

**Meeting of the Central Valley Flood Protection Board
May 24, 2013
Staff Report
City of West Sacramento
Pioneer Bluff Bridge over the Barge Canal, Yolo County**

1.0 – ITEM

Consider approval of Permit No. 18851 (Attachment B)

2.0 – APPLICANT

City of West Sacramento (City)

3.0 – LOCATION

The proposed project is located at the Sacramento River Barge Canal in West Sacramento, east of Jefferson Boulevard and the William G. Stone locks, and west of the Sacramento River (see Attachment A for Vicinity and Location Maps).

4.0 – PROJECT DESCRIPTION

The City proposes to construct a 615 foot long, 80 foot wide eight-span concrete slab bridge supported by seven piers, with five columns per pier over the Barge Canal that will connect existing sections of South River Road.

5.0 – PROJECT ANALYSIS

5.1 – Authority of the Board

- California Code of Regulations, Title 23 (CCR 23), §6 – Need for a Permit; §112 – Streams Regulated and Nonpermissible Work Periods; §116 – Borrow and Excavation; §120 – Levees; §121 – Erosion Control; §125 – Retaining Walls; §128 – Bridges

- The proposed bridge project would encroach upon facilities of the State Plan of Flood Control, the federal-State Sacramento River Flood Control Project and upon the Sacramento Deep Water Channel, a Regulated Stream per CCR 23 §112, Table 8.1.

5.2 – Project Background

The proposed project is important to public safety for the City of West Sacramento. The project will provide a much needed connection for the existing northern and southern portions of South River Road by the new bridge crossing the Barge Canal. This project would provide a crossing that meets the 200-year WSE with an additional three feet of freeboard. A 200-year level of design is consistent with the adopted Central Valley Flood Protection Plan (CVFPP) and Senate Bill 5 (Statutes of 2008) requirements, which will allow future levee improvements to take place in this area without requiring the City to perform any additional modifications to the bridge.

In order to meet funding deadlines and pre-construction activity milestones the City is requesting the Central Valley Flood Protection Board (Board) to conditionally approve Draft Permit No. 18851 with the understanding that the permit will not be issued prior to receiving a letter from the U.S Army Corps of Engineers (USACE) with conditions consistent with Draft Permit No. 18851. Staff has coordinated with the USACE to prioritize and expedite their project application with a goal of issuing the final permit by the end of June 2013.

5.3 – Project Design

The City proposes to construct a 615-foot long, 80-foot wide, eight-span concrete slab bridge supported by seven piers, with five columns per pier over the Barge Canal. Each pier is proposed to be 42 inches in diameter and supported by pile footings (see Attachment C – Project Design Plans).

The Barge Canal connects the Port of Sacramento harbor to the Sacramento River. The William G. Stone Locks are located near the upstream end of the Sacramento River Deep Water Ship Channel, just west of the planned bridge location. The upstream lock has been silted in for several years and is currently non-operational, and the Barge Canal is considered to be permanently closed. Stop logs were placed east of the locks prior to April 2010 and will not be removed. The equipment historically used to remove and place the stop logs has been vandalized and is no longer operational, and there are no plans to repair it.

The proposed Pioneer Bluff Bridge geometry has been designed to have minimal impact on the canal and adjacent levees. Because the levees are much wider than the standard 30-foot top width design, the theoretical design levee prism (30-foot top width, 2:1 landside slope, and 3:1 waterside slope) has been superimposed on the existing levee cross section. The abutments are designed to be located behind and above the theoretical prism so that their construction does not result in adverse hydraulic or geotechnical impacts. The only bridge components proposed to be placed within the 200-year flood zone are the bridge columns. Five 42 inch diameter columns are placed at each pier. There are a total of seven piers in the canal.

Mitigation for the project will be located off-site location outside of the Board's jurisdiction, and therefore does not require an encroachment permit). Staff has informed the City that if for any reason future project mitigation is required within Board's jurisdiction that a separate permit application must be submitted. No vegetation planting is being approved under this draft permit, with the exception of native grass seeding for slope protection if necessary.

Reclamation District (RD) 900 has endorsed the project as proposed by the City with no conditions, and explicitly state in their letter (see Attachment D) that levee maintenance, access, and drainage is all acceptable based on their review of the project.

The following additional project analyses have been made during review of the project application.

5.4 – Hydraulic Analysis

Flood stages in the Barge Canal are controlled by the Sacramento River. Stage in the Canal rise and fall with the River. With the exception of minor leakage through the stop logs and closed lock gates, no flow passes between the River and the Canal through the upstream lock.

The Barge Canal is permanently closed off from the Deep Water Channel, as described above, and therefore behaves similar to a lagoon off of the Sacramento River. Two hydraulic studies were utilized for this project. The 2008 Problem Identification Report (HDR for the City) and the South River Road Barge Canal Crossing Bridge Design Hydraulic Study Report (WRECO for the City in 2007). The 2007 WRECO report only addresses the 100-year event and was only used for comparison purposes to the 2008 HDR report. Based on the 2008 HDR report the water surface elevations (WSE) for the north and south banks of the Canal are 32.87 and 32.83 feet (NGVD 29), respectively. The more conservative (higher) WSE of 32.87 feet was used in the design of the bridge.

The minimum soffit elevation for the proposed bridge is 37.1 feet. Freeboard is approximately 4.2 feet for the 200-year event. Canal velocities are virtually stagnant because of the lagoon-like behavior. Therefore the proposed columns have negligible to no impact on the water surface elevation.

5.4.1 –Scour

Due to the virtually stagnant water conditions in the Canal scour impacts are negligible. There is no historic evidence at the project site that support any signs of scour and the proposed bridge is not expected to create any scour issues.

Board staff has reviewed the Hydrology and Hydraulics submitted, and has concluded that the proposed project is hydraulically compliant with CCR 23, and would result in no significant adverse hydraulic impacts on the Canal, River, Channel, or levees.

5.5 – Geotechnical Analysis

Board staff has reviewed the Foundation Plan and has concluded that the proposed project would result in no significant geotechnical impacts to the Canal, River, Channel or levees. Excavation within the floodway occurs at locations that are not critical to the integrity of the Canal, River, Channel, or levees.

All fill, excavation, and temporary structures will be completed in compliance with Draft Permit No. 18851 and CCR 23 standards.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

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

- The USACE comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the USACE Sacramento District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review it to ensure conformity with the draft permit language, and incorporate it into the permit as Exhibit B (see Attachment B, Exhibit A).

7.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board, as a responsible agency under CEQA, has reviewed Initial Study/Mitigated Negative Declaration (IS/MND) (SCH Number: 2013012030, January 2013) and Mitigation Measures for the Pioneer Bluff Bridge Project prepared by the lead agency, City of West Sacramento. 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/2013/5-24-2013.cfm> under a link for this agenda item. These documents are also available for review in hard copy at the Board and the City of West Sacramento offices.

The City of West Sacramento determined that the project would not have a significant effect on the environment on February 20, 2013 at the City of West Sacramento Council Meeting and adopted Resolution 13-14. A Notice of Determination was filed on February 22, 2013 with the Yolo County Clerk and 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 IS/MND and address impacts to biological resources, hydrology and water quality, and transportation and traffic. The description of the mitigation measures are further described in the adopted IS/MND.

8.0 – SECTION 8610.5 CONSIDERATIONS

- 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.

- 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.

- Effects of the decision on the facilities of the State Plan of Flood Control, and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

This project has no adverse effect on facilities of the State Plan of Flood Control and is consistent with the adopted 2012 Central Valley Flood Protection Plan.

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

There are no foreseeable projected future events that would impact this project.

9.0 – STAFF RECOMMENDATION

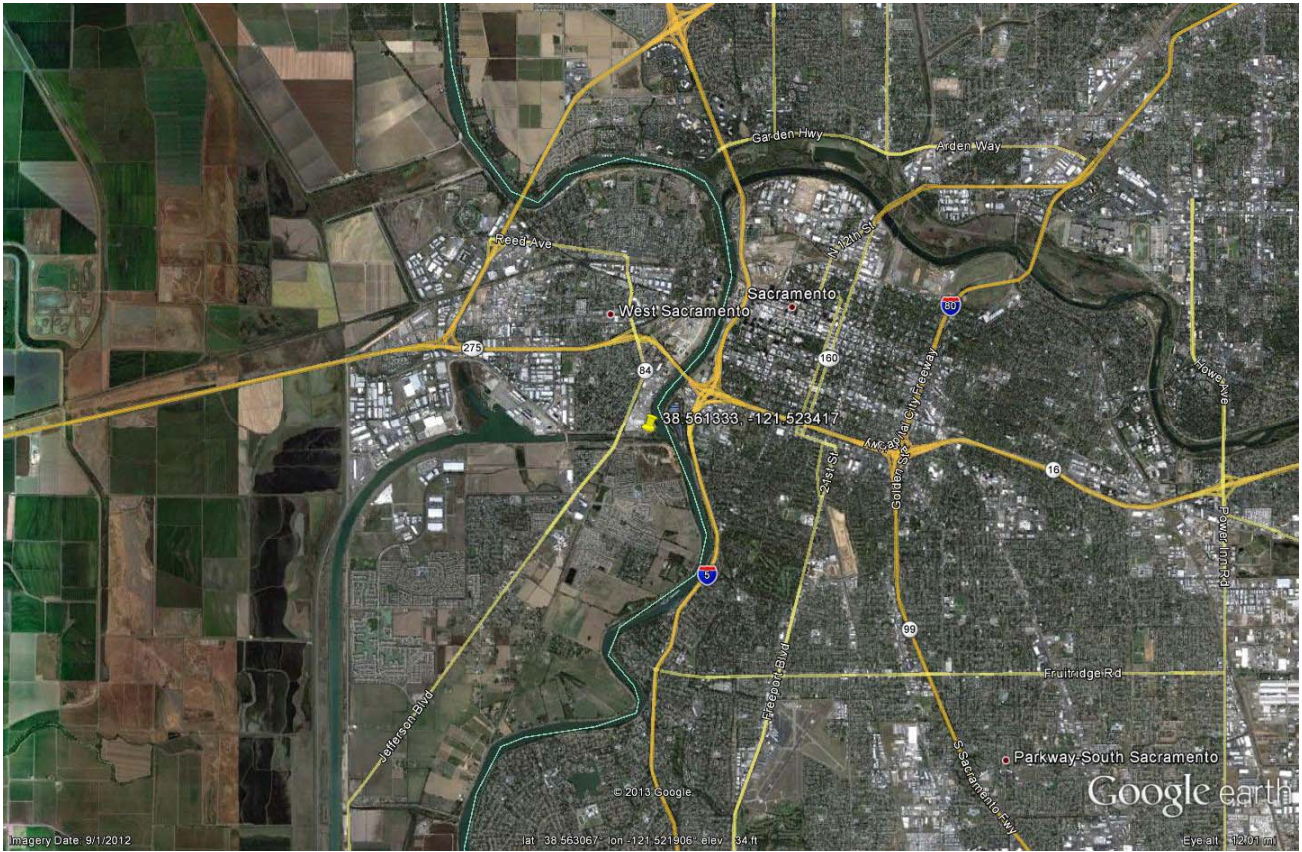
Staff recommends that the Board:

