FOR CONTRACT NO.: 10-0A8404

# INFORMATION HANDOUT

## WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

## PERMITS

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
NOTIFICATION NO. 1600-2009-0436-R3

UNITED STATES ARMY CORPS OF ENGINEERS
404 PERMIT

## AGREEMENTS

UNITED STATES FISH AND WILDLIFE SERVICE (Biological Opinion)

# MATERIALS INFORMATION

GEOTECHNICAL DESIGN REPORT (DATED 5/9/08)

SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT (DATED 4/2/10)

**ROUTE: 10-Sac,SJ,Sol-5, 12-Var**

Linda S. Adams
*Secretary for Environmental Protection*

# California Regional Water Quality Control Board
## Central Valley Region
**Katherine Hart, Chair**

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

**Arnold Schwarzenegger**
*Governor*

13 September 2010

Virginia Strohl
California Department of Transportation (Caltrans)
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

***CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE BOULDIN ISLAND REHABILITATION PROJECT (WDID#5B39CR00180), SAN JOAQUIN COUNTY***

This Order responds to your 23 February 2010 application submittal for the Water Quality Certification of a roadway replacement project permanently impacting approximately 4.77 acres of waters of the United States.

**WATER QUALITY CERTIFICATION STANDARD CONDITIONS:**

1. This certification action 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 Title 23 of the California Code of Regulations (23 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 subsection 3855(b) 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 under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. This certification is no longer valid if the project (as currently described) is modified, or coverage under Section 404 of the Clean Water Act has expired.

5. All reports, notices, or other documents required by this Water Quality Certification or requested by the Central Valley Regional Water Quality Control Board (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 number 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."

**ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:**

In addition to the above standard conditions, Caltrans shall satisfy the following:

1. Caltrans shall notify the Central Valley Water Board in writing 7 days in advance of the start of any in-water activities.

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

4. Caltrans 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.

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

6. Caltrans shall perform surface water sampling: 1) When performing any in-water work; 2) In the event that project activities result in any materials reaching surface waters or; 3) When any activities result in the creation of a visible plume in surface waters. The following monitoring shall be conducted immediately upstream out of the influence of the project and 300 feet downstream of the active work area. Sampling results shall be submitted to this office within two weeks of initiation of sampling and every two weeks thereafter. The sampling frequency may be modified for certain projects with written permission from the Central Valley Water Board.

| Parameter | Unit | Type of Sample | Frequency of Sample |
|---|---|---|---|
| Turbidity | NTU | Grab | Every 4 hours during in water work |
| Settleable Material | ml/l | Grab | Same as above. |
| Visible construction related pollutants | Observations | Visible Inspections | Continuous throughout the construction period |

7. Activities shall not cause turbidity increases in surface water to exceed:

   (a) where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTU;
   (b) where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
   (c) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   (d) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
   (e) 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 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. 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 assessed by prior permission of the Central Valley Water Board.

8. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.

9. 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 work area or downstream. Caltrans shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

10. Caltrans shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

11. Caltrans shall comply with all California Department of Fish and Game 1600 requirements for the project.

12. Caltrans must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board for any project disturbing an area of 1 acre or greater.

13. The conditions in this water quality certification are based on the information in the attached "Project Information." If the information in the attached Project Information is modified or the project changes, this water quality certification is no longer valid until amended by the Central Valley Water Board.

14. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and section 401 (d) of the federal 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 this Order.

    a. If Caltrans 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 applicant is subject to civil, for each day of violation, or criminal liability.

    b. In response to a suspected violation of any condition of this Order, the Central Valley Water Board may require Caltrans to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

    c. Caltrans shall allow the staff(s) 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.

15. Caltrans shall provide a Notice of Completion (NOC) no later than 30 days after the project completion. The NOC shall demonstrate that that the project has been carried out in accordance with the project's description (and any amendments approved). The NOC shall include a map of the project location(s), including final boundaries of any in situ 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.

16. Caltrans must follow all terms and conditions of the U.S. Fish and Wildlife Service's Biological Opinion (81420-2009-F-1030-1). Additionally, the project must be implemented as it was described in this Biological Opinion, which includes implementing all conservation measures, best management practices (BMPs),

avoidance and minimization measures, and all mitigation and compensation measures.

17. For the loss of 2.58 acres of giant garter snake aquatic habitat, Caltrans must purchase 7.74 credits of giant garter snake habitat from the closest U.S. Fish and Wildlife Service approved conservation bank. For the loss of 16.92 acres of upland habitat existing within 200 feet of aquatic habitat on the project site, Caltrans must purchase 8.46 credits of giant garter snake habitat from the closest U.S. Fish and Wildlife Service approved conservation bank. For the loss of 2.58 acres of waters of the United States and 2.19 acres of jurisdictional wetlands, Caltrans must purchase 2.58 acres of waters of the United States credits and 2.19 acres of wetlands credits from an Army Corps of Engineers approved mitigation bank which services the project area. All of the mitigation credits required by this condition must be purchased prior to the start of this project's ground breaking activities, and proof of purchase must be submitted to the Central Valley Water Board.

**ADDITIONAL STORM WATER QUALITY CONDITIONS:**

Caltrans shall also satisfy the following additional storm water quality conditions:

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

    (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and design phases and implemented, as appropriate, 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.

2. Caltrans must minimize the short and long-term impacts on receiving water quality from the Bouldin Island Rehabilitation Project by implementing the following post-construction storm water management practices:

    (a) provide treatment BMPs to reduce pollutants in runoff;
    (b) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;
    (c) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
    (d) 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:**

Daniel Worth, Environmental Scientist
11020 Sun Center Drive #200
Rancho Cordova, California 95670-6114
dworth@waterboards.ca.gov
(916) 464-4709

**WATER QUALITY CERTIFICATION:**

I hereby issue an order certifying that any discharge from the Caltrans, Bouldin Island Rehabilitation Project (WDID# 5B39CR00180) 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 strict compliance with Caltrans' project description 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 September 2009.

for
Pamela C. Creedon
Executive Officer

Enclosure: Project Information

cc: See enclosure, page 9

## PROJECT INFORMATION

**Application Date:** 23 February 2010

**Applicant:** Virginia Strohl
California Dept. of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

**Project Name:** Bouldin Island Rehabilitation Project

**Application Number:** WDID# 5B39CR00180

**U.S. Army Corps File Number:** Nationwide Permit #14

**Type of Project:** Roadway Replacement

**Project Location:** Sections 11, 12, and un-sectioned portions; Township 3 North; Range 5 East, MDB&M. Latitude: 38° 06' 47.515" and Longitude: -121° 32' 45.615"

**County:** San Joaquin County

**Receiving Water(s) (hydrologic unit):** Unnamed tributary of the Mokelumne River, San Joaquin Hydrologic Basin, San Joaquin Delta Hydrologic Unit #544.00

**Water Body Type:** Roadside ditch, wetlands, agricultural ditch

**Designated Beneficial Uses:** The *Water Quality Control Plan for the Sacramento River and San Joaquin River*, Fourth Edition, revised September 2009 (Basin Plan) has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

**Project Description (purpose/goal):** The Bouldin Island Rehabilitation Project consists of a complete roadway replacement of State Route (SR) 12 on Bouldin Island (approximately 22,704 linear feet). The scope of the work includes construction of a new road section to the south of the existing SR 12. After construction of the new highway section is complete, the existing highway section will be removed. The new section will have standard 12-foot travel lanes, 8-foot outside shoulders, and 5-foot inside shoulders. Culverts within the project limits will be replaced in-kind and extended to match the new alignment. An irrigation ditch located on the south side of SR 12 will be filled as a result of the project. A new irrigation ditch may be constructed outside of the new Caltrans right of way by the private landowner. This project will permanently impact 4.77 acres of waters of the United States.

**Preliminary Water Quality Concerns:** Construction activities may impact surface waters with increased turbidity and settleable matter.

**Proposed Mitigation to Address Concerns:** Caltrans 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. Caltrans will conduct turbidity and settleable matter testing during in-water work, stopping work if the Basin Plan criteria are exceeded or are observed.

**Fill/Excavation Area:** Approximately 163,141 cubic yards of clean dirt and clean rock will be permanently installed into 4.77 acres of waters of the United States.

**Dredge Volume:** None

**Department of Fish and Game Streambed Alteration Agreement:** Caltrans applied for a Streambed Alteration Agreement on 11 February 2010.

**Possible Listed Species:** giant garter snake

**Status of CEQA Compliance:** The California Department of Transportation issued a Notice of Statutory Exemption on 19 October 2009.

**Compensatory Mitigation:** For the loss of 2.58 acres of giant garter snake aquatic habitat, Caltrans must purchase 7.74 credits of giant garter snake habitat from the closest U.S. Fish and Wildlife Service approved conservation bank. For the loss of 16.92 acres of upland habitat existing within 200 feet of aquatic habitat on the project site, Caltrans must purchase 8.46 credits of giant garter snake habitat from the closest U.S. Fish and Wildlife Service approved conservation bank. For the loss of 2.58 acres of waters of the United States and 2.19 acres of jurisdictional wetlands, Caltrans must purchase 2.58 acres of waters of the United States credits and 2.19 acres of wetlands credits from an Army Corps of Engineers approved mitigation bank which services the project area. All of the mitigation credits required by this condition must be purchased prior to the start of this project's ground breaking activities, and proof of purchase must be submitted to the Central Valley Water Board.

**Application Fee Provided:** Total fees of $40,000 have been submitted to the Central Valley Water Board as required by 23 CCR §3833b(3)(A) and by 23 CCR §2200(e).

State of California – The Natural Resources Agency **ARNOLD SCHWARZENEGGER**, Governor
DEPARTMENT OF FISH AND GAME
Bay Delta Region
Post Office Box 47
Yountville, California 94599
(707) 944-5520
www.dfg.ca.gov

May 5, 2010

Zachary K. Parker
California Department of Transportation
2015 East Shields Avenue, Suite 100
Fresno, CA 93726-5428

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2009-0436-R3
State Route 12 Improvement Project Potato Slough Bridge to Thornton Road

Dear Mr. Parker:

Enclosed is the final Streambed Alteration Agreement ("Agreement") for State Route 12 Improvement Project ("Project"). Before the 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 April 27, 2010, based on information contained in the 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 Melissa Escaron, Staff Environmental Scientist at (707) 339-0334 or mescaron@dfg.ca.gov.

Sincerely,

Cindy Chilcutt

Scott Wilson
Environmental Program Manager
Bay Delta Region

cc: Melissa Escaron
Warden Oldfather
Lieutenant Vielhauer

*Conserving California's Wildlife Since 1870*

**CALIFORNIA DEPARTMENT OF FISH AND GAME**
BAY DELTA REGION
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5520
WWW.DFG.CA.GOV

**STREAMBED ALTERATION AGREEMENT**
NOTIFICATION NO. 1600-2009-0436-3
Unnamed Irrigation Ditches tributary to Mokelumne River

CALIFORNIA DEPARTMENT OF TRANSPORTATION
STATE ROUTE 12 IMPROVEMENTS FROM POTATO SLOUGH TO THORNTON RD.

This Steambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and California Department of Transportation (Permittee) as represented by Mr. Zachary Parker.

## RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on December 28, 2009 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, DFG 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 within unnamed irrigation ditches tributary to the Mokelumne River, in the County of San Joaquin, State of California; Latitude 38 06 55.03 N, Longitude 121 29 27.65W, or between Post Miles (PM) .1 and 11.15.

## PROJECT DESCRIPTION

The project is limited to the installation or replaced of 7 culverts in irrigation ditches to accommodate the State Route 12 Improvements Project. Four existing corrugated metal pipe culverts will be replaced. Three new culverts will be added to the system measuring 78 feet, 95 feet, and 152 feet long. Rock slope protection aprons will be installed for erosion control. Portions of two irrigation ditches will be filled and moved due to the realignment of Tower Park Way and road work at Guard. This work is being proposed as part of the State route 12 Improvements Project.

## PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Downstream delta smelt habitat and giant garter snake habitat within the irrigation ditches.

The adverse effects the project could have on the fish or wildlife resources identified above include: Increased sedimentation and decreased water quality at the site and downstream of the site.

## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

Permittee (Caltrans and/or its Designee) 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 DFG 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 DFG 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, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time to verify compliance with the Agreement.

## 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 Permittee shall conduct all work according to the project description stated above as well as the plans submitted to DFG that are not in conflict with the above stated project description. Caltrans shall notify the DFG of any modifications made to the plans submitted to DFG that pertain to impacts to agricultural ditches, creeks or the riparian corridors.

2.2 A Caltrans Designated On-site Biologist, approved by DFG, shall monitor weather forecasts for rain events in coordination with DFG. The Designated On-site Biologist and Caltrans Water Quality staff shall work together to ensure protection of aquatic resources before and during rain events. Storm Water Pollution Prevention Plan measures shall be monitored for proper installation and maintained to prevent sediment transport into the agricultural ditches.

2.3 The Resident Engineer shall make corrections suggested by the Designated On-site Biologist to ensure compliance with this Agreement.

2.4 Permittee shall only work within the agricultural ditches and riparian areas between May 1and October 1.

2.5 Dewatered habitat shall remain dry for a minimum of 15 consecutive days before workers excavator or fill dewatered habitat. Efforts shall be made by the Caltrans Designated On-site Biologist to ensure that the dewatered habitat does not support any giant garter snake prey which might keep or attract snakes into the area.

2.6 Permittee shall not use temporary or permanent erosions control devices containing plastic, including photo- or bio-degradable plastic.

2.7 Permittee shall conduct focused surveys for burrowing owls within 15 days prior to the beginning of work within the agricultural ditches.

The project area plus 250 feet surrounding the project impact areas shall be surveyed for suitable habitat, burrows, and owls. Surveys shall occur two hours before to 1 hour after sunset or from 1 hour before to 2 hours after sunrise. Occupied burrows within 250 feet of project area shall not be disturbed during the nesting season, February 1 through August 31. After August 31, if occupied burrows are located within 160 feet of the project location, disturbance shall be kept to a minimum. If avoidance requirements cannot be met, on-site passive relocation should be implemented during the non-nesting season. If it is necessary to evict owls from burrows outside of the nesting season, then the Applicant will submit a mitigation plan for approval by DFG prior to burrow disturbance.

2.8 Permittee shall be in compliance with Migratory Bird Treaty Act (MBTA) and Fish and Game Code 3503. To avoid potential impacts to nesting birds, Permittee shall remove vegetation or install exclusion measures during the time period of August 15 to February 15. If construction activities that have the potential to violate MBTA and Fish and Game Code 3503 are scheduled during the nesting season, focused surveys for active nests shall be conducted within 72 hours of said construction activities. If active nests are identified, a 50-foot no-work buffer for non-raptors and a 300-foot no-work buffer for raptors shall be established. If active nests are found, Caltrans shall consult with DFG and the United States Fish and Wildlife Service (USFWS) regarding appropriate action to comply with the MBTA of 1918 and the Fish & Game Code of California.

2.9 Permittee shall allow any wildlife encountered during the course of construction to leave the construction area unharmed. This authorization does not allow for the trapping, capture, or relocation of the giant garter snake.

2.10 This authorization does not allow for the removal of any trees. If the project changes such that tree removal becomes necessary, the Permittee shall consult with the DFG.

2.11 If any state or federal listed species, or state species of special concern, are observed during project surveys, Permittee shall submit California Natural Diversity Data Base (CNDDB) forms to the CNDDB for all preconstruction survey data within five working days of the sightings, and provide DFG Region 3 with copies of the CNDDB forms and survey maps.

2.12 Permittee shall install and maintain high-visibility Environmentally Sensitive Area fencing to protect sensitive resources. Permittee

shall remove as little vegetation as is necessary to conduct construction activities.

2.13 Permittee shall conduct an employee orientation program for all persons who will work on-site during construction and landscape establishment activities. The program shall consist of a brief presentation from the Caltrans Designated On-site Biologist about the biology of the species listed in this agreement, their habitat needs, and their status.

2.14 The Designated On-site Biologist shall be present during initial ground disturbing activities within the riparian zone. The Resident Engineer shall stop work at the request of the Designated On-site Biologist to ensure protection of sensitive species. If work within the riparian area stops for more than a week the Designated On-site Biologist shall re-survey the area for sensitive species.

2.15 Permittee shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.

2.16 Permittee shall not commence construction within the riparian zone if the work and its associated erosion control measures cannot be completed prior to the onset of a storm event. 72-hour weather forecasts from the National Weather Service shall be consulted prior to start up of any phase of the project.

2.17 Permittee shall not operate equipment or vehicles in water-covered portions of the stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in this Agreement and as necessary to complete authorized work.

2.18 Permittee shall locate staging and storage areas for equipment, materials, fuels, lubricants and solvents, outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream will be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream will be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the stream prior to refueling and lubrication.

2.19 Permittee shall prevent raw cement/concrete or washings thereof, asphalt, straw, paint or other coating material, oil or other petroleum products, or any other substances related to project activities which could be hazardous to aquatic life, wildlife, or riparian habitat from contaminating the soil and/or entering the waters of the State. Permittee may be subject to a citation for placing materials where they may enter a stream or lake.

2.20 Permittee shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

2.21 Any materials placed in seasonally dry portions of a stream or lake, that could be washed downstream or could be deleterious to aquatic life, wildlife, or riparian habitat shall be removed by Permittee prior to inundation by high flows.

2.22 A copy of this Agreement shall be provided to all contractors, subcontractors and all Resident Engineers. Copies of this Agreement shall be available at the project site during all periods of active work and must be presented to DFG personnel upon demand. DFG personnel shall be allowed onto the work site at any time during and after construction of the project for the purposes of establishing compliance with this Agreement.

**3. Compensatory Measures**

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

3.1 Permittee shall compensate for permanent impacts to giant garter snake habitat at the Sutter Basin Conservation Bank by purchasing 18.27 acres of habitat credits.

3.2 Permittee shall purchase 1.122 acres of wetland and waters credits at the Consumnes Floodplain Mitigation Bank.

**CONTACT INFORMATION**

Any communication that Permittee or DFG 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 DFG specifies by written notice to the other.

To Permittee:

Zachary K. Parker
California Department of Transportation
2015 E. Shields Ave, Suite 100
(559)243-8215
Zachary_parker@dot.ca.gov

To DFG:

Department of Fish and Game
Bay Delta Region
7329 Silverado Trail
Attn: Lake and Streambed Alteration Program – Melissa Escaron
Notification #1600-2009-0436-R3
mescaron@dfg.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 DFG'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**

DFG 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 DFG 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 DFG 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 DFG to issue the notice.

**ENFORCEMENT**

Nothing in the Agreement precludes DFG 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 DFG'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

DFG may amend the Agreement at any time during its term if DFG 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 DFG and Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG'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 DFG 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 DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG'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 DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFG 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 (Fish & G. Code, § 1605, subd. (f)). .

**EFFECTIVE DATE**

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG 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 http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

**TERM**

This Agreement shall expire on December 31, 2013, 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.

**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 DFG in accordance with FGC section 1602.

**CONCURRENCE**

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

**FOR ZACHARY K. PARKER REPRESENTING CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Zachary K. Parker
Senior Environmental Planner

4/20/2010
Date

**FOR DEPARTMENT OF FISH AND GAME**

Scott Wilson
Environmental Program Manager

5-5-10
Date

Prepared by: Melissa Escaron
Staff Environmental Scientist

State of California – The Natural Resources Agency *ARNOLD SCHWARZENEGGER, Governor*
DEPARTMENT OF FISH AND GAME
Bay Delta Region
Post Office Box 47
Yountville, California 94599
(707) 944-5520
www.dfg.ca.gov

August 12, 2010

Zachary Parker
California Department of Transportation
2015 East Shields Avenue, Suite 100
Fresno, CA 93726-5428

Subject: Amendment of Lake or Streambed Alteration Agreement
Notification No. 1600-2009-0436-R3

Dear Mr. Parker:

The Department of Fish and Game ("Department") has received your request to amend Lake or Streambed Alteration Agreement #1600-2009-0436-R3 ("Agreement") and the required fee in the amount of $168.00 for a minor amendment. Your request to amend the Agreement includes the following changes:

Three culverts will be added to the system. The culverts measure 78-, 95-, and 152-feet long. Rock slope protection aprons will be installed for erosion control.

All other terms and conditions of the original Agreement No. 1600-2009-0436-3 will remain in effect.

Please sign and return one copy of this letter to acknowledge the amendment. Copies of the Agreement and this amendment must be readily available at project worksites and must be presented when requested by a Department representative or agency with inspection authority.

If you have any questions regarding this matter, please contact Melissa Escaron, Staff Environmental Scientist, at (707) 339-0334 or mescaron@dfg.ca.gov.

Sincerely,

Scott Wilson
Environmental Program Manager
Bay Delta Region

cc: Melissa Escaron
Warden Oldfather
Lieutenant Vielhauer

**ACKNOWLEDGEMENT**

I hereby agree to the above-referenced amendment.

Print Name: ZACHARY PARKER Date: 8/18/10

Signature:

*Conserving California's Wildlife Since 1870*

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

REPLY TO
ATTENTION OF

October 20, 2010

Regulatory Division (SPK-2008-01867)

Mr. Zachary Parker
State of California
Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
Fresno, California 93726-5428

Dear Mr. Parker:

We are enclosing your copy of Department of the Army Permit SPK-2008-01867. Please note you are only authorized to complete the work described in the permit.

If you sell the property associated with this permit, the terms and conditions of this permit will continue to be binding on the new owner. To validate the transfer of this permit, have the succeeding party sign the permit transfer section at the end of the permit and forward a copy to this office, along with their printed name, address, telephone number, and other contact information.

The time limit for completing the work is specified in General Condition 1. If the work will not be completed prior to that date, you may request a time extension. Your request for an extension must be received by this office for consideration at least 30 days before the time limit date.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2008-01867 in any correspondence concerning this project. If you have any questions, please contact Ms. Leah Fisher at our Sacramento District Office, South Branch, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email *Leah.M.Fisher@usace.army.mil*, or telephone 916-557-6639.

For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

Leah M. Fisher
Senior Project Manager,
California South Branch

Enclosures:

1. Department of the Army Permit, SPK-2008-01867
2. Water Quality Certification, dated May 26, 2010
3. Biological Opinion, dated July 27, 2010
4. Compliance Certification Form

Copies furnished with enclosure 1 only:

Chief, San Joaquin Valley Branch, Endangered Species Division, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901

Jason Brush, Wetlands Regulatory Office, United States Environmental Protection Agency, 75 Hawthorne Street, San Francisco, California 94105

Dan Radulescu, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114

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

REPLY TO
ATTENTION OF

# DEPARTMENT OF THE ARMY PERMIT

Permittee: Zachary K. Parker
State of California
Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
Fresno, California 93726-5428

Permit Number: SPK-2008-01867

Issuing Office: U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 "J" Street
Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

**Project Description:**

The proposed safety and traffic flow improvement work along the State Route 12 (SR 12) corridor between Potato Slough Bridge and Thornton Road includes; realigning Tower Parkway under the Potato Slough Bridge to connect with Glasscock Road, adding a westbound left-turn lane at Correia Road, extending existing left and right turn lanes at Guard Road, adding eastbound acceleration lanes at Tower Parkway and Guard Road, providing a bus turnout on the westbound connector road west of Glasscock Road, extending the existing westbound SR 12 merging lane, and increasing the existing park and ride lot that is 0.5 acres to 2 acres. In addition, several Intelligent Transportation System elements (electronic devices to help improve traffic flow) will be installed along SR 12 and Interstate 5: in Solano County on SR 12 (post miles 26.0- 26. 14), in Sacramento County on SR 12 (post miles 0.5 -5.84) and in San Joaquin County on SR 12 (post miles 0.1-11.15), and in San Joaquin County along Interstate 5 (post miles 33.35-43.20).

