

# **INFORMATION HANDOUT**

**For Contract No. 06-0K8104  
At 06-Ker-99, 178-26.8, R2.0**

**Identified by  
Project ID 0612000108**

## **PERMITS**

1. U.S. Fish and Wildlife Service Letter of Concurrence dated September 5, 2013
2. U.S. Fish and Wildlife Service Revisions to Letter of Concurrence dated September 17, 2015
3. United States Army Corps of Engineers Non-Reporting Nationwide 404

## **WATER QUALITY**

4. California Regional Water Quality Control Board  
Central Valley Region  
Board Order No. 2003-0017-DWQ

## **AGREEMENTS**

5. California Department of Fish and Wildlife Streambed Alteration Agreement  
Notification No. 1600-2015-0172-R4 Calloway Canal-Kern County

## **MATERIALS INFORMATION**

6. Foundation Report dated October 23, 2015 for Airport Dr OC
7. Foundation Report dated October 23, 2015 for Golden State Ave Separation
8. Final Hydraulic Report for Calloway Canal dated June 9, 2015
9. Water Source Information
10. Alternative Flared Terminal System
  - A. TYPE Fleat-SP-MGS for Steel Terminal System
  - B. TYPE SRT-31 Terminal System
  - C. TYPE 31" X-TENSION
11. Asbestos and Lead-Containing Paint Survey Report
12. List of existing traffic management system elements

## **PERMITS**

1. U.S. Fish and Wildlife Service  
Letter of Concurrence dated September 5, 2013



## 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:  
08ESMF00-2013-I-0350

SEP 05 2013

Mr. Javier Almaguer  
Chief, Central Region Biology South Branch  
California Department of Transportation, District 6  
855 M Street, Suite 200  
Fresno, California 93721

Subject: Informal Consultation for the Kern County Bridges Seismic Restoration Project, Bakersfield, California (California Department of Transportation EA 06-0K810; 06-KER-99-PM 26.8/27.0 and 06-KER-178-PM R1.7/R2.2)

Dear Mr. Almaguer:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request for concurrence on the Kern County Bridges Seismic Restoration Project (project) in the City of Bakersfield, California.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 16, 2012. Caltrans was approved to participate in the MAP-21 Surface Transportation Project Delivery Program through the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and Caltrans (effective October 1, 2012), as codified in 23 U.S.C. 327. The MOU allows Caltrans to assume the FHWA's responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under Federal environmental laws for the majority of transportation projects in California.

Your letter requesting informal consultation, dated March 26, 2013, was received in this office on March 29, 2013. At issue are the effects of this proposed project on the federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*). Caltrans has determined that the proposed project may affect, but is not likely to adversely affect the San Joaquin kit fox, and therefore requests concurrence from the Service with its determination. This document has been 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).

The findings and recommendations of this letter are based on: (1) Caltrans' March 26, 2013, letter requesting concurrence, and the accompanying March 2013 *Kern County Bridges Seismic*

*Restoration Natural Environment Study (NES)*; (2) e-mail and telephone correspondence between the Service and Caltrans; and (3) other information available to the Service.

### **Project Description**

Caltrans proposes to address seismic deficiencies in four bridges located in the City of Bakersfield (City) in Kern County by retrofitting the structures. One bridge is Airport Drive Overcrossing Bridge Number (Br No.) 50-0266, which is located on Airport Drive and crosses over State Route (SR) 99 at post mile (PM) 26.78. This bridge is located in the northern portion of the City, just north of the Kern River. The other three bridges are located at SR 178 and cross over SR 204/Golden State Avenue; these include Golden State Avenue Separator Br No. 50-0326R, Golden State Avenue Separator Br No. 50-0326L, and Golden State Avenue Br No. 50-0326 CR-1. These bridges are located in the downtown area of the City and are situated approximately 2.5 miles (mi) southeast of the Airport Drive Overcrossing site.

Proposed improvements at the Airport Drive Overcrossing include:

- Removal of the existing C-1 restrainers and replacement with pipe seat extenders;
- Installation of full height steel column casings on all bridge columns;
- Removal and reconstruction of the existing metal beam guardrails to meet current standards;
- Retrofit of bent 2 to strengthen the existing bent cap;
- Installation of a new concrete wall connecting the bridge columns and the metal beam guardrails at the outside shoulder for northbound SR 99;
- Removal and reconstruction of the existing concrete walls at the columns of the outside shoulder for southbound SR 99;
- Removal and reconstruction of the existing median concrete barrier at bent 5;
- Relocation of approximately 63 feet (ft.) of existing drainage facilities to prevent interference with the proposed bridge columns at the SR 99 median.

Proposed improvements at the Golden State Avenue Separator Br Nos. 50-0326L/R/CR-1 include:

- Installation of full height steel column casings on all the bridge columns for all three bridges;
- Removal of the existing C-1 restrainers and replacement with pipe seat extenders at hinge locations;
- Widening of bent 5 by 1'6" on each side;
- Widening of bent 6 by 1'6" on one side;
- Installation of seat extenders at Abutment 1 for all three bridges;
- Expansion in all dimensions of the footing of the single column bent at bent 3 for Br No. 50-0326 CR-1 and installation of additional piles to upgrade the footing capacity.

Construction is scheduled to take place over the course of 200 days, with an anticipated start date in November 2016 and end date in August 2018. Although the majority of work will be limited to daytime hours, there also are expected to be periods of night work since one-way traffic control on Golden State Avenue will need to be introduced for safety reasons.

fall/winter of 2012. Three San Joaquin kit fox carcasses were found within the project impact area at the SR 178/204 bridge site during a reconnaissance survey on September 27, 2012, and during burrowing owl (*Athene cunicularia*) non-breeding season surveys on December 4, 2012. Two of the carcasses were located underneath the overcrossing on Golden State Avenue, and a third was located in an empty field adjacent to the bridge site. At least one of the individuals appeared to have been struck by a vehicle. Caltrans further reported that business owners in the vicinity of the SR 178/204 bridge site observe the San Joaquin kit fox traveling through the area. This part of the action area appears to provide a movement corridor for the species.

Additionally, a large potential San Joaquin kit fox den and a nearby latrine located in a field adjacent to the Airport Drive over SR 99 bridge location were identified during surveys conducted on October 25, 2012. The den and latrine did not show any signs of recent use and so were determined to be inactive, but it was possible they had been occupied and used within the previous year. Caltrans proposes to avoid the den during construction by implementing an exclusion zone. The project will not result in any permanent impacts to foraging and denning habitat in the action area. The project temporarily may affect less than one acre of disturbed habitat; however, following completion of the project, this area is expected to take little time to return to pre-project conditions.

According to the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database CNDDDB (2013)<sup>1</sup>, there is one record located within the project action area at the Airport Drive/SR 204 interchange site: a pup was observed near the interchange in February 2000, and a den and fresh tracks were identified near the Calloway Canal in November 2001. Both the 2012 survey observations and CNDDDB record indicate that the action area contains habitat suitable for denning and foraging, as well as for species movement.

### **Determination**

Because the action area is located within the range of the species, and there is suitable habitat present for denning and foraging, and there are known occurrences of the San Joaquin kit fox within the action area, it is reasonably likely for the San Joaquin kit fox to be present there. However, given the relatively small-scale scope of work, and the conservation measures proposed to minimize and avoid potential effects to the species, Caltrans concludes that the project may affect, but is not likely to adversely affect the San Joaquin kit fox and has requested concurrence with its determination. After reviewing Caltrans' letter and NES, and further correspondence with Caltrans, the Service concurs that it is reasonably likely that any effects to the San Joaquin kit fox will be insignificant or discountable and that the action is not likely to adversely affect the species.

### **Conclusion**

This concludes the Service's review of the proposed Kern County Bridges Seismic Restoration Project and its consideration of the project's effects on the species. No further coordination with

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<sup>1</sup> California Natural Diversity Database. 2013. Natural Heritage Division, California Department of Fish and Wildlife. RareFind 4. Accessed July 2, 2013. Sacramento, California.

The acquisition of additional right-of-way (ROW) will not be necessary since all work will occur within the existing ROW.

### Proposed Avoidance and Minimization Measures

According to the NES, Caltrans proposes to implement conservation measures as a precautionary means to reduce the potential for adverse effects to the San Joaquin kit fox. The Service's most recent guidelines will be followed; currently, this is the January 2011 *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (Recommendations). Caltrans will conduct preconstruction surveys, as described on page two of the Recommendations; set up exclusion zones around any dens that are identified during preconstruction surveys, as described beginning on page three; and implement the construction and on-going operational requirements described beginning on page five. The following two provisions include an additional measure specific to the project and a modification to an existing measure in the Recommendations, respectively:

1. A Service-approved biologist(s) will be on-site to monitor for the San Joaquin kit fox during initial groundbreaking activities and during periods of proposed night work, and then either on-site or on-call during the remainder of construction.
  - a. In the event that either the San Joaquin kit fox is observed or an active den is discovered during preconstruction surveys conducted in the project impact area or within 200 ft. of the impact area, the Service-approved biologist(s) will be present on-site to monitor any construction activity.
2. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once per day from the entire project site in order to reduce the potential for attracting scavengers and predator species like coyotes (*Canis latrans*) to the project site.

### Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area is composed of the project impact area, which is the area that will be directly affected by bridge retrofit activities. This includes the segments of the four bridge structures that will be retrofitted; plus the areas of disturbed, weedy, landscaped, and urban land located underneath and around the bridge sites. The action area also includes land that extends approximately 200 ft. from the edge of the Caltrans ROW which will experience further-reaching effects of bridge retrofit activities such as noise and visual disturbance.

### **Effects Analysis**

Habitat in the action area consists almost exclusively of heavily disturbed land, landscaped and weedy vegetation, and developed areas. Despite the condition of this habitat, San Joaquin kit fox presence in the action area was confirmed during surveys conducted by Caltrans in the

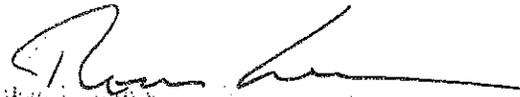
Mr. Javier Almaguer

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the Service under the Act is necessary at this time. Note that take of listed species is not exempted from the prohibitions described under section 9 of the Act. If conditions change so that the project may adversely affect listed species, initiation of formal consultation, as provided in 50 CFR § 402.14, is required.

If you have any questions regarding this letter, please contact Jen Schofield, Fish and Wildlife Biologist, at the letterhead address or at (916) 414-6600.

Sincerely,



Thomas Leeman  
Chief, San Joaquin Valley Division

cc:

Annee Ferranti, California Department of Fish and Wildlife, Fresno, California

## **PERMITS**

2. U.S. Fish and Wildlife Service  
Revisions to Letter of Concurrence dated September 17, 2015



# United States Department of the Interior



In Reply Refer to:  
08ESMF00-  
2013-I-0350

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

SEP 17 2015

Ms. Dena Gonzalez  
Chief, Central Region Biology Branch  
California Department of Transportation, District 6  
855 M Street Suite 200  
Fresno, California 93721

Subject: Revisions to the Letter of Concurrence for the Kern County Bridges Seismic Restoration Project, Bakersfield, California (California Department of Transportation EA 06-0K810; 06-KER-99-PM 26.8/27.0 and 06-KER-178-PM R1.7/R2.2)

Dear Ms. Gonzalez:

On September 5, 2013, the U.S. Fish and Wildlife Service (Service) concurred with the California Department of Transportation's (Caltrans) determination that its action to construct the Kern County Bridges Seismic Restoration Project (project) in the City of Bakersfield, California may affect, but is not likely to adversely affect the federally-listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (Service file number 08ESMF00-2013-I-0350; concurrence letter). We received your original August 10, 2015 letter in this office on August 14, 2015. In this letter, you requested to reinstate informal consultation. Following discussion with the Service concerning the use of appropriate terminology, we received your second letter, dated August 11, 2015, in this office on August 13, 2015. In this second letter, you requested to revise the concurrence letter in order to refine aspects of the project description related to the configuration of standard temporary k-rail barriers, and night work. Caltrans has determined that these changes are not likely to alter its original determination that the project may affect, but is not likely to adversely affect the San Joaquin kit fox.

The following section supplements the information presented in the **Project Description** on pages 2-3 of the concurrence letter and pertains to the layout of proposed standard temporary k-rail at each work site, along with the amount of night work that is estimated to occur as part of the project schedule:

- Proposed configurations for the standard temporary k-rail barriers have been determined at both the Airport Drive Overcrossing and Golden State Avenue bridge sites. At the Airport Drive Overcrossing work site, k-rail will be installed along State Route (SR) 99 in two stages. Stage 1 will include a 280-foot (ft.) long segment on the west side of Bent #5, and a 340-ft. long segment on the east side of Bent #5; the segments will be placed in the median area between the northbound and southbound lanes. Stage 2 will include segments underneath the overcrossing on the outside shoulders of SR 99: a 280-ft. segment in the southbound direction and a 240-ft. segment in the northbound direction.

At the Golden State Avenue work site, three segments of k-rail will be installed in one stage. This includes one 100-ft. long segment on the east outside shoulder of Q Street and two 240-ft. segments in the median where Bent #5 of the SR 178 Overcrossing is located.

- Due to 1) the high level of traffic associated with both work sites, especially during daytime commuter hours, and 2) the need to ensure worker safety and cause the least amount of disruption to the travelling public, the majority of construction will be conducted at night. At this time, Caltrans estimates that a total of 150 work nights will be necessary, with work occurring concurrently at both sites and for multiple activities. Work activities that are expected to occur at night include the seismic retrofitting of bents, installation of pipe seat extenders inside the bridge deck, column construction, and the installation of k-rail barriers and metal-beam guardrails. Because it will be possible to perform some project activities during the day (e.g., some seismic retrofitting and column construction, and landscaping), the total construction work schedule is still estimated to last 200 days, as described originally in the concurrence letter. However, construction details are continuing to be developed, so the overall number of work days, as well as the amount of night work, may change.

On page 3 of the concurrence letter, the first measure under the Proposed Avoidance and Minimization Measures is being modified as follows. Segments of new text are shown by an underline:

1. A Service-approved biologist(s) will be on-site to monitor for the San Joaquin kit fox during initial groundbreaking activities and during selected periods of proposed night work (as described below in conservation measure #4), and then either on-site or on-call during the remainder of construction.

The following section supplements the information presented in the Proposed Avoidance and Minimization Measures on page 3 of the concurrence letter, and pertains to a series of new conservation measures proposed by Caltrans to minimize any potential effects to the San Joaquin kit fox at the two work sites. Measures #3-6 below follow-on from existing Measures #1-2 in the concurrence letter:

3. In addition to providing standard environmental awareness training for all workers, Caltrans will emphasize San Joaquin kit fox awareness during nighttime operations by holding refresher trainings once per week for all personnel.
4. Worksite spot checks for the San Joaquin kit fox at both the Airport Drive Overcrossing and Golden State Avenue locations will be conducted twice per week between the hours of dusk and dawn. Depending on the results of the first month of monitoring, Caltrans may increase or decrease the frequency of these spot checks in coordination with the Service.
5. The speed limit for construction-related traffic within the work zones will be limited to a maximum of 10-mph.
6. All pits and pipes will be covered and inspected for presence of the San Joaquin kit fox.

The following section supplements the information presented in the **Determination** on page 4 of the concurrence letter and pertains to the evaluation of effects on the San Joaquin kit fox from the presence of standard temporary k-rail barriers and from night work.

Although the San Joaquin kit fox is reasonably likely to occur at both of the bridge locations, in part because these sites are located within the San Joaquin kit fox Metropolitan

Bakersfield satellite recovery area (Service, 2010)<sup>1</sup>, Caltrans has concluded that the installation of standard temporary k-rail barriers is expected neither to impede San Joaquin kit fox movement around the project sites, nor to trap the species within lanes of traffic. This is based on the combination of several reasons. Firstly, alternative movement corridors provide permeability at the project sites: the Calloway Canal at the Airport Drive Overcrossing passes below-grade, and a railroad, which also passes below-grade, lies directly east of Golden State Avenue. Secondly, the footprint of each project site is small-scale (the Airport Drive Overcrossing site extends 0.4 mile and the Golden State Avenue site extends 0.7 mile), so the proposed k-rail segments will be installed only within a very small area at each location (maximum lengths of 340-ft. and 240-ft. of k-rail will be used at the Airport Drive Overcrossing and Golden State Avenue sites, respectively).

Caltrans originally did not provide an estimate of the amount of night work necessary for the project; however, it currently estimates using up to a total of 150 nights. Night work often involves activities that are more highly disruptive to traffic, and which cannot be otherwise undertaken safely during daylight hours under normal traffic conditions. Although there is potential for the San Joaquin kit fox to occur at both work locations, Caltrans does not expect its nighttime construction activities to adversely affect the species given the small size of the work areas, the availability of existing movement corridors for the species that are situated out of the way of construction, and the implementation of multiple minimization measures.

For these reasons, Caltrans has concluded that the new information added to the project description does not change its previous determination, namely, that the project may affect, but is not likely to adversely affect the San Joaquin kit fox. The Service concurs with Caltrans' conclusion.

### Closing Statement

Caltrans' proposed modifications do not change the conclusion of our September 5, 2013, concurrence letter: the proposed project may affect, but is not likely to adversely affect the San Joaquin kit fox. No further coordination with the Service under section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) is necessary at this time. This concludes the revision letter for the Kern County Bridges Seismic Restoration Project.

If you have any questions regarding this letter, please contact Jen Schofield, Wildlife Biologist ([jen\\_schofield@fws.gov](mailto:jen_schofield@fws.gov)) at the letterhead address or by e-mail.

Sincerely,



Thomas Leeman  
Chief, San Joaquin Valley Division

cc:

Craig Bailey, California Department of Fish and Wildlife, Fresno, CA

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<sup>1</sup> U.S. Fish and Wildlife Service. 2010. San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. 122 pp.

## **WATER QUALITY**

3. United States Army Corps of Engineers Non-Reporting Nationwide 404

# U.S. Army Corps of Engineers South Pacific Division



## Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U.S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

<b>Box 1 Project Name</b> Kern County Bridges Seismic Restoration			
<b>Applicant Name</b> Javier Almaguer		<b>Applicant Title</b> Biology Branch Chief, Env. Stuardship	
<b>Applicant Company, Agency, etc.</b> California Department of Transportation		Applicant's internal tracking number (if any) 06-0K810	
Mailing Address 855 M. St, Suite 200 Fresno CA 93721			
Work Phone with area code 559-455-6456	Mobile Phone with area code	Home Phone with area code	Fax # with area code
E-mail Address javier.almaguer@dot.ca.gov	Relationship of applicant to property: <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Purchaser <input type="checkbox"/> Lessee <input type="checkbox"/> Other:		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work <u>only</u> after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
<b>Signature of applicant</b>			Date (mm/dd/yyyy)

If anyone other than the person named as the Applicant will be in contact with the U.S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.

<b>Box 2 Authorized Agent/Operator Name</b> Keri O'Connor		<b>Agent/Operator Title</b> Senior Biologist	
<b>Agent/Operator Company, Agency, etc.</b>		E-mail Address keri.o'connor@dot.ca.gov	
Mailing Address 855 M STREET, SUITE 200, FRESNO, CA 93721-2716			
Work Phone with area code 559-445-6459	Mobile Phone with area code	Home Phone with area code	Fax # with area code 559-445-6236
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
<b>Signature of applicant</b>			Date (mm/dd/yyyy)
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
<b>Signature of authorized agent</b>			Date (mm/dd/yyyy)



**Nature of Activity** (Description of the project, include all features):

The proposed improvements on Airport Drive OC include: Adding infill walls at each bent. The infill walls will be full height of the columns. These walls are about 1'8" thick, connecting each column. Excavation would be needed to form the wall. The excavation is not going any deeper than the existing footing. Bent 2 (within Calloway Canal) is 3 feet deep.

**Project Purpose** (Description of the reason or purpose of the project):

The entire project consists of similar work on four bridges (in two locations, only one being within the Calloway Canal) to mitigate seismic deficiencies.

**Box 6 Reason(s) for discharge into Waters of the United States** (Description of why dredged and/or fill material needs to be placed in Waters of the United States):

Temporary impacts include heavy equipment entering the canal to excavate dirt up to the footing. Dirt will be stockpiled and kept onsite. Falsework will be erected for the wall between the columns. Concrete will be poured on top, and allowed to cure for 28 days. False work will be removed, and the previously excavated dirt will be used to fill and compact footing. Any excess soil will be scattered inside the canal. No outside fill will be necessary.

