

AMERICAN RIVER FLOOD CONTROL DISTRICT

Offices - Appointments - Duties - Assignments (2018)

Brian F. Holloway, President

Trustee
Director, SAFCA

ARFCD Committee-- Finance

Bettina C. Redway, Vice President

Trustee
Alternate Director SAFCA

ARFCD Committee -- Policy
ARFCD Committee-- Personnel

Cyril A. Shah, Treasurer

Trustee
Director, SAFCA

ARFCD Committee -- Finance

William J. Pavão, Secretary

Trustee
Director, JPIA
Alternate Director SAFCA

ARFCD Committee -- Personnel
ARFCD Committee-- Newsletter

Steven T. Johns, Trustee

Trustee
Director, LAFCO Special District Advisory Committee

ARFCD Committee-- Policy
ARFCD Committee-- Newsletter

AMERICAN RIVER FLOOD CONTROL DISTRICT

Operating Committee Structure (2018)

POLICY COMMITTEE

Activated: 06/14/95

Steven T. Johns
Bettina C. Redway
Tim Kerr, General Manager/Engineer

FINANCE COMMITTEE

Activated: 01/11/95

Cyril A. Shah
Brian F. Holloway
Tim Kerr, General Manager/Engineer

PERSONNEL and BENEFITS COMMITTEE

Activated: 01/11/95

Bettina C. Redway
William J. Pavão
Tim Kerr, General Manager/Engineer

NEWSLETTER COMMITTEE

Activated: 06/11

William J. Pavão
Steven T. Johns
Tim Kerr, General Manager/Engineer

LEGISLATIVE COMMITTEE

Activated: 02/10/99

De-Activated: 01/13/17

PROPERTY DEVELOPMENT COMMITTEE

De-Activated: 01/12/98

LEGAL AFFAIRS COMMITTEE

Activated: 01/08/97

Unstaffed: 01/13/99

AMERICAN RIVER FLOOD CONTROL DISTRICT

Offices - Appointments - Duties - Assignments (2018)

Tim Kerr, General Manager/Engineer

Alternate Director, JPIA
Assistant Treasurer
Director, CCVFCA

Committee Staff
Policy
Personnel
Finance

Malane Chapman, Office Manager

Clerk of the Board
Assistant Secretary

November 9, 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, November 9, 2018. In attendance were Trustee Holloway, Trustee Johns and Trustee Pavão. Trustee Redway and Trustee Shah were 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. Three members of the public were 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 Pavão seconded by Trustee Johns, the Board unanimously approved Items 2a) Minutes of Regular Meeting on October 12, 2018, 2b) Approval of Report of Investment Transactions September 2018 (City Pool, LAIF, River City) and Treasurer's Certification, 2c) District Financial Reports: Statement of Operations (October 2018) and Cash Flow Report, 2d) Correspondence: None.

Item No. 3 Accounts Payable and General Fund Expenses (October 2018): Trustee Johns inquired about payments to Clark Equipment Co. and Kent Arborist Services. Trustee Pavão inquired about payment to Sunbelt Rentals. Following explanation by staff and on a motion by Trustee Johns seconded by Trustee Pavão, the Board unanimously approved payments on the Schedule of Accounts Payable (October 2018) of \$187,792.01 and General Fund Expenses of \$74,523.77 (total aggregate sum \$262,315.78).

Item No. 4 Resolution 2018-09: Honoring William Pavão for Service on the District's Board of Trustees: Trustee Holloway read the resolution to the Board and staff honoring Mr. Pavão. GM Kerr presented Trustee Pavão with a plaque commemorating his 8 years of service.

Trustee Pavão thanked Trustee Redway for introducing him to the Board. He also thanked the Board and Staff for all their time and patience.

Item No. 5 Two-Rivers Trail (Phase II) Initial Study/Proposed Mitigated Negative Declaration – Comment Letter: GM Kerr explained the letter to the Board and made a correction to the amount of freeboard from 5 feet to at least 7 feet.

Trustee Holloway welcomed public comments. Public asked about the permit process, freeboard and potential of erosion, placement of rock skin below vegetation, interaction with bikers and pedestrians and if there were any records or statistics showing conflicts with bikers and pedestrians.

Following public comment Trustee Holloway suggested additions to the letter: including a sketch with the letter, clarifying that our concerns with pedestrian and bike conflicts are not an inconvenience it is a matter of safety and that pedestrian traffic on the crown interferes with the District being able to perform their duties which could have potential negative outcomes for the

public like increased rates and requiring flood insurance. On a motion by Trustee Pavão seconded by Trustee Johns, the Board unanimously approved the letter with the suggested additions.

Item 6 Administrative Staff Reports:

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

- General Manager's October Meeting Summary;
- State FMAP Grant;
- LAR Erosion Tour, November 5, 2018;
- Mead and Hunt Engineering Contract – Pipe Locations;
- Camp Pollock Letter of Support;
- District Staffing – Levee Maintenance Worker Range A: District experienced turnover and a contingent offer has been made;
- Hydrologic Conditions: Folsom Lake is 38% full, with an outflow of 2,101 cfs and the gauge at the I Street Bridge shows 5.5 feet above sea level;
- Next Board Meeting: December 14, 2018.

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

c) *Office Manager Malane Chapman reported on the following:*

- CSDA Conference, October 22-24, 2018, including the E-Records and Emotional Intelligence classes which she attended;
- AB 1825: Training to be conducted on-line before the December 14, 2018 Board Meeting;
- Ethics Training: Following the November 9, 2018 Board Meeting.

Item No. 7 Operations and Maintenance Staff Reports:

a) *Superintendent Ross Kawamura reported on:*

- Crew activities including erosion, fence repair, Arcade Creek gate fabrication and flood fight training.

Item No. 8 Questions and Comments by Trustees: Trustee Johns discussed the LAFCo quarterly meeting. Trustee Holloway discussed the possibility of a public memorial for Karolyn W. Simon.

Item No. 9 Adjourn: There being no further business requiring action by the Board, the meeting was adjourned to the Ethics Training by Trustee Holloway at 12:23 p.m. in memory of Thomas Johns. The Trustees met with Legal Counsel and with District Staff for Ethics Training until 2:30 p.m.

Attest:

Secretary

President

**American River Flood Control District
Staff Report**

Investment Transactions Summary; October 2018

LAIF:

- On October 15, 2018 an interest payment was deposited in the amount of \$2,417.47.

City Pool A

- Accrued Interest Receivable for the month of October was \$15,353.32.
- As of October 31, 2018, the balance of Interest Receivable in this account was \$60,048.07.

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

River City Bank Money Market:

- On October 10, 2018, a transfer was sent to River City Bank Checking in the amount of \$146,008.86.
- On October 10, 2018, a transfer was sent to River City Bank Checking in the amount of \$45,000.00.
- On October 31, 2018, a monthly interest payment was deposited in the amount of \$1,040.33.

River City Bank Checking:

- On October 10, 2018, a transfer was received from River City Bank Money Market in the amount of \$146,008.86.
- On October 10, 2018, a transfer was received from River City Bank Money Market in the amount of \$45,000.00.
- On October 15, 2018 a Miscellaneous deposit was made in the amount of \$5,760.00.
- On October 31, 2018, a monthly interest payment was deposited in the amount of \$5.78.
- Total amount of Accounts Payable cleared during the month of October was \$185,860.50.

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

Item 6b

Balance and Transactions

Account		LAIF	City Pool A	River City Bank Money Market	River City Bank Checking
Beginning Balance	10/1/18	\$444,931.70	\$7,933,300.92	\$824,449.54	\$19,331.68
Transactions					
LAIF Interest	10/15/18	2,417.47			
City Pool A Interest	10/31/18		15,353.32		
River City Bank Transfer	10/10/18			(146,008.86)	146,008.86
River City Bank Transfer	10/10/18			(45,000.00)	45,000.00
Miscellaneous Deposit	10/15/18				5,760.00
River City Bank Interest	10/31/18			1,040.33	5.78
Accounts Payable (cleared)					(185,860.50)
Ending Balance:	10/31/18	\$447,349.17	\$7,933,300.92	\$634,481.01	\$30,245.82

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

Interest

Date:	Nov 2017	Dec 2017	Jan 2018	Feb 2018
LAIF	1.17	1.24	1.35	1.41
City Pool A	1.46	1.71	1.65	2.01
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:	Mar 2018	Apr 2018	May 2018	June 2018
LAIF	1.52	1.66	1.73	1.85
City Pool A	1.71	1.97	2.08	2.12
River City Bank Money Market	0.08	0.08	0.1	0.10
River City Bank Checking	0.00	0.00	0.00	0.00
Date:	July 2018	Aug 2018	Sep 2018	Oct 2018
LAIF	1.94	2.00	2.06	2.14
City Pool A	2.12	2.20	2.89	2.27
River City Bank Money Market	0.99	1.65	1.73	1.79
River City Bank Checking	0.00	0.06	0.06	0.08

**American River
Flood Control
District**

AMERICAN RIVER FLOOD CONTROL DISTRICT

MONTHLY REVIEW – OCTOBER 2018

STRATEGY

The ARFCD funds are invested in the City of Sacramento’s Pool A investment fund. The Fund is invested pursuant to the objectives and requirements set forth in the City’s investment policy. The three objectives of the investment policy, in order of priority, are (1) the preservation of capital by the investment in safe instruments, (2) the liquidity needs of the City and pool participants so such parties will have access to cash when they need it, and (3) the maximizing of current income while remaining consistent with the other more important objectives. The City’s investment policy incorporates applicable provisions of state law including, among other things, the prudent person standard and California Code Section 53601 pertaining to eligible investments.

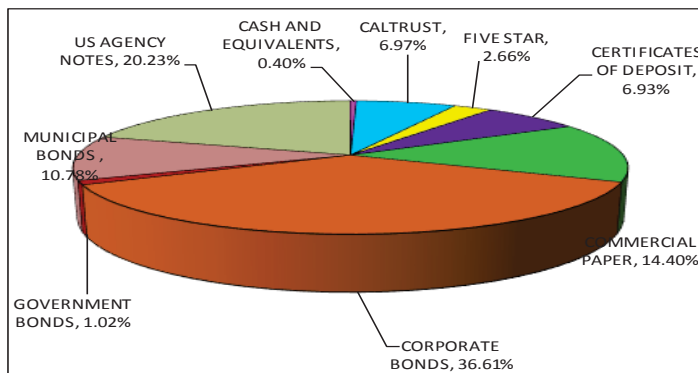
PORTFOLIO STATISTICS

Portfolio’s Beginning Balance	7,977,996
Contributions	0
Withdrawals	0
Interest Earned	15,353
Month-End Market Value	7,993,349

PERFORMANCE

Earned Interest Yield for the Month	2.27%
Laif Rate of Return (book value)	2.14%
90 Day T-Bill	2.20%
Federal Funds	2.17%

