



**BOARD OF DIRECTORS
REGULAR MEETING AGENDA
MAY 21, 2025 - 1:30 PM**

Members of the public who wish to attend in person may do so at:

5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954

The SMART Board of Directors will facilitate using a dual format with listening and participation available through Zoom and in-person. SMART provides several remote methods for viewing the SMART Board Meetings and providing Public Comment.

HOW TO WATCH THE LIVE MEETING USING THE ZOOM

<https://sonomamarintrain-org.zoom.us/j/85410509881?pwd=pButHwakIVNRUQA9u5YBDy0fHXFD2h.1>

Webinar ID: 854 1050 9881 Passcode: 971474

TELECONFERENCE

Members of the public wishing to participate via teleconference can do so by dialing in the following number the day of the meeting: (669) 900-9128; Access Code: 854 1050 9881; Passcode: 971474.

WATCH THE BOARD MEETING VIA LIVESTREAM

You are able to view live broadcasts of Board meetings online here: <https://www.sonomamarintrain.org/meetings> To view the meeting, select "View Event" at the time of the meeting.

HOW TO PROVIDE COMMENTS ON AGENDA ITEMS

Prior To Meeting: Technology limitations may limit the ability to receive verbal public comments during the meeting. If you wish to make a comment you are strongly encouraged to please submit your comment to Board@SonomaMarinTrain.org by 5:00 PM on Tuesday, May 20, 2025

During the Meeting: The SMART Board Chair will open the floor for public comment during the Public Comment period on the agenda. Please check and test your computer settings so that your audio speaker and microphones are functioning. Speakers are asked to limit their comments to two (2) minutes. The amount of time allocated for comments during the meeting may vary at the Chairperson's discretion depending on the number of speakers and length of the agenda.



BOARD OF DIRECTORS - REGULAR MEETING AGENDA May 21, 2025 – 1:30 PM

Members of the public who wish to attend in person may do so at:

5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954

1. Call to Order
2. Approval of the April 16, 2025 Board Meeting Minutes
3. Approval of the May 7, 2025 Budget Workshop Minutes
4. Board Member Announcements
5. General Manager's Report
6. Public Comment on Non-Agenda Items

Consent Calendar

- 7a. Accept Monthly Ridership Report – April 2025
- 7b. Approve Monthly Financial Status Report – March 2025
- 7c. Adopt the Resolutions Authorizing the Annual Filing of Grant Applications for Various State and Federal Fund Programs for a Total of \$17,369,609 in Fiscal Year 2024-2025 Budget Operations Grant Support
- 7d. Adopt a Resolution authorizing the General Manager to execute Change Order 03 to Contract No. EV-BB-21-001 with Hanford Applied Restoration & Conservation for replanting, irrigation and maintenance for the next two years in the amount of \$21,652.12 for a total not-to-exceed contract amount of \$266,657
- 7e. Authorizing the General Manager to execute a 2-year renewal of the Lease Agreement No. FR-PS-22-003 with GATX Corporation for the lease of Freight Locomotive 1501

Regular Calendar

8. Adopt the Resolutions authorizing the General Manager to request allocation and accept \$44,937,000 in Regional Measure 3 (RM3) funds and agreeing to comply with Metropolitan Transportation Commission's requirements – *Presented by Grants & Legislative Affairs Manager, Joanne Parker*
9. Fiscal Year 2025/2026 Draft Budget – *Presented by Chief Financial Officer, Heather McKillop*
10. Adopt a Resolution authorizing the General Manager to execute Contract No. EV-BB-25-001 with Triangle Properties, Inc, dba Triangle Land Restoration. in the amount of \$493,198 for implementation and one year of maintenance for the Crane Creek Poppy Drainage Riparian enhancement project in Santa Rosa – *Presented by Chief Engineer, Bill Gamlen*

11. Adopt a Resolution authorizing the General Manager to execute a Memorandum of Understanding (MOU) with the County of Sonoma for Maintenance, Monitoring and Reporting Riparian Enhancements at Crane Creek Regional Park in an amount of \$439,834 and term of 6 years – *Presented by Chief Engineer, Bill Gamlen*

Public Hearing

12. Assembly Bill (AB) 2561: Status of Vacancies, Recruitment and Retention – *Presented by Human Resources Manager, Lisa Hansley*
13. Next Board of Directors Meeting, **June 18, 2025 – 1:30 PM** – 5401 Old Redwood Highway, 1st Floor, Petaluma, CA 94954
14. Adjournment

ACCOMMODATIONS:

Public participation is solicited without regard to race, color, national origin, age, sex, gender identity, religion, disability or family status. Upon request, SMART will provide for written agenda materials in appropriate alternative formats, disability-related modification or other accommodation, to enable individuals to participate in and provide comments at/related to public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, service, or alternative format requested at least two (2) days before the meeting. Requests should be emailed to *Leticia Rosas, Clerk of the Board* at lrosas@sonomamarintrain.org or submitted by phone at (707) 794-3072. Requests made by mail SMART's, 5401 Old Redwood Highway, Suite 200, Petaluma, CA 94954 must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.



**BOARD OF DIRECTORS
REGULAR MEETING MINUTES**

April 16, 2025 – 1:30 PM

5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954

1. Call to Order [05:28 Minutes Mark on the Video Recording]

Chair Coursey called the meeting to order at 1:30pm. Vice Chair Sackett, Directors Cader Thompson, Colin, Kelley, Lucan, Milberg, Pahre, Paulson, and Rabbitt were present. Director Garbarino absent; Director Fleming arrived later.

Directors Colin and Paulson was unable to attend in person due to a verified “*Just Cause*” and requested to participate remotely via Zoom. A roll call vote was held to approve the Directors attendance. [06:25 Minutes Mark on the Video Recording]

MOTION: Director Rabbitt motion to approve and Director Lucan second. The motion carried 10-0 (Director Garbarino absent; Director Fleming arrived later)

Director Fleming arrived 1:34pm

2. Approval of the March 19, 2025, Board Meeting [07:15 Minutes Mark on the Video Recording]

MOTION: Director Rabbitt moved approval of the March 19, 2025 Board Meeting Minutes as presented. Director Cader Thompson second. The motion carried 10-0 (Director Garbarino absent; Director Fleming abstain)

3. Board Members Announcements [08:12 Minutes Mark on the Video Recording]
None

4. General Manager’s Report [08:30 Minutes Mark on the Video Recording]

General Manager Cumins provided a PowerPoint presentation which is posted on SMART’s website. Highlights include:

- Contracts/Procurements over \$100K
- Ridership Report
- Larkspur Shuttle

- Redwood Bike Share
- Pathway Opening Events
- Local Partnership Success
- Highlight of the Month

Board Comments [16:20 Minutes Mark on the Video Recording]

Director Pahre stated she got emotional with the train video. She thanked SMART for all the hard work.

Director Paulson asked about the Redwood Bikeshare program.

General Manager Cumins responded to Director Paulson's question.

5. Public Comment on Non-Agenda Items [18:45 Minutes Mark on the Video Recording]

The following individuals spoke under Public Comment:

- Shinji Sakai-Egi (in-person)
- Mike Pechner
- Dani Sheehan- Meyer

6. Consent [23:55 Minutes Mark on the Video Recording]

- a. Accept Monthly Ridership Report – March 2025
- b. Approve Monthly Financial Status Report – February 2025
- c. Adopt a Resolution Authorizing the General Manager to execute Change Order 007 to Contract No. CV-BB-23-002 with Ghilotti Brothers, Inc. in the amount of \$110,215.94 for a total-not-exceed contract amount of \$4,533,297.25

Chair Coursey asked for Board and public comments on the proposed Consent Agenda.

Board Comments [24:00 Minutes Mark on the Video Recording]

Director Milberg asked for clarification on 6b. Monthly Financial Report. Ms. McKillop responded to Director Milberg's questions.

MOTION: Director Kelley moved approval of Consent Agenda as presented. Vice Chair Sackett second. The motion carried 11-0 (Director Garbarino absent).

7. The Feasibility and Timing of the Future Tax Measure Survey Results 2025 – *Presented by Chief Financial Officer, Heather McKillop* [32:00 Minutes Mark on the Video Recording]

Chief Financial Officer, Heather McKillop introduced Dave Metz from FM3, who provided a PowerPoint presentation of the results of the survey, which is posted on SMART's website. Highlights include:

- Survey Methodology
- Issue Context
- Introducing the Renewal Measure

- Views on Spending Priorities
- Segmenting the Electorate
- Messages
- Conclusions

Board/Public Comments [32:00 Minutes Mark on the Video Recording]

8. Draft Sales Tax Extension Full Text Measure (Discussion) - *Presented by General Manager Cumins* [1:27:25 Minutes Mark on the Video Recording]

General Manager Cumins provide a PowerPoint presentation which is posted on SMART's website. Highlights include:

- Strategy
- Preamble
 - Discussion/Feedback
- Expenditure Plan
 - Discussion/Feedback
- Next Steps
- Timeline

Board/Public Comments [2:05:35 Minutes Mark on the Video Recording]

9. Adopt a Resolution Amending Fiscal Year 2025 Resolution No. 2024-19 to Modify Position Authorization (Budget Amendment #11) – *Presented by Chief Financial Officer, Heather McKillop* [2:15:09 Minutes Mark on the Video Recording]

Chief Financial Officer, Heather McKillop stated that item for approval today is to modify positions. We recommend eliminating the MMIS Analyst and Communications and Marketing Specialist- Limited Term positions, reclassify the Inventory Manager/Asset Management Specialist position to Inventory and MMS Manager and create an Ops Information Systems Technician position.

MOTION: Director Pahre moved Adopt a Resolution Amending Fiscal Year 2025 Resolution No. 2024-19 to Modify Position Authorization as presented. Director Cader Thompson second. The motion carried 11-0 (Director Garbarino absent).

10. Approve the Renewal of the Fare-Free Program for Youth and Seniors for FY 2025-2026 – *Presented by Planning Manager, Emily Betts* [2:19:50 Minutes Mark on the Video Recording]

Planning Manager, Emily Betts provided a PowerPoint presentation which is posted on SMART's website. Highlights include:

- Youth and Senior Free Fare Program
- Youth and Senior Ridership
- Fiscal Impact
- Recommendations

Board/Public Comments [2:27:24 Minutes Mark on the Video Recording]

MOTION: Director Kelley moved to Approve the Renewal of the Fare-Free Program for Youth and Seniors for FY 2025-2026 as presented. Director Sackett second. The motion carried 10-0 (Directors Garbarino and Pahre absent).

11. Next Regular Meeting Board of Directors, **May 7, 2025 (Budget Workshop) – 1:30 PM** – 5401 Old Redwood Highway, 1st Floor, Petaluma, CA 94954
12. Adjournment – Meeting adjourned at 4:18pm [2:52:15 Minutes Mark on the Video Recording]

Respectfully submitted,

Leticia Rosas
Clerk of the Board

Approved on: _____



**BOARD OF DIRECTORS
BUDGET WORKSHOP MINUTES**

May 7, 2025 – 1:30 PM

5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954

1. Call to Order [05:24 Minutes Mark on the Video Recording]

Chair Coursey called the meeting to order at 1:30pm. Vice Chair Sackett, Directors Cader Thompson, Colin, Lucan, Milberg, Pahre, Paulson, and Rabbitt were present. Directors Kelley, Garbarino and Fleming absent.

Directors Paulson was unable to attend in person due to a verified “*Just Cause*” and requested to participate remotely via Zoom. A roll call vote was held to approve the Directors attendance. [06:00 Minutes Mark on the Video Recording]

MOTION: Director Pahre motion to approve and Director Lucan second. The motion carried 9-0 (Directors Kelley, Garbarino and Fleming absent).

2. Board Members Announcements [06:45 Minutes Mark on the Video Recording]
None

3. Public Comment on Non-Agenda Items [06:59 Minutes Mark on the Video Recording]
None

4. Conduct Workshop – Fiscal Year 2025/2026 Draft Budget (Discussion) – Presented by Chief Financial Officer, Heather McKillop and Budget and Finance Manager, Claire Springer [07:25 Minutes Mark on the Video Recording]

Chief Financial Officer, Heather McKillop, introduced Budget and Finance Manager, Claire Springer. They worked together to provide the Draft Budget being presented today. The purpose of today’s presentation is to receive feedback to prepare the Fiscal Year 2025/2026 Budget. The presentation is located on SMART’s website.

The Board members provided feedback throughout the presentation.

5. Next Regular Meeting Board of Directors, **May 21, 2025 – 1:30 PM** – 5401 Old Redwood Highway, 1st Floor, Petaluma, CA 94954
6. Adjournment – Meeting adjourned at 3:19pm **[1:50:15 Minutes Mark on the Video Recording]**

Respectfully submitted,

Leticia Rosas
Clerk of the Board

Approved on: _____



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
Councilmembers Association

Kate Colin
Transportation Authority of Marin

Victoria Fleming
Sonoma County Mayors' and
Councilmembers Association

Patty Garbarino
Golden Gate Bridge,
Highway/Transportation District

Ariel Kelley
Sonoma County Mayors' and
Councilmembers Association

Eric Lucan
Marin County Board of Supervisors

Mark Milberg
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

Gabe Paulson
Marin County Council of Mayors and
Councilmembers

David Rabbitt
Sonoma County Board of Supervisors

Eddy Cumins
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marín Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Monthly Ridership Report – April 2025

Dear Board Members:

RECOMMENDATIONS: Accept Monthly Ridership Report

SUMMARY:

We are presenting the monthly ridership report for activity for the month of April 2025. This report shows trends in ridership for SMART by tracking Total riders Average Weekday riders, and Average Saturday riders, Average Sunday/Holiday riders, as well as bicycles and mobility devices on board the trains. The report also includes total users counted on the SMART Pathway for the month, and total riders on the SMART Connect shuttles.

With the transition to the Automatic Passenger Counter (APC) in October 2022, SMART has a highly accurate method of tracking boardings and alightings at stations that does not depend on manual counts by the conductors. The APC system has been tested and validated at a 99% accuracy level and has been certified for passenger count use by the Federal Transit Administration (FTA). Both APC-based ridership and fare-based collection rider counts are shown in the attached report to give a full picture of ridership. APC-based ridership captures all riders, including riders with passes who neglect to tag on or off, riders who fail to activate their mobile app tickets, as well as free-fare riders.

This report compares the most recent month to the same month during the prior year, as is standard industry practice for tracking trends over time. These reports also note relevant details associated with fare program discount usage and trends in riders bringing bicycles onboard as well as riders who use mobility devices.

SMART's ridership data through April 2025 is posted on the SMART website (<https://sonomamarintrain.org/RidershipReports>).

FISCAL IMPACT: None

REVIEWED BY: [x] Finance /s/ [x] Counsel /s/

Respectfully,
/s/
Emily Betts
Planning Manager

Attachment(s): Monthly Ridership Report – April 2025

APRIL 2025 SMART RIDERSHIP REPORT

April 2025 saw continued ridership increase over the previous month, with average weekday ridership at 3,952, up 8% over March. Average Saturday and Sunday ridership increased by 31% and 8%, respectively, from the previous month. Total monthly ridership was 105,930, the first month in SMART history over 100,000 riders. April total ridership was 32% over April 2024 and 76% over April 2019 (pre-COVID). Weekend ridership was also very strong, despite the temporary station closures at Airport Station, with average Saturday ridership up 49% and average Sunday ridership up 39% over April 2024. The average Saturday ridership in April was the highest on record to date (2,989), boosted by the Butter & Eggs Days and the launch of Giants season.

As background, SMART modified services in March 2020 due to the COVID-19 pandemic, with weekend service annulled and weekday service reduced to 16 trips. In May 2021, SMART added back 10 weekday trips. Saturday service was restored in May 2021, and Sunday service in May 2022. In June 2022, SMART added 10 additional weekday trips, and in October 2022, SMART added 2 additional midday trips, for a schedule of 38 trips per weekday. In May 2023, SMART added two evening trips on Friday and Saturday, known as the Starlighter. In October 2023, SMART suspended the Starlighter service but increased weekend service, running 16 trips total on both Saturday and Sunday. In August 2024, SMART added two additional round trips for a total of 42 trips each weekday.

The tables below present data for April 2024 and 2025 year-over-year, and the Fiscal Year to date (July-April). Ridership for the fiscal year to date is tracking 31% over the same time period.

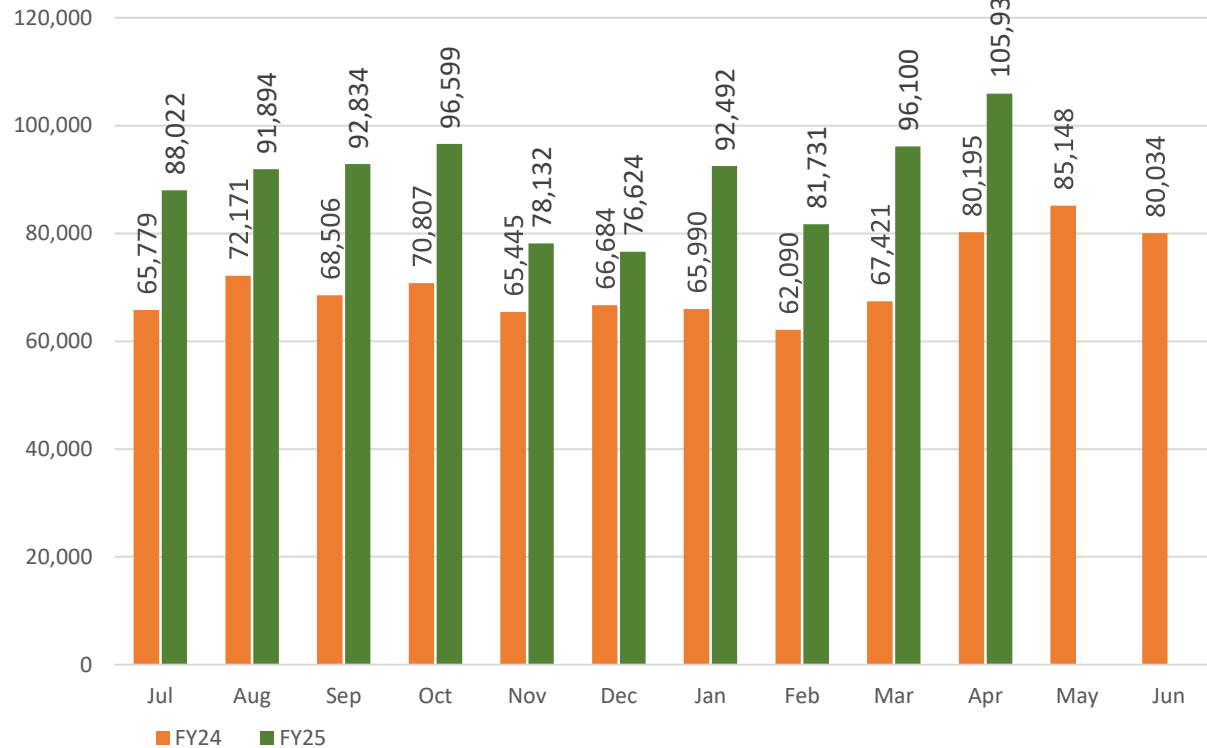
MONTHLY TOTALS YEAR-OVER-YEAR	APRIL 2024	APRIL 2025	% Change
Ridership	80,195	105,930	32%
Fare Payments (Clipper + App Only)	47,982	54,869	14%
Average Weekday Ridership	3,052	3,952	30%
Average Saturday Ridership	2,002	2,989	49%
Average Sunday Ridership	1,262	1,757	39%
Bicycles	10,304	13,495	31%
Mobility Devices	164	282	72%

**Discrepancy between total ridership change and fare payments change due to launch of Free Fare program for youth and seniors on April 1, 2024.*

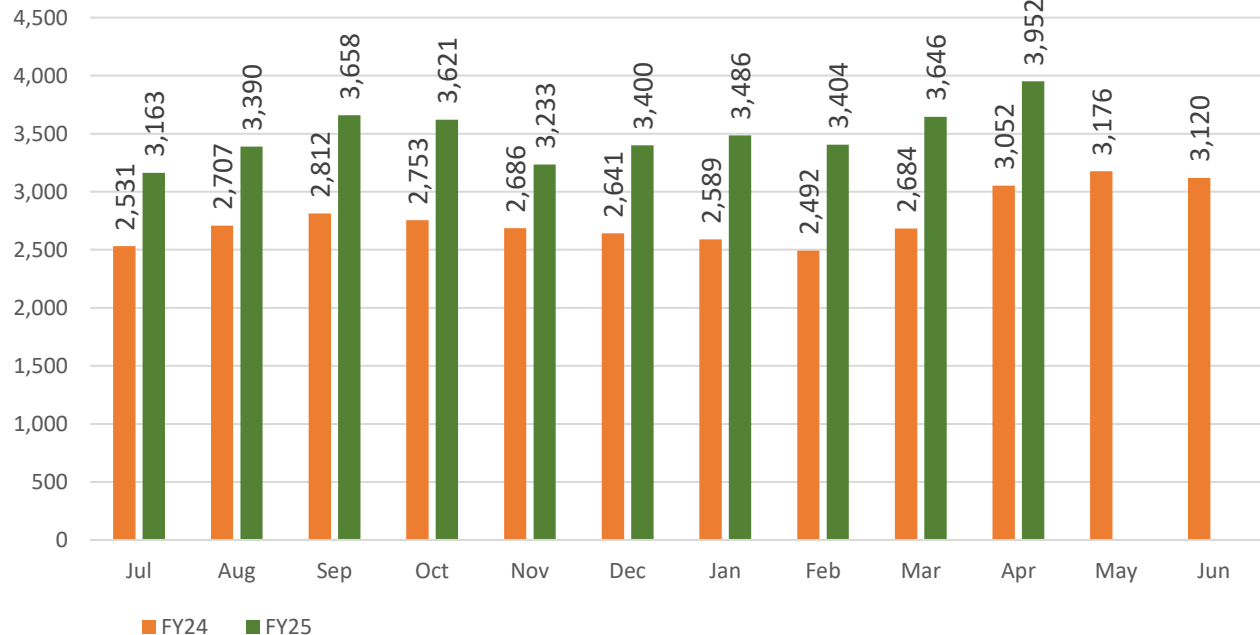
FISCAL YEAR (Jul - Apr)	Fiscal Year 2024	Fiscal Year 2025	% Change
Ridership	685,088	900,358	31%
Fare Payments (Clipper + App Only)	520,062	475,655	-9%
Average Weekday Ridership	2,979	3,500	17%
Average Saturday Ridership	1,435	2,094	46%
Average Sunday Ridership	1,125	1,721	53%
Bicycles	92,368	117,388	27%
Mobility Devices	1,403	2,228	59%

The following charts compare the average weekday ridership, average weekend ridership, and monthly totals for FY24-FY25.