Temporary impacts include heavy equipment entering the canal to excavate dirt up to the footing. Dirt will be stockpiled and kept onsite. Falsework will be erected for the wall between the columns. Concrete will be poured on top, and allowed to cure for 28 days. False work will be removed, and the previously excavated dirt will be used to fill and compact footing. Any excess soil will be scattered inside the canal. No outside fill will be necessary.

**Proposed discharge of dredge and/or fill material.** Indicate total surface area in **acres** and **linear feet** (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit<sup>1</sup>:

<sup>1</sup> Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx>

Water Body Type	Requested NWP Number: 14				Requested NWP Number:				Requested NWP Number:			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
Ditch/canal	0.01		1.44									
Total:												

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock		
Soil/Dirt/Silt/Sand/Mud	9.6 cy	9.6 cy
Concrete		28 cy
Structure		
Stumps/Root wads		
Other:		
Total:	9.6 cy	37.6 cy

Activity requires a written waiver to exceed specified limits of the Nationwide Permit?  Yes  No

If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than 1/2-acre of Waters of the United States?  Yes  No

If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4):

Describe direct and indirect effects caused by the activity and how the activity has been designed (or modified) to have minimal adverse effects on the aquatic environment (See General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1): No direct or indirect effects on the aquatic environment are anticipated. All work will be performed in the dry season when no water is present. All temporarily disturbed areas will be returned to its original state.

Potential cumulative impacts of proposed activity(if any): None are expected. All work will be performed during dry season.

Required drawings and figures (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):

Vicinity map:  Attached (or mail copy separately if applying electronically)

To-scale Plan view drawing(s):  Attached (or mail copy separately if applying electronically)

To-scale elevation and/or Cross Section drawing(s):  Attached (or mail copy separately if applying electronically)

Numbered and dated pre-project color photographs:  Attached (or mail copy separately if applying electronically)

Sketch drawing(s) or map(s):  Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?

Yes, Attached<sup>2</sup> (or mail copy separately if applying electronically)  No

If a delineation has been completed, has it been verified in writing by the Corps?

Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy):

Corps file number:

No

<sup>2</sup>If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach<sup>3</sup> a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual.

<sup>3</sup>Or mail copy separately if applying electronically

Is any portion of the work already complete?  YES  NO

If yes, describe the work:

**Box 7 Authority:**

Is Section 10 of the Rivers and Harbors Act applicable?:  YES  NO

Is Section 404 of the Clean Water Act applicable?:  YES  NO

Is the project located on U.S. Army Corps of Engineers property or easement?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Would the project affect a U.S. Army Corps of Engineers structure?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?:  YES  NO

Is the project located on Tribal Lands?:  YES  NO

**Box 8** Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?:  YES  NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

N/A

Location of larger development (if discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):

N/A

**Box 9 Measures taken to avoid and minimize impacts to waters of the United States:**

Work will be performed when channel is dry. No equipment or supplies will be stored or staged within the canal. Best management practices (BMP's) will be utilized so the smallest practicable footprint will be in place to minimize temporary, indirect and permanent impacts to waters.

Temporary silt fencing, temporary construction entrance, and temporary soil binder will be used to protect slope and canal maintenance road.

**Box 10 Proposed Compensatory Mitigation** related to fill/excavation and dredge activities. Indicate in **acres** and **linear feet** (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands<sup>1</sup>). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:

<sup>1</sup> For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
Total:										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:

All temporarily disturbed areas will be returned to its original state.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program:

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008, Final Mitigation Rule<sup>2</sup> and District Guidelines?

<sup>2</sup>[http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig\\_info.aspx](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx)

<sup>3</sup>**Sacramento and San Francisco Districts**-[http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation\\_Monitoring\\_Guidelines.pdf](http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf)

<sup>4</sup>**Los Angeles District**-[http://www.spl.usace.army.mil/regulatory/mmg\\_2004.pdf](http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf)

<sup>5</sup>**Albuquerque District**-[http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines\\_OLD.pdf](http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines_OLD.pdf)

Yes, Attached (or mail copy separately if applying electronically)  No

If no, a mitigation plan must be prepared and submitted, if applicable.

Mitigation site(s) Latitude & Longitude (D/M/S, DD, USGS Quadrangle map name(s):

or UTM with Zone); To Be Determined

Assessor Parcel Number(s):

Section(s), Township(s), Range(s):

Other location descriptions, if known:

Directions to the mitigation location(s):

**Box 11 Threatened or Endangered Species**

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat (or proposed critical habitat) within the project area (include scientific names (e.g., Genus species), if known):

- a. San Joaquin kit fox
- b. burrowing owl
- c. western mastiff bat
- d. Mexican freetail bat
- e.
- f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?

Yes, Report attached (or mail copy separately if applying electronically)  No

If a federally-listed species would be impacted, please provide a description of the impact and a biological evaluation, if available.

Yes, Report attached (or mail copy separately if applying electronically)  Not attached

Has Section 7 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has Section 10 consultation been initiated for the proposed project?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has the USFWS/NOAA Fisheries issued a Biological Opinion?

Yes, Attached (or mail copy separately if applying electronically)  No

If yes, list date Opinion was issued (m/d/yyyy): 9/5/2013

**Box 12 Historic properties and cultural resources:**

Are any cultural resources of any type known to exist on-site?  Yes  No

Please list any known historic properties listed, or eligible for listing, on the National Register of Historic Places:

- a.
- b.
- c.
- d.
- e.
- f.

Has a cultural resource records search been conducted?

Yes, Report attached (or mail copy separately if applying electronically)  No

Has a cultural resource pedestrian survey been conducted for the site?

Yes, Report attached (or mail copy separately if applying electronically)  No

Has another federal agency been designated the lead federal agency for Section 106 consultation?

Yes, Designation letter/email attached (or mail copy separately if applying electronically)  No

Has Section 106 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has a Section 106 MOA or PA been signed by another federal agency and the SHPO?

Yes, Attached (or mail copy separately if applying electronically)  No

If yes, list date MOA or PA was signed (m/d/yyyy):

**Box 13 Section 401 Water Quality Certification:**Applying for certification?  Yes, Attached (or mail copy separately if applying electronically)  NoCertification issued?  Yes, Attached (or mail copy separately if applying electronically)  NoCertification waived?  Yes, Attached (or mail copy separately if applying electronically)  NoCertification denied?  Yes, Attached (or mail copy separately if applying electronically)  NoExempted activity?  Yes  NoAgency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 14 Coastal Zone Management Act:**Is the project located within the Coastal Zone?  Yes  No

If yes, applying for a coastal commission-approved Coastal Development Permit?

 Yes, Attached (or mail copy separately if applying electronically)  No

If no, applying for separate CZMA-consistency certification?

 Yes, Attached (or mail copy separately if applying electronically)  NoPermit/Consistency issued?  Yes, Attached (or mail copy separately if applying electronically)  NoExempt?  Yes  NoAgency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 15** List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type of Approval <sup>4</sup>	Identification Number	Date Applied	Date Approved	Date Denied
CRWQCB	401 Certification	N/A	August 20, 2015	Pending	
CDFW	1602 Streambed Alteration	N/A	August 20, 2015	Pending	

<sup>4</sup> Would include but is not restricted to zoning, building, and flood plain permits

# Nationwide Permit General Conditions (GC) checklist:

(<http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf>)

Check	General Condition	Rationale for compliance with General Condition
<input checked="" type="checkbox"/>	1. Navigation	There are no navigable waters within or near the project vicinity. There will be no effects on navigation.
<input checked="" type="checkbox"/>	2. Aquatic Life Movements	No disruption of aquatic life movement will take place as a result of this project by following avoidance and minimization measures.
<input checked="" type="checkbox"/>	3. Spawning Areas	No spawning areas are located in the project vicinity.
<input checked="" type="checkbox"/>	4. Migratory Bird Breeding Areas	No shorebird, waterfowl, or migratory bird breeding areas are located within the WOUS in the project vicinity area.
<input checked="" type="checkbox"/>	5. Shellfish Beds	No shellfish beds are located in the project vicinity.
<input checked="" type="checkbox"/>	6. Suitable Material	Fill will meet suitable material standards and will be free from toxic pollutants. Fill will be limited to the minimum amount necessary to accomplish the project.
<input checked="" type="checkbox"/>	7. Water Supply Intakes	No water supply intakes exist in the project vicinity.
<input checked="" type="checkbox"/>	8. Adverse Effects from Impoundments	No impoundments are proposed.
<input checked="" type="checkbox"/>	9. Management of Water Flows	The project will not permanently impede the passage of normal or expected high water flows.
<input checked="" type="checkbox"/>	10. Fills Within 100-Year Floodplains	As defined in 23 CFR Section 650.105 (q), the project does not constitute a significant floodplain encroachment.
<input checked="" type="checkbox"/>	11. Equipment	Heavy equipment in the project impact area to temporary access roads and current Caltrans right-of-way. Equipment will not stage within the stream channel.
<input checked="" type="checkbox"/>	12. Soil Erosion and Sediment Controls	Appropriate soil erosion and sediment controls will be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work within WOUS, must be permanently stabilized at the earliest practicable date. Caltrans standard erosion controls will be utilized to prevent soil erosion and sedimentation.
<input checked="" type="checkbox"/>	13. Removal of Temporary Fills	Should temporary fill be used, it would be removed in its entirety and the affected area(s) would be returned to pre-construction elevations. The affected area(s) would be re-vegetated as appropriate.
<input checked="" type="checkbox"/>	14. Proper Maintenance	The maintenance of the roadway in the project area, SR 168, will be the responsibility of Caltrans and will be properly maintained.
<input checked="" type="checkbox"/>	15. Single and Complete Project	Project is single and complete.
<input checked="" type="checkbox"/>	16. Wild and Scenic Rivers	Project site is not within any designated or proposed NWSRs
<input checked="" type="checkbox"/>	17. Tribal Rights	No tribal rights will be impaired by this project
<input checked="" type="checkbox"/>	18. Endangered Species	See Box 11 above.
<input checked="" type="checkbox"/>	19. Migratory Bird and Bald and Golden Eagle Permits	No eagles or eagle habitat will be impacted by the project. Standard specifications will require preconstruction surveys for migratory birds and tree removal.
<input checked="" type="checkbox"/>	20. Historic Properties	See Box 12 above.
<input checked="" type="checkbox"/>	21. Discovery of Previously Unknown Remains and Artifacts	Caltrans Special Provision 14-2.02 describes procedure to protect uncovered remains and artifacts.
<input checked="" type="checkbox"/>	22. Designated Critical Resource Waters	Project site does not include any Designated Critical Resource Waters.
<input checked="" type="checkbox"/>	23. Mitigation	See Box 10 above.
<input checked="" type="checkbox"/>	24. Safety of Impoundment Structures	No impoundments are proposed by this project.
<input checked="" type="checkbox"/>	25. Water Quality	See Box 13 above.

<input checked="" type="checkbox"/>	26. Coastal Zone Management	See Box 14 above.
<input checked="" type="checkbox"/>	27. Regional and Case-by-Case Conditions	The proposed project does not occur within the vicinity or manner of any Regional Conditions outlined by the Army Corps of Engineers.
<input checked="" type="checkbox"/>	28. Use of Multiple Nationwide Permits	Applicant is aware that if total proposed acreage of impacts exceed the acreage limit of the NWP with the highest specified acreage, no NWP can be issued.
<input checked="" type="checkbox"/>	29. Transfer of Nationwide Permit Verifications	Applicant is aware of this permit transfer requirement.
<input checked="" type="checkbox"/>	30. Compliance Certification	Applicant is aware of this post-construction requirement.
<input checked="" type="checkbox"/>	31. Pre-Construction Notification	PCN for this project will be submitted prior to construction, and will include a delineation of wetlands and other WOUS, and demonstrations of compliance with ESA and NHPA

## **WATER QUALITY**

4. California Regional Water Quality Control Board  
Central Valley Region Board Order No. 2003-0017-DWQ

## Central Valley Regional Water Quality Control Board

13 January 2016

Javier Almaguer, Central Region Biology Chief  
California Department of Transportation  
855 M. Street, Suite 200  
Fresno, CA 93721-2719

### **CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE KERN COUNTY BRIDGES SEISMIC RESTORATION PROJECT, WDID#5C15CR00082, KERN COUNTY**

This Order responds to the 28 August 2015 application submitted by California Department of Transportation (Applicant) for the Water Quality Certification of a transportation project permanently impacting 0.01 acres of waters of the United States.

This Order serves as certification of the subject Project permitted by the United States Army Corps of Engineers' Nationwide Permit 14 under § 401 of the Clean Water Act, and a Waste Discharge Requirement under the Porter-Cologne Water Quality Control Act and State Water Resources Control Board Order 2003-0017-DWQ.

#### **WATER QUALITY CERTIFICATION STANDARD CONDITIONS:**

1. This Certification 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 is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR § 3855(b) 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 § 3860.
4. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and § 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 Certification.

#### **WATER QUALITY CERTIFICATION GENERAL CONDITIONS:**

1. Certification is valid for the duration of the Kern County Bridges Seismic Restoration Project (Project) described in the attached "Project Information Sheet." This Certification is no longer valid if the Project (as summarized in the "Project Information Sheet" and described in the water

quality certification application) is modified, or coverage under the project permit issued by the U.S. Army Corps of Engineers pursuant to § 404 of the Clean Water Act has expired.

2. The Applicant shall provide a Notice of Completion (NOC) no later than 30 days after the Project completion. The NOC shall demonstrate that the Project has been carried out in accordance with the Project description in the Certification and in any approved amendments. The NOC shall include a map of the Project location(s), including final boundaries of any on-site restoration area(s), if appropriate, and representative pre and post construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation.
3. All reports, notices, or other documents required by this Certification or requested by the Central Valley Water Board shall be signed by a person described below or by a duly authorized representative of that person.
  - a. For a corporation: by a responsible corporate officer such as (1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; (2) any other person who performs similar policy or decision-making functions for the corporation; or (3) the manager of one or more manufacturing, production, or operating facilities if *authority* to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
  - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official.
4. Any person signing a document under General Condition No. 3 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 standard and general conditions above, the Applicant shall satisfy the following:

1. The Applicant shall notify the Central Valley Water Board in writing **seven days** prior to beginning any in-water activities.
2. Except for activities permitted by the U.S. Army Corps of Engineers 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. The Applicant 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. An effective combination of erosion and sediment control Best Management Practices (BMPs) shall be implemented and adequately working during all phases of construction.
6. All temporarily affected areas shall be restored to pre-construction contours and conditions upon completion of construction activities.
7. All Project activity shall take place when the river channel is dry.
8. The discharge of petroleum products or other excavated materials to the surface water channel is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or downstream. The Applicant shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.
9. Prior to arrival at the project site and prior to leaving the project site, construction equipment that may contain invasive plants and/or seeds shall be cleaned to reduce the spreading of noxious weeds.
10. The Applicant shall notify the Central Valley Water Board immediately if any of the above conditions are violated, along with a description of measures it is taking to remedy the violation.
11. The Applicant shall comply with all California Department of Fish and Game Code § 1600 requirements for the Project.
12. The Applicant must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board for any project disturbing an area of one acre or greater.
13. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and § 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 Certification.
14. If the Applicant or a duly authorized representative of the Applicant fails or refuses to furnish technical or monitoring reports, as required under this Certification, or falsifies any information provided in the monitoring reports, the Applicant will be subject to civil liability, for each day of violation, or criminal liability.
15. In response to a suspected violation of any condition of this Certification, the Central Valley Water Board may require the Applicant 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 them.
16. The Applicant shall allow staff of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the Project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Certification and determining the ecological success of the Project.

**CENTRAL VALLEY WATER BOARD CONTACT PERSON:**

Debra Mahnke, Water Resource Control Engineer  
1685 E Street  
Fresno, CA 93706  
(559) 445-6281  
debra.mahnke@waterboards.ca.gov

**WATER QUALITY CERTIFICATION:**

I hereby issue an order certifying that the proposed discharge from the California Department of Transportation Kern County Bridges Seismic Restoration Project, WDID 5C15CR00082, 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."

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited to and all proposed mitigation being completed in strict compliance with the Applicant's project description, the attached "Project Information Sheet," and the Applicant's water quality certification application; and (b) compliance with all applicable requirements of the Central Valley Water Board's *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004.

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

*for*   
Pamela C. Creedon  
Executive Officer

Enclosure: Water Quality Order No. 2003-0017 DWQ  
Attachment: Project Information Sheet

cc: Jason Brush, Supervisor, Wetlands Regulatory Office, U.S. Environmental Protection Agency, Region 9, San Francisco (email)  
Kate Dadey, Sacramento South Branch Chief, Regulatory Unit, Department of the Army, Corps of Engineers, Sacramento  
Bill Orme, Water Quality Certification Unit Chief, Division of Water Quality, State Water Resources Control Board, Sacramento (email)  
Julie Vance, Regional Manager, San Joaquin Valley-Southern Sierra Region, California Department of Fish and Wildlife, Fresno

## PROJECT INFORMATION SHEET

**Application Date:** 28 August 2015

**Applicant:** California Department of Transportation

**Applicant Representatives:** Javier Almaguer, Central Section Biology Chief  
Keri O'Connor, Project Biologist

**Project Name:** Kern County Bridges Seismic Restoration Project

**Application Number:** WDID 5C15CR00082

**Type of Project:** Transportation

**Project Location:** Airport Drive at SR 99  
Section 14, Township 29 South, Range 27 East, MDB&M.  
Latitude: 35.39859° and Longitude: -119.04482°

**Project Duration:** The Project is tentatively scheduled to begin in November 2016 and be completed by May 2017. The schedule may be adjusted to avoid or minimize environmental impacts.

**County:** Kern

**Receiving Water:** Calloway Canal, Tulare Lake Hydrologic Basin, South Valley Floor Hydrologic Unit #557.10, Kern Delta HA

**Water Body Type:** Canal

**Designated Beneficial Uses:** The *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004 (Basin Plan), has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include, but are not limited to: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND); Hydropower Generation (POW); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Preservation of Biological Habitats of Special Significance (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wildlife Habitat (WILD). A comprehensive and specific list of the beneficial uses applicable for the project area can be found at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml).

**Project Description:** The Project consists of seismic retrofitting an existing bridge by reinforcing bridge bents with infill walls.

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

**Proposed Mitigation to Address Concerns:** A Storm Water Pollution Prevention Plan in conjunction with all applicable best management practices will be used pre and post construction. Work in the surface waters will occur during dry conditions. Water in the channel can be controlled and diverted upstream of the Project area, if necessary, to maintain a dry channel.

**Fill/Excavation Area:** Approximately 0.01 acres of un-vegetated canal will be permanently impacted by placement of approximately 28 cubic yards of concrete. The Project will also temporarily impact 1.44 acres of un-vegetated canal that will be restored to original condition.

**Dredge Volume:** None

**U.S. Army Corps of Engineers Permit Number:** Nationwide Permit 14

**Department of Fish and Wildlife Streambed Alteration Agreement:** The Applicant applied for a Streambed Alteration Agreement on 26 August 2015.

**Status of CEQA Compliance:** The California Department of Transportation approved a Mitigated Negative Declaration on 13 March 2014 and issued a Notice of Determination (State Clearinghouse Number SCH 2013121037).

As a Responsible Agency under California Environmental Quality Act (CEQA), the Central Valley Water Board reviewed the Mitigated Negative Declaration and found that the Project impacts to water quality were adequately addressed. Mitigation for impacts to water quality is discussed in the "Proposed Mitigation to Address Concerns" section above and the "Compensatory Mitigation" section below.

**Compensatory Mitigation:** Temporarily impacted areas will be restored to pre-Project condition.

**Application Fee Provided:** Total fees of \$8,222 have been submitted as required by 23 CCR §3833(b)(3)(A) and by 23 CCR §2200(e).