- adopt the CEQA findings,
- approve the permit in substantially the form provided, conditioned upon:
 - a. receipt of the USACE comment letter indicating that the District Engineer has no objections to the project, subject to conditions
 - b. staff's review of conformity with the draft permit language
- and direct the Executive Officer to take the necessary actions to execute the permit, and file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

- A. Vicinity and Location Maps
- B. Draft Permit No. 18851
 - Exhibit A: USACE Comment Letter (attached after receipt and review)
- C. Project Design Plans
- D. RD 900 Endorsement Letter (dated March 7, 2013)

Reviewed by:	Nancy Moricz, PE, Senior Engineer
Environmental Review:	James Herota, Environmental Scientist
Document Review:	Eric Butler, PE, Projects and Environmental Branch Chief
	Len Marino, PE, Chief Engineer





DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18851 BD

This Permit is issued to:

City of West Sacramento
1110 West Capitol Ave.
West Sacramento, California 95630

To construct a 615 foot long, 80 foot wide eight-span concrete slab bridge supported by seven piers, with five columns per pier over the Barge Canal that will connect existing sections of South River Road. The proposed project is located at the Sacramento River Barge Canal in West Sacramento, east of Jefferson Boulevard and the William G. Stone locks, and west of the Sacramento River. (Section , T8N, R4E, MDB&M, Reclamation District 900, Sacramento River Barge Canal, Yolo 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. 18851 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: 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 work, other than that approved by this permit, shall be done in the project area without prior approval of the Central Valley Flood Protection Board.

FIFTEEN: 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.

SIXTEEN: Prior to commencement of work, the permittee shall create a photo record, including associated descriptions of project conditions. The photo record shall be submitted to the Central Valley Flood Protection Board within thirty (30) calendar days of beginning the project.

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: 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.

NINETEEN: 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.

TWENTY: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers dated XXXXXX, which is attached to this permit as Exhibit A and is incorporated by reference.

TWENTY-ONE: The permittee shall be responsible for securing any necessary permits incidental to habitat manipulation and restoration work completed in the flood control project, and will provide any biological surveying, monitoring, and reporting needed to satisfy those permits.

TWENTY-TWO: 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.

TWENTY-THREE: 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-FOUR: 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.

TWENTY-FIVE: The permittee shall be responsible for repair of any damages to the Sacramento Deep Water Channel, Barge Canal, Sacramento River, and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-SIX: 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-SEVEN: 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.

TWENTY-EIGHT: 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. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-NINE: Thirty (30) calendar days prior to start of any demolition and/or construction activities within the Barge Canal, 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.

THIRTY: A profile of the levee crown roadway and access ramp that will be utilized for access to and from the borrow area shall be submitted to the Central Valley Flood Protection Board prior to commencement of construction.

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

THIRTY-TWO: All debris generated by this project shall be disposed of outside the Barge Canal.

THIRTY-THREE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the Barge Canal during the flood season from November 1 to April 15.

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

THIRTY-FIVE: Fill material shall be placed only within the area indicated on the approved plans.

THIRTY-SIX: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

THIRTY-SEVEN: The haul ramps and utilized levee crown roadway shall be maintained in a manner

prescribed by the authorized representative of the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-EIGHT: Any damage to the levee section, crown, roadway, or access ramps that will be utilized for access for this project shall be promptly repaired to the condition that existed prior to this project.

THIRTY-NINE: Fill on the levee slope shall be keyed into the existing levee section with each lift.

FORTY: The slopes of the proposed levee shall be no steeper than 3 horizontal to 1 vertical on the water side and 2 horizontal to 1 vertical on the land side.

FORTY-ONE: Fill placed at slopes greater than 2 horizontal to 1 vertical shall be seeded with a native grass mix to reduce the risk of erosion.

FORTY-TWO: All fill material shall within the levee prism shall be impervious material with a minimum of 30 percent or more passing the No. 200 sieve, a plasticity index of 8 to 30, and a liquid limit of less than 55 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

FORTY-THREE: Density tests by a certified soils laboratory will be required to verify compaction of backfill within the floodway and within 10 feet of the levee toes.

FORTY-FOUR: The fill surface area shall be graded to direct drainage away from the toe of the levee.

FORTY-FIVE: Backfill material for excavations within the existing levee section and within ten (10) feet of the levee toes shall be placed in 4- to 6-inch layers, moisture conditioned above optimum moisture content, and compacted to a minimum of 95 percent relative compaction as measured by ASTM Method D698.

FORTY-SIX: Backfill material for excavations in the Barge Canal shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

FORTY-SEVEN: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the channel.

FORTY-EIGHT: In the event existing revetment on the channel bank is disturbed or displaced; it shall be restored to its original condition or brought to a higher standard, to the satisfaction of Board staff, upon completion of the proposed work.

FORTY-NINE: Where appropriate the new and reconstructed levee crown roadway and access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

FIFTY: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

FIFTY-ONE: 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.

FIFTY-TWO: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board, Department of Water Resources, or local maintaining agency. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.

FIFTY-THREE: In the event that levee or bank erosion injurious to the facilities of the State plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

FIFTY-FOUR: The permittee shall provide construction 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.

FIFTY-FIVE: Upon completion of the project, the permittee shall submit a final completion letter to: 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-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.

FIFTY-SEVEN: 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.

FIFTY-EIGHT: If the permitted encroachment(s) result in any adverse hydraulic impact or result in significant scouring the permittee shall provide appropriate mitigation acceptable to the Central Valley Flood Protection Board.

FIFTY-NINE: 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.

SIXTY: 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.