SMART Monthly Ridership (FY24 - FY25)



SMART Average Weekday Ridership (FY24 - FY25)



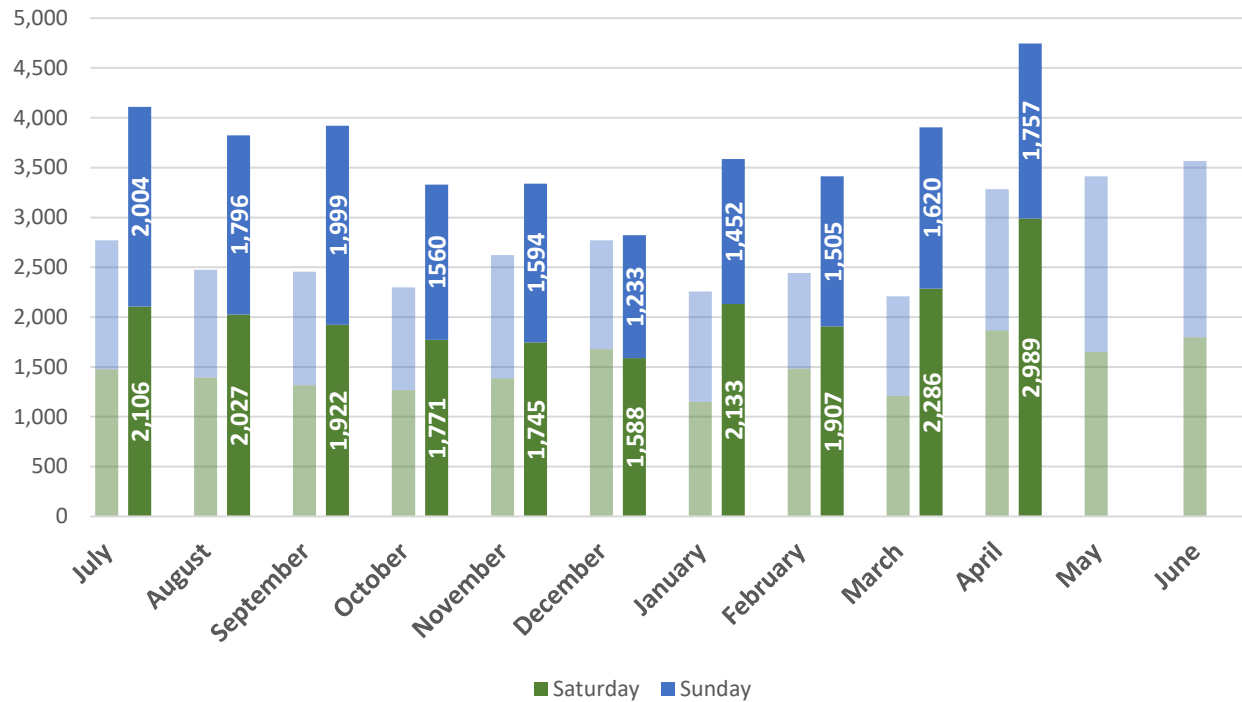
APRIL 2025 SMART RIDERSHIP REPORT

SMART Ridership Report

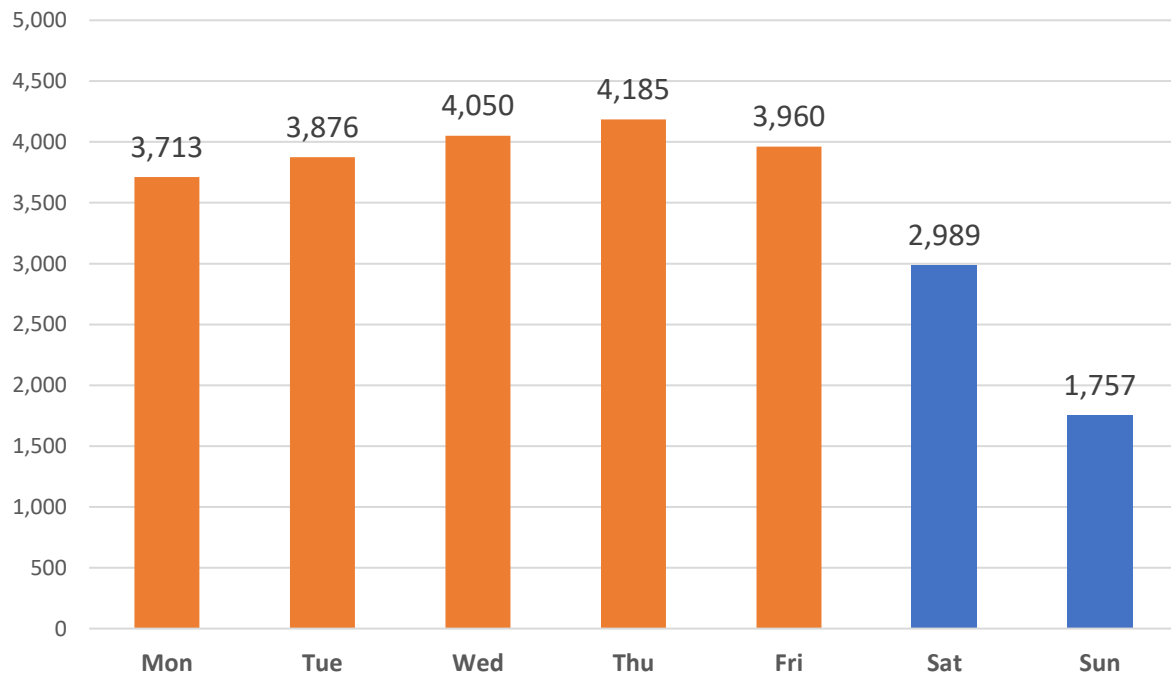
May 21, 2025

Page 3 of 5

SMART Average Weekend Boardings (FY24 - FY25)



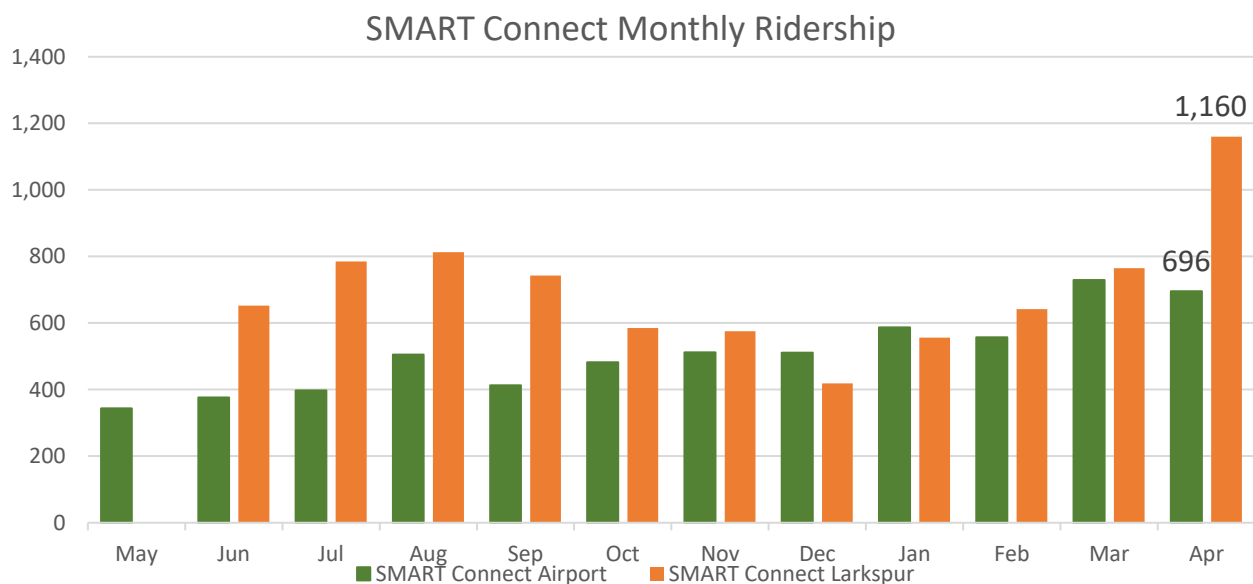
Average Boardings by Day of Week (April 2025)



SMART Connect Program

SMART currently operates two on-demand shuttles, SMART Connect Airport and SMART Connect Larkspur. SMART Connect Airport, launched in June 2023, serves the SMART Sonoma County Airport station, the Charles M. Schultz Sonoma County Airport, and the surrounding area. SMART Connect Larkspur, launched in June 2024, serves the SMART Larkspur station, the Golden Gate Larkspur Ferry Terminal, and the surrounding Larkspur Landing area. The goal of the SMART Connect program is to facilitate first-and-last mile connections from SMART stations through the provision of a reliable on-demand shuttle that SMART riders can use for transit transfers, work and school commutes, and other destinations. SMART Connect uses microtransit software from The Routing Company called Ride Pingo, which allows users to pre-book trips or book a ride on-demand. Riders can also book by phone or walk-on, space available. In April 2025, Connect Shuttle service hours at Larkspur were expanded from 4 to 7 days per week; both shuttle locations now offer daily service.

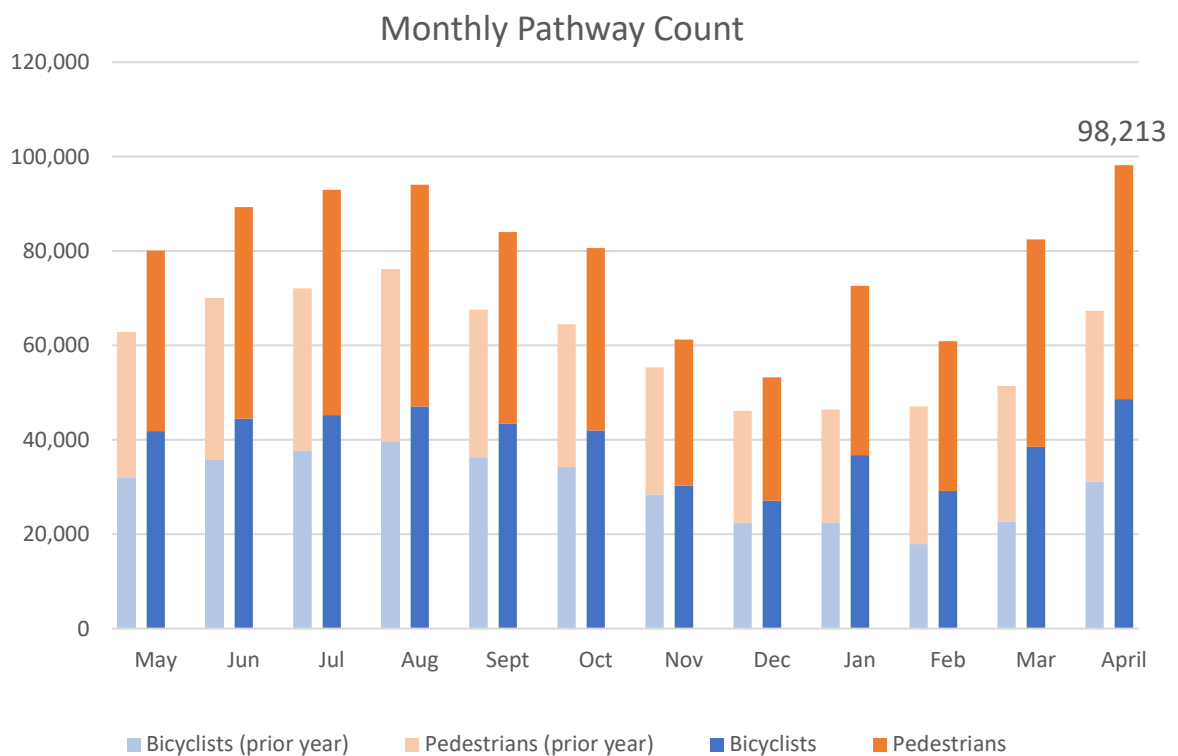
Total April monthly ridership for the SMART Connect program was 1,856 riders, the highest monthly ridership for the program to date. For FY25 to date, the Connect Shuttle program has carried 12,433 riders.



SMART Pathway

As of April 2025, SMART has installed 14 counters on the Pathway, with six in Marin County and eight in Sonoma County. The counters differentiate between bicycles and pedestrians, and track data by time of day and day of the week. The counters cannot distinguish between unique users, but based on the estimated average trip length of 3 miles, and the average spacing between counters of 3.7 miles, the counts are considered an accurate estimate of monthly pathway usage. As additional pathway segments are constructed, counters will be placed on those segments to measure pathway usage. To date, count data has shown a fairly even split between pedestrians and bicyclists.

In April 2025, SMART counted 98,213 users on the pathway, an increase of 46% over the prior year, and the largest year over year increase SMART has measured. The increased counts are attributed to higher volumes of users on existing pathway as well as counts of users on newly opened pathway segments. The counts also include any use of the unopened segment of pathway between Rohnert Park and Santa Rosa and the unopened segments in Windsor and Pennngrove.





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May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Monthly Financial Status

Dear Board Members:

RECOMMENDATION: Approve Monthly Financial Reports

SUMMARY:

This report provides information for the first nine months of Fiscal Year (FY) 2025, including details on the Board Adopted Budget through Budget Amendment #10. Attached, you will find separate charts displaying both budgeted and actual revenues and expenditures for passenger rail and freight. The "actual" columns reflect revenues and expenditures for the first nine months of FY 2025 (from July to March). Additionally, for passenger rail, we have included more detailed information on sales tax and fare revenues, presenting current data alongside comparative figures from the last five years (FY 2021 to FY 2025).

We anticipate that actual sales tax collections will be approximately \$1.5 million lower than expected for the rest of the fiscal year, leading us to project about \$20 million in sales and use tax collection for the fourth quarter. We also expect to collect nearly all federal funds, with the exception of those amounts we will not be able to collect until FY 2026 due to timing of expenses (\$1.5 million). Regarding state funds, we expect to collect all but the \$5 million allocated for the Affordable Housing and Sustainable Communities (AHSC) program, pending a signed grant agreement before we can bill the state. Fare revenues, however, are in line with our forecasts for the first nine months.

The report further outlines the approved budget, actual expenditures, and remaining budget balance. Please note that expenditures may not occur evenly throughout the fiscal year; many significant costs, such as debt service, are incurred at specific intervals. Additionally, we have included information on SMART's investment policy, detailing where our funds are held and the current amounts. Lastly, we present the current obligations, reserves, and fund balance requirements for FY 2025.

Sincerely,
/s/
Heather McKillop
Chief Financial Officer

Attachment(s): 1) Monthly Financial Status Report
2) Contract Summary Report



MONTHLY FINANCIAL STATUS

March 2025

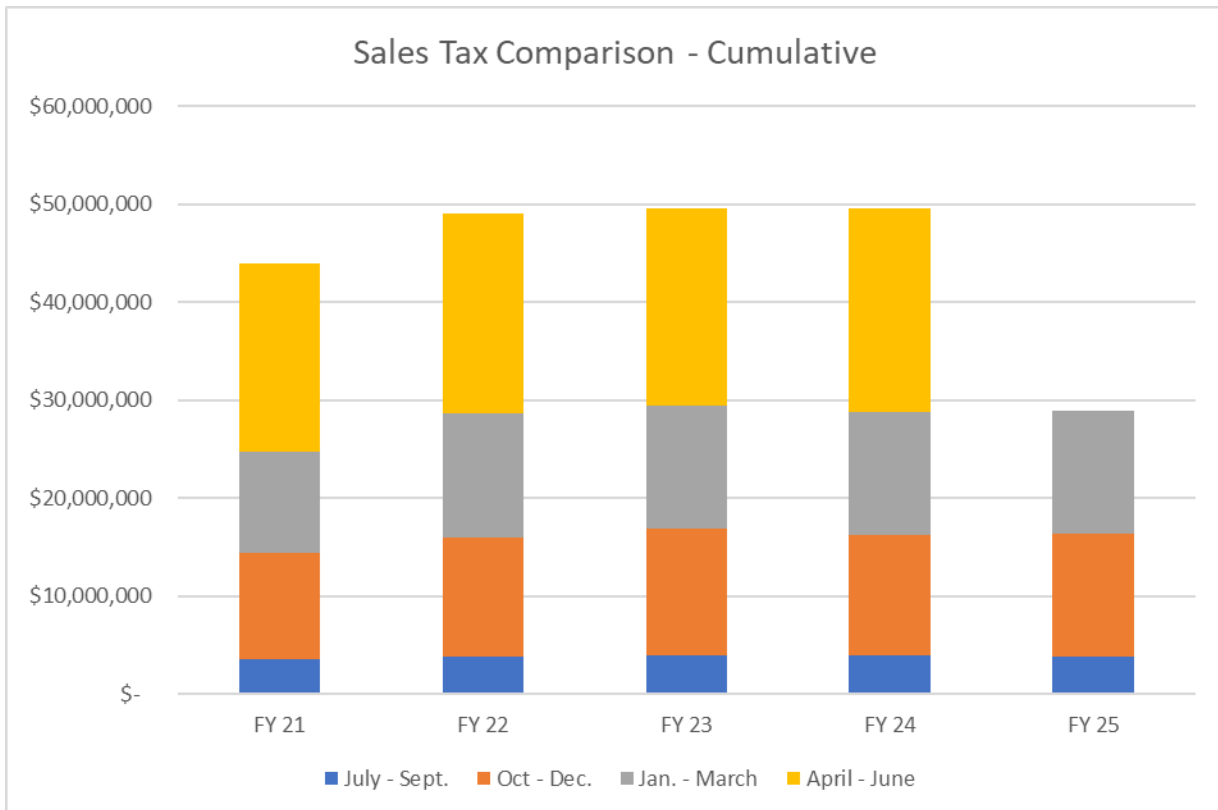
PASSENGER REVENUES

	FY 2024-25 Approved Budget + Amendments #1 - #10	Actual	Amount Over / (Under) Budget	% Over/(Under) Budget	% of FY Remaining
Revenues					
Passenger Rail					
Sales/Use Taxes	\$ 50,426,000	\$ 28,953,120	\$ (21,472,880)	-43%	25%
Sales Collections		\$ (331,940)	\$ (331,940)		
Interest and Lease Earnings	\$ 1,979,636	\$ 2,156,021	\$ 176,385	9%	25%
Miscellaneous/ Other Revenue	\$ 295,921	\$ 251,354	\$ (44,567)	-15%	25%
Passenger Fares	\$ 2,215,290	\$ 1,655,126	\$ (560,164)	-25%	25%
Parking Fares	\$ 11,400	\$ 13,482	\$ 2,082	18%	25%
Shuttle Fares	\$ 1,200	\$ 5,924	\$ 4,724	394%	25%
State Grants	\$ 54,788,550	\$ 10,040,862	\$ (44,747,688)	-82%	25%
Federal Funds	\$ 8,444,271	\$ 940,286	\$ (7,503,985)	-89%	25%
Other Governments	\$ 3,312,689	\$ 2,897,000	\$ (415,689)	-13%	25%
Passenger Rail	\$ 121,474,957	\$ 46,581,235	\$ (74,893,722)	-62%	25%

