Void Ratio	
Unconfined Compressive Strength, psi		83.36
Undrained Shear Strength, psi		
Time to Failure, min		
Strain Rate, %/min		1
Implied Specific Gravity		
Liquid Limit		---
Plastic Limit		---
Plasticity Index		---
Failure Sketch		

Caltrans	Project: South Fork American River
	Location: 03-ED-49-23.99
	Project No.: 03-0F3101
	Boring No.: RC-15-005-12
	Sample Type: Rock
	Description: Damp, Intensely weathered, medium to coarse grained
	Remarks: ASTM D2166

WP 6/23/15

Mon, 22-JUN-2015 08:23:37

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL SUPPORT
GEOTECHNICAL LABORATORY

UNCONFINED COMPRESSION TEST RESULTS (ASTM D7012 Method C)

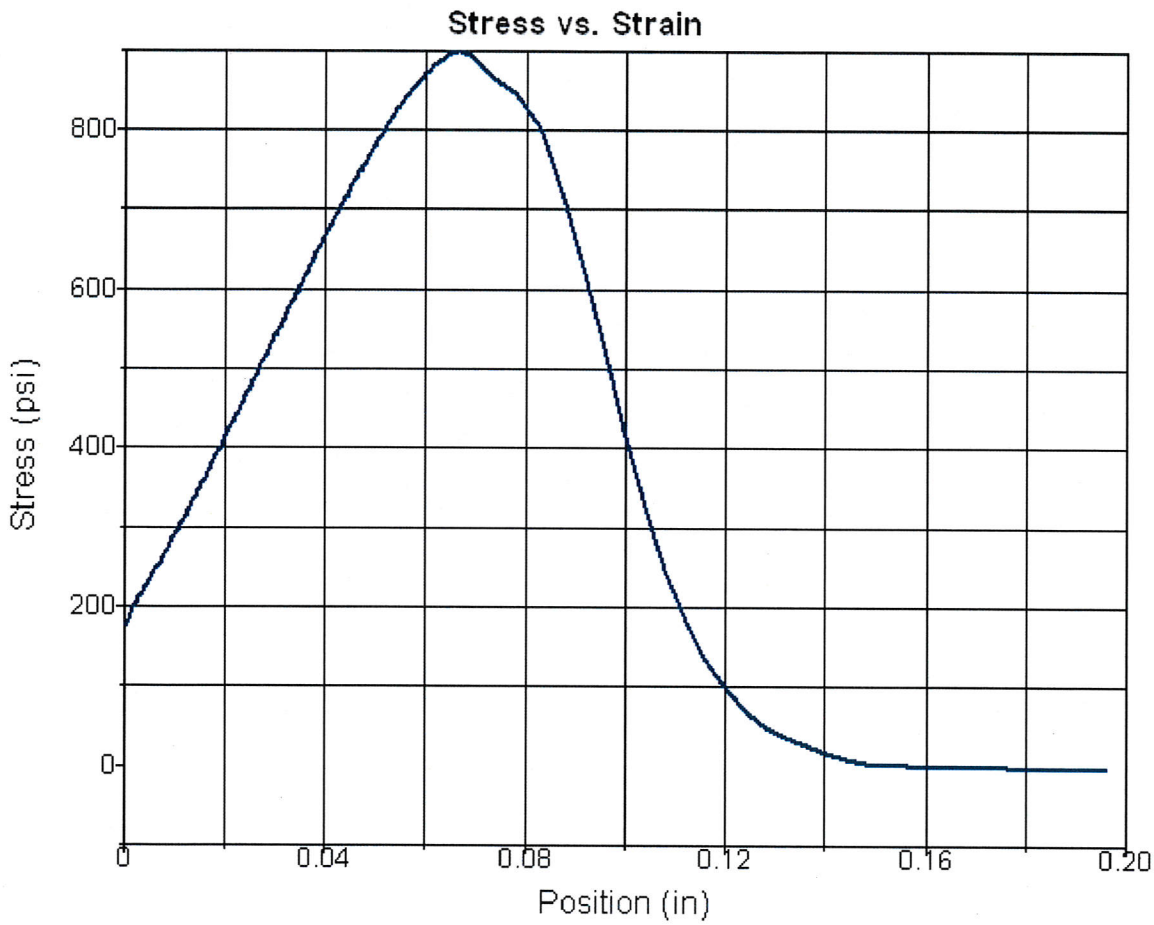
JOB LOCATION	03-ED-49 PM 23.99	GL No.	15-028	DATE	6/10/2015
				TEST BY	AZM
JOB NUMBER	03-0F3101 South Fork American River Bridge	Bridge No.	25-0021	CHECKED BY	LP 6/19/15

SAMPLE NO.	DEPTH FT.	DIA. IN.	LENGTH IN.	L/D RATIO	WEIGHT LBS.	LOAD LBS.	DENSITY PCF	STRENGTH PSI	REMARKS
RC-15-001-08	38.4-39	2.42	5.42	2.24	2.3	4136	160	899	
RC-15-001-10	49-50	2.39	5.74	2.40	2.5	39404	170	8766	
RC-15-005-16	76-77	2.41	5.70	2.37	2.5	37564	169	8235	
RC-15-005-17	80-81	2.40	5.70	2.38	2.6	89361	172	19753	

Note: No moistures recorded

* Sample fell apart while preparing for testing -- Not suitable for testing

** The test specimen length/diameter ratio was not in compliance with the test method

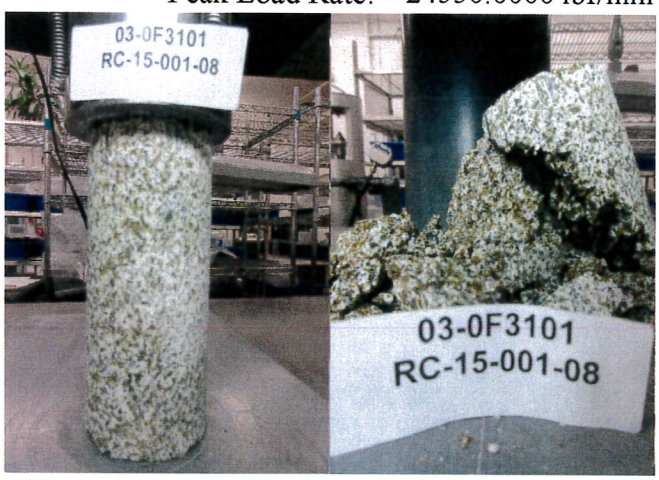


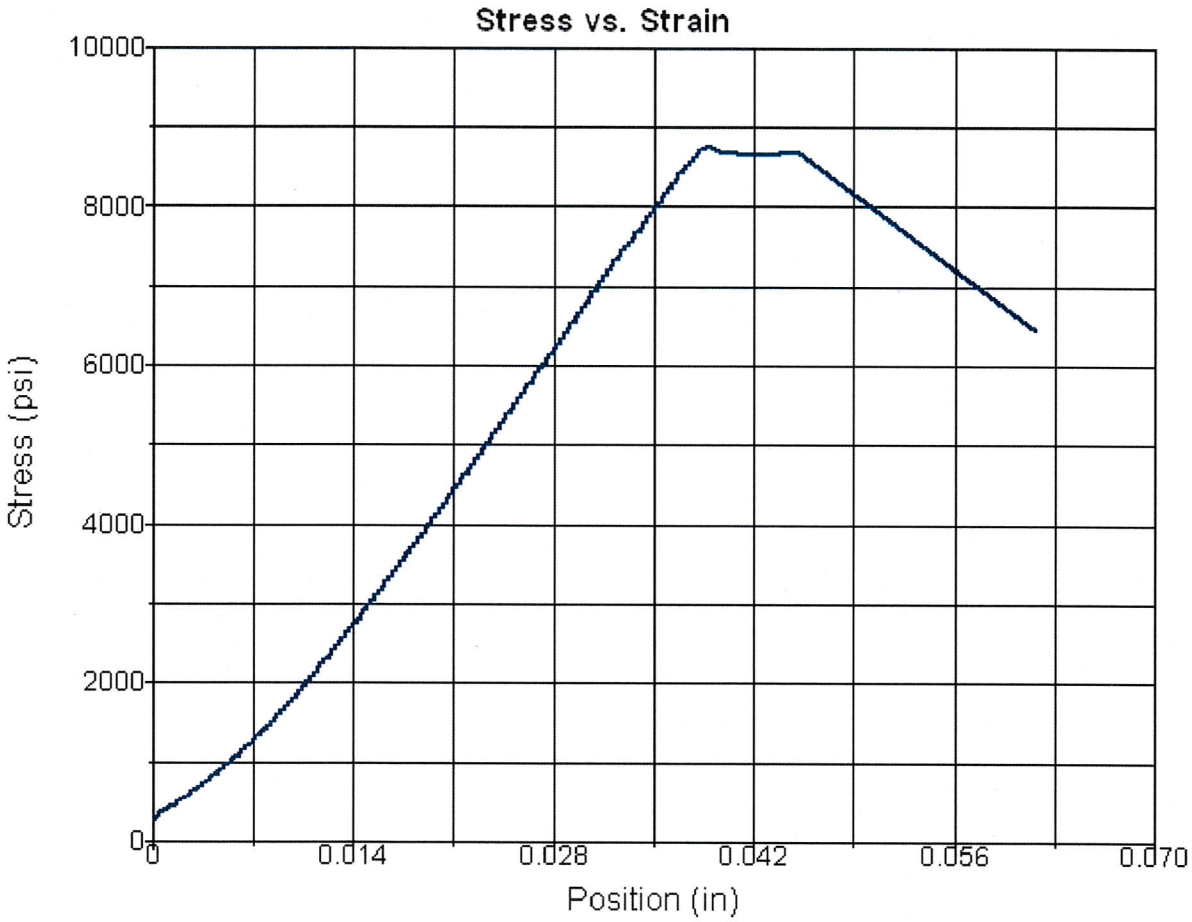
Test Summary

Sample:	RC-15-001-08
Depth:	38.4
Description:	Medium to Coarse grained massive granitic rock
Dist-EA:	03-0F3101
Location:	03-ED-49-23.99
Project:	South Fork American River
GL #:	15-028
Ticket:	Q15-039
Procedure Name:	ASTM D7012 Method C
Start Date:	6/10/2015
Elapsed Time:	00:00:24
Workstation:	D1K00YB1
Operator:	AZM
Moisture Condition:	As-Received, Not Tested
Non-Conformances:	Flatness
Comments:	Best Effort Conform.; Test As-Is

Test Results

Specimen Gage Length:	5.4200 in
Diameter:	2.4200 in
Area:	4.5996 in²
Maximum Load:	4136 lbf
Compressive Strength:	899 psi
Peak Load Rate:	24550.0000 lbf/min



