

STATE OF CALIFORNIA

County of Sacramento

} ss.

Oath of Office

For the office of _____

I, _____, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States and the Constitution of the State of California against all enemies, foreign and domestic; that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of the State of California; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties upon which I am about to enter.

Officeholder Signature

Subscribed and sworn to before me, this _____ day of _____, 20_____.

Signature of Person Administering Oath

Term Expires: _____

November 13, 2020
Sacramento, California

In Compliance with CA Executive Orders N-25-20 and N-29-20 the Board of Trustees of the American River Flood Control District met in regular session at 11:00 a.m. on Friday, November 13, 2020 by teleconference. In attendance were Trustee Shah, Trustee Johns Trustee Holloway, Trustee L'Ecluse and Trustee Vander Werf. Trustee Shah presided. Also present from the District were General Manager (GM) Tim Kerr, Superintendent Ross Kawamura, Field Supervisor Scott Webb, Legal Counsel Julia Jenness, Legal Counsel Rebecca Smith, Legal Counsel Austin Cho, and Office Manager Malane Chapman. Two members of the public were present.

The meeting was called to order at 11:00 a.m. Roll call was taken and a quorum was present.

Item No. 1 Public Comments on Non-Agenda Items: No public comment on non-agenda items.

Item No. 2 Approval of Consent Agenda Items: On a motion by Trustee Holloway seconded by Trustee Johns, the Board unanimously approved items 2a) Minutes of Regular Meeting on October 16, 2020, 2b) Approval of Report of Investment Transactions September 2020 (City Pool, LAIF, River City) and Treasurer's Certification and 2c) District Financial Reports: Statement of Operations (October 2020) and Cash Flow Report

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee L'Ecluse:	AYE
Trustee Holloway:	AYE	Trustee Shah:	AYE
Trustee Johns:	AYE		

Item No. 2d Correspondence: Letter received from Donald Lockhart, Sacramento LAFCo Executive Officer – Nomination for "Office B" Membership on Special District Advisory Committee (SDAC): Trustee Vander Werf express interest in this position. On a motion by Trustee Holloway seconded by Trustee Johns, the Board unanimously nominated Trustee Vander Werf.

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee L'Ecluse:	AYE
Trustee Holloway:	AYE	Trustee Shah:	AYE
Trustee Johns:	AYE		

Item No. 3 Accounts Payable and General Fund Expenses (October 2020): Trustee Holloway inquired on payments to Kent Arborist Services. Trustee L'Ecluse inquired on payment to Rua & Son Mechanical, Inc. Following explanation by staff and on a motion by Trustee Holloway seconded by Trustee Vander Werf, the Board unanimously approved payments on the Schedule of Accounts Payable (October 2020) of \$217,996.67 and General Fund Expenses of \$265,485.77 (total aggregate sum \$483,482.44).

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee Holloway:	AYE
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Trustee Johns:	AYE	Trustee Shah:	AYE
Trustee L'Ecluse:	AYE		

Item No. 4 Closed Session: Conference with Legal Counsel – Personnel: Government Code 54957 – General Manager’s Incentive Compensation Plan
At 11:04 a.m. The Trustees met in closed session with District Counsel Jenness. The Trustees returned to open session at 11:15 a.m.

Item No. 5 Open Session: Conference with Legal Counsel – Personnel: Government Code 54957 – General Manager’s Incentive Compensation Plan: District Counsel Jenness reported that in-order for incentives to be included in CalPERS a written compensation plan needs to be in place. On a motion by Trustee Vander Werf seconded by Trustee L'Ecluse, the Board unanimously approved a written compensation plan for the Fiscal Year 2020-2021 General Manager incentive bonus for up to a maximum 2% base salary compensation.

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee L'Ecluse:	AYE
Trustee Holloway:	AYE	Trustee Shah:	AYE
Trustee Johns:	AYE		

Items 4 and 5 were heard out of order.

Item No. 6 Designation of Surplus Equipment: Peterbilt Dump Truck, Moorbark Chipper and various small equipment: Following explanation by staff and on a motion by Trustee L'Ecluse seconded by Trustee Johns the Board unanimously approved this item.

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee L'Ecluse:	AYE
Trustee Holloway:	AYE	Trustee Shah:	AYE
Trustee Johns:	AYE		

Item No. 7 CA Central Valley Flood Board Encroachment Application (James): Following explanation by staff and on a motion by Trustee L'Ecluse seconded by Trustee Johns, the Board elected not to support this application.

Roll Call Vote:

Trustee Vander Werf:	AYE	Trustee L'Ecluse:	AYE
Trustee Holloway:	AYE	Trustee Shah:	AYE
Trustee Johns:	AYE		

Item No. 8 Administrative Staff Reports:

- a) *General Manager Tim Kerr reported on the following:*
 - General Manager’s October Meeting Summary;

- District Roof Repair/Replacement Update: Currently have no HVAC, roof completed this week. Trustee Shah asked where we are in comparison to the original estimate, \$305,933.25 compared to the estimate of \$327,080.00;
- Process for Solicitation of Legal Services;
- Homeless Camp Levee Standards/Declaration;
- Hydrologic Conditions: websites not available at time of the meeting;
- Next Board Meeting is scheduled for December 11, 2020.

b) *Legal Counsel Rebecca Smith had nothing further to report.*

c) *Office Manager Malane Chapman:*

- *Ethics Training to follow today's Board meeting*
- *Sexual Harassment – AB 1825: To be completed before December 4, 2020*

Item No. 9 Operations and Maintenance Staff Reports:

a) *Superintendent Ross Kawamura:*

- Crew activities including slope repair, gate/barriers, chainsaw training, rodent abatement, hazardous trees and erosion control.

Item No. 10 Questions and Comments by Trustees: Trustee Shah asked about ethics training. Trustee Vander Werf stated they will not be able to attend the training.

Item No. 11 Adjourn: There being no further business requiring action by the Board, the meeting was adjourned by Trustee Shah at 12:08 p.m.

Attest:

Secretary

President

**American River Flood Control District
Staff Report**

Investment Transactions Summary; October 2020

LAIF:

- On October, 2020 a quarterly interest deposit was received in the amount of \$987.89.

City Pool A

- Accrued Interest Receivable for the month of October was \$9,711.30.
- As of September 30, 2020, the balance of Interest Receivable in this account was \$43,665.72.

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

River City Bank Money Market:

- On October 16, 2020 a transfer was sent to River City Checking in the amount of \$400,000.00.
- On October 31, 2020 a monthly interest payment was deposited in the amount of \$112.96.

River City Bank Checking:

- On October 16, 2020 a transfer was received from River City Money Market in the amount of \$400,000.00.
- On October 30, 2020 a deposit was received from Department of Water Resources in the amount of \$23,425.36.
- On October 31, 2020 a monthly interest payment was deposited in the amount of \$34.77.
- Total amount of Accounts Payable cleared during the month of October was \$418,455.99.

**American River Flood Control District
Investment Transaction Report
October 2020**

Item 3b

Balance and Transactions

Account		LAIF	City Pool A	River City Bank Money Market	River City Bank Checking
Beginning Balance	10/1/20	\$465,223.75	\$8,823,516.56	\$650,914.63	\$350,840.77
Transactions					
LAIF Interest	10/15/20	\$987.89			
River City Bank Transfer	10/16/20			(\$400,000.00)	\$400,000.00
River City Checking Deposit	10/30/20				\$23,425.36
City Pool A Interest	10/31/20		\$9,711.30		
River City Bank Interest	10/31/20			\$112.96	\$34.77
Accounts Payable (cleared)					(\$418,455.99)
Ending Balance:	10/31/20	\$466,211.64	\$8,823,516.56	\$251,027.59	\$355,844.91

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

Interest

Date:	Nov 2019	Dec 2019	Jan 2020	Feb 2020
LAIF	2.10	2.04	1.97	1.91
City Pool A	2.41	2.21	2.17	2.18
River City Bank Money Market	1.88	1.78	1.76	1.71
River City Bank Checking	0.08	0.09	0.10	0.10
Date:	Mar 2020	Apr 2020	May 2020	June 2020
LAIF	1.79	1.65	1.36	1.22
City Pool A	2.22	1.97	1.81	1.77
River City Bank Money Market	1.57	1.26	1.13	0.90
River City Bank Checking	0.10	0.10	0.10	0.10
Date:	Jul 2020	Aug 2020	Sep 2020	Oct 2020
LAIF	1.22	0.78	0.69	0.62
City Pool A	1.77	1.44	1.57	1.29
River City Bank Money Market	0.69	0.60	0.40	0.30
River City Bank Checking	0.09	0.10	0.10	0.10

**American River
Flood Control
District**

AMERICAN RIVER FLOOD CONTROL DISTRICT

MONTHLY REVIEW – OCTOBER 2020

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.

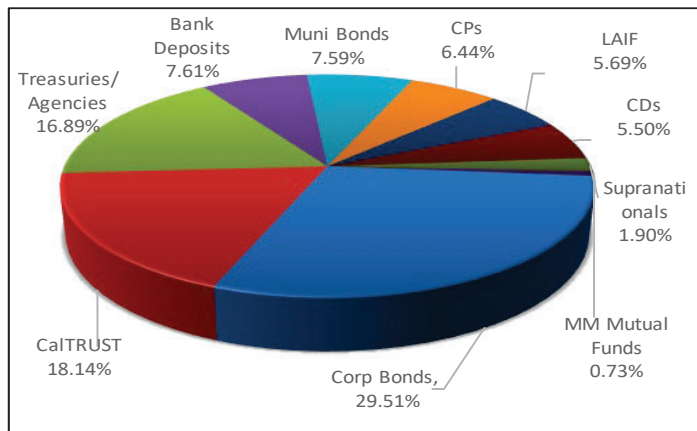
PORTFOLIO STATISTICS

Beginning Balance	8,857,471
Contributions	-
Withdrawals	-
Interest Earned	9,711
Ending Balance	8,867,182

PERFORMANCE COMPARISON

City Pool A	1.29%
LAIF	0.62%
90 Day T-Bill	0.09%
Federal Funds	0.09%

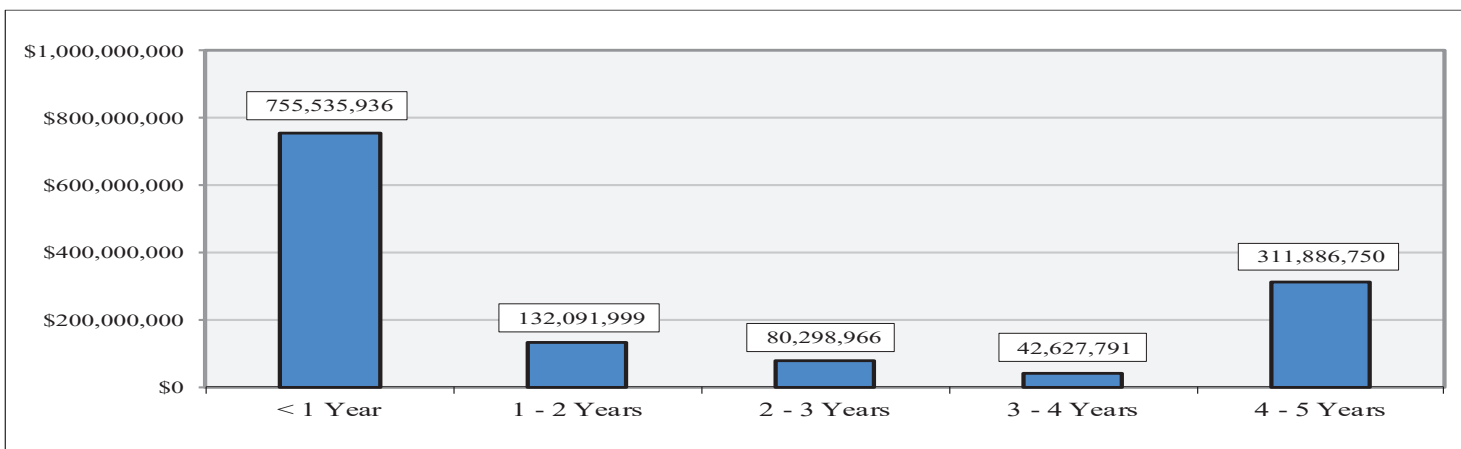
CITY POOL A PORTFOLIO COMPOSITION



Asset Type	Pct. Assets	YTM
Corp Bonds	29.51%	2.13%
CalTRUST	18.14%	0.67%
Treasuries/Agencies	16.89%	0.92%
Bank Deposits	7.61%	0.61%
Muni Bonds	7.59%	1.97%
CPs	6.44%	1.00%
LAIF	5.69%	0.62%
CDs	5.50%	1.13%
Supranationals	1.90%	1.74%
MM Mutual Funds	0.73%	0.01%

CITY POOL A MATURITY SCHEDULE

Maturity	Market Value	Pct. Holdings
< 1 Year	755,535,936	57.14%
1 - 2 Years	132,091,999	9.99%
2 - 3 Years	80,298,966	6.07%
3 - 4 Years	42,627,791	3.22%
4 - 5 Years	311,886,750	23.58%
Total	1,322,441,442	100.00%



City of Sacramento
CASH LEDGER
American River Flood Control District
From 10-01-20 To 10-31-20

All Cash Accounts

Trade Date	Settle Date	Tran Code	Quantity	Security	Amount	Cash Balance
Pool A Interest Receivable						
10-01-20				Beginning Balance		33,954.42
10-31-20	10-31-20	in		Pool A Cash	9,711.30	43,665.72
				Oct 2020 estimated Pool A interest		
					9,711.30	
10-31-20				Ending Balance		43,665.72
Pool A Cash						
10-01-20				Beginning Balance		8,823,516.56
10-31-20				Ending Balance		8,823,516.56

California State Treasurer *Fiona Ma, CPA*



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

November 03, 2020

[LAIF Home](#)
[PMIA Average Monthly Yields](#)

AMERICAN RIVER FLOOD CONTROL DISTRICT

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

[Tran Type Definitions](#)

Account Number: 90-34-002

October 2020 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Web Confirm Number	Authorized Caller	Amount
10/15/2020	10/14/2020	QRD	1657504	N/A	SYSTEM	987.89

Account Summary

Total Deposit:	987.89	Beginning Balance:	465,223.75
Total Withdrawal:	0.00	Ending Balance:	466,211.64



River City Bank

WWW.RIVERCITYBANK.COM

PO Box 15247, Sacramento, CA 95851-0247

Return Service Requested

Item 3b



Last statement: September 30, 2020

This statement: October 31, 2020

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	\$650,914.63
Low balance	\$250,914.63	Total additions	112.96
Average balance	\$444,463.02	Total subtractions	400,000.00
Avg collected balance	\$444,463	Ending balance	\$251,027.59
Interest paid year to date	\$4,089.03		

DEBITS

Date	Description	Subtractions
10-16	Cash Mgmt Trsfr Dr REF 2901605L FUNDS TRANSFER TO DEP XXXXX0736 FROM	400,000.00

CREDITS

Date	Description	Additions
10-31	Interest Credit	112.96

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
09-30	650,914.63	10-16	250,914.63	10-31	251,027.59

INTEREST INFORMATION

Annual percentage yield earned	0.30%
Interest-bearing days	31
Average balance for APY	\$444,463.02
Interest earned	\$112.96

AMERICAN RIVER FLOOD CONTROL DISTRICT
October 31, 2020

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0811100952

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 3b



Last statement: September 30, 2020

This statement: October 31, 2020

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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0811090736
(51)

Direct inquiries to:
916-567-2836

Public Fund Interest Checking

Account number	0811090736	Beginning balance	\$350,840.77
Enclosures	51	Total additions	423,460.13
Low balance	\$256,888.09	Total subtractions	418,455.99
Average balance	\$411,927.36	Ending balance	\$355,844.91
Avg collected balance	\$410,416		

CHECKS

Number	Date	Amount	Number	Date	Amount
7799	10-09	5,862.00	7856	10-28	262.17
7806 *	10-05	89.95	7857	10-27	2,714.69
7822 *	10-02	29,490.89	7858	10-26	85.70
7835 *	10-19	2,953.69	7859	10-23	7,500.00
7837 *	10-26	9,735.00	7861 *	10-27	150.00
7838	10-27	31,333.87	7863 *	10-29	2,030.79
7839	10-27	23,586.93	7864	10-30	3,915.00
7840	10-30	85.20	7865	10-26	596.73
7841	10-27	691.22	7866	10-27	1,473.75
7842	10-27	367.78	7867	10-26	130.63
7843	10-27	351.67	7869 *	10-26	1,327.54
7844	10-26	1,071.34	7871 *	10-27	597.71
7845	10-26	350.00	7872	10-28	522.41
7846	10-26	97.22	7873	10-26	30.00
7847	10-26	2,420.50	7875 *	10-19	739.99
7848	10-27	348.04	7876	10-23	733.28
7849	10-29	184.00	7877	10-27	337.50
7850	10-26	1,927.00	7879 *	10-22	169,669.80
7852 *	10-26	477.52	7880	10-30	1,709.68
7853	10-28	290.00	7881	10-29	1,343.28
7854	10-26	696.96	7882	10-29	526.50
7855	10-27	1,772.98	7883	10-29	1,074.69

AMERICAN RIVER FLOOD CONTROL DISTRICT
October 31, 2020

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0811090736

Number	Date	Amount	Number	Date	Amount
7884	10-26	848.04	7891	10-26	519.68
7888 *	10-30	1,767.92	7892	10-29	6,294.90
7889	10-30	50.35	* Skip in check sequence		
7890	10-27	434.83			

DEBITS

Date	Description	Subtractions
10-01	' ACH Withdrawal HEALTHEQUITY INC HealthEqui 201001	150.00
10-01	' ACH Withdrawal CALPERS 1900 100000016191095	3,065.74
10-01	' ACH Withdrawal CALPERS 3100 100000016131575	2,125.98
10-01	' ACH Withdrawal CALPERS 3100 100000016131533	3,490.42
10-14	' ACH Withdrawal CALPERS 1900 100000016192501	127.94
10-14	' ACH Withdrawal CALPERS 3100 100000016169928	2,434.52
10-14	' ACH Withdrawal CALPERS 3100 100000016169887	3,865.57
10-14	' ACH Withdrawal CALPERS 1900 100000016192492	6,404.99
10-14	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 201014 946000047	1,642.69
10-15	' ACH Withdrawal CALPERS 1900 100000016200420	3,115.74
10-15	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 201015 946000047	32,086.25
10-16	' ACH Withdrawal HEALTHEQUITY INC HealthEqui 201016	152.95
10-22	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 201022 946000047	535.66
10-30	' ACH Withdrawal CALPERS 3100 100000016169952	2,434.52
10-30	' ACH Withdrawal CALPERS 3100 100000016169908	3,084.12
10-30	' ACH Withdrawal INTUIT PAYROLL S QUICKBOOKS 201030 946000047	32,165.34
10-31	' Service Charge ADDITIONAL DEBITS	2.24

AMERICAN RIVER FLOOD CONTROL DISTRICT
 October 31, 2020

CREDITS

Date	Description	Additions
10-16	Cash Mgmt Trsfr Cr REF 2901605L FUNDS TRANSFER FRMDEP XXXXX0952 FROM	400,000.00
10-30	Deposit	23,425.36
10-31	Interest Credit	34.77

DAILY BALANCES

Date	Amount	Date	Amount	Date	Amount
09-30	350,840.77	10-15	256,888.09	10-27	390,127.89
10-01	342,008.63	10-16	656,735.14	10-28	389,053.31
10-02	312,517.74	10-19	653,041.46	10-29	377,599.15
10-05	312,427.79	10-22	482,836.00	10-30	355,812.38
10-09	306,565.79	10-23	474,602.72	10-31	355,844.91
10-14	292,090.08	10-26	454,288.86		

INTEREST INFORMATION

Annual percentage yield earned	0.10%
Interest-bearing days	31
Average balance for APY	\$410,416.07
Interest earned	\$34.77

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 2020**
- Investment Pool A Account, City of Sacramento **Dated October 2020**
- District Checking Account, River City Bank **Dated October 2020**
- District Repurchase Account, River City Bank **Dated October 2020**

Certified by: _____ Date: _____
Rachelanne Vander Werf, District Treasurer

American River Flood Control District
Statement of Operations
July 1, 2020 to November 30, 2020 (Five Months Ending of Fiscal 2021)
For Internal Use Only

	Year to Date July 1, 2020 to November 30, 2020	Budget	Percent of Budget
Revenues			
Benefit assessment	\$ -	\$ 1,429,793	0.00%
Consolidated capital assessment	-	980,000	0.00%
Interest	47,095	77,267	60.95%
O & M agreements	-	231,801	0.00%
Miscellaneous	-	-	Not budgeted
Total Revenues	<u>47,095</u>	<u>2,718,861</u>	1.73%
M & O Expenses			
Salaries and wages	369,799	833,238	44.38%
Payroll tax expense	26,153	66,659	39.23%
Pension expense	81,543	189,428	43.05%
Compensation insurance	6,375	41,662	15.30%
Medical/dental/vision	115,623	216,125	53.50%
Fuel/oil reimbursement	7,984	35,000	22.81%
Equipment rental	5,960	20,000	29.80%
Equipment repairs/parts	23,926	50,000	47.85%
Equipment purchases (< \$5,000)	-	15,000	0.00%
Shop supplies	19,154	20,000	95.77%
Levee maint. (supp. & material)	9,977	20,000	49.89%
Levee maint. chemicals	14,872	27,500	54.08%
Levee maint. services	72,542	80,000	90.68%
Rodent abatement (supplies & materials)	6,134	10,000	61.34%
Employee uniforms	5,399	7,500	71.99%
Staff training	2,789	7,500	37.19%
Regulation Compliance (OSHA)	60	6,000	1.00%
Miscellaneous	1,125	2,000	56.25%
Small tools & equipment	1,155	7,500	15.40%
Emergency preparedness program	4,200	35,000	12.00%
Engineering services	3,294	20,000	16.47%
Environmental services/studies	-	5,000	0.00%
Encroachment remediation	-	15,000	0.00%
Urban camp cleanup	7,389	50,000	14.78%
Total M & O Expenses	<u>785,453</u>	<u>1,780,112</u>	44.12%
Administration Expenses			
Board of trustees compensation	2,598	7,600	34.18%
Trustee expenses	-	2,400	0.00%
Trustee training	-	5,000	0.00%
Accounting services	2,875	15,000	19.17%
Legal services (general)	8,454	50,000	16.91%
Utilities	15,835	40,000	39.59%
Telephone	6,581	25,000	26.32%
Retiree benefits	69,256	143,000	48.43%
Office/shop/yard lease	3,000	7,200	41.67%
Office equipment/furniture	479	7,500	6.39%
Auto allowance	2,944	6,600	44.61%
Parking reimbursement	-	500	0.00%
General office expense	4,318	15,000	28.79%
Technology and software	10,268	10,000	102.68%
Dues and associations	23,524	25,000	94.10%
Property and liability insurance	28,476	42,000	67.80%
Public relations/information	-	30,000	0.00%
Miscellaneous	1,278	5,000	25.56%
Election expense	-	99,723	0.00%
Employee morale/wellness	-	2,000	0.00%
Investment fees	4,412	20,000	22.06%
Community services	-	1,500	0.00%
Bookkeeping services	3,188	14,000	22.77%
Property taxes	1,710	3,000	57.00%
Building maintenance	5,217	10,000	52.17%
County Dtech fees for DLMS	31,669	55,000	57.58%
Interest expense	216	-	Not budgeted
Total Administration Expenses	<u>226,298</u>	<u>642,023</u>	35.25%
Special Projects Expenses			
Engineering studies/survey studies	-	170,000	0.00%
Levee standards compliance	-	25,000	0.00%
Small capital projects	-	50,000	0.00%
Total Special Project Expenses	<u>-</u>	<u>245,000</u>	0.00%
Capital Outlay			
Equipment purchases (over \$5,000)	<u>212,405</u>	<u>100,000</u>	212.41%
Total Capital Outlay	<u>212,405</u>	<u>100,000</u>	
Capital Outlay: District Headquarters Build-Out			
Building improvements/maintenance	335,355	700,000	47.91%
La Riviera improvements/maintenance	-	2,000	0.00%
	<u>335,355</u>	<u>702,000</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.

Cash Flow Report

Maintenance and Operations Expens	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	TOTAL
500 - Salary/Wages	84,955.85	72,305.42	71,963.98	74,588.44	66,019.98	34,018.71	0.00	0.00	0.00	0.00	0.00	0.00	403,852.38
501 - Payroll Taxes	6,551.57	5,583.83	5,557.69	5,247.26	4,156.05	2,133.03	0.00	0.00	0.00	0.00	0.00	0.00	29,229.43
502 - Pension	17,202.17	15,822.01	21,318.10	16,226.03	9,575.75	(1,134.72)	0.00	0.00	0.00	0.00	0.00	0.00	79,009.34
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	24,342.88	19,791.24	19,837.24	19,791.24	18,145.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	101,908.04
508 - Fuel/Oil	2,345.10	4,356.39	2,664.57	2,714.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12,080.75
509 - Equipment Rental	0.00	5,960.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,960.25
510 - Equipment Purchase(< \$5000	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
511 - Equipment Repair/Parts	15,604.93	6,143.91	9,008.02	5,524.43	1,973.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38,254.51
512 - Shop Supplies	4,256.28	8,016.10	4,875.31	4,929.78	1,128.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,205.62
514 - Levee Maint(Supplies&Materi	100.38	5,826.24	187.69	2,822.64	1,140.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,076.98
515 - Levee Maintenance Services	2,200.00	25,393.37	26,643.08	9,097.84	11,407.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74,741.99
516 - Employee Uniforms	0.00	0.00	5,768.62	280.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,048.99
518 - Staff Training	1,529.00	0.00	525.00	1,614.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,668.36
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	273.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	273.52
523 - Levee Maint. (Chemicals)	0.00	13,414.68	1,344.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,759.42
525 - Emergency Preparedness Pr	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 I	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	0.00	225.24	766.80	4,130.07	1,123.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,246.06
533 - Urban Camp Cleanup	1,380.45	2,421.74	3,622.43	409.50	825.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,659.13
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	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
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	160,468.61	185,260.42	174,356.79	147,376.65	116,620.28	35,017.02	0.00	0.00	0.00	0.00	0.00	0.00	819,099.77

Administrative Expenses	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	TOTAL
505 - Telephone	1,521.70	1,626.92	1,545.83	1,783.83	1,827.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,305.41
506 - Utility Charges	3,362.49	4,354.93	3,882.24	3,785.69	3,480.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18,865.54
507 - Office/Shop Lease	600.00	600.00	600.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,000.00
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	275.00	0.00	0.00	0.00	0.00	0.00	0.00	3,025.00
520 - Retiree Benefits	11,542.63	11,542.63	11,542.63	11,542.63	11,542.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57,713.15
522 - Office Equipment/Furniture	129.24	0.00	478.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	607.74
526 - Mileage/Parking Reimburs	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	1,081.26	1,386.08	951.91	1,723.35	1,309.66	(61.70)	0.00	0.00	0.00	0.00	0.00	0.00	6,390.56
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	467.39	1,139.73	5,407.82	435.38	4,108.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,559.01
600 - Board of Trustees Compensa	1,380.45	2,421.74	3,622.43	409.50	825.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,659.13
601 - Trustee Expenses	0.00	0.00	0.00	0.00	60.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.17
602 - Accounting Services	475.00	475.00	475.00	475.00	475.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,375.00
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	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
606 - Legislative 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
607 - Dues and Assoc. Expenes	0.00	700.00	0.00	0.00	0.00	2,175.00	0.00	0.00	0.00	0.00	0.00	0.00	2,875.00
608 - Insurance Premiums	4,832.00	11,702.50	3,733.00	4,347.50	373.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,988.50
609 - Conference /Workshops/Sem	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	3,591.00	4,090.60	3,294.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,975.60
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	5,862.00	10,144.00	7,653.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,659.00
613 - Community Services	0.00	12,051.47	0.00	23,586.93	6,374.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42,012.90
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	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
619 - Building Maintenance	3,579.77	238.25	172.36	166.94	79.40	621.50	0.00	0.00	0.00	0.00	0.00	0.00	4,858.22
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	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
622 - County DTech Fees for DLMS	0.00	0.00	0.00	1,709.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,709.68

AMERICAN RIVER FLOOD CONTROL DISTRICT
Cash Flow Report
July 2020 through June 2021

623 - Employee Morale/Wellness	0.00	4,391.00	0.00	0.00	4,412.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,803.00
Total Administrative	33,112.93	57,270.85	42,117.72	60,660.43	44,270.88	3,009.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	240,442.61

Special Projects Expenses	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	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 §	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	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	TOTAL
700 - Bank Protection	0.00	0.00	31,669.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31,669.50
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Outlay: Flood Control	0.00	0.00	31,669.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31,669.50

Income	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	TOTAL
120 - Benefit Assessment	0.00	30,998.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30,998.97
122 - SAFCA CAD4	980,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	980,000.00
123 - Interest	2,388.20	616.69	328.85	1,135.62	42.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,512.26
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	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 Income	982,388.20	31,615.66	328.85	1,135.62	42.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,015,511.23

Fund Balance

District Operations Fund	Jul 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21
Beginning Balance	1,665,499.72	2,804,306.38	2,593,390.77	2,377,245.11	2,170,343.65	2,009,495.39	0.00	0.00	0.00	0.00	0.00	0.00
Income	1,332,388.20	31,615.66	328.85	1,135.62	42.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenses	193,581.54	242,531.27	216,474.51	208,037.08	160,891.16	38,026.82	0.00	0.00	0.00	0.00	0.00	72,000.00
Ending Balance	2,804,306.38	2,593,390.77	2,377,245.11	2,170,343.65	2,009,495.39	1,971,468.57	0.00	0.00	0.00	0.00	0.00	(72,000.00)

Capital Outlay Reserve Fund	Jul 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21
Beginning Balance	1,270,000.00	920,000.00	920,000.00	920,000.00	920,000.00	920,000.00	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	350,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	920,000.00	920,000.00	920,000.00	920,000.00	920,000.00	920,000.00	0.00	0.00	0.00	0.00	0.00	0.00

Retiree Health Benefit Reserve Fund	Jul 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21
Beginning Balance	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	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	72,000.00
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	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	3,552,014.00	0.00	0.00	0.00	0.00	0.00	72,000.00

Flood Emergency Response Reserve Fund	Jul 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21
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
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	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00

Emergency Repair Reserve Fund	Jul 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21
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
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	1,500,000.00	1,500,000.00	1,500,000.00	0.00	0.00	0.00	0.00	0.00	0.00

Total Balance	10,276,320.38	10,065,404.77	9,849,259.11	9,642,357.65	9,481,509.39	9,443,482.57	0.00	0.00	0.00	0.00	0.00	0.00
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Acct. #	Paid to		Memo	Amount	Chk. #
	ARFCD General Fund		November Expenses	\$ 132,863.53	
1 504	ACWA JPIA	Medical/Dental/Vision	\$ 20,214.56	\$ 32,310.22	
2 520	ACWA JPIA	Retiree Benefits	\$ 12,095.66		
3 511	Acme Rigging & Supply Co.	Equipment Repair/Parts	\$ 283.18	\$ 580.87	
4 514	Acme Rigging & Supply Co.	Levee Maint(Supplies&Materials)	\$ 297.69		
5 527	Alhambra/Sierra Springs	General Office Expense	\$ 64.22		
6 505	AT&T	Telephone	\$ 693.79		
7 505	AT&T Analog	Telephone	\$ 371.87		
8 521	Bar-Hein Company	Small Tools & Equipment	\$ 4,273.10	\$ 5,566.01	
9 534	Bar-Hein Company	Regulation Compliance (OSHA)	\$ 1,292.91		
10 512	Barnes Welding Supply	Shop Supplies	\$ 231.34	\$ 582.39	
11 514	Barnes Welding Supply	Levee Maint(Supplies&Materials)	\$ 351.05		
12 527	Blue Ribbon Maintenance	General Office Expense	\$ 350.00		
13 603	Boutin Jones Inc.	Legal Fees (General)	\$ 2,678.00		
14 512	Capital Rubber Co. Ltd.	Shop Supplies	\$ 320.10		
15 534	Cintas	Regulation Compliance (OSHA)	\$ 808.43		
16 514	Del Paso Pipe & Steel	Levee Maint(Supplies&Materials)	\$ 1,871.03		
17 603	Downey Brand	Legal Fees (General)	\$ 1,122.00		
18 614	Employee Relations, Inc.	Miscellaneous Admin	\$ 48.72		
19 511	Enoven Truck Body & Equipment	Equipment Repair/Parts	\$ 660.00		
20 511	GCR Sacramento Tire Center	Equipment Repair/Parts	\$ 229.64		
21 525	Globalstar	Emergency Preparedness Program	\$ 1,268.71		
22 514	Grainger Inc.	Levee Maint(Supplies&Materials)	\$ 123.98		
23 512	Home Depot	Shop Supplies	\$ 1,597.13	\$ 2,062.64	
24 514	Home Depot	Levee Maint(Supplies&Materials)	\$ 150.54		
25 533	Home Depot	Urban Camp Cleanup	\$ 182.94		
26 800	Home Depot	Building Improvements/Maint	\$ 77.70		
27 801	Home Depot	La Riviera Improvements/Maint	\$ 54.33		
28 508	Hunt & Sons	Fuel/Oil	\$ 3,215.72		
29 527	KBA Document Solutions	General Office Expense	\$ 365.17		
30 516	Kombat Ink	Employee Uniforms	\$ 503.36		
31 515	L and D Landfill	Levee Maintenance Services	\$ 996.92	\$ 1,603.32	
32 533	L and D Landfill	Urban Camp Cleanup	\$ 606.40		
33 511	Lehr Auto Electric & Emergency Equipment	Equipment Repair/Parts	\$ 1,692.44		
34 902	Lionakis	Architect/Building Design	\$ 2,349.00		
35 512	Mahaney Co., John F.	Shop Supplies	\$ 549.90		
36 605	MBK Engineers	Engineering Services	\$ 941.50		
37 512	Napa Auto Parts	Shop Supplies	\$ 1,575.23		
38 507	North Sacramento Land Company	Office/Shop Lease	\$ 600.00		
39 527	Office Depot	General Office Expense	\$ 7.06	\$ 146.54	
40 531	Office Depot	Technology & Software	\$ 130.49		
41 614	Office Depot	Miscellaneous Admin	\$ 8.99		
42 514	Pacific Coast Seed	Levee Maint(Supplies&Materials)	\$ 505.22		
43 620	Robert Merritt, CPA	Bookkeeping Services	\$ 1,125.00		
44 533	Sacramento County MSA	Urban Camp Cleanup	\$ (45.15)		
45 506	Sacramento Utilities	Utility Charges	\$ 1,085.67		
46 515	Sierra Waste Recycling & Transfer Station	Levee Maintenance Services	\$ 958.10		
47 506	SMUD	Utility Charges	\$ 670.00		
48 506	Sonitrol	Utility Charges	\$ 648.04		
49 531	Streamline	Technology & Software	\$ 200.00		
50 527	TIAA Bank	General Office Expense	\$ 203.66		
51 512	Umpqua Bank	Shop Supplies (Redding Fasteners)	\$ 793.84	\$ 1,730.73	
52 514	Umpqua Bank	Levee Maint(Supplies&Materials)(Windmill Feed)	\$ 150.05		
53 525	Umpqua Bank	Emergency Preparedness Program (WorkWorld)	\$ 463.23		
54 527	Umpqua Bank	General Office Expense (Amazon)	\$ 120.62		
55 531	Umpqua Bank	Technology & Software (CrashPlanPro, Microsoft)	\$ 72.49		
56 534	Umpqua Bank	Regulation Compliance (OSHA) (CleanHub)	\$ 130.50		
57 527	US Bank	General Office Expense (GoToMeeting)	\$ 48.70	\$ 567.70	
58 533	US Bank	Urban Camp Cleanup (United Site Services)	\$ 519.00		
59 511	Valley Truck & Tractor Co.	Equipment Repair/Parts	\$ 3,085.65		
60 505	Verizon Wireless	Telephone	\$ 940.46		
61 506	Waste Management of Sacramento	Utility Charges	\$ 522.77		
62 512	White Cap	Shop Supplies	\$ 685.57	\$ 1,137.53	
63 514	White Cap	Levee Maint(Supplies&Materials)	\$ 451.96		
64 504	Wienhoff Drug Testing	Medical/Dental/Vision	\$ 480.00		
Accounts Payable Subtotal				\$ 79,070.18	
Accounts Payable and General Fund					
Aggregate Total:				\$ 204,996.61	

**American River Flood Control District
Central Valley Flood Protection Board Permit Application
Two Rivers Trail (City of Sacramento)
Staff Report**

Discussion:

The City of Sacramento is seeking endorsement on their Central Valley Flood Protection Board encroachment permit application for the Two Rivers Trail in River park. In this application, the City proposes to construct a paved bicycle and pedestrian trail within the levee and toe footprint. The City approached the American River Flood Control District Board of Trustees in February and March of 2019 to seek approval for their plan to have one short segment of trail on the levee crown with the majority of the trail located at the waterside toe. The application also includes construction of a railroad bridge undercrossing to allow the trail to traverse under the Union Pacific Railroad Bridge. The City's application package is attached as Exhibit A.

The proposed multi-use trail design would meet California Department of Transportation (Caltrans) Class 1 bikeway design criteria and would also be based on the State Water Code Title 23 standards for recreation trails on levees and the ARFCD Recreational Trails Policy. The trail would generally consist of an 8-foot-wide paved path with a 2-foot-wide compacted shoulder on the inner side and a similar 6-foot-wide shoulder on the waterside to provide space for walking and jogging adjacent to the paved portion of the trail, bringing the total trail cross section along most of its length to 16 feet wide. However, due to space limitations in some locations, the waterside shoulder of the trail would be narrowed to 4 feet wide. The trail would be paved and engineered to be load-bearing and has been designed to meet flood control objectives and to have the least amount of impact on levee operations and maintenance.

Segment 3 is approximately 0.3 miles long and begins on the east side of Sutter's Landing Park at the end of an existing trail. From here, the trail would run along an existing bench at the toe of the levee, first crossing under another portion of the UPRR and eventually under the Capital City Freeway (SR 80) where Segment 4 begins.

Segment 4 is also approximately 0.25 miles long and would begin just east of the Capital City Freeway. This segment is proposed as a "levee-top" trail alignment.

Segment 5 is 1.4 miles long and passes Paradise Beach and Glenn Hall Park. This trail segment has a bench all along the waterside toe where the trail would be aligned, but bench width varies such that this segment has been subdivided into three subsegments (to accommodate topographic conditions). Subsegment 5A is approximately 2,900 feet in length, and the waterside bench, although well-defined, is narrower in this area than in Subsegment 5B. Subsegment 5B is approximately 4,300 feet in length and has a well-defined, much wider and flatter, bench to accommodate the trail. Subsegment 5C is approximately 500 feet in length and its waterside bench characteristics are similar to Subsegment 5A.

Segment 6 begins at the east end of Subsegment 5C along the levee toe, is approximately 0.3 miles long, and includes a transition back to the levee crown where the trail would connect to the existing paved trail near the H Street Bridge. While there is a bench along the toe in this segment, the bench is much narrower than in other locations requiring a reduced path width to limit impacts.

ARFCD Encroachment Permit:

During the March 2019 Special Board Meeting, the Board of Trustees directed staff to work out the terms of an encroachment permit between the District and the City for the upkeep of the Segment 4 “levee-top” section of trail in accordance with District Recreational Trails Policy. The proposed permit is attached as Exhibit B.

Recommendation:

The General Manager recommends that the Board of Trustees endorse the City’s application and approve the Operation and Maintenance Agreement.



Application for a
Central Valley Flood Protection Board Encroachment Permit

Two Rivers Trail Phase II Project

Submitted by:
City of Sacramento
915 I Street, Room 2000
Sacramento, CA 95814

Contact:
Adam Randolph, Project Manager
916-808-7803
arandolph@cityofsacramento.org

December 1, 2020

Application for a
Central Valley Flood Protection Board Encroachment Permit

Two Rivers Trail Phase II Project

Contents:

1. Application Form 3615, Environmental Questionnaire 3615a and Supplemental Information
2. Work Description including Maps and Photos

Appendix A: Two Rivers Trail Phase II Project - 65% Design Drawings and Specifications

Appendix B: Hydraulic Impact Evaluation of the Two Rivers Trail Phase II Project

Appendix C: CEQA/NEPA Documentation

City of
SACRAMENTO

December 1, 2020

Ms. Leslie Gallagher
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue
Sacramento, CA 95821

Subject: Central Valley Flood Protection Board Encroachment Permit Application
City of Sacramento - Two Rivers Trail (Phase II) Project

Dear Ms. Gallagher,

The City of Sacramento (City) is hereby submitting this Application for a Central Valley Flood Protection Board Encroachment Permit for work associated with the Two Rivers Trail (Phase II) Project. As required, enclosed are two (2) copies of the Encroachment Permit Application (DWR 3615) and Environmental Questionnaire (DWR 3615a) with supporting documentation. Permits and consultations from other agencies are in process and will be submitted once finalized. This permit application and all supporting documentation is also available for download at:

<https://geiconsultants.sharefile.com/d-sb0f16f063204935a>

If you have any question or need additional information regarding the proposed project, please contact me at (916) 808-7803 or by email at arandolph@cityofsacramento.org.

Sincerely

Adam Randolph, Senior Engineer
City of Sacramento

Enclosures

cc: Tim Kerr, American River Flood Control District
Ray Weiss, GEI Consultants

1. Form 3615 and Environmental Questionnaire 3615a

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMIT

Application No. [Redacted] (For Office Use Only)

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

The City of Sacramento proposes 2.25 miles of Class 1 bicycle and pedestrian trail along the South Bank of the American River levee that extends from near Sutter's Landing Park to the H Street Bridge in Sacramento, California. Trail design also includes a proposed railroad bridge undercrossing debris catchment structures. See the attached #2. "Work Description including Maps and Photos" for construction and operation details of the project.

2. Project

Location: Sacramento County, in Section N/A Township: N/A (N) (S), Range: N/A (E) (W), M. D. B. & M. Latitude: See attached supplement Longitude: See attached supp. Stream: Lower American River, Levee: South Bank Am. River Designated Floodway: Lower American River APN: See attached supplement

3. City of Sacramento of 915 I Street, Room 2000 Name of Applicant / Land Owner Address

Sacramento California 95814 916-808-7803 City State Zip Code Telephone Number arandolph@cityofsacramento.org E-mail

4. N/A of Name of Applicant's Representative Company

City State Zip Code Telephone Number E-mail

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

We, the Trustees of 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 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
See attached supplemental information.		

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:

Environmental Impact Report (EIR) for the Two Rivers Trail Phase II Project. See attached supplemental information.
Lead Agency: City of Sacramento, 915 I Street, Room 2000, Sacramento, CA 95814

SCH No. 2018102058

8. When is the project scheduled for construction? Spring/Summer 2021 through 2022

9. Please check exhibits accompanying this application.

- A. Regional and vicinity maps showing the location of the proposed work.
- B. Drawings showing plan view(s) of the proposed work to include map scale.
- 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.

Signature of Applicant

Date

Include any additional information:

Attached Page(s) - For Items 1, 2, 6 and 7, above:
Form 3515 Supplemental Information, Work Description Maps, Photos and Plans, CEQA and Other Environmental Documentation

Form 3615 – Supplemental Information

2. Project Location

The project is located along the south bank of the American River and extends from Sutter’s Landing Park to the H Street Bridge in Sacramento, California, at the following approximate coordinates (WGS 84):

- Western end of the Project Site: 38°35’21.99” N, -121°27’05.03” W
- Eastern end of the Project Site: 38°34’07.36” N, -121°25’26.25” W

The Project Site is located outside of the Township-Range-Section boundaries.

6. Adjacent Property Owners

All Assessor Parcel Numbers (APN) adjacent to the project’s study area are included in the table below.

APN	Current Owner	Address	City	State	Zip Code
001-0160-005	WESTERN PACIFIC RAILROAD CO	1400 DOUGLAS ST	OMAHA	NE	68179
001-0160-006	S M U D	PO BOX 15830	SACRAMENTO	CA	95852
001-0160-021	WESTERN PACIFIC RAILROAD CO	1400 DOUGLAS ST	OMAHA	NE	68179
001-0160-029	SACRAMENTO NORTHERN RAILWAY	1400 DOUGLAS ST	OMAHA	NE	68179
001-0160-044	WESTERN PACIFIC RAILROAD CO	1400 DOUGLAS ST	OMAHA	NE	68179
001-0160-047	UNION PACIFIC	1400 DOUGLAS 1640	OMAHA	NE	68179
001-0160-050	SACRAMENTO NORTHERN RAILWAY	1400 DOUGLAS ST	OMAHA	NE	68179
001-0170-003	SOUTHERN PACIFIC TRANSPORTATION CO	1400 DOUGLAS ST	OMAHA	NE	68179
001-0170-004	SOUTHERN PACIFIC TRANSPORTATION CO	1400 DOUGLAS ST	OMAHA	NE	68179
001-0170-006	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814
001-0170-020	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814
001-0170-026	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814
003-0032-025	CALIFORNIA ALMOND GROWERS EXCHANGE	PO BOX 1768	SACRAMENTO	CA	95812
005-0010-002	COUNTY OF SACRAMENTO	4040 BRADSHAW RD	SACRAMENTO	CA	95827
005-0010-004	STATE OF CALIFORNIA	SEWARD CT	SACRAMENTO	CA	95819
005-0010-005	STATE OF CALIFORNIA	SEWARD CT	SACRAMENTO	CA	95819
005-0010-024	AMERICAN RIVER FLOOD CONTROL DIST	165 COMMERCE CIR	SACRAMENTO	CA	95815
005-0010-026	COUNTY OF SACRAMENTO	4040 BRADSHAW RD	SACRAMENTO	CA	95827
005-0010-033	COUNTY OF SACRAMENTO	4040 BRADSHAW RD	SACRAMENTO	CA	95827
005-0081-001	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814
005-0091-021	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814
005-0222-009	SCOTTISH RITE TEMPLE	PO BOX 19497	SACRAMENTO	CA	95819
005-0232-003	SCOTTISH RITE TEMPLE	6151 H ST	SACRAMENTO	CA	95819
005-0233-003	CITY OF SACRAMENTO	915 I ST	SACRAMENTO	CA	95814

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:

Environmental Impact Report (EIR) for the Two Rivers Trail Phase II Project, SCH # 2018102058.
Lead Agency: City of Sacramento (Appendix C).

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 Engineers' 404 and Section 10 permits, State Water Quality Certification, Department of Fish and Game 1600 agreement, etc. Attach copies of all applicable permits.

Several permits and consultations are in process, including:
CDFW Section 1600 Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, NMFS and USFWS Section 7 Biological Opinions, Rivers and Harbor Act Section 14 (408) authorization, Encroachment Permits (Caltrans, ARFCD, and Union Pacific Railroad), City's Grading Permit, and Sacramento County RPD lease agreement. Copies of the applicable permits consultations will be submitted once finalized.