West of Interstate 5, on the north side of SR 12, wetlands will be filled to accommodate the extension of the SR 12 merging lane. At Guard Road, wetlands will be filled to accommodate extending the existing left and right turn lanes, and south of Tower Park road, wetlands will be filled during the realignment of Tower Park Road. One irrigation ditch south of Tower Park Road will be filled and relocated just outside the right of way. A portion of a small irrigation ditch will be filled to account for new turning lanes at Guard Road and a an irrigation ditch located on the Nicolette property, adjacent to Access Road, will be abandoned and recreated in the northern Access Road right of way. In accordance with Geotechnical recommendations, the roadway will be constructed with its centerline 4 feet above original ground with imported fill.

All work is to be completed in accordance with the attached plan(s).

**Project Location:**

The project site is located on State Route 12 between Potato Slough Bridge and Thornton Road, in unsectioned portions of Township 3 North, Range 5 East, MDB&M, Latitude 38.1157°, Longitude -121.4417°, near the city of Lodi, Sacramento, Solano, and San Joaquin Counties, California, and can be seen on the *Terminous* USGS Topographic Quadrangle.

**Permit Conditions:**

*General Conditions*:

1. The time limit for completing the work authorized ends on September 1, 2015. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

*Special Conditions*:

1. All terms and conditions of the March 29, 2010, as amended May 26, 2010, Section 401 Water Quality Certification are expressly incorporated as conditions of this permit.

2. This Corps permit does not authorize you to take an endangered species, in particular the Federally-listed giant garter snake (*Thamnophis gigas*) or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service

Biological Opinions (Service file numbers 81420-2009-F-0348-4, dated October 16, 2009, and 81420-2009-F-0348-R001-1, as amended July 27, 2010), contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinions. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinions, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinions, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinions, and with the Endangered Species Act. You must comply with all conditions of the Biological Opinions, including those ascribed to the Corps.

3. To mitigate for the permanent loss of approximately 1.12 acres of waters of the U.S., you shall purchase 0.96 acres of created wetland credits, and 0.172 acres of created open water credits, at a Corps-approved wetland mitigation bank. The selected mitigation bank shall include the area of the permitted project within its service area. Evidence of this purchase shall be provided to this office prior to proceeding with any activity otherwise authorized by this permit.

4. To mitigate for temporary impacts to approximately 1.04 acres waters of the U.S., including wetlands, you shall revegetate temporarily impacted areas with regionally appropriate native vegetation within 30 days of completion of authorized work in waters of the U.S. Removal of native trees and/or shrubs within temporary impacted riparian areas shall be replaced at a 2:1 ratio, in accordance with Caltrans specifications. Specific detailed plans and photo documentation of the completed work shall be submitted to this office within 30 days of activity completion.

5. To mitigate for the loss of 0.025 acres of waters of the U.S. (irrigation/drainage ditches), you shall re-create approximately 0.025 acres of irrigation/drainage ditches, in similar locations as the pre-existing features. Permanently filled ditches shall be replaced with ditches of the same size, quality and function, in accordance with Caltrans specifications. Specific detailed plans and photo documentation of the completed work shall be submitted to this office within 30 days of activity completion.

6. You shall employ Best Management Practices (BMP's) to avoid and minimize environmental impacts. Temporary fills, access roads, dams and/or water structures shall be removed in their entirety and the affected areas returned to pre-construction elevations, contours and conditions within 30 days of completion of authorized work in waters of the U.S. The affected areas must be revegetated with appropriate native trees, shrubs and/or seed mix, using techniques or other methods approved by Caltrans. Specific detailed plans and photo documentation of the completed work shall be submitted to this office within 30 days of activity completion.

7. To ensure avoidance and minimization measures are successful and temporary fills have been removed, you shall take pre-construction, numbered and dated, photographs of the affected waters of the U.S. no more than one year **prior** to construction impact. You shall take post-construction, numbered and dated, photographs of the affected waters of the U.S. within 30 days **after** construction impact. You shall submit the photographs within 30 days after construction completion. The camera positions and view angles of pre- and post-photographs shall be identical and taken from designated locations documented on plan drawing(s).

8. Your responsibility to complete the required compensatory mitigation and restoration as set forth in Special Conditions 4 thru 6 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the U.S. Army Corps of Engineers.

9. All equipment staging, including Temporary Construction Areas (TCA's), shall take place within Caltrans approved areas within the project boundary. Prior to construction implementation, you shall ensure all equipment staging, TCA's, demolition and excavation, off pavement detours, borrow and fill areas, and upland disposal areas have been evaluated under National Environmental Policy Act, Section 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act and all required permits have been obtained.

10. Prior to proceeding with any activity otherwise authorized by this permit, you shall install Environmentally Sensitive Area (ESA) fencing and employ appropriate water quality protection measures and/or Best Management Practices (BMP's), to ensure unauthorized fills and unforeseen impacts to waters of the U.S. are avoided. All fencing surrounding avoidance areas shall allow unrestricted visibility of these areas to discourage vandalism, destruction or disturbance. An example of fencing includes; high-visibility orange plastic or similar type.

11. You shall follow Caltrans specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP), to prevent erosion and sedimentation during and after construction. Construction work within waters of the U. S. shall be performed when the flows are at their seasonal low or when they have ceased and the areas are dry, typically late summer through early fall. Between construction seasons all equipment and materials, with the exception of ESA fencing, will be removed from waters of the U.S. and all disturbed areas will be stabilized to prevent erosion and sedimentation.

12. You shall have a biological monitor or the like (construction liaison), who is familiar with environmentally sensitive areas monitor all construction activities within waters of the U.S., including wetlands, and within 100 feet of avoided waters. The monitor shall insure unauthorized activities do not occur within avoided waters of the U.S. during project implementation. The monitor shall have the authority to stop work immediately, if unauthorized activities occur.

13. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify the Sacramento District, Regulatory Division Office. You shall provide us with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

14. The Permittee (Caltrans) is responsible for all work authorized herein. To ensure that involved contractors are aware of the terms, conditions and limitations of this authorization, you shall post a copy of the permit authorization and associated drawings at the project site during all phases of construction to ensure that contractors are aware of the terms and conditions of this authorization.

15. You shall notify this office of the start of the authorized work within seven (7) calendar days of initiating construction activities. Along with this notification, you shall submit a copy of the project construction/work schedule or similar report.

16. You shall notify this office of any proposed modifications to the project, including revisions to any of the work plans or documents cited in this authorization, for review and approval prior to construction work associated with the proposed modification.

17. You must sign the enclosed *Compliance Certification* form and return it to this office within 30 days after completion of the authorized work.

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Zachary K Parker

Name ZACHARY K. PARKER
Title CT RIVER BRANCH CHAIR
Permittee

10/11/10
Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below

Paul Maniscalco

10/15/10
Date

(For the District Engineer)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Name_____
Title_____
Transferee

_____
Date

# COMPLIANCE CERTIFICATION

**Permit File Number:** SPK-2008-01867

**Permittee:** Mr. Zachary Parker
State of California
Department of Transportation
2015 East Shields Avenue, Suite A-100
Fresno, California 93726-5428

**County:** San Joaquin

**Date of Verification:** September 2, 2010

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
Regulatory Division
1325 J Street, Room 1480
Sacramento, California 95814-2922
*DLLS-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 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.***

_____ _____
Signature of Permittee Date

# United States Department of the Interior

**FISH AND WILDLIFE SERVICE**
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

**IN REPLY REFER TO:**
81420-2009-F-0348-R001-1

JUL 27 2010

Mr. Zachary Parker
Biology Branch Chief
California Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
Fresno, California 93726

Subject: Reinitiation of the biological opinion for the *State Route 12 Improvements Project in San Joaquin, Sacramento, and Solano Counties, California (California Department of Transportation EA 10-0A8400, 06-SJ-12-PM 0.1/11.15)*

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request to amend the biological opinion for the *State Route 12 Improvements Project in San Joaquin, Sacramento, and Solano Counties, California* (Service file number 81420-2009-F-0348-4), issued on October 16, 2009. Your letter, dated April 26, 2010, was received in this office on April 29, 2010. Under consideration is Caltrans' request to modify aspects of the project description to reflect changes in right-of-way (ROW) acquisition and the relocation of an existing irrigation ditch. As stated in the biological opinion's closing statement, reinitiation of formal consultation is required in the event of certain occurrences, one of these being when the agency action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the biological opinion. These alterations to the project description result in potential effects to the giant garter snake (*Thamnophis gigas*; GGS) that were not originally identified or assessed in the biological opinion. This response was prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

In reviewing the request, the Service has relied upon: (1) the Service's October 16, 2009, biological opinion for the project, (2) telephone discussions and electronic-mail (e-mail) correspondence between Caltrans and the Service, dating from April 2010 through July 2010; (3) Caltrans' April 26, 2010, amendment request letter to the Service with enclosed mapping; and (4) other information available to the Service.

**Consultation History**

*April 5, 2010.* Dena Gonzalez (Caltrans) telephoned Jen Schofield (Service) to discuss background information pertinent to a change in the original project description that would require eventual project reinitiation. She explained that with the proposed construction of the connector access road between Glasscock Rd. and SR 12, there would be a sliver of land left between the access road's right-of-way (ROW) and the existing irrigation ditch that would be difficult for the landowner to reach and to maintain. Caltrans therefore had purchased the land and the irrigation ditch on the property. The ditch would be relocated round the northern boundary of the ROW and connected via a culvert under the access road. If relocation could not happen prior to the commencement of construction activities, Caltrans proposed installing a temporary culvert next to Glasscock Rd. running under the access road so that water flow would not be interrupted. This temporary culvert would be 0.044 acres; 0.22 acres would include the temporary culvert and the existing irrigation ditch, the latter of which would be additional GGS habitat (not assessed in the biological opinion) and recreated on-site.

*April 29, 2010.* The Service received a letter from Caltrans requesting amending the biological opinion to reflect changes in the expanse of ROW acquisition and the plans for the existing irrigation ditch. The reinitiation package also included a ROW appraisal map and an aerial map of the portion of the project extent affected by the changes. Heritage Company (Co.) property had informed Caltrans that it would be difficult to maintain/farm the small strip of land formed between the ditch and the access road's ROW. Caltrans had thus proposed to extend the ROW to the property line and Heritage Co. had agreed to relocate the existing ditch along the proposed northern ROW boundary.

*May 7, 2010.* Leah Fisher (United States Army Corps of Engineers (Corps)) e-mailed Caltrans and copied several other agency representatives including Ms. Schofield, regarding the proposed changes to the project description. The Corps requested additional information to demonstrate project compliance with section 7 prior to issuing its own permit to Caltrans. In the e-mail, the Corps included copies of Caltrans' formal letter, dated April 21, 2010, to the Corps regarding the changes to the project description (along with the aerial and ROW maps); and the formal letter response from the Corps to Caltrans, dated May 7, 2010.

*May 10, 2010.* Zachary Parker (Caltrans) e-mailed Ms. Fisher, and copied Ms. Schofield, informing her that Caltrans was coordinating with the Service on the project description change and would submit the amendment to the Corps once consultation with the Service had been concluded and an amendment to the biological opinion had been issued.

*July 14, 2010.* Mr. Parker informed Ms. Schofield that for culvert work, an alteration was proposed involving the use of sheet pile cofferdams (a less invasive dewatering method as the waterway remains free-flowing), which would take the place of diverting water through temporary culvert pipes.

*July 15, 2010.* Ms. Schofield e-mailed Ms. Gonzalez with questions regarding the proposed changes in the ROW boundaries and the irrigation ditch relocation.

*July 16, 2010.* Ms. Gonzalez and Mr. Parker telephoned Ms. Schofield to provide responses to the queries in her e-mail from the previous day.