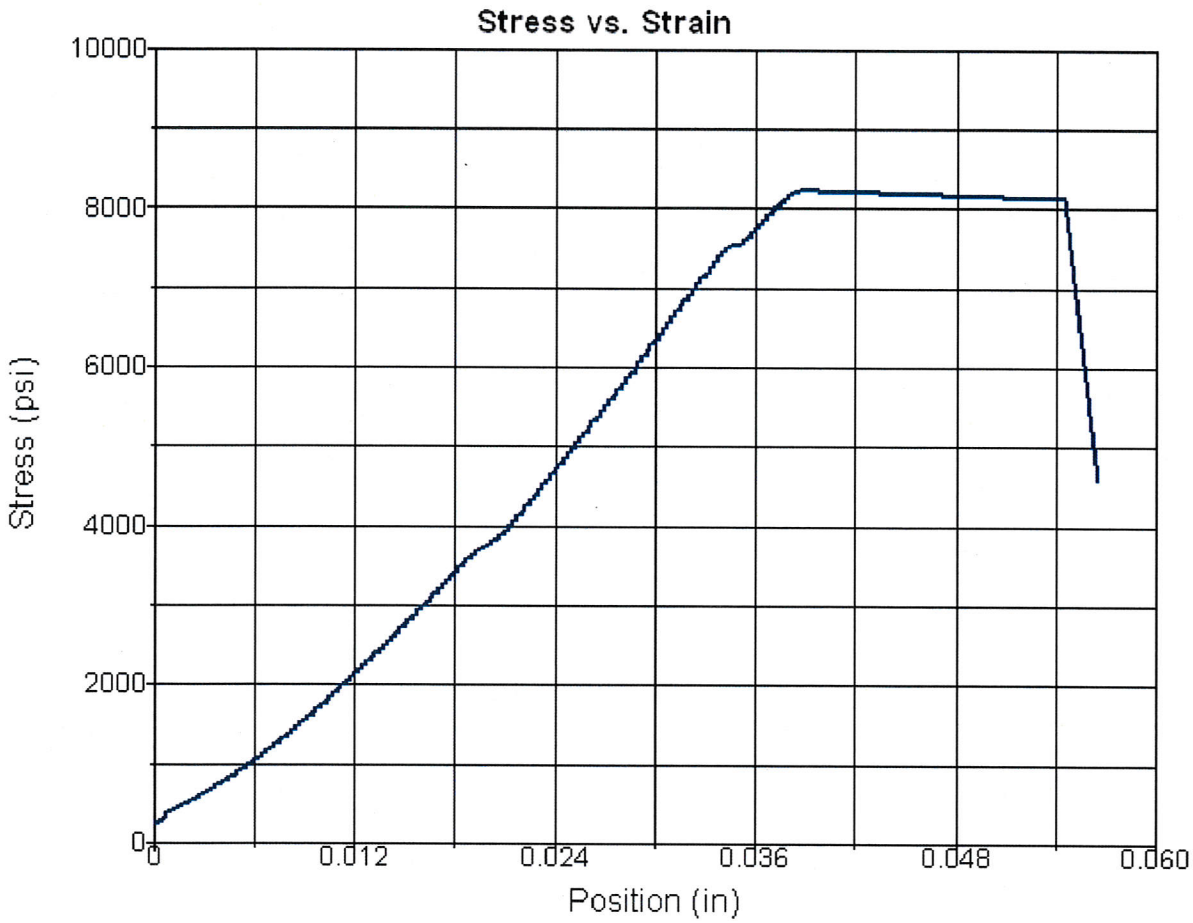


Test Summary

Sample:	RC-15-001-10
Depth:	49
Description:	Medium to coarse grained massive granitic rock
Dist-EA:	03-0F3101
Location:	03-ED-49-23.99
Project:	SOUTH FORK AMERICAN RIVER
GL #:	15-028
Ticket:	Q15-040
Procedure Name:	ASTM D7012 Method C
Start Date:	6/11/2015
Elapsed Time:	00:04:01
Workstation:	D1K00YB1
Operator:	AZM
Moisture Condition:	As-Received, Not Tested
Non-Conformances:	Flatness
Comments:	Best Effort Conform.; Test As-Is

Test Results

Specimen Gage Length:	5.7400 in
Diameter:	2.3950 in
Area:	4.5051 in²
Maximum Load:	39494 lbf
Compressive Strength:	8767 psi
Peak Load Rate:	1.48e+005 lbf/min

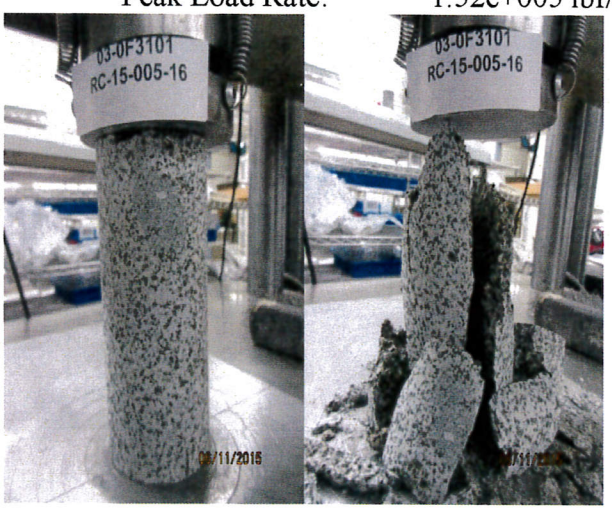


Test Summary

Sample:	RC-15-005-16
Depth:	76
Description:	Medium to coarse grained massive granitic rock
Dist-EA:	03-0F3101
Location:	03-ED-49-23.99
Project:	South Fork American River
GL #:	15-028
Ticket:	Q15-042
Procedure Name:	ASTM D7012 Method C
Start Date:	6/11/2015
Elapsed Time:	00:03:46
Workstation:	D1K00YB1
Operator:	AZM
Moisture Condition:	As-Received, Not Tested
Non-Conformances:	Flat ness
Comments:	Best Effort Conform.; Test As-Is

Test Results

Specimen Gage Length:	5.7000 in
Diameter:	2.4100 in
Area:	4.5617 in²
Maximum Load:	37564 lbf
Compressive Strength:	8235 psi
Peak Load Rate:	1.52e+005 lbf/min



Test Summary

Sample:	RC-15-005-17
Depth:	80
Description:	Medium to coarse grained massive granitic rock
Dist-EA:	03-0F3101
Location:	03-ED-49-23.99
Project:	South Fork American River
GL #:	15-028
Ticket:	Q15-043
Procedure Name:	ASTM D7012 Method C
Start Date:	6/16/2015
Elapsed Time:	00:09:04
Workstation:	D1K00YB1
Operator:	AZM
Moisture Condition:	As-Received, Not Tested
Non-Conformances:	Flat ness
Comments:	Best Effort Conform.; Test As-Is

Test Results

Specimen Gage Length:	5.7000 in
Diameter:	2.4000 in
Area:	4.5239 in²
Maximum Load:	89361 lbf
Compressive Strength:	19753 psi
Peak Load Rate:	1.66e+005 lbf/min

Results sent to: ABUBAKARR BARRIE

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 7/16/2015
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300000078**

Bridge # **25-0021**

Dist/Co/Rte/PM **03 / ED /049/ / 23.99 PM**

Bridge Name **SOUTH FORK AMERICAN RIVER**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM: NEAR ABUTMENT 1									
CR20150189	**C874581**	RC-15-001	0	5	5301	7.04			NO
CR20150190	**C874582**	RC-15-001	20	25	17859	8.07			NO

This site is not corrosive to foundation elements (see note below).

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

Results sent to: ABUBAKARR BARRIE

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 7/10/2015
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300000078**

Bridge # **25-0021**

Dist/Co/Rte/PM **03 / ED /049/ / 23.99 PM**

Bridge Name **SOUTH FORK AMERICAN RIVER**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM: ABUTMENT 8									
CR20150187	**C874579**	RC-15-005	1	5	6054	7.41			NO
CR20150188	**C874580**	RC-15-005	10	15	13883	7.05			NO

This site is not corrosive to foundation elements (see note below).

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

Results sent to: ABUBAKARR BARRIE

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 8/24/2015
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300000078**

Bridge # **25-0021**

Dist/Co/Rte/PM: **03 / ED /049/ / 23.99 PM**

Bridge Name **SOUTH FORK AMERICAN RIVER**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM:									
CR20150231	**C874584**	RC-15-006	0.5	5	3019	7.62			NO

This site is not corrosive to foundation elements (see note below).

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

State of California
Department of Transportation

California State Transportation Agency

Memorandum

Serious Drought.
Help Save Water!

To: MR. JASON LYNCH
Senior Bridge Engineer
Structure Design 2

Attention: Rui Wang, Project Designer

Date: January 7, 2016
File: 03-ED-49-24.0
03-0F3101
0300000078
S. Fork American
River Bridge
(Soil Nail Wall)

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
OFFICE OF GEOTECHNICAL SERVICES – MS 5

Subject: **Foundation Report for Soil Nail Wall**

Introduction

The Office of Geotechnical Design North (OGDN) has prepared this report for the soil nail wall project as referenced above. The project site is located on Route 49 approximately 1 mile northwest of the community of Coloma.

This project proposes to widen the existing alignment in conjunction with replacement of the existing South Fork American River Bridge, #25-0021.

This report is intended for use by design engineers, construction personnel, bidders and contractors.

Pertinent Resources

The following documents were used in the preparation of this report:

1) District Preliminary Geotechnical Report (DPGR), 03-0F310, dated February 7, 2014.

   The DPGR included descriptions of the project's physical setting including climate, topography and drainage, the regional geology and soil survey information. These conditions have not changed since the issuance of that report.

2) The project plan layout sheets and cross-sections provided 9/9/2015 by D03 Design.

Exploration

Two exploratory borings were drilled in the area of the proposed soil nail wall. One boring was horizontally drilled to a distance of 30 feet to the back of the Caltrans right-of-way. One 15 foot

deep vertical boring was drilled at the toe of the existing slope. The horizontal boring was drilled using the mud rotary technique and the vertical boring was drilled using a hollow stem auger.

Prior to drilling the vertical boring, a ground penetrating radar (GPR) study conducted in order locate any buried utilities or other objects at the toe of the existing slope.

GEOTECHNICAL CONDITIONS

The project site is underlain by igneous rock composed of moderately weathered to decomposed granite (DG). There is artificial fill up to 6 feet deep supporting the existing roadway in the area of the existing toe-of-slope. This fill is composed of silty sand with gravel. The relative density of this fill is medium dense to dense and may contain deleterious material such as construction debris.

FINDINGS AND FOUNDATION RECOMMENDATIONS

General

We conclude that the project site is suitable for the proposed soil nail wall, provided the recommendations presented in this report are incorporated into the design and construction of the project.

Groundwater

No groundwater or springs were encountered in the exploratory borings or observed in the existing slopes or roadway at the site. Groundwater is not expected to be a factor for design or construction.

Faulting and Seismicity

According to the Deterministic Peak Ground Acceleration (PGA) Map, Caltrans defines a fault as active if the fault is known to have ruptured within the past 700,000 years (Late-Quaternary to present). The Caltrans Acceleration Response Spectrum (ARS) Online Tool (V.2.3.06) indicates that the closest active fault is the Deadman Fault (Fault ID 422) which is part of the Foothill Fault system. The rupture distance from the site to the Deadman Fault is 11 miles. The Maximum Moment (MMax) that this fault is capable of generating is 6.2.

Based on the Caltrans "Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations", the design ground motion is the highest spectral acceleration as obtained by any one or a combination of the following three methods for this project site.

1. Statewide minimum deterministic spectrum requirements with MMax of 6.5, vertical strike-slip event with a rupture distance of 7.5 miles.

2. The nearest active fault as shown on the ARS Online Tool.

3. The USGS 5% Probability of Exceedance in 50 years (975 years return period).

The soil profile obtained from the exploratory drilling near the proposed wall indicates an estimated average shear wave velocity (Vs_{30}) of 2500 feet per second. Utilizing the estimated Vs_{30} and the ARS Online Tool (V.2.3.06), a maximum PGA of 0.2g was generated based on Statewide Minimum Deterministic Spectrum Requirements and USGS 5% Probability of Exceedance in 50 years (975 years return period) (Method 1).

Liquefaction

As this a rock site and effective groundwater is not present, the potential for liquefaction is considered non-existent.

Scour

Scour potential does not exist at this location.

