

August 10, 2018
Sacramento, California

The Board of Trustees of the American River Flood Control District met in regular session in its office at 185 Commerce Circle, Sacramento, CA at 11:00 a.m. on Friday, August 10, 2018. In attendance were Trustee Holloway, Trustee Pavão, Trustee Redway and Trustee Shah. Trustee Johns was absent. Trustee Holloway presided. Also present from the District were General Manager (GM) Tim Kerr, Superintendent Ross Kawamura, Legal Counsel David Aladjem and Office Manager Malane Chapman. One member of the public was present.

Item No. 1 Public Comments on Non-Agenda Items: There were no comments on non-agenda items from members of the public.

Item No. 2 Approval of Consent Agenda Items: On a motion by Trustee Shah seconded by Trustee Pavão, the Board unanimously approved Items 2a) Minutes of Regular Meeting on July 13, 2018, 2b) Approval of Report of Investment Transactions June 2018 (City Pool, LAIF, River City) and Treasurer's Certification, 2c) District Financial Reports: Statement of Operations (FY 2017-2018) and Cash Flow Report, 2d) Correspondence: ACWA-JPIA: Liability, Property, and Workers' Compensation Risk Assessment and City of Sacramento: Notice of Public Hearing, 241 Lathrop Way Cannabis CUP.

Item No. 3 Accounts Payable and General Fund Expenses (July 2018): Trustee Redway inquired about payments to Kent Arborist Services. Trustee Shah noted that one contract to Kent Arborist Services was deemed an emergency by GM Kerr. The Board would like to review the GM spending authority at the next meeting. Following explanation by staff and on a motion by Trustee Shah seconded by Trustee Pavão, the Board unanimously approved payments on the Schedule of Accounts Payable (July 2018) of \$140,261.61 and General Fund Expenses of \$75,559.26 (total aggregate sum \$215,820.87).

Item No. 4 Designation of Surplus Equipment: Bandsaw, Drill Press, 4 Pumps with Hoses, Post Hole Digger, Small John Deere Flail Mower, Gas Welder and 1 Generator: Following explanations by the staff and on a motion by Trustee Shah seconded by Trustee Pavão, the Board unanimously approved staff's recommendation to dispose of the listed surplus property.

Item No. 5 Sourcewell (NJPA) Contract Bobcat Purchase: Following explanations by staff and on a motion by Trustee Pavão seconded by Trustee Redway, the Board unanimously approved staff's recommendation to purchase the Bobcat track loader.

Item No. 6 Information: Presentation by Bob Cermak, WSP: Mr. Cermak was not able to attend the meeting. The Board requested that this presentation be rescheduled.

Item 7 Administrative Staff Reports:

a) *General Manager Tim Kerr reported on the following:*

- General Manager's July Meeting Summary: Lower American River Bank Protection Working Group was discussed;
- Pride Industries;
- Hydrologic Conditions: Folsom Lake is 59% full, with an outflow of 4,917 cfs and the gauge at the I Street Bridge shows 8 feet above sea level;
- Next Board Meeting: September 14, 2018.

b) *Legal Counsel David Aladjem had nothing further to report.*

c) *Office Manager Malane Chapman*

- Facilities Improvements: Security Cameras, New Exterior Lights, two Janus International roll-up doors and three Liftmaster electric operators for the warehouse.

Item No. 8 Operations and Maintenance Staff Reports:

a) *Superintendent Ross Kawamura reported on:*

- Crew activities including clearing vegetation, removing decaying trees and mowing.

Item No. 9 Questions and Comments by Trustees: Trustee Holloway commented on trail overgrowth. GM Kerr discussed the elderberry conservation guidelines.

Item No. 10 Adjourn: There being no further business requiring action by the Board, the meeting was adjourned by Trustee Holloway at 12:01 p.m.

Attest:

Secretary

President

**American River Flood Control District
Staff Report**

Investment Transactions Summary; July 2018

LAIF:

- On July 13, 2018 an interest payment was deposited in the amount of \$2,101.26.

City Pool A

- Statement was not available prior to the September 14, 2018 Board meeting.

Interest Receivable is accrued and transferred to the Cash Balance at the discretion of the City.

River City Bank Money Market:

- On July 13, 2018 a transfer was received from River City Bank Checking in the amount of \$1,173,721.74.
- On July 24, 2018 a transfer was sent to River City Bank Checking in the amount of \$10,000.00.
- On July 31, 2018 a monthly interest payment was deposited in the amount of \$1004.15.

River City Bank Checking:

- On July 2, 2018 a deposit was received from Sacramento County Assessment in the amount of \$780,000.00.
- On July 13, 2018 a transfer was sent to River City Bank Money Market in the amount of \$1,173,721.74.
- On July 24, 2018 a transfer was received from River City Bank Money Market in the amount of \$10,000.00
- Total amount of Accounts Payable cleared during the month of July was \$162,661.15.
- On July 31, 2018 a monthly interest payment was deposited in the amount of \$2.32.

**American River Flood Control District
Investment Transaction Report
July 2018**

Item 2b

Balance and Transactions

Account		LAIF	City Pool A	River City Bank Money Market	River City Bank Checking
Beginning Balance	7/1/18	\$442,830.44	\$7,267,268.07	\$0.00	\$550,527.06
Transactions					
Sacramento County Assessment	7/2/18				780,000.00
River City Bank Transfer	7/13/18			1,173,721.74	(1,173,721.74)
River City Bank Transfer	7/24/18			(10,000.00)	10,000.00
LAIF Interest	7/13/18	2,101.26			
City Pool A Interest	7/31/18				
River City Bank Interest	7/31/18			1,004.15	2.32
Accounts Payable (cleared)				(15.00)	(162,661.15)
Ending Balance:	7/31/18	\$444,931.70	\$7,267,268.07	\$1,164,710.89	\$4,146.49

**City Pool A Interest is accrued and deposited in the account at the discretion of the City.

Interest

Date:	Aug 2017	Sep 2017	Oct 2017	Nov 2017
LAIF	1.08	1.11	1.14	1.17
City Pool A	1.61	1.70	1.66	1.46
River City Bank Money Market	0.08	0.08	0.08	0.08
River City Bank Checking	0.00	0.00	0.00	0.00
Date:	Dec 2017	Jan 2018	Feb 2018	Mar 2018
LAIF	1.24	1.35	1.41	1.52
City Pool A	1.71	1.65	2.01	1.71
River City Bank Money Market	0.08	0.08	0.08	0.08
River City Bank Checking	0.00	0.00	0.00	0.00
Date:	Apr 2018	May 2018	June 2018	July 2018
LAIF	1.66	1.73	1.85	
City Pool A	1.97	2.08	2.12	
River City Bank Money Market	0.08	0.1	0.10	0.99
River City Bank Checking	0.00	0.00	0.00	0.07

Local Agency Investment Fund
P.O. Box 942809
Sacramento, CA 94209-0001
(916) 653-3001

www.treasurer.ca.gov/pmia-laif/laif.asp
August 01, 2018

AMERICAN RIVER FLOOD CONTROL DISTRICT

DISTRICT ENGINEER/MANAGER
165 COMMERCE CIRCLE, SUITE D
SACRAMENTO, CA 95815

PMIA Average Monthly Yields

Account Number:
90-34-002

Tran Type Definitions

July 2018 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Authorized Caller	Amount
7/13/2018	7/12/2018	QRD	1577217	SYSTEM	2,101.26

Account Summary

Total Deposit:	2,101.26	Beginning Balance:	442,830.44
Total Withdrawal:	0.00	Ending Balance:	444,931.70



River City Bank

WWW.RIVERCITYBANK.COM

PO Box 15247, Sacramento, CA 95851-0247

Return Service Requested

Item 2b



Last statement: June 30, 2018
This statement: July 31, 2018
Total days in statement period: 31

AMERICAN RIVER FLOOD CONTROL DISTRICT
C/O ROBERT MERRITT, CPA
4000 MAGNOLIA HILLS DR
EL DORADO HILLS CA 95762-6561

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0811100952
(0)

Direct inquiries to:
916-567-2836

Public Fund Money Market

Account number	0811100952	Beginning balance	\$550,527.06
Low balance	\$1,163,721.74	Total additions	779,520.45
Average balance	\$1,202,579.70	Total subtractions	165,336.62
Avg collected balance	\$1,202,579	Ending balance	\$1,164,710.89
Interest paid year to date	\$1,420.35		

DEBITS

Date	Description	Subtractions
07-03	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXX0736	7,621.91
07-05	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXX0736	31.70
07-09	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXX0736	5,240.31
07-11	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXX0736	6,579.74
07-12	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXX0736	152.95
07-13	' Transfer Debit TRANSFER TO DEPOSIT ACCOUNT XXXXXX0736	135,695.01
07-24	' Transfer Debit TRANSFER TO DEPOSIT ACCOUNT XXXXXX0736	10,000.00
07-31	' Service Charge EXCESS WITHDRAWAL	15.00

AMERICAN RIVER FLOOD CONTROL DISTRICT
 July 31, 2018

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 0811100952

CREDITS

Date	Description	Additions
07-02	Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0736	778,516.30
07-31	Interest Credit	1,004.15

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
06-30	550,527.06	07-09	1,316,149.44	07-24	1,163,721.74
07-02	1,329,043.36	07-11	1,309,569.70	07-31	1,164,710.89
07-03	1,321,421.45	07-12	1,309,416.75		
07-05	1,321,389.75	07-13	1,173,721.74		

INTEREST INFORMATION

Annual percentage yield earned	0.99%
Interest-bearing days	31
Average balance for APY	\$1,202,579.70
Interest earned	\$1,004.15

OVERDRAFT/RETURN ITEM FEES

	Total for this period	Total year-to-date
Total Overdraft Fees	\$0.00	\$0.00
Total Returned Item Fees	\$0.00	\$0.00



River City Bank

WWW.RIVERCITYBANK.COM

PO Box 15247, Sacramento, CA 95851-0247

Return Service Requested

Item 2b



Last statement: June 30, 2018
This statement: July 31, 2018
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AMERICAN RIVER FLOOD CONTROL DISTRICT
C/O ROBERT MERRITT, CPA
4000 MAGNOLIA HILLS DR
EL DORADO HILLS CA 95762-6561

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0811090736
(63)

Direct inquiries to:
916-567-2836

Public Fund Interest Checking

Account number	0811090736	Beginning balance	\$-0.70
Enclosures	63	Total additions	945,323.94
Low balance	\$0.00	Total subtractions	941,176.75
Average balance	\$37,221.55	Ending balance	\$4,146.49
Avg collected balance	\$12,060		

CHECKS

Number	Date	Amount	Number	Date	Amount
6443	07-16	89.02	6502	07-20	6,185.04
6452 *	07-02	202.81	6503	07-19	350.00
6463 *	07-02	28.52	6504	07-19	3,826.68
6465 *	07-18	805.00	6505	07-20	40.98
6467 *	07-02	23.82	6506	07-27	84.14
6469 *	07-05	31.70	6507	07-19	92.00
6474 *	07-02	734.83	6508	07-19	1,820.00
6480 *	07-02	493.02	6509	07-23	838.57
6487 *	07-03	123.58	6510	07-20	530.23
6488	07-09	5,240.31	6511	07-23	607.68
6489	07-03	2,799.65	6512	07-19	2,689.08
6490	07-18	650.00	6513	07-19	787.15
6491	07-16	650.00	6514	07-23	349.65
6492	07-20	650.00	6515	07-23	18.25
6494 *	07-16	650.00	6516	07-17	279.60
6495	07-17	650.00	6517	07-18	1,079.00
6496	07-16	646.82	6518	07-25	129.90
6497	07-19	26,639.81	6519	07-23	3,902.50
6498	07-20	74.59	6520	07-23	23.82
6499	07-23	680.84	6521	07-23	127.08
6500	07-20	94.17	6522	07-23	787.50
6501	07-20	223.67	6523	07-19	474.02

AMERICAN RIVER FLOOD CONTROL DISTRICT
July 31, 2018

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Number	Date	Amount	Number	Date	Amount
6524	07-25	150.06	6534	07-25	509.85
6525	07-30	3,682.00	6535	07-20	240.51
6526	07-19	813.60	6536	07-20	376.66
6527	07-23	277.46	6537	07-24	247.93
6528	07-18	776.17	6538	07-25	289.92
6529	07-20	656.37	6539	07-18	8,751.70
6530	07-20	200.00	6540	07-31	1,699.65
6531	07-20	159.54	6541	07-26	100.00
6532	07-26	202.81			
6533	07-19	2,246.33			

* Skip in check sequence

DEBITS

Date	Description	Subtractions
07-02	' Automatic Transfer TRANSFER TO DEPOSIT SYSTEM ACCOUNT XXXXXXXX0952	778,516.30
07-03	' ACH Withdrawal CALPERS 3100 100000015321403	15.67
07-03	' ACH Withdrawal CALPERS 3100 100000015289112	360.40
07-03	' ACH Withdrawal CALPERS 1900 100000015348330	4,322.61
07-11	' ACH Withdrawal CALPERS 3100 100000015321456	1,204.26
07-11	' ACH Withdrawal CALPERS 1900 100000015354001	2,526.12
07-11	' ACH Withdrawal CALPERS 3100 100000015321403	2,849.36
07-12	' ACH Withdrawal HEALTHEQUITY INC HealthEqui 180712	152.95
07-13	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 180713 946000047	25,695.01
07-19	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 180719 946000047	321.69
07-20	' ACH Withdrawal CALPERS 3100 100000015321423	426.62
07-26	' ACH Withdrawal CALPERS 3100 100000015321474	1,445.11
07-26	' ACH Withdrawal CALPERS 1900 100000015375011	2,596.34
07-26	' ACH Withdrawal CALPERS 3100 100000015321423	3,059.18
07-27	' ACH Withdrawal HEALTHEQUITY INC HealthEqui 180727	150.00

AMERICAN RIVER FLOOD CONTROL DISTRICT
 July 31, 2018

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Date	Description	Subtractions
07-31	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 180731 946000047	28,945.76
07-31	' Service Charge ADDITIONAL DEBITS	3.78

CREDITS

Date	Description	Additions
07-02	Deposit	780,000.00
07-03	' Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0952	7,621.91
07-05	' Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0952	31.70
07-09	' Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0952	5,240.31
07-11	' Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0952	6,579.74
07-12	' Automatic Transfer TRANSFER FROM DEPOSIT SYSTEM ACCOUNT XXXXXX0952	152.95
07-13	' Transfer Credit TRANSFER FROM DEPOSIT ACCOUNT XXXXXX0952	135,695.01
07-24	' Transfer Credit TRANSFER FROM DEPOSIT ACCOUNT XXXXXX0952	10,000.00
07-31	' Interest Credit	2.32

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
06-30	-0.70	07-13	110,000.00	07-24	47,192.67
07-02	0.00	07-16	107,964.16	07-25	46,112.94
07-03	0.00	07-17	107,034.56	07-26	38,709.50
07-05	0.00	07-18	94,972.69	07-27	38,475.36
07-09	0.00	07-19	54,912.33	07-30	34,793.36
07-11	0.00	07-20	45,053.95	07-31	4,146.49
07-12	0.00	07-23	37,440.60		

INTEREST INFORMATION

Annual percentage yield earned	0.07%
Interest-bearing days	31
Average balance for APY	\$37,221.57
Interest earned	\$2.32

AMERICAN RIVER FLOOD CONTROL DISTRICT
July 31, 2018

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OVERDRAFT/RETURN ITEM FEES

	Total for this period	Total year-to-date
Total Overdraft Fees	\$0.00	\$0.00
Total Returned Item Fees	\$0.00	\$0.00

CERTIFICATION

The American River Flood Control District's investment portfolio [] is [is not] in compliance with the District's Financial Management Investments Plan.

The District's investment portfolio is not in compliance in the following respects:

A cash flow analysis confirms that the District [is] [is not] expected to be able to meet its expenditure requirements for the next six months.