*July 22, 2010.* Ms. Schofield telephoned Ms. Gonzalez to clarify several minor points from their earlier discussion on July 16.

The Service approves the changes to the project description regarding the ROW and the relocation of a segment of existing irrigation ditch. As a result of the alterations however, there will be additional effects to the GGS and potential suitable habitat.

The following changes are to be made to the biological opinion. All modifications and additions are in **bold**:

Page 4, under Description of the Proposed Action, is currently written as:

"The following project description is based on information provided by Caltrans in their Revised BA (Caltrans 2009). According to Caltrans, the proposed project is intended to improve safety and traffic-flow along the State Route 12 (SR-12) corridor west of the City of Lodi in San Joaquin County, California. Caltrans and the Federal Highway Administration (FHWA) propose to realign 10 miles of the SR-12 corridor between Potato Slough Bridge and Thornton Road (post miles (PM) 0.1-10.1). Caltrans and FHWA also propose to: (1) realign Tower Parkway under the Potato Slough Bridge to connect with Glasscock Road, (2) add a westbound left-turn lane at Correia Road, (3) extend existing left- and right-turn lanes at Guard Road, (4) add eastbound acceleration lanes at Tower Parkway and Guard Road, (5) provide a bus turnout on the westbound connector road west of Glasscock Road, (6) extend the existing westbound SR-12 merging lane between Potato Slough Bridge and Thornton Road, and (7) expand the existing park and ride lot located in the southwest corner of Thornton Road and SR-12 from 0.5 acre (ac) to two acres."

Additions have been made to proposal (1) above to reflect changes in ROW boundaries and the new plan for the relocation of a segment of irrigation ditch. Further detail is necessary to update the project description. This is amended to read:

"Caltrans and FHWA also propose to: (1) realign Tower Parkway under the Potato Slough Bridge to connect with Glasscock Road. **Heritage Co., the landowner on whose property the connector road between Tower Parkway and Glasscock Road will be built, informed Caltrans that it would be difficult to maintain and farm the small strip of land created between Caltrans' proposed ROW and an existing irrigation ditch located on the property line between the Heritage Co. and Nicolette properties. Caltrans therefore proposed**

**extending the ROW 20 feet (ft) south to the property line, thus acquiring both the strip of land and the existing ditch and incorporating them into its ROW.**
**In order for Heritage Co. to easily access the irrigation ditch without having to constantly cross Caltrans' ROW, the landowner has proposed to relocate a segment of the ditch along the northern ROW boundary for the access road. The new section of ditch will be created beginning at a point along Glasscock Road, will run westwards and parallel with the northern access road ROW, and will end at the proposed 36" alternative pipe culvert (APC), which will be moved 23 ft eastwards along the access road from its original designated location. Here, the APC will connect with the segment of relocated ditch. The APC (approximately 150 ft) will then convey water from the relocated ditch southwards, back to the existing ditch located on the Nicolette property.**

**Once the new ditch is established (holding approximately the same water volume capacity), the old section of ditch will be abandoned and filled. Caltrans has requested that Heritage Co. completes the new ditch prior to the commencement of construction of the access road. However, if this cannot occur, a temporary culvert will be installed in the old section of ditch parallel to Glasscock Road, so that water flow will not be interrupted while the access road is constructed. Then, once the new ditch is created, the temporary culvert will also be abandoned."**

Add an additional proposal measure, (8), to the first paragraph of the project description that highlights the list of proposed construction activities. This is amended to read:

Caltrans and FHWA also propose to: "**(8) replace multiple culverts along SR-12 located perpendicular to the highway."**

Pages 7-8, numbers 5 and 10, under Proposed Giant Garter Snake Conservation Measures, are currently written as:

5. "After April 15 and until October 1, dewatered habitat shall remain dry for a minimum of 15 consecutive days before workers excavate or fill dewatered habitat. Efforts shall also be made to ensure that the dewatered habitat does not support any giant garter snake prey which might keep or attract snakes into the area."

10. "To minimize the effects of the permanent loss of 6.09 ac of suitable giant garter snake habitat (5.53 ac of upland habitat and 0.56 ac of aquatic habitat), Caltrans proposes using a 3:1 compensation ratio to purchase a total of 18.27 credits (5.53*3 +0.56*3) at the closest Service-approved conservation bank prior to ground-breaking. To minimize temporary effects to the giant garter snake and its habitat, limited to less than two years, the 16.84 ac of temporarily affected habitat on-site shall be restored to pre-construction conditions."

Modify these two measures to include sheet pile usage and the new 0.18 ac of permanently affected GGS aquatic habitat resulting from the filling of the segment of irrigation ditch within Caltrans' extended ROW. These are amended to read.

5. "After April 15 and until October 1, dewatered habitat shall remain dry for a minimum of 15 consecutive days before workers excavate or fill dewatered habitat. Efforts shall also be made to ensure that the dewatered habitat does not support any giant garter snake prey which might keep or attract snakes into the area.

    a. **In some instances, the installation of sheet pile cofferdams shall be the preferred method of dewatering, as it is less invasive, minimizes disturbance to the waterways, allows for the natural movement of water, and can shorten water-work construction times."**

10. "To minimize the effects of the permanent loss of 6.09 ac of suitable giant garter snake habitat (5.53 ac of upland habitat and 0.56 ac of aquatic habitat), Caltrans proposes using a 3:1 compensation ratio to purchase a total of 18.27 credits (5.53*3 +0.56*3) at the closest Service-approved conservation bank prior to ground-breaking. To minimize temporary effects to the giant garter snake and its habitat, limited to less than two years, the 16.84 ac of temporarily affected habitat on-site shall be restored to pre-construction conditions. **An additional 0.18 ac of suitable giant garter snake aquatic habitat shall also be permanently affected due to the filling of a segment of irrigation ditch. Caltrans proposes using a 3:1 compensation ratio to purchase an extra 0.54 credits at the closest Service-approved conservation bank prior to ground-breaking. The total number of credits to be purchased in order to minimize permanent effects to the GGS is 18.81 credits."**

Page 9, beginning with the first full sentence under Action Area, currently reads as:

"Within this, lies the project's footprint, defined by Caltrans as the areas of cut and fill and actual ground disturbance. This totals approximately 16.7 ac and includes the 6.09 ac of permanently affected upland and aquatic giant garter snake habitat (including the six ITS element areas located within 200 ft of aquatic habitat)."

Modify the permanently affected acreage amount to account for the additional 0.18 ac habitat component. This is amended to read:

"Within this, lies the project's footprint, defined by Caltrans as the areas of cut and fill and actual ground disturbance. This totals approximately 16.7 ac and includes the **6.27 ac** of permanently affected upland and aquatic giant garter snake habitat (including the six ITS element areas located within 200 ft of aquatic habitat)."

Page 17, second sentence under Effects of the Proposed Action, *Direct Effects*, currently reads as:

"Permanent effects will occur when 5.53 ac of upland habitat and 0.56 ac of aquatic habitat are altered and lost due to 10 miles of realignment work, the construction of new, and the extension of old, turn lanes, acceleration lanes, and merging lanes, the development of a new bus turnout, and the expansion of an existing park and ride."

Modify the first sentence to account for the additional 0.18 ac of aquatic impacts, and incorporate additional analysis. This is amended to read:

"Permanent effects will occur when 5.53 ac of upland habitat and **0.74 ac** of aquatic habitat are altered and lost due to 10 miles of realignment work; the construction of new, and the extension of old, turn lanes, acceleration lanes, and merging lanes; the development of a new bus turnout; the expansion of an existing park and ride; **and the removal or filling of irrigation ditches. In the case of the proposed abandonment and filling of the ditch segment adjacent to Glasscock Road, the initial act of filling and the resulting effects deriving from relocation remain permanent ones. Although the relocated ditch segment will continue to be connected to existing ditch segments both upstream and downstream, it can take time for conditions and habitat elements to stabilize, as some studies have demonstrated that relocated waterways may not be inhabited by the giant garter snake for at least four years following such an action (Hansen and Brode, 1993).**"

Page 18, second paragraph, under Effects of the Proposed Action, *Direct Effects*, currently reads as:

"While some segments of the agricultural ditches will be permanently removed and paved over because of where the new SR-12 realignment will be built, the dewatering of segments of the waterways will also temporarily reduce aquatic habitat for the snake and the associated foraging potential this habitat provides. This could result in short-term secondary effects deriving from the displacement and reduction of prey and transitory changes in hydrology during in-water work."

Modify and add to the paragraph. This is amended to read:

"While some segments of the agricultural ditches will be permanently removed and paved over because of where the new SR-12 realignment will be built, **or filled in because of efforts to gain improved access via relocation,** the dewatering of segments of the waterways will also temporarily reduce aquatic habitat for the snake and the associated foraging potential this habitat provides. This could result in short-term secondary effects deriving from the displacement and reduction of prey and transitory changes in hydrology during in-water work. **However, if sheet pile cofferdams are utilized, as proposed during the replacement of those culverts located perpendicular to SR-12, fewer disturbances can be expected since the method is less invasive and the waterway is allowed to continue flowing freely.**"

Page 20-21, under Amount or Extent of Take, currently reads as:

"Therefore, the Service anticipates take incidental to this project as all giant garter snakes inhabiting, utilizing, or moving through the 6.09 ac of habitat that will be permanently lost (5.53 ac of upland and 0.56 ac of aquatic) and the 16.84 ac of aquatic and upland habitat that will be temporarily affected within the action area (and which includes all upland habitat within 200 ft of suitable aquatic habitat)."

Modify the incidental take extent. This is amended to read:

"Therefore, the Service anticipates take incidental to this project as all giant garter snakes inhabiting, utilizing, or moving through the **6.27 ac** of habitat that will be permanently lost (5.53 ac of upland and **0.74 ac** of aquatic) and the 16.84 ac of aquatic and upland habitat that will be temporarily affected within the action area (and which includes all upland habitat within 200 ft of suitable aquatic habitat)."

The remainder of the October 16, 2009, biological opinion is unchanged. This concludes the reinitiation of formal consultation on the SR 12 Improvements Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact Jen Schofield or Michael Welsh, Acting San Joaquin Valley Branch Chief, at the letterhead address or at (916) 414-6630 if you have any questions regarding this letter.

Sincerely,

for Susan K. Moore
Field Supervisor

cc:
Mr. Walter C. Waidelich, Jr., Federal Highway Administration, Sacramento, California
Mr. Dan Gifford, California Department of Fish and Game, Rancho Cordova, California

State of California
Department of Transportation

Business, Transportation and Housing Agency

# Memorandum

*Flex your power!*
*Be energy efficient!*

To: MR. PAUL ELLIOT
Project Manager
Design IV, Branch I

Date: May 9, 2008

File: 10-SJ-12
PM 5.0/10.2
10-0A840K
SJ-12 Improvements

Attention: Colin Doran
Project Engineer

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

Subject: Geotechnical Design Report

## Introduction

Per your request, we are providing a Geotechnical Design Report (GDR) for State Route 12 from PM 5.0 to 10.2 in San Joaquin County, California. The project proposes to realign Tower Park Way under the Potato Slough Bridge to connect with Glasscock Road and widen one portion of Highway 12. Additionally, four Changeable Message Signs (CMS) are proposed (two on Highway 12 and two on Interstate 5).

The purpose of this report is to document subsurface geotechnical conditions, provide analyses of anticipated site conditions as they pertain to the project described herein, and to recommend design and construction criteria. This report also establishes a geotechnical baseline to be used in assessing the merit and/or scope of potential changed site conditions and is intended for use by the project design engineer, construction personnel, bidders and contractors.

## Pertinent Reports and Investigations

The following documents were reviewed to assist in the assessment of site conditions:

- Log-of-Test-Borings (LOTB), Route 5/12 Separation, Br. No. 29-255.
- Log-of-Test-Borings (LOTB), Hammer Lane UC, Br. No. 29-212.
- Log-of-Test-Borings (LOTB), Woodbridge Road UC, Br. No. 29-249.
- Log-of-Test-Borings (LOTB), Sacramento River Bridge, Br. No. 29-024.