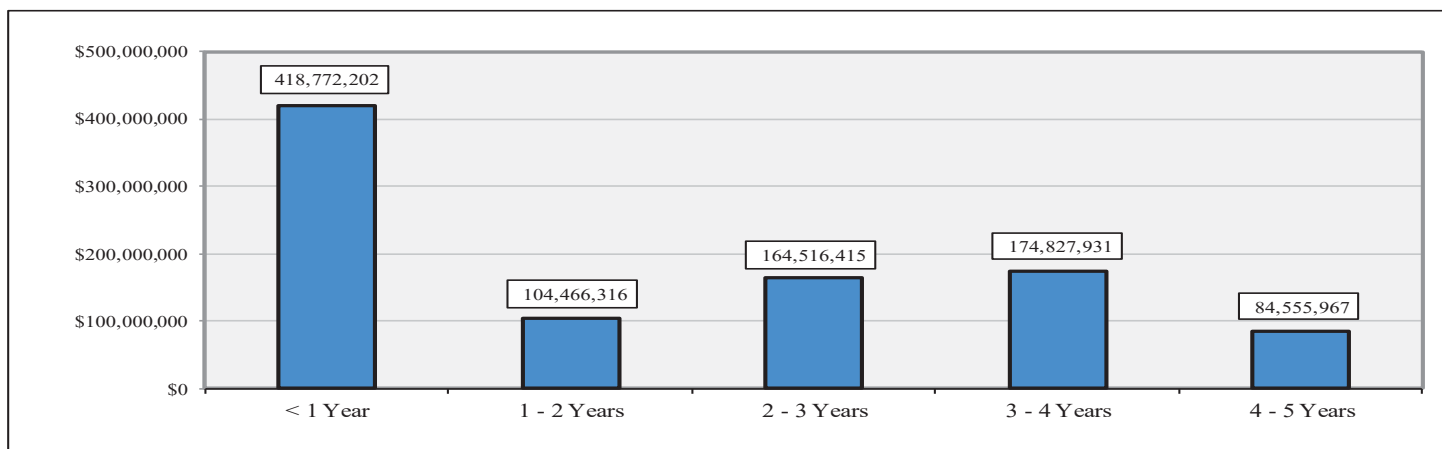
POOL A BY ASSET CLASS



Investment Description	Portfolio at Cost	Yield at Month End
CASH AND EQUIVALENTS	0.40%	1.12%
CALTRUST	6.97%	2.18%
FIVE STAR	2.66%	2.14%
CERTIFICATES OF DEPOSIT	6.93%	2.44%
COMMERCIAL PAPER	14.40%	2.56%
CORPORATE BONDS	36.61%	2.27%
GOVERNMENT BONDS	1.02%	1.90%
MUNICIPAL BONDS	10.78%	2.20%
US AGENCY NOTES	20.23%	2.18%

POOL A MATURITY SCHEDULE

Maturity	Market Value	%
< 1 Year	418,772,202	44.21%
1 - 2 Years	104,466,316	11.03%
2 - 3 Years	164,516,415	17.37%
3 - 4 Years	174,827,931	18.46%
4 - 5 Years	84,555,967	8.93%
Total	947,138,831	100.00%



City of Sacramento
 CASH LEDGER
American River Flood Control District
 From 10-01-18 To 10-31-18

Item 6b

All Cash Accounts

Trade Date	Settle Date	Tran Code	Quantity	Security	Amount	Cash Balance
Pool A Interest Receivable						
10-01-18				Beginning Balance		44,694.75
10-31-18	10-31-18	in		Pool A Cash	15,353.32	60,048.07
				Oct 2018 estimated Pool A interest	15,353.32	
10-31-18				Ending Balance		60,048.07
Pool A Cash						
10-01-18				Beginning Balance		7,933,300.92
10-31-18				Ending Balance		7,933,300.92

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

www.treasurer.ca.gov/pmia-laif/laif.asp
November 02,
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

October 2018 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Authorized Caller	Amount
10/15/2018	10/12/2018	QRD	1586534	SYSTEM	2,417.47

Account Summary

Total Deposit:	2,417.47	Beginning Balance:	444,931.70
Total Withdrawal:	0.00	Ending Balance:	447,349.17



River City Bank

WWW.RIVERCITYBANK.COM

PO Box 15247, Sacramento, CA 95851-0247

Return Service Requested

Item 6b



Last statement: September 30, 2018

This statement: October 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	\$824,449.54
Low balance	\$633,440.68	Total additions	1,040.33
Average balance	\$688,894.87	Total subtractions	191,008.86
Avg collected balance	\$688,894	Ending balance	\$634,481.01
Interest paid year to date	\$5,179.50		

DEBITS

Date	Description	Subtractions
10-10	' Cash Mgmt Trsfr Dr REF 2831238L FUNDS TRANSFER TO DEP XXXXX0736 FROM OCTOBER PAYROLL AND SEPTEMBER BILLS	146,008.86
10-10	' Cash Mgmt Trsfr Dr REF 2831311L FUNDS TRANSFER TO DEP XXXXX0736 FROM BENEFITS AND RENTAL PAYMENTS	45,000.00

CREDITS

Date	Description	Additions
10-31	' Interest Credit	1,040.33

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
09-30	824,449.54	10-10	633,440.68	10-31	634,481.01

AMERICAN RIVER FLOOD CONTROL DISTRICT
October 31, 2018

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0811100952

INTEREST INFORMATION

Annual percentage yield earned	1.79%
Interest-bearing days	31
Average balance for APY	\$688,894.87
Interest earned	\$1,040.33

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



Last statement: September 30, 2018

This statement: October 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

Page 1
0811090736
(47)

Direct inquiries to:
916-567-2836

Public Fund Interest Checking

Account number	0811090736	Beginning balance	\$19,331.68
Enclosures	47	Total additions	196,774.64
Low balance	\$16,092.52	Total subtractions	185,860.50
Average balance	\$83,463.92	Ending balance	\$30,245.82
Avg collected balance	\$83,278		

CHECKS

Number	Date	Amount	Number	Date	Amount
6608	10-04	1,702.45	6647	10-18	5,044.20
6623 *	10-09	247.74	6648	10-19	48.49
6626 *	10-01	1,288.97	6649	10-18	6,000.00
6627	10-18	25,384.58	6650	10-18	115.20
6628	10-18	29,684.33	6651	10-26	81.19
6629	10-23	22.63	6652	10-24	469.26
6630	10-22	389.59	6653	10-23	161.32
6631	10-18	463.25	6654	10-22	47.64
6632	10-22	683.11	6655	10-22	600.00
6633	10-17	29.19	6656	10-23	71.00
6634	10-18	727.13	6657	10-22	1,659.54
6635	10-19	24,800.00	6658	10-19	1,012.34
6636	10-18	350.00	6659	10-17	890.80
6638 *	10-18	799.98	6660	10-19	761.40
6639	10-19	92.00	6661	10-22	200.00
6640	10-18	606.20	6662	10-22	6,966.92
6641	10-18	656.00	6663	10-24	281.81
6642	10-19	717.47	6664	10-24	1,467.61
6643	10-18	356.56	6665	10-22	382.84
6644	10-22	270.00	6666	10-22	457.33
6645	10-23	795.94	6667	10-17	20.64
6646	10-23	90.68	6668	10-19	1,492.32

AMERICAN RIVER FLOOD CONTROL DISTRICT
October 31, 2018

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0811090736

Number	Date	Amount	Number	Date	Amount
6669	10-18	120.00			
6670	10-30	205.77			

* Skip in check sequence

DEBITS

Date	Description	Subtractions
10-10	' ACH Withdrawal CALPERS 1900 100000015444694	4,322.61
10-15	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 181015 946000047	26,898.81
10-16	' ACH Withdrawal HEALTHEQUITY INC HealthEqui 181016	152.95
10-16	' ACH Withdrawal CALPERS 3100 100000015421494	1,324.69
10-16	' ACH Withdrawal CALPERS 1900 100000015465112	2,561.23
10-16	' ACH Withdrawal CALPERS 3100 100000015421459	2,954.26
10-18	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 181018 946000047	428.91
10-31	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 181031 946000047	28,501.06
10-31	' Service Charge ADDITIONAL DEBITS	0.56

CREDITS

Date	Description	Additions
10-10	' Cash Mgmt Trsfr Cr REF 2831238L FUNDS TRANSFER FRMDEP XXXXX0952 FROM OCTOBER PAYROLL AND SEPTEMBER BILLS	146,008.86
10-10	' Cash Mgmt Trsfr Cr REF 2831311L FUNDS TRANSFER FRMDEP XXXXX0952 FROM BENEFITS AND RENTAL PAYMENTS	45,000.00
10-15	Deposit	5,760.00
10-31	' Interest Credit	5.78

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
09-30	19,331.68	10-15	181,639.96	10-22	62,388.87
10-01	18,042.71	10-16	174,646.83	10-23	61,247.30
10-04	16,340.26	10-17	173,706.20	10-24	59,028.62
10-09	16,092.52	10-18	102,969.86	10-26	58,947.43
10-10	202,778.77	10-19	74,045.84	10-30	58,741.66

AMERICAN RIVER FLOOD CONTROL DISTRICT
 October 31, 2018

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 0811090736

<u>Date</u>	<u>Amount</u>	<u>Date</u>	<u>Amount</u>	<u>Date</u>	<u>Amount</u>
10-31	30,245.82				

INTEREST INFORMATION

Annual percentage yield earned	0.08%
Interest-bearing days	31
Average balance for APY	\$83,278.11
Interest earned	\$5.78

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 October 2018**
- Investment Pool A Account, City of Sacramento **Dated October 2018**
- District Checking Account, River City Bank **Dated October 2018**
- District Repurchase Account, River City Bank **Dated October 2018**

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

American River Flood Control District
Statement of Operations
July 1, 2018 to November 30, 2018 (Five Months Ending of Fiscal 2019)
For Internal Use Only

