

**FOR CONTRACT NO.: 08-0N5904**

# **INFORMATION HANDOUT**

## **WATER QUALITY**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

## **PERMITS**

STATE OF CALIFORNIA  
DEPARTMENT OF FISH AND GAME

UNITED STATES ARMY CORPS OF ENGINEERS  
(Jurisdictional Determination Memo)

## **MATERIALS INFORMATION**

FOUNDATION REPORT

FOUNDATION REVIEW

FINAL HYDRAULIC REPORT

**ROUTE:** 08-SBd-40-R85.2

**Colorado River Basin Regional Water Quality Control Board**

June 26, 2012

Mr. Aaron Burton  
Department of Transportation – District 8  
464 West 4<sup>th</sup> Street, 6<sup>th</sup> Floor  
San Bernardino, CA 92401-1400

**RE: ORDER FOR TECHNICALLY-CONDITIONED CLEAN WATER ACT SECTION  
401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED  
AND/OR FILL MATERIALS**

**PROJECT:** Department of Transportation - Van Winkle Wash Bridge Replacement  
Project, WDID No. 7B363027001

**APPLICANT:** Department of Transportation – District 8

- ACTION:**
1.  Order for Standard Certification
  2.  Order for Technically-Conditioned Certification
  3.  Order for Denial of Certification

**STANDARD CONDITIONS:**

The following standard conditions apply to all certification actions, except as noted above under Action 3 for denials.

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR section 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 (Actions 1 and 2) shall be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.
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. For purposes of Clean Water Act (CWA) section 401(d), the applicability of any State law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Water Quality Certification (WQC).
  - a. In response to a suspected violation of any condition of this WQC, the Regional Water Quality Control Board (Regional Water Board) may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Regional Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
  - b. In response to any violation of the conditions of this WQC, the Regional Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

**ADDITIONAL CONDITIONS:**

The following additional conditions apply to this certification:

1. This WQC applies towards the proposed project (Project) as described in the 401 application received by the Regional Water Board on April 16, 2012 and an updated application received on June 11, 2012.
2. The Applicant shall provide the Regional Water Board and other interested agencies with written notification of any significant modifications made to the Project prior to implementation of the modifications.
3. This WQC does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
4. This WQC does not authorize the Applicant or any associated party to trespass on any land or property unless the applicant has obtained written authorization or acquired a special use authorization permit from the land or property owner.

5. A copy of this WQC shall be provided to the appropriate onsite Supervisor for the Project. All personnel performing work on the proposed Project shall be familiar with the content of this WQC. Copies of the WQC shall be readily available at the Project site at all times during periods of active work and shall be presented to regulatory agency representatives upon request.
6. The Applicant shall grant Regional Water Board staff, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to enter the Project site at reasonable times, to ensure compliance with the terms and conditions of this WQC and/or to determine the impacts the Project may have on waters of the United States.
7. The proposed Project shall not be enlarged or extend beyond the proposed Project impact area. The Applicant shall delineate the Project boundaries and staging areas with stakes, flags and/or temporary construction fencing.
8. The area of vegetation and soil disturbance shall be restricted to the smallest extent possible.
9. The Project shall not discharge substances in concentrations toxic to human, plant, animal, or aquatic life or that produce detrimental physiological responses.
10. The Project shall not discharge waste classified as "hazardous" as defined in Title 23 California Code of Regulations (CCR) section 2521, California Health and Safety Code section 25140, and Title 22, CCR, section 66260.10 et seq.
11. No oil, petroleum products, or rubbish shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the United States.
12. No equipment maintenance will be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter waters of the United States.
13. Equipment refueling shall not occur within waters of the United States.
14. Any oil or grease leaks shall be immediately cleaned up.
15. The Applicant shall ensure that all contaminated material and/or contaminated soil removed or excavated from the Project site is properly loaded, transported, and disposed of in accordance with Federal, State, and local regulations.
16. Staging/storage areas for equipment and materials shall be located outside of waters of the United States.

17. The Applicant shall ensure that all disturbed and filled areas are adequately stabilized and protected from erosion and siltation by implementing appropriate soil stabilization, sedimentation and silt control measures.
18. Any flow diversion used during construction shall be designed in a manner to prevent pollution, minimize siltation, and shall provide flows to downstream reaches. Flows shall be maintained to support existing aquatic life and riparian wetlands and habitat that may be located upstream and downstream from any temporary diversion.
19. The Applicant shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient.
20. All temporary facilities and impacts shall be removed and restored to the preexisting conditions and contours to the extent practicable.
21. Construction related materials and wastes shall be removed from the Project site upon completion of the Project.
22. The Applicant shall submit Notice to the Regional Water Board within 60-days of completion of the Project. The Notice shall include: 1) a detailed summary of the mitigation and restoration activities implemented during the Project and 2) provide photographic documentation that supports the information summarized in the Notice.
23. The Regional Water Board reserves the right to suspend, cancel, or modify and reissue this WQC, after providing notice to the Applicant and/or responsible Site-Supervisor, if the Regional Water Board determines that the Project fails to comply with any of the terms or conditions of this WQC.
24. The Applicant shall orally notify the Regional Water Board of any noncompliance that may impact the beneficial uses of waters of the United States, as soon as notification is possible and notification can be provided without substantially impeding measures necessary to address the noncompliance.

**REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:**

If you have any questions, please contact Jay Mirpour, Water Resources Control Engineer, at (760) 776-8981 or [jmirpour@waterboards.ca.gov](mailto:jmirpour@waterboards.ca.gov).

**WATER QUALITY CERTIFICATION:**

I hereby issue an order certifying that any discharge from the referenced Project will comply with the applicable provisions of sections 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, and with other applicable requirements of State law.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' Project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

*for Jose Ayala, P.E.*

ROBERT PERDUE, Executive Officer  
Colorado River Basin Regional Water Quality Control Board

JJM/

cc: Sophia C. Huynh, USACE Los Angeles, Regulatory Division  
Bill Orme, SWRCB, Division of Water Quality, Water Quality Certification Unit  
Elizabeth Goldmann, U.S. Environmental Protection Agency, Region 9  
Thomas A. Vandenberg, Office of Chief Counsel, SWRCB

File: Department of Transportation - Van Winkle Wash Bridge Replacement Project,  
WDID No. 7B363027001

**Mailing List:**

Sophia C. Huynh  
Project Manager, Transportation and Special Projects Branch  
USACE Los Angeles District, Regulatory Division  
915 Wilshire Blvd, Los Angeles, California 90017

Bill Orme (\*)  
Water Quality Certification Unit  
Division of Water Quality  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814

Elizabeth Goldmann  
Wetlands Regulatory Office  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Thomas A. Vandenberg (\*)  
Staff Counsel  
Office of Chief Counsel  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814

Note: (\*) will e-mail electronic copy

**PROJECT INFORMATION**

**Application Date:** The original application was submitted on April 16, 2012 and an updated application received on June 11, 2012.

**Applicant:** Department of Transportation – District 8  
Contact: Mr. Aaron Burton, (909) 383-2841

**Applicant Representative:** Department of Transportation – District 8  
Contact: Mr. Josh Jaffery, (909) 383-6386

**Project Name:** Department of Transportation - Van Winkle Wash Bridge Replacement Project, WDID No. 7B363027001

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**Start and Completion:** Construction will occur between February 1, 2013 and December 1, 2013.

**Project Description:** It is proposed to remove two existing bridges at Van Winkle Wash, Bridge Nos. 54-0903L/R, and replace them with two new bridges, Bridge Nos. 54-1298 L/R at the same location, construct detour roads in the median with temporary drainage pipes as well as new roadway approaches, and replace concreted- rock slope protection alongside bridge abutments on Interstate 40 (I-40) at PM R85.2, near Essex in the county of San Bernardino.

**Project Location:** City or area: Near Essex, San Bernardino County, California  
Latitude & Longitude: 34° 32' 13" North, 115° 12' 33" West  
Township/Range TSN/R14E

**Acres and Linear Feet impacted:**  
Temporary Streambed vegetated: 270 linear feet (1.33 Acres)  
Permanent Streambed vegetated 28 linear feet 76.97 square feet.

**Receiving Water(s):** Van Winkle Wash that eventually drains to either Cadiz Dry Lake or Bristol Dry Lake

**Federal Permit(s):** U.S. Army Corps of Engineers Section 404 Permit, File No. SPL-2012-00283-SCH.

**Status of CEQA:** On September 19, 2011, a Notice of Determination was prepared for this project pursuant to the provisions of CEQA.

Lead Agency: San Bernardino County Clerk of the Board of  
Supervisors, State Clearinghouse Number: 2011071070.

**CALIFORNIA DEPARTMENT OF FISH AND GAME**  
INLAND DESERTS REGION  
4665 LAMPSON AVENUE, SUITE J  
LOS ALAMITOS, CA 90720



**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION No. 1600-2012-0047-R6  
Van Winkle Wash

**CALIFORNIAN DEPARTMENT OF TRANSPORTATION**  
VAN WINKLE WASH BRIDE REPLACEMENT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and California Department of Transportation (Permittee), as represented by Mr. Scott Quinnell.

## **RECITALS**

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on April 18, 2012 that Permittee intends to complete the project described herein.

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

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

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

## **PROJECT LOCATION**

The project is located on Interstate 40 at Post Mile 85.2, east of Kelbaker Road, in San Bernardino County, State of California; Latitude 34.73393, Longitude -115.55600.

## PROJECT DESCRIPTION

The California Department of Transportation proposes to remove and replace two existing bridges at Van Winkle Wash. Work includes construction of detour roads in the median with temporary drainage pipes as well as new roadway approaches, and replace concreted-rock slope protection alongside bridge abutments. Access to the wash and storage site will be within the median. Desert tortoise fencing will be installed around the wash and work area.

## PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: desert tortoise, various lizards and snakes, smoke tree, LeConte's thrasher, smoke tree, Mojave yucca and catclaw.

The adverse effects the project could have on the fish or wildlife resources identified above include: temporary loss of 1.3 acres and the permanent loss of 76.97 square feet acres of ephemeral desert wash.

## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to DFG personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, DFG shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time to verify compliance with the Agreement.

## 2. Avoidance and Minimization Measures

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

- 2.1 The Applicant shall not remove vegetation from the project site from March 15 to September 15 to avoid impacts to nesting birds. If the Applicant intends to commence project construction during the period commencing March 15 through September 15, the Applicant shall have a qualified biologist survey all potential nesting vegetation within the project site for nesting birds, prior to project activities (including construction and/or site preparation). Surveys shall be conducted for at the appropriate time of day during the breeding season, and surveys shall end no more than three days prior to clearing. The Department shall be notified in writing prior to the start of the surveys. Documentation of surveys and findings shall be submitted to the Department within ten (10) days of the last survey. If no nesting birds were observed project activities may begin. If threatened or endangered species are observed in the area, no work shall occur during the breeding season (March 15 through September 15) to avoid direct or indirect (noise) take of listed species.
- 2.2 Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests, including raptors and other migratory nongame birds (As listed under the Migratory Bird Treaty Act).
- 2.3 If desert tortoise is found within the proposed work area the Department shall be notified. No tortoises shall be handled without obtaining a 2081 permit from the Department.
- 2.4 If any catclaws or smoke trees, with a diameter breast height of 2 inches or greater, are impacted by the project they shall be replaced at a 3:1 ratio within the wash area. If any of these trees are removed, the Department shall be notified of the number and size of each tree, prior to grading.
- 2.5 A qualified biologist shall be on-site to monitor all activities that result in the clearing or grading of sensitive habitat as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas. The Applicant shall flag the limits of grading and the jurisdictional areas, perform necessary surveys, and take photographs during the construction process, as required by this permit. The monitor is required to halt construction activities if threatened or endangered species are identified and notify the appropriate agencies immediately.

- 2.6 The qualified biologist shall monitor the desert tortoise fence weekly or during and after any rainfall.
- 2.7 Bat surveys will be conducted prior to start of construction. If bats are found to be using the bridge the Department will be notified and a construction window maybe required.
- 2.8 The Applicant shall not allow water containing mud, silt or other pollutants from grading, aggregate washing, or other activities to enter a lake or flowing stream or be placed in locations that may be subjected to high storm flows.
- 2.9 The Applicant shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Applicant to ensure compliance.
- 2.10 Spoil sites shall not be located within a stream/lake or locations that may be subjected to high storm flows, where spoil shall be washed back into a stream, or where it will impact streambed habitat, aquatic or riparian vegetation.
- 2.11 Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources, resulting from project related activities shall be prevented from contaminating the soil and/or entering the waters of the state. These materials, placed within or where they may enter a stream/lake, by Applicant or any party working under contract, or with the permission of the Applicant shall be removed immediately.
- 2.12 No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.
- 2.13 No equipment maintenance shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.

### 3. Compensatory Measures

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

- 3.1 Impacts to wash habitat will be mitigated for at a 3:1 ratio.

### 4. Reporting Measures

Permittee shall meet each reporting requirement described below.

- 4.1 The Applicant shall notify the Department, in writing, at least five (5) days prior to initiation of project activities in jurisdictional areas and at least five (5) days prior to completion of project activities in jurisdictional areas. Notification shall be sent to the Department at 4665 Lampson Avenue, Suite J, Los Alamitos, CA 90720, Attn: Lake and Streambed Alteration Team. Please reference **SAA # 1600-2012-0047-R6**.

### CONTACT INFORMATION

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

To Permittee:

Mr. Scott Quinnell  
California Department of Transportation  
464 West Fourth Street,  
San Bernardino, CA  
(909) 383-6936  
Scott.Quinnell@dot.ca.gov

To DFG:

Department of Fish and Game  
Inland Deserts Region  
407 West Line Street  
Bishop, CA 93514  
Attn: Lake and Streambed Alteration Program – Rebecca Jones  
Notification #1600-2012-0047-R6  
(661) 285-5867

rjones@dfg.ca.gov

## **LIABILITY**

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

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

## **SUSPENSION AND REVOCATION**

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

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

## **ENFORCEMENT**

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

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

## **OTHER LEGAL OBLIGATIONS**

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

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

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

#### **AMENDMENT**

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

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

#### **TRANSFER AND ASSIGNMENT**

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

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

#### **EXTENSIONS**

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

Code Regs., tit. 14, § 699.5). DFG shall process the extension request in accordance with FGC 1605(b) through (e).

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

### **EFFECTIVE DATE**

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at [http://www.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html).

### **TERM**

This Agreement shall expire on March 3, 2016, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

### **AUTHORITY**

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

### **AUTHORIZATION**

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

Notification #1600-2012-0047-R8  
Streambed Alteration Agreement  
Page 9 of 9

### CONCURRENCE

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

#### FOR CALTRANS

Scott Quinnell

Scott Quinnell

Senior Environmental Planner

6-25-12

Date

#### FOR DEPARTMENT OF FISH AND GAME

Bruce Kinney, EPM

Bruce Kinney

Deputy Regional Manager

06/27/2012

Date

Prepared by: Rebecca Jones  
Environmental Scientist



**DEPARTMENT OF THE ARMY**  
LOS ANGELES DISTRICT CORPS OF ENGINEERS  
P.O. BOX 532711  
LOS ANGELES, CALIFORNIA 90053-2325

June 6, 2012

REPLY TO  
ATTENTION OF

Office of the Chief  
Regulatory Division

Aaron Burton  
California Department of Transportation, District 8  
Attention: Josh Jaffery  
464 West 4<sup>th</sup> Street, 6<sup>th</sup> Floor  
San Bernardino, California 92401-1400

**SUBJECT:** Approved Jurisdictional Determination regarding presence/absence of geographic jurisdiction

Dear Mr. Burton:

Reference is made to your request (File No. SPL-2012-00283-SCH), dated April 16, 2012, for an approved Department of the Army jurisdictional determination (JD) for the Van Winkle Wash: Bridge Number 54-0903 L/R and 54-1298 L/R Removal and Replacement project site (34.733937°N, -115.556124°W) located near Essex, San Bernardino, California.

As you may know, the Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, then a permit is required. The first test determines whether or not the proposed project is located in a water of the United States (i.e., it is within the Corps' geographic jurisdiction). The second test determines whether or not the proposed project is a regulated activity under section 10 of the River and Harbor Act or section 404 of the Clean Water Act. As part of the evaluation process, pertaining to the first test only, we have made the jurisdictional determination below.

Based on available information, we have determined there are no waters of the United States on the project site, in the locations depicted on the enclosed drawing. The basis for our determination can be found in the enclosed JD form(s).

The aquatic resource identified as "Van Winkle Wash" on the above drawing is an intrastate, isolated water with no apparent interstate or foreign commerce connection. As such, this water is not currently regulated by the Corps of Engineers. This disclaimer of jurisdiction is only for section 404 of the Clean Water Act. Other Federal, State, and local laws may apply to your activities. In particular, you may need authorization from the California State Water Resources Control Board and/or the U.S. Fish and Wildlife Service.

This letter contains an approved jurisdictional determination for the Van Winkle Wash: Bridge Number 54-0903 L/R and 54-1298 L/R Removal and Replacement project site. If you object to this decision, you may request an administrative appeal under Corps regulations at 33

CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet (Appendix A) and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh  
Administrative Appeal Review Officer,  
U.S. Army Corps of Engineers  
South Pacific Division, CESPDPDS-O, 2042B  
1455 Market Street, San Francisco, California 94103-1399

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date on the NAP. Should you decide to submit an RFA form, it must be received at the above address by **August 5, 2012**. It is not necessary to submit an RFA form to the Division office if you do not object to the decision in this letter.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you wish to submit new information regarding the approved jurisdictional determination for this site, please submit this information to Sophia Huynh at the letterhead address by **August 5, 2012**. The Corps will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. A revised or reissued jurisdictional determination can be appealed as described above.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site identified in your request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

If you have any questions, please contact Sophia Huynh of my staff at 213-452-3357 or via e-mail at [Sophia.C.Huynh@usace.army.mil](mailto:Sophia.C.Huynh@usace.army.mil).

Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at:  
<http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,



Mark D. Cohen  
Deputy Chief, Regulatory Division

Enclosures

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL**

Applicant: Aaron Burton, Caltrans District 8		File Number: SPL-2012-283-SCH	Date: June 6, 2012
Attached is:		See Section below	
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
x	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

**SECTION II - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/cecw/pages/reg\\_materials.aspx](http://www.usace.army.mil/cecw/pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.**

- A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT:** You may accept or appeal the permit
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION**

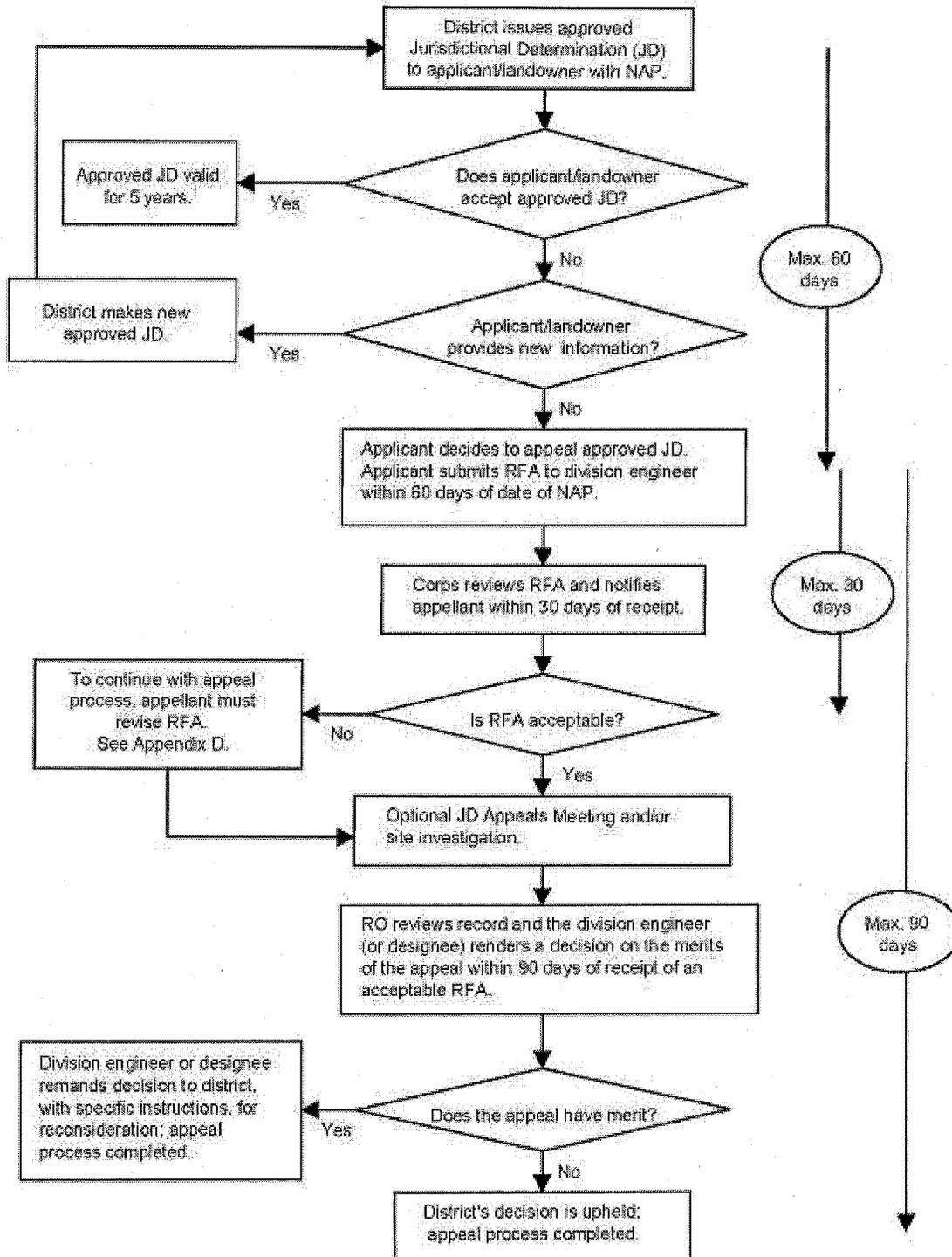
If you have questions regarding this decision and/or the appeal process you may contact:

If you only have questions regarding the appeal process you may also contact: Thomas J. Cavanaugh  
Administrative Appeal Review Officer,  
U.S. Army Corps of Engineers  
South Pacific Division  
1455 Market Street, 2052B  
San Francisco, California 94103-1399  
Phone: (415) 503-6574 Fax: (415) 503-6646  
Email: [thomas.j.cavanaugh@usace.army.mil](mailto:thomas.j.cavanaugh@usace.army.mil)

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
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### Administrative Appeal Process for Approved Jurisdictional Determinations



**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Los Angeles District, Van Winkle Wash Bridges Removal and Replacement, SPL-2012-00283-SCH

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: San Bernardino County City: N/A  
Center coordinates of site (lat/long in degree decimal format): Lat. 34.733937° **N** Long. 115.556124° **W**  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Name of watershed or Hydrologic Unit Code (HUC): Fenner HU

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: May 4, 2012

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: Pick List**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

The project is within Van Winkle Wash. Van Winkle Wash originates from the Van Winkle Mountains (34.764179, -115.5916). Van Winkle Wash is a non-RWP water defined as an ephemeral wash, approximately 370 feet long and 170 feet wide. Van

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

Winkle Mountains are emergent consolidated rocks that occur within the Fenner Valley Groundwater Basin. Surface water from Fenner Valley Groundwater Basin drains towards Schuyler Wash and southwest out of the basin beneath Fenner Gap toward Bristol and Cadiz Lakes, which are normally dry. The average annual precipitation ranges from 7 to 10 inches. Based on examination of aerial photographs of rivulets and tracking elevation changes from the project area, this non-RPW has hydrologic connectivity with Cadiz Lake and Bristol Lake.

Cadiz Lake and Bristol Lake have Approved Jurisdictional Determinations (SPL-2008-00408-SLP and SPL-2009-00450-SLP, respectively) completed stating that these are not Waters of the United States. Both Cadiz Lake and Bristol Lake are non-RPWs functioning as isolated intrastate systems, which lack the presence of a TNW. Cadiz Lake and Bristol Lake are normally dry and thus could not be used by interstate or foreign travelers for recreational or other purposes [(33 CFR 328.3(a)(i)], nor would fish or shellfish from these lakes be taken and sold in interstate or foreign commerce [(33 CFR 328.3(a)(ii)]. In addition, the use of these lakes by industries would not qualify for 33 CFR 328.3(a)(iii), "used for industrial purpose by industries in interstate commerce." Industries on Bristol Lake and Cadiz Lake do NOT utilize the lake surface waters, as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Pursuant to Corps Headquarters guidance, the industry located on the lakes does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(iii). As such, Cadiz Lake and Bristol Lake are NOT (a)(3) waters as defined by 33 CFR 328.3, as they do NOT meet criteria (a)(3)(iii), since surface waters are NOT used for industrial purpose by industries in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Bristol Lake and Cadiz Lake specifically do NOT meet criteria (a)(3)(iii) of 33 CFR 328.3

Based on the above information, the Corps concludes that this (Van Winkle Wash) non-RPW is a NON-JURISDICTIONAL water of the United States, since the non-RPW is NOT tributary to either a TNW or an (a)(3) water. The Corps makes such a conclusion since the non-RPW is a tributary to isolated lakes that does not qualify as an (a)(3) water

-Excerpt from Cadiz Lake JD-Cadiz Lake is situated within California, San Bernardino County, just southeast of Cadiz. The Lake is located within the Southern Mojave watershed, with a low elevation of approximately 541-feet and covering an area of roughly 16,640-acres. Cadiz Lake is surrounded by the Callumet Mountains to the west, the Ship Mountains to the north, the Granite Mountains/Kilbeck Hills to the east, and the Coxcomb Mountains to the south. Surface waters within the Cadiz Valley groundwater basin all drain to Cadiz Lake. Typical rainfall average in this area ranges 3- to 5-inches. Nonetheless, Cadiz Lake does experience temporary ponding. Cadiz Lake is situated south of major east-west transportation corridors, including the interstate roadway, I-40, a BNSF main rail line and National Trails Highway (Route 66), and is north of 29 Palms Highway. The Arizona & California Railroad (ARZC) line runs from its BNSF junction at Cadiz in a southeast direction, paralleling the east side of Cadiz Lake. Currently, Tetra Technologies, Inc has calcium chloride (salt) mining operations in Cadiz Lake. Tetra Technologies, Inc. is also a national/international company, with several other production sites in the U.S. and overseas. Tetra Technologies, Inc. includes calcium chloride production within their Fluids Division, which had revenues of \$293.2 million in 2008. However, the U.S. is one of the top countries for salt production, with a production of 44.5 million metric tons in 2007. With 31 companies operating facilities in 16 states, estimated domestic production in 2008 had a value of over \$1.6 billion. Cadiz Lake is also utilized by the Cadiz, Inc. company, which owns 35,000-acres of land and groundwater resources in both Cadiz and Fenner Valleys. The company's current proposed project is to store surplus Colorado River water during wet years within the Cadiz Lake aquifers, and subsequently sell both stored Colorado River water and indigenous groundwater to southern California counties. Though the lifetime of this project is planned for a 50-year period, in September 2008 Cadiz, Inc. had obtained a right-of-way lease agreement with the ARZC for a period of up to 99-years. Cadiz, Inc., including their agriculture activities, had reported revenues approximating \$1 million for 2008. Outside projections of the 50-year lifetime revenue for this project total approximately \$0.50-1.0 billion. Nationally, private water businesses total \$4.3 billion in revenues per year. Due to the national and international stature of Tetra Technologies, Inc., the strategic location of both companies and the Lake to interstate (rail and highway) transportation corridors, the scope of both of these industry activities in the U.S., and guidance from various Supreme Court cases on matters of interstate commerce, it is rational to conclude both that these salt and water mining activities at Cadiz Lake are involved with general interstate commerce and that the aggregate of these activities can have a substantial effect on general interstate commerce. HOWEVER, these industries on the lake do NOT utilize the lake surface waters. Therefore, per Corps Headquarters guidance, the industry located on the lake does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(i-iii), as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Therefore, the isolated Cadiz Lake is NOT considered as an (a)(3) water since the lake surface waters are NOT directly utilized in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Cadiz Lake specifically does NOT meet criteria (a)(3)(iii) of 33 CFR 328.3.

-Excerpt from Bristol Lake JD-Bristol Lake and its non-RPW tributaries function as an isolated intrastate system, which lacks the presence of a TNW. Moreover, Bristol Lake is NOT an (a)(3) water as defined by 33 CFR 328.3, as it does NOT meet criteria (a)(3)(iii), since surface waters are NOT used for industrial purpose by industries in interstate commerce. Bristol Lake is situated within California, San Bernardino County, immediately south of Amboy. Its shallow depth ranges 585-foot to 610-feet in elevation. The Lake covers an area exceeding 41,578-acres, with an approximate width of 7.1-miles and length of 10.7-miles. Bristol Lake is surrounded by the Bullions Mountains to the west, the Bristol/Granite/Marble/Old Dad Mountains to the north, the Marble/Calumet/Ship Mountains to the east, and the Sheep Hole/Calumet/Coxcomb Mountains to the south. Surface waters within the Bristol Valley groundwater basin all drain to Bristol Lake.

Typical rainfall average in this area ranges 3- to 5-inches. The groundwater level is near the surface of the Lake. Even in low rainfall years, Bristol Lake does experience temporary ponding. Bristol Lake is situated immediately south of major east-west transportation corridors, including the interstate roadway, 1-40, a BNSF main rail line and National Trails Highway (Route 66). A rail spur from this east-west main rail line even extends slightly south, from Saltus to the northern tip of

Bristol Lake. Mining and processing activities for calcium chloride (salt) has taken place in Bristol Lake since approximately 1909. Bristol Lake is also one of very few areas in California that naturally contains a large percentage of calcium chloride as salt. In the past, both the National Chloride Company of America and Tetra Technologies, Inc. companies have mined in Bristol and Cadiz Lakes. Tetra Technologies, Inc. is a national/international company, with several other production sites in the U.S. and overseas. Also the National Chloride Company of America in had sales from its Amboy operations, of which Bristol Lake is a component, back in 2007. Cadiz Lake is also utilized by the Cadiz, Inc. company, which owns 35,000-acres of land and groundwater resources in both Cadiz and Fenner Valleys. The company's current proposed project is to store surplus Colorado River water during wet years within the Cadiz Lake aquifers, and subsequently sell both stored Colorado River water and indigenous groundwater to south. T11 California counties. Though the lifetime of this project is planned for a 50-year period, in September 2008 Cadiz, Inc. had obtained a right-of-way lease agreement with the ARZC for a 50-year period of up to 99-years. Due to the national and international stature of Tetra Technologies, Inc., the strategic location of both companies and lake to interstate (rail and highway) transportation corridors, the scope of this industry activity in the U.S., and guidance from various Supreme Court cases on matters of interstate commerce, it is rational to conclude both that these mining activities at Bristol Lake are involved with general interstate commerce and that the aggregate of these mining activities can have a substantial effect on general interstate commerce. HOWEVER, these industries on the Bristol lake do NOT utilize the lake surface waters. Therefore, per Corps Headquarters guidance, the industry located on the lake does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(i-iii), as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Therefore, the isolated Cadiz Lake is NOT considered as an (a)(3) water since the lake surface waters are NOT directly utilized in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Cadiz Lake specifically does NOT meet criteria (a)(3)(i;iii) of 33 CFR

328.3.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List

Drainage area: Pick List

Average annual rainfall: \_\_\_\_\_ inches

Average annual snowfall: \_\_\_\_\_ inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through Pick List tributaries before entering TNW.

Project waters are Pick List river miles from TNW.

Project waters are Pick List river miles from RPW.

Project waters are Pick List aerial (straight) miles from TNW.

Project waters are Pick List aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known:

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width:            feet  
Average depth:           feet  
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):

Silts                       Sands                       Concrete  
 Cobbles                  Gravel                    Muck  
 Bedrock                  Vegetation. Type/% cover:  
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Pick List

Tributary gradient (approximate average slope):            %

(c) Flow:

Tributary provides for: Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime:

Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  
 changes in the character of soil  
 shelving  
 vegetation matted down, bent, or absent  
 leaf litter disturbed or washed away  
 sediment deposition  
 water staining  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain:

the presence of litter and debris  
 destruction of terrestrial vegetation  
 the presence of wrack line  
 sediment sorting  
 scour  
 multiple observed or predicted flow events  
 abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:            Mean High Water Mark indicated by:  
 oil or scum line along shore objects    survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics        vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.

Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters:

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:  
  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain:  
 Other factors. Explain:

**Identify water body and summarize rationale supporting determination:**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.



www.water.ca.gov%2Fpubs%2Fgroundwater%2Fbulletin\_118%2Fbasindescriptions%2F7-8.pdf&ei=SO2iT\_7kEIXkiALi-

c3IDA&usg=AFQjCNHkReWhA2wm5si6DbwDagXl3AwHJW

Cadiz Valley Groundwater Basin:

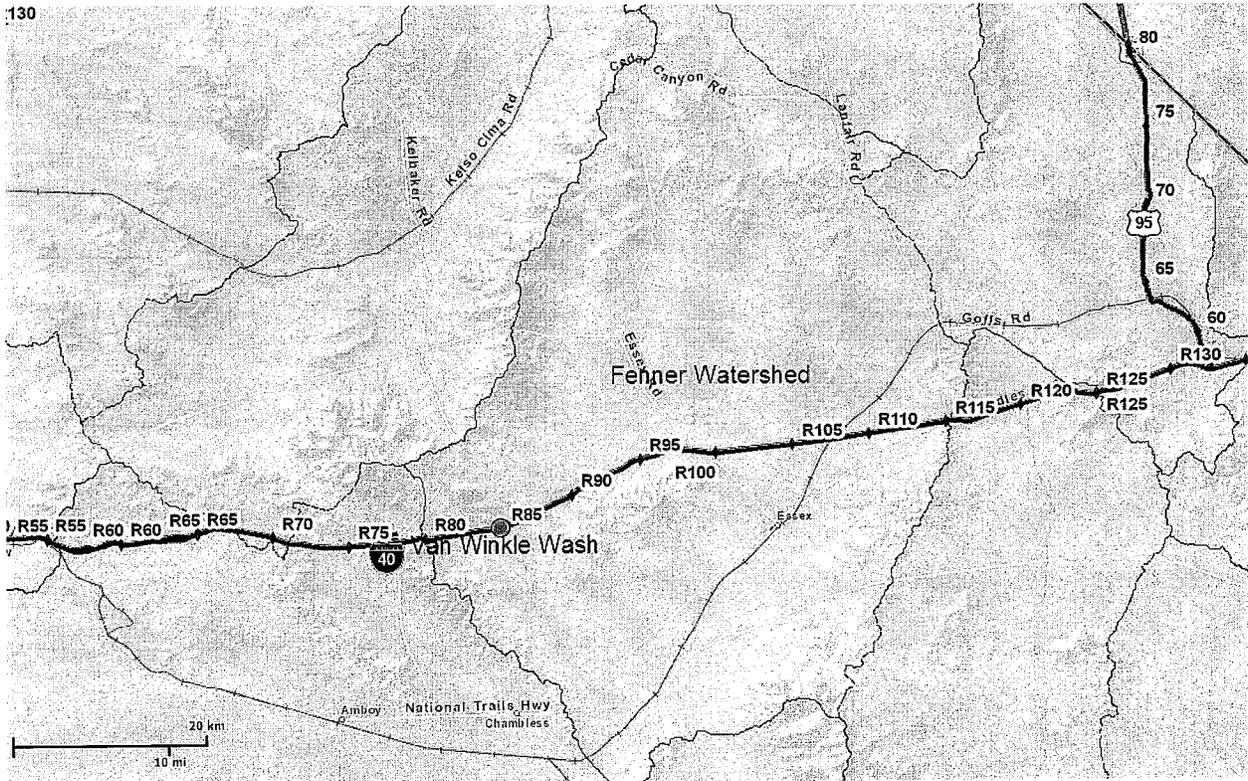
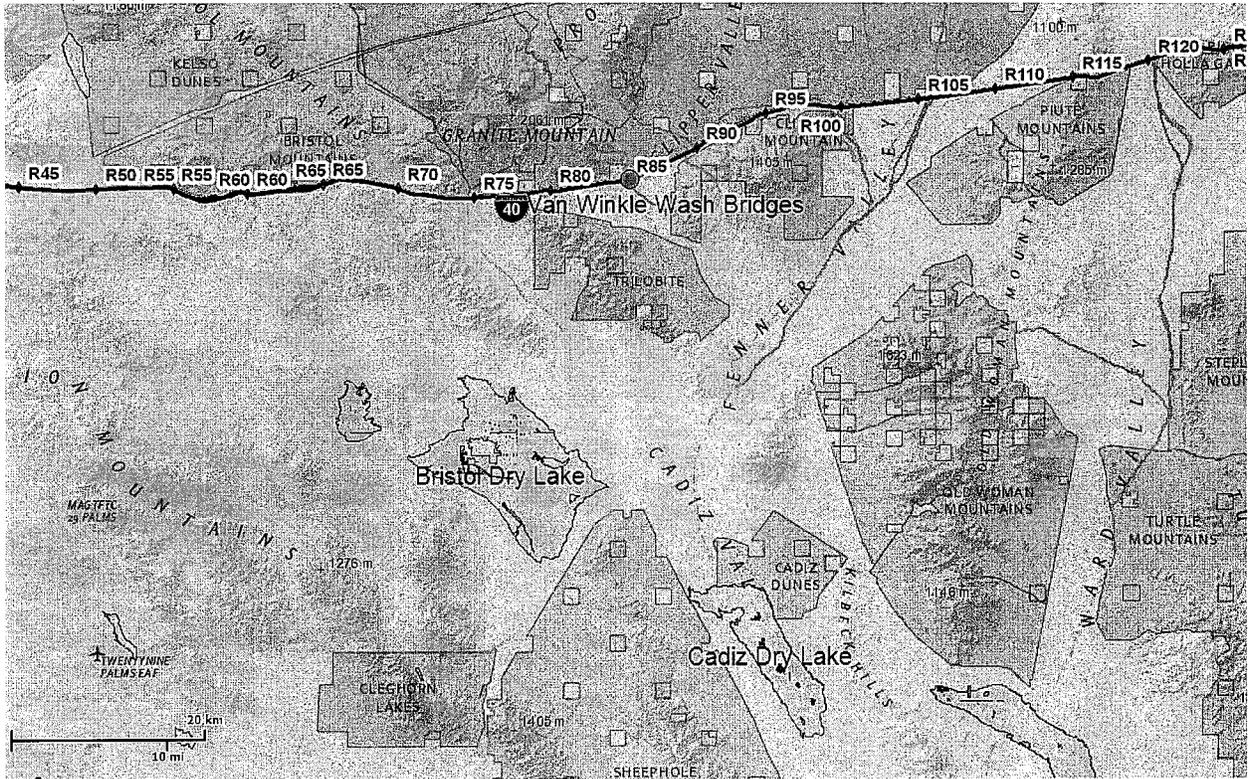
http://www.google.com/url?sa=t&rct=j&q=Cadiz+Valley+groundwater+basin&source=web&cd=1&ved=0CCIQFjAA&url=http%3A%2F%2Fwww.water.ca.gov%2Fpubs%2Fgroundwater%2Fbulletin\_118%2Fbasindescriptions%2F7-7.pdf&ei=pu6iT-P2EueyiQKA6MyKDQ&usg=AFQjCNFN7gwbPWILg7EV0HiE2lSn\_otq6Q.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** The project is within Van Winkle Wash. Van Winkle Wash originates from the Van Winkle Mountains (34.764179, -115.5916). Van Winkle Wash is a non-RWP water defined as an ephemeral wash, approximately 370 feet long and 170 feet wide. The Van Winkle Mountains are emergent consolidated rocks that occur within the Fenner Valley Groundwater Basin. Surface water from Fenner Valley Groundwater Basin drains towards Schuyler Wash and southwest out of the basin beneath Fenner Gap toward Bristol and Cadiz Lakes, which are normally dry. Based on examination of aerial photographs of rivulets and tracking elevation changes from the project area, this non-RPW has hydrologic connectivity with Cadiz Lake and Bristol Lake. Cadiz Lake and Bristol Lake have Approved Jurisdictional Determination (SPL-2008-00408-SLP and SPL-2009-00450-SLP, respectively) completed stating that these are not Waters of the United States. Both Cadiz Lake and Bristol Lake are both non-RPWs functioning as isolated intrastate systems, which lack the presence of a TNW. Cadiz Lake and Bristol Lake are normally dry and thus could not be used by interstate or foreign travelers for recreational or other purposes [(33 CFR 328.3(a)(i)], nor would fish or shellfish from these lakes be taken and sold in interstate or foreign commerce [(33 CFR 328.3(a)(ii)]. In addition, the use of these lakes by industries would not qualify for 33 CFR 328.3(a)(iii), "used for industrial purpose by industries in interstate commerce." Industries on Bristol Lake and Cadiz Lake do NOT utilize the lake surface waters, as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Pursuant to Corps Headquarters guidance, the industry located on the lakes does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(iii). As such, Cadiz Lake and Bristol Lake are NOT (a)(3) waters as defined by 33 CFR 328.3, as they do NOT meet criteria (a)(3)(iii), since surface waters are NOT used for industrial purpose by industries in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Bristol Lake and Cadiz Lake specifically do NOT meet criteria (a)(3)(iii) of 33 CFR 328.3.

-Excerpt from Cadiz Lake JD-Cadiz Lake is situated within California, San Bernardino County, just southeast of Cadiz. The Lake is located within the Southern Mojave watershed, with a low elevation of approximately 541-feet and covering an area of roughly 16,640-acres. Cadiz Lake is surrounded by the Callumet Mountains to the west, the Ship Mountains to the north, the Granite Mountains/Kilbeck Hills to the east, and the Coxcomb Mountains to the south. Surface waters within the Cadiz Valley groundwater basin all drain to Cadiz Lake. Typical rainfall average in this area ranges 3- to 5-inches. Nonetheless, Cadiz Lake does experience temporary ponding. Cadiz Lake is situated south of major east-west transportation corridors, including the interstate roadway, I-40, a BNSF main rail line and National Trails Highway (Route 66), and is north of 29 Palms Highway. The Arizona & California Railroad (ARZC) line runs from its BNSF junction at Cadiz in a southeast direction, paralleling the east side of Cadiz Lake. Currently, Tetra Technologies, Inc has calcium chloride (salt) mining operations in Cadiz Lake. Tetra Technologies, Inc. is also a national/international company, with several other production sites in the U.S. and overseas. Tetra Technologies, Inc. includes calcium chloride production within their Fluids Division, which had revenues of \$293.2 million in 2008. However, the U.S. is one of the top countries for salt production, with a production of 44.5 million metric tons in 2007. With 31 companies operating facilities in 16 states, estimated domestic production in 2008 had a value of over \$1.6 billion. Cadiz Lake is also utilized by the Cadiz, Inc. company, which owns 35,000-acres of land and groundwater resources in both Cadiz and Fenner Valleys. The company's current proposed project is to store surplus Colorado River water during wet years within the Cadiz Lake aquifers, and subsequently sell both stored Colorado River water and indigenous groundwater to southern California counties. Though the lifetime of this project is planned for a 50-year period, in September 2008 Cadiz, Inc. had obtained a right-of-way lease agreement with the ARZC for a period of up to 99-years. Cadiz, Inc., including their agriculture activities, had reported revenues approximating \$1 million for 2008. Outside projections of the 50-year lifetime revenue for this project total approximately \$0.50-1.0 billion. Nationally, private water businesses total \$4.3 billion in revenues per year. Due to the national and international stature of Tetra Technologies, Inc., the strategic location of both companies and the Lake to interstate (rail and highway) transportation corridors, the scope of both of these industry activities in the U.S., and guidance from various Supreme Court cases on matters of interstate commerce, it is rational to conclude both that these salt and water mining activities at Cadiz Lake are involved with general interstate commerce and that the aggregate of these activities can have a substantial effect on general interstate commerce. HOWEVER, these industries on the lake do NOT utilize the lake surface waters. Therefore, per Corps Headquarters guidance, the industry located on the lake does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(i-iii), as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Therefore, the isolated Cadiz Lake is NOT considered as an (a)(3) water since the lake surface waters are NOT directly utilized in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Cadiz Lake specifically does NOT meet criteria (a)(3)(iii) of 33 CFR 328.3.

-Excerpt from Bristol Lake JD-Bristol Lake and its non-RPW tributaries function as an isolated intrastate system, which lacks the presence of a TNW. Moreover, Bristol Lake is NOT an (a)(3) water as defined by 33 CFR 328.3, as it does NOT meet criteria (a)(3)(iii), since surface waters are NOT used for industrial purpose by industries in interstate commerce. Bristol Lake is situated within California, San Bernardino County, immediately south of Amboy. Its shallow depth ranges 585-foot to 610-feet in elevation. The Lake covers an area exceeding 41,578-acres, with an approximate width of 7.1-miles and length of 10.7-miles. Bristol Lake is surrounded by the Bullions Mountains to the west, the Bristol/Granite/Marble/Old Dad Mountains to the north, the Marble/Calumet/Ship Mountains to the east, and the Sheep Hole/Calumet/Coxcomb Mountains to the south. Surface waters within the Bristol Valley groundwater basin all drain to Bristol Lake. Typical rainfall average in this area ranges 3- to 5-inches. The groundwater level is near the surface of the Lake. Even in low rainfall years, Bristol Lake does experience temporary ponding. Bristol Lake is situated immediately south of major east-west transportation corridors, including the interstate roadway, I-40, a BNSF main rail line and National Trails Highway (Route 66). A rail spur from this east-west main rail line even extends slightly south, from Saltus to the northern tip of Bristol Lake. Mining and processing activities for calcium chloride (salt) has taken place in Bristol Lake since approximately 1909. Bristol Lake is also one of very few areas in California that naturally

contains a large percentage of calcium chloride as salt. In the past, both the National Chloride Company of America and Tetra Technologies, Inc. companies have mined in Bristol and Cadiz Lakes. Tetra Technologies, Inc. is an national/international company, with several other production sites in the U.S. and overseas. Also the National Chloride Company of America in had sales from its Amboy operations, of which Bristol Lake is a component, back in 2007. Cadiz Lake is also utilized by the Cadiz, Inc. company, which owns 35,000-acres of land and groundwater resources in both Cadiz and Fenner Valleys. The company's current proposed project is to store surplus Colorado River water during wet years within the Cadiz Lake aquifers, and subsequently sell both stored Colorado River water and indigenous groundwater to southl. TII California counties. Though the lifetime of this project is planned for a 50-year period, in September 2008 Cadiz, Inc. had obtained a right-of-way lease agreement with the ARZC for a 50-year period of up to 99-years. Due to the national and international stature of Tetra Technologies, Inc., the strategic location of both companies and lake to interstate (rail and highway) transportation corridors, the scope of this industry activity in the U.S., and guidance from various Supreme Court cases on matters of interstate commerce, it is rational to conclude both that these mining activities at Bristol Lake are involved with general interstate commerce and that the aggregate of these mining activities can have a substantial effect on general interstate commerce. HOWEVER, these industries on the Bristol lake do NOT utilize the lake surface waters. Therefore, per Corps Headquarters guidance, the industry located on the lake does NOT qualify as interstate commerce under 33 CFR 328.3 (a)(3)(i-iii), as the Clean Water Act is a surface water law and does NOT include industry that only utilizes groundwater. Therefore, the isolated Cadiz Lake is NOT considered as an (a)(3) water since the lake surface waters are NOT directly utilized in interstate commerce. In addition to criteria (a)(3)(i-ii) of 33 CFR 328.3, Cadiz Lake specifically does NOT meet criteria (a)(3)(i;iii) of 33 CFR 328.3.



# Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. HOWARD NG  
Branch Chief  
Bridge Design Branch 20  
Office of Bridge Design South-2

**Date:** December 27, 2011

**File:** 08-SBD-40-PM85.21  
08-0N5900  
Van Winkle Wash  
Bridges  
Bridge No. 54-1298 R/L  
Replacement  
0800000533

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
Geotechnical Services  
Office of Geotechnical Design South 2

**Subject:** Foundation Report

The Office of Bridge Design, Branch 20, has requested a final foundation report for the replacement of Van Winkle Wash Bridge, Bridge 54-0903 R/L (new 54-1298R/L), on Highway 40 in San Bernardino County.

The recommendations provided in this report are based on the Request for Final Foundation Report dated September 6, 2011, and the borings completed from November 1 to November 10 of 2011 and December 12 and 13, 1968.

## **Project Description/History**

The bridges were built in 1973. They are four-span continuous RC box girder with RC pier walls and RC open end diaphragm abutments. The bents and abutments are supported on spread footings.

All elevations referenced within this report and shown on the Log of Test Borings (LOTB) sheets are based on the 1929 National Geodetic Vertical Datum (NGVD29).

## **Geology**

The project site is located in a shallow wash that has cut into an alluvial fan of volcanic and granitic detritus. Large cobbles and boulders, possibly from a nearby lava flow, are represented within the wash. Granitic material makes up the sand matrix.

The site is located near the border of the Mojave Desert Geomorphic Province and the Basin and Range Province. The project area is within a broad interior region of isolated mountain ranges separated by desert plains characterized by internal drainage.

The site is underlain by very dense sand and gravel. Cobbles and/or boulders were present sporadically. Areas of clay and/or silt were also noted sporadically.

### **Ground Water**

Ground water was not encountered during the entire depth of the investigation, which was to an elevation of approximately 2597 feet, approximately 101 feet in depth. This may vary seasonally and with recent rainfall totals. It is likely to be regionally perched water with elevation dependant on recent rainfall and/or flow in the channel. Although no such properties were seen during the site investigation, it is possible to have localized irrigation, either by saturation of adjacent properties or drawdown by pumping of adjacent properties.

### **Scour**

Total scour was determined to be at an elevation of 2675.5 feet for the left bridge and an elevation of 2669.5 feet for the right bridge (information provided by Structure Hydraulic and Hydrology Final Hydraulic Report). The footings will be below this depth. Long-term degradation is estimated to be 2 feet. No contraction scour is predicted. Local scour depth is estimated to be 10.5 feet. Total scour depth is estimated to be 12.5 feet.

The subsurface investigation, performed in 2011, generally revealed potentially scourable alluvial material consisting of granitic sand and silt with larger cobbles and boulders. At the proposed bent locations.

### **Seismic Data**

Based on the 2007 Caltrans fault database, the site is located approximately 67 km from the Pisgah-Bullion fault zone, East Bullion section, (Fault ID 238,  $M_{\max} = 7.3$ , right lateral strike-slip, dip angle = 90 degrees), which is the controlling fault for the deterministic seismic procedure. The deterministic peak ground acceleration is estimated at 0.2 g.

Based on the 2009 Seismic Design Criteria, the design response spectrum is based on the upper envelope of a deterministic and probabilistic response spectrum, but not to be less than a deterministic response spectrum for a vertical strike-slip fault of  $M_{\max} = 6.5$  at a distance of approximately 12 km. The deterministic spectrum is obtained as the arithmetic average of median response spectra calculated using the 2008 Campbell-Bozorgnia and 2008 Chiou-Youngs ground motion prediction equations. The probabilistic response spectrum is obtained from the 2008 USGS Seismic Hazard Map

(Petersen et al, 2008) for the 5% in 50 years probability of exceedance. Digital values of the acceleration response spectrum (ARS curve) recommended for preliminary design are shown below.

#### Site Specific ARS Curve

Period (sec)	ARS (g)
0.01	0.219
0.02	0.223
0.03	0.237
0.05	0.283
0.075	0.359
0.1	0.428
0.15	0.508
0.2	0.529
0.25	0.493
0.3	0.464
0.4	0.406
0.5	0.347
0.75	0.236
1	0.192
1.5	0.137
2	0.108
3	0.070
4	0.050
5	0.042

#### Recommended ARS

The soil profile at this site is classified as Type C. The average shear wave velocity for the upper 100 feet of subsurface materials is estimated as  $V_{s30}=450$  m/s based on available subsurface information.. The recommended Acceleration Response Spectrum (ARS) is attached.

The design ARS is the upper envelope of the deterministic response spectrum (for approximately  $T > 0.6$  sec) and the minimum deterministic spectrum. The deterministic response spectrum controls the design of this structure and the peak horizontal ground acceleration is 0.22 g.

The site is not considered prone to surface rupture due to fault movement since there are no known faults projecting towards or passing through the project site. The site is not located within any Alquist-Priolo Fault Rupture Hazard Zone.

### Corrosion

Corrosion test results for soil samples collected from borings R-11-001 and R-11-004 are shown below. Caltrans currently defines a corrosive environment as an area where the soil has either a chloride concentration of 500 ppm or greater, a sulfate concentration of 2000 ppm or greater, or has a pH of 5.5 or less. With the exception of MSE walls, soil and water are not tested for chlorides and sulfates if the minimum resistivity is greater than 1,000 ohm-cm. Both of the soil samples tested are considered non-corrosive by current Caltrans standards.

#### Corrosion Test Summary

Location	pH	Minimum Resistivity (Ohm-Cm)	Sulfate Content (ppm)	Chloride Content (ppm)
Boring R-11-001 Elev. 2693.6 – 2668.6 ft	8.58	2558.75		
Boring R-11-004 Elev. 2694.9 – 2669.9 ft	8.86	3616		

### Liquefaction

Due to the depth of the water table, liquefaction is not anticipated.

### Settlement

Settlement induced by the construction is expected. With the given loads overall settlement should be less than one inch while the differential settlement should be less than a half inch.

### Foundation Recommendations

The abutment foundations will consist of CIDH piles. The bents foundations will consist of spread footings.

**Spread Footing Design Information Provided by the Structure Designer**

Support Location	Bottom of Footing Elevation (ft)	Footing Size (ft)		Permissible Settlement Under Service Load	Service Limit State I					
					Total Load			Permanent Load		
		B	L		Vertical Load (kips)**	Effective Dimension (ft)		Vertical Load (kips)**	Effective Dimensions (ft)	
						B'	L'		B'	L'
Bent 2 Right Bridge	2666	14.0	14.0	One inch	1210	13.0	13.4	730	13.7	13.8
Bent 3 Right Bridge	2666	14.0	14.0	One inch	1210	13.0	13.4	730	13.7	13.8
Bent 2 Left Bridge	2673	14.0	14.0	One inch	1210	13.0	13.4	730	13.7	13.8
Bent 3 Left Bridge	2673	14.0	14.0	One inch	1210	13.0	13.4	730	13.7	13.8

\*\*Net Load effect only=Gross Load-Overburden Load, Overburden load = 433 kips

**LRFD Strength and Extreme Event Limit States Provided by the Structure Designer**

Support Number	Strength Limit State (Controlling Group)			Extreme Event Limit State (Controlling Group)		
	Vertical Load (kip)	Effective Dimensions (ft)		Vertical Load (kip)	Effective Dimensions (ft)	
		B'	L'		B'	L'
Bent 2 (Right Bridge)	2500	13.5	13.5	1210	10.6	12.6
Bent 3 (Right Bridge)	2500	13.5	13.5	1210	10.6	12.6
Bent 2 (Left Bridge)	2500	13.5	13.5	1210	10.6	12.6
Bent 3 (Left Bridge)	2500	13.5	13.5	1210	10.6	12.6

Support Location	Extreme Event Limit State (Controlling Group) Extreme II		
	Vertical Load (kips)	Effective Dimensions (ft)	
		B'	L'
Bent 2 (Right Bridge)	1450	13.4	13.6
Bent 3 (Right Bridge)	1450	13.4	13.6
Bent 2 (Left Bridge)	1450	13.4	13.6
Bent 3 (Left Bridge)	1450	13.4	13.6

The recommended Factored Gross Nominal Bearing Resistances and bottom of footing elevations for Bents 2 and 3 are listed below.

**Bents 2 and 3 LRFD Spread Footing Recommendations**

Support Location	Controlling Case Footing Size (ft)		Bottom of Footing Elevation (ft)	Total Permissible Support Settlement (in)	Service Limit State	Strength Limit State ( $\phi_b=0.45$ )	Extreme Event Limit State ( $\phi_b=1.0$ ) (seismic)	Extreme Event Limit State ( $\phi_b=1.0$ ) (scour)
	B	L			Permissible Net Contact Stress (ksf)	Factored Gross Nominal Bearing Resistance (ksf)	Factored Gross Nominal Bearing Resistance (ksf)	Factored Gross Nominal Bearing Resistance (ksf)
Bent 2 (Right Bridge)	14.0	14.0	2666	1	23	19	54	29
Bent 3 (Right Bridge)	14.0	14.0	2666	1	23	19	54	29
Bent 2 (Left Bridge)	14.0	14.0	2673	1	23	19	54	29
Bent 3 (Left Bridge)	14.0	14.0	2673	1	23	19	54	29

**CIDH DATA for Bridge 54-1298R/L**

Location	Pile Type	Cut Off Elevation	Design Loading	Nominal Resistance		Design Tip Elevation	Specified Design Tip Elevation
				Compression	Tension		
Abutment 1 (Right Bridge)	24 inch CIDH	2685 feet	180 kips	360 kips	-	2655 ft	2655 ft
Abutment 4 (Right Bridge)	24 inch CIDH	2685 feet	180 kips	360 kips	-	2655 ft	2655 ft
Abutment 1 (Left Bridge)	24 inch CIDH	2692 feet	180 kips	360 kips	-	2662 ft	2662 ft
Abutment 4 (Left Bridge)	24 inch CIDH	2692 feet	180 kips	360 kips	-	2662 ft	2662 ft

Note: Piles specified tip elevations are controlled by compression.

**Construction Considerations**

**Spread Footings**

During spread footing construction, obstructions, consisting partially of gravel and cobbles, are likely to be encountered while excavating through the overlying sediment.

Quality control should be practiced to ensure that the bottom of the footing excavation is level and clear of any loose debris. Should any large rock, concrete, rebar or other objects, be found in (not consistent with Standard Specifications) at the bottom of excavation elevations, the contractor should be prepared to remove, and replace them with granular material at 95 percent RC or lean concrete. These soils are to be moisture conditioned if necessary and compacted to at least 95 percent of the maximum dry density.

#### CIDH

Temporary casing may be necessary to control caving during construction. Use of temporary casings shall conform to Standard Specifications 49-3.02C(3). All temporary casing is to be removed during concrete placement.

The contractor should anticipate both gravel and soil drilling conditions across the bridge site. The amount of difficulty the contractor will experience will be dependent upon the methods and means the contractor chooses to construct the CIDH piles. The field investigation was of a limited extent. It is probable, despite the fact that this is not shown in the "Log of Test Borings", that cobbles and gravel may be encountered at any depth of excavation. Cobbles encountered during excavation are to be removed. Drilling chatter likely indicated the presence of hard cobbles, which would be a reasonable assumption considering the surrounding geology. This should be anticipated in the design of the drilling program for CIDH construction.

When CIDH piles are to be constructed at a center-to-center spacing of 2.5B or less, the following construction consideration is to be required:

Within a support location, no piles shall be constructed (i.e. concrete poured) immediately adjacent to recently constructed CIDH piles until the adjacent (recently constructed) CIDH piles have cured for a minimum period of 48 hours.

#### **General Notes:**

All elevations are based on NGVD29.

Recommendations are based on the foundation geometry and load data provided by Structure Design in the Foundation Design Data Sheet.

HOWARD NG  
December 27, 2011  
Page 8

Van Winkle Wash Bridges  
54-1298R/L  
800000533

If you have any questions or need additional information, please call Bill Levine at 916-227-0505 or Angel Perez-Cobo at 916-227-7167.



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Bill Levine  
Engineering Geologist  
Geotechnical Design-South 2  
Design Branch A



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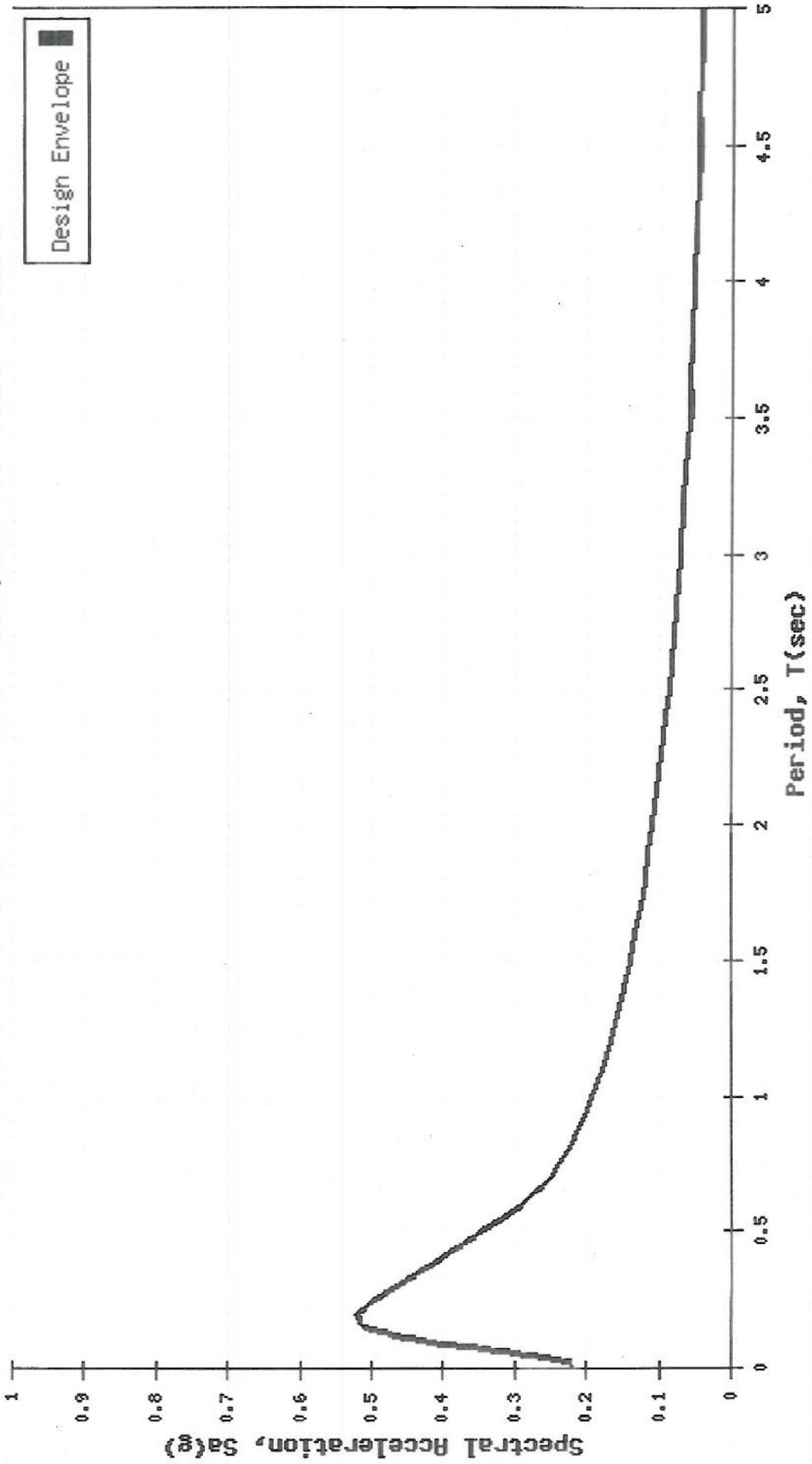
Angel Perez-Cobo  
Senior Engineer  
Geotechnical Design-South 2  
Design Branch A

cc: APerez-Cobo  
BLevine  
JTien  
[RE Pending File@dot.ca.gov](mailto:RE_Pending_File@dot.ca.gov)  
District Materials Engineer  
DES Office Engineer, Office of PS&E  
SRajendra

Attachment:  
ARS Curve



Location: LAT=34.733713 LONG=-115.556495 Vs30=450m/s



FOUNDATION REVIEW

DIVISION OF ENGINEERING SERVICES  
 GEOTECHNICAL SERVICES

- To: Structure Design
1. Design
  2. R.E. Pending File
  3. Specifications & Estimates
  4. File

Date: 3/7/02

Van Winkle Wash Br.  
 Structure Name

08 - SBd - 040 - 85.2  
 District County Route km-Post  
 m.

- Geotechnical Services
1. GD - North ; South ; West
  2. GS File Room

District Project Development District Project Engineer 533  
08-015901 E.A. Number 54-1298 4R Structure Number

Foundation Report By: B. Lewis (Apo Lab) Dated: 12/10/01  
 Reviewed By: D. Worku (SD) R. Price (GS)  
 General Plan Dated: 12/12/01 Foundation Plan Dated: 12/10/01

No changes.  The following changes are necessary.

FOUNDATION CHECKLIST

- |  |   |  |
|--|---|--|
| <p><input checked="" type="checkbox"/> Pile Types and Design Loads</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Pile Lengths</li> <li><input checked="" type="checkbox"/> Predrilling</li> <li><input checked="" type="checkbox"/> Pile Load Test</li> <li><input checked="" type="checkbox"/> Substitution of H Piles For Concrete Piles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</li> </ul> | <p><input checked="" type="checkbox"/> Footing Elevations, Design Loads, and Locations</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Seismic Data</li> <li><input checked="" type="checkbox"/> Location of Adjacent Structures and Utilities</li> <li><input checked="" type="checkbox"/> Stability of Cuts or Fills</li> <li><input checked="" type="checkbox"/> Fill Time Delay</li> </ul> | <p><input checked="" type="checkbox"/> Effect of Fills on Abutments and Bents</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Fill Surcharge</li> <li><input checked="" type="checkbox"/> Approach Paving Slabs</li> <li><input checked="" type="checkbox"/> Scour</li> <li><input checked="" type="checkbox"/> Ground Water</li> <li><input checked="" type="checkbox"/> Tremie Seals/Type D Excavation</li> </ul> |
|--|---|--|

[Signature]  
 Structure Design Bridge Design Branch No. 20  
 Rev. 06/02

[Signature]  
 Geotechnical Services

# STRUCTURE HYDRAULICS & HYDROLOGY UPDATED FINAL HYDRAULIC REPORT

## Van Winkle Wash Bridges

Located approximately 8 miles east of Kelbaker Road  
on State Route 40 over Van Winkle Wash in San Bernardino County

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**JOB:**

Bridge No. 54-0903 L/R (Existing)  
Bridge No. 54-1298 L/R (Replacement)

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**LOCATION:**

08-SBD-040-PM R85.19

Project No. 0800000533

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**WRITTEN BY:**

Diane O'Brien

**DATE:**

March 30, 2012

---

**REVIEWED BY:**

Ronald McGaugh

**DATE:**

March 30, 2012

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Van Winkle Wash  
Br. No. 54-1298 L/R  
08-SBD-040-PM R85.19  
Project No. 0800000533

## Hydrology/Hydraulics Report

### Update

This Updated FHR includes two additional items that were not addressed in the Original FHR dated December 19, 2011 – the Peak Velocity and the Overtopping Flood. In addition, the abutment scour elevations have been changed.

### General

It is proposed to replace the existing eastbound and westbound bridges over Van Winkle Wash (Bridge No. 54-0903 L/R) due to structural deterioration. The structures were built in 1973 and are both four-span continuous reinforced concrete box girders on reinforced concrete pier walls and short diaphragm abutments, all supported on spread footings. The current Left and Right Bridges are 249'-10-1/2" long and 248'-1-1/2" long, respectively. Both bridges are 42 feet wide with a 29.4 degree bridge skew.

The proposed new structures, Bridge No. 54-1298 L/R, are three-span precast prestressed Bulb Tee girders on 3.5-foot-diameter columns supported on 16' x 16', 3-foot-high spread footings. The center to center spacing between the two columns at each pier is 30 feet. The short seat type abutments are on spread footings on piles. The proposed Left Bridge is 250' long and the proposed Right Bridge is 248'-3" long. Both bridges are 42'-11-1/2" wide with a 29.4 degree bridge skew.

All calculated elevations in this report are based on the Vertical Datum NGVD29.

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## **Basin**

The watershed is entirely within the Mojave National Preserve. The watershed above the bridges drains the Van Winkle Mountains, a portion of the Granite Mountains, and their alluvial fans. Elevations range from approximately 2700 feet at the bridge site to over 5900 feet in the Granite Mountains. The mountainous portions of the watershed are steep and rocky. The alluvium is granitic sand with rock strewn in the lower reaches. Runoff is rapid from the mountains and alluvial fans.

The watershed is undeveloped desert. The predominant natural plant community is Creosote bush series on hills, pediments, and fans. The land north of I-40 is under the jurisdiction of the National Park Service. South of I-40 is under the jurisdiction of the Bureau of Land Management Needles Field Office. The land around the bridge is currently being leased by a rancher.

Earthen dikes were constructed upstream to direct runoff and eventually guide flow to Van Winkle Wash and under the bridge. The dikes and access roads to maintain them were authorized to the California DOT, under grant R2285 indefinitely, under the Federal Aid Highways Act. Structure Hydraulics was unable to obtain a copy of the As-Builts for these structures.

The drainage area is approximately 20 mi<sup>2</sup>. The Mean Annual Precipitation for the basin as a whole is 8.3 inches.

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## Discharge

Van Winkle Wash is an ungaged watershed. There is no information about a flood of record. Watershed Modeling System (WMS) 8.4 was used to assist in the estimation of the 100-year and 50-year discharges at the Van Winkle Wash bridge site for this Final Hydraulic Report. The Q100 for both the 24-hour general storm and the 6-hour local thunderstorm were computed. The 6-hour local thunderstorm produced the highest peak discharge. The Q100 and Q50 discharges for the 6-hour local thunderstorm are approximately 8000 cfs and 6000 cfs, respectively.

A 75-foot-long concrete lined trapezoidal channel carrying run-off from east of the wash discharges into the channel from the top of the bank approximately 130 feet upstream of the bridge. Its capacity was estimated to be less than 200 cfs so it is not a significant addition to the flow in the wash during the Q100 storm. A large culvert, also carrying run-off from the east side of the wash, discharges approximately 100 feet downstream of the bridge. Per District 8 Hydraulics, 130 cfs is a reasonable approximation of the potential discharge from this culvert. This relatively small flow entering the wash downstream of the bridge will not significantly affect the bridge hydraulics.

## Stage

HEC-RAS 4.1.0 was used to model the flow for the Q100 and Q50 in the channel upstream and through the bridge opening. The Manning's roughness coefficient used was 0.035.

The maximum water surface elevations for the Left Bridge (Upstream) for the Q100 and Q50 discharges are 2695.4 feet and 2694.7 feet, respectively. The maximum water surface elevations for the Right Bridge (Downstream) for the Q100 and Q50 discharges are 2688.8 feet and 2688.0 feet, respectively. Due to the long span lengths and widely spaced pier columns, and the type of vegetation upstream, there is a low potential for drift accumulating at the bridge site. A minimum freeboard of 2 feet above the Q50 is recommended. This corresponds to a minimum soffit elevation of 2696.7 feet for the Left Bridge and 2690.0 feet for the Right Bridge.

## Overtopping Flood

Van Winkle Wash is on an alluvial fan. At extremely high discharges the flow in the tributary channels that combine to form the wash, and the flow in Van Winkle Wash, will spill out over the alluvial fan. Therefore it is not possible to calculate a discharge that will overtop the bridge because the channel will overtop first. HEC-RAS 4.1.0 was

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used to estimate the capacity of the channel upstream of the bridge. This discharge is approximately 30,000 cfs.

## **Velocity**

The water surface elevations and velocities corresponding to the 100-year discharge were computed using HEC-RAS version 4.1.0. The Manning's roughness coefficient used to represent the wash was 0.035. The flow regime is supercritical. During the 100-year flood event the average velocity approaching the upstream face of both bridges is 14 fps.

## **Peak Velocity**

During the Q100 flood the peak velocity occurring at the thalweg was calculated to be 18 fps. Because the thalweg could move to either pier locations for both Left and Right bridges, this velocity should be used in the bridge loading computations.

## **Streambed**

The streambed is composed of granitic sand and silt with larger cobbles and boulders. This material is scorable and subject to erosion. The channel leading up to the bridges is lined with grouted ½ ton rock slope protection (RSP) starting approximately 700 feet upstream of the structures and continuing through the bridge openings for at least another 100 feet downstream. A half-buried RSP check dam exists approximately 60 feet downstream of the bridge. There are no records of its existence in Structure Hydraulics files or at District 8 Hydraulics. The check dam is completely buried on the east half of the channel. A survey of the top to toe shows that its maximum height on the west half of the channel is about 2 feet.

## **Scour**

The long-term degradation over the life of the new structure is estimated to be 2 feet. There is no contraction scour. The potential local scour depth for the proposed 3.5-foot-diameter pier columns is estimated to be 10.5 feet. Therefore the total scour depth for the piers is 12.5 feet. Assuming a migrating thalweg, both proposed new pier footings should be below the total scour depth when subtracted from the thalweg elevation.

The thalweg elevations are approximately 2688 feet at the Left Bridge and 2682 feet at the Right Bridge. These elevations are from the LiDAR survey and confirmed by PI North. Therefore the total scour elevation for both Left Bridge piers is Elevation 2675.5 feet and the total scour elevation for both Right Bridge piers is 2669.5 feet.

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Abutments 1 and 4 are outside the channel behind the grouted RSP. However, due to the high velocities and the potential for damage to the lining, the abutment foundations should be designed for some loss of lateral support. The total scour elevation for Abutments 1 and 4 for the Left Bridge is Elevation 2694 feet and the total scour elevation for Abutments 1 and 4 for the Right Bridge is Elevation 2687 feet.

### **Demolition**

Since the new bridge pier locations are not in the same position as the existing piers, the existing pier foundations should be removed down to a depth of 3 feet below original ground.

### **Debris**

Debris accumulation is not expected to be a problem. However, the current barbed wire fence constructed across the bridge opening should be permanently removed.

### **Bank Protection**

The existing grouted RSP that armors the channel banks upstream and downstream through the bridge opening should be evaluated and possibly reconstructed to protect the banks from the super critical flow regime/high velocities. The RSP should be maintained and inspected over the life of the structure.

The Grouted RSP should be designed by District Hydraulics to replace what will be moved during construction. The RSP should be adequately toed in and designed for the high velocities.

Special care should be taken to prevent erosion where the upstream trapezoidal channel and downstream culvert discharge into the wash.

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## References

1. Improved Highway Design Methods for Desert Storms, Final Report, Prepared for Caltrans by WEST Consultants, Inc., August 2007.
2. Van Winkle Wash Bridge (Replace) General Plan No. 1 dated 11/18/11 and General Plan No. 2, dated 11/18/11.
3. Drainage Report for the Design Project on State Highway Route 40 in San Bernardino County from Kelbaker Road to Essex Road, August 25, 1964.
4. Supplementary Drainage Report for the Design Project on State Highway Route 40 in San Bernardino County from Kelbaker Road to Essex Road, April 8, 1965.
5. San Bernardino County Hydrology Manual, August 1986.
6. Ecologic al Sub regions of California, U.S. Forest Service, <http://www.fs.fed.us/r5/projects/ecoregions/toc.htm>
7. Caltrans Bridge Maintenance Records.

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**Summary Information for the Bridge Designer**

Below is a summary of key design parameters based on the hydrologic and hydraulic analysis performed for these structures:

	Left Bridge	Right Bridge
Minimum Soffit Elevation	2696.7 ft	2690.0 ft
Total Scour Elevation at Piers 2 and 3	2675.5 ft	2669.5 ft
Total Scour Elevation at Abutments 1 and 4	2694 ft	2687 ft
Average Velocity	14 ft/sec	14 ft/sec
Peak Velocity	18 ft/sec	18 ft/sec

<i>HYDROLOGIC AND HYDRAULIC SUMMARY</i>		
Drainage Area: 20 mi <sup>2</sup>		
Frequency	100-year	50-year
Discharge	8000 cfs	6000 cfs

	Left Bridge	Right Bridge
100-year Maximum Water Surface Elevation	2695.4 ft	2688.8 ft
50-year Maximum Water Surface Elevation	2694.7 ft	2688.0 ft

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.

**ALL CALCULATED ELEVATIONS IN THIS REPORT ARE BASED ON THE VERTICAL DATUM NGVD29.**

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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.



*Diane K. O'Brien*

REGISTERED CIVIL ENGINEER (SIGNATURE)

REGISTRATION NUMBER C 48483

DATE: June 30, 2012