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.

The proposed project lies entirely within the City of Sacramento and the planning areas of the American River Parkway Plan (ARPP). The American River Flood Control District (ARFCD) is responsible for maintenance of levee infrastructure and the Sacramento County Regional Parks Department is responsible for parkway maintenance and security.

4. Will the project or use require issuance of a variance or conditional use permit by a city or county?

Yes No

Explain:

ARFCD (and CVFPB) trail variance (received March 2019) for the construction of a "levee-top" trail along a 0.25-mile section (Segment 4) just east of the Capital City Freeway. No other City or County land use approval required.

5. Is the project or use currently operating under an existing use permit issued by a local agency?

Yes No

Explain:

The proposed trail project is identified as an improvement in the American River Parkway Plan and the project has been designed in compliance with this plan.

**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.

Vegetation at the Project site includes annual grassland, mixed scrub, and valley foothill riparian. Natural features include the American River and its riparian vegetation.

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.

The American River provides habitat for anadromous fish species. The American River also provides habitat for a multitude of bird species, such as Canada goose, mallard and several other species. The river provides habitat for reptiles such as western pond turtle. The mixed scrub and riparian habitat provides shelter for raptors, beaver, and numerous bird species. Effects to species have been addressed in the EIR.

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:

The City of Sacramento is consulting with USFWS and NMFS to identify potential effects to federally listed and proposed (endangered and threatened) plant and wildlife species pursuant to the Federal Endangered Species Act Section 7.

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

Yes No

Explain:

The majority of the project site is already being used for recreational purposes. Additionally, the project was identified as a future improvement in the American River Parkway Plan, and the project has been designed in compliance with this plan, and with related requirements of the ARFCD.

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

Yes No

Explain:

Construction would temporarily effect the visual environmental, recreation, and access to the project site. Short-term and temporary would be related to removal of some existing vegetation, staging equipment, and disturbance of informal recreational usage. See EIR, Sections 3.1 and 3.9 for detailed discussions.

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

Yes No

Explain:

The project would include excavation and grading to establish the trail alignment, which could discharge silt or other materials into the river. The City will secure permits under Section 401 of the Clean Water Act.

**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.

Construction activities would use minor amounts of hazardous materials, such as fuels (gasoline and diesel), oils and lubricants, and cleaners (which could include solvents and corrosives in addition to soaps and detergents) that are commonly used in construction projects. The City or its contractor will prepare and implement a SWPPP and secure all construction-related materials overnight. See EIR, Section 3.2, Mitigation Measure BIO-3: Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention and Control Plan, and Associated Best Management Practices for a detailed discussion.

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

Yes No

Explain:

Implementation of the proposed project would generate construction noise but would not exceed County noise standards, generate traffic noise above applicable thresholds, expose people to excessive groundborne vibration noise levels, and would not result in an increase in ambient noise levels. There would also be no substantial new noise sources following the completion of construction activities. See EIR, Section 3.8 for a detailed discussion.

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

Yes No

Explain:

The project includes only construction-phase emissions associated with importing, material hauling, and commuting vehicle trips. Construction emissions would be under the SMAQMD threshold however all projects that would involve construction activities are required to implement SMAQMD's applicable Basic Construction Emission Control Practices. No ash, dust, or smoke would be generated. See EIR Section 1.4.3 for a detailed discussion.

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 is proposed.

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

Yes No

Explain:

There are no agricultural land uses in the project site. See EIR, Section 1.4.2, Table 1-5 for detailed discussion.

**ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
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:

Several, including American River Common Features Erosion Control Project, North Sacramento Streams, Sacramento River East Levee, Lower American River and Related Flood Improvements Project, Cap City Corridor Project (EIR, Section 5.5, Table 5-2 for details). City staff coordinate directly with Caltrans and USACE project staff

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

Yes No

Explain:

The proposed trail project would not include the expansion of buildings or directly generate additional population growth in the surrounding area. Because the project does not create new connections to undeveloped land, no impacts to growth, economics, affordable housing, or crime would occur. See EIR, Section 5.2.

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 3,710 cubic yards

B. What types of materials will be excavated?

Excavated material would include aggregate/soil material.

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

Yes No

Explain:

The excavated material will be transported offsite by the construction contractor as part of the project and will be disposed at a permitted disposal site, such as the Sacramento County Kiefer Landfill.

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

The equipment used for excavation/grading would include bobcat, backhoe, bulldozers, excavators, front-end loaders, and dump trucks. Standard excavation and construction methods will be used to complete the work.

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

E. What is the water source for the project?

Construction Contractor will be responsible for on site water source.

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

The project would not generate any wash water. Prior to any construction activity, a Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPPP), as applicable, would be obtained and would include erosion control measures and construction waste containment measures to ensure that waters of the State are protected during and after project construction. The Plan (a SWPPP or WPCP) shall include site design to minimize offsite storm water runoff that might otherwise affect adjacent waters of the U.S. and State. Any debris or sediment that would need to be disposed of will be transported offsite by the construction contractor as part of the project and will be disposed at a permitted disposal site, such as the Sacramento County Kiefer Landfill.

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

Land uses on the project site will not change as a result of the proposed project. The area will still be open space.

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.

2. Work Description including Maps and Photos

1. Background

The proposed Two Rivers Trail (Phase II) new Class 1 bicycle and pedestrian trail (Project) would create approximately 2.25 miles of trail comprising 4 segments (see **Figures 1 and 2**).

Note: Project CEQA/NEPA documentation covers the entire approximately 3.5-mile trail, that will eventually extend from Jibboom Street to the H Street Bridge. However, due to funding constraints, and ongoing remediation of the Sutter's Landing Landfill along Segments 1 and 2, the City is only requesting an Encroachment Permit for construction of Segments 3-6 of the trail, in this application.

2. Project Location

The Project is located along the South Bank of the American River levee that extends from near Sutter's Landing Park to the H Street Bridge in Sacramento, California (**Figure 2**).

3. Description of Existing Conditions

The existing conditions along South Bank of the American River levee project area are generally characterized by riparian vegetation between the levee toe and the riverbank. A dirt or gravel track or road extends along most of the levee toe, and the levee slopes are kept clear of vegetation other than grass and ruderal vegetation. A gravel maintenance road extends along the crown of the levee. There are no existing paved trails.

Prohibition of access to any portion of the flood management system (i.e. the levee toe or crown) is under the jurisdiction of the applicable local maintaining agency (ARCFD) and the decision to restrict access to any portion of the American River Parkway is under the jurisdiction of County Parks. ARCFD and County Parks do not currently place any restrictions on access to public lands in the project vicinity, including any portion of the levee or the American River Parkway, except for areas where locked gates or fencing may be present (i.e. pumping facilities); the areas are open to recreation and associated ambient noise levels associated with allowed recreational activities.

4. Description of Proposed Work

The proposed multi-use trail design would meet California Department of Transportation (Caltrans) Class 1 bikeway design criteria and would also be based on the State Water Code Title 23 standards for recreation trails on levees and the ARCFD Recreational Trails Policy. The trail would generally consist of an 8-foot-wide paved path with a 2-foot-wide compacted shoulder on the inner side and a similar 6-foot-wide shoulder on the waterside to provide space for walking and jogging adjacent to the paved portion of the trail, bringing the total trail cross section along most of its length to 16 feet wide. However, due to space limitations in some locations, the waterside shoulder of the trail would be narrowed to 4 feet wide. The trail would be paved and engineered to be load-bearing and has been designed to meet flood control objectives and to have the least amount of impact on levee operations and maintenance (O&M) (see *Appendix A: 65% Design Drawings*).

Segment 3 is approximately 0.3 miles long and begins on the east side of Sutter's Landing Park at the end of an existing trail. From here, the trail would run along an existing bench at the toe of the levee, first crossing under another portion of the UPRR and eventually under the Capital City Freeway (SR 80) where Segment 4 begins.

Segment 4 is also approximately 0.25 miles long and would begin just east of the Capital City Freeway. This segment is proposed as a "levee-top" trail alignment.

Segment 5 is 1.4 miles long and passes Paradise Beach and Glenn Hall Park. This trail segment has a bench all along the waterside toe where the trail would be aligned, but bench width varies such that this segment has been subdivided into three subsegments (to accommodate topographic conditions). Subsegment 5A is approximately 2,900 feet in length, and the waterside bench, although well-defined, is narrower in this area than in Subsegment 5B. Subsegment 5B is approximately 4,300 feet in length and has a well-defined, much wider and flatter, bench to accommodate the trail. Subsegment 5C is approximately 500 feet in length and its waterside bench characteristics are similar to Subsegment 5A.

Segment 6 begins at the east end of Subsegment 5C along the levee toe, is approximately 0.3 miles long, and includes a transition back to the levee crown where the trail would connect to the existing paved trail near the H Street Bridge. While there is a bench along the toe in this segment, the bench is much narrower than in other locations requiring a reduced path width to limit impacts.

During development of the trail design, many options were considered, including a mid-height bench alignment along the waterside levee slope of the entire length of the proposed trail, to minimize habitat impacts along the waterside toe and to address visibility and privacy concerns raised by residents of the River Park neighborhood. However, in order to address concerns from the U.S. Army Corps of Engineers (USACE) and ARCFD, the trail alignment in the proposed project now avoids any construction that would require “benching” of the levee, and trail construction is confined to the levee toe along Segment 3, 5 and 6, and a portion of Segment 4, and is confined to the levee crown for the western portion of Segment 4.

A lower bench alignment mostly along the waterside toe of the easterly segment of the levee is proposed which will ensure adequate levee performance. This alignment would separate the trail users from levee maintenance operations, limit visibility to neighboring residences on the landside of the levee and have little or no effect on levee stability. However, on March 29, 2019, the ARCFD Board granted the City a variance to construct a “levee-top” trail along a 0.25-mile section just east of the Capital City Freeway. With no defined bench on the water side of the existing levee in this area, the “levee-top” alignment (for a portion of the trail) would minimize the risk to levee performance by removing the need to construct the trail on an artificial bench offset from the top of the levee. The move to a levee top alignment in this location would also reduce the project’s overall biological resource impacts.

Union Pacific Railroad Undercrossing

The trail in Segment 3 would cross under an active railway line. In this location, fencing would be constructed to prevent trail users from accessing the Union Pacific Railroad (UPRR) right-of-way. Fencing would be placed near the tops of the levee, directly adjacent (but not connecting) to the ends of the existing railroad bridge on one end and existing fences on the land side of the levee. Fencing would be designed to meet UPRR requirements. Gates would be placed at the tops of the levee near the existing at-grade crossings to allow levee maintenance and patrol vehicles to use the crossings. Protective covers would be constructed to protect trail users crossing under the railroad bridges from potential falling debris from above (see *Appendix A: 65% Design Drawings*).

5. Hydraulic Statement

The Project, as proposed, would result in no significant impact to the Sacramento River Flood Control Project. Model results indicate that the Project only causes localized increases in water surface elevation (WSE) in the vicinity of the railroad undercrossing location, while differences in flow velocity occur in various locations throughout the proposed trail alignment. The trail footprint itself does not impact modeled river WSEs due to limited topographic change. The modeled WSE impact at the railroad undercrossing structure is small and localized with slightly elevated WSEs (~0.1 ft) at the upstream end of the structure. This rise dissipates quickly and has no impact at the adjacent bridge structures or at the levee. Modeled velocity magnitudes are reduced downstream of the structure with a localized increase (< 0.5 ft/s) between the structure and the left bank in an area that is vegetated with large trees and turf, and partially paved in crushed rock. See *Appendix B* for the Hydraulic Impact Evaluation Technical Memorandum, prepared by cbec, October 2020, which provides additional details.

6. Operations and Maintenance

Upon completion, the trail would be operated as a recreational Class 1 trail by the City of Sacramento. The trail operator would implement several operation and maintenance (O&M) measures, including but not limited to public safety, litter control, graffiti control, signage, access control, security, compliance enforcement, repair, rehabilitation, replacement, and removal of recreational trails facilities. Typical maintenance activities would include routine inspections, debris removal, and repair of cracks and slope failures.

In addition to the maintenance tasks listed above, typical vegetation management activities would routinely occur, including the following:

- **Mowing** – Mowing activities would occur up to 4 times annually, performed by ARFCD. Mowing would generally occur within a 4-foot area on each side of the trail. Mowing within the drip-line of elderberry shrubs would be limited to the season when adult valley elderberry longhorn beetles (VELB) are not active (August - February) and would avoid damaging the elderberry shrub.
- **Trimming** – Trimming of vegetation and hazard tree/limb removal along the trail would occur once annually. Woody vegetation would be trimmed back up to 4 feet from the sides of the trail, with a 12-foot vertical clearance. Vegetation less than 3 inches in diameter would be cleared by hand or small engine weed-eaters or chainsaws. Small material or grasses would be mowed close to the ground with low impact rubber-tired tractors. Vegetation over 3 inches in diameter may require larger equipment such as telescoping chainsaws, hoe-mounted flail mowers, bucket machines to hoist the crew and equipment, and climbing crew with chainsaws.
- **Removal of Vegetation from Trail Surfaces** – The removal of invasive vegetation would be eradicated through very limited and selective application of herbicides. Per U.S. Fish and Wildlife Service (USFWS) recommendations, the use of insecticides, herbicides, fertilizers, or other chemicals would not be used within 98 feet of elderberry shrubs.

As much as feasible, all O&M activities that could occur within 165 feet of an elderberry shrub, would be conducted outside of the flight season of the VELB (March - July) to minimize impacts to VELB. However, it is assumed that up to 5 elderberry shrubs may be affected as part of maintenance activities. High river flow events, and some levee, railroad, and trail maintenance activities may also require temporary closure of sections of trail from time to time. During such closures, signs would be placed by the trail operator or ARFCD crew at access points to the trail alerting users of the closure and designating alternate routes.

7. Environmental Compliance

CEQA

Compliance with the California Environmental Quality Act (CEQA) has concluded. The City of Sacramento prepared an Environmental Impact Report (EIR) to support project development. The *Final Environmental Impact Report [EIR], Two River Trail (Phase II)*, was issued in December 2019. The State Clearinghouse Number is 2018102058. The Draft and Final EIR are included as **Appendix C**. The Final EIR and corresponding documents were certified and adopted by the Sacramento City Council under Resolution No. 2020-0045 in February 4, 2020 (see **Appendix C**).

NEPA

Compliance with the National Environmental Policy Act is in process by Caltrans (acting as the Federal Lead Agency, on behalf of the Federal Highway Administration) through preparation of a Categorical Exclusion. The Finding of No Significant Impact is expected January 2021. Additionally, per a Memorandum of Understanding (dated December 23, 2016), the USACE recognizes the assumption of NEPA federal Lead Agency status to Caltrans for the Project.

Permitting

Several other permits and consultations are in process for the Project (listed below) and copies of these documents will be submitted, once finalized.

- CDFW Section 1600 Streambed Alteration Agreement
- CWA Section 401 Water Quality Certification
- NMFS and USFWS Section 7 Biological Opinions
- Union Pacific Railroad Encroachment permit
- Sacramento County RPD Lease Agreement
- ARFCD Encroachment Permit
- California Department of Transportation Encroachment Permit
- City of Sacramento General Construction Permit

Figure 1 – Regional Location



Figure 2 – Proposed Trail Alignment



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Representative Site Photos



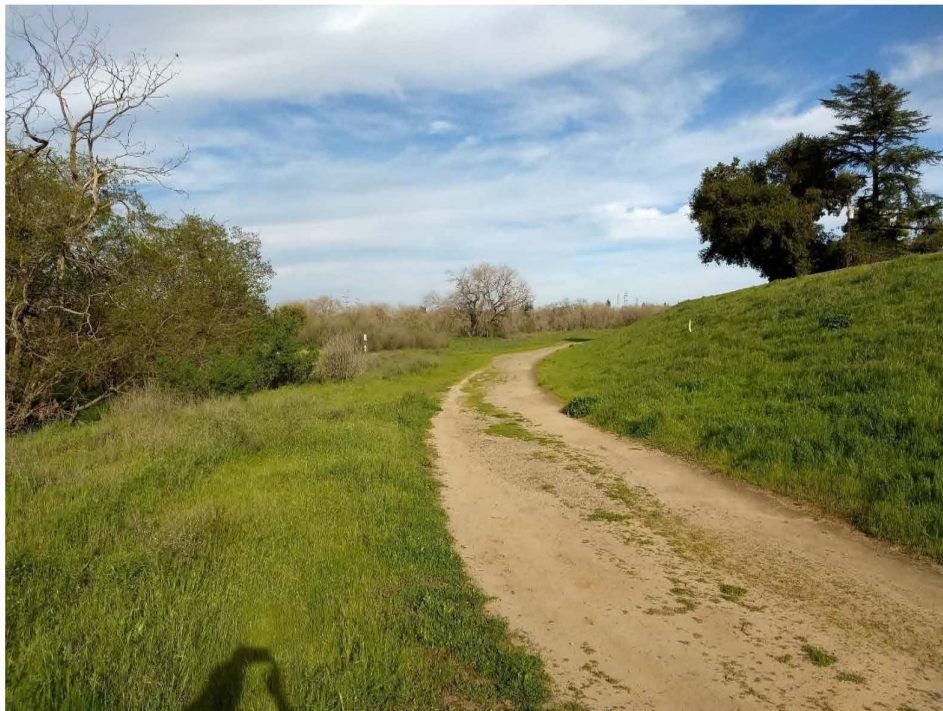
View facing east towards Business 80 Bridge. Typical riparian vegetation at left, and grassy levee slope at right. Proposed trail would follow existing gravel toe road at this location.



Facing west towards Business 80 bridge. The proposed trail would be on the top of the levee here due to the lack of a levee toe road.



Facing east on Segment 4. The proposed trail would require vegetation removal at this location due to narrow width of existing track on levee toe.



Facing east in the Paradise Beach Area. View of riparian vegetation to the left and levee slope to the right. Proposed trail would follow existing toe road in this location.



Facing east toward connection to existing trail at H Street.

Appendix A - Two Rivers Trail Phase II Project - 65% Design Drawings and Specifications

Appendix B - Hydraulic Impact Evaluation of the Two Rivers Trail Phase II Project

Appendix C – Environmental Documentation

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GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH: CITY OF SACRAMENTO DESIGN & PROCEDURES MANUAL, DATED SEPTEMBER 1990, CITY STANDARD SPECIFICATIONS, DATED JUNE 2007 WITH APPLICABLE ADDENDA, CALTRANS STANDARD PLANS, 2010 EDITION EXCEPT FOR TRAFFIC SIGNAL POLES AND FOUNDATIONS SHALL BE PER 2006 EDITION, AND THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION.
- THREE WORKING DAYS PRIOR TO REQUIRING PROJECT STAKING, THE CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER OR INSPECTOR A COMPLETED CONSTRUCTION STAKING REQUEST FORM.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FURNISHING, INSTALLING AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND FOR PROVIDING PROPER AND SAFE ROUTING OF THE VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO WORKING HOURS. THE USE OF FLAGGERS, BARRICADES AND CONSTRUCTION SIGNING SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA MUTCD.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES AND PROTECTING AND REPAIRING DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (1-800-642-2444) TWO WORKING DAYS PRIOR TO COMMENCING WORK.
- THE CONTRACTOR SHALL MAINTAIN ALL EXISTING SEWER AND/OR DRAINAGE FACILITIES WITHIN THE CONSTRUCTION AREA UNTIL THE PROPOSED SEWER AND/OR DRAINAGE IMPROVEMENTS ARE PLACED AND FUNCTIONING.
- THE RESIDENT ENGINEER SHALL DETERMINE THE EXACT LIMITS OF PAVEMENT REMOVAL IN THE FIELD. EXISTING ASPHALT AND CONCRETE SHALL BE SAWCUT IN A NEAT STRAIGHT LINE A MINIMUM OF 2-1/2" DEEP. THE EXPOSED VERTICAL EDGES SHALL BE TACKED WITH EMULSION PRIOR TO ASPHALT CONCRETE PAVING.
- DEMOLITION OF EXISTING FEATURES SHALL BE LIMITED TO THE ITEMS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIAL PROVISIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE ALL EXISTING FEATURES DAMAGED BY HIS OPERATIONS, AT HIS EXPENSE.
- THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR PROTECTING EXISTING TREES NOT SCHEDULED TO BE REMOVED BY THIS CONTRACT. ANY TREE DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER, AT HIS EXPENSE.
- THE CONTRACTOR SHALL HAVE A CURRENT AND ACTIVE CLASS A - GENERAL ENGINEERING CONTRACTOR LICENSE ISSUED BY THE CCSLB AT THE TIME OF THE BID SUBMITTAL AND THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR, AND/OR SUBCONTRACTORS PERFORMING ELECTRICAL WORK, SHALL ALSO HAVE A CURRENT AND ACTIVE CLASS C10 - ELECTRICAL CONTRACTOR LICENSE ISSUED BY THE CCSLB AT THE TIME OF THE BID SUBMITTAL AND THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL CURB, GUTTER AND SIDEWALK SHOWN TO BE REMOVED SHALL BE REMOVED TO THE NEAREST EXPANSION JOINT OR SCORE MARK. DAMAGE TO EXISTING CURB, GUTTER, AND SIDEWALK WHICH IS SHOWN ON THE PLANS TO REMAIN, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DIVISION OF OCCUPATIONAL SAFETY & HEALTH (2424 ARDEN WAY SUITE 165, SACRAMENTO, CA PHONE 263-2800) PRIOR TO ANY TRENCHING EXCAVATION 5 FEET OR MORE IN DEPTH. A COPY OF THIS PERMIT SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
- THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR PRESERVING ALL EXISTING MONUMENTS WHICH WILL BE DISTURBED OR REMOVED AS REQUIRED BY CONTRACTOR'S WORK. CONTRACTOR SHALL COORDINATE WITH ENGINEER/SURVEYOR PRIOR TO DISTURBANCE OF EXISTING MONUMENTS, AND SHALL HAVE A LICENSED LAND SURVEYOR RESET MONUMENTS, PROVIDE PERMANENT WITNESS MONUMENTS, AND FILE DOCUMENTATION WITH THE COUNTY SURVEYOR PURSUANT TO THE BUSINESS AND PROFESSIONS CODE.
- GUTTER SLOPES FROM THE FLOWLINE TO LIP SHALL BE 5% MAXIMUM FOR THE FULL-WIDTH OF ALL CURB RAMPS. THE 5% CROSS SLOPE SHALL TRANSITION TO THE STANDARD CURB AND GUTTER CROSS-SLOPE OVER A DISTANCE OF 3 FEET UNLESS NOTED OTHERWISE.
- ANY NEW CONCRETE SURVEY MONUMENT (PER CITY STANDARD SPECIFICATION DETAIL) SHALL BE PLACED BY A LICENSED LAND SURVEYOR.

CITY OF SACRAMENTO

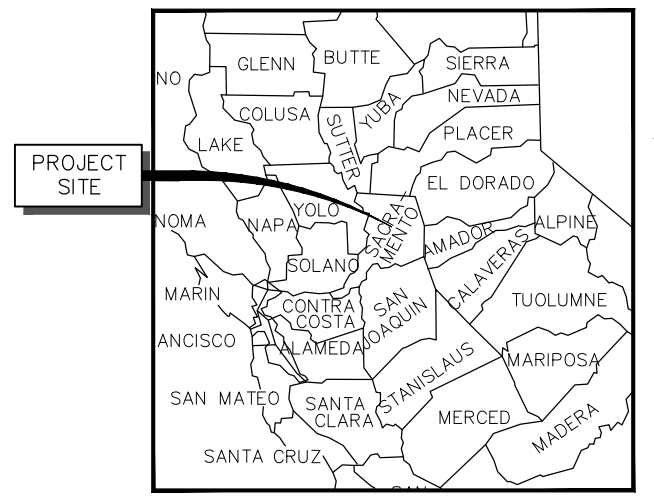
CONSTRUCTION PLANS FOR

TWO RIVERS TRAIL PROJECT (PHASE II)

APPROVED BY: _____ DATE _____
 JUDITH S. MATSUI-DRURY, R.C.E. 59096
 SUPERVISING ENGINEER
 DEPARTMENT OF PUBLIC WORKS

APPROVED BY: _____ DATE _____
 RYAN MOORE, R.C.E 61088
 CITY TRAFFIC ENGINEER
 DEPARTMENT OF PUBLIC WORKS
 (SIGNING AND STRIPING)

LOCATION MAP 65% DESIGN 10/23/20

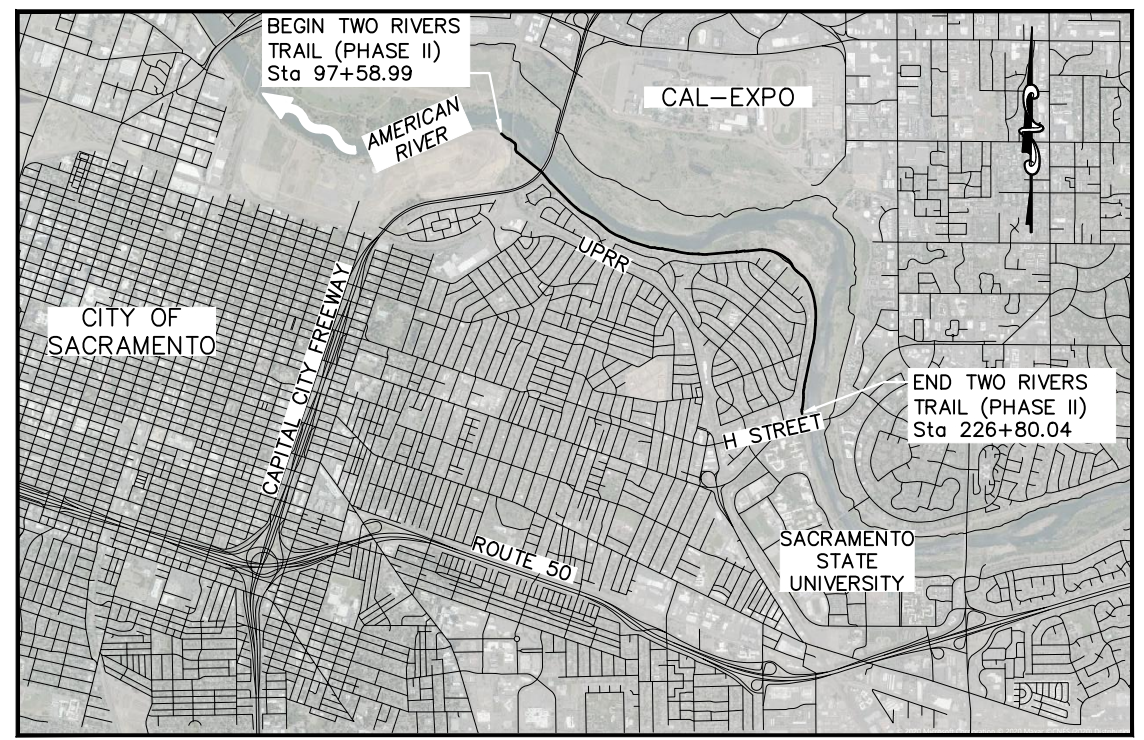


INDEX OF TRAIL SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2-3	TYPICAL CROSS SECTIONS
4	KEY MAP
5-19	PLAN AND PROFILE
20-30	CONSTRUCTION DETAILS
31-37	EROSION CONTROL AND TREE REMOVAL PLAN

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SHEET No.	DESCRIPTION
38	GENERAL PLAN
39	FOUNDATION PLAN
40	TYPICAL SECTION



SITE PLAN

STANDARD ABBREVIATIONS

AB	AGGREGATE BASE	(E) or EXIST	EXISTING	PVC	POLY VINYL CHLORIDE
AC	ASPHALT CONCRETE	FL	FIRE HYDRANT	R	RADIUS
AP	ANGLE POINT	FM	FORCE MAIN	RCP	REINFORCED CONC. PIPE
AVE	AVENUE	FOC	FACE OF CURB	RT	RIGHT
BLDG	BUILDING	FOW	FACE OF WALK	R/W, ROW	RIGHT-OF-WAY
BC	BEGIN CURVE	G	GAS	S =	SLOPE
BOC	BACK OF CURB	GB	GRADE BREAK	SD	STORM DRAIN
BOW	BACK OF WALK	GD	GUTTER DRAIN	SDMH	STORM DRAIN MH
CAB	CABINET	GV	GATE VALVE	SDWK	SIDEWALK
C&G	CURB AND GUTTER	JP	JOINT POLE	SHT	SHEET
CG&S	CURB, GUTTER AND SIDEWALK	LF	LINEAR FEET	SNS	STREET NAME SIGN
CL or C	CENTER LINE	LIP	LIP OF GUTTER	SPECS	SPECIFICATIONS
CMP	CORROGATED METAL PIPE	LT	LEFT	SS	SANITARY SEWER
C/O	CLEANOUT	MB	MAIL BOX	SSMH	SANITARY SEWER MH
CONC	CONCRETE	MFR'S	MANUFACTURE'S	ST	STREET
CONST	CONSTRUCT	MH	MAINTENANCE HOLE	STA	STATION
CTV	CABLE TV	MAX, MIN	MAXIMUM, MINIMUM	STD	STANDARD
CR	CURB RAMP	N/A	NOT APPLICABLE	SW	SIDEWALK
CS	COMBINATION SYSTEM	No., #	NUMBER	T or TEL	TELEPHONE
CSMH	COMBINATION SYSTEM MH	N.T.S.	NOT TO SCALE	T.O.N.	TOP OF NAIL
CUT	CUTLINE	PG	PROPOSED GRADE	TOB	TOP OF BANK
DB	DITCH BOX	PI	POINT OF INTERSECTION	TOE	TOE OF SLOPE
DI	DROP INLET	PL	PROPERTY LINE	T.O.P.	TOP OF PIPE
DRWY	DRIVEWAY	PP	POWER POLE	TYP	TYPICAL
DWG	DRAWING	PCC	PORTLAND CEMENT CONCRETE	TS	TRAFFIC SIGNAL
E or ELECT	ELECTRICAL	(P), PROP.	PROPOSED	W	WATER
EC	END CURVE	PERF	PERFORATED	WKWY	WALKWAY
EG	EXISTING GRADE	PM	PARKING METER	WM	WATER METER
EL or ELEV	ELEVATION			WV	WATER VALVE
EP, EOP	EDGE OF PAVEMENT				



Know what's below.
Call 811 before you dig.

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 VERT. N/A

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 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: B. HARRISON
 DESIGN BY: G. MCLAUGHLIN
 CHECKED BY: DES_CHK

DATE _____ DATE _____ DATE _____



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
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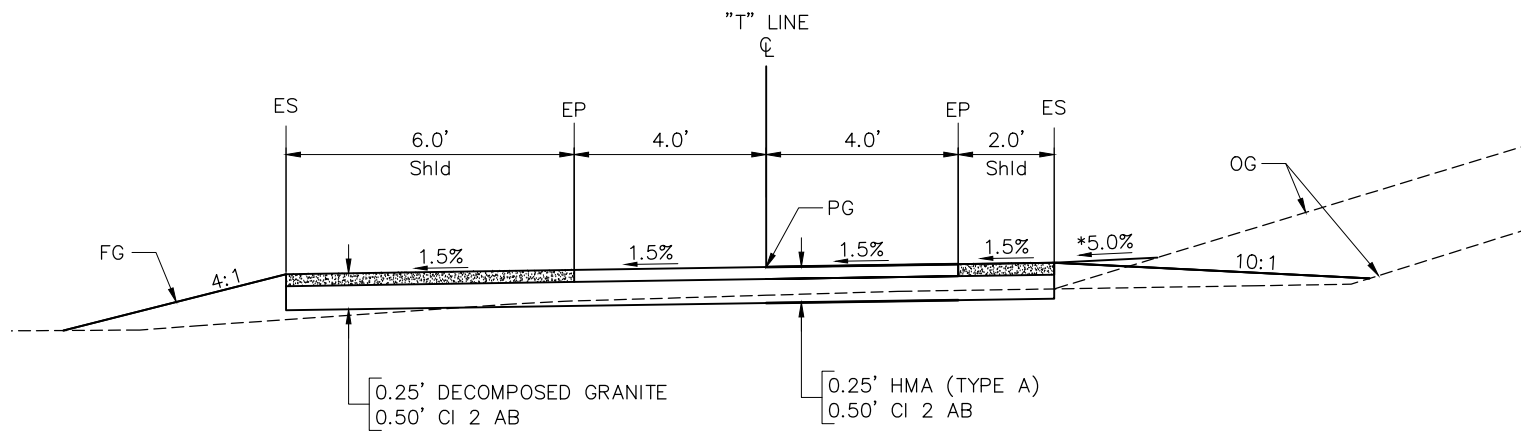
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SHEET 1 OF 40

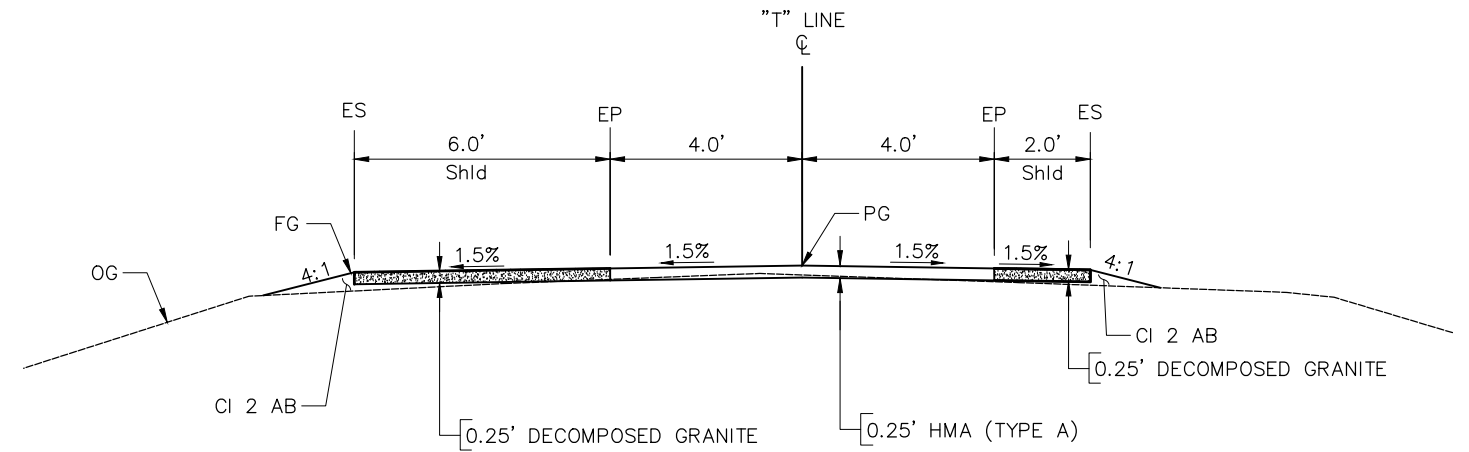
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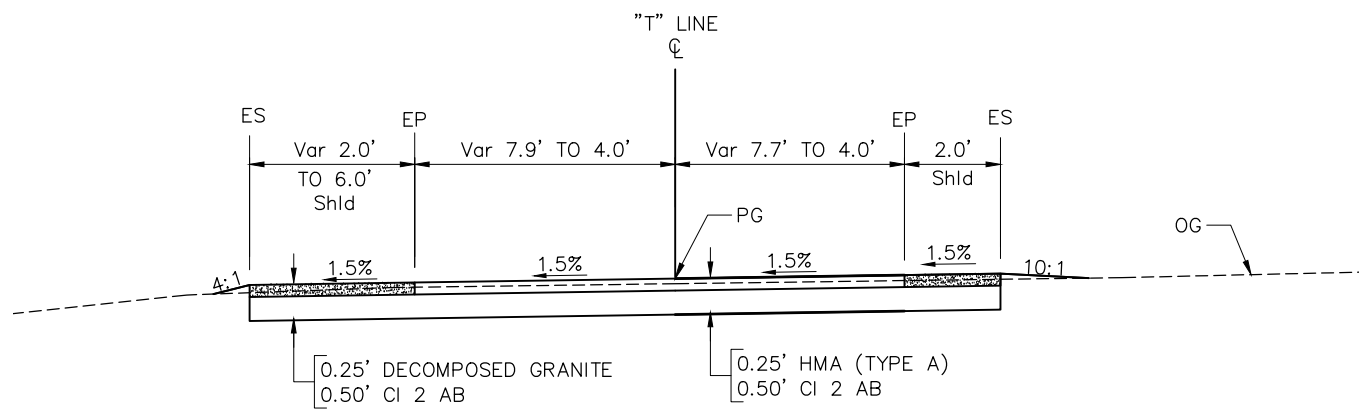


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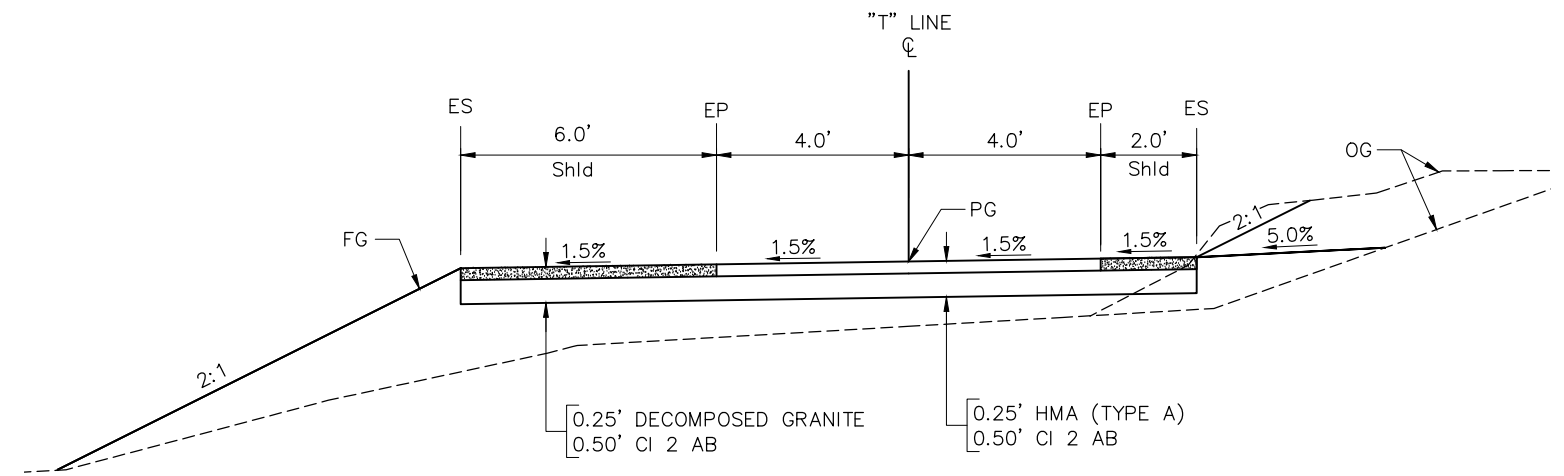
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IF A 5.0% SLOPE WILL NOT CATCH, THEN FILL AT A 10:1 SLOPE



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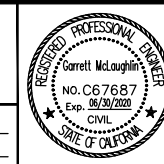
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DATE	DATE	DATE



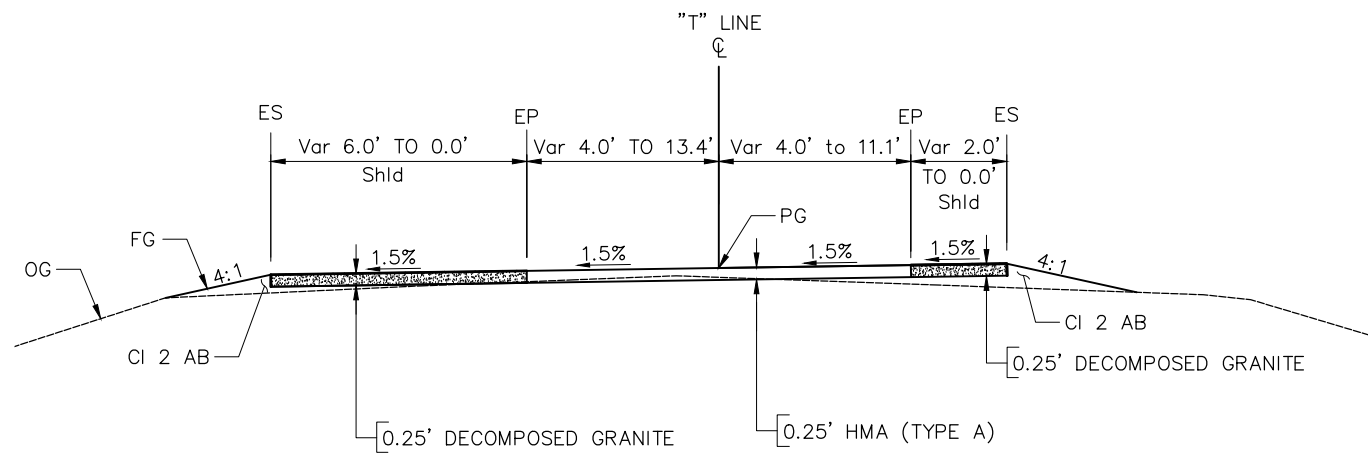
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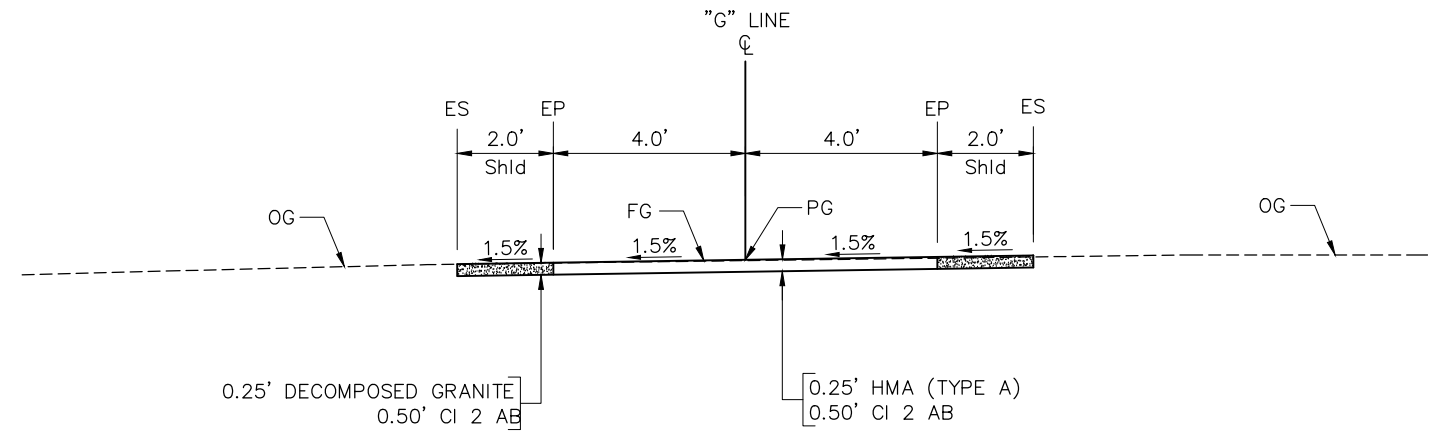
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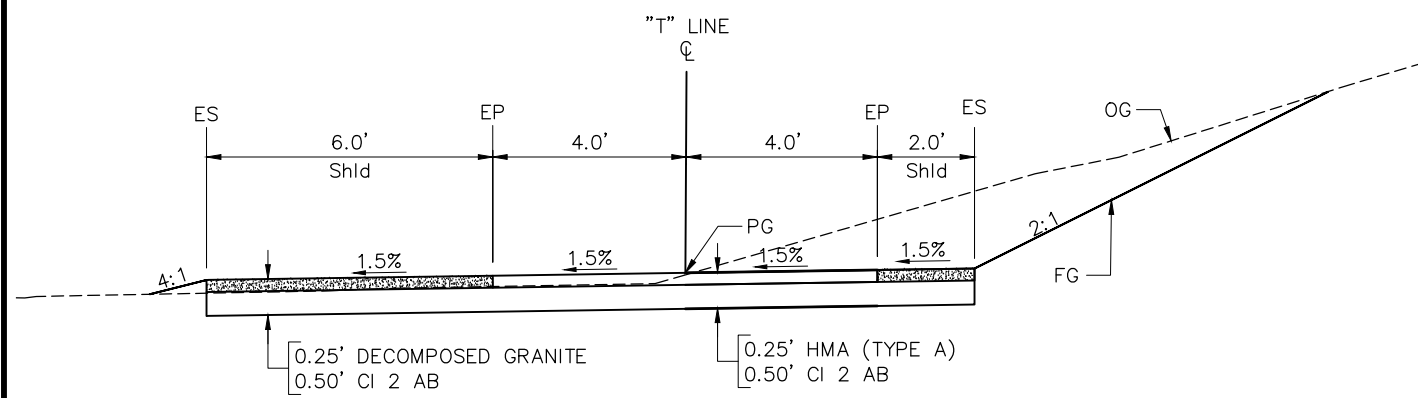
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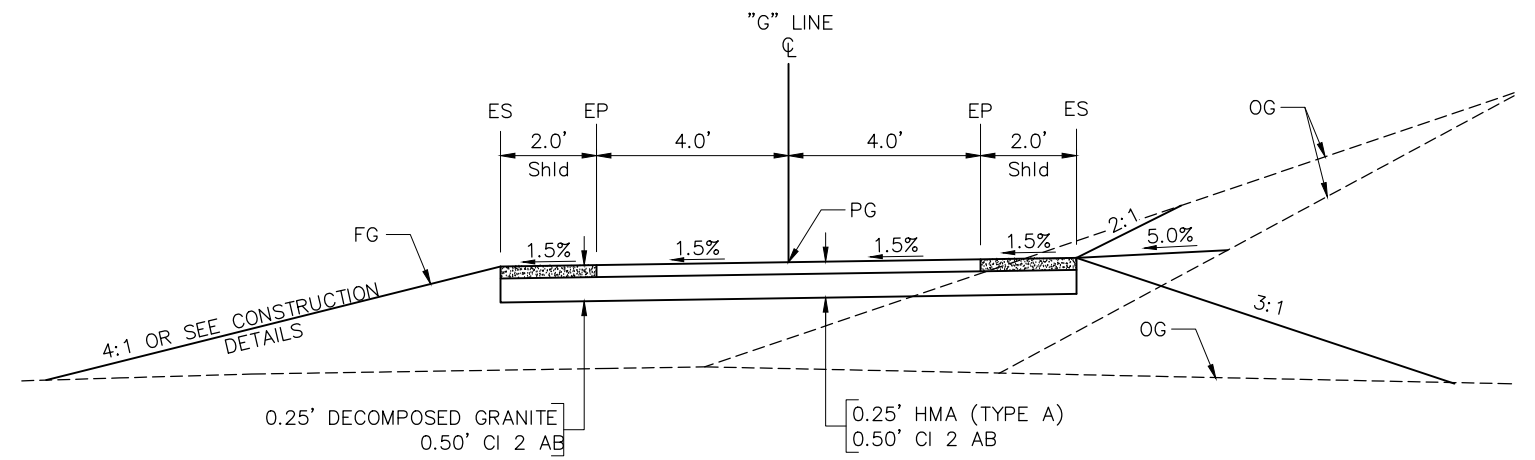
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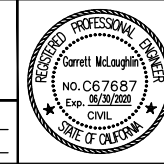
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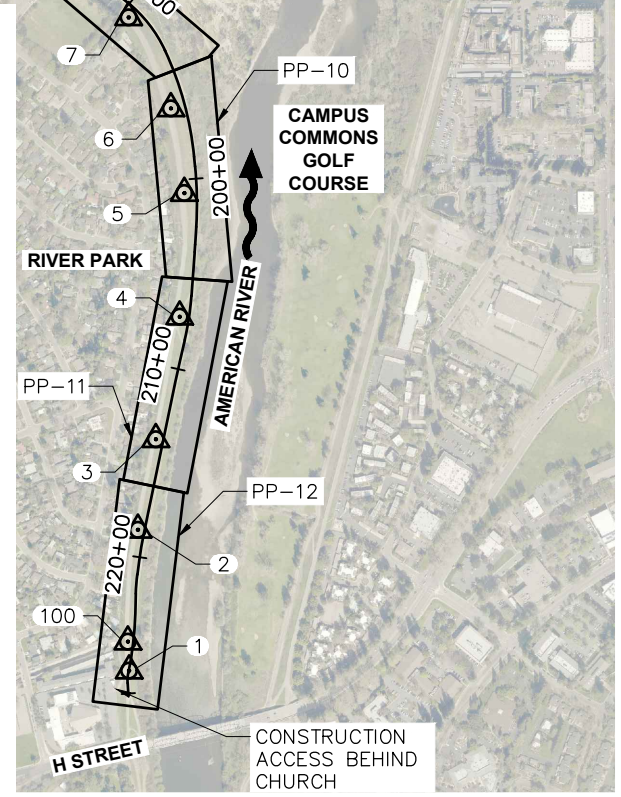
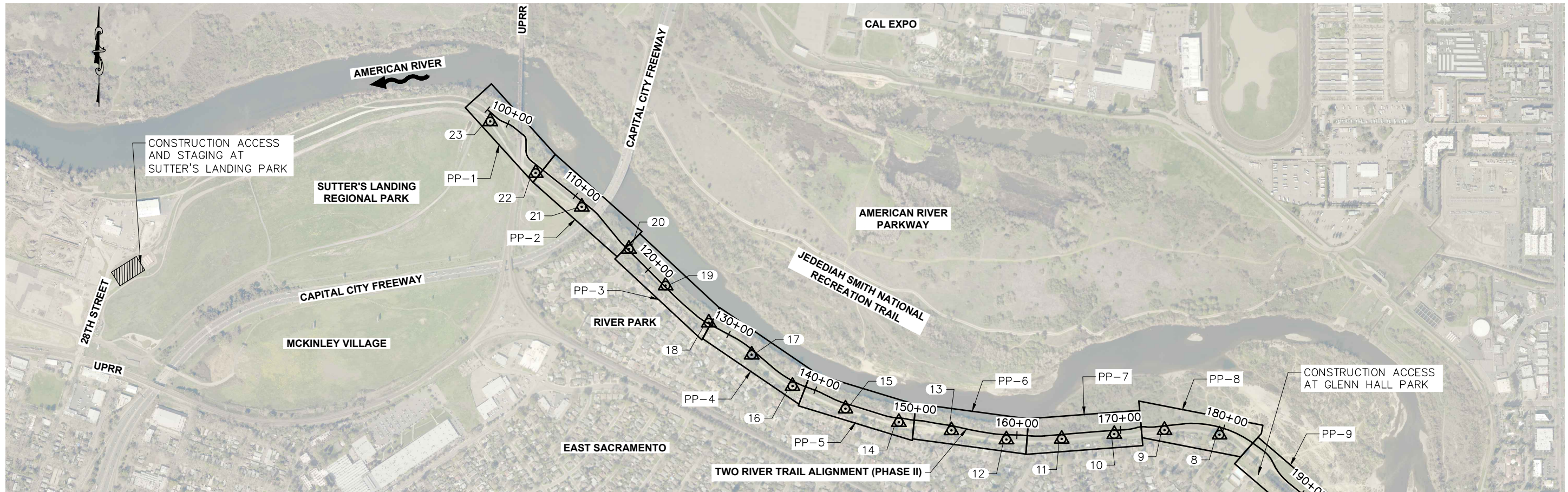
CONSTRUCTION PLANS FOR
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TYPICAL CROSS SECTIONS