	Year to Date July 1, 2018 to November 30, 2018	Budget	Percent of Budget
Revenues			
Benefit assessment	\$ -	\$ 1,429,793	0.00%
Consolidated capital assessment	-	980,000	0.00%
Interest	67,924	77,267	87.91%
O & M agreements	-	231,801	0.00%
Miscellaneous	6,020	-	Not budgeted
Total Revenues	<u>73,944</u>	<u>2,718,861</u>	2.72%
M & O Expenses			
Salaries and wages	285,173	730,938	39.01%
Payroll tax expense	19,921	58,475	34.07%
Pension expense	64,095	132,418	48.40%
Compensation insurance	8,827	36,547	24.15%
Medical/dental/vision	90,158	211,112	42.71%
Fuel/oil reimbursement	10,456	30,000	34.85%
Equipment rental	23,912	20,000	119.56%
Equipment repairs/parts	8,424	40,000	21.06%
Equipment purchases (< \$5,000)	9,946	15,000	66.31%
Shop supplies	4,022	12,000	33.52%
Levee maint. (supp. & material)	7,176	10,000	71.76%
Levee maint. chemicals	-	20,000	0.00%
Levee maint. services	33,717	60,000	56.20%
Rodent abatement (supplies & materials)	2,833	10,000	28.33%
Employee uniforms	-	5,000	0.00%
Staff training	1,402	10,000	14.02%
Miscellaneous	1,125	2,000	56.25%
Small tools & equipment	3,502	6,000	58.37%
Emergency preparedness program	8,400	15,000	56.00%
Engineering services	302	20,000	1.51%
Encroachment remediation	-	15,000	0.00%
Test urban camp cleanup	-	100,000	0.00%
Environmental services/studies	564	-	Not budgeted
Total M & O Expenses	<u>583,955</u>	<u>1,559,490</u>	37.45%
Administration Expenses			
Board of trustees compensation	1,976	7,600	26.00%
Trustee expenses	537	1,750	30.69%
Accounting services	700	15,000	4.67%
Legal services (general)	2,466	50,000	4.93%
Utilities	12,423	35,000	35.49%
Telephone	4,720	18,000	26.22%
Retiree benefits	66,130	135,650	48.75%
Office equipment/furniture	-	7,500	0.00%
Office supplies	-	2,000	0.00%
Auto allowance	2,942	6,600	44.58%
Parking reimbursement	-	500	0.00%
General office expense	3,922	13,000	30.17%
Technology and software	1,935	10,000	19.35%
Dues and associations	22,071	25,000	88.28%
Property and liability insurance	23,906	30,000	79.69%
Conference/workshop/seminar	-	3,000	0.00%
Public relations/information	-	30,000	0.00%
Miscellaneous	944	5,000	18.88%
Employee morale/wellness	208	2,000	10.40%
Investment fees	3,967	15,000	26.45%
Community services	-	1,500	0.00%
Bookkeeping services	2,212	14,000	15.80%
Property taxes	1,737	3,000	57.90%
Building maintenance	10,104	10,000	101.04%
County Dtech fees for DLMS	10,838	40,000	27.10%
Election expense	-	96,819	0.00%
Interest expense	149	-	Not budgeted
Total Administration Expenses	<u>173,887</u>	<u>577,919</u>	30.09%
Special Projects Expenses			
Engineering studies/survey studies	-	15,000	0.00%
Levee standards compliance	71,163	100,000	71.16%
Small capital projects	30,339	50,000	60.68%
Total Special Project Expenses	<u>101,502</u>	<u>165,000</u>	61.52%
Capital Outlay			
Equipment purchases (over \$5,000)	84,305	93,000	90.65%
Total Capital Outlay	<u>84,305</u>	<u>93,000</u>	
Capital Outlay: District Headquarters			
Building improvements/maintenance	20,022	40,000	50.06%
La Riviera improvements/maintenance	4,322	10,000	43.22%
	<u>24,344</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 Expens	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	54,969.50	57,035.35	53,279.98	0.00	0.00	0.00	0.00	0.00	0.00	339,074.47
501 - Payroll Taxes	4,173.85	4,482.27	4,754.48	3,861.68	3,503.40	3,229.52	0.00	0.00	0.00	0.00	0.00	0.00	24,005.20
502 - Pension	12,673.06	12,483.57	11,913.77	7,394.26	15,652.21	3,360.91	0.00	0.00	0.00	0.00	0.00	0.00	63,477.78
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	15,339.13	15,339.13	15,339.13	(414.97)	0.00	0.00	0.00	0.00	0.00	0.00	76,280.68
508 - Fuel/Oil	3,476.23	2,162.66	1,590.25	5,507.45	1,195.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,931.99
509 - Equipment Rental	0.00	1,420.71	7,838.74	6,966.92	7,685.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,911.68
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	2,395.66	983.92	790.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,745.34
512 - Shop Supplies	694.04	564.90	735.07	809.91	2,053.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,856.98
514 - Levee Maint(Supplies&Materi	628.17	0.00	3,409.94	2,744.97	295.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,078.60
515 - Levee Maintenance Services	0.00	1,373.85	5,148.34	6,842.33	20,564.54	561.56	0.00	0.00	0.00	0.00	0.00	0.00	34,490.62
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	119.14	63.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	585.16
519 - Miscellaneous O&M	0.00	0.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,125.00
521 - Small Tools & Equip	0.00	0.00	3,545.50	746.66	1,940.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,232.60
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 Pr	0.00	0.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,400.00
530 - Encroachment Remediation	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	2,587.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,992.46
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	234.76	154.01	148.66	29.25	0.00	0.00	0.00	0.00	0.00	0.00	907.92
616 - Environmental Services/Studi	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	118,486.73	106,439.88	138,380.02	60,046.25	0.00	0.00	0.00	0.00	0.00	0.00	632,445.44

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	1,418.71	1,335.95	1,285.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,180.56
506 - Utility Charges	2,494.07	2,891.72	3,455.51	3,121.87	2,938.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,901.94
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	550.00	550.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	3,300.00
520 - Retiree Benefits	11,300.68	11,300.68	11,300.68	10,045.45	10,882.27	414.97	0.00	0.00	0.00	0.00	0.00	0.00	55,244.73
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 Reimburs	0.00	0.00	0.00	116.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116.63
527 - General Office Expense	760.67	936.58	1,531.21	843.08	1,054.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,126.25
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	259.99	484.94	259.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,125.05
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	475.00	380.00	285.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,805.00
602 - Accounting Services	82.41	33.70	28.46	177.93	296.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	619.49
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	866.59	656.00	943.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,801.27
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. 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
608 - Insurance Premiums	8,751.70	0.00	5,653.00	9,007.33	16,476.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00	39,978.03
609 - Conference /Workshops/Sem	0.00	0.00	0.00	20,857.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20,857.00
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	564.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	564.00
618 - Property Tax	3,682.00	3,716.00	0.00	0.00	3,967.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,365.00
619 - Building Maintenance	0.00	0.00	0.00	0.00	1,659.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,659.54
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
621 - County Assessment Fees	787.50	975.00	450.00	600.00	1,162.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,975.00
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	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

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

Total Administrative	36,867.10	28,778.23	25,989.15	48,176.18	42,324.77	1,054.97	0.00	0.00	0.00	0.00	0.00	0.00	183,190.40
Special Projects Expenses													
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 &	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													
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 (> \$500)	0.00	0.00	0.00	24,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,800.00
Total Capital Outlay: Flood Control	0.00	0.00	0.00	24,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,800.00
Income													
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	3,107.73	1,480.93	1,244.38	3,463.58	680.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,977.01
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	160.00	5,760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,144.62
Total Income	783,107.73	41,446.10	1,404.38	9,223.58	680.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	835,862.18
Fund Balance													
District Operations Fund													
Beginning Balance	2,294,495.71	1,929,423.94	1,844,311.65	1,701,240.15	1,555,847.67	1,375,823.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income	783,107.73	41,446.10	1,404.38	9,223.58	680.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	1,148,179.50	126,558.39	144,475.88	154,616.06	180,704.79	61,101.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	1,929,423.94	1,844,311.65	1,701,240.15	1,555,847.67	1,375,823.27	1,314,722.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Outlay Reserve Fund													
Beginning Balance	1,065,000.00	1,065,000.00	1,065,000.00	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
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	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	0.00
Ending Balance	1,065,000.00	1,065,000.00	1,065,000.00	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
Retiree Health Benefit Reserve Fund													
Beginning Balance	1,443,558.00	2,443,558.00	2,443,558.00	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
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	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	0.00
Ending Balance	2,443,558.00	2,443,558.00	2,443,558.00	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
Flood Emergency Response Reserve Fund													
Beginning Balance	1,500,000.00	1,500,000.00	1,500,000.00	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
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	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	0.00
Ending Balance	1,500,000.00	1,500,000.00	1,500,000.00	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
Emergency Repair Reserve Fund													
Beginning Balance	1,500,000.00	1,500,000.00	1,500,000.00	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
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	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	0.00
Ending Balance	1,500,000.00	1,500,000.00	1,500,000.00	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
Total Balance	8,437,981.94	8,352,869.65	8,209,798.15	8,064,405.67	7,884,381.27	7,823,280.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**AMERICAN RIVER FLOOD CONTROL DISTRICT
RESOLUTION NO. 2018-10**

**DELEGATION OF AUTHORITY
TO ACT IN AN EMERGENCY**

WHEREAS, the District operates and maintains flood control facilities that protect the residents of the Sacramento region from flooding along the American River, and various other creeks; and

WHEREAS, the experience of the District during the floods of 1986, 1997 and during other prior floods indicates that the District must be able to respond immediately to emergencies threatening its levee system; and

WHEREAS, emergencies can also arise during non-flood times which require immediate action by the District; and

WHEREAS, the California Legislature amended the provisions governing the letting of public works contracts during situations of emergency by the enactment of Section 88 Chapter 803 of the Statutes of 1994, which is codified at Public Contract Code Section 22050; and

WHEREAS, the District wishes to exercise the authority granted by Public Contract Code Section 22050 so as to ensure flood protection to the residents of the Sacramento region;

NOW THEREFORE BE IT RESOLVED that:

1. Pursuant to the authority granted in Public Contract Code Section 22050(b)(1), the Board of Trustees hereby delegates its authority to (1) repair or replace a public facility, (2) take any directly related and immediate action required, and (3) procure the necessary equipment, services, and supplies required to respond to an emergency without giving notice of bids to let contracts, to the District's General Manager.
2. In the event that the General Manager is incapacitated or otherwise unavailable during an emergency, the authority granted to the District's General Manager shall pass to the acting Relief Manager or any other individual so designated by the Board of Trustees.

PASSED AND UNANIMOUSLY ADOPTED this 14th day of December 2018

ATTEST:

President
Board of Trustees

Secretary
Board of Trustees

AMERICAN RIVER FLOOD CONTROL DISTRICT

RESOLUTION NO. 2018 – 11

ADOPTING FINDINGS AND AUTHORIZING FILING OF A NOTICE OF EXEMPTION FOR THE PROGRAM OF ROUTINE MAINTENANCE FOR CALENDAR YEAR 2019

WHEREAS, the California Environmental Quality Act (CEQA) requires each public agency to consider the environmental impacts of all discretionary activities undertaken by that agency, and

WHEREAS, the annual program of routine maintenance of the District’s flood control facilities falls within the scope of CEQA, and

WHEREAS, the flood control facilities of the District all lie within Sacramento County;

NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees of District, by the adoption of this Resolution, does hereby find as follows:

- The District’s annual program of routine maintenance of existing flood control facilities for calendar year 2019 falls within the categorical exemptions to the CEQA.
- The proposed program of work for calendar year 2019 will not have a significant adverse effect upon the environment.
- The proposed program of work for calendar year 2019 does not constitute an exception to the exemptions of CEQA.

AND BE IT FURTHER RESOLVED that the General Manager of the District is authorized to sign and directed to file with the Clerk of Sacramento County Notice of Exemption on behalf of the District as to the program of routine maintenance of the District for calendar year 2019, and

BE IT FURTHER RESOLVED that the General Manager of the District is directed to post a true copy of the Notice of Exemption for not less than thirty (30) days in a conspicuous location at 185 Commerce Circle, Sacramento, CA, 95815, and

BE IT FURTHER RESOLVED that the General Manager of District is directed to request the Clerk of Sacramento County to post in a conspicuous place for public review a true copy of the Notice of Exemption for not less than thirty (30) days; to certify to the District that the Notice was posted as requested and, after completion of the thirty (30) day period, return to the District with a notation of the period it was posted.

PASSED, APPROVED, and UNANIMOUSLY ADOPTED this 14th day of December 2018.