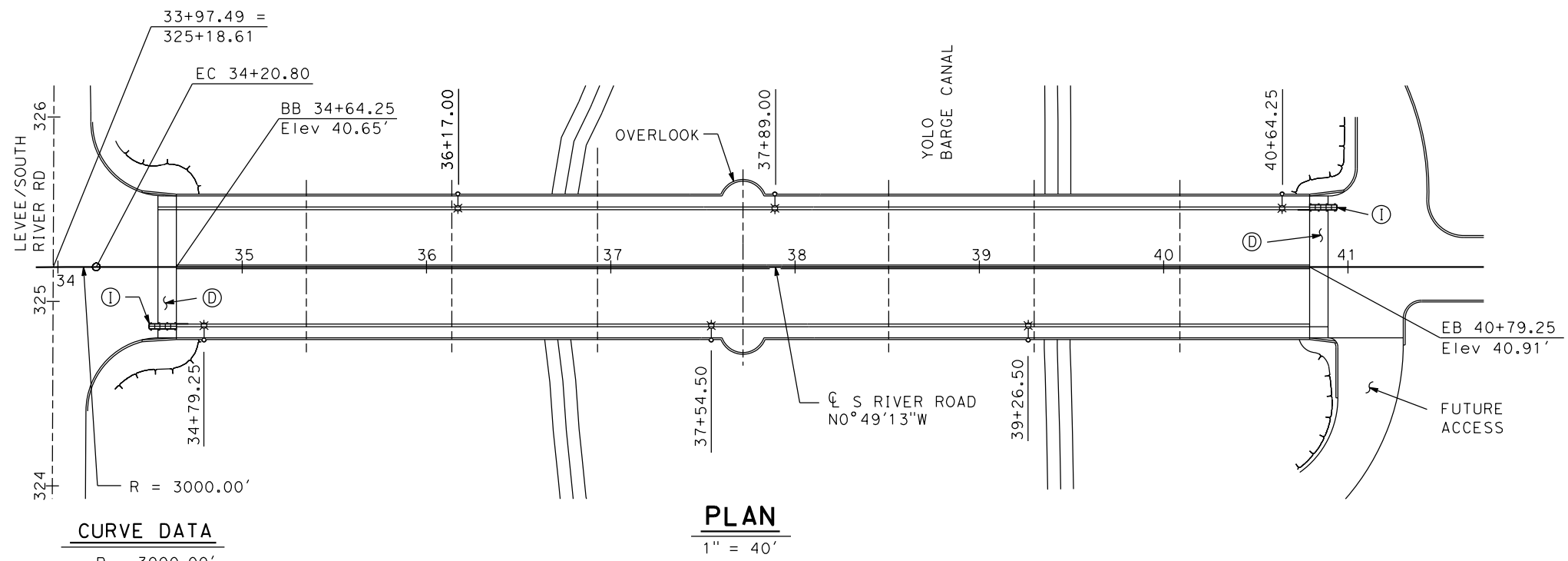
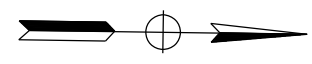
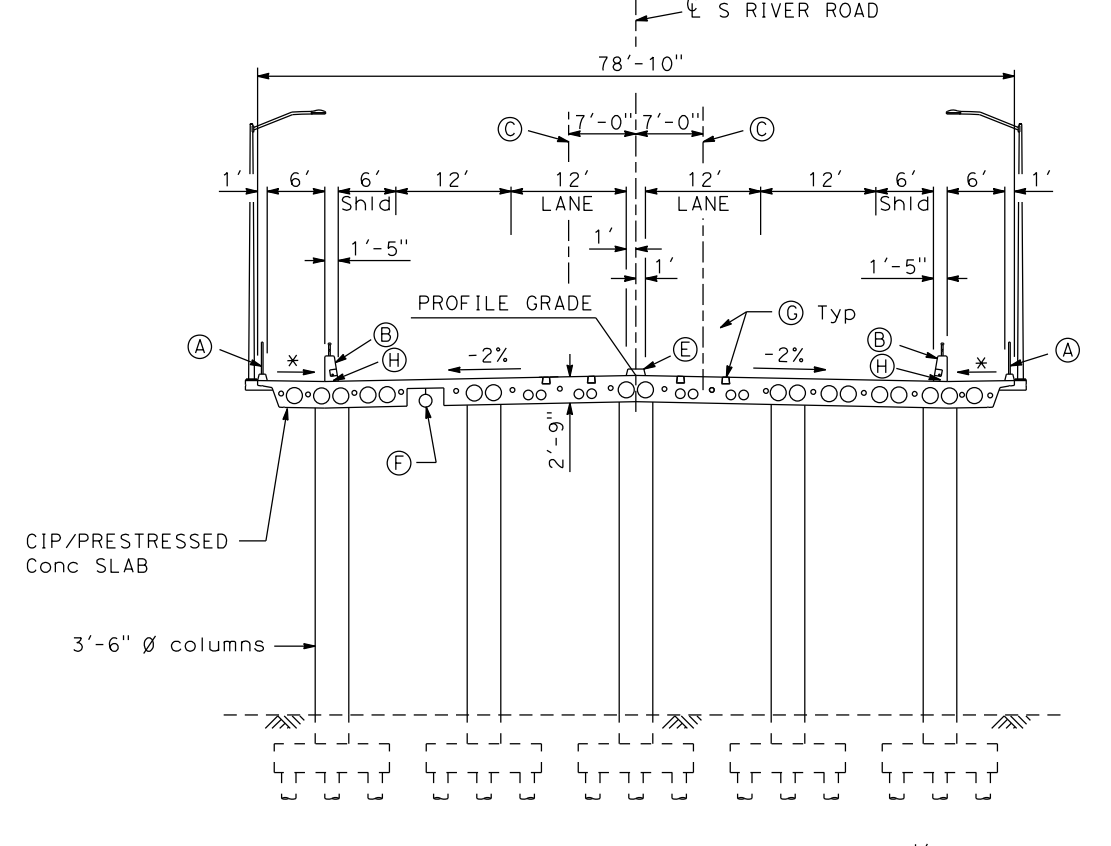
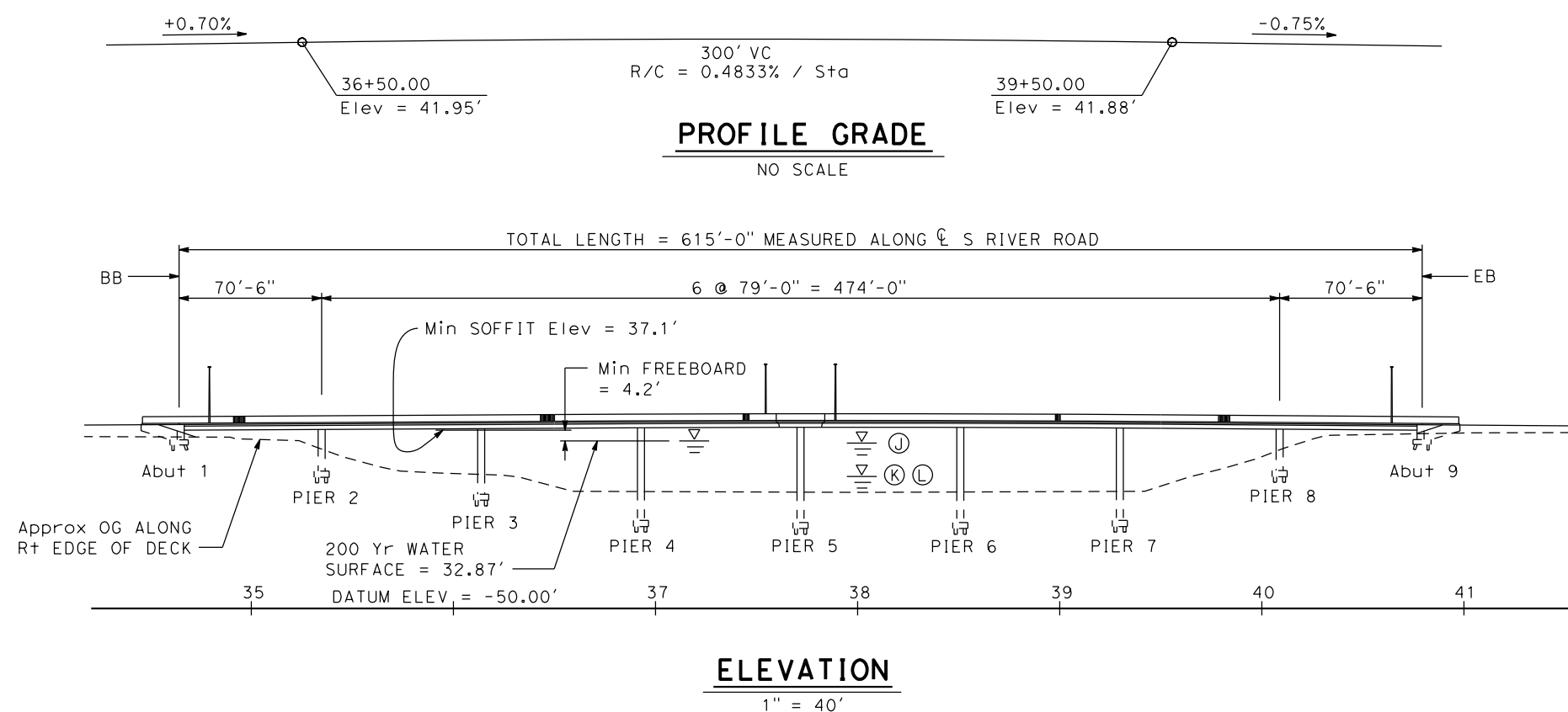
SIXTY-ONE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control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

SIXTY-TWO: 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.

SIXTY-THREE: 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.

ATTACHMENT B – Exhibit A: Corps Letter

The letter has not been received by Board staff and the permit shall not be issued until it is received.



CURVE DATA

R = 3000.00'
 $\Delta = 2^\circ 18' 26''$
 T = 60.41'
 L = 120.80'

- LEGEND:**
- (A) Steel Picket Railing
 - (B) Concrete Barrier Type 732 (Mod) with Tubular Handrailing
 - (C) ϕ future streetcar
 - (D) Structure Approach Type EQ(10)
 - (E) Median
 - (F) 16" water main
 - (G) Rail slot knockout
 - (H) 2" lighting conduit
 - (I) Crash Cushion, see "Road Plans"
 - (J) Denotes 100 year water surface elevation (WSE) = 30.5'
 - (K) Denotes summer flow elevation (WSE) = 6.0'
 - (L) Mean high tide = 7.4' NGVD
 - * Street Light
- NOTES:**
1. For General Notes, Index To Plans and Standard Plans, see "DECK CONTOURS" sheet.
 2. For deck drain locations and details, see "ABUTMENT DETAILS No. 2" sheet

3/12/2013 19996P01.dgn

NO.	REVISION	BY	DATE

DESIGNED:	F. ENRIQUEZ
DRAWN:	C. HOUGHTON
CHECKED:	R. GRIGGS

RECORD DRAWING DATE:	
SCALE:	HORIZ: N/A VERT: N/A
PROJECT NO. X	
CAD FILE:	