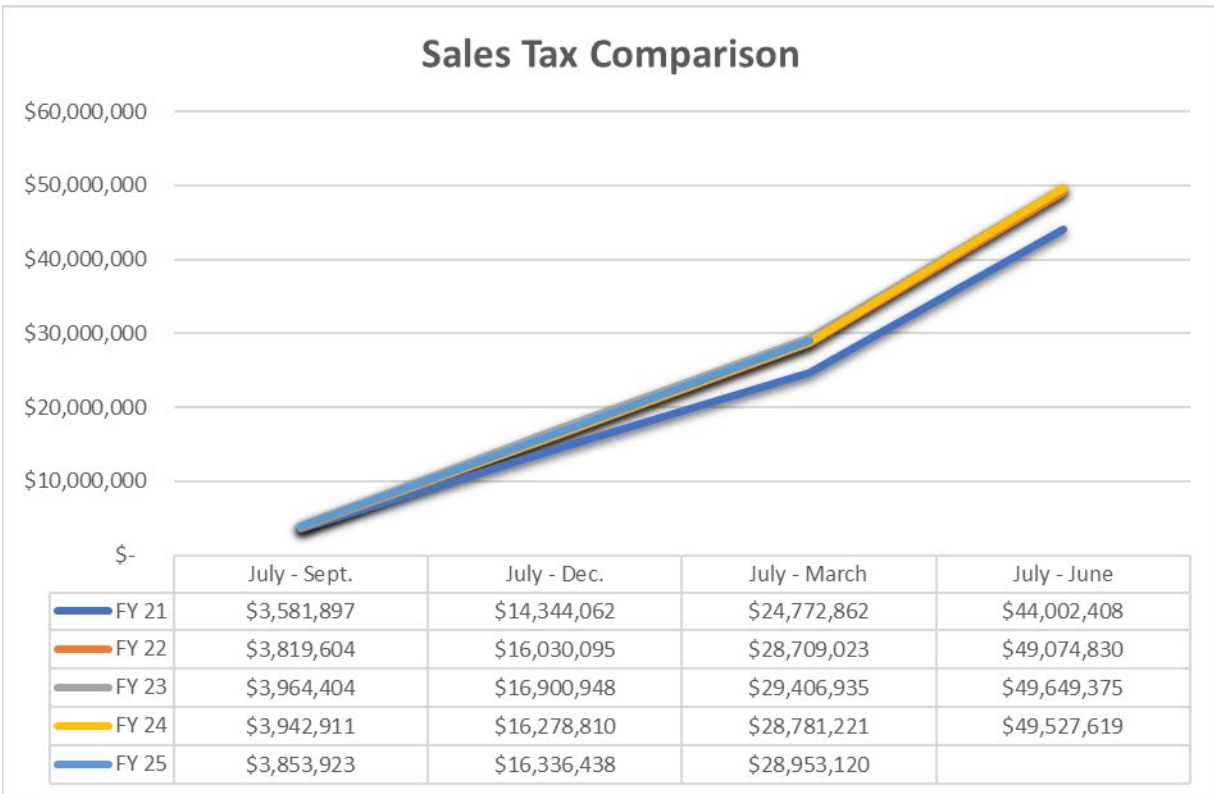
**Measure Q Sales Tax
Fiscal Year (FY) 2025**

Time Period	July - Sept.	Oct - Dec.	Jan. - March	April - June
FY 25 Forecasted Sales Tax	\$ 3,900,000	\$ 12,500,000	\$ 12,600,000	\$ 21,426,000
Actual	\$ 3,853,923	\$ 12,482,515	\$ 12,616,682	
Difference	\$ (46,077)	\$ (17,485)	\$ 16,682	\$ (21,426,000)

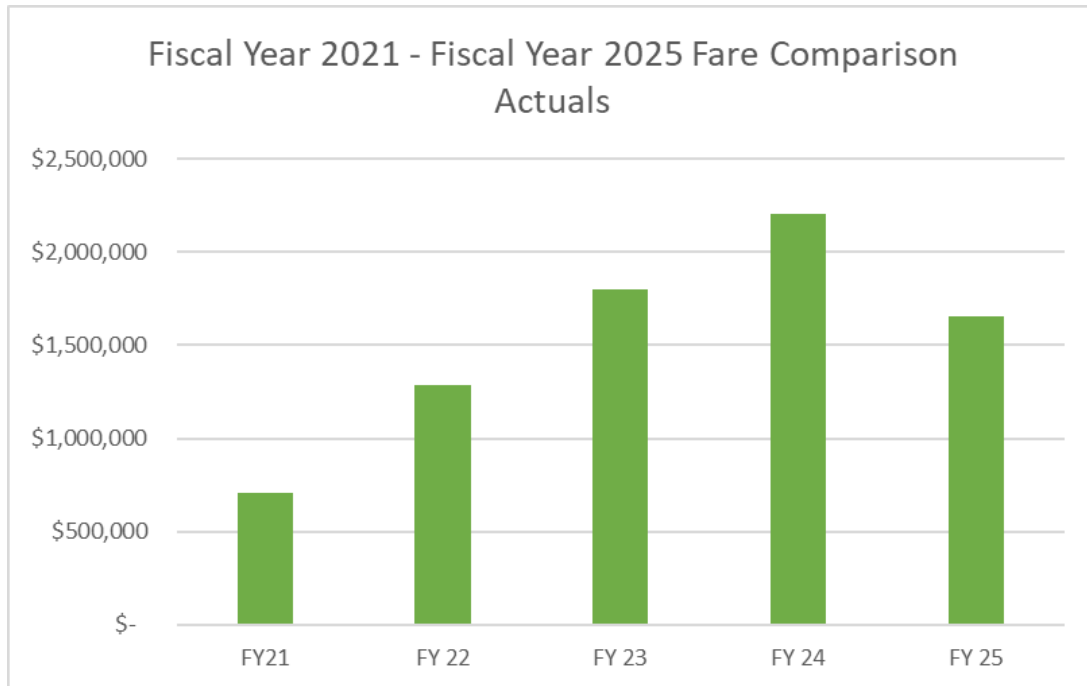
**Fiscal Year 2021-2025 Net Sales Tax Comparison
(by Quarter)**



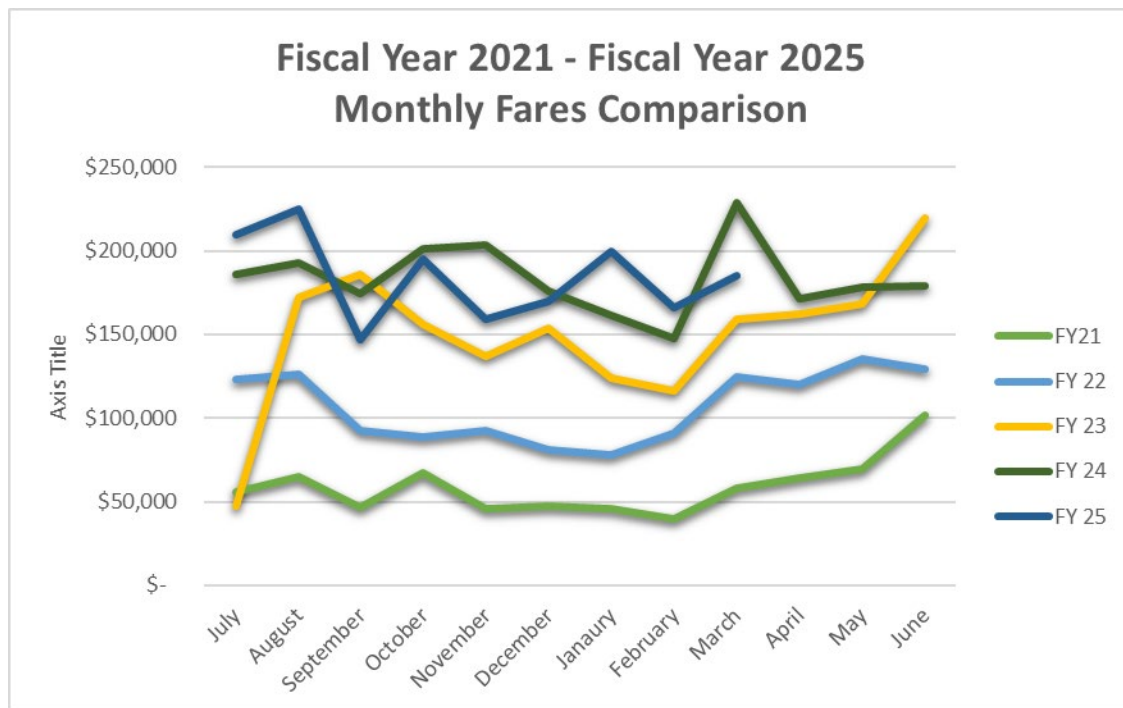
Fiscal Year 2021-2025 Cumulative Sales Tax Comparison



Fiscal Year 2021-2025 Fare Revenue Comparison



Fiscal Year 2021-2025 Monthly Fare Revenue Comparison



PASSENGER EXPENSES

	FY 2024-25 Approved Budget + Amendments #1 - #10	Actual	Amount Over / (Under) Budget	% Over/(Under) Budget	% of FY Remaining
Passenger Expenditures					
Administration					
Salaries & Benefits	\$ 7,180,063	\$ 4,882,317	\$ (2,297,746)	-32%	25%
Services & Supplies	\$ 12,281,971	\$ 5,216,978	\$ (7,064,993)	-58%	25%
Administration Subtotal	\$ 19,462,034	\$ 10,099,295	\$ (9,362,739)	-48%	25%
Operations					
Salaries & Benefits	\$ 19,720,160	\$ 13,761,265	\$ (5,958,895)	-30%	25%
Services & Supplies	\$ 7,112,015	\$ 3,315,175	\$ (3,796,840)	-53%	25%
Operations Subtotal	\$ 26,832,175	\$ 17,076,440	\$ (9,755,735)	-36%	25%
Capital					
Salaries & Benefits	\$ 1,909,850	\$ 486,629	\$ (1,423,221)	-75%	25%
Services & Supplies	\$ 4,094,796	\$ 884,108	\$ (3,210,688)	-78%	25%
Capital Subtotal	\$ 6,004,646	\$ 1,370,737	\$ (4,633,909)	-77%	25%
Total Passenger Expenditures	\$ 52,298,855	\$ 28,546,472	\$ (23,752,383)	-45%	25%
Passenger (Capitalized) Expenditures					
Facilities	\$ 65,293,730	\$ 51,466,406	\$ (13,827,324)	-21%	25%
Infrastructure	\$ 2,484,051	\$ 2,189,593	\$ (294,458)	-12%	25%
Equipment	\$ 2,054,136	\$ 98,107	\$ (1,956,029)	-95%	25%
Nonrevenue vehicles	\$ 971,305	\$ 400,875	\$ (570,430)	-59%	25%
Revenue vehicles	\$ -	\$ -	\$ -	0%	25%
Land	\$ 1,313,032	\$ 1,313,032	\$ -	0%	25%
Other Governments	\$ 1,139,812	\$ 916,341	\$ (223,471)	-20%	25%
Total Passenger (Capitalized) Expenditures	\$ 73,256,066	\$ 56,384,354	\$ (16,871,712)	-23%	25%
Passenger Expenditures + Capitalized	\$ 125,554,921	\$ 84,930,826	\$ (40,624,095)	-32%	25%

FREIGHT REVENUES

	FY 2024-25 Approved Budget + Amendments #1 - #10	Actual	Amount Over / (Under) Budget	% Over/(Under) Budget	% of FY Remaining
Revenues					
Freight					
State Operating/ Capital Grant (42341)	\$ 606,785		\$ (606,785)	0%	25%
Sales Collections	\$ -	\$ -	\$ -		
State Shortline Grant	\$ 399,776		\$ (399,776)	0%	25%
Freight Movement Fees	\$ 700,000	\$ 687,452	\$ (12,548)	-2%	25%
Leases	\$ 270,000	\$ 231,510	\$ (38,490)	-14%	25%
Freight Storage	\$ 104,800	\$ 99,954	\$ (4,846)	-5%	25%
45(g) Tax Credit & Misc. Revenues	\$ 593,000	\$ 253,449	\$ (339,551)	-57%	25%
Freight	\$ 2,674,361	\$ 1,272,365	\$ (1,401,996)	-52%	25%

FREIGHT EXPENSES

	FY 2024-25 Approved Budget + Amendments #1 - #10	Actual	Amount Over / (Under) Budget	% Over/(Under) Budget	% of FY Remaining
Freight Expenditures					
Administration					
Salaries & Benefits	\$ -	\$ -	\$ -		25%
Services & Supplies	\$ -	\$ -	\$ -		25%
Administration Subtotal	\$ -	\$ -	\$ -		25%
Operations					
Salaries & Benefits	\$ 947,674	\$ 577,301	\$ (370,373)	-39%	25%
Services & Supplies	\$ 1,118,767	\$ 477,182	\$ (641,585)	-57%	25%
Operations Subtotal	\$ 2,066,441	\$ 1,054,483	\$ (1,011,958)	-49%	25%
Capital					
Salaries & Benefits	\$ -	\$ 950	\$ 950	#DIV/0!	25%
Services & Supplies	\$ 607,920	\$ 191,922	\$ (415,998)	-68%	25%
Capital Subtotal	\$ 607,920	\$ 192,872	\$ (415,048)	-68%	25%
Total Freight Expenditures	\$ 2,674,361	\$ 1,247,355	\$ (1,427,006)	-53%	25%
Freight (Capitalized) Expenditures					
Facilities		\$ -	\$ -		25%
Infrastructure		\$ -	\$ -		25%
Equipment		\$ -	\$ -		25%
Nonrevenue vehicles		\$ -	\$ -		25%
Revenue vehicles		\$ -	\$ -		25%
Land		\$ -	\$ -		25%
		\$ -	\$ -		25%
Total Freight (Capitalized) Expenditures	\$ -	\$ -	\$ -		25%
Freight Expenditures + Capitalized	\$ 2,674,361	\$ 1,247,355	\$ (1,427,006)	-53%	25%

CAPITAL PROJECTS

Capital Project Report	Mar-25				
	Total Project Budget	Expended in Prior Fiscal Years	Budgeted in FY25	Remaining to be Budgeted in Future Years	Project Status
PASSENGER RAIL PROJECTS					
Extension: Windsor Civil	\$ 55,560,845	\$ 37,217,067	\$ 18,343,778	\$ -	Estimated grand opening June 2025.
Extension: Windsor Systems	\$ 18,102,142	\$ 8,392,880	\$ 9,709,262	\$ -	Preparing for pre-revenue service. Estimated grand opening June 2025.
Extension: Windsor Pedestrian Undercrossing	\$ 4,300,000	\$ 2,127,124	\$ 2,172,876	\$ -	Constructed as part of the Windsor Extension project.
Town of Windsor Utility Crossing	\$ 407,100	\$ -	\$ 396,725	\$ 10,375.00	Completed, portion of contingency unused.
Extension: Healdsburg	\$ 268,278,000	\$ -	\$ 3,250,000	\$ 265,028,000	Progressive Design-build contract underprocurement.
Station: Petaluma North	\$ 14,416,187	\$ 5,131,792	\$ 9,284,395	\$ -	Station opened January 10, 2025.
SGR: McDowell Grade Crossing	\$ 4,005,892	\$ 1,521,842	\$ 2,484,050	\$ -	Work complete
City of Petaluma North McDowell Paving Project	\$ 886,712	\$ 174,760	\$ 711,953	\$ -	Completing final punchlist items.
Pathway: Golf Course to Bellevue and Southpoint to Penngrove Construction	\$ 20,814,815	\$ 3,947,547	\$ 16,847,271	\$ 19,997	Commissioning traffic signals. Opening pathway segments planned for June 2025.
Pathway: Design for 7 Segments in Marin and Sonoma Counties	\$ 3,936,755	\$ 2,408,679	\$ 704,423	\$ 823,653	Conducting engineering design and pursuing environmental permits to prepare for construction.
Pathway: Design for 5 Segments in Marin County	\$ 6,323,781	\$ 1,663,579	\$ 999,690	\$ 3,660,512	Conducting engineering design and pursuing environmental permits to prepare for construction.
Pathway: Construction for Mcinnis to Smith Ranch	\$ 4,841,108	\$ 1,645,339	\$ 3,109,669	\$ 86,100	Construction completed.
Pathway: Joe Rodota Trail	\$ 523,862	\$ 56,108	\$ 465,985	\$ 1,769	Awaing funding allocation.
City of Santa Rosa W. 3rd Street Grade Crossing Design	\$ 153,855	\$ 122,719	\$ 31,136	\$ -	Currently in design.
Pathway: Hanna Ranch to Vintage	\$ 6,084,521	\$ -	\$ 200,000	\$ 5,884,521	Currently in design and permitting.
Pathway: Guerneville Rd to Airport Blvd Pathway Construction	\$ 14,618,729	\$ 17,325	\$ 200,000	\$ 14,401,404	Pursuing NEPA clearance.
Puerto Suello Pathway Design and Permitting	\$ 708,227	\$ -	\$ 708,227	\$ -	Design and permitting work is underway
FREIGHT RAIL PROJECTS					
Schellville Grade Crossing Repair	\$ 141,633	\$ -	\$ 141,633	\$ -	Completed in October 2024
Brazos Branch Bridge Repairs (Phase 2) - Sears Point Drainage	\$ 225,000	\$ -	\$ 225,000	\$ -	In design and procuring materials.
Brazos Branch Bridge Repairs (Phase 2) - Wingo (Sonoma Creek)	\$ 250,000	\$ -	\$ 250,000	\$ -	In design and procuring materials.
Brazos Branch Bridge Repairs (Phase 2) - Novato Creek	\$ 132,920	\$ -	\$ 132,920	\$ -	In design and procuring materials.

INVESTMENTS

Investments are guided by the SMART investment policy adopted each year with the budget. The policy outlines the guidelines and practices to be used in effectively managing SMART's available cash and investment portfolio. District funds that are not required for immediate cash requirements are to be invested in compliance with the California Code Section 53600, et seq.

SMART uses the Bank of Marin for day-to-day cash requirements and for longer term investments the Sonoma County Treasury Pool is used. This chart reflects a point in time versus a projection of future fund availability.

<u>Cash On Hand</u>	
Bank of Marin	\$ 37,119,291
Sonoma County Investment Pool *	\$ 47,949,531
Total Cash on Hand	\$ 85,068,821
<u>Reserves</u>	
Self-Insured	\$ 2,370,675
OPEB/ CalPERS	\$ 5,574,676
Operating Reserve	\$ 11,728,963
Capital Sinking Fund	\$ 11,317,250
Corridor Completion	\$ 7,000,000
Total Reserves	\$ 37,991,564
Cash Balance	\$ 47,077,257
Less: Current Encumbrances	\$ (19,695,033)
Balance	\$ 27,382,224
Less: Estimated FY25 Year-end Fund Balance	\$ (61,508,650)
Remaining Balance	\$ (34,126,426)
* Doesn't include trustee accounts	



Contract Summary

PASSENGER RAIL

Active contracts as of March 31, 2025

Contractor	Scope	FY 24/25 Projected	FY 24/25 Actuals
A.J. Janitorial Service	Janitorial Services for all Stations Roblar, ROC and Fulton	\$ 9,140	\$ 9,140
Alcohol & Drug Testing Services, LLC	DOT and FRA-regulated Drug and Alcohol Testing Services	\$ 45,000	\$ 33,290
Allen, Glaessner, Hazelwood LLP	Legal Services for Litigation and Rail Transit Issues	\$ 50,000	\$ -
Alliant Insurance Services	Insurance Brokerage and Risk Management Services	\$ 50,000	\$ -
American Rail Engineers Corporation	Railroad Bridge Inspections, Bridge Engineering, and Related Services	\$ 37,000	\$ 35,733
Asbury Environmental Services (AES)	Hazardous and Non-Hazardous Waste Removal and Disposal Services	\$ 2,575	\$ 2,275
Atlas CopCo Compressors, LLC	Air Compressor Maintenance Services	\$ 4,489	\$ 4,475
Balloon Specialties, LLC	Balloons for Station and Pathway Openings	\$ 2,164	\$ 2,164
BKF Engineers	Design and Engineering Services for MUP Segments in Sonoma and Marin Counties	\$ 273,662	\$ 46,201
Bolt Staffing Service, Inc.	Temporary Staffing Services	\$ 45,000	\$ 35,312
Bright Star Security, Inc.	Security Patrol at SMART's Cal Park Tunnel	\$ 11,436	\$ 8,577
Bureau Veritas Technical Assessments, LLC	Equal Access and ADA Consulting	\$ 25,000	\$ 2,106
Cal Interpreting & Translations	Real Time Translation and Related Services	\$ 13,000	\$ -
Charlie Gesell Photography	Photography Services for Petaluma North & McInnis Pathway Openings	\$ 1,950	\$ 1,950
Cinquini & Passarino, Inc.	Right-of-Way Land Surveying and Related Services	\$ 7,773	\$ -
City Towel & Dust Services, Inc. DBA Sunset Linen & Uniform	Laundrying, Pressing, and Related Services for SMART-Owned Uniforms	\$ 21,723	\$ 608
Clean Solutions Services Inc.	Janitorial and Custodial Services for SMART's Stations, Offices, and Park & Ride Lots	\$ 137,885	\$ 80,437
CocoConsult, LLC	Alternate Construction Project Delivery Advisory Services, Cost Estimation and Negotiation Services	\$ 200,000	\$ 140,713
Code 3 Entertainment Services, LLC	Microtransit Operations and Maintenance Services	\$ 567,433	\$ 363,697
Construction Testing Services	Construction Materials Testing Support Services	\$ 189,625	\$ 17,312
Craft & Commerce	Marketing and Community Outreach Services and Support	\$ 93,000	\$ -
CSW/Stuber-Stroeh Engineering Group	Design and Engineering Services for 5 MUP Segments in Marin County	\$ 683,104	\$ 8,586
CSW/Stuber-Stroeh Engineering Group	Design and Engineering for Petaluma North Station, N. McDowell Grade Crossing, Segments 2 & 3 Pathway	\$ 382,800	\$ 229,381
Data Ticket	Processing Parking Fines for Illegal Parking	\$ 1,800	\$ 1,200
Defense Block Security	Security and Patrol Services	\$ 5,360	\$ 5,135
Dr. Lance O'Connor	Occupational Health Screening Services	\$ 5,000	\$ 1,720
Dudek	Biological and Cultural Resource Monitoring	\$ 195,000	\$ -
Dunnigan Psychological & Threat Assessments, LLC	Employment-Related Psychological Evaluation Services	\$ 25,000	\$ 10,325
Eide Bailly LLP	Financial Audit Services	\$ 61,110	\$ 55,100
eLock Technologies, LLC	Station Bike Lockers - Ongoing Maintenance and Support Services	\$ 11,850	\$ 9,488
Federated Indians of Graton Rancheria	Tribal Monitoring for Ground-Disturbing Activities - SoCo Pathway	\$ 20,000	\$ 6,097
Fehr & Peers	Comprehensive Quality of Life and Impact Assessment	\$ 413,113	\$ 77,740
FinQuery (formerly LeaseQuery, LLC)	GASB Pension Compliance Services (Actuarial Calculations)	\$ 11,735	\$ 11,735
Foster & Foster (formerly Demsey, Filliger, & Associates, LLC)	GASB Pension Compliance Services (Actuarial Calculations)	\$ 1,250	\$ -
Gary D. Nelson Associates, Inc.	Temporary Staffing and Placement Services	\$ 55,000	\$ 2,042
George Hills Company, Inc.	Third Party Claims Administration Services	\$ 30,000	\$ 1,559
Ghilotti Bros, Inc.	Construction of NMP McInnis to Smith Ranch	\$ 2,857,890	\$ 1,907,509
Golden Five, LLC	Microsoft 365 Consulting Services	\$ 81,689	\$ 57,250
GP Crane & Hoist	Cal/OSHA Inspection Services	\$ 5,995	\$ 2,640
Granicus, Inc.	Media Streaming and Internet Broadcasting Services	\$ 13,503	\$ 13,503
Hanford A.R.C.	Implementation and Monitoring, San Rafael Creek Riparian Enhancement Project	\$ 29,841	\$ 26,934
Hanford A.R.C.	Maintenance and Monitoring the the Las Gallinas Creek Watershed Riparian Enhancement Planting	\$ 17,425	\$ 12,874
Hanson Bridgett LLP	Legal Services - Union Negotiations	\$ 120,000	\$ 14,575
HCI Systems, Inc.	Fire Equipment Inspection and Certification	\$ 12,570	\$ 3,051
Heartwood Studios, Inc. DBA Heartwood. Inc.	Online Rail Simulation Courses	\$ 1,995	\$ 1,995
Holland Company	Track Geometry and Measurement Services	\$ 24,000	\$ 24,000
Hunt and Sons, Inc.	Bulk Delivery of Motor Oil (15W40)	\$ 19,713	\$ 13,184
Integrated Security Controls, Inc.	On-Call CCTV Maintenance Support	\$ 7,757	\$ 1,855
Intelligent Technology Solutions, LLC	Maximo SaaS Development, Implementation, and Related Services	\$ 75,000	\$ -
Khoury Consulting, LLC	California State Legislative and Advocacy Services	\$ 120,000	\$ 80,000
Lewis, Brisbois, Bisgaard & Smith LLP	Various legal services related to transit	\$ 65,000	\$ 483
Lisa Wolper, LCSW, SAP	Substance Abuse Professional Services	\$ 1,400	\$ 650