The District's cash is insufficient to meet obligations for the next six months as a result of the following:

Attached hereto are the most recent statements of accounts of the following District accounts:

- LAIF Account, State Treasurer's Office **Dated July 2018**
- Investment Pool A Account, City of Sacramento **Dated July 2018**
- District Checking Account, River City Bank **Dated July 2018**
- District Repurchase Account, River City Bank **Dated July 2018**

Certified by: _____ Date: _____
Cyril Shah, District Treasurer

American River Flood Control District
Statement of Operations
July 1, 2018 to August 31, 2018 (Two Months Ending of Fiscal 2019)
For Internal Use Only

	Year to Date July 1, 2018 to August 31, 2018	Budget	Percent of Budget
Revenues			
Benefit assessment	\$ -	\$ 1,429,793	0.00%
Consolidated capital assessment	-	980,000	0.00%
Interest	16,770	77,267	21.70%
O & M agreements	-	231,801	0.00%
Miscellaneous	100	-	Not budgeted
Total Revenues	<u>16,870</u>	<u>2,718,861</u>	0.62%
M & O Expenses			
Salaries and wages	114,617	730,938	15.68%
Payroll tax expense	8,690	58,475	14.86%
Pension expense	24,146	132,418	18.23%
Compensation insurance	-	36,547	0.00%
Medical/dental/vision	45,267	211,112	21.44%
Fuel/oil reimbursement	2,163	30,000	7.21%
Equipment rental	1,421	20,000	7.11%
Equipment repairs/parts	4,254	40,000	10.64%
Equipment purchases (< \$5,000)	-	15,000	0.00%
Shop supplies	474	12,000	3.95%
Levee maint. (supp. & material)	1,390	10,000	13.90%
Levee maint. chemicals	-	20,000	0.00%
Levee maint. services	925	60,000	1.54%
Rodent abatement (supplies & materials)	245	10,000	2.45%
Employee uniforms	-	5,000	0.00%
Staff training	1,102	10,000	11.02%
Miscellaneous	-	2,000	0.00%
Small tools & equipment	-	6,000	0.00%
Emergency preparedness program	4,200	15,000	28.00%
Engineering services	302	20,000	1.51%
Encroachment remediation	-	15,000	0.00%
Test urban camp cleanup	-	100,000	0.00%
Total M & O Expenses	<u>209,196</u>	<u>1,559,490</u>	13.41%
Administration Expenses			
Board of trustees compensation	728	7,600	9.58%
Trustee expenses	34	1,750	1.94%
Accounting services	700	15,000	4.67%
Legal services (general)	-	50,000	0.00%
Utilities	2,907	35,000	8.31%
Telephone	680	18,000	3.78%
Retiree benefits	33,902	135,650	24.99%
Office equipment/furniture	-	7,500	0.00%
Office supplies	-	2,000	0.00%
Auto allowance	1,183	6,600	17.92%
Parking reimbursement	-	500	0.00%
General office expense	1,139	13,000	8.76%
Technology and software	930	10,000	9.30%
Dues and associations	7,767	25,000	31.07%
Property and liability insurance	8,263	30,000	27.54%
Conference/workshop/seminar	-	3,000	0.00%
Public relations/information	-	30,000	0.00%
Miscellaneous	374	5,000	7.48%
Employee morale/wellness	208	2,000	10.40%
Investment fees	-	15,000	0.00%
Community services	-	1,500	0.00%
Bookkeeping services	-	14,000	0.00%
Property taxes	-	3,000	0.00%
Building maintenance	5,915	10,000	59.15%
County Dtech fees for DLMS	-	40,000	0.00%
Election expense	-	96,819	0.00%
Interest expense	62	-	Not budgeted
Total Administration Expenses	<u>64,792</u>	<u>577,919</u>	11.21%
Special Projects Expenses			
Engineering studies/survey studies	-	15,000	0.00%
Levee standards compliance	63,200	100,000	63.20%
Small capital projects	-	50,000	0.00%
Total Special Project Expenses	<u>63,200</u>	<u>165,000</u>	38.30%
Capital Outlay			
Equipment purchases (over \$5,000)	17,646	93,000	18.97%
Total Capital Outlay	<u>17,646</u>	<u>93,000</u>	
Capital Outlay: District Headquarters Build-Out			
Building improvements/maintenance	17,444	40,000	43.61%
La Riviera improvements/maintenance	2,098	10,000	20.98%
	<u>19,542</u>	<u>50,000</u>	

Note: Amounts above are not audited

The above information is current through the last day of the previous month's bank activity.

Data has been verified by the bookkeeper and physical copies of checks have not been reviewed or received and some checks may not have cleared the bank account.

AMERICAN RIVER FLOOD CONTROL DISTRICT
Cash Flow Report
July 2018 through June 2019

Cash Flow Report

Maintenance and Operations Expense	Jul 18	Aug 18	Sept 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	TOTAL
500 - Salary/Wages	54,173.03	58,087.91	61,528.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	173,789.64
501 - Payroll Taxes	4,173.85	4,482.27	4,709.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,365.72
502 - Pension	12,673.06	12,483.57	3,057.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28,214.46
503 - Compensation Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
504 - Medical/Dental/Vision	15,339.13	15,339.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30,678.26
508 - Fuel/Oil	3,476.23	2,162.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,638.89
509 - Equipment Rental	0.00	1,420.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,420.71
510 - Equipment Purchase(< \$5000)	6,452.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,452.49
511 - Equipment Repair/Parts	7,863.87	1,711.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,575.02
512 - Shop Supplies	694.04	564.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,258.94
514 - Levee Maint(Supplies&Materi	628.17	0.00	663.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,291.97
515 - Levee Maintenance Services	0.00	1,373.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,373.85
516 - Employee Uniforms	4,896.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,896.47
518 - Staff Training	350.00	0.00	52.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	402.39
519 - Miscellaneous O&M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
521 - Small Tools & Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
523 - Levee Maint. (Chemicals)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525 - Emergency Preparedness Prc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530 - Encroachment Remediation N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
532 - Rodent Abatement	404.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	404.83
605 - Engineering Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
615 - Survey Services	187.23	154.01	55.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	396.49
616 - Environmental Services/Studie	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total M&O Expense	111,312.40	97,780.16	70,067.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	279,160.13

Administrative Expenses	Jul 18	Aug 18	Sept 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	TOTAL
505 - Telephone	1,057.50	1,083.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,140.90
506 - Utility Charges	2,494.07	2,891.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,385.79
507 - Office/Shop Lease	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
513 - Office Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
517 - Auto Allowance	550.00	550.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,650.00
520 - Retiree Benefits	11,300.68	11,300.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22,601.36
522 - Office Equipment/Furniture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
526 - Mileage/Parking Reimburseme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
527 - General Office Expense	760.67	936.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,697.25
529 - Pre-funding Retiree Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
531 - Technology & Software	389.89	730.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,120.13
600 - Board of Trustees Compensa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
601 - Trustee Expenses	285.00	380.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	665.00
602 - Accounting Services	82.41	33.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116.11
603 - Legal Fees (General)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
604 - Flood Litigation	5,646.68	5,689.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,335.68
606 - Legislative Services	1,079.00	302.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,381.00
607 - Dues and Assoc. Expenes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
608 - Insurance Premiums	8,751.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,751.70
609 - Conference /Workshops/Semi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
610 - Public Relations Information	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
611 - Election Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
612 - District Annexations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
613 - Community Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
614 - Miscellaneous Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
617 - Investment Fees	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
618 - Property Tax	3,682.00	3,716.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,398.00
619 - Building Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AMERICAN RIVER FLOOD CONTROL DISTRICT
Cash Flow Report
July 2018 through June 2019

620 · Bookkeeping Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
621 · County Assessment Fees	787.50	975.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,762.50
622 · County DTech Fees for DLMS	0.00	189.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	189.91
623 · Employee Morale/Wellness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Administrative	36,867.10	28,778.23	550.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66,195.33

Special Projects Expenses	Jul 18	Aug 18	Sept 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	TOTAL
702 · Engineering/Survey Studies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
703 · Encroachment Remediation S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
704 · Vegetation Management	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
705 · Small Capital Projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
707 · Levee Standards Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Special Projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Capital Outlay: Flood Control	Jul 18	Aug 18	Sept 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	TOTAL
700 · Bank Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
701 · Magpie Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
706 · Property Acquisition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
709 · Equipment Purchase (> \$5000)	0.00	63,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63,200.00
Total Capital Outlay: Flood Control	0.00	63,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63,200.00

Income	Jul 18	Aug 18	Sept 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	TOTAL
120 · Benefit Assessment	0.00	39,740.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39,740.55
122 · SAFCA CAD4	780,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	780,000.00
123 · Interest	1,006.47	1,480.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,487.40
124 · O&M Agreements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126 · Miscellaneous Income	0.00	224.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	224.62
Total Income	781,006.47	41,446.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	822,452.57

Fund Balance

District Operations Fund	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
Beginning Balance	2,294,495.71	1,927,322.68	1,842,210.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	781,006.47	41,446.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	1,148,179.50	126,558.39	70,617.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	1,927,322.68	1,842,210.39	1,771,592.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Capital Outlay Reserve Fund	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
Beginning Balance	1,065,000.00	1,065,000.00	1,065,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	1,065,000.00	1,065,000.00	1,065,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Retiree Health Benefit Reserve Fund	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
Beginning Balance	1,443,558.00	2,443,558.00	2,443,558.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	1,000,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	2,443,558.00	2,443,558.00	2,443,558.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Flood Emergency Response Reserve Fund	Jul 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
Beginning Balance	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AMERICAN RIVER FLOOD CONTROL DISTRICT
Cash Flow Report
 July 2018 through June 2019

Item 2c

Emergency Repair Reserve Fund												
Beginning Balance	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Balance	8,435,880.68	8,350,768.39	8,280,150.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Invoices Paid

	DATE	AMOUNT	CHECK #
Costco (Employee Morale/Wellness, General Office Expenses)	8/9/18	197.97	6545
Erich Quiring (Employee Morale/Wellness)	8/10/18	160.23	6546
Quickbooks (Employees)	8/15/18	\$29.25	EFT
HSA (Employee)	8/15/18	\$150.00	EFT
HSA (Miscellaneous Admin)	8/15/18	\$2.95	EFT
Quickbooks (Trustees)	8/15/18	\$13.00	EFT
Quickbooks (Employees)	8/31/18	\$108.25	EFT
White Cap (514 Levee Maint - Supplies & Materials)	9/11/18	\$663.80	6584
Quickbooks (Employees)	9/13/18	\$26.00	EFT
Quickbooks (Employees)	9/14/18	\$29.25	EFT
	Total	\$827.30	

Trustee Compensation

	DATE	GROSS	NET	CHK#
8/10/18 Board Meeting				
Holloway, Brian F	8/17/18	\$95.00	\$86.78	Direct Dep
Pavao, William J	8/17/18	\$95.00	\$86.78	Direct Dep
Redway, Bettina C	8/17/18	\$95.00	\$86.79	Direct Dep
Shah, Cyril A	8/17/18	\$95.00	\$86.79	Direct Dep
	Total	\$380.00	\$347.14	

Trustee Taxes

	DATE	AMOUNT	CHK#
8/10/18 Board Meeting			
Federal Tax Payment	8/17/18	\$11.00	EFT
CA Withholding & SDI	8/17/18	\$3.80	EFT
CA UI & ETT	8/17/18	\$6.86	EFT
	Total	\$21.66	

Payroll Summary

	DATE	GROSS	NET	CHK#
PP ending 8/15/18				
Malane Chapman	8/16/18	3190.88	2060.16	Direct Dep
Elvin Diaz	8/16/18	2163.93	1588.98	Direct Dep
David Diaz	8/16/18	2294.16	1400.71	Direct Dep
Gilberto Gutierrez	8/16/18	2574.88	1623.04	Direct Dep
Ross Kawamura	8/16/18	4035.98	2310.53	Direct Dep
Tim Kerr	8/16/18	7077.17	5112.42	Direct Dep
Erich Quiring	8/16/18	2294.16	1528.38	Direct Dep
Jose Ramirez	8/16/18	2574.88	1850.74	Direct Dep
Zerimar Robles	8/16/18	2058.32	1526.99	Direct Dep
PP ending 8/31/18				
Malane Chapman	9/1/18	3480.96	2246.20	Direct Dep
Elvin Diaz	9/1/18	2360.64	1718.35	Direct Dep
David Diaz	9/1/18	2502.72	1551.44	Direct Dep
Gilberto Gutierrez	9/1/18	2808.96	1757.03	Direct Dep
Ross Kawamura	9/1/18	4035.98	2310.53	Direct Dep
Tim Kerr	9/1/18	7077.17	5112.44	Direct Dep
Erich Quiring	9/1/18	2502.72	1645.66	Direct Dep
Jose Ramirez	9/1/18	2808.96	2013.20	Direct Dep
Zerimar Robles	9/1/18	2245.44	1650.37	Direct Dep
	Total	\$55,842.47	\$39,007.17	

Employee & Relief GM Taxes

	DATE	AMOUNT	CHK#
PP ending 8/15/18			
Federal Tax Payment	8/16/18	\$6,935.12	EFT
CA Withholding & SDI	8/16/18	\$1,314.56	EFT
CA UI & ETT	8/16/18	\$0.00	EFT
PP ending 8/31/18			
Federal Tax Payment	9/1/18	\$7,378.64	EFT
CA Withholding & SDI	9/1/18	\$1,453.63	EFT
CA UI & ETT	9/1/18	\$0.00	EFT
	Total	\$17,081.95	

Employee Pension

	DATE	AMOUNT	CHK#
PP ending 8/15/18			
PERS Retirement Contribution (Unfunded Liability)	8/16/18	\$4,322.61	EFT
PERS Retirement Contribution	8/16/18	\$4,278.95	EFT
457 Deferred Comp (Employee Paid)	8/16/18	\$2,481.23	EFT
457 District Contribution	8/16/18	\$80.00	EFT
PP ending 8/31/18			
PERS Retirement Contribution	9/1/18	\$4,504.27	EFT
457 Deferred Comp (Employee Paid)	9/1/18	\$2,516.34	EFT
457 District Contribution	9/1/18	\$80.00	EFT
	Total	\$18,263.40	

Total of Invoices Paid and Payroll	\$75,548.62
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American River Flood Control District

Repair Arcade Creek Floodwall

Staff Report

Discussion:

The concrete floodwall in the Arcade Creek south levee at Marysville Boulevard was damaged by a vehicle in July 2018. The damage needs to be repaired and the floodwall returned to a fully intact condition by the start of flood season on November 1st. District staff has contacted a number of construction companies to receive bids for the repair of the floodwall. The repair work will entail demolition of the damaged section of concrete floodwall, installation of new reinforcement re-bar tying into the existing footing, and forming and pouring of the new wall section.

To date, the District has received one bid from Biondi Construction. Other companies contacted indicated that they do not perform prevailing wage contracts. Additional quotes are still being requested.

The quote from Biondi Construction proposes to perform the work for \$24,800. Biondi Construction indicated they could do the work right away and the wall would be intact before the start of flood season.

Unless a competing bid is obtained from a company that can perform the work prior to the start of flood season, the best option for the District is to award the contract to Biondi Construction for the quoted price.

Recommendation:

The General Manager recommends that the Board of Trustees award the contract for repair of the Arcade Creek Floodwall to Biondi Construction for the quoted bid price of \$24,800.



Biondi Paving Inc dba



8150 37th Avenue
 Sacramento, California 95824-2306
 916.383.5982
 916.383.3077 Fax
 www.biondipaving.com

CA Lic. No. 505422 A, B, C-12, Haz.
 NV Lic No. 53494 A, Limit\$5M/project

“ A family tradition serving core values since 1948”

Job Title & Location:
Flood Wall Repair
Arcade Creek at Hagginwood Park
Sacramento , CA

PROPOSAL#: 18197 JLG

Submitted to:
Ross Kawamura
American River Flood Control
185 Commerce Circle
Sacramento, CA 95815

Contact Information:
 Phone#:
 Mobile#: (916) 708-7017
 Additional#:
 Fax
 E-mail: ross@arfccd.org

We have included the following items in our proposed price:

Proposal Date:
 9/11/18

Valid Through:
 Oct-11-18

Bid Item	Description	Quantity	UM	Unit Price	Total Price
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	Repair 20' Section of Damaged Flood Control Wall (Work includes specifically the following)	1	LS	\$	24,800.00
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- Sawcut Wall, Remove and Offhaul Concrete, Expose Footing
- Place New Rebar Reinforcement as Needed
- Form and Place New 20' Section of Floodwall on Existing Footing
- Strip and Cleanup

Notes:

No footing removal or replacement figured. We are assuming the footing was not moved or damaged in the accident

Includes Prevailing Wages and Submission of Certified Payroll if requested

Need access to the Creek Access Road for Staging Trucks and Construction Equipment

The Following items are Exclusions from this Proposal if Marked with a Check Box

General Conditions Exclusions

- Design engineering
- Construction Permits, Encroachment Permits and Special Fees
- Performance or payment bonds (add 1.5% of bid to price for this requirement)

We Propose hereby to furnish material, equipment, and labor - complete in accordance with above specifications, for the sum of:

Payment Terms / Legal Clarifications

PAYMENT IS DUE UPON COMPLETION AND PAST DUE AFTER THIRTY (30) DAYS from Invoice date:

The Customer agrees to pay late charges on any billings not paid when due, from the due date until paid, at the rate of 18% per annum or the maximum rate allowed by law, whichever is less.

We Propose hereby to furnish material, equipment, and labor - complete in accordance with above specifications, for the sums of:

Twenty Four Thousand Eight Hundred Dollars **\$ 24,800.00**

In the event payment is not made to Biondi at the times and in the amounts provided for in this agreement, Biondi may, upon three (3) working day's written notice, elect to suspend work until payment on the amount owing has been received. If this occurs Biondi's time for performance shall be extended appropriately and it's reasonable costs of shut down, delay, and start-up shall be paid and the contract adjusted accordingly.

General Conditions

Changes in Work: Customer may from time to time by instructions or drawings issued to Biondi, make changes in the scope of work, issue additional instructions, request additional work or direct the omission of work previously ordered, and the provisions of this agreement shall apply to all such changes, modifications and additions with the same effect as if they were embodied in the original agreement. The price or the formula for establishing the price for such work will be set forth in a written change order, either prior to the commencement or as soon as practical thereafter.

Extra costs incurred due to loss of production or delays outside our control, including unsuitable conditions which may stop work, to be paid on a time & material basis

Should either party bring suit in court to enforce any of the terms hereof, it is agreed that the prevailing party shall be entitled to reasonable attorney's fees, expert fees and court costs.

Unavoidable Delays - Extension Of Time: In the event Biondi shall be delayed in the performance of the work under this contract by causes beyond the control of Biondi, and without the fault or negligence of Biondi, including but not limited to change orders, acts of god or of the public enemy, acts of government, fire, flood, strikes, inclement weather, including over optimum moisture content of ground or base course, unsuitable ground conditions or delays caused by vendors and other contractors, Biondi shall have such period of time to complete the performance of this contract as shall be necessary as a result of any such causes.