**STATE WATER RESOURCES CONTROL BOARD**

**WATER QUALITY ORDER NO. 2003 - 0017 - DWQ**

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

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

1. Discharges eligible for coverage under these General WDRs are discharges of dredged or fill material that have received State Water Quality Certification (Certification) pursuant to federal Clean Water Act (CWA) section 401.
2. Discharges of dredged or fill material are commonly associated with port development, stream channelization, utility crossing land development, transportation water resource, and flood control projects. Other activities, such as land clearing, may also involve discharges of dredged or fill materials (e.g., soil) into waters of the United States.
3. CWA section 404 establishes a permit program under which the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into waters of the United States.
4. CWA section 401 requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to a water of the United States (including permits under section 404) to obtain Certification that the proposed activity will comply with State water quality standards. In California, Certifications are issued by the Regional Water Quality Control Boards (RWQCB) or for multi-Region discharges, the SWRCB, in accordance with the requirements of California Code of Regulations (CCR) section 3830 et seq. The SWRCB's water quality regulations do not authorize the SWRCB or RWQCBs to waive certification, and therefore, these General WDRs do not apply to any discharge authorized by federal license or permit that was issued based on a determination by the issuing agency that certification has been waived. Certifications are issued by the RWQCB or SWRCB before the ACOE may issue CWA section 404 permits. Any conditions set forth in a Certification become conditions of the federal permit or license if and when it is ultimately issued.
5. Article 4, of Chapter 4 of Division 7 of the California Water Code (CWC), commencing with section 13260(a), requires that any person discharging or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the State,<sup>1</sup> file a report of waste discharge (ROWD). Pursuant to Article 4, the RWQCBs are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to CWC section 13269. These General WDRs fulfill the requirements of Article 4 for proposed dredge or fill discharges to waters of the United States that are regulated under the State's CWA section 401 authority.

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<sup>1</sup> "Waters of the State" as defined in CWC Section 13050(e)

6. These General WDRs require compliance with all conditions of Certification orders to ensure that water quality standards are met.
7. The U.S. Supreme Court decision of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (the *SWANCC* decision) called into question the extent to which certain "isolated" waters are subject to federal jurisdiction. The SWRCB believes that a Certification is a valid and enforceable order of the SWRCB or RWQCBs irrespective of whether the water body in question is subsequently determined not to be federally jurisdictional. Nonetheless, it is the intent of the SWRCB that all Certification conditions be incorporated into these General WDRs and enforceable hereunder even if the federal permit is subsequently deemed invalid because the water is not deemed subject to federal jurisdiction.
8. The beneficial uses for the waters of the State include, but are not limited to, domestic and municipal supply, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources.
9. Projects covered by these General WDRs shall be assessed a fee pursuant to Title 23, CCR section 3833.
10. These General WDRs are exempt from the California Environmental Quality Act (CEQA) because (a) they are not a "project" within the meaning of CEQA, since a "project" results in a direct or indirect physical change in the environment (Title 14, CCR section 15378); and (b) the term "project" does not mean each separate governmental approval (Title 14, CCR section 15378(c)). These WDRs do not authorize any specific project. They recognize that dredge and fill discharges that need a federal license or permit must be regulated under CWA section 401 Certification, pursuant to CWA section 401 and Title 23, CCR section 3855, et seq. Certification and issuance of waste discharge requirements are overlapping regulatory processes, which are both administered by the SWRCB and RWQCBs. Each project subject to Certification requires independent compliance with CEQA and is regulated through the Certification process in the context of its specific characteristics. Any effects on the environment will therefore be as a result of the certification process, not from these General WDRs. (Title 14, CCR section 15061(b)(3)).
11. Potential dischargers and other known interested parties have been notified of the intent to adopt these General WDRs by public hearing notice.
12. All comments pertaining to the proposed discharges have been heard and considered at the November 4, 2003 SWRCB Workshop Session.
13. The RWQCBs retain discretion to impose individual or General WDRs or waivers of WDRs in lieu of these General WDRs whenever they deem it appropriate. Furthermore, these General WDRs are not intended to supersede any existing WDRs or waivers of WDRs issued by a RWQCB.

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

1. Dischargers shall implement all the terms and conditions of the applicable CWA section 401 Certification issued for the discharge. This provision shall apply irrespective of whether the federal license or permit for which the Certification was obtained is subsequently deemed invalid because the water body subject to the discharge has been deemed outside of federal jurisdiction.
2. Dischargers are prohibited from discharging dredged or fill material to waters of the United States without first obtaining Certification from the applicable RWQCB or SWRCB.

#### CERTIFICATION

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

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

NO: None.

ABSENT: None.

ABSTAIN: None.

  
Debbie Irvin  
Clerk to the Board

## **AGREEMENTS**

5. California Department of Fish and Wildlife Streambed Alteration Agreement  
Notification No. 1600-2015-0172-R4 Calloway Canal-Kern County



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4593  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



February 9, 2016

Javier Almaguer  
California Department of Transportation  
855 M Street, Suite 200  
Fresno, California 93721

Subject: Final Lake or Streambed Alteration Agreement  
Notification No. 1600-2015-0172-R4  
Calloway Canal – Kern County

Dear Mr. Almaguer:

Enclosed is the Final Streambed Alteration Agreement (Agreement) for the KER-99 Airport Drive on ramp Bridge Seismic Restoration (Project). Before the California Department of Fish and Wildlife (Department) may issue an Agreement, it must comply with the California Environmental Quality Act (CEQA). In this case, the Department, acting as a responsible agency, filed a notice of determination (NOD) within five working days of signing the Agreement. The NOD was based on information contained in the Negative Declaration that the lead agency prepared for the Project.

Pursuant to CEQA Guidelines sections 15075(g) and 15094(g), filing of a NOD starts a 30-day statute of limitations during 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 Laura Peterson-Diaz, Environmental Scientist, at (559) 243-4014 extension 225 or [laura.peterson-diaz@wildlife.ca.gov](mailto:laura.peterson-diaz@wildlife.ca.gov).

Sincerely,

Julie A. Vance  
Regional Manager

Enclosure

**Notice of Determination**

**To:**  
Office of Planning and Research  
*For U.S. Mail:*  
P.O. Box 3044  
Sacramento, CA 95812-3044

*Street Address:*  
1400 Tenth Street  
Sacramento, CA 95814

**From:**  
Department of Fish and Wildlife  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
Contact: Laura Peterson-Diaz  
Phone: (559) 243-4017, ext. 225



**Lead Agency:**  
California Department of Transportation  
855 M Street, Suite 200  
Fresno, CA 93721  
Contact: Keri O'Connor  
Phone: (559) 445-6459

**SUBJECT: Filing of Notice of Determination pursuant to Public Resources Code section 21108**

**State Clearinghouse Number:** 2013121037

**Project Title:** KER-99 Airport Drive Bridge Seismic Restoration (Streambed Alteration Agreement No. 1600-2015-0172-R4)

**Project Location (include county):** The Project is located within the Calloway Canal, on the Airport Drive on ramp Overcrossing Bridge (No. 50-0266) to State Route 99 at Post Mile 26.78, within the City of Bakersfield in Kern County, California; Township 29 S, Range 27 E, Section 14, United States Geological Survey (USGS) 7.5 Minute Quad Map Oildale, MDB & M; Latitude 35.398590 N, Longitude -119.044823 W.

**Project Description:** The California Department of Fish and Wildlife (CDFW) has executed Streambed Alteration Agreement number 1600-2015-0172-R4, pursuant to section 1602 of the Fish and Game Code to the project Applicant, California Department of Transportation (Caltrans).

The Project involves activities related to upgrading a bridge that have seismic deficiencies, including the addition of pipe seat extenders and construction of full height infill walls between the columns at each bent.

This is to advise that CDFW, acting as a Responsible Agency, approved the above described project on 2/12/14 and has made the following determinations regarding the project pursuant to California Code of Regulations section 15096, subdivision (i):

1. The project will not have a significant effect on the environment. This determination is limited to effects within CDFW's permitting jurisdiction as a Responsible Agency.
2. CDFW considered the negative declaration prepared by the Lead Agency for this project pursuant to California Code of Regulations section 15096, subdivision (f).
3. Mitigation measures were made a condition of CDFW's approval of the project.
4. A mitigation reporting or monitoring plan was adopted by CDFW for this project.
5. A statement of overriding considerations was not adopted by CDFW for this project.
6. Findings were not made by CDFW pursuant to California Code of Regulations section 15091.

The negative declaration prepared for the project is available to the general public at the office location listed above for the Lead.

*Signature* Julie A. Vance

*Date:* 2/12/14

Julie A. Vance, Regional Manager

Date Received for filing at OPR: \_\_\_\_\_

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**  
REGION 4 - CENTRAL REGION  
1234 EAST SHAW AVENUE  
FRESNO, CALIFORNIA 93710



**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION NO. 1600-2015-0172-R4  
CALLOWAY CANAL – KERN COUNTY

**CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
**CALTRANS DISTRICT 6**  
JAVIER ALMAGUER  
855 M STREET, SUITE 200  
FRESNO, CALIFORNIA 93721

**KER-99 AIRPORT DRIVE ON RAMP BRIDGE SEISMIC RESTORATION (PROJECT)**

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the California Department of Transportation (referred to as Permittee), represented by Javier Almaguer.

**RECITALS**

WHEREAS, pursuant to Fish and Game Code (FGC) Section 1602, Permittee notified CDFW on August 28, 2015, that Permittee intends to complete the Project described herein.

WHEREAS, pursuant to FGC Section 1603, CDFW has determined that the Project could substantially adversely affect existing fish or wildlife resources and has included Protective Measures in this Agreement necessary to protect those resources.

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

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

**PROJECT LOCATION**

The Project is located on the Airport Drive on ramp Overcrossing Bridge (No. 50-0266) to State Route (SR) 99 at Post Mile 26.78, within the City of Bakersfield in Kern County, California; Township 29 S, Range 27 E, Section 14, United States Geological Survey (USGS) 7.5 Minute Quad Map Oildale, MDB & M; Latitude 35.398590 N, Longitude -119.044823 W (Figure 1).

## PROJECT DESCRIPTION

The California Department of Transportation will upgrade Bridge 50-0266 on the Airport Drive Over-Crossing where it crosses Calloway Canal before connecting with SR 99. This will involve adding pipe seat extenders at hinges where there are not already existing C-1 restrainers, and the construction of full height infill walls between the columns at each bent. Bent 2 is within the channel of Calloway Canal and has two columns. The hinge between Bent 2 and Bent 3 is outside CDFW jurisdiction, but will be accessed from the top of the bank of Calloway Canal, which is already used as an access road. This Agreement authorizes the following activities:

- In order to fill between the columns at Bent 2, the ground between the columns will be excavated to a depth of 3 feet, and 13 feet long by 4 feet wide. On either side of the columns an excavation 3 feet deep, 15 feet long, and 1 foot wide will be excavated for the forms. The total excavation volume will be approximately 9.11 cubic yards. To connect the columns to the new infill wall, 66 holes each 1-inch in diameter and 12 inches deep will be drilled into each column to receive 4-foot long dowels, which will be bonded with grout. Approximately 24.12 cubic yards of concrete will be poured into the form between the two columns to create a wall 13 feet long, 1.66 feet wide, and 30 feet high. Approximately 6.7 cubic yards of soil will be backfilled around Bent 2. All excess soil will be distributed and compacted in the Project area. The temporarily disturbed areas will be returned to original condition once construction activities are complete.
- Equipment to be used will include: backhoe, bobcat excavator, compactor, crane, excavator, cement trucks, haul trucks, and water truck. All work will be done during daylight hours. No trees or shrubs will be impacted. Work will be done when no water is present.

## PROJECT IMPACTS

The Project will result in temporary impacts to approximately 50,000 square feet (1.15 acres) including some ruderal vegetation and non-native grasses over approximately 250 linear feet along the length of Calloway Canal and 200 feet from the fence to fence on either bank. This includes the area that will be used to access the hinge for adding the pipe seat extenders. Approximately 82 square feet will be excavated and 52 square feet permanently impacted within the Calloway Canal. Approximately 9.11 cubic yards of soil will be excavated and 24.12 cubic yards of concrete will be poured. Other potential impacts related to disturbance during Project implementation include but are not limited to those resulting from noise and vibration, fugitive dust, and animals could be trampled or crushed, erosion caused during excavation activities, petroleum spills from heavy equipment, materials spills from pouring wet concrete, introduction of fill material, sedimentation and turbidity, and surface water contact with construction-related materials.

This Agreement is intended to avoid, minimize, and mitigate adverse impacts to the wildlife resources that occupy the Project area and adjacent habitat. Absent

implementation of the Protective Measures required by this Agreement, the Federal endangered and State threatened San Joaquin kit fox (*Vulpes macrotis mutica*) and the State species of special concern Western burrowing owl (*Athene cunicularia hypugea*) and silvery legless lizard (*Anniella pulchra pulchra*), as well as other birds, mammals, fish, reptiles, amphibians, invertebrates, and plants that compose the local ecosystem could potentially be impacted.

## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

Permittee shall meet each administrative Protective Measure described below.

- 1.1 Documentation at Project Site. Permittee shall make this Agreement, any extensions and amendments to this 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 CDFW 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 this Agreement and any extensions and amendments to this 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 CDFW if Permittee determines or learns that a Protective Measure in this Agreement might conflict with a provision imposed on the Project by another local, State, or Federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the Project site at any time to verify compliance with this Agreement.
- 1.5 Legal Obligations. This Agreement does not exempt Permittee from complying with all other applicable local, State, and Federal law, or other legal obligations.
- 1.6 Unauthorized Take. This Agreement does not authorize the "take" (defined in Fish and Game Code §86 as to hunt, pursue, catch, capture, or kill; or attempt to hunt, pursue, catch, capture, or kill) of State- or Federally-listed threatened or endangered species. Any such take shall require separate permitting as may be required.
- 1.7 Property Not Owned by Permittee. To the extent that the Protective Measures of this Agreement provide for activities that require Permittee to enter on another owner's property, they are agreed to with the understanding that Permittee possesses the legal right to so enter.

- 1.8 Work Schedule. Permittee shall submit a work schedule to CDFW prior to beginning any activities covered by this Agreement. Permittee shall also notify CDFW upon the completion of the activities covered by this Agreement.
- 1.9 Training. Prior to starting Project activity, all employees and contractors who will be present during Project activities shall receive training from a qualified individual on the contents of this Agreement, the resources at stake, and the legal consequences of non-compliance. A training sign-in sheet for the employees and contractors, including the date of the training and who gave the training shall be submitted to CDFW within one (1) week of completing training.

## **2. Avoidance and Minimization Measures**

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

### **2.1 Construction/Work Hours**

- (a) All work activities shall be confined to daylight hours, except up to 10 nights of bridge deck rehabilitation work including application of the polyester concrete overlay. For purposes of this Agreement, "daylight hours" are defined as that daytime period between sunrise and sunset. Permittee shall indicate in the Final Report when night work occurred (see Reporting Measures 4.2).
- (b) For work outside of daylight hours, Permittee shall not use permanent or temporary, fixed, exterior lighting, including motion-triggered security lighting, that casts light into CDFW jurisdictional areas off the bridge deck and bridge structure.

2.2 Flagging. Prior to any activity within CDFW jurisdiction, Permittee shall identify the limits of the required access routes and encroachment into the stream. These "work area" limits shall be identified with brightly-colored flagging. Work completed under this Agreement shall be limited to this defined area only. Flagging shall be maintained in good repair for the duration of the Project. All CDFW jurisdictional areas beyond the identified work area limits shall be considered Environmentally Sensitive Areas (ESA) and shall not be disturbed.

### **2.3 Listed and Other Special Status Species**

- (a) This Agreement does not allow for the take of any State- or Federally-listed threatened or endangered species. Liability for any take of such listed species remains the separate responsibility of Permittee for the duration of the Project.
- (b) Permittee affirms that no take of listed species shall occur as a result of this Project and shall take prudent measures to ensure that all take is avoided. Permittee acknowledges and fully understands that it does not have State

- incidental take authority. If any State- or Federally-listed threatened or endangered species occur within the proposed work area or could be impacted by the work proposed, and thus taken as a result of Project activities, Permittee is responsible for obtaining and complying with required State and Federally threatened and endangered species permits or other written authorization before proceeding with this Project.
- (c) Permittee shall immediately notify CDFW of the discovery of any such threatened or endangered species prior to and/or during Project implementation.
- (d) Pre-activity surveys for potential rare, listed, or other sensitive species shall be conducted by a qualified biologist within 30 days prior to commencement of Project activities. Surveys shall be conducted within the work area and all access routes to avoid and minimize incidental take, confirm previous observations, identify any areas occupied by listed or sensitive species, and clearly mark all resources to be avoided by Project activities. If any State- or Federally-listed threatened or endangered species are found or could be impacted by the work proposed, Permittee shall notify CDFW of the discovery prior to commencement of Project activity. An amended Agreement and/or State Incidental Take Permit may be necessary and a new CEQA analysis may need to be conducted, before work can begin.
- (e) San Joaquin Kit Fox: Prior to the start of Project activities, a qualified biologist shall perform transect surveys of the Project work area and a 250-foot buffer, to identify potential dens and other kit fox sign. During Project implementation, Permittee shall follow all requirements in the United States Fish and Wildlife Service (USFWS) "USFWS Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance" ([http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox\\_standard\\_rec\\_2011.pdf](http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf)). A qualified biologist shall be on-site during all Project-related activities that could impact the species. If kit fox are found on within 250 feet of the Project site, all Project activity shall cease until a qualified biologist confirms that the individual(s) has left of its own volition.

If San Joaquin kit fox dens are found, they shall be avoided by appropriate distances (potential or atypical den = 50 feet; known den = 100 feet; pupping den = 250 feet minimum). During transect surveys the den shall be treated as a known den unless sign associated with natal/pupping activity is observed. If any occupied San Joaquin kit fox pupping dens are subsequently discovered, Permittee shall stop work and contact CDFW for further guidance. Absolutely no disturbance to known San Joaquin kit fox dens shall occur and no work shall occur within the above buffers without contacting CDFW and obtaining written authorization to do so. Permittee is advised that a State Incidental Take Permit for San Joaquin kit fox may first be required for such activities.

- (f) Burrowing Owl: A qualified wildlife biologist shall survey for burrowing owl within the Project site and a 500-foot radius of the Project site, within 30 days prior to starting Project activities. Surveys shall be conducted at appropriate times to maximize detection. If any active burrowing owl burrows are observed, these burrows shall be designated an ESA, protected, and monitored by a qualified biologist during Project-related activities. A minimum 500-foot avoidance buffer shall be established and maintained around each owl burrow during the nesting season (February 1 through August 31). If active burrowing owl burrows are observed outside of the nesting season, a minimum 150-foot no disturbance buffer shall be established around each burrow. Eviction of owls from burrows is not authorized by CDFW in this Agreement.
- (g) Silvery Legless Lizard: Areas of suitable habitat within Project work areas shall be searched for these lizards by a qualified biologist immediately prior to Project activity each year. Lizards present in the work area shall be allowed to leave the work area on their own volition or shall be moved out of harm's way by a qualified biologist. Any loose substrate in which lizards could bury themselves shall be gently raked by a qualified biologist using a hand tool (e.g., a garden rake) to a depth of two inches to locate any lizards that could be under the surface immediately prior to Project activity.

#### 2.4 Fish and Wildlife.

- (a) If any fish or wildlife is encountered during the course of Project implementation, said fish or wildlife shall be allowed to leave the Project area unharmed.
- (b) Pursuant to FGC Sections 3503 and 3503.5, it is unlawful to take, possess, or destroy the nest or eggs of any bird or bird-of-prey. To protect nesting birds, no Project activity shall be completed from February 15 through August 31 unless the following avian nesting surveys are completed by a qualified biologist within 30 days prior to Project activity at each location.

Raptor Species: Survey for nesting raptors within a 500-foot radius of the Project area. If any active nests are observed, these nests shall be designated an ESA and protected by a minimum 500-foot avoidance buffer until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

Other Avian Species: Survey for nesting activity within a 250-foot radius of the defined work area. If any nesting activity is found, Permittee shall designate nests and nest substrate (trees, shrubs, ground, or burrows) as an ESA protected with a minimum 250-foot buffer until the young have fledged and are no longer reliant upon the nest or parental care for survival.

Swallows: If the Project will not be completed outside the avian nesting season, Permittee shall develop a Swallow Exclusion Plan for advance approval by CDFW prior to implementation. The plan shall include methods to prevent swallows from initiating nesting on the existing bridge prior to starting Project activity, and shall include maintenance of any screen or netting used to prevent swallows from accessing bridge structures suitable for nesting. If swallow nesting has already begun on the existing bridge structure, avoidance shall occur until fledging has been completed according to "Other Avian Species", above, and is confirmed and documented by a qualified biologist.