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SURVEY CONTROL POINTS

No.	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	Rt/Lt	DESCRIPTION
1	1969837.79	6726303.46	49.20	"T"	225+93.99	1.41'	Lt	REBAR
2	1970571.48	6726349.27	48.99	"T"	218+61.99	34.33'	Rt	REBAR WT. YELLOW CAP
3	1971043.12	6726442.76	49.39	"T"	213+81.19	38.78'	Rt	REBAR WT. YELLOW CAP
4	1971681.24	6726566.97	49.31	"T"	207+28.38	48.97'	Rt	REBAR WT. YELLOW CAP
5	1972324.94	6726591.34	49.93	"T"	200+73.80	64.49'	Rt	REBAR WT. YELLOW CAP
6	1972766.30	6726521.25	49.64	"T"	196+09.92	74.30'	Rt	REBAR WT. YELLOW CAP
7	1973240.16	6726301.06	49.23	"T"	190+47.06	54.73'	Rt	REBAR WT. YELLOW CAP
8	1973876.66	6725513.29	48.06	"T"	179+79.58	69.97'	Rt	REBAR WT. YELLOW CAP
9	1973921.34	6724983.55	48.04	"T"	174+20.75	39.95'	Rt	REBAR WT. YELLOW CAP
10	1973882.09	6724500.74	47.33	"T"	169+36.52	36.84'	Rt	REBAR WT. YELLOW CAP
11	1973836.53	6723994.87	47.42	"T"	164+27.79	42.21'	Rt	REBAR WT. YELLOW CAP
12	1973830.43	6723463.15	47.04	"T"	158+99.94	46.55'	Rt	REBAR WT. YELLOW CAP
13	1973918.46	6722934.47	46.76	"T"	153+70.87	45.00'	Rt	REBAR WT. YELLOW CAP
14	1973997.48	6722428.55	46.45	"T"	148+53.73	40.02'	Rt	REBAR WT. YELLOW CAP
15	1974126.71	6721915.15	46.29	"T"	143+32.02	49.23'	Rt	REBAR WT. YELLOW CAP

SURVEY CONTROL POINTS

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16	1974344.70	6721405.54	46.38	"T"	137+85.23	45.49'	Rt	REBAR WT. YELLOW CAP
17	1974646.40	6721012.52	47.00	"T"	132+98.68	39.53'	Rt	REBAR WT. YELLOW CAP
18	1974954.86	6720600.10	45.83	"T"	127+78.77	8.69'	Lt	REBAR WT. YELLOW CAP
19	1975312.12	6720185.12	46.70	"T"	122+26.79	11.54'	Lt	REBAR WT. YELLOW CAP
20	1975664.64	6719832.04	46.75	"T"	117+27.85	11.85'	Lt	REBAR WT. YELLOW CAP
21	1976069.48	6719378.41	44.80	"T"	111+13.56	43.87'	Rt	REBAR
22	1976394.70	6718935.16	45.63	"T"	105+64.21	65.20'	Rt	REBAR
23	1976891.45	6718497.65	44.70	"T"	98+53.94	68.45'	Rt	REBAR
100	1969989.03	6726297.20	49.62	"T"	224+44.36	28.06'	Rt	REBAR

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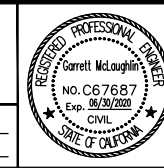
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FIELD BOOK
SCALE
HORIZ. 1" = 5000'
VERT. 1" = 100'

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RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

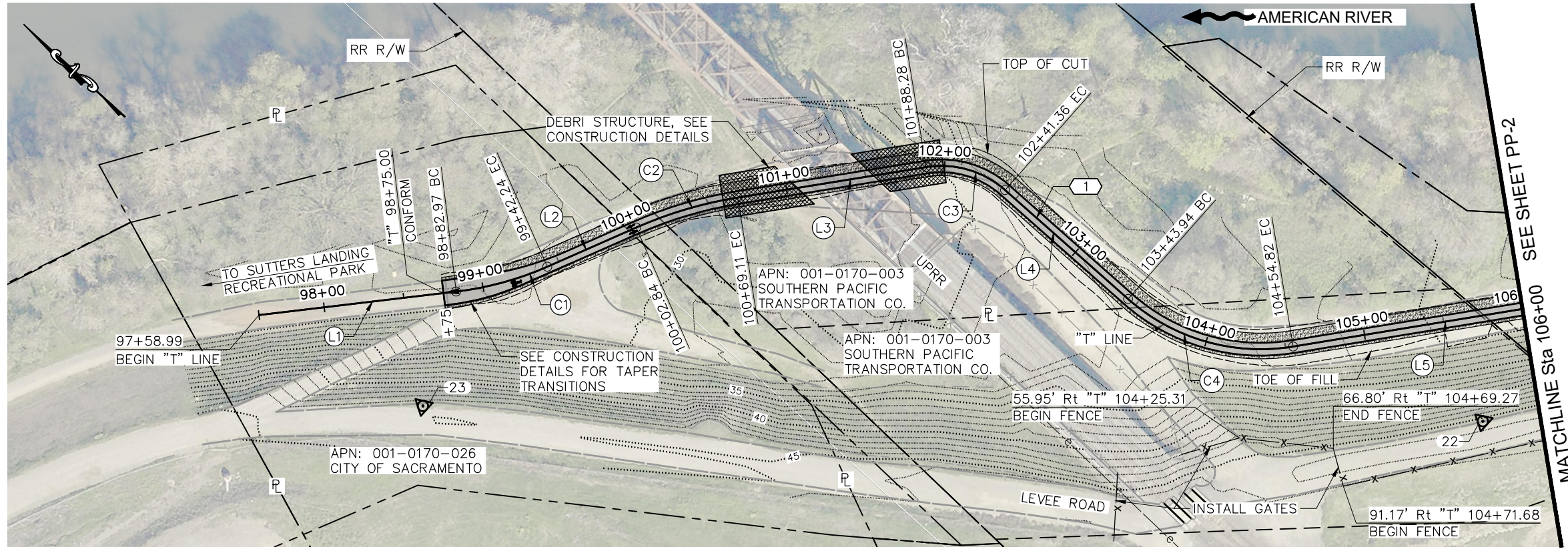
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CHECKED BY: DES_CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
KEY MAP

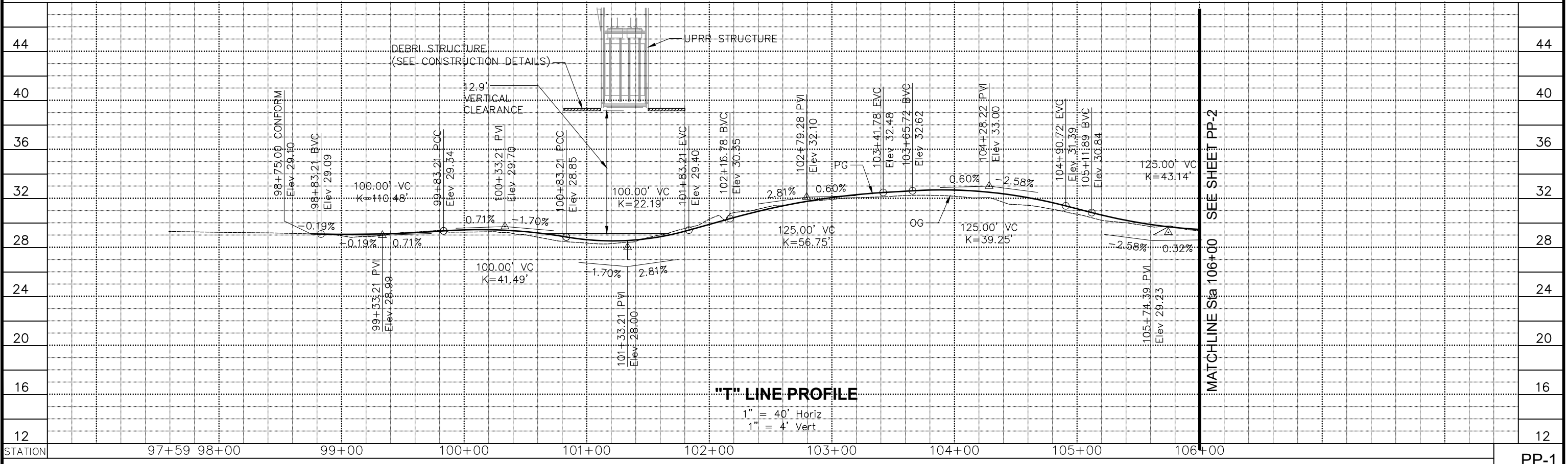
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LEGEND

- (Cx) CURVE DATA NUMBER
- (Lx) LINE DATA NUMBER
- △ SURVEY CONTROL POINT
- TOP OF CUT
- TOE OF FILL
- HMA
- ▨ DECOMPOSED GRANITE
- (XX) ROADSIDE SIGN NO.
- ┆ BEGIN OR END STRIPING DETAIL
- 1 PLACE 4" PAINTED YELLOW LINE
- ➔ BIKE LANE ARROW
- 🚲 BIKE LANE SYMBOL WITH PERSON
- LL LIMIT LINE
- ┆ ROADSIDE SIGN (ONE POST)
- TE TRAIL EASEMENT
- jt---(oh)--- OVERHEAD UTILITY LINE

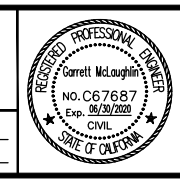


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QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES_CHK



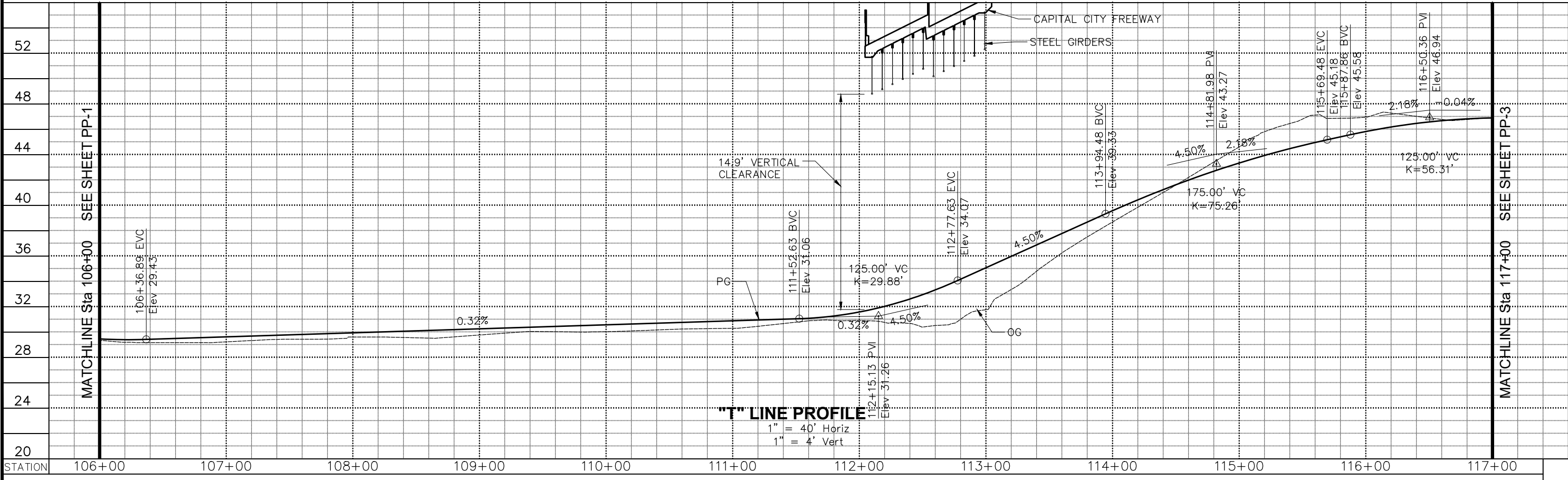
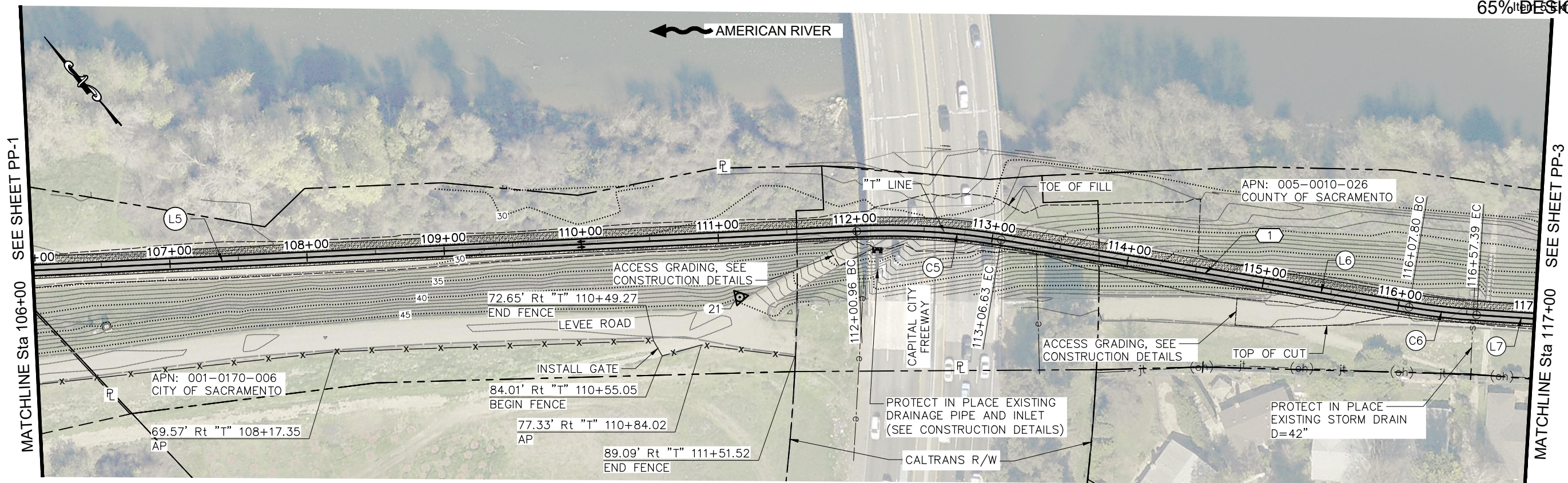
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 PLAN AND PROFILE
 Sta 97+58.99 to Sta 106+00

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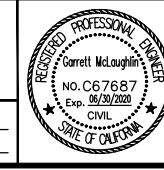
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NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES CHK



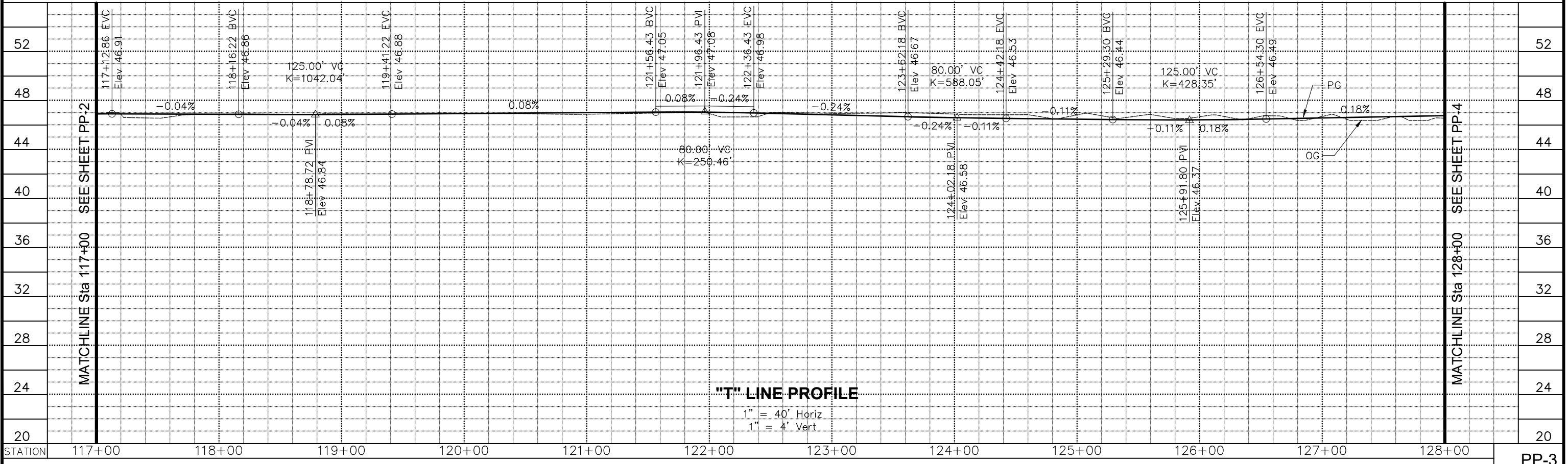
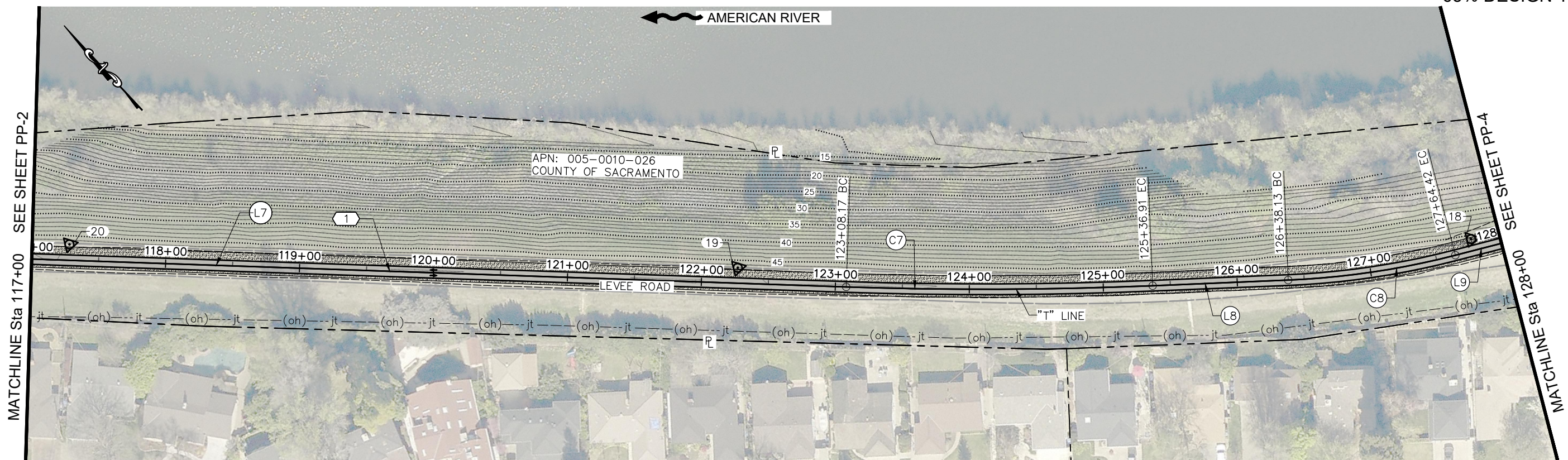
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 106+00 to Sta 117+00

Page 32 of 40
PN: TXXXXXXX

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SHEET 6 OF 40

PLOT STAMP: Friday, October 23, 2020 5:26:20 PM

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NO.	REVISIONS DESCRIPTION	DATE	BY

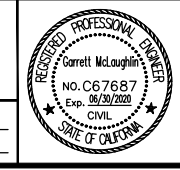
FIELD BOOK

SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

QUINCY ENGINEERING
11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES CHK

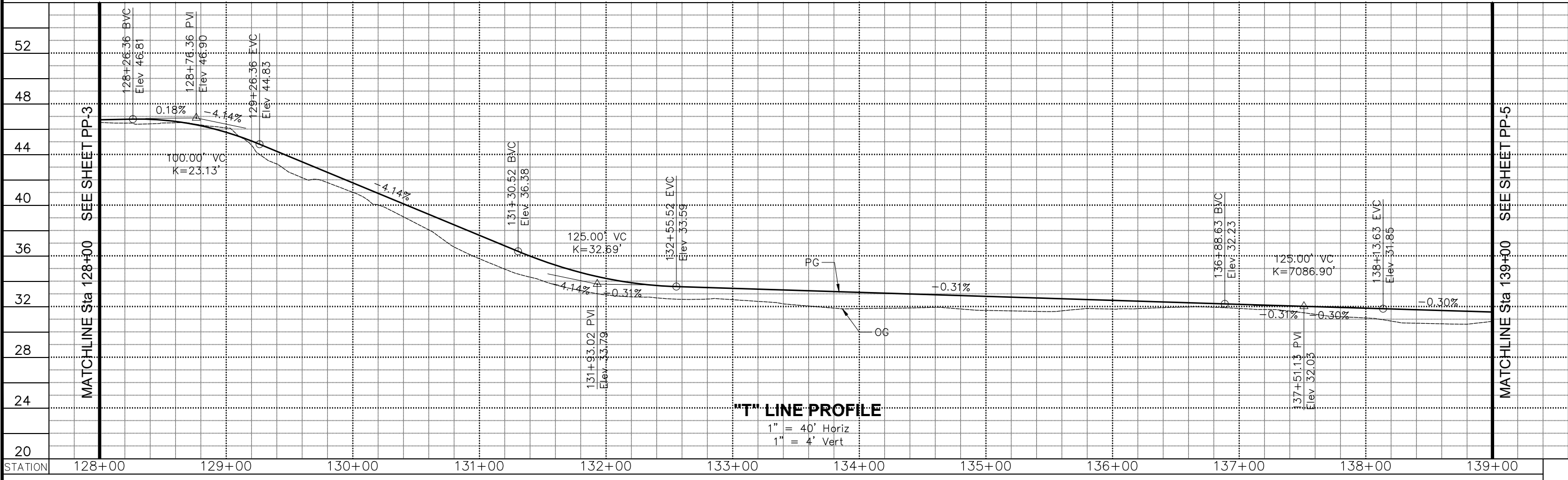
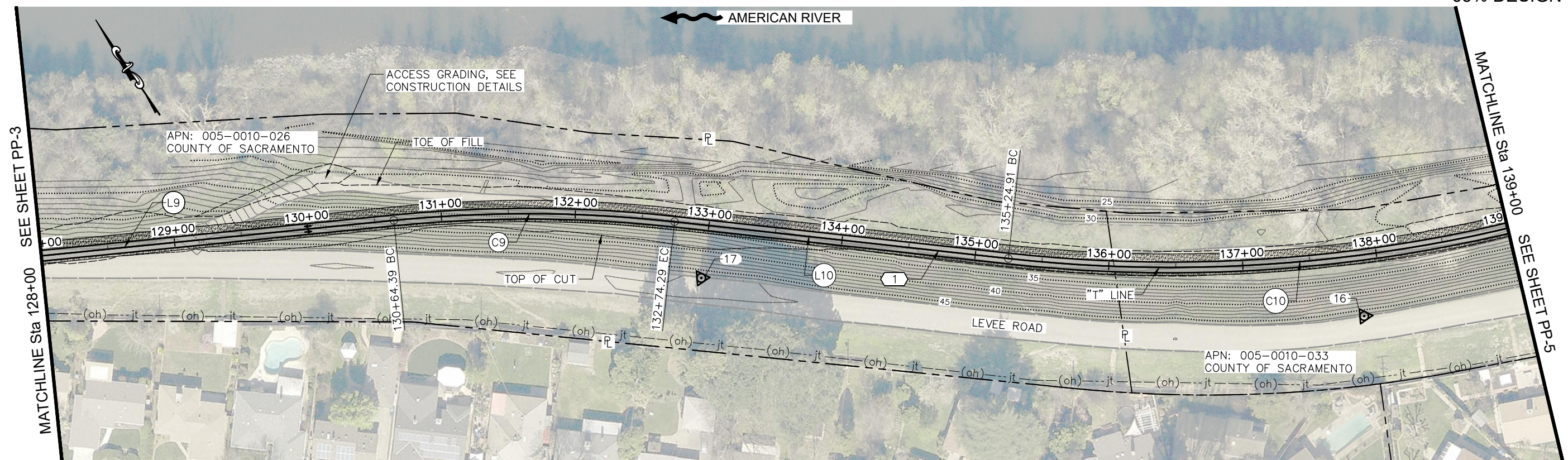


CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 117+00 to Sta 128+00

Page 38 of 40
SHEET 7 OF 40
PN: TXXXXXXX

PLOT STAMP: Friday, October 23, 2020 5:26:27 PM

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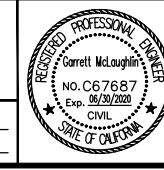
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

QUINCY ENGINEERING
11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

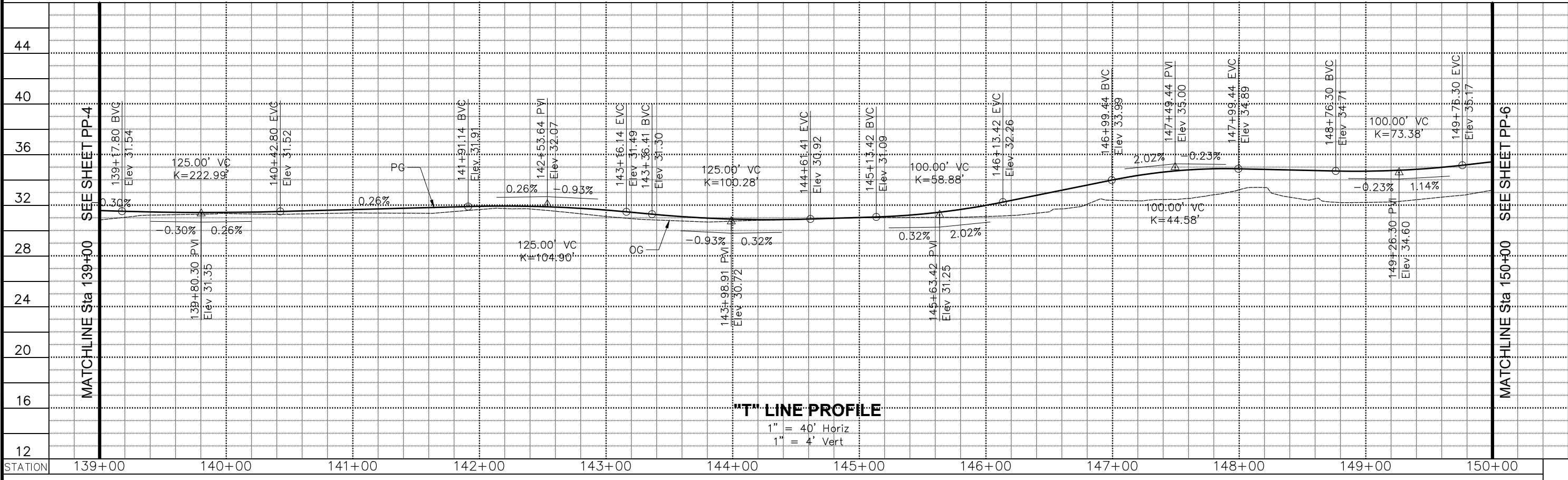
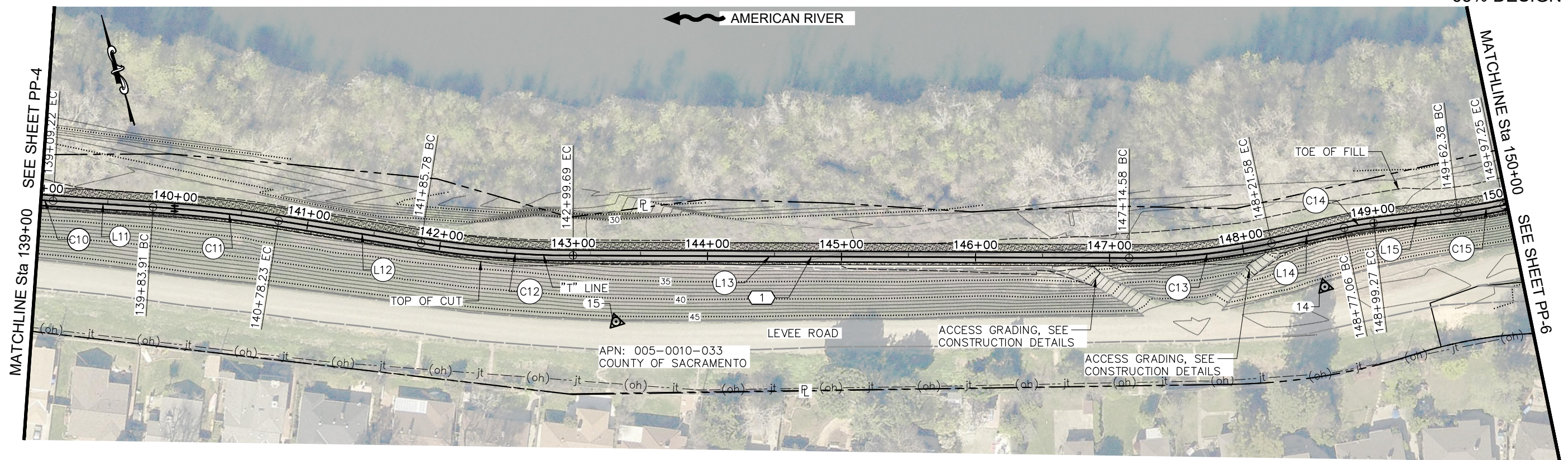
DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 128+00 to Sta 139+00

PLOT STAMP: Friday, October 23, 2020 5:26:35 PM

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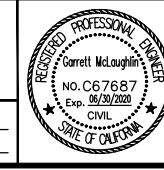
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES CHK



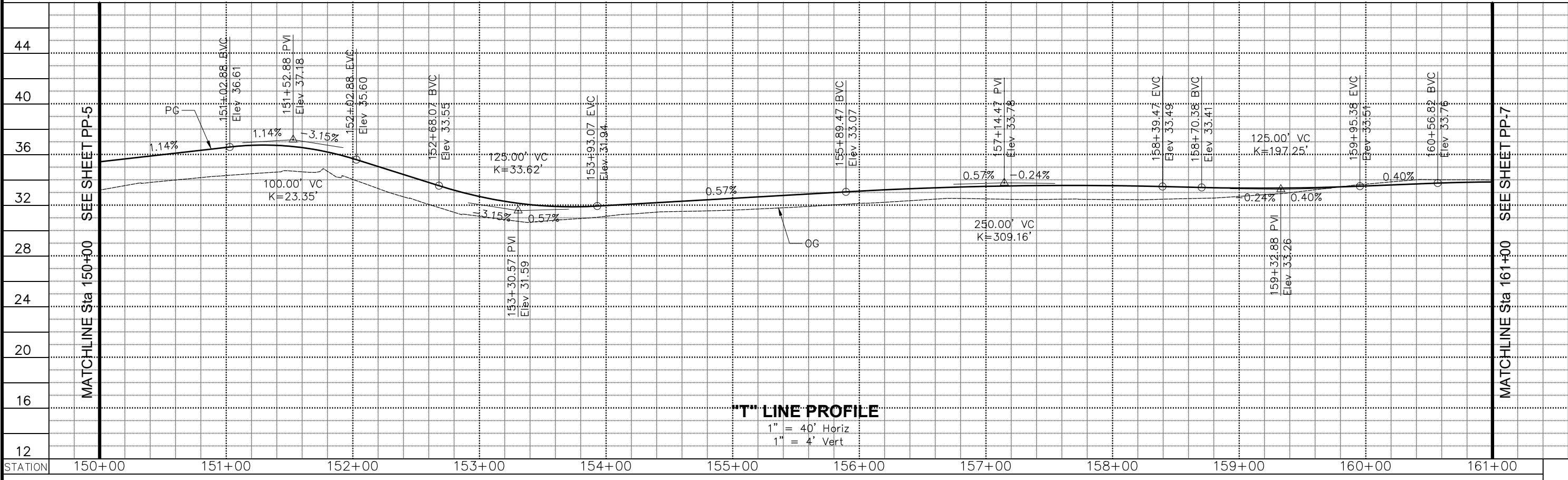
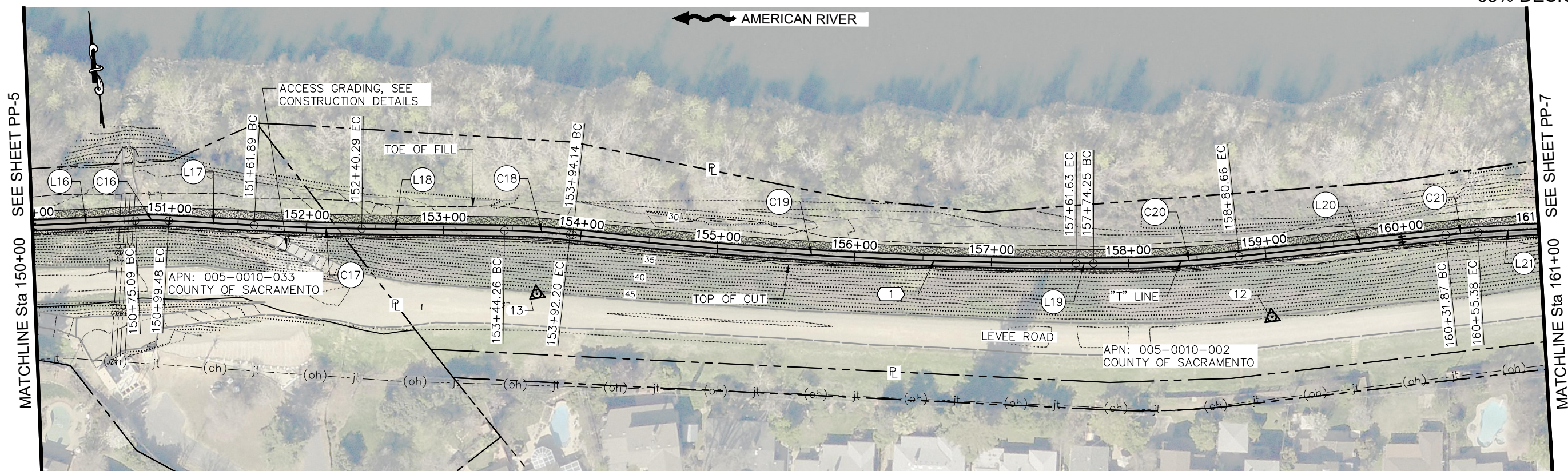
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 139+00 to Sta 150+00

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PN: TXXXXXXX

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SHEET 9 OF 40

PLOT STAMP: Friday, October 23, 2020 5:26:44 PM

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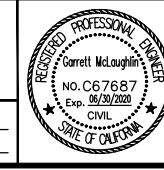
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. N/A



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK



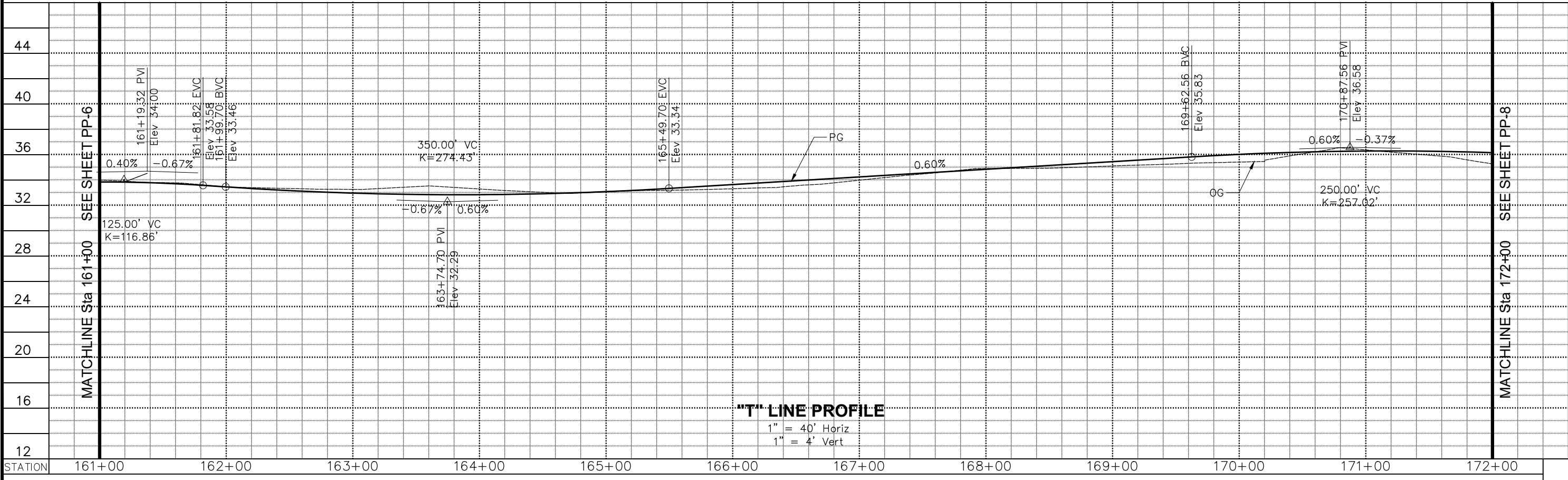
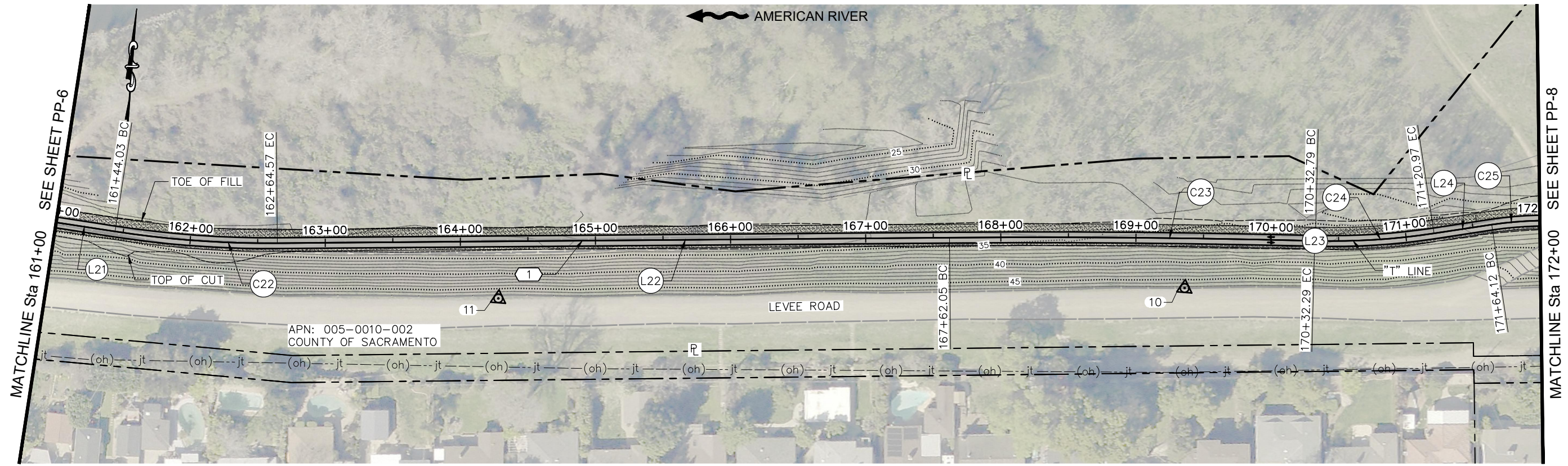
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 150+00 to Sta 161+00

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PN: TXXXXXXX

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SHEET 10 OF 40

PLOT STAMP: Friday, October 23, 2020 5:27:17 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_req-002.dwg



REVISIONS			
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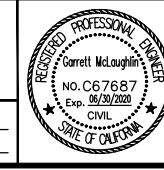
FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK

DATE: _____ DATE: _____ DATE: _____



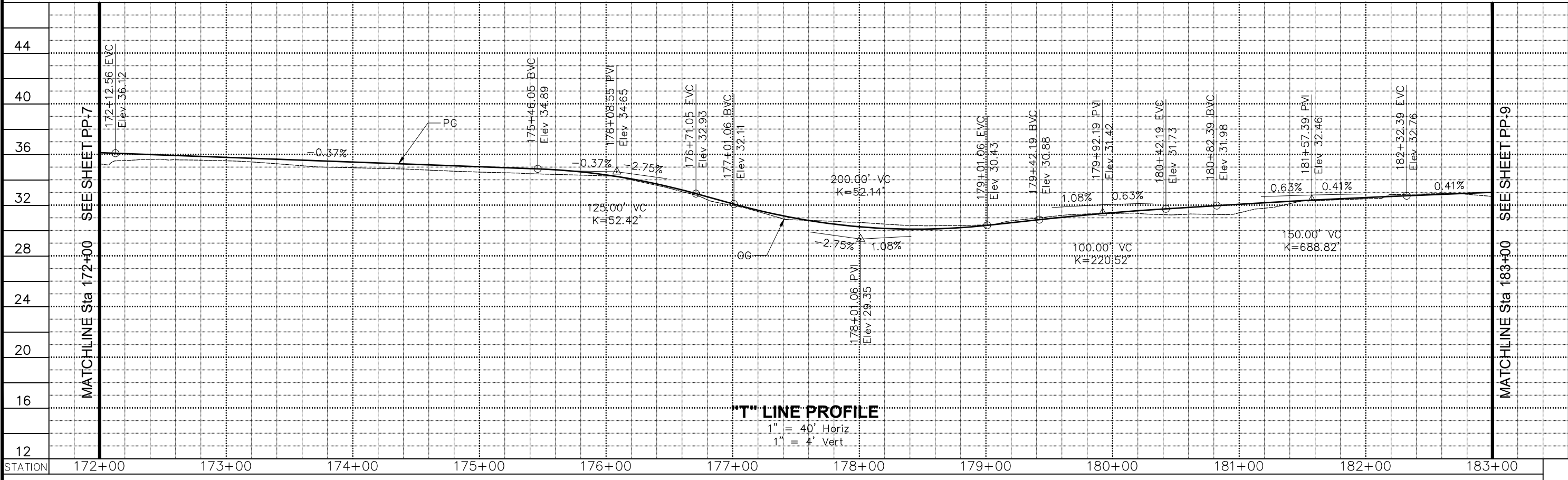
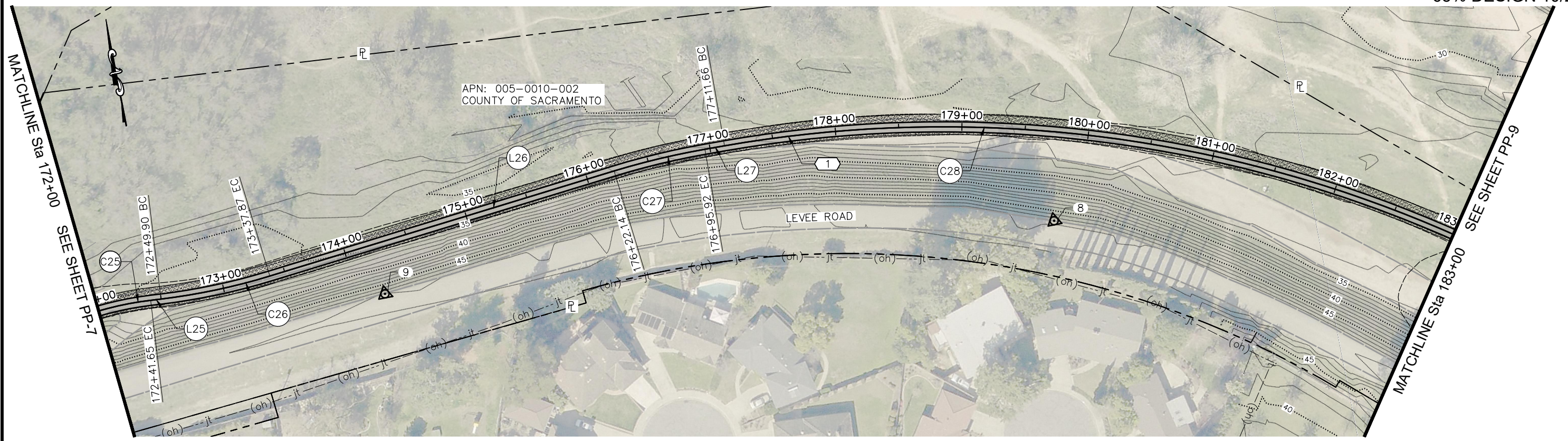
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 161+00 to Sta 172+00