Prior to commencement of work, if this proposal is not executed to constitute the official contract, a contract containing terms mutually agreeable to both parties shall be prepared and executed. The Contents of this proposal document shall be inserted electronically or physically attached to become an integral part of the contract. In the event of any inconsistency between any such contract and this proposal, the terms of this proposal shall prevail.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control.

for **BIONDI PAVING, INC.**



Estimator: JL
916.383.2642 direct

Authorized Signature: _____
Jerry Leathers-Estimator/Project Manager

Date: 9/11/18

Reviewed By : JL

Acceptance of Proposal by Customer

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Acceptance indicates that funds are available for this work and Biondi will be paid as outlined within this proposal. Acceptance represents that owner has read and understood, and relies thereon on this entire document.

Signature: _____

Printed Name: _____

Date: ____/____/____

American River Flood Control District

Endorsement of CA CVFPB Permit Application – CalTrans Scour Mitigation

Staff Report

Discussion:

The CA Department of Transportation (CalTrans) has determined that the State Route 160 bridge crossing of the American River needs additional measures to prevent scour at the bridge piers. Scour is aggressive erosion under high flows that could undermine the footings of the bridge and cause a failure. The engineers at CalTrans have proposed installing sheet piles into the bed of the river in a box configuration around the existing piers. This will protect the piers from being undermined. The space between the sheet piles and the piers would then be filled with concrete.

All of the work proposed under this permit application will happen within the floodway and the levees will not be impacted. CalTrans included a hydraulic analysis of the river conditions both with and without the project. The analysis showed that hydraulic impacts from the proposed work are negligible.

Recommendation:

The General Manager recommends that the Board of Trustees endorse the permit application from CalTrans.

Central Valley Flood Protection Board (CVFPB) Encroachment Permit Application Package



For
The American River Bridge Scour Mitigation Project

Applicant
California Department of Transportation (Caltrans)

August 10, 2018

Table of Contents

Section 1	Application Form 3615 Attachment 1-A: Supplemental Project Description Attachment 1-B: American River River Miles Attachment 1-C: ARFCD Trustee Approval Conditions
Section 2	Environmental Assessment Form 3615a
Section 3	Attachment 3A: Location Map Attachment 3B: Vicinity Map (Plan 1 of 7)
Section 4	Photos
Section 5	Plans of Proposed Work (Plans 2 of 7 – 7 of 7)
Section 6	Attachment 6A – Floodplain Hydraulic Study Attachment 6B – Final Structures Hydraulic Report
Section 7	Attachment 7A – Lead Federal Agency Designation Letter Attachment 7B – Final Environmental Document

SECTION 1
APPLICATION FORM 3615

**APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD
ENCROACHMENT PERMIT**

Application No. _____
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.

The intent of this project is to mitigate the risk of scour compromising the integrity of the American River Bridge on Highway 160 in Sacramento, California. The project will install permanent steel sheet piles around each bridge foundation. In order for the work to take place, a temporary access trestle/platform must be constructed to facilitate construction activities. See Supplemental Project Description and attached plans for more details.

2. Project
Location: American River Bridge at SR-160 County, in Section Sacramento County, Section 30
Township: 9N, Range: 5E, M. D. B. & M.
Latitude: 38.5965° Longitude: -121.4764°
Stream: American River, Levee: NA0001 Unit 04 A. River Designated Floodway: Unknown
APN: State Lands Commision

3. Chris Rockey, District 03 CVFPB Liason of 703 B Street
Name of Applicant / Land Owner Address
Marysville CA 95901 (530) 741-4517
City State Zip Code Telephone Number
chris.rockey@dot.ca.gov
E-mail

4. Chris Rockey, District 03 CVFPB Liason of 703 B Street
Name of Applicant's Representative Company
Marysville CA 95901 (530) 741-4517
City State Zip Code Telephone Number
chris.rockey@dot.ca.gov
E-mail

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

We, the Trustees of The American River Flood Control District approve this plan, subject to the following conditions:
Name of LMA

Conditions listed on back of this form Conditions Attached (see Attachment 1C) No Conditions

Trustee Date Trustee Date

Trustee Date Trustee Date

**APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD
ENCROACHMENT PERMIT**

6. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

Name	Address	Zip Code
County of Sacramento Dept. of Reg. Parks	4040 Bradshaw Road, Sacramento, CA 95827	
State Lands Commission	100 Howe Avenue, Suite 100 South, Sacramento, CA 95825	
Hart Enterprises, LP	1617 Kingsford Drive, Carmichael, CA 95608	
Frazier Revocable Trust	27038 County Road 92F, Winters, CA 95694	

7. Has an environmental determination been made of the proposed work under the California Environmental Quality Act of 1970? Yes No Pending

If yes or pending, give the name and address of the lead agency and State Clearinghouse Number:

California Department of Transportation (Caltrans)

703 B Street

Marysville, CA 95901

SCH No. 2017072043

8. When is the project scheduled for construction? 07/15/2020 to 10/15/21

9. Please check exhibits accompanying this application.

- A. Regional and vicinity maps showing the location of the proposed work. (see Section 3)
- B. Drawings showing plan view(s) of the proposed work to include map scale. (see Section 5)
- C. Drawings showing the cross section dimensions and elevations (vertical datum?) of levees, berms, stream banks, flood plain,
- D. Drawings showing the profile elevations (vertical datum?) of levees, berms, flood plain, low flow, etc.
- E. A minimum of four photographs depicting the project site. (see Section 4)

Signature of Applicant

Date

Include any additional information:

This Caltrans project has two locations as seen in Attachment 3A. This application only concerns the American River Bridge on SR-160 location. A limited number of documents may refer to the other location. One such document is the Final Environmental Document provided in Section 7.

Supplemental Project Description

The Caltrans Office of Structures Maintenance and Investigations (SM&I) has determined that the American River Bridge (Bridge 24-0001L) on SR-160 is Scour Critical. This bridge crosses the American River at River Mile 1.98¹. The American River Bridge was originally built in 1915 and was widened in 1934. The bridge is approximately 695 ft. long, and features two abutments and four piers. The southern abutment is located on top of the left bank of the American River (DWR Levee Unit No. 04 American River) while the northern abutment is located within the American River Parkway. The right bank (DWR Levee Unit No. 03) is located further north and is not affected by the scope of this project. The local maintaining agency (LMA) is the American River Flood Control District (ARFCD).

Caltrans previously considered several scour mitigation alternatives. Permanent sheet piles has been selected as the preferred alternative. The permanent steel sheet piles² will be driven to a depth of 30 ft. below the mudline and form a rectangular perimeter around each pier. The annulus between the new sheet piles and the existing concrete piers will be filled in with a concrete slurry. The steel sheet piles may be initially stabbed into the channel bottom with a vibratory hammer; however, the balance of the pile driving will be accomplished with an impact hammer. Any existing rip rap (rock slope protection) would be removed prior to installation of the steel sheet piles.

In order to drive the permanent sheet piles the contractor must be able to locate his construction equipment relatively close to each pier. Two methods are being considered that may be deployed as standalone measures or in tandem. The first method is the installation of a temporary access platform (trestle). The trestle would be constructed from the north side of the channel at the bottom of an existing ramp that leads down from a mobile home park³. The trestle is expected to be 30 ft. wide and extends past the southernmost pier. The trestle does not extend to the southern levee. Section of the trestle (fingers) will extend laterally from the main trestle along each side of the bridge piers. The fingers will be constructed in the same manner as the main trestle and would also be 30 ft. wide. Temporary steel piles will be driven to support the trestle and will be driven to 30 ft. below the mudline. It is anticipated that the temporary trestle piles will be stabbed into the channel bottom with a vibratory hammer followed by an impact hammer.

The second access method being considered is by floating barge. The use of floating barges would be subject to factors such as channel flow, depth, and vertical clearances under other downstream bridges. The use of barges would be at the contractor's option in order to provide maximum flexibility and efficiency with regards to methods of construction.

¹ Rivermile was determined from the DWR Levee Mile Calculator at <http://ferix.water.ca.gov/webapp/LeveeMile/>. See Attachment 1-B.

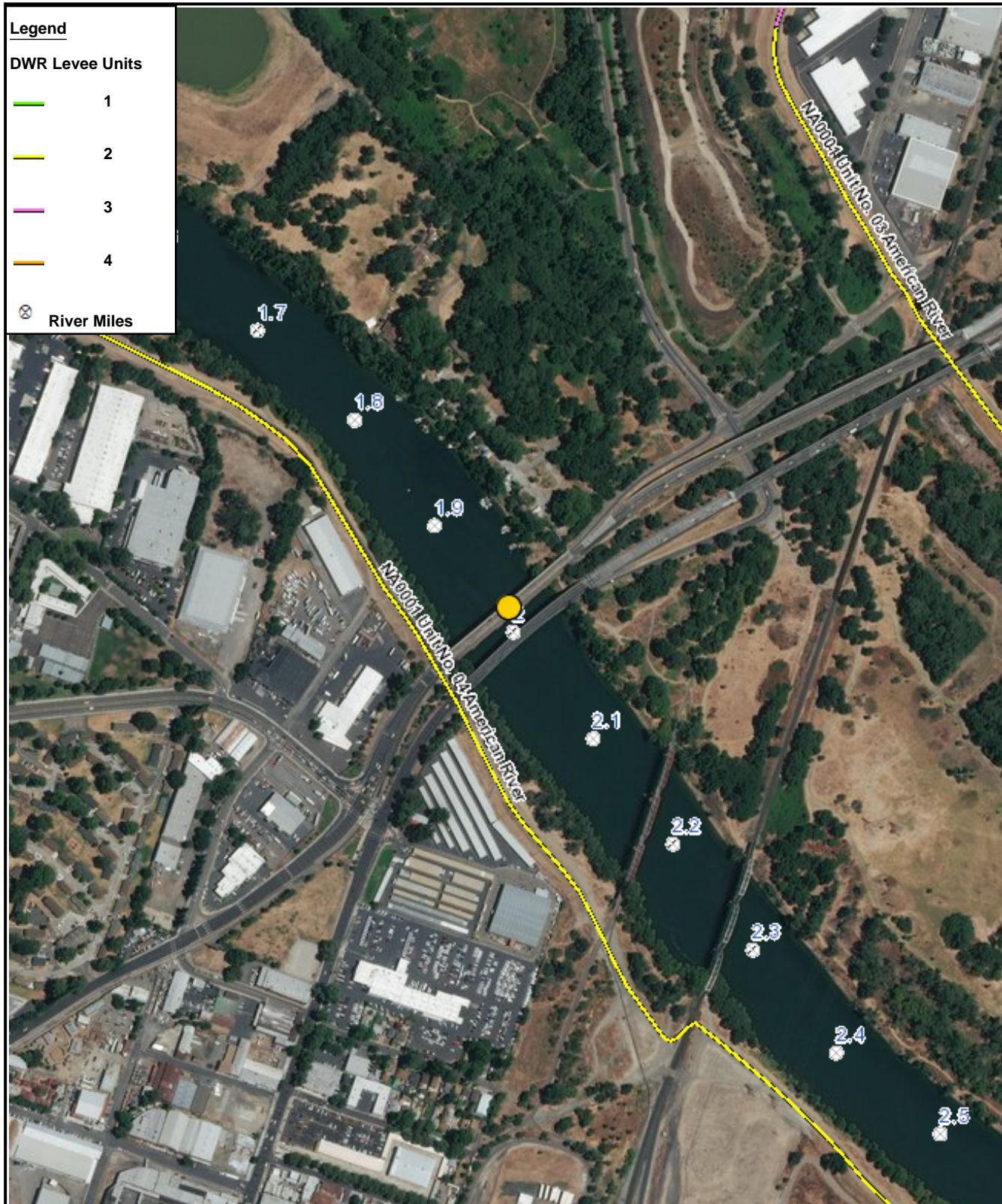
² See Steel Piling Detail in the Structure Plans for details and type.

³ Riverdale Resort, 1501 Northgate Blvd, Sacramento CA 95815.

The amount of work involved in installing the sheet piles may require more than one construction season⁴. If that happens, the trestle can be removed during non-construction months. However, depending on the amount of work remaining, it may be requested to allow some temporary trestle piles to remain until the following construction season. In that case, the wooden decking “crane mats” across the entire trestle would be removed along with any associated framing and bracing. Allowing the piles to remain would reduce the amount of in-water pile driving, channel bottom disturbances, and other impacts in the following construction season.

The contractor will use the existing ramp that extends from the mobile home park down to the river for much of the work. Temporary construction easements (TCEs) are being obtained to allow for equipment access and staging at vacant adjacent portions of the mobile home park. Access to the TCE will be provided from Northgate Boulevard. Other TCEs that will also be used for access and staging are being obtained within the American Rive Parkway.

⁴ Per the project Final Environmental Document, the in-water construction season will be from July 15th to October 15th of each year.





0 600ft

Datum: NAD_1983 Projection: Albers
 Zone: Units: Mile

Sources:
 [Enter source here]

[Enter title here]

[Enter sub title here]

 	
Prepared By: [Enter name here]	Figure:
Job No:	Date: May 10 2018
File:	

ARFCD Trustee Approval Conditions

1. XXX
2. XXX
3. XXX

SECTION 2
ENVIRONMENTAL ASSESSMENT FORM 3615a

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

This environmental assessment questionnaire must be completed for all Central Valley Flood Protection Board applications. Please provide an explanation where requested. Incomplete answers may result in delays in processing permit applications. Failure to complete the questionnaire may result in rejection of the application.

1. Has an environmental assessment or initial study been made or is one being made by a local or State permitting agency in accordance with the California Environmental Quality Act? Yes No

If yes, identify the Lead Agency, type of document prepared or which will be prepared, and the State Clearinghouse Number:

The CEQA Lead Agency is the California Department of Transportation (Caltrans). An Initial Study with Mitigated Negative Declaration (IS-MIND)/Environmental Assessment (EA) with Finding of No Significant Impact (FONSI) was prepared by Caltrans District 3/North Region. The State Clearinghouse (SCH) number is 2017072043.

2. Will the project require certification, authorization or issuance of a permit by any local, State or federal environmental control agency? Yes No

List all other governmental permits or approvals necessary for this project or use, including U.S. Army Corps of Engineer' 404 and Section 10 permits, State Water Quality Certification, Department of Fish and Game 1600 agreement, etc. Attach copies of all applicable permits.

U.S. Army Corps (USACE) - CWA Section 404 Permit
Central Valley Regional Water Quality Control Board (CVRWQCB) - 401 Certification
California Department of Fish and Wildlife (CDFW) - 1600 Streambank Alteration Agreement
USACE - 408 Permit (engineering permit)
U.S. Coast Guard - use permit
Central Valley Flood Protection Board (CVFPB) - use permit

3. Give the name and address of the owner of the property on which the project or use is located. Please submit a copy of your current Title Report (Grant Deed), if your proposed project includes a private residence.
California State Lands Commission - 100 Howe Avenue Suite 100 South, Sacramento, CA 95825

4. Will the project or use require issuance of a variance or conditional use permit by a city or county?
 Yes No

Explain:
Typically Caltrans requests Temporary Construction Easements. This project will require permits from both the City of Sacramento and the County of Sacramento. The County of Sacramento has elected to issue "Permits to Enter and Construct" while the City of Sacramento will provide "Temporary Construction Easements."

5. Is the project or use currently operating under an existing use permit issued by a local agency?
 Yes No

Explain:
Caltrans has an existing maintenance/access permit from the California State Lands Commission in order to facilitate maintenance of the American River Bridge on State Route 160.

Item 5

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

6. Describe all types of vegetation growing on the project site, including trees, brush, grass, etc. Natural communities recorded within the study area include ruderal (introduced weedy species), ornamental landscape, annual grassland dominated by wild oats, soft chess, ripgut brome, wild barley (*Hordeum leporinum*; UPL), Italian ryegrass, and rattail fescue and mature mixed riparian forest comprised of valley oak (*Quercus lobata*; FACU), Fremont cottonwood (*Populus fremontii*; UPL), box elder (*Acer negundo*; FACW), black walnut (*Juglans hindsii*; UPL), black willow (*Salix goodingii*; FACW), wild grape (*Vitis californica*; FACU), and Oregon ash (*Fraxinus latifolia*; FACW), in the overstory and with Himalya blackberry (*Rubus armeniacus*; UPL), poison hemlock, and tall verbena (*Verbena bonariensis*) in the understory.
7. Describe what type of wildlife or fish may use the project site or adjoining areas for habitat, food source, nesting sites, source of water, etc.
Please see the Final Environmental Document prepared by Caltrans is Section 7 of this application.

8. Has the Department of Fish and Game, U.S. Fish and Wildlife Service, or National Marine Fisheries Service been consulted relative to the existence of, or impacts to, threatened or endangered species on or near the project site?

Yes No

Explain:

Formal Consultation with the Fish and Wildlife Service was initiated April 4, 2017 resulting in a Biological Opinion dated May 18, 2017.

Formal Consultation with the National Marine Fisheries Service was initiated April 7, 2017 resulting in a Biological Opinion dated December 1, 2017.

9. Will the project or use significantly change present uses of the project area?

Yes No

Explain:

This project only seeks to mitigate the effects of scour on the existing bridge piers. Once the project is completed, the use of the project will be unchanged.

10. Will the project result in changes to scenic views or existing recreational opportunities?

Yes No

Explain:

An onsite restoration and revegetation plan will be prepared by the District Biologist and Restoration Specialist and submitted to the permitting agencies for review and approval prior to project construction. Once construction is complete, a final site review will be performed by the District Biologist and Restoration Specialist to ensure that pre-project topography is restored.