Contractor	Scope	FY 24/25 Projected	FY 24/25 Actuals
Masabi LLC	SMART Mobile Ticketing Pilot Project	\$ 66,250	\$ 40,500
MaxAccel	FRA Regulatory Compliance Software	\$ 31,664	\$ 24,167
MaxAccel	Learning Management System	\$ 15,832	\$ 12,838
Militus, Inc.	Cybersecurity and Network Threat Analysis and Assessment	\$ 40,000	\$ 40,000
Mission Linen Supply	Employee Uniform Rentals	\$ 24,077	\$ 23,193
Mission Linen Supply	Laundry and Dry Cleaning for SMART-Owned Uniforms	\$ 9,025	\$ 700
Modern Railway Systems, Inc.	Monitoring and Maintenance SMART's Communications Network and TDX System	\$ 62,137	\$ 38,870
Modern Railway Systems, Inc.	Design and Construction of Systems Improvements for the Windsor Extension Project	\$ 9,213,860	\$ 6,073,079
Modern Railway Systems, Inc.	Real Time Train Arrival Digital Signage for Train Platforms	\$ 452,877	\$ 404,300
MuniServices, LLC	Sales Tax Recovery Services	\$ 30,000	\$ 13,869
Netspeed Solutions	Avaya Phone System Support Services	\$ 4,800	\$ 1,200
North Bay Bottling (Alex Ruiz Sr.)	Drinking Water Delivery Service	\$ 3,260	\$ 1,476
North Bay Petroleum	Provision of Fuel for DMUs	\$ 1,430,000	\$ 1,098,150
Nossaman LLP	Litigation, Rail Transit Issues, and other related legal services	\$ 180,000	\$ 145,228
Occupational Health Centers of CA	Pre-Employment Evaluation Services	\$ 35,000	\$ 8,120
Oracle	Fusion ERP System	\$ 329,413	\$ 247,060
Pape Machinery, Inc.	Equipment Repair and Related Services	\$ 7,507	\$ -
Parodi Investigative Solutions	Pre-Employment Background Investigation Services	\$ 25,000	\$ 9,650
PFM Financial Advisors, LLC	Financial Advisory Services	\$ 5,000	\$ -
Pitney Bowes, Inc.	Lease for Mail Machine	\$ 701	\$ 549
Pivotal Vision, LLC	Security Software Licensing / Rail Network	\$ 2,750	\$ 2,750
Portola Systems, Inc.	SMART Station Network Maintenance and Configuration Services	\$ 271,543	\$ 250,588
Precision Wireless	Tech Support and Maintenance for Land Mobile Radio	\$ 44,932	\$ 14,044
Precision Wireless	Installation of Lightbar and Related Equipment	\$ 2,712	\$ 2,590
Quality Sprayers	Vegetation Control and Related Services	\$ 87,276	\$ 82,666
RSE Corporation	Civil Engineering, Design, and Land Surveying	\$ 42,500	\$ 8,069
Sierra-Cedar, LLC	Oracle Enterprise Resources Planning Software	\$ 152,000	\$ 47,467
Sonoma County Fleet Operation Division	Non-Revenue Fleet Vehicle Installation, Maintenance, and Repair Services	\$ 65,000	\$ 45,322
SPTJ Consulting, Inc.	Network Monitoring and Support Services	\$ 202,419	\$ 151,184
Square Signs LLC dba Front Signs	System-Wide Pathway Wayfinding Signage	\$ 599,447	\$ 484,956
Stacy and Witbeck, Inc.	Design/Build Construction of Civil, Track & Structures of Windsor Extension	\$ 20,043,492	\$ 18,673,462
Stacy and Witbeck/Ghilotti Bros, A Joint Venture	Construction of Petaluma North Station Platform, Grade Crossing Reconstruction, and Pathway	\$ 26,568,670	\$ 23,390,040
Stacy and Witbeck/Ghilotti Bros, A Joint Venture	Paving Work for the City of Petaluma as Part of the Petaluma North Project	\$ 651,395	\$ 506,158
Sue Evans	Title Investigation Support Services	\$ 19,493	\$ 14,235
Survival CPR & First Aid, LLC	Active Shooter Training and Related Services	\$ 2,970	\$ 2,079
Survival CPR & First Aid, LLC	First Aid and CPR Training, AED Compliance Program Management	\$ 11,300	\$ 7,368
TDG Engineering, Inc.	Wayfinding System Planning and Design for the SMART Pathway	\$ 21,592	\$ 21,349
The Routing Company	Furnish, Implement, and Maintain a Microtransit Software Platform	\$ 17,400	\$ 12,797
The Routing Company	Social Media Campaign for SMART Connect	\$ 6,200	\$ 6,200
Tom Hehir dba Aspire Consulting	Leadership and Development Workshop Services	\$ 24,266	\$ 23,934
Toshiba America Business Solutions, Inc.	Printer Lease and Maintenance Agreement No 450-046953-000	\$ 32,494	\$ 17,329
TRC Engineers, Inc.	Construction Management Support Services	\$ 413,197	\$ 285,205
Triangle Properties, Inc.	SoCo Pathway Riparian Enhancement Implementation and Monitoring	\$ 39,080	\$ 27,434
Triangle Properties, Inc.	Helen Putnam Riparian Mitigation	\$ 523,270	\$ 401,271
Triangle Properties, Inc.	Windsor Creek Riparian Enhancement	\$ 41,932	\$ 21,763
Trillium Solutions, Inc.	Transit Feed Mapping Software	\$ 4,550	\$ 4,550
True Value Wholesale Hardware of Larkfield, Inc.	Tent Rentals for Grand Openings and Groundbreakings	\$ 5,648	\$ -
United Construction Management Corp	Construction Management Support Services	\$ 160,083	\$ 32,525
Urban Transportation Associates	Onboard Automatic Passenger Counter System Purchase, Install, and Software Implementation and Training	\$ 18,178	\$ 9,588
UTCRA	Wheel Pressing Services	\$ 50,400	\$ 25,200
Van Scoyoc Associates	Federal Lobbying Services	\$ 60,000	\$ 45,000
VenTek Transit Inc.	Installation of SMART-Owned Transit Card Vending Machines	\$ 32,178	\$ -
Vista Broadband Networks, Inc.	Broadband Services	\$ 9,000	\$ 6,750
Ward Levy Appraisal Group, Inc.	Real Estate Appraisals and Related Services	\$ 4,950	\$ -
Web Master Designs, LLC	As-Needed Monitoring, Management, and Support Services for Public-Facing Websites	\$ 5,580	\$ 3,150
WRA, Inc.	As-Needed Environmental Consulting Services	\$ 115,715	\$ 82,535
	TOTAL	\$ 69,457,233	\$ 56,257,108

FREIGHT RAIL

Contractor	Scope	FY 24/25 Projected	FY 24/25 Actuals
Freight Rail Tracking Software	Freight Rail Tracking Software	\$ 6,000	\$ 3,380

Contractor	Scope	FY 24/25 Projected	FY 24/25 Actuals
GATX Rail Locomotive Group, LLC	Freight Locomotive Lease Agreement	\$ 48,200	\$ 34,963
HCI Systems, Inc.	Fire Equipment Inspection and Certification	\$ 564	\$ 210
Holland Company	Track Geometry and Measurement Services	\$ 12,000	\$ 12,000
Hue & Cry, Inc.	Security System at Schellville Depot	\$ 994	\$ 746
Lambertus J. Verstegen dba South West Locomotive Repair	Locomotive Maintenance and Repair	\$ 28,948	\$ 28,733
Mickelson & Company, LLC	45G Tax Credit Advisory Services	\$ 15,035	\$ 15,035
North Bay Petroleum	Provision of Fuel for Freight Locomotives	\$ 90,000	\$ 50,435
Quality Sprayers	Vegetation Control and Related Services	\$ 52,000	\$ 51,999
Southern Tire Mart, LLC	Tire Recapping and Repair for Mobile Excavator	\$ 5,627	\$ 5,586
Summit Signal, Inc.	Inspection, Testing, and Maintenance Services for Signal Equipment Along Brazos Branch	\$ 87,162	\$ 63,782
Summit Signal, Inc.	Freight Call-Out Maintenance and Repair Services	\$ 30,599	\$ 26,477
Summit Signal, Inc.	Signal and Crossing Support Services for Planned Caltrans Paving Project along Hwy 12/121	\$ 4,060	\$ 3,370
Wine Country Sanitary, Inc.	Portable Toilet Rental and Maintenance	\$ 2,400	\$ 1,771
	TOTAL	\$ 383,589	\$ 298,488

Actuals-To-Date include invoices that have been approved, but may not have been processed in SMART's Financial System, as of March 31, 2025



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
Councilmembers Association

Kate Colin
Transportation Authority of Marin

Victoria Fleming
Sonoma County Mayors' and
Councilmembers Association

Patty Garbarino
Golden Gate Bridge,
Highway/Transportation District

Ariel Kelley
Sonoma County Mayors' and
Councilmembers Association

Eric Lucan
Marin County Board of Supervisors

Mark Milberg
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

Gabe Paulson
Marin County Council of Mayors and
Councilmembers

David Rabbitt
Sonoma County Board of Supervisors

Eddy Cumins
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Adopt the Resolutions Authorizing the Annual Filing of Grant Applications for Various State and Federal Fund Programs for a Total of \$17,369,609 in Fiscal Year 2024-2025 Budget Operations Grant Support

Dear Board Members:

RECOMMENDATIONS:

Adopt Resolutions Nos.2025-06 through 2025-11- authorizing the filing of annual applications for the following funds for SMART operating department expenses:

- 1) \$4,246,710 in annual Federal Transit Administration (FTA) Formula 5307 Program funding for Preventive Maintenance and committing the necessary 20% in local matching funds (*Resolution No. 2025-06*); and
- 2) \$4,937,716 in SMART's first year of annual FTA Formula 5337 State of Good Repair funding (and committing the necessary 20% in local matching funds) (*Resolution No. 2025-07*); and
- 3) \$3,361,082 in State Transit Assistance (STA) Program funding for Operations (*Resolution No. 2025-08*); and
- 4) Up to \$3,700,000 in State Rail Assistance (SRA) Program funding for Operations (*Resolution No. 2025-09*); and
- 5) \$760,918 in State Low Carbon Transit Program (LCTOP) funding for Transit Operations (*Resolution No. 2025-10*); and
- 6) \$363,183 in State Transit Assistance – State of Good Repair (STA-SGR) funding for SMART Capital Spare Parts (*Resolution No. 2025-11*).

SUMMARY:

SMART became eligible for numerous State and Federal fund annual formula grants with the start of operations in 2017. The SMART Board of Directors has approved resolutions of local support for these fund sources each of the past five to seven years, depending on the fund source. Beginning in 2021, in advance of the adoption of the Fiscal Year 2021-22 SMART Annual Budget, every effort was made to consider authorization of these grant applications within one agenda item. These fund sources are shown with their latest expected revenue amounts to SMART, as estimated by the State Controller's Office (SCO), California State Transportation Agency (CalSTA) and/or the Metropolitan Transportation Commission (MTC). Specific fund program years are noted in the attached resolutions. In all cases, these funds are intended for use within the SMART Fiscal Year 2025-26 Annual Budget.

Funds listed are sourced from the following:

- FTA 5307 Formula Program comes from a federal excise tax on gasoline.
- FTA 5337 State of Good Repair funds come from a federal excise tax on diesel.
- STA funds come from sales tax on diesel fuel, with a portion created with the 2017 Senate Bill 1 (SB1) package.
- SRA funds come from sales tax on diesel fuel created with SB1.
- LCTOP funds come from California Cap and Trade proceeds into the Greenhouse Gas Reduction Fund.

The scope proposed for use of each of the fund sources listed is a continuation of the scope covered by each grant in the Fiscal Year 2024-2025 SMART Annual Budget and in SMART's 2022-2029 Short Range Transit Plan and Capital Improvement Program, adopted by the Board in November 2021.

Each grant fund source has its own unique applicant eligibility requirements that SMART fulfills within the normal course of business. FTA formula funds are for Direct Grantee agencies who agree to abide by the FTA's requirements in technical, legal and financial areas. As part of the eligibility process, SMART reports service data into the National Transit Database (NTD). Nationally, NTD data is used to determine how FTA funds are distributed across Urbanized Areas. Approximately 87% of SMART's service data is reported into the Santa Rosa Urbanized Area with the remainder reported into the other urbanized area served by SMART, San Francisco-Oakland. The FTA formula funds shown here for SMART come exclusively from the Santa Rosa Urbanized Area apportionment. Included in the FTA Direct Grantee eligibility requirements are four Civil Rights programs and policies that have been adopted and implemented by SMART, with three of these being updated every three years. These Civil Rights programs include:

- Americans with Disabilities Act;
- Title VI Non-Discrimination Program and Policy, including a Limited English Proficiency and Public Participation Plan;
- Disadvantaged Business Enterprise Program as part of District procurement; and
- Equal Employment Opportunity Program as part of District hiring practices.

In some cases, there are multiple agencies participating in the development or allocation of funds. For example, State Transit Assistance (STA) funds are apportioned based on both the population of the area served and local revenues collected by an operator. MTC has asked the County Transportation Agencies (Sonoma County Transportation and Climate Authority and Transportation Authority of Marin) to work with transit operators in their areas to determine the apportionment split of STA Population funds. Once decided, these STA funds are combined with the STA Revenue funds that are apportioned directly by the State to SMART based on the amount of Measure Q funds and fares collected. Claims for payments of STA funds are then submitted by operators directly to MTC.

As part of that STA claim process, SMART is required by MTC to adopt resolutions committing SMART to following MTC's Resolution 3866 (attached) regarding Transit Coordination across the region. That MTC resolution requirement is also true of annual FTA formula funds. For STA-State of Good Repair (SGR) funds, there is an application process directly to Caltrans, followed by a claim submittal to MTC. For each fund source listed, there is a unique set of compliance and certification checklists to follow, grant application forms to submit and post-award reporting requirements to file. Several of the funds require a new Authorized Agent and Certification form be approved by the Board every time there is a change in Authorized Agent.

Collectively these six fund sources will provide up to \$17,369,609 in outside State and Federal grants in support of SMART's operations and SMART's Fiscal Year 2025-2026 Annual Budget. We recommend the Board approve Resolution Nos. 2025-06, 2025-07, 2025-08, 2025-09, 2025-10 and 2025-11 authorizing the execution of these grants, authorizing the execution of any necessary documents to receive the funds, and authorizing the completion of the projects associated with these funds.

FISCAL IMPACT: None. SMART will assume these fund sources within the final FY2024-2025 budget.

REVIEWED BY: [x] Finance /s/ [x] Counsel /s/

Very truly yours,

/s/
Joanne Parker
Grants and Legislative Affairs Manager

Attachment(s):

- 1) Resolution Number 2025-06
- 2) Resolution Number 2025-07
- 3) Resolution Number 2025-08
- 4) Resolution Number 2025-09
- 5) Resolution Number 2025-10
- 6) Resolution Number 2025-11
- 7) MTC Resolution 3866 - Transit Coordination Requirement

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AUTHORIZING THE FILING OF AN APPLICATION FOR FEDERAL TRANSIT ADMINISTRATION 5307 FORMULA PROGRAM FUNDING FOR PREVENTIVE MAINTENANCE AND COMMITTING THE NECESSARY LOCAL MATCH FOR THE PROJECT AND STATING THE ASSURANCE OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT TO COMPLETE THE PROJECT

WHEREAS, the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (BIL, Pub. L 117-58) continues and increases funding amounts within Federal Transit Administration formula programs (49 U.S.C. §53); and

WHEREAS, pursuant to BIL/IIJA, and the regulations promulgated thereunder, eligible project sponsors wishing to receive Federal Transit Administration (FTA) Section 5307 Urbanized Area grants (Formula Program Funds) for a project shall submit an application first with the appropriate metropolitan transportation planning organization (MPO), for review and inclusion in the MPO's Transportation Improvement Program (TIP); and

WHEREAS, the Metropolitan Transportation Commission (MTC) is the MPO for the San Francisco Bay region; and

WHEREAS, the Sonoma-Marín Area Rail Transit District (SMART) is an eligible project sponsor for FTA Formula Program Funds for the following project:

SMART Preventive Maintenance

WHEREAS, MTC requires, as part of the application, a resolution stating the following:

1. SMART makes the commitment of necessary local matching funds (20% for FTA Formula Program funds); and
2. SMART understands that the FTA Formula Program funding is fixed at the programming amount, and therefore any cost increase cannot be expected to be funded from FTA Formula Program funds; and
3. SMART provides assurance that the project will be completed as described in the application, and, if approved, as programmed in MTC's TIP; and
4. SMART understands that the FTA Formula Program funds must be obligated within three years of programming in the TIP, or the project may be removed from the program.

NOW, THEREFORE, BE IT RESOLVED that by the Board of Directors that the SMART District is authorized to execute and file an application for funding under the FTA Formula Program in the amount of \$4,246,710 for Preventive Maintenance; and

BE IT FURTHER RESOLVED that the SMART Board of Directors, by adopting this resolution does hereby state that

1. SMART will provide \$1,061,678 in local, non-federal matching funds; and
2. SMART understands that the FTA Formula Program for the project is fixed at \$4,246,710, and that any cost increases must be funded by SMART from local matching funds, and that SMART does not expect any costs increases to be funded with FTA Formula Program funds; and
3. **SMART Preventive Maintenance** will be completed as described in this resolution and, if approved, for the amount shown in the Metropolitan Transportation Commission (MTC) Transportation Improvement Program (TIP) with obligation occurring within the timeframe established below; and
4. The program funds are expected to be obligated by January 31 within the year the project is programmed for in the TIP; and
5. SMART will comply with FTA requirements and all other applicable Federal and State and Local laws and regulations with respect to the proposed project; and

BE IT FURTHER RESOLVED that SMART is an eligible sponsor of projects in the program for FTA Formula Program funds; and

BE IT FURTHER RESOLVED that SMART is authorized to submit an application for FTA Formula Program funds for Preventive Maintenance; and

BE IT FURTHER RESOLVED that there is no legal impediment to SMART making applications for FTA Formula Program funds; and

BE IT FURTHER RESOLVED that there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of SMART to deliver such a project; and

BE IT FURTHER RESOLVED that SMART agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and

BE IT FURTHER RESOLVED that a copy of this resolution will be transmitted to the MTC prior to MTC programming the FTA Formula Program funded projects in the Transportation Improvement Program (TIP); and

BE IT FURTHER RESOLVED that the MTC is requested to support the application for the project described in the resolution and to program the project, if approved, in MTC's TIP.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025 by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AUTHORIZING THE FILING OF AN APPLICATION FOR FEDERAL TRANSIT ADMINISTRATION 5337 FORMULA PROGRAM FUNDING FOR STATE OF GOOD REPAIR AND COMMITTING THE NECESSARY LOCAL MATCH FOR THE PROJECT AND STATING THE ASSURANCE OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT TO COMPLETE THE PROJECT

WHEREAS, the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (BIL, Pub. L 117-58) continues and increases funding amounts within Federal Transit Administration formula programs (49 U.S.C. §53); and

WHEREAS, pursuant to BIL/IIJA, and the regulations promulgated thereunder, eligible project sponsors wishing to receive Federal Transit Administration (FTA) Section 5337 Urbanized Area grants (Formula Program Funds) for a project shall submit an application first with the appropriate metropolitan transportation planning organization (MPO), for review and inclusion in the MPO's Transportation Improvement Program (TIP); and

WHEREAS, the Metropolitan Transportation Commission (MTC) is the MPO for the San Francisco Bay region; and

WHEREAS, the Sonoma-Marín Area Rail Transit District (SMART) is an eligible project sponsor for FTA Formula Program Funds for the following project:

SMART State of Good Repair

WHEREAS, MTC requires, as part of the application, a resolution stating the following:

1. SMART makes the commitment of necessary local matching funds (20% for FTA Formula Program funds); and
2. SMART understands that the FTA Formula Program funding is fixed at the programming amount, and therefore any cost increase cannot be expected to be funded from FTA Formula Program funds; and
3. SMART provides assurance that the project will be completed as described in the application, and, if approved, as programmed in MTC's TIP; and
4. SMART understands that the FTA Formula Program funds must be obligated within three years of programming in the TIP, or the project may be removed from the program.