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SHEET 11 OF 40
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PLOT STAMP: Friday, October 23, 2020 5:27:29 PM

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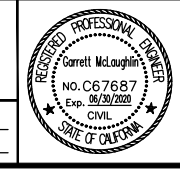
NO.	REVISIONS DESCRIPTION	DATE	BY

FIELD BOOK

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES_CHK



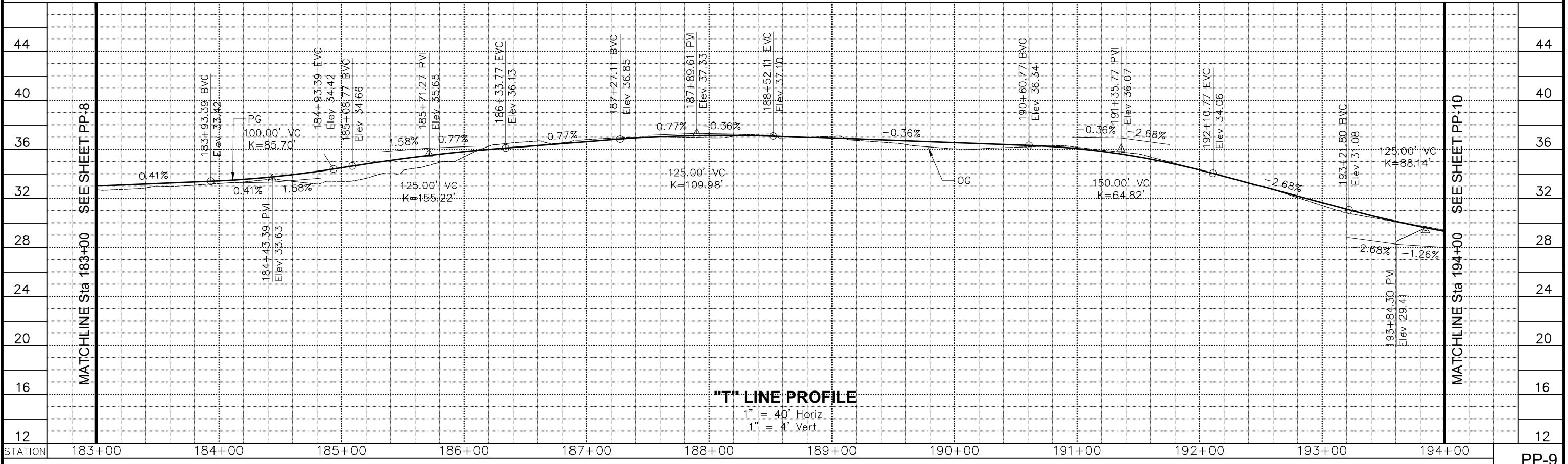
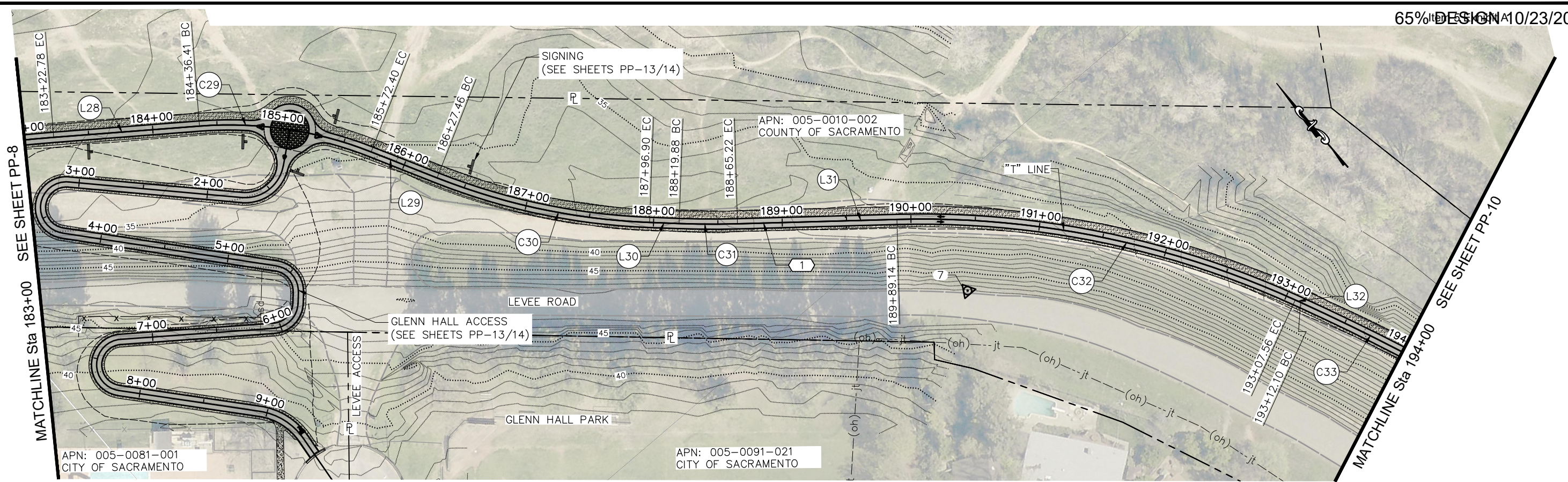
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 PLAN AND PROFILE
 Sta 172+00 to Sta 183+00

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12
OF
40

PLOT STAMP: Friday, October 23, 2020 5:27:39 PM

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NO.	REVISIONS DESCRIPTION	DATE	BY

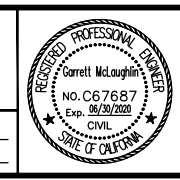
FIELD BOOK

SCALE
 HORIZ. 1" = 40'
 VERT. 1" = 4'

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 PLAN AND PROFILE
 Sta 183+00 to Sta 194+00

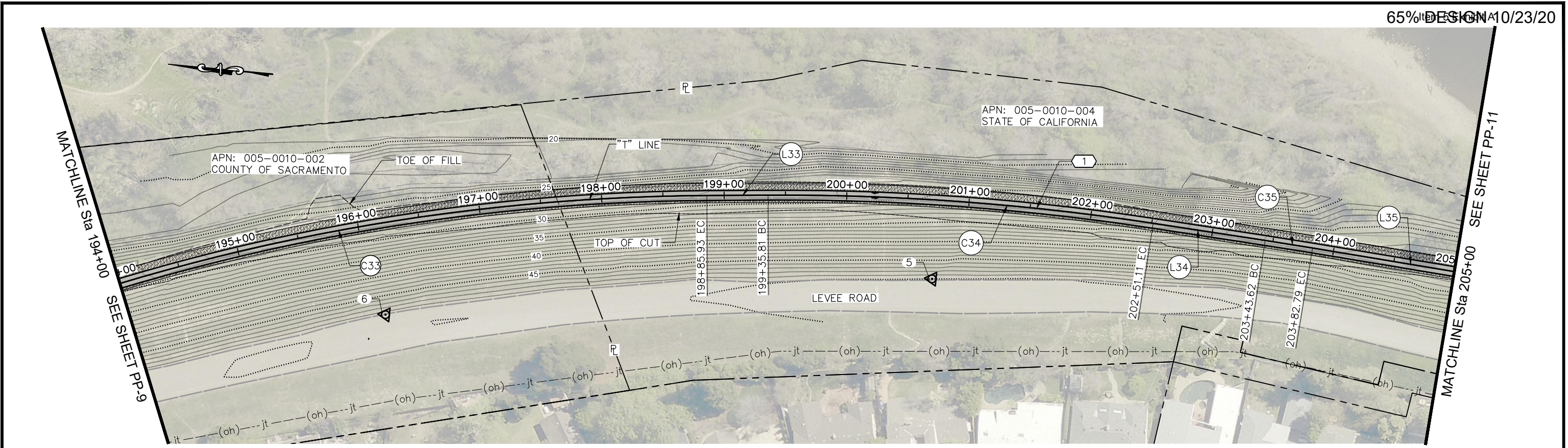
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SHEET 13 OF 40

PLOT STAMP: Friday, October 23, 2020 5:27:49 PM

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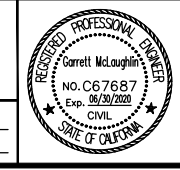
NO.	REVISIONS DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
PLAN AND PROFILE
Sta 194+00 to Sta 205+00

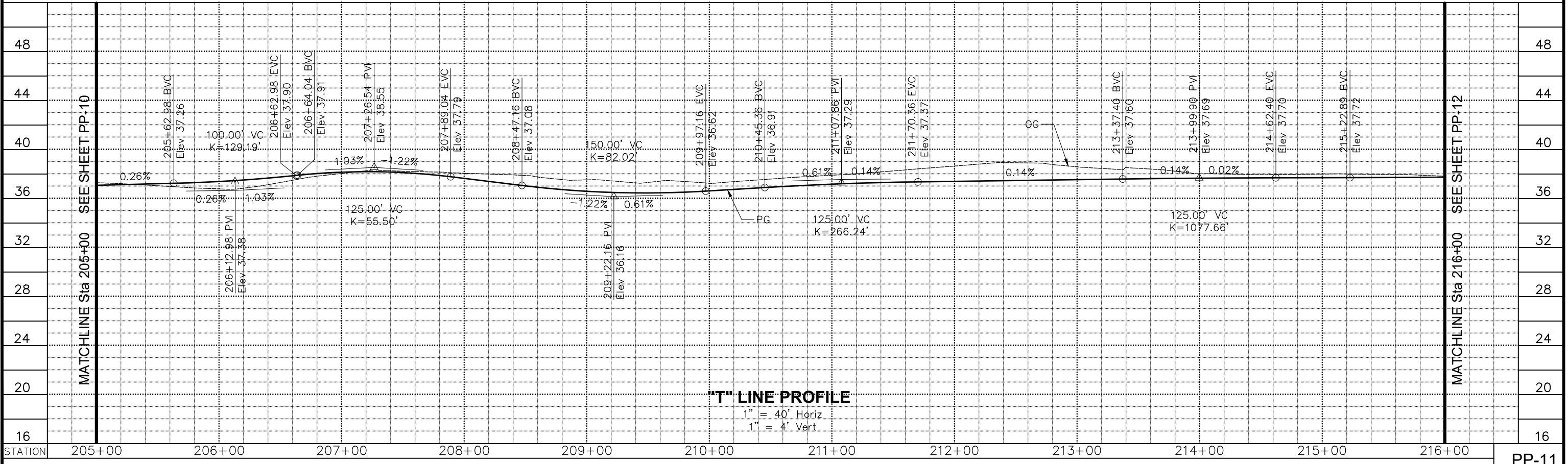
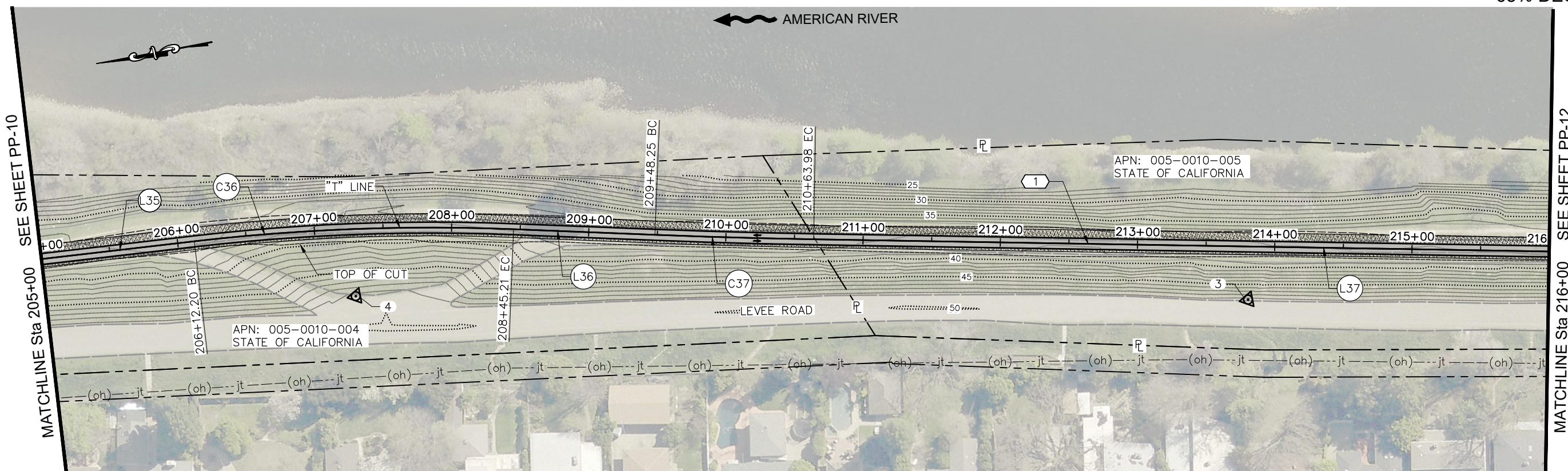
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SHEET 14 OF 40

PLOT STAMP: Friday, October 23, 2020 5:27:58 PM

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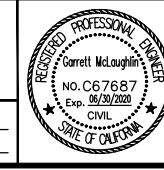
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 PLAN AND PROFILE
 Sta 205+00 to Sta 216+00

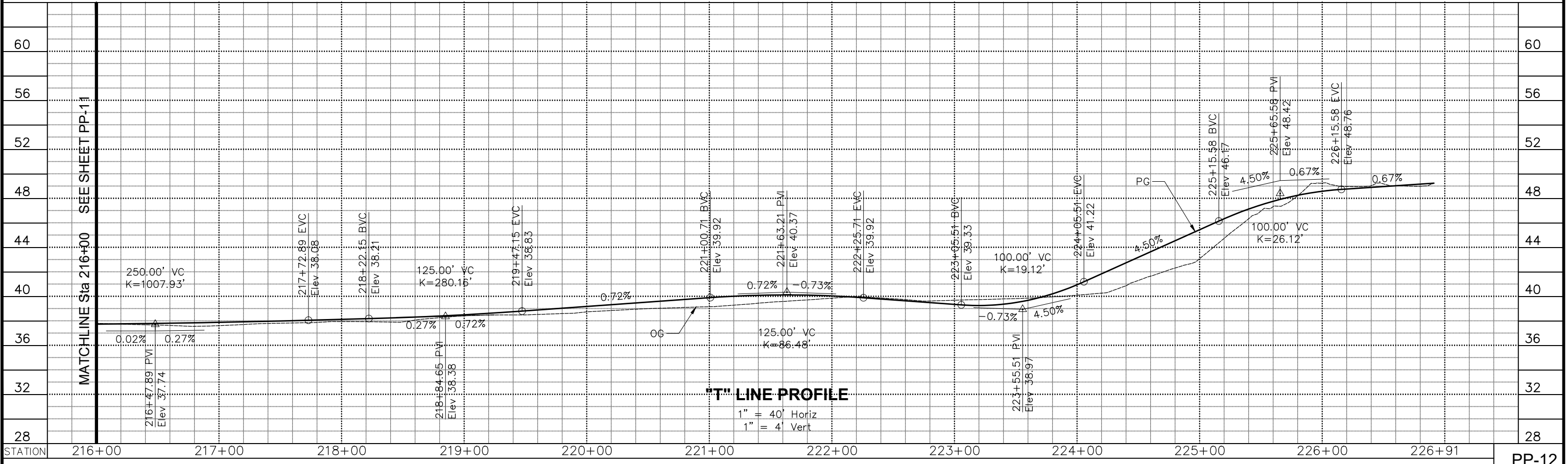
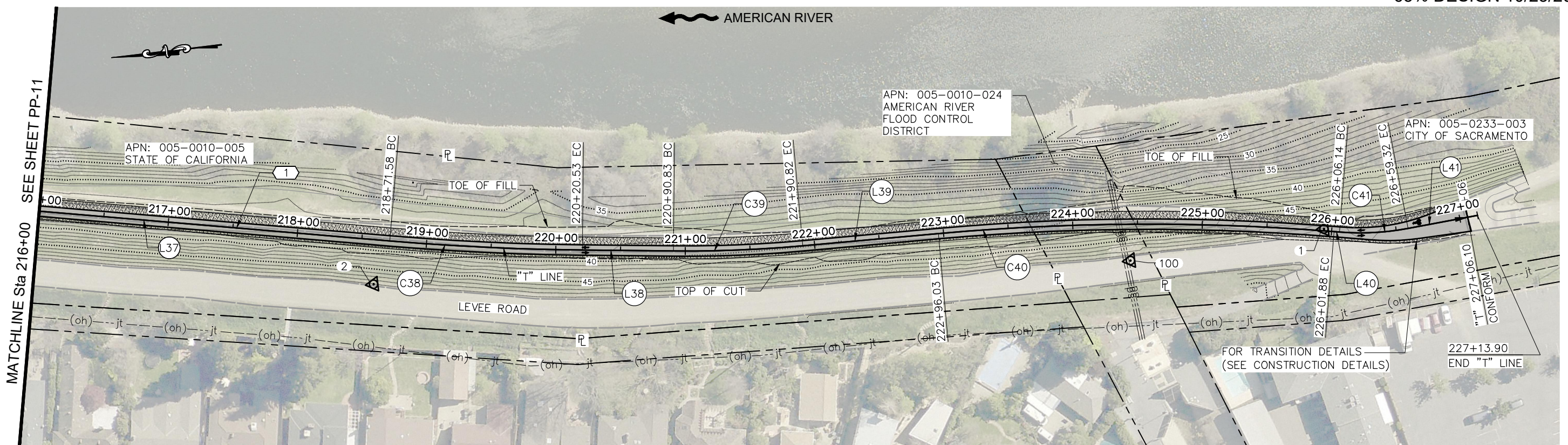
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SHEET 15 OF 40

PLOT STAMP: Friday, October 23, 2020 5:28:08 PM

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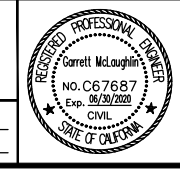
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES CHK



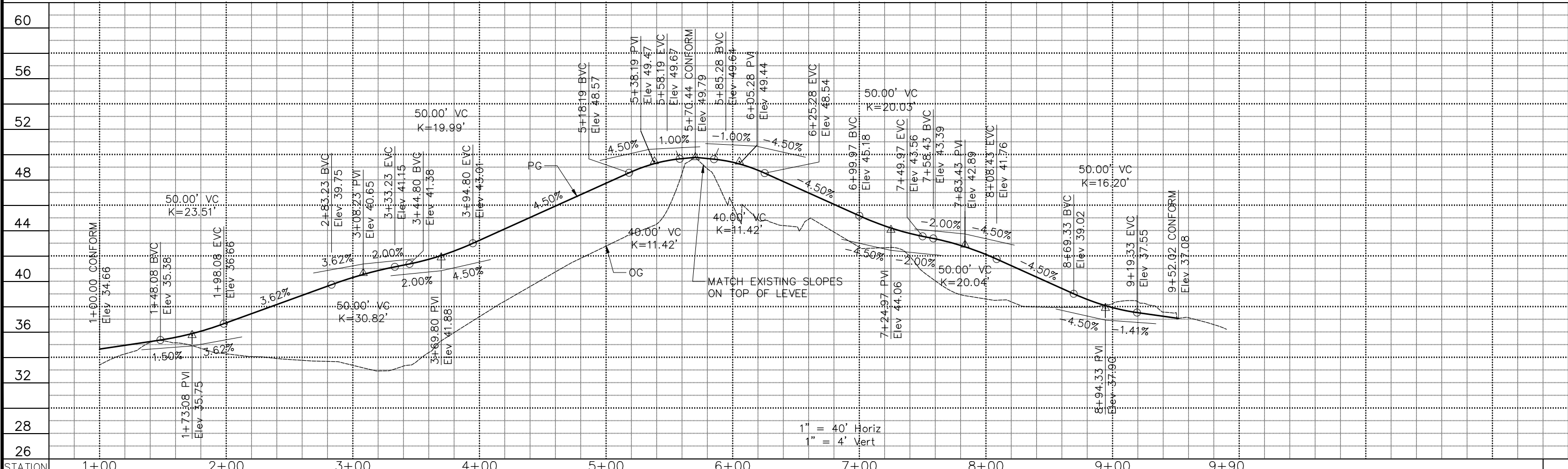
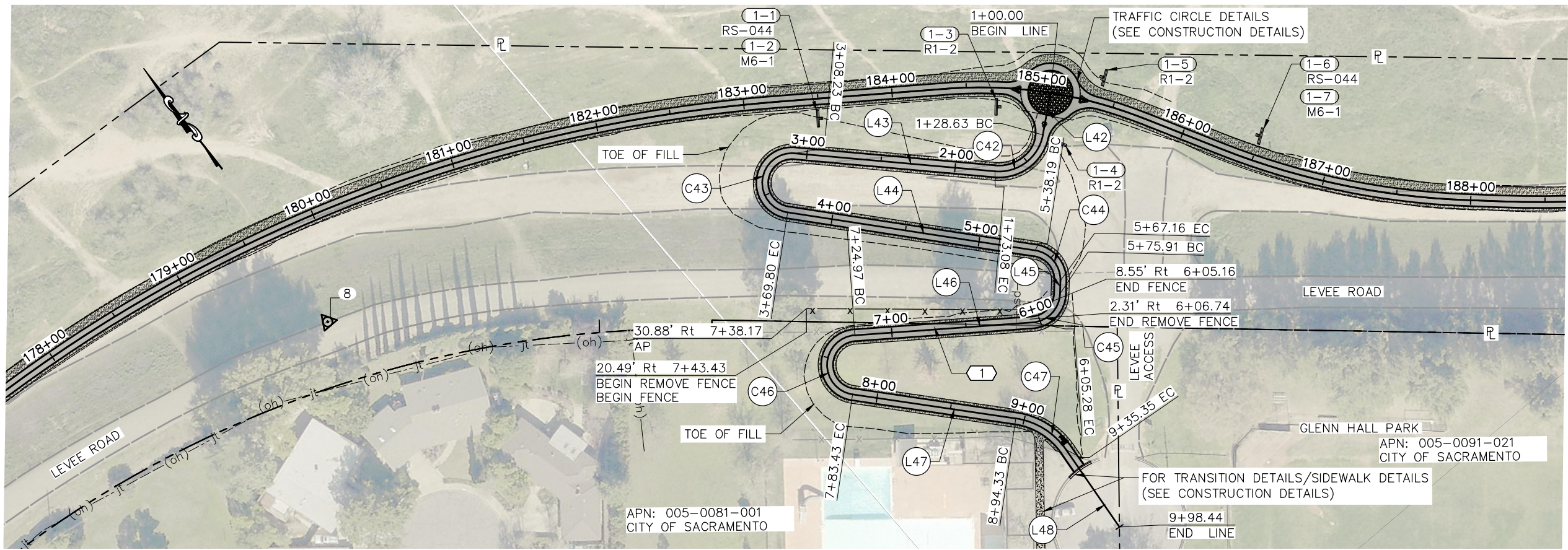
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 PLAN AND PROFILE
 Sta 216+00 to Sta 226+91

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 SHEET 16 OF 40
 PN: TXXXXXXX

PLOT STAMP: Friday, October 23, 2020 5:28:35 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_req-003_ROUNDABOUT.dwg

65% DESIGN 10/23/20

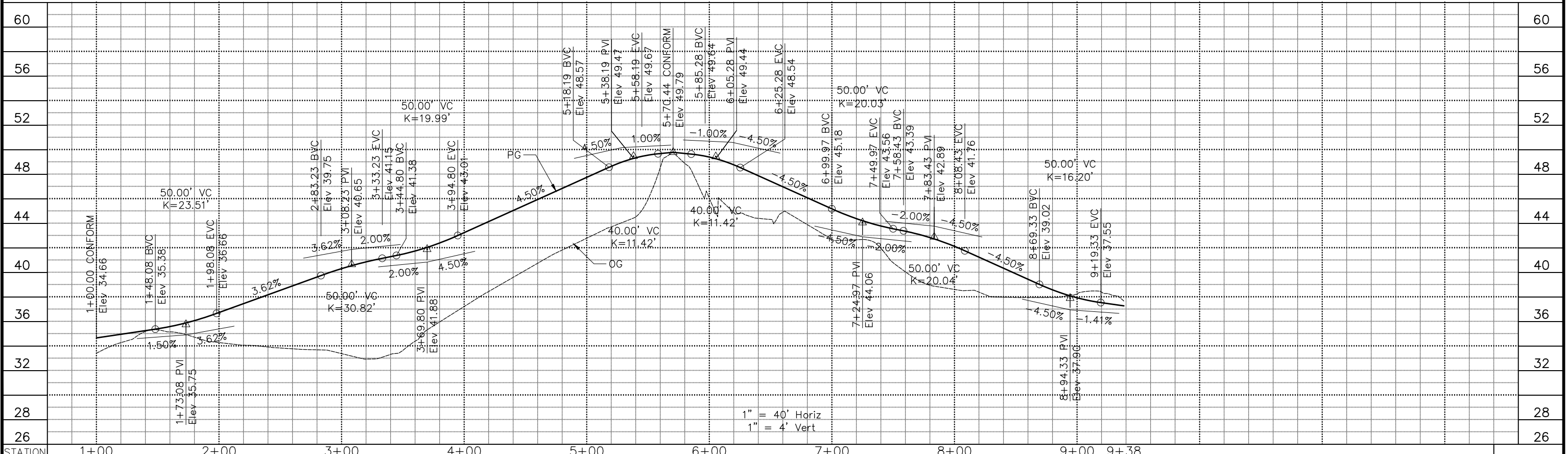
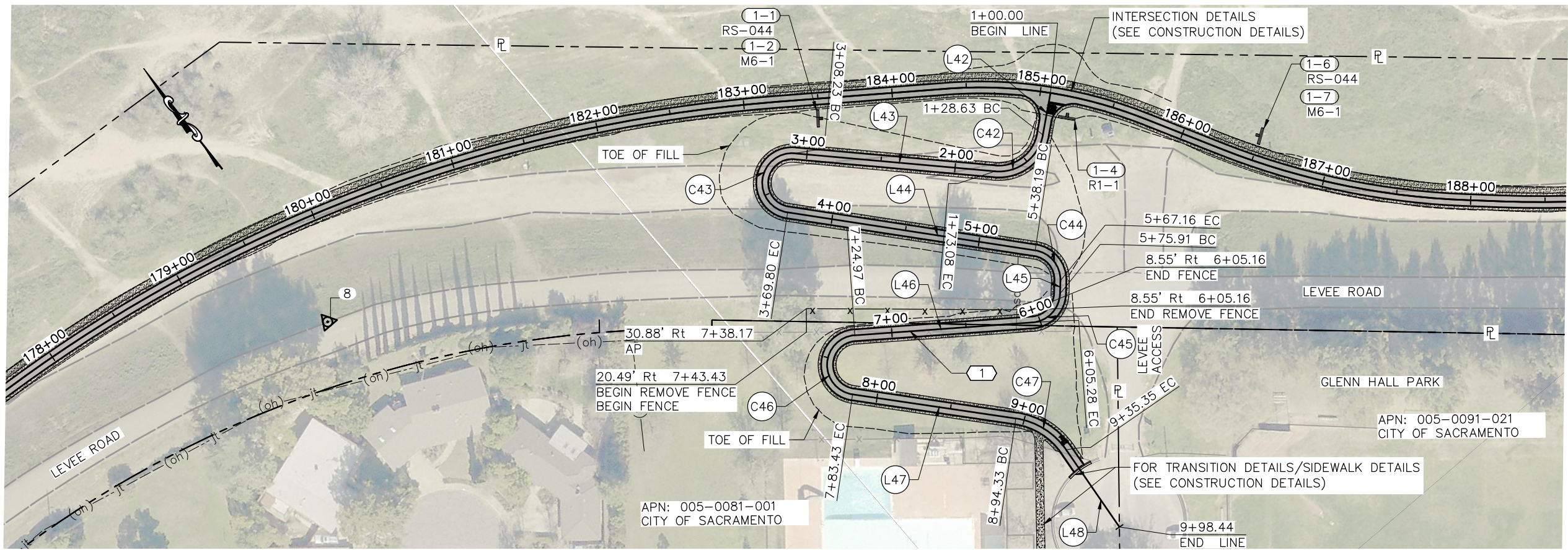


REVISIONS NO. DESCRIPTION DATE BY	FIELD BOOK SCALE HORIZ. 1" = 10' VERT. 1" = 4'	 QUINCY ENGINEERING 11017 COBBLEROCK DRIVE SUITE 100 RANCHO CORDOVA, CA 95670	CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS DRAWN BY: B. Harrison DESIGN BY: G. McLaughlin CHECKED BY: DES CHK	 REGISTERED PROFESSIONAL ENGINEER Garrett McLaughlin NO. C67687 Exp. 06/30/2025 CIVIL STATE OF CALIFORNIA	CONSTRUCTION PLANS FOR TWO RIVERS TRAIL PROJECT (PHASE II) GLENN HALL ACCESS PLAN AND PROFILE (TRAFFIC CIRCLE)	SHEET 17 OF 40 Page 43 PN: TXXXXXXX
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PLOT STAMP: Friday, October 23, 2020 5:28:53 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_req-004_I-T-INTERSECTION.dwg

65% DESIGN 10/23/20



REVISIONS				FIELD BOOK		 QUINCY ENGINEERING 11017 COBBLEROCK DRIVE SUITE 100 RANCHO CORDOVA, CA 95670	CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS			CONSTRUCTION PLANS FOR TWO RIVERS TRAIL PROJECT (PHASE II) GLENN HALL ACCESS PLAN AND PROFILE (T-INTERSECTION)			SHEET 18 OF 40
NO.	DESCRIPTION	DATE	BY	SCALE	HORIZ. 1" = 10'		VERT. 1" = 4'	DRAWN BY: <u>B. Harrison</u>	DESIGN BY: <u>G. McLaughlin</u>	CHECKED BY: <u>DES CHK</u>		Page 44	PN: TXXXXXX

PLOT STAMP: Friday, October 23, 2020 5:29:14 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rea-001.dwg

LINE DATA "T" LINE		
NO.	BEARING	DISTANCE
L1	S 48°59'39" E	123.98'
L2	S 65°58'25" E	60.60'
L3	S 51°22'10" E	119.17'
L4	S 00°41'00" E	102.58'
L5	S 51°30'31" E	746.13'
L6	S 39°23'56" E	301.17'
L7	S 45°04'56" E	650.77'
L8	S 49°27'03" E	101.22'
L9	S 61°30'38" E	299.97'
L10	S 49°29'03" E	250.62'
L11	S 69°30'07" E	74.68'
L12	S 64°05'53" E	107.55'
L13	S 72°48'01" E	414.89'
L14	S 85°03'41" E	55.48'
L15	S 79°58'19" E	63.11'
L16	S 84°58'00" E	77.84'
L17	S 79°22'31" E	62.41'
L18	S 81°37'16" E	103.97'
L19	S 82°08'35" E	12.62'
L20	S 88°14'23" E	151.22'
L21	S 85°32'45" E	88.64'

LINE DATA "T" LINE		
NO.	BEARING	DISTANCE
L22	N 85°14'44" E	497.48'
L23	N 87°10'51" E	0.50'
L24	N 77°04'35" E	43.16'
L25	S 85°50'19" E	8.25'
L26	N 84°04'50" E	284.27'
L27	S 88°52'30" E	15.75'
L28	S 53°51'38" E	113.63'
L29	S 27°53'20" E	55.07'
L30	S 47°18'19" E	22.98'
L31	S 51°01'00" E	123.92'
L32	S 24°57'14" E	4.54'
L33	S 05°36'50" E	49.88'
L34	S 03°25'08" W	92.51'
L35	S 04°10'01" W	229.41'
L36	S 13°04'02" W	103.04'
L37	S 11°44'28" W	807.59'
L38	S 07°28'27" W	70.30'
L39	S 01°44'41" W	105.20'
L40	S 11°28'50" W	4.26'
L41	S 03°45'16" E	54.58'

CURVE DATA "T" LINE				
NO.	R	Δ	T	L
C1	200.00'	16° 58' 46"	29.85'	59.27'
C2	260.00'	14° 36' 16"	33.32'	66.27'
C3	60.00'	50° 41' 10"	28.42'	53.08'
C4	125.00'	50° 49' 31"	59.39'	110.88'
C5	500.00'	12° 06' 35"	53.04'	105.68'
C6	500.00'	5° 40' 59"	24.82'	49.60'
C7	3000.00'	4° 22' 07"	114.43'	228.74'
C8	600.00'	12° 03' 35"	63.38'	126.29'
C9	1000.00'	12° 01' 35"	105.34'	209.90'
C10	1100.00'	20° 01' 04"	194.14'	384.32'
C11	1000.00'	5° 24' 15"	47.19'	94.32'
C12	750.00'	8° 42' 08"	57.07'	113.91'
C13	500.00'	12° 15' 41"	53.70'	107.00'
C14	250.00'	5° 05' 22"	11.11'	22.21'
C15	400.00'	4° 59' 41"	17.45'	34.87'
C16	250.00'	5° 35' 30"	12.21'	24.40'
C17	2000.00'	2° 14' 46"	39.21'	78.40'
C18	500.00'	5° 29' 38"	23.99'	47.94'
C19	3500.00'	6° 00' 57"	183.91'	367.49'
C20	1000.00'	6° 05' 48"	53.25'	106.41'
C21	500.00'	2° 41' 38"	11.76'	23.51'

CURVE DATA "T" LINE				
NO.	R	Δ	T	L
C22	750.00'	9° 12' 31"	60.40'	120.54'
C23	8000.00'	1° 56' 08"	135.13'	270.24'
C24	500.00'	10° 06' 16"	44.20'	88.18'
C25	260.00'	17° 05' 05"	39.05'	77.53'
C26	500.00'	10° 04' 50"	44.10'	87.97'
C27	600.00'	7° 02' 40"	36.93'	73.77'
C28	1000.00'	35° 00' 52"	315.44'	611.12'
C29	300.00'	25° 58' 18"	69.18'	135.99'
C30	500.00'	19° 24' 59"	85.54'	169.44'
C31	700.00'	3° 42' 41"	22.68'	45.34'
C32	700.00'	26° 03' 46"	162.01'	318.42'
C33	1700.00'	19° 20' 24"	289.67'	573.83'
C34	2000.00'	9° 01' 58"	157.98'	315.30'
C35	3000.00'	0° 44' 53"	19.58'	39.16'
C36	1500.00'	8° 54' 01"	116.74'	233.01'
C37	5000.00'	1° 19' 34"	57.87'	115.73'
C38	2000.00'	4° 16' 02"	74.51'	148.95'
C39	1000.00'	5° 43' 45"	50.04'	99.99'
C40	1800.00'	9° 44' 09"	153.30'	305.86'
C41	200.00'	15° 14' 06"	26.75'	53.18'

LINE DATA "G" LINE		
NO.	BEARING	DISTANCE
L42	S 50°47'55" W	28.63'
L43	N 44°18'22" W	135.15'
L44	S 40°41'47" E	168.39'
L45	S 42°18'22" W	8.75'
L46	N 53°33'51" W	119.69'
L47	S 41°01'53" E	110.90'
L48	S 05°58'19" W	63.09'

CURVE DATA "G" LINE				
NO.	R	Δ	T	L
C42	30.00'	84° 53' 43"	27.44'	44.45'
C43	20.00'	176° 23' 25"	634.67'	61.57'
C44	20.00'	83° 00' 09"	17.70'	28.97'
C45	20.00'	84° 07' 47"	18.05'	29.37'
C46	20.00'	167° 28' 02"	182.14'	58.46'
C47	50.00'	47° 00' 12"	21.74'	41.02'

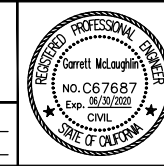
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. NO. SCALE
VERT. N/A



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase	DESIGN BY: G. McLaughlin	CHECKED BY: DES_CHK
DATE	DATE	DATE



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
LINE AND CURVE DATA

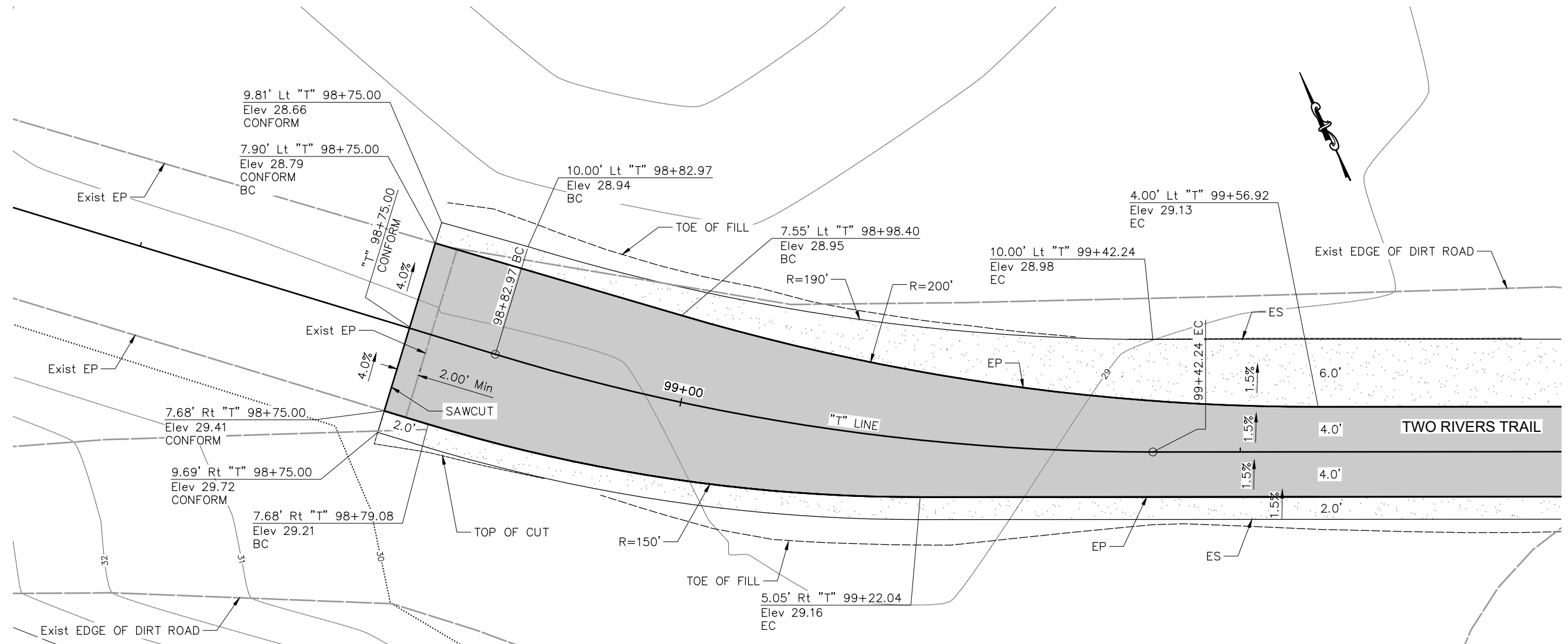
Page 45

PLOT STAMP: Friday, October 23, 2020 5:29:35 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-001.dwg

LEGEND:

- EP EDGE OF PAVEMENT
- HP HINGE POINT
- GB GRADE BREAK
- HMA
- NEW RAMP AREA
- TOP OF CUT
- TOE OF FILL



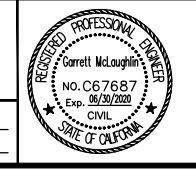
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase	DESIGN BY: G. McLaughlin	CHECKED BY: DES_CHK
DATE	DATE	DATE

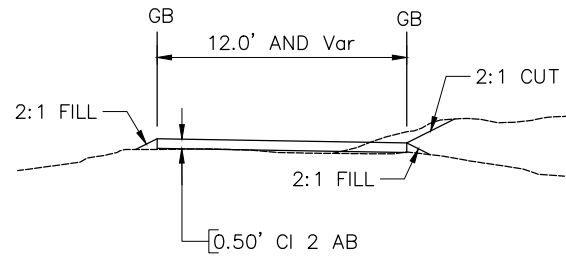


CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

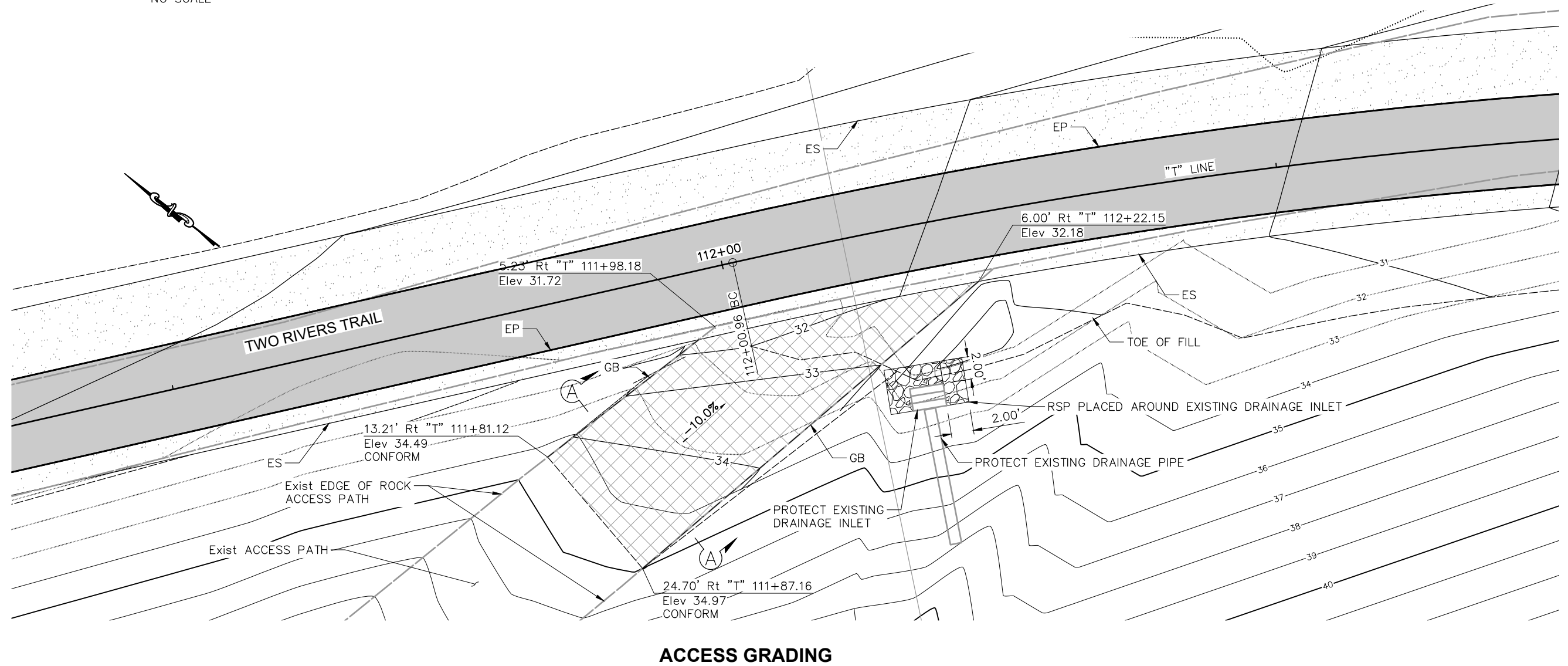
Page 46

PN: TK15125000	SHEET
	20
	OF
	40

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SECTION A-A
ACCESS GRADING TYPICAL SECTION
 NO SCALE



ACCESS GRADING

PLOT STAMP: Friday, October 23, 2020 5:29:39 PM

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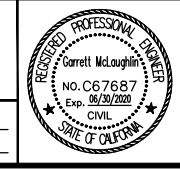
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. 1" = 5'

11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase DESIGN BY: G. McLaughlin CHECKED BY: DES CHK
 DATE: _____ DATE: _____ DATE: _____