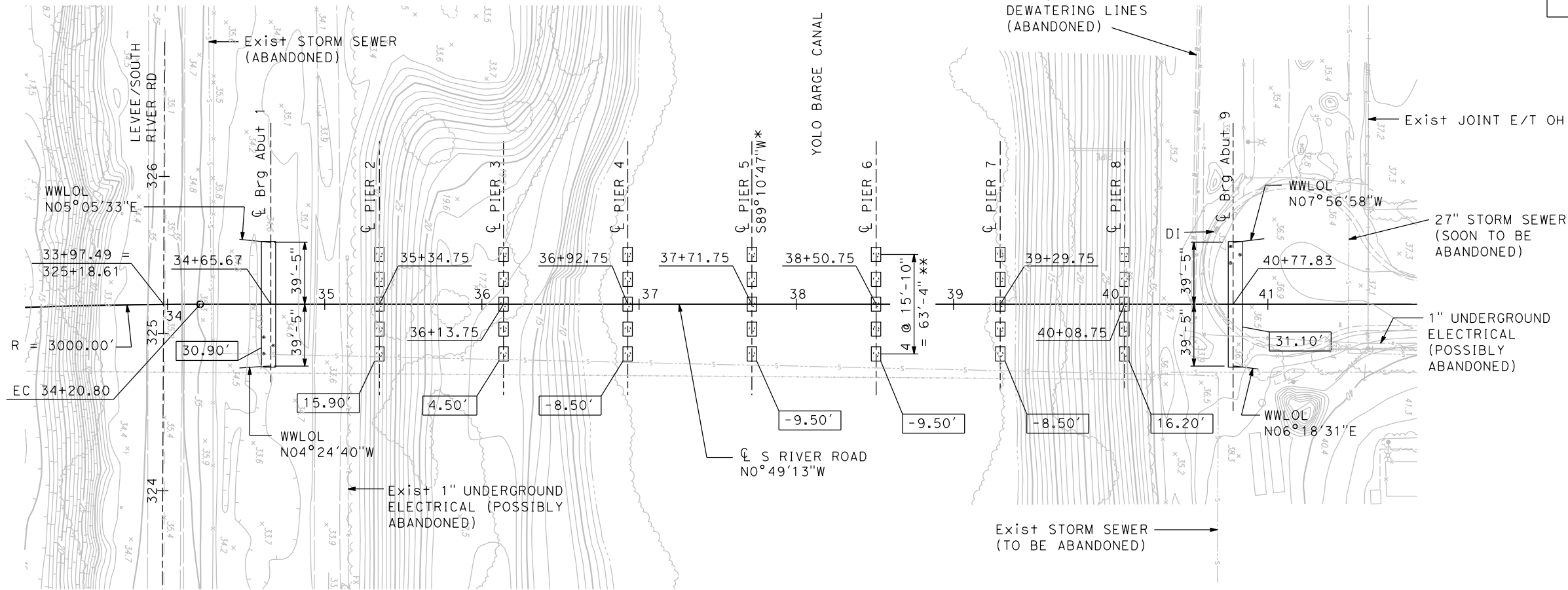
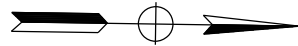
CITY OF WEST SACRAMENTO
 ENGINEERING DIVISION
 1110 WEST CAPITOL AVENUE
 WEST SACRAMENTO, CA 95691

DOKKEN ENGINEERING
 110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
 T. OSTERKAMP, PROJECT ENGINEER

T. OSTERKAMP
 No. C46783
 Exp. 6/30/13
 CIVIL ENGINEER
 STATE OF CALIFORNIA

PIONEER BLUFF BRIDGE
GENERAL PLAN

Attachment C - Project Design Plans



LEGEND:

- Denotes bottom of footing elev
- Denotes pile. All piles not shown.

BENCH MARK

CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 2 BASED ON THE NATIONAL GEODETIC SURVEY'S 1983 NORTH AMERICAN DATUM AND ADJUSTMENT AND THE 1992 CALIFORNIA HIGH PRECISION GEODETIC NETWORK DENSIFICATION SURVEY. VERTICAL DATUM IS NGVD 29, BASED ON CITY OF WEST SACRAMENTO 1ST ORDER MONUMENT C17-02 (13 M&S 62), A 3 INCH BRASS DISC SET IN A STANDARD MONUMENT BOX STAMPED: CITY OF WEST SACRAMENTO GEODETIC CONTROL SURVEY STATION C17-02, RCE 30639, 1993; LOCATED 6FT OFF THE LIP OF GUTTER, AT THE NORTHEASTERLY CORNER OF THE INTERSECTION OF PENNSYLVANIA AVE AND 16TH STREET.

CURVE DATA

R = 3000.00'
 $\Delta = 2^\circ 18' 26''$
 T = 60.41'
 L = 120.80'

* Typ ALL SUPPORTS

** Typ ALL PIERS

PLAN

1" = 40'

PILE DATA TABLE – AUGER CAST CONCRETE PILES

Location	Diameter	Design Loading (Service Load)	Nominal Resistance Compression	Cut-off Elevation (ft)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
Abut 1	20"	200	400	30	-20.0 (a); 6.5 (c); -20.0 (d)	-20
Pier 2	18"	155	340	5	-90.0 (a-I); -41.0 (a-II); -39.5 (c); -75.0 (d)	-90.0
Pier 3	18"	155	340	10	-50.0 (a-I); -13.0 (a-II); 3.5 (c); -15.0 (d)	-50
Pier 4	18"	155	340	-3	-62.5 (a-I); -33.0 (a-II); -9.5 (c); -28.0(d)	-62.5
Pier 5	18"	155	340	-5	-64.5 (a-I); -39.5 (a-II); -12.0 (c); -30.0 (d)	-64.5
Pier 6	18"	155	340	-5	-64.5 (a-I); -39.5 (a-II); -12.0 (c); -30.0 (d)	-64.5
Pier 7	18"	155	340	-1	-60.5 (a-I); -32.0 (a-II); -7.5 (c); -26.0 (d)	-60.5
Pier 8	18"	155	340	5	-88.0 (a-I); -39.0 (a-II); -39.0 (c); -75.0 (d)	-88
Abut 9	20"	200	400	30	-25.0 (a); 5.0 (c); -20.0 (d)	-25

Design tip elevations are controlled by: (a) Compression; (a-I) Compression (Strength Limit); (a-II) Compression (Extreme Event); (c) Settlement, and (d) Lateral Load

3/12/2013

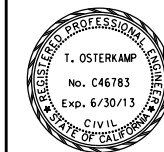
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NO.	REVISION	BY	DATE	DESIGNED: F. ENRIQUEZ	RECORD DRAWING DATE:
				DRAWN: C. HOUGHTON	SCALE: HORIZ: N/A VERT: N/A
				CHECKED: R. GRIGGS	PROJECT NO. X CAD FILE:

CITY OF WEST SACRAMENTO
 ENGINEERING DIVISION
 1110 WEST CAPITOL AVENUE
 WEST SACRAMENTO, CA 95691



DOKKEN ENGINEERING
 110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
 T. OSTERKAMP, PROJECT ENGINEER
 1-28-13 DATE



PIONEER BLUFF BRIDGE
FOUNDATION PLAN

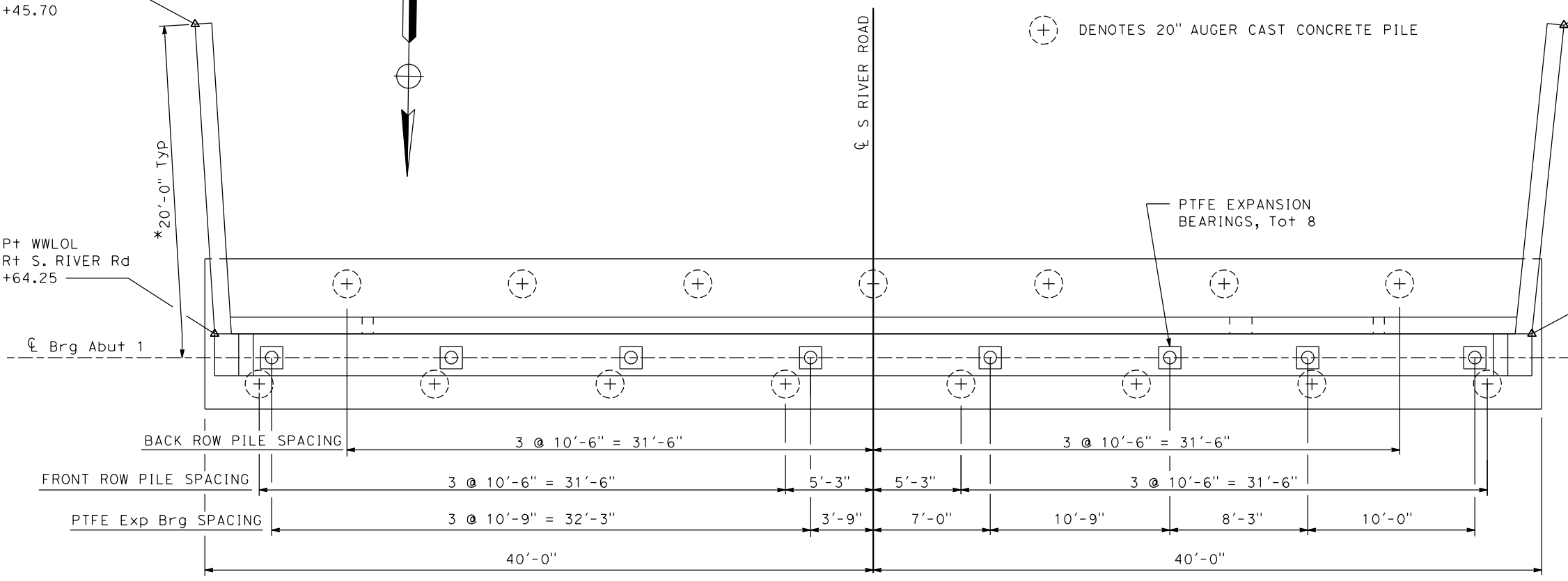
BEGIN WWL
40.58' Rt S. RIVER Rd
Sta 34+45.70