NOW, THEREFORE, BE IT RESOLVED that by the Board of Directors that the SMART District is authorized to execute and file an application for funding under the FTA 5337 Formula Program up to \$4,937,716 for State of Good Repair; and

BE IT FURTHER RESOLVED that the SMART Board of Directors, by adopting this resolution does hereby state that

1. SMART will provide up to \$1,234,429 in local, non-federal matching funds; and
2. SMART understands that the FTA Formula Program for the project will be fixed at a total of up to \$4,937,716, and that any cost increases must be funded by SMART from local matching funds, and that SMART does not expect any costs increases to be funded with FTA Formula Program funds; and
3. **SMART State of Good Repair** will be completed as described in this resolution and, if approved, for the amount shown in the Metropolitan Transportation Commission (MTC) Transportation Improvement Program (TIP) with obligation occurring within the timeframe established below; and
4. The program funds are expected to be obligated by January 31 within the year the project is programmed for in the TIP; and
5. SMART will comply with FTA requirements and all other applicable Federal and State and Local laws and regulations with respect to the proposed project; and

BE IT FURTHER RESOLVED that SMART is an eligible sponsor of projects in the program for FTA Formula Program funds; and

BE IT FURTHER RESOLVED that SMART is authorized to submit an application for FTA Formula Program funds for State of Good Repair; and

BE IT FURTHER RESOLVED that there is no legal impediment to SMART making applications for FTA Formula Program funds; and

BE IT FURTHER RESOLVED that there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of SMART to deliver such a project; and

BE IT FURTHER RESOLVED that SMART agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and

BE IT FURTHER RESOLVED that a copy of this resolution will be transmitted to the MTC prior to MTC programming the FTA Formula Program funded projects in the Transportation Improvement Program (TIP); and

BE IT FURTHER RESOLVED that the MTC is requested to support the application for the project described in the resolution and to program the project, if approved, in MTC's TIP.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025 by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AUTHORIZING THE SUBMITTAL OF A CLAIM FOR STATE TRANSIT ASSISTANCE FUNDS AND DESIGNATION OF THE GENERAL MANAGER AND/OR CHIEF FINANCIAL OFFICER AS THE AUTHORIZED AGENTS TO SUBMIT AND EXECUTE ALL REQUIRED DOCUMENTS FOR STATE TRANSIT ASSISTANCE FUNDS ON BEHALF OF THE DISTRICT FOR FISCAL YEARS 2025-2026

WHEREAS, the Sonoma-Marin Area Rail Transit District (SMART) is an eligible project sponsor and may receive funding from State Transit Assistance (STA) Funds, including STA Revenue Funds (PUC 99314) and STA Population Funds (PUC 99313) for transit projects; and

WHEREAS, the state and regional statutes related to these state transit funds require implementing agencies to abide by various state and regional regulations; and

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional agency responsible for disbursement of STA funds, including STA Revenue Funds apportioned by the State Controller's Office; and

WHEREAS, MTC has developed guidelines for the purpose of administering and distributing STA funds to eligible project sponsors, described in MTC's Annual Fund Application Manual; and

WHEREAS, the State Controller's Office has apportioned \$2,094,129 in STA Revenue funds available for SMART to claim for Fiscal Year 2025-2026; and

WHEREAS, MTC delegates prioritization of STA Population Funds to the County Transportation Agencies and the transit operators within those counties; and

WHEREAS, the Sonoma County Transportation Authority (SCTA) and the Transportation Authority of Marin (TAM) have established procedures to apportion funds to transit operators within each county, including apportionment of STA Population Funds to SMART; and

WHEREAS, SCTA has apportioned \$1,044,909 available to claim in Fiscal Year 2025-2026 and TAM has apportioned \$222,044 available to claim in Fiscal Year 2025-2026 by SMART; and

WHEREAS, MTC receives those recommended apportionments of STA Population funds and disburses those funds along with STA Revenue Funds directly to transit operators; and

WHEREAS, SMART wishes to delegate authorization to submit and execute all required STA claim documents and any amendments thereto to the SMART General Manager and Chief Financial Officer; and

WHEREAS, SMART wishes to utilize STA Revenue and STA Population apportionments to implement the SMART Rail Operations Project for Fiscal Year 2025-2026;

NOW, THEREFORE, BE IT RESOLVED THAT THE Board of Directors of the SMART District hereby

1. Authorizes the submittal of the SMART Rail Operations Project claim for State Transit Assistance Revenue and Population funds in the amount of \$3,361,082 to the Metropolitan Transportation Commission for Fiscal Year 2025-26; and
2. Agrees to comply with all conditions and requirements set for in MTC's Annual Fund Application Manual and applicable statutes, regulations and guidelines for all State Transit Assistance funded transit projects; and
3. Designates SMART's General Manager and/or Chief Financial Officer to be authorized to execute all required documents of the State Transit Assistance program and any Amendments thereto with the Metropolitan Transportation Commission which may be necessary for the completion of the aforementioned project.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AUTHORIZING THE EXECUTION OF THE CERTIFICATION AND ASSURANCES AND AUTHORIZED AGENT FORMS FOR STATE RAIL ASSISTANCE FUNDS AND AUTHORIZING THE EXECUTION OF THE STATE RAIL ASSISTANCE PROJECT, SMART COMMUTER RAIL OPERATIONS FOR FISCAL YEARS 2025-2026

WHEREAS, the Sonoma-Marín Area Rail Transit District (SMART) is an eligible project sponsor and may receive funding from State Rail Assistance (SRA) for transit projects; and

WHEREAS, the statutes related to state-funded transit project require implementing agencies to abide by various regulations; and

WHEREAS, Senate Bill 1 (2017) named the California State Transportation Agency (CalSTA) as the administering agency for the SRA; and

WHEREAS, CalSTA has developed guidelines for the purpose of administering and distributing SRA funds to eligible project sponsors (Agencies identified as eligible recipients of these funds); and

WHEREAS, SMART wishes to delegate authorization to execute these documents and any amendments thereto to Eddy Cumins, General Manager, and Heather McKillop, Chief Financial Officer; and

WHEREAS, SMART wishes to implement the Fiscal Year 2025-2026 SMART Commuter Rail Operations Project

NOW, THEREFORE, BE IT RESOLVED THAT THE Board of Directors of the SMART District hereby

1. Authorizes the submittal of the SMART Commuter Rail Operations Project for nomination and allocation request to CalSTA for State Rail Assistance funds for up to \$3,700,000 in FY2025-2026; and
2. Agrees to comply with all conditions and requirements set for in the Certifications and Assurances and Authorized Agent documents and applicable statutes, regulations and guidelines for all SRA funded transit projects; and
3. Designates Eddy Cumins, General Manager, and Heather McKillop, Chief Financial Officer, to be authorized to execute all required documents of the SRA program and any Amendments thereto with the California Transportation Agency which may be necessary for the completion of the aforementioned project.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025 by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AUTHORIZING THE EXECUTION OF THE CERTIFICATION AND ASSURANCES AND AUTHORIZED AGENT FORMS FOR THE LOW CARBON TRANSIT OPERATIONS PROGRAM (LCTOP) FOR THE FOLLOWING PROJECT: SMART TRANSIT OPERATIONS

WHEREAS, the Sonoma-Marín Area Rail Transit District (SMART) is an eligible project sponsor and may receive state funding from the Low Carbon Transit Operations Program (LCTOP) for transit projects; and

WHEREAS, the statutes related to state-funded transit projects require a local or regional implementing agency to abide by various regulations; and

WHEREAS, Senate Bill 862 (2014) named the Department of Transportation (Department) as the administrative agency for the LCTOP; and

WHEREAS, the Department has developed guidelines for the purpose of administering and distributing LCTOP funds to eligible project sponsors (local agencies); and

WHEREAS, SMART wishes to delegate authorization to execute these documents and any amendments thereto to Eddy Cumins, General Manager and/or Heather McKillop, Chief Financial Officer; and

WHEREAS, SMART wishes to implement the following LCTOP project(s) listed above,

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Sonoma-Marín Area Rail Transit District (SMART) that the fund recipient agrees to comply with all conditions and requirements set forth in the Certification and Assurances and the Authorized Agent documents and applicable statutes, regulations and guidelines for all LCTOP funded transit projects.

NOW THEREFORE, BE IT FURTHER RESOLVED that Eddy Cumins, General Manager and/or Heather McKillop, Chief Financial Officer be authorized to execute all required documents of the LCTOP program and any Amendments thereto with the California Department of Transportation.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of SMART that it hereby authorizes the submittal of the following project nomination(s) and allocation request(s) to the Department in FY2024-2025 LCTOP funds:

Project Name: SMART Transit Operations

Short description of project: This project supports operations of commuter rail services in the SMART system. SMART operates 42 weekday trips as of FY24-25, an increase of four weekday trips from the prior year. In FY24-25 SMART has also opened a new station at Petaluma North and plans to also open an additional new station in Windsor, which will include the addition of three new miles of track.

Amount of LCTOP funds requested: \$760,918

Resolution No. 2025-10
Sonoma-Marin Area Rail Transit District
May 21, 2025

Benefit to a Priority Populations: SMART service connects low-income community members to desirable locations for work or activities through rail service and pedestrian pathways.

Amount to benefit Priority Populations: 50% to DAC and 50% to low-income households

Contributing Sponsor: Metropolitan Transportation Commission

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marin Area Rail Transit District held on the 21st day of May 2025 by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marin Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marin Area Rail Transit District

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
AUTHORIZING THE SUBMITTAL OF APPLICATIONS, SUPPORTING DOCUMENTS AND EXECUTION OF
FUNDING AGREEMENTS FOR FISCAL YEAR 2025-2026 STATE TRANSIT ASSISTANCE STATE OF GOOD
REPAIR FUNDS FOR THE SMART CAPITAL SPARE PARTS PROJECT**

WHEREAS, the Sonoma-Marín Area Rail Transit District (SMART) is an eligible project sponsor and may receive State Transit Assistance funding from State of Good Repair Account (SGR) now or sometime in the future for transit projects; and

WHEREAS, the statues related to state-funded transit projects require a local or regional implementing agency to abide by various regulations; and

WHEREAS, the State Controller's Office has released the Fiscal Year 2026 SGR apportionments and SMART is estimated to receive \$363,183 in SGR funds; and

WHEREAS, SMART's Capital Spare Parts Project is an eligible project per the SGR program guidelines; and

WHEREAS, Senate Bill 1 (2017) named the Department of Transportation (Department) as the administering agency for the SGR; and

WHEREAS, the Department has designated the Metropolitan Transportation Commission (MTC) as the regional entity responsible for coordinating the administration of all SGR projects and distribution of SGR funds to eligible project sponsors (local agencies) within the nine county Bay Area; and

WHEREAS, SMART wishes to delegate the submittal of applications, necessary supporting documents and any amendments thereto to SMART's General Manager or his designee,

NOW, THEREFORE, BE IT RESOLVED THAT THE Board of Directors of the SMART District hereby designates SMART's General Manager, Eddy Cumins, and SMART's Chief Financial Officer, Heather McKillop, be authorized to execute all required documents of the SGR program and any amendments thereto with the Metropolitan Transportation Commission and State of California.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025 by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST: _____
Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

Date: February 24, 2010
W.I.: 1227
Referred By: Operations Committee
Revised: 10/26/11-C
07/22/15-C

ABSTRACT

Resolution No. 3866, Revised

This resolution updates and adopts MTC's Transit Coordination Implementation Plan pursuant to the requirements of California Government Code §§ 66516 (SB 1474) and 66516.5; Public Utilities Code §§ 99282.51 and 99314.7; and Streets and Highways Code § 30914.5.

This resolution supersedes Resolution No. 3055, as amended.

Attachment B to this resolution was revised on July 22, 2015 to update and revise requirements for the 511 transit information program (Appendix B-1), the regional hub signage program (Appendix B-2), and the Clipper[®] program (Appendix B-3), and to add a new Appendix B-5 containing coordination requirements applicable to transit rider surveys.

Date: February 24, 2010
W.I.: 1227
Referred By: Operations Committee

Re: Transit Coordination Implementation Plan

METROPOLITAN TRANSPORTATION COMMISSION

RESOLUTION NO. 3866

WHEREAS, pursuant to Section 66516 of the California Government Code, the Metropolitan Transportation Commission (MTC) is required to adopt rules and regulations to promote the coordination of fares and schedules for all public transit systems within its jurisdiction and to require every system to enter into a joint fare revenue sharing agreement with connecting systems; and

WHEREAS, pursuant to Section 66516.5 of the Government Code, MTC may identify and recommend consolidation of those functions performed by individual public transit systems that could be consolidated to improve the efficiency of regional transit service and;

WHEREAS, pursuant to Section 99282.5 of the California Public Utilities Code (PUC), MTC is required to adopt rules and regulations to provide for governing interoperator transfers so that the public transportation services between public transit operators are coordinated; and

WHEREAS, pursuant to Section 99314.7 of the Public Utilities Code, MTC is required to evaluate an operator's compliance with coordination improvements prior to an operator receiving allocations of State Transit Assistance (STA) funds; and

WHEREAS, pursuant to Section 30914.5 of the Streets and Highways Code, MTC must adopt, as a condition of Regional Measure 2 fund allocation, a regional transit connectivity plan to be incorporated in MTC's Transit Coordination Implementation Plan pursuant to Section 66516.5, requiring operators to comply with the plan, which must include Policies and procedures for improved fare collection; and

WHEREAS, MTC previously adopted Resolution No. 3055 to implement these requirements; and

WHEREAS, in order to ensure progress toward implementing coordination recommendations, MTC wishes to formalize these recommendations by adopting the rules and requirements required pursuant to Government Code Section 66516 and PUC Section 99282.5 as set forth in this MTC Transit Coordination Implementation Plan, which includes a regional Transit Connectivity Plan and Implementation Requirements, attached to this Resolution as Attachments A and B, and incorporated herein as though set forth at length;

WHEREAS, MTC has consulted with the region's transit agencies to develop the regional Transit Connectivity Plan and Implementation Requirements, as required by Government Code §§ 66516 and Streets and Highways Code § 30914.5; now therefore be it

RESOLVED, that MTC adopts the Transit Connectivity Plan ("Plan") as set forth in Attachment A; and be it further

RESOLVED, that MTC adopts the Implementation Requirements, as set forth in Attachment B; and, be it further

RESOLVED, that prior to determining fund programming and allocations for an operator, MTC shall review the efforts made by the operator to implement the requirements identified in Attachments A and B, and if MTC determines that the operator has not made a reasonable effort to implement the requirements of Attachments A and B, MTC may, at its discretion, withhold, restrict or re-program funds and allocations to such operator to the extent allowed by statute, rule, regulation, or MTC policy; and, be it further

RESOLVED, that all funds subject to programming and/or allocation by MTC are covered by this resolution including but not limited to State Transit Assistance, Transportation Development Act, Regional Measure 2, Congestion Mitigation and Air Quality, Surface

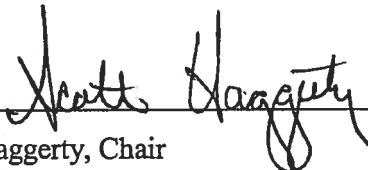
Transportation Program and Transit Capital Priorities funds, to the extent permitted by statute; and, be it further

RESOLVED, that this resolution shall be transmitted to the affected transit operators to guide them in development of their annual budgets and short-range transit plan revisions; and, be it further

RESOLVED, that the Operations Committee is authorized to approve amendments to Attachments A and B, following consultation with the affected transit operators; and be it further

RESOLVED, this resolution supersedes Resolution No. 3055.

METROPOLITAN TRANSPORTATION COMMISSION



Scott Haggerty, Chair

The above resolution was entered into by
the Metropolitan Transportation Commission
at a regular meeting of the Commission held in
Oakland, California, on February 24, 2010

Date: February 24, 2010
W.I.: 1227
Referred By: Operations Committee

Attachment A
Resolution No. 3866
Page 1 of 1

Attachment A

MTC Transit Connectivity Plan

This Attachment A incorporates by reference the Transit Connectivity Plan, previously approved by MTC in MTC Resolution No. 3055, which may be downloaded at:
<http://www.mtc.ca.gov/planning/connectivity/index.htm>.

Date: February 24, 2010
W.I.: 1227
Referred By: Operations Committee
Revised: 10/26/11-C
07/22/15-C

Attachment B
Resolution No. 3866, Revised
Page 1 of 28

Attachment B Implementation Requirements

The purpose of these Implementation Requirements is to establish the expectations and requirements for each transit agency with respect to implementing the recommendations of the Commission's Transit Connectivity Plan (2006) and maintaining other transit coordination programs, to outline the process by which MTC will involve transit operators in changes to coordination requirements, and to establish the process for Commission action in the event of transit agency non-compliance with these implementation requirements. A copy of this Resolution 3866 is available for download at <http://www.mtc.ca.gov/planning/tcip/>.

Per the Transit Connectivity Plan, MTC places high priority on improvements that:

- Accomplish tangible improvements for the passenger;
- Benefit the largest number of transit users, including both inter- and intra-system transit riders, to the extent possible;
- Improve system productivity by sharing agency resources; and
- Enhance the ability of transit riders to reach significant destinations in adjoining jurisdictions and along regional corridors by (1) improving the connections between system services and (2) providing through service to adjoining jurisdictions in those cases where the market clearly justifies such service.

In order to manage resources effectively, MTC will focus on a limited number of high priority improvements, transfer project leadership from MTC to one or more transit agencies where possible upon agreement of project partners, and establish priorities for implementing new projects.

The Commission has established specific transit operator requirements to implement a coordinated regional network of transit services and to improve overall service productivity as defined in the Transit Connectivity Plan. Any agency that is an eligible recipient of funds subject to allocation or programming by MTC is subject to these requirements, including, but not limited to the following:

- | | |
|--|--|
| 1. Altamont Corridor Express | 18. Sonoma Marin Area Rail Transit |
| 2. Alameda-Contra Costa Transit District | 19. Transbay Joint Powers Authority |
| 3. Caltrain | 20. Union City Transit |
| 4. Capital Corridor Joint Powers Authority | 21. Water Emergency Transportation Authority |
| 5. Central Contra Costa Transit Authority | 22. Western Contra Costa Transit Authority |
| 6. Eastern Contra Costa Transit Authority | 23. City of Dixon |
| 7. Golden Gate Bridge, Highway and Transportation District | 24. City of Emeryville |
| 8. Livermore/Amador Valley Transit Authority | 25. City of Fairfield (Fairfield and Suisun Transit) |
| 9. Marin County Transit District | 26. City of Petaluma |
| 10. Napa County Transportation Planning Agency | 27. City of Rio Vista |
| 11. San Francisco Bay Area Rapid Transit District | 28. City of Santa Rosa |
| 12. San Francisco Municipal Transportation Agency | 29. City of Vacaville |
| 13. San Mateo County Transit District | |
| 14. Santa Clara Valley Transportation Authority | |
| 15. Solano County Transit (SolTrans) | |
| 16. Solano Transportation Authority | |
| 17. Sonoma County Transit | |

Unless a particular action is reserved for the Commission or the Operations Committee in this Attachment B (including any Appendices hereto), where reference is made in this Attachment B to approval, determination, clarification or the development of guidelines or policies by MTC, such action may be taken or made by MTC staff in a manner that is consistent with the principles set forth in Resolution 3866 and this Attachment B.

A. Operator Implementation Requirements

1. Implementation Requirements

The region has a history of implementing projects to improve transit coordination. Early efforts focused on regional programs and policies such as disseminating tax-free transit benefits and making paratransit eligibility determinations. More recent efforts, such as the Transit Connectivity Plan and efforts to increase Transit Sustainability, identified improvements to (1) designated regional transit hubs, including way-finding signage and transit information, real time transit information, schedule coordination, last-mile services and hub amenities, (2) system wide connectivity improvements, including 511 information and Clipper® and (3) coordination of demographic and travel pattern transit rider surveys.

Specific implementation requirements for transit operators are listed in Appendices to this Attachment:

- Appendix B-1, 511 Transit Program Requirements (including real-time transit);
- Appendix B-2, Regional Transit Hub Signage Program Requirements;
- Appendix B-3, Clipper® Implementation Requirements; and
- Appendix B-4, Maintenance of Existing Coordinated Services.
- Appendix B-5, Cooperative Demographic and Travel Pattern Transit Rider Survey Program Requirements

As MTC continues to address recommendations from the Transit Connectivity Plan and other emerging issues such as Transit Sustainability, new implementation requirements may become necessary. The appendices may be modified to reflect changes in implementation responsibilities, following the procedures outlined in this Attachment B, and subject to approval by the Commission.