Corrosivity

Several composite soil samples were collected from nearby borings conducted for the subsurface investigation for the South Fork American River Bridge (Replacement Bridge No. 25-0021). These samples are representative of the rock materials that will be encountered in the soil nail wall zone. The Office of Testing and Technology Services, Corrosive Technology Branch tested the samples for corrosion potential.

The results of the tests indicate that that the subsurface rock materials will not be corrosive to structural elements.

Design Criteria and Recommendations

The Federal Highway Administration (FHWA) Soil Nail Walls Reference Manual was used to design the proposed soil nail wall. The wall is designed for a minimum factor of safety (FOS) is 1.5. The external (or global) stability of the wall has a FOS greater than 1.5.

The soil parameters used for the wall design are:

- Internal friction angle (ϕ) of 39°.
- Cohesion (C) of 500 psf.
- Unit weight γ of 138 pcf.

The following are the limiting criteria for the proposed soil nail portion of the wall.

1. Minimum FOS under pseudo-static loading = 1.47.
2. Minimum FOS under static loading = 2.40.
3. Maximum design soil nail wall height = 15 ft.
4. Maximum horizontal spacing = 5 ft.
5. Maximum vertical spacing = 5 ft.
6. Maximum vertical distance between top of cut and the top most row of soil nails = 3 ft.
7. Inclination angle of the nails to the horizontal = 15°.
8. Minimum diameter of drilled hole = 6 in.
9. Ultimate bond resistance = 12 psi.
10. Minimum nail length for wall height of 8 ft. to 11 ft. = 12 ft.
11. Minimum nail length for wall height of 11 ft. to 15 ft. = 15 ft.
12. Average tensile force in the nail head = 621 Lb.

Rippability

The exploratory borings that were conducted in the area of the proposed excavation and drilled nail zone indicate that the project site is underlain by deeply weathered to decomposed granite that is overall easily excavatable with standard roadway excavation and soil nail drilling equipment.

Boring RC-15-001 showed evidence of marginal potential rippability in the form of slightly weathered to fresh, hard granitic rock proximate to the designed soil nail termini near the same depth/location as the existing right-of-way. Difficult soil nail wall installation in the form of hard rock may be encountered in this area. We estimate that the extent of marginally rippable materials will be less than 10% of the project volumes and will require excavation using hard rock methods such as hoe-rams or coring tools.

Blasting will not be required.

Pullout Testing

We recommend that pullout verification and proof tests will be required to assure the design resistance has been obtained and for QA/QC of the soil nail installation method and materials.

We recommend a verification test be performed in accordance with the soil nail wall specifications. If the design pullout resistance value given on the plans is found to be the cause, the Department will issue revised soil nail lengths or pullout resistance values. If the Contractor's means and methods are determined to be at fault, the installation methods will be rejected and the Contractor will revise his methods and resubmit working drawings at their

expense. In either case, the Contractor will be required to install and test additional verification nails.

We recommend that at least 10% of the production nails be proof tested. The preliminary recommended locations of the proof tests are shown on the attached drawing. The actual proof test locations will be determined by the Structure Representative during construction and shall be evenly spaced along the wall.

Drainage

We recommend that strip drains be placed behind the wall to alleviate pore water pressure which may accumulate in the decomposed granite material.

Cut Slope

The face of the proposed 2:1 cut slope above the soil nail wall will consist of decomposed granite which will be highly erodible. The face of this slope should be stabilized by using erosion control measures to reduce the possibility of storm water sediment runoff. The most efficient erosion control measure should be selected by the Landscape Architecture group.

Construction Considerations

This is a rock site. Contractors should be aware that we have made our best attempt, based on field mapping and exploratory drilling to determine the potential for hard rock drilling and if any marginally to non-rippable rock will be encountered. The volume estimates presented in this report were obtained by drilling, sampling and observing the rock materials at discrete points and may not be an exact interpretation of the rippability conditions of the granitic rock at all depths and project stationing points.

If an adverse ground condition such as unexpected water flow or adverse geologic structure is encountered, representatives from our Office must be contacted to assess the situation. Installation of additional soil nail assemblies may be required prior to resuming excavation and will be paid for according to the Special Provisions.

Project Information

The following is information originating from Geotechnical Services to be included in the bid package Information Handout:

Data and information attached with the project plans are:
None.

JASON LYNCH
January 7, 2016
03-0F3101

S. Fork Amer. River Soil Nail Wall
03-ED-49-24.0
0300000078

Data and information included in the Information Handout provided to the bidders and contractors are:

This report.
One Log of Test Borings (LOTB)

Data and information available for inspection at the District Office:

None.

Data and information available for inspection at the Transportation Laboratory are:

None.

If you have any questions or comments, please call Christopher Koepke at (916) 227-1040 or Luke Leong at (916) 227-1081.

Respectfully submitted by:

REGISTERED GEOLOGIST
CHRISTOPHER W. KOEPKE
No. 2207
CERTIFIED ENGINEERING GEOLOGIST
Exp. 10/17
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
LUKE LEONG
No. C 63525
Exp. 9/30/2016
CIVIL
STATE OF CALIFORNIA

CHRISTOPHER KOEPKE, C.E.G. 2207
Engineering Geologist
Geotechnical Design North

LUKE LEONG, P.E. C63525
Transportation Engineer – Civil
Geotechnical Design North

<u>Appendix</u>: Boring Records and locations

cc : Reza Mahallatti
GeoDog archive system

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
C. Koepke	8-4-15	8-4-15	NAD83	RC-15-001
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Caltrans			~12' Lt Sta ~46+75 "CCN1"	~760 ft NAVD88
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Rotary Wire-Line			CS 2000 (track)	3.5 in
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS: DURING DRILLING	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Neat cement grout full depth			N/A	N/A	30.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		IGNEOUS ROCK (GRANITE); dark reddish brown; decomposed; moderately hard.		1			17	0						
	1														
759.65	2														Horizontal boring @ 10 degrees
	3														
759.31	4														
	5				2			42	0						
758.96	6		Brownish gray; intensely weathered; hard.												
	7														
758.61	8														
	9														
758.26	10				3			75	0						
	11														
757.92	12														
	13		Dark yellowish brown; very hard.												
757.57	14														
	15				4			67	0						
757.22	16														
	17														
756.87	18		Moderately weathered.												
	19														
756.53	20				5			92	17						
	21														
756.18	22														
	23														
755.83	24														
	25														

(continued)

Department of Transportation
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design - North

REPORT TITLE				HOLE ID
BORING RECORD				RC-15-001
DIST.	COUNTY	ROUTE	POSTMILE	PROJECT ID
03	ED	49	23.7/24.4	03-0F310
PROJECT OR BRIDGE NAME				
South Fork American River GDR				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
	C. Koepke			1 of 2

5 BR - STANDARD GINT_BORINGS_001-002.GPJ CALTRANS LIBRARY (FEB 2013).GLB 1/7/16

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	25		IGNEOUS ROCK (Granite) *(continued)*.		6			92	33						
755.49	26		Slightly weathered; extremely hard.												
	27														
755.14	28														
	29														
754.79	30		Bottom of borehole at 30.0 ft bgs												
	31		Destroyed per GS-01 policy.												
754.44	32		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	33														
754.10	34														
	35														
753.75	36														
	37														
753.40	38														
	39														
753.05	40														
	41														
752.71	42														
	43														
752.36	44														
	45														
752.01	46														
	47														
751.66	48														
	49														
751.32	50														
	51														
750.97	52														
	53														
750.62	54														
	55														

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Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design - North

REPORT TITLE				HOLE ID
BORING RECORD				RC-15-001
DIST. 03	COUNTY ED	ROUTE 49	POSTMILE 23.7/24.4	PROJECT ID 03-0F310
PROJECT OR BRIDGE NAME South Fork American River GDR				
BRIDGE NUMBER	PREPARED BY C. Koepke		DATE	SHEET 2 of 2

5 BR - STANDARD GINT_BORINGS_001-002.GPJ CALTRANS LIBRARY (FEB 2013).GLB 1/7/16

LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
C. Koepke	8-12-15	8-12-15	NAD83	A-15-008
DRILLING CONTRACTOR: Caltrans			BOREHOLE LOCATION (Offset, Station, Line): ~7' Lt Sta ~46+70 "CCN1"	SURFACE ELEVATION: ~755 ft NAVD88
DRILLING METHOD: Rotary Wire-Line			DRILL RIG: CS 2000 (track)	BOREHOLE DIAMETER: 4 in
SAMPLER TYPE(S) AND SIZE(S) (ID): SPT (1.4")			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
BOREHOLE BACKFILL AND COMPLETION: Neat cement grout full depth			GROUNDWATER READINGS: DURING DRILLING N/A; AFTER DRILLING (DATE) N/A	TOTAL DEPTH OF BORING: 15.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		SILTY SAND with GRAVEL (SM); light reddish brown; dry; 5% GRAVEL ; FILL MATERIAL, some trash and debris..		1			23	0						Upper 10" A.C. and base.
	1														
752.50	2														
	3														
750.50	4														
	5														
					2	18 22 26	48	100	0						
748.50	6		IGNEOUS ROCK (GRANITE); pale reddish brown; decomposed; soft.												
	7														
746.50	8														
	9														
744.50	10		Brownish gray; intensely weathered; moderately soft.		3	50/10"	REF	66	0						
	11														
742.50	12														
	13														
740.50	14														
	15		Bottom of borehole at 15.0 ft bgs												
738.50	16		Destroyed per GS-01 policy.												
	17		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
736.50	18														
	19														
734.50	20														
	21														
732.50	22														
	23														
730.50	24														
	25														

Department of Transportation
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design - North

REPORT TITLE				HOLE ID
BORING RECORD				A-15-008
DIST. 03	COUNTY ED	ROUTE 49	POSTMILE 23.7/24.4	PROJECT ID 03-0F310
PROJECT OR BRIDGE NAME: South Fork American River GDR				
BRIDGE NUMBER	PREPARED BY: C. Koepke	DATE	SHEET 1 of 1	

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LEGEND:

- PROPOSED TCE
- PROPOSED R/W ACQUISITION
- CUT
- FILL
- EXISTING RIGHT OF WAY

ABBREVIATIONS:

TCE TEMPORARY CONSTRUCTION EASEMENT
CP OBTAIN COUNTY PERMIT

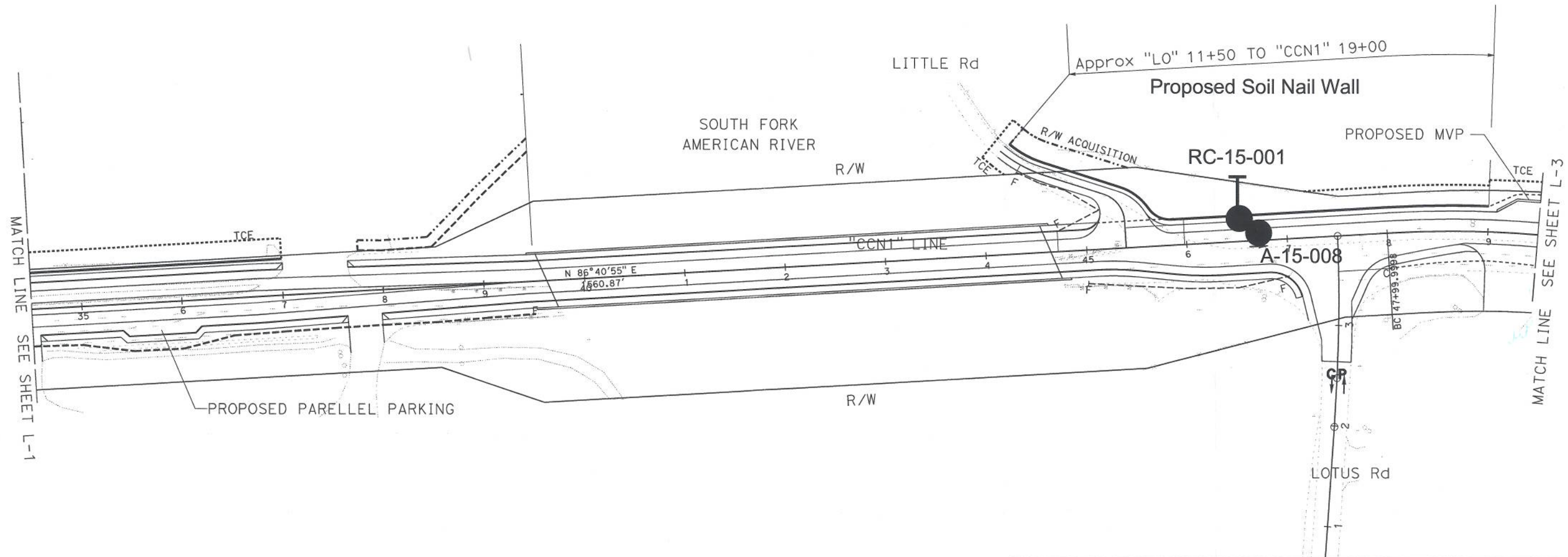
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