11. Will the project result in the discharge of silt or other materials into a body of water?

Yes No

Explain:

BMPs utilized for erosion control will be implemented and in place prior to, during, and after construction to ensure that no silt or sediment enters receiving waters. Compliance with all construction site BMPs, specified in the approved Water Pollution Control Program (WPCP) and any other permit conditions, is mandatory to minimize the introduction of construction related contaminants and sediment to receiving waters.

Item 5

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

12. Will the project involve the application, use, or disposal of hazardous materials? Yes No

If yes, list the types of materials, proposed use, and disposal plan. Provide copies of all applicable hazardous material handling plans.

The application, use, or disposal of hazardous wastes are not anticipated in this project.

13. Will construction activities or the completed project generate significant amounts of noise?

Yes No

Explain:

In order to drive the steel sheet piles, vibratory hammer for initial placement, and impact hammers will be used and may cause significant amounts of noise. This will only be during construction. No permanent noise generation is associated with this project.

14. Will construction activities or the completed project generate significant amounts of dust, ash, smoke, fumes, or odors?

Yes No

Explain:

Construction site BMPs will be used to mitigate generation of dust. No significant generation of ash, smoke, fumes, or odors are anticipated.

15. Will the project activities or uses involve the burning of brush, trees, or construction materials, etc?

Yes No

Explain, and identify safety and air pollution control measures:

No burning, for disposal of deleterious materials or excess construction materials, is anticipated for this project.

16. Will the project affect existing agricultural uses or result in the loss of existing agricultural lands?

Yes No

Explain:

There are no agricultural lands in the immediate vicinity of the American River Bridge on State Route 160. This bridge is located in the City of Sacramento.

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS ^{Item 5}
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

17. Have any other projects similar to the proposed project been planned or completed in the same general area as the proposed project?

Yes No

Explain and identify any other similar projects:
N/A

18. Will the project have the potential to encourage, facilitate, or allow additional or new growth or development?

Yes No

Explain:
The project does not affect the existing number of lanes of traffic. It is not anticipated that the project will affect new development or growth in any way.

19. Will materials be excavated from the floodplain? Yes No If yes, please answer the remaining questions.

THE REMAINING QUESTIONS MUST ONLY BE ANSWERED IF THE ANSWER TO QUESTION NO. 19 WAS "YES". IF THE ANSWER TO QUESTION NO. 19 WAS "NO", YOU DO NOT NEED TO COMPLETE THE REMAINING QUESTIONS.

A. What is the volume of material to be excavated?

Annually N/A Total N/A

B. What types of materials will be excavated?

N/A

C. Will the project site include processing and stockpiling of material on site?

Yes No

Explain:
N/A

D. What method and equipment will be used to excavate material?

N/A

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS ^{Item 5}
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

E. What is the water source for the project?
N/A

F. How will waste materials wash water, debris, and sediment be disposed of?
N/A

G. What is the proposed end land use for the project site?
N/A

H. Has a reclamation plan been prepared for this site in accordance with the Surface Mining and Reclamation Act of 1975?

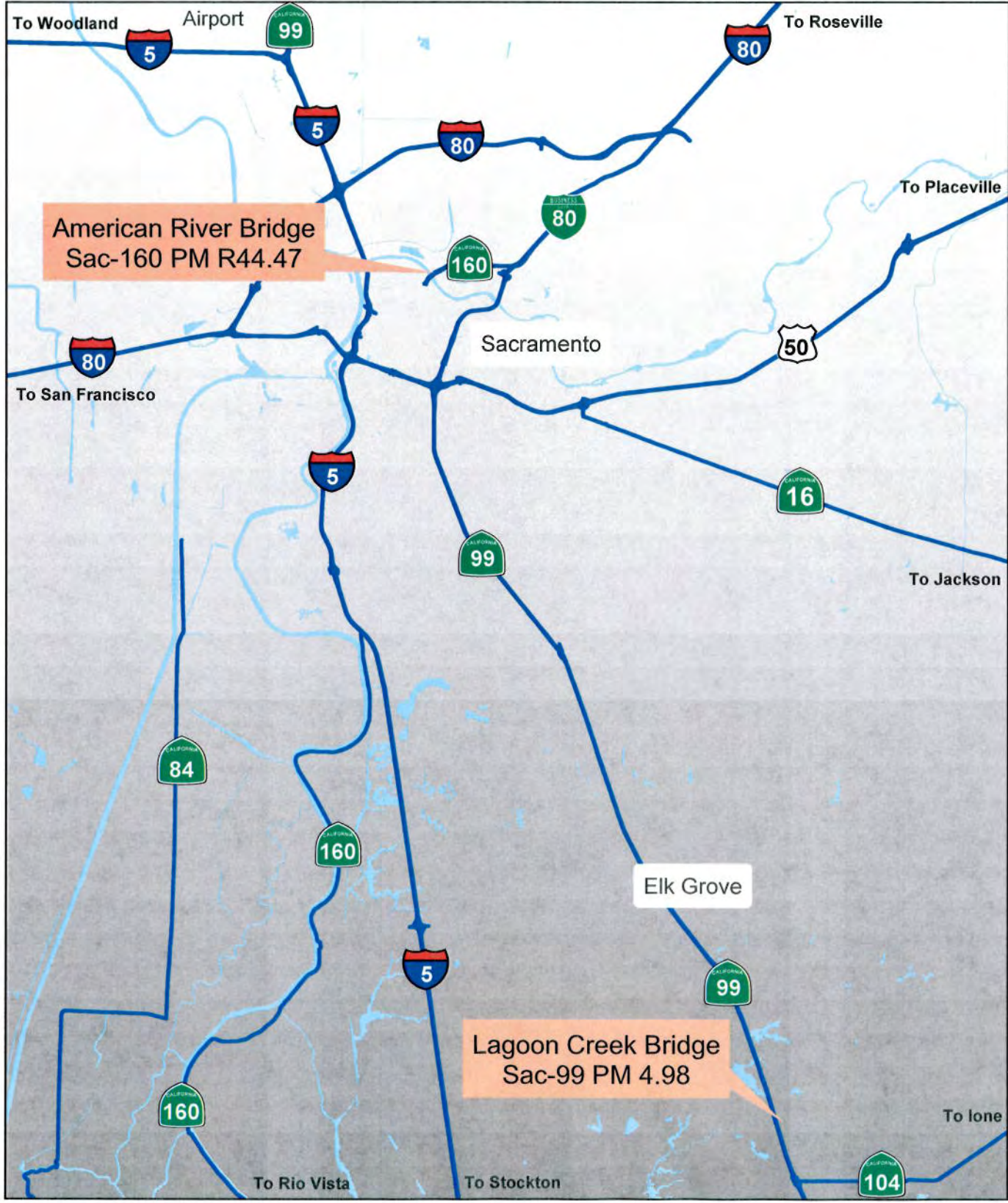
Yes No If yes, please attach a copy.

SECTION 3 LOCATION MAP

EA 3F540K

LOCATION MAP SCOUR MITIGATION - American River & Lagoon Creek

SAC-160 PM 44.47, SAC-99 PM 4.98



INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE, LOCATION, AND VICINITY MAPS
2	PROPOSED PROJECT LAYOUT PLAN
3	SECTIONS

STRUCTURE PLANS

4-7 AMERICAN RIVER BRIDGE, Br No. 24-0001L

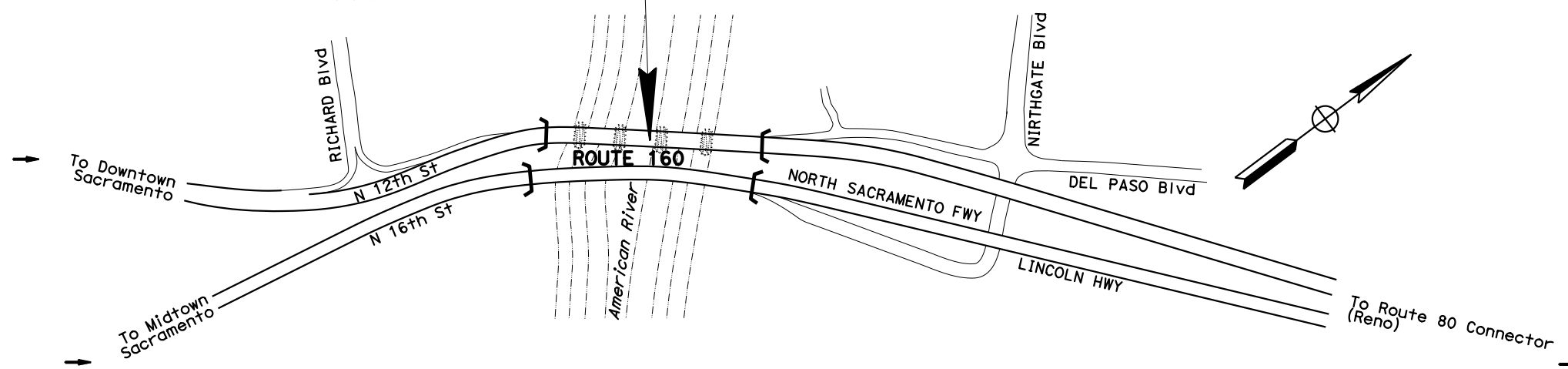
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SACRAMENTO COUNTY AT
THE AMERICAN RIVER BRIDGE
 TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	44.47	1	7



LOCATION OF CONSTRUCTION
AMERICAN RIVER BRIDGE
Br No. 24-0001L

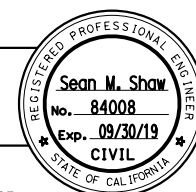


VICINITY MAP

PROJECT MANAGER

DESIGN MANAGER

PROJECT ENGINEER _____ DATE _____
 REGISTERED CIVIL ENGINEER



PLANS APPROVAL DATE _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	03-3F540
PROJECT ID	0313000136

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

SECTION 4

PHOTOS



Figure 4. 1 - *View of the 12th Street Bridge (right) and the 16th Street Bridge (left) along State Route 160 across the American River. This view is looking south-west. In this view Abutment 1 (south bank) can be seen, as well as Piers 2, 3, 4, and 5. Abutment 6 (north bank) is not shown. A federal levee exists along the south bank but not along the north bank.*



Figure 4. 2 – View of the 12th Street Bridge on state route 160 across the American River from the east side. This view is looking south-west. The south bank, where the federal levee is located, has existing rock slope protection.



Figure 4. 3 - View of the 12th Street Bridge on state route 160 across the American River from the west side. This view is looking south. The south bank, where the federal levee is located, has existing rock slope protection. Also seen is the existing north bank which does not feature a levee.



Figure 4. 4 – Example of the existing rock slope protection that will be removed and replaced with new permanent sheet piles. Some of the existing rock slope protection has been carried away while some remains in place. This photo is showing the downstream portion of the pier.

SECTION 5
PLANS OF PROPOSED WORK

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 03-DESIGN
 FUNCTIONAL SUPERVISOR
 Seung P Hong
 CALCULATED-DESIGNED BY
 CHECKED BY
 Sean M Shaw
 TBD
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Sac	160	44.47	2	7

REGISTERED CIVIL ENGINEER DATE
 Sean M. Shaw
 No. 84008
 Exp. 09-30-19
 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 SCANNED COPIES OF THIS PLAN SHEET.

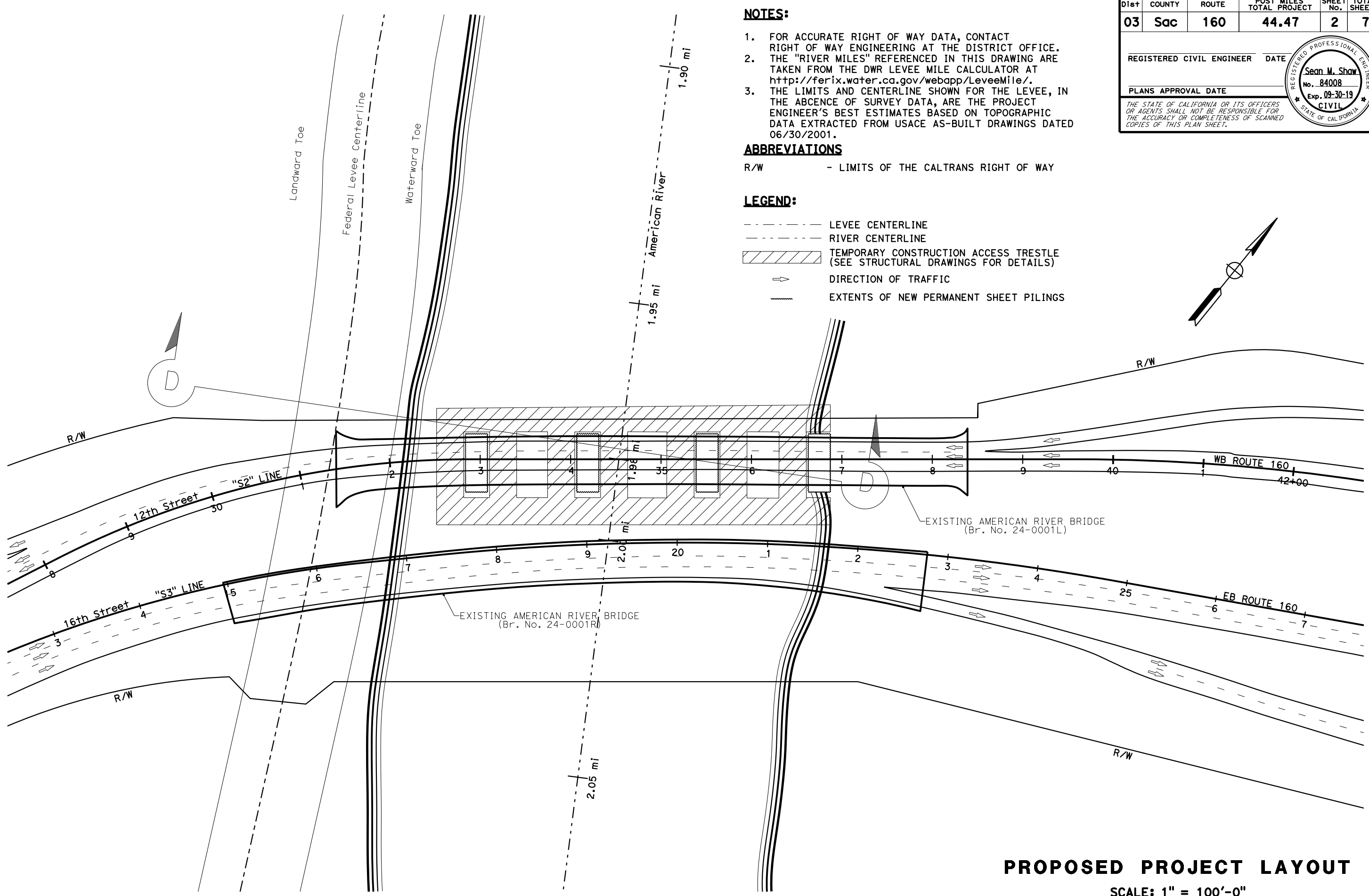
NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- THE "RIVER MILES" REFERENCED IN THIS DRAWING ARE TAKEN FROM THE DWR LEVEE MILE CALCULATOR AT <http://ferix.water.ca.gov/webapp/LeveeMile/>.
- THE LIMITS AND CENTERLINE SHOWN FOR THE LEVEE, IN THE ABCEENCE OF SURVEY DATA, ARE THE PROJECT ENGINEER'S BEST ESTIMATES BASED ON TOPOGRAPHIC DATA EXTRACTED FROM USACE AS-BUILT DRAWINGS DATED 06/30/2001.

ABBREVIATIONS
 R/W - LIMITS OF THE CALTRANS RIGHT OF WAY

LEGEND:

- LEVEE CENTERLINE
- RIVER CENTERLINE
- TEMPORARY CONSTRUCTION ACCESS TRESTLE (SEE STRUCTURAL DRAWINGS FOR DETAILS)
- DIRECTION OF TRAFFIC
- EXTENTS OF NEW PERMANENT SHEET PILING



PROPOSED PROJECT LAYOUT
 SCALE: 1" = 100'-0"

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	44.47	3	7

REGISTERED CIVIL ENGINEER DATE

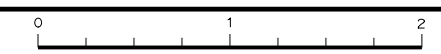
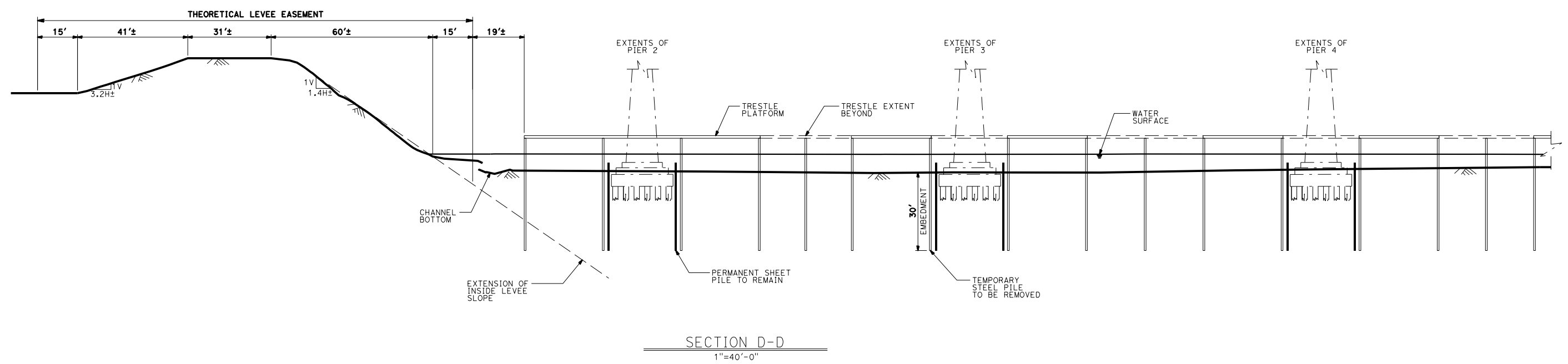
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. THE PROFILE OF THE CHANNEL BOTTOM SHOWN IS PER A CALTRANS BATHYMETRY STUDY CONDUCTED IN JUNE 2016.
2. THE LEVEE CROSS SECTION WAS EXTRACTED FROM USACE AS-BUILT DRAWINGS DATED 06/30/2001.