2. SB 602 Fare and Schedule Coordination Requirements

Currently, each operator certifies its adherence to the provisions of SB 602 (Statutes 1989, Chapter 692, Government Code Section 66516, and as subsequently amended) as part of the annual allocation process for TDA and STA funds when requests for these funds are submitted to MTC. The SB 602 requirements are now incorporated into this Res. 3866, and each operator's compliance will be monitored accordingly. Per the requirements of SB 602, each transit agency in the region has a revenue sharing agreement with every connecting agency. In some cases, this takes the form of a reciprocal agreement to accept each other's passengers free of charge or to honor each other's period passes or single-trip transfers for a discounted fare. The BART/Muni FastPass is an example of a joint fare instrument to address SB602 requirements. Each transit agency in the region is required to maintain these reciprocal agreements as a condition of receiving STA funds (Gov. Code 66516).

3. Preserve Ability to Post and Disseminate Transit Information

MTC expects transit operators to preserve rights for MTC and connecting transit operators to post and disseminate connecting transit information for free within their facilities. This would include but not be limited to route, schedule, fare, real-time transit information and information about regional transit projects (511, Clipper®). For any transit agency that has already entered into a third-party agreement that compromises these rights, MTC expects the transit agency to make good faith efforts to reinstate these rights in their agreement at the earliest opportunity and, at a minimum, to reinstate such rights in future agreements or renewals entered into after adoption of this Resolution. Nothing herein shall be interpreted as requiring transit agencies to display advertising. Rather, the objective is to provide transit customers with pertinent information that improves their transit experience.

B. Cost-Sharing

Implementation activities and other new transit connectivity and coordination efforts added to these Implementation Requirements will be funded with MTC discretionary funds, transit agency funds, and/or in-kind contributions of MTC and transit agency staff resources. If MTC considers

adding new projects or services, MTC would implement the consultation process described in Section C below to vet any expected cost impacts on the operators. Transit agencies are required to waive all agency fees (for permits, etc.) they would otherwise charge to MTC, other transit operators or third-party contractors to implement and maintain regional transit coordination projects detailed in these requirements. Unless otherwise noted, MTC and transit agencies are expected to cover the cost to implement their respective roles and responsibilities as identified in these requirements or in pre-existing agreements. As specific initiatives move to implementation, a lead agency may be designated to coordinate implementation activities on behalf of the other participating transit agencies. Any agency that assumes this lead role and incurs costs that it would otherwise not assume in order to perform this function may be reimbursed, based upon an equitable agreement with the participating agencies, on a marginal cost basis (i.e., the additional cost the transit operator incurs to perform the work).

C. Consultation Process

MTC will consult with transit agencies when defining new coordination requirements for inclusion in Res. 3866 or when updating or revising requirements already in Res. 3866.

MTC will first consult with one or more of its technical advisory committees (TACs) to receive transit agency input on the specific implementation requirements. MTC will notify TAC members of the meetings and provide agendas in advance, and facilitate TAC discussions. Affected transit operators are expected to participate. Transit agencies are responsible for ensuring that the appropriate staff attends TAC meetings, that they participate in discussions in good faith, and that they communicate with other relevant staff within their agency (including those employees whose work may be affected) and executive management so that timely and constructive agency feedback can be provided to MTC. MTC will consider TAC input when formulating draft policy. In cases where there is no relevant TAC to address the issue under consideration, MTC will formulate draft policy and solicit feedback from general advisory groups, such as the Partnership Technical Advisory Committee (PTAC) or the Transit Finance Working Group.

At its discretion, MTC may also solicit input from the Partnership Board, the Partnership Technical Advisory Committee, the Transit Finance Working Group and MTC's Policy Advisory Council prior to Commission action. Following consultation with the TAC(s) and/or other advisory groups, MTC will solicit feedback from the Partnership Transit Coordination Committee. MTC will provide notification of the proposed PTCC meeting and agenda through written communication to transit general managers and transit program coordinators and posting of the meeting materials on MTC's web site.

After consulting with transit agencies, MTC will forward staff's recommendations to the MTC Operations Committee and the Commission.

D. Sanctions

The Commission expects each transit agency to comply with the requirements outlined in this Resolution and its Attachments as a condition of eligibility for STA and TDA funds, Regional Measure 2 funds, transit capital funds (including federal transit formula funds, STP, CMAQ and

STIP funds) and other funds subject to Commission programming and allocation actions. MTC intends that the region's transit agencies will implement these requirements in good faith and cooperation among themselves and with MTC. The sanction of withholding, restricting or re-programming funds to enforce cooperation will be exercised by MTC through an action of the Commission in cases where an agency fails to meet or fails to exhibit good faith in meeting these requirements. In such cases, MTC staff will notify the agency of the possibility that a sanction may be imposed. This notification will also recommend corrective actions that the agency should take to meet the implementation requirements. The notification will be sent no less than sixty (60) days prior to forwarding an MTC staff recommendation to the Commission.

Appendix B-1

511 Transit Information Requirements

MTC provides static transit data through the 511 phone and web service and real-time transit departure information through the 511 phone and web services and the Regional Hub Signage Program. MTC requires the full participation and support of all transit agencies to deliver quality and timely information. MTC and the transit agencies have jointly developed data transfer mechanisms for static and real-time transit data and identified appropriate roles and responsibilities for all parties, as documented in “*511 Transit and Real-Time Transit Program Roles and Responsibilities*.” MTC will review these requirements on an as-needed basis with transit agency partners, and they may be updated from time to time. The document is available at: <http://www.mtc.ca.gov/planning/tcip/>. The key roles and responsibilities to provide transit agency data on 511 services are as follows:

Transit Agencies will:

Generally:

1. Participate in MTC’s 511 Regional Transit Information System (RTIS) and Real-Time Transit Technical Advisory Committee (511 TAC).
2. Support, fund and staff their roles and responsibilities related to the 511 services as described below.
3. Notify transit customers of the availability of 511 information and 511.org on transit agency web sites, in printed materials, at bus stops/rail stations, and on other transit agency information channels.

For Static Transit Information:

4. Provide accurate, complete, and timely information regarding transit routes, stops, schedules, and fares for dissemination on 511 and/or through data feeds to third parties.
5. Transmit and maintain transit schedule data and other transit service information to MTC, through provided tools, protocols and processes as discussed, updated and agreed in 511 TAC meetings, in advance of any schedule changes to allow for MTC’s timely inclusion on 511 and/or data feeds to third parties. MTC will provide a schedule identifying the necessary advance time.
6. Perform quality control review (focusing on data changed for upcoming service revisions) on a representative sample of agency service data prior to transmittal to MTC.

For Real-time Transit Information:

7. Provide prediction data to the Regional System by establishing and maintaining a data connection to the Regional System and operating and maintaining an interface application.
8. Meet requirements, as defined in “*511 Transit and Real-Time Transit Program Roles and Responsibilities*.”
9. Conduct on-going performance monitoring to ensure accurate and timely transfer of data to the Regional System and accurate provision of prediction data to the public, in collaboration with MTC.
10. Ensure that there is no impact to its provision of prediction data to 511 in the event that the transit agency provides its specific prediction data to a third party.

11. Provide service disruption information to 511 where available and logistically feasible through agreed upon formats.

MTC will:

Generally:

1. Organize and facilitate the 511 TAC.
2. Fund, operate, and maintain the 511 traveler information program for regional transit information, including 511.org, 511 phone, regional electronic Transit Information Displays (eTIDs) at transit hubs, and other relevant applications.
3. In collaboration with transit agencies, conduct performance monitoring to ensure accurate and timely transfer of both static and real-time transit data to the Regional 511 System.

For Static Transit Information:

4. Notify transit customers of the availability of transit agency websites at appropriate locations on web site pages of 511.org.

For Real-time Transit Information:

5. Share with third party vendors and the general public the real-time transit data as described in *"511 Transit and Real-Time Transit Program Roles and Responsibilities."*
6. Provide agencies with contact information for the 511 Traveler Information Center (TIC) to allow for the posting of real-time transit service disruption/emergency information on 511.

Appendix B-2

Regional Transit Hub Signage Program Requirements

MTC and transit agencies have developed the Regional Transit Hub Signage Program Technical Standards and Guidelines (e.g. ‘the Standards’) to ensure consistency across the region as the signage is deployed and maintained. A detailed version of the Standards is available at: <http://www.mtc.ca.gov/planning/tcip/>. The Standards may be periodically updated.

The Standards include:

1. Four main sign types: directional signs, wayfinding kiosks, transit information displays, real-time transit information displays.
2. Guidance to locate signs at key decision points between transit operator services.
3. Design elements to establish a common “look” and “feel” for the signage including:
 - Orange ‘i’ icon on a green background;
 - Standard logos, icons, arrows and messages and an organizing hierarchy;
 - Standard ‘frutiger’ font;
 - Hierarchy for the location of information in each sign;
 - Consistent map orientation and colors;
 - Directional map compass and walking distance/time radius;
 - Transit stop designation through agency logo/mode icon/route number ‘bubbles’; and
 - Prominent 511 logo/message and regional transit program information.

Transit Agencies will:

1. Participate on the Transit Connectivity TAC as needed to raise and consider any further revisions to the Standards or other relevant transit connectivity policies.
2. Comply with the Standards. Where exceptions to the Standards are desired, transit operators must seek prior approval from MTC. Where ambiguity in the Standards exists, transit operators shall request clarification from MTC.
3. Comply with task responsibilities (O&M, replacement and ownership) further detailed in Appendix B-2, Attachment 1. In most cases, the transit agency that owns the property on which the sign has been installed is assigned responsibility. For signs installed on property not owned by a transit agency, the transit agency providing the most service (passenger boardings) in the area of the sign has been assigned responsibility.
4. Facilitate the permitting of signs by waiving all fees that a transit agency would usually charge for sign installation on its property or leased operating areas.
5. As transit agencies plan new facilities or prepare for major remodels of existing facilities, transit agencies will consult with MTC early in the planning process to ensure effective information is provided to transit users and consistency with the Standards is achieved. MTC will determine if a project requires application of the Standards. If yes, the responsible transit agency will implement the appropriate signage throughout the transit facility in accordance with the Standards.

MTC will:

1. In consultation with Transit Connectivity TAC, develop, document and periodically update regional sign Standards.
2. Comply with cost and task responsibilities detailed in Appendix B-2, Attachment 1.

3. Solicit feedback from transit agencies on significant changes to regional policy affecting the 24 hubs through the Transit Connectivity Technical Advisory Committee.
4. As resources permit, provide technical assistance to transit agencies wishing to extend the regional sign Standard to non-regional hubs.
5. Explore opportunities to extend constancy of wayfinding information across modes throughout the region, including through technological and other innovative means.

Appendix B-2, Attachment 1: Hub Signage Program Cost/Task Responsibilities

Appendix B-2, Attachment 1: Hub Signage Program Cost/Task Responsibilities						
Hub Signage Operations & Maintenance (O & M)	Task	Cost Responsibility			Task Responsibility	
		Region	Operator	Region	Operator	
A. Physical O & M by Sign Type						
1. Directional/Wayfinding Signs (incl. hub identification signs)	a. Annual Operations and Maintenance (O&M) ¹		X			X
	b. Lifecycle Replacement ²		X			X
	c. Ownership ³		X			X
2. Wayfinding Kiosks	a. Annual Operations and Maintenance (O&M) ¹		X			X
	b. Lifecycle Replacement ²		X			X
	c. Ownership ³		X			X
3. Real-Time Transit Signs	a. Annual Operations and Maintenance (O&M) ¹		X			X
	b. Lifecycle Replacement ²	X				X
	c. Ownership ³		X			X
4. Transit Information Displays	a. Annual Operations and Maintenance (O&M) ¹		X			X
	b. Lifecycle Replacement		X			X
	c. Ownership ³		X			X
B. Information Content O & M by Sign Type						
1. Directional/Wayfinding Signs (incl. hub identification signs)	d. Static Information Content		X			X
	d. Printed information content ⁴	X			X	
2. Wayfinding Kiosks	d. Printed information content ⁴	X			X	
	d. Electronic information content	X			X	

¹ Including electricity, cleaning, graffiti removal, and repairs.
² Including planning, procurement, coordination, and installation.
³ Insurance, liability, and warranty claims.
⁴ Including quarterly cleaning of physical sign case.

Appendix B-3

Clipper® Implementation Requirements

This Appendix defines the Commission's expectations of the transit agencies to ensure a successful operation of the Clipper® (formerly TransLink®) system in three sections:

- I. Participation Requirements
- II. Regional Clipper® Communications and Marketing Activities
- III. Fare Media Transition Schedules by Specific Operators

Section I describes general Clipper® implementation requirements for participating operators.

Section II defines expectations for communications and marketing: a program area critical to smooth implementation of a full transition to Clipper® that can only be addressed through a collaborative, regional approach.

Section III establishes the dates by which the transit agencies that are currently operating Clipper® will transition their existing prepaid fare media to Clipper®-only availability.

I. Participation Requirements

The Clipper® fare payment system was procured by MTC and has been implemented, operated and maintained under the Design Build Operate Maintain contract between MTC and Cubic Transportation Systems, Inc. for the Clipper® fare payment system (the current Clipper® Contract). The Clipper® Contract was assigned to Cubic Transportation Systems, Inc. (the current Clipper® Contractor), on July 2, 2009 and has an operating term extending through November 2, 2019. In this role as counterparty to the Clipper® Contract, MTC is sometimes referred to in this Appendix B-3 as the "Contracting Agency." Transit agencies operating Clipper® as their fare payment system are required to enter into the Memorandum of Understanding (MOU) among MTC and the transit agencies operating Clipper®.

The following describes general Clipper® implementation requirements for participating operators. An operator's failure to meet one or more of these requirements may result in non-compliance with Resolution 3866.

1. Implement and operate the Clipper® fare payment system in accordance with the Clipper® Operating Rules, as adopted and amended from time to time in accordance with the MOU. The current Clipper® Operating Rules (updated in June 2012) are incorporated herein by this reference. The Clipper® Operating Rules establish operating parameters and procedures for the consistent and efficient operation of Clipper® throughout the region and are available on MTC's website at <http://www.mtc.ca.gov/planning/tcip/>.
2. Pay its share of costs according to the MOU, including the cost allocation formula set forth in Appendix B to the MOU.
3. Abide by the revenue sharing formula in Appendix B to the MOU.

4. Make its facilities and staff available for implementation and operation of Clipper®. Any Operator and the Contracting Agency may agree to an Operator-Specific Implementation Plan, setting forth specific requirements regarding implementation and operation of Clipper® for such Operator.
5. Make determinations regarding the placement of Clipper® equipment on the Operator's facilities and equipment; perform necessary site preparation; attend Clipper® Contractor training on the use of the Clipper® equipment; and provide training to employees using the equipment.
6. Implement, operate and promote Clipper® as the primary fare payment system for each Operator. Clipper®'s primary market is frequent transit riders (i.e., commuters and transit passholders). Operators shall not establish other fare payment systems or fare policies that could deter or discourage these patrons' preference to use Clipper®. Operators shall set fares so that fares paid with Clipper® are equivalent or lower than fares paid either with cash or other forms of payment.

No new non-Clipper® prepaid fare product, other than for promotional, special event or limited-audience—e.g., tourist—fares, shall be created by any transit operator without consulting with and receiving prior approval from MTC.

Nothing in this provision is intended to discourage operators from providing leadership on new technologies or innovations that would offer improvement to fare collection operations or the customer experience. The expectation is that these new initiatives should leverage the attributes and assets of Clipper®, not compete with Clipper® or undermine customers' preference to use Clipper®.

7. Perform first-line maintenance upon Clipper® equipment located on their facilities or vehicles, promptly notify the Clipper® Contractor when second-line maintenance of Clipper® equipment is needed, promptly notify the Contracting Agency and the Clipper® Contractor of any issues affecting daily financial reconciliation or accuracy of system reports, issue all types (including, but not limited to, cards configured as senior or youth) of Clipper® cards and add value to existing Clipper® cards from all Ticket Office Terminals located at their business facilities, and provide at least the same level of front-line customer service to their patrons using Clipper® as to patrons using other forms of fare payment.
8. Sufficiently train and educate agency personnel who have Clipper®-related responsibilities so those personnel are able to carry out the requirements placed upon operators in this Resolution.
9. Assist MTC, as necessary, to develop a program for Transit Capital Priorities (TCP) funds for the purpose of procuring and installing end-of-lifecycle Clipper® equipment and to submit and administer grants for programmed TCP funds on a "pass-through" basis.

10. Take financial responsibility for replacement of equipment damaged in-service due to vandalism or any other cause not covered by the Clipper® Contract warranty.¹

II. Regional Clipper® Communications and Marketing Activities

1. Effective Date. For operators currently operating the Clipper® system, these Clipper® marketing and communications requirements are effective immediately. For operators not yet operating Clipper®, the requirements are effective two months after MTC's approval of the Clipper® system as Revenue Ready for that operator.
2. General Requirements. Operators shall present Clipper® to customers, employees and media as a fully operational fare payment option. This includes, but is not limited to, identification of Clipper® as a fare payment option in brochures, websites, advertisements, schedules/timetables, email newsletters, internal memos, bulletins and training manuals, and any other materials that describe an operator's fare payment options. Operators shall present Clipper® as an option so that Clipper® has equal or greater prominence than the presentation of other payment options. Each operator shall incorporate and/or modify the presentation of Clipper® in existing brochures, websites, schedules/timetables, etc. whenever the operator next updates the content of these items.

In all cases, operators' marketing and communications about Clipper®, whether in brochures, websites, advertisements or other forms, shall adhere to Clipper® brand guidelines developed by MTC with input from transit operators. The Clipper® Brand Guidelines are available at <https://www.clippercard.com/ClipperWeb/toolbox.do>.

3. Equipment Identification. If not already identified as such, operators shall identify Clipper®-compatible fare payment and Clipper®-compatible vending equipment with a decal or other visual identifier to indicate the equipment's Clipper® compatibility.
4. Operator Training. Operators shall ensure appropriate Clipper®-related training for transit operator staff including, but not limited to, vehicle operators, station agents, conductors, customer service personnel, proof of payment officers, ticket sales staff and any other personnel responsible for interacting with customers concerning payment options.
5. Marketing Coordination. Operators shall participate in the development and implementation of a Clipper® marketing and communications initiative that will begin approximately June 1, 2010. This includes, but is not limited to:
 - Staff participation in the development and implementation of the initiative;
 - Dissemination of Clipper® brochures and/or other information materials on vehicles and/or in stations in a manner consistent with the operator's dissemination of other similar operational information; and
 - Providing information about Clipper® utilizing space available on vehicles and/or in stations that is already used by the operator for dissemination of operational information (space available includes, but is not limited to, car cards, posters, and electronic displays).

¹ During the term of the existing Clipper® Contract, MTC shall procure replacement equipment on an operator's behalf, and operators shall pay for the full cost of the equipment including all installation costs and materials.

6. Funding. Funding for the initial phases of the communications and marketing program shall come from the marketing funds already in the Clipper® capital budget and previously assigned to individual operators.

III. Fare Media

The tables below set forth *the fare media* that the designated operator shall convert to Clipper®-only availability and *the date* by which the operator shall no longer accept such fare media in its existing form. In general, MTC has emphasized with each operator a transition of those fare products which currently represent a significant portion of that operator's boardings.

An operator will be excused from compliance with a transition date requirement for particular fare media, if the Clipper® Contractor has not met at least 80% of the cardholder support service level standards set forth in Section B.1.12 of the Clipper® Contract for the two calendar months ending one month before the scheduled transition date. The operator's transition date requirement for the affected fare media will be reset to one month after the Clipper® Contractor has met at least 80% of the Clipper® Contract's cardholder support service level standards for two consecutive calendar months.

AC Transit will transition its existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
EasyPass	Transition complete	
31-Day Transbay Pass – Adult	Transition complete	
Bear Pass (U.C. Berkeley Employee Pass)	Transition complete	
10-Ride Ticket – Youth	Transition complete	
10-Ride Ticket – Adult	Transition complete	
31-Day Local Pass – Youth	Transition complete	
31-Day Local Pass – Adult	Transition complete	
10-Ride Ticket – Senior/Disabled	Transition complete	Product in paper form was effectively eliminated upon transition of Youth 10-Ride Ticket to Clipper®-only.