- Geotechnical Investigation for the Proposed Potato Slough Bridge Approach Embankments, Caltrans, 1987.
- Geologic Map of CA, Sacramento Quadrangle, CA Mines and Geology, 1987.
- Terminous, CA 7.5-minute quadrangle, United States Geological Survey, 1978.
- California Seismic Hazard Map 1996, Caltrans, Lalliana Mualchin, 1996.

**Existing Facilities**

Within the proposed project limits, Highway 12 is a two-lane undivided highway, which runs in an east-west direction. Glasscock Road intersects with Highway 12 at-grade at the west end of the project (PM 5.4). The Route 5/12 Separation crosses over Highway 12 at the east end of the project (PM 10.17). Overhead utility lines cross the highway at numerous locations and run parallel to the highway to the west. Agricultural land and roadways are present along the highway within the project limits. Within the project limits the roadway appears to be functioning favorably as there is very little damage to the roadway surface.

**Proposed Improvements**

The project will realign Tower Park Way under the Potato Slough Bridge to connect with Glasscock Road. The realignment will be facilitated by construction of a fill embankment with a height from approximately 4 to 11 feet and side slopes of 1:4 (V:H). The project will also increase the radius of the curve where Tower Park Way intersects Highway 12. This curve correction will be facilitated by construction of a fill embankment with a height of approximately 5 feet and side slopes of 1:4 (V:H). Additionally, Highway 12 will be widened approximately 10 feet to the north at the east end of the project. The highway 12 widening will have side slopes of 1:2 (V:H).

**Physical Setting**

Climate

According to the Western Regional Climate Center for 1948-2005, the average annual precipitation in Lodi, located 9.7 km (6 miles) east of the project site is 449.8 mm (17.7 in). The majority of this precipitation falls between November and April. The average

annual air temperature is approximately 15.7° C (60.2° F) with the highest average daily maximum of 33.1° C (91.5° F) in July and the lowest average daily minimum of 2.7° C (36.9° F) in December.

Topography and Drainage

The Terminous, CA 7.5-minute quadrangle shows that the terrain is relatively level with elevations ranging from sea level to 4.6 meters (15 feet). Potato Slough crosses under Highway 12 to the west of the project site at PM 4.4. Numerous irrigation ditches parallel and cross Highway 12 within the project limits.

Regional Geology

The Geologic Map of the Sacramento Quadrangle was reviewed to determine the geology of the project site. The western portion of the project consists of intertidal deposits (peaty mud), which includes soft mud and peat deposited in marshes, swamps, and adjacent waterways. The central and eastern portion of the project consists of the Modesto Formation (alluvium).

Seismicity

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Coast Ranges-Sierran Block (CSB, reverse including thrust) with a maximum credible earthquake moment magnitude of Mw=7.00, and is located 25 km (15.5 miles) southwest of the site. Based upon the above referenced map, the Peak Bedrock Acceleration is 0.18g. A Peak Bedrock Acceleration of 0.2g should be used for design. Liquefaction potential at the project location is insignificant.

**Geotechnical Conditions**

Review of the borings performed for the Potato Slough Bridge east approach embankment located at the west end of the project site, indicates that the subsurface material consists of 5-8 feet of soft peaty clay, underlain by hard clayey silt and sand. Groundwater was not measured in the borings performed but is anticipated to be within 5 feet of the ground surface.

Review of the LOTB for the Route 5/12 Separation located at the east end of the project, indicates that the subsurface material consists of interbedded layers of loose to very dense fine to medium grained sand, silty fine to medium sand, sand with trace gravel, and silt to sandy silt to the maximum depth explored of 90 feet. Groundwater was measured at depth of 6 feet in the borings performed in January of 1967.

Additionally, four Cone Penetrometer Tests (CPT) were preformed within the project limits. These tests indicate that the material at the west end of the project in the vicinity of Glasscock Road and Tower Park Way consists of a thin dense gravel layer underlain by peat to a depth of approximately 8 feet, underlain by interbedded layers of sand and gravel. The subsurface material in the central and eastern portion of the project consists of loose to dense sands and gravels.

**Groundwater**

Groundwater was encountered in the borings for the Route 5/12 Separation at an elevation of 0.15 meters (0.5 feet) in January 1967. Groundwater was encountered in the borings for the Potato Slough Bridge between elevations –3.5 m and –5.7 m (–11.6 feet and –18.6 feet) in May 1987.

**Geotechnical Recommendations**

The following geotechnical recommendations are based on a review of the layouts, cross sections, published project site information, and our subsurface investigation.

Highway 12 Widening

The typical cross section provided by District Design shows a sliver fills along Highway 12 with a maximum height of approximately 5 feet, with side slopes of 1:4 (V:H). Based upon the geometry of the proposed fill embankments and a review of the subsurface materials, the embankment may be constructed as proposed. Due to the loose nature of the near surface sands, a settlement period of 30 days should be used for the Highway 12 widening.

Glasscock and Tower Park Way Loop Road

During construction of the Potato Slough Bridge east approach embankment (20 feet in height), subexcavation of peaty soils was performed to a depth of 8 feet. Similarly, subexcavation is recommended beneath the fill embankments for the access road from Glasscock to Tower Park Way (STA 22+00 to STA 42+00), and the curve correction where Tower Park Way meets Highway 12 (STA 48+00 to 54+00).

The subexcavation will average eight feet in depth and extend to the edges of the fill embankment. Adequate dewatering is necessary in order that isolated pockets of deeper peat can be identified and removed. The borings indicate that stripping depths could be shallower then eight feet at some locations where the peaty soil is less thick. Due to the weak soil that will form the sides of the excavated areas, the excavations should be backfilled as rapidly as possible; and in no case should an excavation remain open for longer than 72 hours. The slopes of the excavations should stand quite steeply for the relatively brief period that the subexcavation will be open but should follow Cal-OSHA safety requirements.

It is likely that pumping by the contractor will be required to dewater the excavation. With adequate dewatering, good quality borrow can be used as backfill (compacted at 90% RC). If however, water rapidly enters the excavation such that the bottom cannot be kept free from ponding water, the backfill used must have the texture of sand or gravel (without significant silt or clay-size material). After the fill embankments are constructed, a settlement period of 3 months is recommended.

Changeable Message Signs (CMS)

Four CMS are proposed. A field investigation for the signs was performed, however, the locations of the signs were moved after completion of the investigation. Further subsurface investigation is scheduled in June 2008 for the new sign locations and recommendations will be forwarded once completed. The following preliminary recommendations are provided and based upon existing subsurface information.

CMS Location 1 (SAC-12 PM 2.5)

The Log-Of-Test-Borings (LOTB) for the Sacramento River Bridge (Br. No. 23-024) located approximately two miles west of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of very soft clayey silt and very loose course sand. Additionally, a review of borings performed for projects in the area indicate that the subsurface material consists of very soft organic peat underlain by very soft to soft clay. Based upon the subsurface material, it is anticipated that the foundation for the proposed CMS may require a special design. Due to shallow groundwater, casing or slurry may be needed to construct the foundation. This recommendation is preliminary and may be revised based upon the fieldwork scheduled.

CMS Location 2 SJ-12 PM 11.15

The Log-Of-Test-Borings (LOTB) for the Route 5/12 Separation (Br. No. 29-255) located approximately one mile west of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of loose to very dense fine to medium grained sand, silty fine to medium sand, sand with trace gravel, and silt to sandy silt. Groundwater was measured at depth of 6 feet in the borings performed in January of 1967. Based upon the subsurface material, it is anticipated that the CMS may be constructed using a standard plan foundation. Due to shallow groundwater, casing or slurry may be needed to construct the foundation. This recommendation is preliminary and may be revised based upon the fieldwork scheduled.

CMS Location 3 SJ-5 PM 33.35

The Log-Of-Test-Borings (LOTB) for Hammer Lane Undercrossing (Br. No. 29-212) located approximately one half mile south of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of very stiff clayey silt, dense medium to course sand, medium dense to dense silty fine sand and soft to stiff clay. Groundwater was measured at depth of 8 feet in the borings performed in August of 1964. Based upon the subsurface material, it is anticipated that the CMS may be constructed using a standard plan foundation. Due to shallow groundwater, casing or slurry may be needed to construct the foundation. This recommendation is preliminary and may be revised based upon the fieldwork scheduled.

CMS Location 4 SJ-5 PM 43.2

The Log-Of-Test-Borings (LOTB) for Woodbridge Road Undercrossing (Br. No. 29-249) located approximately one half mile south of the proposed CMS location was reviewed. The subsurface material found in the borings consist of interbedded layers of medium dense to dense sandy silt to silty sand and very stiff to hard silty clay to clayey silt. Groundwater was measured at depth of 7 feet in the borings performed in July of 1966. Based upon the subsurface material, it is anticipated that the CMS may be constructed using a standard plan foundation. Due to shallow groundwater, casing or slurry may be needed to construct the foundation. This recommendation is preliminary and may be revised based upon the fieldwork scheduled.

**Construction Considerations**

As mentioned previously, it is likely that pumping by the contractor will be required to dewater the subexcavation areas.

Erosion control should be considered for all disturbed areas within the project limits. The District Landscape Architecture branch should be contacted for erosion control recommendations.

**Project Information**

Standard Special Provision S5-280, "Project Information", discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

*Data and information attached with the project plans are:*

*A. None*

*Data and Information included in the Information Handout provided to the bidders and Contractors are:*

*A. Geotechnical Design Report for EA 10-0A840K, dated 5/9/2008.*

*Data and Information available for inspection at the District Office:*

*A. None*

*Data and Information available for inspection at the Transportation Laboratory are:*

*A. None*

**Future Investigations**

The recommendations contained in this report are based on specific project information. If any conceptual changes are made during final design, the Office of Geotechnical Design-North should review those changes to determine if these recommendations still apply. If you have any questions regarding this report, please contact Ben Barnes at 916-227-1039.




BENJAMIN BARNES, P.E.
Transportation Engineer
Geotechnical Design - North

c: Qiang Huang
GDN File
GS File Room

# M e m o r a n d u m

*Flex your power!*
*Be energy efficient!*

**To:** MR. PAUL ELLIOT
Project Manager
Design IV, Branch I

Attention: Rick Boyer
Project Engineer

**Date:** April 2, 2010

**File:** 10-SJ-12
PM 5.0/10.2
10-0A8401
SJ-12 Improvements

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

**Subject:** Supplemental Recommendations to Geotechnical Design Report

## Introduction

Per your request, we are providing supplemental recommendations to the Geotechnical Design Report (GDR) dated May 9, 2008 for State Route 12 from PM 5.0 to 10.2 in San Joaquin County, California. The project proposes to realign Tower Park Way under Potato Slough Bridge to connect with Glasscock Road and widen portions of Highway 12. This report provides foundation recommendations for four Changeable Message Signs (CMS) and two Extinguishable Message Signs (EMS). All recommendations in the May 9, 2008 GDR remain applicable. A vicinity map showing the sign locations as well as the limits of the Tower Parkway project is presented on Plate No. 1.

## Pertinent Reports and Investigations

The following documents were reviewed to assist in the assessment of site conditions:

- Log-of-Test-Borings (LOTB), Route 5/12 Separation, Br. No. 29-0255.
- Log-of-Test-Borings (LOTB), Mosher Slough Bridges, Br. No. 29-0199.
- Log-of-Test-Borings (LOTB), Turner Road UC, Br. No. 29-0245.
- Log-of-Test-Borings (LOTB), Sacramento River Bridge, Br. No. 23-0024.
- Geotechnical Design Report dated May 9, 2009.