BORING LOCATION MAP
0300000078
(Soil Nail Wall)

Vertical boring

Horizontal boring

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 06-MAR-2015
TIME PLOTTED => 14:50

BORDER LAST REVISED 7/2/2010

USERNAME => s125952
DGN FILE => CCN1_CF2.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 03000000781

Division of Engineering Services
Office of Design & Technical Services
Structure Hydraulics

REVISED FINAL HYDRAULIC REPORT

South Fork American Bridge Replacement

Located on State Route 49 in El Dorado County

JOB:
Bridge No. 25-0021 Project ID: 03 0000 0078

LOCATION:
03-ED-49-PM 23.99

PREPARED BY Ginger Lu, PE# 71324

REGISTERED PROFESSIONAL ENGINEER
J. GINGER LU
C 71324
EXP. 12/31/2015
CIVIL
STATE OF CALIFORNIA

August 20, 2015
Structure Hydraulics & Hydrology

This report has been prepared under my direction as the professional engineer in responsible charge of the work, in accordance with the provisions of the Professional Engineers Act of the State of California.

General:

This report supersedes the previous final hydraulic report (dated 8/17/2015). Structure Design proposes to replace the existing structure (Br # 25-0021) with an arch-like structure at Post Mile 23.99 on State Route 49 in El Dorado County (Figure 1).

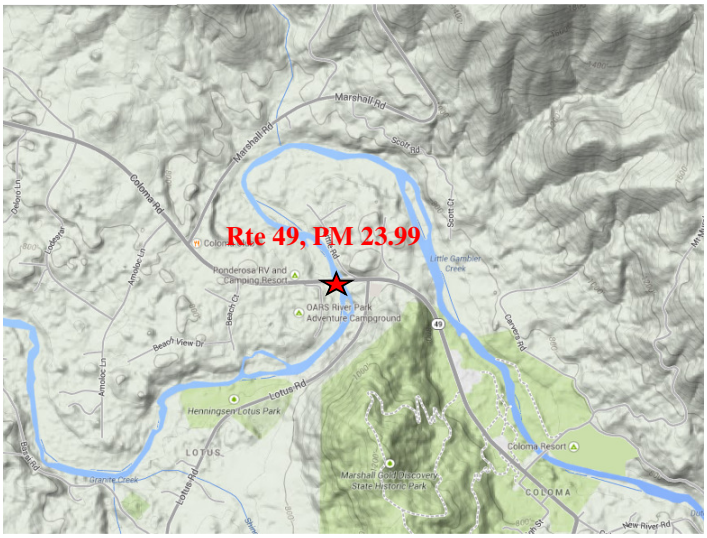


Figure 1: Terrain Map of the Project Location

The proposed new structure in Figure 2 will be constructed on a different bridge roadway profile and on a new alignment 20'-10" (centerline to centerline) upstream from the existing alignment. The superstructure will be 515' long, 56'-10" wide, four-span, and cast-in-place/pre-stressed (CIP/PS) box girder. The bridge deck will range from 8'-6" to 4' in depth towards the bents except Bent 2 with a constant depth of 4'. The substructure of each bent will consist of two oval-like columns tapering from 3.25' x 10' on the top to 2.5' x7.5' at the bottom and each column is founded on 8' diameter Type II shaft casing.

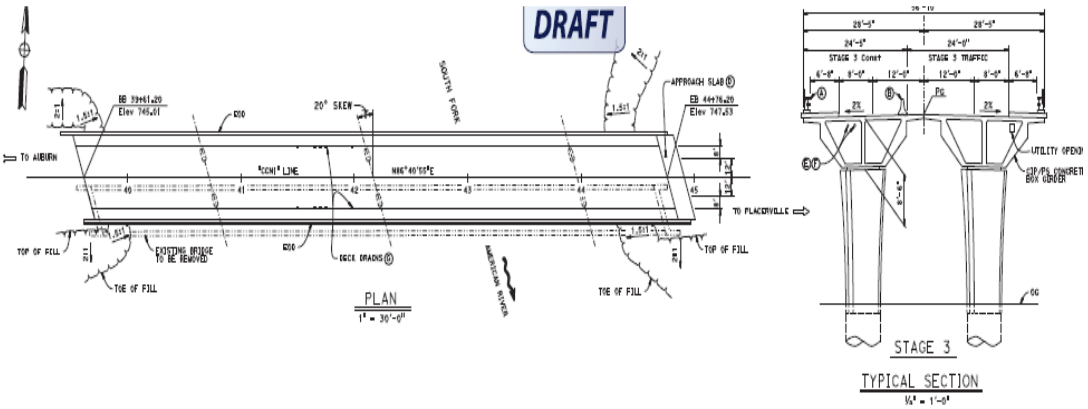


Figure 2: Proposed Bridge Replacement

The existing structure built in 1950 is a 504'-4" long, 31'-6" wide, and seven-span reinforced concrete (RC) deck on two-riveted plate girders, supported by RC solid piers on spread footings and RC open end seat abutments on spread footings. Based on the March 2015 Bridge Inspection Report, the NBIS Item 113 code regarding bridge's vulnerability to scour was a 3, which is defined as "bridge is scour critical; bridge foundations determined to be unstable for

assessed or calculated scour conditions." In addition, the existing bridge suffers minor deck distress and moderate cracking on the pier walls. Being a popular tourist attraction and rafting designated area, the existing structure doesn't have the capacity to accommodate the amount of pedestrian and bicycle traffic and it also doesn't meet current seismic standards.

This report makes reference to:

- General Plan (NGVD 29) from Structure Design (08/07/2015)
- Preliminary Foundation Report (NGVD 29) from Geotechnical Design-North (5/1/2015)
- Caltrans Bridge Maintenance Records and field reviews from 12/11/1937 to 03/16/2015, and the existing structure As-Built plans.
- Converted LiDAR data and bathymetry data in NAVD 1988 from Preliminary Investigation (8/2014)
- LiDAR data and Roadway Survey data in NGVD 1929 from District Surveys (02/2013)
- *Floods in Northern California January 1997 in* US Geological Survey (USGS) Fact Sheet FS-073-99 by USGS (May 1999)
- *HEC-18, Evaluating Scour at Bridges 5th edition* by Federal Highway Administration, US Department of Transportation (April, 2012)
- *Flood Insurance Study (FIS) for El Dorado County* by Federal Emergency Management Agency (FEMA, 04/03/2012)
- *2012 Central Valley Flood Protection Plan* & its companion publication, *Attachment 8C Riverine Channel Evaluations*, by Central Valley Flood Management Planning Program (CVFMPP, 1/2012)
- *State Plan of Flood Control Descriptive Document* by CVFMPP (11/2010)

All elevations indicated in this report are in <u>English</u> units. The vertical datum transformation derived by District Surveys is 2.38' between NAVD 1988 and NGVD 1929.

<u>Basin:</u>

The South Fork (SF) American River begins about 10 miles south of Lake Tahoe and flows west passed Kyburz, Pollock Pines and Coloma before emptying into Folsom Lake. The SF American River is a major tributary of the American River in El Dorado County, draining a watershed on the western slope of Sierra Nevada to the town of Lotus, east of Sacramento. Elevations range from approximately 8500' in the mountains to 710' at the town of Lotus, where the project is located. There are several major hydroelectric power production dams on the SF American River, including Union Valley Reservoir Dam, Ice House Reservoir Dam, Slab Creek Dam, and Chili Bar Dam.

According USGS, the drainage area of the SF American River near Lotus (Stream gage # 11445500) was mapped to be 635 square miles (mi^2), and the channel bed slope was estimated to be an average of 0.003 ft/ft within 4000' of the project site. The annual average precipitation was calculated to be 45.5 inches.

<u>Discharge:</u>

FIS-FEMA (2011) for El Dorado County does not contain pertinent flood information for the American River but a floodplain map of the SF American River at Coloma was published in FIRM map (Map# 06017C0475E, 9/29/2008). FEMA-FIS for Sacramento County and CVFMPP have ample flood information on the lower reach of the American River below Folsom Lake but

not upstream. Controlled releases of the dams render statistical methods inadequate for approximating the 50-year and 100-year return flood events. Other hydrologic analyses for the 50-year and 100-year flood events on a regulated channel are rather complex and time consuming to perform.

Three historic high flow records are listed in Table 1 in cubic feet per second (cfs), and the1997 flood is considered the flood of record. According to the USGS Fact Sheet in 1999, the 1997 flood of 90,000 cfs for the South Fork American River exceeded the 100-year flood event of the channel. The flood of record (90,000 cfs) is considered in this report as the design flood and is used to propagate all the hydraulic values.

Table 1 South Fork American River Drainage Area = 635 mi^2, Channel slope = 0.003 ft/ft			
Year of Flood	***1951***	***1956***	***1997***
Flow Rate, cfs	64,500	71,800	90,000

Model Preparation and Parameters:

- US Army Corps of Engineers' hydraulic analysis software - HEC-RAS 4.1.0 (1/2010) was used to create the steady-flow one-dimensional (1-D) models for this project. For the purpose of validating the 1-D models' results, the Surface Water Modeling System (SMS 12.0) SRH 2-D models were created but their results were not presented.

- Topographic composite (NAVD 88) of the LiDAR and bathymetry survey was generated in WMS for the cross-sections needed in the detailed study. The Planning Study, as-built plans, roadway survey and aerial photos were referenced for the specific locations and dimensions of the structures for the models.

- Subcritical flow regime with a slop of 0.003 ft/ft is applied in the steady flow under the flood event (Q_{1997}= 90,000). Ineffective-flow-area feature was used in the last five cross-sections downstream to take out the southern area of the roadway as being ineffective part of the floodplain. The contraction/expansion coefficients were 0.1 and 0.3 throughout the area.