CDFW may consider variances from these buffers when there is a compelling biological or ecological reason to do so, such as when the Project area would be concealed from a nest site by topography.

## 2.5 Vegetation.

- (a) No trees or other woody vegetation shall be removed or otherwise disturbed during Project implementation.
- (b) Removal and trimming of herbaceous vegetation shall be limited to the minimal amount necessary to complete the Project.
- (c) Vegetation removed from the Project site shall be disposed of at an appropriate and legal off-site location where the material cannot enter the stream channel. No such material shall be stockpiled in the streambed, banks, or channel, except that native vegetation removed from the channel may be chipped and the chips used as mulch for disturbed soil sites in or near the Project area.
- (d) All invasive, exotic plant species disturbed by Project activities shall be bagged, removed from the Project site, and appropriately disposed of. Non-native species shall not be used in mulching, composting, or otherwise placed in or around the Project site.
- (e) All equipment, including but not limited to vehicles, heavy equipment and other construction machinery shall be inspected for the presence of soil, seeds, vegetative matter or other debris that could contain seeds and cleaned prior to on-site use to reduce the risk of introducing exotic, invasive plant species into the Project site.

## 2.6 Vehicles and Equipment.

- (a) Vehicles and equipment shall not be operated in areas where surface water is present. Vehicles and equipment shall only be operated between the stream banks during naturally dry conditions.

- (b) Vehicle access to the stream banks and bed shall be limited to predetermined ingress and egress corridors on existing roads. All other areas adjacent to the work site shall be considered an ESA and shall remain off-limits to construction equipment.
- (c) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic and terrestrial life.
- (d) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located outside of the stream bed and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the channel, shall be positioned over drip-pans. Vehicles shall be moved away from the stream bank prior to refueling and lubrication.

2.7 Structures. Permittee shall confirm that all structures and installed features are designed (i.e., size and alignment) and constructed such that they will not fail, will accommodate high flows, and will not cause long-term changes in water flows that adversely modify the existing upstream or downstream channel bed/bank contours, increase sediment deposition, or cause significant new erosion.

2.8 Fill/Spoil.

- (a) Spoil storage sites shall not be located within the channel, where spoil could be washed into the channel, or where it will cover aquatic or riparian vegetation. Rock, gravel, and/or other materials shall not be imported into or moved within the bed or banks of the channel, except as otherwise addressed in this Agreement.
- (b) Soils that are excavated and temporarily displaced shall be used to backfill excavations and return areas to original contours.
- (c) Fill shall be limited to the minimal amount necessary to accomplish Project activities. Excess fill material shall be moved off-site at Project completion.
- (d) Permittee shall cover temporary spoil piles placed on the bank with plastic sheeting or visquine when rainy or windy conditions could erode loose soils, in order to prevent loose soil from moving into the river bed.

2.9 Erosion.

- (a) No work within the banks of the channel shall be conducted during or within 24 hours following significant rainfall events (defined as  $\frac{1}{4}$  inch of rain or more in any 24-hour period).

- (b) No work shall be completed when water is present in the stream, and no work shall occur in saturated soils.
- (c) All disturbed soils within the Project site shall be stabilized to reduce erosion potential during and following Project activities. Temporary erosion control devices, such as straw bales, silt fencing, and sand bags, may be used, as appropriate, to prevent siltation of the channel. To minimize the risk of ensnaring and strangling wildlife, coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products shall be composed entirely of natural-fiber, biodegradable materials. Permittee shall not use "photodegradable" or other plastic erosion control materials.

#### 2.10 Pollution.

- (a) Permittee and all contractors shall be subject to the water pollution regulations found in Fish and Game Code sections 5650 and 12015.
- (b) Permittee shall install the necessary containment structures (outside of forms used to shape concrete structures) to control the placement of wet concrete and to prevent it from entering into the channel outside of those structures. No concrete shall be poured below the top of bank if the 5-day weather forecast indicates any chance of rain. At all times when the Permittee is pouring or working with wet concrete there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures. Poured concrete shall be isolated from surface waters and allowed to dry/cure for a minimum of 30 days or until the pH as tested with tap water does not exceed 9.5. Any rain water that comes into contact with the concrete structures shall be contained and isolated from stream flows; the water pH shall be tested, and water shall be removed from the site and disposed of lawfully if the pH exceeds 9.5. Permittee shall submit to CDFW the methods and results of all pH testing, including measurements that demonstrate a pH at or below 9.5 as tested prior to removing the containment structures.
- (c) Raw cement, concrete or washings thereof, asphalt, drilling fluids or lubricants, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to fish or wildlife resulting from or disturbed by Project-related activities, shall be prevented from contaminating the soil and/or entering the "Waters of the State".
- (d) An Emergency Response Plan shall be prepared and submitted to CDFW for approval prior to the start of Project activities, and kept on-site during all phases of the Project. The Plan shall identify the actions that shall be taken in the event of a spill of petroleum products, concrete, contaminated soil, or other material harmful to fish, plants, or aquatic life. Emergency response materials shall be kept at the site and readily available to allow rapid containment and cleanup of any spilled material. In the event that a spill

occurs, all Project activities shall immediately cease until cleanup of the spilled materials is completed. CDFW shall be notified immediately by Permittee of any spills. The Emergency Response Plan may be part of a document required by another permitting agency, such as a Water Pollution Control Program; however, the Emergency Response Plan shall be clearly identified and readily available to staff in the event of an emergency situation, and accessible during inspection of the site by CDFW personnel.

- (e) All Project-generated debris, building materials, and rubbish shall be removed from the stream and from areas where such materials could be washed into the stream.

### **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 Protective Measure listed below.

#### **3.1 Revegetation/Restoration.**

- (a) Any exposed areas created by Project activities shall be seeded (with weed-free straw or mulch) with a blend of a minimum of three (3) locally native grass species. One (1) or two (2) sterile non-native perennial grass species may be added to the seed mix provided that amount does not exceed 25 percent of the total seed mix by count. Locally native wildflower and/or shrub seeds may also be included in the seed mix. The seeding shall be completed as soon as possible, but no later than November 15 of the year construction ends or as otherwise approved in writing by CDFW. A seed mixture shall be submitted to CDFW for approval prior to application.
- (b) Where suitable vegetation cannot be reasonably expected to become established, non-erodible materials shall be used for such stabilization. Any installation of non-erodible materials not described in the original Project description shall be coordinated with CDFW. Coordination may include the negotiation of additional Protective Measures for this activity.

### **4. Reporting Measures**

Permittee shall meet each reporting requirement described below.

#### **4.1 Obligations of Permittee.**

- (a) Permittee shall have primary responsibility for monitoring compliance with all Protective Measures in this Agreement. Protective Measures must be implemented within the time periods indicated in this Agreement and the reporting program described below.

- (b) Permittee (or Permittee's designee) shall ensure the implementation of the Protective Measures of this Agreement, and shall monitor the effectiveness of the Protective Measures.

4.2 Reports. Permittee shall submit the following Reports to CDFW:

- Work schedule, submitted to CDFW prior to commencing Project activities (Administrative Measure 1.8).
- A Training Sign-in Sheet, submitted to CDFW within one (1) week of completing training (Administrative Measure 1.9).
- Pre-activity survey results, submitted to CDFW at least one (1) week prior to the start of Project activities (Avoidance and Minimization Measure 2.3(d)).
- Kit fox survey results, submitted to CDFW at least one (1) week prior to the start of Project activities (Avoidance and Minimization Measure 2.3(e)).
- Results of burrowing owl surveys, submitted to CDFW at least one (1) week prior to the start of Project activities (Avoidance and Minimization Measure 2.3(f)).
- Results of surveys for nesting birds if any Project activities are scheduled during the avian nesting season, submitted to CDFW within one (1) week of the survey (Avoidance and Minimization Measure 2.4(b)).
- Methods and results of pH testing, if not waiting 30 days for concrete to cure, submitted to CDFW within one (1) week of testing (Avoidance and Minimization Measure 2.10(b)).
- An Emergency Response Plan, submitted to CDFW at least two (2) weeks prior to the start of Project activities (Avoidance and Minimization Measure 2.10(d)).
- A seed mixture to be used to control erosion, submitted to CDFW for approval prior to application (Compensatory Measure 3.1(a)).
- A Final Project Report to be submitted within 30 days after work covered by this Agreement is completed. The final report shall summarize the Project, and address the implementation of each Protective Measure included in this Agreement. The report shall include a specific summary of when night work occurred. Before, during, and after photo documentation of each Project location shall be included in the report.

## CONTACT INFORMATION

Any communication that Permittee or CDFW 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 CDFW specifies by written notice to the other. Permittee shall submit all schedules, survey results, reports, and/or plans required by this Agreement in hard copy to the address below; Permittee may also submit those materials electronically by email to the CDFW contact identified below (or subsequent contact) **and** to [R4LSA@wildlife.ca.gov](mailto:R4LSA@wildlife.ca.gov).

### To Permittee:

California Department of Transportation (Caltrans)  
Keri O'Connor  
855 M Street, Suite 200  
Fresno, California 93721  
Phone: (559) 445-6459  
Fax: (559) 445-6260  
[keri.o'connor@dot.ca.gov](mailto:keri.o'connor@dot.ca.gov)

### To CDFW:

California Department of Fish and Wildlife  
Region 4 - Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
Attn: Lake and Streambed Alteration Program – Laura Peterson-Diaz  
Notification No. 1600-2015-0172-R4  
Phone: (559) 243-4017 extension 225  
Fax: (559) 243-4020  
[laura.peterson-diaz@wildlife.ca.gov](mailto:laura.peterson-diaz@wildlife.ca.gov)

## LIABILITY

Permittee shall be solely liable for any violations of this 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 this Agreement authorizes.

This Agreement does not constitute CDFW'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

CDFW may suspend or revoke in its entirety this 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 this Agreement.

Before CDFW suspends or revokes this 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 CDFW suspends or revokes this 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 CDFW to issue the notice.

## **ENFORCEMENT**

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

Nothing in this Agreement limits or otherwise affects CDFW'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 this Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## **AMENDMENT**

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

Permittee may amend this Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend

Lake or Streambed Alteration” form and include with the completed form payment of the corresponding amendment fee identified in CDFW’s fee schedule at the time of the request (see Cal. Code Regs., Title 14, § 699.5).

## **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of this 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 CDFW approves the transfer or assignment in writing.

The transfer or assignment of this Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW “Request to Amend Lake or Streambed Alteration” form and include with the completed form payment of the minor amendment fee identified in CDFW’s fee schedule at the time of the request (see Cal. Code Reg., Title 14, § 699.5).

## **EXTENSIONS**

In accordance with FGC section 1605(b), Permittee may request one (1) extension of this Agreement, provided the request is made prior to the expiration of this Agreement’s term. To request an extension, Permittee shall submit to CDFW a completed CDFW “Request to Extend Lake or Streambed Alteration” form and include with the completed form payment of the extension fee identified in CDFW’s fee schedule at the time of the request (see Cal. Code Reg., Title 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

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

## **EFFECTIVE DATE**

This Agreement becomes effective on the date of CDFW’s signature, which shall be: 1) after Permittee’s signature; 2) after CDFW 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.wildlife.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html).

## **TERM**

This Agreement shall remain in effect for two (2) years beginning on the date signed by CDFW, unless it is terminated or extended before then. All provisions in this 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 this Agreement expires or is terminated, as FGC section 1605(a) (2) requires.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE**

In approving this Agreement, CDFW is independently required to assess the applicability of CEQA. The features of this Agreement shall be considered as part of the overall Project description.

Permittee's concurrence signature on this Agreement serves as confirmation to CDFW that the activities conducted under the terms of this Agreement are consistent with the Project as described in the CEQA Negative Declaration prepared by California Department of Transportation as the Lead Agency for the Kern County Bridges Seismic Restoration (State Clearinghouse No. 2013121037), approved on March 24, 2014. A copy of the Negative Declaration was provided to CDFW by Permittee.

CDFW, as a CEQA Responsible Agency, shall submit a Notice of Determination to the State Clearinghouse upon signing this Agreement.

## **EXHIBITS**

The document listed below is included as an exhibit to this Agreement and is incorporated herein by reference.

Figure 1. Project Vicinity USGS Quad Map.

## **AUTHORITY**

If the person signing this 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.

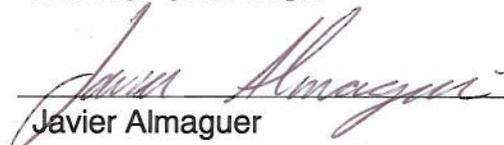
**AUTHORIZATION**

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

**CONCURRENCE**

The undersigned accepts and agrees to comply with all the provisions of this Agreement.

**FOR CALIFORNIA DEPARTMENT OF  
TRANSPORTATION**

  
\_\_\_\_\_  
Javier Almaguer  
Branch Chief – Caltrans Central Region Biology

2/1/16  
\_\_\_\_\_  
Date

**FOR CALIFORNIA DEPARTMENT OF FISH AND  
WILDLIFE**

  
\_\_\_\_\_  
Julie A. Vance  
Regional Manager – Central Region

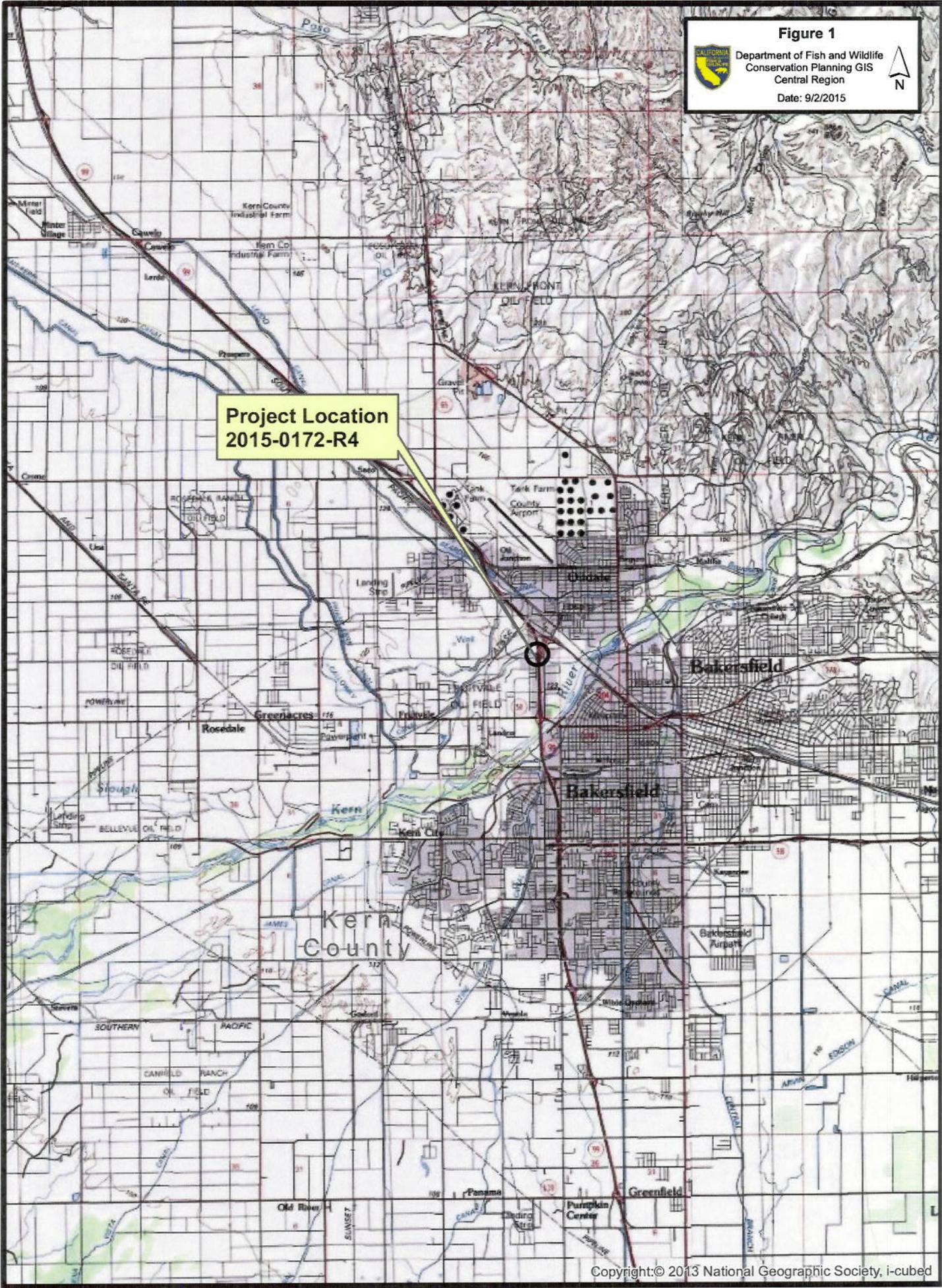
2/12/16  
\_\_\_\_\_  
Date

Prepared by: Laura Peterson-Diaz  
Environmental Scientist

**Figure 1**

**Exhibit A**

**Figure 1**  
Department of Fish and Wildlife  
Conservation Planning GIS  
Central Region  
Date: 9/2/2015



## **MATERIALS INFORMATION**

6. Foundation Report dated October 23, 2015 for Airport Dr OC

## Memorandum

**To:** MR. GARY BLAKESLEY  
BRANCH CHIEF  
OFFICE OF BRIDGE DESIGN – NORTH /CENTRAL  
STRUCTURE DESIGN (SD)  
DIVISION OF ENGINEERING SERVICES

**Date:** October 23, 2015

**File:** 06-Ker-99- PM 26.7  
ID: 0612000108  
EA: 06-0K810  
Airport Dr. OC  
Bridge, No. 50-0266

Attention: Gloria Reyes-Gutierrez, Project Engineer

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
OFFICE OF GEOTECHNICAL DESIGN NORTH (OGDN)

**Subject:** FOUNDATION REPORT (FR)

### 1. INTRODUCTION

This FR is presented in response to the request from Bridge Design Branch North/Central, dated February 27, 2015 to provide recommendations regarding the seismic retrofitting the foundations of the existing Airport Dr. OC Bridge (BR No. 50-0266). The retrofit scope consist of Infill walls between columns and Hinge retrofit.

The scope of our work includes:

- Review of “As-Built” information including boring logs with respect to the existing bridge site.
- Review General Plans (Alt 1 and Alt 2)
- Review of available published information regarding the site including topography, geology, seismicity and Hydraulics.
- Evaluation of alternative seismic retrofit designs.
- Discussion of the project with Structure Design.
- Conduct a subsurface investigation subsequent to the FR to confirm geotechnical design criteria.
- Completing the report.

## **2. PROJECT SITE DESCRIPTION**

The project site is located on State Highway 99 in the city of Bakersfield at Post Mile 26.7 (Kern, County). The existing Airport OC, built in 1963 is a six span RC Box Girder Bridge, and the existing footings are on driven concrete Class I and Class II (Raymond) piles were utilized at the abutments and bents respectively. There were some exceptions. Several piles broke (collapsed) during driving and had to be replaced with steel piles at Abutment 1 and Bent 5. Most piles achieved adequate capacity at near and/or just below the Specified Tip Elevations except for abutment 7 where the Specified Tip was raised. However, difficult driving conditions were encountered. Jetting was required at both abutments and all bents except Bent 2.

Land development in the vicinity of the site is mainly industrial. Storage tanks possibly containing petroleum product and a sand and gravel quarry are located just to the west of the bridge site. Also, Calloway Canal passes under bridge Spans 1 and 2 with Bent 2 situated within the canal

## **3. REGIONAL GEOLOGY and PHYSIOGRAPHIC SETTING**

The subject site is located in the southeast corner of the Great Valley Geomorphic Province GVGP near the boundary with the Sierra Nevada Geologic province. Geologic events in within both provinces have shaped the geology and landscape of the project site. The site is situated within the Kern River drainage area. The landscape is low relief and gently slopes to the west. Elevations at the site range from about 400 ft (Calloway Canal) to about 430 ft at the abutments. Superficial Quaternary alluvial fan deposits emerging from the Sierra Nevada Mountains via the Kern River underlie the bridge site (Geologic Map of California, Bakersfield Sheet, 1964).