**Proposed Improvements**

The following sign structures are proposed:

| Designation | County | Route | PM |
|---|---|---|---|
| CMS-1 | SAC | 12 | 1.04 |
| CMS-2 | SJ | 12 | 11.28 |
| CMS-3 | SJ | 5 | 33.49 |
| CMS-4 | SJ | 5 | 41.11 |
| EMS-1 | SOL | 12 | 25.72 |
| EMS-2 | SAC | 12 | 0.6 |

**Geotechnical Recommendations**

Changeable Message Signs (CMS)

A field investigation for the Changeable Message Signs was performed in June 2008 consisting of four Cone Penetrometer Tests (CPT), however, the sign locations were moved after completion of the investigation. Due to time constraints, no further field investigations were performed. The following foundation recommendations are provided and based upon the subsurface investigation for previous sign locations and subsurface information available for nearby structures. Site plans showing the locations of the proposed signs, CPT, and nearby structures, are presented on Plates 2 through 5. The CPT results are presented on Plates 6 through 10.

CMS-1 (SAC-12 PM 1.04)

A Cone Penetrometer Test (CPT-1) was performed in June 2008 at the original sign location (SAC-12 PM 2.5) approximately 1.5 miles east of the proposed sign location. The CPT indicates that the subsurface material consists of approximately 5 feet of very stiff fine grained silty sand, approximately 35 feet soft clay, and sand and silt to the maximum depth explored of 50 feet.

The As-Built Log-Of-Test-Borings (LOTB) for the Sacramento River Bridge (Br. No. 23-0024) located approximately one mile west of the proposed CMS location indicates that the subsurface material consists of medium dense medium to course sand with silt

near the ground surface. This material is underlain by interbedded layers of loose fine to very fine organic silty sand, loose silt and silty fine sand, very soft peat with clayey silt, and loose fine to medium silty sand to the maximum depth explored. Groundwater is shown on the LOTB for the Sacramento River Bridge at approximately 10 feet below the ground surface.

Based upon the above-mentioned subsurface materials, a standard plan foundation may not be adequate to support the sign. The sign foundation may require a special design. The Office of Structure Design should be contacted for design of the sign foundation. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation. Additional subsurface investigation may be necessary for design of the sign foundation.

CMS-2 SJ-12 PM 11.28

A Cone Penetrometer Test (CPT-2) was performed in June 2008 at the original sign location (SAC-12 PM 11.15), 0.13 miles west of the proposed sign location. The CPT indicates that the subsurface material consists of interbedded layers of very stiff fine grained silty sand to sand to the maximum depth explored of 50 ft.

The Log-Of-Test-Borings (LOTB) for the Route 5/12 Separation (Br. No. 29-0255) located approximately one mile west of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of loose to very dense fine to medium grained sand, silty fine to medium sand, sand with trace gravel, and silt to sandy silt. Groundwater was measured at depth of 6 feet in the borings performed in January of 1967.

Based upon the above-mentioned subsurface materials, it is anticipated that the CMS may be constructed using a standard plan foundation. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation.

CMS-3 SJ-5 PM 33.49

A Cone Penetrometer Test (CPT-3) was performed in June 2008 at the original sign location (SJ-5 PM 33.35) 0.14 miles south of the proposed sign location. The CPT

indicates that the subsurface material consists of interbedded layers of sand, very stiff fine-grained silty sand, gravelly sand, and clay to the maximum depth explored of 50 ft.

The Log-Of-Test-Borings (LOTB) for Mosher Slough Bridge (Br. No. 29-0199) located just north of the proposed CMS location was reviewed. The near surface soils consist of 5 feet of very soft organic silty clay underlain by 5 feet of loose sandy silt and medium dense silty fine sand. This material is underlain by interbedded layers of medium dense to dense fine to course sand to silty sand, stiff to very hard sandy to silty clay, and medium dense clayey fine sand to the maximum depth explored of 65 feet. Groundwater was measured at an approximate depth of 5 feet in the borings performed in March of 1964.

Based upon the above-mentioned subsurface materials, it is anticipated that the CMS may be constructed using a modified standard plan foundation. The standard plan pile should be lengthened by 5 feet due to the soft near surface soils. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation.

CMS-4 SJ-5 PM 41.11

A Cone Penetrometer Test (CPT-4) was performed in June 2008 at the original sign location (SJ-5 PM 43.20) approximately 2 miles north of the proposed sign location. The CPT indicates that the subsurface material consists of interbedded layers of sand, very stiff fine-grained silty sand, gravelly sand, very stiff sand to clayey sand, and clay to the maximum depth explored of 50 ft.

The Log-Of-Test-Borings (LOTB) for the Route 5/12 Separation (Br. No. 29-0255) located approximately 1.5 miles south of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of loose to very dense fine to medium grained sand, silty fine to medium sand, sand with trace gravel, and silt to sandy silt. Groundwater was measured at depth of 6 feet in the borings performed in January of 1967.

The Log-Of-Test-Borings (LOTB) for the Turner Road UC (Br. No. 29-0245) located approximately 0.5 miles north of the proposed CMS location was reviewed. The subsurface material found in the borings consists of interbedded layers of stiff to very

hard clayey silt to silty clay, medium dense silty sand to sandy silt, dense sand to clayey sand, and stiff to very stiff sandy clay. Groundwater was measured at depth of approximately 30 feet in the borings performed in July of 1966.

Based upon the above-mentioned subsurface materials, it is anticipated that the CMS may be constructed using a standard plan foundation. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation.

Extinguishable Message Signs (EMS)

Due to time constraints, no subsurface investigation was performed for the EMS. The following foundation recommendations are provided and based upon existing subsurface information.

EMS-1 (SOL-12 PM 25.72)

The As-Built Log-Of-Test-Borings (LOTB) for the Sacramento River Bridge (Br. No. 23-0024) located approximately one half mile east of the proposed EMS location indicates that the subsurface material consists of interbedded layers of very soft clayey silt and very loose course sand. Groundwater is shown on the LOTB for the Sacramento River Bridge at approximately 10 feet below the ground surface.

Based upon the above-mentioned subsurface materials, a standard plan foundation may not be adequate to support the sign. The sign foundation will require a special design. The Office of Structure Design should be contacted for design of the sign foundation. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation. Additional subsurface investigation may be necessary for design of the sign foundation.

EMS-2 (SAC-12 PM 0.6)

The As-Built Log-Of-Test-Borings (LOTB) for the Sacramento River Bridge (Br. No. 23-0024) located approximately one tenth of a mile west of the proposed EMS location indicates that the subsurface material consists of interbedded layers of very soft clayey silt and very loose course sand. Groundwater is shown on the LOTB for the Sacramento River Bridge at approximately 10 feet below the ground surface.

Based upon the above-mentioned subsurface materials, a standard plan foundation may not be adequate to support the sign. The sign foundation will require a special design. The Office of Structure Design should be contacted for design of the sign foundation. Due to the shallow groundwater, wet method and/or temporary casing may be needed to construct the sign foundation. Additional subsurface investigation may be necessary for design of the sign foundation.

**Project Information**

Standard Special Provision S5-280, "Project Information", discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

*Data and information attached with the project plans are:*

*A. None*

*Data and Information included in the Information Handout provided to the bidders and Contractors are:*

*A. Geotechnical Design Report for EA 10-0A8401, dated 4/2/2010.*

*Data and Information available for inspection at the District Office:*

*A. None*

*Data and Information available for inspection at the Transportation Laboratory are:*

*A. None*

The recommendations contained in this report are based on specific project information. If any conceptual changes are made during final design, the Office of Geotechnical Design-North should review those changes to determine if these recommendations still apply. If you have any questions regarding this report, please contact Ben Barnes at 916-227-1039.


BENJAMIN M. BARNES, P.E.
Transportation Engineer
Geotechnical Design - North

c: Qiang Huang
Mark Willian
Dave Dhillon – D10 DME
Scott Guidi – Project Manager
District Construction R.E. Pending File


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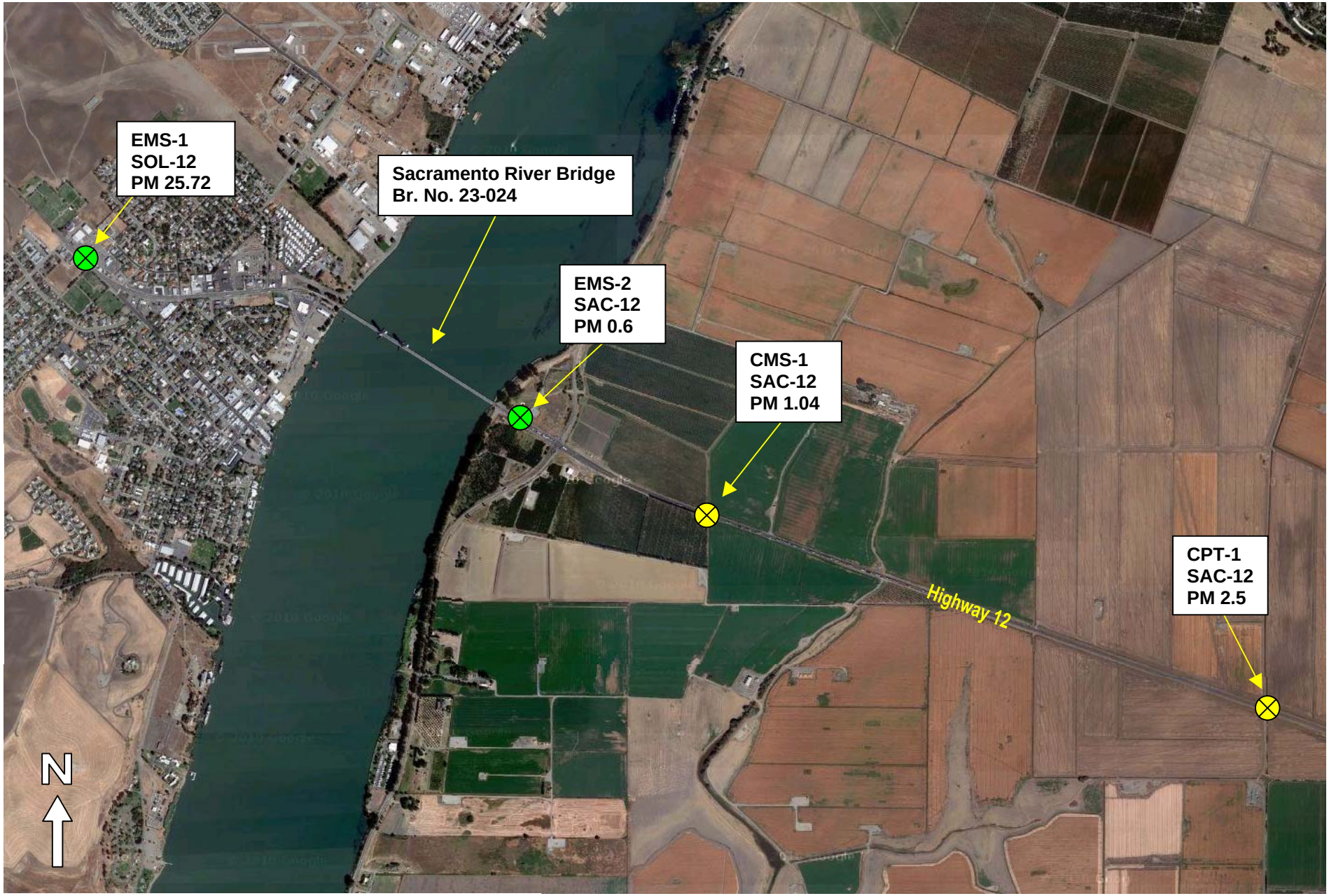
|---|---|---|---|
| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401<br>April 2010 | Vicinity Map<br>SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT | Plate No. 1 |