REVISOR: TBD
 DESIGNED BY: Sean M Shaw
 CHECKED BY:
 FUNCTIONAL SUPERVISOR: Seung P Hong
 TRANSPORTATION: 03-DESIGN
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans



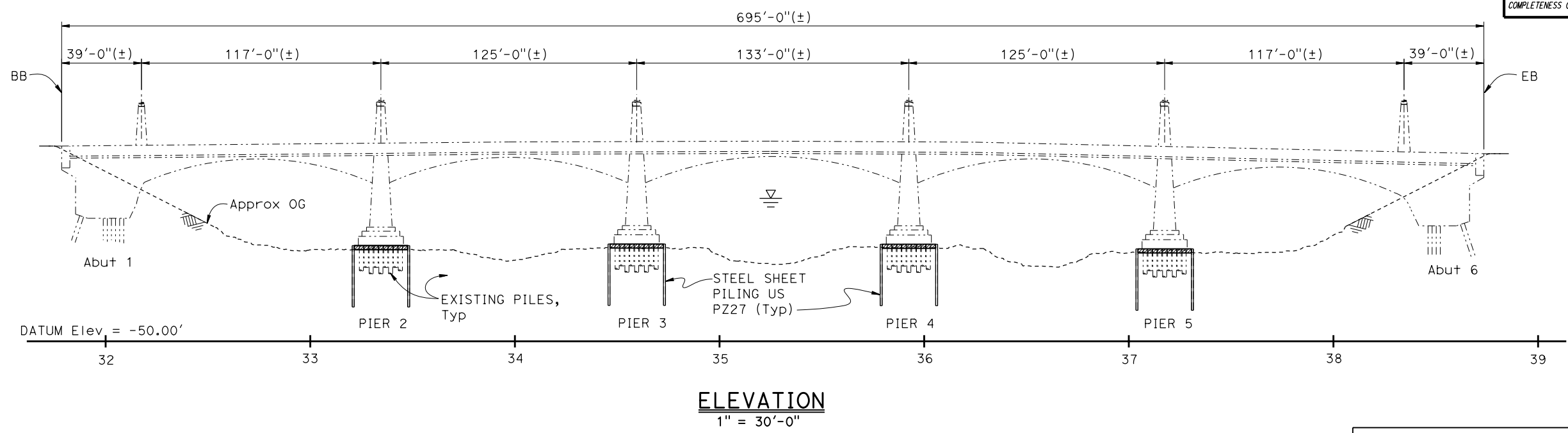
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	Item 5 PPP	4	7

REGISTERED CIVIL ENGINEER	X	DATE
MM/DD/YYYY		
PLANS APPROVAL DATE		

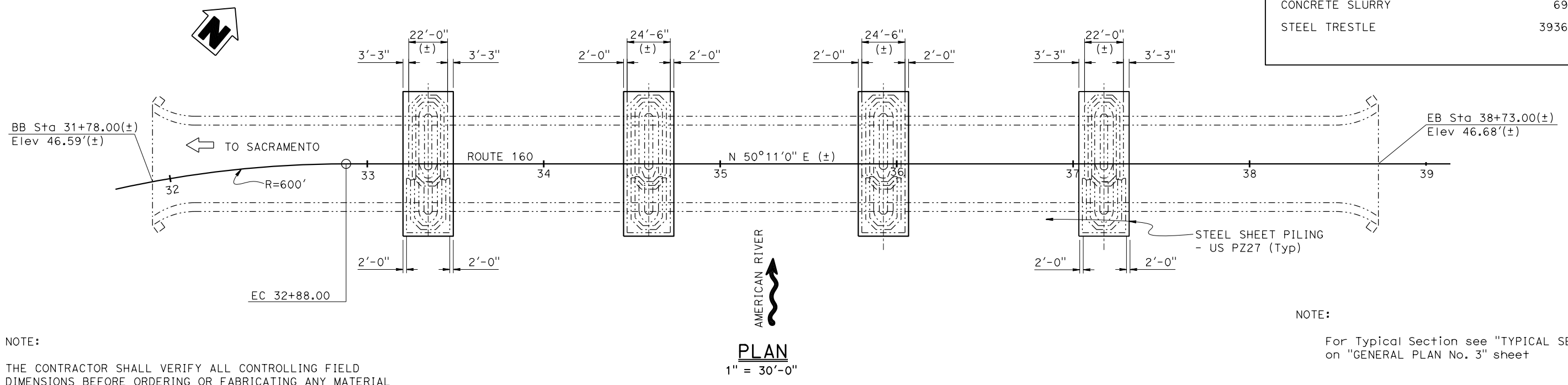
DAVID A. ROMERO
No. 61240
Exp. 06-30-19
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- LEGEND:
- Indicates High water mark
 - Indicates Existing Structure
 - Indicates 2'-0" Concrete Slurry places around Existing exposed Piles



QUANTITIES		
STEEL SHEET PILING US PZ27	26520	SOFT
REMOVE ROCK SLOPE PROTECTION	1159	CYDS
CONCRETE SLURRY	693	CYDS
STEEL TRESTLE	39360	SOFT



NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

NOTE:
For Typical Section see "TYPICAL SECTION" on "GENERAL PLAN No. 3" sheet

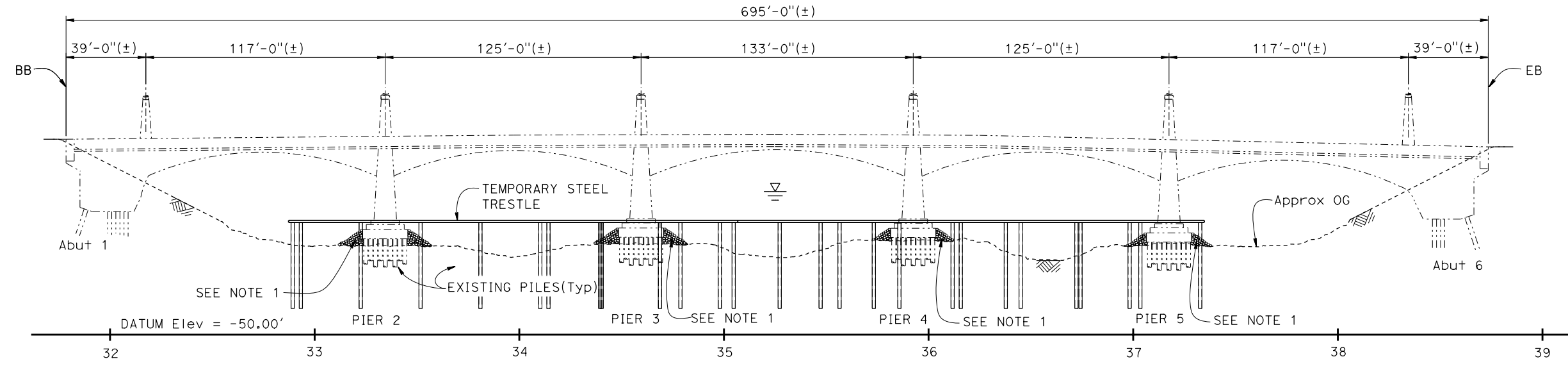
X DESIGN ENGINEER	DESIGN	BY David Romero	CHECKED X	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE No.	AMERICAN RIVER BRIDGE GENERAL PLAN No. 1		
	DETAILS	BY Min Yu	CHECKED X	LAYOUT	CHECKED X			24-0001L			
	QUANTITIES	BY X	CHECKED X	SPECIFICATIONS	CHECKED X			PLANS AND SPECS COMPARED X		POST MILE	X
DATE PLOTTED => 30-MAY-2018 TIME PLOTTED => 14:04 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3						UNIT: 3586 PROJECT NUMBER & PHASE: 0313000136 & 1 CONTRACT No.: 03-3F40K		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATE 28	SHEET 4 OF 7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	Item 5	5	7

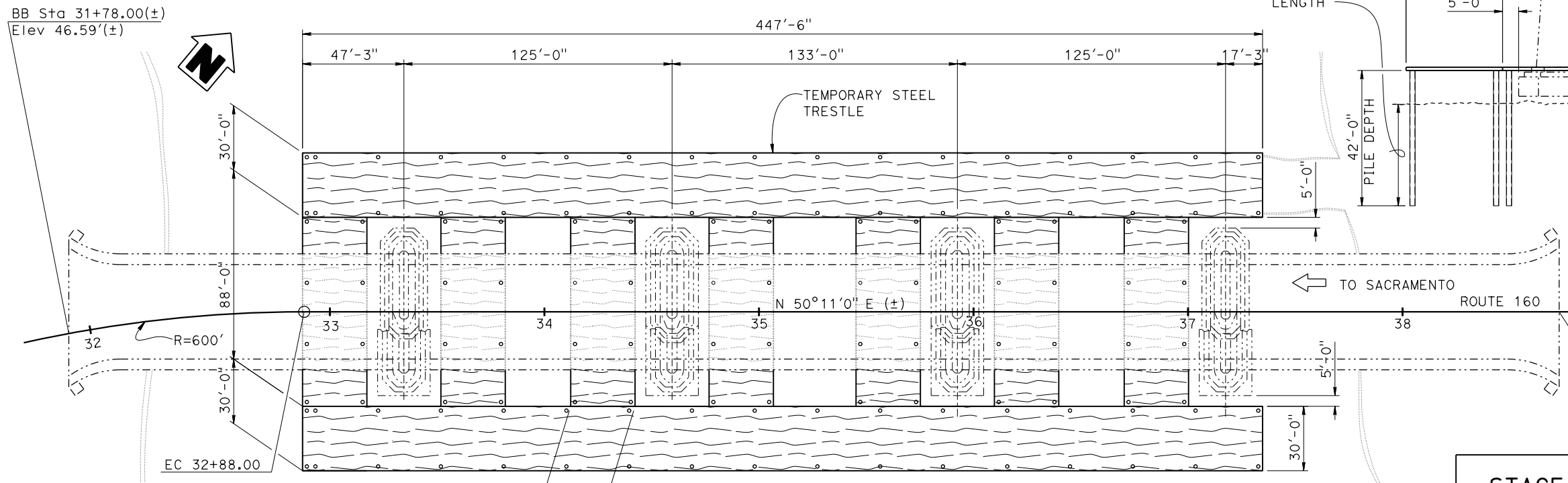
REGISTERED CIVIL ENGINEER	X	DATE
MM/DD/YYYY		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER
DAVID A. ROMERO
No. 61240
Exp. 06-30-19
CIVIL
STATE OF CALIFORNIA

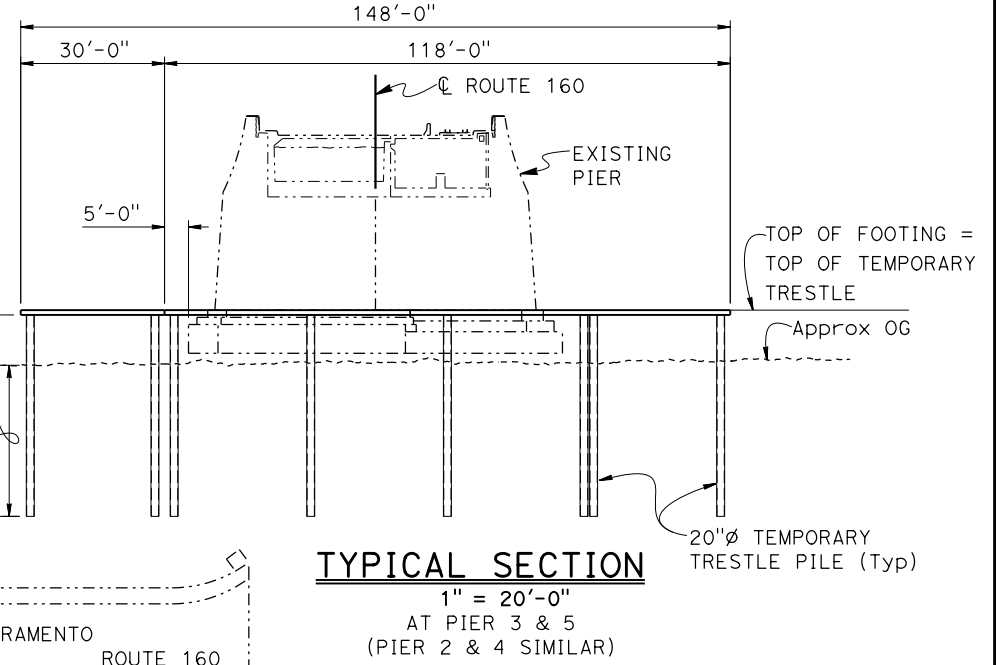
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



STAGE 1 - ELEVATION
1" = 30'-0"



STAGE 1 - PLAN
1" = 30'-0"



TYPICAL SECTION
1" = 20'-0"
AT PIER 3 & 5
(PIER 2 & 4 SIMILAR)

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

- NOTES:
- Existing Rock Slope Protection to be Removed during Installation of Temporary Trestle
 - For Limits of Existing Rock Slope Protection Removal, see "GENERAL PLAN No. 3" sheet
 - Typical Pile Spacing 30' OC

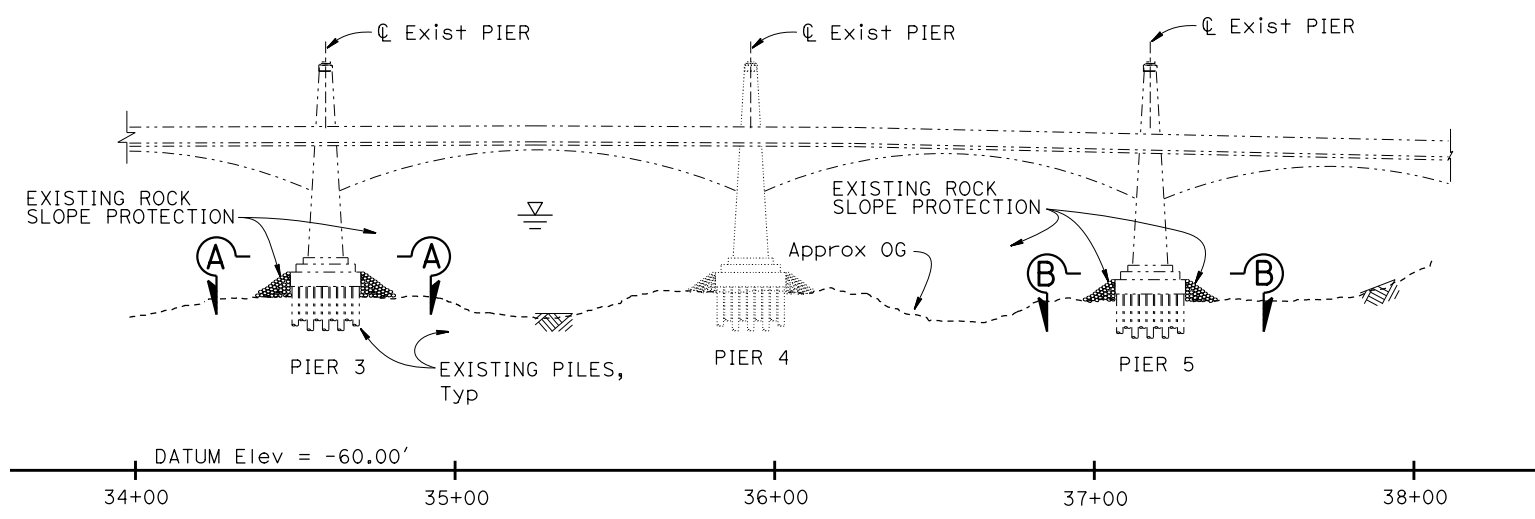
- STAGE 1 - SEASON 1**
- INSTALL TEMPORARY TRESTLE
 - REMOVING EXISTING ROCK SLOPE PROTECTION DURING THE INSTALLING OF TEMPORARY STEEL TRESTLE
 - INSTALL STEEL SHEET PILING AT EXISTING PIER 2 AND PIER 3
 - PLACE CONCRETE SLURRY AT EXISTING PIER 2 AND PIER 3
 - REMOVE TEMPORARY TRESTLE AT EXISTING PIER 2 AND PIER 3

DESIGN ENGINEER	DESIGN	BY David Romero	CHECKED X	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE No.	24-0001L	AMERICAN RIVER BRIDGE GENERAL PLAN No. 2
	DETAILS	BY Min Yu	CHECKED X	LAYOUT	CHECKED X			POST MILE	X	
	QUANTITIES	BY X	CHECKED X	SPECIFICATIONS	BY X			PLANS AND SPECS COMPARED	X	