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

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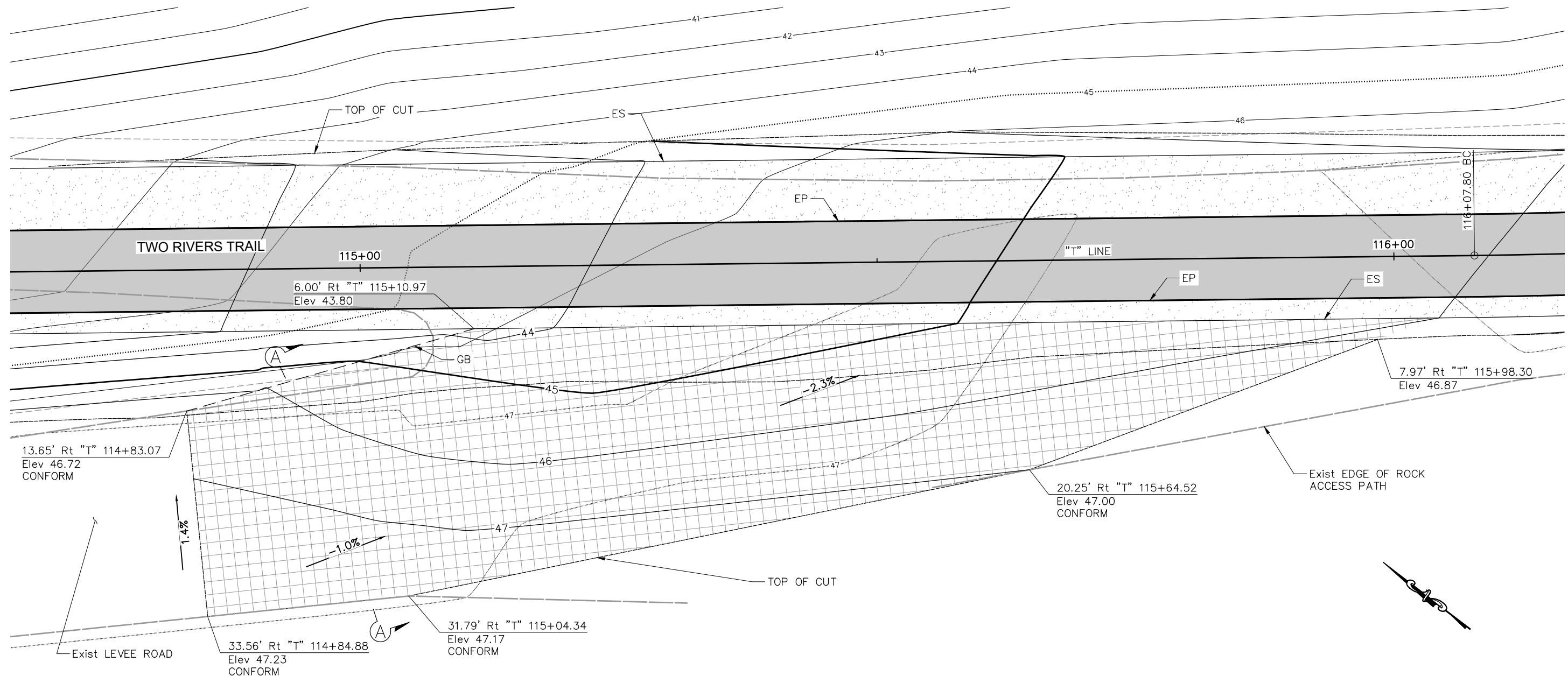
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PN: TK15125000

C-2

PLOT STAMP: Friday, October 23, 2020 5:29:42 PM

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ACCESS GRADING

NO.	REVISIONS DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES_CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

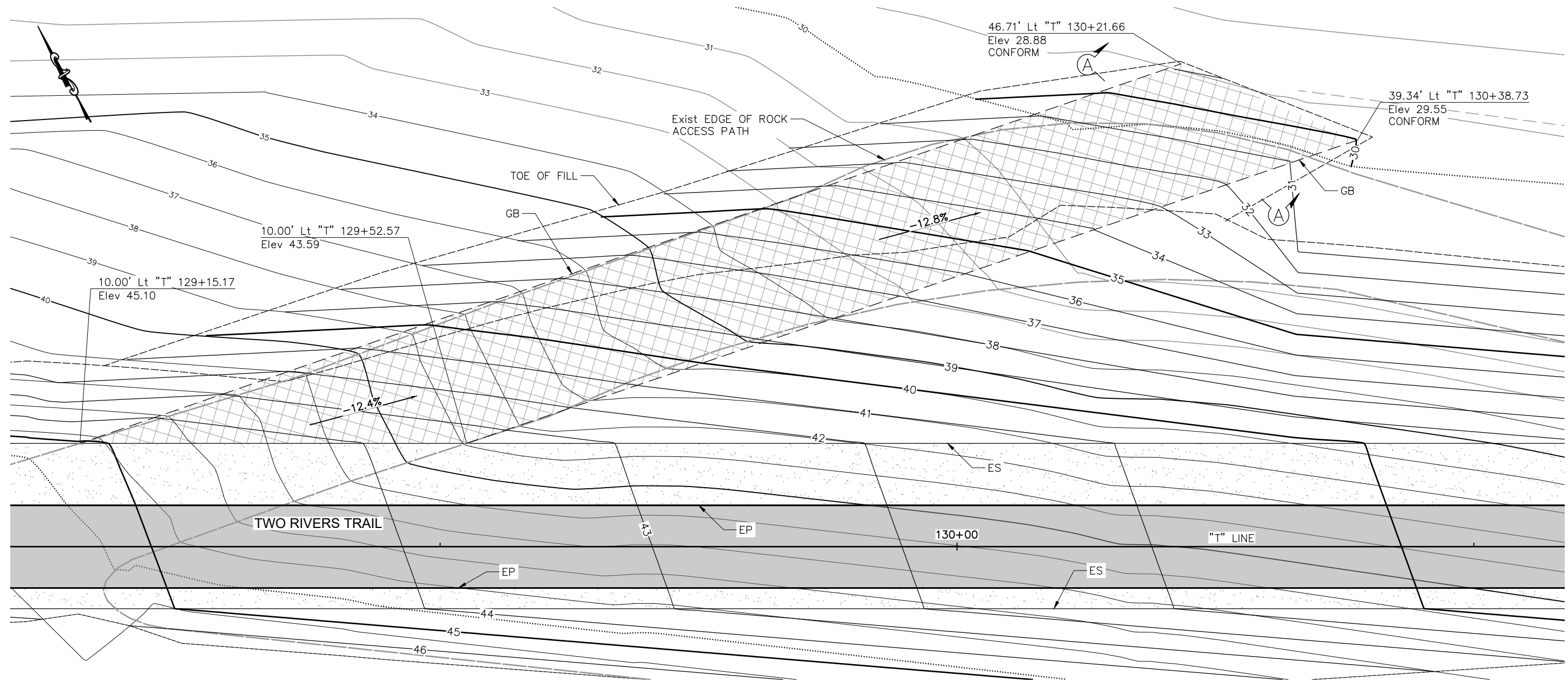
SHEET	22
	OF
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 PN: TK15125000

C-3

PLOT STAMP: Friday, October 23, 2020 5:30:05 PM

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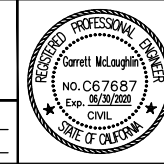
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: B. Harrison	DESIGN BY: G. McLaughlin	CHECKED BY: DES_CHK
DATE	DATE	DATE



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

SHEET	23
	OF
	40

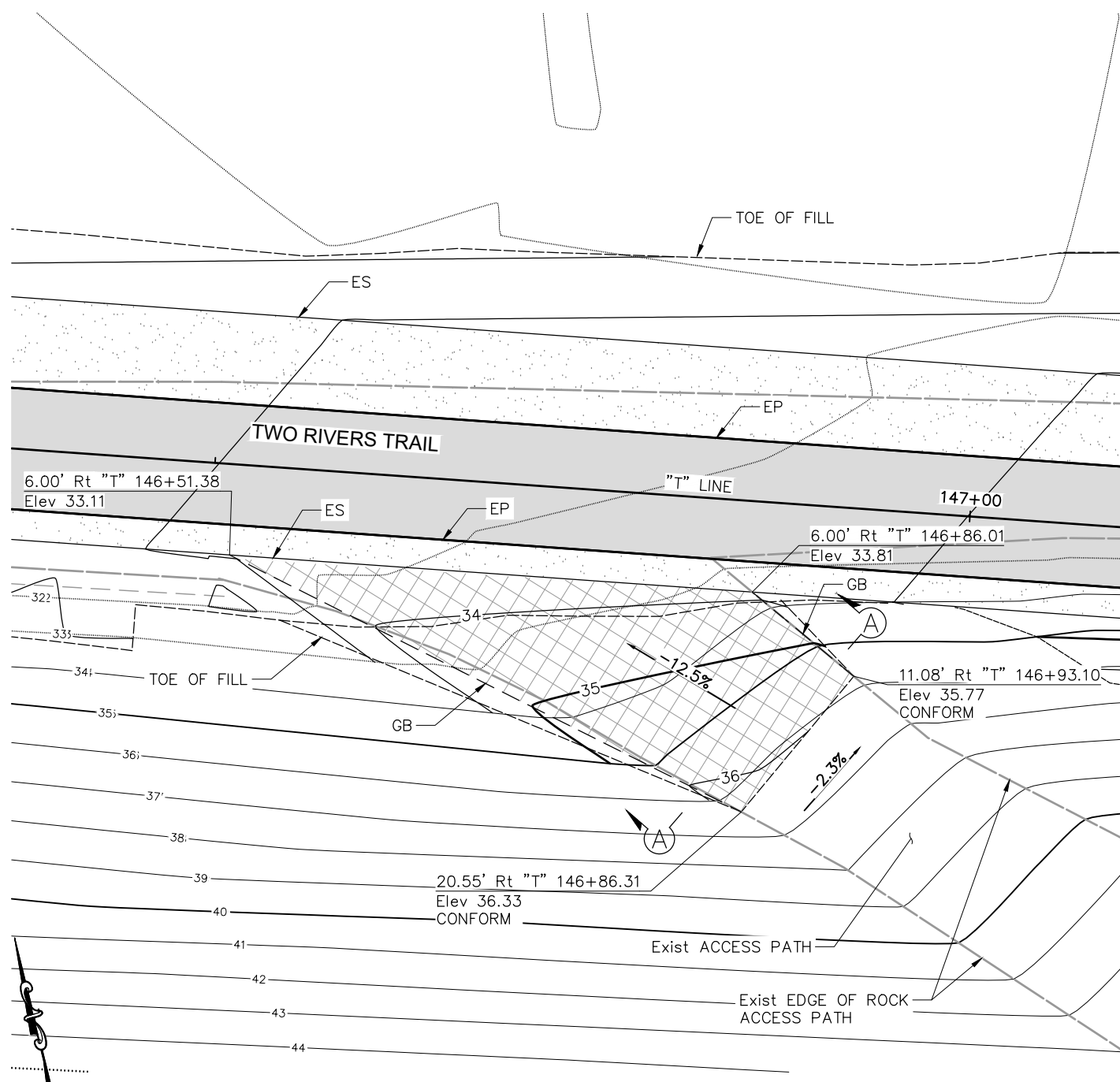
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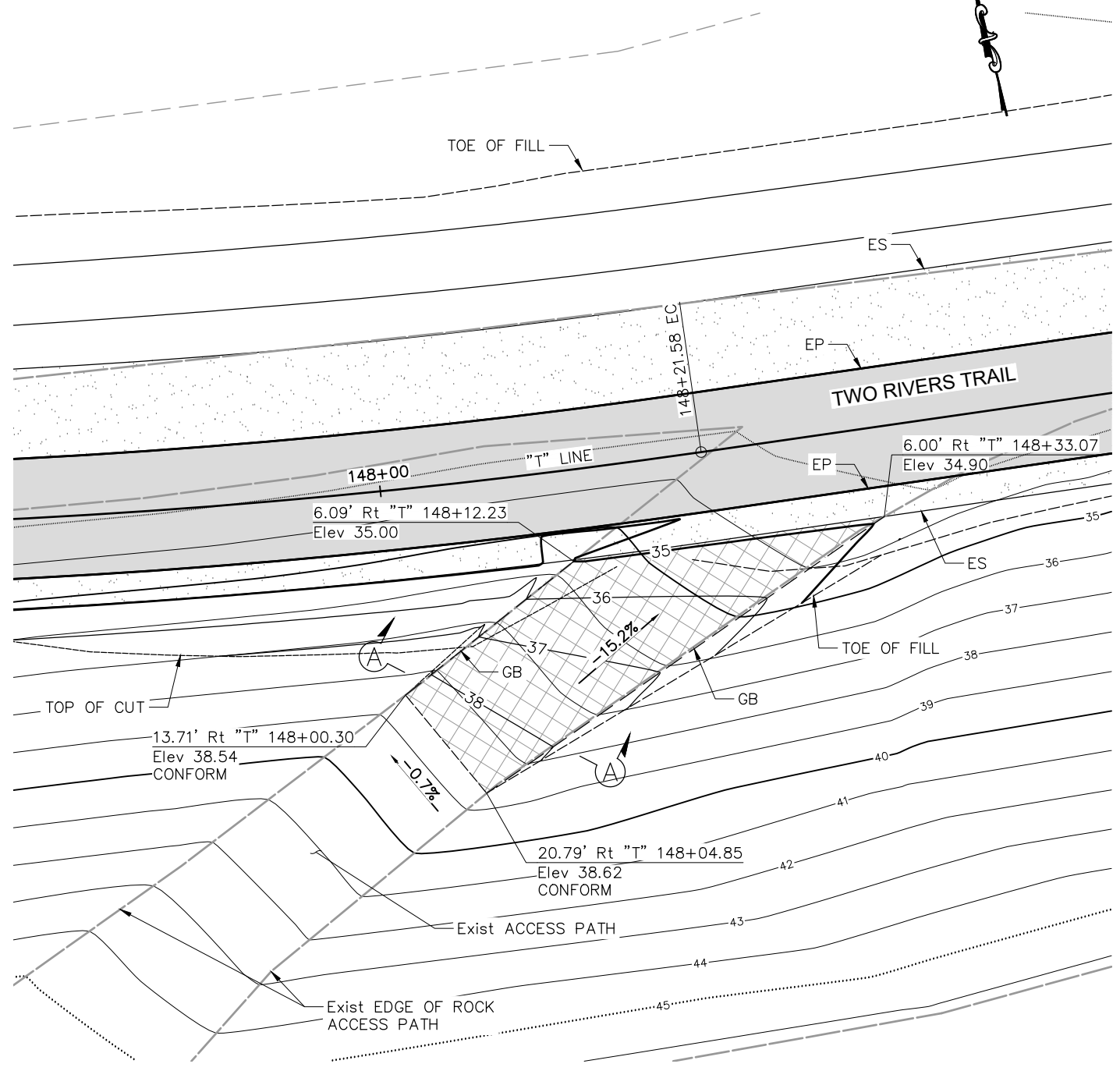
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ACCESS GRADING



ACCESS GRADING

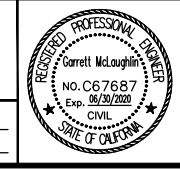
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase DESIGN BY: G. McLaughlin CHECKED BY: DES_CHK
 DATE: DATE: DATE:



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

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	OF
	40

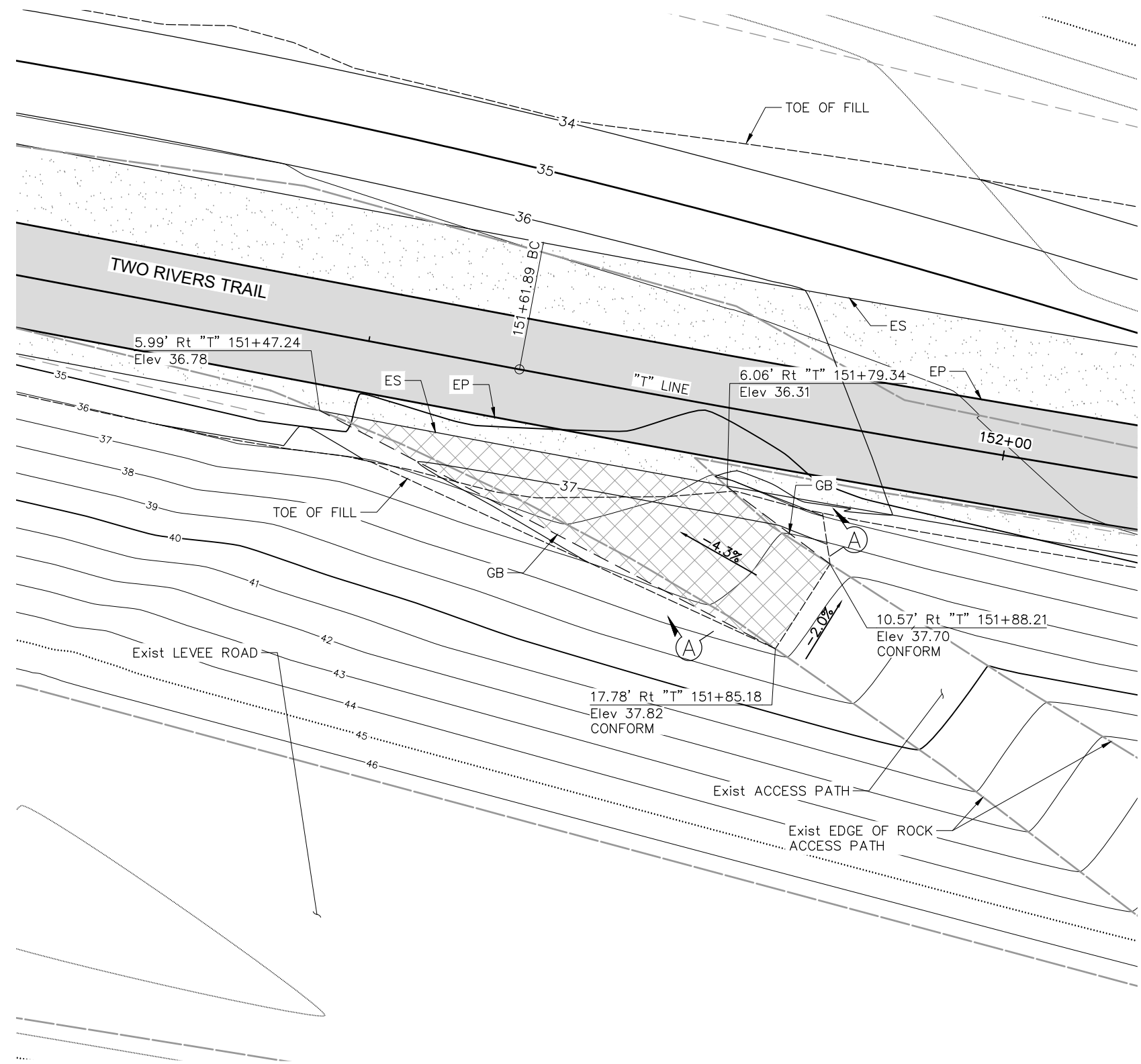
Page 50

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PN: TK15125000

PLOT STAMP: Friday, October 23, 2020 5:30:30 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-002.dwg



ACCESS GRADING

NO.	REVISIONS DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK

DATE: _____ DATE: _____ DATE: _____



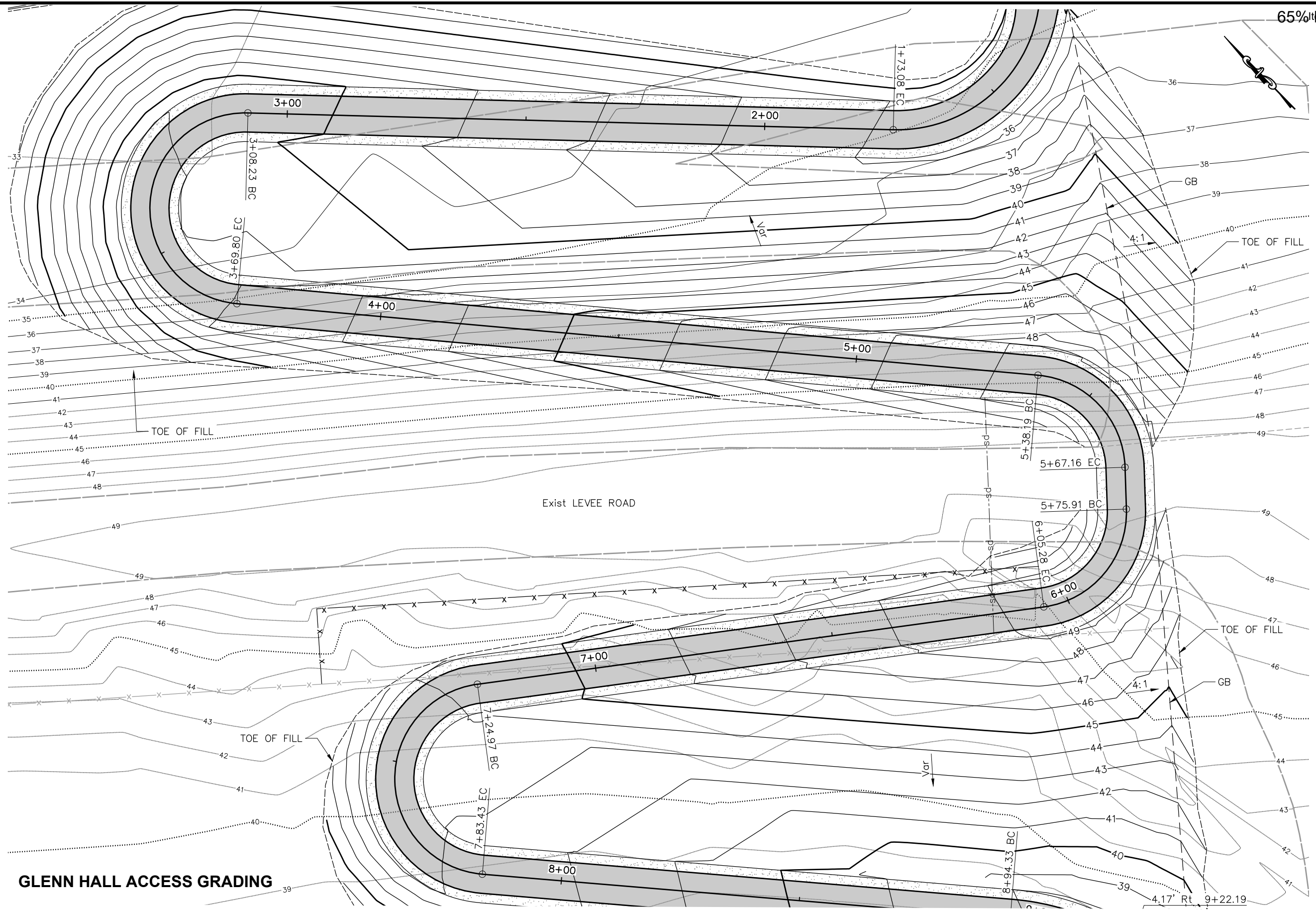
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
CONSTRUCTION DETAILS

Page 5

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SHEET 25 OF 40
PN: TK15125000

PLOT STAMP: Friday, October 23, 2020 5:30:34 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-002.dwg



GLENN HALL ACCESS GRADING

NO.	REVISIONS DESCRIPTION	DATE	BY

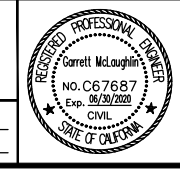
FIELD BOOK
SCALE
HORIZ. 1" = 10'
VERT. 1" = 10'



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

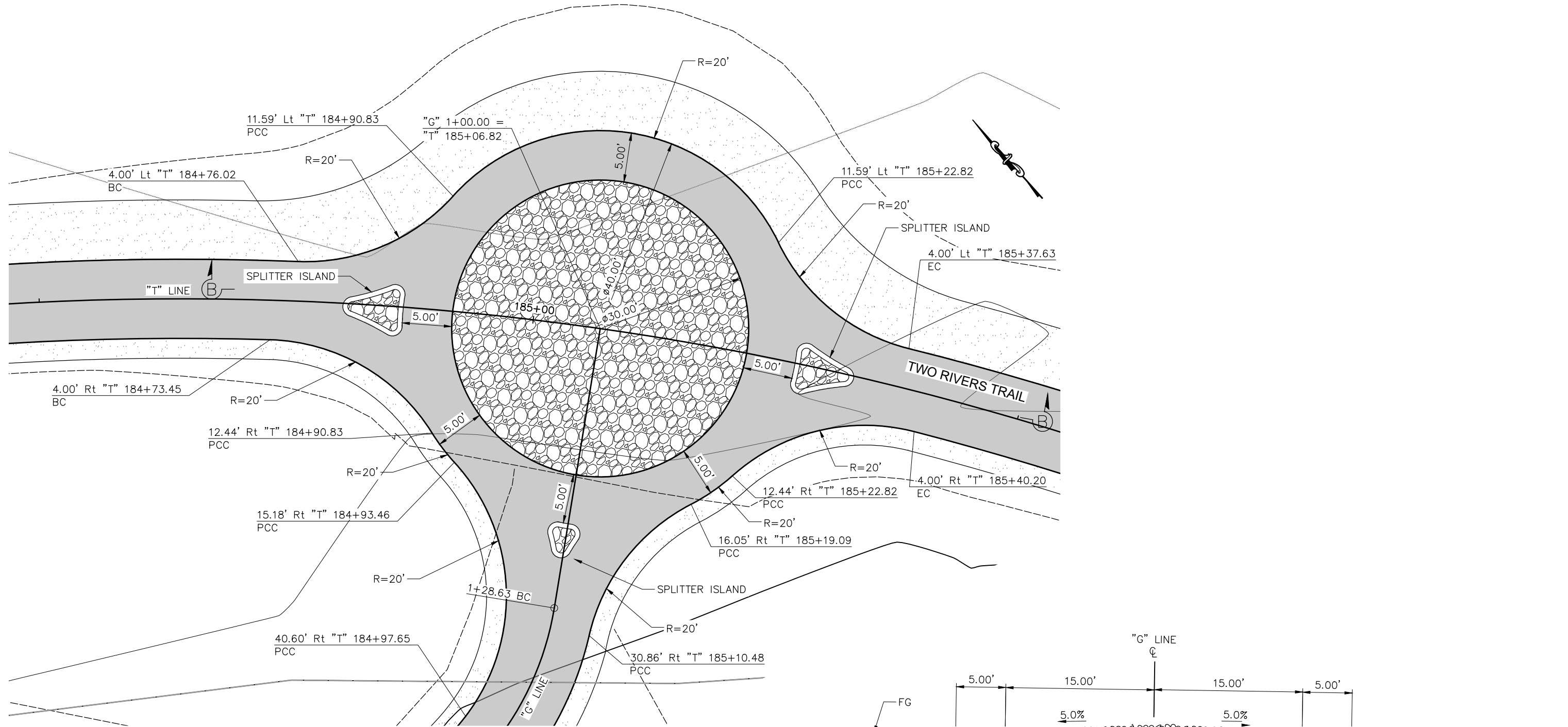
DRAWN BY: B. Harrison
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK

DATE _____ DATE _____ DATE _____

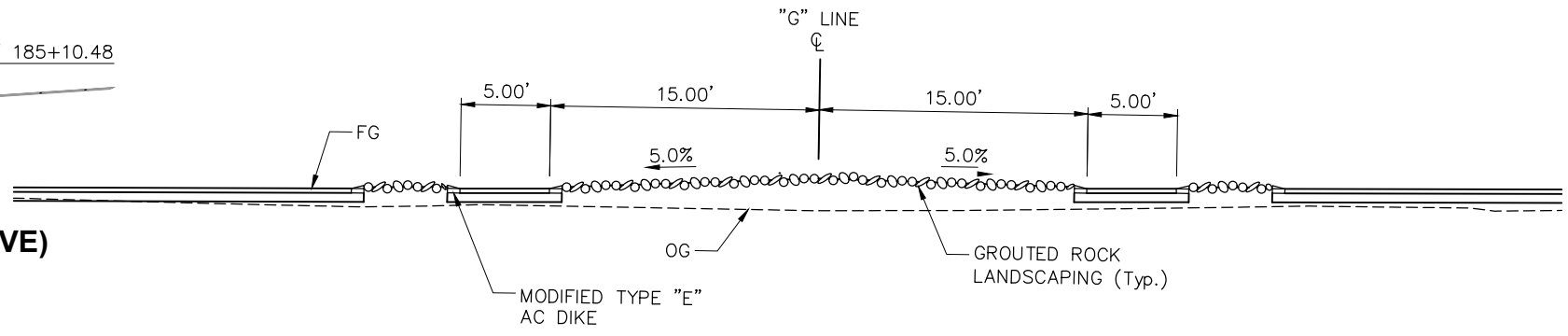


CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
CONSTRUCTION DETAILS

PLOT STAMP: Friday, October 23, 2020 5:30:51 PM
CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-003_Roundabout Glenn Hall.dwg



GLENN HALL ACCESS (TRAFFIC CIRCLE ALTERNATIVE)



SECTION B-B
NO SCALE

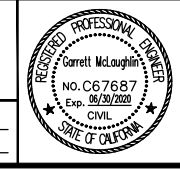
REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: B. Harrison DESIGN BY: G. McLaughlin CHECKED BY: DES_CHK
DATE: DATE: DATE:



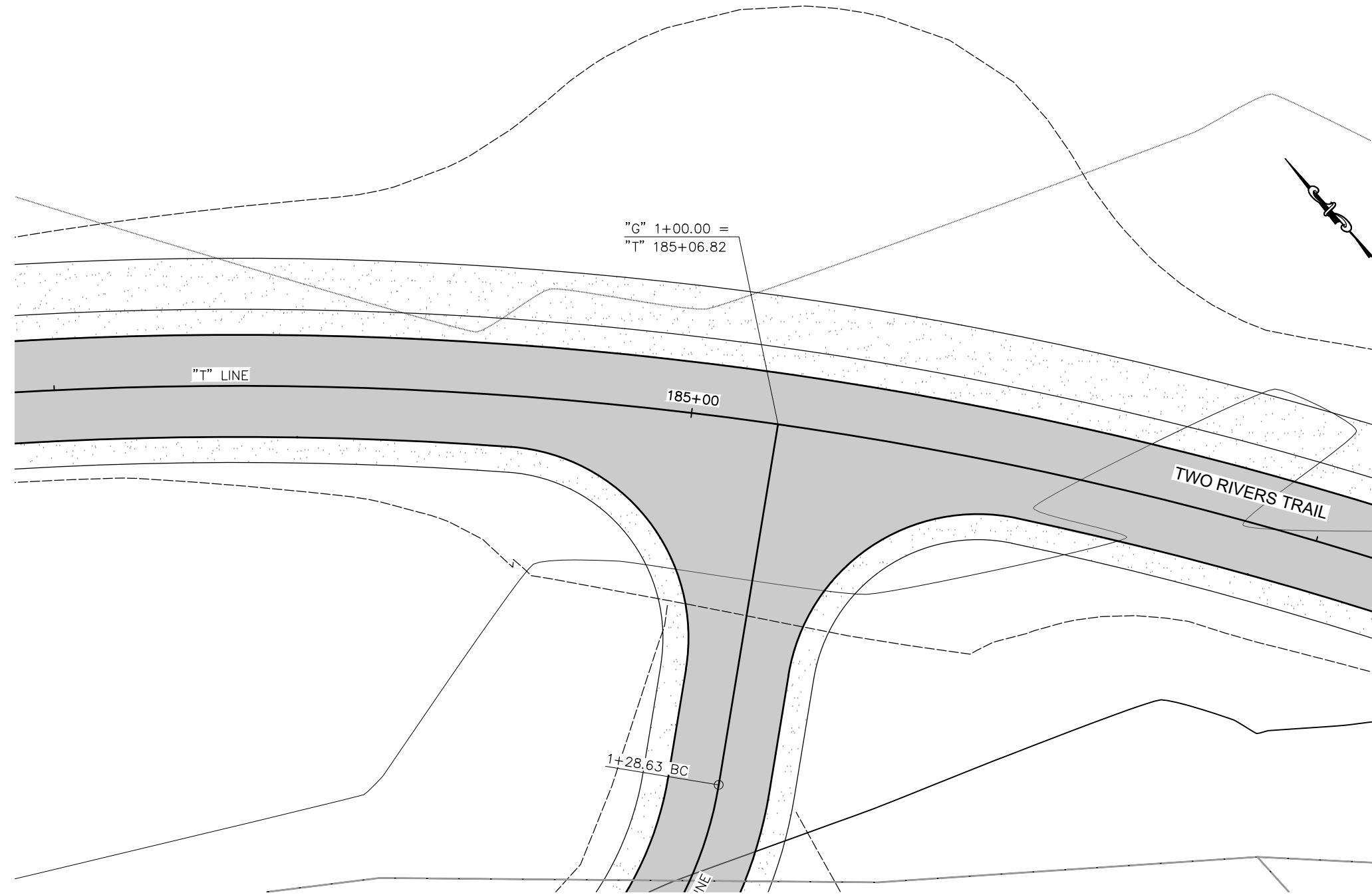
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
CONSTRUCTION DETAILS

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PN: TK15125000

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CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-003_I-Intersection Glenn Hall.dwg PLOT STAMP: Friday, October 23, 2020 5:31:08 PM



GLENN HALL ACCESS (T-INTERSECTION ALTERNATIVE)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

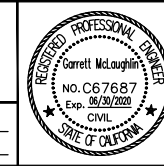
FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A



11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: <u>B. Harrison</u>	DESIGN BY: <u>G. McLaughlin</u>	CHECKED BY: <u>DES CHK</u>
DATE: _____	DATE: _____	DATE: _____

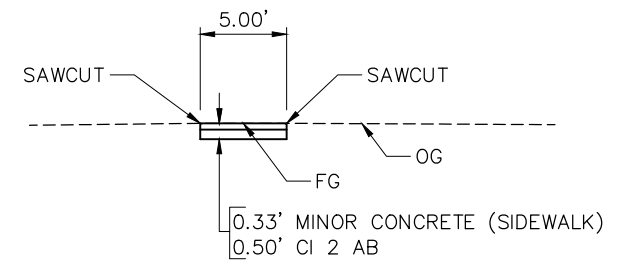
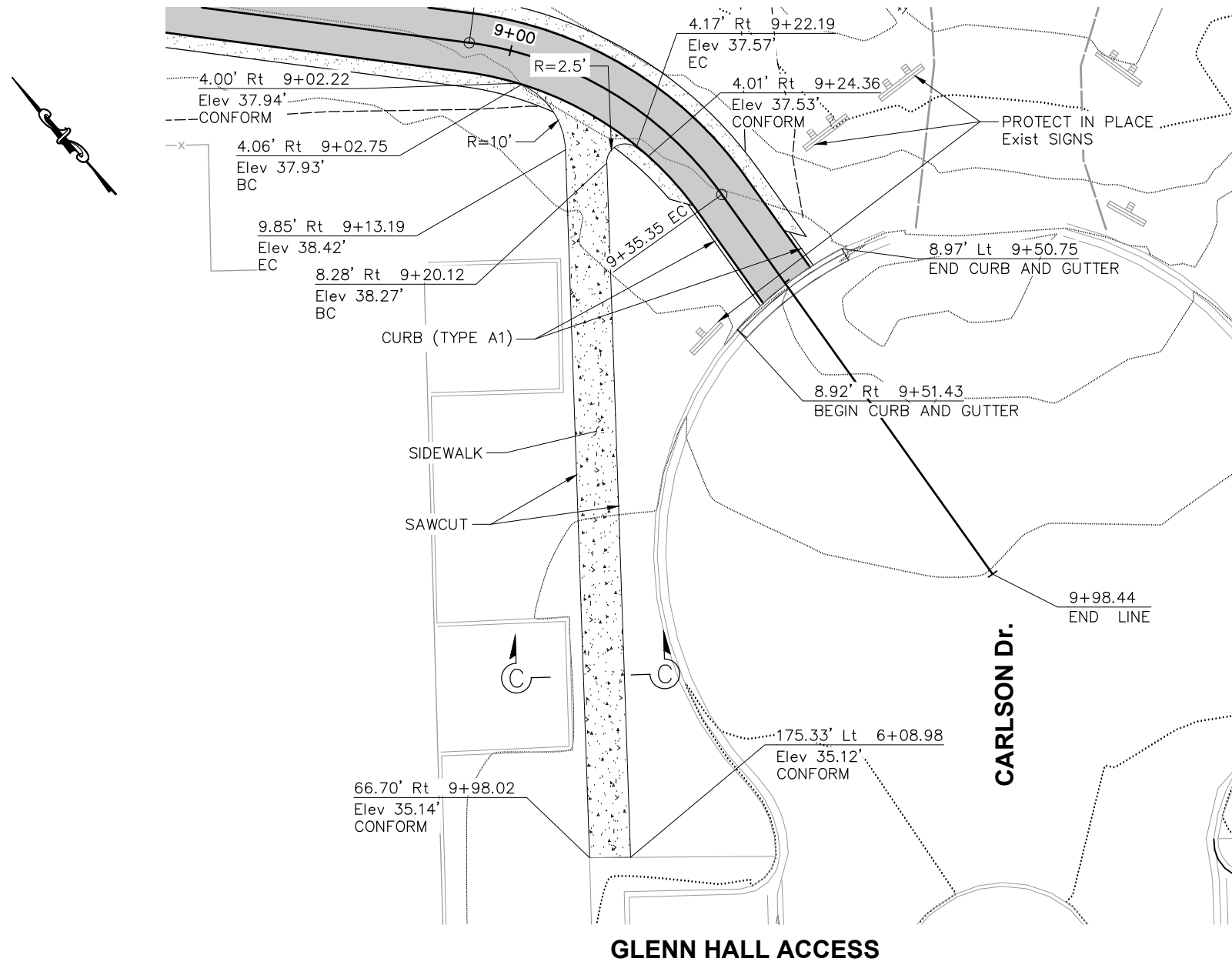


CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
CONSTRUCTION DETAILS

PN: TK15125000
SHEET 28 OF 40
Page 54

PLOT STAMP: Friday, October 23, 2020 5:31:24 PM

CADD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-002.dwg



SECTION C-C
NO SCALE

GLENN HALL ACCESS

CARLSON Dr.

NO.	REVISIONS DESCRIPTION	DATE	BY

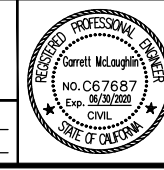
FIELD BOOK
SCALE
HORIZ. 1" = 10'
VERT. N/A

11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: B. Harrison
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK

DATE _____ DATE _____ DATE _____

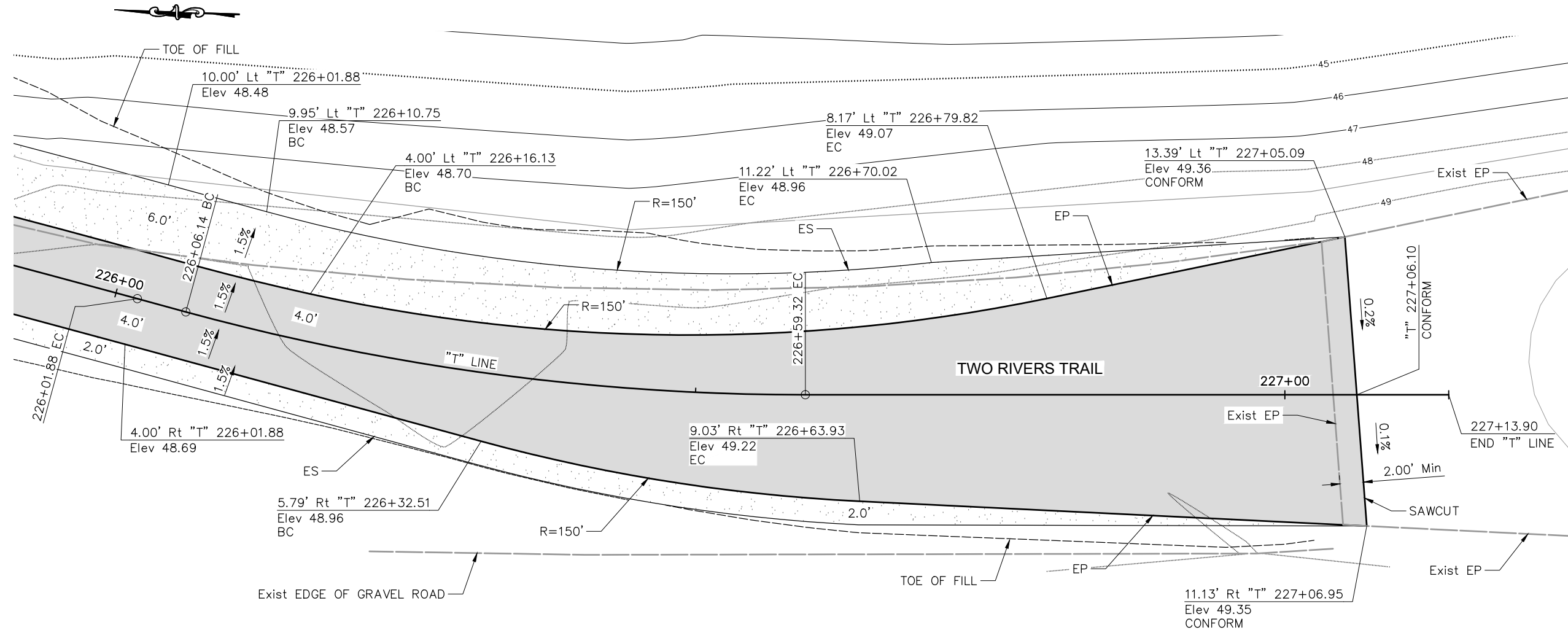


CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
CONSTRUCTION DETAILS

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SHEET 29 OF 40
Page 55
PN: TK15125000

PLOT STAMP: Friday, October 23, 2020 5:31:27 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rga-002.dwg



REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 5'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase	DESIGN BY: G. McLaughlin	CHECKED BY: DES_CHK
DATE	DATE	DATE



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 CONSTRUCTION DETAILS

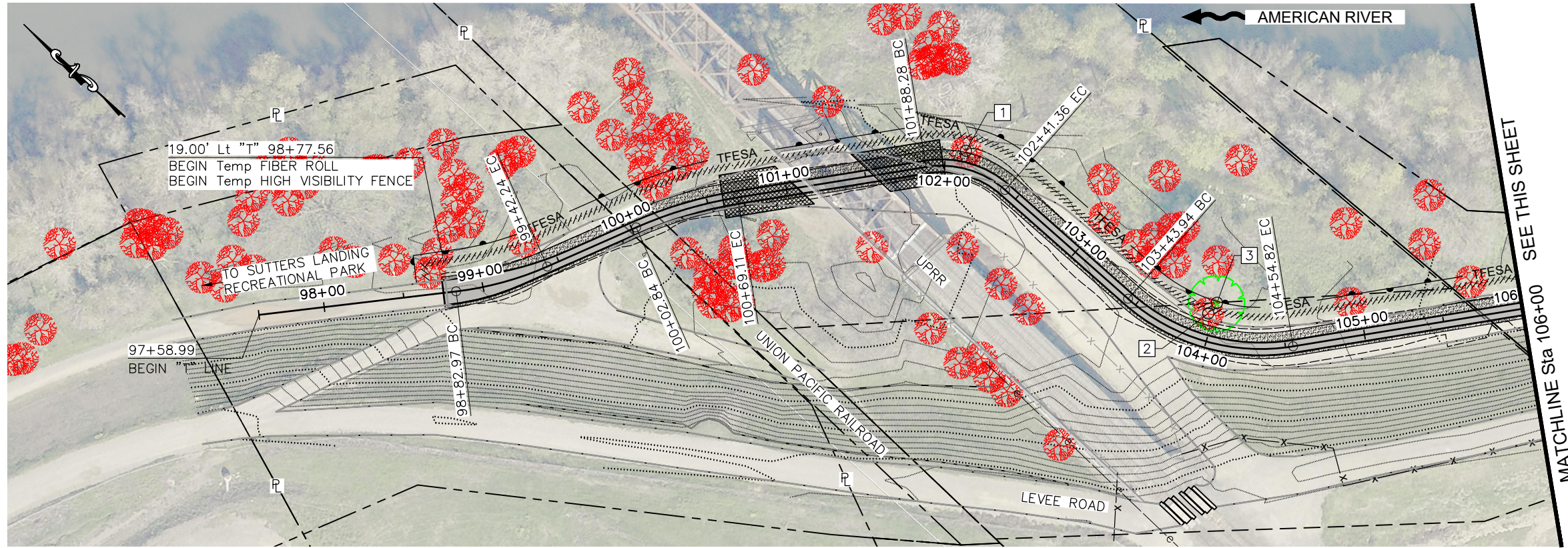
SHEET	30
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Page 56	40

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PN: TK15125000

PLOT STAMP: Friday, October 23, 2020 5:32:01 PM

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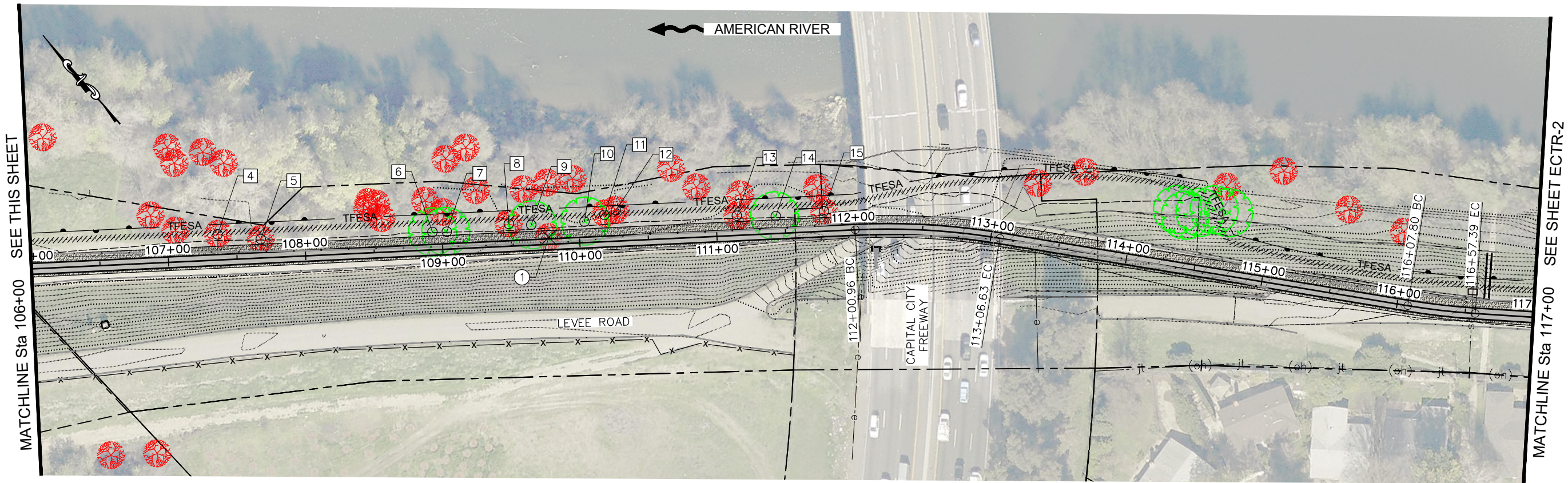


LEGEND

-  TREES
-  ELDERBERRY SHRUB
-  TOP OF CUT
-  TOE OF FILL
-  TFESA — TEMPORARY HIGH VISIBILITY FENCE
-  TEMPORARY FIBER ROLL
-  TREE/SHRUB TO BE REMOVED
-  TREE/SHRUB TO BE TRIMMED AS NECESSARY

NOTES:

1. HYDROSEED TO BE PLACED ON ALL CUT OR FILL SLOPES
2. TEMPORARY HIGH VISIBILITY FENCE AND TEMPORARY FIBER ROLL TO BE PLACED 5.0' Max. FROM THE TOP OF CUT OR TOE OF FILL