ATTEST:

Secretary

President

Invoices Paid

	DATE	AMOUNT	CHECK #
Quickbooks (Employees)	11/1/18	\$1.50	EFT
Costco	11/5/18	\$146.87	6672
Awards by Kay (Trustee Expenses)	11/6/18	\$160.21	6673
HSA (Employee)	11/6/18	\$150.00	EFT
HSA (Miscellaneous Admin)	11/6/18	\$2.95	EFT
Quickbooks (Employees)	11/15/18	\$26.00	EFT
Quickbooks (Trustees)	11/16/18	\$9.75	EFT
Quickbooks (Employees)	11/30/18	\$105.00	EFT
Quickbooks (Employees)	11/30/18	\$1.50	EFT
Sierra Waste Recycling & Transfer Station (Levee Mainten)	12/3/18	\$561.56	6723
PAPA (Dues and Assoc. Expenses)	12/3/18	\$90.00	6724
	Total	\$1,255.34	

Trustee Compensation

	DATE	GROSS	NET	CHK#
11/09/18 Board Meeting				
Holloway, Brian F	11/16/18	\$95.00	\$86.78	Direct Dep
Johns, Steven T	11/16/18	\$95.00	\$86.78	Direct Dep
Pavao, William J	11/16/18	\$95.00	\$86.78	Direct Dep
	Total	\$285.00	\$260.34	

Trustee Taxes

	DATE	AMOUNT	CHK#
11/09/18 Board Meeting			
Federal Tax Payment	11/15/18	\$16.56	EFT
CA Withholding & SDI	11/15/18	\$5.70	EFT
CA UI & ETT	11/15/18	\$10.24	EFT
	Total	\$32.50	

Payroll Summary

	DATE	GROSS	NET	CHK#
PP ending 11/15/18				
Malane Chapman	11/16/18	3190.88	2060.16	Direct Dep
Elvin Diaz	11/16/18	2163.92	1588.97	Direct Dep
David Diaz	11/16/18	2294.16	1400.72	Direct Dep
Gilberto Gutierrez	11/16/18	2574.88	1623.05	Direct Dep
Ross Kawamura	11/16/18	4035.98	2310.53	Direct Dep
Tim Kerr	11/16/18	7077.17	5630.14	Direct Dep
Erich Quiring	11/16/18	2294.16	1528.38	Direct Dep
Jose Ramirez	11/16/18	2574.88	1850.74	Direct Dep
Zerimar Robles	11/2/18	1005.77	856.16	6671
PP ending 11/30/18				
Malane Chapman	12/1/18	3190.88	2060.16	Direct Dep
Elvin Diaz	12/1/18	2163.92	1588.97	Direct Dep
David Diaz	12/1/18	2294.16	1400.71	Direct Dep
Gilberto Gutierrez	12/1/18	2574.88	1623.03	Direct Dep
Ross Kawamura	12/1/18	4035.98	2310.53	Direct Dep
Lucas Kelley	12/1/18	640.00	528.21	6722
Tim Kerr	12/1/18	7077.17	5630.14	Direct Dep
Erich Quiring	12/1/18	2294.16	1528.39	Direct Dep
Jose Ramirez	12/1/18	2574.88	1850.75	Direct Dep
	Total	\$51,482.95	\$37,369.74	

Employee & Relief GM Taxes

	DATE	AMOUNT	CHK#
PP ending 11/15/18			
Federal Tax Payment	11/16/18	\$5,773.66	EFT
CA Withholding & SDI	11/16/18	\$1,179.98	EFT
CA UI & ETT	11/16/18	\$0.00	EFT
PP ending 11/30/18			
Federal Tax Payment	12/1/18	\$5,714.74	EFT
CA Withholding & SDI	12/1/18	\$1,173.13	EFT
CA UI & ETT	12/1/18	\$11.52	EFT
	Total	\$13,853.03	

Employee Pension

	DATE	AMOUNT	CHK#
PP ending 11/15/18			
PERS Retirement Contribution (Unfunded Liability)	11/6/18	\$4,322.61	EFT
PERS Retirement Contribution	11/16/18	\$4,009.48	EFT
457 Deferred Comp (Employee Paid)	11/16/18	\$2,481.23	EFT
457 District Contribution	11/16/18	\$80.00	EFT
PP ending 11/30/18			
PERS Retirement Contribution	12/1/18	\$4,009.46	EFT
457 Deferred Comp (Employee Paid)	12/1/18	\$2,481.23	EFT
457 District Contribution	12/1/18	\$80.00	EFT
	Total	\$17,464.00	

Total of Invoices Paid and Payroll	\$70,234.95
---	--------------------

American River Flood Control District

Endorsement of CA CVFPB Permit Application – CalTrans Scour Mitigation

Staff Report

Discussion:

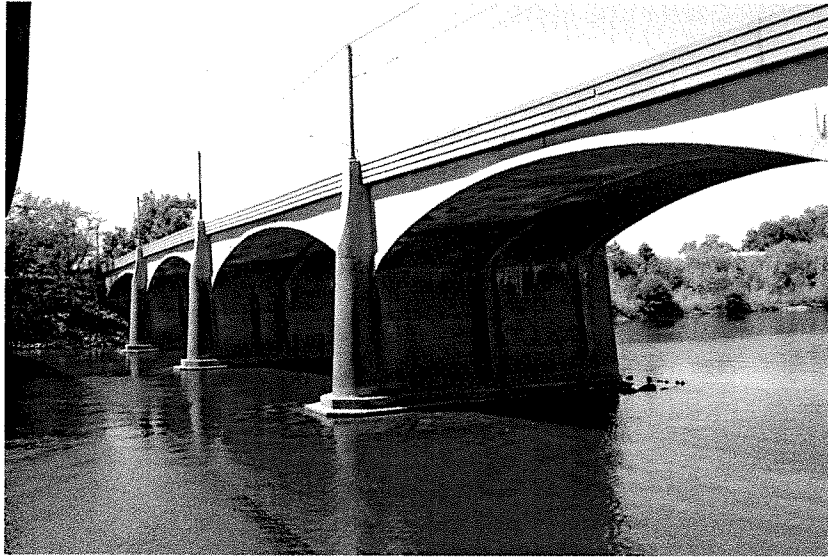
The CA Department of Transportation (CalTrans) has determined that the State Route 160 bridge crossing of the American River needs additional measures to prevent scour at the bridge piers. Scour is aggressive erosion under high flows that could undermine the footings of the bridge and cause a failure. The engineers at CalTrans initially proposed installing sheet piles into the bed of the river in a box configuration around the existing piers to protect the piers from being undermined. The proposal was revised to substitute rock revetment in place of the sheet piles because of the concern that the sheet piles would be undermined by scour. The rock revetment will be placed at a 3 to 1 slope extending out from each bridge pier in the channel.

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)

November 21, 2018

**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 remove, and replace the existing RSP around the bridge piers. 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: N/A

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

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

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. Rock Slope Protection (RSP) has been selected as the preferred alternative. The existing RSP will be removed down to the mudline, filter fabric will be placed around and on the existing piers, and new RSP will be placed around each pier. The footprint of the RSP around each pier will extend either 10'-0" or 25'-0" beyond the existing piers. Please see Structural Drawings for more detailed information. Removal and installation of new RSP is expected to be performed with an excavator and/or crane.

To place the RSP, 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 park². 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 to provide maximum flexibility and efficiency with regards to methods of construction.

The amount of work involved in installing the RSP may require more than one construction season³. If that happens, the trestle can be removed during non-construction months.

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

² Riverdale Resort, 1501 Northgate Blvd, Sacramento CA 95815.

³ Per the project Final Environmental Document, the in-water construction season will be from July 15th to October 15th of each year.

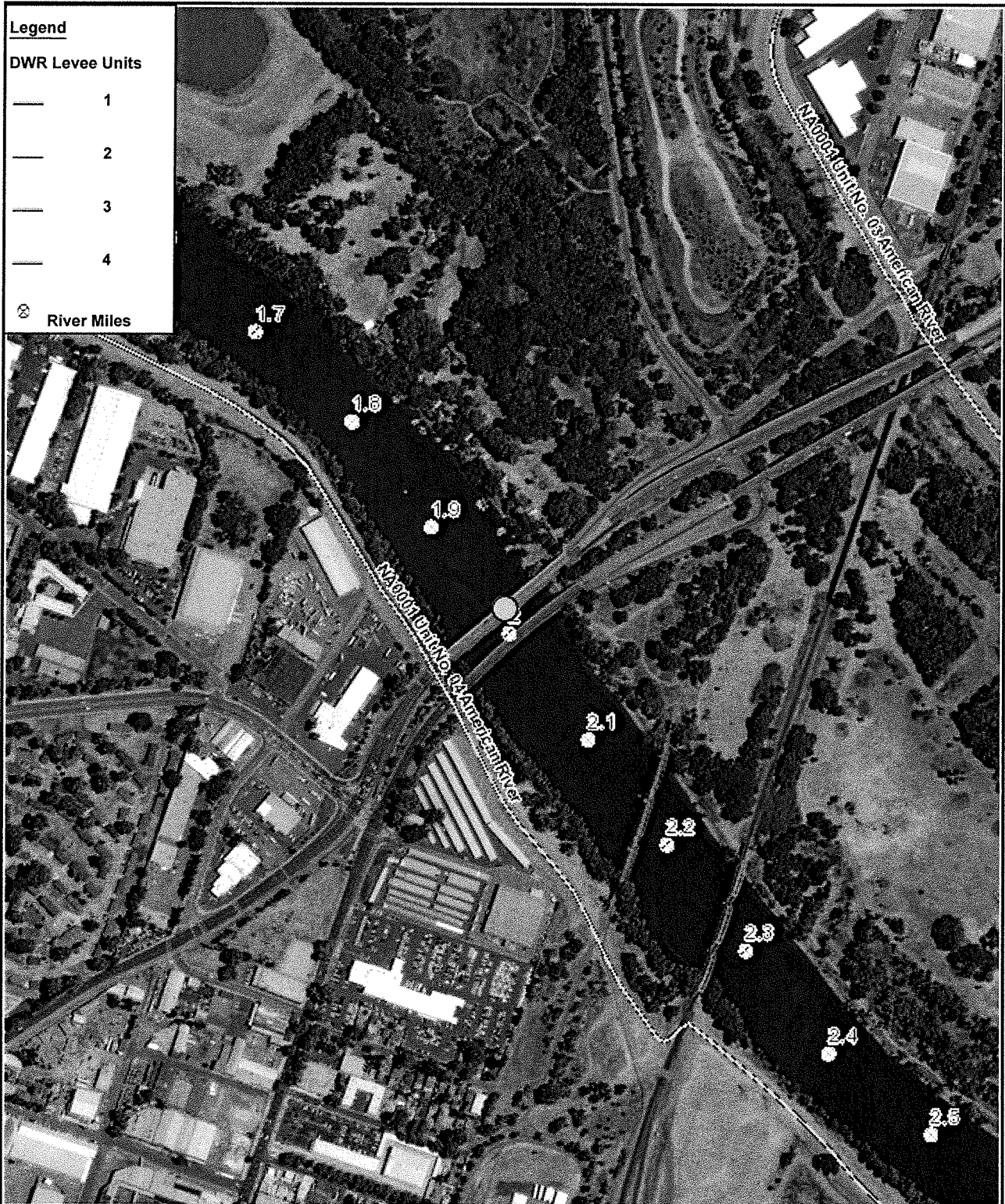
EA: 03-3F540
PID: 03-13000136

CVFPB Encroachment Permit


Attachment 1-A

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.



0 600ft





Datum: NAD_1983 Projection: Albers
 Zone: Units: Mile

Sources:
 [Enter source here]

[Enter title here]

[Enter sub title here]

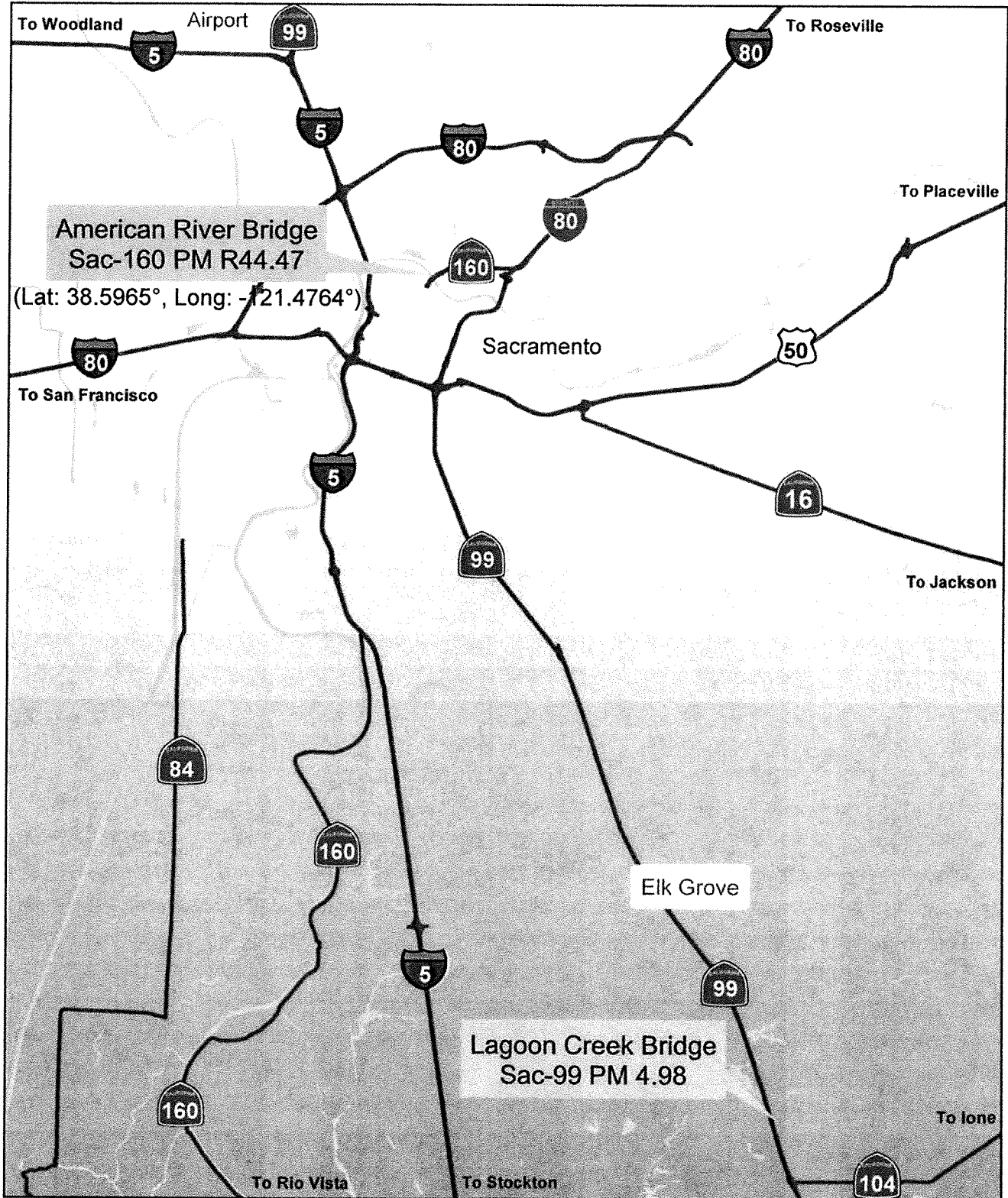
		
Prepared By: [Enter name here]	Figure:	
Job No:	Date: May 10 2018	
File:		

EA 3F540K

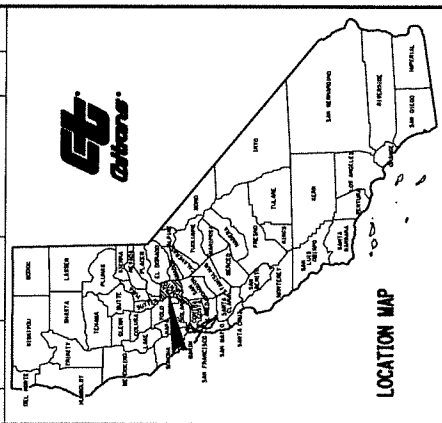
LOCATION MAP

SCOUR MITIGATION - American River & Lagoon Creek

SAC-160 PM 44.47, SAC-99 PM 4.98



DIST	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	SHEETS
03	Sac	160	44.47	1	7



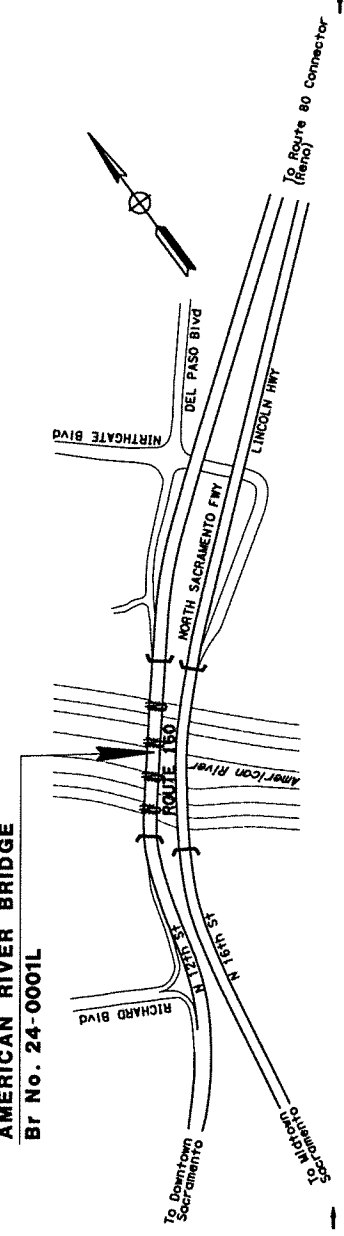
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY**
IN SACRAMENTO COUNTY AT
THE AMERICAN RIVER BRIDGE
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

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.

AMERICAN RIVER BRIDGE
Br No. 24-0001L



PROJECT ENGINEER
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.

PROJECT ENGINEER
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.

CONTRACT No.	03-3F540
PROJECT ID	0313000136
PROJECT NUMBER & PHASE	0313000136

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

DESIGN MANAGER	
PROJECT MANAGER	
BORDER LAST REVISED 8/1/2016	CALTRANS WEB SITE IS: HTTP://WWW.DOT.CA.GOV/
RELATIVE BORDER SCALE	0 1 2 3 15 IN INCHES
USER NAME	0313000136
DOB FILE #	031300013600001.dgn
UNIT	0304

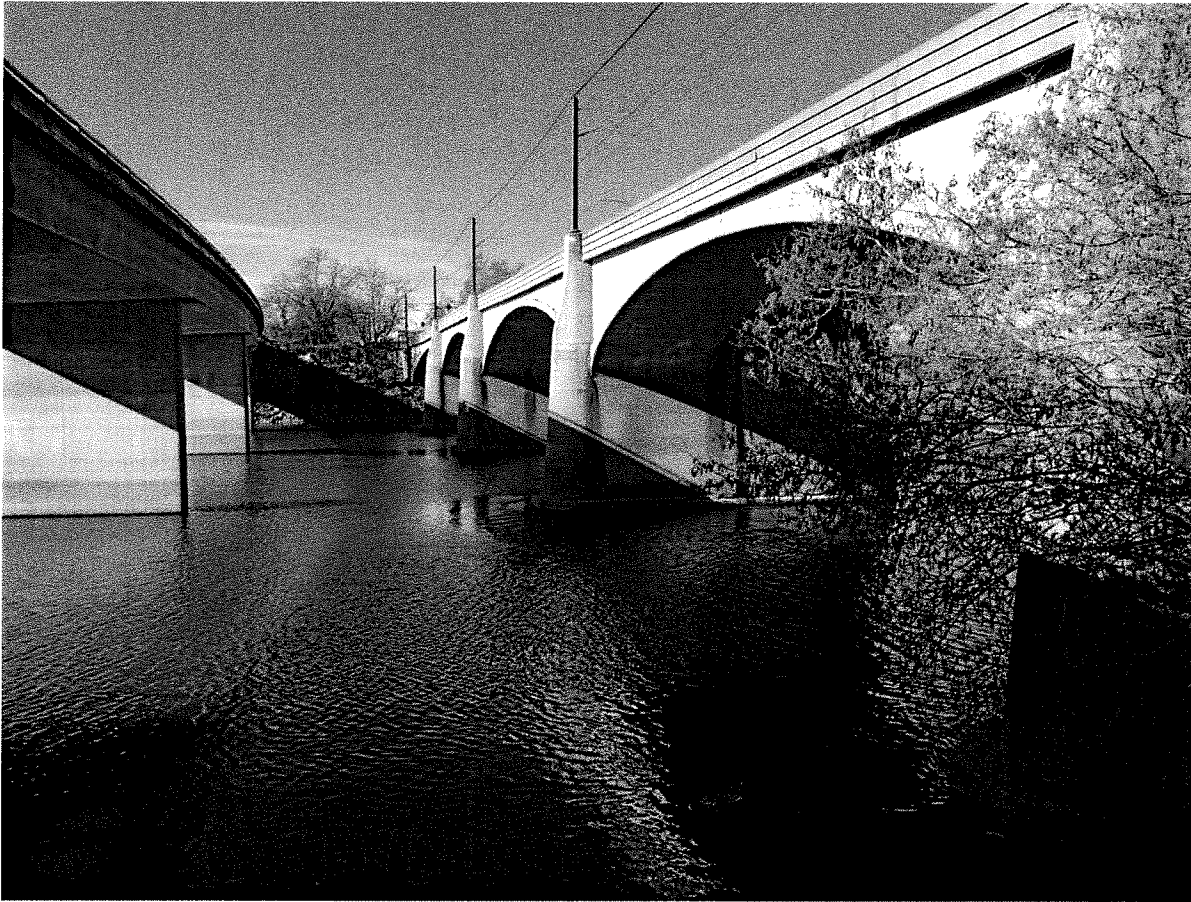


Figure 4. 1 - View of the 12th Street Bridge (right) and the 16th Street Bridge (left) along State Route 160 across the American River. This view is looking south-west. In this view Abutment 1 (south bank) can be seen, as well as Piers 2, 3, 4, and 5. Abutment 6 (north bank) is not shown. A federal levee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

Dist	County	Route	Post Miles	Total Project	SHEET	Total
03	Soc	160	44.47		2	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