BART will transition its existing fare media by the following dates:

Fare Media	Date for Ending Sales and/or Acceptance of Listed Prepaid Fare Media	Comments
EZ Rider card as payment for transit	Transition complete	
High Value Discount (HVD) adult magnetic stripe ticket (blue)	12/31/2011	<ul style="list-style-type: none"> • Prior to 12/31/11, BART must discontinue sales of HVD tickets except as noted below; however, BART may continue accepting HVD tickets for fare payment after 12/31/2011. • BART may continue sales of HVD tickets for a limited period of time at seven My Transit Plus locations currently operating in BART stations. This exception shall remain in effect until 60 days after: <ul style="list-style-type: none"> (i) The Clipper® equivalent of HVD tickets becomes available through WageWorks and Edenred USA (parent company of Commuter Check); and (ii) The Clipper® Contractor completes the requirements in Section 2.3 of Clipper® Contract Change Order 122.
Senior magnetic stripe ticket (green)	12/31/2011	<ul style="list-style-type: none"> • Prior to 12/31/11, BART must discontinue sales of green tickets except as noted below; BART may continue accepting green tickets for fare payment after 12/31/2011. • BART may continue sales of green tickets at a limited number of existing sales locations. The number of locations and the length of time sales can continue is subject to mutual agreement by MTC and BART after public comment.
(table continues on following page)		

Fare Media	Date for Ending Sales and/or Acceptance of Listed Prepaid Fare Media	Comments
Youth and disabled magnetic stripe ticket (red)	12/31/2011	<ul style="list-style-type: none"> • Prior to 12/31/11, BART must discontinue sales of red tickets except as noted below; BART may continue accepting red tickets for fare payment after 12/31/2011. • BART may continue sales of red tickets at a limited number of existing sales locations. The number of locations and the length of time sales can continue is subject to mutual agreement by MTC and BART after public comment.
Student magnetic stripe ticket (orange)	Requirement waived	<p>Product not available on Clipper®.</p> <p>Recommend that BART align its definition of youth/student discount with all other operators in region and eliminate this fare product.</p>

Caltrain will transition its existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
Full Fare Monthly Pass	Transition complete	
8-ride Ticket	Transition complete	
Caltrain + Muni Monthly Pass	Transition complete	
Eligible Discount Monthly Pass	Transition complete	
8-ride Eligible Discount Ticket	Transition complete	

Golden Gate Transit and Ferry will transition its existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
\$25 Value Card	Transition complete	
\$50 Value Card	Transition complete	
\$75 Value Card	Transition complete	

San Francisco MTA will transition its existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
Monthly Passes		
Adult BART/Muni Monthly Pass	Transition complete	
Adult Muni Monthly Pass	Transition complete	
Senior Muni Monthly Pass	Transition complete	
RTC/Disabled Monthly Pass	Transition complete	
Youth Monthly Pass	Transition complete	
Visitor/Cable Car		
1 Day Passport	Requirement waived	Product not currently available on Clipper® limited-use (LU) tickets. However, LUs are preferred implementation option.
3 Day Passport	Requirement waived	Product not currently available on Clipper® limited-use (LU) tickets. However, LUs are preferred implementation option.
7 Day Passport	Requirement waived	Product not currently available on Clipper® limited-use (LU) tickets. However, LUs are preferred implementation option.
Ticket Books/Tokens		
Adult Single Ride Ticket Book	Transition complete	
Inter-Agency Transfers		
BART Two-Way Transfer	Transition complete	
BART/Daly City Two-Way Transfer	Transition complete	
Golden Gate Ferry Two-Way Transfer	Transition complete	
Transfers		
Bus Transfers	Requirement waived	MTC and SFMTA are considering alternative strategies that could have a

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
		similar market share impact, including a fare differential favoring Clipper®
Metro/Subway Transfers	Transition complete	
ADA Transfers	Transition complete	

SamTrans will transition these existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
Local Monthly Pass	Transition complete	SamTrans may continue to distribute paper form of this fare product through the county's social services agencies.
Local SF Monthly Pass	Transition complete	
Express Monthly Pass	Transition complete	
Eligible Discount Monthly Pass—senior/disabled	Transition complete	SamTrans may continue to distribute paper form of this fare product through the county's social services agencies.
Youth Monthly Pass	Transition complete	<ul style="list-style-type: none"> SamTrans may continue to distribute paper form of this fare product through the county's social services agencies. "Discount Youth Pass" may continue to be available in paper form through schools for eligible students only.

VTa will transition these existing fare media by the following dates:

Fare Media	Date for Ending Acceptance of Listed Prepaid Fare Media	Comments
Monthly Pass	Transition complete	Paper monthly passes will only be sold to social service agencies and providers, school districts, and nonprofit organizations which distribute the passes free or at a discount.
Monthly Express Pass	Transition complete	Paper monthly express passes will only be sold to social service agencies and providers, school districts, and nonprofit organizations which distribute the passes free or at a discount.
Day Pass Tokens	Transition complete	Day pass tokens will only be sold to social service agencies and providers, school districts, and nonprofit organizations which distribute the passes free or at a discount.

Other Operators

The following are general Clipper® implementation and fare media transition requirements for operators not yet operating Clipper®. Following MTC's approval of the Clipper® system as Revenue Ready for a given operator, MTC will work with the operator to identify more specific fare media transition plans. Unless otherwise approved by MTC, an operator shall (i) begin accepting Clipper® for fare payment by customers no more than two months following MTC's approval of the Clipper® system as Revenue Ready for the operator, and (ii) end acceptance of prepaid non-Clipper® fare media no more than one year following MTC's approval of the Clipper® system as Revenue Ready for the operator.

All of the below-listed operators (the "Phase 3 Operators") are exempt from subsection (ii) of the immediately preceding paragraph for the shorter of (a) the term of the MOU, as it may be extended hereafter, and (b) the term of the existing Clipper® Contract as it may be extended hereafter. For the duration of such exemption, the Phase 3 Operators may continue to accept prepaid non-Clipper® fare media, including passes, tickets and transfers; provided that such Operators continue to comply with Section I.6 and all other applicable provisions of this Appendix B-3.

Phase 3 Operators

Central Contra Costa Transit Authority (County Connection)
City of Fairfield, as the operator of Fairfield and Suisun Transit (FAST)
City of Petaluma, as the operator of Petaluma Transit
City of Santa Rosa, as the operator of Santa Rosa CityBus
City of Vacaville, as the operator of Vacaville City Coach
Eastern Contra Costa Transit Authority (Tri Delta Transit)
Livermore/Amador Valley Transit Authority (LAVTA Wheels)
Marin County Transit District (Marin Transit)
Napa County Transportation and Planning Agency (VINE Transit)
Solano County Transit (SolTrans)
Sonoma County Transit
Union City Transit
Water Emergency Transportation Authority (San Francisco Bay Ferry)
Western Contra Costa Transit Authority (WestCAT)

Appendix B-4

Maintenance of Existing Coordinated Services

The Commission's previously adopted Transit Coordination Implementation Plan (Resolution No. 3055) included a number of coordination programs that were not modified by the Transit Connectivity Plan. Of these, the Commission expects the transit operators to continue to support the following:

1. Regional Transit Connection (RTC) Discount Card Program – Provides identification cards to qualified elderly and disabled individuals for reduced fares on transit. Transit operators and MTC maintain memorandums of understanding about roles and responsibilities for program implementation. The RTC Discount Card is being incorporated into the Clipper® program
2. ADA Paratransit Eligibility Program – Consists of a regional application, a regional eligibility database administered by a transit agency on behalf of the region and universal acceptance across transit systems of all eligibility determinations. Transit operators have flexibility to tailor the application process to screen applicants to facilitate eligibility determinations.
3. Interagency ADA Paratransit Services – Establishes policies to promote a consistent approach to interagency paratransit passenger transfers (see Appendix A-4, Attachment 1).
4. Regional Transportation Emergency Management Plan – The Regional Transportation Emergency Management Plan (formerly know as the Trans Response Plan) is a framework to coordinate transit services during regional emergencies. Transit operators are required to participate in regional exercises to test the implementation of the plan. Transit agencies certify compliance through their annual State Transit Assistance (STA) funding claims process, and also address emergency coordination planning through their Short Range Transit Plans.
5. Regional Links/Express Bus/Feeder Bus Services – Regional Links include bus service across the Bay Bridge, Dumbarton Bridge, the San Mateo Bridge and the Richmond/San Rafael Bridge that has been incorporated into the Express Bus Services program funded with Regional Measure 2 (RM2), and will be monitored per RM2 requirements. Express Bus Services also include Owl Service which operates along the BART rail lines at night when BART is closed. Express feeder bus services to/from BART stations during peak periods are maintained through direct allocation of BART's STA funds to transit agencies as specified in the annual Fund Estimate. If STA is unavailable, BART's General Fund up to \$2.5 million is available to support these services per existing agreement. If additional funding is needed, it will be subject to discussion on an annual basis.

Appendix B-4, Attachment 1

Requirements for Interagency ADA Paratransit Services

Note: Transit operators developed guidelines for interagency ADA paratransit services. MTC adapted these guidelines for the purpose of defining coordination requirements.

Consistent with the Americans with Disabilities Act (ADA) requirement to provide paratransit services that are complementary to fixed-route transit services, Bay Area transit operators have identified a transfer-oriented network of interagency paratransit services. Interagency paratransit trips may require a transfer between connecting paratransit providers at a location specified by the transit operator. The following regional requirements are intended to improve connections between paratransit services for both passengers and paratransit providers. The requirements establish regional protocol for how the system will operate as well as specify the responsibilities of paratransit providers to assure an efficient, user-friendly system.

1. All public transit agencies in the San Francisco Bay Area will honor the regional ADA Eligibility Process [as approved by transit agencies] when certifying an individual for ADA paratransit services.
2. Eligibility for an individual requesting interagency paratransit services will be verified through the ADA Paratransit Regional Eligibility Database.
3. Transit operators will develop and make available customer information on how to access and use interagency paratransit services. This information will be made readily available in accessible formats.
4. Interagency paratransit trips will usually require a transfer between connecting paratransit providers at a location specified by the transit operator. Transit operators will transfer passengers at designated transfer locations that, to the extent possible, are also used as fixed-route transfer sites. For operational efficiency or customer service quality, use of other transfer sites is not precluded. Operators will seek to establish transfer locations that are clean, safe, sheltered and well-lit with accessible telephones and restrooms nearby. Established interagency paratransit transfer locations on transit properties will be clearly marked with a consistent sign designed and adopted at the regional level.
5. For operational efficiency or customer service reasons, transit operators may:
 - transfer passengers to a connecting paratransit provider at a transfer location, including having the passenger wait without assistance until the connecting provider arrives; or
 - provide through-trip service into an adjoining transit agency's service area (not requiring a transfer); or
 - provide transfer assistance to passengers at transfer points (waiting with the passenger until connecting provider arrives); and

- coordinate their schedules and dispatch procedures with connecting provider(s) on the day of service.
6. Coordinating Bay Area interagency paratransit reservations shall be the responsibility of paratransit providers. Subject to availability of rides, a single transit coordinator will be responsible to schedule an interagency paratransit trip (including round-trip service). For trips requiring coordination between only two transit operators, the operator in whose jurisdiction the trip originates will usually perform the function of trip coordinator to schedule the entire trip and to serve as a point of contact for passenger inquiries. For trips involving three or more paratransit providers, a regional trip coordinator may perform these functions.
 7. Transit operators shall accept reservations for interagency paratransit trips according to their local advance reservation policies. When coordinating a trip, the shorter advance reservation period of the connecting agencies will apply. In some cases, the scheduling operator will be unable to determine the availability of a requested interagency paratransit trip until the shortest advance reservation period is open. If, due to differences in advance reservation periods, trip availability cannot be determined at the time the trip is requested, the scheduling operator will inform the passenger of when to call to complete the trip reservation process. In the meantime, the scheduling operator may book available legs of the requested trip according to local advance reservation policies.
 8. Transit operators will charge a fare consistent with each individual operator's fare payment policy. All fares will be communicated to the passenger by the operator scheduling the first leg of the interagency paratransit trip at the time the ride is confirmed. Operators and MTC will work toward a regional fare payment method and/or regional fare policy for paratransit services.

Appendix B-5

Cooperative Demographic and Travel Pattern Transit Rider Survey Program Requirements

This Appendix defines the Commission's expectations of the transit agencies to ensure efficient collection of passenger demographic and travel pattern² information.

The Commission and the transit agencies have a common interest in understanding the demographics and travel patterns of transit riders. Between 2012 and March 2015, Commission staff have carried out transit surveys in partnership with 15 separate transit agencies as part of the Cooperative Demographic and Travel Pattern Transit Rider Survey Program ("Survey Program" henceforth). Collecting this information together is more cost effective than collecting it separately. The resulting consolidated data facilitates across-agency comparisons and analyses.

The key roles and responsibilities of MTC and the transit agencies on the Survey Program are as follows:

Transit agencies will:

1. Participate in the Survey Program when collecting information on transit passenger demographics AND travel patterns together.
2. Contribute to the cost of the agency-specific survey performed as part of the Survey Program. Federally-funded operators not listed below will pay no cost to survey service they provide; the following operators will pay 20 percent of the cost to survey service they provide:
 - Alameda-Contra Costa Transit District;
 - Bay Area Rapid Transit District;
 - Caltrain;
 - Golden Gate Bridge, Highway and Transportation District;
 - San Francisco Municipal Transportation Agency;
 - San Mateo County Transit District; and,
 - Santa Clara Valley Transportation Authority.
3. Contribute a limited number of agency-specific survey questions.
4. Contribute advice and suggestions to the survey procedures including, but not limited to, development of sampling plans, frequency and timing of demographic and travel pattern surveying, instrument design, and recruitment strategies.
5. Share ownership of all work products including raw and processed data.

² Defined here as: (a) the precise location of the trip origin, first transit boarding, last transit alighting, and trip destination; (b) the means of travel between the trip origin and first transit boarding and between the last transit alighting and trip destination; and, (c) the sequence of transit routes used between the first transit boarding and the last transit alighting.

MTC will:

1. Procure consultant resources to carry out the Survey Program.
2. Oversee consultant performance to ensure delivery of high quality products.
3. Contribute to the cost of the Survey Program. MTC will pay 80 percent of the cost to survey service provided by the seven agencies identified in item 2 of the “transit agencies will” list above; MTC will pay 100 percent of the cost to survey service provided by federally-funded transit providers not identified in the above list.
4. Develop a standard set of survey questions (including response options) and update these questions, as needed, in consultation with the transit agencies.
5. Develop and update a set of survey procedures including, but not limited to, development of sampling plans, instrument design, and passenger recruitment strategies.
6. Deliver survey results, including raw data, procedure documentation, and summary reports, to transit agencies in a timely manner.
7. Maintain a database of regional transit rider demographics and travel patterns.
8. Convene a working group to discuss the surveying effort (including the survey procedures) and the timing of surveys relative to capital projects, federal requirements, financial resources, customer service and other agency-led survey efforts, and schedule mark-ups (a.k.a., sign-ups, bid-dates). The group will meet no less than once a year and will develop and maintain a set of Survey Program standard operating procedures that will define operator-specific question allowances, data distribution procedures (including any necessary privacy safeguards), and other details.
9. Share ownership of all work products including raw and processed data.



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
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General Manager

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www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Adopt a Resolution Authorizing the General Manager to Execute Change Order 03 to Contract No. EV-BB-21-001 with Hanford Applied Restoration & Conservation

Dear Board Members:

RECOMMENDATION:

Adopt Resolution No. 2025-15 authorizing the General Manager to execute Change Order 03 to Contract No. EV-BB-21-001 with Hanford Applied Restoration & Conservation in the amount of \$21,652.12 for a total not-to-exceed contract amount of \$266,657. This change order is for replanting, irrigation and maintenance for the next two years.

SUMMARY:

The San Rafael Creek Riparian Enhancement Project will fulfill the planting requirements by restoring and enhancing a section of riparian area of San Rafael Creek in San Rafael. This enhancement project is a permit condition by the California Department of Fish and Wildlife (CDFW). The Project includes maintenance and monitoring of the site for the five-year establishment period as required by the permit.

Change Order 03 provides for the installation of 21 new plants at three enhancement locations to improve the current mitigation area by replacing dead or missing plants. Additionally, the change order includes extending maintenance and irrigation for the new plants over the next two years, while continuing to manage the maintenance and irrigation of the existing plants to achieve higher vegetation cover and survival rates as outlined by environmental agencies, by the end of the mitigation duration.

Staff recommend approving Resolution No. 2025-15 authorizing the General Manager to execute Change Order 03 to Contract No. EV-BB-21-001 with Hanford Applied Restoration & Conservation in the amount of \$21,652.12 for a total not-to-exceed contract amount of \$266,657.

FISCAL IMPACT: Expenditure authority and funding are included in the Fiscal Year 2023-24 budget.

REVIEWED BY: [x] Finance /s/ [x] Counsel /s/

Very truly yours,

 /s/
Bill Gamlen, P.E.
Chief Engineer

Attachment(s): Resolution No. 2025-15

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
APPROVING CHANGE ORDER 03 TO CONTRACT NO. EV-BB-21-001 WITH HANFORD APPLIED
RESTORATION & CONSERVATION FOR SAN RAFAEL CREEK RIPARIAN ENHANCEMENT PROJECT**

WHEREAS, The Sonoma-Marín Area Rail Transit District (SMART) executed Contract No. EV-BB-21-01 with Hanford Applied Restoration & Conservation on October 6, 2021 for riparian enhancement at three locations at San Rafael Creek location; and

WHEREAS, the project is currently in the maintenance and monitoring phase; and

WHEREAS, SMART intends to plant additional trees, enhance irrigation, and expand maintenance efforts; and

WHEREAS, Change Order 03 will provide for the additional planting of additional trees, as well as the enhancement of irrigation and maintenance for the next two years;

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

1. The foregoing Recitals are true and correct and are incorporated herein and form a part of this Resolution.
2. The General Manager is authorized to execute Change Order 03 to Contract No. EV-BB-21-01 with Hanford Applied Restoration & Conservation in the amount of \$21,652.12 for a total not-to-exceed contract amount of \$266,657. A Copy of which is attached hereto and incorporated herein as Exhibit "A" is hereby awarded.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

EXHIBIT "A"

Contract No.: EV-BB-21-001
Contract Title: San Rafael Creek Enhancement Project
Change Order No: 03
Title: Replanting, Enhance Irrigation and Maintenance



Issued to:

Hanford ARC
775 Baywood Dr., Suite 207
Petaluma, CA 94954

CO Title: Replanting, Enhance Irrigation and Maintenance

Change Notice References Include: N/A

The original Contract Price due to this CO will change by: \$21,652.12

The original Contract Performance Time due to the CO will be change by: 0 calendar days

EXCEPT AS MODIFIED BY THIS CHANGE ORDER, ALL TERMS AND CONDITIONS OF THE CONTRACT, AS PREVIOUSLY MODIFIED, REMAIN UNCHANGED AND IN FULL FORCE AND EFFECT. THE PARTIES AGREE THAT THIS CHANGE ORDER IS A FINAL AND EQUITABLE ADJUSTMENT OF THE CONTRACT TIME AND CONTRACT AMOUNT AND CONSTITUTES A MUTUAL ACCORD AND SATISFACTION OF ALL CLAIMS, CURRENT OR FUTURE, OF WHATEVER NATURE CAUSED BY OR ARISING OUT OF THE FACTS AND CIRCUMSTANCES SURROUNDING THIS CHANGE ORDER INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT AND CONSEQUENTIAL COSTS; ADDITIONAL TIME FOR PERFORMANCE; AND THE IMPACT OF THE CHANGE SPECIFIED IN THIS CHANGE ORDER, ALONE OR TAKEN WITH OTHER CHANGES, ON THE UNCHANGED WORK.

Description of Change:

SMART is directing the contractor to enhance the current mitigation are by installing 21 new plantings at three designated enhancement locations and extend the maintenance and irrigation to the new plants for the next two years.

DESCRIPTION	TOTAL
Replanting	\$ 5,419.12
Maintenance and Irrigation	\$ 16,233.00
TOTAL	\$ 21,652.12

EXHIBIT A



IN WITNESS WHEREOF, the Sonoma - Marin Area Rail Transit and Handford ARC have executed this Change Order as of the last date written below.

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT:

Concurred By: _____

Negin Saghaee, Project Manager	Date
---------------------------------------	-------------

Concurred By: _____

Bill Gamlen, Chief Engineer	Date
------------------------------------	-------------

Reviewed By: Heather McKillop, Chief Financial Officer Date _____

The undersigned agrees to the terms and conditions described herein.

Hanford ARC.

Printed Name: _____

By: _____ **Date** _____
Authorized Signatory for Contractor

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT:

By: Eddy Cumins, General Manager Date _____



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

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Sonoma County Mayors' and
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May 21, 2025

Sonoma-Marín Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Authorize the Renewal of Freight Locomotive 1501 Lease Agreement

Dear Board Members:

RECOMMENDATION:

Staff recommends authorizing the General Manager to execute a 2-year renewal of the Lease Agreement FR-PS-22-003 with GATX Corporation for the lease of Freight Locomotive 1501.

SUMMARY:

On March 1, 2022, SMART took over Freight Operations from the Northwestern Pacific Railroad Company (NWP). Several contracts that were in place with the NWP were assigned over to SMART, including a Lease Agreement for the 1501 Locomotive, to support continued operations to customers. The current lease agreement is set to expire on June 1, 2025. The 1501 Locomotive is critical to maintaining the freight operations for our customers; therefore, SMART negotiated and reached a two-year lease renewal term that is fair and reasonable. The new per-day lease rate of \$138.60 plus applicable taxes is a 5% increase over the current rate and would be locked-in for the next 24 months. This action increases the total value of the Lease Agreement by \$110,536.97 for a total estimated contract value of \$251,456.36.

Staff recommends authorizing the General Manager to execute a 2-year renewal of the Lease Agreement FR-PS-22-003 with GATX Corporation for the lease of Freight Locomotive 1501.

FISCAL IMPACT: Funds for this service are included in the Fiscal Year 2025/26 Budget and assumed in subsequent years.

REVIEWED BY: [x] Finance /s/ [x] Counsel /s/

Sincerely,

/s/
Jon Kerruish
Freight Manager

Attachment(s): GATX Corporation Lease Agreement No. FR-PS-22-003



GATX Rail Locomotive Group, L.L.C.
233 S. Wacker Dr.
Chicago, IL 60606

Sam Buchholz
Vice President, Locomotives
Direct: 412-999-6487
sam.buchholz@gatx.com
www.gatxlocomotives.com

Date: May 13, 2025

SONOMA-MARIN AREA RAIL TRANSIT

Subject: Renewal of Locomotive Lease Agreement dated March 2, 2016 (the “Lease”) and that certain Assignment, Novation and Consent Agreement effective as of March 1, 2022 (the “Assignment”)

The Lease covering locomotive NWP 1501 will expire on June 30, 2025. This letter serves to notify you that we will cancel the existing term and rate of this Lease as of that date.