ANGLE Pt WWL
39.42' Rt S. RIVER Rd
Sta 34+64.25

LEGEND:
⊕ DENOTES 20" AUGER CAST CONCRETE PILE

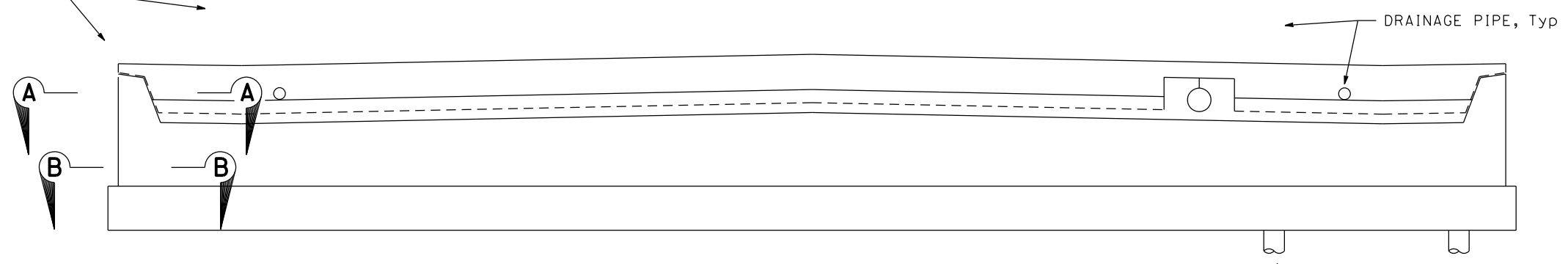
BEGIN WWL
41.33' Lt S. RIVER Rd
Sta 34+45.76

ANGLE Pt WWL
39.42' Lt S. RIVER Rd
Sta 34+64.25



PLAN
1/4" = 1'-0" * MEASURED ALONG WWL

STEEL PICKET RAILING,
CURBS, MEDIAN AND
TUBULAR HANDRAILING
NOT SHOWN



ELEVATION
1/4" = 1'-0" (Abut 1 ELEVATION SHOWN,
Abut 9 SIMILAR BY OPPOSITE HAND)

NOTES:
1. For Sections A-A and B-B, see
"ABUTMENT 9 LAYOUT" sheet.

3/12/2013
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WEST SACRAMENTO, CA 95691

DOKKEN
ENGINEERING
110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

T. Osterkamp
T. OSTERKAMP, PROJECT ENGINEER

1-28-13
DATE

PIONEER BLUFF BRIDGE
ABUTMENT 1 LAYOUT

30 OF 53

DWG. NO.

Attachment C - Project Design Plans

END WWLOL
41.72' Lt S. RIVER Rd
Sta 40+97.70

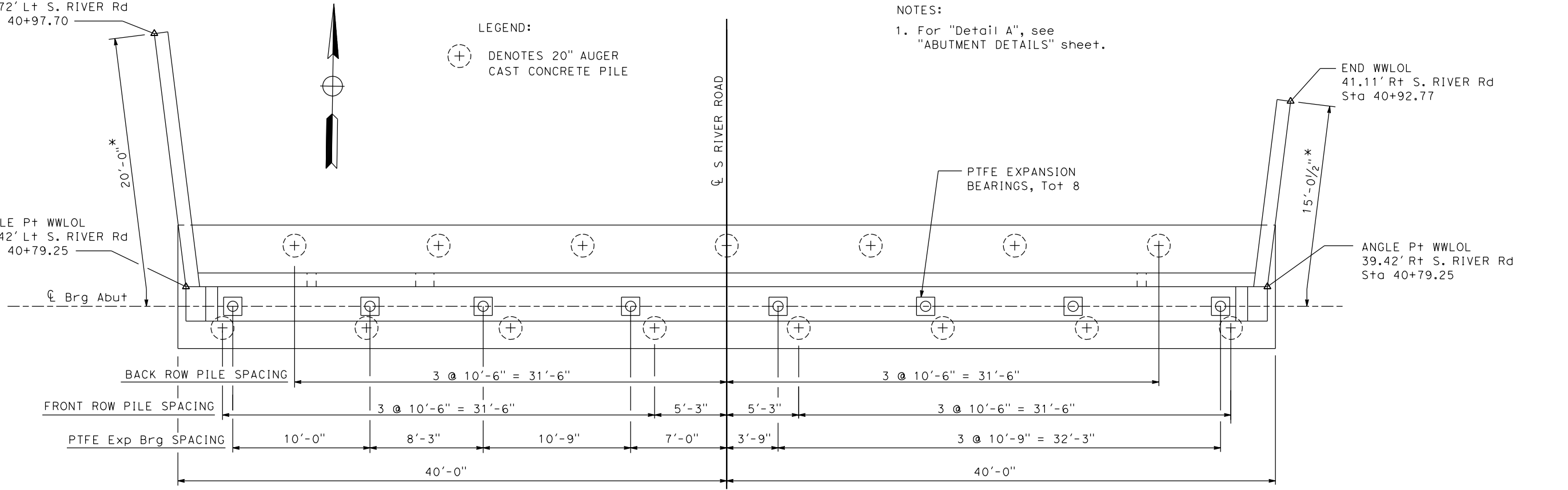
ANGLE P+ WWLOL
39.42' Lt S. RIVER Rd
Sta 40+79.25

LEGEND:
⊕ DENOTES 20" AUGER
CAST CONCRETE PILE

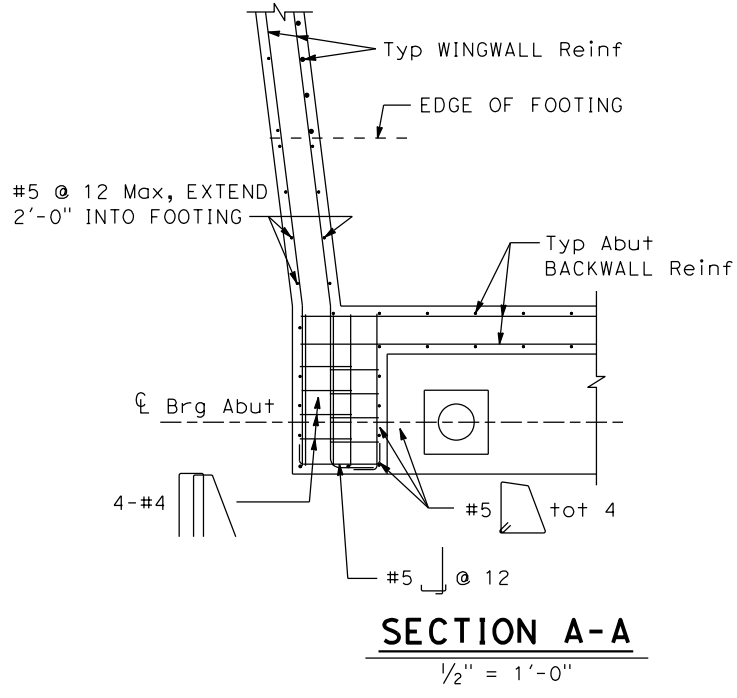
NOTES:
1. For "Detail A", see
"ABUTMENT DETAILS" sheet.

END WWLOL
41.11' Rt S. RIVER Rd
Sta 40+92.77

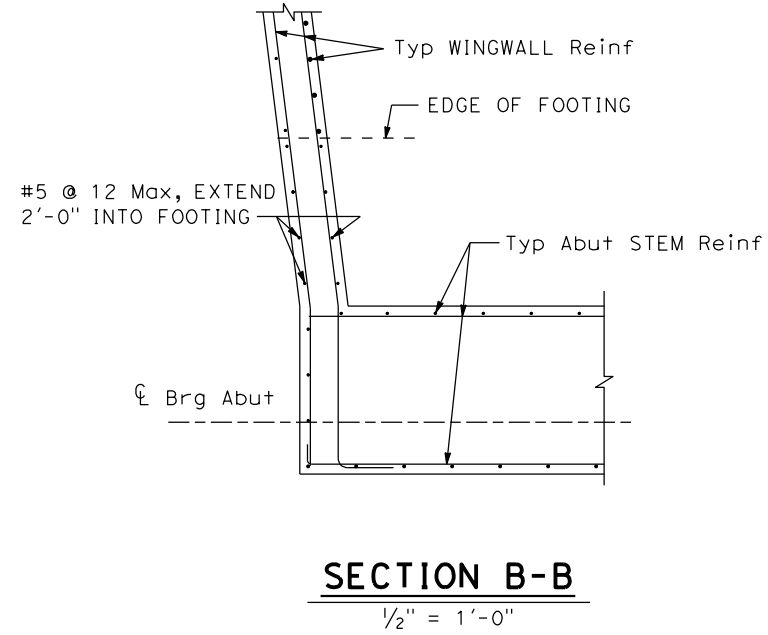
ANGLE P+ WWLOL
39.42' Rt S. RIVER Rd
Sta 40+79.25



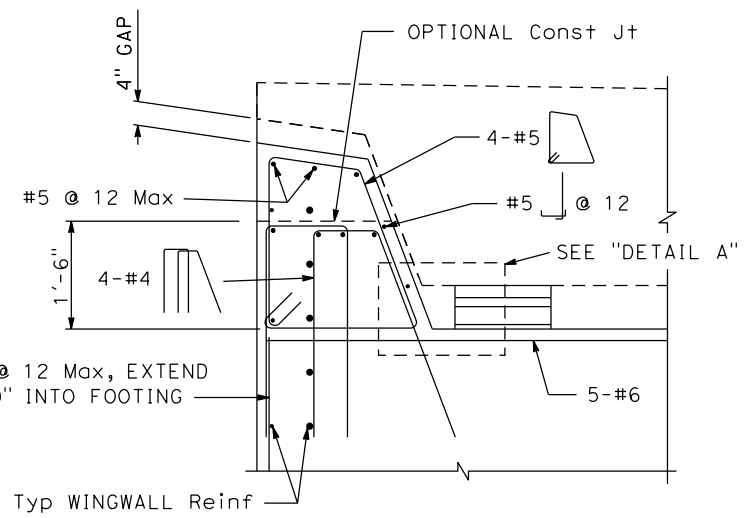
PLAN
1/4" = 1'-0"
* MEASURED ALONG WWLOL