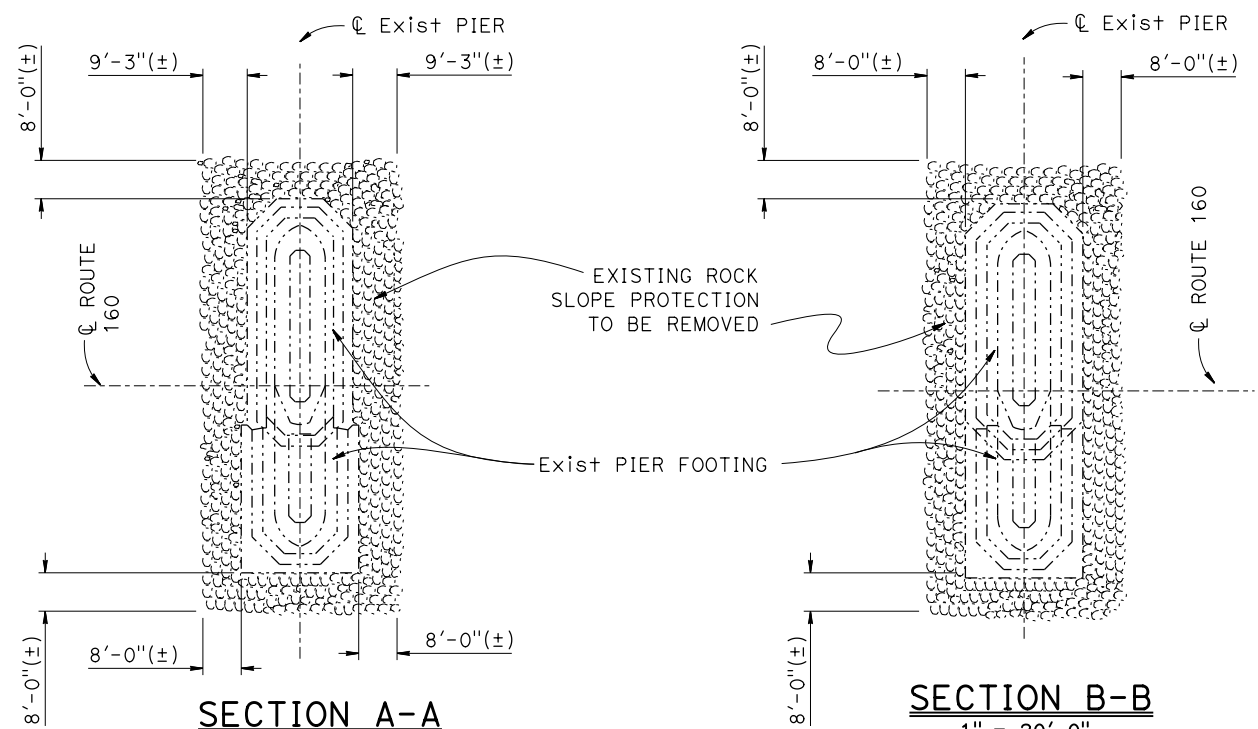
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	Item 5 PPP	6	7
			X		
REGISTERED CIVIL ENGINEER			DATE		
			MM/DD/YYYY		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

LEGEND:
 Indicates High water mark
 Indicates Existing Structure



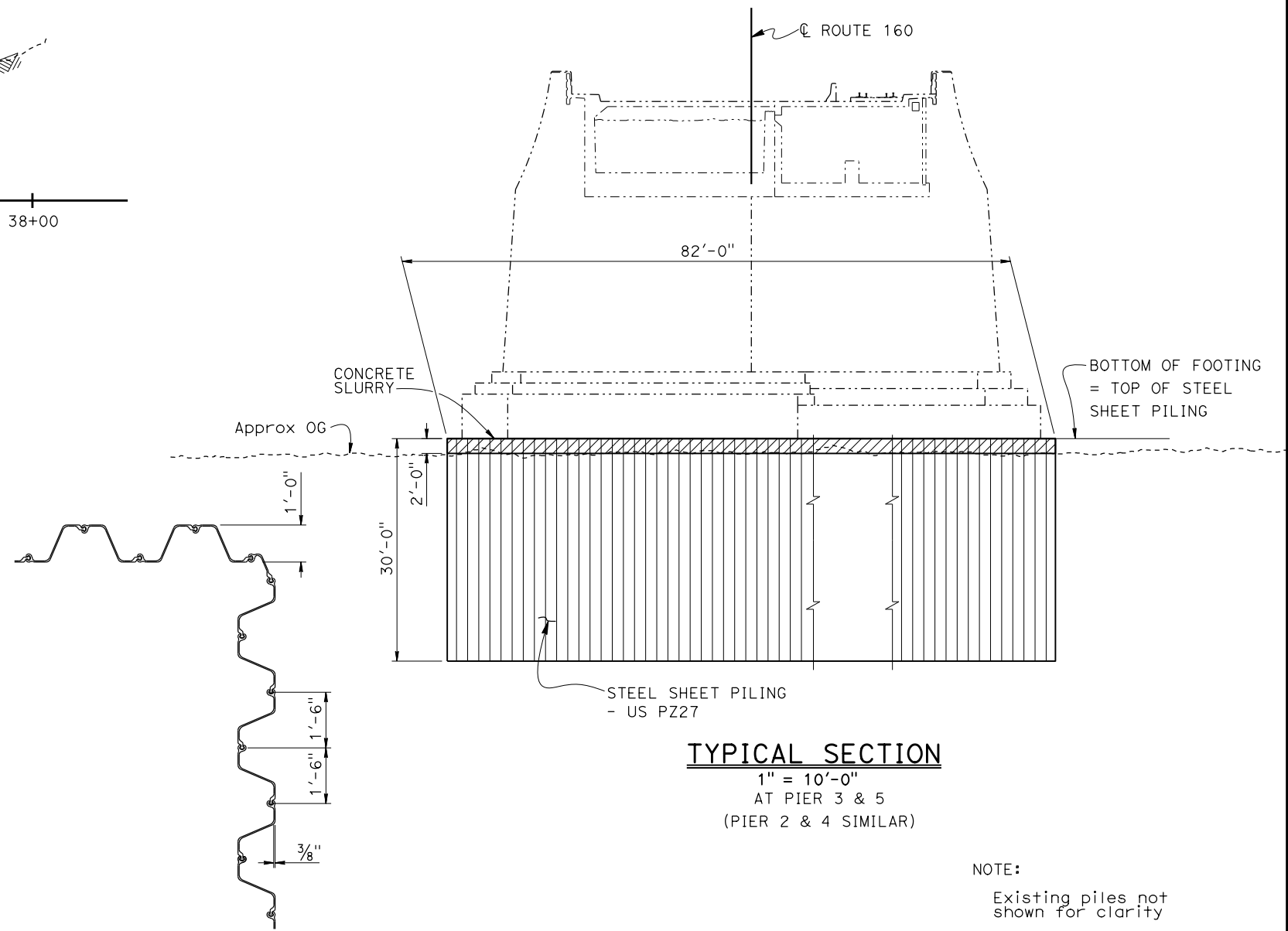
PARTIAL ELEVATION
 1" = 30'-0"



SECTION A-A
 1" = 20'-0"
 AT PIER 3
 (PIER 4 SIMILAR)

SECTION B-B
 1" = 20'-0"
 AT PIER 5
 (PIER 2 SIMILAR)

**LIMITS OF ROCK SLOPE PROTECTION
 REMOVAL DURING INSTALLATION OF
 TEMPORARY TRESTLE**
 1" = 20'-0"



TYPICAL SECTION
 1" = 10'-0"
 AT PIER 3 & 5
 (PIER 2 & 4 SIMILAR)

STEEL PILING DETAIL
 1/2" = 1'-0"
 (STEEL SHEET PILING - US PZ27)

NOTE:
 Existing piles not shown for clarity

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

X DESIGN ENGINEER	DESIGN	BY David Romero	CHECKED X	LOAD & RESISTANCE FACTOR DESIGN	BY X	CHECKED X	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE No.	AMERICAN RIVER BRIDGE GENERAL PLAN No. 3		
	DETAILS	BY Min Yu	CHECKED X	LAYOUT	BY X	CHECKED X			24-0001L			
	QUANTITIES	BY X	CHECKED X	SPECIFICATIONS	BY X	CHECKED X			POST MILE X			
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REVISION 3/17/2017)		DATE PLOTTED => 30-MAY-2018		TIME PLOTTED => 14:04		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3586		REVISION	SHEET	OF
		FILE => 24-00011-a-gp03.dgn		USERNAME => s134959		0 1 2 3		PROJECT NUMBER & PHASE: 0313000136 & 1 CONTRACT No.: 03-3F40K		02-28-18	05-14-18	05-30-18
										6	7	

SECTION 6
HYDROLOGY/HYDRAULICS

Memorandum

*Serious drought.
Help Save Water!*

To: MR. KEN LASTUFKA
Associate Environmental Planner
Environmental Management S1 Branch
Office of Environmental Services - South
NR Division of Environmental Planning

Date: March 3, 2016

File: Sac-99/160 PM Var
EA 03-3F5401
ID 0313000136

From: MR. GURDEEP BHATTAL
Hydraulics Branch Engineer
Office of Engineering Services
Division of Engineering



Subject: FLOODPLAIN HYDRAULICS STUDY

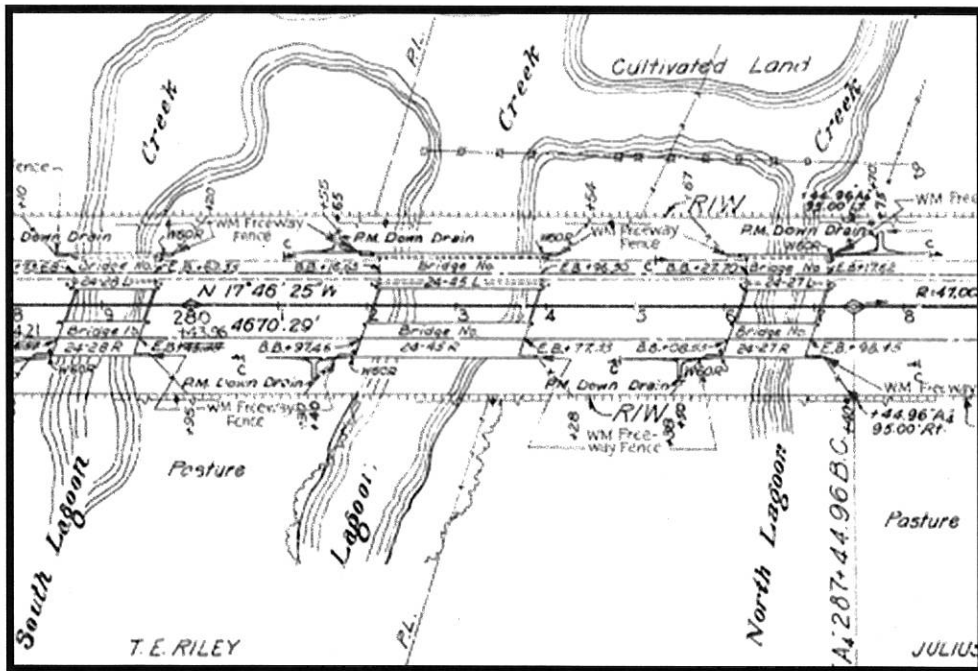
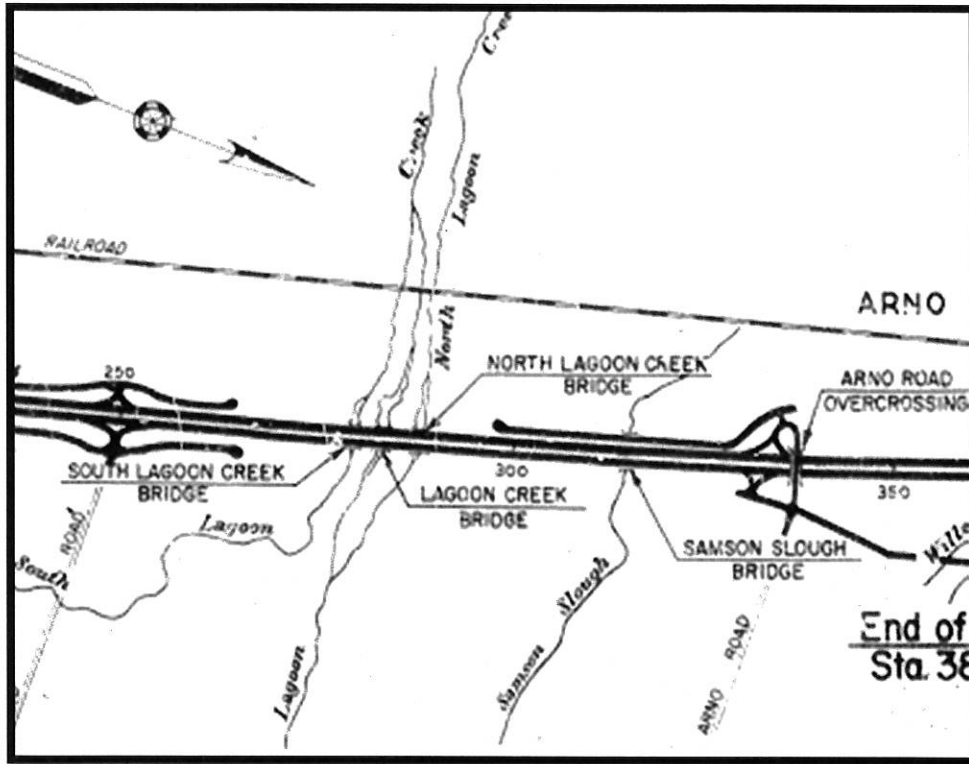
INTRODUCTION: The project proposes to mitigate scour at Lagoon Creek Bridge on Sac-99 (Bridge No. 24-0045L) and at the American River Bridge on Sac-160 (Bridge No. 24-0001L). The scope of work at the Lagoon Creek Bridge includes excavation in the channel, placement of rock slope protection (RSP) with the appropriate RSP fabric. The scope of work at the American River Bridge includes encasing piers 2 through 5 with sheet piles, removal of existing RSP, and structural backfill of footings.

LAGOON CREEK BRIDGE: A rock-lined channel is proposed to prevent further undermining of the bridge piers. The initial estimate of work included 870 cubic yards of excavation to be replaced with 870 cubic yards of rock (approximate) placed on a Class-8 type of fabric. Backing No. 1 rock is proposed and placement method "B" is selected.

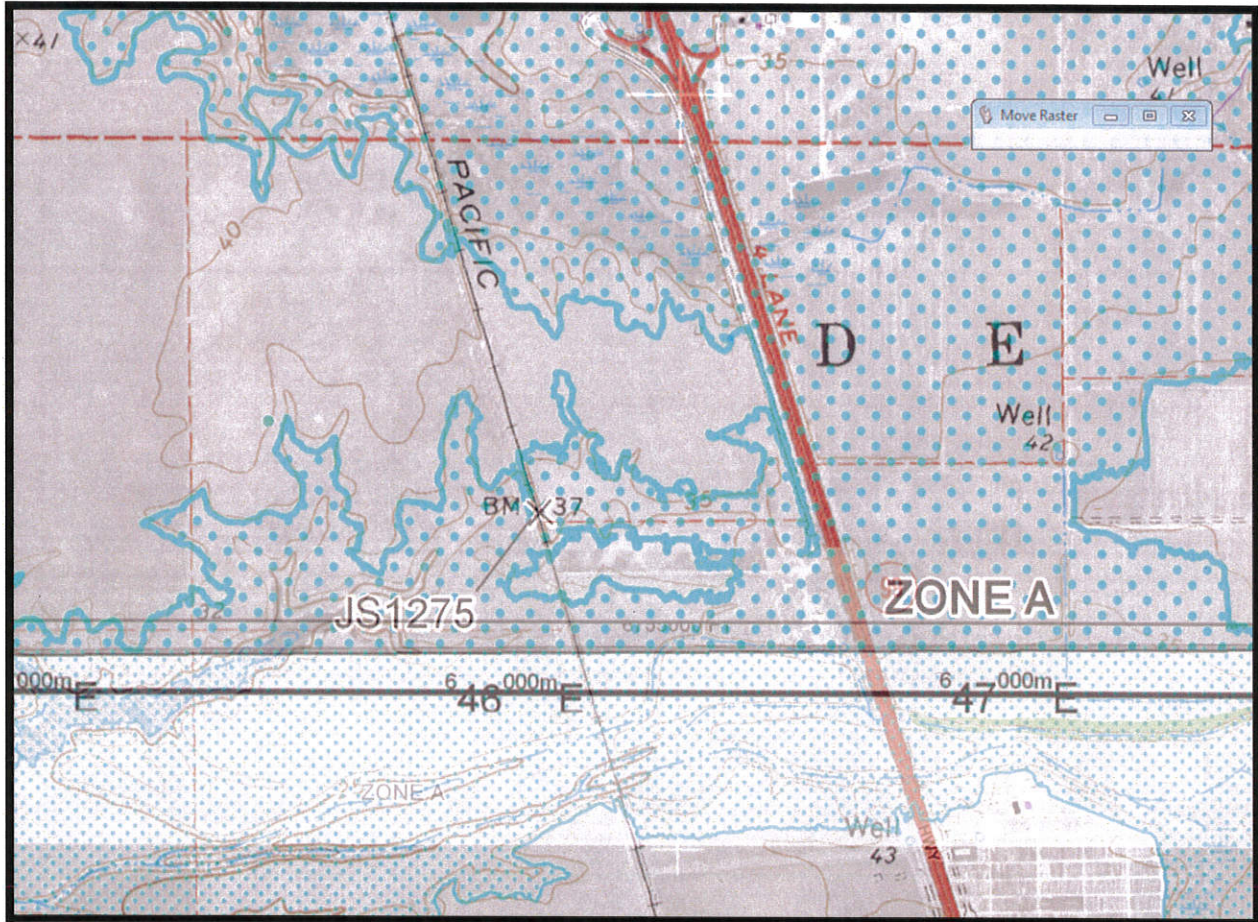
AMERICAN RIVER BRIDGE: Sheet pile encasements for piers 2 through 5 are proposed to be constructed. Based on preliminary estimates 700 cubic yards of existing RSP will be removed, and replaced with 700 cubic yards of structural backfill (approximate) at the footings, 31,000 square feet of sheet pile (approximate) will be used.

BRIDGE REPLACEMENT ALTERNATIVE FOR LAGOON CREEK BRIDGES SB: Depending upon the availability of funds it is proposed to replace the three SB bridges across Lagoon Creek and raise the profile of the roadway to match the profile of the NB roadway. The floodplain analysis will also consider the impacts (if any) on the floodplain from the proposal to replace the South Lagoon Creek Bridge, Lagoon Creek Bridge, and the North Lagoon Creek Bridge. As-Built plans for the roadway (Plan Sets 56-3TC24F, 03-260204, 60-14TC18) were reviewed to determine the roadway and bridge details. A USGS topo map was reviewed to determine the general slopes of the land on both sides of the highway and the areas expected to be inundated with water in the event that Lagoon Creek overflowed its banks.

MR. KEN LASTUFKA,
March 3, 2016
Page 2 of 7

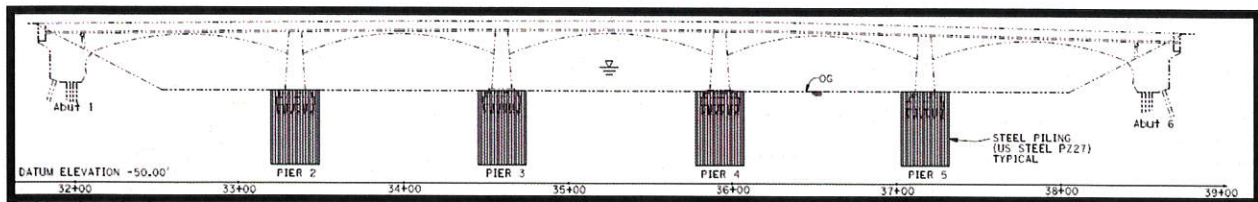


MR. KEN LASTUFKA,
 March 3, 2016
 Page 4 of 7



Proposed rock lining of the channel under the Lagoon Creek bridge for scour control involves replacing 870 cubic yards of excavated material with 870 cubic yards of rock. Since the volume of material removed will be replaced with an equivalent volume of rock, the area of flow under the bridge is not expected to be reduced. The voids in the rocks are expected to fill with sediment and coefficient of friction is not expected to undergo a drastic change. Hence no adverse impact is expected on the existing floodplain.

FLOODPLAIN EVALUATION AMERICAN RIVER BRIDGE: Existing footings on piers 2, 3, 4, and 5 will be enclosed with sheet piles. The top of the steel sheet piles are expected to be at or below the river bed as shown on the plan below. Existing RSP around the piers would be removed prior to pile driving.



MR. KEN LASTUFKA,
 March 3, 2016
 Page 5 of 7

Pile driving operations require an operating platform which may be in the form of one or more barges or a trestle constructed across the river. Barges are temporary platforms and can be removed at the end of one construction season and brought back the following season. Temporary trestles are constructed on piles driven into the river bed. At the conclusion of the project the trestle is removed and the piles are removed by cutting them off three feet below the riverbed.

The FIRM panel 06067C0176J dated June 16, 2015 issued by FEMA indicates that the 100-year water surface elevation within the floodway of the American River immediately upstream of the Sac-160 bridge is 38-feet. The presence of sheet piles surrounding the footings of the piers would not be expected to alter the flow patterns in the river since they would not project into the area of flow within the floodway. The project when completed is expected to have a less than significant impact on the floodplain.

CENTRAL VALLEY FLOOD PROTECTION BOARD PERMITS: Lagoon Creek is not a stream that is regulated by the Central Valley Flood Protection Board, (CVFPB). A permit will not be required from the Board for the proposed work.

The American River is a regulated waterway and depending on the construction alternative selected, the following conditions will prevail

- (A): If barges are used for pile driving operations a HEC-RAS study will likely **not** be required. A permit may not be required and a "Minor Alteration" approval could be granted by the CVFPB as long as the project specifies that all materials, barges, etc. will be removed before the flood season and brought back the following construction season, (assuming construction extends beyond one season). The final determination will be made by CVFPB.
- (B): If a trestle is selected as an operating platform, then a HEC-RAS study will be required by the Board. The HEC-RAS model should include existing conditions as well as with a trestle and supporting piles in place. Bathymetry for a half mile upstream and a half mile downstream of the bridge (approximate) will be required.

Requirements for the permit as well as permit application may be downloaded from the CVFPB website at <http://www.cvfpb.ca.gov/>. The District liaison with the Board is Mr. Dennis Jagoda and the permit application to the Board requires his approval. Mr. Jagoda may be by e-mail or at (530) 741-4517.

SUMMARY: The project as proposed is expected to have a less than significant impact on the floodplain. The risk of any additional flooding associated with the project is low.

If there are any further questions or concerns please contact me by e-mail at Gurdeep.Bhattal@dot.ca.gov or phone at (530) 740-4830.

Attachment(s)

- (1) Technical Information for Location Hydraulic Study
- (2) Floodplain Evaluation Report Summary
- (3) Firmettes

Floodplain Evaluation Report Summary

Item 5

District 03 EA 3F5401 County Sac Route 99/160 P.M. 4.98 / 44.47
 Project ID: 0313000136

Bridge No. 24-0045L / 24-0001L Bridge Name Lagoon Creek Br, American River Br.

Project Limits: Project locations are at PM 4.98 on Sac-99 and at PM 44.47 on Sac-160.
The project proposes to provide scour mitigation at both bridges. The channel under the Lagoon Cr. Bridge will be rock lined. The volume of material excavated under the bridge will be replaced with an equivalent volume of rock. Depending on availability of funds the three SB bridges across Lagoon Creek may be replaced and the profile raised to match the profile of the NB lanes. On the American River existing RSP around the pier footings will be removed and 4 piers will be encased in sheet piles. Structural backfill will replace the RSP which was removed. Piles will not extend above river bed.

Floodplain Description: The Flood Insurance Rate Map panels 06067C0465H, 06067C075H, dated August-16-2012, indicate that the Lagoon Creek Bridges lie in Zone "A" of the floodplain. Zone "A" means "Base flood elevations not determined". The creek would be expected to overflow it's banks and flow under the main Lagoon Creek bridge as well as the two overflow Bridges. The roadway would not be expected to be inundated. FIRM panel 06067C0176J dated June 16, 2015 was reviewed to determine that the proposed work is within the floodway of the American River. At the conclusion of the project the impact of the project on the floodplain is expected to be less than significant

1. Is the proposed action a longitudinal encroachment of the base floodplain as defined in 23 CFR, Section 650.105? Yes _____ No X
2. Are the risks associated with the implementation of the proposed action significant? Yes _____ No X
3. Does the proposed action constitute a significant total floodplain encroachment as defined in 23 CFR, Section 650.105? Yes _____ No X
4. Are Location Hydraulics Studies that document the above answers on file? Yes X No _____
 If not, explain _____

5. Are there any significant impacts on natural and beneficial floodplain values as defined in 23 CFR, Section 650.105? Yes _____ No _____
6. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? Yes _____ No _____

Floodplain Evaluation Report Summary

Item 5

If yes, explain. _____

7. Will the proposed action support probable incompatible floodplain development? Yes _____ No _____

PREPARED BY:

Gurdeep Bhattal

Signature – Hydraulics Branch Engineer (Items 1-4)

3-3-2016
Date

Signature – Environmental Branch Chief (Items 5-7)

Date

CONCUR:

Signature – Project Engineer

Date

Technical Information for Location Hydraulic Study

EA: 3F4501 Project ID: 0313000366

District: 03 County: Sac Route: 99/160 P.M.: 4.98 / 44.47

Br. No.: 24-0045L / 24-0001L Br. Name: Lagoon Creek Bridge / American River Bridge

Floodplain Description:

1. Description of Proposal (include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts): Project locations are at PM 4.98 on Sac-99 and at PM 44.47 on Sac-160. The project proposes to provide scour mitigation at both bridges. The channel under the Lagoon Creek Bridge will be rock lined. The volume of material excavated under the bridge will be replaced with an equivalent volume of rock. Depending on availability of funds the three SB bridges across Lagoon Creek may be replaced and the profile raised to match the profile of the NB lanes. On the American River existing RSP around the pier footings will be removed and 4 piers will be encased in sheet piles. Structural backfill will replace the RSP which was removed. Piles will not extend above river bed.

2. ADT: Current: _____ Projected: _____

3. Hydraulic Data:

	Q (cfs)	WSE (ft)	Return Period (yrs)
Flood of Record (If > Q ₁₀₀):	N/A	N/A	
Base Flood: Lagoon Creek	N/A	35'	100
American River		38'	
Overtopping Flood:	N/A	N/A	
Datum:	NGVD29 / NAVD 1988		

Are NFIP maps available? Yes X No _____
 Are NFIP studies available? Yes X No _____

4. Is the highway location alternative within a regulatory floodway? Yes _____ No X

5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.

Potential Q₁₀₀ backwater damages:

A. Residences? Yes _____ No X
 B. Other Bldgs.? Yes _____ No X
 C. Crops? Yes _____ No X
 D. Natural and beneficial floodplain values? Yes _____ No X

Technical Information for Location Hydraulic Study

6. Type of Traffic:
- | | | | | |
|--|-----|-------|----|-------|
| A. Emergency supply or evacuation route? | Yes | _____ | No | _____ |
| B. Emergency vehicle access? | Yes | _____ | No | _____ |
| C. Practicable detour available? | Yes | _____ | No | _____ |
| D. School bus or mail route? | Yes | _____ | No | _____ |
7. Estimated duration of traffic interruption for 100-year event _____ 0 _____ hours.
8. Estimated value of Q₁₀₀ flood damages (if any) – moderate risk level.
- | | | |
|-------------|----|-------|
| A. Roadway | \$ | _____ |
| B. Property | \$ | _____ |
| Total | \$ | _____ |
9. Assessment of Level of Risk
 Low X Moderate _____ High _____
 For High Risk projects, during design phase, additional Design Study Risk Analysis may be necessary to determine design alternative.
10. Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? Yes _____ No _____
11. If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

PREPARED BY:

Gurdeep Bhattal

Signature – Hydraulics Branch Engineer (Items 3-5, 7, & 9)

March 3 2016

Date

Signature – Project Engineer (Items 1-2, 6, 8, & 10&11)

Date

Memorandum

To: Gary Joe
Branch Chief
Office of Bridge Design North & Central
At: David Romero

Date: August 9, 2018

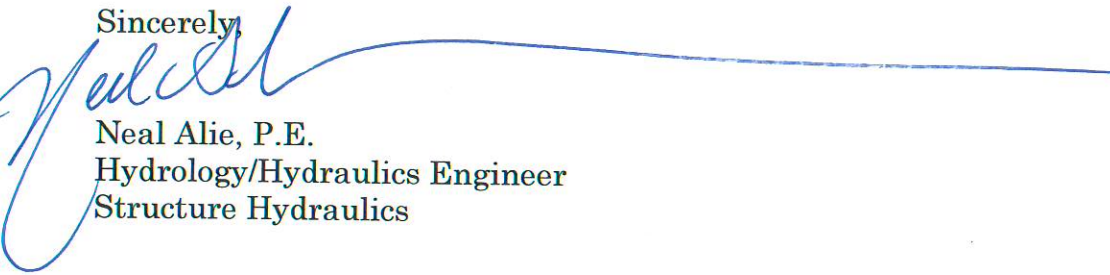
File: American River
Br. No. 24-0001L
03-SAC-160-PM 44.47
EA 03-3F540
Project ID: 03-1300-0136

From: **Department of Transportation**
Engineering Service Center MS #9
Structure Hydraulics and Hydrology

Subject: Final Hydraulic Report

Attached is the Final Hydraulic Report for the proposed scour countermeasure for the American River Bridge (Left) on SR 160 in Sacramento County at PM 44.47. If you have any questions please call me at (916) 227-0444 or my mobile at (916) 224-9640.

Sincerely,



Neal Alie, P.E.
Hydrology/Hydraulics Engineer
Structure Hydraulics

American River Bridge
Br. No. 24-0001L
03-Sac-160-PM 44.47
EA 03-3F540
Project ID: 03-1300-0136

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

Structure Hydraulics and Hydrology

FINAL HYDRAULIC REPORT

American River Bridge

Located in Sacramento County
Bride No. 24-0001L

03-Sac-160-PM 44.47

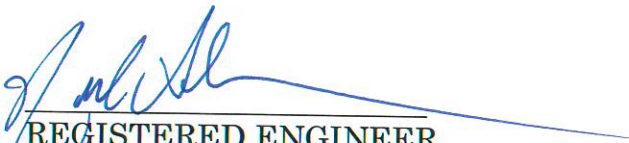
EA 03-3F540
EFIS: 03 1300 00136

August 9, 2018

WRITTEN BY:
Neal Alie

REVIEWED 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
C 56398
REGISTRATION NUMBER



American River Bridge
 Br. No. 24-0001L
 03-Sac-160-PM 44.47
 EA 03-3F540
 Project ID: 03-1300-0136

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4.2	<i>Proposed Condition</i>	Page 9
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5.1	<i>Scour History</i>	Page 10
5.2	<i>Current Scour Evaluation</i>	Page 11
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American River Bridge
Br. No. 24-0001L
03-Sac-160-PM 44.47
EA 03-3F540
Project ID: 03-1300-0136

Hydrology/Hydraulic Report

1.0 General



Figure 1- American River Bridge, Br. No. 24-0001L on SR 160

The American River Bridge (160 WB) is a 5-span, 620 foot long, 57.4 foot wide structure built in 1915 and widened in 1934. The original 1915 structure is a 5-span filled concrete arch on RC pier walls and RC abutments with non-monolithic wing walls all founded on timber piles. The 1934 left side widening is a 5-span non filled spandrel arch (with side walls to simulate a filled arch) on RC pier walls and RC abutments with non-monolithic wing walls founded on steel piles.

In July, 2010, the Bridge's scour potential was assessed in accordance with FHWA Technical Advisory T5140.23, "Evaluating Scour at Bridges", and within current Caltrans guidelines. The bridge was determined to be scour critical, and the item 113 code "Vulnerability to scour", was changed to 3; "Bridge Foundations determined to be unstable for assessed or calculated scour conditions; scour below spread-footing or piles.

Structure Design in coordination with the District is proposing to install sheet piles at Piers 2 through 5 as a scour counter measure. (Please see scour section 5.0 for more details).

American River Bridge
Br. No. 24-0001L
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EA 03-3F540
Project ID: 03-1300-0136

This report makes extensive reference to the (1) Caltrans Bridge Maintenance Reports, (2) General plans and profiles submitted by structures, (3) Caltrans As-Built Plans (4) Previous Hydrology/Hydraulics Report (5) American River Watershed Report, December 2015, US Army Corps of Engineers (6) Caltrans Geotechnical report, April 2010 (7) SM&I Ratings Report, July 2010 (8) FEMA Report, October 20, 2016 (8) USGS Water Information System.

All Elevations used in this report are based on the NAVD 88 Datum.

2.0 Drainage Basin

The American River drains a watershed of approximately 1875 square miles of the Tahoe and El Dorado National Forests, including the Granite Chief Wilderness and Desolation Wilderness. The river flows west from the peaks of the northern Sierra Nevada west of Lake Tahoe. Its streams gradually converge into the South, Middle and North Forks of the American River draining into Folsom Dam.

Although it was originally authorized by Congress in 1944 as flood control unit, Folsom Dam was reauthorized in 1949 as a multipurpose facility to also store water for irrigation, domestic, municipal and industrial use, hydropower generation, recreation, water quality and maintenance of flows stipulated to protect fish. Folsom Lake features roughly 10,000 surface acres of water when full and has 75 miles of shoreline. It extends about 15 miles up the North Fork American River and about 10 ½ miles up the South Fork.

During a 24-hour period, the releases of water from Folsom Dam can vary greatly to meet changing demands for water and power. Nimbus Dam, 7 miles downstream from Folsom Dam, stores these releases and re-regulates them to a steady flow downstream in the American River and allows Folsom Dam releases and power generation to fluctuate with daily power demands. Nimbus Dam forms Lake Natoma located in the town of Folsom. The Lower American River has levees on its north and south banks for about 13 miles from the Sacramento River to Carmichael on the north end. Portions of the floodplain have been acquired by either the City or County of Sacramento and is managed cooperatively as the American River Parkway.

The Lower American River begins at Folsom Dam and flows approximately 30 miles to its confluence with the Sacramento River near downtown Sacramento. The Lower American River Watershed has a number of contributing streams including Coon Creek, Markham Ravine, Auburn Ravine, Pleasant Grove Creek, Curry Creek, Dry Creek, Cordova Creek (aka Clifton's Drain), and Arcade Creek. Most of these creeks enter the floodplain drainage systems of the Natomas Cross Canal and Natomas East

American River Bridge
 Br. No. 24-0001L
 03-Sac-160-PM 44.47
 EA 03-3F540
 Project ID: 03-1300-0136

Main Drainage Canal in southern Sutter and northern Sacramento Counties. The Natomas Cross Canal drains into the Sacramento River just south of the Feather River, and the Natomas East Main Drainage Canal drains into the Sacramento River just to the north of the American River.