### **3.1 SITE GEOLOGY**

The borings drilled in 2015 confirm the 1958 Log of Test Borings (LOTB) findings. In general, under the entire length of the bridge the alluvial deposits (ground surface to 15 to 35 feet) consisted mainly of loose to medium dense fine to coarse Silty Sand, and well-graded fine to coarse Sand with varying amounts of Gravels. Below to the maximum depth drilled (70 feet, 2015 borings) the deposits become predominately very dense well-graded and poorly graded Gravel and Cobbles with a fine to coarse Sand matrix.

## **4. SCOUR POTENTIAL – CALLOWAY CANAL**

Based on the Final Hydraulic Report for the Calloway Canal (dated June 9<sup>th</sup> 2015) provided by Structure Hydraulics, potential local scour (Pier 2) was calculated to be 4.6 feet (elevation 388.4 feet), but the scour limit should be limited to the top of the footing at elevation 390.75 feet. Maintenance records reported no evidence of degradation, contraction and local scour at the site. The records did report abrasion to the leading edge of the first column of Pier 2 with some exposed rebar. Furthermore, the report indicated that the North Kern Water Storage District

dredged the canal in 1997 that suggests the canal at this location had experience aggradation.

## 5. GROUNDWATER

Groundwater depth measurements taken in August and September 2015 were 34.3 ft. and 35 ft. (Elevation 370.1 and 365.8 ft. respectively). In contrast the December 1958 (LOTB) ranged from a depth of approximately 6 to 8 ft (Elev. 392.3 to 395.4 ft.).

Department of Water Resources well data indicates the actual groundwater table is over 100 feet below the ground surface. Therefore, the groundwater levels measured in the borings are assumed to reflect a perched groundwater condition, or during the raining season, existing LOTB drilling was dated December of 1958. In general, at the site groundwater levels maybe different at present and will vary according to season, well pumping and water release from upstream dams.

## 6. CORROSION

A soil sample was sent to the Caltrans Corrosion Lab for testing. The test results will be provided when they are made available.

## 7. SEISMIC STUDY

The deterministic spectrum from the Caltrans ARS Online Tool (Version 2.3.06) is based on the nearest active fault that controls ground motion. The deterministic spectrum at this site is based on the White Wolf (Fault ID No. 230) with a MMax of 7.4. The fault is located southwest of the bridge site and is referred to as a strike slip fault dipping 75 degrees SE. The closest distance to the fault rupture plane from the bridge site is approximately 19 miles.

Based on the As-Built LOTBs, a Vs30 (weighted average shear wave velocity for the top 100 feet of subsurface materials, extrapolated from 3 existing borings with max depth of 40 ft) of about 800 feet per second is used for final design.

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

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

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Airport Dr. OC  
Br. No. 50-0266  
EA: 06-0K8100  
ID: 0612000108

Page 4

Based on the estimated VS30, the Acceleration Response Spectrum (ARS) for the subject bridge is based on method 3 as stated above. The peak ground acceleration (PGA) is estimated to be 0.38g as shown on the attached ARS curve.

According to the Alquist-Priolo Earthquake Fault Zone Maps available through United States Geological Survey (USGS) the site is not within an Alquist-Priolo Earthquake Fault Zone. No faults (active or inactive) are known to extend within 1,000 feet of the subject structure. Therefore, a fault rupture hazard analysis (per MTD 20-10) does not appear to be required.

Based on new boring information, soil testing, and groundwater that was encountered 34.3 and 35 feet below existing ground surface, the liquefaction potential and impact is insignificant.

However, we understand that groundwater may vary, especially during rainy seasons; but the chance of having an earthquake and having high groundwater table at the same time is low. If we assume the groundwater table would be high half of the year, our probabilistic analysis indicates that the soils would liquefy but would have less than 2.5 inches of vertical settlements; and less than 10 inches of horizontal movement at the abutments; any possible soil loads induced to the structure from such soil movements would disappear after 10 inches of soil movement.

Per "Tons Bearing" graphs shown on the existing LOTB dated 8/24/1961, we understand that the existing 45-ton driven concrete piles are tipped in dense soils below liquefiable soils, the piles will have adequate vertical capacities even if some upper soils could liquefy.

## **8. FOUNDATION RECOMMENDATIONS**

From geotechnical point of view, foundation retrofit is not needed if the bridge abutments can tolerate up to 10 inches of horizontal soil movements without collapse.

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Airport Dr. OC  
Br. No. 50-0266  
EA: 06-0K8100  
ID: 0612000108

Page 5

The Foundation and Seismic Recommendations included in this report are based on specific project information regarding structure type and structure location that has been provided by the Office of Bridge Design North. Any questions regarding the above this report should be directed to the attention of William Bertucci (916) 203-7992 or John Huang (916) 227-1037.

Report by:

  
WILLIAM BERTUCCI  
Associate Engineering Geologist  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services

  
JOHN HUANG  
Senior Materials and Research Engineer  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services

Attachment: ARS Curve

cc: District Project Manager - Judy Aguilar  
Project Coordination Engineer – Peggy Lim  
District Environmental Planning – Michelle Ray  
District Materials Engineer – Doug Lambert  
GS Corporate



# Airport Drive

Bridge No. 50-0266

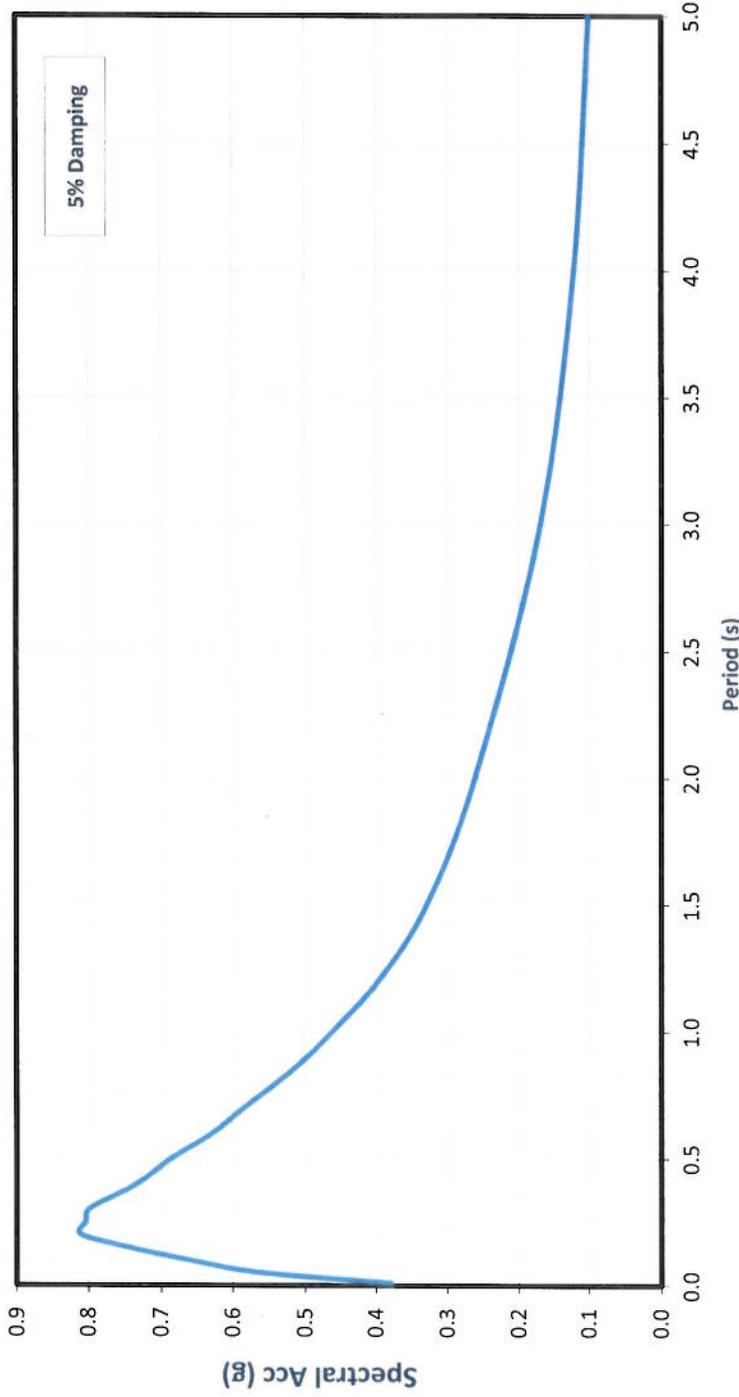
Latitude 35.3997

Longitude -119.0448

Control Probabilistic

Period (s)	Sa(g)
0.01	0.38
0.05	0.56
0.10	0.66
0.15	0.75
0.20	0.81
0.25	0.80
0.30	0.80
0.40	0.73
0.50	0.69
0.60	0.63
0.70	0.58
0.85	0.52
1.00	0.46
1.20	0.40
1.50	0.33
2.00	0.26
3.00	0.17
4.00	0.12
5.00	0.10

Acceleration Response Spectrum



## Deterministic Procedure Data

Fault	White Wolf		
Fault ID	230	$R_{rup}$	19 miles
Mmax	7.4	$R_{jp}$	19 miles
Style	Rev	$R_x$	19 miles
Dip (deg)	75	$V_{S30}$	800 ft/s
Dip Dir	SE	$Z_{1.0}$	N/A ft
$Z_{TOR}$	0 miles	$Z_{2.5}$	N/A miles
$Z_{BOT}$	9 miles		

Note: The ARS curve above is based on the USGS 5% Probability of Exceedance in 50 years (975 years return period).



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

ID 0612000108

EA 06-0K810

ARS Curve  
06-KER-99-26.78

Plate No. 1

## Memorandum

**To:** MR. GARY BLAKESLEY  
BRANCH CHIEF  
OFFICE OF BRIDGE DESIGN – NORTH /CENTRAL  
STRUCTURE DESIGN (SD)  
DIVISION OF ENGINEERING SERVICES

**Date:** October 23, 2015

**File:** 06-Ker-178- PM 1.95

ID: 0612000108

EA: 06-0K8100

Golden State Ave

Separation

Bridge No.50-0326 R/L/CR-1

Attention: Gloria Reyes-Gutierrez, Project Engineer

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
OFFICE OF GEOTECHNICAL DESIGN NORTH (OGDN)

**Subject:** FOUNDATION REPORT (FR)

### 1. INTRODUCTION

This FR is presented in response to the request from Bridge Design Branch North/Central, dated April 30, 2015 to provide evaluation for the need to seismic retrofit the foundations of the existing Golden State Separation bridges (No. 50-0326R/L and CR-1). According to the request a retrofit for the 50-0326 bridges would consist of column casings and a hinge retrofit and possibly a footing retrofit for the CR-1 Bridge single column Bent # 3.

The scope of our work includes:

- Review of “As-Built” information including boring logs with respect to the existing bridge site.
- Review of available published information regarding the site including topography, geology, seismicity and Hydraulics.
- Evaluation of alternative seismic retrofit designs.
- Discussion of the project with Structure Design.
- Completing the report.

## **2. PROJECT SITE DESCRIPTION**

The project site is located on State Highway 178 at Post Mile 1.95 (Kern, County). The Golden State Ave Separation R/L/CR-1 is a 6 span RC Box Girder with PC I Girder superstructure. Foundations for the R/L/CR-1 bridges consist of small diameter CIDH piles.

Land development in the vicinity of the site (100 to about 400+ ft) is industrial, commercial, and residential. Some homes, an apartment complex and Weill Park are located just north of the bridge site. Also, there are some vacant lots and an approximately 100+/- wide open corridor containing trees located on both sides of the bridge.

## **3. REGIONAL GEOLOGY and PHYSIOGRAPHIC SETTING**

The subject site is located in the southeast corner of the Great Valley Geomorphic Province GVGP near the boundary with the Sierra Nevada Geologic province. Geologic events in within both provinces have shaped the geology and landscape of the project site. The site is situated within the Kern River drainage area. The landscape is low relief and gently slopes to the west. Elevations at the site range from about 405 ft under the bridge to about 438 ft at the abutments. Superficial Quaternary alluvial fan deposits emerging from the Sierra Nevada Mountains via the Kern River underlie the bridge site (Geologic Map of California, Bakersfield Sheet, 1964).

### **3.1 SITE GEOLOGY**

Based on the 1962 Log of Test Borings (LOTB) the approximate upper 25 feet of alluvial deposits underlying the bridge consists mainly of loose to compact medium to coarse sand and gravelly sand. Below to the maximum boring depth explored 38 ft (Elev. 365 ft), the deposits become predominately very dense sand, gravel and cobbles. Also, this depth range generally matches the depths the dynamic cone penetrometers (DCP) begin to show a sizeable increase in blows/ ft readings. Also, DCP B-2 readings suggest the dense layer may reach a depth about 35 to 40 ft (Elev. 370 - 375 ft). Beyond, those depths the DCP penetration resistance readings diminish suggesting some decrease in the density and possibly the nature of the deposits that underlie the site at least at that location.

## **4. SCOUR POTENTIAL**

No scour is anticipated at the site. The bridge does not pass over a body of water.

## **5. GROUNDWATER**

The 1963 Foundation Study Report indicated that no groundwater was encountered during the December 1962 subsurface investigation. Per water well data available in the area, the water table is at least 50 ft. below existing ground surface since 1945. Recent groundwater data (2014)

indicates the groundwater depth at about 120 ft. below existing ground surface.

## 6. CORROSION

The seismic retro fit design for this bridge did not require the drilling of soil borings. Therefore, corrosion testing results are not available.

## 7. SEISMIC STUDY

The deterministic spectrum from the Caltrans ARS Online Tool (Version 2.3.06) is based on the nearest active fault that controls ground motion. The deterministic spectrum at this site is based on the White Wolf (Fault ID No. 230) with a MMax of 7.4. The fault is located southwest of the bridge site and is referred to as a strike slip fault dipping 75 degrees SE. The closest distance to the fault rupture plane from the bridge site is approximately 17 miles.

Based on the As-Built LOTBs, a  $V_{s30}$  (weighted average shear wave velocity for the top 100 feet of subsurface materials, extrapolated from 2 existing borings with max depth of 40 ft) of about 920 feet per second is used for final design.

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

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

Based on the estimated  $V_{s30}$ , the preliminary design Acceleration Response Spectrum (ARS) for the subject bridge is based on method 3 as stated above. The peak ground acceleration (PGA) is estimated to be 0.38g as shown on the attached ARS curve.

According to the Alquist-Priolo Earthquake Fault Zone Maps, and Fault Activity Map of California available through California Geological Survey (CGS) the site is not within an Alquist-Priolo Earthquake Fault Zone. No faults (active or inactive) are known to extend within 1,000 feet of the subject structure. Therefore, a Fault rupture hazard analysis (per MTD 20-10) does not appear to be required.

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Golden State Ave Separation  
Bridge No. 50-0326 R/L/CR-1  
EA: 06-0K8100  
ID: 0612000108

Page 4

Based on existing boring information, and groundwater data, an assessment indicates that the liquefaction potential is minimum.

## **8. CONCLUSIONS**

According to the General Plans, Foundation details the abutments and bents are supported on multiple piles constructed within a pile cap. The piles are standard 16-inch Cast-In Drill Hole (CIDH) piles. An elevation of 375 ft was recommended for all piles according to the referenced 1962 Foundation Study Report. The Foundation Report dated September 25, 1965 reported that the pile reached the required tip elevation of 375 ft except for some piles encountered a dense gravel and cobble layer at approximately elevation of 380 ft. In those cases, a revised tip elevation of 380 ft was prescribed. The existing 45-ton CIDH piles have adequate geotechnical bearing capacity.

Based on recommendations provided in the Foundation Investigation Report dated April 25, 1996, Bents 2 and 5 of this bridge were to be retrofitted with 24-in diameter CIDH piles (Specified Tip Elev. 375 ft). However, a search of the available project documents revealed no evidence that the retrofit was carried out.

Based on the very similar soil conditions found at this site compared to the Airport Drive O C (drilled this year), we concluded that additional drilling at this site is no longer required.

## **9. FOUNDATION RECOMMENDATIONS**

From geotechnical point of view, since the liquefaction potential is minimum, and the existing piles have adequate vertical capacities, the foundation retrofit is not required.

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Golden State Ave Separation  
Bridge No. 50-0326 R/L/CR-1  
EA: 06-0K8100  
ID: 0612000108

Page 5

The Foundation and Seismic Recommendations included in this report are based on specific project information regarding structure type and structure location that has been provided by the Office of Bridge Design North. Any questions regarding the above recommendations should be directed to the attention of William Bertucci (916) 203-7992 or John Huang (916) 227-1037.

Report by:



WILLIAM BERTUCCI  
Associate Engineering Geologist  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services



JOHN HUANG  
Senior Materials and Research Engineer  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services

Attachment: Preliminary ARS Curve

cc: District Project Manager - Judy Aguilar  
Project Coordination Engineer – Peggy Lim  
District Environmental Planning – Michelle Ray  
District Materials Engineer – Doug Lambert  
GS Corporate



# Golden State Ave Sep

Bridge No. 50-0326L/R

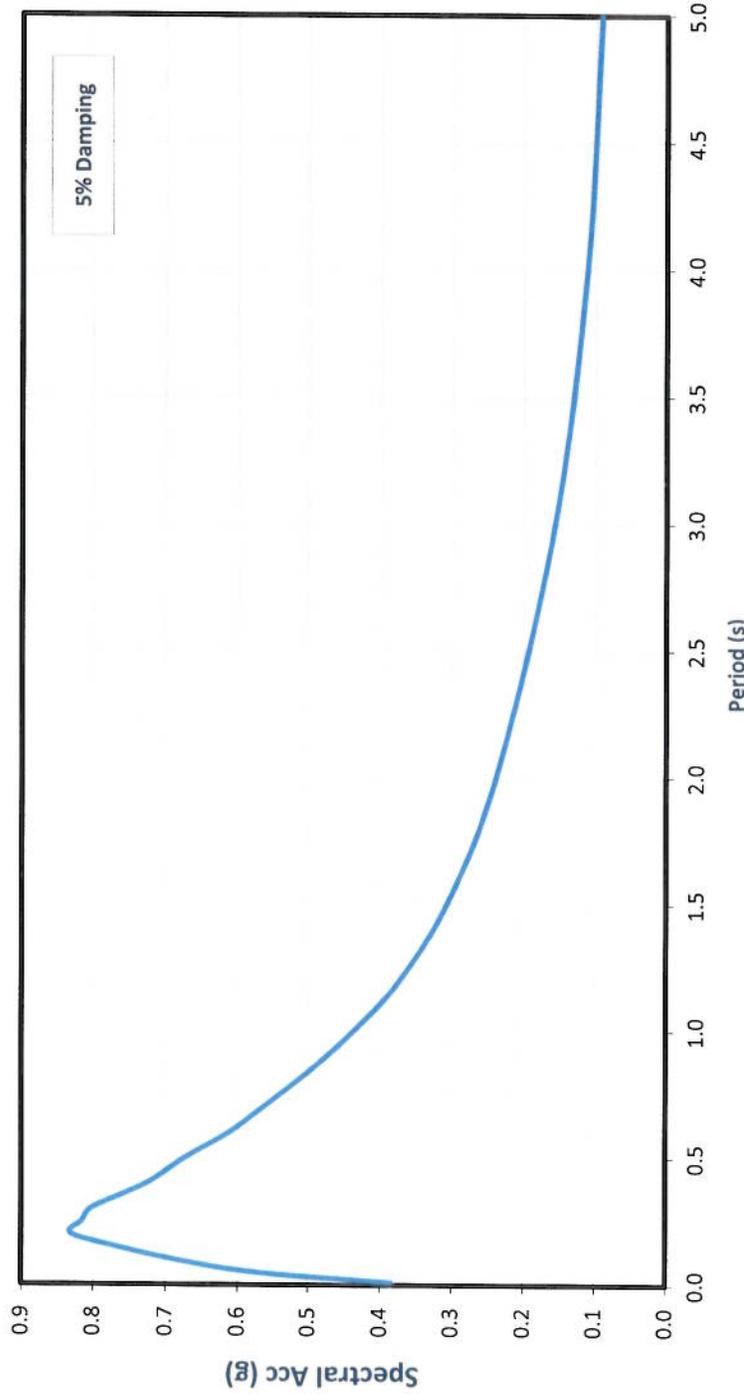
Latitude 35.3821

Longitude -119.0099

Control Probabilistic

Period (s)	Sa(g)
0.01	0.39
0.05	0.58
0.10	0.69
0.15	0.77
0.20	0.83
0.25	0.82
0.30	0.80
0.40	0.73
0.50	0.67
0.60	0.61
0.70	0.56
0.85	0.50
1.00	0.44
1.20	0.37
1.50	0.31
2.00	0.24
3.00	0.16
4.00	0.11
5.00	0.09

## Acceleration Response Spectrum



### Deterministic Procedure Data

Fault	White Wolf	
Fault ID	230	$R_{rup}$ 17 miles
Mmax	7.4	$R_{jb}$ 17 miles
Style	Rev	$R_x$ 17 miles
Dip (deg)	75	$V_{s30}$ 920 ft/s
Dip Dir	SE	$Z_{1.0}$ N/A ft
$Z_{TOR}$	0 miles	$Z_{2.5}$ N/A miles
$Z_{BOT}$	9 miles	

Note: The ARS curve above is based on the USGS 5% Probability of Exceedance in 50 years (975 years return period).