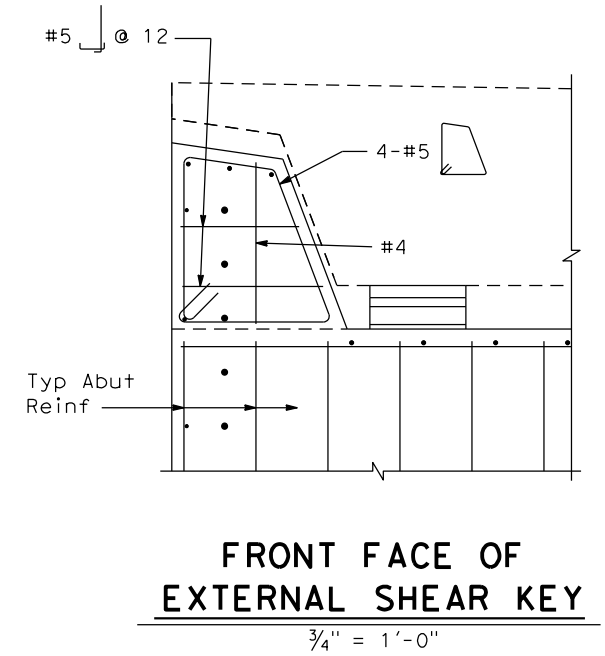
SECTION A-A
1/2" = 1'-0"



SECTION B-B
1/2" = 1'-0"



EXTERNAL SHEAR KEY
3/4" = 1'-0"



FRONT FACE OF EXTERNAL SHEAR KEY
3/4" = 1'-0"

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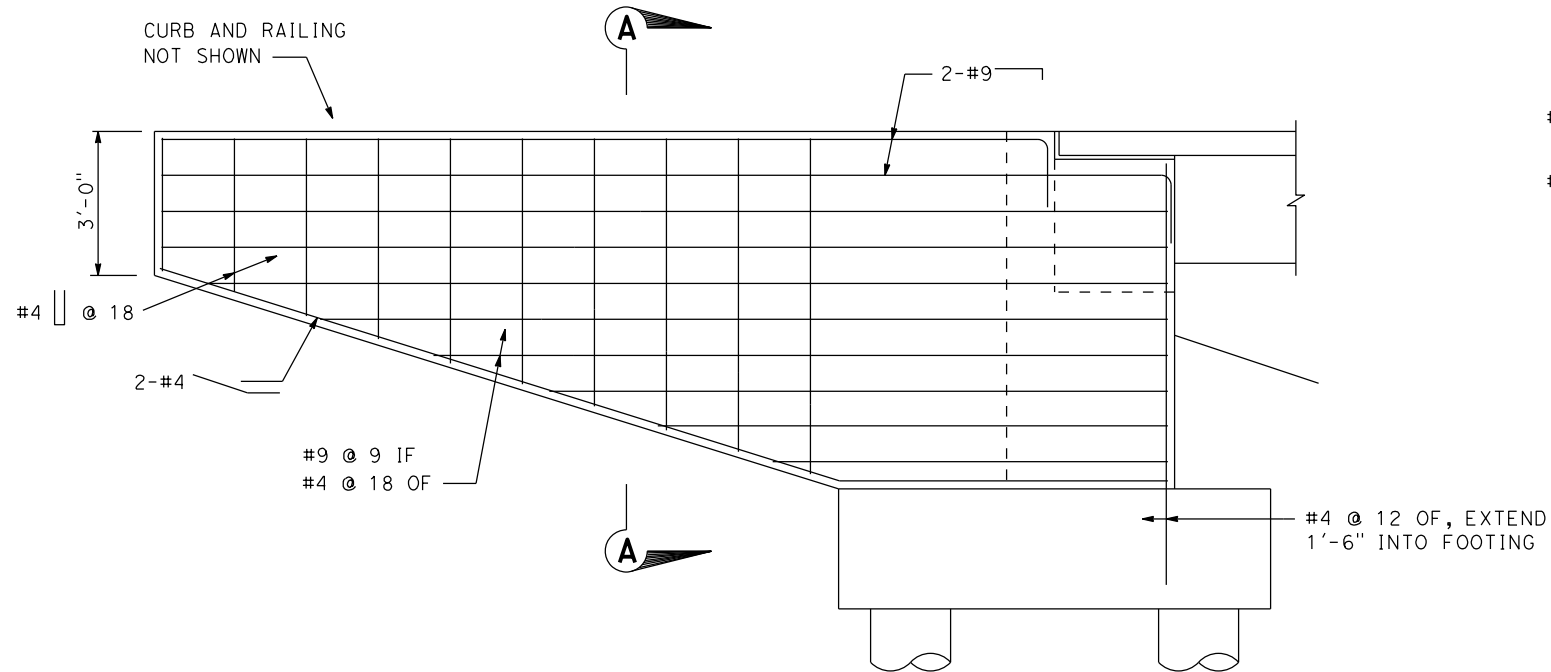
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DRAWN: C. HOUGHTON	SCALE: HORIZ: N/A VERT: N/A
CHECKED: R. GRIGGS	PROJECT NO. X CAD FILE:

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WEST SACRAMENTO, CA 95691

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110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
T. OSTERKAMP, PROJECT ENGINEER
1-28-13 DATE

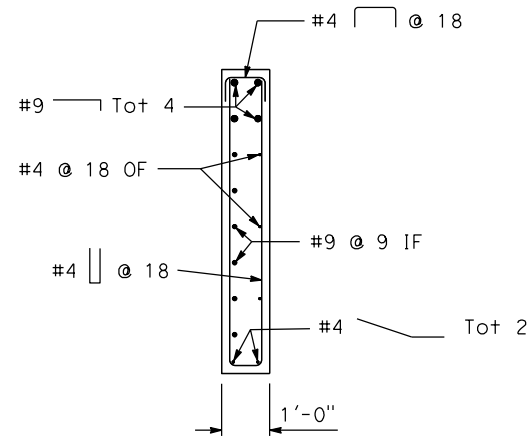
PIONEER BLUFF BRIDGE
ABUTMENT 9 LAYOUT

Attachment C - Project Design Plans



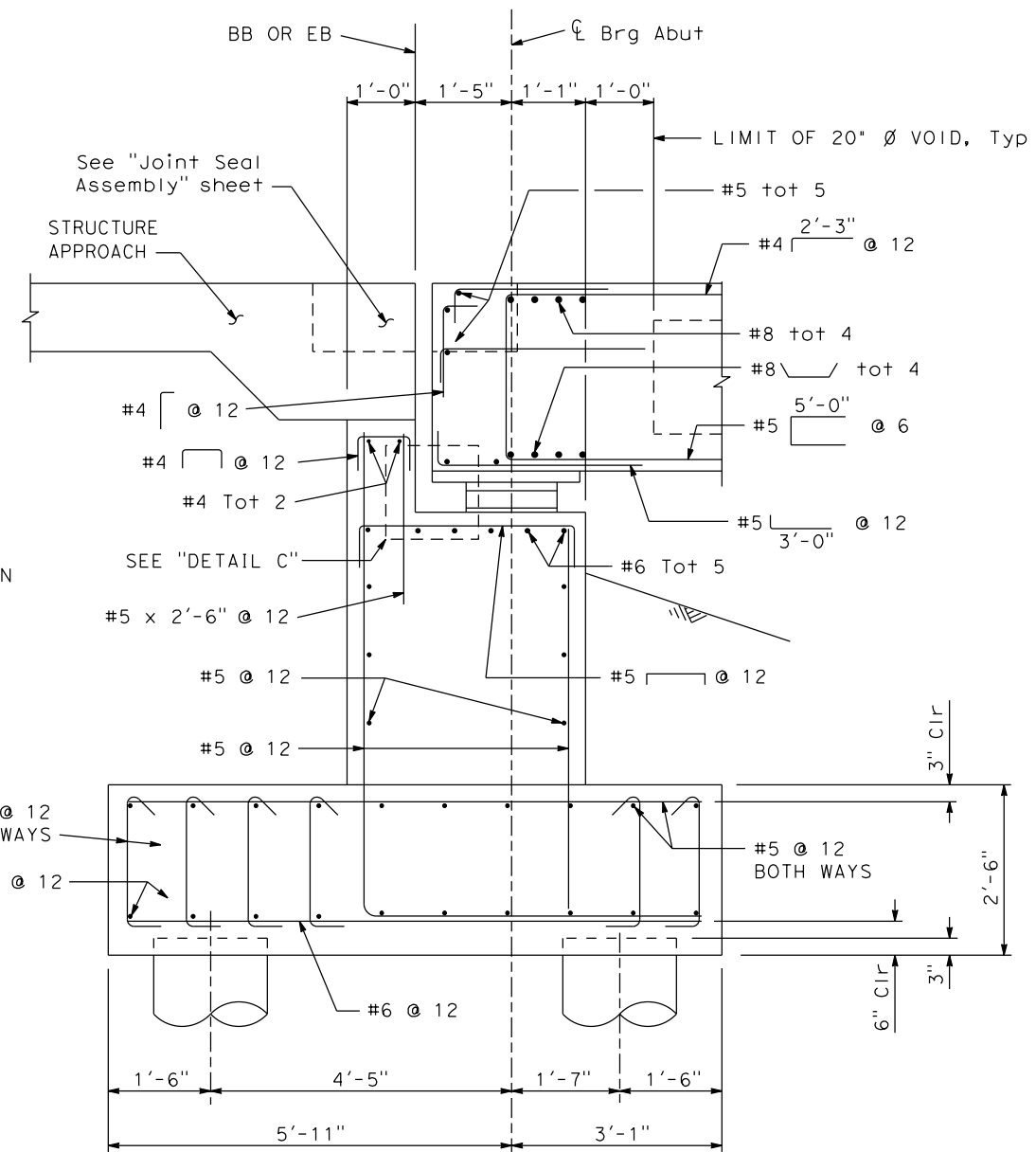
TYPICAL WINGWALL ELEVATION

1/2" = 1'-0"



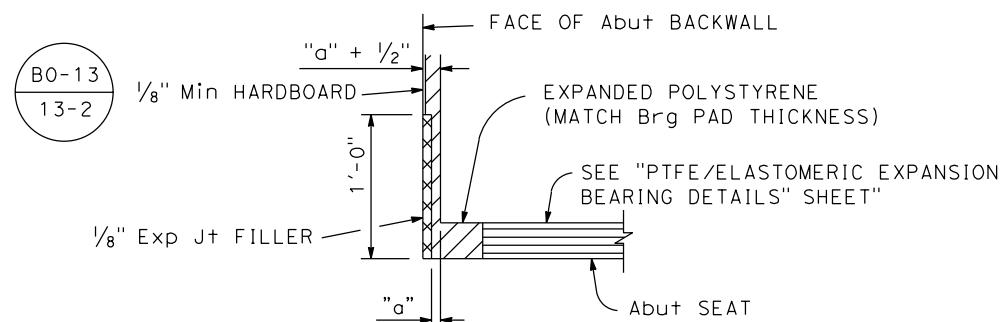
SECTION A-A

1/2" = 1'-0"



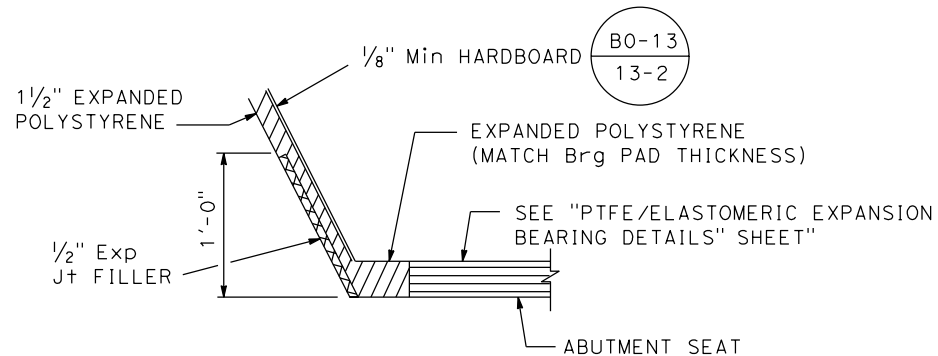
TYPICAL SECTION

3/4" = 1'-0"



DETAIL C

NO SCALE



DETAIL A

NO SCALE

3/12/2013

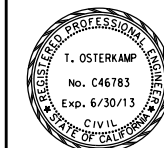
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				CHECKED: R. GRIGGS	HORIZ: N/A
					VERT: N/A
					PROJECT NO. X
					CAD FILE:

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1110 WEST CAPITOL AVENUE
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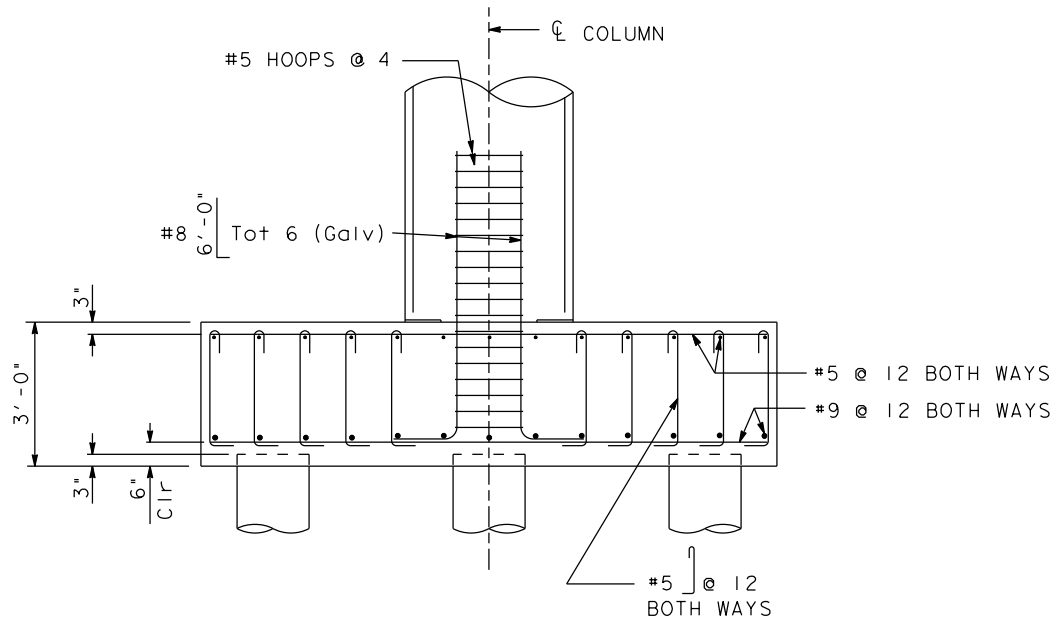
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T. OSTERKAMP, PROJECT ENGINEER
1-28-13 DATE



PIONEER BLUFF BRIDGE
ABUTMENT DETAILS No. 1

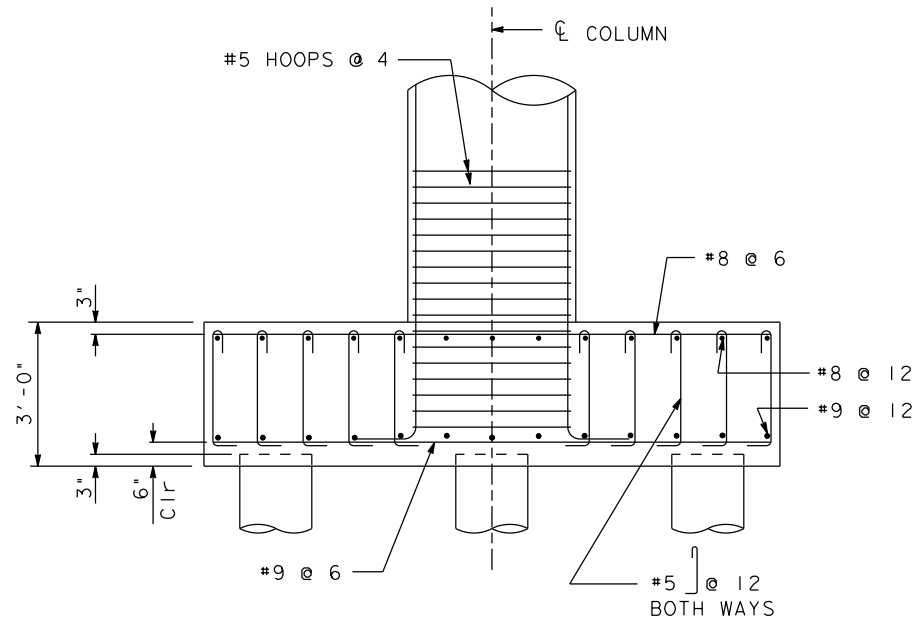
32 OF 53
DWG. NO.

Attachment C - Project Design Plans



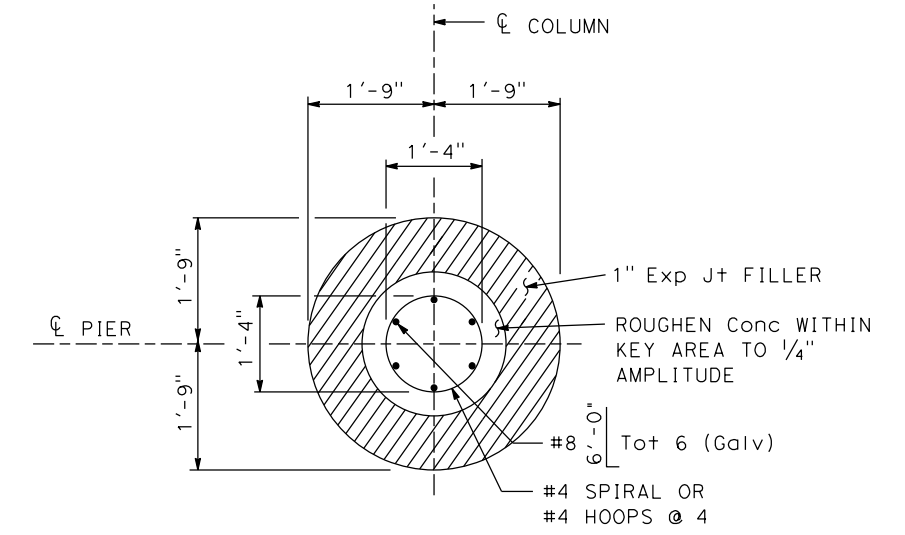
FOOTING ELEVATION - PIERS 2, 3 & 8

1/2" = 1'-0"



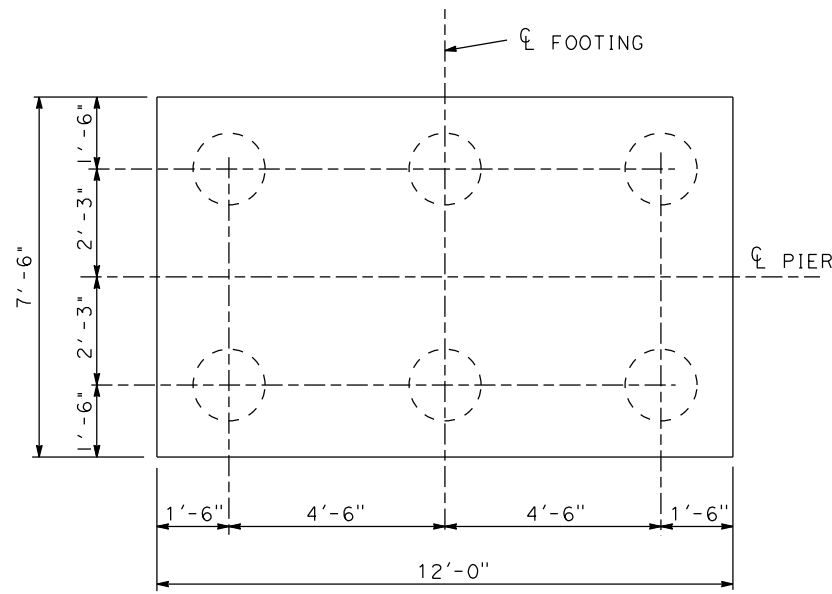
FOOTING ELEVATION - PIERS 4 THRU 7

1/2" = 1'-0"



FOOTING KEY

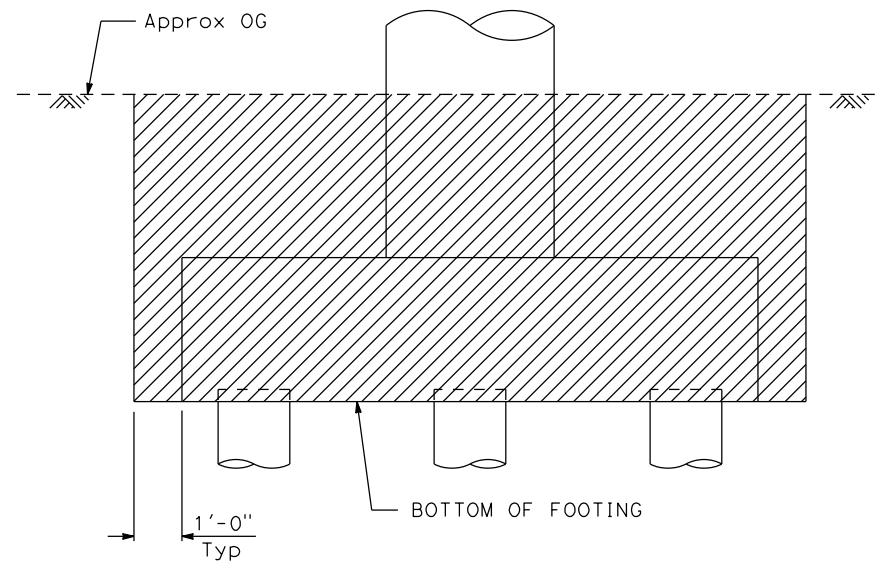
3/4" = 1'-0"



FOOTING PLAN

1/2" = 1'-0"

○ DENOTES 18" AUGER CAST CONCRETE PILE

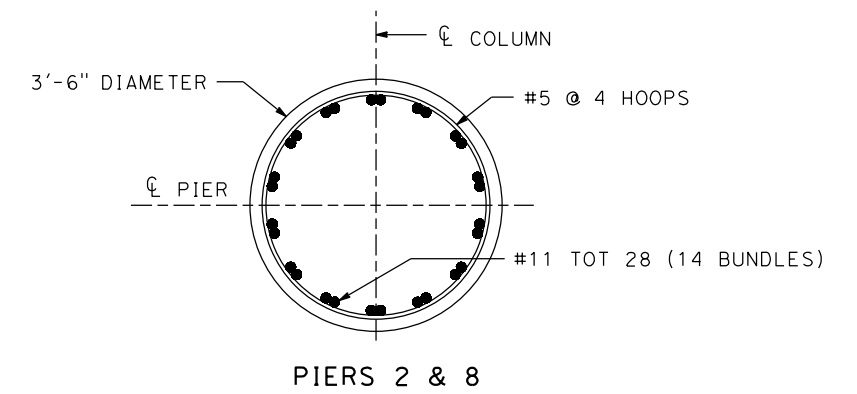


**STRUCTURE EXCAVATION (TYPE D)
PIERS 4 THRU 7**

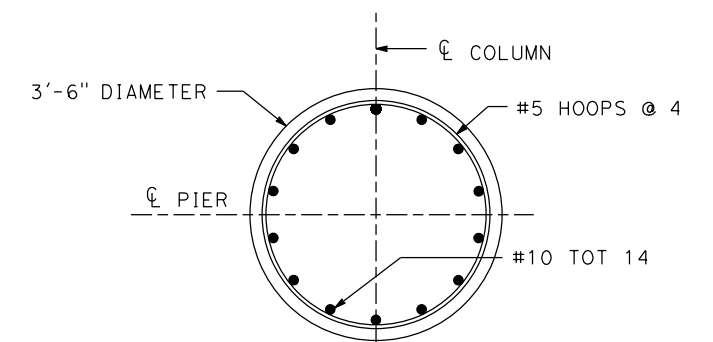
NO SCALE

(For details not shown, see Caltrans' Standard Plan A62C)

▨ DENOTES LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION (TYPE D)



PIERS 2 & 8



PIERS 3 THRU 7

COLUMN SECTIONS

3/4" = 1'-0"

3/12/2013

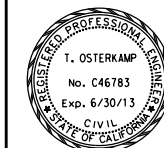
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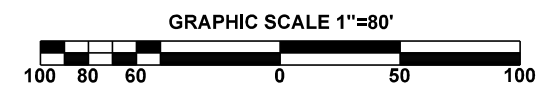
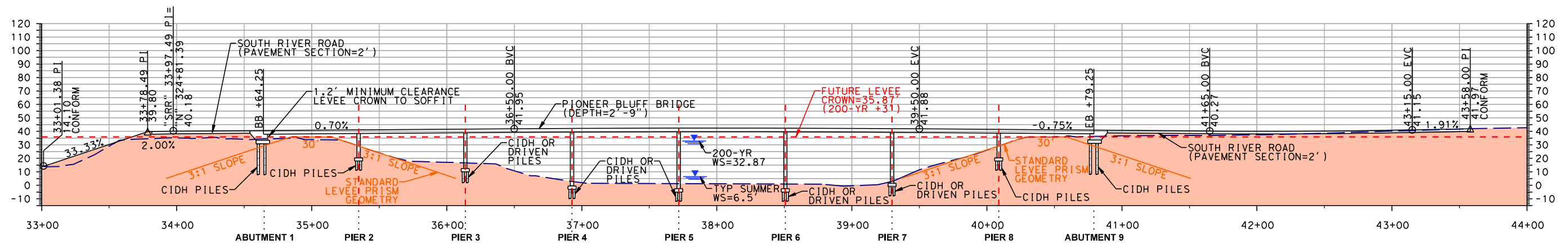


PIONEER BLUFF BRIDGE
PIER DETAILS No. 2

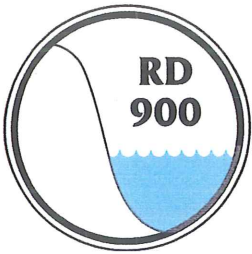
38 OF 53
DWG. NO.

Attachment C - Project Design Plans

PIONEER BLUFF BRIDGE PROFILE



*VERTICAL DATUM: NGVD 1929



RECLAMATION DISTRICT 900

Post Office Box 673

West Sacramento, CA 95691

PH: (916) 371-1483 • email: wsrd@pacbell.net

Jay Davidson
Senior Civil Engineer
City of West Sacramento
1110 West Capitol Avenue, 2nd Floor
West Sacramento, CA 95691

March 7, 2013

Subject: Pioneer Bluff Bridge over the Barge Canal in the City of West Sacramento

Dear Mr. Davidson:

Reclamation District 900 (RD 900) maintains the levees in the vicinity of the planned subject project. RD 900 has reviewed the layout, profile and Bridge General Plan exhibits provided by Dokken Engineering on 2/22/13 for the subject project with respect to levee improvement and maintenance activities. No levee improvements are planned in the vicinity of the bridge. Typical levee maintenance in the vicinity of the bridge includes clearing brush, mowing grasses, and inspecting for and repairing erosion.

The project will provide levee access roads on all four quadrants of the bridge to the levee top. The access roads will be immediately adjacent to the bridge. Providing these access roads allows levee maintenance and inspection efforts to continue unimpeded. RD 900 possesses equipment such as low-profile mowers that will be able to cut grasses on the levee slopes under the bridge.

The project exhibits show surface water from the road will be collected via new storm drain systems north and south of the bridge. To the south, collected runoff will be discharged on the south side of the levee. To the north, runoff will be discharged via roadside ditches. Rip rap will be installed at each outlet. With these drainage measures, surface runoff will be directed away from the levee and erosion is not anticipated to be a problem. The levees along the Barge Canal have historically not been subject to erosion.

Therefore, RD 900 has no objections to the project as it is currently planned.

Sincerely,

A handwritten signature in blue ink that reads "Kenneth A. Ruzich". The signature is fluid and cursive.

Kenneth A. Ruzich
Manager, RD 900