The Lower American River watershed elevations range from approximately 400 feet at Folsom Dam to approximately 23 feet at the confluence with the Sacramento River. The channel slope at the bridge site is approximately 0.0003 ft/ft. Average annual precipitation based on the Oregon Climate Service Prism Program (Annual normal from 1981 to 2010) is about 23 inches.

The project is located in a FEMA Special Flood Hazard Area (SFHA) designated as a Zone AE, where the Base Flood Elevations have been determined.

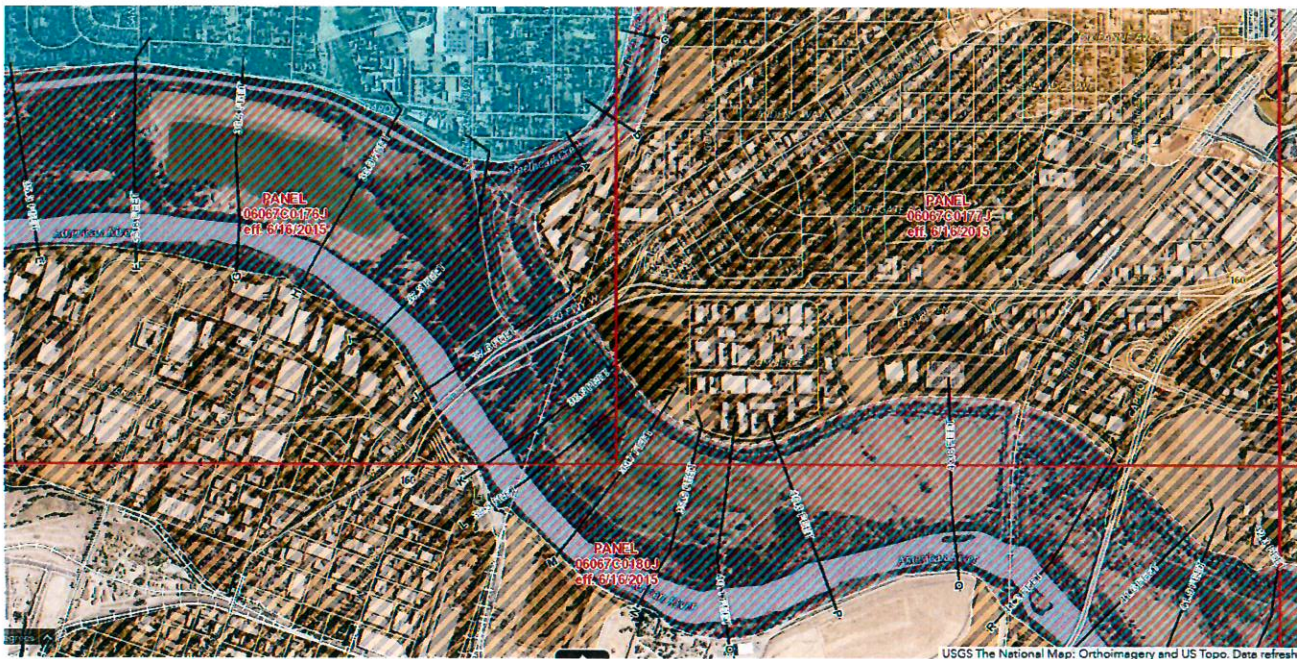


Figure 2-FEMA Inundation Map

3.0 Discharge

The American River levees were originally intended to convey a release from Folsom Dam of 115,000 cfs. During several major storm events since the construction of Folsom Dam, flows have equaled or exceeded the design capacity and caused significant erosion at the levees.

American River Bridge
Br. No. 24-0001L
03-Sac-160-PM 44.47
EA 03-3F540
Project ID: 03-1300-0136

In the 1955 flood event, the peak release from Folsom Dam was 115,000 cfs. Soon after this flood event, the flood magnitude was factored into the hydrology of Folsom Dam operations, which led to the level of protection provided by Folsom Dam being considerably lowered.

In the 1964 flood event, Folsom Dam was again forced to release 115,000 cfs which was the first time the complete American River levee system was tested. This 1964 flood event showed considerable stress on the levee system but no major levee failures.

In the 1986 flood event, Folsom Dam was forced to release 130,000 cfs to avoid a dam failure. The peak flow was passed without any levee failure, but two locations were almost breached. One of the sites upstream from the Capital City Freeway experienced significant erosion and if the discharge was sustained any longer, the levee would have likely failed.

In 1997 Folsom Lake experienced a peak inflow of 255,000 cfs and was able to control it by releasing 115,000 cfs. Significant erosion occurred at five different sites along the American River which required immediate repair.

The objective release from Folsom Dam is currently under review as part of the Folsom dam Reoperations Study and the Joint Federal Project which is currently constructing improvements to the dam for a release of 160,000 cfs.

For the purpose of this project the Design Flood Flow Capacity of **160,000 cfs** will be used.

4.0 Stage, Velocity and Waterway

The U.S. Army Corps of Engineers Surface Water Modeling System (SMS) program was used to perform a two-dimensional hydraulic analysis to calculate the water surface elevations and velocity for the following conditions:

1. Existing Bridge Pre-Construction Condition.
2. Interim Construction Condition with temporary steel trestle on piles.
3. Post Construction Condition with Sheet Piles Installed.

The General Plans submitted by Structure Design was referenced to acquire the planned deck elevation height. The proposed freeboard is measured from the water surface elevation to the lowest chord of the soffit of the structure (45.27 ft).

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The parameters used to model the existing and post construction conditions include a Design Flood Flow Capacity for the American River of 160,000 cfs, a 100-year discharge of 16,000 cfs for the Natomas East Main Drainage Canal and a 100-year discharge of 120,000 cfs for the Sacramento River. A manning's roughness coefficient of 0.033 was used for the river and 0.03 to .12 for the floodplain and a channel slope of 0.0003 ft/ft for the American River.

The model results for the existing condition is as follows:

4.1 Existing Condition

Discharge (cfs)	Minimum Soffit Elevation (ft)	Water Surface Elevation (ft)	Average Channel Velocity (fps)	Available Freeboard (ft)
Design Flood Flow Capacity 160,000 cfs	45.27	37.00	6.92	8.27

There is adequate freeboard for the projected Design Flood Flow Capacity of 160,000 cfs with a freeboard of 8.27 ft.

4.2 Interim Condition

The interim condition includes the installation of a temporary trestle that will be supported on 20 inch piles. The construction season is normally between the months of May to October and the mean daily flow rate during the summer months for the American River is approximately 5000 cfs.

The parameters used to model the Interim condition with and without the trestle includes an average summer flow for the American River of 5000 cfs, a summer flow of 1000 cfs for the Natomas East Main Drainage Canal and a summer flow of 17,500 cfs for the Sacramento River. A manning's roughness coefficient of 0.033 was used for the river and 0.03 to .12 for the floodplain and a channel slope of 0.0003 ft/ft for the American River.

The model results are as follows:

4.2A Interim Condition with no trestle

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Discharge (cfs)	Minimum Soffit Elevation (ft)	Water Surface Elevation (ft)	Average Channel Velocity (fps)	Available Freeboard (ft)
Mean Summer Flow 5000 cfs	45.27	14.65	1.00	30.62

4.2B Interim Condition with trestle

Discharge (cfs)	Minimum Soffit Elevation (ft)	Water Surface Elevation (ft)	Avg. Channel Velocity (fps)	Available Freeboard (ft)	Δ Existing to Proposed	
					Δ Water Surface Elevation (ft)	Δ Avg. Channel Velocity (fps)
Mean Summer Flow 5000 cfs	45.27	14.66	0.90	30.61	+0.01	-0.10

The trestle will have minimal effect on the water surface elevation during the construction season. The trestle should be installed with the estimated water surface elevation of 14.66 ft in mind.

Proposed Condition

The proposed condition includes the installation of Steel Sheet Piles at Piers 2 through 5 encasing the footing's entire width and length. The top of the Steel Sheet Piles will be installed at the bottom of the existing footings and include a 2 foot concrete slurry and will be embedded 30 ft deep. The Steel Sheet Piles will have no effect on the water surface elevation.

The model results are as follows:

Discharge (cfs)	Minimum Soffit Elevation (ft)	Water Surface Elevation (ft)	Avg. Channel Velocity (fps)	Available Freeboard (ft)	Δ Existing to Proposed	
					Δ Water Surface Elevation (ft)	Δ Avg. Channel Velocity (fps)
Design Flood Flow Capacity 160,000 cfs	45.27	37.00	6.90	8.27	0.0	0.0

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There is adequate freeboard for the projected Design Flood Flow Capacity of 160,000 cfs with a freeboard of 8.27 ft.

5.0 Streambed and Scour

5.1 Scour History

According to the Caltrans Maintenance records this bridge has a history of scour. Underwater Inspections were completed in 1998, 2003 and 2008 and most recently in 2017 revealing various levels of footing and pile exposure at Piers 2 through 5.

In 2010, the bridge scour potential was calculated to be 16.8 ft deep at elevation (-21.6 ft). SM&I Ratings determined that although the steel piles had adequate capacity to carry the load demand, the original timber piles did not have adequate strength and the structure may become unstable.

In July, 2010, the Bridge's scour potential was assessed in accordance with FHWA Technical Advisory T5140.23, "Evaluating Scour at Bridges", and within current Caltrans guidelines. The bridge was determined to be scour critical, and the item 113 code "Vulnerability to scour", was changed to 3; "Bridge Foundations determined to be unstable for assessed or calculated scour conditions; scour below spread-footing or piles.

A peer review meeting was held and four scour mitigation alternatives were discussed.

- 1- Replace the missing RSP at the Piers installed in previous years.
- 2- Install Sheet Piles at Piers 2 through 5.
- 3- Installing supplemental piles.
- 4- Installing properly engineered RSP at the piers.

It was unanimously decided that alternative 2, installing sheet piles at Piers 2 through 5 was the best alternative.

In December, 2015 an updated Plan of Action was completed with no major changes to the previous recommendations. In 2016 a SHOPP project was programmed to install sheet piles at Piers 2 through 5 for scour mitigation.

In August, 2017 a Bridge strategy meeting was held and once again a number of alternatives were discussed including engineered RSP, Sheet piles and bridge replacement. It was unanimously decided to proceed with the sheet pile alternative.

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5.2 Current Scour Analysis for proposed Steel Sheet Piles

The FHWA Hydraulic Engineering Circular, (HEC-18), “Evaluating Scour at Bridges” was used to calculate the potential scour for the proposed sheet pile installation at the existing bridge. The scour evaluation requires an assessment of (1) Channel Bed Degradation, (2) Contraction Scour and (3) Local Pier Scour including the effects of debris and hydraulic skew.

No contraction scour was noted at this location and it appears that any past degradation has stabilized. Only local pier scour will be evaluated for this report.

The Design Flood Flow Capacity of **160,000 cfs** was used to evaluate the potential local pier scour with the following results:

Bridge Item	Pier Scour (ft)	Pier Scour Elevation (ft)
Abutment 1	7.45	16.05
Pier 2	33.04	-34.54
Pier 3	32.53	-33.28
Pier 4	33.70	-32.50
Pier 5	33.71	-32.20
Abutment 6	6.17	18.83

6.0 Drift

There is a moderate potential of drift and Structure Hydraulics recommends the removal of any drift build up on a consistent basis, especially after major storm events.

7.0 Bank Protection

The average velocity has been provided in this report to assist the District Hydraulic Engineers in the design of bank protection if necessary.

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8.0 Hydrologic and Scour Summary for Design Engineer

HYDROLOGIC SUMMARY Br. No. 24-0001L			
Drainage Area: 1875 square miles			
	Design Flood Flow Capacity	Base Flood	Overtopping Flood/Flood of Record?
Frequency	N/A	N/A	N/A
Discharge	160,000 cfs	N/A	N/A
Water Surface Elevation at Bridge	37.0 ft	N/A	N/A
Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.			

9.0 Scour Data Table

Support No.	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abutment 1	23.50*	7.45
Pier 2	-1.50*	33.04
Pier 3	-0.75*	32.53
Pier 4	1.20*	33.70
Pier 5	1.50*	33.71
Abutment 6	25.0*	6.17

*Although there is no anticipated degradation or contraction scour, this is the existing approximate ground elevation.

SECTION 7 ENVIRONMENTAL

American River Flood Control District
Spending Authority Policy

General Manager Spending Authority

The Board of Trustees shall set the General Manager's spending authority. The current spending authority of the General Manager is \$25,000. Each unbudgeted expenditure that is approved by the General Manager based on this authority that exceeds \$10,000 shall be reported to the Board of Trustees at the next meeting of the Board of Trustees.

In the event of an emergency, the spending authority of the General Manager is \$150,000. Each unbudgeted expenditure that is approved by the General Manager based on this emergency authority shall be reported to the Board of Trustees at the next meeting of the Board of Trustees.

Contracting for Public Improvements

When a public improvement is estimated to exceed the competitive bid threshold of \$25,000, the Board of Trustees shall advertise for sealed bids and award a contract for the proposed construction in the manner as provided by law. For public improvements below the competitive bid threshold, the General Manager shall have discretion to use other contracting procedures to the extent consistent with California law and the spending authority of the General Manger under this policy.

American River Flood Control District

State DWR Deferred Maintenance Project – Collaboration with the City of Sacramento

Staff Report

Discussion:

The State of California Department of Water Resources and the District are cooperating in a grant program to inspect levee pipes. Many of the pipes identified as eligible for grant funding are actually owned and operated by the City of Sacramento. The District set out to participate in this program and convey the grant funds to the City for them to inspect their pipes.

The City recently awarded a contract to a video inspection company to inspect pipes in City maintained levees. The contract does not currently include inspection of City pipes in District maintained levees. The City indicated that they may be able to modify their contract to include inspection of City pipes in District levees, but they are having difficulty identifying a source of funding for the additional work.

It is in the District's interest to see that these pipes are inspected. Although, the best case for the District would be for the City to cover the cost of inspecting all City pipes in District levees, it is not assured that this would happen. There would be a significant benefit to the District if the District made sure that these pipes were inspected. This could be achieved by providing the necessary funding for this work to proceed under the City's existing contract.

At this time, staff does not have finite costs for pipe inspection. Estimates range from \$2000 to \$4000 per pipe. There are 21 City owned pipes in District levees that need to be inspected. This could result in a total inspection cost of between \$42,000 to \$84,000. The State Deferred Maintenance Project grant funding could possibly reimburse the District for some to all of these costs. State staff indicated that they initially estimated reimbursing districts \$1000 per pipe inspected but could go higher with sufficient cost documentation.

Recommendation:

The General Manager recommends that the Board of Trustees direct staff to develop an agreement with the City to exchange funds for levee pipe inspection with the expectation that some to all of the spent funds could be eligible for reimbursement from the State.

General Manager's Meeting Summary – August 2018

8/1: Meeting with Jackson Properties. Superintendent Kawamura and I met with staff from Jackson Properties and Teichert to discuss levee maintenance along two commercial properties on American River Drive. The District will modify an existing pedestrian access ramp to provide clearance for a new dumpster enclosure installed by Jackson Properties.

8/1: SAFCA North Sacramento Streams Project Design meeting. I attended this meeting to coordinate with the design team for the SAFCA NSS project. The project team identified several erosion sites within Arcade Creek that impinge upon the new levee cross section. A site visit is planned to inspect the sites and see if a maintenance solution exists.

8/8: SAFCA North Sacramento Streams Project Design meeting. I attended this meeting to coordinate with the design team for the SAFCA NSS project. The group discussed pipe installations and Arcade Creek erosion.

8/10: American River Flood Control District Board of Trustees meeting. The Board met in regular session. The agenda items included designation of surplus equipment and the purchase of a new Bobcat Track Loader.

8/21: Deferred Maintenance Project – Pipe Inspection meeting. I met with staff from the State of CA Department of Water Resources to discuss the District's participation in the pipe inspection grant program. Most of the pipes eligible for grant reimbursement for inspection costs are owned and operated by the City of Sacramento. A future meeting will be scheduled to meet with the City and include them in the group discussion. The disposition of numerous pipes listed as 'not found' by the State was also discussed.

8/22: CA Central Valley Flood Protection Board Coordination Committee meeting. I attended this meeting to hear a discussion on levee OMRR&R. CVFPB staff outlined their resolution to establish the State perspective on OMRR&R.

8/23: Meeting with County Regional Parks. Superintendent Kawamura and I met with representatives from Sacramento County Regional Parks to discuss collaboration on homeless camp clean up. The County is very pleased with the performance of their contract crews from Pride Industries. The District is considering contracting with Pride Industries but may not have full time work for the 4-person crew. The County indicated they could manage the crews for work within the District when direct supervision by the District is not available.

8/28: Deferred Maintenance Project – Pipe Inspection meeting. I met with staff from the State of CA DWR and City Utilities to discuss the pipe inspection grant program. The City recently awarded an inspection contract to inspect pipes in City maintained levees but the contract does not include the City's pipes in District levees. The District may try to develop a way to provide resources directly to the City and then seek reimbursement from the State.

8/29: Meeting with Mike Strachn. Trustee Holloway and I met with Mike Strachn and Rick Johnson from SAFCA to hear a briefing on federal funding and project authorizations.