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

ID 0612000108

ARS Curve

EA 06-0K810

06-KER-178-1.95

Plate  
No. 1

## **MATERIALS INFORMATION**

7. Foundation Report dated October 23, 2015 for Golden State Ave Separation

## Memorandum

**To:** MR. GARY BLAKESLEY  
BRANCH CHIEF  
OFFICE OF BRIDGE DESIGN – NORTH /CENTRAL  
STRUCTURE DESIGN (SD)  
DIVISION OF ENGINEERING SERVICES

**Date:** October 23, 2015  
**File:** 06-Ker-178- PM 1.95  
ID: 0612000108  
EA: 06-0K8100  
Golden State Ave  
Separation  
Bridge No.50-0326 R/L/CR-1

Attention: Gloria Reyes-Gutierrez, Project Engineer

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
OFFICE OF GEOTECHNICAL DESIGN NORTH (OGDN)

**Subject:** FOUNDATION REPORT (FR)

### 1. INTRODUCTION

This FR is presented in response to the request from Bridge Design Branch North/Central, dated April 30, 2015 to provide evaluation for the need to seismic retrofit the foundations of the existing Golden State Separation bridges (No. 50-0326R/L and CR-1). According to the request a retrofit for the 50-0326 bridges would consist of column casings and a hinge retrofit and possibly a footing retrofit for the CR-1 Bridge single column Bent # 3.

The scope of our work includes:

- Review of “As-Built” information including boring logs with respect to the existing bridge site.
- Review of available published information regarding the site including topography, geology, seismicity and Hydraulics.
- Evaluation of alternative seismic retrofit designs.
- Discussion of the project with Structure Design.
- Completing the report.

## **2. PROJECT SITE DESCRIPTION**

The project site is located on State Highway 178 at Post Mile 1.95 (Kern, County). The Golden State Ave Separation R/L/CR-1 is a 6 span RC Box Girder with PC I Girder superstructure. Foundations for the R/L/CR-1 bridges consist of small diameter CIDH piles.

Land development in the vicinity of the site (100 to about 400+ ft) is industrial, commercial, and residential. Some homes, an apartment complex and Weill Park are located just north of the bridge site. Also, there are some vacant lots and an approximately 100+/- wide open corridor containing trees located on both sides of the bridge.

## **3. REGIONAL GEOLOGY and PHYSIOGRAPHIC SETTING**

The subject site is located in the southeast corner of the Great Valley Geomorphic Province GVGP near the boundary with the Sierra Nevada Geologic province. Geologic events in within both provinces have shaped the geology and landscape of the project site. The site is situated within the Kern River drainage area. The landscape is low relief and gently slopes to the west. Elevations at the site range from about 405 ft under the bridge to about 438 ft at the abutments. Superficial Quaternary alluvial fan deposits emerging from the Sierra Nevada Mountains via the Kern River underlie the bridge site (Geologic Map of California, Bakersfield Sheet, 1964).

### **3.1 SITE GEOLOGY**

Based on the 1962 Log of Test Borings (LOTB) the approximate upper 25 feet of alluvial deposits underlying the bridge consists mainly of loose to compact medium to coarse sand and gravelly sand. Below to the maximum boring depth explored 38 ft (Elev. 365 ft), the deposits become predominately very dense sand, gravel and cobbles. Also, this depth range generally matches the depths the dynamic cone penetrometers (DCP) begin to show a sizeable increase in blows/ ft readings. Also, DCP B-2 readings suggest the dense layer may reach a depth about 35 to 40 ft (Elev. 370 - 375 ft). Beyond, those depths the DCP penetration resistance readings diminish suggesting some decrease in the density and possibly the nature of the deposits that underlie the site at least at that location.

## **4. SCOUR POTENTIAL**

No scour is anticipated at the site. The bridge does not pass over a body of water.

## **5. GROUNDWATER**

The 1963 Foundation Study Report indicated that no groundwater was encountered during the December 1962 subsurface investigation. Per water well data available in the area, the water table is at least 50 ft. below existing ground surface since 1945. Recent groundwater data (2014)

indicates the groundwater depth at about 120 ft. below existing ground surface.

## 6. CORROSION

The seismic retro fit design for this bridge did not require the drilling of soil borings. Therefore, corrosion testing results are not available.

## 7. SEISMIC STUDY

The deterministic spectrum from the Caltrans ARS Online Tool (Version 2.3.06) is based on the nearest active fault that controls ground motion. The deterministic spectrum at this site is based on the White Wolf (Fault ID No. 230) with a MMax of 7.4. The fault is located southwest of the bridge site and is referred to as a strike slip fault dipping 75 degrees SE. The closest distance to the fault rupture plane from the bridge site is approximately 17 miles.

Based on the As-Built LOTBs, a  $V_{s30}$  (weighted average shear wave velocity for the top 100 feet of subsurface materials, extrapolated from 2 existing borings with max depth of 40 ft) of about 920 feet per second is used for final design.

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

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

Based on the estimated  $V_{s30}$ , the preliminary design Acceleration Response Spectrum (ARS) for the subject bridge is based on method 3 as stated above. The peak ground acceleration (PGA) is estimated to be 0.38g as shown on the attached ARS curve.

According to the Alquist-Priolo Earthquake Fault Zone Maps, and Fault Activity Map of California available through California Geological Survey (CGS) the site is not within an Alquist-Priolo Earthquake Fault Zone. No faults (active or inactive) are known to extend within 1,000 feet of the subject structure. Therefore, a Fault rupture hazard analysis (per MTD 20-10) does not appear to be required.

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Golden State Ave Separation  
Bridge No. 50-0326 R/L/CR-1  
EA: 06-0K8100  
ID: 0612000108

Page 4

Based on existing boring information, and groundwater data, an assessment indicates that the liquefaction potential is minimum.

## **8. CONCLUSIONS**

According to the General Plans, Foundation details the abutments and bents are supported on multiple piles constructed within a pile cap. The piles are standard 16-inch Cast-In Drill Hole (CIDH) piles. An elevation of 375 ft was recommended for all piles according to the referenced 1962 Foundation Study Report. The Foundation Report dated September 25, 1965 reported that the pile reached the required tip elevation of 375 ft except for some piles encountered a dense gravel and cobble layer at approximately elevation of 380 ft. In those cases, a revised tip elevation of 380 ft was prescribed. The existing 45-ton CIDH piles have adequate geotechnical bearing capacity.

Based on recommendations provided in the Foundation Investigation Report dated April 25, 1996, Bents 2 and 5 of this bridge were to be retrofitted with 24-in diameter CIDH piles (Specified Tip Elev. 375 ft). However, a search of the available project documents revealed no evidence that the retrofit was carried out.

Based on the very similar soil conditions found at this site compared to the Airport Drive O C (drilled this year), we concluded that additional drilling at this site is no longer required.

## **9. FOUNDATION RECOMMENDATIONS**

From geotechnical point of view, since the liquefaction potential is minimum, and the existing piles have adequate vertical capacities, the foundation retrofit is not required.

MR. GARY BLAKESLEY  
Attn: Gloria Reyes-Gutierrez

October 23, 2015  
Golden State Ave Separation  
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Page 5

The Foundation and Seismic Recommendations included in this report are based on specific project information regarding structure type and structure location that has been provided by the Office of Bridge Design North. Any questions regarding the above recommendations should be directed to the attention of William Bertucci (916) 203-7992 or John Huang (916) 227-1037.

Report by:



WILLIAM BERTUCCI  
Associate Engineering Geologist  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services



JOHN HUANG  
Senior Materials and Research Engineer  
Office of Geotechnical Design – North  
Geotechnical Services  
Division of Engineering Services

Attachment: Preliminary ARS Curve

cc: District Project Manager - Judy Aguilar  
Project Coordination Engineer – Peggy Lim  
District Environmental Planning – Michelle Ray  
District Materials Engineer – Doug Lambert  
GS Corporate



# Golden State Ave Sep

Bridge No. 50-03261/R

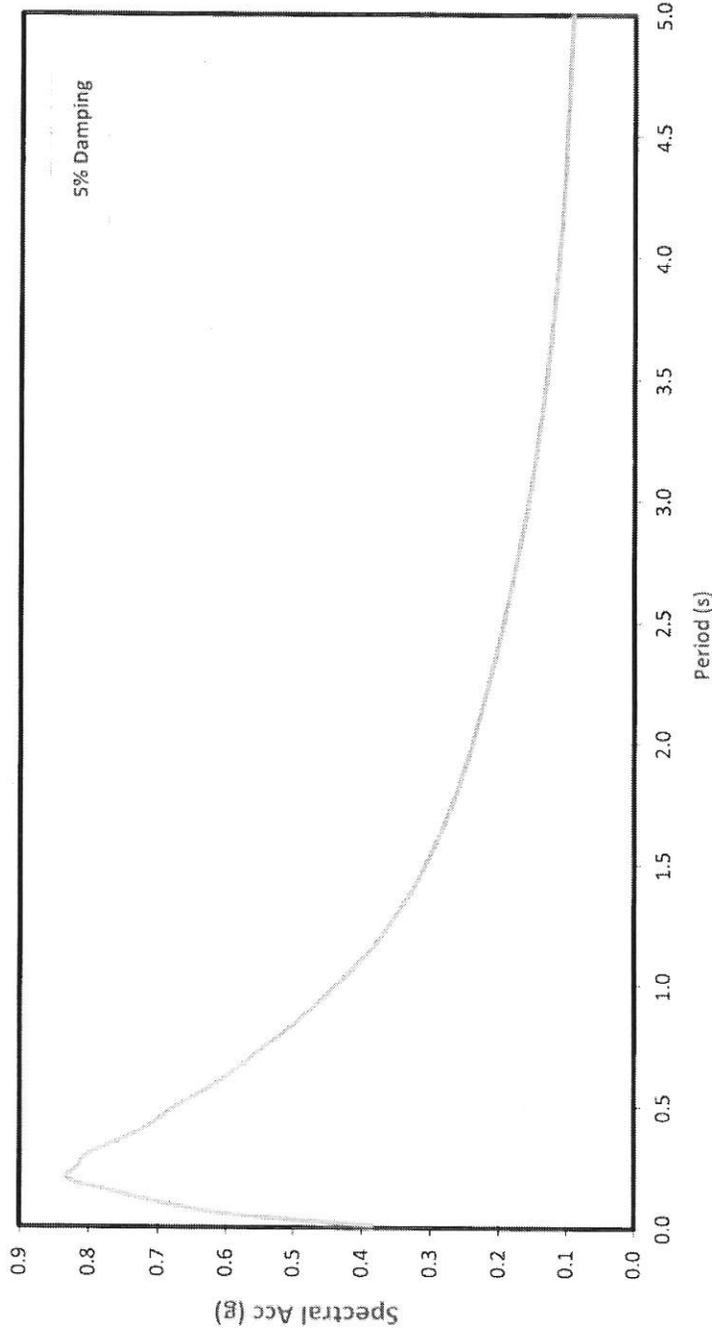
Latitude 35.3821

Longitude -119.0099

Control Probabilistic

Period (s)	Sa(g)
0.01	0.39
0.05	0.58
0.10	0.69
0.15	0.77
0.20	0.83
0.25	0.82
0.30	0.80
0.40	0.73
0.50	0.67
0.60	0.61
0.70	0.56
0.85	0.50
1.00	0.44
1.20	0.37
1.50	0.31
2.00	0.24
3.00	0.16
4.00	0.11
5.00	0.09

## Acceleration Response Spectrum



### Deterministic Procedure Data

Fault	White Wolf	
Fault ID	230	$R_{TUP}$ 17 miles
Mmax	7.4	$R_{JP}$ 17 miles
Style	Rev	$R_x$ 17 miles
Dip (deg)	75	$V_{S30}$ 920 ft/s
Dip Dir	SE	$Z_{1.0}$ N/A ft
$Z_{TOR}$	0 miles	$Z_{2.5}$ N/A miles
$Z_{BOT}$	9 miles	

Note: The ARS curve above is based on the USGS 5% Probability of Exceedance in 50 years (975 years return period).



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

ID 0612000108

EA 06-0K810

ARS Curve

06-KER-178-1.95

Plate No. 1

## **MATERIALS INFORMATION**

8. Final Hydraulic Report for Calloway Canal dated June 9, 2015

# Memorandum

To: Gary Blakesley  
Branch Chief  
Bridge Design Branch 6  
Office of Bridge Design North and Central  
Division of Engineering Services  
Att: Gloria Reyes-Gutierrez

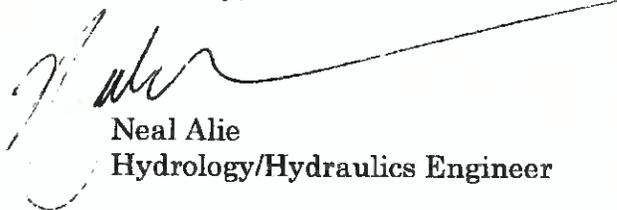
Date: June 9, 2015  
File: Airport Dr. OC  
(Calloway Canal)  
Br. No. 56-0266  
06-Ker-99-PM 26.7  
EA 06-0K810  
EFIS 0612000108

From: Department of Transportation  
Hydraulic Engineering Branch

Subject: Final Hydraulic Report for Calloway Canal

Attached for your records is the Hydrography report for the above referenced project. If you have any questions, please contact me at 227-0442.

Sincerely,



Neal Alie  
Hydrology/Hydraulics Engineer

cc: Steve Ng

State of California – Department of Transportation  
Division of Engineering Services  
Structure Design Services

Structure Hydraulics and Hydrology

FINAL HYDRAULIC REPORT

Calloway Canal

Located in Kern County  
Bridge No. 56-0266

Seismic Retrofit

06-Ker-99-PM 26.7

EFIS 0612000108

June 9, 2015

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WRITTEN BY:  
Neal Alie

REVIEWED BY:  
Steve Ng

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

  
REGISTERED ENGINEER

C 56398

REGISTRATION NUMBER



## Hydrology/Hydraulic Report

### General

Structure Design is proposing to seismically retrofit the Airport Drive Overcrossing, a six span RC Box Girder bridge that spans over State Route 99 and the Calloway Canal. The project proposes to mitigate the seismic deficiencies by placing infill walls between the columns which would strengthen the bent caps providing a no collapse condition. At Pier 2 which is located within the Canal, the infill walls will be at the full height of the columns.

The Airport Drive Overcrossing (Br. No. 56-0266) is located at PM 26.7 on State Route 99 in Kern County. The structure was built in 1963 and is a continuous six span CIP RC Box Girder (4 cell) on RC column (2 and 3) bent and open end diaphragm abutments all founded on concrete piles. The bridge has a length of 622 feet and width of 40 feet.

This report makes reference to the (1) Caltrans Bridge Maintenance Reports, (2) General plans and profiles submitted by structures, (3) Caltrans As-Built Plans (4) Previous Structure Hydraulic Study, November 17, 2014 (5) Information obtained from the North Kern Water Storage District.

***All Elevations used in this report are based on As-Built Datum, NGVD 1929***

### Drainage Basin

Calloway Canal is a man made trapezoidal irrigation canal owned by the North Kern Water Storage District. The Canal originates from the Kern River via the Calloway Weir approximately 3000 feet east of State Route 99 and terminates just north of Whisler Road in McFarland.

The canal flows west towards the project site at a channel slope of 0.0088% and a bottom width of approximately 85 feet. The Canal then flows southwest crossing the Rosedale Hwy and immediately turns to the northwest crossing Rosedale Hwy again until its termination at reservoirs near McFarland.

The average annual precipitation based on the Oregon Climate Service Prism Program (Annual normal from 1981 to 2010) is approximately 11.0 inches.

### Discharge

According to the North Kern Water District the canal only conveys irrigation water and not storm water. Therefore there is no 50-year or 100-year discharge for this canal. The maximum discharge released by the water district is 1000 cfs.

### Stage, Velocity and Waterway

The Hydraulic Program (BrEase) was used to perform a one-dimensional hydraulic analysis to calculate the water surface elevation and velocity for the existing structure. The General Plans and As-Builts were referenced to acquire the planned deck elevation height.

The proposed freeboard is measured from the water surface elevation to the lowest chord of the soffit of the structure, 417.8 feet. The parameters used to model the existing structure included a maximum release discharge of 1000 cfs; a manning's roughness coefficient of 0.027 for the main channel and a channel slope of 0.0001 ft/ft. The results are as follows:

Maximum Discharge	WSEL	Average Velocity	Available Freeboard
1000 cfs	399.4 ft	1.6 fps	18.4 ft

There is more than adequate freeboard and waterway for the maximum release of 1000 cfs. A historical high water elevation of 401.5 feet was noted on the As-Built Plans dated August 24, 1961.

### Streambed and Scour

Streambed materials at the bridge site consist of loose to compact medium to coarse sand and gravelly sand and some gravels.

According to the Caltrans Maintenance Records there is no degradation, contraction or local pier scour at this site. Although several records indicate that the first column at Pier 2 is abraded with some exposed rebar. This condition has not worsened throughout the years but should be repaired.

In December, 1997 the North Kern Water Storage District dredged the Calloway Canal to elevation 393 feet. This is an indication that the canal may have been experiencing aggradation, and it was necessary to excavate to provide adequate waterway. It is assumed that this elevation will be maintained for future conditions.

The potential local pier scour was calculated to be 4.6 feet, (elevation 388.4 feet) for Pier 2, but the scour limit should be limited to the top of the footing at elevation 390.75 feet.

Structure Hydraulics does not have any scour concerns, the footing currently has approximately 2.3 feet of cover and there is no history of scour at this bridge site.

Thus the Bridge's scour potential was assessed in accordance with FHWA Technical

Advisory T5140.23, "Evaluating Scour at Bridges" and within current Caltrans guidelines, the bridge was determined to be **not scour critical**. The item 113 code should be changed to 5, "Bridge foundation determined to be stable for assessed or calculated scour condition. Scour is determined to be within the limits of footing or piles by assessment and calculations".

**Drift**

According to the Caltrans Maintenance Records there is no history of any debris at this bridge location.

**Bank Protection**

Structure Hydraulics does not anticipate the need of bank protection at this site.

**Hydrologic Summary for Design Engineer**

HYDROLOGIC SUMMARY FOR CALLOWAY CANAL				
Br. No. 50-0266				
Drainage Area: N/A				
	Max Flow Release	Design Flood	Base Flood	Overtopping Flood/Flood of Record
Frequency		50-yr	100-yr	N/A
Discharge	1000 cfs	N/A	N/A	N/A
Water Surface Elevation at Bridge	399.4 ft	N/A	N/A	N/A
<i>Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.</i>				

## **MATERIALS INFORMATION**

### 9. Water Source Information

## Mondal, Ranjit K@DOT

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**From:** Valles, Rudy <rvalles@calwater.com>  
**Sent:** Monday, March 21, 2016 10:22 AM  
**To:** Mondal, Ranjit K@DOT  
**Subject:** RE: 06-0K8101 Water Availability for Kern County Seismic Restoration Project

Mondal,

We can provide you with construction for your Project, you will need;

- Bring a check for \$960.00 deposit for a construction meter.
- The location (hydrant) where you want the construction meter set.
- You will have to visit our office to apply for the Construction meter.

Rudy

---

**From:** Mondal, Ranjit K@DOT [mailto:ranjit.mondal@dot.ca.gov]  
**Sent:** Monday, March 21, 2016 10:14 AM  
**To:** Valles, Rudy <rvalles@calwater.com>  
**Cc:** Alqatami, Ali R@DOT <ali.alqatami@dot.ca.gov>  
**Subject:** RE: 06-0K8101 Water Availability for Kern County Seismic Restoration Project

This is an EXTERNAL EMAIL. Stop and think before clicking a link or opening attachments.

Hi Rudy,

We need to have a proof of water source available for the contractor. Please let us know if the contractor can purchase potable water from California Water Services and use for this project.

Thanks and regards

Ranjit K Mondal, PE  
Design 1, Branch Z  
D6 - Project Development  
(559) 243-3596

---

**From:** Valles, Rudy [mailto:rvalles@calwater.com]  
**Sent:** Monday, March 21, 2016 9:52 AM  
**To:** Mondal, Ranjit K@DOT <ranjit.mondal@dot.ca.gov>  
**Subject:** RE: 06-0K8101 Water Availability for Kern County Seismic Restoration Project

Mondal,

Cal Water has no non-potable water sources available, we only supply potable water.

Rudy

---

**From:** Mondal, Ranjit K@DOT [mailto:ranjit.mondal@dot.ca.gov]  
**Sent:** Monday, March 21, 2016 9:45 AM  
**To:** Valles, Rudy <rvalles@calwater.com>  
**Cc:** Alqatami, Ali R@DOT <ali.alqatami@dot.ca.gov>  
**Subject:** 06-0K8101 Water Availability for Kern County Seismic Restoration Project

This is an EXTERNAL EMAIL. Stop and think before clicking a link or opening attachments.

Hi Rudy,

Good morning. I am the Project Engineer for a project in Bakersfield which is now in final design stage. This proposed "Kern County Seismic Restoration Project" will be going in construction approximately in October, 2016. Please see the attached map for the location of the project. Approximately 125,000 gallons of water will be required throughout the duration of this project. A non-potable water source will be required for the contractor to purchase and use for this project. We are required to have proof of a water source when advertising the project.

Please let us know if California Water Services has a non-potable water source available for the contractor to use in this project. Please let me know if you have any question or need additional information. We appreciate your time.

Thanks and regards

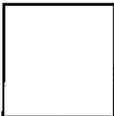
Ranjit K Mondal, PE  
Design 1, Branch Z  
D6 - Project Development  
California Department of Transportation  
(559) 243-3596

**Rudy Valles**

District Manager

**CALIFORNIA WATER SERVICE**

**661-837-7240**



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[calwater.com](http://calwater.com)

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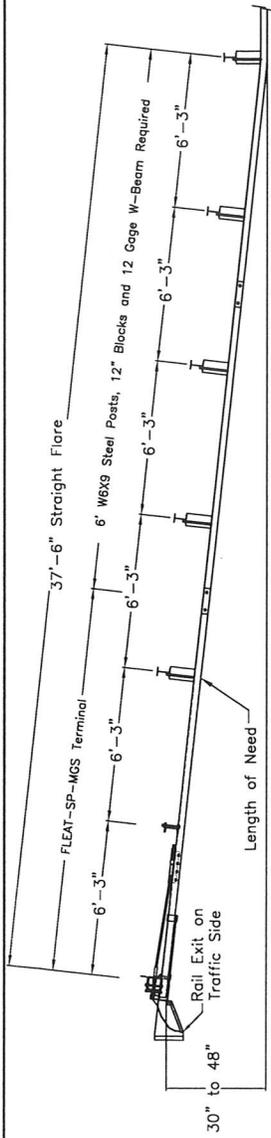
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## **MATERIALS INFORMATION**

10. Alternative Flared Terminal System
  - A. TYPE Fleat-SP-MGS for Steel Terminal System
  - B. TYPE SRT-31 Terminal System
  - C. TYPE 31" X-TENSION

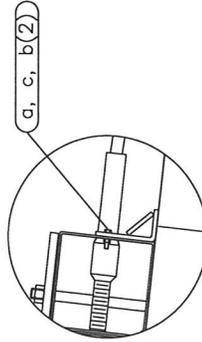
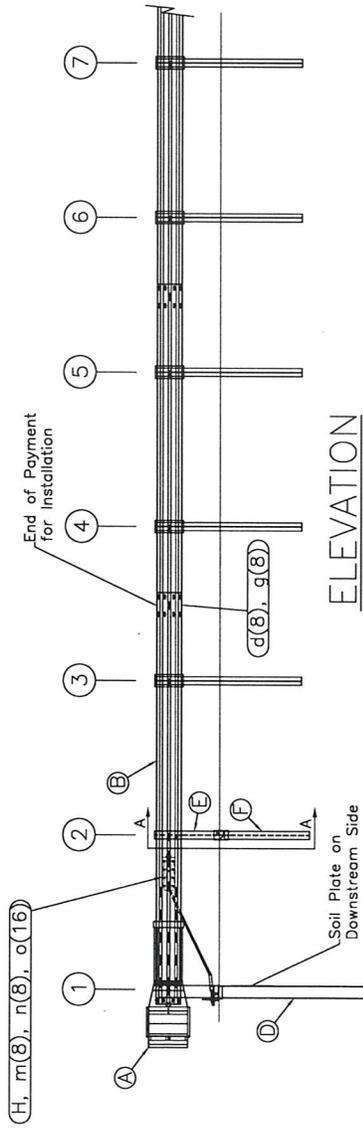
ITEM QTY	BILL OF MATERIALS	ITEM NO.
A 1	IMPACT HEAD	F3000
B 1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	MGS-SF303
C 1	FIRST POST TOP (6X6X) Tube	TPHP1A
D 1	FIRST POST BOTTOM (6 W6X15)	TPHP1B
E 1	SECOND POST ASSEMBLY TOP	HPH2A
F 1	SECOND POST ASSEMBLY BOTTOM	HP3B
G 1	BEARING PLATE	E750
H 1	CABLE ANCHOR BOX	S760
J 1	BCT CABLE ANCHOR ASSEMBLY	E770
HARDWARE (ALL DIMENSIONS IN INCHES)		
a 2	5/16 x 1 HEX BOLT GRD 5	BS160104A
b 4	5/16 WASHER	W0516
c 2	5/16 HEX NUT	ND516
d 9	5/8 Dia. x 1 1/4 SPLICE BOLT (POST #2)	BS80122
e 1	5/8 Dia. x 9 HEX BOLT GRD 5	BS80904A
f 3	5/8 WASHER	W050
g 10	5/8 Dia. H.C.R. NUT	ND50
h 1	3/4 Dia. x 8 1/2 HEX BOLT GRD A449	B340854A
i 1	3/4 Dia. HEX NUT	ND30
k 2	1 ANCHOR CABLE HEX NUT	NI100
l 2	1 ANCHOR CABLE WASHER	W100
m 8	CABLE ANCHOR BOX SHOULDER BOLT	SB58A
n 8	1/2 A325 STRUCTURAL NUT	NG55A
o 16	1 1/16 OD x 9/16 ID A325 STR. WASHER	WG50A

GENERAL NOTES:  
 1. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.  
 2. The lower sections of the Posts #2 shall not protrude more than 4 in above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.  
 3. The lower sections of the hinged posts should not be driven with the upper post attached. If the post is placed in a drilled hole, the backfill material must be satisfactorily compacted to prevent settlement.  
 4. When competent rock is encountered, a 12" Ø post hole, 20 in. deep cored into the rock surface may be used if approved by the engineer for post #1. Granular material will be placed in the bottom of the hole, approximately 2.5' deep to provide drainage. The first post can be field cut to length, placed in the hole and backfilled with suitable backfill. The soil plate may be trimmed if required.  
 5. The breakaway cable assembly must be taut. A locking device (Vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.

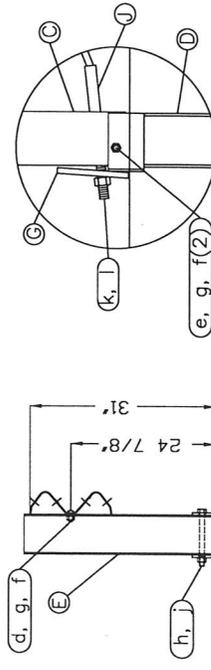


PLAN

TRAFFIC



Impact Head Connection Detail



Post #1 Connection Detail

**RSI**  
**Road Systems, Inc.**  
 Big Spring, TX  
 Phone: 432-263-2435  
 or Phone: 330-346-0721

Sheet:	1
Date:	02/24/10
By:	JRR
Rev:	0
Drawing Name:	FLT-SP-S-MGS
Scale:	None

FLEAT-SP-MGS Terminal  
 Midwest Guardrail System  
 31" Top of Rail



## Appendix A - System Configuration, 37' 6" MGS

#	Part No.	Qty	Description	UOM
1	BS-1316037-00	4	X-LITE CRIMPED POST HOLES GALV	EA
2	BS-1012085-00	1	POST H. X-LITE GALV	EA
3	BS-1012103-00	1	IMPACT HEAD X-LITE GALV	EA
4	BS-1012093-00	1	SLIDER PANEL FRONT X-LITE GALV	EA
5	BS-1012090-00	1	Slider Bracket, X-Lite	EA
6	BS-1012091-00	1	BACK SLIDER PANEL X-LITE GALV	EA
7	BS-1102003-KT	1	Ground Strap Kit X-Lite	EA
8	BS-1012104-00	1	Cable Anchor Assembly, X-Lite	EA
9	BS-1012105-00	1	W-BEAM GUARDRAIL X-LITE GALV	EA
10	BS-1012092-00	1	W-BEAM GUARDRAIL X-LITE GALV	EA
11	BS-1012094-00	1	W-BEAM GUARDRAIL X-LITE GALV	EA
12	BS-1012097-00	1	W-BEAM GUARDRAIL X-LITE GALV	EA
13	40031115	16	Guardrail Bolt 3/8" x 1 1/2	EA
14	2000464	1	Bolt CH 5/8" x 1 1/2 G55 MGR	EA
15	4000465	5	SOIL CH 5/8" x 1 1/2 G55 MGR	EA
16	4001116	22	Guardrail Nut Resealed 5/8" x 1 1/2	EA
17	2001580	1	WSPR 1 1/4-16 STRUCTURAL SN	EA
18	4000443	3	W-Beam Guardrail RAMP024	EA
19	BS-1106015-KT	1	X-Lite Sp. Plate Kit	EA
20	BS-1012003-KT	1	Bracket, X-Lite Cable Metrite	EA
21	BS-1316003-KT	1	Transition Kit, MGS	EA
22	BS-1316002-00	1	X-LITE CRIMPED POST, SLOTS GALV	EA
	MANUF		X-Lite Fanned Installation	EA

**USE BOLT (ITEM 14) TO INSTALL SLIDER PANEL BACK (ITEM 6) BLOCKOUT (ITEM 11) TO CRIMPED POST (ITEM 1) DO NOT PASS BOLT THROUGH W-BEAM GUARDRAIL PANELS.**

**USE BOLT (ITEM 14) TO INSTALL SLIDER PANEL BACK (ITEM 6) BLOCKOUT (ITEM 11) TO CRIMPED POST (ITEM 1) TO PASS BOLT THROUGH BOTH W-BEAM GUARDRAIL PANELS.**

**INSTALL SLIDER PANEL FRONT (ITEM 4) TO FIRST W-BEAM GUARDRAIL PANEL USING ITEMS 12 & 15. HEX NUTS TO BE ON TRAFFIC SIDE.**

**INSTALL SLIDER BRACKET (ITEM 5) TO SECOND W-BEAM GUARDRAIL PANEL USING ITEMS 12 & 15.**

**AFTER STEPS 1 & 2 SECURE FIRST AND SECOND W-BEAM GUARDRAIL PANEL USING ITEMS 6, 12 & 15. HEX NUTS TO BE ON TRAFFIC SIDE.**

**SLOTS ON POSTS 1 AND 2 TO FACE GUARDRAIL PANEL.**

**IF ROCK OR STIFF SOIL IS ENCOUNTERED, THE POST AND SOIL PLATE MAY BE INSTALLED BY AUGERING AND BACKFILLING THE HOLE. DISPLACE AND RE-SET THE POST TO PREVENT SETTLEMENT OR LATERAL DISPLACEMENT OF THE POST. BACKFILL MATERIAL SHALL BE COMPACTED TO OPTIMUM COMPACTION.**