REVISIONS			
NO.	DESCRIPTION	DATE	BY

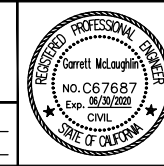
FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. N/A



QUINCY ENGINEERING
11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

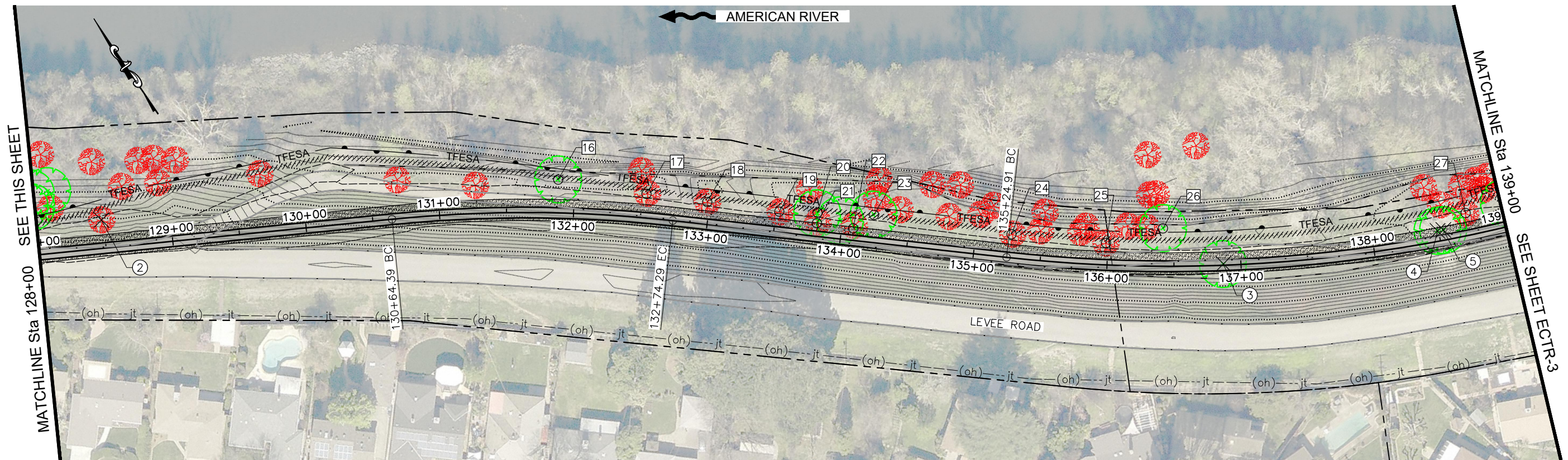
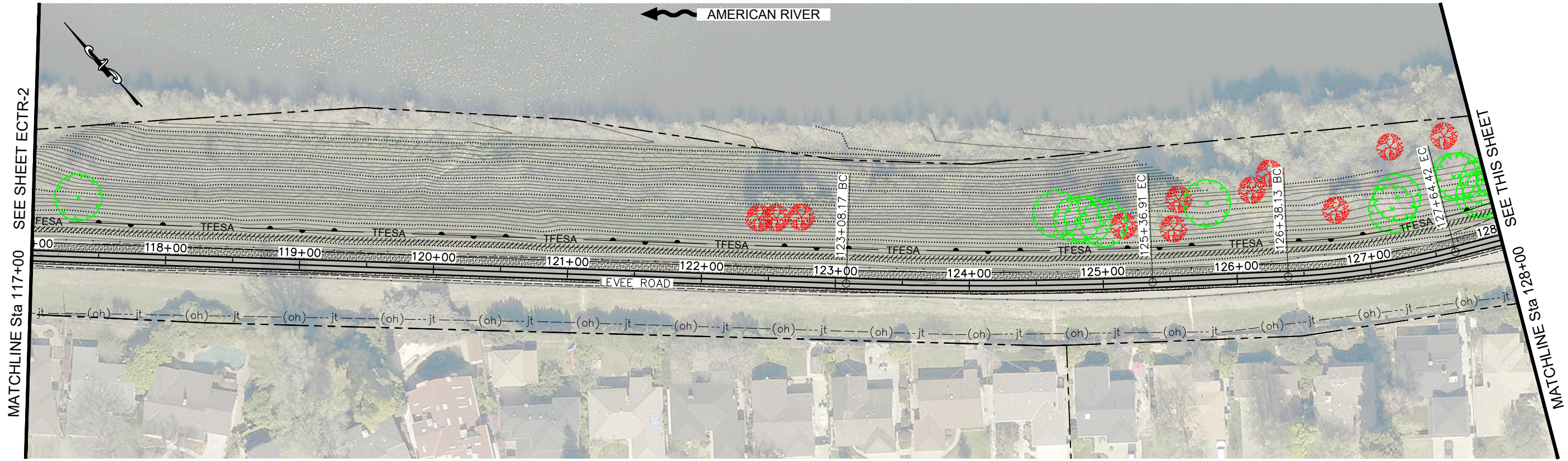
DRAWN BY: D. Polglase	DESIGN BY: G. McLaughlin	CHECKED BY: DES_CHK
DATE	DATE	DATE



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
EROSION CONTROL AND TREE REMOVAL PLAN

PLOT STAMP: Friday, October 23, 2020 5:32:15 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rgh_trp-001.dwg



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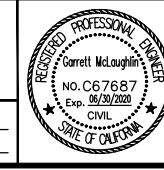
FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES_CHK

DATE _____ DATE _____ DATE _____



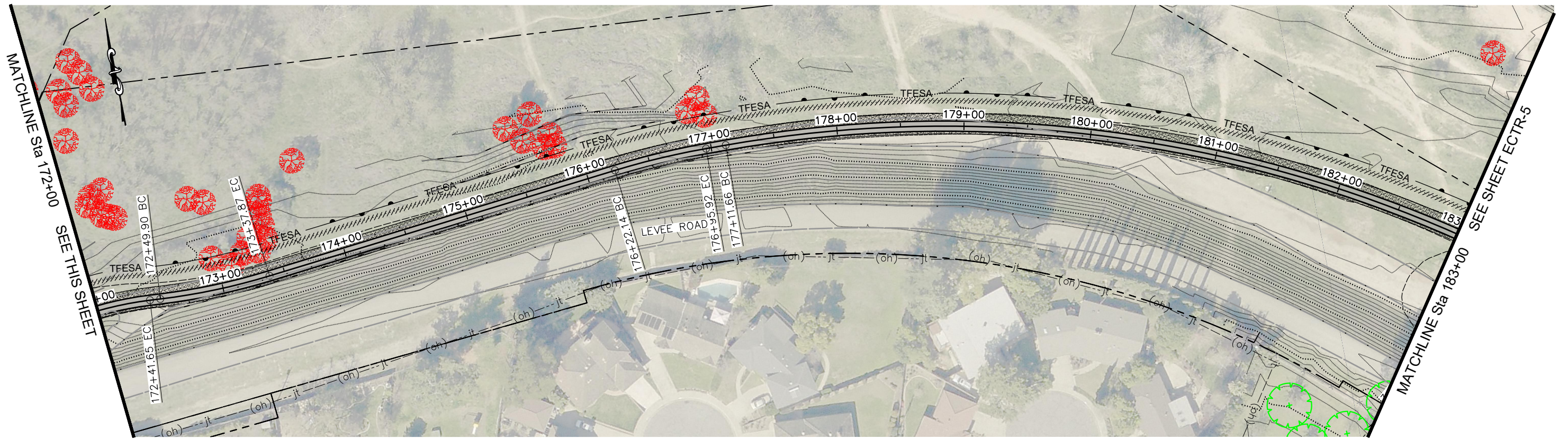
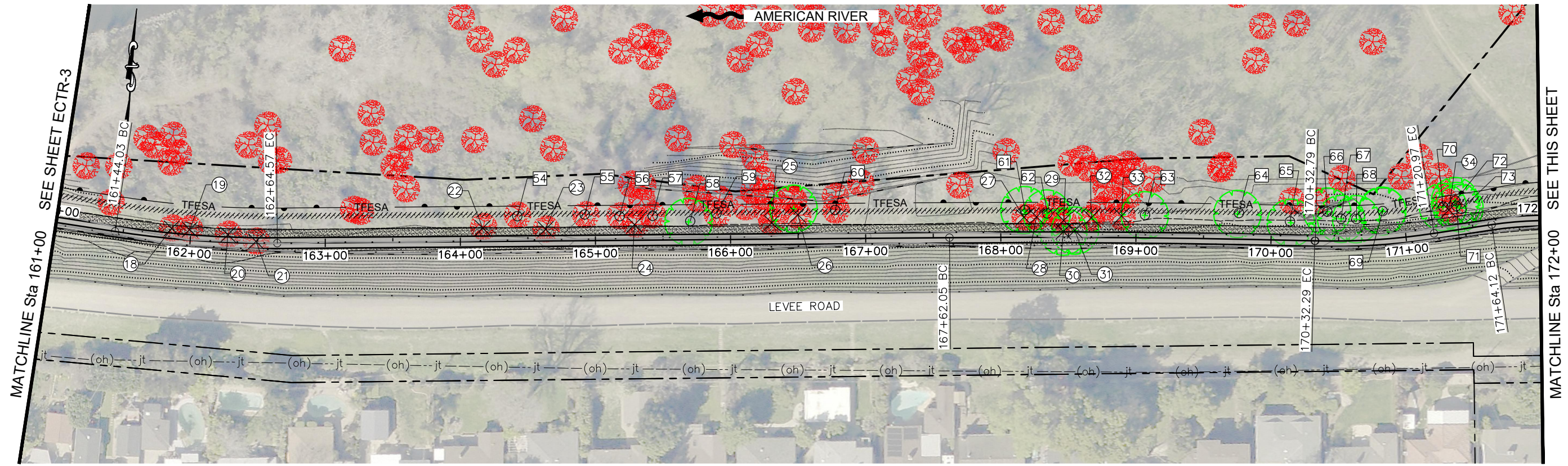
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
EROSION CONTROL AND TREE REMOVAL PLAN

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SHEET
32
OF
40
PN: TXXXXXXX

PLOT STAMP: Friday, October 23, 2020 5:32:49 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rgh_trp-001.dwg



REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK

SCALE
 HORIZ. 1" = 40'
 VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
 DESIGN BY: G. McLaughlin
 CHECKED BY: DES_CHK



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 EROSION CONTROL AND TREE REMOVAL PLAN

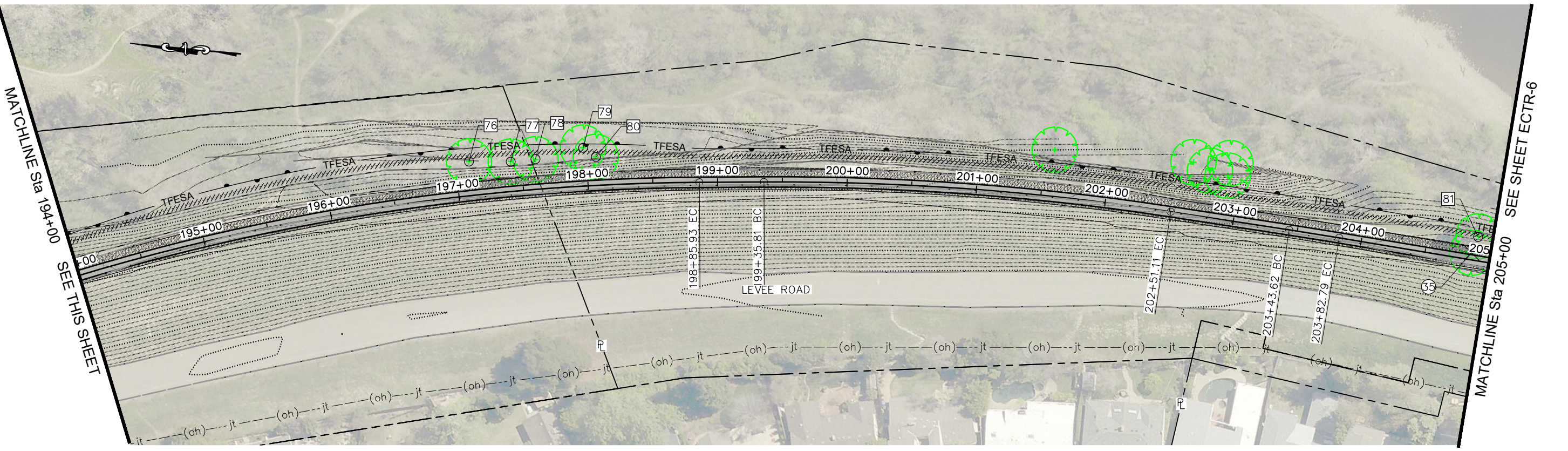
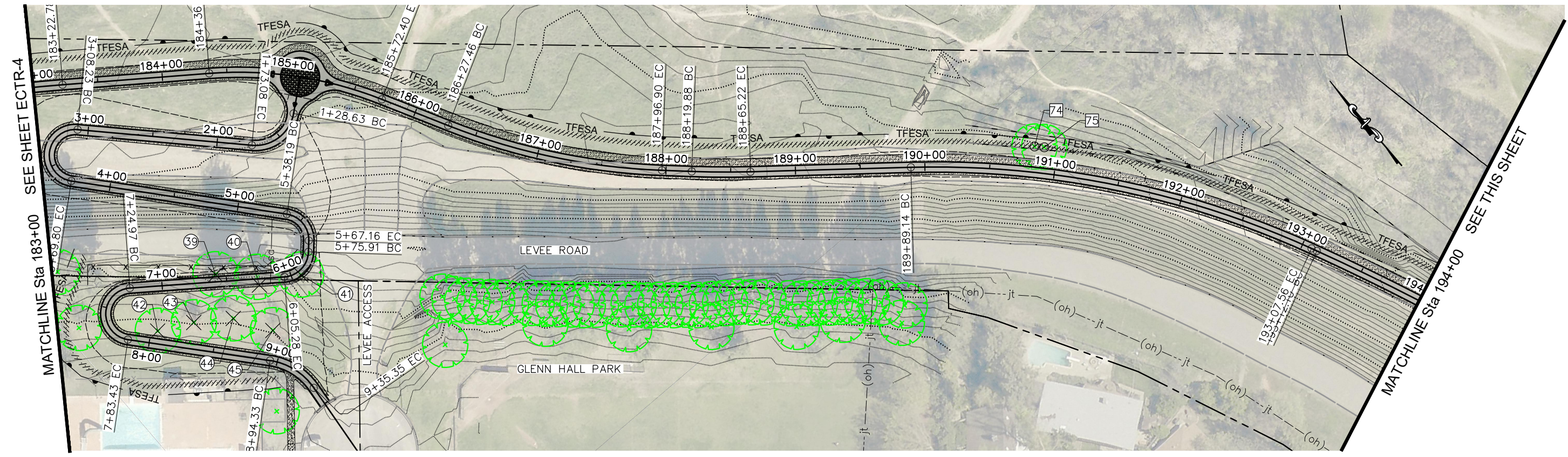
ECTR-4

SHEET
34
 OF
40

PN: TXXXXXXX
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PLOT STAMP: Friday, October 23, 2020 5:33:03 PM

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NO.	DESCRIPTION	DATE	BY

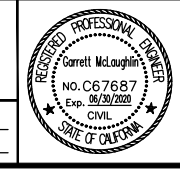
FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. N/A

QUINCY ENGINEERING
11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase
DESIGN BY: G. McLaughlin
CHECKED BY: DES_CHK

DATE: _____ DATE: _____ DATE: _____



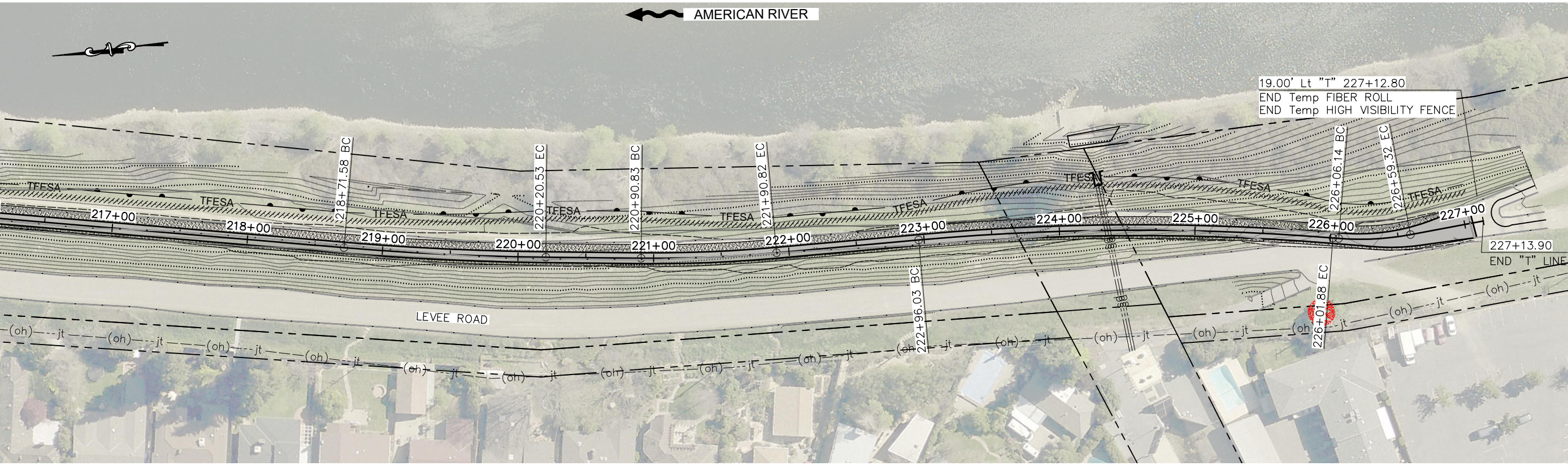
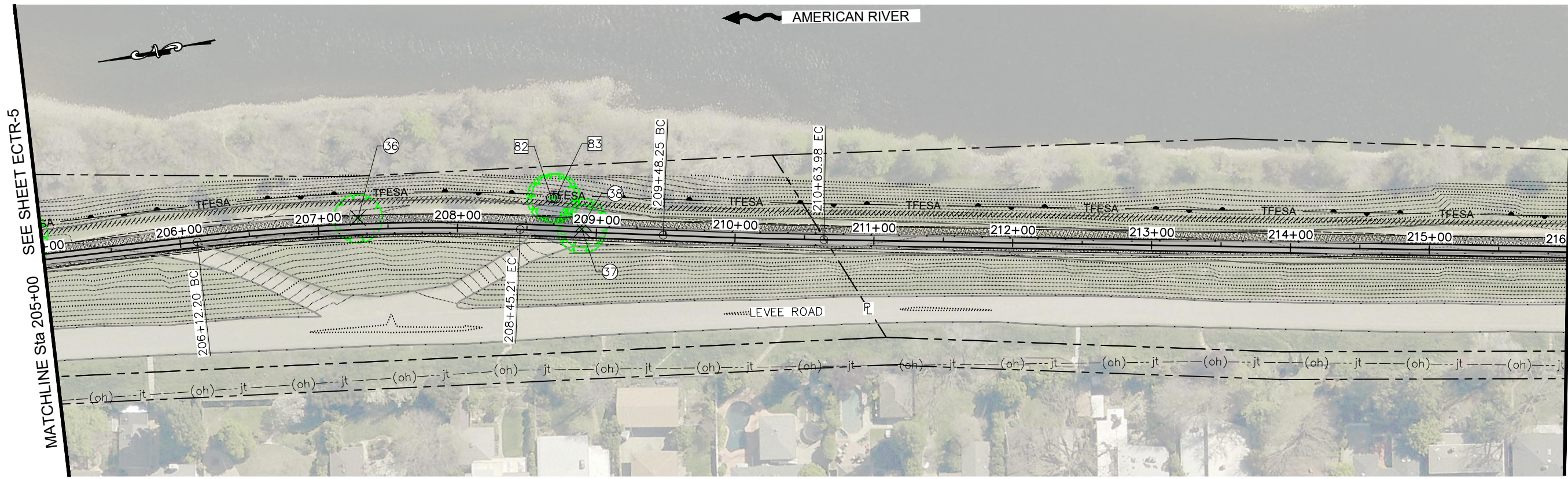
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
EROSION CONTROL AND TREE REMOVAL PLAN

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SHEET 35 OF 40
PN: TXXXXXXX

PLOT STAMP: Friday, October 23, 2020 5:33:16 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rgh_trp-001.dwg



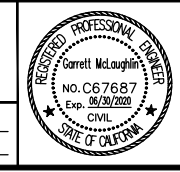
NO.	REVISIONS DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 40'
VERT. N/A

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE SUITE 100
 RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
 DEPARTMENT OF PUBLIC WORKS

DRAWN BY: D. Polglase DESIGN BY: G. McLaughlin CHECKED BY: DES_CHK
 DATE: DATE: DATE:



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
 EROSION CONTROL AND TREE REMOVAL PLAN

ECTR-6

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OF	40
PN: TXXXXXX	

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PLOT STAMP: Friday, October 23, 2020 5:33:17 PM

CAD FILE: S:\Client\Sac City\G14-100 Two Rivers Trail\500-Design\505 - CADD Files\G14-100_rgh_trp-001.dwg

TREE TO BE TRIMMED		
TREE	DIAMETER	TYPE
1	NA	ELDERBERRY SHRUB
2	NA	ELDERBERRY SHRUB
3	25.0"	TREE
4	NA	ELDERBERRY SHRUB
5	NA	ELDERBERRY SHRUB
6	12.0"	TREE
7	6.0"	TREE
8	NA	ELDERBERRY SHRUB
9	30.0"	TREE
10	6.0"	TREE
11	NA	ELDERBERRY SHRUB
12	NA	ELDERBERRY SHRUB
13	NA	ELDERBERRY SHRUB
14	7.0"	TREE
15	NA	ELDERBERRY SHRUB
16	6.0"	TREE
17	NA	ELDERBERRY SHRUB
18	NA	ELDERBERRY SHRUB
19	NA	ELDERBERRY SHRUB
20	12.0"	TREE
21	NA	ELDERBERRY SHRUB
22	NA	ELDERBERRY SHRUB
23	15.0"	TREE
24	NA	ELDERBERRY SHRUB
25	NA	ELDERBERRY SHRUB
26	31.0"	TREE
27	NA	ELDERBERRY SHRUB
28	15.0"	TREE
29	NA	ELDERBERRY SHRUB
30	6.0"	TREE
31	7.0"	TREE
32	10.0"	TREE
33	12.0"	TREE
34	12.0"	TREE
35	18.0"	TREE
36	15.0"	TREE
37	6.0"	TREE
38	NA	ELDERBERRY SHRUB
39	50.0"	TREE
40	12.0"	TREE
41	8.0"	TREE
42	8.0"	TREE
43	9.0"	TREE
44	8.0"	TREE
45	10.0"	TREE
46	35.0"	TREE
47	NA	ELDERBERRY SHRUB

TREE TO BE TRIMMED		
TREE	DIAMETER	TYPE
48	10.0"	TREE
49	35.0"	TREE
50	8.0"	TREE
51	22.0"	TREE
52	15.0"	TREE
53	30.0"	TREE
54	NA	ELDERBERRY SHRUB
55	NA	ELDERBERRY SHRUB
56	NA	ELDERBERRY SHRUB
57	NA	ELDERBERRY SHRUB
58	25.0"	TREE
59	NA	ELDERBERRY SHRUB
60	NA	ELDERBERRY SHRUB
61	14.0"	TREE
62	28.0"	TREE
63	15.0"	TREE
64	22.0"	TREE
65	50.0"	TREE
66	7.0"	TREE
67	8.0"	TREE
68	6.0"	TREE
69	11.0"	TREE
70	16.0"	TREE
71	35.0"	TREE
72	30.0"	TREE
73	25.0"	TREE
74	6.0"	TREE
75	6.0"	TREE
76	12.0"	TREE
77	30.0"	TREE
78	12.0"	TREE
79	13.0"	TREE
80	12.0"	TREE
81	30.0"	TREE
82	6.0"	TREE
83	6.0"	TREE

TREE REMOVAL		
TREE	DIAMETER	TYPE
1	NA	ELDERBERRY SHRUB
2	NA	ELDERBERRY SHRUB
3	30.0"	TREE
4	10.0"	TREE
5	50.0"	TREE
6	10.0"	TREE
7	NA	ELDERBERRY SHRUB
8	NA	ELDERBERRY SHRUB
9	NA	ELDERBERRY SHRUB
10	NA	ELDERBERRY SHRUB
11	NA	ELDERBERRY SHRUB
12	NA	ELDERBERRY SHRUB
13	32.0"	TREE
14	7.0"	TREE
15	NA	ELDERBERRY SHRUB
16	NA	ELDERBERRY SHRUB
17	NA	ELDERBERRY SHRUB
18	NA	ELDERBERRY SHRUB
19	NA	ELDERBERRY SHRUB
20	NA	ELDERBERRY SHRUB
21	NA	ELDERBERRY SHRUB
22	NA	ELDERBERRY SHRUB
23	NA	ELDERBERRY SHRUB
24	NA	ELDERBERRY SHRUB
25	NA	ELDERBERRY SHRUB
26	NA	ELDERBERRY SHRUB
27	NA	ELDERBERRY SHRUB
28	NA	ELDERBERRY SHRUB
29	NA	ELDERBERRY SHRUB
30	6.0"	TREE
31	6.0"	TREE
32	NA	ELDERBERRY SHRUB
33	NA	ELDERBERRY SHRUB
34	NA	ELDERBERRY SHRUB
35	6.0"	TREE
36	38.0"	TREE
37	6.0"	TREE
38	20.0"	TREE
39	42.0"	TREE
40	24.0"	TREE
41	36.0"	TREE
42	12.0"	TREE
43	20.0"	TREE
44	14.0"	TREE
45	16.0"	TREE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. NO. SCALE
VERT. N/A



CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

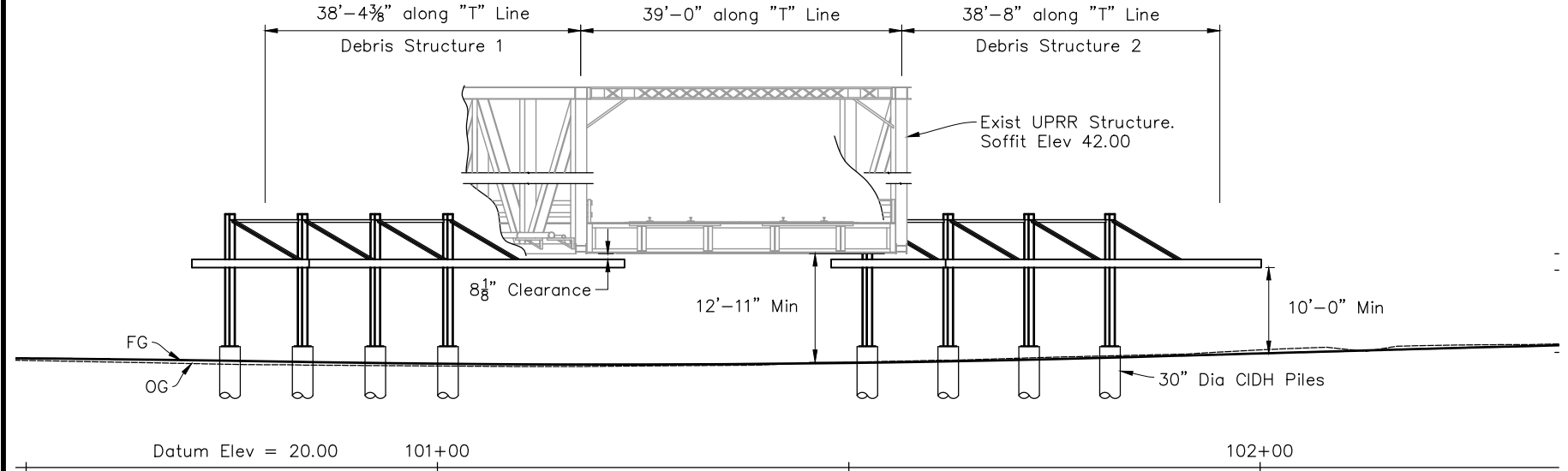
DRAWN BY: D. Polglase DESIGN BY: G. McLaughlin CHECKED BY: DES CHK
DATE _____ DATE _____ DATE _____



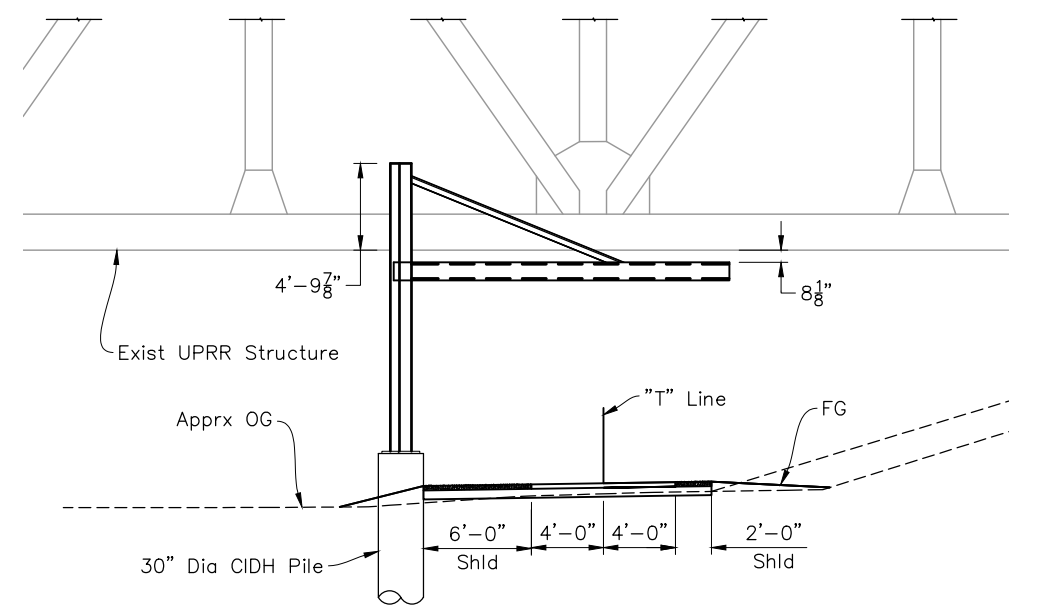
CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
EROSION CONTROL AND TREE REMOVAL PLAN

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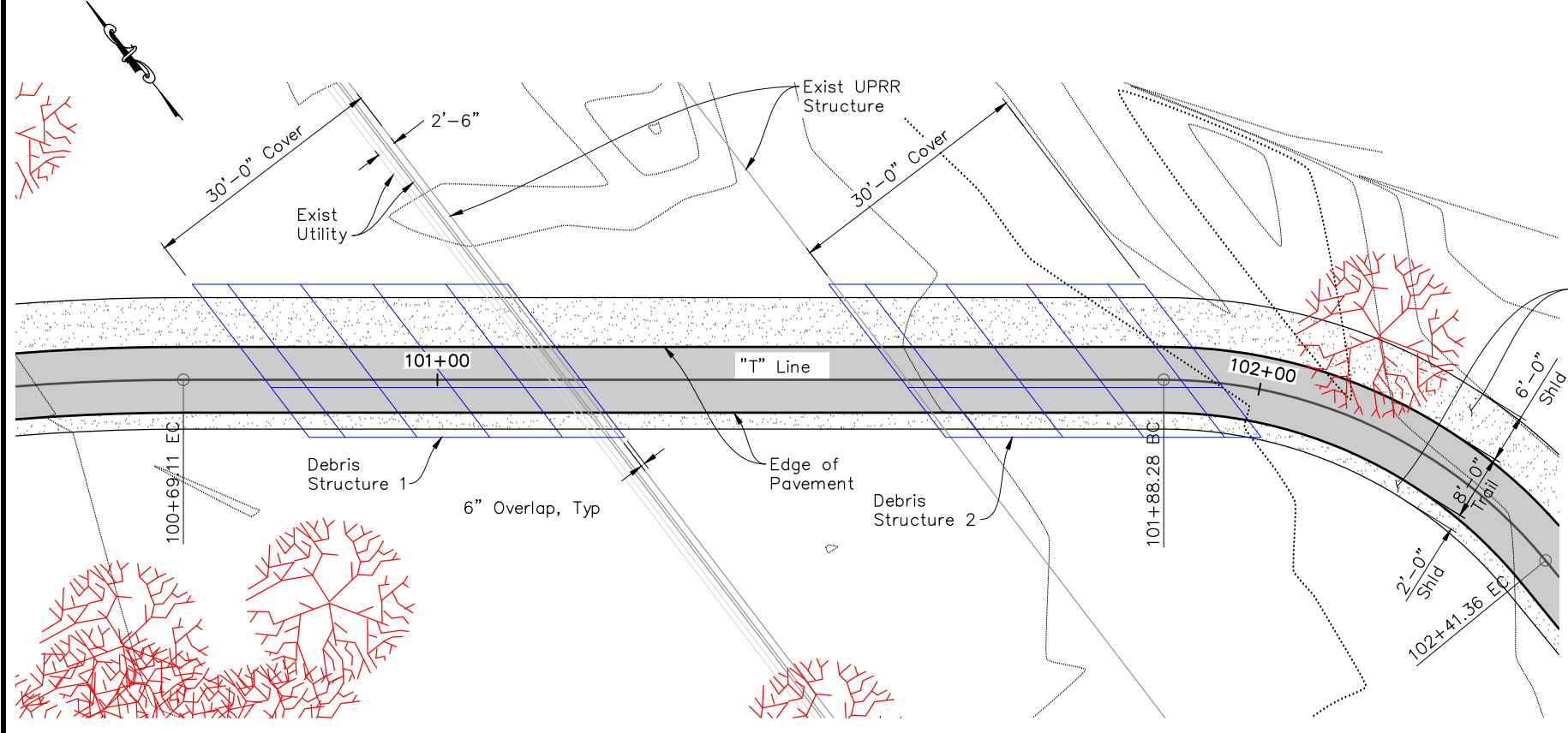
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ELEVATION
Scale: 1"=10'



TYPICAL SECTION
Scale: 3/16"=1'-0"



PLAN
Scale: 1"=10'

REVISIONS			
NO.	DESCRIPTION	DATE	BY

FIELD BOOK
SCALE
HORIZ. 1" = 10'
VERT. N/A

QUINCY ENGINEERING

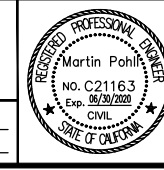
11017 COBBLEROCK DRIVE SUITE 100
RANCHO CORDOVA, CA 95670

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: I. Kotsyubuk
DATE: _____

DESIGN BY: I. Kotsyubuk
DATE: _____

CHECKED BY: DES_CHK
DATE: _____



CONSTRUCTION PLANS FOR
TWO RIVERS TRAIL PROJECT (PHASE II)
GENERAL PLAN

GP-1

SHEET 38 OF 40

Page 64

PN: TK15125000



TECHNICAL MEMORANDUM

Date:	November 13, 2020
To:	Ray Weiss, GEI
From:	Haley Tupen, Matthew Weber, Sam Diaz, Chris Bowles; cbec
Project:	16-1025 – City of Sacramento Two Rivers Trail Phase 2
Subject:	Hydraulic Assessment of Existing and Project Conditions

1 HYDRODYNAMIC MODEL DEVELOPMENT

1.1 OVERVIEW

To assess the flood impacts of the proposed Two Rivers Trail (Phase II) Project (Project), cbec adapted an HEC-RAS two-dimensional (2D) model (cbec 2019) that was developed by cbec under contract with the Sacramento Water Forum (Water Forum) and the Sacramento Area Flood Control Agency (SAFCA). The current conditions digital elevation model (DEM) and 2D hydrodynamic model have been reviewed and approved by the U.S. Army Corps of Engineers (USACE), Water Forum, and SAFCA for use in evaluating the full range of lower American River (LAR) flows (i.e., baseflow to 192,000 cfs). This memorandum briefly describes the model development, the calibration/validation results, and the steps taken to adapt the model for use in assessing hydraulic impacts on this Project.

The 2D model was run at four different flows for existing and Project conditions. Project conditions were approximated by modifying the existing conditions DEM with proposed trail grading surface data provided by Quincy Engineering and refining the mesh within the grading extent to provide higher resolution velocity calculations. In addition, two proposed railroad bridge undercrossing debris catchment structures were included as roughness elements in the landcover layer and added to the DEM to block flow.

1.2 FLOOD MODEL DOMAIN

The LAR is approximately 23 miles long and extends from Nimbus Dam downstream to the confluence with the Sacramento River. The upper portion of the river has a steeper gradient with a bed slope of approximately 0.001 ft/ft. Downstream of Watt Avenue, the river experiences tidal fluctuations and the bed slope drops to approximately 0.00035 ft/ft. Non-Federal and Federal levees begin approximately 14 U.S. Geological Survey (USGS) river miles (RM) upstream of the confluence with the Sacramento River and continue downstream to the confluence with the Sacramento River.

The model domain covers the lower 16 miles, beginning upstream of Ancil Hoffman Park at USGS RM 16 (Figure 1). This allows the model to cover the entire portion of leveed river. The downstream boundary condition is located near the confluence with the Sacramento River near Jibboom Street bridge. More discussion on boundary conditions for each scenario is provided in Section 1.4.

1.3 BATHYMETRY AND TOPOGRAPHY

The 2017 current conditions DEM was developed by cbec under contract with the Water Forum and SAFCA (cbec 2018). The DEM comprises of topo-bathymetric LiDAR (i.e., green and near-infrared LiDAR), singlebeam sonar, and wading RTK-GPS surveys. LiDAR data were collected by Quantum Spatial in October 2017. Single-beam sonar and wading RTK-GPS surveys were conducted by cbec in December 2017 through February 2018 in the areas too deep or obstructed for the green LiDAR to accurately survey the channel bed. Top-of-levee surveys were conducted by Psomas in November and December of 2017. Finally, bridge piers were added to the DEM using the bridge pier footprints captured by the 2017 LiDAR data and/or field-measured by cbec. Combined, these datasets provide seamless, high-resolution (2-ft raster grid) topography and bathymetry for the entire model domain (Figure 2).

Project conditions topography was provided by Quincy Engineering as a CAD surface that cbec converted to a raster and merged with the current conditions DEM. The Project conditions surface consists of a multi-use trail corridor extending from the Union Pacific Railroad Bridge (RM 3.65) at its downstream end to the H-Street Bridge (RM 6.4) at its upstream end (see Figure 1).

1.4 BOUNDARY CONDITIONS

The boundary conditions for calibration and validation runs were based on high-water marks (HWMs) acquired during the 1986 and 1997 high flow events and surveyed water surface elevation (WSE) observations that cbec collected for the 2017 water year. The model was calibrated by adjusting roughness values to match the WSEs with the 1997 HWMs. The model was validated by simulating the 1986 and 2017 water year flows and checking for agreement with the HWMs and the observed WSEs, respectively. The calibration/validation boundary conditions are shown in Table 1. LAR flow data comes from the American River at Fair Oaks USGS gage (AFO, #11446500).

Table 1. Calibration and validation boundary conditions

Date	LAR Inflow (cfs)	NEMDC Inflow (cfs)	Stage at I-St. (ft, NAVD88)	Stage at Watt Ave. (ft, NAVD88)
02/19/1986	134,000	-5000	33.2	49.85
01/02/1997	117,000	-5000	32.7	47.87
12/20/2016	20,500	-500	24.4	29.31
01/11/2017	60,300	-1500	28.7	39.55
02/10/2017	82,200	-2000	29.3	43.7

To compare Project conditions to existing conditions, the model was run with LAR inflows of 115,000, 160,000, 180,000, and 192,000 cfs. The downstream boundary condition, located at ~ River Mile 0.2, was extracted from the USACE HEC-RAS Common Features model (USACE 2007). These boundary conditions are shown in Table 2.

Table 2. Boundary condition scenarios for Project impact assessment

Scenario	LAR Inflow (cfs)	WSE at Confluence (ft, NAVD88)	Notes
1	115,000	33.24	100-yr return interval flow
2	160,000	34.75	LAR Design flow and 200-yr return interval flow
3	180,000	35.04	Flow of Record (1951)
4	192,000	35.29	200-yr return interval flow + 3 ft freeboard ¹

¹This is the equivalent flow that results in 3 ft of freeboard above the 160,000 cfs WSE at Howe Avenue Bridge.

1.5 MODELING PARAMETERS AND ASSUMPTIONS

The HEC-RAS 2D mesh consists of mostly square elements in a 20-ft grid. A grid size sensitivity test was conducted to achieve the best balance of accuracy and computational run times. The mesh was further refined with break lines along the levee crests and toes, channel banks, slope grade breaks, topographic high and low points, and bridge piers. The break lines ensure that the model mesh is enforced along topographic features that direct or prevent flow paths (e.g., a levee crest or bridge pier). The cell spacing along the bridge piers and levee toes were reduced to ~8 to 12 ft (i.e., smaller sizes to increase resolution of velocity calculations). Lastly, breaklines were added to define the edge of the proposed trail to capture topographic changes in the Project condition simulations. Figure 3 shows the mesh breaklines and Table 3 provides an overview of the model parameters.

Table 3. HEC-RAS 2D flood model parameters

Parameter	Value	Notes
HEC-RAS	Version 5.0.7	-
flow module	2D unsteady	-
equation set	Full Momentum	-
theta (0.6 – 1.0)	0.9	-
initial condition	dry bed with warmup period	-
inflows	constant, sub-critical	EG slope = 0.001 ft/ft (avg. bed slope)
outflows	constant elevation	observed condition or rating curve
time step	2 seconds	varies by discharge
eddy viscosity	-	default

The roughness map was developed by using the California Department of Fish and Wildlife’s (CDFW) Vegetation Classification and Mapping Program data (CDFW 2015). This map was further refined by using

the 4-band (i.e., blue, green, red, and near-infrared bands) National Agricultural Imagery Program (NAIP) satellite imagery from 2014 (USDA 2014). The imagery was transformed into the normalized difference vegetation index (NDVI),

$$NDVI = \left(\frac{NIR - Red}{NIR + Red} \right)$$

where *NIR* is the intensity of the near-infrared wavelength and *Red* is the intensity of the red wavelength reflected off a surface. The NDVI is based on the premise that healthy plants reflect more NIR wavelengths, and absorb more red wavelengths, so positive, and higher NDVI values indicate healthier, denser vegetation. NDVI was used to refine the landcover zones by delineating specific patches of vegetation into sparse and dense classifications. Figure 4 shows an example of the refined roughness map and Section 2.1 presents the calibrated roughness values.

2 FLOOD SIMULATIONS

2.1 FLOOD FLOW MODEL CALIBRATION AND VALIDATION

Roughness values for the thirteen landcover domains were adjusted to calibrate the existing conditions model to HWMs obtained after the January 2, 1997 event peak of 117,000 cfs. The model was then validated by applying the same roughness values to the remaining flows. Table 4 shows the final calibrated roughness values and the range of flows over which they are applicable. Roughness values fall within the expected ranges for flood flows (Chow, 1959 and Barnes, 1959). The wetted channel (“Riverine” classification) has a low Manning’s n value of 0.0275 with flow depths over 20-ft for most of the floodway. Most of the vegetation within the floodway is classified as “Sparse Vegetation” or “Dense Vegetation”, which comes from NAIP imagery classification (USDA 2014). Structures, which represent the bridge piers, have a high Manning’s n of 0.2, since those zones should not convey flow. The design footprints of the railroad undercrossing debris catchment structures were assigned a high roughness value of 0.1, which is equivalent to very dense, woody floodplain vegetation to conservatively simulate the potential for debris racking during flood conditions. The remaining landcover classes represent different zones that were identified by the CDFW (CDFW 2015). Since vegetation is largely represented by separate classes, these landcover classes were assigned a relatively low Manning’s n value of 0.03-0.04, which is suitable for bare gravels and grasslands of modest flow depths.

Table 4. Calibrated Manning's n values

Landcover	Manning’s n
	20,000 – 192,000 cfs
Annual grassland	0.03
Barren	0.03
Blue oak foothill pine	0.035
Bridge piers/structures	0.2
Coastal scrub	0.035
Eucalyptus	0.035

Landcover	Manning's n
	20,000 – 192,000 cfs
Fresh emergent wetland	0.03
Lacustrine, riverine	0.0275
Medium trees	0.055
Montane hardwood	0.035
Orchard	0.035
Shrub/sapling	0.045
Small trees	0.05
Tall trees	0.07
Urban	0.03
Valley foothill riparian	0.035
Wet meadow	0.03

Table 5 provides a summary of the calibration results between modeled and observed WSEs. The average and median WSE differences are largely within 0.1-0.2 ft of the observations. The 82,200 and 117,000 events have the largest deviations. In total, the average and median difference between the model and the observed WSEs is -0.04 and -0.06 ft, respectively, for the lower domain model. These values suggest that the model is representing the observed flood flow conditions well in the Project reach.

Table 5 . Summary statistics of modeled vs. observed water surface elevations for the lower domain

Date	Discharge (cfs)	# of Obs.	Modeled minus Observed WSE (ft)				
			Min.	Max.	Average	Median	RMSE
2/19/1986	134,000	64	-1.16	1.63	0.07	-0.02	0.61
1/2/1997	117,000	14	-0.74	0.81	-0.09	-0.09	0.46
12/20/2016	20,500	23	-0.62	0.37	-0.01	-0.09	0.28
1/11/2017	60,300	35	-0.77	0.45	-0.08	-0.03	0.25
2/10/2017	82,200	27	-1.18	0.42	-0.13	-0.10	0.34
All Dates*	All flows	163	-1.18	1.63	-0.02	-0.04	0.43

*"All Dates" reports the statistics of combing all the lower domain WSE comparisons

2.2 SIMULATION RESULTS

The modeled scenarios identified in Table 2 were used to understand differences in water surface elevation and velocity magnitude between existing and Project conditions and to provide flow velocities to inform design of Project features. Model results indicated that the Project only causes localized increases in WSE in the vicinity of the railroad undercrossing location, while differences in flow velocity occur in various locations throughout the proposed trail site. The WSE and velocity difference results shown in Figures 5 through 8 focus on the railroad undercrossing location, and Figures 9 through 14 contrast velocity differences at three upstream locations along the trail. The results are summarized below.

2.2.1 Upstream undercrossing location

The modeled WSE impact at the railroad undercrossing is small and localized with slightly elevated WSEs (~0.1 ft) at the upstream end of the structure (Figures 5-8). This rise dissipates quickly and has no impact at the adjacent bridge structures or at the levee. Modeled velocity magnitudes are reduced downstream of the structure with a localized increase (< 0.5 ft/s) between the structure and the left bank in an area that is vegetated with large trees and turf, and partially paved in crushed rock (Figures 5-8). Predicted Project condition velocities in this area range from just under 1 ft/s to 4.5 ft/s in the 160,000 cfs simulation (Figure 15). The high end of that range is on the upper end of tolerance for typical levee grass (Type C turf), but the resulting shear stress on the levee is within the tolerance range of existing vegetation (1 to 2.5 lb/sf) due to the corresponding depth of flow. Design velocities within the undercrossing footprint were just below 5 ft/s (Figure 15).