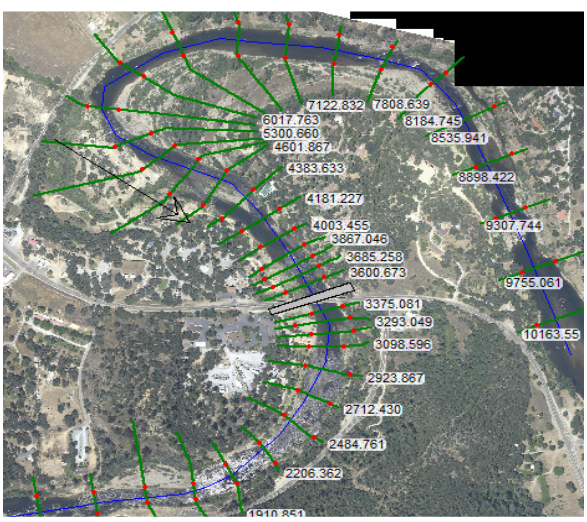


Figure 3: Channel Cross-Sections

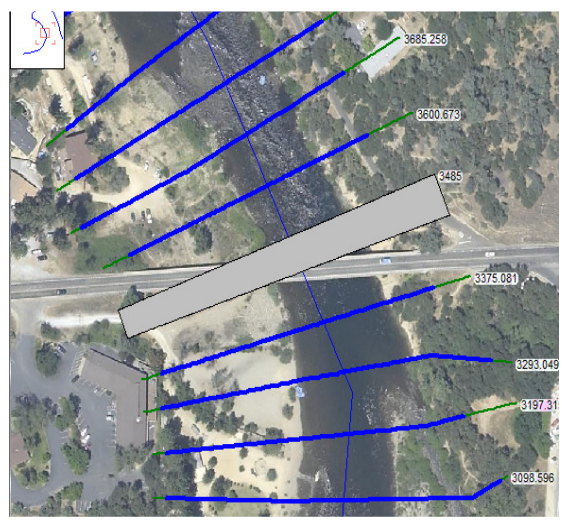


Figure 4: Cross-Sections Close-up

- There are a total of 35 cross-sections (in green) labeled with River Station number (RS#) along 10,000 linear feet of the channel in Figure 3, and the structure is located about 3,500' from the downstream starting point (Figure 4). In order to reduce errors from iterative computations, the two cross-sections next to the bridge were taken perpendicular to the flow line, and 20° bridge skew with no hydraulic skew or cross-sectional skew was included. In the bridge approach modeling editor, highest energy solution from energy equations, momentum balance method, and Yarnell equation is elected for low flow methods and pressure/weir flow method is elected for high flow methods.

- Tree branches, brushes, and debris were repeatedly reported being caught at B7, B6 & B5 in the past. A drift pile from 1997 bridge photos was sized to be 26' long, 10' wide, and 6' tall. Floating debris feature with submerged drift (10'x4') was applied to both the existing and proposed conditions. The drift has caused an increase in the water level by 0.05' (the proposed) to 0.1' (the existing), comparing to no drift.

- Three observed high-water marks from three historic flow records in Table 2 were used to calibrate the final roughness coefficients (n-values) for the right, main, and left banks in the existing condition of the models. As a result, the n-values are 0.055 to 0.08 for the overbanks and 0.035 to 0.055 for the main channel. These n-values fall within the high end of the recommended limits for the American River in FEMA-FIS for Sacramento County (8/2012). The same n-values were then applied to the proposed condition.

Table 2 Calibration against High Water Marks (NAVD 88)

Year	Peak Discharge (cfs)	Observed (ft)	Output (ft)	Difference (ft)
1956	71800	735.6	733.2	2.4
1951	64500	732.0	731.9	0.1
1963	60400	731.1	731.2	-0.1

Stage/Velocity:

Since the flood of record is used for the design flood (no statistical analysis was performed), there will be no hydraulic results for the 50-year flood. The hydraulic results of the design flood under the 1-D HEC-RAS modeling system in NAVD 1988 are tabulated in Table 3, which shows both water surface elevation (WSE) in feet (ft), average velocity in feet per second (ft/s), and available freeboard for the existing and proposed conditions.

Table 3: Hydraulic Results
(Upstream Face with Drift in NAVD 88)

Flood Events	***Q_{1997} = 90,000 cfs***	
Structure	***Existing***	***Proposed***
WSE (RS 3600.673), ft	736.3	735.9
Average Velocity, ft/s	11.7	11.9
Soffit Elevation, ft	742.0 to 737.4	744.4 to 736.2
Available Freeboard, ft	5.7 to 1.1	8.5 to 0.3

In Figure 4, the 1% annual chance (Zone A) flood boundary line (in black) from FEMA FIRM map compared against the blue most outer contour lines at Elevation 750' according to the LiDAR

composite survey (Figure 5). The FEMA's Zone-A boundary lines appear to wander in and out of Elevation 750' regardless its position, which indicates dated topography.

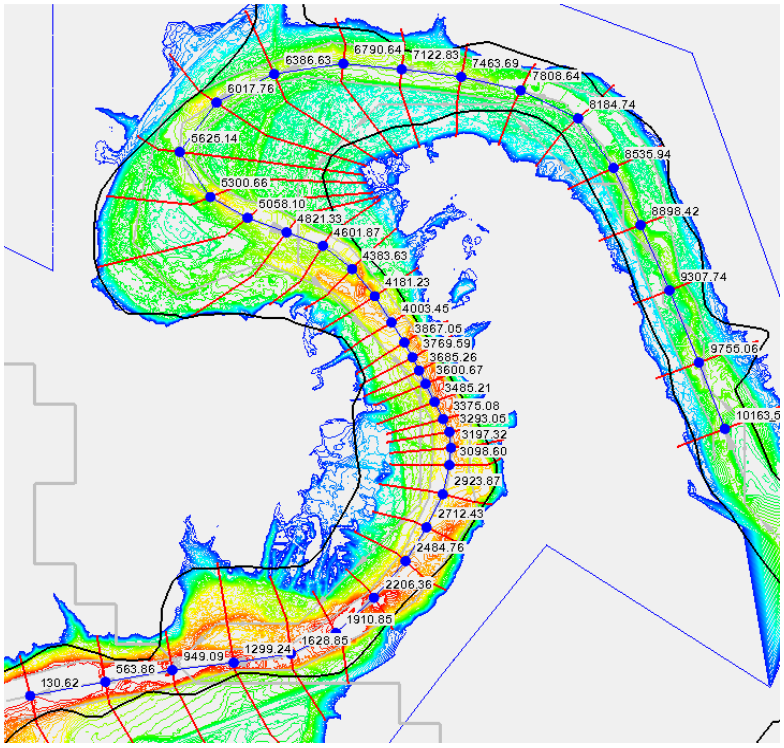
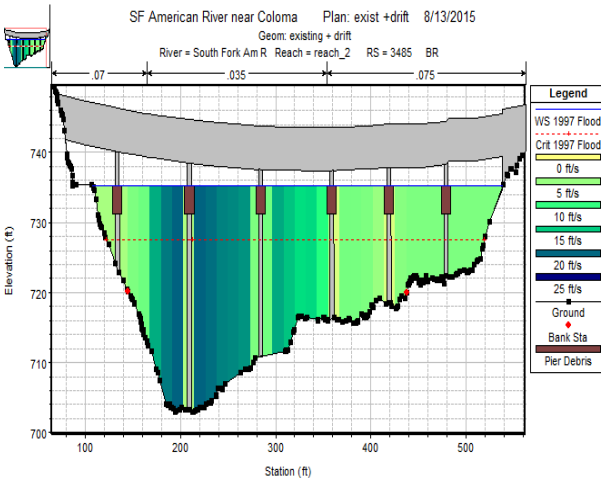


Figure 5: FEMA Zone A Boundary (Black)

Since the project is on a sag-curve bridge profile, and since the proposed structure has variable structure depth, the available freeboard in 1-D model is a range rather than a single value. 1-D model can only produce a single value of WSE per cross-section as shown in Figure 6 and Figure 7, but 2-D model generates a wave-like water level across channel due to obstacles, frictions, and drag forces in the water as shown in Figure 8. Because of fewer piers in the channel, WSE for the proposed structure didn't fluctuate as much as the existing structure and really improved fluidity of the flow.



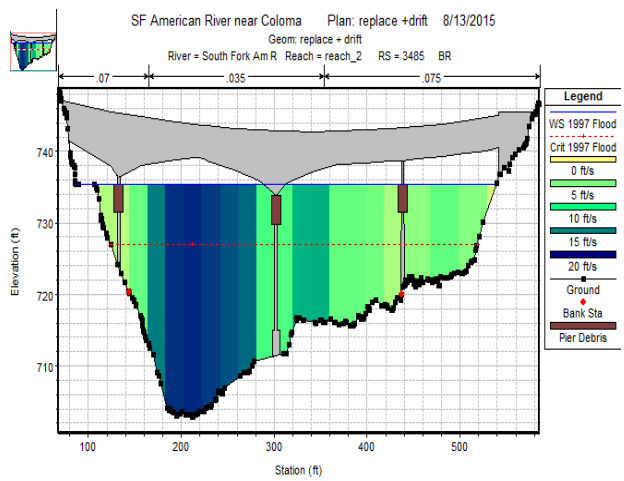


Figure 6: 1-D Existing (looking downstream) Figure 7: 1-D Proposed (looking downstream)

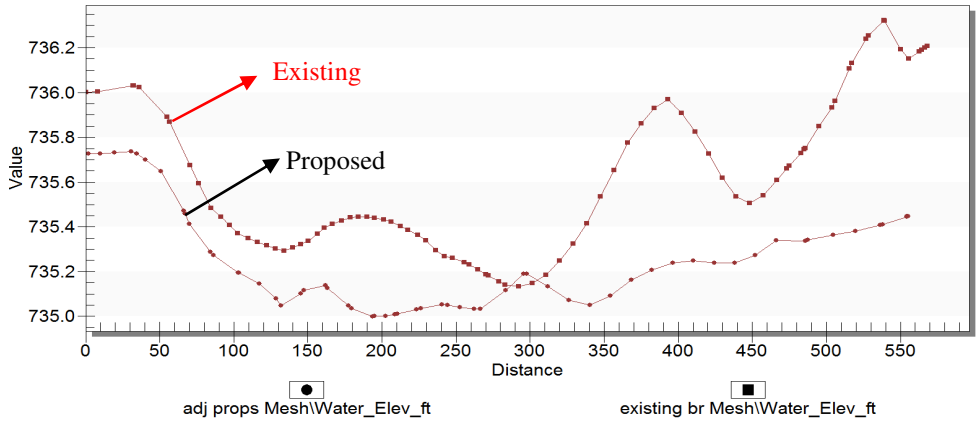


Figure 8: 2-D Water Level Profile across Channel (looking upstream)

As for the debris problems, fewer piers in the main channel, where velocities in the channel are fast, is preferable and some freeboard is advised. Freeboard by definition is measured from WSE (Q_{100}) to the lowest chord of a structure, and the lowest chord of an arch structure is specified by the lowest point of the soffit. Freeboard guideline in this case is inherently complicated. Although the freeboard for the proposed condition is almost zero, about 3% (13'/515') of the proposed bridge has less than 1' freeboard. With one pier in the main channel, instead of 3 piers, the risk of having debris caught by the piers is greatly reduced.

Scour:

From the multiple historic channel cross-sections, the channel thalweg appears to stay in place (no lateral migration), and no apparent long-term degradation or aggradation was observed. In 2015 Structure Preliminary Foundation Report, the streambed, based on the newly drilled borings, was described as underlain by a range of 1'-15' of silty and sandy gravels and cobbles with occasional boulders over decomposed granite bedrock in varying degrees of weathering and fracturing and hardness to a depth of 60'-65'. At 70' depth or deeper, the layer merges into moderately to fresh granite. The streambed materials above 70' depth of the layers as mentioned before are considered to be erodible.

The computed scour numbers with the total scour values were tabulated in Table 4 for each bent and abutment except Abutment 5, where the design flood will not reach the bridge element.