PROFESSIONAL ENGINEER

Seon M. Show
No. 81008
Exp. 08-31-13

CIVIL

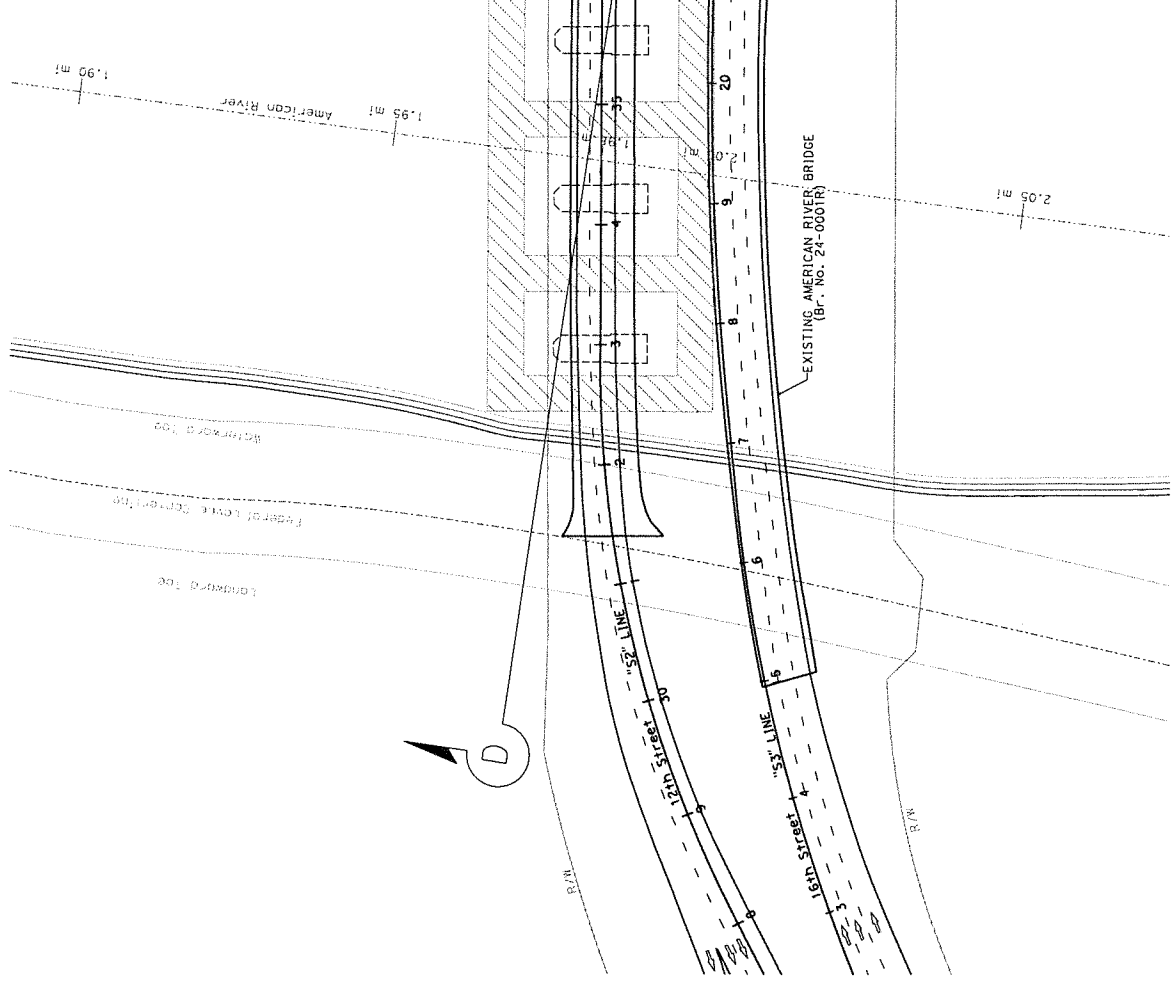
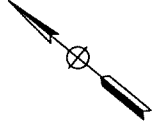
DATE PLOTTED => 20-Nov-2018
TIME PLOTTED => 08:20

- 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 DMR LEVEE MILE CALCULATOR AT www.dmr.ca.gov/levee/milecalc.htm.
 - THE LIMITS AND CENTERLINE SHOWN FOR THE LEVEE, IN THE ARCHIVE 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



PROPOSED PROJECT LAYOUT

SCALE: 1" = 100'-0"

PROJECT NUMBER & PHASE

UNIT 0304

03130001361

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE REVISOR
Seung P Hong	Seon M Show	TBD		
03-DESIGN				

USERNAME => s114530
DWG FILE => 031800026.dwg001.dwg

BORDER LAST REVISED 7/2/2010

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Soc	160	44.47	3	7

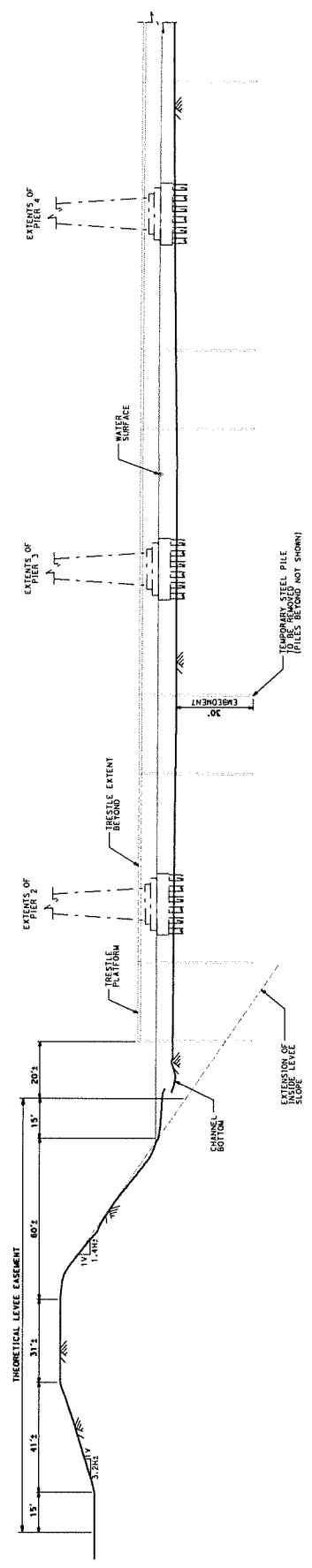


REGISTRATION ENGINEER
Sean M. Shaw
 License No. 06-3619
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE
 REGISTERED CIVIL ENGINEER DATE

THE STATE OF CALIFORNIA AND ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION SHOWN ON THESE PLANS.

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



SECTION D-D
 1"=40'-0"

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

DIST	COUNTY	ROUTE	SHEET NO.	TOTAL SHEETS
03	Soc	160	PPPP	PPPP

REGISTERED CIVIL ENGINEER	DATE	X
DAVID J. ROMERO	01/15/2018	
PLANS APPROVAL DATE		
NO. 01-36-13		
STATE OF CALIFORNIA		

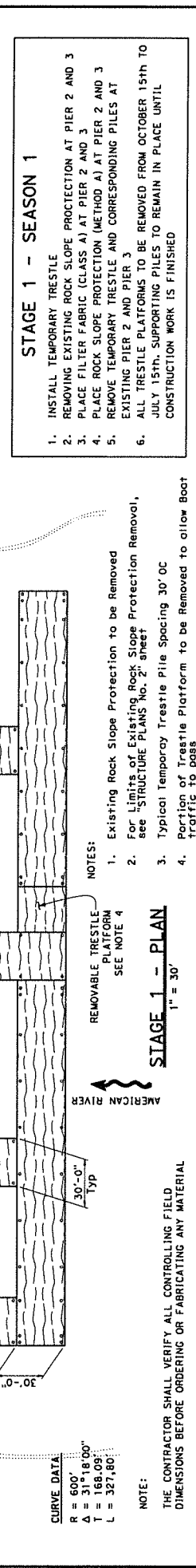
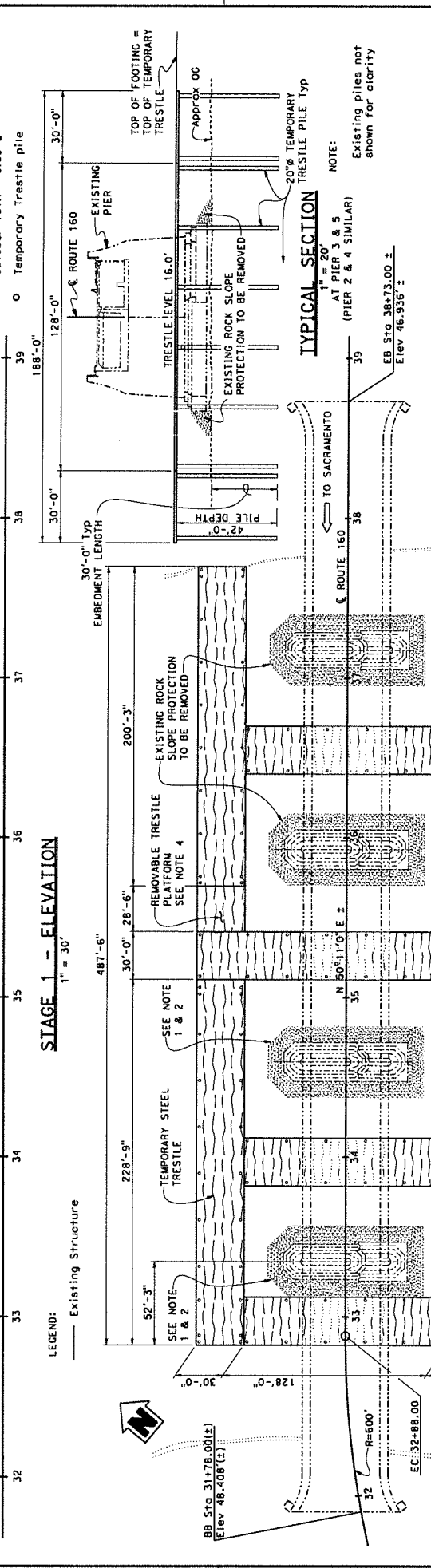
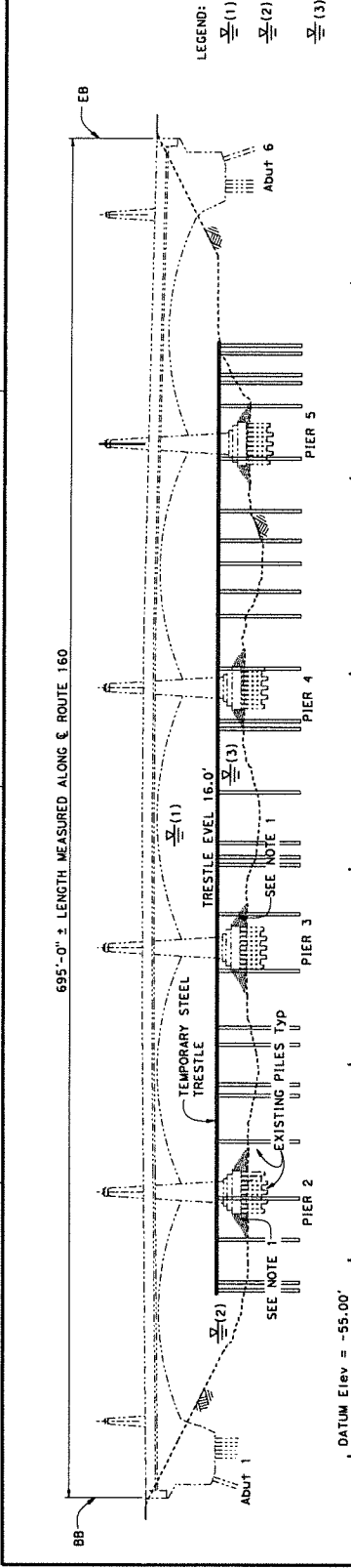
LEGEND:

(1) High water mark during A 100 year Storm 37.0' ±

(2) High water mark during Construction window July 15th through October 15th = 14.86' ±

(3) Low water mark during Construction window July 15th through October 15th = 8.86' ±

○ Temporary Trestle pile



STAGE 1 - ELEVATION
1" = 30'

STAGE 1 - PLAN
1" = 30'

STAGE 1 - SEASON 1

- INSTALL TEMPORARY TRESTLE
- REMOVING EXISTING ROCK SLOPE PROTECTION AT PIER 2 AND 3
- PLACE FILTER FABRIC (CLASS A) AT PIER 2 AND 3
- PLACE ROCK SLOPE PROTECTION (METHOD A) AT PIER 2 AND 3
- REMOVE TEMPORARY TRESTLE AND CORRESPONDING PILES AT EXISTING PIER 2 AND PIER 3
- ALL TRESTLE PLATFORMS TO BE REMOVED FROM OCTOBER 15TH TO JULY 15TH. SUPPORTING PILES TO REMAIN IN PLACE UNTIL CONSTRUCTION WORK IS FINISHED

NOTE:
Existing piles not shown for clarity

LEGEND:
Existing Structure

DATE PLOTTED: 15-NOV-2018
FILE: D:\24-00011-C-1601.dwg
USER: DMR
PLOTTER: HP-GL-PTL

DESIGN BY: David Romero
CHECKED BY: Mili Yu
DATE: 11/15/2018

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 17

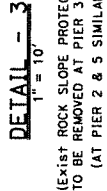
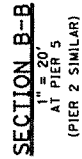
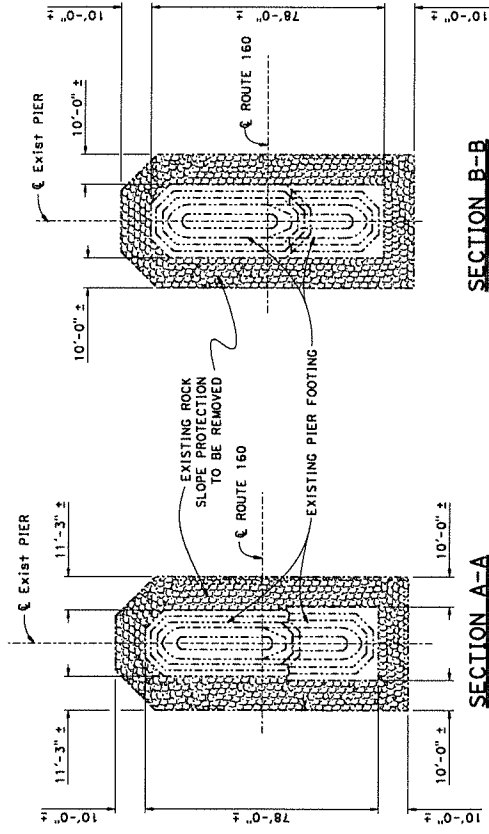
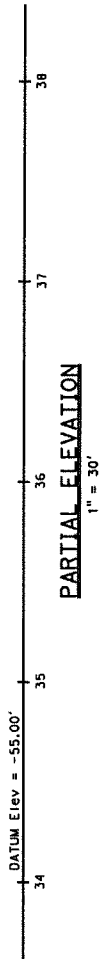
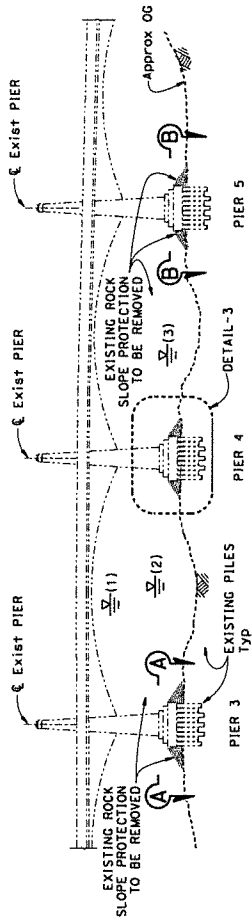
AMERICAN RIVER BRIDGE
STRUCTURE PLANS No. 1

UNIT: 3586
PROJECT NUMBER & PHASE: 0313000136 & 1
CONTRACT NO.: 03-3F5404
SHEET NO. 2 OF 20

DIST	COUNTY	ROUTE	PROJECT TOTAL SHEETS	SHEET NO.	TOTAL SHEETS
03	Soc	160	PPPP		

REGISTERED CIVIL ENGINEER	DATE	PROFESSIONAL ENGINEER
AM/DD/YYYY		DAVID A. RICHMOND
PLANS APPROVAL DATE		61940
THE STATE OF CALIFORNIA IN ITS OFFICE OF HIGHWAYS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SUMMED COPIES OF THIS PLAN SHEET.		

- LEGEND:
- $\frac{\text{---}}{\text{---}}$ (1) High water mark during A 100 year Storm 37.0 ±
 - $\frac{\text{---}}{\text{---}}$ (2) High water mark during Construction window July 15th through October 15th = 14.66 ±
 - $\frac{\text{---}}{\text{---}}$ (3) Low water mark during Construction window July 15th through October 15th = 8.86 ±
 - Existing Structure



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

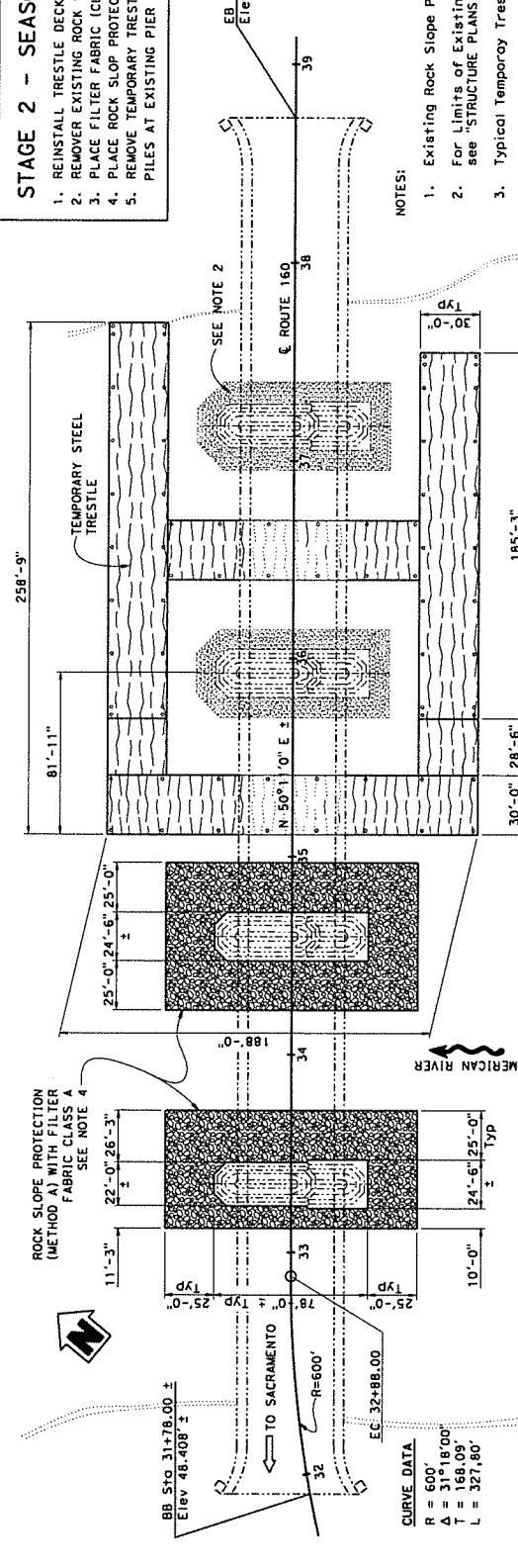
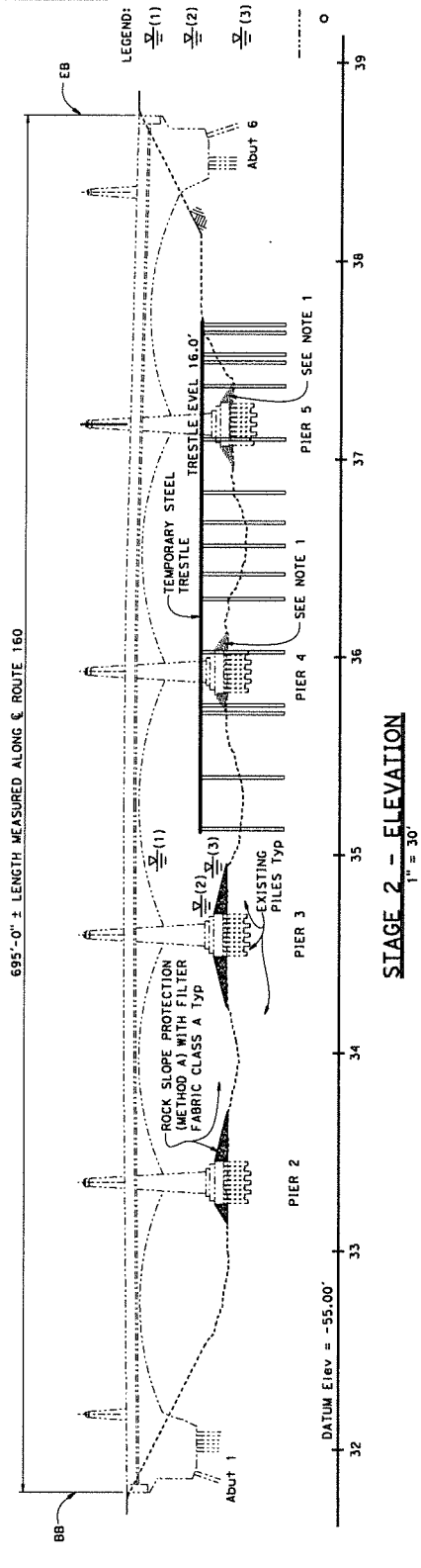
DIVISION OF ENGINEERING SERVICES		DESIGN BRANCH 17	UNIT: 3386	PROJECT NUMBER & PHASE: 0313000136 & 1	CONTRACT NO.: 03-35104
STATE OF CALIFORNIA		DEPARTMENT OF TRANSPORTATION	AMERICAN RIVER BRIDGE	STRUCTURE PLANS NO. 2	
DESIGN	BY: David Roberto	CHECKED	DATE PLOTTED: 15-NOV-2018	THE PLOTTED: 14448	ORIGINAL SCALE
DETAILS	BY: Min Tu	DESIGNED	FILE # 24-000112-0-0002-00	USERNAME: d119193	REDUCED SCALE
QUANTITIES	BY:	CHECKED			
STRUCTURE PLANS NO. 2			SHEET 3		

DIST	COUNTY	ROUTE	SHEET NO.	TOTAL SHEETS
03	Soc	160	PPPP	PPPP

REGISTERED CIVIL ENGINEER	DATE	X
MM/DD/YYYY		

PLANS APPROVAL DATE	REGISTERED PROFESSIONAL ENGINEER
MM/DD/YYYY	DAVID J. ROMERO
	NO. 81248
	EXP. 06-30-13
	STATE OF CALIFORNIA

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



STAGE 2 - SEASON 2

1. REINSTALL TRESTLE DECK
2. REMOVE EXISTING ROCK SLOPE PROTECTION AT PIER 4 AND 5
3. PLACE FILTER FABRIC (CLASS A) AT PIER 4 AND 5
4. PLACE ROCK SLOPE PROTECTION (METHOD A) AT PIER 4 AND 5
5. REMOVE TEMPORARY TRESTLE AND CORRESPONDING PILES AT EXISTING PIER 4 AND PIER 5

NOTES:

1. Existing Rock Slope Protection to be Removed
2. For Limits of Existing Rock Slope Protection Removal, see "STRUCTURE PLANS No. 2" sheet
3. Typical Temporary Trestle Pile Spacing 30' 0"
4. For Details not shown, see "DETAIL-1" on sheet "GENERAL PLAN" sheet
5. Pier 5 Similar Pier 2 Reverse, Pier 4 Similar Pier 3

STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		STRUCTURE DESIGN	
DEPARTMENT OF TRANSPORTATION		DESIGN BRANCH 17		PROJECT NO. 03-35404	
DATE PLOTTED → 15-NOV-2018	TIME PLOTTED → 14:48	ORIGNAL SCALE	UNIT: 3546	PROJECT NUMBER & PHASE: 0313000136 & 1	CONTRACT NO.: 03-35404
FILE → 21-00011-C-003-001	USERNAME → j151953	ORIGNAL SCALE	UNIT: 3546	PROJECT NUMBER & PHASE: 0313000136 & 1	CONTRACT NO.: 03-35404
DESIGN	BY David Romero	CHECKED	X	DATE	11/15/18
DETAILS	BY Min Tu	APPROVED	X		
QUANTITIES	X	DATE	X		
STRUCTURE PLAN NO. 3					
STRUCTURE PLANS NO. 3					
STRUCTURE PLANS NO. 3					

Memorandum

To: Gary Joe
Branch Chief
Bridge Design 17
At: David Romero

Date: October 23, 2018

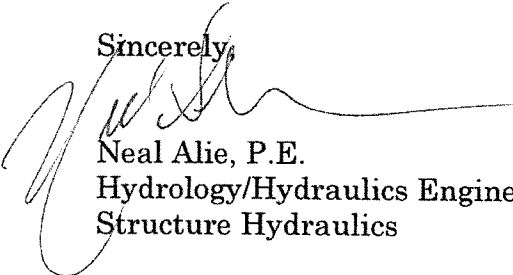
File: American River
Br. No. 24-0001L
03-SAC-160-PM 44.47
EA 03-3F540
Project ID: 03-1300-0136

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

Subject: Final Hydraulic Report

Attached is the Final Hydraulic Report (FHR) for the proposed scour countermeasure for the American River Bridge (Left) on SR 160 in Sacramento County at PM 44.47. This report should supersede all other FHR's submitted. 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

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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

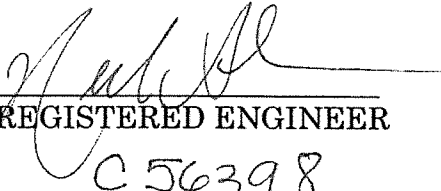
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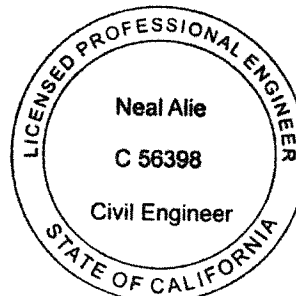
October 23, 2018

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



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Hydrology/Hydraulic Report

1.0 General

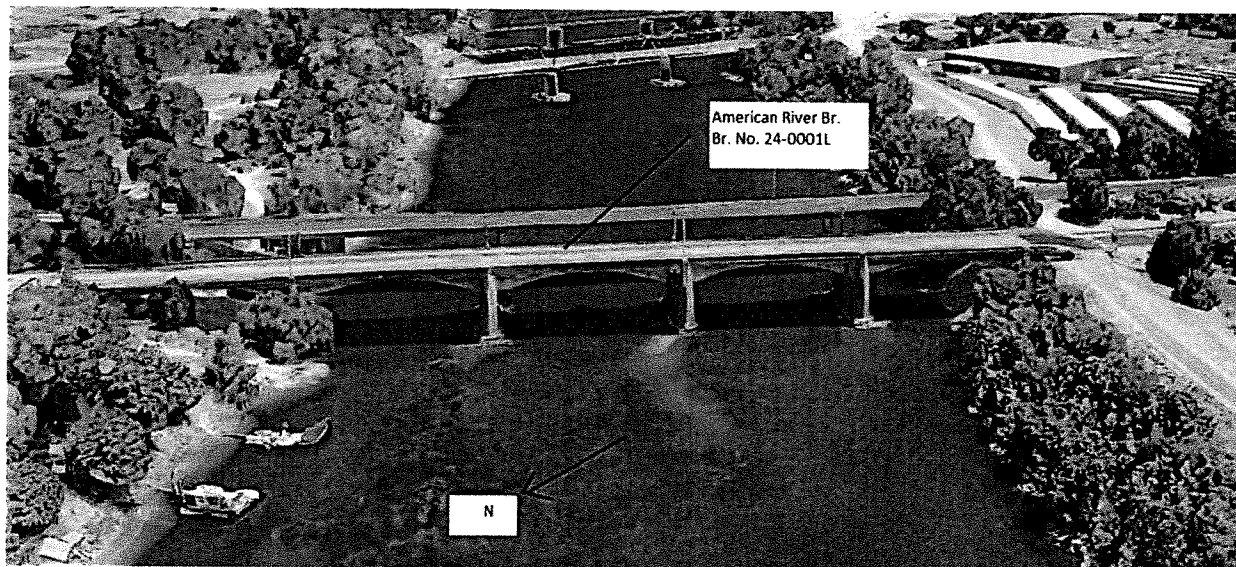


Figure 1- American River Bridge, Br. No. 24-0001L on SR 160

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 has proposed removing the existing Rock Slope Protection (RSP) around the piers and installing new half ton RSP with filter fabric using Method A.

This report makes extensive reference to the (1) Caltrans Bridge Maintenance

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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 several 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 Main Drainage Canal in southern Sutter and northern Sacramento Counties. The Natomas

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

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.

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

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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 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 RSP 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).

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.

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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

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.

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Proposed Condition

The proposed condition includes the installation of RSP at Piers 2 through 5 and should not affect 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	6.92	8.27	0.0	0.0

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

Streambed materials at the bridge site were mostly composed of loose granular material such as sand and gravel.

According to the Caltrans Maintenance records this bridge has a history of scour. The channel has degraded approximately 10 feet between 1934 and 1970. However, channel cross-sections taken in 1987, 2001 and 2006 indicate the degradation has stabilized.

Underwater Inspections were completed in 1998, 2003, 2008 and 2012 revealing various levels of footing and pile exposure at Piers 2 through 5. The most recent underwater inspection completed on 9/12/2017 revealed the following:

Previously Installed 2 to 3-foot nominal dimension RSP was in place around Piers 2, 3 and 4. The RSP had large voids which allowed water to flow through it. Approximately 10 to 15-feet of the upstream nose of these pile caps were undermined by about 1.5 feet. Due to the presence of the RSP there was limited access to the undermined area. There could be up to 20 exposed piles on each pier, however only Pier 3 had access to the undermined area due to a section at the south side that had no RSP present. This section extended from the upstream nose downstream approximately 10 feet with 3 piles exposed.

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In general, the surrounding channel bottom at Piers 2, 3 and 4 was approximately at elevation -4.5 (As-Builts). The RSP sloped up at 35 to 45 degrees to be level at slightly above the third footing step from the top at an average elevation of 4.0 feet (As-Builts).

At Pier 5 there was no RSP and undermining was found at several locations at the upstream span 4 side. The undermining was approximately 1.0 feet in height at the corner exposing one steel pile and 1.6 feet in height at the middle of the Pier.

In 2010, the bridge scour potential was calculated to be 16.8 ft deep at elevation (-21.6 ft). SM&I Ratings and the Office of Geotechnical Support 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 several alternatives were discussed including engineered RSP, Sheet piles and bridge replacement. It was unanimously decided to proceed with the sheet pile alternative.

On 09/27/2018 a PDT meeting was held to discuss the potential impact the sheet piles could have on the existing foundation and constructability. Structure Design decided

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against the sheet piling due to issues regarding the stability of the sheet piles confinement (for both seismic and service loads) of the piers at the maximum scour depth of 35 feet. In addition, there was a potential of liquefaction around the existing piles during the installation of the sheet piles.

The scope of the project was changed to remove the existing RSP around the piers and install new RSP with filter fabric using Method A.

Structure Hydraulics recommends designing the RSP according to The FHWA Hydraulic Engineering Circular, (HEC-23), "Bridge Scour and Stream Instability Countermeasures". This would be a more permanent solution and would require excavation and a coffer dam to divert water. The District chose not to proceed with the standard FHWA RSP Design to avoid any need for a coffer dam or any excavation.

It is important to note that installing the RSP without following the FHWA guidelines would be a temporary scour countermeasure that will have a limited life span.

Structure Hydraulics has the following recommendations for placement of the RSP:

- Half Ton RSP with a diameter of 24 inches should be used.
- The RSP should extend 25 feet from all directions from the lowest step footing at a 3:1 slope.
- The RSP should be placed flush with the top of the lowest step footing. This may differ from one pier to the next.
- Filter Fabric should not be extended fully beneath the RSP and instead terminate 16.5 feet from the edges of the RSP. The filter fabric should extend vertically to the top of the step footing in all directions.
- Any existing loose rocks should be removed from under the bridge prior to placement of proposed countermeasure.
- The recommended countermeasure should be inspected during the bi-annual bridge maintenance inspections and after significant storm events to determine countermeasure performance.

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.

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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.

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 with RSP Installed

Support No.	Long Term (Degradation and Contraction) Scour Elevation (ft)*	Short Term (Local) Scour Depth (ft)
Abutment 1	39.00	0.00
Pier 2	-1.70	0.00
Pier 3	-0.60	0.00
Pier 4	0.00	0.00
Pier 5	1.10	0.00
Abutment 6	39.00	0.00

*There is no anticipated degradation, contraction or local pier scour with the temporary installed RSP as long it is functioning properly, this is the existing approximate ground elevation.

General Manager's Meeting Summary

November 2018

11/5: Annual Lower American River Erosion Inspection Tour. Trustee Johns and I participated in the annual erosion inspection of the Lower American River. The tour was coordinated by MBK Engineers and participants included staff from SAFCA, the US Army Corps of Engineers, and Sacramento County Regional Parks. No significant new erosion was identified.

11/8: Central Valley Regional Water Quality Control Board – Steelhead Creek Clean-up Coordination meeting. I attended this meeting to coordinate on a local homeless camp debris and trash clean-up effort being organized by the CVRWQCB. Participants included the City of Sacramento, County of Sacramento, RD 1000 and ARFCD. The Board was made aware of a large concentration of trash and contaminants in the Steelhead Creek flood channel and is hoping to have it removed prior to the rainy season.

11/9: American River Flood Control District Board of Trustees meeting. The Board met in regular session. The agenda items were a comment letter on the City of Sacramento's Two Rivers Trail environmental document and a resolution honoring Trustee William Pavao for his 8 years of service as he leaves office.

11/19: Central Valley Regional Water Quality Control Board – Steelhead Creek Clean-up Coordination meeting. I attended this meeting to coordinate on a local homeless camp debris and trash clean-up effort being organized by the CVRWQCB. Participants include the City of Sacramento, County of Sacramento, RD 1000 and ARFCD.

11/26: SAFCA Real Estate Tour of Arcade Creek. Superintendent Kawamura and I participated in levee tour with SAFCA and their consultants to identify areas where additional real estate should be acquired to maintain the completed North Sacramento Streams Project.

11/27: Deferred Maintenance Project Pipe Inspection Meeting with Mead and Hunt. I met with Nancy Moricz from Mead and Hunt to discuss the strategy for addressing the 'not-found' pipes listed in the State's data for our District. Mead and Hunt will overlay the locations of the 'not-found' pipes on a map of the American River slurry wall to show that those pipes would have been removed during construction, if they ever existed. The

remaining 'not-found' pipes will require additional investigation and comparison to other data within the levee reach.

11/28: Meeting with Mark Martin from WSP. Superintendent Kawamura and I met with Mark Martin, the construction manager for the North Sacramento Streams project, to discuss a small number of final project close out items we would like to see addressed.

11/30: Meeting with Land Owner at Sunbeam Avenue. Superintendent Kawamura and I met with Lisa Berg, the owner of numerous parcels along Sunbeam Avenue in the River District of Sacramento. Ms. Berg asked if we could modify our levee access gate to prevent pedestrians from traversing through her property. Ross offered to provide gate and fence designs that the District could fabricate and install to rectify the situation.