2.2.2 Trail footprint – At large

The trail footprint itself does not impact modeled river WSEs due to limited topographic changes. Project condition modeled velocities along the trail are generally less than 2.5 ft/s, except for the portion of trail from the H-street bridge to Paradise Bend. Here, the river is at its narrowest and modeled velocities are up to 4 to 5 ft/s along the trail. Figures 15 through 18 show predicted river velocities from the 160,000 cfs simulation along the trail, and Figures 17 and 18 focus on the portion of trail from Paradise Bend to the H Street Bridge.

3 DISCUSSION AND RECOMMENDATIONS

This hydraulic study provides an in-depth analysis of hydraulic conditions using a 2D hydraulic model to assess predicted changes in WSE and velocity in the Project condition. Results of this analysis identify small local changes to modeled WSEs and velocities (both longitudinal and lateral extent) which rapidly dissipate outside the grading extent of the Project. This is a significant improvement on the typical evaluation with a 1D hydraulic model. Increases in velocity shown in Figures 5 through 14 would be muted in a 1D model analysis, or would not be observed at all, depending on cross-section location. The ability to observe the spatial distribution of impacts allows for efficient and effective assessment of their significance and determination of whether localized mitigation measures are required.

Should trail design alter significantly during 90% design preparation, the need for erosion potential should be further evaluated as the design progresses. In particular, the area of concern just downstream of the undercrossing at the upstream railroad bridge should be assessed to determine the condition of vegetation in the area and its ability to withstand flood velocities. Revisions to structure design may require reassessment through 2D model simulations. Based on assessment of vegetation condition after recent floods and model results of the refined undercrossing design, it can be determined whether to prescribe planting designs to include more robust, flood-tolerant species, or potentially install revetment in the area of concern.

Modeled WSEs and velocities represent fully blocked conditions for the undercrossing structures, which causes the maximum potential WSE increase and maximum velocity increases for areas adjacent to the structure. If the structure is not blocked with flood debris, velocities within the footprint of the structure are likely to be higher than what was modeled.

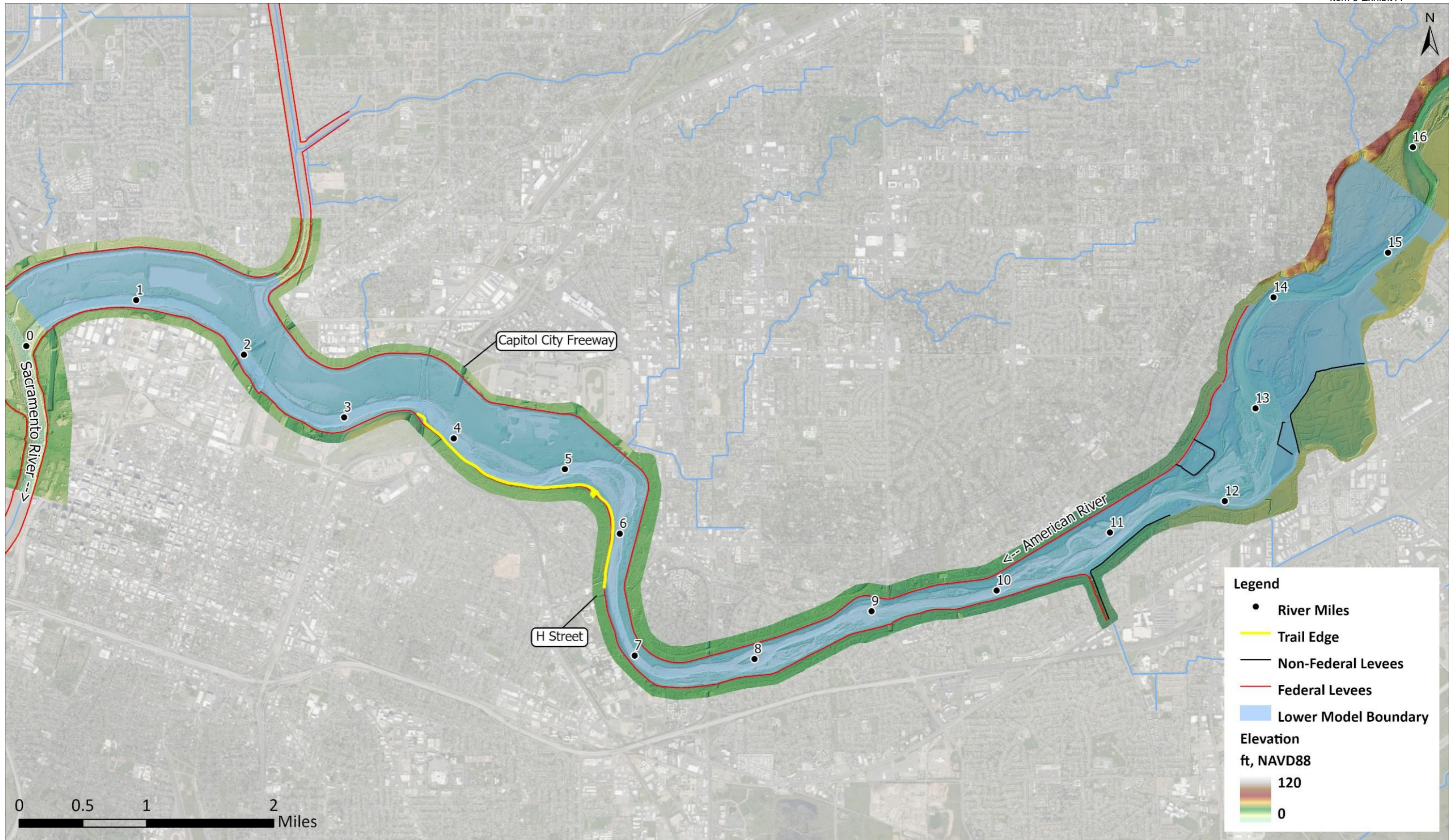
4 ACKNOWLEDGEMENTS

cbec, inc. eco engineering would like to acknowledge the Sacramento Area Flood Control Agency (SAFCA) and The Water Forum (WF) for their contribution to the development of the 2017 existing conditions DEM and 2D HEC-RAS LAR model, both used extensively throughout this project.

REFERENCES

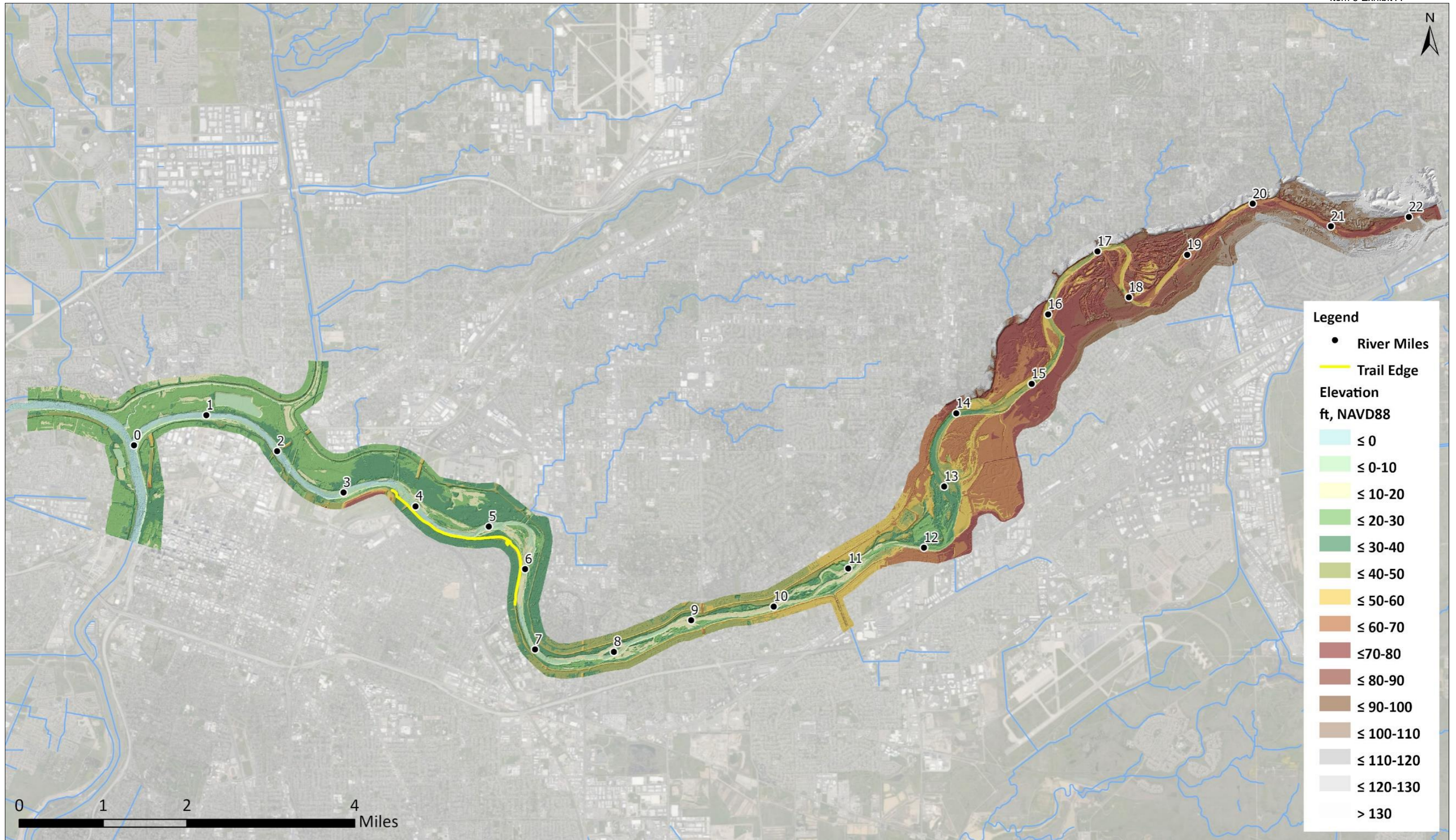
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FIGURES



Notes:

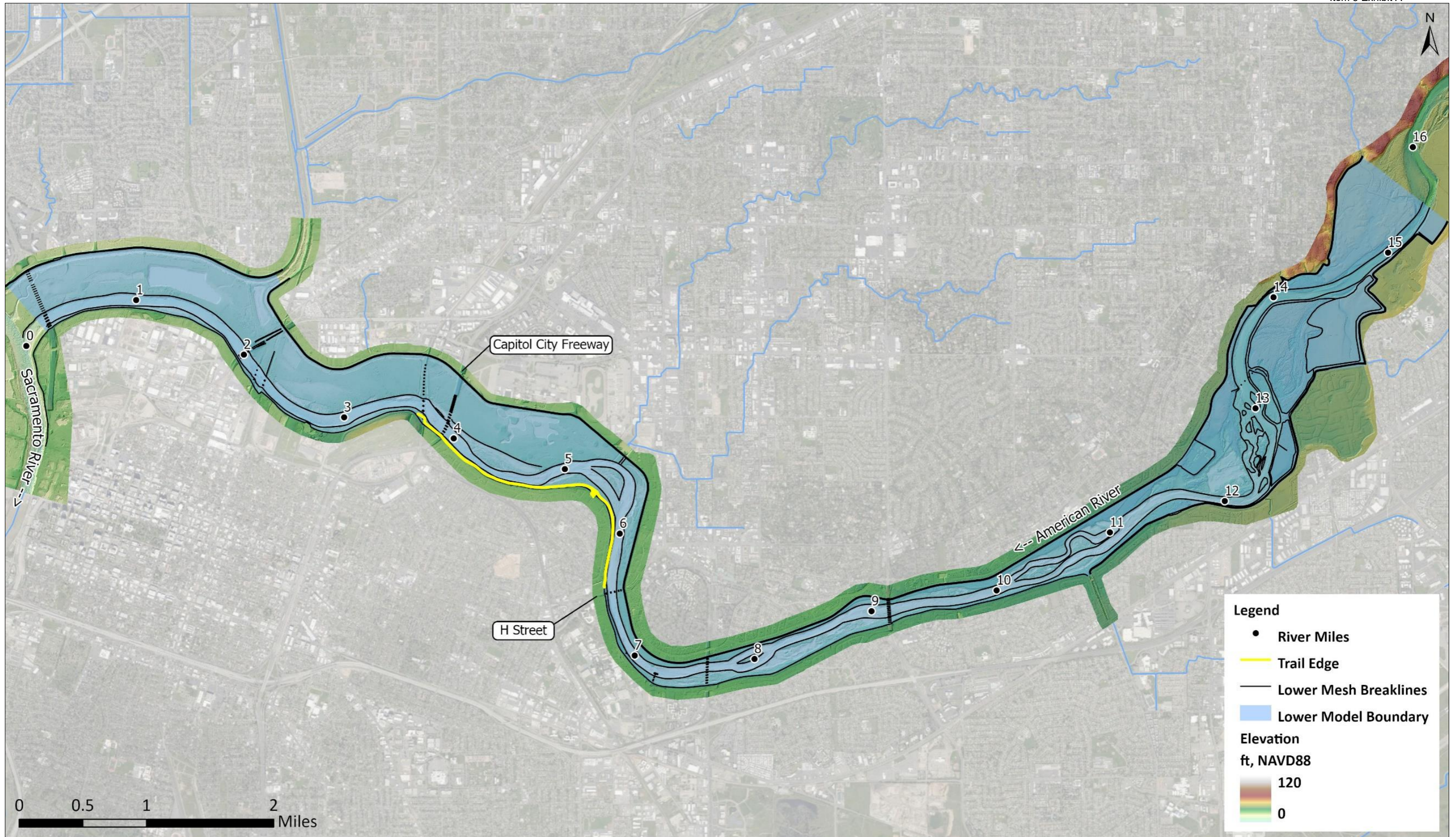
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	Flood Model Boundary	
Project No. 16-1025	Created By: HT	Figure 1



Notes:

	City of Sacramento Two Rivers Trail Phase 2 Digital Elevation Model (DEM)	
	Project No. 16-1025	Created By: HT

Figure 2



Notes: Breaklines are located along the channel banks, top and toe of the levees, and edges of the trail and bridge piers. This ensures that the model enforces topographic controls at these locations.



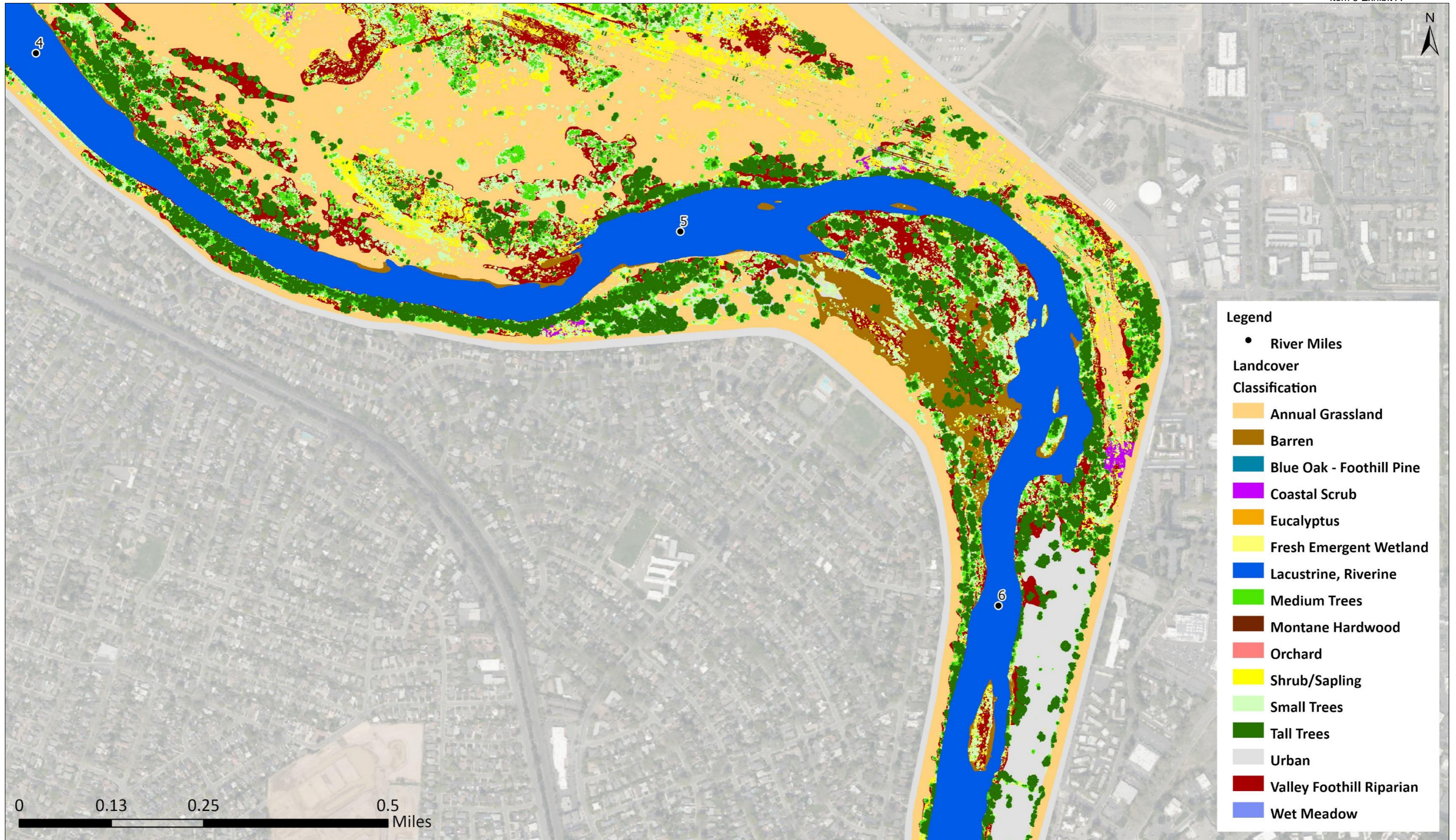
Project No. 16-1025

Created By: HT

City of Sacramento Two Rivers Trail Phase 2

Model Mesh Breaklines

Figure 3



Notes: Landcover classifications come from California's Department of Fish & Wildlife fine-scale vegetation mapping and the 2014 NAIP imagery.



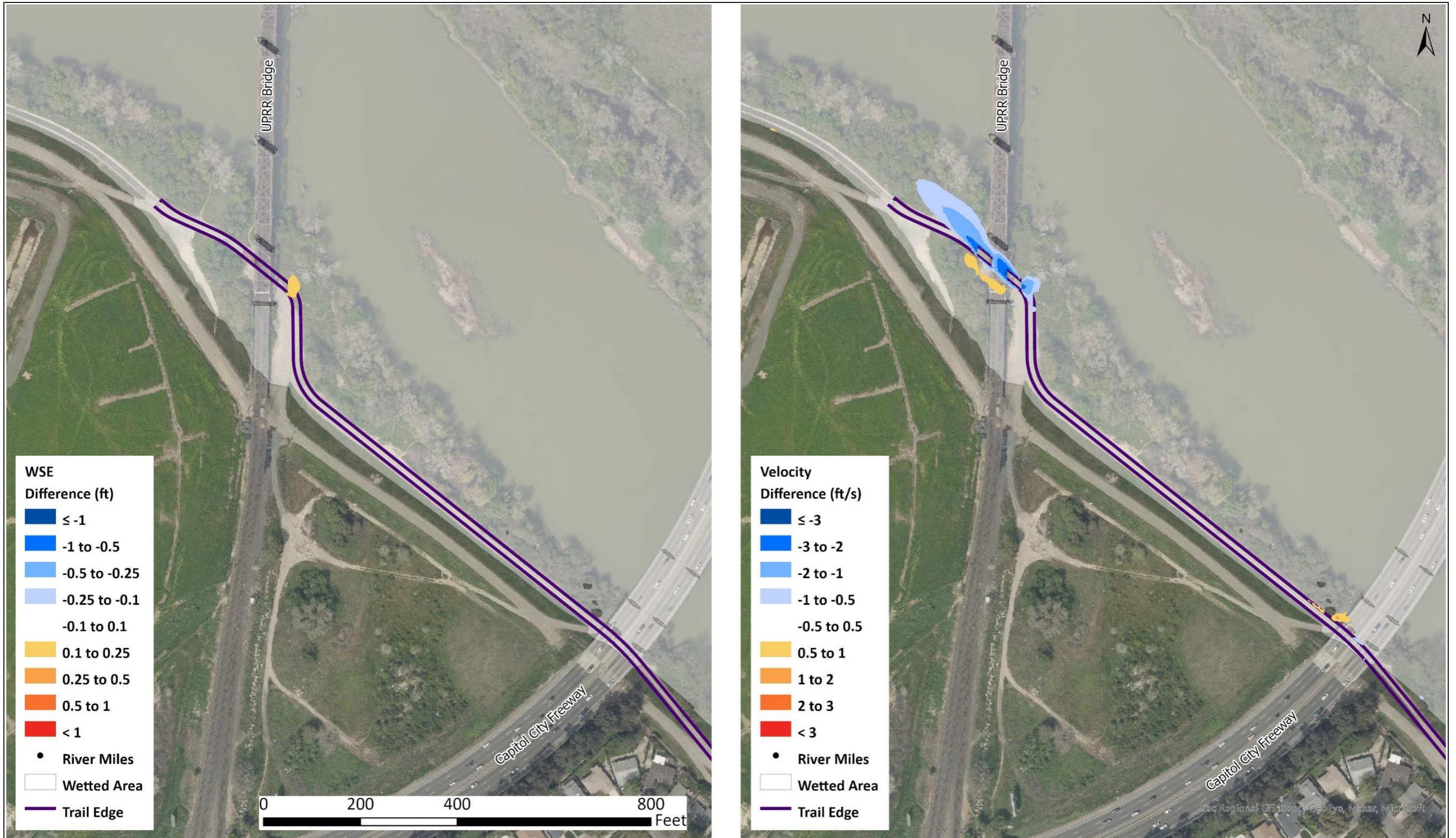
City of Sacramento Two Rivers Trail Phase 2

Landcover Classifications for Roughness Map

Project No. 16-1025

Created By: HT

Figure 4



Notes: Left plot is difference in water surface elevations (With-Project - Existing Condition). Right plot is difference in velocities (With-Project - Existing Condition).

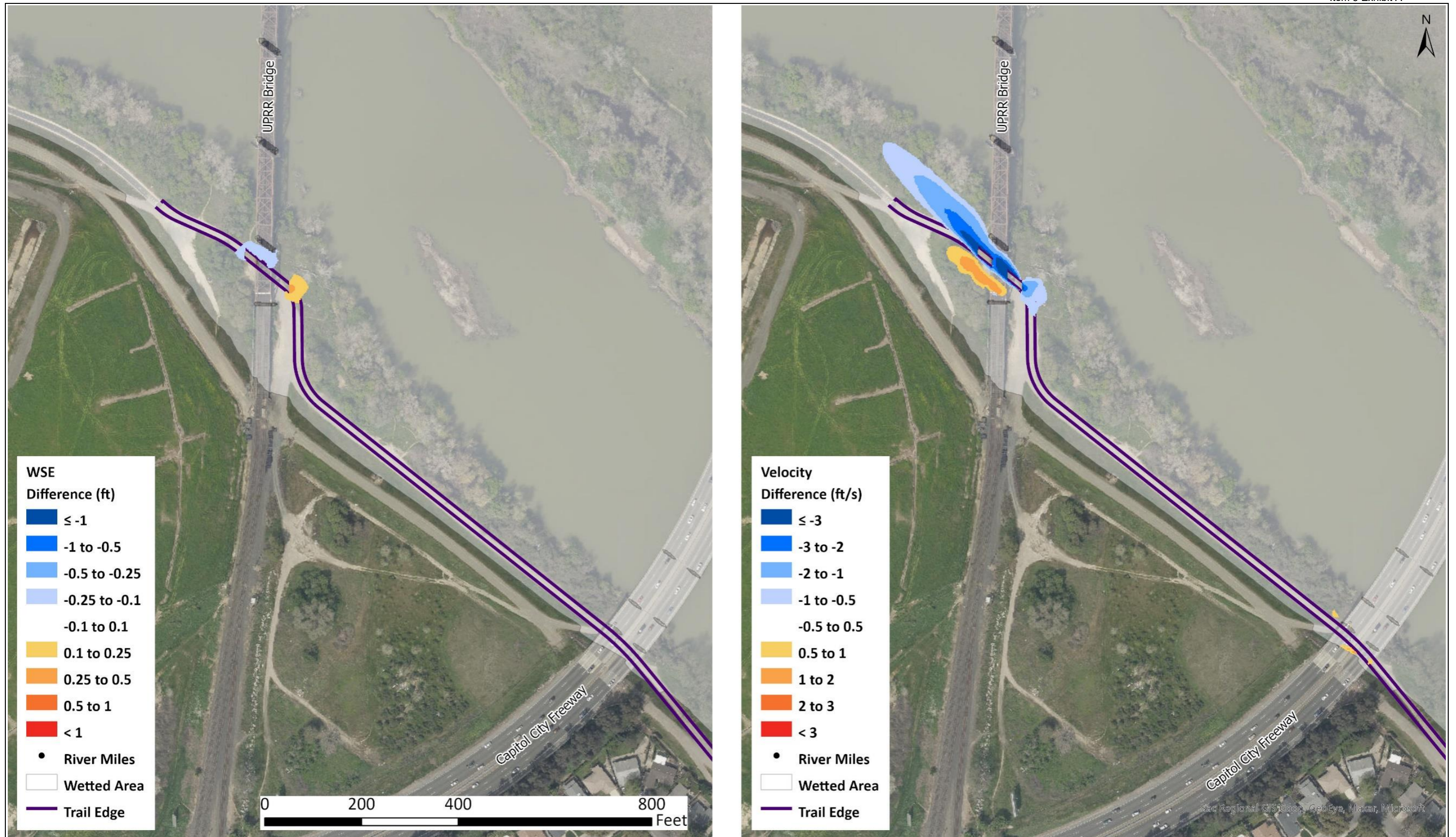


City of Sacramento Two Rivers Trail Phase 2
115,000 cfs Results at Undercrossing

Project No. 16-1025

Created By: HT

Figure 5



Notes: Left plot is difference in water surface elevations (With-Project - Existing Condition). Right plot is difference in velocities (With-Project - Existing Condition).

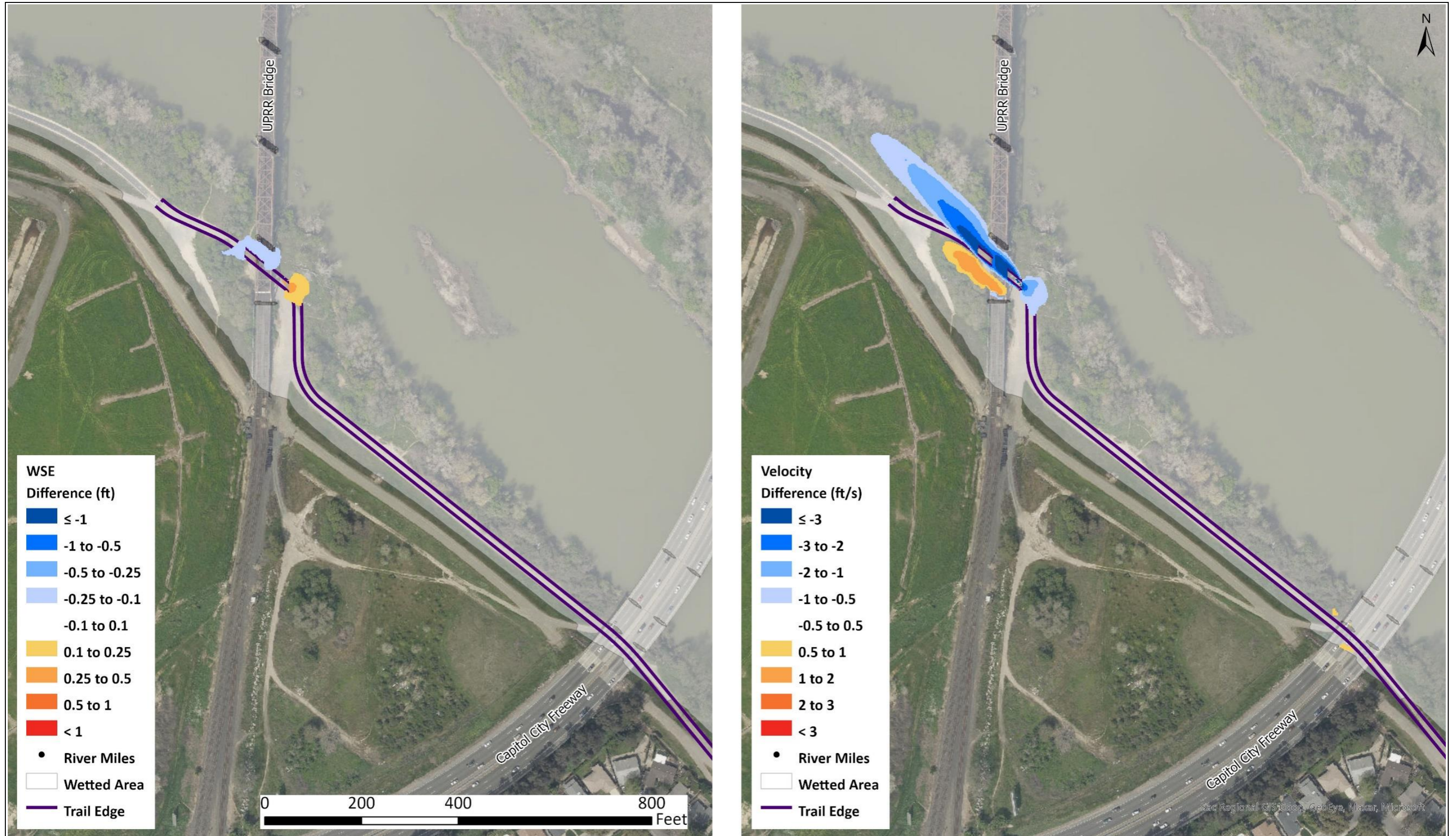


City of Sacramento Two Rivers Trail Phase 2
160,000 cfs Results at Undercrossing

Project No. 16-1025

Created By: HT

Figure 6



Notes: Left plot is difference in water surface elevations (With-Project - Existing Condition). Right plot is difference in velocities (With-Project - Existing Condition).

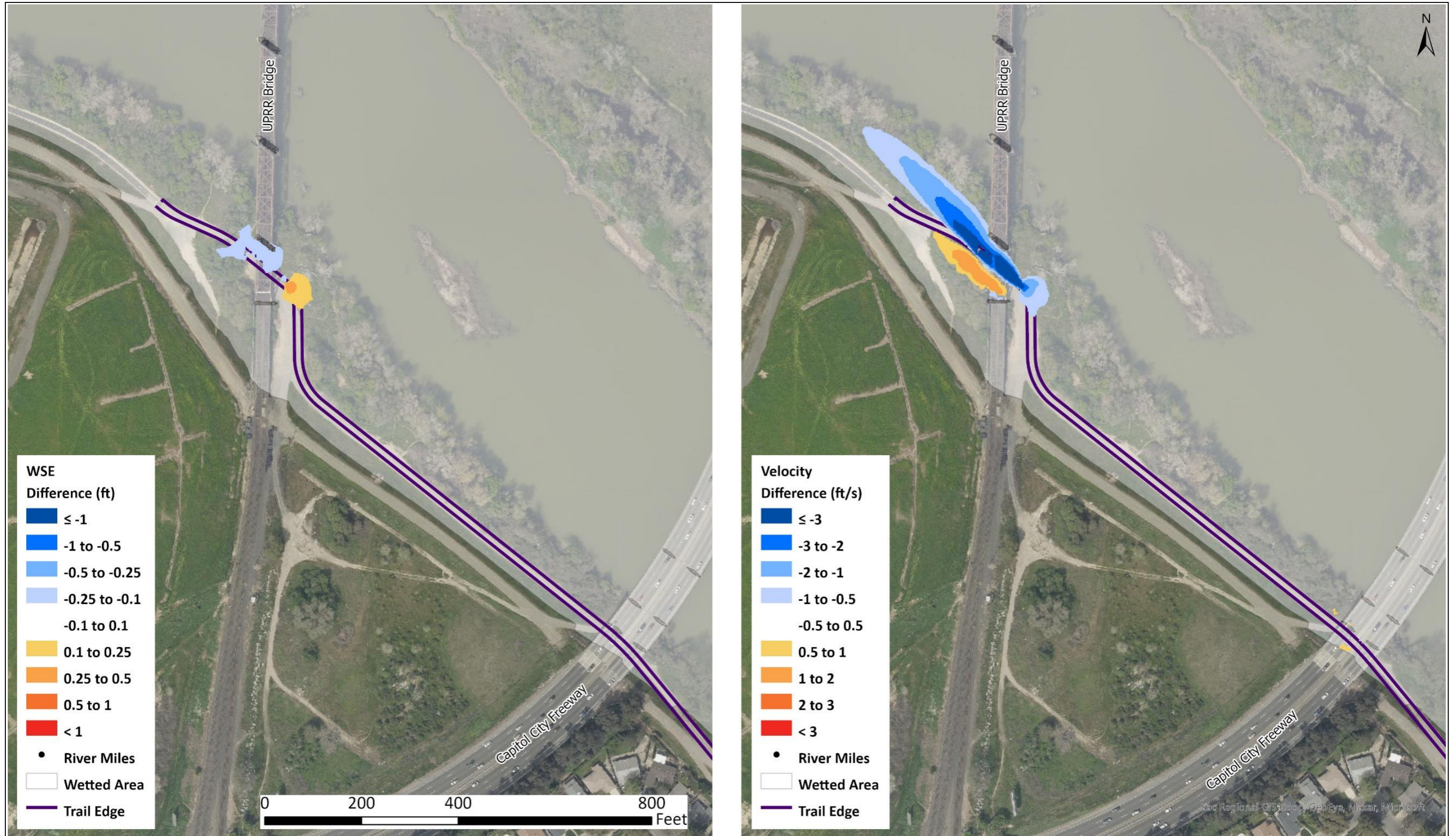


City of Sacramento Two Rivers Trail Phase 2
180,000 cfs Results at Undercrossing

Project No. 16-1025

Created By: HT

Figure 7



Notes: Left plot is difference in water surface elevations (With-Project - Existing Condition). Right plot is difference in velocities (With-Project - Existing Condition).

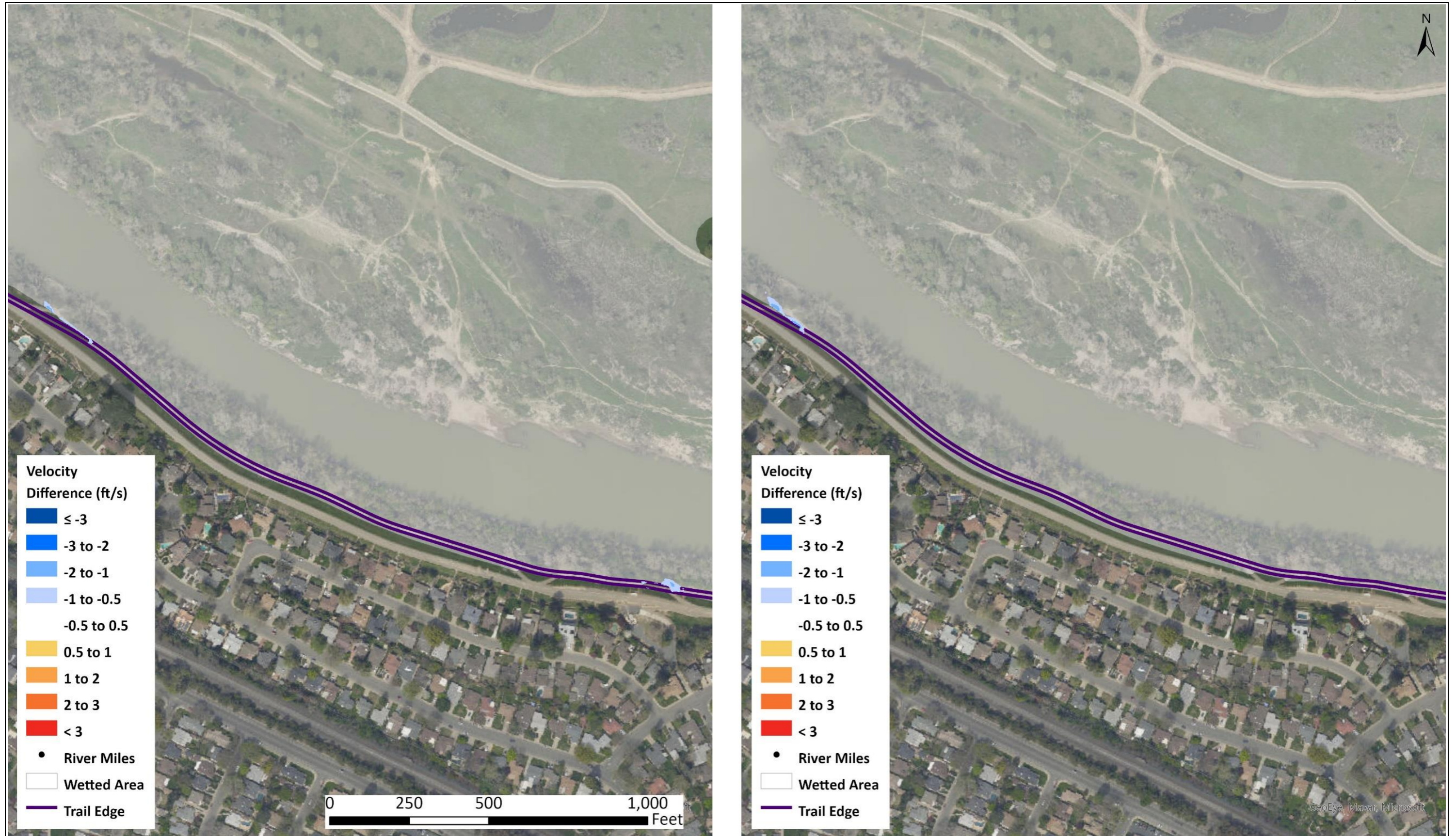


City of Sacramento Two Rivers Trail Phase 2
192,000 cfs Results at Undercrossing

Project No. 16-1025

Created By: HT

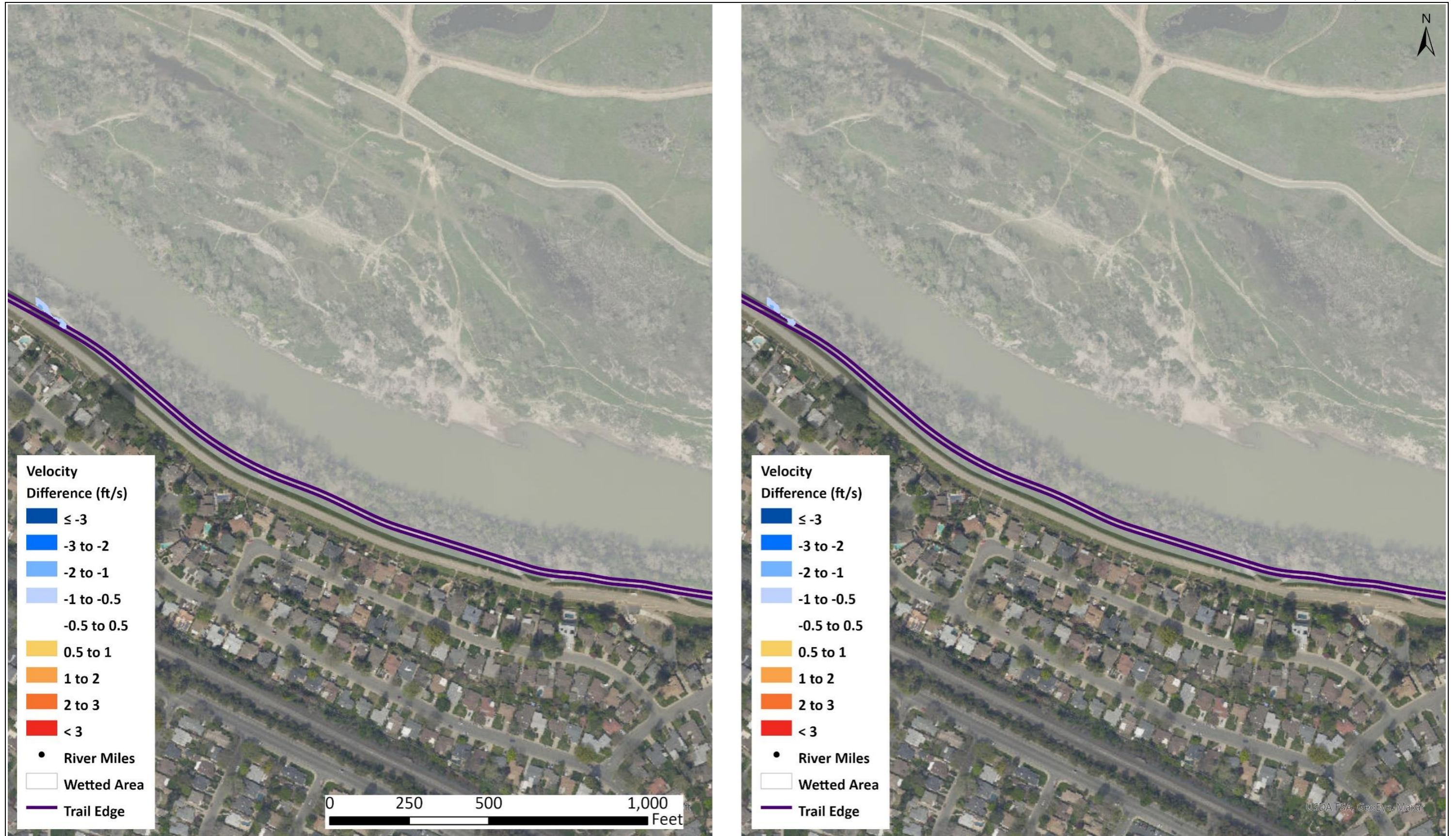
Figure 8



Notes: Left plot is difference in velocities at 115,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 160,000 cfs (With-Project - Existing Condition).



<i>City of Sacramento Two Rivers Trail Phase 2</i>		
115k cfs and 160k cfs Results - Upstream of Undercrossing		
Project No. 16-1025	Created By: HT	Figure 9



Notes: Left plot is difference in velocities at 180,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 192,000 cfs (With-Project - Existing Condition).

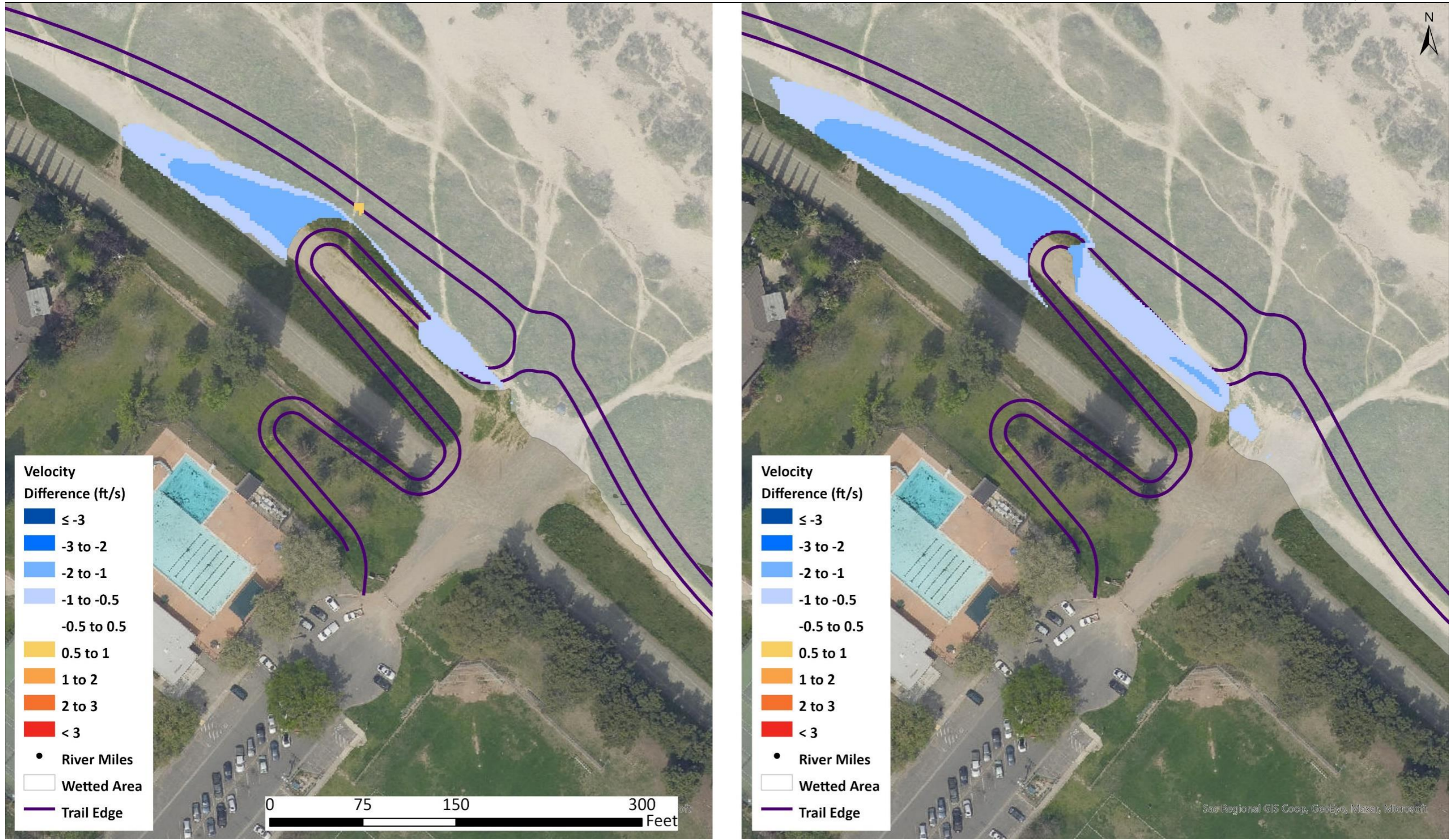


City of Sacramento Two Rivers Trail Phase 2
180k cfs and 192k cfs Results - Upstream of Undercrossing

Project No. 16-1025

Created By: HT

Figure 10

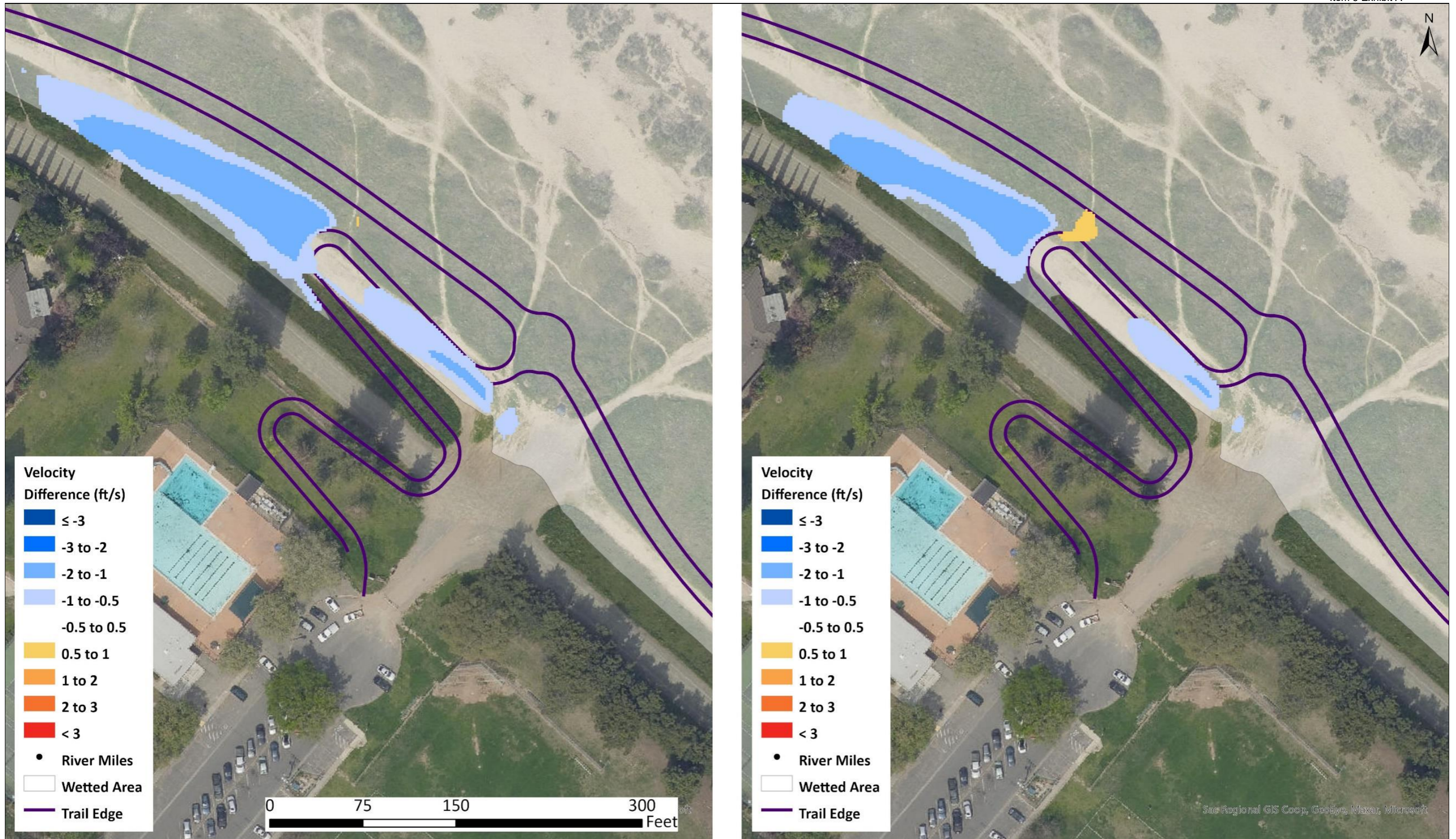


Notes: Left plot is difference in velocities at 115,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 160,000 cfs (With-Project - Existing Condition).