**IF ROCK IS ENCOUNTERED, THE SOIL PLATE MAY BE MODIFIED IF APPROVED BY THE PROJECT ENGINEER.**

**DETAIL A (SCALE 1/8")**

**3333 Vasco Valley Parkway, Ste 800**  
**San Diego, CA 92121**  
**Phone: (888) 800-3691**  
**www.lindsaytrans.com**

**BARRIER SYSTEMS**  
A LINDSAY TRANSPORTATION SOLUTIONS COMPANY

**TITLE**  
**X-LITE SYSTEM ASSEMBLY**  
**FLARED**  
**TRANSITION TO MGS**

**DWG NO.**  
**XLFUSUS-MGS**

**REV**  
**B**

**DATE**  
**10/09/13**

**SCALE**  
**1 OF 2**

**REV**  
**0**

**DATE**  
**10/09/13**

**ECN#**  
**2151**

**REV**  
**0**

**DATE**  
**10/09/13**

**ECN#**  
**2151**

**REV**  
**0**

**DATE**  
**10/09/13**

**ECN#**  
**2151**

**APPROVALS**

APPROVED BY: **JMT**

APPROVED DATE: **10/09/2013**

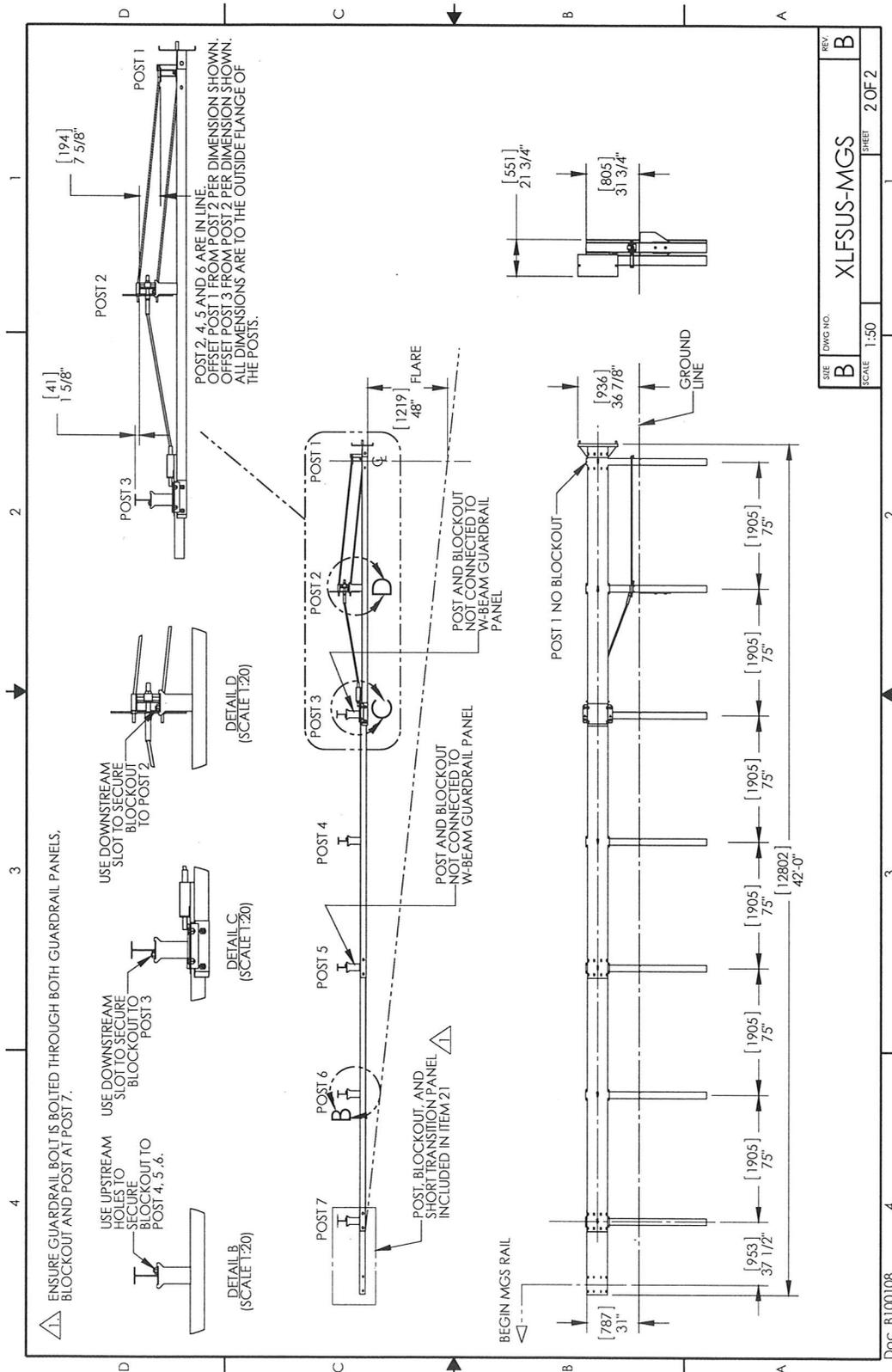
APPROVED BY: **GAD**

APPROVED DATE: **10/09/13**

**DO NOT SCALE DRAWING**

**FRACCTIONS DECIMALS ANGLES**  
TOLERANCES ARE IN INCHES  
 1/16 .000625 1/32 .003125 1/8 .0015625 1/4 .003125 3/8 .0046875 1/2 .0078125 3/4 .01171875 1 .015625 1 1/4 .0203125 1 1/2 .0250000 2 .0390625 2 1/2 .053125 3 .0671875 3 1/2 .0812500 4 .1046875 4 1/2 .1287500 5 .1528125 5 1/2 .1768750 6 .2009375 6 1/2 .2250000 7 .2490625 7 1/2 .2731250 8 .3012500 8 1/2 .3253125 9 .3493750 9 1/2 .3734375 10 .3975000 10 1/2 .4215625 11 .4456250 11 1/2 .4696875 12 .4937500 12 1/2 .5178125 13 .5418750 14 .5659375 14 1/2 .5900000 15 .6140625 15 1/2 .6381250 16 .6621875 16 1/2 .6862500 17 .7103125 17 1/2 .7343750 18 .7584375 19 .7825000 20 .8065625 21 .8306250 22 .8546875 23 .8787500 24 .9028125 25 .9268750 26 .9509375 27 .9750000 28 .9990625 29 1.0231250 30 1.0471875 31 1.0712500 32 1.0953125 33 1.1193750 34 1.1434375 35 1.1675000 36 1.1915625 37 1.2156250 38 1.2396875 39 1.2637500 40 1.2878125 41 1.3118750 42 1.3359375 43 1.3600000 44 1.3840625 45 1.4081250 46 1.4321875 47 1.4562500 48 1.4803125 49 1.5043750 50 1.5284375 51 1.5525000 52 1.5765625 53 1.6006250 54 1.6246875 55 1.6487500 56 1.6728125 57 1.6968750 58 1.7209375 59 1.7450000 60 1.7690625 61 1.7931250 62 1.8171875 63 1.8412500 64 1.8653125 65 1.8893750 66 1.9134375 67 1.9375000 68 1.9615625 69 1.9856250 70 2.0096875 71 2.0337500 72 2.0578125 73 2.0818750 74 2.1059375 75 2.1300000 76 2.1540625 77 2.1781250 78 2.2021875 79 2.2262500 80 2.2503125 81 2.2743750 82 2.2984375 83 2.3225000 84 2.3465625 85 2.3706250 86 2.3946875 87 2.4187500 88 2.4428125 89 2.4668750 90 2.4909375 91 2.5150000 92 2.5390625 93 2.5631250 94 2.5871875 95 2.6112500 96 2.6353125 97 2.6593750 98 2.6834375 99 2.7075000 100 2.7315625 101 2.7556250 102 2.7796875 103 2.8037500 104 2.8278125 105 2.8518750 106 2.8759375 107 2.9000000 108 2.9240625 109 2.9481250 110 2.9721875 111 2.9962500 112 3.0203125 113 3.0443750 114 3.0684375 115 3.0925000 116 3.1165625 117 3.1406250 118 3.1646875 119 3.1887500 120 3.2128125 121 3.2368750 122 3.2609375 123 3.2850000 124 3.3090625 125 3.3331250 126 3.3571875 127 3.3812500 128 3.4053125 129 3.4293750 130 3.4534375 131 3.4775000 132 3.5015625 133 3.5256250 134 3.5496875 135 3.5737500 136 3.5978125 137 3.6218750 138 3.6459375 139 3.6700000 140 3.6940625 141 3.7181250 142 3.7421875 143 3.7662500 144 3.7903125 145 3.8143750 146 3.8384375 147 3.8625000 148 3.8865625 149 3.9106250 150 3.9346875 151 3.9587500 152 3.9828125 153 4.0068750 154 4.0309375 155 4.0550000 156 4.0790625 157 4.1031250 158 4.1271875 159 4.1512500 160 4.1753125 161 4.1993750 162 4.2234375 163 4.2475000 164 4.2715625 165 4.2956250 166 4.3196875 167 4.3437500 168 4.3678125 169 4.3918750 170 4.4159375 171 4.4400000 172 4.4640625 173 4.4881250 174 4.5121875 175 4.5362500 176 4.5603125 177 4.5843750 178 4.6084375 179 4.6325000 180 4.6565625 181 4.6806250 182 4.7046875 183 4.7287500 184 4.7528125 185 4.7768750 186 4.8009375 187 4.8250000 188 4.8490625 189 4.8731250 190 4.8971875 191 4.9212500 192 4.9453125 193 4.9693750 194 4.9934375 195 5.0175000 196 5.0415625 197 5.0656250 198 5.0896875 199 5.1137500 200 5.1378125 201 5.1618750 202 5.1859375 203 5.2100000 204 5.2340625 205 5.2581250 206 5.2821875 207 5.3062500 208 5.3303125 209 5.3543750 210 5.3784375 211 5.4025000 212 5.4265625 213 5.4506250 214 5.4746875 215 5.4987500 216 5.5228125 217 5.5468750 218 5.5709375 219 5.5950000 220 5.6190625 221 5.6431250 222 5.6671875 223 5.6912500 224 5.7153125 225 5.7393750 226 5.7634375 227 5.7875000 228 5.8115625 229 5.8356250 230 5.8596875 231 5.8837500 232 5.9078125 233 5.9318750 234 5.9559375 235 5.9800000 236 6.0040625 237 6.0281250 238 6.0521875 239 6.0762500 240 6.1003125 241 6.1243750 242 6.1484375 243 6.1725000 244 6.1965625 245 6.2206250 246 6.2446875 247 6.2687500 248 6.2928125 249 6.3168750 250 6.3409375 251 6.3650000 252 6.3890625 253 6.4131250 254 6.4371875 255 6.4612500 256 6.4853125 257 6.5093750 258 6.5334375 259 6.5575000 260 6.5815625 261 6.6056250 262 6.6296875 263 6.6537500 264 6.6778125 265 6.7018750 266 6.7259375 267 6.7500000 268 6.7740625 269 6.7981250 270 6.8221875 271 6.8462500 272 6.8703125 273 6.8943750 274 6.9184375 275 6.9425000 276 6.9665625 277 6.9906250 278 7.0146875 279 7.0387500 280 7.0628125 281 7.0868750 282 7.1109375 283 7.1350000 284 7.1590625 285 7.1831250 286 7.2071875 287 7.2312500 288 7.2553125 289 7.2793750 290 7.3034375 291 7.3275000 292 7.3515625 293 7.3756250 294 7.3996875 295 7.4237500 296 7.4478125 297 7.4718750 298 7.4959375 299 7.5200000 300 7.5440625 301 7.5681250 302 7.5921875 303 7.6162500 304 7.6403125 305 7.6643750 306 7.6884375 307 7.7125000 308 7.7365625 309 7.7606250 310 7.7846875 311 7.8087500 312 7.8328125 313 7.8568750 314 7.8809375 315 7.9050000 316 7.9290625 317 7.9531250 318 7.9771875 319 8.0012500 320 8.0253125 321 8.0493750 322 8.0734375 323 8.0975000 324 8.1215625 325 8.1456250 326 8.1696875 327 8.1937500 328 8.2178125 329 8.2418750 330 8.2659375 331 8.2900000 332 8.3140625 333 8.3381250 334 8.3621875 335 8.3862500 336 8.4103125 337 8.4343750 338 8.4584375 339 8.4825000 340 8.5065625 341 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412 10.2390625 413 10.2631250 414 10.2871875 415 10.3112500 416 10.3353125 417 10.3593750 418 10.3834375 419 10.4075000 420 10.4315625 421 10.4556250 422 10.4796875 423 10.5037500 424 10.5278125 425 10.5518750 426 10.5759375 427 10.6000000 428 10.6240625 429 10.6481250 430 10.6721875 431 10.6962500 432 10.7203125 433 10.7443750 434 10.7684375 435 10.7925000 436 10.8165625 437 10.8406250 438 10.8646875 439 10.8887500 440 10.9128125 441 10.9368750 442 10.9609375 443 10.9850000 444 11.0090625 445 11.0331250 446 11.0571875 447 11.0812500 448 11.1053125 449 11.1293750 450 11.1534375 451 11.1775000 452 11.2015625 453 11.2256250 454 11.2496875 455 11.2737500 456 11.2978125 457 11.3218750 458 11.3459375 459 11.3700000 460 11.3940625 461 11.4181250 462 11.4421875 463 11.4662500 464 11.4903125 465 11.5143750 466 11.5384375 467 11.5625000 468 11.5865625 469 11.6106250 470 11.6346875 471 11.6587500 472 11.6828125 473 11.7068750 474 11.7309375 475 11.7550000 476 11.7790625 477 11.8031250 478 11.8271875 479 11.8512500 480 11.8753125 481 11.8993750 482 11.9234375 483 11.9475000 484 11.9715625 485 11.9956250 486 12.0196875 487 12.0437500 488 12.0678125 489 12.0918750 490 12.1159375 491 12.1400000 492 12.1640625 493 12.1881250 494 12.2121875 495 12.2362500 496 12.2603125 497 12.2843750 498 12.3084375 499 12.3325000 500 12.3565625 501 12.3806250 502 12.4046875 503 12.4287500 504 12.4528125 505 12.4768750 506 12.5009375 507 12.5250000 508 12.5490625 509 12.5731250 510 12.5971875 511 12.6212500 512 12.6453125 513 12.6693750 514 12.6934375 515 12.7175000 516 12.7415625 517 12.7656250 518 12.7896875 519 12.8137500 520 12.8378125 521 12.8618750 522 12.8859375 523 12.9100000 524 12.9340625 525 12.9581250 526 12.9821875 527 13.0062500 528 13.0303125 529 13.0543750 530 13.0784375 531 13.1025000 532 13.1265625 533 13.1506250 534 13.1746875 535 13.1987500 536 13.2228125 537 13.2468750 538 13.2709375 539 13.2950000 540 13.3190625 541 13.3431250 542 13.3671875 543 13.3912500 544 13.4153125 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15.0275000 612 15.0515625 613 15.0756250 614 15.0996875 615 15.1237500 616 15.1478125 617 15.1718750 618 15.1959375 619 15.2200000 620 15.2440625 621 15.2681250 622 15.2921875 623 15.3162500 624 15.3403125 625 15.3643750 626 15.3884375 627 15.4125000 628 15.4365625 629 15.4606250 630 15.4846875 631 15.5087500 632 15.5328125 633 15.5568750 634 15.5809375 635 15.6050000 636 15.6290625 637 15.6531250 638 15.6771875 639 15.7012500 640 15.7253125 641 15.7493750 642 15.7734375 643 15.7975000 644 15.8215625 645 15.8456250 646 15.8696875 647 15.8937500 648 15.9178125 649 15.9418750 650 15.9659375 651 15.9900000 652 16.0140625 653 16.0381250 654 16.0621875 655 16.0862500 656 16.1103125 657 16.1343750 658 16.1584375 659 16.1825000 660 16.2065625 661 16.2306250 662 16.2546875 663 1

Appendix A - System Configuration, 37' 6" MGS



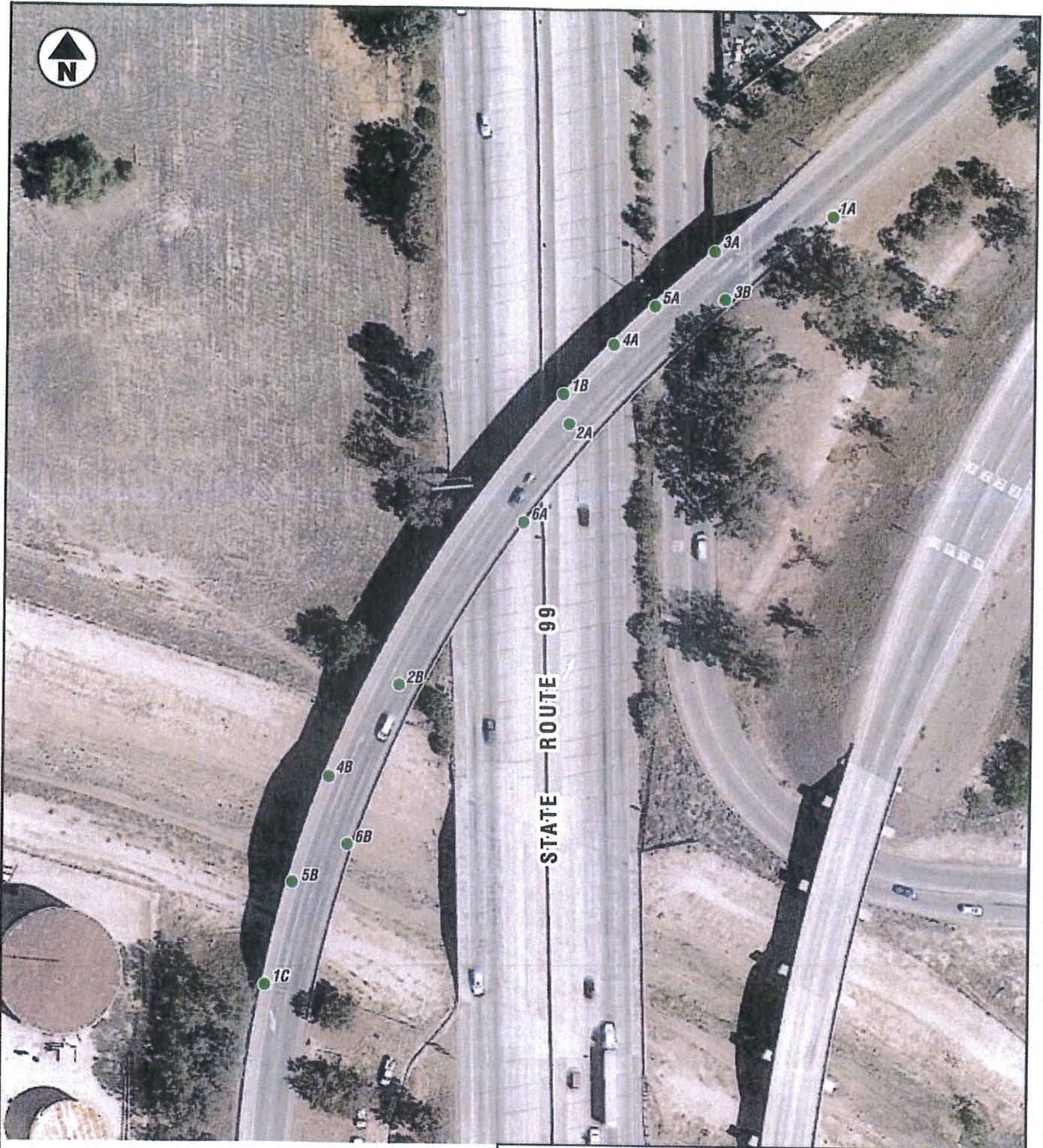
## **MATERIALS INFORMATION**

11. Asbestos and Lead-Containing Paint Survey Report

TABLE 1  
 SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS  
 STATE ROUTE 99 POST MILE 26.78 AND STATE ROUTE 178 POST MILE R1.95  
 CALTRANS CONTRACT 06A1895, TASK ORDER NO. 38, E-FIS 06-1200-0108 (EA 06-0K8101)  
 KERN COUNTY, CALIFORNIA

Bridge No.	Sample Group No.	Material Description	Approximate Quantity	Friable	Site Photos	Asbestos Content
Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116						
50-0266	1	Concrete (painted)	NA	NA	1 through 3	ND
	2	Asphalt	NA	NA	3	ND
	3	Drainpipe	NA	NA	2	ND
	4	Sheet packing (shims)	Unable to quantify	No	3	15%
	5	Thread compound	Unable to quantify	No	3	10%
	6	Joint fill material	NA	NA	3	ND
50-0326L/R/CR-1	1	Concrete (painted)	NA	NA	4 through 9	ND
	2	Asphalt	NA	NA	7	ND
	3	Joint fill material	NA	NA	6	ND

Notes:  
 NA = Not applicable (no asbestos detected)  
 ND = Not detected



LEGEND:

- Approximate Asbestos Sample Location



**GEOCON**  
CONSULTANTS, INC.

3180 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

SR-99 PM 26.78 and SR-178 PM R1.95

GEOCON Proj. No. S9800-01-38  
Task Order No. 38  
E-FIS 06-1200-0108  
EA 06-0K8101  
Caltrans Contract 06A1895

**SITE PLAN**  
**Airport Drive OC**  
**Bridge No. 50-0266**

December 2014

Figure 2A



3160 GOLD VALLEY DR. - SUITE 800 - RANCHO CORDOVA, CA 95742  
 PHONE 916.852.9118 - FAX 916.852.9132

SR-99 PM 26.78 and SR-178 PM R1.95

GEOCON Proj. No. S9800-01-38  
 Task Order No. 38  
 E-FIS 06-1200-0108  
 EA 06-0K8101  
 Caltrans Contract 06A1895

**SITE PLAN**  
**Golden State Ave. UC**  
**Bridge No.**  
**50-0326L/R/CR-1**

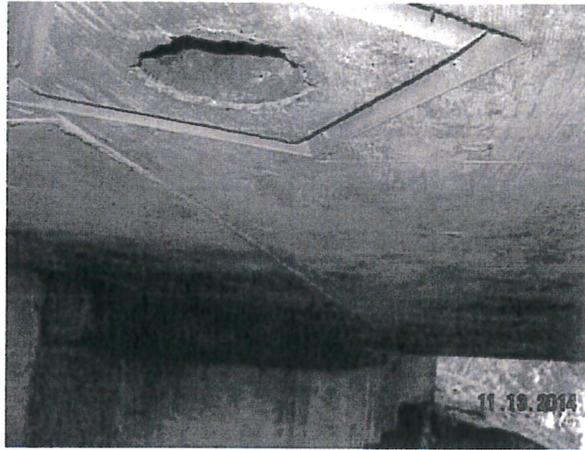
December 2014 Figure 2B



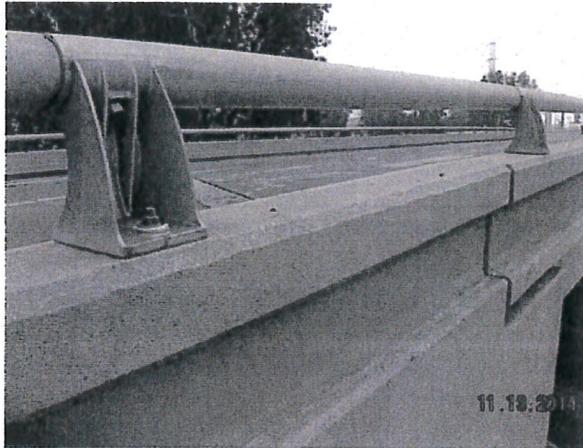
**LEGEND:**  
 ● Approximate Asbestos Sample Location



**Photo 1 – Airport Drive Overcrossing (Bridge 50-0266) at PM 26.78 on SR-99 in Kern County, California**



**Photo 2 – Bridge 50-0266 north abutment, bearings, and box girder system**



**Photo 3 – Bridge 50-0266 deck, span, and barrier system (shims and thread compound are asbestos-containing)**



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**PHOTOGRAPHS 1, 2, & 3**

SR-99 PM 26.78 and SR-178 PM R1.95

Kern County, California

S9800-01-38

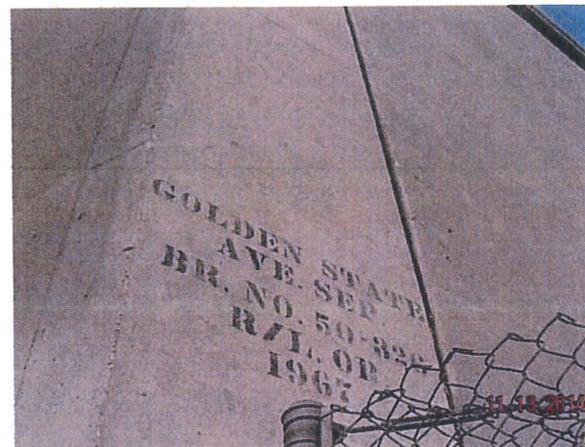
December 2014



**Photo 4 – Golden State Avenue Undercrossing (Bridge 50-0326L/R/CR-1) at PM R1.95 on SR-178 in Kern County, California**



**Photo 5 – Bridge 50-0326L/R/CR-1 concrete girders, columns, and wingwalls**



**Photo 6 – Bridge 50-0326L/R/CR-1 expansion joint**



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<b>PHOTOGRAPHS 4, 5, &amp; 6</b>		
SR-99 PM 26.78 and SR-178 PM R1.95		
Kern County, California		
S9800-01-38		December 2014



Photo 7 – Bridge 50-0326L/R/CR-1 deck and barriers

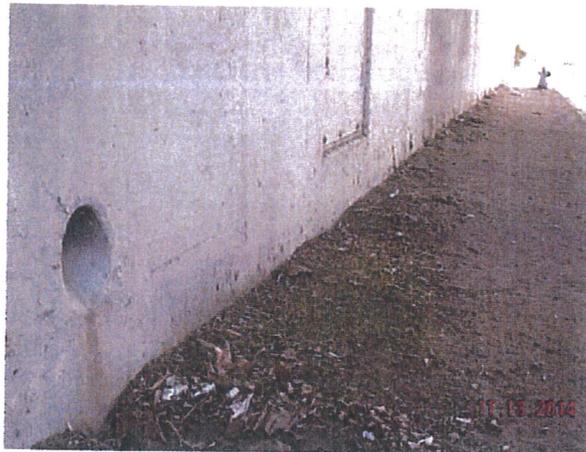


Photo 8 – Bridge 50-0326L/R/CR-1 south abutment

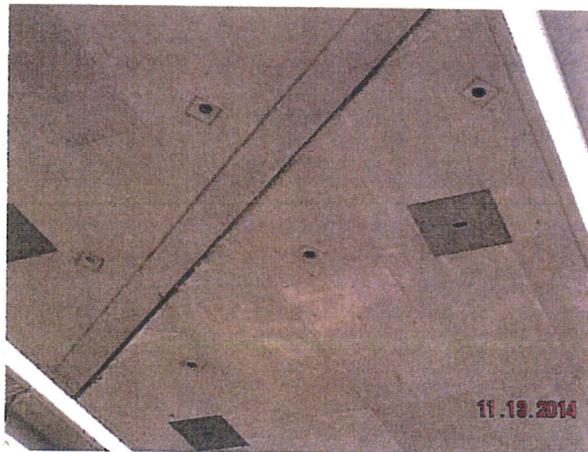


Photo 9 – Bridge 50-0326L/R/CR-1 box girder system and expansion joint



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**PHOTOGRAPHS 7, 8, & 9**

SR-99 PM 26.78 and SR-178 PM R1.95

Kern County, California

S9800-01-38

December 2014

## **MATERIALS INFORMATION**

12. List of existing traffic management system elements

LIST OF EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS

<b>Element</b>	<b>County</b>	<b>Route</b>	<b>PostMile</b>	<b>DetectorType</b>	<b>Location</b>	<b>Direction</b>	<b>Status</b>
TCS	KER	178	1.947	Hose	EB WEST OF "Q" STREET	EB	EXISTING
TCS	KER	178	1.959	Hose	WB "Q" ST	WB	EXISTING
SIGNAL	KER	178	2		178 (24TH ST.) @ Q ST.		EXISTING
CCTV	KER	99	26.78		AIRPORT DR	NB	EXISTING
VDS	KER	99	26.81		N OF AIRPORT DRIVE OC AT CCTV	NB	EXISTING