Concurrently, GATX proposes to renew the locomotive for the following Rate and Term.

<u>Road Number</u>	<u>New Rate</u>	<u>Term</u>
NWP 1501	<u>\$138.60 per day</u>	24 months

The road number NWP 1501 as per Section 1 of the Lease shall be amended to reference SMAR 1501.

This letter serves as an amendment to the Lease. This Lease shall automatically renew after the expiration of the term selected by Customer below for successive terms of the same duration in months, at the same rate and under the same conditions, unless notice, in writing, requesting cancellation shall be given by either party to the other at least sixty (60) days prior to the expiration of the term selected by Customer below or the then-current successive term for any locomotive covered by this Lease. Once notice of cancellation has been properly provided, this Lease shall expire upon the later of (i) the date of expiration of the then-current term or (ii) the date a locomotive leaves Customer’s premises.

The effective date of this amendment will be the later of (i) the first day of the month following the current contract expiration date of this Lease or (ii) the first day of the month following mutual execution of this amendment.

Notwithstanding Section 3 and Section 4 of the Lease, the Term shall not end until a locomotive leaves Customer’s premises. Further, if a locomotive is not renewed prior to expiration, GATX, at its sole option, may thereafter invoke holdover rent at 200% of the then-current rate for any locomotive not returned in accordance with the conditions of the Lease and GATX disposition instructions.

We value your business and hope you feel the same about the service we have provided. If you have any questions, comments or concerns, please feel free to contact your account manager below. Please contact me should you decide not to renew this Lease. We will then coordinate with end of lease inspection and disposition instructions. This should be done at the earliest possible date, but no later than 30 days prior to the end of the current lease period.

Please indicate your desired length of term, sign this letter, and e-mail it back to:

Sam Buchholz

E-mail: sam.buchholz@gatx.com

An officer of GATX will confirm our agreement to the terms, endorse the letter, keep one (1) copy for our files, and e-mail one (1) copy to you.

This letter serves as an amendment to *Locomotive Lease Agreement dated March 2, 2016*. Except as expressly provided in this amendment, all of the terms and conditions of this Agreement will remain in full force and effect and are hereby ratified and confirmed by the parties.

This amendment may be executed in one or more counterparts and via facsimile or other form of electronic transmission, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

Sincerely,

Sam Buchholz

Vice President, Locomotives

Lease Agreement dated March 2, 2016

Term: 24 (months)

Rate: \$138.60

SONOMA-MARIN AREA RAIL TRANSIT

**GATX RAIL LOCOMOTIVE GROUP,
L.L.C.**

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

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May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Consideration of adoption of resolutions authorizing the General Manager or designee to request allocation and accept Regional Measure 3 Bridge Toll funds for SMART Civic Center Kiss-and-Ride engineering, SMART Pathway construction (Hanna Ranch to Rowland/Vintage segment), and progressive-design-build delivery of SMART's Windsor to Healdsburg Extension projects

Dear Board Members:

RECOMMENDATIONS:

Adopt Resolution Nos. 2025-12 through 2025-14 authorizing the General Manager or designee to request allocation and accept \$44,937,000 in Regional Measure 3 funds and agreeing to comply with Metropolitan Transportation Commission's requirements to access the funds for the following:

- 1) \$224,000 of RM3 North Bay Transit Access Improvements (RM3 Project #26) to complete final design (PS&E) for SMART's Civic Center Kiss-and-Ride & Micromobility Connector Project (*Resolution No. 2025-12*); and
- 2) \$4,713,000 of RM3 North Bay Transit Access Improvements (RM3 Project #26) to complete design-build delivery of the SMART Pathway in Novato: Hanna Ranch Rd. to Rowland Blvd./Vintage Way Project (*Resolution No. 2025-13*); and
- 3) \$40,000,000 from the RM3 SMART Rail Extension to Windsor and Healdsburg Project (RM3 Project #7) (*Resolution No. 2025-14*).

SUMMARY:

This staff report presents the required Metropolitan Transportation Commission (MTC) documents to be able to request programming and allocation of Regional Measure 3 (RM3) Bridge Toll funds totaling \$44,937,000 to advance three specific distinct projects. The documents include Initial Project Reports for each project, as well as deliverable segment funding plans, cash flow plans and estimated budget plans for each of the three projects. To receive these funds, MTC requires adherence to certain policies and procedures, including:

- MTC Resolution 3866 – Transit Coordination Implementation Plan, a transit agency compliance requirement and one that SMART must adhere to for a range of MTC-governed grants, including grants approved earlier in this agenda under Item 7c.

- MTC Regional Measure 3 Policies and Procedures via MTC Resolution 4404, a project implementation agency compliance requirement covering items such as allocation request and monitoring procedures. These requirements are identical to the ones SMART followed for the Windsor Pedestrian Undercrossing project in 2024.
- MTC Resolution 4530 the Transit Oriented Communities (TOC) Policy adopted in 2022, a requirement governing the local jurisdiction within which the project is taking place. MTC staff have said this policy will apply to the Healdsburg Extension allocation and the policy is attached for reference.

RM3 Project #21 – North Bay Transit Access Improvements

Two of these project allocation requests before you today are from RM3 Project #26, *North Bay Transit Access Improvements*. This project funds \$100 million of investment, with each of five counties (Sonoma, Marin, Napa, Solano and Contra Costa) being given prioritization responsibility from MTC for \$20 million of Project #26. SMART has been the recipient of Project #26 funds via a Sonoma County Transportation and Climate Authority (SCTCA) process in 2024 that prioritized \$2.8 million for the Windsor Pedestrian Undercrossing of the rail track as part of the Sonoma County Airport to Windsor Rail and Pathway Extension project. The SMART Board of Directors authorized requesting allocation in April 2024, MTC allocated in May 2024 and SMART constructed the pedestrian undercrossing starting in June 2024, with full opening to the public in June 2025.

Two of the allocation requests before you today are for two projects prioritized in Marin County as part a Transportation Authority of Marin (TAM) process culminating in TAM Commission approval of prioritization of \$20 million worth of bridge toll funding for projects including \$224,000 for engineering design of the Marin Civic Center SMART Station Kiss-and-Ride facility and \$4,713,000 towards the design-build construction of the SMART Pathway (Hanna Ranch to Rowland/Vintage Way) in Novato. The engineering design of the Kiss-and-Ride facility is anticipated to be fully funded with these bridge toll funds. The SMART Pathway (Hanna Ranch to Rowland/Vintage Way) design-build project delivery will be matched with \$1.5 million in regionally programmed federal funds (One Bay Area Grant) that have been transferred to the Federal Transit Administration for grant execution and delivery.

SMART staff have been informed by MTC staff that the allocation of funds to these two projects from RM3 Project #26 will not be subject to compliance with the MTC Transit Oriented Communities Policy.

RM3 Project #7 – SMART Rail Extension to Windsor and Healdsburg

The third allocation request before you today is for the \$40 million in funds from RM3 Project #7, *SMART Rail Extension to Windsor and Healdsburg*, a project directly named within the RM3 Expenditure Plan. These \$40 million in funds will be matched with other secured funds, including two pending applications for funds, such that a fully funded segment of the Healdsburg Extension will be implemented from Windsor to the City of Healdsburg. The pending applications for the remaining matching funds to these RM3 funds will be announced in June 2025. The funding plan shown in the attached Initial Project Report assumes the two pending applications are awarded. Should the two pending applications have reduced or no awards, SMART will modify the full funding plan shown for resubmittal to MTC.

SMART staff have been informed by MTC staff that the allocation of funds to RM3 Project #7 – the SMART Rail Extension to Windsor and Healdsburg Project - will be subject to compliance with the MTC Transit Oriented Communities Policy.

Collectively these three bridge toll allocations will fund up to \$44,937,000 for three critical capital projects advancing SMART’s capital plan and goals. We recommend the Board approve Resolution Nos. 2025-12, 2025-13, and 2025-14 authorizing the execution of these grants, authorizing the execution of any necessary documents to receive the funds, and authorizing the completion of the projects associated with these funds.

FISCAL IMPACT: None. SMART will assume these fund sources within the FY2025-2026 annual budget and individual contract awards will be brought to the Board of Directors for decisions separately from this authorization to request allocation of these Regional Measure 3 funds.

REVIEWED BY: [x] Finance /s/ [x] Counsel /s/

Very truly yours,

/s/

Joanne Parker
Grants and Legislative Affairs Manager

Attachment(s):

- 1) Resolution Number 2025-12 - Marin Civic Center Kiss-and-Ride
 - a. Initial Project Report - Marin Civic Center Kiss-and-Ride
- 2) Resolution Number 2025-13 - SMART Pathway (Hanna Ranch to Rowland/Vintage)
 - b. Initial Project Report - SMART Pathway (Hanna Ranch to Rowland/Vintage)
- 3) Resolution Number 2025-14 - SMART Windsor to Healdsburg Extension
 - c. Initial Project Report - SMART Windsor to Healdsburg Extension
- 4) MTC Resolution 4530 - Transit Oriented Communities Policy

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
AUTHORIZING ACCEPTANCE OF \$224,000 OF REGIONAL MEASURE 3 (RM3) BRIDGE TOLL FUNDS AND
COMPLIANCE WITH METROPOLITAN TRANSPORTATION COMMISSION (MTC) RM3 BRIDGE TOLL FUND
REQUIREMENTS FOR THE SMART MARIN CIVIC CENTER KISS-AND-RIDE ENGINEERING PROJECT**

WHEREAS, SB 595 (Chapter 650, Statutes 2017), commonly referred as Regional Measure 3, identified projects eligible to receive funding under the Regional Measure 3 Expenditure Plan; and

WHEREAS, the Metropolitan Transportation Commission (MTC) is responsible for funding projects eligible for Regional Measure 3 funds, pursuant to Streets and Highways Code Section 30914.7(a) and (c); and

WHEREAS, MTC has established a process whereby eligible transportation project sponsors may submit allocation requests for Regional Measure 3 funding; and

WHEREAS, allocation requests to MTC must be submitted consistent with procedures and conditions as outlined in Regional Measure 3 Policies and Procedures (MTC Resolution No. 4404; and

WHEREAS, Sonoma-Marín Area Rail Transit District (SMART) is an eligible sponsor of transportation project(s) in the Regional Measure 3 Expenditure Plan; and

WHEREAS, the SMART Marin Civic Center Station Kiss-and-Ride Engineering (Project) is eligible for consideration in the Regional Measure 3 Expenditure Plan, as identified in California Streets and Highways Code Section 30914.7(a); and

WHEREAS, the Regional Measure 3 allocation request, attached hereto in the Initial Project Report and incorporated herein as though set forth at length, lists the project, purpose, schedule, budget, expenditure and cash flow plan for which SMART is requesting that MTC allocate Regional Measure 3 funds; now, therefore, be it

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

- SMART, and its agents shall comply with the provisions of the Metropolitan Transportation Commission's Regional Measure 3 Policies and Procedures; and
- SMART certifies that the project is consistent with the Regional Transportation Plan (RTP); and
- The year of funding for any design, right-of-way and/or construction phases has taken into consideration the time necessary to obtain environmental clearance and permitting approval for the project; and
- The Regional Measure 3 phase or segment is fully funded, and results in an operable and useable segment; and

- SMART approves the allocation request and updated Initial Project Report, including cash flow plan, attached to this resolution; and
- SMART has reviewed the project needs and has adequate staffing resources to deliver and complete the project within the schedule set forth in the allocation request and updated Initial Project Report, attached to this resolution; and
- SMART is an eligible sponsor of projects in the Regional Measure 3 Expenditure Plan, and is authorized to submit an application for Regional Measure 3 funds for SMART Marin Civic Center Station Kiss-and-Ride Engineering Project, in accordance with California Streets and Highways Code 30914.7(a); and
- SMART certifies that the projects and purposes for which RM3 funds are being requested is in compliance with the requirements of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.), and with the State Environmental Impact Report Guidelines (14 California Code of Regulations Section 15000 et seq.) and if relevant the National Environmental Policy Act (NEPA), 42 USC Section 4-1 et seq. and the applicable regulations thereunder; and
- There is no legal impediment to SMART making allocation requests for Regional Measure 3 funds and there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of SMART to deliver such project; and
- SMART agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and
- SMART indemnifies and holds harmless MTC, BATA, and their Commissioners, representatives, agents, and employees from and against all claims, injury, suits, demands, liability, losses, damages, and expenses, whether direct or indirect (including any and all costs and expenses in connection therewith), incurred by reason of any act or failure to act of SMART, its officers, employees or agents, or subcontractors or any of them in connection with its performance of services under this allocation of RM3 funds. SMART agrees at its own cost, expense, and risk, to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against MTC, BATA, and their Commissioners, officers, agents, and employees, or any of them, arising out of such act or omission, and to pay and satisfy any resulting judgments. In addition to any other remedy authorized by law, so much of the funding due under this allocation of RM3 funds as shall reasonably be considered necessary by MTC may be retained until disposition has been made of any claim for damages; and
- SMART shall, if any revenues or profits from any non-governmental use of property (or project) that those revenues or profits shall be used exclusively for the public transportation services for which the project was initially approved, either for capital improvements or maintenance and operational costs, otherwise the Metropolitan Transportation Commission is entitled to a proportionate share equal to MTC's percentage participation in the projects(s); and
- Assets purchased with RM3 funds including facilities and equipment shall be used for the public transportation uses intended, and should said facilities and equipment cease to be operated or maintained for their intended public transportation purposes for its useful life, that the Metropolitan Transportation Commission (MTC) shall be entitled to a present day value refund or credit (at MTC's option) based on MTC's share of the Fair Market Value of the

said facilities and equipment at the time the public transportation uses ceased, which shall be paid back to MTC in the same proportion that Regional Measure 3 funds were originally used; and

- SMART shall post on both ends of the construction site(s) at least two signs visible to the public stating that the Project is funded with Regional Measure 3 Toll Revenues; and
- SMART authorizes its General Manager, or his/her designee, to execute and submit an allocation request for the construction phase with MTC for Regional Measure 3 funds in the amount of \$224,000, for the project, purposes and amounts included in the project application attached to this resolution; and
- The General Manager, or his/her designee, is hereby delegated the authority to make non-substantive changes or minor amendments to the allocation request or IPR as he/she deems appropriate; and
- A copy of this resolution shall be transmitted to MTC in conjunction with the filing of the SMART application referenced herein.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

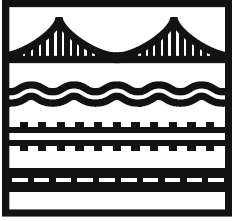
ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District



Regional Measure 3

Initial Project Report

SB 595 Project Information

Project Number	26
Project Title	SMART Marin Civic Center Station Kiss-and-Ride and Micromobility Connector
Project Funding Amount	\$224,000

I. Overall Project Information

a. Project Sponsor / Co-sponsor(s) / Implementing Agency

Sonoma-Marin Area Rail Transit District (SMART)

b. Project Purpose

The Project will complete engineering design for the SMART Marin Civic Center Station Kiss-and-Ride and Micromobility Connector Project, a designated loading zone for people accessing the station by vehicle. The project would also include handicap parking and a Class 1 bicycle pathway connection at SMART's Civic Center Station in SMART-owned Right-of-Way (ROW) along Civic Center Drive.

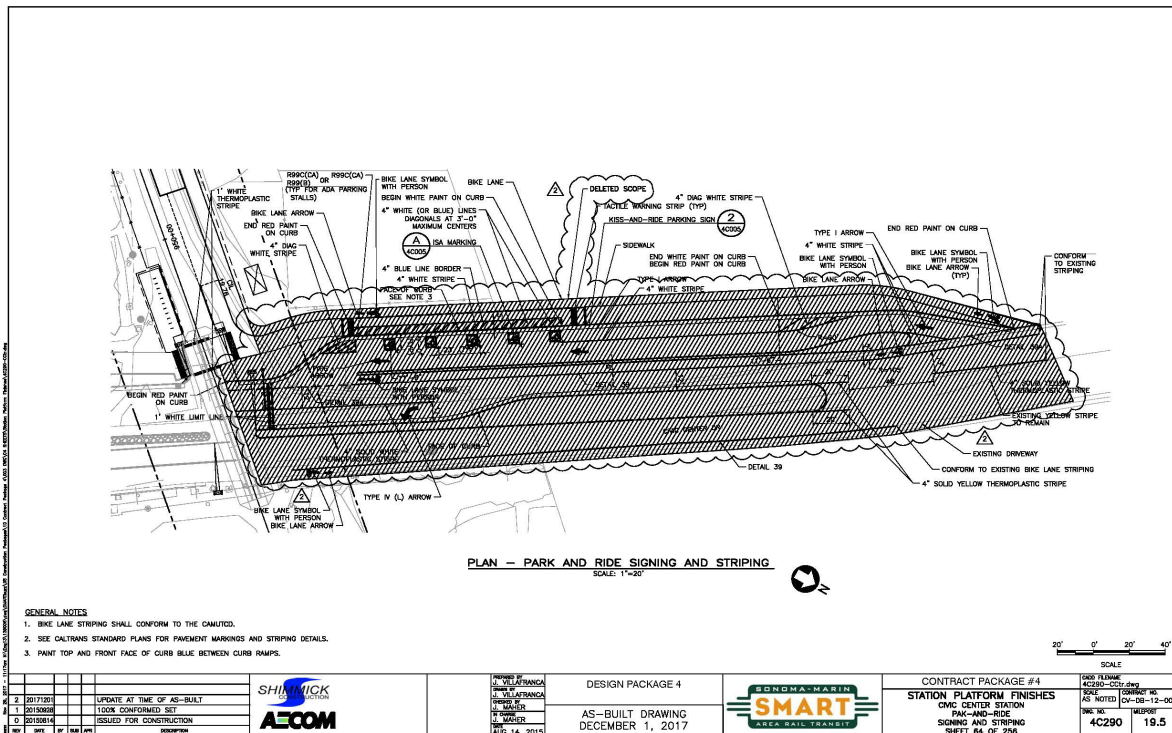
c. Detailed Project Description

The Project is for completion of the engineering design phase of the SMART Marin Civic Center Station Kiss-and-Ride and Micromobility Connector Project, a designated loading zone for people accessing the station by vehicle. The project would also include handicap parking and a Class 1 bicycle pathway connection at SMART's Civic Center Station in SMART-owned Right-of-Way (ROW) along Civic Center Drive, where there is currently no designated loading zone for people accessing the station by vehicle. The addition of ADA parking will make accessing the station easier for people with disabilities. Additionally, the loading/"kiss-and-ride" zone will make it possible for SMART's planned micro-transit shuttle to serve the station area, overcoming the current spatial constraints and travel lane configurations which make it difficult to operate a shuttle at this station as there isn't a suitable place to load and unload passengers, especially for people with disabilities. The proposed Project creates a drop-off facility that would allow SMART to expand our SMART Connect micro-transit services for the residents, employees and visitors of the Marin Civic Center Area.

The Project also includes a one-direction, separated bike path and new sidewalk, which will create safe and protected facilities for people walking and biking, since there is no current sidewalk on the southwest side of Civic Center Drive. Completing this project helps complete portions of MTC's Regional



Original design that was removed from the station construction scope due to funding limitations at the time of station construction. Additional design work is included in the grant request to include a micro-transit shuttle pick up and drop off zone.





II. Project Phase Description and Status

a. Environmental/Planning

Does NEPA apply? Partial/Yes ☐ No ☒

SMART completed CEQA for the SMART project, including much of the proposed detail covered by this engineering design project.

b. Design

This project is to complete engineering design for this project, otherwise known as Final Design or Plans Specifications and Engineering.

c. Right-of-Way Activities / Acquisition

Right of way is publicly owned by SMART.

d. Construction / Vehicle Acquisition / Operating

Construction phase work will seek funding after the engineering design work on this project is completed.

III. Project Schedule

SMART Marin Civic Center Kiss-and-Ride and Micromobility Phase-Milestone	Planned	
	Start Date	Completion Date
Environmental Studies, Preliminary Eng. (ENV / PE / PA&ED)	2006	June 2008 FEIR
Final Design - Plans, Specs. & Estimates (PS&E)	October 2025	December 2026
Right-of-Way Activities /Acquisition (R/W)	2002	2002
Construction (Begin – Open for Use) / Acquisition (CON)	TBD	TBD

IV. Project Budget

SMART Civic Center Kiss-and-Ride and Micromobility Capital Project	Total Amount - Escalated to Year of Expenditure (YOE)- (Thousands)
---	---



Regional Measure 3 Initial Project Report

Environmental Studies & Preliminary Eng (ENV / PE / PA&ED)	N/A
Design - Plans, Specifications and Estimates (PS&E)	\$224,000
Right-of-Way Activities /Acquisition (R/W)	N/A
Design-Build Construction (CON)	TBD
Total Project Budget (in thousands)	TBD

SMART Marin Civic Center Kiss-and-Ride Engineering Operating	Total Amount - Escalated to Year of Expenditure (YOE)- (Thousands)
Annual Operating Budget	N/A

V. Project Funding

Excel Attachment Included ☒

VI. Planned RM3 Funding Requests in Next 12 Months

No additional funds planned in the next 12 months for this project.

Regional Measure 3

Allocation Request

Funding Plan - Deliverable Segment - