Meeting of the Central Valley Flood Protection Board
November 16, 2012
Staff Report
California Department of Transportation, District 3
Revised Permit for State Route (SR) 65 Crossing at Coon Creek, Placer County

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1.0 – ITEM

Consider re-issuance of Permit No. 18655-2 with revised permit conditions and one additional variance to California Code of Regulations, Title 23 (CCR 23) Standards, § 128 (a)(1) concerning backfill requirements (Attachment B).

2.0 – APPLICANT

California Department of Transportation (Caltrans), District 3

3.0 – LOCATION

The project is a component of the State Route 65 Lincoln Bypass at the Coon Creek crossing, east of North Dowd Road, north of West Wise Road, south of Waltz Road, about 25 miles (40.3 km) northeast of Sacramento, in western Placer County (see Attachment A for Location Maps).

4.0 – PROJECT DESCRIPTION

The project description approved at the July 27, 2012 Board meeting as Agenda Item No. 8A, is as follows and has not been revised:

The proposed work is for a cast-in-place/prestressed concrete box girder left bridge (19-0195L) crossing Coon Creek in Placer County. The bridge will have two 11.8 ft. travel lanes and 7.9 ft. left and 9.8 ft. right shoulders, for a total width of 44.3 ft. The bridge will be divided into five spans each (one at 49.2 ft., one at 65.6 ft., one at 75.5 ft. and two at 101.7 ft.) for at total bridge length of 393.7 ft., supported on concrete piers and Steel H-piles at all support locations. The superstructure depth will have a total thickness of 3.94 ft. Total embankment is measured 30 ft. from the beginning and end of the bridge, consisting of approximately 4400 CY.

Caltrans is also requesting an additional variance, per CCR 23, §11(b), to the backfill requirements outlined in CCR 23, §128(a)(1). See Section 5.3.1 – Backfill Variance herein for specific details.

5.0 – PROJECT ANALYSIS

5.1 – Authority of the Board

- California Code of Regulations, Title 23 (CCR 23), §6 – Need for a Permit; §11 – Variances; §121 – Erosion Control; §128 – Bridges; §131 – Vegetation
- The proposed project encroaches upon a Regulated Stream per §112, Table 8.1 of CCR 23 and is maintained by the Placer County Flood Control District.

5.2 – Project Background

The staff report and Draft Permit No. 18655-2 was approved as Agenda Item No. 8A at the July 27, 2012 Board meeting. The permit was then issued on August 8, 2012 (see Attachment B – Exhibit C for Superseded Previously Issued Permit No. 18655-2).

On October 31, 2012 a letter was received from Ms. Jody Jones, Caltrans District 3 Director, requesting to modify the issued permit (see Attachment C). Board and Caltrans staff met on October 31, 2012 and were able to resolve all but conditions THIRTY-THREE, THIRTY-EIGHT, and THIRTY-NINE (as numbered in the issued permit), which Caltrans requested be removed from the permit. After further review and discussions Board and Caltrans staff have agreed on all modifications to the issued permit (see Attachment B).

5.3 – Project Design

The approved project design has not been modified since Board approval on July 27, 2012. All findings regarding design, CEQA, and 8610.5 Considerations still apply, as stated in the July 27, 2012 staff report for Agenda Item 8A (see Attachment D for Previously Approved staff report).

5.3.1 –Backfill Variance

Caltrans has submitted a request for a variance (see Attachment E) based on CCR 23, § 11(b), which states:

"When approval of an encroachment requires a variance, the applicant must clearly state in the application why compliance with the board's standards is infeasible or not appropriate."

Caltrans' request is to vary from the backfill standard in CCR 23, §128(a)(1), which states:

"Any excavation within the levee section or near bridge supports within the floodway must be backfilled in four- (4) inch to six- (6) inch layers with approved material. The levee section must be compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557-91, dated 1991, which is incorporated by reference and above optimum moisture content. Compaction within the floodway must be to the density of the adjacent undisturbed material."

Per Caltrans' November 2, 2012 letter (Attachment E) they are proposing that the Board's standard is not appropriate, and are requesting to instead use Caltrans' Standard Specifications (2010) SS19-3.0E which allow up to 8-inch lift layers (see Attachment B – Exhibit A).

Staff has reviewed Caltrans' variance request and has determined that Caltrans' standard is suitable and more appropriate for this project than Board's standards and that the requested variance from CCR 23, §128(a)(1) will have no adverse affect on the Board's jurisdiction, the structural integrity of the bridge, or the channel.

Staff has therefore modified the language typically used for Special Condition THIRTY-FOUR of Draft Revised Permit No. 18655-2 to reflect the proposed variance (see Attachment B).

5.3.2 – Proposed Changes to Issued Permit 18655-2

The following changes were made to the Special Conditions (SC) in Issued Permit No. 18655-2, dated August 8, 2012 (note: Issued Permit Condition number referenced parenthetically after change):

- **Added New SC THIRTEEN:** (Not in Issued Permit)
- **Added New SC FOURTEEN:** (Not in Issued Permit)
- **Modified SC EIGHTEEN:** (Previously SC SIXTEEN)

- **Modified SC NINETEEN:** (Previously SC SEVENTEEN)
- **Modified SC TWENTY-FIVE:** (Previously SC TWENTY THREE)
- **Modified SC THIRTY-FOUR:** (Previously SC THIRTY-TWO)
- **Removed SC THIRTY-THREE** from Issued Permit as it is not applicable to this project:
- **Modified SC THIRTY EIGHT:** (Previously SC THIRTY-EIGHT)
- **Modified SC THIRTY-NINE:** (Previously SC THIRTY-NINE)
- **Modified SC FORTY-THREE:** (Previously SC FORTY-TWO)
- **Added New SC FIFTY-TWO:** (Not in Issued Permit)
- **Re-numbered** as appropriate

See Attachment F for a detailed strikeout version of the proposed changes.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

All endorsements included in the approved staff report on July 27, 2012 (Attachment D) still apply to this project and the proposed modifications to the permit conditions have no impact on the U.S. Army Corps of Engineers determination (Attachment B, Exhibit B) that this project is outside federal jurisdiction.

7.0 –CEQA ANALYSIS

All CEQA Findings from the approved staff report on July 27, 2012 (Attachment D) still apply to this project and the modified conditions do not affect the CEQA Findings.

8.0 – SECTION 8610.5 CONSIDERATIONS

All 8610.5 Considerations from the approved staff report on July 27, 2012 (Attachment D) still apply to this project and the modified conditions do not affect them.

9.0 – STAFF RECOMMENDATION

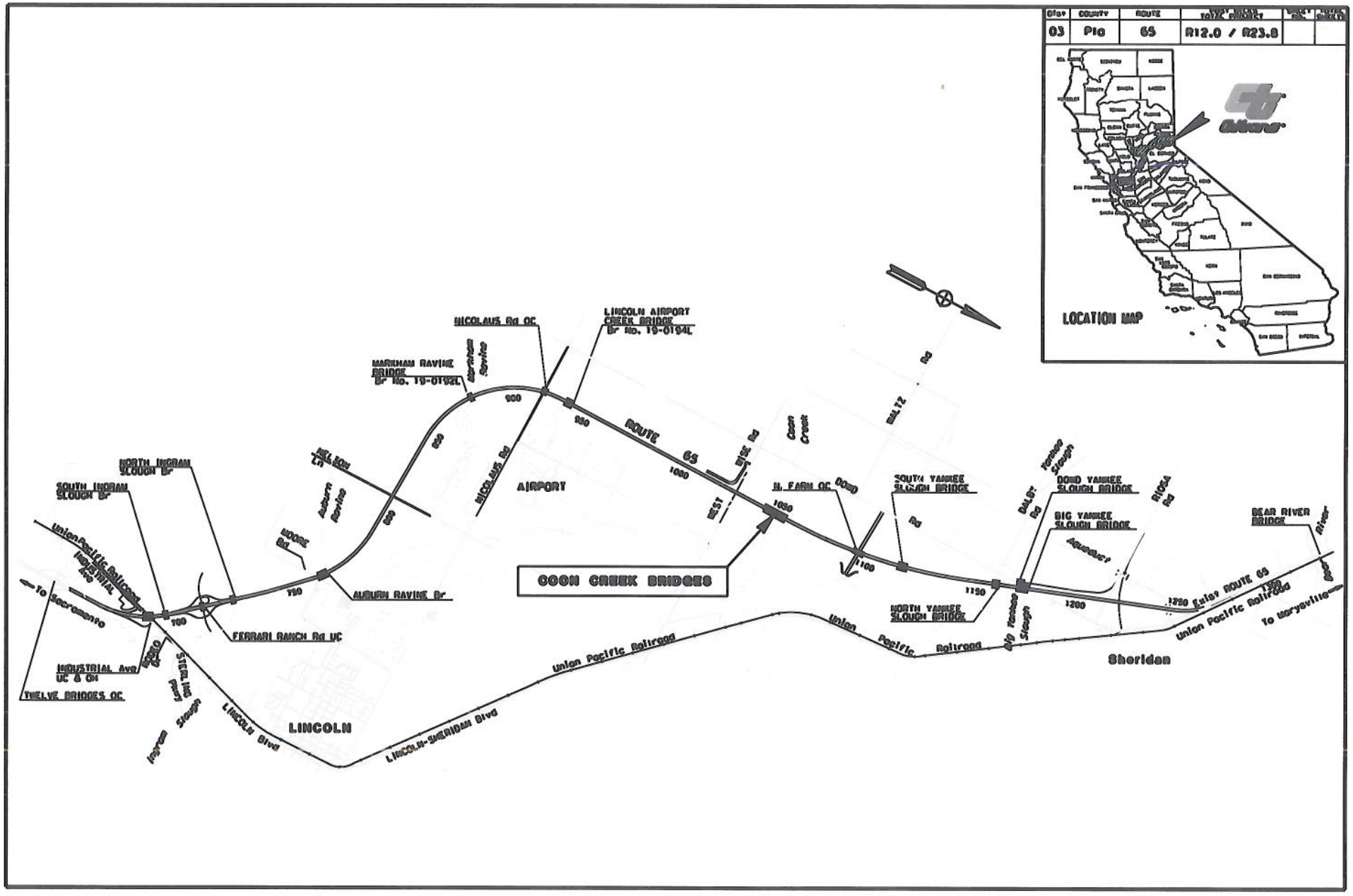
Staff recommends that the Board:

- approve revised Permit No. 18655-2 with variance to CCR 23, §128(a)(1),
- and direct the Executive Officer to take the necessary actions to execute the revised permit.

10.0 – LIST OF ATTACHMENTS

A. Location Maps
B. Draft Revised Permit No. 18655-2
   Exhibit A: Caltrans Standard Backfill Specifications
   Exhibit B: USACE Non-Fed Comment Letter (received July 18, 2012)
   Exhibit C: Superseded Issued Permit No. 18655-2 (dated August 8, 2012)
C. Letter Requesting Permit Condition Modification (dated October 31, 2012)
D. Approved Staff Report (dated July 27, 2012)
E. Variance Request Letter
F. Permit Changes Document (with track changes)

Reviewed by:	Nancy Moricz, PE
Environmental Review:	James Herota, Environmental Scientist
Document Review:	David R. Williams, PE – Projects Section Chief
	Eric R. Butler, PE – Projects and Environmental Branch Chief
	Len Marino, PE – Chief Engineer



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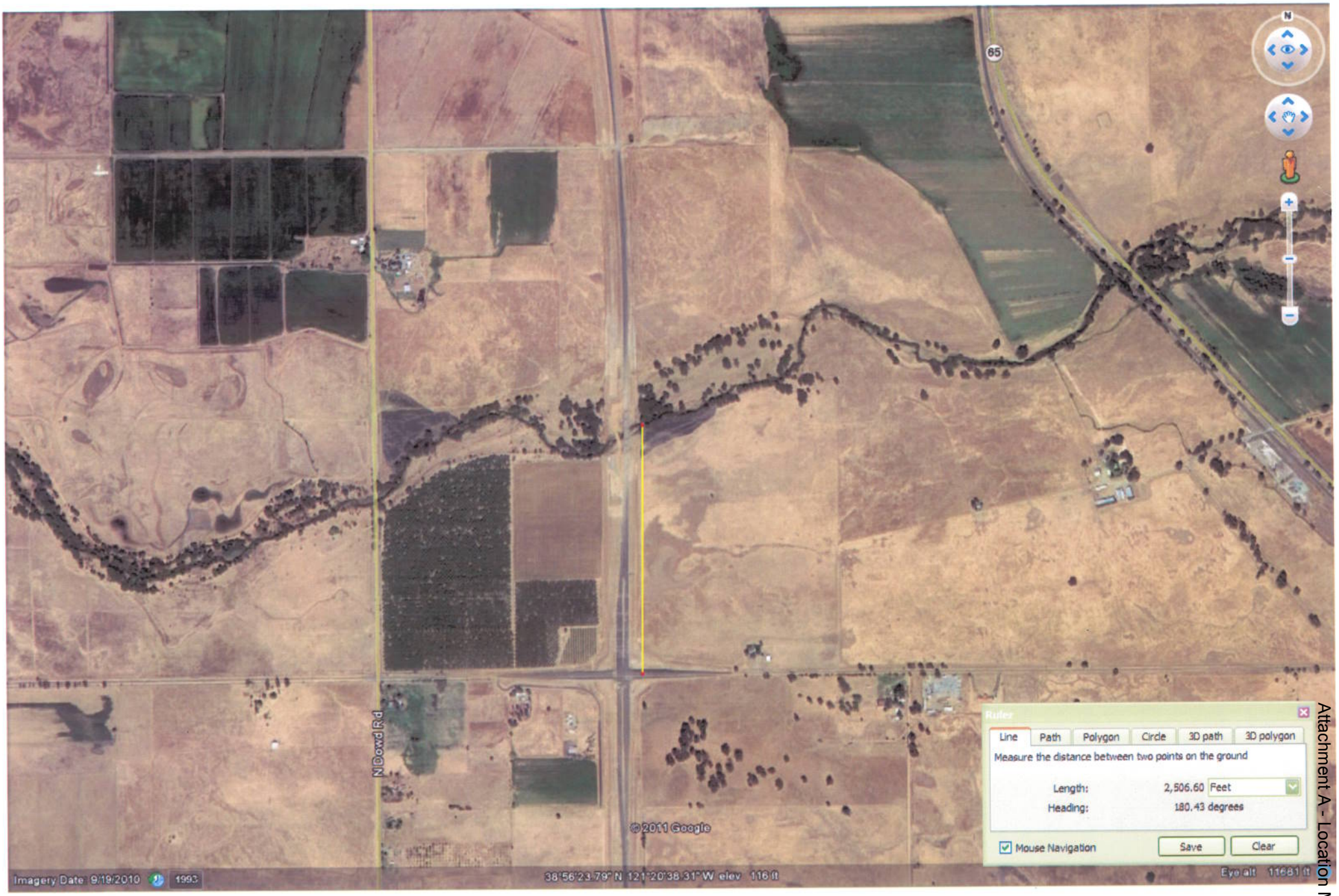
Attachment A - Location Maps



Attachment A - Location Maps

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65	R19.3/R38.3	1	1465

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HPLUL-6203(030)

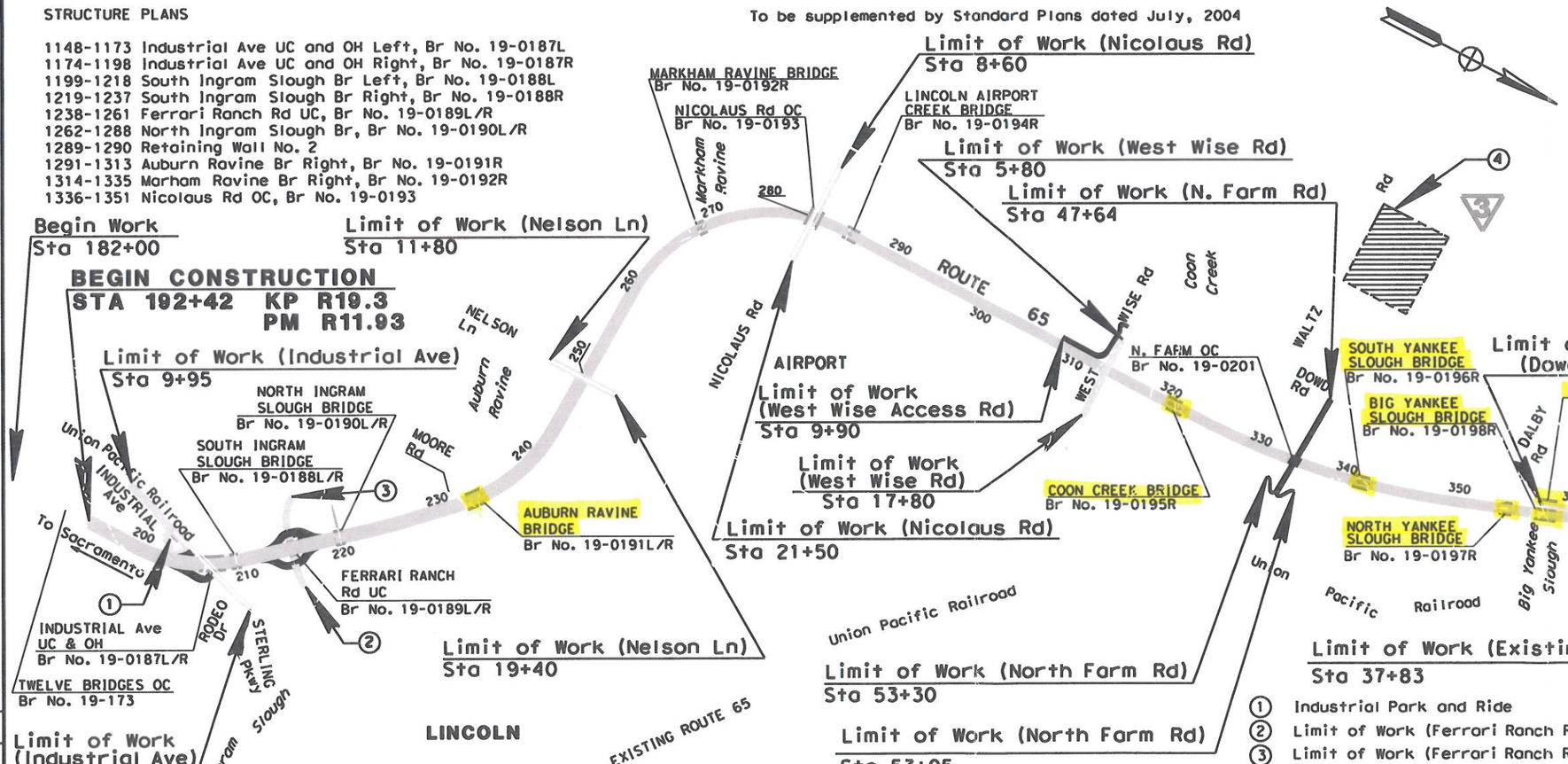
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN PLACER COUNTY
NEAR LINCOLN
FROM 0.6 KM NORTH OF TWELVE BRIDGES OVERCROSSING TO 1.3 KM SOUTH OF BEAR RIVER BRIDGE

To be supplemented by Standard Plans dated July, 2004

INDEX OF SHEETS

LOCATION MAP

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



① Industrial Park and Ride
② Limit of Work (Ferrari Ranch Rd) Sta 27+40
③ Limit of Work (Ferrari Ranch Rd) Sta 19+10
④ Retention Basin
⑤ Limit of Work (Dowd Rd) Sta 11+78

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS BOOK.

The Contractor shall possess the class (or classes) of license as specified in the "Notice to Contractors."

8-6-07
Project Engineer Date
Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
CORNELIS HAKIM
No. 55610
Exp. 12-31-08
CIVIL
STATE OF CALIFORNIA

November 13, 2007
Plans Approval Date

PRELIMINARY FOR BIDDING PURPOSES ONLY

③ REVISED PER ADDENDUM No. 3 DATED APRIL 24, 2008

NO SCALE

PROJECT ENGINEER	CORNELIS HAKIM	DATE	8/07
PROJECT MANAGER	JESS AVILA	DATE	8/07

Contract No. 03-3338U4

REQUEST	RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80	USERNAME => \USER DGN FILE => \REQUEST	CU 03264 / EA 3338U1

33338uab001.add 7/8/2009 11:30:37 AM

REVISION DATES PLOTTED => DATE
00-00-00

Attachment A - Location Maps

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18655-2 BD

This Permit is issued to:

CALTRANS - District 3
703 B Street
Marysville, California 95601-0911

The proposed work is for a cast-in-place/prestressed concrete box girder left bridge (19-0195L) crossing Coon Creek in Placer County. The bridge will have two 11.8 ft. travel lanes and 7.9 ft. left and 9.8 ft. right shoulders, for a total width of 44.3 ft. The bridge will be divided into five spans each (one at 49.2 ft., one at 65.6 ft., one at 75.5 ft. and two at 101.7 ft.) for at total bridge length of 393.7 ft., supported on concrete piers and Steel H-piles at all support locations. The superstructure depth will have a total thickness of 3.94 ft. Total embankment is measured 30 ft. from the beginning and end of the bridge, consisting of approximately 4400 CY. The project is a component of the State Route 65 Lincoln Bypass at the Coon Creek crossing, east of North Dowd Road, north of West Wise Road, south of Waltz Road, about 25 miles (40.3 km) northeast of Sacramento, in western Placer County (Section 36, T13N, R5E, MDB&M, Placer County Flood Control and Water Conservation District, Coon Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18655-2 BD

THIRTEEN: All work completed under this permit, as directed by the general and special conditions herein, shall be accomplished to ensure that the work is not injurious to adopted plans of flood control, regulated streams, and designated floodways under Board jurisdiction, as defined in California Code of Regulations, Title 23. This permit only applies to the completion of work in the project description located within, or adjacent to and having bearing on Board jurisdiction, and which directly or indirectly affects the Board's jurisdiction. This special condition shall apply to all subsequent conditions herein.

FOURTEEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the Central Valley Flood Protection Board, the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN, above.

FIFTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least

10 working days prior to start of work may result in delay of the project.

SIXTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

SEVENTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

EIGHTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.

NINETEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.

TWENTY: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

TWENTY-ONE: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

TWENTY-TWO: The Central Valley Flood Protection Board, Department of Water Resources, and the Placer County Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

TWENTY-THREE: The permittee shall be responsible for repair of any damages to the Coon Creek floodway and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-FOUR: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

TWENTY-FIVE: Thirty (30) calendar days prior to start of any demolition and/or construction activities

within the floodway, the permittee shall submit to the Chief Engineer two sets of plans, specifications and supporting geotechnical and / or hydraulic impact analyses, for any and all temporary, in channel cofferdam(s), gravel work pad(s), work trestle(s), scaffolding, piles, and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15. The Central Valley Flood Protection Board shall acknowledge receipt of this submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days.

TWENTY-SIX: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-SEVEN: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-EIGHT: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-NINE: All debris generated by this project shall be disposed of outside the floodway.

THIRTY: All debris that may accumulate around the bridge piers and abutments within the floodway shall be completely removed from the floodway following each flood season.

THIRTY-ONE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District lf conditions are created.

THIRTY-TWO: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board and the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-THREE: Any locks on the gates must be accessible to maintenance and inspection personnel and must not be casehardened.

THIRTY-FOUR: Backfill material for excavations shall be placed in up to 8-inch layers and compacted with material as specified in CalTrans Standard Specifications (2010) SS19-3.0E to the density also specified, which is attached to this permit as Exhibit A and is incorporated by reference.

THIRTY-FIVE: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-SIX: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-SEVEN: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-EIGHT: If temporary construction trailers, trailers, or recreational vehicles are to remain in the floodway during the flood season then the location of these items and an evacuation plan must be approved by Board staff prior to the flood season.

THIRTY-NINE: A copy of any geotechnical studies and tests that may be performed during or prior to construction that are in addition to studies that were submitted in the application package shall be provided to and approved by the Central Valley Flood Protection Board prior to project completion.

FORTY: If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

FORTY-ONE: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

FORTY-TWO: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

FORTY-THREE: All addenda or other changes made to the submitted documents by the permittee after issuance of this permit shall be submitted to the Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include supplemental plans, specifications, and supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Central Valley Flood Protection Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

FORTY-FOUR: The letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated July 18, 2012 is attached to this permit as Exhibit B in reference to this project.

FORTY-FIVE: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

FORTY-SIX: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-SEVEN: A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are acceptable to the Central Valley Flood Protection Board which certify that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-EIGHT: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California, 95821, upon completion of the project.

FORTY-NINE: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

FIFTY: Upon completion of the project, the permittee shall submit a final completion letter to: The Central Valley Flood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

FIFTY-ONE: At the request of either the permittee or Central Valley Flood Protection Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

FIFTY-TWO: The previously Issued Permit No. 18655-2, dated August 8, 2012, is hereby superseded by this revised permit and is attached to this permit as Exhibit C and is incorporated by reference.

California Test 216
October 2006

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Transportation Laboratory
5900 Folsom Boulevard
Sacramento, California 95819-4612

METHOD OF TEST FOR RELATIVE COMPACTION OF UNTREATED AND TREATED SOILS AND AGGREGATES

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read "**SAFETY AND HEALTH**" in Section K of this method. It is the responsibility of the user of this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. GENERAL SCOPE

This method of test shall be used to determine the relative compaction of untreated and treated soils and aggregates.

Relative compaction in this method is defined as the ratio of the in-place wet density of a soil or aggregate to the test maximum wet density of the same soil or aggregate when compacted by a specific test method.

The in-place, wet density shall be determined in accordance with Part 1 of this method of test.

The laboratory test maximum wet density and percent relative compaction shall be determined in accordance with Part 2 of this method of test.

PART 1. IN-PLACE WET DENSITY

A. SCOPE

The principal use of the in-place wet density value is in the relative compaction control of earthwork construction; however, the identical procedure and apparatus are also employed to obtain data for volume-to-weight conversion factors and shrinkage or swell factors. The determination of the in-place wet density requires excavating and weighing a sample of soil from the area under investigation, measuring the volume of the sample excavation by back-filling with a calibrated test sand, and calculating the unit wet weight of the excavated sample.

B. TEST PROCEDURE

This test shall be done in accordance with AASHTO T 191, "Density of Soil In-Place by the Sand-Cone Method."

NOTE: Typically, the test hole excavation alone will not provide a sufficient volume of material required for completion of Part 2 of this test method. Therefore, it is necessary to obtain a bulk sample of soil immediately adjacent to the excavated test hole following the completion of the sand volume measurement.

C. RECORDING DATA

The block headed "Sand Volume Data" on the Relative Compaction Test Worksheet provides for the data accumulated at the in-place test hole site.

PART 2. LABORATORY COMPACTED TEST MAXIMUM WET DENSITY AND PERCENT RELATIVE COMPACTION

A. SCOPE

A bulk sample of soil is divided into smaller portions. These portions are prepared with varying moisture contents

to form test specimens, which are individually compacted by a uniform compactive effort, to determine the test maximum density for the particular soil under consideration.

NOTE: The test maximum density determination and percent relative compaction for Class A CTB is determined according to California Test 312.

B. APPARATUS

1. The standard California impact compaction test apparatus consisting of a split cylindrical mold, a 10.0 lb tamper, a metal piston, and a piston-handling rod, as illustrated in Attachment 1. (Note: see CTM 110 for calibration.)

2. A concrete base block, or an equally rigid body, approximately 1 cubic foot in size.

3. A balance or scale of at least 3 kg capacity and sensitive to 1 g.

4. Miscellaneous mixing bowls, spoons and spatulas, five moisture-sealed containers (approximately 1 gallon capacity) to be used to store each specimen and five moisture-sealed containers (approximately ¼ gallon capacity) to be used to store each portion of a specimen.

C. BULK SAMPLE

Obtain a bulk sample of soil, 35 lbs minimum in weight, at the site of the in-place density test hole. It is essential that the bulk sample be preserved at the same moisture as prevailed at the time of excavation for the duration of the test. Use only moisture-proof containers and protect from high temperatures.

D. PREPARATION OF TEST SPECIMENS

1. Separate the bulk sample on the ¾-inch sieve, and weigh both the retained and passing fractions and compute the percentage retained in terms of wet weight of the total bulk sample. If 10 % or more of the total weight is retained on ¾-inch sieve, follow the test procedure set forth in Section I of this Part 2. If the retained ¾-inch fraction comprises less than 10 % by weight of the total bulk sample, discard it and divide the passing ¾-inch fraction into representative test specimens of exactly equal weight, each sufficient in amount to form a compacted test specimen of 10 to 12 inches in height when compacted as specified in the following section E.

2. It is of the utmost importance that all of the bulk sample material be thoroughly mixed. Each test specimen must be representative of the mass, be of equal weight, be weighed in immediate succession, and be placed at once in the one-gallon moisture-sealed individual containers.

3. The correct weight for each test specimen will depend on the soil type and the moisture content; 2200 to 2700 grams wet weight is the usual range of weight.

4. Record the initial weight of the individual test specimens on line “I” of the Relative Compaction Test Worksheet.

E. COMPACTION OF TEST SPECIMENS

1. Divide one of the test specimens prepared as outlined in the foregoing Section D into five approximately equal portions by either weight or volume measurement, and store in separate ¼-gallon moisture-sealed containers. Place one portion in the test mold and compact it with 20 blows of the tamper dropping free from a height of 18 inches above the surface of the material in the mold. Repeat this operation for each of the remaining four portions. After the compaction of the fifth portion, place the piston in the mold and level the top of the compacted specimen with five blows of the tamper dropping free

from a height of 18 inches above the surface of the piston.

2. With the tamper foot resting on the piston atop the compacted test specimen, read the graduated tamper shaft to the nearest graduation at a point level with the top of the mold. Enter this value on line "J."

3. Obtain the adjusted wet density in grams per cubic centimeter from Table 1 corresponding to the tamper shaft graduation reading using the column corresponding to the initial wet weight of test specimen (line "I") and record it on line "K."

4. Save the specimen temporarily for possible later use. (See the first paragraph of Section G of this Part 2).

5. Adjust the moisture contents of the remaining test specimens to satisfy the following conditions:

   a. The object is to have at least one test specimen with a moisture content below test optimum, one close to optimum and one above optimum, at about 2 % moisture content increments, with a minimum of three test specimens. While the actual moisture contents will not be known, the moisture content of the test specimen with the highest adjusted wet density is the test optimum moisture content even though the moisture content is unknown. Therefore, the primary objective is to have a number of test specimens and a range of moisture contents such that at least one specimen will be compacted at a moisture content less than, and one at a moisture content greater than, the moisture content of the specimen having the highest adjusted wet density. If this condition cannot be satisfied with the minimum three test specimens it will be necessary to fabricate additional specimens.

   b. The first test specimen is generally compacted at the moisture content present in the bulk sample. If this specimen appears to be considerably drier than the optimum, mix additional water into each of the remaining specimens. If it appears to be definitely wetter than the optimum, reduce the moisture content of the other specimens by aeration. Partial oven drying may be used, but do not completely oven-dry the specimens and then remix with water. If it appears to be close to the optimum, increase the moisture content of one of the remaining test specimens and reduce it in the other one to bracket the initial specimen thought to be at optimum.

   c. The test optimum moisture content will usually be the minimum moisture content which will ball the soil readily when compressed into a roll by the grip of the hand, but still permit the roll to be broken without crumbling or pulverizing appreciably at the breaking point.

   d. The base plate of the test mold normally shows indications of dampness when a soil is compacted at the test optimum moisture content. Free water on the base plate definitely denotes excessive moisture content. A dry, dusty base plate signifies a deficiency of water.

6. After adjustment of the moisture content, compact each of the remaining test specimens in the mold, then record the water adjustment, tamper reading and the corresponding adjusted wet density from the chart on Table 1 using the column corresponding to the initial wet weight (line "I").

7. Regardless of the soil type or particle sizes involved, fresh soil (not soil

from previously compacted specimens) must be used in the compaction of each test specimen. The compactive effort being equal for each layer, it is also important that the thickness of layers be equal to assure uniformity of compaction between test specimens.

8. Throughout the compacting operation the test mold must stand either on the standard concrete base block or on an equally rigid body.

9. In reassembling the test mold after removing a core, the wing nut should be drawn up only finger tight. The purpose of the wrench is to release the wing nuts when locked by expansive soils in the mold. Excessive tightening of the nuts distorts the circular cross-section of the mold. In gauging the 18-inch height of fall for the tamper, the hook and rod arrangement, shown in Attachment 1, should be used.

F. COMPUTATION OF RELATIVE COMPACTION

Compute the percent relative compaction to the nearest 0.1 % by the formula:

% Relative Compaction = $(D_1/D_2) \times 100$

Where:

D_1 = In-place wet density as shown on line "H."
D_2 = Highest adjusted wet density as determined by this method.

For reporting and specification compliance purposes, show the percent relative compaction as a whole number. If the computed value ends in a number with a fractional portion of 0.5 % or greater, report the relative compaction as the next higher whole number. If the computed value ends in a number with a fractional portion of less than 0.5 %, report it without changing the whole number.

Attachment 3 presents an example of a properly completed Relative Compaction Test Worksheet.

G. MOISTURE CONTENTS

The moisture content of the specimen with the highest adjusted wet density is the optimum moisture. The moisture content of the specimen compacted without addition or reduction of water will represent the in-place moisture content of the soil at the test site. If either moisture content is desired, the determination is made in accordance with California Test 226. Once the moisture contents are determined, percent relative compaction can also be determined by relating dry in-place density to dry test maximum density.

Provision is made at the bottom of the Relative Compaction Test Worksheet for determination of the Moisture Adjustment for Aggregate Base Pay Quantities, if desired.

H. MOISTURE-DENSITY CURVE

A moisture-density curve may be formed by plotting the adjusted wet density versus change in grams of water added or subtracted in adjusting the moisture contents of the test specimens. The sample curve appearing on Attachment 3 was plotted from the data presented on line "K" and the "Water Adjustment" line.

The highest point on the curve represents the maximum density, in this instance 2.14 at 0 grams of water ("0 grams" thus means in-place moisture content at test site is optimum moisture).

I. CORRECTION FOR OVERSIZE MATERIAL

1. The diameter of the test mold limits the size of particles that may be included in the test to that passing ¾-nch sieve. In those instances where the original material from which the test specimens are obtained contains 10 % or more by weight of particles retained on the ¾-inch sieve,

a correction must be applied to the test.

The density correction is calculated by the following:

$$\text{Corrected Density} = \frac{100}{\frac{\%\ -3/4\ \text{inch}}{G_1} + \frac{\%\ +3/4\ \text{inch}}{YG_2}}$$

G_1 = Specific gravity of – 3/4 inch material
G_2 = Specific gravity of +3/4 inch material
Y = Coefficient for +3/4 inch aggregate

% +3/4 inch	Y
20 or less	1.00
21-25	0.99
26-30	0.98
31-35	0.97
36-40	0.96
41-45	0.95
46-50	0.94

2. Record the total weight of bulk sample on line "L."

3. Separate the bulk sample on the ¾-inch sieve, wash the retained ¾-inch material, remove excess surface water by rolling sample in a large, absorbent cloth. Weigh in air and record on line "M."

1. Weigh the retained ¾-inch fraction in water and record on line "N."

5. The impact test is performed on the passing ¾-inch fraction as outlined in Sections C through E of this Part 2.

6. The remainder of the calculations necessary to compensate for the retained ¾-inch material and to determine percent relative compaction is shown on lines "O" through "V."

7. When a number of tests on soil containing essentially the same nature of retained ¾-inch material are anticipated, a constant may be developed to minimize the weighing in air and water operations.

J. SIMPLIFICATIONS FOR CONSTRUCTION CONTROL

Construction control by wet density tests may be expedited. If the relative compaction based on any test specimen density is below the specified minimum it may be immediately reported that the area under test has failed to meet the specifications. It is not necessary to fabricate additional test cores for the reason that if a higher wet density was reached with subsequent test cores the relative compaction based on this higher density would be still lower than that indicated by the single core. When the relative compaction indicated by a single test core is more than the minimum specified, additional cores are necessary to be certain that any increase in wet test maximum density attained with the subsequent cores does not lower the relative compaction value to below the specification minimum.

K. SAFETY AND HEALTH

Prior to handling, testing or disposing of any waste material, testers are required to read Part A, (Section 5.0), Part B, (Section 5.0, 6.0, 10), and Part C, (Section 1.0) of Caltrans Laboratory Safety Manual.

REFERENCES
California Tests 231, 312, 226 and 110
ASTM D 1556

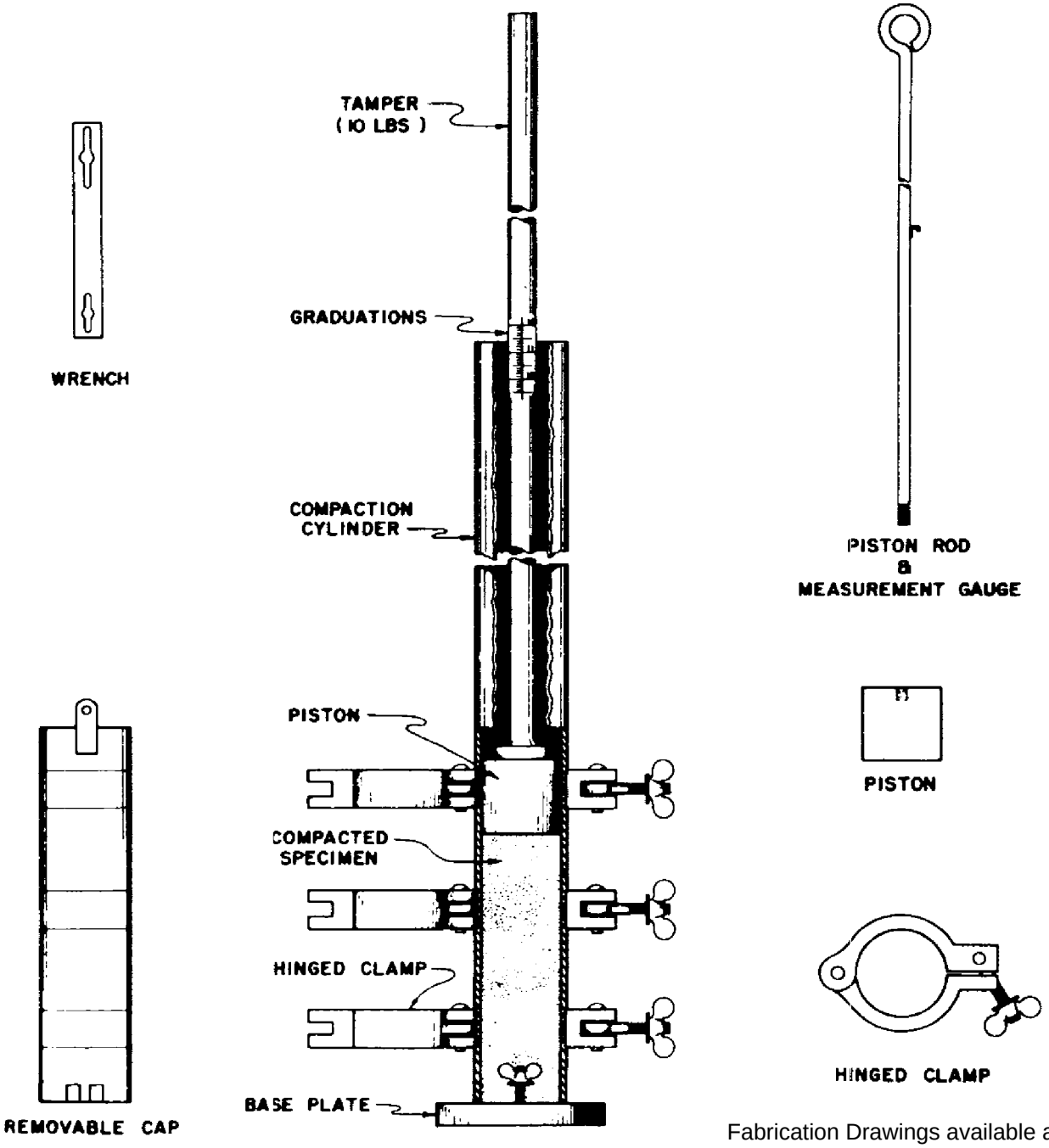
End of Text
(California Test 216 contains 9 pages)

TABLE 1
CALIFORNIA IMPACT TEST APPARATUS CONVERSION TABLE

Tamper Reading to Grams per Cubic Centimeter for Impact Test Core Weights

Tamper Reading	Weight of Test Core (g)										
	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700
10	2.09	2.13	2.18	2.23	2.27	2.32	2.37	2.42	2.46	2.51	2.56
10.1	2.06	2.11	2.16	2.21	2.25	2.30	2.35	2.39	2.44	2.49	2.53
10.2	2.04	2.09	2.14	2.18	2.23	2.28	2.32	2.37	2.42	2.46	2.51
10.3	2.02	2.07	2.12	2.16	2.21	2.25	2.30	2.35	2.39	2.44	2.48
10.4	2.01	2.05	2.10	2.14	2.19	2.23	2.28	2.32	2.37	2.42	2.46
10.5	1.99	2.03	2.08	2.12	2.17	2.21	2.26	2.30	2.35	2.39	2.44
10.6	1.97	2.01	2.06	2.10	2.15	2.19	2.24	2.28	2.33	2.37	2.41
10.7	1.95	1.99	2.04	2.08	2.13	2.17	2.21	2.26	2.30	2.35	2.39
10.8	1.93	1.97	2.02	2.06	2.11	2.15	2.19	2.24	2.28	2.33	2.37
10.9	1.91	1.96	2.00	2.04	2.09	2.13	2.17	2.22	2.26	2.30	2.35
11	1.90	1.94	1.98	2.03	2.07	2.11	2.15	2.20	2.24	2.28	2.33
11.1	1.88	1.92	1.96	2.01	2.05	2.09	2.13	2.18	2.22	2.26	2.31
11.2	1.86	1.90	1.95	1.99	2.03	2.07	2.12	2.16	2.20	2.24	2.29
11.3	1.85	1.89	1.93	1.97	2.01	2.06	2.10	2.14	2.18	2.22	2.26
11.4	1.83	1.87	1.91	1.95	2.00	2.04	2.08	2.12	2.16	2.20	2.25
11.5	1.81	1.85	1.90	1.94	1.98	2.02	2.06	2.10	2.14	2.18	2.23
11.6	1.80	1.84	1.88	1.92	1.96	2.00	2.04	2.08	2.12	2.17	2.21
11.7	1.78	1.82	1.86	1.90	1.94	1.98	2.03	2.07	2.11	2.15	2.19
11.8	1.77	1.81	1.85	1.89	1.93	1.97	2.01	2.05	2.09	2.13	2.17
11.9	1.75	1.79	1.83	1.87	1.91	1.95	1.99	2.03	2.07	2.11	2.15
12	1.74	1.78	1.82	1.86	1.90	1.94	1.97	2.01	2.05	2.09	2.13

CALIFORNIA IMPACT COMPACTION APPARATUS



Fabrication Drawings available at:

Transportation Laboratory
5900 Folsom Blvd
Sacramento, CA 95819
916-227-7000

ATTACHMENT 1

California Test 216
October 2006

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

RELATIVE COMPACTION TEST

TL-297 (REV 10/2005)

Job Stamp	Location	Test No.
	Material	From
	Impact by	Sand Vol. By
	Date	Date

	SAND VOLUME DATA	
A	Initial Wt. of Sand (g)	
B	Wt. of Residue (g)	
C	Wt. of Sand Used (A-B)	
D	Cone Correction (g)	
E	Wt. of Sand in Hole (C-D)	
F	Sand Density (g/cc)	
G	Volume of Hole (E/F)	
H	Wet Density (g/cc) (L/G)	

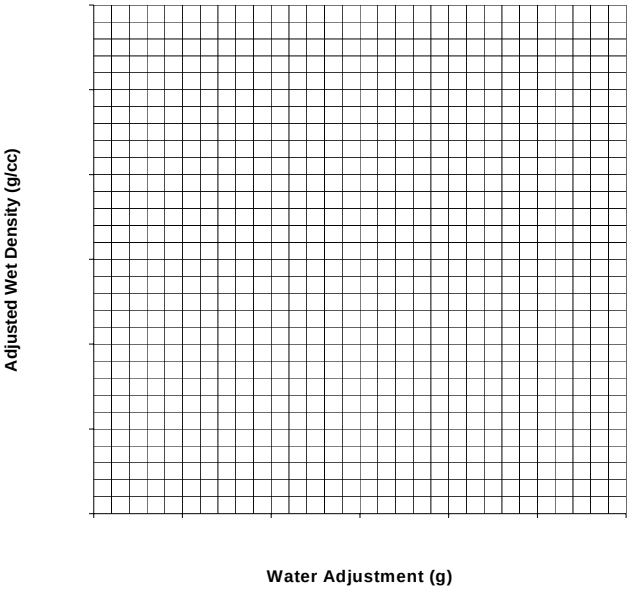
Remarks:

	IMPACT TEST DATA					
I	Initial Wet Weight of Test Specimen (g)					
	Increment	1	2	3	4
	Water Adjustment (g)				
J	Tamper Reading				
K	Adjusted Wet Density (g/cc)				

	ROCK CORRECTION		
L	Total Sample Weight	(g)	
M	+ 3/4-inch Weight in Air	(g)	
N	+3/4-inch Weight in Water	(g)	
O	+3/4-inch Volume	(M - N)	
P	% +3/4-inch	100 * (M / L)	
Q	% -3/4-inch	100 - P	
R	Density of +3/4-inch	(M / O)	
S	(%+3/4-inch) / Density of +3/4-inch	(P / RY)	
T	(%-3/4-inch) / Density of -3/4-inch	(Q / K)	
U	Sum of S and T	(S + T)	
V	Average Adjusted Wet Density	(100 / U)	

Percent Relative Compaction*	Spec	Failed	or less
		Passed	

*(H / K) for 10% or less +3/4-inch; (H / V) for > 10% +3/4-inch



	MOISTURE ADJUSTMENT FOR AGGREGATE BASE PAY QUANTITY				
a	In-place Wet wt.		e	Test Spec. Wet Wt. (opt.)	
b	In-place Dry wt.		f	Test Spec. Dry Wt.	
c	In-place Water (a - b)		g	Test Spec. Water (e - f)	
d	In-place % Water (c / b)		h	Test Spec. % Water (g / f)	

Moisture Corr. (h + 1%) - d =

Moisture Corr. in excess of Opt. + 1% | % Moisture by CTM 226

+ 3/4-inch Aggregate Adjustment (Y)

% + 3/4-inch (P)	Adjustment
20 or less	1.00
21-25	0.99
26-30	0.98
31-35	0.97
36-40	0.96
41-45	0.95
46-50	0.94

ATTACHMENT 2

California Test 216
October 2006

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

RELATIVE COMPACTION TEST

TL-297 (REV 10/2005)

Job Stamp	Location	Test No.
	Material	From
	Impact by	Sand Vol. By
	Date	Date

SAND VOLUME DATA

A	Initial Wt. of Sand (g)	11250
B	Wt. of Residue (g)	1429
C	Wt. of Sand Used (A-B)	9821
D	Cone Correction (g)	1641
E	Wt. of Sand in Hole (C-D)	8180
F	Sand Density (g/cc)	1.55
G	Volume of Hole (cc) (E/F)	5277
H	Wet Density (g/cc) (L/G)	2.06

Remarks:

IMPACT TEST DATA

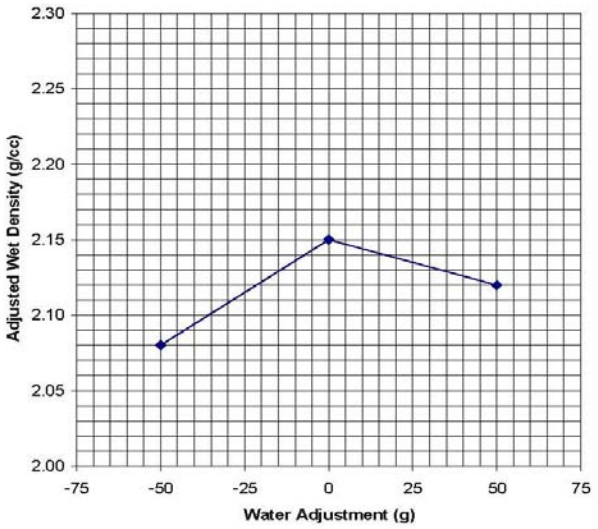
I	Initial Wet Weight of Test Specimen (g)	2500			
	Increment	1	2	3	4
	Water Adjustment (g)	-50	0	50	
J	Tamper Reading	11.4	11.0	11.2	
K	Adjusted Wet Density (g/cc)	2.08	2.15	2.12	

ROCK CORRECTION

L	Total Sample Weight	(g)	10865
M	+3/4-inch Weight in Air	(g)	3568
N	+3/4-inch Weight in Water	(g)	2322
O	+3/4-inch Volume	(M - N)	1246
P	% +3/4-inch	100 * (M / L)	32.8
Q	% -3/4-inch	100 - P	67.2
R	Density of +3/4-inch	(M / O)	2.86
S	(%+3/4-inch) / Density of +3/4-inch	(P / RY)	11.8
T	(%-3/4-inch) / Density of -3/4-inch	(Q / K)	31.3
U	Sum of S and T	(S + T)	43.1
V	Average Adjusted Wet Density	(100 / U)	2.32

Percent Relative Compaction*	Spec	Failed 89 or less
	90	Passed

*(H / K) for 10% or less +3/4-inch; (H / V) for > 10% +3/4-inch



MOISTURE ADJUSTMENT FOR AGGREGATE BASE PAY QUANTITY

a	In-place Wet wt.		e	Test Spec. Wet Wt. (opt.)	
b	In-place Dry wt.		f	Test Spec. Dry Wt.	
c	In-place Water (a - b)		g	Test Spec. Water (e - f)	
d	In-place % Water (c / b)		h	Test Spec. % Water (g / f)	

Moisture Corr. (h + 1%) - d =

Moisture Corr. in excess of Opt. + 1% | % Moisture by CTM 226

+ 3/4-inch Aggregate Adjustment (Y)

% + 3/4-inch (P)	Adjustment
20 or less	1.00
21-25	0.99
26-30	0.98
31-35	0.97
36-40	0.96
41-45	0.95
46-50	0.94

ATTACHMENT 3

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

California Test 231
April 2000

DEPARTMENT OF TRANSPORTATION
ENGINEERING SERVICE CENTER
Office of Materials Engineering and Testing Services
5900 Folsom Blvd.
Sacramento, California 95819-4612

METHOD OF TEST FOR RELATIVE COMPACTION OF UNTREATED AND TREATED SOILS AND AGGREGATES BY THE AREA CONCEPT UTILIZING NUCLEAR GAGES

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read "**SAFETY AND HEALTH**" in Part III of this method. It is the responsibility of whoever uses this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

OVERVIEW

This test method provides a procedure for selecting a test area, for determining the in-place wet density and moisture of untreated and treated soils and aggregates by the use of a nuclear gage, and for determining relative compaction. Wet density measurements are made in the direct transmission position where the rod is placed into the ground.

Select a direct transmission depth as close as possible to, but not equal to or greater than, the thickness of material being tested, i.e., use a 75 mm direct transmission depth and corresponding calibration to test a layer of material 100 mm thick, and use a 125 mm direct transmission depth and corresponding calibration to a test a layer of material 150 mm thick.

The laboratory wet test maximum density shall be determined as specified in California Test 312 for Class A Cement Treated Base; and as specified in California Test 216 for untreated materials, Class B cement treated base and lime treated soils and aggregates. On the basis of specified acceptance criteria, the relative compaction values are then used to determine the compliance or noncompliance of compaction specifications within the designated area. All calculations are based on wet relationships and are made in the metric system.

NOTE: See California Test 121 of the Manual of Test, Administrative Instructions, regarding use of nuclear gages.

This test method (231) is divided into the following parts:

I. Method of field determination of in-place wet density and moisture.

II. Method of applying the area concept and determining percent relative compaction.

III. Safety and Health

PART I. METHOD OF FIELD DETERMINATION OF IN-PLACE WET DENSITY AND MOISTURE

A. APPARATUS

1. Nuclear gage and standardizing block.

2. Miscellaneous tools such as trowels, scrapers, sieve, etc. for site preparation.

3. Guide plate, approximately 300 x 460 x 6 mm.

4. Pin, approximately 20 mm diameter x 600 mm long.

B. STANDARDIZATION OF NUCLEAR GAGE FOR WET DENSITY AND MOISTURE

1. Set the standardizing block 1.5 m from any object and 8 m from any other nuclear gage. Place the gage on the standardizing block in the closed (safe) position and take four (4) 1-min density counts. Repeat the four 1-min counts for moisture in the safe position. Record on Form TL 2148 (Figure 1) and in the gage logbook. When the nuclear gage is equipped with electronic circuitry capable of automatically averaging four one-minute density and moisture standard counts simultaneously, place the gage on the standardizing block in the closed (safe) position and take the average of the four one-minute counts. Record the density and moisture standard count averages on Form TL 2148 and in the gage logbook. For additional gage operation information not covered in this paragraph, follow instructions given in the manufacturer's manual.

2. The average of the four one-minute counts determined in C.1 is to be within ±ADL (see note) of the value used to establish the calibration table.

   If it is not, contact the Radiation Safety Officer who will establish a new standard count or have the gage sent in to be checked and/or repaired. Perform the standard count *at least* once during every 8 h of operation.

   NOTE: The acceptable deviation limit (ADL) is defined in this test method as $ADL = \sqrt{n}$ where n = number of counts indicated on the gage. This relationship is valid when the number of counts is over 10,000. Table 1 shows values of ADL for various counts.

C. SITE PREPARATION

1. Remove all loose surface material and prepare a plane surface large enough to seat the gage. Where sheepsfoot and similar type tamping rollers have been used, remove the loose surface material to a depth of not less than 50 mm below the deepest penetration by the roller. After the surface has been prepared to a flatness and smoothness within 3 mm, use a No. 4 (4.7 mm) or smaller sieve to obtain native fines to fill minor depressions, protrusions or to correct slight lack of plane. Tamp fines and any loosened material with the guide plate.

2. Make a hole using the pin and guide plate. Extract the pin with a pin puller. A drill may be used in lieu of the pin. The depth of hole shall be 50 mm greater than the transmission depth being used. This hole must be as close as possible to 90 degrees from the plane surface. If the plate is rotated slightly around the pin and the plate does not make contact with the ground, or if it appears that the hole is crooked, make a new hole.

D. FIELD TEST FOR DENSITY DETERMINATION

1. Place the nuclear gage on the prepared surface so that the bottom of the gage is firmly seated in contact with the soil. Insert the rod into the hole to the predetermined depth. Adjust the gage so that the rod is firmly against the side of the hole that is nearest to the gage.

   Obtain a 1-min reading. Record the data as shown on Figure 1.

2. Average counts from all test sites and determine count ratio by dividing the average field count by the average standard count.

3. Find the average count ratio and corresponding direct transmission average wet density (kg/m3) on the table supplied with the gage (Example Table 2). Record the data on Figure 1.

   NOTE: No obstruction or foreign element should be within a distance of 200 mm on both sides of the *source-detector axis.* Density calibration tables for the various depths are determined in accordance with California Test 111.

E. FIELD TEST FOR MOISTURE

This test is used for cases where moistures are desired or when common composite test maximum densities are used (Part II, F).

1. Obtain a standard count for moisture as specified in Section C of this Part I.

2. For site preparation, use procedure in Section D.1 of this Part I.

3. Place the gage on the prepared surface and take a 1-min moisture count. Record the data on Figure 1.

4. Determine a count ratio by dividing the field count by the moisture standard count.

5. Find the count ratio and corresponding moisture (kg/m3) from the table supplied with the gage (Example Table 3)

   NOTE: No obstruction or foreign element should be within a distance of 250 mm *from the side of the gage.* Moisture calibration tables are determined in accordance with California Test 111.

PART II. METHOD OF APPLYING THE AREA CONCEPT AND DETERMINING PERCENT RELATIVE COMPACTION

A. SCOPE

This is a statistical procedure where a number of test measurements are taken to evaluate the state of compaction of a selected area.

B. NUMBER AND LOCATION OF NUCLEAR TESTS

1. The area concept will be used with this test. The engineer will determine from a series of density tests whether to accept or reject a designated area. The engineer shall determine the area by inspection, based on uniformity of factors affecting compaction. Insofar as possible, the area designated shall be generally homogeneous for both character of material and conditions of production and compaction. Portions of the area, which may be observed or suspected to be different from the area as a whole, will be excluded from the test. If a relative compaction test is desired for these different portions, they shall be designated as a separate test area or areas and tested separately. Do not designate test areas which include: (1) materials from separate sources, unless such materials were intermixed during placing of the compacted area; (2) materials which were placed and compacted by different types of operations or processes; or (3) material placed during different periods of production or in nonadjacent areas.

2. Select a *minimum* of 5 test sites for areas 800 m^2 or more by using a set of 10 random sample plans (Figure 3). Follow instructions given in Figure 3.

   Obtain nuclear counts at all test sites and average all counts for the area (Figure 1). If the designated test area, described in B.1, is of limited size (e.g., structure backfill, short length of shoulders, or other areas less than 800 m^2) then a *minimum* of three test sites are required.

C. DETERMINATION OF WET TEST MAXIMUM DENSITY

1. For all treated and untreated soils and aggregates, except Class A Cement Treated Bases, obtain equal representative portions of material from each nuclear test site within the area and thoroughly mix together to form a composite sample. Determine the laboratory wet test maximum density (kg/m^3) on the composite sample in accordance with California Test 216. Record the data on Form TL 2148 in the section identified as "IMPACT TEST DATA" (Figure 1). *The moisture content of the composite sample must be maintained in the same state* as *when the in-place tests were performed.* If the impact test result is to be used in a "common" composite control density, a nuclear moisture, as well as a nuclear density must be taken for each test site in an area and be averaged.

D. CORRECTION FOR OVERSIZE MATERIAL

1. A correction is applied to the composite wet test maximum density in those instances where the composite sample contains more than 10% by weight of aggregate retained on the 19 mm sieve. The data is recorded on Figure 2 in the section titled "SAMPLE FOR ROCK CORRECTION". California Test 216 shows details for handling rock corrections.

E. PERCENT RELATIVE COMPACTION

1. Calculate percent relative compaction as follows:

   Percent relative compaction = [(Average In-Place Wet Density)/(Composite Wet Test Maximum Density)] x 100

2. The calculations for cases where there is 10% or less of +19 mm aggregate is shown on

Figure 1. Note that gage readings for the individual sites are averaged and a mean percent relative compaction calculated for the area.

3. The calculations for cases where there is more than 10% of + 19 mm aggregate is shown in Figure 1.

4. The average relative compaction of the test sites in an area must be at or above the specified minimum compaction density for acceptance of the compaction in the area. The percent relative compaction value is calculated to the nearest 0.1% and then reported as a whole number. For rounding the average percent relative compaction value (Test Result), if the computed value ends in a number with a fractional portion 0.5 or greater, report as the next higher whole number. If the computed value ends in a number with fractional portion less than 0.5, report without changing the whole number.

   Example:

Computed Value	Reporting Value
94.5 to 95.0%	95%
95.0 to 95.4%	

F. WET COMMON-COMPOSITE TEST MAXIMUM VALUE

1. In many cases where the material is the "same", it is permissible to use a *"common"* wet composite test maximum density for use in different areas in lieu of that specified in Section C.1 of this Part II. For a material to be the same, it must comply with the following general criteria:

   a. It must be from the same general source (excavation area, balance point, plant, etc.).

   b. It must generally have the same visual characteristics of color, gradation, and type of soil.

   c. The average in-place moistures must be the "same". Adjustments in moisture are to be made to meet this criteria when *"common"* wet composite test maximum values are used.

2. A *"common"* wet composite test maximum density is initially established by averaging two consecutive wet composite test maximum densities which are within 50 kg/m^3 density and performed within three days. The average moistures between the areas represented by the two consecutive wet composite test maximum values must also be within 50 kg/m^3.

3. Anytime that a wet composite test maximum density is determined for an area, it shall be used to calculate the percent relative compaction for that area.

4. A *"check"* wet composite test maximum must be performed at *least* every 7th calendar day or after the *"common"* wet composite test maximum density has been used for 14 areas, whichever comes first.

   a. If the *"check"* test is within 50 kg/m^3 moisture and density of the *"common"* density, the two values are averaged to establish a new *"common"* density and average moisture. If it is not, wet composite test maximum densities must be performed for each compaction test area until the criteria for F-2 of this PART II are met.

5. If average relative moistures between areas differ and a common composite test maximum is to be established, a correction is applied. The following example illustrates use of a common composite test maximum with moisture corrections. Anytime the engineer judges conditions have changed, a new common composite test maximum should be established. An example where a common composite test maximum is used is shown in Figure 2.

PART III. SAFETY AND HEALTH

Personnel are required to be trained by a qualified instructor approved by the California Department of Health and the Divisions of Industrial Safety.

Caltrans personnel are required to read and be familiar with California Test 121, Administrative Instructions for Use of Nuclear Gages. Caltrans personnel are required to wear a film badge.

This method does not purport to address all the safety problems associated with its use.

REFERENCES:

California Tests 121, 216, 312, and 911

End of Text (14 Pages) on California Test 231

California Test 231
March 2000

Example:	Area I	Area II	Area III	Area IV	Area V	Area VI
Date.....	4-18-96	4-19-96	4-20-96	4-21-96	4-25-96	4-26-96
Average In-Place Wet Density, kg/m^3....	2040	2150	2060	2080	2120	2110
Average In-Place Moisture, kg/m^3.....	90	110	140	80	130	100
Wet Composite Test Maximum Density, kg/m^3.....	2150	2200	-	-	2160	-
Common Composite Wet Test Maximum Density, kg/m^3.....	-	-	2175	2175	-	2168
(Average Moisture, kg/m^3)	-	-	(100)	(100)	-	(115)
Moisture Correction, kg/m^3.....	-	-	-40	+20	-	+15

a. Area I

$$\text{\% Relative Compaction} = \frac{2040}{2150} \times 100 = 95\%$$

b. Area II

$$\text{\% Relative Compaction} = \frac{2150}{2200} \times 100 = 98\%$$

c. Area III

$$\text{Moisture Correction} = \left(\frac{90 + 110}{2}\right) - 140 = -40$$

$$\text{Common Composite Test Max} = \frac{2150 + 2200}{2} = 2175$$

$$\text{\% Relative Compaction} = \frac{2060 - 40}{2175} \times 100 = 93\%$$

See sample forms figures1 and 2.

California Test 231
March 2000

State of California — **Relative Compaction Test-Nuclear** — **Dept of Transportation**

Job Stamp	Contract	Test No.
	Type of Material	
	Material From	
	Impact By	Nuclear By
	Date	Date
Show Test Location and Area Limits	Nonbiased Plan No.	Gage No.

In-Place Test by Nuclear

	Site	Den. Ct.___mm	Std. Ct. Density
A	1		
	2		
	3		
			Σ
	4		F X̄
			Moist Count
	5		1
			2
	6		3
			4
	7		5
			6
	8		7
			8
B	Σ		Σ
C	X̄		G X̄
CR(C/F)			CR(G/I
D	X̄ Den. g/ml		H X̄ H2O g/ml
E	X̄ Den. Corr. For Moist.**±		I X̄

**E = D ± Diff. Bet. X̄ Moist.Fr. Common TM & H

Percent Relative Compaction		Spec.	Individual	
			Moving Ave.	

*E/K for10% ≤ + 19mm E/W for > 10% + 19mm

If Common Test Maximum is used (X̄) K or W = X̄ H2O=

From Tests: Dated:

Remarks:

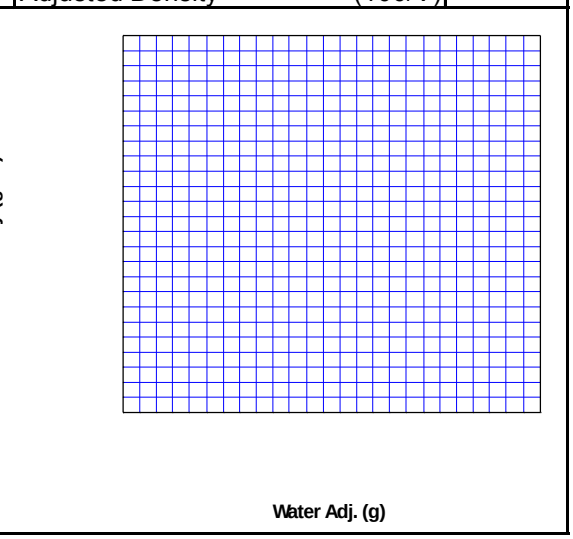
Impact Test Data

J	Initial Wet Weight of Test Specimen				(g)
	Specimen	1	2	3	4
	Water Adjustment				
	Tamper Reading				
K	Wet Density				
	K From Table 1Test Method 216. Highest Density is Test Max.				
L	(+) 19mm Agg. Adj.				

% + 19mm (Q) Adj.
20 or less_ 1.00
21-25_____0.99
26-30_____0.98
31-35_____0.97
36-40_____0.96
41-45_____0.95
46-50_____0.94
Std. Count Moist

Sample for Rock Correction

M	Total Sample Wt.	(g)
N	+ 19mm Wt.in Air	(g)
O	+ 19mm Wt. In Water	(g)
P	+ 19mm Vol	(N-O)
Q	% + 19mm	100(N/M)
R	% - 19mm	(100-Q)
S	Density of + 19mm	(N/P)
T	% + 19mm /Den. Of + 19mm	(Q/SL)
U	% -19mm /Den. Of - 19mr	(R/K)
V	Sum of T and U	(T+U)
W	Adjusted Density	(100/V)

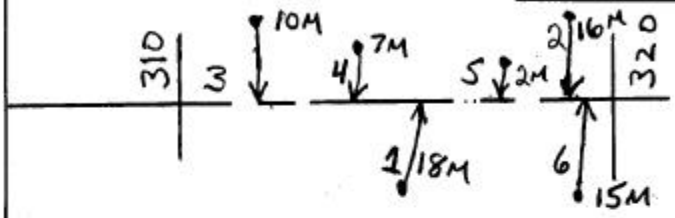


TL 2148 (Rev 03/00) Figure 1

California Test 231
March 2000

State of California — **Relative Compaction Test-Nuclear** — Dept of Transportation

Job Stamp	Contract	Test No. 25
	Type of Material EMB	
	Material From	
	Impact By FC	Nuclear By BL
	Date 03/30/00	Date 03/30/00
Show Test Location and Area Limits	Nonbiased Plan No. 8	Gage No. NE 59



EXAMPLE ONLY

In-Place Test by Nuclear

	Site	Den. Ct. 200mm	Std. Ct. Density	
A	1	46658	51547	
			51522	
	2	44598	51904	
			51267	K
	3	49747		
			Σ 206240	L
	4	46453	F X̄ 51560	
			Moist Count	
	5	47741	1	
			2	
	6	46380	3	
			4	
	7		5	
			6	
	8		7	
			8	
B	Σ	281577	Σ	
C	X̄	46930	G X̄	
CR(C/F)		.910	CR(G/I	
D	X̄ Den. g/ml	2.23	H X̄ H2O g/ml	
E	X̄ Den. Corr. For Moist.** ±		I X̄	

**E = D ± Diff. Bet. X̄ Moist.Fr. Common TM & H

Percent Relative Compaction	89	Spec.	Individual	90
			Moving Ave.	

*E/K for 10% ≤ + 19mm E/W for > 10% + 19mm

If Common Test Maximum is used (X̄) K or W = | X̄ H2O=

From Tests: Dated:

Remarks:

Impact Test Data

J	Initial Wet Weight of Test Specimen				(g) 2700
	Specimen	1	2	3	4
	Water Adjustment	0	+50	+100	
	Tamper Reading	10.5	10.3	10.4	
K	Wet Density	2.44	2.48	2.46	

K From Table 1Test Method 216. Highest Density is Test Max.

L (+) 19mm Agg. Adj.

% + 19mm (Q) Adj.
20 or less 1.00
21-25 0.99
26-30 0.98
31-35 0.97
36-40 0.96
41-45 0.95
46-50 0.94

Std. Count Moist

Sample for Rock Correction

M	Total Sample Wt.	(g)	14000
N	+ 19mm Wt.in Air	(g)	2380
O	+ 19mm Wt. In Water	(g)	1465
P	+ 19mm Vol	(N-O)	915
Q	% + 19mm	100(N/M)	17.0
R	% - 19mm	(100-Q)	83.0
S	Density of + 19mm	(N/P)	2.60
T	% + 19mm /Den. Of + 19mm	(Q/SL)	6.5
U	% -19mm /Den. Of - 19mm	(R/K)	33.5
V	Sum of T and U	(T+U)	40.0
W	Adjusted Density	(100/V)	2.50

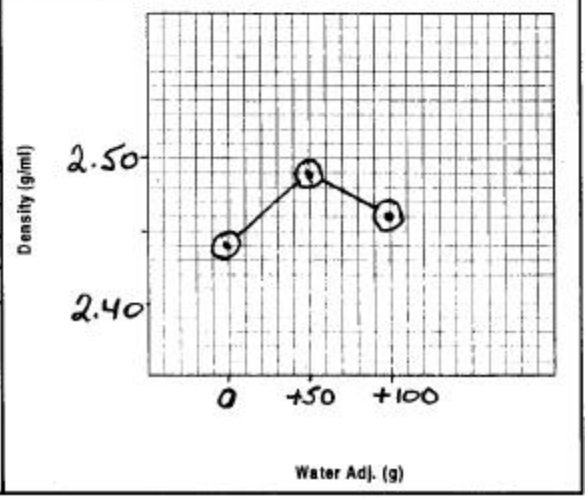


Figure 2

NONBIASED SAMPLE PLANS

Once an area is selected on the basis of uniformity of factors, nonbiased location of measurement sites is required for applying statistical control procedures. The nonbiased sample location plans will randomly locate the approximate measurement sites.

NOTE: The number of measurement sites must be determined after the area has been determined and *before* any tests performed.

PROCEDURE FOR USE OF NONBIASED SAMPLE PLANS

1 a. Use the last digit from the first reading taken for the daily standard count to select the plan for the first area. For subsequent areas, use the last digit from the second, third, and fourth readings. If five through nine areas are tested, use the second to the last digit from the first through the fourth readings taken for the daily standard count.

b. For nuclear gages that electronically average the standard counts — Take a $^{1}/_{4}$ minute count in the safe position at any convenient location, i.e., ground, truck bed, carry case, etc., prior to selecting the plan for an area. Use the last digit of the density reading for selecting the plan. A new count should be taken for each area.

2. Visualize the plan as a map of the area to be sampled.

3. Each dot represents a measurement site. There are ten dots numbered from one (1) through ten (10). If you are to take a five- (5) site test, then use the dots numbered from one (1) through five (5). If a three-site test is going to be used, then use the locations of the first three dots. This procedure will be used for all tests, with Number 1 dot the first site, Number 2 dot the second site and so on until the desired number of sites have been used.

4. Test at the approximate locations on the grade represented by the dots on the plan. Some adjustments are necessary for irregular areas. (See Figure 3)

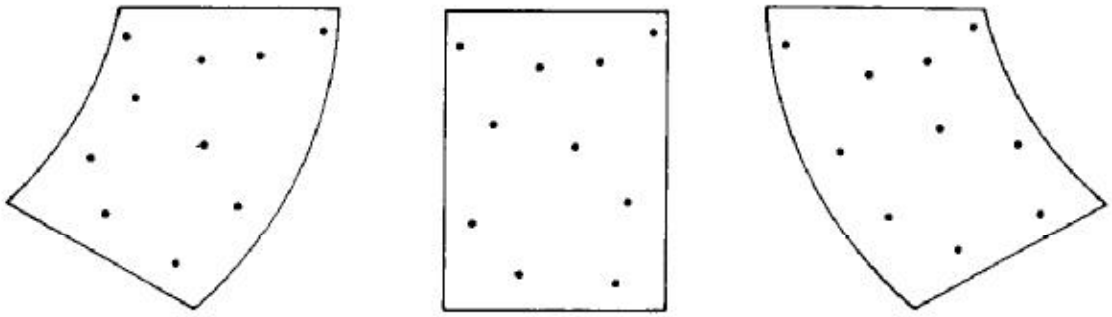
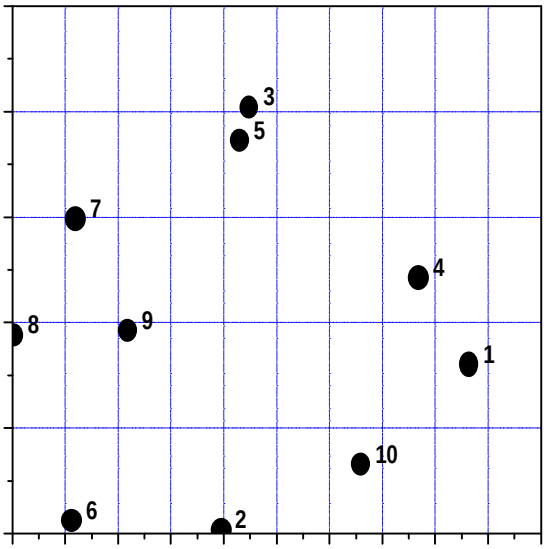


Figure 3

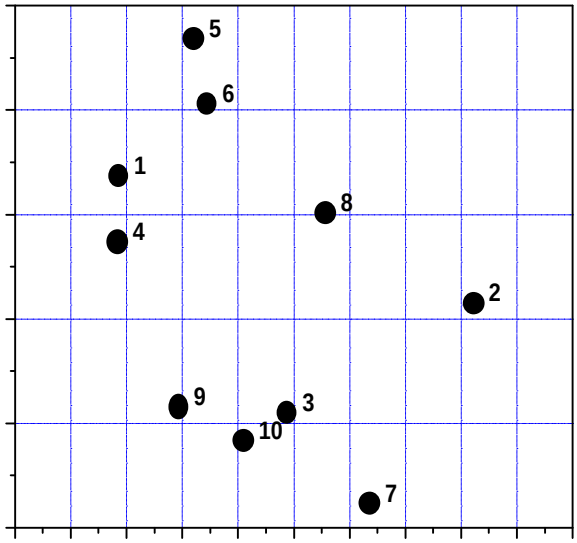
California Test 231
March 2000

Figure 3 Cont.

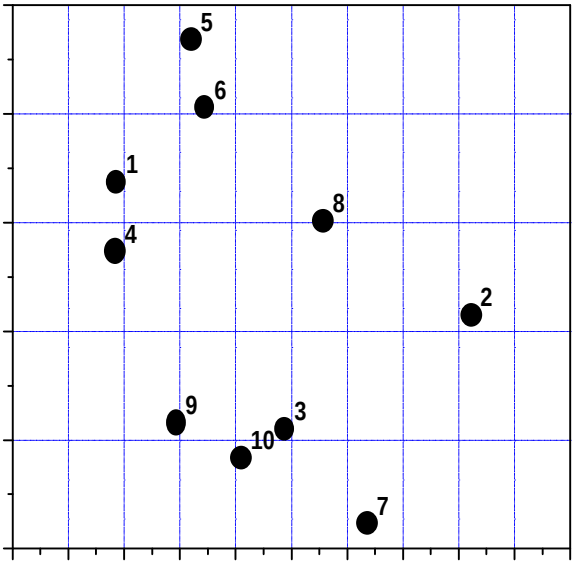
NONBIASED PLAN 1



NONBIASED PLAN 2



NONBIASED PLAN #3



NONBIASED PLAN #4

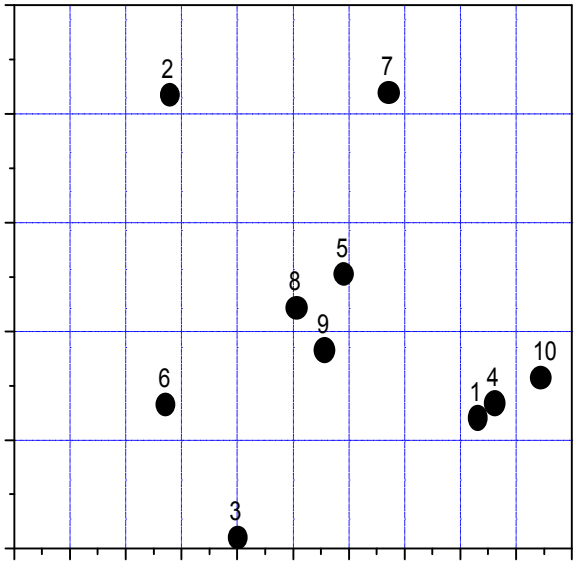
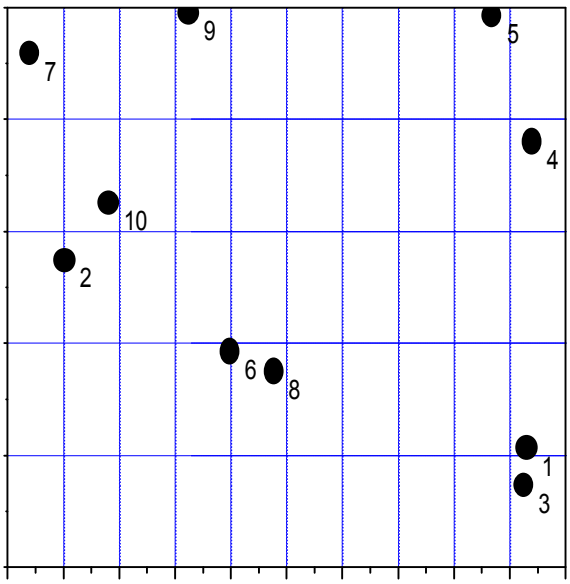
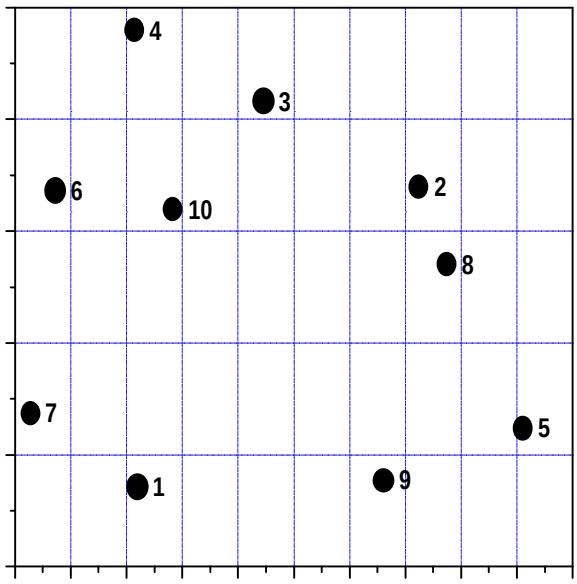


Figure 3 Cont.

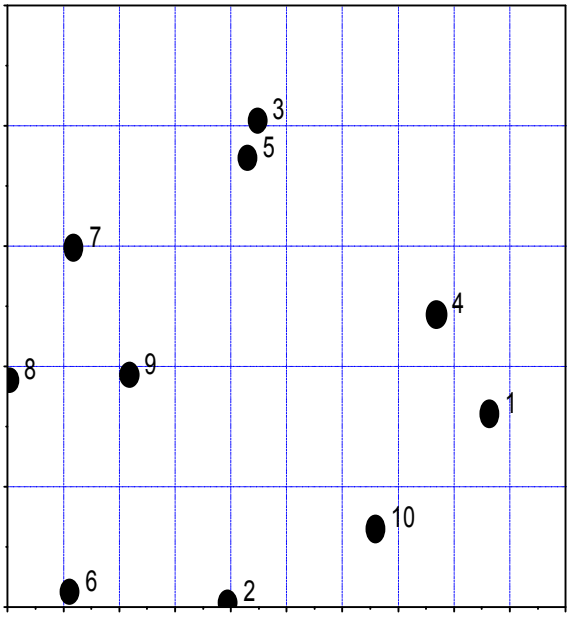
NONBIASED PLAN 5



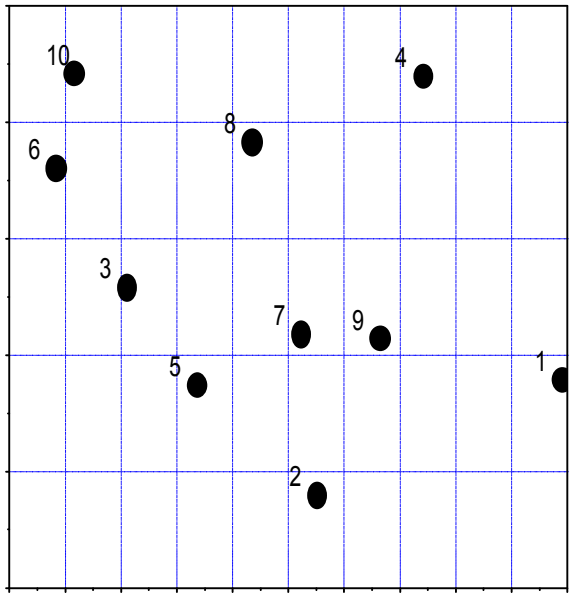
NONBIASED PLAN 6



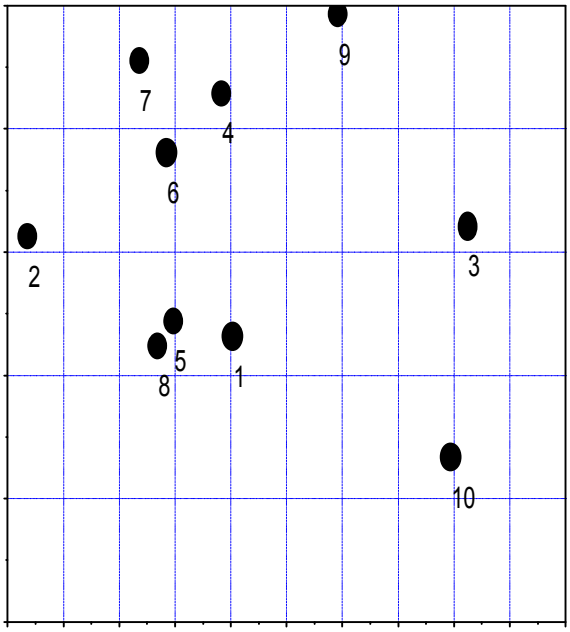
NONBIASED PLAN #7



NONBIASED PLAN #8



NONBIASED PLAN 9



NONBIASED PLAN 10

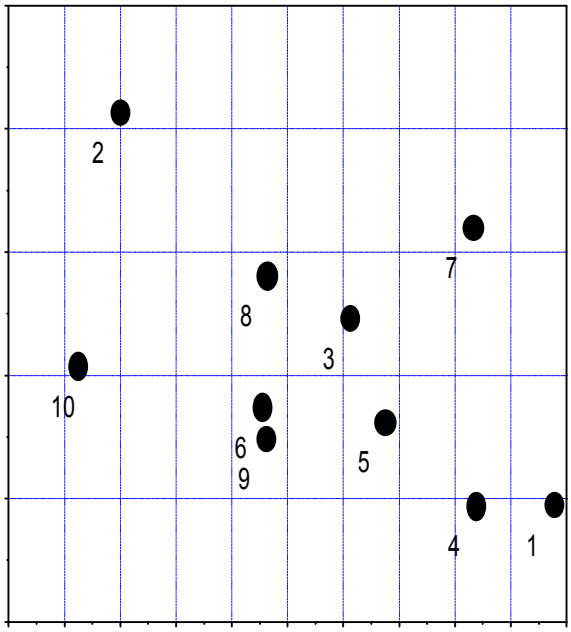


Figure 3 Cont.

TABLE 2
COUNT RATIO VS. DENSITY FOR NUCLEAR GAGE NO. NE 59

District 19 January 3, 1978 Std. Ct 51500 200 mm D/T By B. Lister

BASED ON: DENSITY (kg/m3) 1532 1636 2018 2153 2680 2771

COUNT RATIO 1.791 1.553 1.192 .933 .597 .542

CR TO CR	kg/m3	CR TO CR	kg/m3	CR TO CR	kg/m3
2.000-2.018	1400	1.364-1.376	1800	.931- .939	2200
1.981-1.999	1410	1.351-1.363	1810	.922- .930	2210
1.962-1.980	1420	1.338-1.350	1820	.913- .921	2220
1.943-1.961	1430	1.326-1.337	1830	.905- .912	2230
1.925-1.942	1440	1.313-1.325	1840	.896- .904	2240
1.907-1.924	1450	1.300-1.312	1850	.887- .895	2250
1.888-1.906	1460	1.288-1.299	1860	.879- .886	2260
1.870-1.887	1470	1.276-1.287	1870	.874- .878	2270
1.853-1.869	1480	1.264-1.275	1880	.862- .870	2280
1.835-1.852	1490	1.252-1.263	1890	.854- .861	2290
1.817-1.834	1500	1.240-1.251	1900	.846- .853	2300
1.800-1.816	1510	1.228-1.239	1910	.838- .845	2310
1.783-1.799	1520	1.216-1.227	1920	.830- .837	2320
1.766-1.782	1530	1.205-1.215	1930	.822- .829	2330
1.749-1.765	1540	1.193-1.204	1940	.814- .821	2340
1.733-1.748	1550	1.182-1.192	1950	.807- .813	2350
1.716-1.732	1560	1.171-1.181	1960	.799- .806	2360
1.700-1.715	1570	1.160-1.170	1970	.791- .798	2370
1.684-1.699	1580	1.148-1.159	1980	.784- .790	2380
1.667-1.683	1590	1.138-1.147	1990	.776- .783	2390
1.652-1.666	1600	1.127-1.137	2000	.769- .775	2400
1.636-1.651	1610	1.116-1.126	2010	.762- .768	2410
1.620-1.635	1620	1.105-1.115	2020	.755- .761	2420
1.605-1.619	1630	1.095-1.104	2030	.747- .754	2430
1.590-1.604	1640	1.085-1.094	2040	.740- .746	2440
1.574-1.589	1650	1.074-1.084	2050	.733- .739	2450
1.560-1.573	1660	1.064-1.073	2060	.726- .732	2460
1.545-1.559	1670	1.054-1.063	2070	.719- .725	2470
1.530-1.544	1680	1.044-1.053	2080	.713- .718	2480
1.515-1.529	1690	1.034-1.043	2090	.706- .712	2490
1.501-1.514	1700	1.024-1.033	2100	.699- .705	2500
1.487-1.500	1710	1.014-1.023	2110	.692- .698	2510
1.473-1.486	1720	1.005-1.013	2120	.686- .691	2520
1.458-1.472	1730	.995-1.004	2130	.679- .685	2530
1.445-1.457	1740	.986- .994	2140	.673- .678	2540
1.431-1.444	1750	.976- .985	2150	.667- .672	2550
1.417-1.430	1760	.967- .975	2160	.660- .666	2560
1.404-1.416	1770	.958- .966	2170	.654- .659	2570
1.390-1.403	1780	.949- .957	2180	.648- .653	2580
1.377-1.389	1790	.940- .948	2190	.642- .647	2590

California Test 231
March 2000

TABLE 3

COUNT RATIO VS DENSITY FOR NUCLEAR GAUGE NO. NE 59

District 19, January 3, 1978, Std. Ct 11400 By B. Lister

BASED ON kg/m3	0	303
COUNT RATIO	.168	.686

CR TO CR	kg/m3	CR TO CR	kg/m3	CR TO CR	kg/m3
.155- . 171	00	.501- . 517	200	.847- .863	400
.172- . 188	10	.518- . 534	210	.864- .880	410
.189- .206	20	.535- . 552	220	.881- .897	420
.207- .223	30	.553- .569	230	.898- . 915	430
.224- . 240	40	.570- .586	240	.916- .932	440
.241- .258	50	.587- . 603	250	.933- . 949	450
.259- . 275	60	.604- .621	260	.950- .967	460
.276- .292	70	.622- . 638	270	.968- .984	470
.293- . 309	80	.639- .655	280	.985-1.001	480
.310- .327	90	.656- .673	290	1.002-1.018	490
.328- .344	100	.674- .690	300	1.019-1.036	500
.345- .361	110	.691- .707	310	1.037-1.053	510
.362- . 379	120	.708- .724	320	1.054-1.070	520
.380- .396	130	.725- . 742	330	1.071-1.088	530
.397- .413	140	.743- .759	340	1.089-1.105	540
.414- . 431	150	.760- .776	350	1.106-1.122	550
.432- .448	160	.777- .794	360	1.123-1.140	560
.449- .465	170	.795- . 811	370	1.141-1.157	570
.466- .482	180	.812- . 828	380	1.158-1.174	580
.483- . 500	190	.829- .846	390	1.175-1.191	590

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

REPLY TO
ATTENTION OF

Flood Protection and Navigation Section (18655-2)

JUL 18 2012

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the California Department of Transportation (application number 18655-2). This project includes constructing a cast-in-place reinforced box girder concrete bridge structure (Number 19-0195L) across Coon Creek. The project is located south of Sheridan and is part of the State Route 65 Lincoln Bypass project, about 25 miles north of Sacramento, at 38.9328°N 121.3684°W NAD83, Placer County, California.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

There is not enough information provided to determine if there is a permit action under Section 10 and/or Section 404. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, 1325 J Street, Room 1350, Sacramento, California 95814, telephone (916) 557-5250.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,

for Ryan T. Larsen

Meegan G. Nagy, P.E.
Chief, Flood Protection and Navigation Section

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18655-2 BD

This Permit is issued to:

CALTRANS - District 3
703 B Street
Marysville, California 95601-0911

The proposed work is for a cast-in-place/prestressed concrete box girder left bridge (19-0195L) crossing Coon Creek in Placer County. The bridge will have two 11.8 ft. travel lanes and 7.9 ft. left and 9.8 ft. right shoulders, for a total width of 44.3 ft. The bridge will be divided into five spans each (one at 49.2 ft., one at 65.6 ft., one at 75.5 ft. and two at 101.7 ft.) for at total bridge length of 393.7 ft., supported on concrete piers and Steel H-piles at all support locations. The superstructure depth will have a total thickness of 3.94 ft. Total embankment is measured 30 ft. from the beginning and end of the bridge, consisting of approximately 4400 CY. The project is a component of the State Route 65 Lincoln Bypass at the Coon Creek crossing, east of North Dowd Road, north of West Wise Road, south of Waltz Road, about 25 miles (40.3 km) northeast of Sacramento, in western Placer County (Section 36, T13N, R5E, MDB&M, Placer County Flood Control and Water Conservation District, Coon Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

AUG 08 2012

Dated: _____

Jay S. Punia
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

DWR 3784 (Rev. 9/85)

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18655-2 BD

THIRTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

FOURTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FIFTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

SIXTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and

harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SEVENTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

NINETEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

TWENTY: The Central Valley Flood Protection Board, Department of Water Resources, and the Placer County Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

TWENTY-ONE: The permittee shall be responsible for repair of any damages to the Coon Creek floodway and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-TWO: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

TWENTY-THREE: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-FIVE: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-SIX: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-SEVEN: All debris generated by this project shall be disposed of outside the floodway.

TWENTY-EIGHT: All debris that may accumulate around the bridge piers and abutments within the floodway shall be completely removed from the floodway following each flood season.

TWENTY-NINE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District If conditions are created.

THIRTY: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board and the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-ONE: Any locks on the gates must be accessible to maintenance and inspection personnel and must not be casehardened.

THIRTY-TWO: All fill material shall be imported impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Fill material shall be compacted in 4- to 6-inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

THIRTY-THREE: Drainage from the bridge or highway shall not be discharged into the Coon Creek floodway.

THIRTY-FOUR: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-FIVE: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-SIX: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-SEVEN: If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

THIRTY-EIGHT: The permittee shall submit an evacuation plan to the Central Valley Flood Protection Board that meets the requirements of Section 114 of California Code of Regulations, Title 23, Regulations of the Central Valley Flood Protection Board within 60 days of the date of this permit.

THIRTY-NINE: A copy of all geotechnical studies and tests used in the design and construction determination of the project shall be provided to and approved by the Central Valley Flood Protection Board prior to final construction.

FORTY: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

FORTY-ONE: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

FORTY-TWO: All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

FORTY-THREE: The letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated July 18, 2012 is attached to this permit as Exhibit A in reference to this project.

FORTY-FOUR: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

FORTY-FIVE: A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are acceptable to the Central Valley Flood Protection Board which certify that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-SIX: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-SEVEN: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California, 95821, upon completion of the project.

FORTY-EIGHT: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency.

The permittee shall implement all such mitigation measures.

FORTY-NINE: Upon completion of the project, the permittee shall submit a final completion letter to: The Central Valley Flood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

FIFTY: At the request of either the permittee or Central Valley Flood Protection Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

REPLY TO
ATTENTION OF

Flood Protection and Navigation Section (18655-2)

JUL 18 2012

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the California Department of Transportation (application number 18655-2). This project includes constructing a cast-in-place reinforced box girder concrete bridge structure (Number 19-0195L) across Coon Creek. The project is located south of Sheridan and is part of the State Route 65 Lincoln Bypass project, about 25 miles north of Sacramento, at 38.9328°N 121.3684°W NAD83, Placer County, California.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

There is not enough information provided to determine if there is a permit action under Section 10 and/or Section 404. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, 1325 J Street, Room 1350, Sacramento, California 95814, telephone (916) 557-5250.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,

for Ryan T. Larsen

Meegan G. Nagy, P.E.
Chief, Flood Protection and Navigation Section

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
MARYSVILLE, CA 95901
PHONE (530) 741-4233
FAX (530) 741-4245
TTY 711

Attachment C - Letter Requesting Permit Condition Modification

Flex your power!
Be energy efficient!

October 31, 2012

Mr. Jay Punia
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room #151
Sacramento, CA 95821

Dear Mr. Punia:

Subject: Addendum to Caltrans District 3 Response to General and Special Conditions of Recently Received Permit No. 18655-2 (Lincoln Bypass – Coon Creek Left)

The California Department of Transportation (Caltrans) provided information previously regarding the subject above in a letter dated October 5, 2012. Subsequent to that letter, a meeting was held with the Central Valley Flood Protection Board (Board) staff regarding General and Special conditions for a bridge in Butte County. As a result of that meeting, a better understanding of the perspectives of both parties was achieved and several Special Conditions were either re-written or struck.

Below we have presented Special Conditions originally provided by the Board for Coon Creek (Left) – Permit No. 18655-2 which have been modified pursuant to the conclusions reached at the meeting previously mentioned. We believe these should now be adopted by Board approval for this proposed bridge crossing. What appears in blue has been imported from the Butte Creek discussion which we believe to be mutually acceptable. Special Conditions numbered TWENTY-THREE (temporary formwork), THIRTY-THREE (drainage into floodway), THIRTY-EIGHT (evacuation plan) and THIRTY-NINE (geotechnical studies) from the original permit have been struck. Conditions in red require further discussion. After each special condition we have referenced the original special condition number from the permit. We have expressed our concerns with certain condition language in italics.

SPECIAL CONDITIONS

THIRTEEN: All work completed under this permit, as directed by the general and special conditions herein, shall be accomplished to ensure that the work is not injurious to adopted plans of flood control, regulated streams, and designated floodways under Board jurisdiction, as defined in California Code of Regulations, Title 23. This permit only applies to the completion of work in the project description located within or adjacent to and having bearing on Board jurisdiction, and which directly or indirectly affects the Board's jurisdiction.

Special Condition 13 is vague in that it states "This permit only applies to the completion of work in the project description located within or adjacent to and having bearing on Board jurisdiction, and which directly or indirectly affects the Board's jurisdiction." Anyone not present at the previous meeting between Caltrans and the Board would have difficulty understanding this condition.

FOURTEEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the Central Valley Flood Protection Board, the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN, above.

FIFTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least 10 working days prior to start of work may result in delay of the project. (13)

SIXTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board. (14)

SEVENTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions of project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within thirty (30) calendar days of beginning the project. (15)

EIGHTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion. (16)

NINETEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent

allowed by law. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion. (17)

TWENTY: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board. (18)

Special Condition 20 still says no work. This is supposed to work in conjunction with Special Condition 13 but on its own it is a restriction. Special Condition 25 would allow otherwise, once again on their own, which prevails?

TWENTY-ONE: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces. (19)

TWENTY-TWO: The Central Valley Flood Protection Board and the Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair. (20)

TWENTY-THREE: The permittee shall be responsible for repair of any damages to the Coon Creek floodway, and other flood control facilities due to construction, operation, or maintenance of the proposed project. (21)

TWENTY-FOUR: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work. (22)

TWENTY-FIVE: Thirty (30) calendar days prior to start of any demolition and/or construction activities within the floodway, the permittee shall submit to the Chief Engineer two sets of plans, specifications and supporting geotechnical and / or hydraulic impact analyses, for any and all temporary, in channel cofferdam(s), gravel work pad(s), work trestle(s), scaffolding, piles, and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15. The Central Valley Flood Protection Board shall acknowledge receipt of this submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days.

TWENTY-SIX: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future

flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense. (24)

TWENTY-SEVEN: The permitted encroachment(s) shall not interfere with operation and maintenance of the present or future flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense. (25)

TWENTY-EIGHT: If the project or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense. (26)

TWENTY-NINE: All debris generated by this project shall be disposed of outside the floodway. (27)

THIRTY: All debris that may accumulate around the bridge piers and abutments within the floodway shall be completely removed from the floodway following each flood season. (28)

THIRTY-ONE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District if conditions are created. (29)

THIRTY-TWO: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance. (30)

THIRTY-THREE: Any locks on the gates must be accessible to maintenance and inspection personnel and must not be case-hardened. (31)

THIRTY-FOUR: Backfill material for excavations shall be placed in up to 8-inch layers and compacted with material as specified in Caltrans Standard Specifications (2010) SS19-3.0E to the density also specified. (32)

THIRTY-FIVE: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion. (34)

THIRTY-SIX: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area. (35)

THIRTY-SEVEN: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season. (36)

THIRTY-EIGHT: If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in significant scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board. (37)

THIRTY-NINE: No further planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board. (40)

FORTY: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications. (41)

This implies all completed construction complies with all Special Conditions. Issues surrounding Special Condition THIRTY-FOUR calls this into question.

FORTY-ONE: All addenda or other changes made to the submitted documents by the permittee after issuance of this permit shall be submitted to the Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include supplemental plans, specifications, and supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Central Valley Flood Protection Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. (42)

FORTY-TWO: The letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated July 18, 2012 is attached to this permit as Exhibit A in reference to this project. (43)

FORTY-THREE: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required. (44)

FORTY-FOUR: A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are

acceptable to the Central Valley Flood Protection Board which certify that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions. (45)

Clarification is needed here. What is to be contained in these periodic reports?

FORTY-FIVE: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions. (46)

The second sentence is the same requirement as the last sentence of Special Condition 40. General Condition 4 deals with the same subject. It appears that this Special Condition should supersede General Condition 4 or, leave General Condition 4 and remove this Special Condition.

FORTY-SIX: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California, 95821, upon completion of the project. (47)

FORTY-SEVEN: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures. (48)

FORTY-EIGHT: Upon completion of the project, the permittee shall submit a final completion letter to: The Central Valley Flood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821. (49)

FORTY-NINE: At the request of either the permittee or Central Valley Flood Protection Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties. (50)

Thank you for your consideration of these revisions. If you have any questions please call me at (530)741-4233 or Tom Brannon at (530)740-4846.

Sincerely,

Jody Jones

JODY JONES
District Director

Meeting of the Central Valley Flood Protection Board
July 27, 2012

Staff Report – Encroachment Permit
California Department of Transportation, District 3
Highway 65 Bypass, Coon Creek Bridges
Placer County, CA

1.0 – ITEM

Consider approval of Permit No. 18655 (Attachment B, Exhibit A), an authorization of an existing right bridge (north bound) and Permit No. 18655-2 (Attachment B, Exhibit B) an approval of a proposed new left bridge (south bound). These proposed permits are for a construction variance from Board standards to allow for a lesser bridge freeboard.

2.0 – APPLICANT

California Department of Transportation, District -3

3.0 – LOCATION

The project is located at the newly constructed State Route 65 Bypass as it crosses Coon Creek in Placer County California (Attachment-C).

4.0 – DESCRIPTION

The project consists of two bridge elements which will require a construction variance from the California Water Code, Title-23:

1- To authorize an existing cast-in place reinforced box girder concrete right bridge structure (No. 19-0195R) crossing Coon Creek which is the north bound lane of the State Route 65 Lincoln Bypass in Placer County.
2- To install a proposed cast-in-place/ prestressed concrete box girder left bridge (No.19-0195L) crossing Coon Creek which is the south bound lane of the State Route 65 Lincoln 65 Bypass in Placer County.

Neither bridge met freeboard requirements.

5.0 – PROJECT ANALYSIS

The following project analyses have been made based on the review of the available technical information provided by the applicant and the applicant's engineer.

In accordance with Title 23, CCR Section 11, the board may grant a variance from the Board's standards for a use that is not consistent with the Board's standards. When approval of an encroachment requires a variance, the applicant must clearly state in the

application why compliance with the Board's standards is infeasible or not appropriate. See Attachment-H, a letter from Caltrans to Board's Executive Officer dated May 4, 2012

These bridges are new and newly proposed projects of the north bound and south bound State Route 65 Lincoln Bypass in Placer County. The plan is to authorize the existing bridge with the lesser freeboard and approve the second bridge for construction at the same bridge height as the "As-Built" bridge.

Under Title-23; Code of Regulations, Section 128(a)(10)(A): "The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plane…" This is not the case for this project where the freeboard for the design storm is:

Existing, As-Constructed, North Bound Bridge (permit application #18655)

Soffit elevation	= 108.88 feet
Water surface elevation	= 107.16
Freeboard	= 1.72 feet ~ 2 feet which is less than the required 3 feet.

Proposed, South Bound Bridge (permit application #18655-2)

Soffit elevation	= 108.89 feet
Water surface elevation	= 106.50
Freeboard	= 2.39 feet which is less than the required 3 feet.

(See Atachment-F; Figure 3).

Cal Trans will restore all stream slopes and roadways to pre-project condition or better and follow all standards and guidelines as applicable, in Title 23 of the California Water Code for construction activities on levees and within the floodway. The relevant Title 23 sections are:

- 112. Streams Regulated and No permissible Work Periods
- 115. Dredged Spoil, and Waste Material
- 116. Borrow and Excavated Activities – Land and Channel
- 121. Erosion Control
- 128. Bridges
- 130. Patrol Roads and Access Ramps

5.1 – Background

The California Department of Transportation (CalTrans) and the Federal Highway Administration, in cooperation with the City of Lincoln and Placer County, have constructed the highway – 65 Bypass just west of the present Highway 65 and the town of Lincoln.

The northern segment of State Route 65 begins at the interchange with Interstate 80 in Roseville as a freeway heading northwest to Blue Oaks Boulevard where the freeway turns north towards Lincoln. The freeway ends north of Twelve Bridges Drive where the highway continues in a four-lane configuration. The highway is then reduced to roughly

two lanes as it enters downtown Lincoln. The highway heads northwest again outside of Lincoln as a rural two-lane highway, passing through the communities of Sheridan and Wheatland. It assumes its freeway designation a few miles north of Wheatland, ending at State Route 70 in Olivehurst.

A bypass around Lincoln is currently being constructed to alleviate traffic congestion in and around the city. The first phase of the bypass will be a four-lane freeway from the northern end of the freeway segment of SR 65 at Industrial Avenue to Nelson Lane and a two-lane expressway from Nelson Lane to Riosa Road in Sheridan, reconnecting with the current SR 65 north of town. There will be a partial interchange at Industrial Avenue, a full interchange at Ferrari Ranch Road and at-grade intersections at Nelson Lane, Wise Road and Riosa Road. Construction began in late 2008 and is scheduled for completion in 2012. A second phase at a later date will add two lanes between Nelson Lane and Riosa Road and upgrade the at-grade intersections to interchanges. Ultimately, SR 65 will become a four-lane freeway from I-80 in Roseville to Riosa Road in Sheridan.

In 2000, Caltrans issued a Project Study Report (PSR) that analyzed six alternative alignments for the proposed Wheatland Bypass. After extensive public meetings, Caltrans identified Alternative E as the preferred alternative. Alternative E would start at the northern end of the Lincoln Bypass, and proceed due north, crossing the Bear River on a new bridge to the east of the existing SR 65 alignment. It would bypass Wheatland to the east, and then turn west and pass along the southern edge of Beale Air Force Base before connecting to south end of the freeway segment at South Beale Road. If completed, the Wheatland Bypass would enable continuous freeway travel from I-80 to Marysville (via SR 70). Although Caltrans completed the PSR in 2000 that identified the preferred alignment, the Wheatland Bypass remains unfunded. State and local officials cannot present a timetable for completing the bypass until $300 million is secured to complete the required environmental studies and construction.

North of its present northern terminus at SR 70 in Olivehurst, the legislative designation of SR 65 continues west/northwest to SR 99 in (or south of) Yuba City. Caltrans has planned since 1986 to extend SR 65 as a freeway west or northwest from SR 70 to SR 99 via a third bridge across the Feather River south of Yuba City to alleviate traffic on the two existing bridges between Yuba City and Marysville. Funding issues and environmental concerns have stalled the extension of SR 65 to Yuba City and the third Feather River Bridge.

The interchange at Sunset Boulevard was opened to traffic in March 2010, eliminating the last traffic signal between I-80 and Sterling Parkway in Lincoln.

On September 3, 2010 the Department of Water Resources Inspector found that the 14 miles of newly constructed Lincoln Bypass was under construction and that seven bridge were being built (or had neared completion) over some of the CVFPB's Regulated Streams without a Board Permit. Those bridges are:

Auburn Ravine left and right bridges, a major stream.
Coon Creek right bridge, a major stream.
Big Yankee Slough right bridge, a minor stream.
Big Yankee Slough @ dowd Rd. single bridge, a minor stream.
North Yankee Slough right bridge, a minor stream.

And
South Yankee Slough right bridge, a minor stream.

5.2 – History of Project with CVFPB Staff

On October 1, 2010 Board staff meet with CalTrans District-3 Director and staff to asses them of the situation. The Director assured Board staff that they would comply with getting the bridges permitted. CalTrans would submit permit application in by November 18, 2010.

December 15, 2010 CalTrans delivered six permit applications 1st submittal.

December 27, 2010 CalTrans sent more hydraulic information requested by the Board staff.

Subsequent meetings, phone calls and e-mails to resolve problems with the system wide hydraulics.

March 23, 2011 CalTrans resubmits (2nd submittal) permit application.

March 24, 2011 Board staff submits request to DWR land and Right-of-Way landowner information for the Hwy-65 bridges.

March 28, 2011 Board staff send USACE transmittal of the 6 projects.

April 18, 2011 the Board staff receives a landowner protest for the project from Walter Fickwirth.

April 20, 2011 Board staff send to the applicant the 30 day letter acknowledging that all the pieces of the application had been met and that a thorough review of the project by the engineering staff would begin.

May 3, 2011 Board Staff visited site to meet with landowners (Walter Fickwirth, Richard Jansen and Carol Birky) on December/ January 2011 flooding which occurred upstream and downstream of Coon Creek.

May 11, 2011 Board Staff receives the USACE Non-Fed Letter for seven existing bridges with no-comment.

June 7, 2011 Board Staff met with CalTrans hydraulic staff to resolve the system wide hydraulic problem. It was determined that CalTrans needed to fly Lidar a second time to get a better handle on existing topography. CalTrans requested extra time to perform the LIDAR and prepare the sub watersheds for each bridge crossings with a full fledge hydrologic analysis. The new engineering work would be delivered sometime in September 2011.

August 25, 2011 Lack of information on current submittal. (See Attachment-K),

November 17, 2011 the CalTrans District Director requested that they be given an extension of time due to LIDAR problems. (See Attachment-I).

March 13, 2012 the CalTrans District Director requested that another extension be given due to conversions from the Metric units to the English units for plans, specifications and reports. (See Attachment-J).

May 4, 2012 CalTrans resubmits the permit applications (3rd submittal).

May 7, 2012 CalTrans request a Construction Variance from Title-23 for the newly constructed Coon Creek Bridge (Board Permit application No. 18655).

May 21, 2012 Board staff sends CalTrans the 10 day acknowledgement letter indicating receipt of the 3rd application submittal which also includes four additional south bound bridges (Board Permit application No's. 18655-2, 18654-2, 18657-2, and 18658-2).

5.3 – Hydrologic Analysis

In December of 1996, Murray, Burns and Kienlen produced a hydrologic analysis of the Coon Creek watershed for Teichert, Inc. The study reach was from the existing State Route - 65 upstream to a proposed aggregate mining operation site. The study was performed using HEC-1 and HEC-2. The estimated discharge at State Route – 65 was 17,505 cfs using a 24-hour average precipitation for a 100 – year event (6.30 inches). As an independent check, this was compared with a U.S. Geological Survey, Magnitude and Frequency of Floods in California, [USGS, 1977] estimate of 16,000 cfs.
During the 1998 floods, Placer County Flood Control and Water Conservation District (PCFCWCD) conducted their own hydrologic study utilizing the HEC -1 model based on their field collection data and provided a new estimate of 23,000 cfs for the 100 year flood flow event.
Subsequently in 2002 to 2003 several other studies were conducted by CH2MHill, and Placer County, having 100 year flow results between 18,000 cfs to 23,000 cfs.

In February 2002, Caltrans received a letter from Brian Keating , District Engineer, from PCFCWCD requesting that Caltrans use 21,500 cfs as the 100-year peak flow in the vicinity of the Lincoln Bypass crossing Coon Creek.
The drainage area is 83.1 square miles.

5.4 – Hydraulic Analysis Bridges (1929 NGVD Datum)

	Right (built) North-bound Permit Application No.18655	Left (proposed) South-bound Permit Application No.18655-2
Structural depth	3'-11"	4'-0"
Bridge spans	5 each	5 each
Bridge Length	394 feet	394 feet
Lowest soffit elevation	109.0 feet	109.7 feet

Q (100)	21,500 cfs	21,500 cfs
Freeboard	1.72 feet	2.39 feet
WSEL at low end of bridge	107.16 feet	106.50 feet
Bridge velocity @ downstream	12.0 fps	11.9 fps

5.5 - Pier scour potential

Based on the Federal Highway Administration HEC-18, the scour calculations were performed assuming the worst condition, sandy soils. The Log of Test Borings indicates a thin layer of lean clay with sand over roughly a 8.0 feet layer of well-graded sand with silt and gravel at elevation 94.0 feet. This suggests that the top layer may be more resistant to erosion than the 8.0 foot layer below. For both bridges 18655 and 18655-2 the following scour calculations are provided by CalTrans:

Local Scour	= 8.0 ft.
Contraction Scour	= 4.6 ft.
Degradation Abutments	= 0.0 ft./year
Total Pier Scour	= **12.6 feet**; excessive
Total Abutment Scour	= **4.6 feet**; excessive

Design Flow Velocity, Right Bridge Permit# 18655 = 12.0 fps
Design Flow Velocity, Left Bridge Permit# 18655-2 = 11.9 fps

Per CalTrans: Where velocities exceed 10 fps a mitigation plan for rock protection has been designed.

5.6– Geotechnical Summary

The California Department of Transportation, Division of Engineering Services; Geotechnical Service – MS 5 conducted a subsurface investigation during the months of October 2003 and June 2004. Two mud rotary borings were drilled, one at each location, along with one hydraulic drive rig hole. Data has been submitted to the Board staff in the “Log of Test Borings” not a part of this report.

<u>Regional Geology</u>
This site lies within Quaternary alluvium of the Riverbank Formation. Based on subsurface investigation by CalTrans, foundation material consists of predominately, sand, silt, clay and gravel combinations. Bore pits on the south bank went down to 120 feet and on the north side 110 feet.

<u>Seismic Recommendations</u>
Based on the Caltrans 2009 Seismic Design Procedure, the nearest active fault to this site is the Bear Mountains fault zone. The fault is northwest of the bridge, and the rupture distance to the fault plane from the bridge site is about 9.7 miles. The Vs30 (average shear wave velocity for the top 100 feet of soil) was estimated to be 890 feet/second.
The peak ground acceleration is about 0.23g.

The probabilistic method is based on the USGS 5% probability of exceedance in 50 years with a return period of 975 years.
The liquefaction analysis indicates minimal potential for liquefaction during an earthquake event.
The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Ground Water
Ground water levels were measured in October 2003 and June 2004. At the BB (Begin Bridge)(South abutment) maximum water depths were at 9.8 feet, elevation 87.3 feet. At the EB (End Bridge)(North abutment) maximum water depths were at 9.5 feet, elevation 97.4 feet. There was water in the creek at the time of drilling and when ground water levels were recorded.

Scour
The total potential scour is 4.9 feet. The scour numbers were deived using the Federal Highway Administration Hydraulic Engineering Circular Number 18. The scour potential was derived using:
3.9 feet diameter columns by 13.1 feet by 5.3 feet pile cap dimensions and
The HP 10x57 steel piles configuration. The pier scour elevation is the thalweg elevation minus the local pier scour minus the contraction scour, at approximately 75.5 feet. The elevation assumes that the channel will migrate.

Foundation Recommendations
Final foundation recommendations by CalTrans are primarily for the bridge abutments and the bridge support piers. Both the abutments and piers will be driven steel HP piles. For the abutments the pile type will be HP 10x57 with a design load of 70 tons and a nominal resistance in compression of 140 tons (no tension resistance).
For the piers the pile type will be HP 12 x 74 with a design load of 100 tons and a nominal resistance in compression of 200 tons (no tension resistance).

Construction Considerations (CalTrans recommendations for proposed left bridge)

1- Hard driving should be expected to achieve steel H-Pile tip elevations due to the presence of dense sand, gravel and moderately to stronglt cemented layers.
2- At the Contractor's option and after the lateral control tip has been achieved, any driven steel H-Pile which refuses within 10.0 feet of the specified tip elevation may be considered adequate. Refusal shall be defined as 3x the required bearing, 210.0 tons for HP 10 x 57 piles and 300.0 tons for 12 x 74 piles.
3- Ground water control measures will be necessary for pile cap excavations and construction.
4- All pile cap excavation shall be cleared of loose material and debris prior to concrete placement.
5- A 30-day settlement period will be required for all approach fill embankments. No surcharge will be required.

6- Piles to be driven through embankment constructed by the contractor, shall be driven in holes predrilled or spudded through the embankment per Cal Trans Standard specifications Section 49-1.06.
7- Cal Trans, Type A structure excavation will be required to the following bottom of footing elevations:

Pier#	bottom of ftg. depth
2 & 5	83.7' NGVD 29
3 & 4	75.5'

8- For the proposed new left bridge; if any of any changes are made both the Cal Trans Office of Geotechnical Design – North and the Central Valley Flood Protection Board shall be contacted to determine if said changes of the foundation recommendations by CalTrans are still applicable.

5.7 – Construction Variance

Several factors prompt a request from Caltrans for a variance from Board Standards to reduce freeboard requirements:

1- An existing upstream railroad bridge and railroad embankment currently concentrate sheet flow flood waters into the Coon Creek thereby increasing the time of concentration within the creek. This is a flood retarding system.
2- An existing Placer County Bridge on the downstream end of the project at Dowd Road is an old bridge which restricts upstream flows. Until that bridge is updated, the Coon Creek Bridge would retard flow to a degree thereby relieving the downstream flood stress.
3- The Coon Creek northbound bridge has been constructed and to redesign and construct the bridge would be a major undertaking both from a structural stand point and a financial.
4- The available freeboard varies across the bridge span from 2 feet at Abutment -1 (north stream bank) and 3.2 feet at Abutment -6 (south stream bank). Approximately 15 percent of the bridge span meets the 3.0 foot of freeboard requirement.
5- Backwater impacts from the new crossing do encroach onto several upstream adjacent private parcels. Caltrans has obtained the necessary flood easements and been compensated for damages as follows:

Document dated April 11, 2012.

- Richard and Elizabeth Jansen – downstream parcel
- Walter and Robyn Fickeworth – upstream parcel

The documents have been withheld from this staff report because they contain personal information, and pursuant to Civil Code 1798.21, it shall be kept confidential in order to protect against unauthorized disclosure.

See Attachment – H.
For the above stated reasons, a Construction Variance is being sought.

5.8 – Staff Comments

The Central Valley Flood Protection Board has jurisdiction over Coon Creek as defined in Title 23, of the California Code of Regulations. From the Draft Modifications (Fua) dated October 2010, Title 23 Division 1, Chapter 1, Article 2, Subpart 4 Definitions, Section (4)(v), "Minor and Major Streams. "Minor streams" are streams which generally have a design or natural channel capacity of less than 8,000 cfs, conditioned upon debris loads within the watershed. Streams and rivers with design or natural channel capacities equal or greater than 8,000 cfs are generally classified as major streams.

The project has an effect on the Flood Control System backing up flood waters into the upstream watershed which is primarily grazing land. The design flow of 21,500 cfs has now been concentrated due to the raised Highway – 65 bypass which acts as a dam and dis-allows the historic sheet flow in the area.

Caltrans has made an attempt to compensate upstream landowners for delayed flood waters in their grazing areas both financially and through acquiring permanent flood control easements. On the downstream where increased storm velocities have eroded stream channel banks and farmland, Caltrans has mitigated those velocities by placing rock rip-rap bank protection and grading the area.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS:

The comments and endorsements associated with this project, from all pertinent agencies are:

- A U.S. Army Corps of Engineers comment letter was received May 11, 2011 Board meeting and is incorporated by reference to Permit No. 18655 as Attachment – B, Exhibit A. for the Coon Creek right bridge
- A U.S. Army Corps of Engineers comment letter Permit No. 18655-2 is expected from the USACE to be a non-federal concern letter and will be incorporated into this permit as Attachment – B, Exhibit B.
- The Placer County Flood Control District has endorsed this project with conditions which have been incorporated into the permit. Most of the upstream and downstream riverine is privately owned with no Long Term Maintenance Agency. See Attachment-B Exhibit-C.
- CalTrans District-3 is the Long Term Maintenance Agency for streams under the bridge and 100 feet upstream and downstream of the bridges.

6.1 – Owners of the property on which the project is located or impacted.

Cal Trans District 3 in Marysville
Richard B. & Elizabeth M. Jansen Property APN 19-290-070 upstream
Triangle Properties APN 19-290-019 upstream

Triangle Properties	APN 20-150-078 upstream
Carol R. Birky Property	APN 21-020-076 upstream
Walter Fickewirth Property	APN 19-290-061 downstream

See Attachment – O.

7.0 – PROPOSED CEQA FINDINGS:

Board staff has prepared the following CEQA Findings:

The Board, as a responsible agency under CEQA, has reviewed Draft and Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (SCH Number: 1990020626, May 2006) and Mitigation Monitoring Plan and State Route 65, Placer County, Highway Bypass Project prepared by the lead agency, Caltrans. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at http://www.cvfpb.ca.gov/meetings/2012/07-27-2012.cfm under a link for this agenda item. These documents are also available for review in hard copy at the Board and the Caltrans offices.

Caltrans has determined that the project would not have a significant effect on the environment and subsequently filed a Notice of Determination on May, 30, 2006 with the State Clearinghouse. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's Mitigation Monitoring Plan and address impacts to biological resources, water quality, cultural resources, agricultural resources, hazards and hazardous materials, and land use.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

   The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues:

   The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

   This project has negative impacts on the State Plan of Flood Control. Structural impacts from the project construction are negligible. However, the hydraulic impacts are appreciable but have been mitigated due to the fact that Caltrans has bought flowage easements on upstream properties which have flooded during high water events.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

   Climate change issues have not been taken into account in the hydraulic analysis for this project; however, the project is in the High Sierra foothills which is inland past the point tidal influence raises in Water Surface Elevation (WSE), and due to the wide spread sheet flow conditions at this location, the project would have an ample factor of safety built into it. Climate change WSE raises are only estimated from 6-inches to 1-foot of impact and would be well within the freeboard of this project in the event that tidal influences did reach further inland than expected. There are no other foreseeable projected future events that would impact this project other than future development.

9.0 – STAFF RECOMMENDATION

Staff recommends that the Board adopt the CEQA findings, approve the existing bridge permit 18655, along with U.S. Army Corps of Engineers 208.10 comment letter which indicates no objection to the project, and authorize the proposed bridge permit 18655-2 conditioned upon the receipt of U.S. Army Corps of Engineers 208.10 comment letter indicating no objection and adopt Resolution No. 2012-30, and direct staff to file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

A. Resolution No. 2012-30

B. Draft Permit No. 18655 and 18655-2

   Exhibit A – U.S. Army Corps of Engineers 208.10 Comment Letter for 18655 dated May 11, 2011

   Exhibit B - U.S. Army Corps of Engineers 208.10 Comment Letter for 18655-2 not received yet.

C. Location Map

D. Vicinity Map

E. Bridge Project cover sheet.

F. Construction Drawings. Sheets

Permit application 18655: 1, 2, 4 - 9

Permit application 18655-2: 1, 2, 3, 5 - 9

G. HEC-RAS Water Surface Plan & Cross Section for Bridge

H. Floodway Encroachment Variance Request from Caltrans District Director, Jody Jones to CVFPB Executive Officer, Jay Punia dated May 4, 2012.

I. Letter from CalTrans District-3 Director Jody Jones to Board's Executive Officer, Jay Punia dated November 17, 2011; Permit application time extension.

J. Letter from CalTrans District-3 Director Jody Jones to Board's Executive Officer, Jay Punia dated March 13, 2012; Permit application time extension.

K. Letter from Board's Executive Officer to CalTrans District-3 Director dated August 25, 2011 regarding lack of information and resubmittal.

L. Cal Trans Maintenance

M. Mr. Walter Fickewirth Protest letters; April 13 and 27, 2011.

N. Landrights Map

O. Photos

Report Completed by:	David R. Williams, P.E.
Design Review:	David R. Williams, P.E. Dr. Sungho Lee
Environmental Review:	James Herota, E.S. and Andrea Mauro, E.S.
Document Review:	Len Marino, P.E. – Chief Engineer

STATE OF CALIFORNIA
THE RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

RESOLUTION NO. 2012-30

FINDINGS AND DECISION AUTHORIZING ISSUANCE OF
ENCROACHMENT PERMIT NO. 18655, 18655-2
CALIFORNIA DEPARTMENT OF TRANSPORTATION
STATE ROUTE 65 COON CREEK BRIDGE PROJECT

WHEREAS, the California Department of Transportation (Caltrans) submitted Application No. 18655 to the Central Valley Flood Protection Board on March 14, 2011, to authorize an existing cast-in place reinforced box girder concrete right bridge structure (No. 19-0195R) crossing Coon Creek; and

WHEREAS, the California Department of Transportation (Caltrans) submitted Application No. 18655-2 to the Central Valley Flood Protection Board on June 1, 2011, to construct an cast-in-place reinforced box girder concrete left bridge structure (19-0195L) crossing Coon Creek; and

WHEREAS, the project location is on the State Route 65 Lincoln Bypass crossing Coon Creek, east of North Dowd Road, north of West Wise Road, south of Waltz Road, about 25 miles north of Sacramento, in western Placer County; and

WHEREAS, Application No. 18655 and 18655-2 will require a variance to Title 23, California Code of Regulations (CCR), Article 8, Section 128(a)(10)(A), subject to Board approval; and

WHEREAS, the proposed project does not meet the Board's standards contained in Title 23, California Code of Regulations (CCR), Article 8, Section 128(a)(10)(A) which states "The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plane. The required clearance may be reduced to two (2) feet on minor streams at sites where significant amounts of stream debris are unlikely."; and

WHEREAS, in accordance with Title 23, CCR Section 11, the Board may grant a variance from the Board's standards for a use that is not consistent with the Board's standards. When approval of an encroachment requires a variance, the applicant must clearly state in the application why compliance with the Board's standards is infeasible or not appropriate; and

WHEREAS, Caltrans requests a variance from Title 23, CCR Section 128 (a)(10)(A) and requests the Board's approval for the following reasons:
1) The debris loading risk is low at the proposed site;
2) Increasing the freeboard does not reduce the safety risk during the 100-year flood event;
3) The proposed bridge has no affect on downstream levees regardless of freeboard;
4) The appropriate freeboard amount is independent of the new State Route 65 bridges;

5) The County's proposed project is the best balance of maximum channel capacity, clearance and public expense; and

WHEREAS, staff has found no evidence that would suggest that the existing bridges would be injurious to or interfere with the successful execution, functioning, or operation of any facilities of an adopted plan of flood control; and

WHEREAS, Caltrans as lead agency under the California Environmental Quality Act, Public Resources Code sections 21000 *et seq.* ("CEQA") prepared an Draft and Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (SCH Number: 1990020626, May 2006) and Mitigation Monitoring and Reporting Plan (MMRP) for the State Route 65, Placer County, Highway Bypass Project (incorporated herein by reference and available at offices of the Central Valley Flood Protection Board or Caltrans); and

WHEREAS, Caltrans, as lead agency, certified the EIS/EIR, adopted mitigation measures and a MMRP on the State Route 65, Placer County, Highway Bypass Project, approved findings pursuant to CEQA and the CEQA Guidelines (incorporated herein by reference); and filed a Notice of Determination with the State Clearinghouse on May 30, 2006 approving the Project; and

WHEREAS, a favorable U.S. Army Corps of Engineers comment letter for Application 18655 was received on May 11, 2011, which determined the proposed work does not affect a federally constructed project; and

WHEREAS, The U.S Army Corps of Engineers issued a project review letter dated July xx, 2012, with no objections to the approval of Permit No. 18655-2 subject to conditions. The letter is incorporated into the permit as Exhibit B; and

WHEREAS, the Central Valley Flood Protection Board has conducted a hearing on Encroachment Permit Application No. 18655, and 18655-2 and has reviewed the application, the Staff Report, the documents and correspondence in its file, and given the applicant the right to testify and present evidence on their behalf;

NOW, THEREFORE, BE IT RESOLVED THAT,

Findings of Fact.

1. The Central Valley Flood Protection Board hereby adopts as findings the facts set forth in the Staff Report.

2. The Board has reviewed all Attachments, Exhibits, Figures, and References listed in the Staff Report.

CEQA Findings.

3. The Board, as a responsible agency under CEQA, has reviewed the Draft and Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (SCH Number: 1990020626, May 2006) and State Route 65, Placer County, Highway Bypass Project prepared by the lead agency, Caltrans.

4. The Central Valley Flood Protection Board, after consideration of the EIS/EIR, MMRP, and Caltrans findings, adopts the project description, analysis and Findings which are relevant to activities authorized by issuance of Encroachment Permit No 18655 and 18655-2 for the State Route 65, Placer County, Highway Bypass Project. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures address impacts to biological resources, water quality, cultural resources, agricultural resources, hazards and hazardous materials, and land use.

5. **Custodian of Record**. The custodian of the CEQA record for the Board is its Executive Officer, Jay Punia, at the Central Valley Flood Protection Board Offices at 3310 El Camino Avenue, Room 151, Sacramento, California 95821.

Findings pursuant to Water Code section 8610.5

6. **Evidence Admitted into the Record**. The Board has considered all the evidence presented in this matter, including the original and updated applications, past and present Staff Reports and attachments. The Board has also considered all letters and other correspondence received by the Board and in the Board's files related to this matter.

7. **Best Available Science**. In making its findings, the Board has used the best available science relating to the issues presented by all parties.

8. **Effects on State Plan of Flood Control**. This project has no effects on the State Plan of Flood Control.

9. **Effects of Reasonably Projected Future Events**. There are no other foreseeable projected future events that would impact this project.

Other Findings/Conclusions regarding Issuance of the Permit.

10. This resolution shall constitute the written decision of the Central Valley Flood Protection Board in the matter of Permit No 18655 and 18655-2.

Approval of Encroachment Permit No. 18655, 18655-2

11. Based on the foregoing, the Central Valley Flood Protection Board hereby approves the State Route 65 Coon Creek Bridge Project and approves issuance of Encroachment Permit No. 18655 and 18655-2 in substantially the form provided as Staff Report Attachment B, and final 100% plans and specifications.

12. The Board directs the Executive Officer to take the necessary actions to prepare and execute the Encroachment Permit No. 18655 and 18655-2 and all related documents and to prepare and file a Notice of Determination under the California Environmental Quality Act for the State Route 65 Coon Creek Bridge Project.

PASSED AND ADOPTED by vote of the Board on _____, 2012

_____
William H. Edgar
President

_____
Jane Dolan
Secretary

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18655 BD

This Permit is issued to:

CALTRANS - District 3
703 B Street
Marysville, California 95601-0911

To authorize an existing cast-in place reinforced box girder concrete bridge structure (No. 19-0195R) crossing Coon Creek, consisting of the following: (1) Two 11.8 ft. travel lanes; (2) 7.9 ft left and 9.8 ft. right shoulders; (3) A median bridge span of 393.7 ft.; (4) 5 segments varying in length from 49.2 ft. to 101.7 ft.; (5) Four groups of 2 concrete reinforced piers, each approximately 4.5 ft. in diameter; (6) A total bridge deck thickness of 3.94 ft.; (6) 30 ft. long fill approach embankments for the beginning and end of the bridge, consisting of approximately 4,400 CY. Located on the E side of the Central Valley, part of the State Route 65 Lincoln Bypass crossing Coon Creek, east of North Dowd Rd., north of W. Wise Rd., south of Waltz Rd., about 25 miles (40.3 km) north of Sacramento, in western Placer County (Section 36, T13N, R5E, MDB&M, Placer County Flood Control and Water Conservation District, Coon Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____ _____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18655 BD

THIRTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

FOURTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of The Central Valley Flood Protection Board.

FIFTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

SIXTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's

approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SEVENTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of The Central Valley Flood Protection Board.

NINETEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

TWENTY: The Central Valley Flood Protection Board, Department of Water Resources, and the Placer County Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

TWENTY-ONE: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-TWO: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

TWENTY-THREE: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-FIVE: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-SIX: If the project, or any portion thereof, is to be abandoned in the future, the permittee or

successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-SEVEN: All debris generated by this project shall be disposed of outside the flood control project works.

TWENTY-EIGHT: All debris that may accumulate around the bridge piers and abutments within the floodway shall be completely removed from the floodway following each flood season.

TWENTY-NINE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District lf conditions are created.

THIRTY: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board and the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-ONE: Any lock on the gate must be accessible to maintenance and inspection personnel and must not be casehardened.

THIRTY-TWO: All fill material shall be imported impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Fill material shall be compacted in 4- to 6-inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

THIRTY-THREE: Drainage from the bridge or highway shall not be discharged onto the levee section or streambank.

THIRTY-FOUR: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-FIVE: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-SIX: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-SEVEN: If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

THIRTY-EIGHT: The permittee shall submit an evacuation plan to the Central Valley Flood Protection Board that meets the requirements of Section 114 of California Code of Regulations, Title 23, Regulations of the Central Valley Flood Protection Board within 60 days of the date of this permit.

THIRTY-NINE: A copy of all geotechnical studies and tests used in the design and construction

determination of the project shall be provided to and approved by the Central Valley Flood Protection Board prior to final construction.

FORTY: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

FORTY-ONE: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

FORTY-TWO: All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

FORTY-THREE: This permit is not valid until the Central Valley Flood Protection Board has received written notification from the U.S. Army Corps of Engineers (Corps) that the Corps has no opposition to this project. The permittee shall comply with all conditions set forth in the letter from the Corps once it is received, which is attached to this permit as Exhibit A and incorporated by reference.

FORTY-FOUR: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

FORTY-FIVE: This permit shall run with the land and all conditions are binding on permittee's successors and assigns.

FORTY-SIX: A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are acceptable to the Central Valley Flood Protection Board which certifies that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-SEVEN: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-EIGHT: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California, 95821, upon completion of the project.

FORTY-NINE: Upon completion of the project, the permittee shall submit a final completion letter to: The Central ValleyFlood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

FIFTY: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

FIFTY-ONE: This is an authorization of an existing unpermitted structure. Provide permit conditions 39, 41, 42, 48, 49 for our records and comply with condition 46 requiring periodic inspection (every 3 years) of the project to the Central Valley Flood Protection Board.

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18655-2 BD

This Permit is issued to:

CALTRANS - District 3
703 B Street
Marysville, California 95601-0911

The proposed work is for a cast-in-place/prestressed concrete box girder left bridge (19-0195L) crossing Coon Creek in Placer County. The bridge will have two 11.8 ft. travel lanes and 7.9 ft. left and 9.8 ft. right shoulders, for a total width of 44.3 ft. The bridge will be divided into five spans each (one at 49.2 ft., one at 65.6 ft., one at 75.5 ft. and two at 101.7 ft.) for at total bridge length of 393.7 ft., supported on concrete piers and Steel H-piles at all support locations. The superstructure depth will have a total thickness of 3.94 ft. Total embankment is measured 30 ft. from the beginning and end of the bridge, consisting of approximately 4400 CY. Located on the E side of the Central Valley, part of the State Route 65 Lincoln Bypass crossing Coon Creek, east of North Dowd Rd., north of W. Wise Rd., south of Waltz Rd., about 25 miles (40.3 km) north of Sacramento, in western Placer County (Section 36, T13N, R5E, MDB&M, Placer County Flood Control and Water Conservation District, Coon Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18655-2 BD

THIRTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

FOURTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of The Central Valley Flood Protection Board.

FIFTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

SIXTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and

harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SEVENTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of The Central Valley Flood Protection Board.

NINETEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

TWENTY: The Central Valley Flood Protection Board, Department of Water Resources, and the Placer County Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

TWENTY-ONE: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-TWO: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

TWENTY-THREE: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-FIVE: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-SIX: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-SEVEN: All debris generated by this project shall be disposed of outside the flood control project works.

TWENTY-EIGHT: All debris that may accumulate around the bridge piers and abutments within the floodway shall be completely removed from the floodway following each flood season.

TWENTY-NINE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District lf conditions are created.

THIRTY: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board and the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-ONE: Any lock on the gate must be accessible to maintenance and inspection personnel and must not be casehardened.

THIRTY-TWO: All fill material shall be imported impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Fill material shall be compacted in 4- to 6-inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

THIRTY-THREE: Drainage from the bridge or highway shall not be discharged onto the levee section or streambank.

THIRTY-FOUR: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-FIVE: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-SIX: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-SEVEN: If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

THIRTY-EIGHT: The permittee shall submit an evacuation plan to the Central Valley Flood Protection Board that meets the requirements of Section 114 of California Code of Regulations, Title 23, Regulations of the Central Valley Flood Protection Board within 60 days of the date of this permit.

THIRTY-NINE: A copy of all geotechnical studies and tests used in the design and construction determination of the project shall be provided to and approved by the Central Valley Flood Protection Board prior to final construction.

FORTY: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

FORTY-ONE: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

FORTY-TWO: All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

FORTY-THREE: This permit is not valid until the Central Valley Flood Protection Board has received written notification from the U.S. Army Corps of Engineers (Corps) that the Corps has no opposition to this project. The permittee shall comply with all conditions set forth in the letter from the Corps once it is received, which is attached to this permit as Exhibit A and incorporated by reference.

FORTY-FOUR: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

FORTY-FIVE: This permit shall run with the land and all conditions are binding on permittee's successors and assigns.

FORTY-SIX: A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are acceptable to the Central Valley Flood Protection Board which certifies that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-SEVEN: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-EIGHT: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California,

95821, upon completion of the project.

FORTY-NINE: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

FIFTY: Upon completion of the project, the permittee shall submit a final completion letter to: The Central ValleyFlood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

REPLY TO
ATTENTION OF

Flood Protection and Navigation Section (18655)

MAY 11 2011

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the California Department of Transportation (application number 18655). This project includes authorizing an existing cast in place reinforced box girder concrete bridge structure (Number 19-0195R) crossing Coon Creek. The project is located south of Sheridan and is part of the State Route 65 Lincoln Bypass project, about 25 miles north of Sacramento, at 38.9328°N 121.3684°W NAD83, Placer County, California.

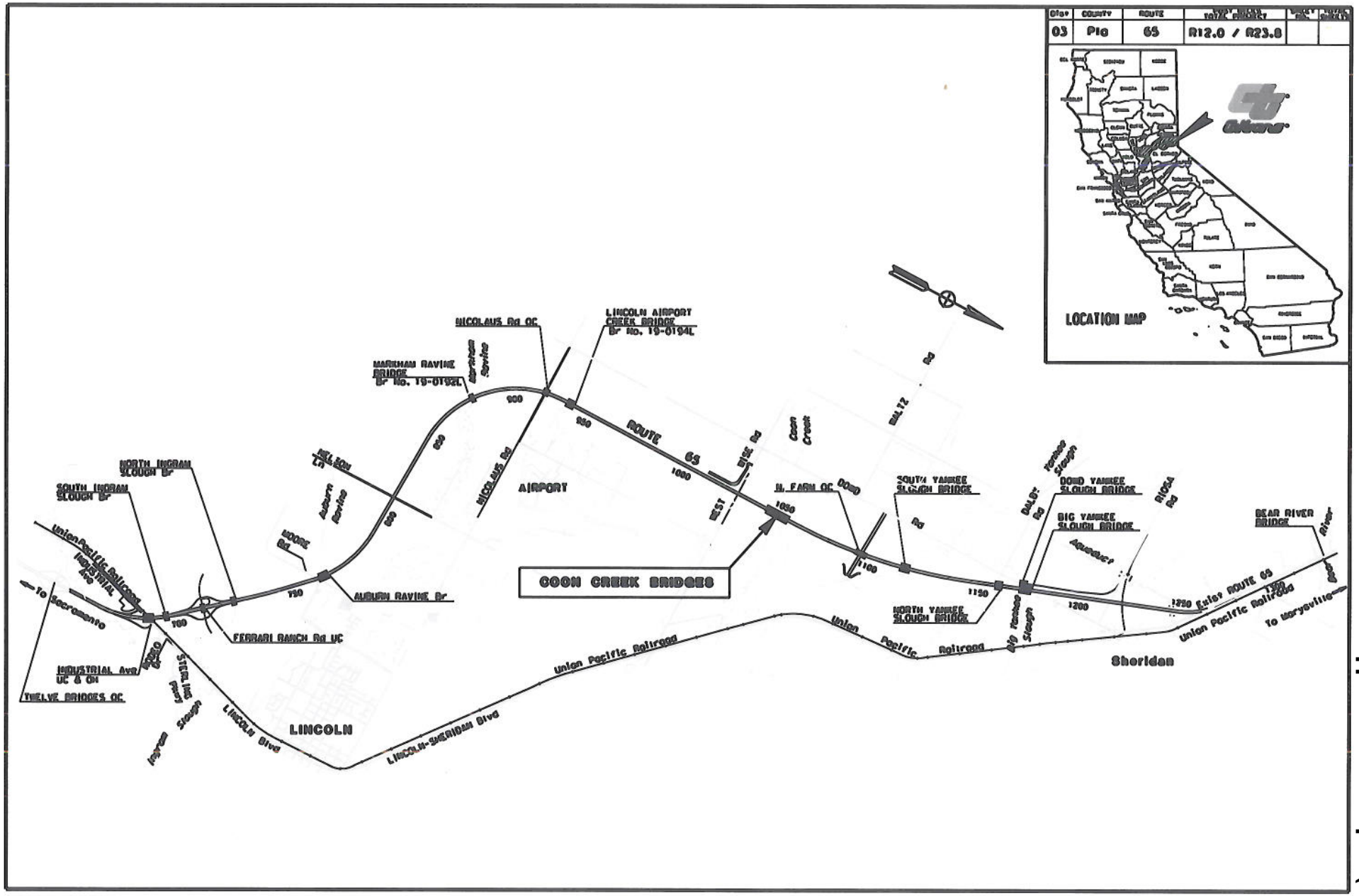
The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

A Section10 and/or Section 404 permit (199500363) has been issued for this work.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,

Meegan G. Nagy, P.E.
Chief, Flood Protection and Navigation Section



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Attachment D - Approved Staff Report (7-27-12)

Attachment D - Approved Staff Report (7-27-12)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65	R19.3/R38.3	1	1465

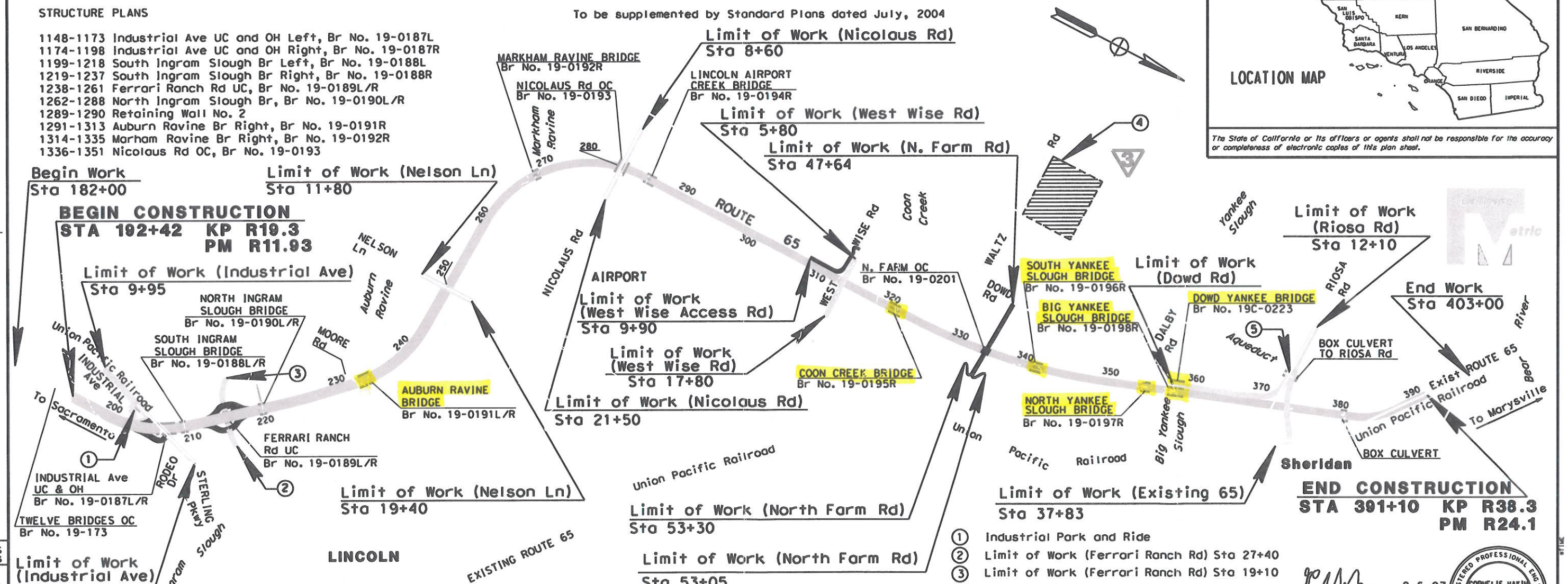
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HPLUL-6203(030)

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN PLACER COUNTY
NEAR LINCOLN
FROM 0.6 KM NORTH OF TWELVE BRIDGES OVERCROSSING TO 1.3 KM SOUTH OF BEAR RIVER BRIDGE

To be supplemented by Standard Plans dated July, 2004

INDEX OF SHEETS



① Industrial Park and Ride
② Limit of Work (Ferrari Ranch Rd) Sta 27+40
③ Limit of Work (Ferrari Ranch Rd) Sta 19+10
④ Retention Basin
⑤ Limit of Work (Dowd Rd) Sta 11+78

8-6-07
Project Engineer Date
Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
CORNELIS HAKIM
No. 55610
Exp. 12-31-08
CIVIL
STATE OF CALIFORNIA

November 13, 2007
Plans Approval Date

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS BOOK.

PRELIMINARY FOR BIDDING PURPOSES ONLY

③ REVISED PER ADDENDUM No. 3 DATED APRIL 24, 2008

NO SCALE

The Contractor shall possess the class (or classes) of license as specified in the "Notice to Contractors."

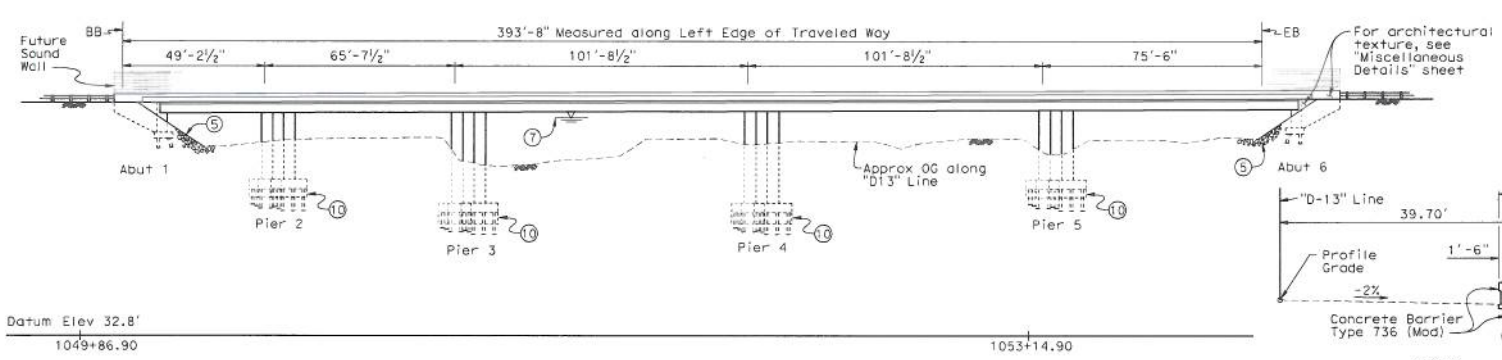
PROJECT ENGINEER	CORNELIS HAKIM	DATE	8/07
PROJECT MANAGER	JESS AVILA	DATE	8/07

Contract No. 03-3338U4

33338uab001.add 7/8/2009 11:30:37 AM	RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80	USERNAME => #USER DGN FILE => #REQUEST	CU 03264 / EA 3338U1

Attachment D - Approved Staff Report (7-27-12)

18655 right



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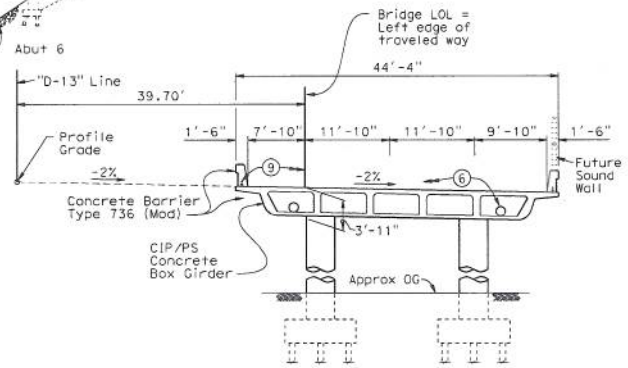

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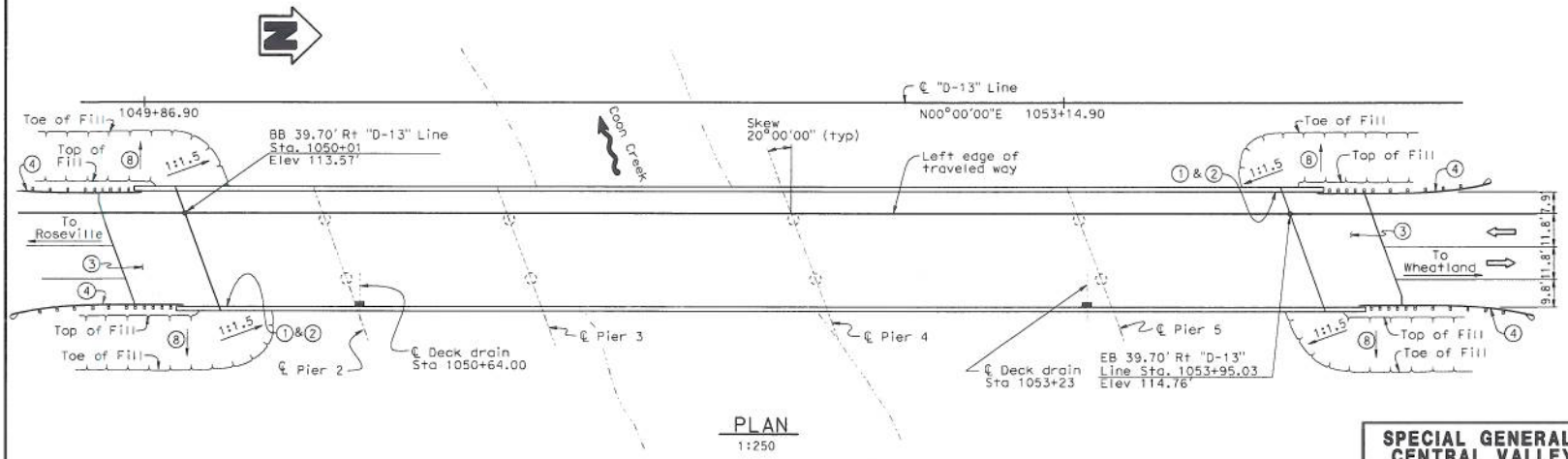

PLAN
1:250

LEGEND

1. Paint "Coon Creek Bridge"
2. Paint "Bridge No. 19-0195"
3. Structure Approach Type N(9S)
4. Metal Beam Guard Rail, see "Road Plans"
5. Rock Slope Protection, see "Road Plans"
6. Future utility opening
7. For Hydrologic summary see "Foundation Plan"
8. For Embankment side slope see "Road Plans"
9. 1-75 mm ø and 1-50 mm ø utility for electrical conduits in each Barrier
10. Seal Course Concrete

▬ Indicates Deck Drain Type D-3, see "Girder Layout" sheet

For Index to Plans, Standard Plan List, General Notes and Quantities see "Index To Plans" sheet.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65			

MJ Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER M. J. CULLEN No. C 40620 Exp. 03-31-09 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov

SPECIAL GENERAL PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

Caltrans Metric

	BY	CHECKED	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
DESIGN	H. Fang	S. Nagi				
DETAILS	M. Tran/G. Souza	S. Nagi	LAYOUT	H. Fang	S. Nagi	
QUANTITIES	H. Fang	S. Nagi	SPECIFICATIONS	M. Kapsa	PLANS AND SPECS COMPARED M. Kapsa	

DESIGN ENGINEER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	COON CREEK BRIDGE RIGHT
19-0195R	
POST MILE	GENERAL PLAN
19.76	

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 03
EA 3338U1

FILE => 19-0195r_a_gpv8.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 2-4-05 | 11-11-05 | 2-28-06 | 11-1-06 | 2-26-07 | 3-27-12

SHEET 1 OF 18

STRUCTURES-DESIGN-GENERAL PLAN SHEET (METRIC) (REV.03-17-04)

As-Built Board Request
11-11-2005
3-2-2007
3-27-2012

EXISTING CONSTRUCTION

Attachment D - Approved Staff Report (7-27-12)

USERNAME => s1304231 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 11:43:34

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
03	Pla	65			

M. J. Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — M. J. CULLEN — No. C 40620 — EXP. 03-31-09 — CIVIL — STATE OF CALIFORNIA

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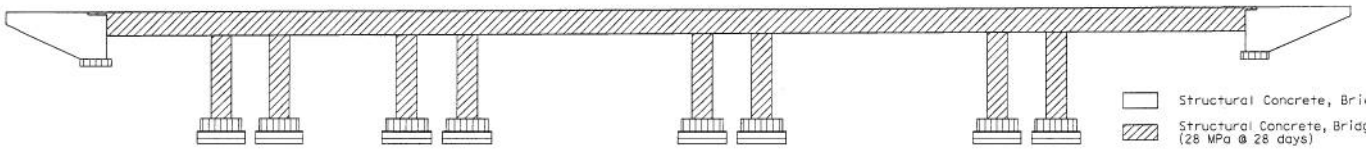


Structural Concrete, Bridge
Structural Concrete, Bridge (28 MPa @ 28 days)
Structural Concrete Bridge, Footing
Seal Course Concrete

CONCRETE STRENGTH AND TYPE LIMITS

no scale

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN:
CALTRANS BRIDGE DESIGN SPECIFICATIONS
APRIL 2003 (LFD)
(1996 AASHTO with Interims and Revisions by CALTRANS)

DEAD LOAD:
Includes 1.7 kPa for future wearing surfaces.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC)
Version 1.3 February 2004.

LIVE LOADING:
HS20-44 and alternative and permit design load.

SEISMIC LOADING:
Caltrans SDC, curve for soil profile Type D
Mw = 6.5 ± 0.25, Peak Rock Acceleration = 0.3g

REINFORCED CONCRETE:
f_y = 60 ksi
f'_c = 3600 psi
n = 9

TRANSVERSE DECK SLABS (Working Stress Design):
f_s = 20 ksi
f_c = 1200 psi
n = 10

PRESTRESS CONCRETE
See Prestress Notes on "Girder Reinforcement" sheet.

STRUCTURAL STEEL PILING
ASTM A709M Grade 250 fy=250 MPa

FUTURE SOUND WALL LOADING:
Dead load = 13.38 kN/m

SOUND WALL LOADING DISTRIBUTION						
Girders	A	B	C	D	E	F
Moment	0.6	0.17	0.17	0.17	0.17	0.6
Shear	1.0	0.17	0.17	0.17	0.17	1.0

NOTE:
Girders A and F represents Girders closest to Sound Wall, Girders B,C, D and E are interior Girders.

QUANTITIES

STANDARD PLANS DATED JULY 1999

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-7	DECK DRAINS - TYPE D-3
B7-10	UTILITY OPENING - BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-56	CONCRETE BARRIER TYPE 736
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN SIZE 103)
B14-5	SOFFIT ACCESS OPENING

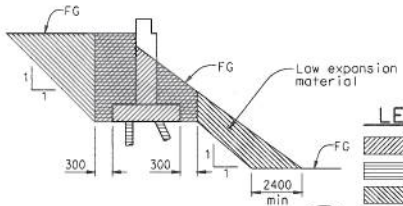
Standard Plan sheet number
Detail number

INDEX TO PLANS

PILE DATA - STEEL HP PILES

LOCATION	PILE TYPE	DESIGN LOADING (Service Load)	NOMINAL RESISTANCE COMPRESSION	NOMINAL RESISTANCE TENSION	CUT OFF ELEVATION	DESIGN TIP ELEVATION	SPECIFIED TIP ELEVATION
Abutment 1	HP10x57	62.5 TON	125 TON	0 TON	101.60'	27.23' (1,2)	27.23'
Pier 2	HP12x74	90.2 TON	180.4 TON	0 TON	84.10'	22.31' (1,2)	22.31'
Pier 3	HP12x74	90.2 TON	180.4 TON	0 TON	75.90'	22.31' (1,2)	22.31'
Pier 4	HP12x74	90.2 TON	180.4 TON	0 TON	75.90'	22.31' (1,2)	22.31'
Pier 5	HP12x74	90.2 TON	180.4 TON	0 TON	84.10'	22.96' (1,2)	22.96'
Abutment 6	HP10x57	62.5 TON	125 TON	0 TON	102.80'	31.82' (1,2)	31.82'

Design tip elevations are controlled by the following demands: 1) Compression 2) Scour potential exists to Elev 96.9' at Abutments 1 and 6; Scour potential exists to Elevation 81.4' at Piers 2-5.



LEGEND
Structure Excavation (Bridge)
Structure Backfill (Bridge)
Roadway Embankment (See "Road Plans")
Low Expansion Material (EI <50) Expansive Index to be determined by ASTM D 4829

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE

Not to Scale
Abutment 1 shown, Abutment 6 similar

SPECIAL INDEX TO PLANS SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

Caltrans Metric

	BY	CHECKED
DESIGN	H. Fang	S. Nagi
DETAILS	T. Mason/G. Souza	S. Nagi
QUANTITIES	H. Fang	S. Nagi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195R
POST MILE 19.76

COON CREEK BRIDGE RIGHT
INDEX TO PLANS

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

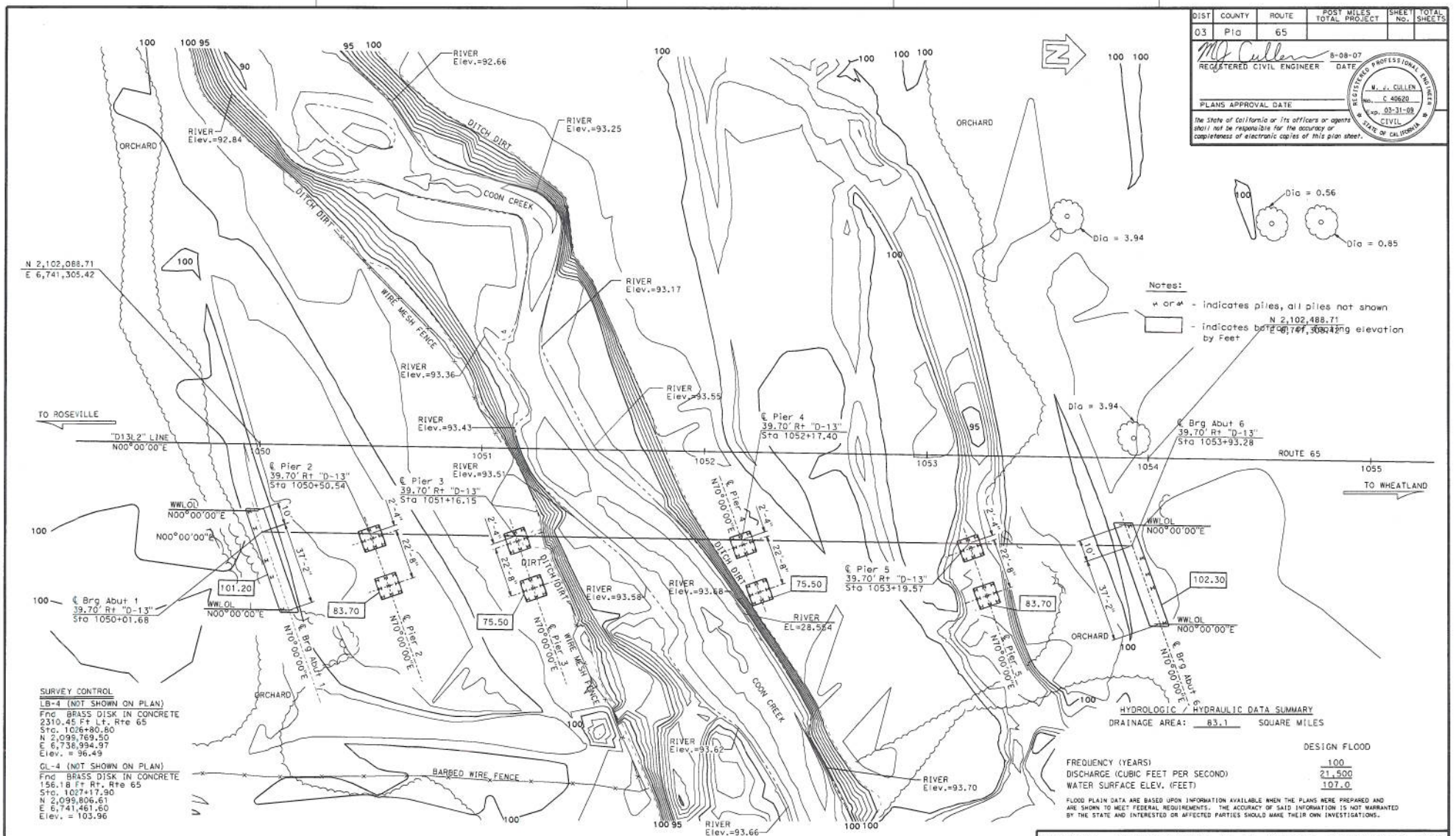
CU 03
EA 3338U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES						SHEET	OF
11-16-04	7-31-09	11-14-11	7-31-12	9-21-12		2	18

FILE => 19-0195r_q_itpv8.dgn

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

M. J. Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — M. J. CULLEN — No. C 40620 — Exp. 03-31-08 — CIVIL — STATE OF CALIFORNIA

SPECIAL FOUNDATION PLAN SHEET PREPARED FOR THE CENTRAL VALLEY FLOOD PROTECTION BOARD

COON CREEK BRIDGE RIGHT
FOUNDATION PLAN

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NGVD29	PHOTOGRAMMETRY AS OF: X				
HORZ.DATUM NAD83(92)	SURVEYED	BY District	CHECKED	BY C.Fossett	03/2012	
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY C. Fossett 03/2012	CHECKED	BY J.Poligres	03/2012	

DESIGN	BY H. Fang	CHECKED S. Nagi	
DETAILS	BY B. Jenko/G. Souza	CHECKED S. Nagi	
QUANTITIES	BY H. Fang	CHECKED S. Nagi	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	19-0195R
POST MILE	19.76

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

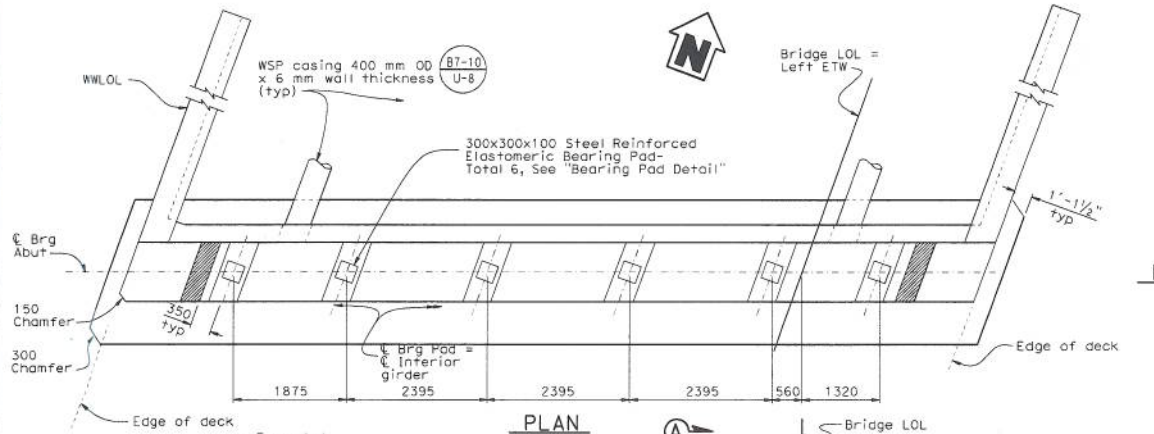
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 2 3

UNIT: 3646
PROJECT NUMBER & PHASE: 0300020583 1
CONTRACT NO.: 03-333801

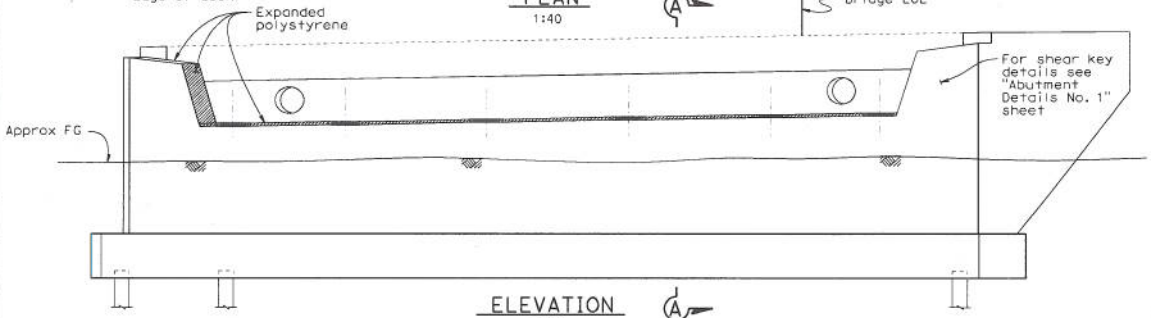
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
03/19/12			4	18

FILE => 19-0195r_a-fp101.dgn

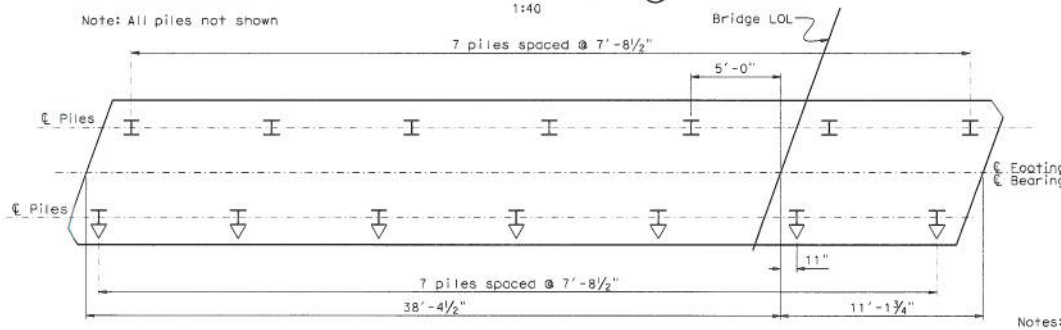


PLAN
1:40

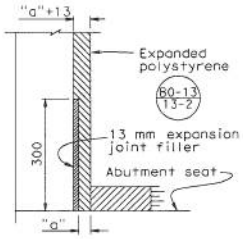


ELEVATION
1:40

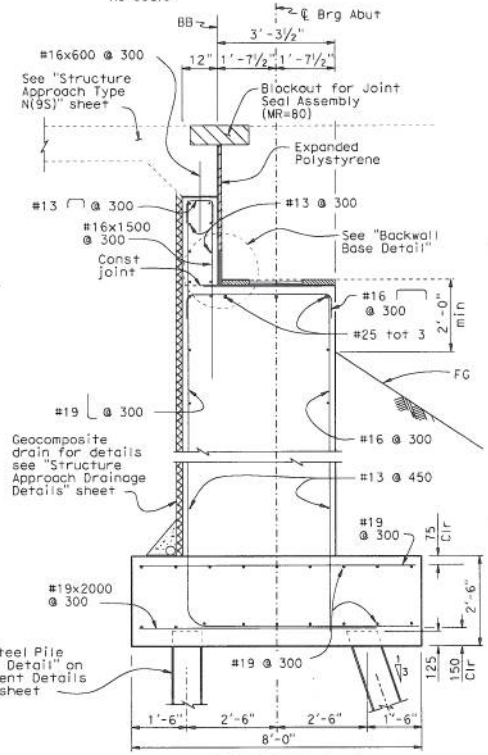
Note: All piles not shown



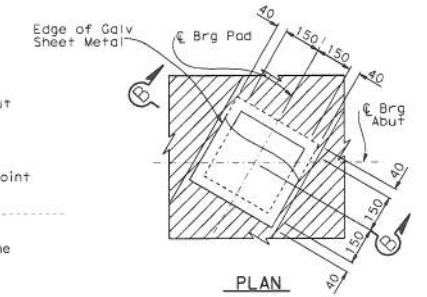
ABUTMENT PILE LAYOUT
1:40



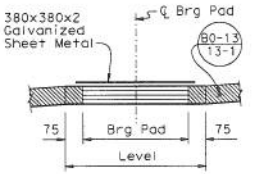
BACKWALL BASE DETAIL
no scale



SECTION A-A
1:20



PLAN



SECTION B-B

Notes:
Coat top of bearing pad with silicon grease prior to placing sheet metal

BEARING PAD DETAIL
no scale

Notes:
Abutment 1 shown, Abutment 6 similar

Indicates battered pile

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65			

REGISTERED CIVIL ENGINEER — 8-08-07 DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — M. J. CULLEN — No. C 40620 — Exp. 03-31-09 — CIVIL — STATE OF CALIFORNIA

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SPECIAL ABUTMENT LAYOUT SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

Caltrans Metric

	BY	CHECKED
DESIGN	H. Fang	S. Nagi
DETAILS	B. Jenko/G. Souza	S. Nagi
QUANTITIES	H. Fang	S. Nagi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

CU 03
EA 3338U1

BRIDGE NO. 19-0195R
POST MILE 19.76

COON CREEK BRIDGE RIGHT
ABUTMENT LAYOUT

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

(ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS) 0 10 20 30 40 50 60 70 80 90 100

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES

SHEET 5 OF 18

FILE => 19-0195r_f_abut_lytv8.dgn

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)

USERNAME => s13302d1 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 14:55

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65			

M. J. Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

M. J. CULLEN No. C 40620 Exp. 03-31-09 CIVIL STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER

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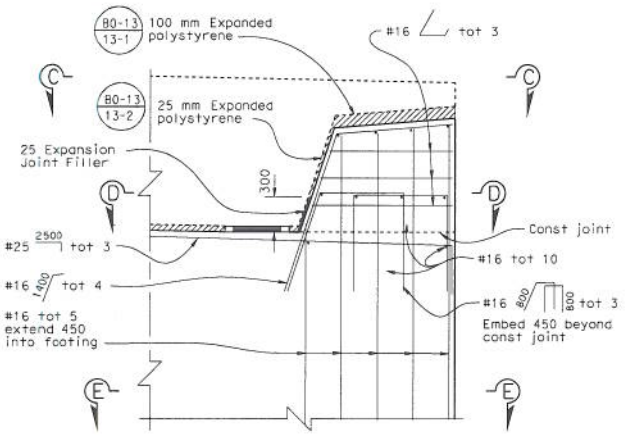
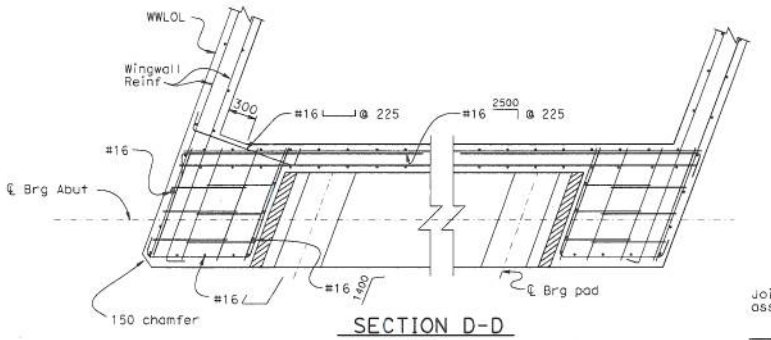
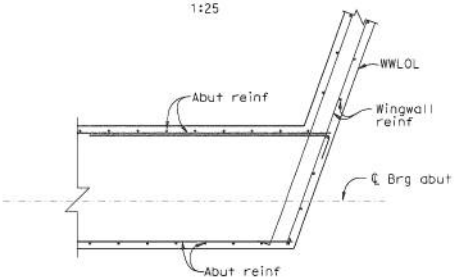


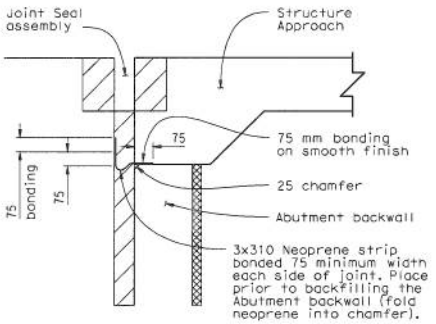
SHEAR KEY DETAIL
1:20



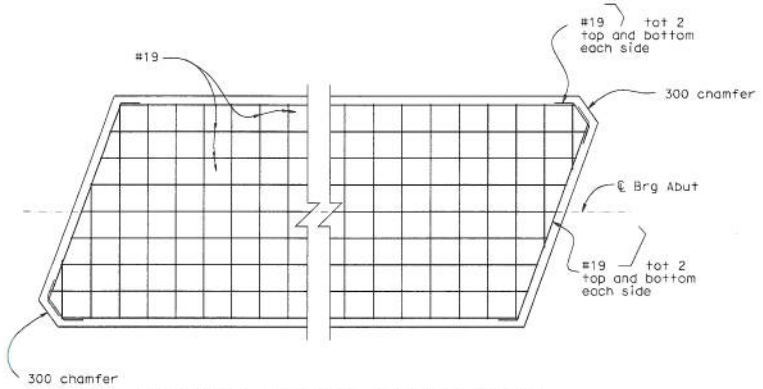
SECTION D-D
1:25



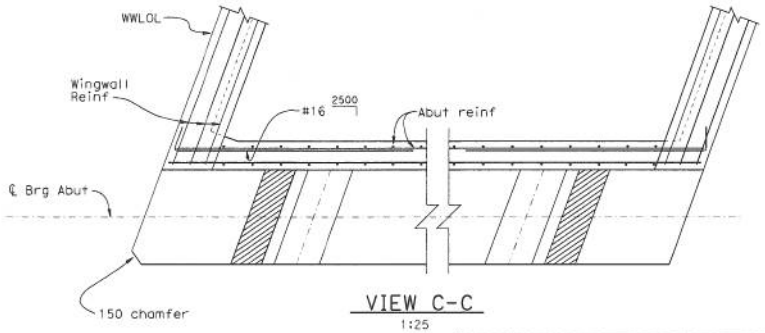
SECTION E-E
1:25



JOINT PROTECTION DETAIL
no scale



ABUTMENT FOOTING CORNER DETAIL
1:25



VIEW C-C
1:25

SPECIAL ABUTMENT DETAILS NO.1 SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

Caltrans Metric

	BY	CHECKED
DESIGN	H. Fang	S. Nagi
DETAILS	B. Jenko/C. Souza	S. Nagi
QUANTITIES	H. Fang	S. Nagi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	19-0195R
POST MILE	19.76

COON CREEK BRIDGE RIGHT ABUTMENT DETAILS NO.1

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 03
EA 3338U1

FILE => 19-0195r_f_abut-det01v8.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES

SHEET 6 OF 18

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)

USERNAME => s130421 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 14:35

Attachment D - Approved Staff Report (7-27-12)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
03	Pla	65			

M J Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — M. J. CULLEN — No. C 40620 — Exp. 03-31-09 — CIVIL — STATE OF CALIFORNIA

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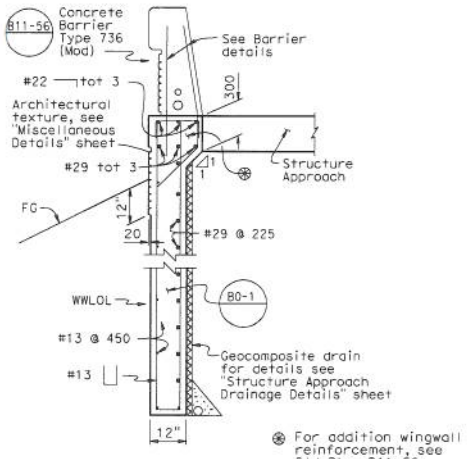
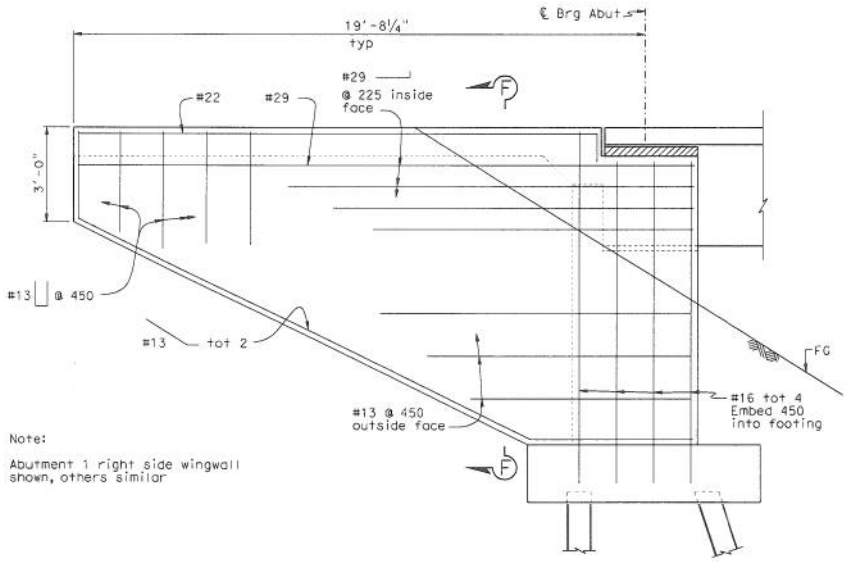
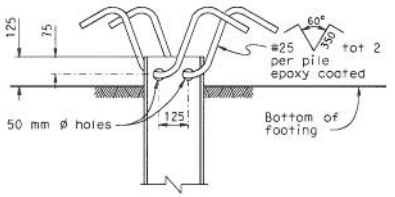


SECTION F-F
1:20

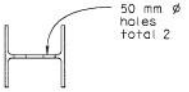


Note:
Abutment 1 right side wingwall shown, others similar

WINGWALL ELEVATION
no scale



ELEVATION



PLAN

STEEL PILE ANCHOR
no scale

SPECIAL ABUTMENT DETAILS NO.2 SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

Caltrans Metric

	BY	CHECKED
DESIGN	H. Fang	S. Nagi
DETAILS	B. Jenko/G. Souza	S. Nagi
QUANTITIES	H. Fang	S. Nagi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195R
POST MILE 19.76

COON CREEK BRIDGE RIGHT ABUTMENT DETAILS NO.2

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 03
EA 3338U1

FILE => 19-0195r_f_abut-det02v8.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES							SHEET	OF
9-16-09	12-16-09	1-21-10					7	18

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)

USERNAME => s2\130421 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 14:36

Attachment D - Approved Staff Report (7-27-12)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
03	Pla	65			

8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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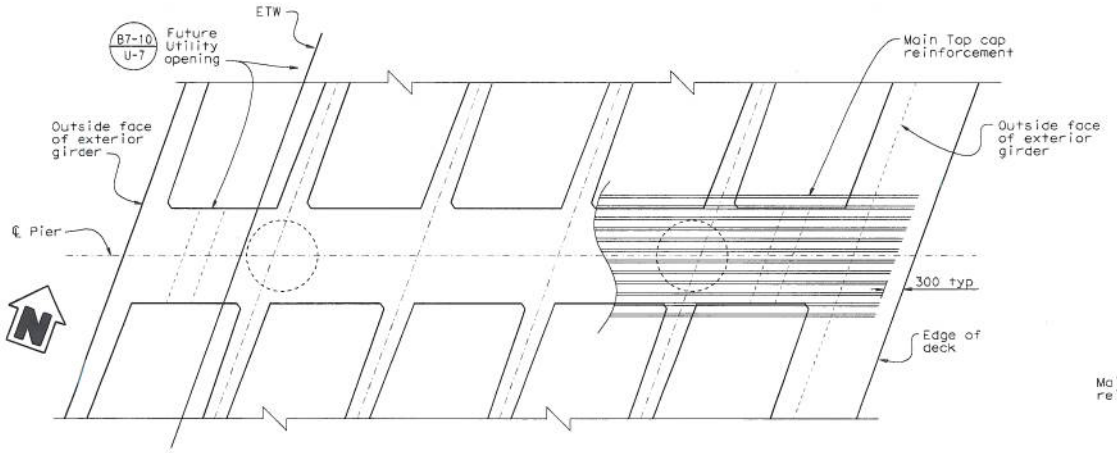
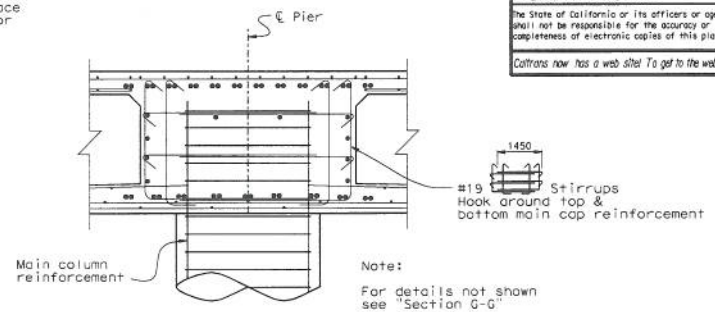
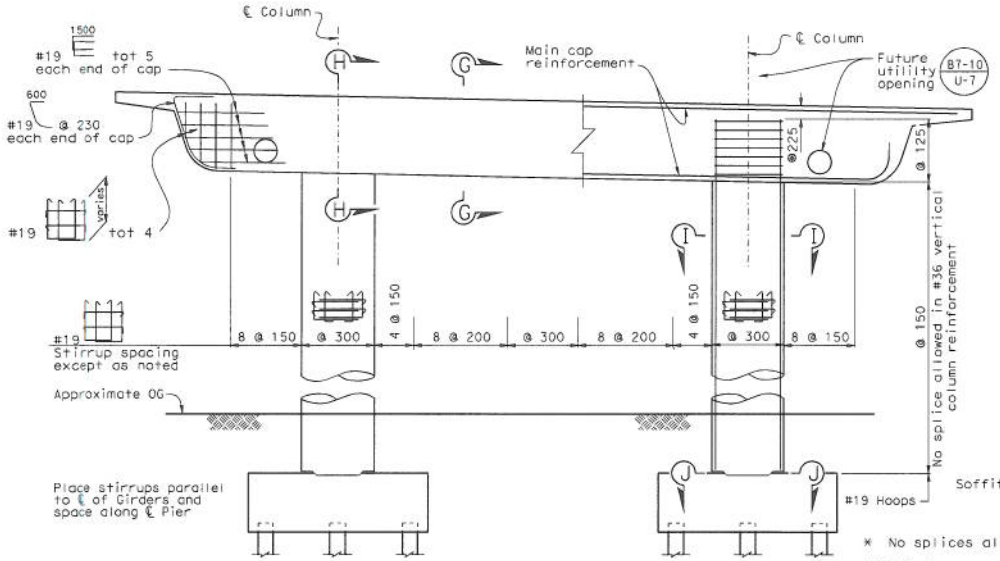


PLAN
1:40

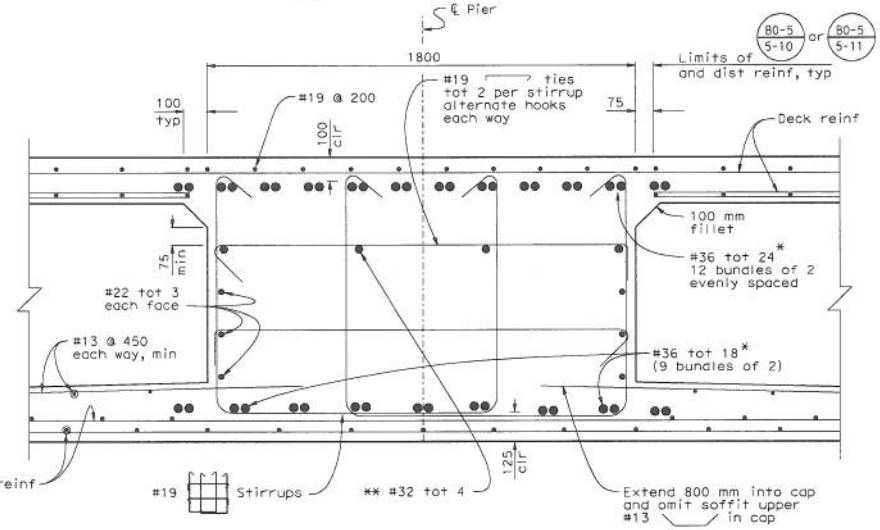


SECTION H-H
1:20



For "Section I-I" and "Section J-J" See "Pier Details No. 1" sheet

PIER CAP ELEVATION
1:40



SECTION G-G
1:10

* No splices allowed

** Reinforcement may be adjusted to clear P/S ducts

⊛ Main column reinforcement may be trimmed to provide clearance for P/S ducts as directed by Engineer

SPECIAL PIER LAYOUT SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

	BY	CHECKED
DESIGN	H. Fang	S. Nagi
DETAILS	B. Jenko/G. Souza	S. Nagi
QUANTITIES	H. Fang	S. Nagi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195R
POST MILE 19.76

COON CREEK BRIDGE RIGHT
PIER LAYOUT

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 03
EA 3338U1

FILE => 19-0195r_1_pier_lytv8.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES

SHEET 8 OF 18

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)

DGNNAME => 130421 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 14:56

Attachment D - Approved Staff Report (7-27-12)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
03	Pla	65			

M.J. Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER M. J. CULLEN No. C 40620 Exp. 03-31-09 CIVIL STATE OF CALIFORNIA

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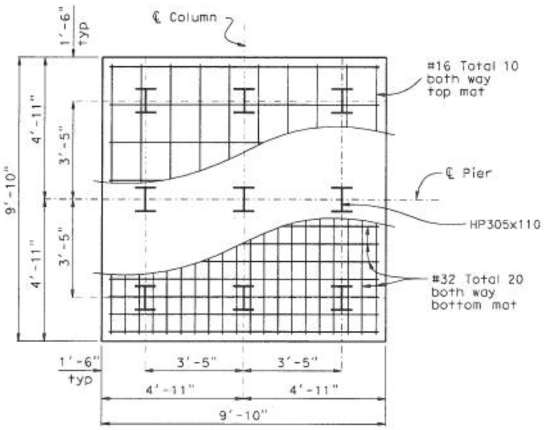
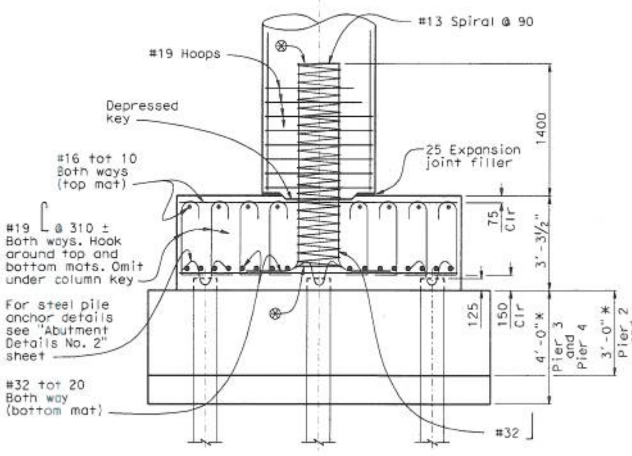
Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov



FOOTING PLAN

1:25

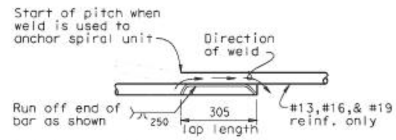
⊗ For End Anchor Detail, see "Spiral End Anchor and Splice Detail"



* Seal course to be placed only when ordered by the Engineer. Estimated quantities involved are based on the seal thickness shown. The thickness to be used will be determined in the field by the Engineer. When seal is not used, the bottom of the reinforced footing shall remain at the elevation shown.

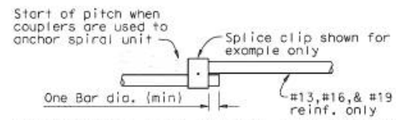
FOOTING DETAILS

1:25



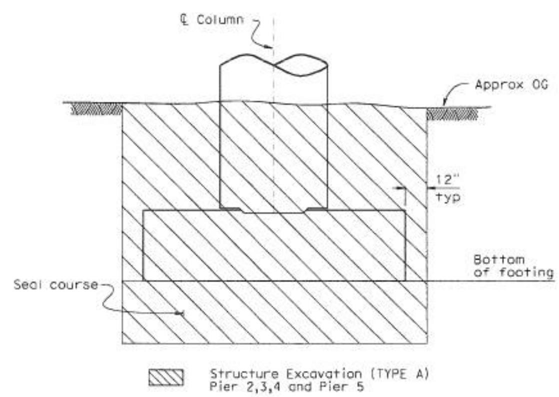
Note: Flare weld to be made in direction shown.

WELDED LAP SPLICE AND ANCHOR



MECHANICAL LAP SPLICE AND ANCHOR

SPIRAL END ANCHOR AND SPLICE DETAIL



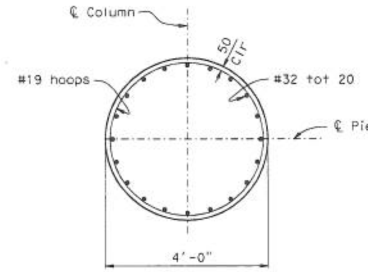
Structure Excavation (TYPE A) Pier 2,3,4 and Pier 5

LIMIT OF PAYMENT FOR STRUCTURE EXCAVATION (TYPE A)

no scale

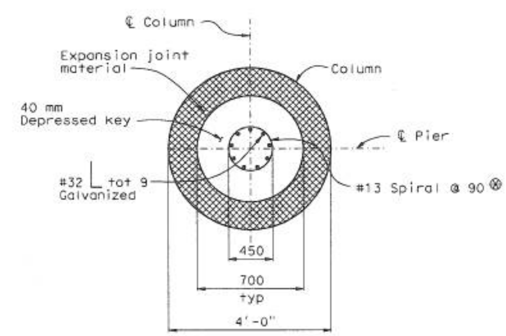
Note:

All hoops shall conform to the Ultimate Butt Splice Specification



SECTION I-I

no scale



SECTION J-J

no scale

SPECIAL PIER DETAILS NO.1 SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

DESIGN	BY H. Fong	CHECKED S. Nagi	
DETAILS	BY B. Jenko/C. Souza	CHECKED S. Nagi	
QUANTITIES	BY H. Fong	CHECKED S. Nagi	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195R
POST MILE 19.76

COON CREEK BRIDGE RIGHT

PIER DETAILS NO.1

Caltrans Metric

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 03
EA 3338U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

SHEET 9 OF 18

FILE => 19-0195r_i_pier-detv8.dgn

STRUCTURES DESIGN DETAIL SHEET (METRIC) (REV.03-17-04)

USERNAME => s130421 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 14:36

18655-2 left

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

REGISTERED CIVIL ENGINEER — 8-08-07 DATE

W. J. CULLEN No. C 60620 Exp. 03-31-09 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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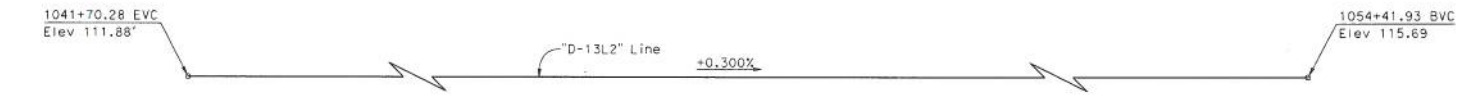
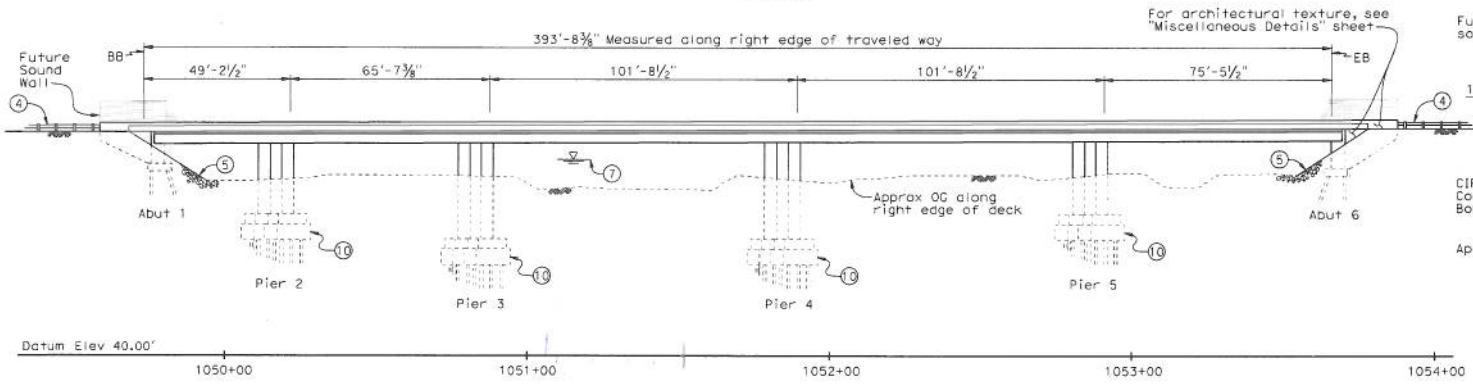
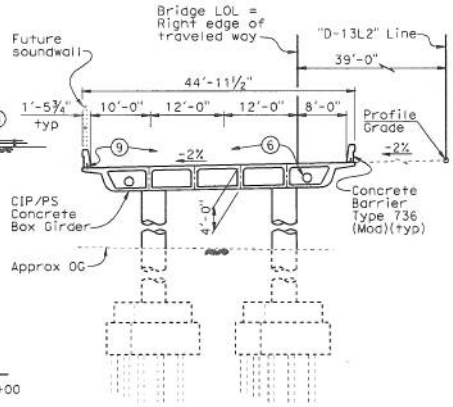


PROFILE GRADE
NO SCALE

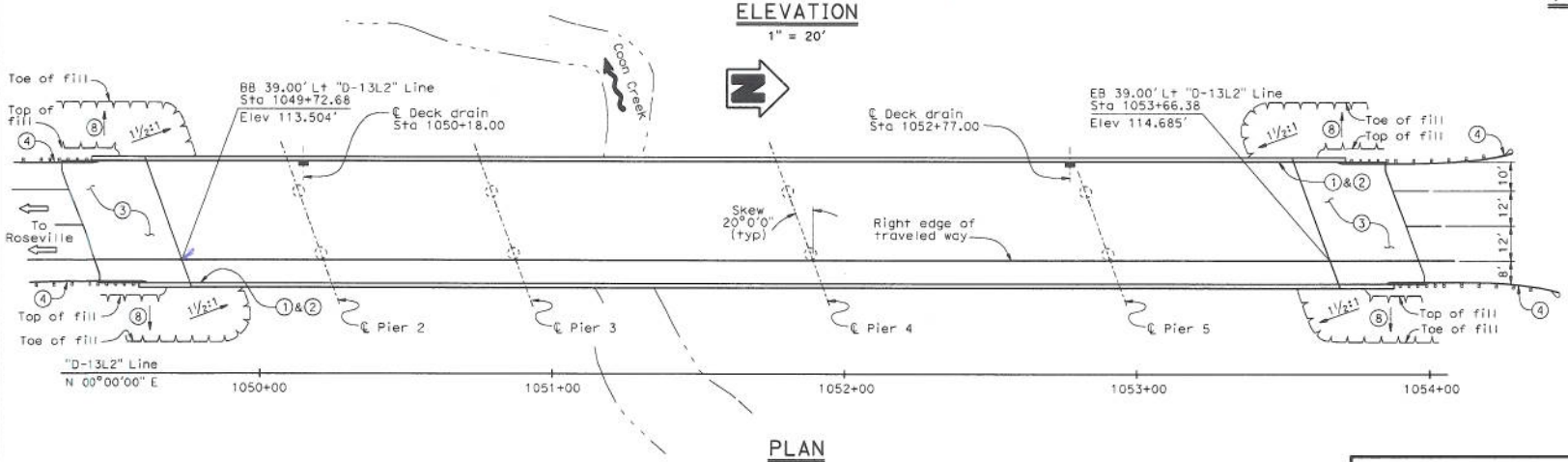


Note: Right bridge not shown

TYPICAL SECTION
1" = 10'



ELEVATION
1" = 20'



PLAN
1" = 20'

Legend:

1. Paint "Coon Creek Bridge Left"
2. Paint "Bridge No. 19-0195L"
3. Structure Approach Type N(30S)
4. Metal Beam Guard Rail, see "Road Plans"
5. Rock Slope Protection, see "Road Plans"
6. Future utility opening
7. For Hydrologic summary see "Foundation Plan"
8. For Embankment side slope see "Road Plans"
9. 1-3" ø and 1-2" ø utility for electrical conduits in each Barrier
10. Seal Course Concrete

▬ Indicates Deck Drain Type D-3, see "Girder Layout" sheet

For Index to Plans, Standard Plan List, General Notes and Quantities see "Index To Plans" sheet.

SPECIAL GENERAL PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

DESIGN	H. Fang	P. Hong	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL-93 W/"LOW-BOY" PERMIT DESIGN VEHICLE	
DETAILS	G. M. Souza	P. Hong	LAYOUT	H. Fang	P. Hong
QUANTITIES	H. Fang	H. Fang	SPECIFICATIONS	J. Jiang	PLANS AND SPECS COMPARED M. Cullen

X DESIGN ENGINEER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	COON CREEK BRIDGE LEFT
19-0195L	
POST MILE 19.76	GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-333803

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 07-06-11 | 07-14-11 | 08-29-11

SHEET 1 OF 18

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 19-0195L-01-a-gp.dgn

4-29-2011

New Brid

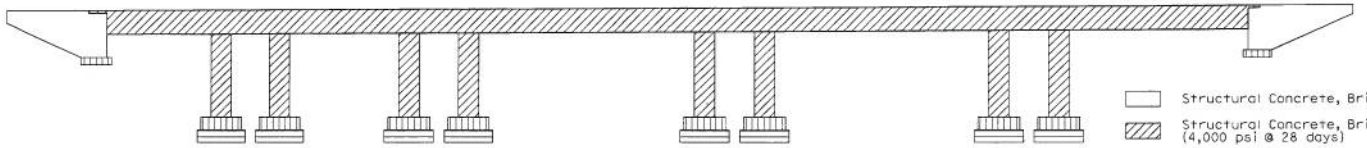
Attachment D - Approved Staff Report (7-27-12)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

REGISTERED CIVIL ENGINEER — 8-08-07 DATE

PLANS APPROVAL DATE

W. J. CULLEN No. C 40620 Exp. 03-31-09 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA



Structural Concrete, Bridge

Structural Concrete, Bridge (4,000 psi @ 28 days)

Structural Concrete Bridge, Footing

Seal Course Concrete

CONCRETE STRENGTH AND TYPE LIMITS

no scale

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN:
CALTRANS BRIDGE DESIGN SPECIFICATIONS
APRIL 2003 (LFD)
(1996 AASHTO with Interims and Revisions by CALTRANS)

DEAD LOAD:
Includes 35 psf for future wearing surfaces.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC)
Version 1.3 February 2004.

LIVE LOADING:
HS20-44 and alternative and permit design load.

SEISMIC LOADING:
Caltrans SDC, curve for soil profile Type D
Mw = 6.5 ± 0.25, Peak Rock Acceleration = 0.3g

REINFORCED CONCRETE:
f_y = 60,000 psi
f'_c = 3,600 psi
n = 9

TRANSVERSE DECK SLABS (Working Stress Design):
f_s = 20,000 psi
f_c = 1,200 psi
n = 10

PRESTRESS CONCRETE
See Prestress Notes on "Girder Reinforcement" sheet.

STRUCTURAL STEEL PILING
ASTM A709M Grade 36 fy=36,000 psi

FUTURE SOUND WALL LOADING:
Dead load = 920 lbs/ft

QUANTITIES

SOUND WALL LOADING DISTRIBUTION						
Girders	A	B	C	D	E	F
Moment	0.6	0.17	0.17	0.17	0.17	0.6
Shear	1.0	0.17	0.17	0.17	0.17	1.0

NOTE:
Girders A and F represents Girders closest to Sound Wall, Girders B,C, D and E are interior Girders.

PILE DATA - STEEL HP PILES

LOCATION	PILE TYPE	DESIGN LOADING (Service Load)	NOMINAL RESISTANCE		CUT OFF ELEVATION	DESIGN TIP ELEVATION	SPECIFIED TIP ELEVATION
			COMPRESSION	TENSION			
Abutment 1	HP10x57	70 TON	140.5 TON	0	101.624'	27.23' (1,2)	27.23'
Pier 2	HP12x74	100 TON	202.5 TON	0	84.072'	22.31' (1,2)	22.31'
Pier 3	HP12x74	100 TON	202.5 TON	0	75.869'	22.31' (1,2)	22.31'
Pier 4	HP12x74	100 TON	202.5 TON	0	75.869'	22.31' (1,2)	22.31'
Pier 5	HP12x74	100 TON	202.5 TON	0	84.055'	22.97' (1,2)	22.97'
Abutment 6	HP10x57	70 TON	140.5 TON	0	102.772'	31.82' (1,2)	31.82'

Design tip elevations are controlled by the following demands: 1) Compression 2) Scour potential exists to Elev 97.30' at Abutments 1 and 6; Scour potential exists to Elevation 82.00' at Piers 2-5.

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-7	DECK DRAINS - TYPE D-3
B7-10	UTILITY OPENING - BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-56	CONCRETE BARRIER TYPE 736
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN SIZE 103)
B14-5	SOFFIT ACCESS OPENING

Standard Plan sheet number

Detail number

INDEX TO PLANS

SPECIAL INDEX TO PLANS SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

	BY	CHECKED
DESIGN	H. Fang	P. Hong
DETAILS	G. M. Souza	P. Hong
QUANTITIES	H. Fang	P. Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195L
POST MILE 19.76

COON CREEK BRIDGE LEFT

INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-333BU3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07-14-11	07-14-11	07-14-11	08-19-11	2	18

FILE => 19-0195L-02-a-tp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

M J Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — M. J. CULLEN — No. C 40620 — Exp. 03-31-09 — CIVIL — STATE OF CALIFORNIA

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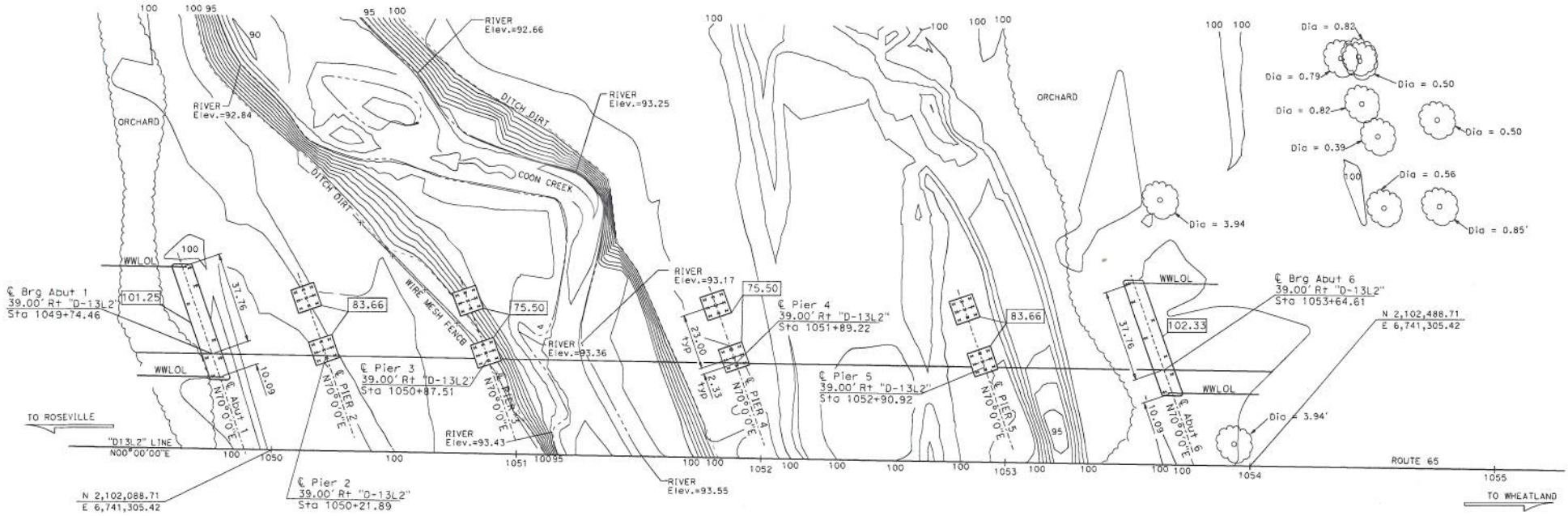


SURVEY CONTROL

LB-4 (NOT SHOWN ON PLAN)
Fnd BRASS DISK IN CONCRETE
2310.45 Ft Lt. Rte 65
Sta. 1026+80.80
N 2,099,769.50
E 6,738,994.97
Elev. = 96.49

GL-4 (NOT SHOWN ON PLAN)
Fnd BRASS DISK IN CONCRETE
156.18 Ft Rt. Rte 65
Sta. 1027+17.90
N 2,099,806.61
E 6,741,461.60
Elev. = 103.96

Notes:
or # - indicates piles, all piles not shown
- indicates bottom of footing elevation by Feet

HYDROLOGIC / HYDRAULIC DATA SUMMARY
DRAINAGE AREA: 83.1 SQUARE MILES

	DESIGN FLOOD
FREQUENCY (YEARS)	100
DISCHARGE (CUBIC FEET PER SECOND)	21,500
WATER SURFACE ELEV. (FEET)	106.0

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 INVESTIGATIONS.

SPECIAL FOUNDATION PLAN SHEET PREPARED FOR THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PRELIMINARY INVESTIGATION SECTION					
SCALE 1"=20'	VERT.DATUM NGVD29	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83(92)	SURVEYED	BY District	CHECKED	BY C.Fossett 08/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J. Zhou 08/2011	CHECKED	BY J.Pollares 08/2011

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

DESIGN	BY M J Cullen	CHECKED M Guddamuz
DETAILS	BY S Jiang	CHECKED M Guddamuz
QUANTITIES	BY M J Cullen	CHECKED M Guddamuz

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

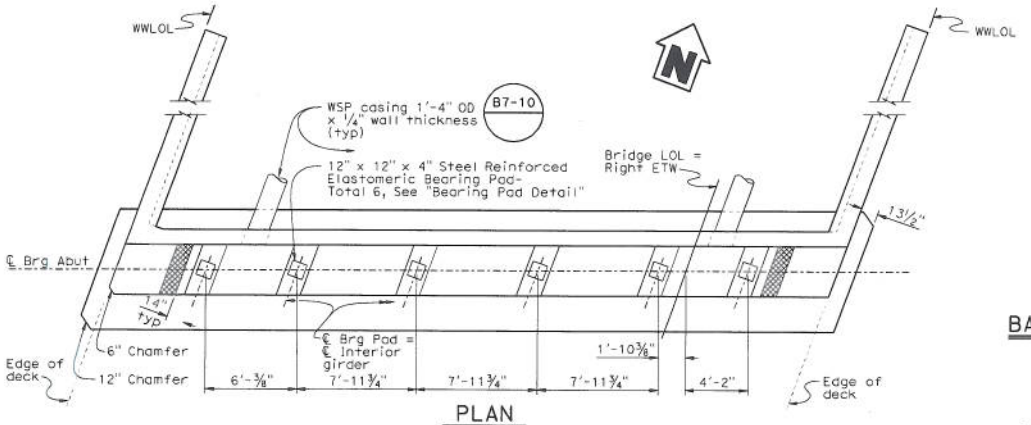
BRIDGE NO.	19-0195L
POST MILE	19.76

COON CREEK BRIDGE LEFT
FOUNDATION PLAN

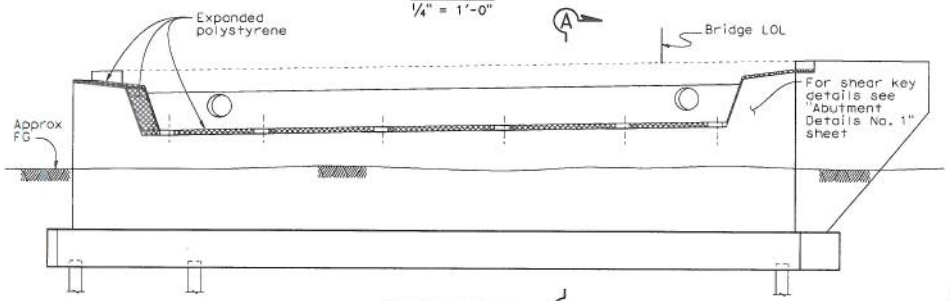
UNIT: 3646
PROJECT NUMBER & PHASE: 0300020583 1 CONTRACT NO.: 03-3338U3
FILE => 19-01951-03-e-fpl01.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
08/08/07	12/12/12		3	18

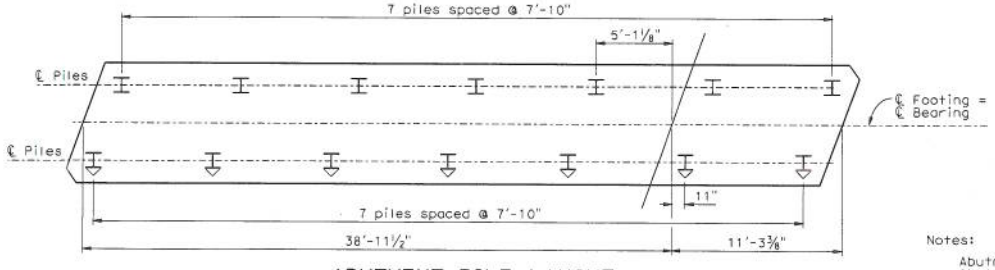


PLAN
1/4" = 1'-0"

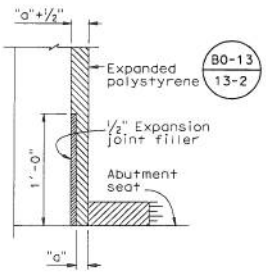


Note: All piles not shown

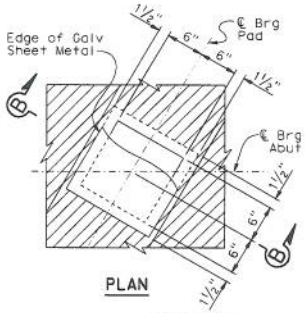
ELEVATION
1/4" = 1'-0"



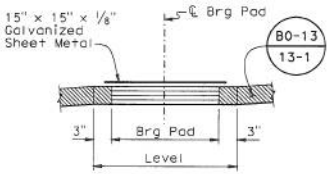
ABUTMENT PILE LAYOUT
1/4" = 1'-0"



BACKWALL BASE DETAIL
no scale



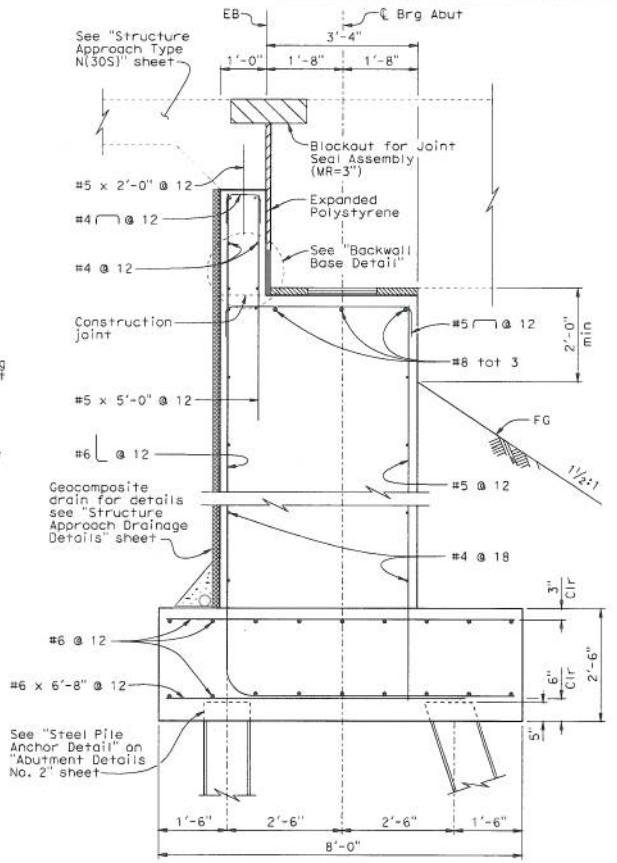
PLAN



SECTION B-B

Notes:
Coat top of bearing pad with silicon grease prior to placing sheet metal

BEARING PAD DETAIL
no scale



SECTION A-A
3/4" = 1'-0"

Notes:
Abutment 6 shown, Abutment 1 similar
Indicates battered pile

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Pla	65			

REGISTERED CIVIL ENGINEER — DATE 8/08/07

M. J. CULLEN, No. C 40620, Exp. 03-31-09, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

PLANS APPROVAL DATE

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SPECIAL ABUTMENT LAYOUT PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

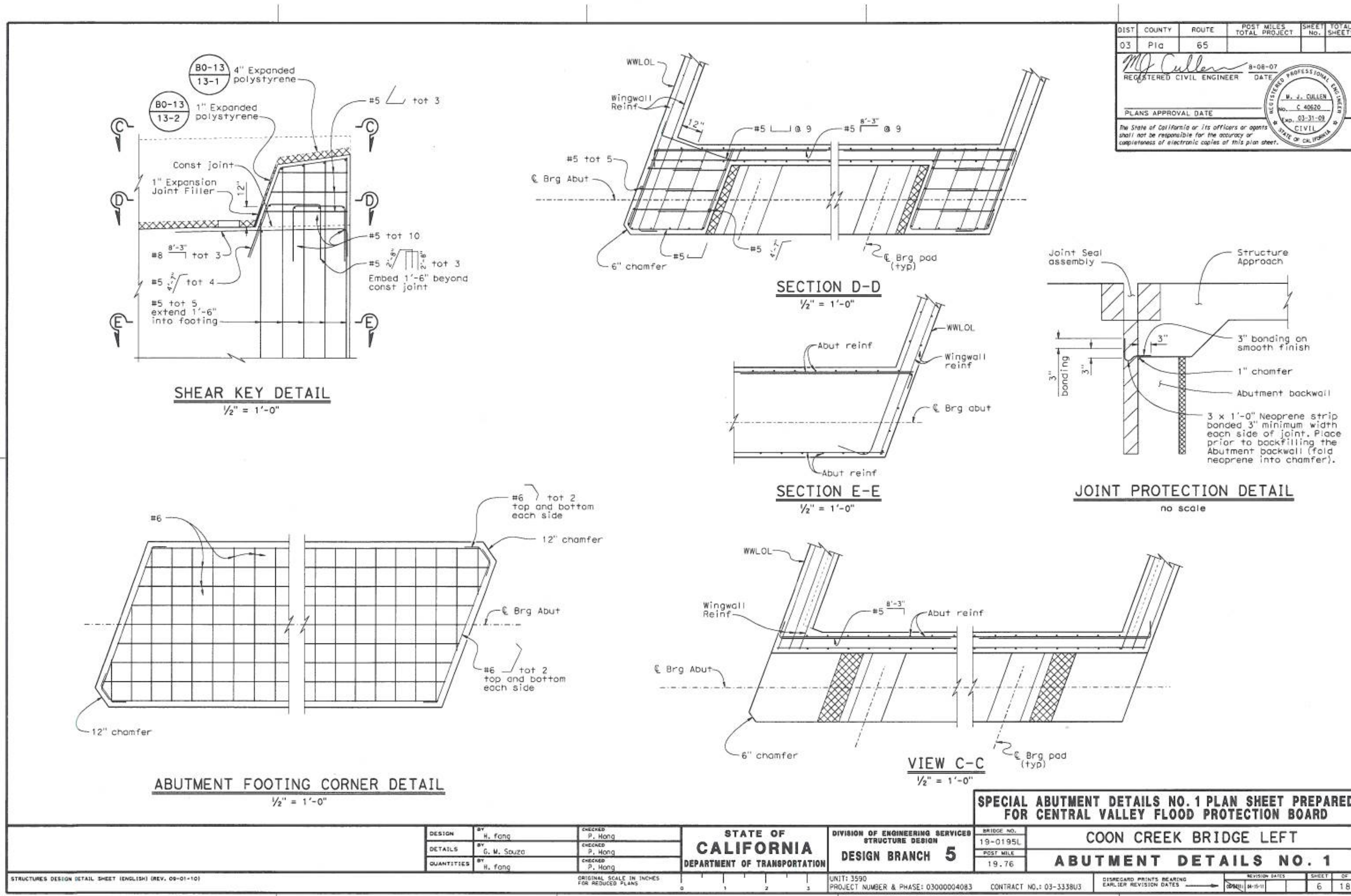
	BY	CHECKED
DESIGN	H. Fong	P. Hong
DETAILS	G. M. Souza	P. Hong
QUANTITIES	H. Fong	P. Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195L
POST MILE 19.76

COON CREEK BRIDGE LEFT
ABUTMENT LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-3338U3
DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES
SHEET 5 OF 18
FILE => 19-0195l-05-f-abut-lyt.dgn


B0-13 13-1 4" Expanded polystyrene
B0-13 13-2 1" Expanded polystyrene
#5 tot 3
Const joint
1" Expansion Joint Filler
12"
#5 tot 10
#8 8'-3" tot 3
#5 tot 3
Embed 1'-6" beyond const joint
#5 tot 4
#5 tot 5 extend 1'-6" into footing
SHEAR KEY DETAIL
½" = 1'-0"
WWLOL
Wingwall Reinf
12"
#5 @ 9
#5 8'-3" @ 9
#5 tot 5
℄ Brg Abut
6" chamfer
#5
℄ Brg pad (typ)
SECTION D-D
½" = 1'-0"
Abut reinf
Wingwall reinf
℄ Brg abut
SECTION E-E
½" = 1'-0"
Joint Seal assembly
Structure Approach
3"
3" bonding on smooth finish
1" chamfer
Abutment backwall
3" bonding
3 x 1'-0" Neoprene strip bonded 3" minimum width each side of joint. Place prior to backfilling the Abutment backwall (fold neoprene into chamfer).
JOINT PROTECTION DETAIL
no scale
#6
#6 tot 2 top and bottom each side
12" chamfer
℄ Brg Abut
ABUTMENT FOOTING CORNER DETAIL
½" = 1'-0"
Wingwall Reinf
#5 8'-3"
Abut reinf
VIEW C-C
½" = 1'-0"
DIST 03 COUNTY Pla ROUTE 65 POST MILES TOTAL PROJECT SHEET No. TOTAL SHEETS
REGISTERED CIVIL ENGINEER DATE 8-08-07
PLANS APPROVAL DATE
M. J. CULLEN No. C 40620 Exp. 03-31-09 CIVIL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.
SPECIAL ABUTMENT DETAILS NO. 1 PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD
DESIGN BY H. fong CHECKED P. Hong
DETAILS BY G. M. Souza CHECKED P. Hong
QUANTITIES BY H. fong CHECKED P. Hong
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 5
BRIDGE NO. 19-0195L
POST MILE 19.76
COON CREEK BRIDGE LEFT
ABUTMENT DETAILS NO. 1
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-3338U3
DISREGARD PRINTS BEARING EARLIER REVISION DATES
SHEET 6 OF 18

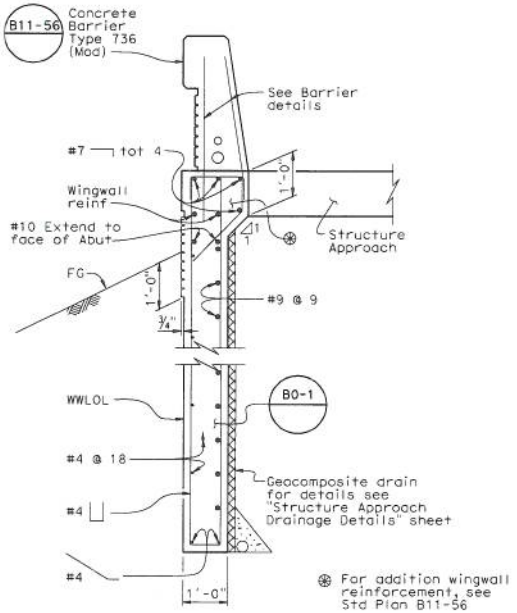
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

M J Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

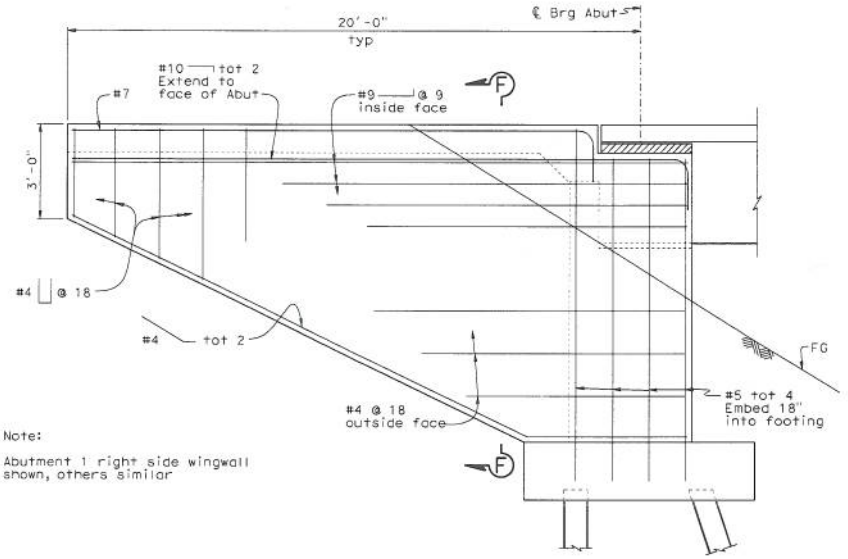
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
M. J. CULLEN
No. C 40620
EXP. 03-31-08
CIVIL
STATE OF CALIFORNIA

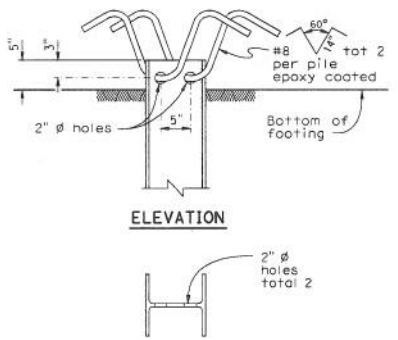


SECTION F-F
3/4" = 1'-0"



Note:
Abutment 1 right side wingwall shown, others similar

WINGWALL ELEVATION
no scale



ELEVATION

PLAN

STEEL PILE ANCHOR
no scale

SPECIAL ABUTMENT DETAILS NO. 2 PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

	BY	CHECKED
DESIGN	H. fang	P. Hong
DETAILS	G. M. Souza	P. Hong
QUANTITIES	H. fang	P. Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195L
POST MILE 19.76

COON CREEK BRIDGE LEFT
ABUTMENT DETAILS NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-333803

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
			7	18

FILE => 19-0195l-07-f-abut-det02.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

REGISTERED CIVIL ENGINEER — 8-08-07 DATE

PLANS APPROVAL DATE

M. J. DULLEN No. C 40620 Exp. 03-31-09 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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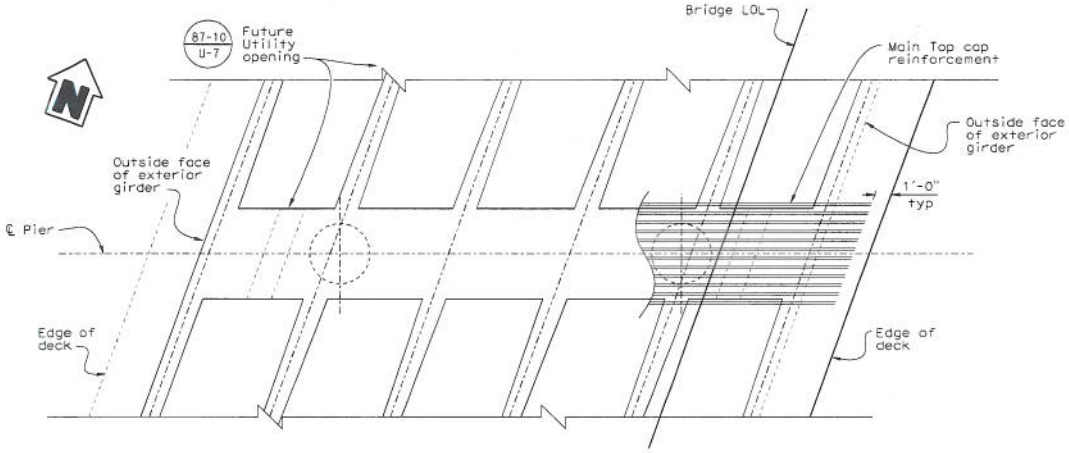
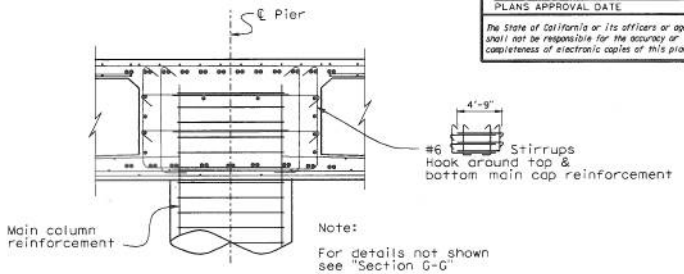
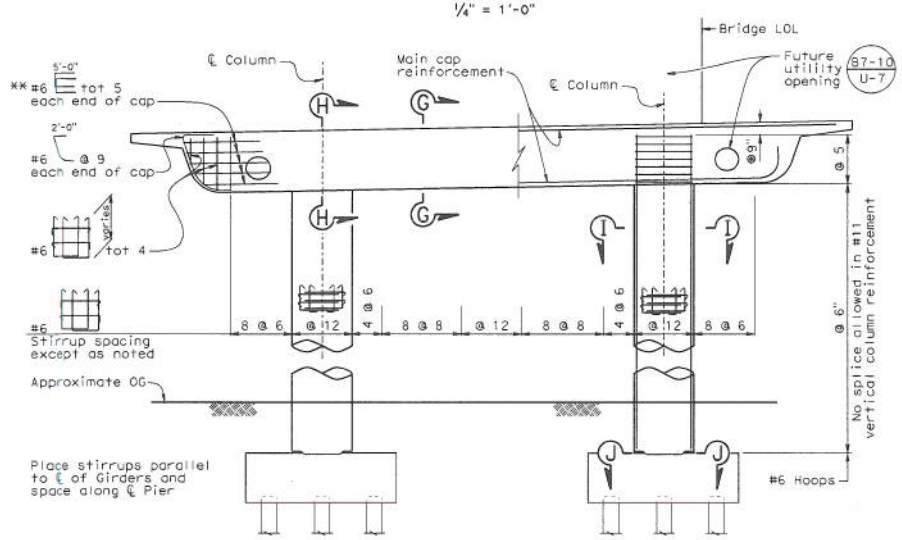


PLAN
1/4" = 1'-0"

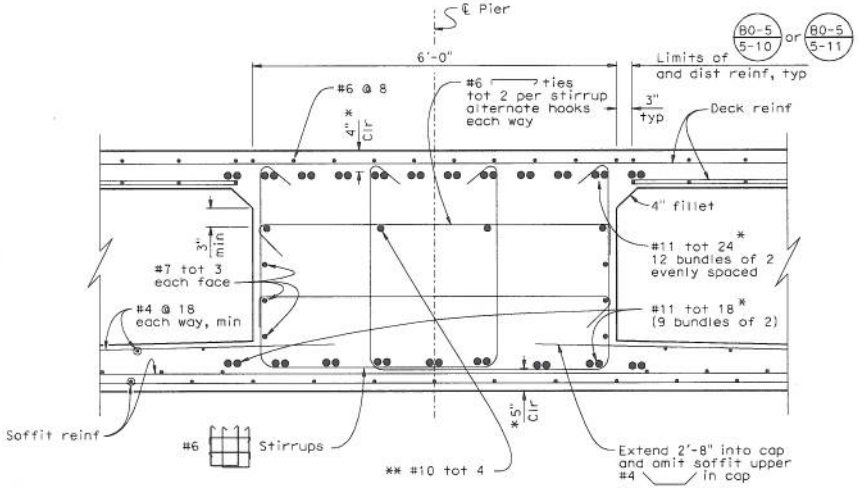


SECTION H-H
1/2" = 1'-0"



For "Section I-I" and "Section J-J" See "Pier Details No. 1" sheet

PIER CAP ELEVATION
1/4" = 1'-0"



SECTION G-G
1/2" = 1'-0"

* Clearance to main reinforcement

** Reinforcement may be adjusted to clear P/S ducts

⊛ Main column reinforcement may be trimmed to provide clearance for P/S ducts as directed by Engineer

SPECIAL PIER LAYOUT SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

	BY	CHECKED
DESIGN	H. Fang	P. Hong
DETAILS	C. M. Souza	P. Hong
QUANTITIES	H. Fang	P. Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195L
POST MILE 19.76

COON CREEK BRIDGE LEFT
PIER LAYOUT

STRUCTURES DESIGN (DETAIL SHEET (ENGLISH) (REV. 09-01-10)

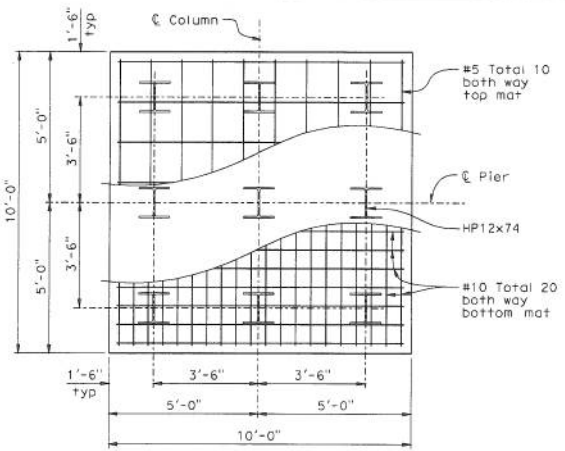
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-333803

DISREGARD PRINTS BEARING EARLIER REVISION DATES

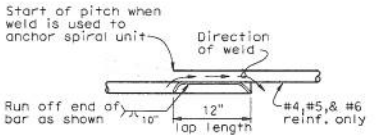
REVISION DATES			SHEET	OF
			8	18

FILE => 19-0195L-08-I-pier-lyt.dgn



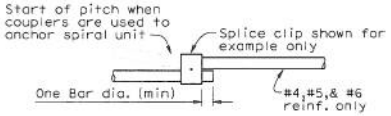
FOOTING PLAN

½" = 1'-0"



Note: Flare weld to be made in direction shown.

WELDED LAP SPLICE AND ANCHOR



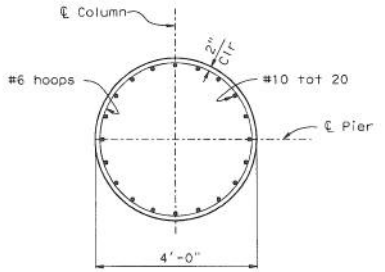
MECHANICAL LAP SPLICE AND ANCHOR

SPIRAL END ANCHOR AND SPLICE DETAIL

no scale

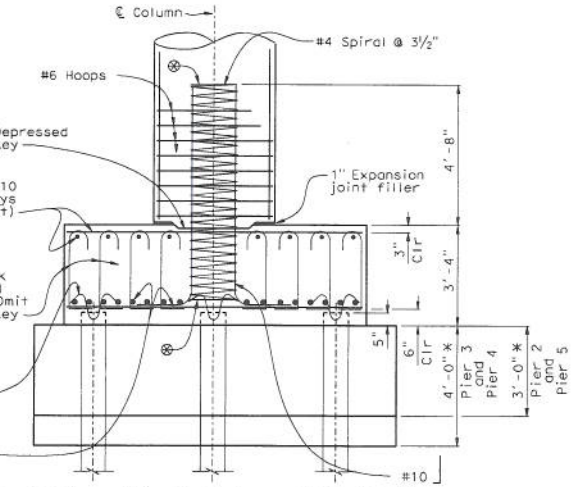
Note:

All hoops shall conform to the Ultimate Butt Splice Specification



SECTION I-I

no scale

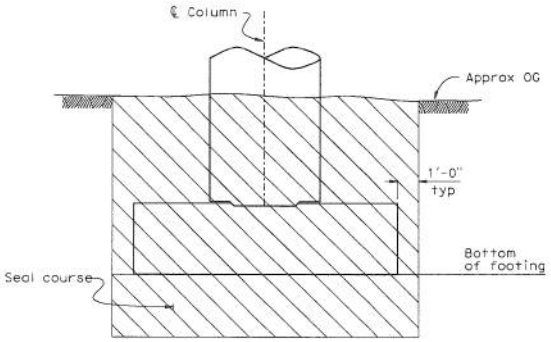


⊗ For End Anchor Detail, see "Spiral End Anchor and Splice Detail"

* Seal course to be placed only when ordered by the Engineer. Estimated quantities invaived are based on the seal thickness shown. The thickness to be used will be determined in the field by the Engineer. When seal is not used, the bottom of the reinforced footing shall remain at the elevation shown.

FOOTING DETAILS

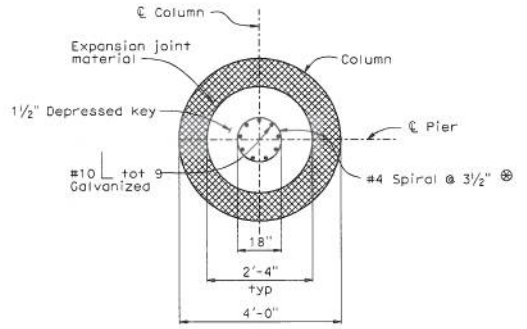
½" = 1'-0"



Structure Excavation (TYPE A) Pier 2,3,4 and Pier 5

LIMIT OF PAYMENT FOR STRUCTURE EXCAVATION (TYPE A)

no scale



SECTION J-J

no scale

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla	65			

M J Cullen 8-08-07
REGISTERED CIVIL ENGINEER DATE

M. J. CULLEN No. C 40620 EXP. 03-31-09 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SPECIAL PIER DETAILS PLAN SHEET PREPARED FOR CENTRAL VALLEY FLOOD PROTECTION BOARD

	BY	CHECKED
DESIGN	H. Fong	P. Hong
DETAILS	G. M. Souza	P. Hong
QUANTITIES	H. Fong	P. Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 19-0195L
POST MILE 19.76

COON CREEK BRIDGE LEFT
PIER DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 08-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 03000004083
CONTRACT NO.: 03-333803

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
04-15-11			9	18

FILE => 19-0195L-09-I-pier-det.dgn

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

Structure Hydraulics and Hydrology

FINAL HYDRAULIC REPORT

Coon Creek Bridge

Located on Lincoln Bypass West of Lincoln CA in the County of Placer

Bridge No. 19-0195 Left and Right Bridges

Project ID 0300000408

03-PLA-65-11.9-24.1

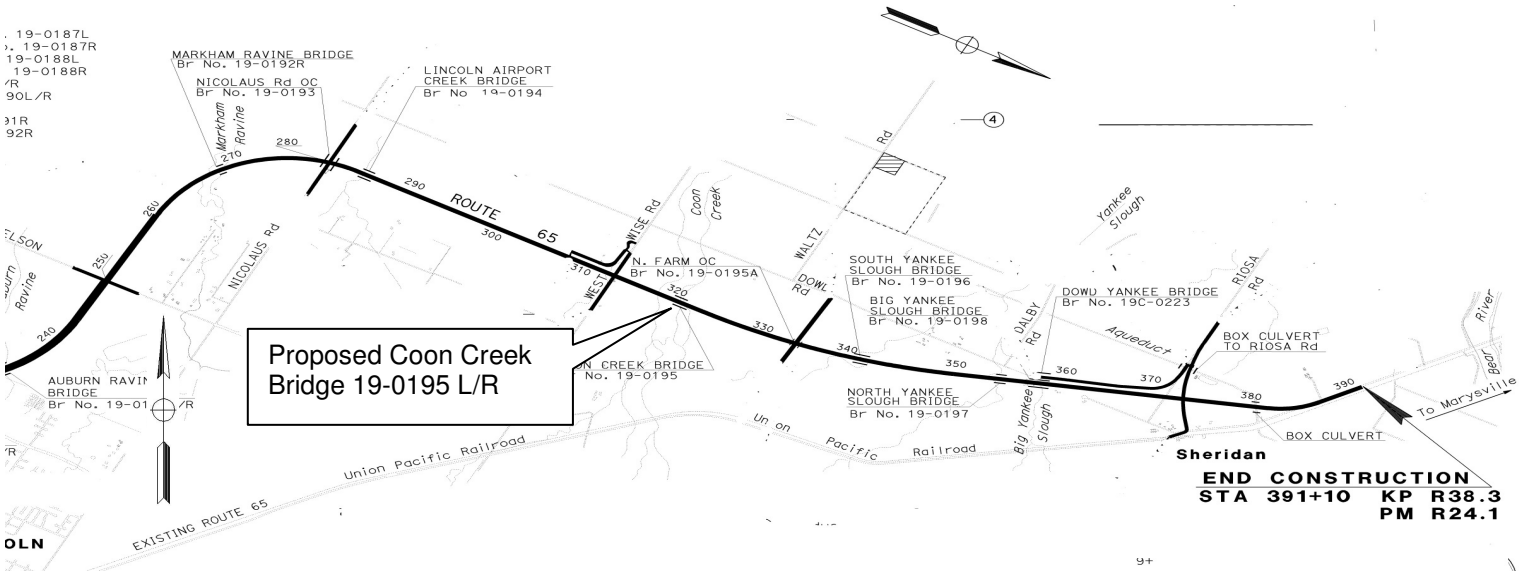
March 1, 2012

PREPARED BY:
Ronald McGaugh

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

REGISTERED ENGINEER

REGISTRATION NUMBER C 61217



General:

This report is to evaluate the existing five span structure and the placement of a proposed five span bridge structure along the new alignment of State Route 65. These structures will span Coon Creek.

The assumptions and calculations used for this report are based on a review of Caltrans Bridge Maintenance Records, As-Built plans, hydrologic, and hydraulic reports.

Both left and right bridges have an approximate length of 394 ft. and cross over Coon Creek. Vertical alignment will change in elevation by the use of roadway fill leading to and away from each bridge. Structure depth for the new five span, cast-in-place, prestressed, box girder bridges will be 4.0 ft. Both bridges will be supported on short-seated abutments on driven piles and will have sufficient waterway area to pass the 100-year event, with at least 2 ft. of freeboard.

The assumptions and calculations used for this report are based on the data and references obtained from the following sources:

- General Plans dated May 2011
- Caltrans' Bridge Maintenance Records
- Final Hydraulic Report dated August 18 2004
- Field photo documentation, and District 3 Bridge Site Submittal dated May 2011
- Historical cross sections
- FHWA HEC -18 Evaluating Scour At Bridges, 4th edition
- Department of Water Resources LiDAR of the watershed area completed 2008
- Contract LiDAR of the watershed area completed November 2011
- All elevations in this report are based on Vertical Datum, NGVD 29

The pre-construction topography was based on the DWR LiDAR and Caltrans surveys. The post-construction topography was based on the Contract LiDAR. All the elevations were adjusted from NAVD 88 to NGVD 29. Cross sections include the entire floodplain width. The number of cross sections includes the limits of the longitudinal impacts of any backwater for the projects. The cross sections show the profile ties into the existing conditions. The hydraulic models were evaluated for the post-construction conditions of each structure.

Flood History:
There is sheet flooding history for this location. Presently there are numerous flood control dykes, levees, and farmer-built appurtenances in this general area.

Basin:
Coon Creek drains approximately 83.1 square miles; and mostly lies in the central and western regions of Placer County. The central region consists of rolling hills to forested areas. The western region is a flat valley with poor drainage and consists mainly of level farmlands and pastures. Along the watercourse to the bridge site, walnut orchards and open/graze-land line the overbanks.

Upstream of the proposed alignment the basin is a complicated network that is made up of agricultural storage reservoirs and canals that traverse the basin. The canals act as diversion ditches and storage areas. It is not known if all of these systems are still active or maintained.
Hot, dry summers and cool wet winters and springs characterize the climate. This region has a history of flood related sheet flow problems. Watershed elevations range from 93 ft. at the bridge site to about 2000 ft. in the upper reaches of the watershed. The average basin channel slope was calculated at 1 % and the average annual precipitation is about 24 inches.

Drift:
Reviews of historical records indicate drift/debris will not be a problem.

Discharge:
The County of Placer, Caltrans District Hydraulics and the Reclamation District 1001 have come to a consensus on the discharge value. A letter dated February 10, 2003, by the Placer County Flood Control and Water Conservation District (signed by E. Brian Keating, P.E.) recommended the discharge for the 100-year recurrence interval is approximately 21,500 cfs. For our model we used a flow of 21,500 cfs. No values were discussed for the 50-year recurrence interval. No separate hydrologic analysis was performed for this watershed.

Streambed:
The existing channel carrying the anticipated flow to the proposed structure is relatively straight. The streambed is mainly composed of sand, silt and clay soils. Away from the bridge site, in the upper reaches, the soils are similar. The channel is shallow and approximately 160 ft. wide at the top. At the bridge site, the slope is fairly flat with a gradient of 0.002 ft/ft. The channel floodplain has light to moderate vegetation. It was determined from aerial photos and site visits that a potential of channel migration exists. Hills to the north side of the channel hold the channel from migrating north. There is potential from the channel to migrate south, but orchards and pastures are stabilizing the creek at the moment. Channel degradation and headcut upstream are negligible due to the flat slopes and are

not used in the total potential scour calculations. Manning's roughness coefficients used in calculations included, 0.03 in the main channel, 0.035 in the orchard areas, 0.045 in the pastures and 0.055 in the rough overbank area. The Manning's numbers were obtained from a site visit and surveys. From the General Plan it is anticipated that the bridge will have no hydraulic skew normal to the centerline of the channel.

Model Preparation:

US Army Corps of Engineers software HEC-RAS was used to create the one dimensional model for this project. The lowest calculated chord of the proposed bridge was used for the soffit elevation. The structural section depth was added to the soffit to get the planned deck elevation height. For this model the pre-condition were based on the DWR LiDAR data to simulate conditions prior to the project. The post-condition were based on the Contract LiDAR to represent the existing structure (northbound) and the proposed structure (eventual southbound). There are some elevation differences in the respective LiDAR data, but no more than 0.2 ft. in the areas that have flow (except at the structures).

Model Results and Water Surface Elevations:

Key results are shown in the Summary table on page 6.
The post-condition model shows that the bridges cause a backwater condition as shown below in Figure 1. The backwater influence is longitudinally about 4,500 ft. upstream from the right bridge. The flow returns to the pre-condition state approximately 130 ft. downstream of the proposed structure.
The maximum depth of anticipated backwater for these flow conditions is approximately 5 ft. The areas affected after the proposed construction are shown in blue on Figure 2.

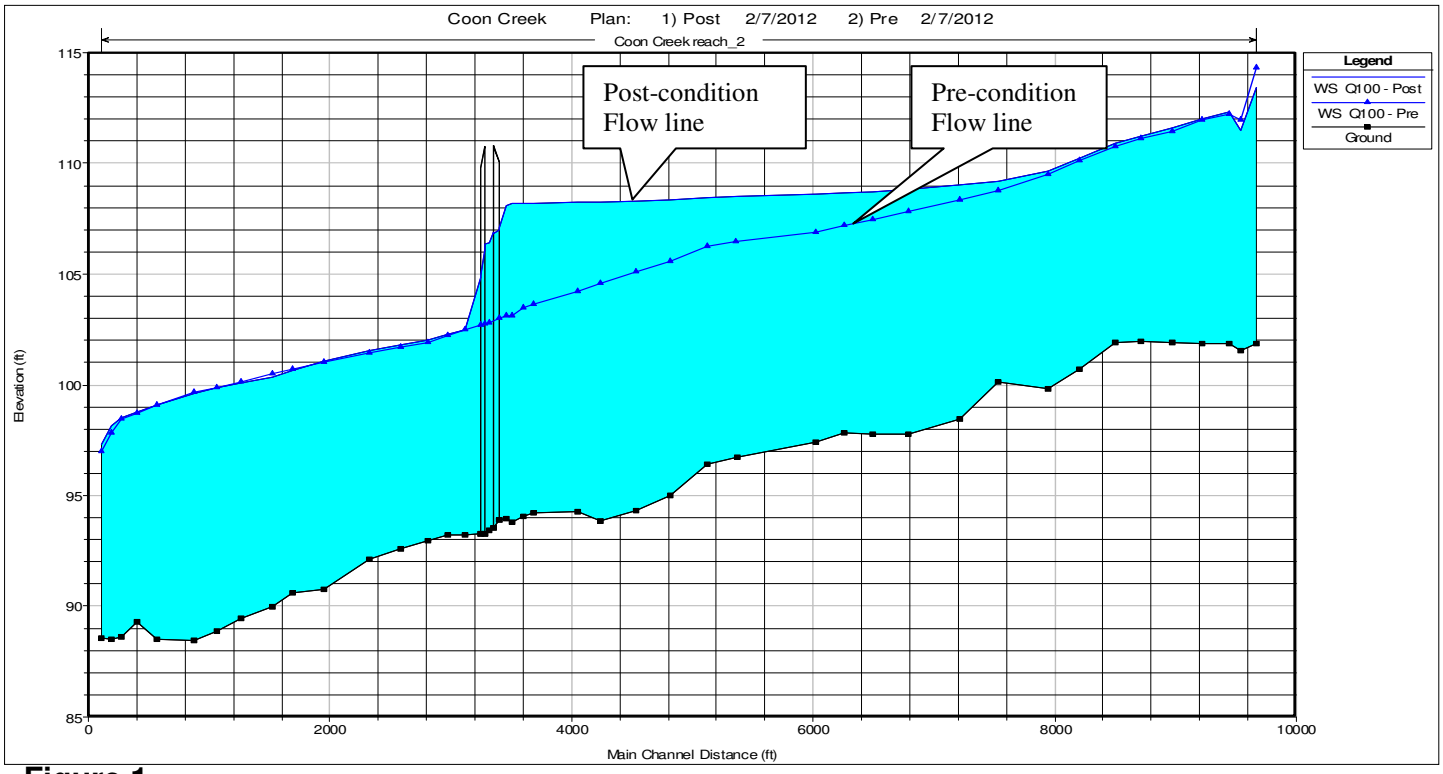


Figure 1

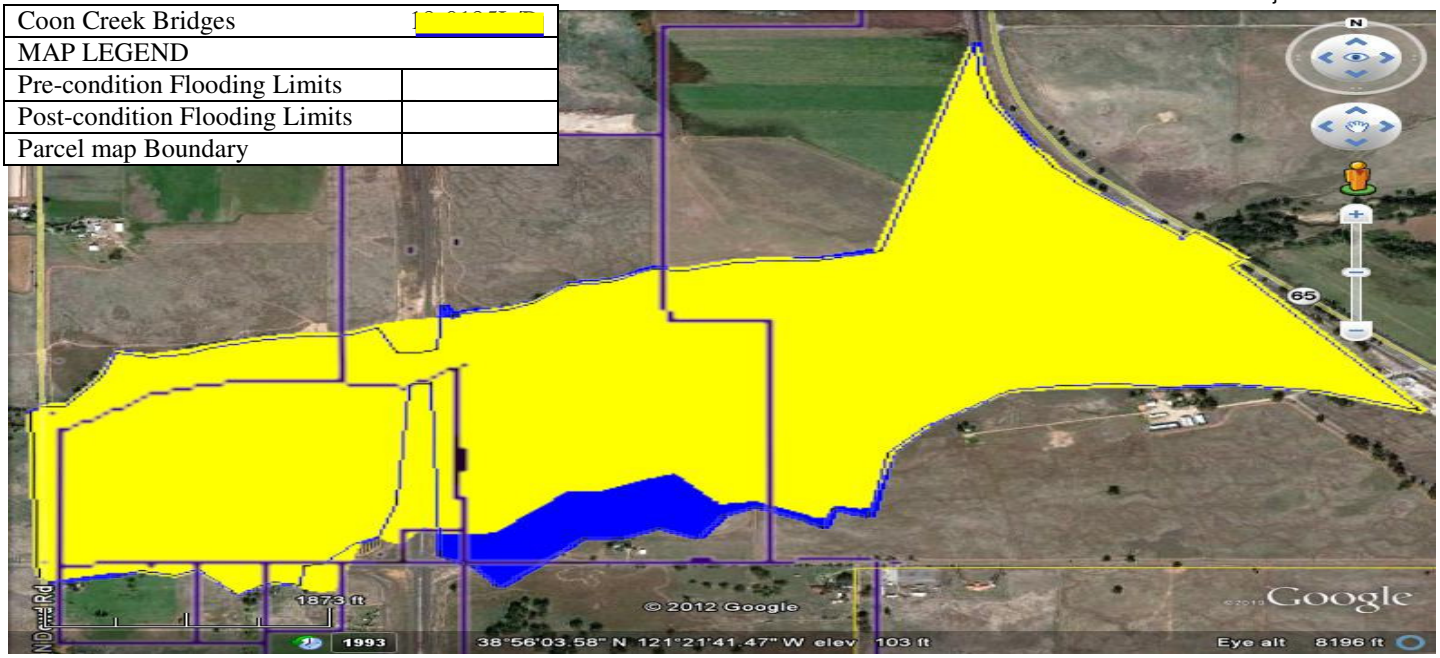


Figure 2

Scour:

Based on the FHWA HEC-18, the scour calculations were performed assuming the worst condition i.e. sandy soil. The Log of Test Borings indicates a thin layer of lean clay with sand over roughly a 8-ft layer of well-graded sand with silt and gravel at Elevation 94-ft. This suggests that the top layer may be more resistant to erosion than the 8-ft layer below.

For these bridges the following scour evaluation was calculated (These values apply to both bridges);

Local Scour (ft.)	8.0.
Contraction Scour (ft.)	4.6.
Degradation Abutments (ft./year)	0.0
Total Pier Scour (ft.)	12.6
Total Abutment Scour (ft.)	4.6

Bank Protection:

Thalweg migration is not apparent. For velocities that are generally less than 10ft/s no bank protection is necessary. For the locations where velocities are greater than 10 ft/s a mitigation plan for rock protection has been designed.

Summary

Hydrologic / Hydraulic Summary		
Drainage Area: 83.1 mi^2 **(1929 NGVD Datum)**		
Coon Creek Bridges	Right	Left
Structure depth (ft.)	4.0	4.0
Spans	5	5
Proposed Bridge Length (ft.)	394	394
Lowest modeled soffit elevation (ft.)	109.0	109.7
Q_{100} (cfs)	21500	21500
Freeboard (ft.)	2.0	3.7
WSEL at Bridge Upstream (ft.)	107.0	106.0
Velocities bridge exit ft./s (ft./s)	12.0	11.9
Potential Scour Elevation At Piers (ft.)	81.4	82.0
Potential Scour Elevation at Abutments (ft.)	96.9	97.3
Floodplain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.		

The Title 23 Division 1, Chapter1,Article 8, Section 128, Subpart (10)(A) " The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plain. The required clearance may be reduced to two (2) feet on minor streams at sites where significant amounts of stream debris are unlikely."

Central Valley Flood Protection Board has jurisdiction over Coon Creek as defined in Title 23, California Code of Regulations. From the Draft Modifications dated October 2010 Title 23 Division 1, Chapter 1,Article 2, Subpart 4 Definitions, Section (4)(v), "Minor and Major Streams. "Minor streams" are streams which generally have a design or natural channel capacity of less than 8000 cfs. Streams and rivers with design or natural channel capacities equal or greater than 8000 cfs are generally classified as major streams."

The Q100 flow used for this project is 21,500 cfs indicating a major stream by Title 23 definitions. Since the right bridge freeboard is less than 3 ft. a variance will be required.

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
MARYSVILLE, CA 95901
PHONE (530) 741-4233
FAX (530) 741-4245
TTY 711

Flex your power!
Be energy efficient!

May 4, 2012

Mr. Jay Punia
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room #151
Sacramento, CA 95821

Dear Mr. Punia:

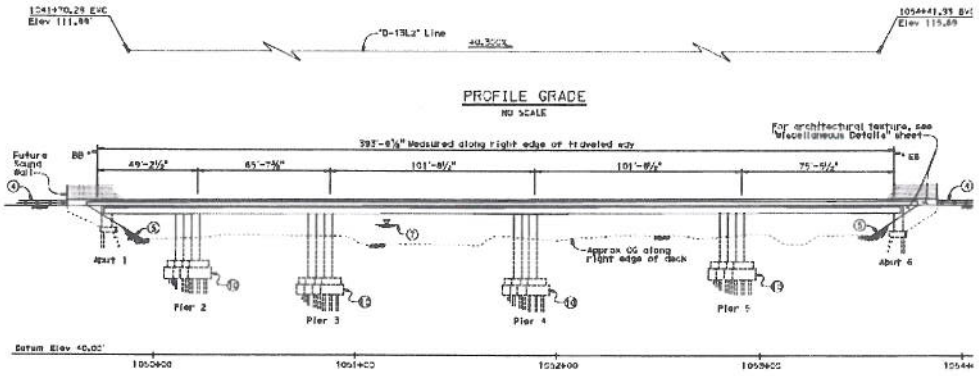
Subject: Floodway Encroachment Variance Request – Coon Creek, Permit Number 18655

The California Department of Transportation (Caltrans) requests a variance to California Code of Regulations Section 128; (a); (10) (A) regarding the freeboard requirements from the bottom of structural members to the design flood plane elevation for the newly constructed betterments at the State Route 65 bridge (19-0195R) at Coon Creek in Lincoln, California.

Utilizing a recommendation provided to Caltrans in 2003 by the Placer County Flood Control and Water Conservation District (District), and confirmed by a recent HEC-1 analysis, 21,500 cubic feet per second (CFS) was used as the 100-year event discharge for design purposes. The resultant freeboard at this bridge location (19-0195R) is two feet (2.0'); the required three feet (3.0') of freeboard is not provided. Hydraulic and structural design of the yet to be constructed Left bridge (19-0195L) will have more than three feet (3.0') of freeboard upon its completion.

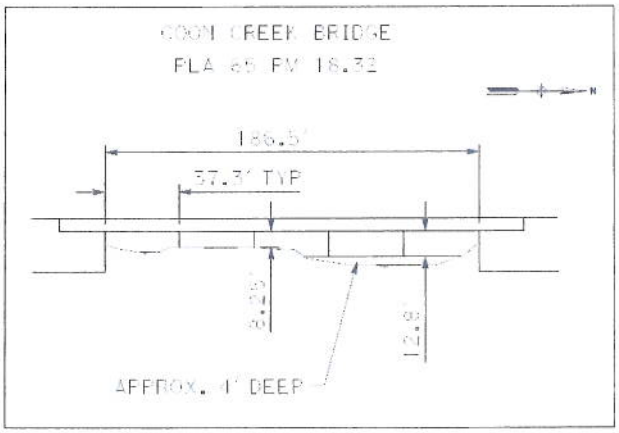
Several factors prompt this request for a variance. They are presented below:

1. The spans between rounded columns and available waterway area at the new alignment far exceed what is provided by structures both upstream and downstream. The new alignment has a total length of 394 feet with spans of 49, 66, 102, 102 and 75 feet *(from BB to EB)*, spread across two abutments and four pier groups. This is depicted in the General Plan below:



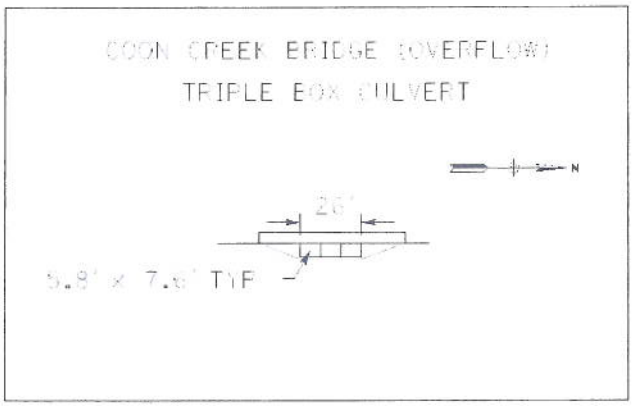
This recent photograph of the as-built condition emphasizes the open space:

In contrast, the length of the existing SR 65 bridge a mile upstream is approximately 186 feet using spans of approximately 37 feet spread across two abutments and four pier groups.



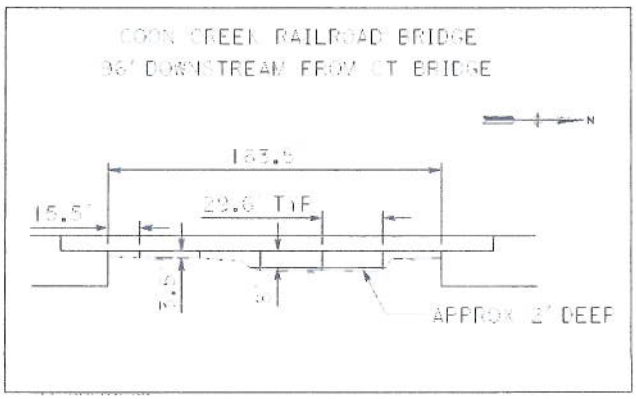
A recent photo provides additional perspective:

An overflow structure to the south provides an additional 26 feet of length, using three reinforced concrete boxes as shown in the following sketch:



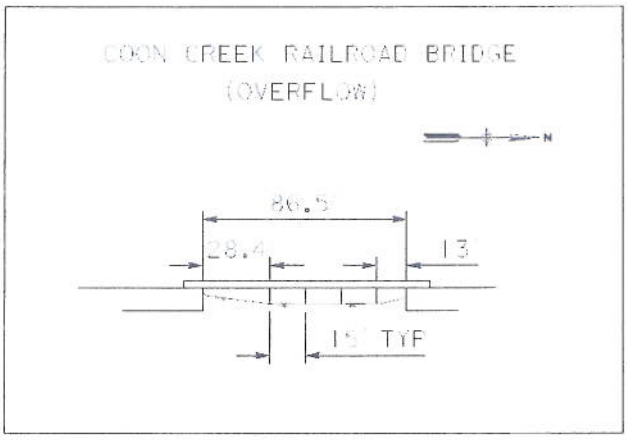
And as depicted in this photograph:

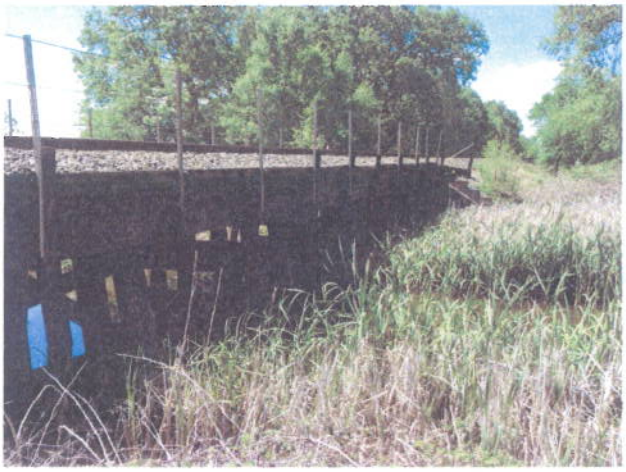
The railroad bridge, immediately downstream of the existing SR 65 bridge is approximately 164 feet in length spread across two abutments and five pier groupings. The typical span is approximately 30 feet. A sketch of the railroad bridge follows:



And a recent photo provides additional clarity:

An additional railroad overflow facility lies to the south. It is approximately 86 feet in length with typical 15-foot spans, as shown in the following sketch and photo:

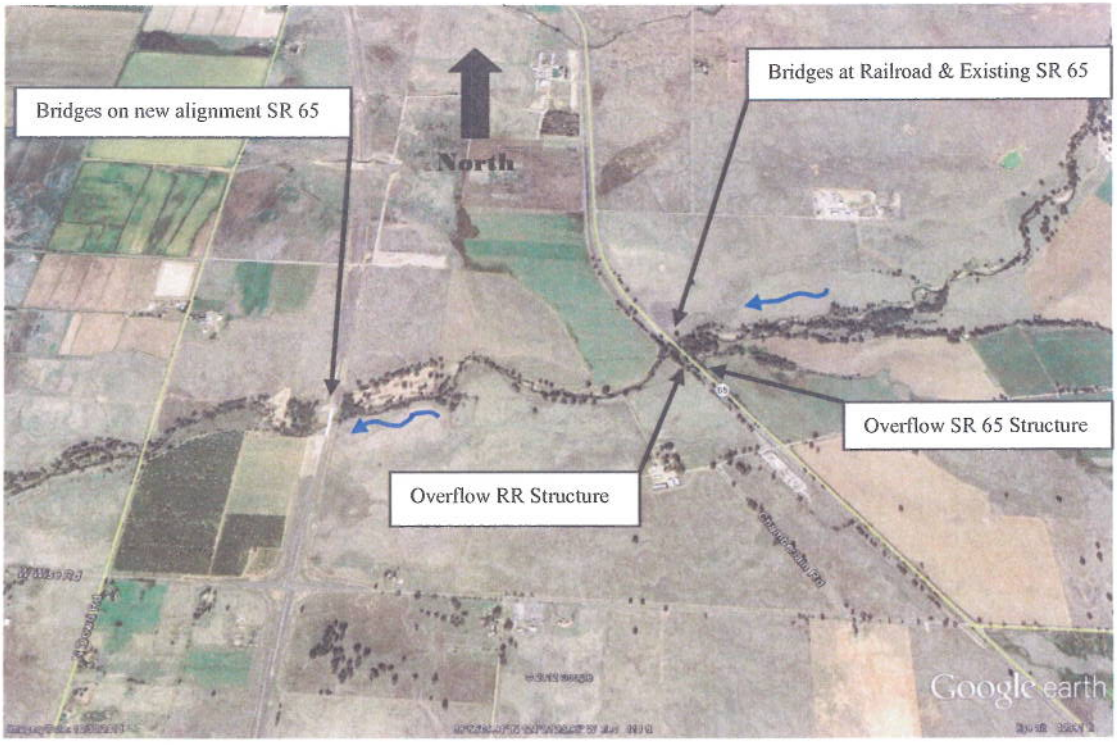




Contrary to the existing highway and railroad facilities upstream, the Lincoln Bypass bridges at Coon Creek have been designed to remove the piers from the low-flow channel and have reduced the number of columns in the pier groups. It is important to realize that the upstream facilities, owing to their reduced clear spans, will trap debris from the tree-rich environment to the east of the railroad and existing highway bridges, essentially providing a filtering mechanism and reducing the magnitude of debris that would reach the new alignment of SR 65. Any accumulated debris will be identified during normal biennial bridge inspections performed by Caltrans bridge maintenance operations for both State and Local Agency bridges. Removal will be at the discretion of each respective agency.

2. The recently constructed bridge at the new alignment increases in elevation from south to north employing a highway grade of +0.03%. As a result, the available freeboard varies from 2.0 feet at Abutment 1 to 3.2 feet at Abutment 6, with nearly half of the bridge length having freeboard in excess of 2.5 feet. Approximately 15% of the bridge has three (3) or more feet of freeboard.

3. The tree canopy between the railroad bridge (approximately a mile upstream from the new alignment of SR 65) and the new alignment is significantly less than what is in place east of the railroad and the existing SR 65 alignment. This can be seen in the exhibit below:



This would translate into less anticipated debris at the recently constructed bridge. Further, upon close inspection and field review, the greater density of trees occurs at this location on the north bank, adjacent to where the available freeboard approaches three (3) feet.

4. Placer County Flood Control and Water Conservation District has reviewed the HEC-RAS files for the new alignment crossing at Coon Creek. A letter from Brian Keating, District Manager, summarizing that review is enclosed.

5. The Department is considering including "debris sweepers" at the leading edge of the upstream columns. These mechanisms facilitate the movement of debris downstream by allowing it to "roll" off of the column or pier and directing it away to either side. An example of this betterment is provided in the following photo:

6. The State Route 65 Phase 1 construction of the bridge structures and most of the Right road bed of this two-way divided highway is almost complete and traffic ready. The start of construction for the Left road bed (Phase 2B) is likely to begin during the 2014 season. It is imperative for Caltrans and its funding partners to open the Bypass as scheduled, September 15, 2012. The opening of the Bypass will reduce traffic congestion and delay, improve safety, and enhance local and interregional trip mobility. The Bypass will provide an alternate controlled access route that will eliminate the slowdown of traffic moving through the congested and signalized intersections in downtown Lincoln, as well as the at-grade railroad crossing delays in Sheridan.

Possible methods to obtain more freeboard have been discussed. (No studies for these options have been initiated.)

A. Increase the bridge and roadway profile grade at this location:

In order to obtain one additional foot of freeboard with the constructed Right bridge, the roadway profile grade would have to be increased. This would require importing large volumes of additional roadway fill for placement. This will increase the roadway footprint upon the existing channel, forcing an ultimate roadway elevation increase in excess of one (1) foot. It has not been determined how much of the roadway length would be impacted to obtain this additional grade increase. The proposed Left bridge will also require a redesign to match a reconstructed Right bridge for purposes of hydraulic efficiency. The anticipated delay time is estimated at two years.

B **Lengthen the new bridge:**

The existing bridge would have to be modified with the addition of another span. This would provide additional waterway opening and a drop in the water surface elevation to provide an additional foot of freeboard. The length and freeboard benefit of the additional span would have to be determined. This would entail the removal of a span's worth of roadway fill. This will also require the reconstruction of at least one existing abutment, the addition of a simply supported end span, and construction of a new abutment. There will be at least a one year delay in highway opening to accommodate additional span length. This would also need to occur at the Left bridge, the design of which has been completed.

C **Concrete line the channel:**

This approach would entail lining the entire channel width within the State Right of Way to an elevation that would provide for three (3) feet of freeboard. The limited channel reach within the State Right of Way will make these modifications difficult to design. Additional numerous technical and environmental issues would arise with an attempt to line a major waterway. Acceptable entrance and exit water velocities will be very difficult to mitigate and will be impossible to obtain without extensive encroachment into the adjacent properties. This approach will also have very negative impacts to the habitat and is not considered viable.

As the options for obtaining three feet of freeboard throughout the full length of the bridge are either extremely costly, environmentally unsound, or result in significant delays for achieving traffic congestion relief, Caltrans has determined the options cited above to be unviable and requests a variance for the required freeboard over this major waterway for the Right bridge (19-0195R). The reduction to the targeted freeboard is unfortunate, but 2 feet of freeboard is still present, which increases to 3.2 feet at the northern abutment. Major portions of the highway on the new alignment have already been installed and would appear to now represent an existing condition. The foreseeable risk of flooding at this facility has been acknowledged and mitigated as part of the project right of way negotiations through compensatory measures.

Sincerely,

Jody Jones

JODY JONES
District Director

Enclosure

c: Mr. Len Marino, Chief Engineer – CVFPB
Mr. Dan S. Fua, Supervising Engineer – CVFPB
Mr. Curt Taras, Supervising Engineer – CVFPB
Mr. David R. Williams, Senior Engineer – CVFPB

PLACER COUNTY
FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Ken Grehm, Executive Director
Brian Keating, District Engineer
Andrew Darrow, Development Coordinator

May 1, 2012

Mr. Dennis Jagoda
California Department of Transportation
District 3 – Local Assistance
P.O. Box 911
Marysville, CA 95901

Re: Highway 65 By-Pass Floodplain Hydraulic Studies – Coon Creek

Dear Dennis:

This letter is to confirm that staff from the Placer County Flood Control and Water Conservation District (District) have reviewed the hydrology and hydraulic models associated with Caltrans Highway 65 bridge crossing over Coon Creek in Placer County. Caltrans has appropriately utilized our District recommended design peak flows for Coon Creek at the proposed new Highway 65 crossing. A design 100-year peak flow of 21,500 cubic feet per second was previously recommended by the District.

We also note that Caltrans has appropriately applied a minimum 2.0 foot freeboard into the bridge design which increases to over 3.0 feet along the span. Backwater impacts from the new crossing do appear to encroach onto several upstream adjacent private parcels, however, we understand that Caltrans has coordinated separately with these property owners to obtain necessary flood easements.

Please note that the District should not be named as the local maintaining agency under a future flood encroachment permit issued by the Central Valley Flood Protection Board. We hope this letter is useful in your attempts to obtain the necessary permits. Should you have any concerns or need additional information, please contact me at 530-745-7592. Thank you.

Sincerely,

E. Brian Keating

E. Brian Keating, P.E., CFM
District Manager

Cc: Andrew Darrow
Ken Grehm
File
Chron

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
MARYSVILLE, CA 95901-0911
PHONE (530) 741-4233
FAX (530) 741-4245
TTY 711

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November 17, 2011

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room #151
Sacramento, CA 95821

Dear Mr. Punia:

Subject: Central Valley Flood Protection Board Permit Applications 18653-18658
Authorization of Six bridges constructed along the Highway 65 Bypass – District 3

The purpose of this letter is to provide you with an update on Caltrans' progress towards completing the permit application packages and to request a time extension for the re-submittal of the permit applications.

Since last September, Caltrans staff has been in frequent contact with the Central Valley Flood Protection Board (CVFPB) staff to address and resolve issues related to the requirements for the new applications. Caltrans has collected and completed all pre-construction data and models. A Task Order was executed on October 26, 2011 to obtain post-construction LiDar data that is essential for running post construction models. Our consultant has agreed to deliver the LiDar data the first week of December.

Once Caltrans has the new data, our staff will run the post-construction models to verify any impacts to the floodplain as a result of the construction project. We expect to have the models and analyses completed in early March and have the new permit applications submitted to the Board by March 15, 2012.

If you have any questions about the project, please contact Samuel Jordan, Project Manager at (916) 396-9494 or via e-mail at samuel_jordan@dot.ca.gov.

Sincerely,

Jody Jones

JODY JONES
District Director

c: Mr. Len Marion, Chief Engineer – CVFPB
Mr. Dan S Fua, Supervising Engineer – CVFPB
Mr. Curt Taras, Supervising Engineer – CVFPB
Mr. David R. Williams, Senior Engineer – CVFPB
Ms. Nancy C. Moricz, Staff Engineer – CVFPB
Mr. Sungho Lee, Staff Engineer – DVFPB

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March 13, 2012

RECEIVED
MAR 14 2012

Mr. Jay Punia
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room #151
Sacramento, CA 95821

Dear Mr. Punia:

The purpose of this letter is to make you aware of a delay in the completion of the permit application re-submittal package for Applications 18653-18658. This package comprises the eleven bridges of the State Route 65 Lincoln Bypass.

Documentation for insertion into this package was required from many functional areas, both here in District 3, and from our Structures Design Unit, Engineering Services Center Geotechnical Unit, and Hydraulics Unit, all with concurrent workloads. We erred in not ramping up sooner, anticipating the securing of LiDAR information and the subsequent hydraulics analysis to proceed more quickly. Following the modeling, it became apparent that greater documentation was required to quantify inundation areas, and in our team discussions we noted mapping, plan sheets and reports had not been converted to English units, and back-up information that had not been requested.

To stand behind our commitment to submit a quality package, we felt it was important to ensure all documentation was reviewed for consistency, and that all sections of information were assembled with an eye towards readability and flow. As it stands on this date, we simply do not have in our possession all the information required in final format.

It is our intention to provide the completed submission package on or before May 4, 2012. We apologize for this unexpected and unfortunate delay. Please contact Samuel Jordan at (916) 396-9494 or via e-mail Samuel_jordan@dot.ca.gov should you have any questions.

Sincerely,

Jody Jones

JODY JONES
District Director

c: Mr. Len Marino, Chief Engineer – CVFPB
Mr. David Williams, Senior Engineer – CVFPB

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY EDMUND G. BROWN JR., GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682

August 25, 2011

Ms. Jody Jones, District Director
California Department of Transportation (Caltrans), District 3
P.O. Box 911
Marysville, CA 95901

Subject: Central Valley Flood Protection Board Permit Applications 18653-18658
Authorization of Six bridges constructed along the Highway 65 Bypass – District 3

Dear Ms. Bowen:

The Central Valley Flood Protection Board (Board) is seeking your intervention and assistance regarding the lack of information and the quality of the documents received pertaining to the authorization of six bridges constructed along the Highway 65 Bypass within the Board's jurisdiction without a Board permit. Board staff has been in communication with you, Mr. Samuel Jordan, and other Caltrans staff over the past several months to obtain complete, accurate, and representative packages for our review of these existing bridges and appurtenant structures.

At this time, Board staff is unable to make conclusive staff recommendations on any of the authorizations due to a lack of correct and sufficient information in the applications. The information needed includes requests for variances from the Board's Standards in Article 8 of the California Code of Regulations (CCR), Title 23, complete and correct hydraulics, and properly and clearly outlined project impacts. Staff may elect to take your applications forward with recommendations for denial due to their lack of compliance with Article 8 of CCR, Title 23 or to outline a plan to work cooperatively with your agency to obtain complete and accurate submittals for the applications. Board staff has provided a list below of the items and issues that must be addressed and/or justified prior to re-submittal of the application packages in order to avoid denial:

- There shall be a complete re-submittal of bridge applications (18653-18658).
- Correct and complete hydraulics and summary tables (in the format previously provided), must be provided as part of the re-submittal packages.
- Overall cumulative hydrology of the bypass project and bridges, with impacts to Board's jurisdiction clearly outlined shall be provided. If the bridges cause impacts to nearby landowners, impair stream flows, or raise water surface elevation (WSE), then an aerial map must be submitted which shows pre- and post-project WSE limits at the 100-year event. Furthermore, it shall take into account any backwater effects that occur near the project area, which must also be included in the submittal packages.
- Several crossings are expected to require joint analyses with backwater effects in order to complete a representative model of the real project conditions and the re-submitted hydraulics/hydrology must reflect these joint analyses.
- There must be complete re-submittal of the hydraulic analyses, assumptions, current and correct topography that cover the extents of the hydraulic model cross sections, representative pre-project topography, and correct tables that represent the worst case scenario values for each application, which shall be included and checked for accuracy prior to re-submittal.

- The hydraulic analyses must be reanalyzed to reflect the flow rates established for the Board's Regulated Streams.
- Profiles are required to include the 100-year pre- and post-construction WSE, existing ground, bridge soffit elevations and any other pertinent information.
- Electronic HEC-RAS input and output files, as well as hydraulic reports and studies, shall be submitted for each application in both electronic and hard copy formats.
- If the final and correct hydraulics represent any non-compliance with Article 8 of CCR, Title 23 then a letter requesting a variance from Article 8 and justification for the request must be included with the submittal package.
- After several site visits, Board staff has observed in the field and in prior iterations of hydraulic analyses, that there is a high possibility of flood damage to adjacent landowners, erosion of channel bed, and scour of bank near the proposed bridges due to increased velocities and backwater effects. Therefore, if cumulative or individual impacts, as outlined above to the channel or nearby landowners are found to be present after revised analyses are completed, then mitigation measures will be required. If mitigation alternatives are needed, they will require justification, analyses, assumptions, and methodologies.
- As in previous submittals English units and plan requirements will be the same and shall be presented in a clear and logical manner.

Your office must resubmit the applications, with the above referenced items, within 90 days from the date of this letter. If you fail to comply or cannot justify your reasons for not meeting the deadline then the applications will be transferred to our Enforcement Section for further action as unauthorized encroachments. All requests for extensions shall be signed by you and submitted in writing to the Board, with justification, prior to the 90 day deadline. We appreciate your coordination and cooperation, and look forward to working with you further on these projects.

If you have any questions please contact me at (916) 574-0609 or by email at jpunia@water.ca.gov, or if your staff has any questions they may contact David Williams, Senior Engineer at davidw@water.ca.gov or Nancy Moricz, Staff Engineer at nmoricz@water.ca.gov.

Sincerely,

Jay S. Punia

Jay Punia, P.E.
Executive Officer

Cc: Ms. Carrie Bowen, District Director
Caltrans District 10
P.O. Box 2048
Stockton, CA 95201

Mr. Samuel Jordan, Project Manager
Caltrans District 3
P.O. Box 911
Marysville, CA 95901

Mr. Gary Sidhu, Deputy District Director
Program and Project Management
Caltrans District 3
P.O. Box 911
Marysville, CA 95901

Mr. Len Marino, Chief Engineer
Mr. Dan S. Fua, Supervising Engineer
Mr. Curt Taras, Supervising Engineer
Mr. David R. Williams, Senior Engineer
Ms. Nancy C. Moricz, Staff Engineer
Mr. Sungho Lee, Staff Engineer

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June 21, 2012

Mr. David R. Williams
Senior Engineer, WR
Central Valley Flood Protection Board
3310 El Camino Avenue, Suite 151
Sacramento, CA 95821

Dear Mr. Williams:

The following endorsement is in response to your June 18, 2012 email to Steve Jaques et al regarding the California Department of Transportation (Caltrans) long term maintenance within State right of way.

The goal of Caltrans is to maintain existing facilities as nearly as possible to the original condition as constructed or improved. The Maintenance Program is assigned the care and upkeep of State highways. Proper care and upkeep conserves the public's investment in the highway system, and ensures that the system will continue to provide maximum benefits to the traveling public. See attached list of Maintenance Activities.

The legal definition of maintenance as provided by the California Streets and Highways Code, General Provisions, Section 27, include the following:

(A) The preservation and keeping of rights of way, and each type of roadway, structure, safety convenience or device, planting, illumination equipment and other facility, in the safe and usable condition to which it has been improved or constructed, but does not include reconstruction or other improvement

(B) Operation of special safety conveniences and devices, and illuminating equipment

(C) The special or emergency maintenance or repair necessitated by accidents or by storms, or other weather conditions, slides, settlements or other unusual or unexpected damage to a roadway, structure or facility

Many routine maintenance operations have the potential to affect water quality. The Maintenance Program, in cooperation with the Environmental Program, has developed procedures to protect water quality. These are included in the Maintenance Manual, and in the Caltrans Statewide Storm Water Management Plan. Caltrans has a statewide storm water permit. All districts are required to abide by the permit requirements.

To comply with federal regulations, all bridge structures over 20 feet long are inspected by qualified Area Bridge Maintenance Engineers (ABME) at a maximum interval of two (2) years, and more frequently if conditions require a more frequent inspection. As part of the inspection,

engineering evaluation is made regarding the condition of all structural components, and work recommendations are made for any corrective actions required.

Periodic walk-through inspections are made by District Maintenance Supervisors to detect obvious defects, hazards or potential problems, and also to monitor known problems. The purpose of these inspections is to supplement the more detailed, but less frequent inspections by the ABME. Special attention is given to any condition that affects the safety and/or structural capacity.

After a major storm, earthquake, or other natural event that may cause damage to bridges, area supervisors inspect all bridges in the affected area for signs of damage. Any damage found is reported to the Structure Maintenance and Investigations Unit for follow up action.

Depending on the scope of work and monetary size of the recommended work, it can be performed in one of the five methods below:

- By District 3's local special crews: bridge, sign, or road maintenance crews
- By local agencies (City/County), as per Highway Maintenance Agreement
- By Maintenance Contract, funded by the Major Maintenance funds (HM3-115)
- By the State Highway Operations and Protection Program, funded by the bridge programs
- By Service Contract

Caltrans Maintenance will react promptly to emergencies while taking steps to protect employees, the public, and the environment. In addition, the Maintenance Program will practice proper scheduling and planning of routine maintenance procedures to keep delays at a minimum. Reasonable efforts are made to correct conditions that interfere with the flow of water under our structures, including clearing debris.

If you have any further questions you may contact Samuel Jordan, Project Manager, by phone at (916) 396-9494 or by email at samuel_jordan@dot.ca.gov.

Sincerely,

Jody Jones

JODY JONES
District Director

c: Mr. Len Marino, Chief Engineer – CVFPB

bc: Tom Brannon, D3 DDD, Program/Project Management
Steve Jaques, Caltrans Liaison to the CVFPB
Steve Kirkpatrick, D3 DDD, Maintenance and Operations
Samuel Jordan, D3 Project Manager, Program/Project Management
Executive Chron File
Executive Program/Project Management File

Samuel Jordan:slb/js

Williams, David R.

From: Tom Brannon [tom_brannon@dot.ca.gov]
Sent: Thursday, June 21, 2012 4:24 PM
To: Williams, David R.
Cc: Jody Jones; Steve Kirkpatrick; Samuel Jordan; Steve Jaques; Dennis Jagoda
Subject: Re: Fw: Hwy -65 Bypass
Attachments: David Williams - CVFPB Endorsement 6-20-12.pdf

Mr. Williams,

Attached is a PDF of a letter to you committing the District to our maintenance of the State R/W under our structures. We made a request to the County of Placer for a similar document but unfortunately are unable to provide this. The lands upstream and downstream of the structures are held by private owners, which makes it difficult to obtain a committment from a government agency to maintain land not their own.

Please contact either Sam Jordan or me if you have any questions or if we can provide any further information.

(See attached file: David Williams - CVFPB Endorsement 6-20-12.pdf)

Tom Brannon
D3 Deputy District Director
Program Project Management
916 826 6052

----- Original Message -----
From: Steve Jaques
Sent: 06/21/2012 11:48 AM PDT
To: davidw@water.ca.gov
Cc: Samuel Jordan
Subject: Fw: Hwy -65 Bypass

David,
I have yet to hear anything regarding this issue. Sam will be responding directly to you with a cc to me.

Steve Jaques

April 13, 2011

RECEIVED
APR 18 2011

Jon Tice
Central Valley Flood Protection Board
3310 El Camino Avenue, Rm. 151
Sacramento, CA 95821

Re: PROTEST Application # 18655BD
State Route 65 Lincoln Bypass Crossing at Coon Creek

Dear Mr. Tice:

The storms of 2011 have given me an opportunity to visually observe the effects of floodwaters in the referenced area.

The proposed project confines the flood plain to a much narrower area than its natural state. The 393.7 foot span causes flood waters to be higher on the east side of the bridge, resulting in increased flow velocity. The increased volume and velocity causes increased erosion downstream. Also, property fences are completely destroyed by the water flows.

Cal Trans has constructed a drainage ditch with an adjoining ditch bank to direct flood waters on the west side of the right-of-way, ending near the bridge abutment. The increased flow and velocity caused by the bridge and highway construction has caused water to back up and overflow the ditch banks, resulting in the erosion of the ditch banks and the washing out of the Cal Trans right-of-way fence, and creating troublesome erosion on our property. Please see the attached photos.

I would conclude that the western ditch banks should be raised to alleviate overflow, and some type of velocity diffuser be put into place to help minimize the erosion. Any other suggestions would be helpful in this regard.

If any of these problems can be addressed, it would be greatly appreciated.

Sincerely,

Walter Fickewirth
2780 N. Dowd Rd.
Lincoln, CA 95648
(916) 645-8848

Photos taken Dec. 19, 2010, from State Route 65 Bypass looking west with Coon Creek on the right.

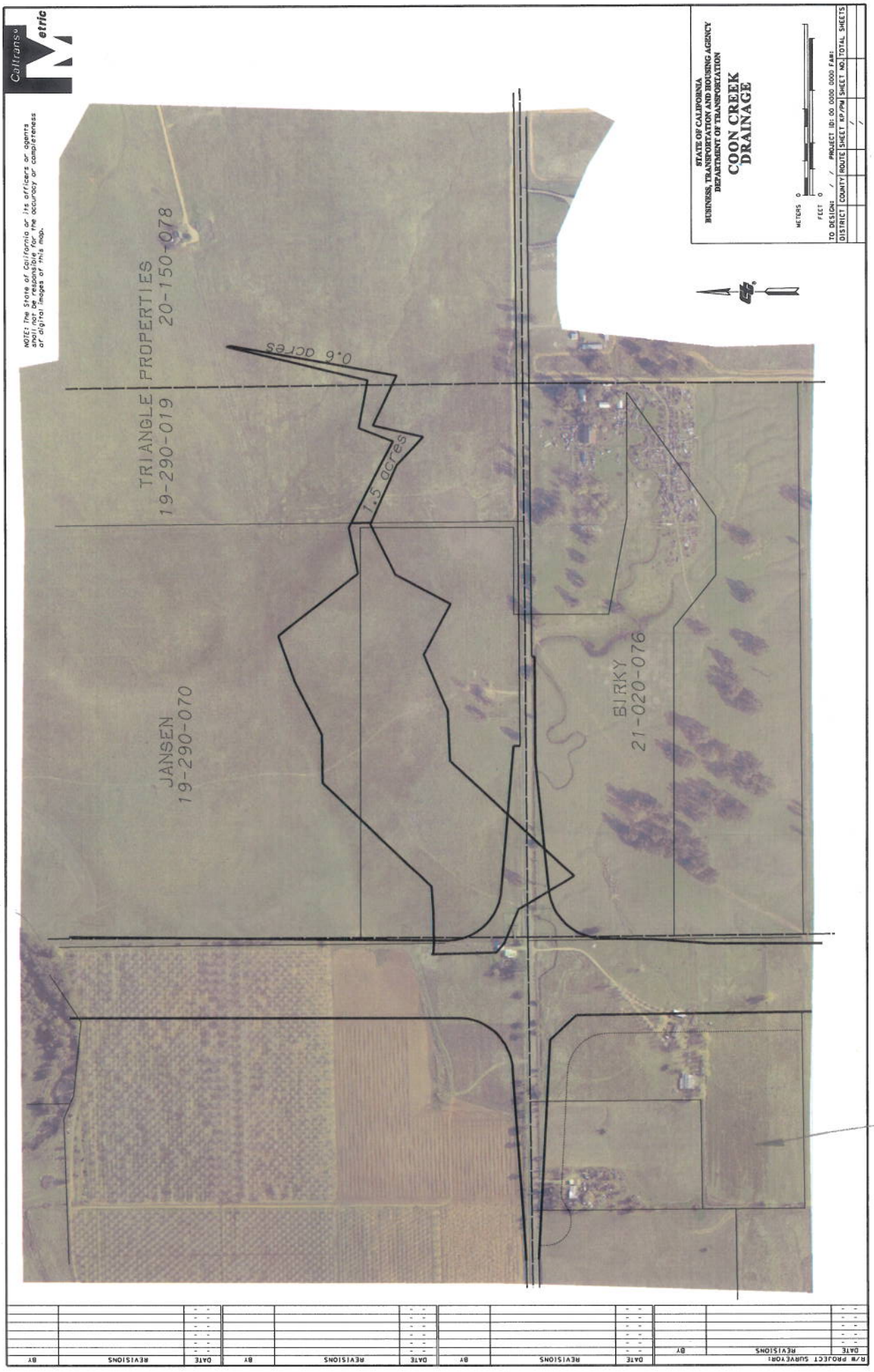
Erosion in our field

Caltrans Ditch

Long View

Caltrans right-of-way fence was pushed over by water.

Closer View



Coon Creek

Walter Fickewirth 19-290-061

COON CREEK BRIDGE RIGHT - LOOKING WEST

COON CREEK BRIDGE RIGHT - LOOKING EAST

COON CREEK BRIDGE RIGHT - LOOKING EAST

COON CREEK BRIDGE RIGHT - LOOKING WEST

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
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November 2, 2012

Mr. Jay Punia
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room #151
Sacramento, CA 95821

Dear Mr. Punia:

The letter is in regards to Permit No. 18655-2 BD (Coon Creek Bridge – 19-0195L). Caltrans is requesting a modification to condition thirty-two which is a variance to the standards for backfill compaction which state that "*All fill material shall be imported impervious material with 20 percent or more passing the No.200 sieve, a plasticity index of 8 or more and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Fill material shall be compacted in 4 to 6 inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.*" Caltrans believes that this variance should be granted because the Central Valley Flood Protection Board's standards for backfill compaction are not appropriate for this project based on the following information:

The California Code of Regulations Title 23, Division 1, Chapter 1, Section 128 (a) (1), states that any backfill within the levee section or near bridge supports within the floodway must be backfilled in four - (4) inch to six - (6) inch layers with approved materials. The levee section must be compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557-91, dated 1991, which is incorporated by reference and above optimum moisture content. Caltrans is requesting a variance from this specification and would prefer to use our 2006 Standard Specifications section 19-3.06, "Structure Backfill," because 90% compaction is not suitable for bridge locations. Our long history of building bridges has made use of this specification with no adverse affects. Listed below for your use are applicable portions of the specification.

19-3.06 Structure Backfill
Backfill material shall be placed in uniform layers and shall be brought up uniformly on all sides of the structure or facility. The thickness of each layer of backfill shall not exceed 0.67-foot before compaction except that when compaction is done by ponding and jetting, the thickness shall not exceed 4 feet….Unless otherwise shown on the plans or specified in these specifications or the special provisions, structure backfill shall be compacted to a relative compaction of not less than 95 percent. (See Attached)

19-5.03B Relative Compaction (95 percent)
Obtain a relative compaction of a least 95 percent, as measured by California Test 216 or 231 (See Attached) for at least a depth of:
1. 0.5 foot below the grading plane for the width between the outer edges of shoulders
2. 2.5 feet below the finished grade for the width of the traveled way plus 3 feet on each side

Except for the outer 5 feet measured horizontally from the embankment side slope, compact the full width and depth of the embankment within 150 feet of each bridge abutment to at least 95 percent relative compaction. The 150-foot limit is measured horizontally from the bridge abutment and either parallel or concentric with the roadway centerline.

Thank you for your consideration of this variance. If you have any questions please contact me at (530) 740-4846.

Sincerely,

THOMAS L. BRANNON
Deputy District Director
District 3 Program/Project Management

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO.18655-2 BD

This Permit is issued to:

CALTRANS - District 3
703 B Street
Marysville, California 95601-0911

The proposed work is for a cast-in-place/prestressed concrete box girder left bridge (19-0195L) crossing Coon Creek in Placer County. The bridge will have two 11.8 ft. travel lanes and 7.9 ft. left and 9.8 ft. right shoulders, for a total width of 44.3 ft. The bridge will be divided into five spans each (one at 49.2 ft., one at 65.6 ft., one at 75.5 ft. and two at 101.7 ft.) for at total bridge length of393.7 ft., supported on concrete piers and Steel H-piles at all support locations. The superstructure depth will have a total thickness of3.94 ft. Total embankment is measured 30 ft. from the beginning and end of the bridge, consisting of approximately 4400 CY. The project is a component of the State Route 65 Lincoln Bypass at the Coon Creek crossing, east of North Dowd Road, north of West Wise Road, south of Waltz Road, about 25 miles (40.3 km) northeast of Sacramento, in western Placer County (Section 36, Tl3N, RSE, MDB&M, Placer County Flood Control and Water Conservation District, Coon Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Will have a revised issuance date

AUG 08 2012

Dated: _____

Jay S. Punia
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700-8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18655-2 BD

THIRTEEN: All work completed under this permit, as directed by the general and special conditions herein, shall be accomplished to ensure that the work is not injurious to adopted plans of flood control, regulated streams, and designated floodways under Board jurisdiction, as defined in California Code of Regulations, Title 23. This permit only applies to the completion of work in the project description located within, or adjacent to and having bearing on Board jurisdiction, and which directly or indirectly affects the Board's jurisdiction. This special condition shall apply to all subsequent conditions herein.

FOURTEEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the Central Valley Flood Protection Board, the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN, above.

~~THIRTEEN~~FIFTEEN: The permittee shall contact the Department of Water Resources, Inspection Branch by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. The permittee shall also contact the Central Valley Flood Protection Board's Construction Supervisor at (916) 574-2646 for quality assurance inspection. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

~~FOURTEEN~~SIXTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

~~FIFTEEN~~SEVENTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions, of the project conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

~~SIXTEEN~~EIGHTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.~~The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.~~

~~SEVENTEEN~~NINETEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.~~The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion~~

~~EIGHTEEN~~TWENTY: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

~~NINETEEN~~TWENTY-ONE: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

TWENTY-TWO: The Central Valley Flood Protection Board, Department of Water Resources, and the Placer County Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

TWENTY-~~ONE~~THREE: The permittee shall be responsible for repair of any damages to the Coon Creek floodway and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-~~TWO~~FOUR: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

TWENTY-~~THREE~~FIVE: Thirty (30) calendar days prior to start of any demolition and/or construction activities within the floodway, the permittee shall submit to the Chief Engineer two sets of plans, specifications and supporting geotechnical and / or hydraulic impact analyses, for any and all temporary, in channel cofferdam(s), gravel work pad(s), work trestle(s), scaffolding, piles, and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15. The Central Valley Flood Protection Board shall acknowledge receipt of this submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days.~~Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.~~

TWENTY-~~FOUR~~SIX: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-~~FIVE~~SEVEN: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-~~SIX~~EIGHT: If the project or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-~~SEVEN~~NINE: All debris generated by this project shall be disposed of outside the floodway.

~~TWENTY-EIGHT~~THIRTY: All debris that may accumulate around the bridge piers and abutments

within the floodway shall be completely removed from the floodway following each flood season.

~~TWENTY-NINE~~THIRTY-ONE: The permittee shall comply with any conditions set forth by the Placer County Flood Control District if conditions are created.

THIRTY-TWO: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board and the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-~~ONE~~THREE: Any locks on the gates must be accessible to maintenance and inspection personnel and must not be casehardened.

THIRTY-~~TWO~~FOUR: Backfill material for excavations shall be placed in up to 8-inch layers and compacted with material as specified in Caltrans Standard Specifications (2010) SS19-3.0E to the density also specified, which is attached to this permit as Exhibit A and is incorporated by reference.~~All fill material shall be imported impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Fill material shall be compacted in 4- to 6-inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.~~

~~THIRTY-THREE: Drainage from the bridge or highway shall not be discharged into the Coon Creek floodway.~~

THIRTY-~~FOUR~~FIVE: If erosion occurs adjacent to the permitted encroachment(s), the permittee shall repair the eroded areas and place adequate revetment on the affected areas to prevent further erosion.

THIRTY-~~FIVE~~SIX: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-~~SIX~~SEVEN: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

~~THIRTY-SEVEN~~FORTY (moved down for clarity): If the permitted encroachment(s) result in any adverse hydraulic impact or if the flows being conveyed in an overland release result in scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

THIRTY-EIGHT: If temporary construction trailers, trailers, or recreational vehicles are to remain in the floodway during the flood season then the location of these items and an evacuation plan must be approved by Board staff prior to the flood season.~~The permittee shall submit an evacuation plan to the Central Valley Flood Protection Board that meets the requirements of Section 114 of California Code of Regulations, Title 23, Regulations of the Central Valley Flood Protection Board within 60 days of the date of this permit.~~

THIRTY-NINE: A copy of any geotechnical studies and tests that may be performed during or prior to construction that are in addition to studies that were submitted in the application package shall be

provided to and approved by the Central Valley Flood Protection Board prior to project completion.~~A copy of all geotechnical studies and tests used in the design and construction determination of the project shall be provided to and approved by the Central Valley Flood Protection Board prior to final construction.~~

FORTY-ONE: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

FORTY-~~ONE~~TWO: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional engineer registered in the State of California, certifying the work was performed and inspected in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

FORTY-~~TWO~~THREE: All addenda or other changes made to the submitted documents by the permittee after issuance of this permit shall be submitted to the Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include supplemental plans, specifications, and supporting geotechnical, hydrology and hydraulics, or other technical analyses. The Central Valley Flood Protection Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Central Valley Flood Protection Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agency when necessary. The Central Valley Flood Protection Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.~~All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.~~

FORTY-~~THREE~~FOUR: The letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated July 18, 2012 is attached to this permit as Exhibit ~~A~~ B in reference to this project.

FORTY-~~FOUR~~FIVE: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

FORTY-~~FIVE~~SEVEN (moved down for clarity): A civil engineer registered in the State of California representing the permittee shall provide periodic reports and records to the Department of Water Resources that are acceptable to the Central Valley Flood Protection Board which certify that all work accomplished by contract to the permittee was thoroughly inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-~~SIX~~SIX (moved up for clarity): The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

FORTY-~~SEVEN~~EIGHT: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section, located at 3310 El Camino Ave, Room 256, Sacramento, California, 95821, upon completion of the project.

FORTY-~~EIGHT~~NINE: The mitigation measures approved by the CEQA lead agency and the permittee are found in its Mitigation and Monitoring Reporting Program (MMRP) adopted by the CEQA lead agency. The permittee shall implement all such mitigation measures.

~~FORTY-NINE~~FIFTY: Upon completion of the project, the permittee shall submit a final completion letter to: The Central Valley Flood Protection Board, 3310 El Camino Avenue, Suite 162, Sacramento, California 95821 and the Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.

FIFTY-ONE: At the request of either the permittee or Central Valley Flood Protection Board the permittee and Board shall conduct joint inspections of the project and floodway after significant flood events or flood seasons to assess the integrity and operation of the project, and to assess and respond to any adverse impacts on the floodway or adjacent properties.

FIFTY-TWO: The previously Issued Permit No. 18655-2, dated August 8, 2012, is hereby superseded by this revised permit and is attached to this permit as Exhibit C and is incorporated by reference.