City of Sacramento Two Rivers Trail Phase 2
115k cfs and 160k cfs Results - Middle of Trail

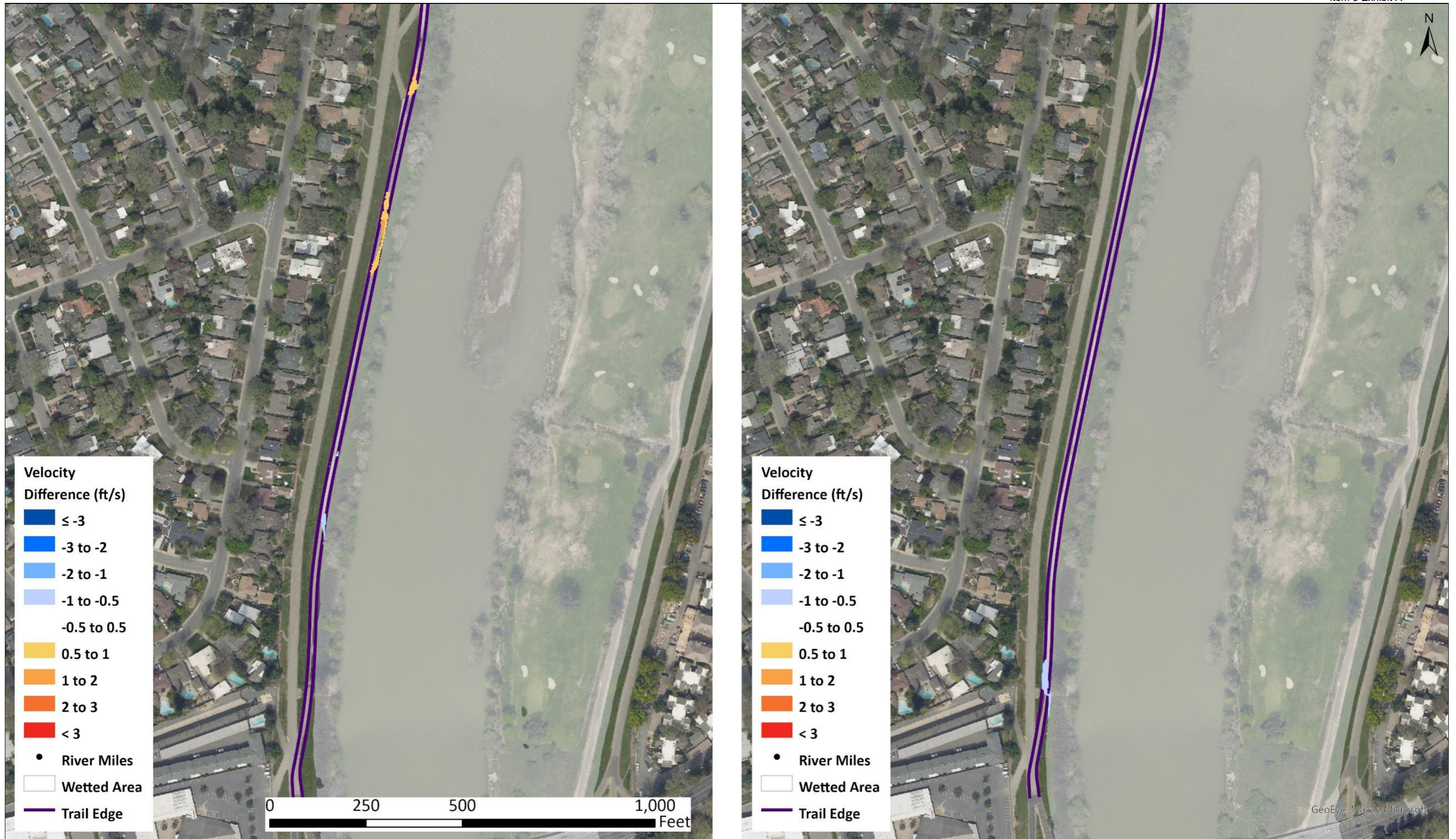
Project No. 16-1025	Created By: HT	Figure 11
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Notes: Left plot is difference in velocities at 180,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 192,000 cfs (With-Project - Existing Condition).



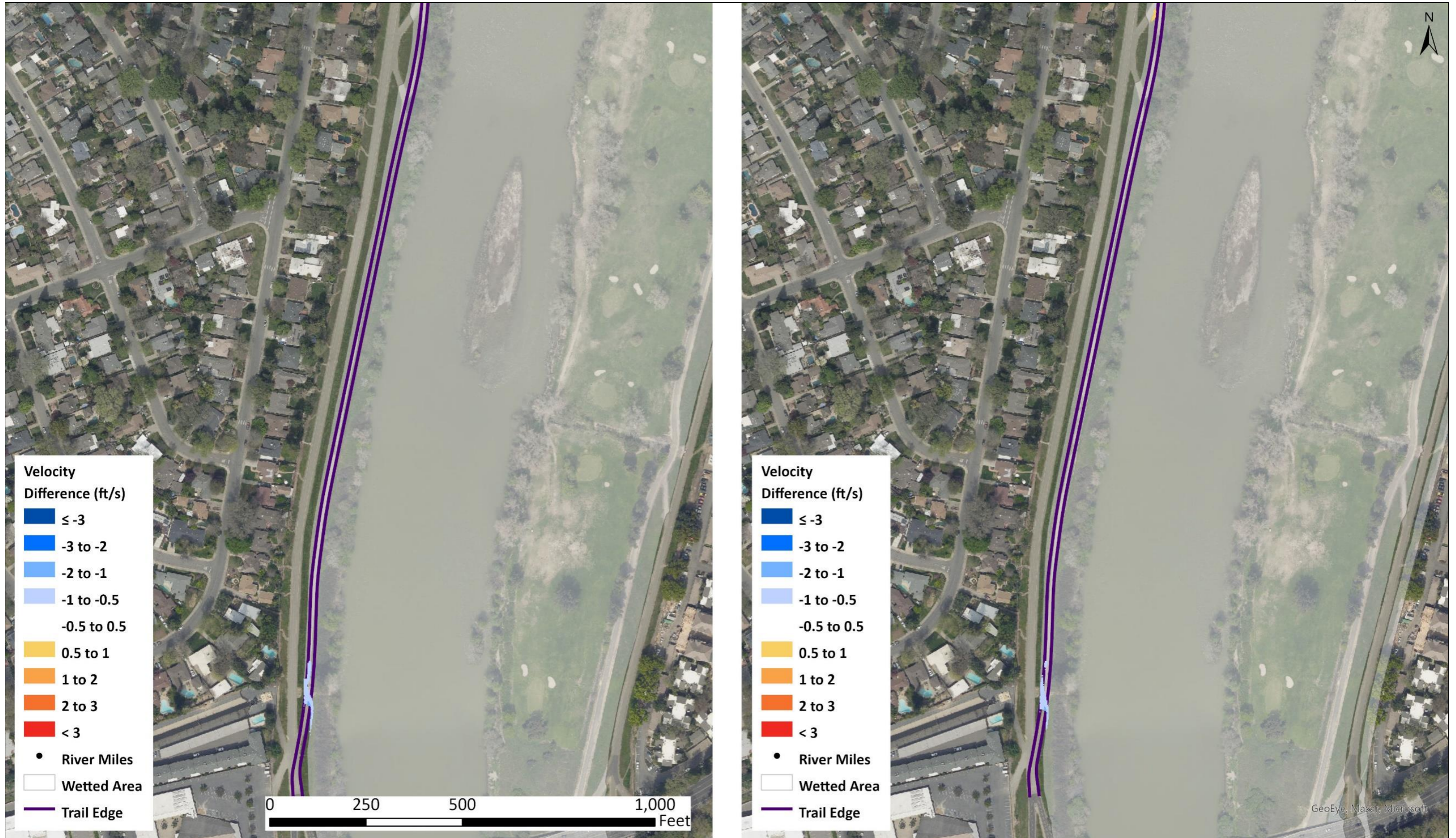
City of Sacramento Two Rivers Trail Phase 2		
180k cfs and 192k cfs Results - Middle of Trail		
Project No. 16-1025	Created By: HT	Figure 12



Notes: Left plot is difference in velocities at 115,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 160,000 cfs (With-Project - Existing Condition).



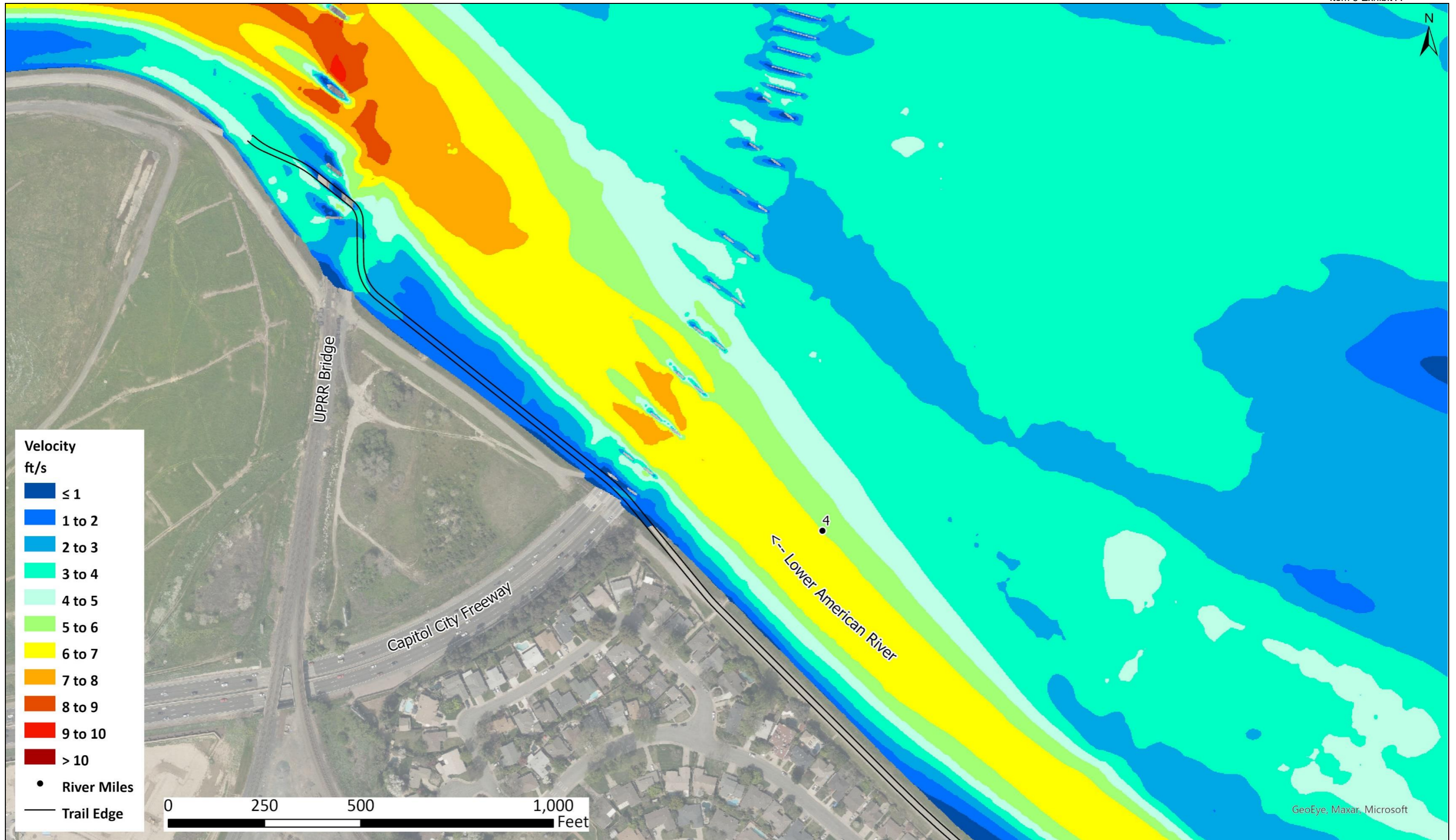
<i>City of Sacramento Two Rivers Trail Phase 2</i>		
115k cfs and 160k cfs Results - Upstream End of Trail		
Project No. 16-1025	Created By: HT	Figure 13



Notes: Left plot is difference in velocities at 180,000 cfs (With-Project - Existing Condition). Right plot is difference in velocities at 192,000 cfs (With-Project - Existing Condition).



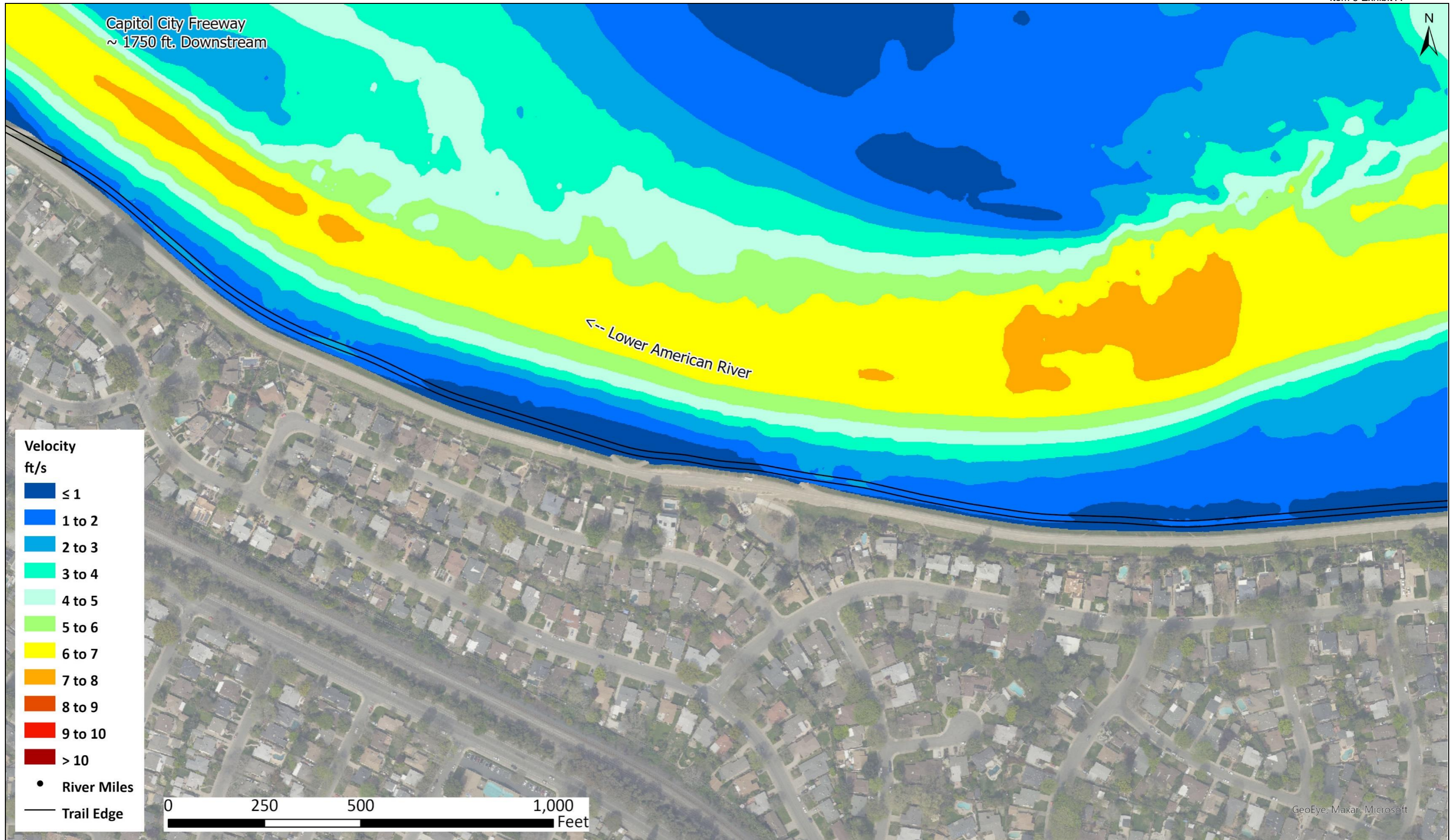
<i>City of Sacramento Two Rivers Trail Phase 2</i>		
180k cfs and 192k cfs Results - Upstream End of Trail		
Project No. 16-1025	Created By: HT	Figure 14



Notes: Velocity magnitudes for 160,000 cfs at most downstream end of trail near bridge undercrossing.



<i>City of Sacramento Two Rivers Trail Phase 2</i>		
Velocities at 160,000 cfs - at Undercrossing		
Project No. 16-1025	Created By: HT	Figure 15



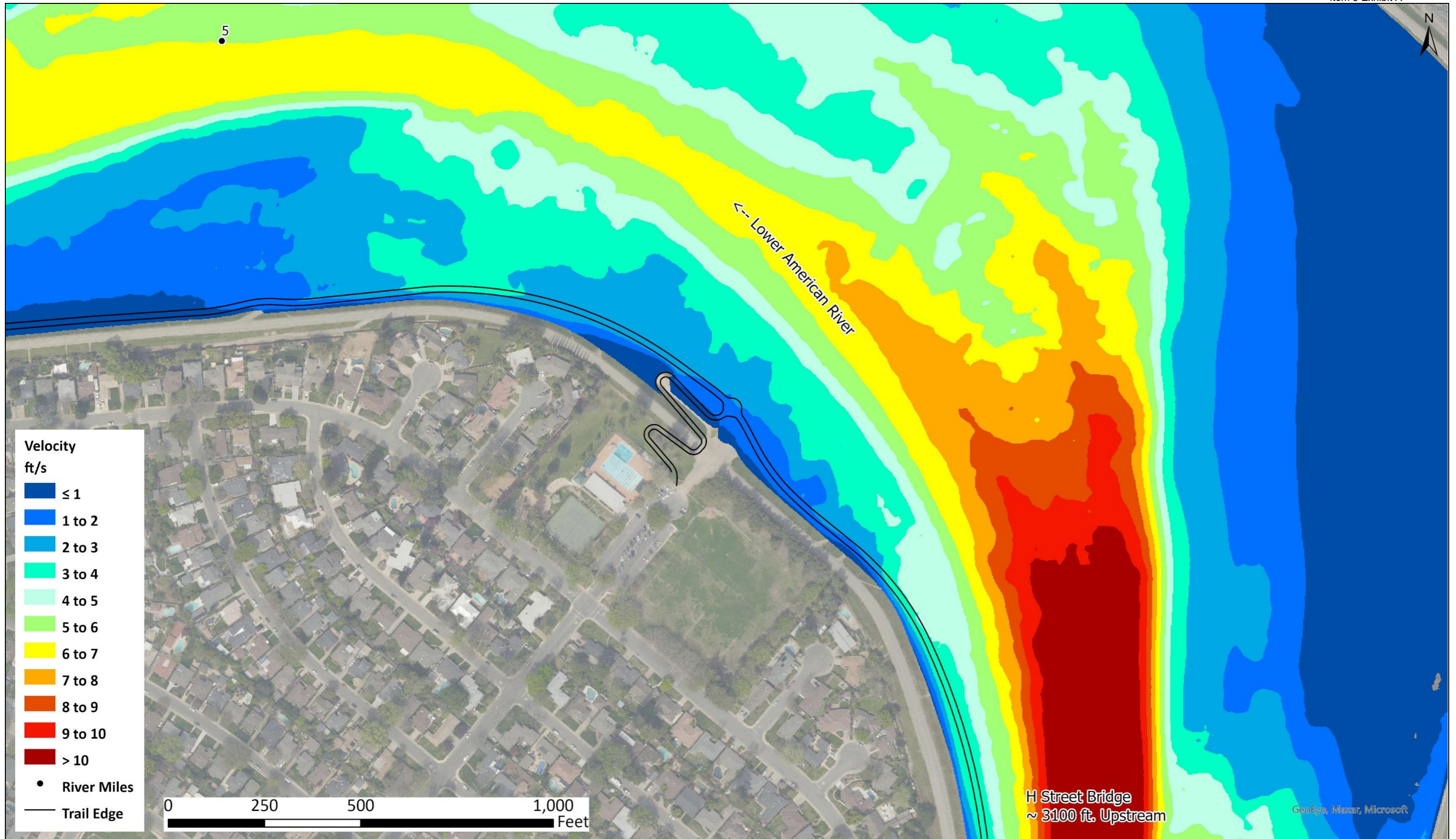
Notes: Velocity magnitudes for 160,000 cfs upstream of bridge undercrossing.



City of Sacramento Two Rivers Trail Phase 2

Velocities at 160,000 cfs - Upstream of Undercrossing

Project No. 16-1025	Created By: HT	Figure 16
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Notes: Velocity magnitudes for 160,000 cfs at middle of proposed trail.

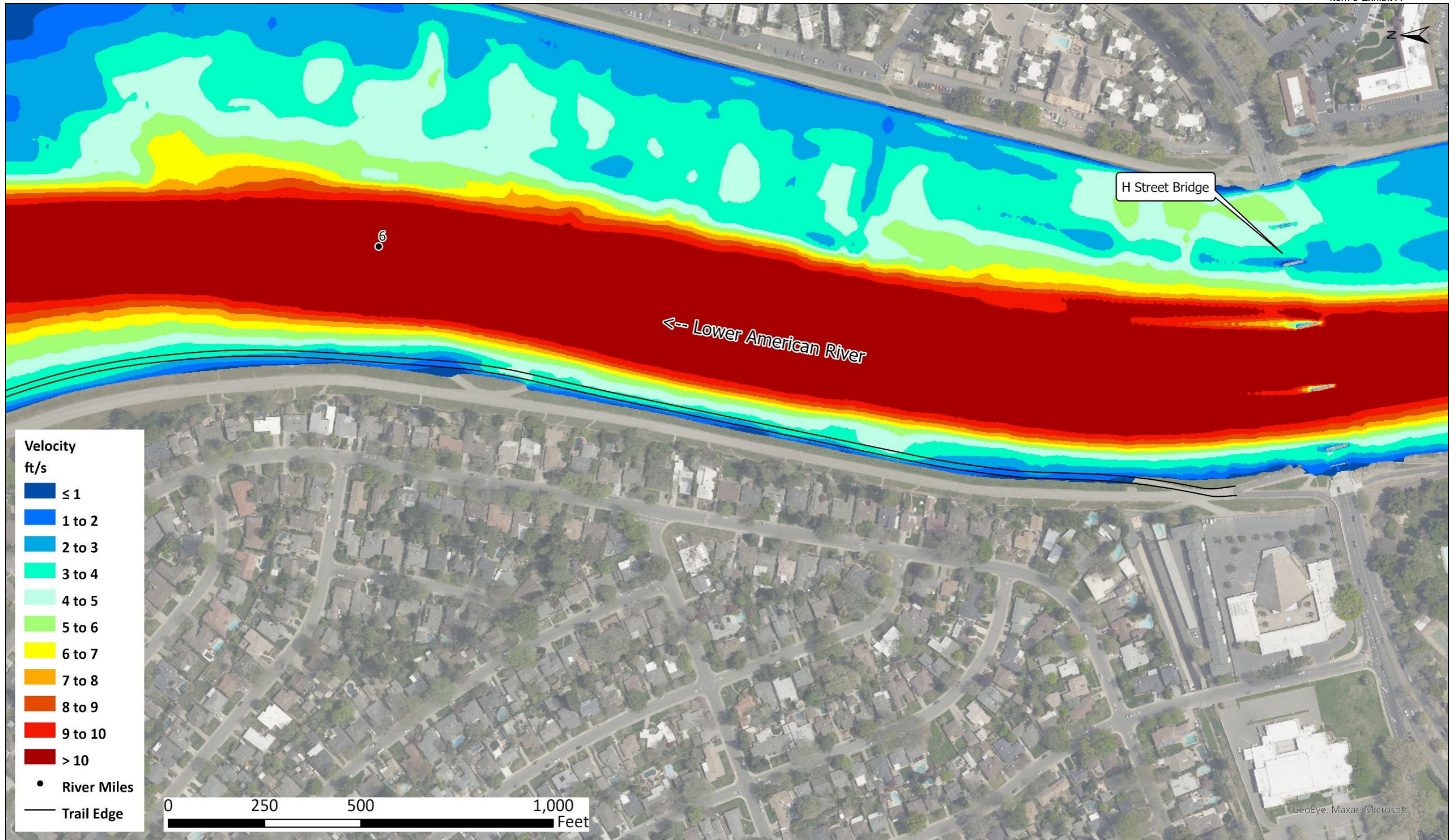


City of Sacramento Two Rivers Trail Phase 2
Velocities at 160,000 cfs - Middle of Trail

Project No. 16-1025

Created By: HT

Figure 17



Notes: Velocity magnitudes for 160,000 cfs at most upstream end of proposed trail near H Street Bridge.



<i>City of Sacramento Two Rivers Trail Phase 2</i>		
Velocities at 160,000 cfs - Upstream End of Trail		
Project No. 16-1025	Created By: HT	Figure 18

PERMIT

The American River Flood Control District (District) hereby issues to the City of Sacramento (Permittee) an encroachment permit for the purpose of allowing an approximate 1,500 foot section of the Two Rivers Trail in the River Park neighborhood to be constructed on the crown of the District's South Bank American River levee, subject to the terms and conditions attached hereto as Exhibit A.

ACCEPTED AND AGREED TO:

By: City of Sacramento

Signature: _____

Date: ~~April~~~~March~~ __, 2019

PERMIT ISSUED:

By: American River Flood Control District

Date: ~~April~~~~March~~ __, 2019

Signature: _____
Timothy ~~R~~~~G~~. Kerr, General Manager, ARFCD

EXHIBIT A

TERMS AND CONDITIONS

1. The District's Recreational Trails Policy, as it exists as of the date of this Permit and as it may be amended from time to time by the District's Board of Trustees, shall govern Permittee's activities pursuant to this Permit. The District reserves the right, at any time and in its sole discretion, to terminate this Permit if the Permittee substantially fails to comply with the terms of this Permit.

2. This Permit is issued to Permittee for the exclusive purpose of constructing, operating, maintaining, repairing, rehabilitating, and replacing a recreational trail that will be used by members of the public and extend for approximately 1,500 feet on the crown of the District's South Bank American River levee in the River Park neighborhood, as shown on the attached map and diagram. [Add attachments]

3. Permittee shall pay the District an annual maintenance fee of \$ _____, which fee shall include the cost of flagging under paragraph 4(c) as well as other operation and maintenance costs incurred by the District each year in connection with this Permit. This maintenance fee shall be adjusted each year by a factor equal to the change in the ENR Construction Cost Index, San Francisco.

- 3.4. The recreational trail and all related improvements, which includes the decomposed granite shoulders of the trail but not any area waterward of the waterside hinge point (the "Recreational Trail") shall, at a minimum, satisfy the planning, location, design, construction, access, signage, and other applicable standards established by the California Central Valley Flood Protection Board. However, the District reserves the right to impose such additional requirements as it believes are reasonably necessary to adequately protect: (i) the District's levees and other facilities, (ii) public and private property that is protected from flooding by the District's levees and other facilities, and (iii) the health and safety of individuals who use the levee (including, without limitation, members of the public and employees of the District). Specifically:
 - a. The Recreational Trail shall be placed as close to the waterside crown hinge point as possible to preserve access to the landside toe.

 - b. Permittee shall provide signage at both ends of the paved crown section to indicate the Recreational Trail is subject to frequent closure for levee maintenance.

 - c. Upon 24-hour written notice by the District, Permittee shall either close the Recreational Trail, or provide a detour for trail users. Alternately, Permittee shall pay District \$ _____ for this Permit to cover the ~~and~~ cost incurred by the District to provide flaggers to prevent use of the Recreation Trail and reroute users onto the detour in an effective manner while the District is engaged in levee operation and maintenance activities, as well as the improvement, ~~operation and maintenance~~ improvements, repair and removal of encroachments on the trail segment in question.

- d. Permittee shall promptly repair any damage to the Recreation Trail ~~or shoulders~~ caused by the District during performance of routine levee operations and maintenance activities.
- e. Permittee shall hold harmless and indemnify the District for any and all losses and damages associated with the Recreational Trail, as described more fully in paragraph 76 below.
- f. Permittee shall perform routine maintenance on the Recreational Trail to address safety items such as:
- o crumbling pavement edges
 - o shoulder compaction of material adjacent to pavement
 - o repair of cracks or potholes in the pavement
 - o clearing of sediment and leaves, etc.

Such maintenance shall be performed in a timely and workmanlike manner and shall be performed to the reasonable satisfaction of the District.

4.5. Permittee shall operate and maintain the Recreational Trail itself or submit to the District evidence of an agreement with a qualified public agency pursuant to which that public agency agrees to operate and maintain the Recreational Trail.

a. No later than , 2019, Permittee shall submit to the District for review and acceptance and shall agree to implement a plan of operation and maintenance for the Recreational Trail which addresses all aspects of operating and maintaining the Recreational Trail, including but not limited to, public safety; litter and graffiti control, signage, access control, security, compliance enforcement; repair, rehabilitation, ~~and~~ replacement, ~~and removal~~ and removal of Recreational Trails facilities; and a plan and budget for financing and accomplishing the operations and maintenance plan.

b. Permittee recognizes and acknowledges that the District may make reasonable modifications to such plan for operation and maintenance and Permittee agrees that it shall accept all such modifications prior to opening the Recreational Trail to public use. The failure to accept such modifications shall result in termination of this Permit.

5.6. Permittee shall bear all costs associated with the planning, design, construction, operation, maintenance, repair, ~~and rehabilitation,~~ ~~and removal~~ and removal of the Recreational Trail, including, but not limited to, any repairs required as a result of actions by the District or others to respond to a flood emergency.

a. Should Permittee not fulfill its obligations with respect to operation and maintenance of the Recreational Trail, the District shall notify the Permittee in writing of such failure. Permittee shall have thirty (30) days from the receipt of such notice either to cure such failure or to submit an acceptable plan to the District to cure such failure. If, within thirty (30) days after receipt of District's notice, Permittee does not either cure such failure or submit a plan acceptable to the District to cure such failure, the District, at

Two Rivers Trail Permit

~~April~~ March 2019

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the sole expense of Permittee, may perform Permittee's obligations with respect to operation and maintenance of the Recreational Trail or close the trail until Permittee takes corrective action satisfactory to the District.

b. Notwithstanding the foregoing, in the event of an emergency caused by Permittee's failure to fulfill its obligations with regard to operating and maintaining the Recreational Trail, which the District reasonably believes jeopardizes the safety or security of: (i) the District's levees and other facilities, (ii) public and private property that is protected from flooding by the District's levees and other facilities, and (iii) the health and safety of individuals who use the levee (including, without limitation, members of the public and employees of the District), the District, after providing notice to the Permittee and at the Permittee's sole expense, may perform those obligations immediately.

c. In any of these circumstances, the District reserves the right to begin proceedings with the California Central Valley Flood Protection Board to revoke the ~~Recreation Trails~~ permit.

~~6.7.~~ To the fullest extent permitted by law, Permittee shall indemnify, hold harmless and defend the District, paying counsel selected by the District for such defense, for all fees and costs associated with defense of District, its Board members, officers, employees, agents, and authorized volunteers, and each of them from and against:

a. Any and all claims, demands, causes of action, damages, costs, expenses, losses, or liabilities, in law or in equity, of every kind and nature whatsoever for, but not limited to, injury to or death of any person, and damages to or destruction of property of any person arising out of or in any manner directly or indirectly connected with this Permit, however caused, regardless of any negligence of District or its Board members, officers, employees, agents, or authorized volunteers, except for the sole negligence or willful misconduct of District or its Board members, officers, employees, agents, or authorized volunteers;

b. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Permittee.

c. Any and all losses, expenses, damages (including damages to the work itself), attorney's fees, expert's fees, and other costs, including all costs of defense, which any of them may incur with respect to the failure, neglect, or refusal of Permittee to faithfully perform all of its obligations under this Permit. Such costs, expenses, and damages shall include all costs, including attorney's fees and expert's fees, incurred by the indemnified parties in any lawsuit to which they are a party.

Permittee agrees to carry insurance for this purpose as specified in paragraph below. Permittee's obligation to indemnify shall not be restricted to insurance proceeds, if any,

received by the District or its Board members, officers, employees, agents, or authorized volunteers.

7.8. By signature hereon, Permittee certifies that Permittee is aware of the provisions of Section 3700 of the California Government Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and Permittee will comply with such provisions in connection with any work performed on the subject Recreational Trail(s). Any persons providing services with or on behalf of Permittee shall be covered by workers' compensation (or qualified self-insurance).

8.9. Permittee shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their officers, employees, agents, and authorized volunteers working on or about the subject Recreational Trail(s), in accordance with the "Workers' Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any Acts amendatory thereof. Permittee shall provide employer's liability insurance in the amount of at least \$2,000,000 per accident for bodily injury and disease.

9.10. Permittee shall provide and maintain the following commercial general liability and automobile liability insurance:

Coverage: Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:

- (1) Insurance Services Office Commercial General Liability Coverage (Occurrence Form CG 0001)
- (2) Insurance Services Office Automobile Liability Coverage (Form CA 0001), covering Symbol 1 (any auto)
- (3) Excess coverage reasonably acceptable to the District Limits: Permittee shall maintain limits not less than the following:
 - (4) General Liability – Two million dollars (\$2,000,000) per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply to the Recreational Trail(s) hereunder (with the ISO CG 2503, or ISO CG 2504, or insurer's equivalent endorsement provided to the District) or the general aggregate limit shall be twice the required occurrence limit.
 - (5) Automobile Liability - Two million dollars (\$2,000,000) for bodily injury and property damage each accident limit.
 - (6) Excess Liability. Ten million (\$10,000,000) per occurrence.

These policies shall contain or be endorsed to contain the following provisions:

- A. The District, its Board members, officers, employees, agents, and authorized volunteers are to be given insured status (via ISO endorsement CG 2011, CG 2024 [if land only], or insurer's equivalent for general liability coverage) as respects: liability arising out of Permittee's use of District properties by Permittee and the public; or automobiles owned, leased, hired, or borrowed by the Permittee. The coverage shall contain no special limitations on the scope of protection afforded to the District, its Board members, officers, employees, agents, or authorized volunteers.
- B. For any claims related to this permit/easement, Permittee's insurance shall be primary insurance as respects the District, its Board members, officers, employees, agents, or authorized volunteers. Any insurance, self-insurance, or other coverage maintained by the District, its Board members, officers, employees, agents, or authorized volunteers shall not contribute to it.
- C. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the District, its Board members, officers, employees, agents, or authorized volunteers.
- D. Permittee's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- E. Each insurance policy required by this provision shall state or be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days (10 days for nonpayment of premium) prior written notice by US Mail has been given to District.

Such liability insurance shall indemnify the Permittee and Permittee's contractors against loss from liability imposed by law upon, or assumed under contract by, the Permittee or Permittee's contractors for damages on account of such bodily injury (including death), property damage, and personal injury.

The general liability policy shall cover bodily injury and property damage liability, owned and non-owned equipment, and blanket contractual liability.

The automobile liability policy shall cover all owned, non-owned, and hired automobiles.

Acceptance of the insurance by District shall not relieve or decrease any liability of Permittee.

All of the insurance shall be provided on policy forms and through companies satisfactory to the District or by means of a self-insurance program acceptable to the District

Any deductible or self-insured retention must be declared to and accepted by the District. At the option of the District, the Permittee shall either reduce or eliminate such deductibles or self-insured retention to levels acceptable to the District.

Insurance is to be placed with insurers having a current A.M. Best rating of not less than A-:VII or equivalent or, in the case of self-insurance programs, as otherwise acceptable to the District.

Prior to approval of the permit by the District/execution of the easement, Permittee shall file with the District a certificate of insurance (Accord Form 25-S or equivalent) signed by the insurer's representative. Such evidence of insurance shall include original copies of the additional insured endorsement signed by the insurer's representative and evidence of waiver of rights of subrogation against the District (if Property Insurance is applicable). Such evidence shall also include confirmation that coverage includes or has been modified to include Required Provisions A through E above.

Permittee shall, upon demand of the District, deliver to the District such policy or policies of insurance (or copies thereof) and the receipts for payment of premiums thereon.

Permittee shall provide and maintain property insurance covering all risks of direct physical loss, damage, or destruction to:

The Recreational Trail(s) in the amount of \$2,000,000 District shall be a named additional insured on any such policy (ies).

Permittee shall provide and maintain property insurance covering all risks of direct physical loss, damage, or destruction to any personal property used in connection with the Recreational Trail(s).

Permittee and insurer shall waive all rights of subrogation against the District, its Board members, officers, employees, agents, or authorized volunteers. Permittee shall provide the District with a certificate(s) of insurance evidencing property coverage.

~~10.11.~~ In the alternative to the provisions of paragraph above, Permittee may submit a statement of self-insurance that is reasonably acceptable to the District and the generally provides coverage similar to that required in paragraph above.

~~11.12.~~ The District's use of its properties for flood control purposes, including, but not limited to, the maintenance, repair, construction, and reconstruction of levees, will have priority over the use of those properties as a recreational trail. The District will endeavor to avoid interfering with the use of its properties, or any portion thereof, as a recreational trail in conducting its operations whenever feasible; however, the District shall not be under any obligation to avoid such interference. The District reserves the right to close the Recreational Trail and to prohibit recreational uses of its properties, or any portion thereof,

Two Rivers Trail Permit

~~April~~ March 2019

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during flood emergencies, during flood fights, and during routine maintenance, repair, construction, or reconstruction of levees. Whenever possible, the District will endeavor to give advance notice of such closings; however, it shall be under no obligation to do so. Recreational Trail closures may be of short duration during maintenance activities but may also be for extended periods for major or capital improvement projects. This right to close the trail for extended periods may be used for purposes of construction, reconstruction or repairs of levees by others including the California Central Valley Flood Protection Board and U.S. Army Corps of Engineers. The Permittee shall be responsible for developing and implementing a detour plan during construction or maintenance activities. Neither the District nor other agencies such as the State of California or the United States are obligated to provide a detour during the construction or maintenance activities.

- ~~12~~.13. The District reserves the right to grant to third parties the right to use all or any portion of its properties, so long as any such right granted to a third party does not unreasonably interfere with the exercise of the rights conveyed/issued to the Permittee. It shall be presumed, as a presumption affecting the burden of proof that any rights granted to any third party by the District within all or any portion of the District's properties will not unreasonably interfere with the exercise of the rights conveyed/issued to Permittee.
- ~~13~~.14. Permittee may not convey the right to use all or any portion of the District's properties for recreational purposes, or for any other purpose, to any third party without the prior written consent of District, which consent shall not be unreasonably withheld or delayed. Any such conveyance shall be subject to the terms and conditions of the original permit, subject to any and all terms and conditions additionally imposed by District, and subject to the District's encroachment control procedures (i.e. a permit will be required to be issued by District to the third party).
- ~~14~~.15. Permittee may surrender this Permit at any time by at least 120 days' prior written notice of such surrender.
- ~~15~~.16. As a condition of the District's issuance of this Permit and its continued existence, Permittee agrees that: (i) if construction of the Recreational Trail is not commenced within 12 months of the date upon which this Permit is issued and is not completed within 60 months of that date, or (ii) if the Permittee fails to maintain the Recreational Trail or carry out any duties or responsibilities required as a condition of the easement/permit for a period of 12 consecutive months after it has been completed, or (iii) if the Permittee ceases making the Recreational Trail available to the public for the recreational purposes, Permittee shall be conclusively presumed to have surrendered the easement/permit.
- ~~16~~.17. Should the District ever determine that the use of all or any portion of its properties as a recreational trail is inconsistent with the use of such lands for flood control purposes, the District may terminate this Permit upon thirty (30) days written notice to the Permittee.
- ~~17~~.18. As a condition of any voluntary or involuntary surrender or termination of this Permit, Permittee must remove the Recreational Trail and all associated facilities from District properties, at the sole cost and expense of Permittee, within 180 days of receipt/delivery

of notice of surrender/termination; except for those parts/facilities, if any, that the District has requested to be left in place. The District shall notify the Permittee what portions, if any, of the Recreational Trail must be left in place within 90 days of receipt/delivery of notices of surrender/termination of this Permit. If the Permittee has not removed the Recreational Trail and restored the District's properties to the condition that existed before construction of the Recreational Trail within the required time period, or made arrangements satisfactory to the District for such removal and restoration, the Permittee agrees that the District may carry out the removal and restoration and the Permittee shall be liable for all costs thereof.

~~18.19.~~ Should the District ever determine that a particular use of the Permit unduly stresses the flood control facilities or increases the District's costs of maintaining its levees or other facilities, the District reserves the right to prohibit such particular use of the Permit.

~~19.20.~~ Permittee shall operate and maintain the Recreation Trail so as to avoid injury or damage to any person or property. Permittee shall be responsible for all security for the Recreation Trail.

~~20.21.~~ In operating and maintaining the Recreation Trail~~(s)~~, Permittee shall, at all times, exercise all necessary precautions for the safety and environmental protection of public safety and the District's property, and be in compliance with all federal, state, and local statutory and regulatory requirements including, but not limited to, State of California, Division of Industrial Relations (Cal/OSHA) regulations, Cal/EPA, and the US Department of Transportation, including the Omnibus Transportation Employee Testing Act (as applicable).

a. Permittee shall not use or allow anyone else to use the Recreation Trail~~(s)~~ or the District's property to generate, manufacture, refine, transport, treat, store, handle, recycle, release, or dispose of any hazardous material, other than as reasonably necessary for the operation of the Permittee's activities as contemplated under the permit/easement. The term 'hazardous material' means any hazardous substance, material, or waste, including but not limited to those listed in 49 CFR 172.101 (US Department of Transportation), the Cal/EPA Chemical Lists, or lists of petroleum products and their derivatives. However, this shall not apply to the use of petroleum products and related substances incidental to operation of motorized equipment and vehicles whose operation are necessary to the construction, operation, and maintenance of the Recreation Trail~~(s)~~ or the District's flood control facilities.

b. Permittee shall immediately notify the District in writing upon becoming aware of any release of hazardous material, violation of any environmental law, or actions brought by third parties against the Permittee alleging environmental damage.

~~21.22.~~ Permittee shall give all notices required by law and shall comply with all laws, ordinances, rules, and regulations pertaining to the activities authorized by this Permit. The Permittee shall be liable for all violations of the law in connection with this Permit.

General Manager's Meeting Summary

November 2020

11/6: ARFCD North Systems Letter of Intent (SWIF) meeting. I met with Claire Marie Turner from MBK Engineers to discuss the approach for updating our Letter of Intent. New Army Corps requirements include submitting a workplan with the LOI.

11/11: ARFCD Roof Repair/Replacement Construction Meeting. I met with Don Mariano from Lionakis and Dennis Philips from Rua and Son to discuss progress on the roof project. Roof construction is complete and the only remaining items are to install the vented doors, complete the insulation, and connect the wiring for the HVAC.

11/9: Interview with Levee Maintenance Worker, Range A Candidate. Superintendent Kawamura, Field Supervisor Webb and I met with a candidate for the Levee Maintenance Worker, Range A position.

11/13: American River Flood Control District Board of Trustees meeting. The Board met in regular session. The agenda items included a resolution to adopt a GM Incentive Pay Policy and an encroachment permit application from a resident in River Park to keep an existing encroached fence.

11/23: Del Paso Triangle Site Visit. Superintendent Kawamura, Field Supervisor Webb and I met with Pro Mitra from MBK Engineers to inspect the levee between Del Paso Boulevard and the UPRR tracks. It was determined by SAFCA that the landside of the levee requires slope stabilization. Mr. Mitra asked if ARFCD would consider performing the work.