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| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | Site Plan for CMS-1, EMS-1, and EMS-2 | Plate No. 2 |
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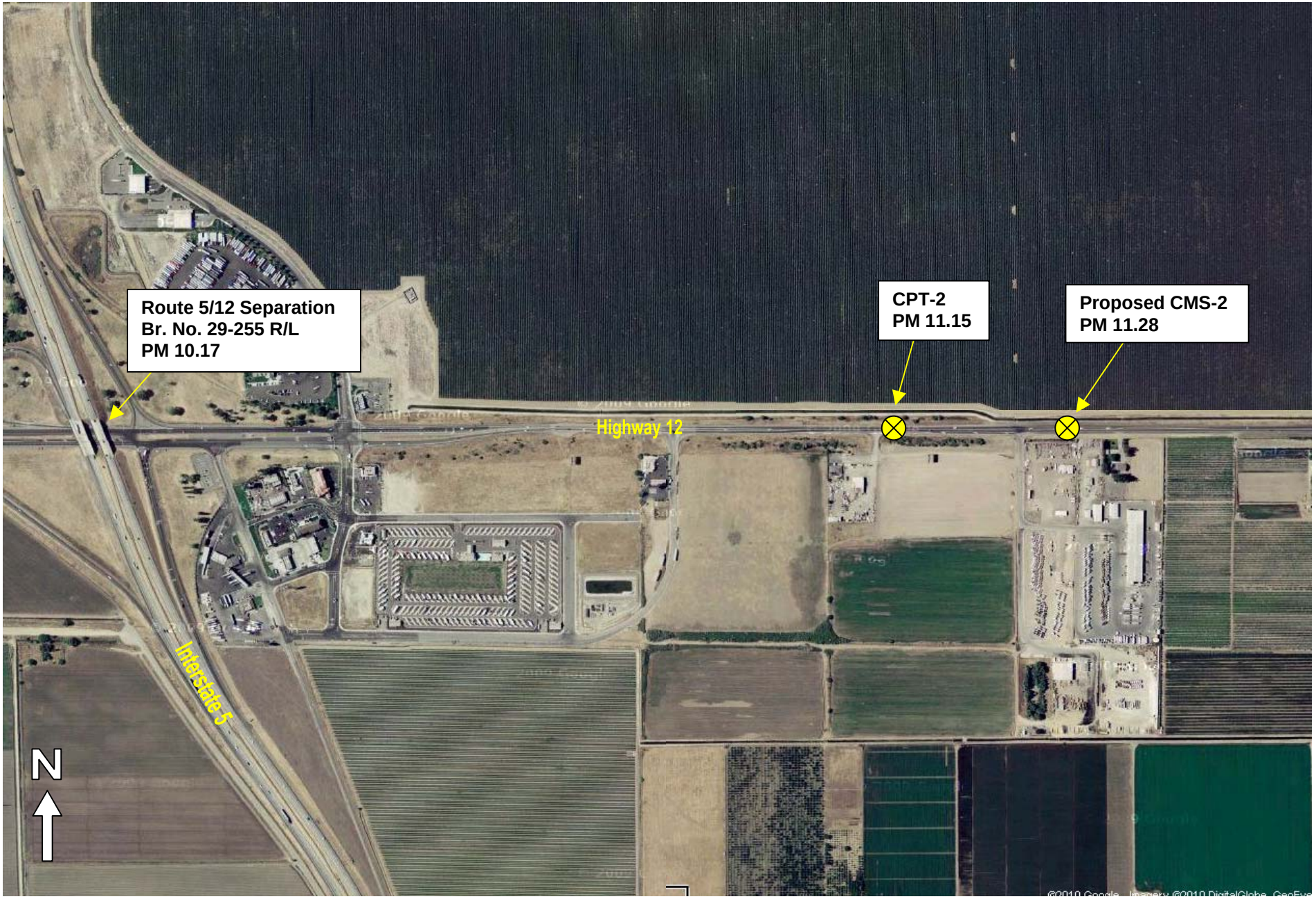


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| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | Site Plan for CMS-2 | Plate No. 3 |
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| Caltrans<br>Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | Site Plan for CMS-3 | Plate No. 4 |
| | April 2010 | SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT | |


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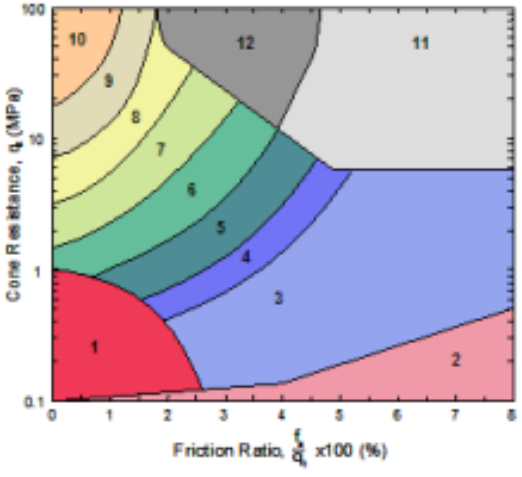
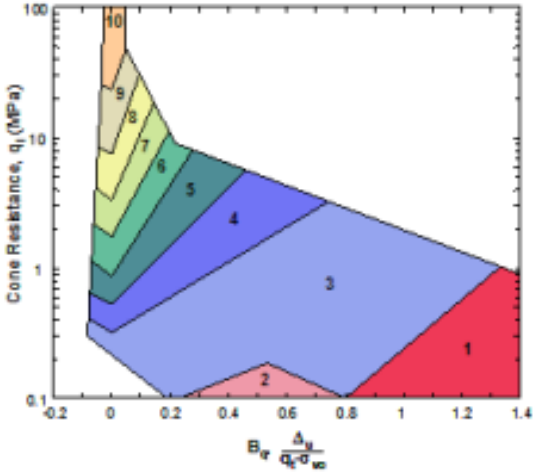
| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | Site Plan for CMS-4 | Plate No. 5 |
| | | April 2010 | SUPPLEMENTAL GEOTECHNICAL DESIGN REPORT | |

# CPT Soil Behavior Type Legend

## (Robertson et al. 1986)

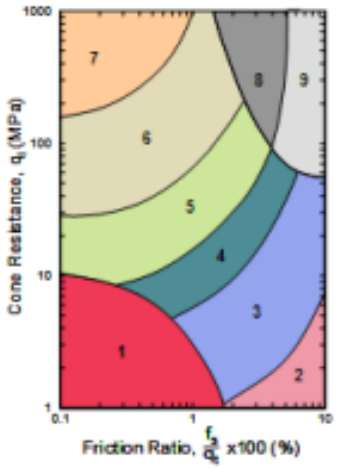


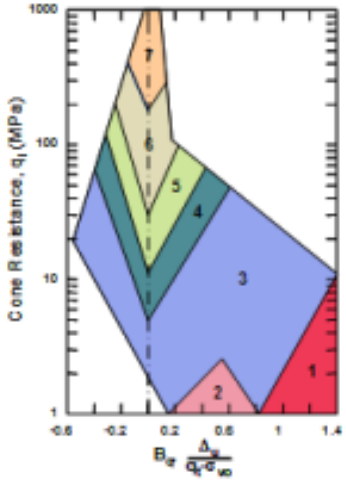




| Zone | Soil Behavior Type |
|---|---|
| 1 | Sensitive, Fine Grained |
| 2 | Organic Material |
| 3 | Clay |
| 4 | Silty Clay to Clay |
| 5 | Clayey Silt to Silty Clay |
| 6 | Sandy Silt to Clayey Silt |
| 7 | Silty Sand to Sandy Silt |
| 8 | Sand to Silty Sand |
| 9 | Sand |
| 10 | Gravelly Sand to Sand |
| 11 | Very Stiff Fine Grained* |
| 12 | Sand to Clayey Sand* |

*Overconsolidated or Cemented

## (Robertson et al. 1990)




| Zone | Soil Behavior Type |
|---|---|
| 1 | Sensitive, Fine Grained |
| 2 | Organic Soils-Peats |
| 3 | Clays; Clay to Silty Clay |
| 4 | Silt Mixtures; Clayey Silt to Silty Clay |
| 5 | Sand Mixtures; Silty Sand to Sandy Silt |
| 6 | Sands; Clean Sands to Silty Sands |
| 7 | Gravelly Sand to Sand |
| 8 | Very Stiff Sand to Clayey Sand* |
| 9 | Very Stiff Fine Grained* |

*Overconsolidated or Cemented

| | | | | |
|---|---|---|---|---|
| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | CPT Soil Behavior Type Legend | Plate No. 6 |
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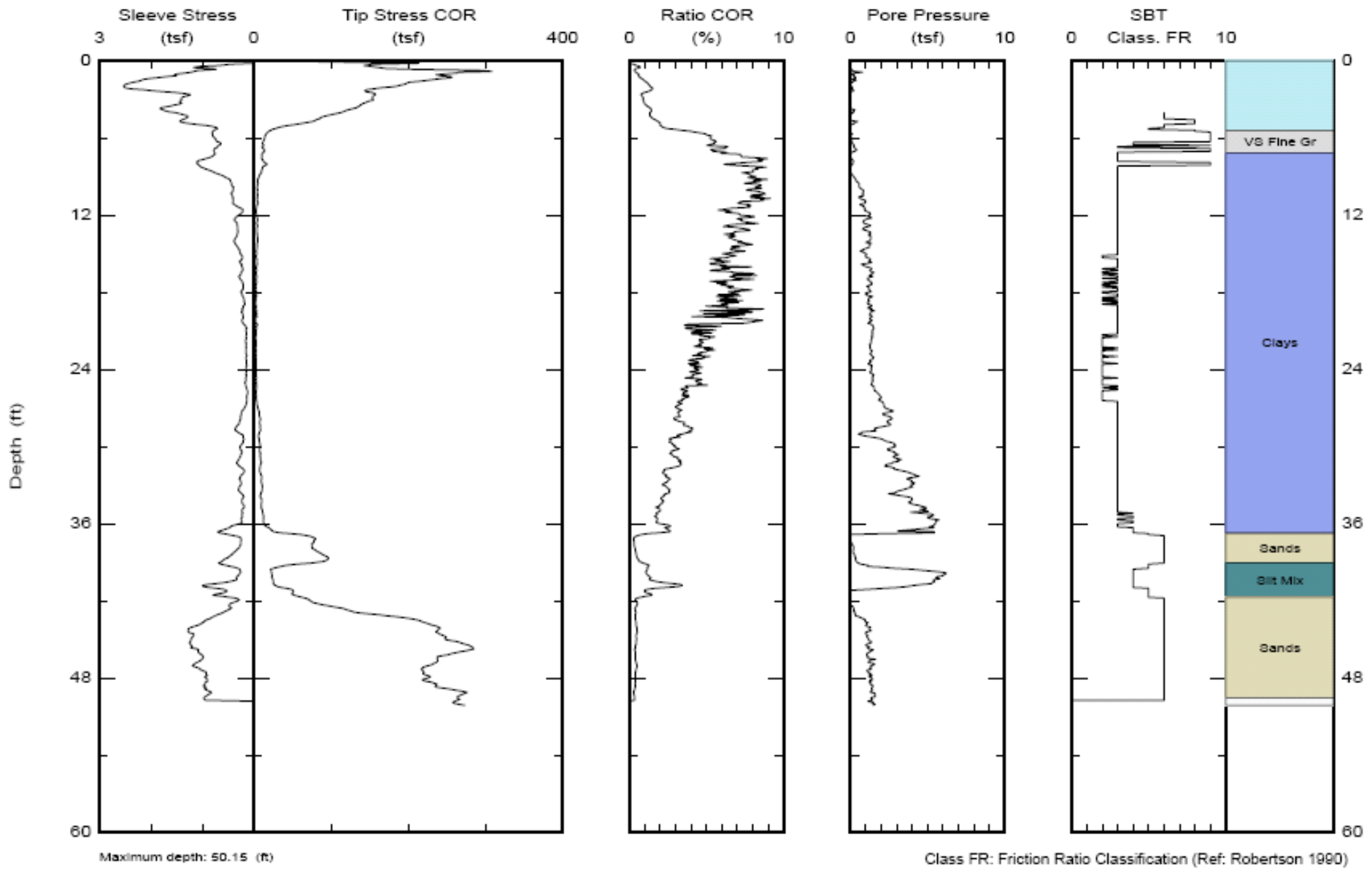