Table 4: Substructure Scour (ft) for Proposed Structure

Substructure	*Bent 4*	*Bent 3*	*Bent 2*	*Abutment 1*
Pressure/Contraction Scour	0	0	0	**
Long-term Degradation	0	0	0	0
Local Scour	19.4	20.8	12.6	**
Total Scour	19.4	20.8	12.6	5.7

*** NCHRP 24-20 abutment scour equations were applied. The equations used contraction scour computation with a factor accounted for large-scale of turbulence in the vicinity of abutments.*

Although the proposed length of the structure is similar to the channel opening, contraction scour calculation was performed to evaluate the contraction effect. As a result, no contraction scour (0) was found. With debris potential, the effective pier width of pier width plus debris was estimated for the final local scour assessment. The HEC-18 pier scour equation based on the

CSU equation is applied for all the proposed piers to obtain the local pier scour values. From the SMS SRH 2-D models, the proposed Abutment 1 embankment will encounter the design flood upstream and downstream, and hence abutment scour calculation using NCHRP 24-20 equations was carried out. The equations, which are highly recommended by Federal Highway Hydrology & Hydraulic Authority, encompass the contraction scour computation with turbulence factor of the channel condition.

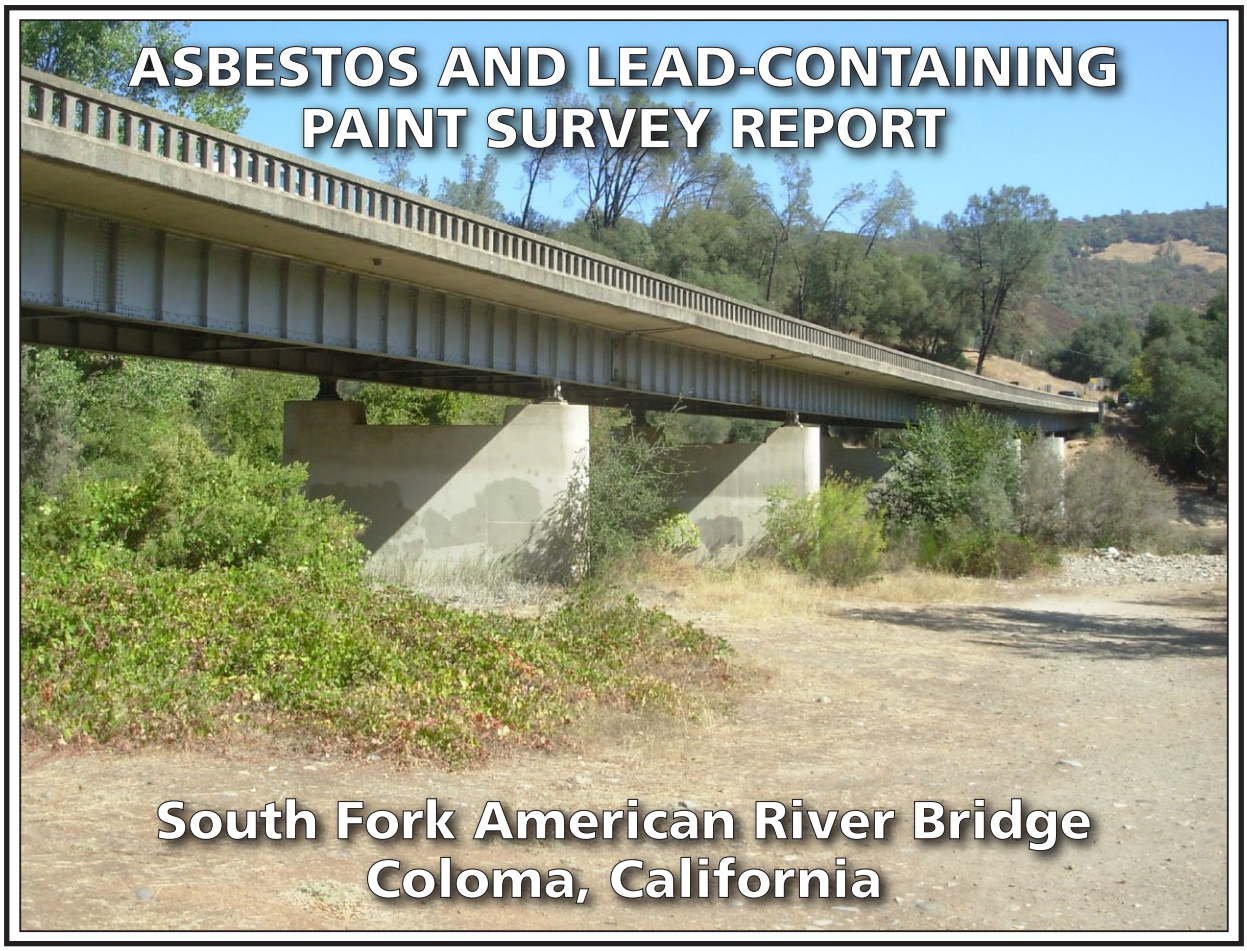
Summary & Recommendations:

- The Hydrologic Summary table below shows the hydraulic results from 1-D HEC-RAS. There is no known minimum freeboard requirement for this reach of the river imposed by the regulatory agencies or local governments. Because of reported debris problems, 1' freeboard is preferred. The proposed structure has a range of available freeboard (8.5' to 0.3'), and 3% (13'/515') of the proposed bridge will have less than 1' freeboard. Because floating debris has a tendency to be pushed towards the deeper part of the channel where velocities are greater, the proposed piers are recommended to be outside of the deeper area. With design limitations and project location constrains, the proposed piers for Bent 3 and Bent 4 are designed to be outside of the 'main' channel. The proposed design is acceptable and appears to be reasonably effective towards alleviating drift problems.

HYDROLOGIC SUMMARY *Drainage Area: 635 mi²*			
Flood Event	***Design Flood***	***Base Flood***	***Overtopping Flood/ Flood of Record***
Frequency	*Flood of Record*	*n/a*	*n/a /1997*
Discharge, cfs	*90,000*	*n/a*	*n/a /90,000*
WSE at Bridge, ft *(NAVD 88)*	*735.9*	*n/a*	*n/a*
WSE at Bridge, ft *(NGVD 29)*	*733.5*	*n/a*	*n/a*
Average Velocity, ft/s	*11.9*	*n/a*	*n/a*
Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.			

- The final scour values based on erodible streambed for the proposed substructure are provided in this report. The scour elevations are the elevations where the bottoms of the scour holes can reach, and hence all substructure foundations must be deeper than the calculated scour elevations in Scour Data Summary (NAVD 88 & NGVD 29). For the embankment of the abutment 1, rock slope protection (RSP) is advised. With local velocity (6.5 ft/s) and water depth (11.4') of the 2-D model, RSP D_{50} is sized to be 0.6 ft (Isbash Eq.). The entire embankment up to Elevation 734.5' (NGVD 29) should be armored with 1' depth of RSP.

Scour Data Summary *(Q_{1997} = 90,000 cfs)*				
Substructure	***Bent 4***	***Bent 3***	***Bent 2***	***Abutment 1***
Total Scour Depth (ft)	19.4	20.8	12.6	5.7
Channel Elevation (ft, *NAVD 88)*	707.5	707.5	718.0	722.8
Scour Elevation (ft, *NAVD 88)*	688.1	686.7	705.4	717.1
Channel Elevation (ft, *NGVD 29)*	705.1	705.1	715.6	720.4
Scour Elevation (ft, *NGVD 29)*	685.7	684.3	703.0	714.7



PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET, P.O. BOX 911
MARYSVILLE, CALIFORNIA 95901

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON PROJECT NO. S9805-01-63
TASK ORDER NO. 63
E-FIS 03-0000-0078-0 (EA 03-0F3101)
CONTRACT NO. 03A2132

NOVEMBER 2015

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9805-01-63
November 3, 2015

Ms. Alicia Beyer, Task Order Manager
California Department of Transportation - District 3
Environmental Engineering Office
703 B Street
Marysville, California 95901

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT
03-ED-49, POST MILE 29.99
SOUTH FORK AMERICAN RIVER BRIDGE No. 25-0021
COLOMA, CALIFORNIA
CONTRACT NO. 03A2132, E-FIS 03-0000-0078-1, EA 03-0F3101
TASK ORDER NO. 63

Dear Ms. Beyer:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A2132 and Task Order No. 63, we have performed an asbestos and lead-containing paint survey for the South Fork American River Bridge replacement project in Coloma, California. Our scope of services included surveying the structure for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples to laboratories for analyses.

The accompanying report summarizes the services performed and laboratory analysis.

The contents of this report reflect the views of Geocon Consultants, Inc., who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

David A. Watts, CAC No. 98-2404
Senior Project Scientist

John E. Juhrend, PE, CEG
Principal/Senior Engineer

(3 + 2 CDs) Addressee

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ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A2132, Task Order No. 63 (TO-63).

1.1 Project Description

The project consists of the South Fork American River Bridge (25-0021) at Post Mile (PM) 23.99 on Highway 49 in Coloma, California. We performed asbestos and LCP survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

1.2 General Objectives

The purpose of the scope of services outlined in TO-63 was to determine the presence and quantity of asbestos and LCP at the project location prior to bridge replacement activities. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

> *It was <u>not</u> Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines.*

2.0 BACKGROUND

2.1 Asbestos

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a California hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding, grinding, cutting, or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8 of the California Code of Regulations (CCR) §1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be addressed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Lead Paint

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, §1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a substrate. Demolition of a deteriorated LCP component

would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the representative total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the representative soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability; however, for the purposes of this investigation, toxicity (i.e., lead concentration) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California-hazardous or RCRA-hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with lead-containing paint. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in Title 8, CCR, §1532.1.

2.3 Architectural Plans and Previous Survey Activities

Architectural plans and previous asbestos survey reports were not available for our review.

3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2016), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2016), performed the asbestos and LCP survey at the project location on October 5, 2015.

3.1 Asbestos

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of thirteen bulk asbestos samples representing six suspect components were collected.

Our procedures for inspection and sampling in accordance with TO-63 are discussed below:

- Collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples under standard chain-of-custody protocol to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM). EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a turnaround period of five days.

Sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

3.2 Lead Paint

A total of four bulk paint samples were collected from suspect LCP observed at the project location. Mr. Watts field-composited the suspect LCP samples into two paint schemes prior to submittal to the laboratory. Our sampling procedures in accordance with TO-63 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under standard chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for total and soluble lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a turnaround period of five days.

Paint sample identification numbers, descriptions, peeling and flaking quantities, and photo references are summarized on Table 2. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

4.0 INVESTIGATIVE RESULTS

4.1 Asbestos Analytical Results

Asbestos was not detected in samples of the suspect materials collected during our survey. A summary of the analytical laboratory test results for asbestos is presented on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

4.2 Paint Analytical Results

Our sample representing intact silver paint applied to steel structural members of the bridge exhibited a representative total lead concentration of 370 mg/kg. Representative WET lead was not detected at or above the laboratory reporting limit (RL) of 1.0 mg/l.

Representative total lead was not detected at or above the laboratory RL of 40 mg/kg in our sample representing intact beige paint (graffiti abatement) applied to the bridge.

A summary of the analytical laboratory test results for paint is presented on Table 2. Reproductions of the laboratory reports and chain-of-custody documentation are in Appendix A.

5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

5.1 Asbestos

Since no asbestos was detected in samples collected during our survey, the Cal/OSHA asbestos standard does not apply for planned activities. In addition, demolition debris would not be considered a California hazardous waste based on asbestos content. However, written notification to U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

5.2 Lead Paint

Paints represented by samples collected during our survey would not be considered California or Federal hazardous based on lead content.

We recommend that all paints at the project location be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, § 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

The removal, transportation, placement, handling, and disposal of LCP must result in no visible dust.

6.0 REPORT LIMITATIONS

The asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous renovation work may have concealed or covered spaces or materials or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced

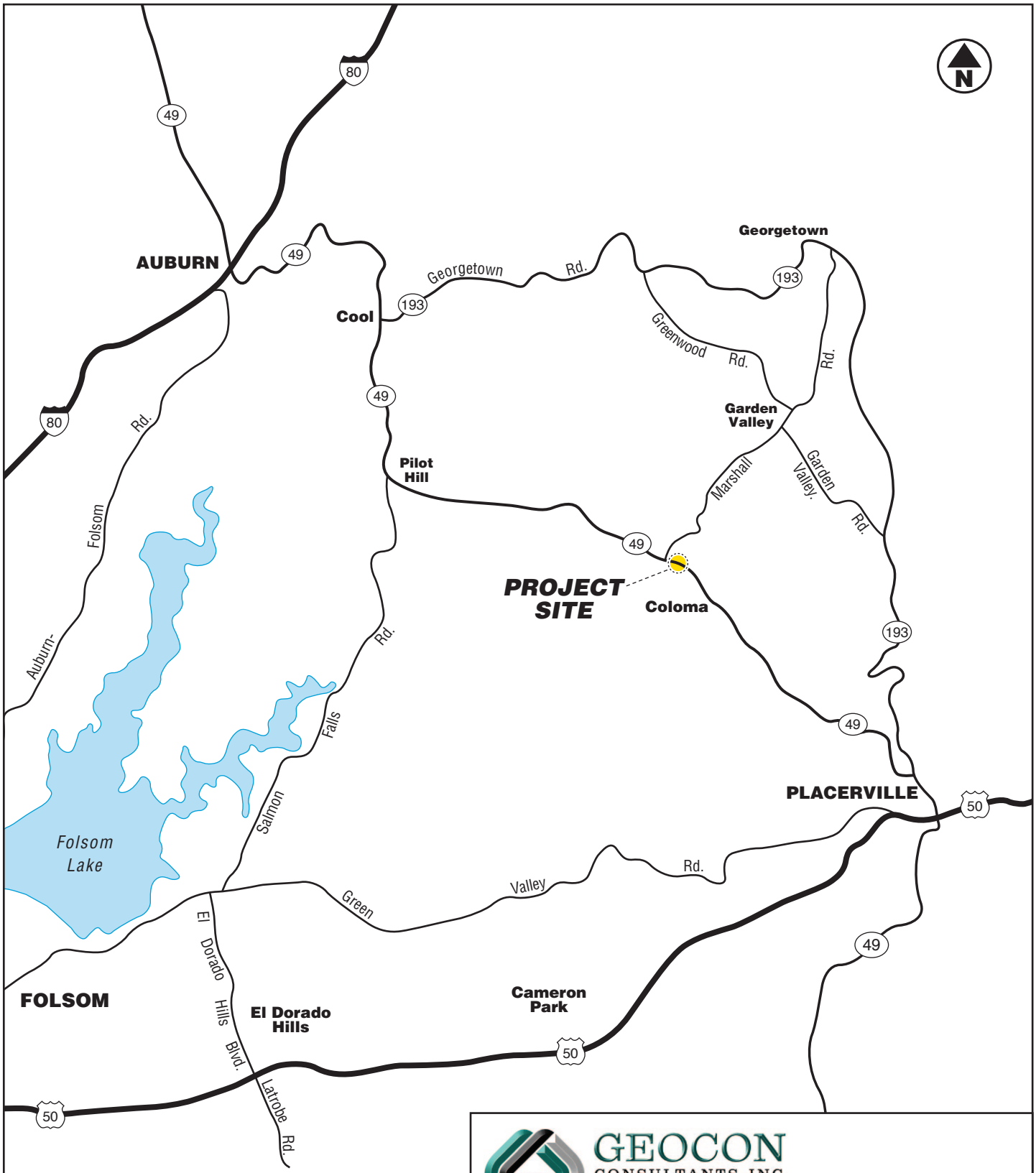
ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM and/or LCP are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.



GEOCON
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3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

South Fork American River Bridge, Coloma, California

S9805-01-63
TO No. 63 Contract 03A2132
E-FIS 03-0000-0078-0
EA 03-0F3101

VICINITY MAP

November 2015 | Figure 1

LEGEND:

- Approximate Asbestos Sample Location
- Approximate Paint Sample Location

0 80
Scale in Feet

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S9805-01-63
TO No. 63 Contract 03A2132
E-FIS 03-0000-0078-0
EA 03-0F3101

SITE PLAN

November 2015 | Figure 2

Photo 1 – South Fork American River Bridge at PM 23.99 on Highway 49 in Coloma, California

Photo 2 – Bridge deck and barriers

Photo 3 – Bridge joint fill material

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PHOTOGRAPHS 1, 2, & 3		
South Fork American River Bridge (25-0021) Coloma, California		
S9805-01-63		November 2015

Photo 4 –Bridge abutment, conduit, and piping

Photo 5 – Bridge piping, truss system, and girders

Photo 6 – Bridge piers

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
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PHOTOGRAPHS 4, 5, & 6		
South Fork American River Bridge (25-0021) Coloma, California		
S9805-01-63		November 2015

TABLE 1
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
CONTRACT 03A2132, TASK ORDER NO. 63, E-FIS 03-0000-0078-1 (EA 03-0F3101)
SOUTH FORK AMERICAN RIVER BRIDGE No. 25-0021
COLOMA, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample Group No.	Description of Material	Approximate Quantity	Friable	Site Photo	Asbestos Content
1	Concrete	NA	NA	1 through 6	ND
2	Asphalt	NA	NA	2	ND
3	Joint fill material	NA	NA	3	ND
4	Asphalt pipe coating	NA	NA	4 and 5	ND
5	Textured paint (steel members)	NA	NA	1, 4, 5, and 6	ND
6	Textured paint (graffiti abatement)	NA	NA	1, 5, and 6	ND

Notes:
NA = Not applicable (no asbestos detected)
ND = Not detected

TABLE 2
SUMMARY OF PAINT ANALYTICAL RESULTS - TOTAL AND SOLUBLE LEAD
CONTRACT 03A2132, TASK ORDER NO. 63, E-FIS 03-0000-0078-1 (EA 03-0F3101)
SOUTH FORK AMERICAN RIVER BRIDGE No. 25-0021
COLOMA, CALIFORNIA

Paint Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photos	Total Lead (mg/kg)	WET Lead (mg/l)
P1A/B	Silver (steel members)	Intact	1, 4, 5, and 6	370	<1.0
P2A/B	Beige (graffiti abatement)	Intact	1, 5, and 6	<40	---

Notes:
WET = Waste Extraction Test
mg/kg = milligrams per kilogram (EPA Test Method 6010B)
mg/l = milligrams per liter (EPA Test Method 6010B)
< = not detected at or above the indicated method reporting limit
--- = not analyzed

APPENDIX A

ADVANCED TECHNOLOGY LABORATORIES

October 19, 2015

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 961-5273
Fax:(925) 371-5915

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1503495
Client Reference : SO.FK.AM. RIVER, S9805-01-63

Enclosed are the results for sample(s) received on October 09, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/19/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1A/B	1503495-01	Paint	10/05/15 0:00	10/09/15 15:15
P2A/B	1503495-02	Paint	10/05/15 0:00	10/09/15 15:15

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/19/2015

Total Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1503495-01	P1A/B	**370**	mg/kg	330	50	B5J0423	10/15/2015	10/16/15 09:53	D2
1503495-02	P2A/B	**ND**	mg/kg	40	10	B5J0423	10/15/2015	10/16/15 10:12	D2

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/19/2015

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5J0423 - EPA 3050B_S									
Blank (B5J0423-BLK1)					Prepared: 10/15/2015 Analyzed: 10/16/2015				
Lead	ND	1.0			NR				
LCS (B5J0423-BS1)					Prepared: 10/15/2015 Analyzed: 10/16/2015				
Lead	48.1774	1.0	50.0000		96.4	80 - 120			
Duplicate (B5J0423-DUP1)		**Source: 1503486-01**			Prepared: 10/15/2015 Analyzed: 10/16/2015				
Lead	3.08927	1.0		3.08976	NR		0.0161	20	
Matrix Spike (B5J0423-MS1)		**Source: 1503486-01**			Prepared: 10/15/2015 Analyzed: 10/16/2015				
Lead	111.977	1.0	125.000	3.08976	87.1	35 - 129			
Matrix Spike Dup (B5J0423-MSD1)		**Source: 1503486-01**			Prepared: 10/15/2015 Analyzed: 10/16/2015				
Lead	115.619	1.0	125.000	3.08976	90.0	35 - 129	3.20	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/19/2015

Notes and Definitions

D2	Sample required dilution due to high concentration of non-target analyte.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FEDEX ☑ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y☐ N☑
2. HEADSPACE (VOA) N/A Y☐ N☐
3. CONTAINER INTACT Y☑ N☐
4. SEALED Y☐ N☑
5. # OF SPLS MATCH COC Y☑ N☐
6. PRESERVED Y☐ N☑

Client: GEOCON CONSULTANTS, INC.
Attn: D. WATTS
Address: 6671 Brisa Street
City: Livermore State: CA Zip Code: 94550
TEL: (925) 371-5900
FAX: (925) 371-5915

Project Name: SO. FK. AM. RIVER
Project #: S9805-01-63
Sampler: (Printed Name) D. WATTS (Signature) [signature]

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
[signature]	10/6/15	1800	Fed Ex	10/6/15	1800
			ASPER MONGOLIAN	10/9/15	1515

I hereby authorize ATL to perform the work indicated below:
Project Mgr/Submitter: D. WATTS 10/5/15 (Print Name, Date)
Signature: [signature]

Send Report To:
Attn: _____
Co: SAME AS ABOVE
Address _____
City _____ State _____ Zip _____

Bill To:
Attn: _____
Co: SAME AS ABOVE
Address _____
City _____ State _____ Zip _____

Special Instructions/Comments:
PAINT SAMPLES
(ANTICIPATE SOLUBLE REQUESTS)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal) -Pb	8015B (GRO) / BTEX	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	SOIL	WATER	GROUND WATER	WASTEWATER	PAINT	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
		P1A/B	10/5/15	VAR					X									X	5-Day	1	Bg P		Sil (Steel)
		P2A/B	↓	↓					↓									↓	↓	↓	↓		BG (GA)

TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr; B= Emergency Next workday; C= Critical 2 Workdays; D= Urgent 3 Workdays; E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: White with report Yellow to folder Pink to submitter

October 22, 2015

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 961-5273
Fax:(925) 371-5915

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1503495
Client Reference : SO.FK.AM. RIVER, S9805-01-63

Enclosed are the results for sample(s) received on October 09, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/22/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1A/B	1503495-01	Paint	10/05/15 0:00	10/09/15 15:15

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	SO.FK.AM. RIVER, S9805-01-63
6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/22/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1503495-01	P1A/B	**ND**	mg/L	1.0	20	B5J0620	10/22/2015	10/22/15 10:53	

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QUALITY CONTROL SECTION

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5J0620 - STLC_S Extraction									
Blank (B5J0620-BLK1)					Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	ND	1.0			NR				
Blank (B5J0620-BLK2)					Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	ND	1.0			NR				
LCS (B5J0620-BS1)					Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	2.03610		2.00000		102	80 - 120			
Duplicate (B5J0620-DUP1)		**Source: 1503471-01**			Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	0.070392	1.0		0.063999	NR		9.51	20	
Duplicate (B5J0620-DUP2)		**Source: 1503471-28**			Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	0.437467	1.0		0.401684	NR		8.53	20	
Matrix Spike (B5J0620-MS1)		**Source: 1503471-01**			Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	2.67539		2.50000	0.063999	104	44 - 130			
Matrix Spike (B5J0620-MS2)		**Source: 1503471-28**			Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	3.04706		2.50000	0.401684	106	44 - 130			
Matrix Spike Dup (B5J0620-MSD1)		**Source: 1503471-01**			Prepared: 10/22/2015 Analyzed: 10/22/2015				
Lead	2.58635		2.50000	0.063999	101	44 - 130	3.38	20	

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6671 Brisa Street		Report To :	Dave Watts
Livermore , CA 94550		Reported :	10/22/2015

Notes and Definitions

ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Rachelle Arada

From: Dave Watts, CAC [watts@geoconinc.com]
Sent: Monday, October 19, 2015 3:49 PM
To: Rachelle Arada
Cc: Diane Galvan
Subject: Re: Results - SO.FK.AM. RIVER, S9805-01-63 (ATL# 1503495)

Run tclp on wet fail. Same tat. Thanks.

David Watts, Geocon
925-785-5340
watts@geoconinc.com
Sent from my iPhone

On Oct 19, 2015, at 3:48 PM, "Dave Watts, CAC" <watts@geoconinc.com> wrote:

Wet please on P1. 48hr tat after extraction. Thanks.

David Watts, Geocon
925-785-5340
watts@geoconinc.com
Sent from my iPhone

On Oct 19, 2015, at 3:43 PM, "Rachelle Arada" <Rachelle@atlglobal.com> wrote:

Hi Dave,

Attached are the results for the above project. Invoice to follow.
Rachelle Arada
Project Manager
[atl logo]Advanced Technology Laboratories www.atlglobal.com<http://www.atlglobal.com>
Tel: (562) 989-4045 ext. 237
Fax: (562) 989-4040
Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Oregon (Air) and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. Advanced Technology Labs - Your Partner for Quality Environmental Testing This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

<image001.jpg>
<1503495.pdf>
<1503495.xls>

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	091517126
CustomerID:	GECN21
CustomerPO:	03A2132
ProjectID:	

Attn: **Dave Watts**
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	10/08/15 9:15 AM
Analysis Date:	10/15/2015
Collected:	10/5/2015

Project: **SO. FK. AM. River/59805-01-63/0342132**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1A *091517126-0001*	CONCRETE-DK	Gray Non-Fibrous Homogeneous	>1	Cellulose	45% 20% 15% 20%	Quartz Gypsum Ca Carbonate Non-fibrous (other)	**None Detected**
1B *091517126-0002*	CONCRETE-BAR	Gray Non-Fibrous Homogeneous	>1	Cellulose	45% 20% 15% 20%	Quartz Gypsum Ca Carbonate Non-fibrous (other)	**None Detected**
1C *091517126-0003*	CONCRETE-AB	Gray Non-Fibrous Homogeneous	>1	Cellulose	40% 25% 15% 20%	Quartz Gypsum Ca Carbonate Non-fibrous (other)	**None Detected**
2A *091517126-0004*	ASPHALT	Black Non-Fibrous Homogeneous			20% 15% 65% 0%	Quartz Gypsum Matrix Non-fibrous (other)	**None Detected**
2B *091517126-0005*	ASPHALT	Black Non-Fibrous Homogeneous			20% 15% 65% 0%	Quartz Gypsum Matrix Non-fibrous (other)	**None Detected**

Analyst(s)
Cecilia Yu (13)

Chris Dojlidko, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 10/15/2015 10:59:12

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	091517126
CustomerID:	GECN21
CustomerPO:	03A2132
ProjectID:	

Attn: **Dave Watts**
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	10/08/15 9:15 AM
Analysis Date:	10/15/2015
Collected:	10/5/2015

Project: **SO. FK. AM. River/59805-01-63/0342132**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
3A *091517126-0006*	JOINT FILL MATIL	Black Fibrous Homogeneous	35%	Cellulose	45% 20%	Matrix Non-fibrous (other)	**None Detected**
3B *091517126-0007*	JOINT FILL MATIL	Black Fibrous Homogeneous	35%	Cellulose	45% 20%	Matrix Non-fibrous (other)	**None Detected**
4A *091517126-0008*	ASPHALT PIPE COATING	Gray/Black Non-Fibrous Homogeneous			15% 60% 25%	Ca Carbonate Matrix Non-fibrous (other)	**None Detected**
4B *091517126-0009*	ASPHALT PIPE COATING	Black Non-Fibrous Homogeneous			15% 60% 25%	Ca Carbonate Matrix Non-fibrous (other)	**None Detected**
5A *091517126-0010*	TEXTURED SILVER PAINT (STEEL)	Silver Non-Fibrous Homogeneous			80% 20%	Matrix Non-fibrous (other)	**None Detected**
5B *091517126-0011*	TEXTURED SILVER PAINT (STEEL)	Silver/Yellow Non-Fibrous Homogeneous			80% 20%	Matrix Non-fibrous (other)	**None Detected**
6A *091517126-0012*	TEXTURED BEIGE PAINT	Green/Beige Non-Fibrous Homogeneous			80% 20%	Matrix Non-fibrous (other)	**None Detected**
6B *091517126-0013*	TEXTURED BEIGE PAINT	Gray Non-Fibrous Homogeneous			80% 20%	Matrix Non-fibrous (other)	**None Detected**

Analyst(s)
Cecilia Yu (13)

Chris Dojlidko, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 10/15/2015 10:59:12

THIS IS THE LAST PAGE OF THE REPORT.

OrderID: 091517126

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 091517126

CT #03A2132

EMSL ANALYTICAL, INC.
464 MCCORMICK STREET
SAN LEANDRO, CA 94577
PHONE: (510) 895-3675
FAX: (510) 230-3537

Company: GEOCON	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 6671 BRISA ST	
City: LIVERMORE State/Province: CA	Zip/Postal Code: 94550 Country: USA
Report To (Name): D. WATTS	Fax #: 925-371-5915
Telephone #: 925-371-5900	Email Address: WATTS@GEOCONINC.com
Project Name/Number: SO. FK. AM. RIVER / 59805-01-63	
Please Provide Results: ☐ Fax ☒ Email	Purchase Order: 03A2132 U.S. State Samples Taken: CA

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: D. WATTS **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1A-C	CONCRETE (DK, BAR/RD)	NA	5 OCT 2015
2A/B	ASPHALT		
3	JOINT FILL MAT'L		
4	ASPHALT PIPE COATING		
5	TEXTURED SILVER PAINT (STEEL)		
6	" BEIGE " (GA)		

Client Sample # (s): 1A - 6B **Total # of Samples:** 13

Relinquished (Client): [signature] **Date:** 10/6/15 **Time:** 1800

Received (Lab): FedEx **Date:** 10/6/15 **Time:** 1800

Comments/Special Instructions: rcolon 10.8.15 9:15am.

Water Surface Elevation/Flow Information

WSE is taken from approximately 60' upstream of the proposed structure

Q (cfs)	WSE
20000.00	722.84
15000.00	721.07
13000.00	720.26
10000.00	718.82
7000.00	717.24
4000.00	715.02
3500.00	714.57
3000.00	714.12
2500.00	713.61
2000.00	713.01
1500.00	712.32
1000.00	711.59

Robson, Brenda J@DOT

From: Ray Leftwich <Ray.Leftwich@lincolnca.gov>
Sent: Wednesday, February 24, 2016 2:51 PM
To: Johnson, Nicki@DOT
Cc: Gary.Hengst@stantec.com
Subject: RE: Water Availability for Caltrans project (03-0F310) Bridge replacement

Nicki,
The City will be able to supply reclaimed water in the amounts identified for the 03-0F310 Bridge Replacement Project.

Ray Leftwich, P.E.
City Engineer
City of Lincoln
Office (916) 434-2457
Mobile (916) 871-2974
Ray.Leftwich@Lincolnca.gov

From: Johnson, Nicki@DOT [mailto:Nicki.Johnson@dot.ca.gov]
Sent: Wednesday, February 24, 2016 1:26 PM
To: Ray Leftwich
Subject: FW: Water Availability for Caltrans project (03-0F310) Bridge replacement

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From: Johnson, Nicki@DOT
Sent: Wednesday, February 24, 2016 8:39 AM
To: 'rayleftwich@lincolnca.gov'
Subject: Water Availability for Caltrans project (03-0F310) Bridge replacement

Ray,
Caltrans will be advertising a project on State Route 49 for a bridge replacement. Approximately 1.7 million gallons of water will be required during construction. Please let us know if non-potable water will be available for this project.

Thank you,

Nicki Johnson
PLA #5213, CPESC, QSD/QSP
Caltrans - District 3
Landscape Architecture, Storm Water
(530) 741-4012

EXCLUSIONARY DEVICES
FOR
ROOSTING BATS & NESTING BIRDS
FOR THE
SOUTH FORK AMERICAN RIVER BRIDGE

Contract No. 03-0F3104
ID No. 0300000078

DRAFT

Mitigate Environmental Impacts and PLAC Compliance for Roosting Bats

Exclusionary devices will be in all gaps, joints, openings and crevices identified as locations of potential roosting habitat by the Caltrans Biologist; currently identified locations include gaps, joints, hinges and crevices at or near abutments 1 and 8 and piers 2 through 7. The existing bridge is 31.5 feet wide and 504.33 feet long with six hinges and eight joints. Exclusionary devices will be in conformance with Caltrans Standard Specifications and consist of:

- Foam backer rods of appropriate diameter placed tightly end to end and or,
- Expanding spray foam

Mitigate Environmental Impacts and PLAC Compliance for Nesting Birds

Exclusionary devices will be in conformance with Caltrans Standard Specifications and as follows:

- 3/4 inch mesh, polyethylene bird netting draped and enclosing the entire underside of the existing bridge deck and steel beams, from abutment 1 to abutment 8,
- Bird netting shall be suspended from 1/16 inch diameter galvanized steel (or plastic coated steel) braided cable or ¼ inch diameter nylon braided rope, which shall run the length of the bridge on either side, outside the guardrails along the top of the chamfered edge of the deck, affixed to the guardrail posts at intervals not to exceed 8 feet and be sufficiently taught to prevent sagging
- No splices in the cables or ropes shall be utilized for the initial installation, except as to create loops for fastening to the bridge; all splices for fastening loops shall be accomplished using properly sized galvanized steel splicing hardware,
- Bird netting shall have a minimum 6 inch fold tucked under the cables or ropes on each side and be affixed to the cables or ropes through both sides of the fold, along each side of the deck at intervals not to exceed 2 feet with netting manufacturer recommended fasteners,
- Bird netting shall be affixed tightly around the steel rocker assemblies atop each pier with the cable or rope and manufacturer recommended fasteners,
- Bird netting shall be affixed to each abutment, held in place by means of 1 x 4 inch recycled plastic boards bolted to the abutments, with bolt intervals not to exceed 3 feet,

- Any seams of the bird netting shall be transverse to the length of the bridge and be folded and secured with durable fasteners, cable, rope, or zippered in a manner which prevents any unintentional separation or opening of the seams,
- At each abutment, on both sides of the bridge, the bird netting shall have panels (minimum 10 feet by 10 feet) with zippered or otherwise operable closures on the top and both sides of the openings which can be readily opened to allow egress for birds or other wildlife that have become trapped inside the exclusion.

DRAFT