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|---|---|---|---|---|
| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | CPT-1 | Plate No. 7 |
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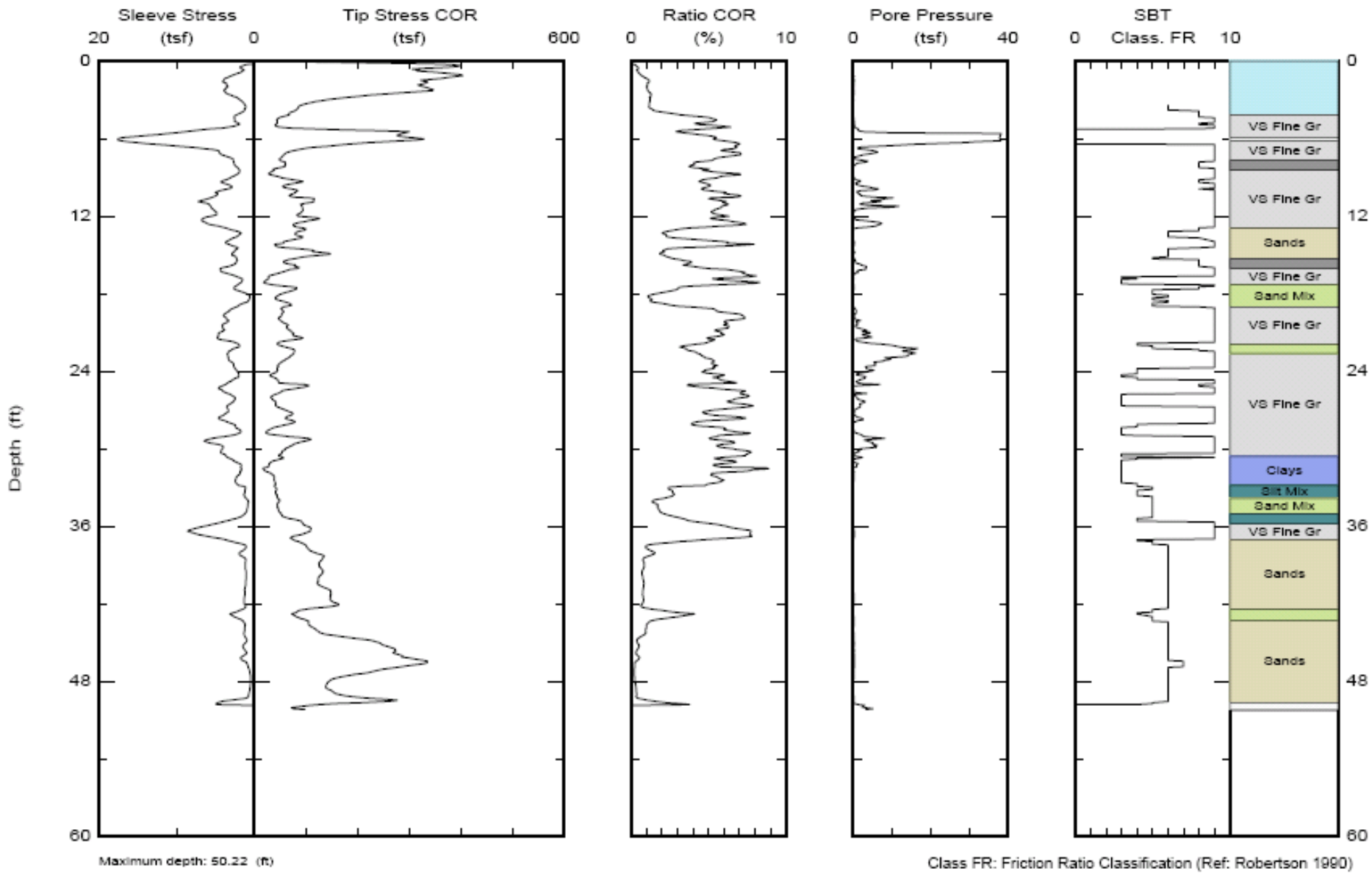


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| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | CPT-2 | Plate No. 8 |
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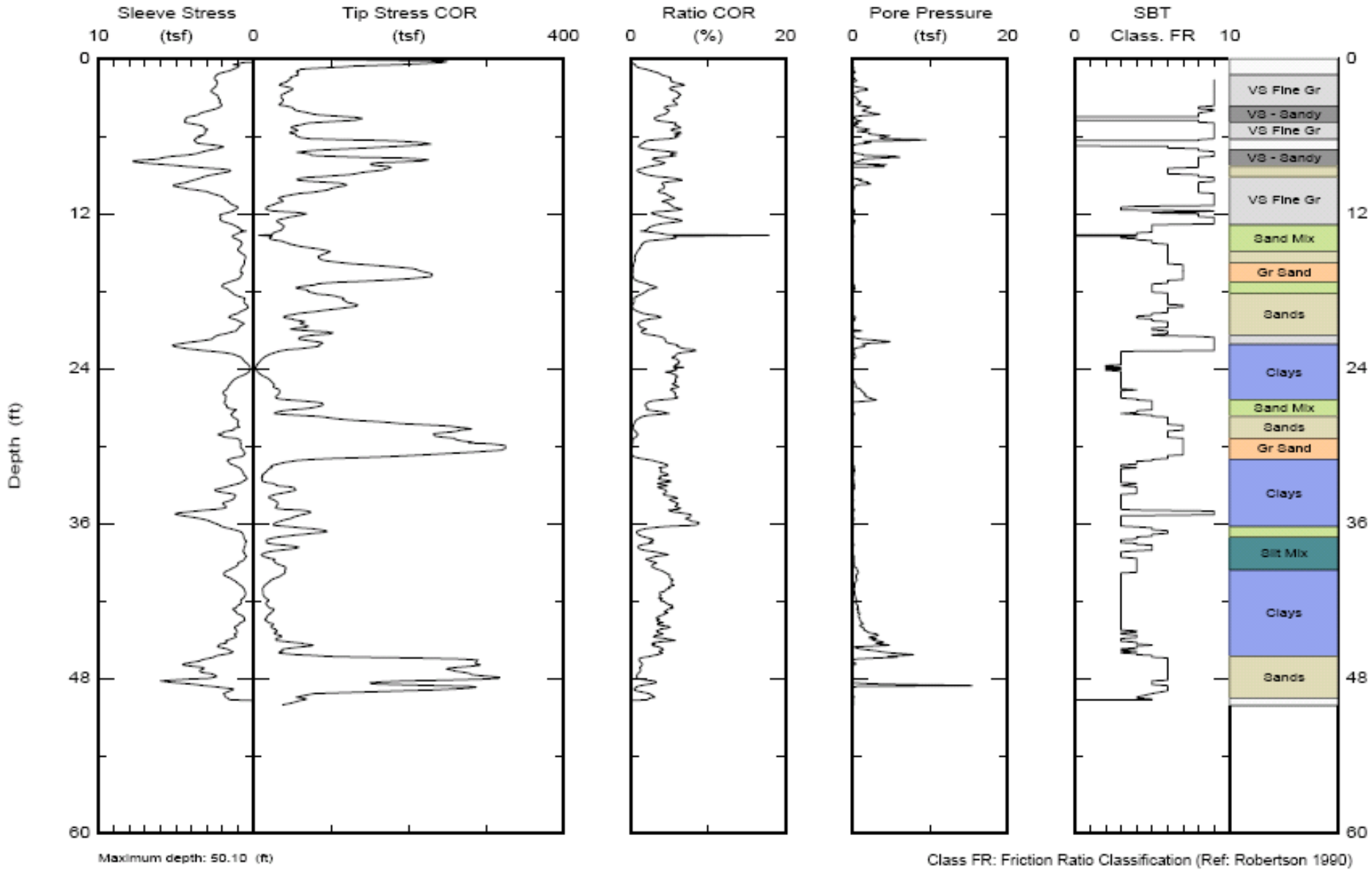


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| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | CPT-3 | Plate No. 9 |
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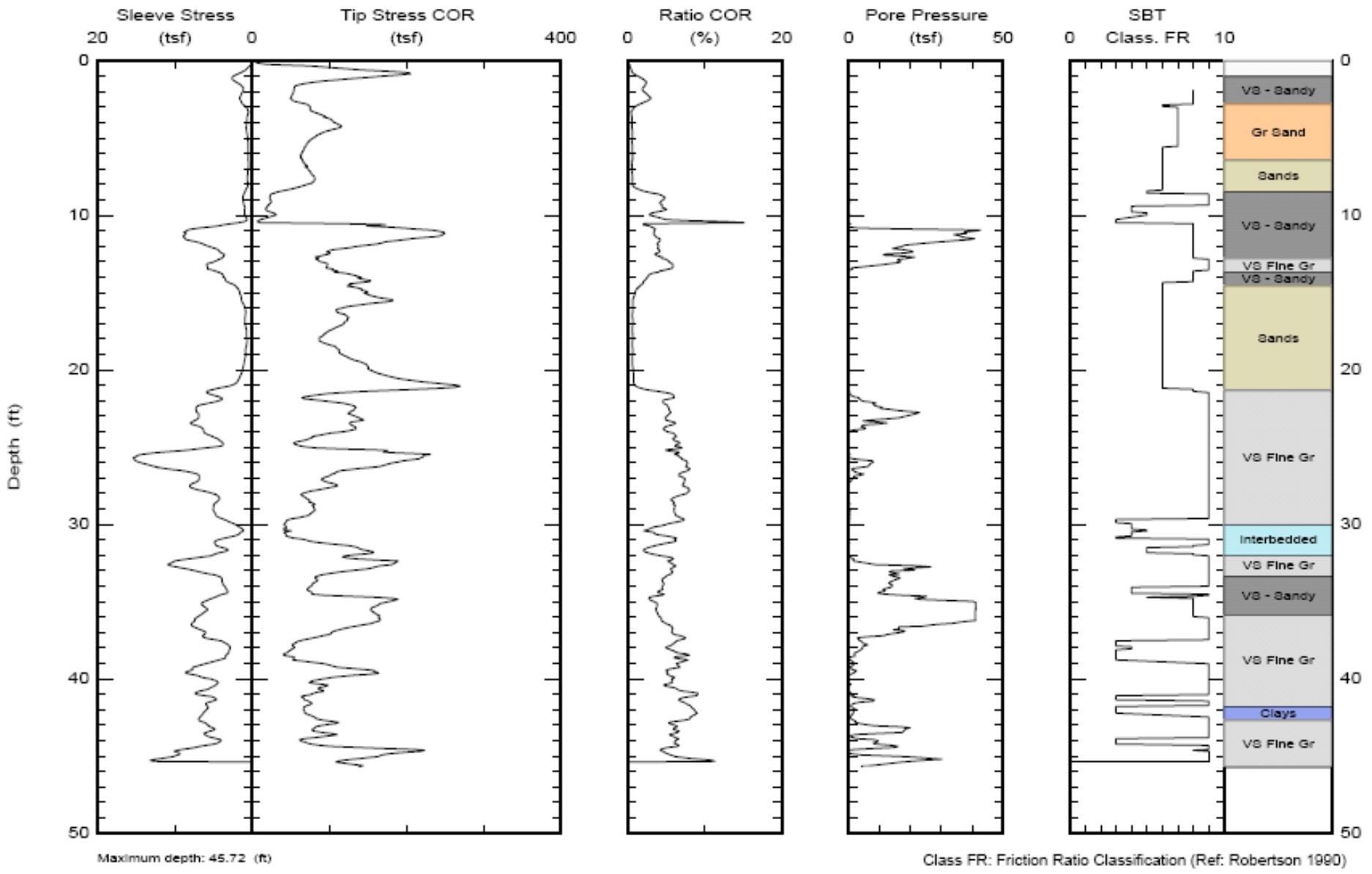


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| Caltrans | Division of Engineering Services<br>Geotechnical Services<br>Office of Geotechnical Design - North | EA: 10-0A8401 | CPT-4 | Plate No. 10 |
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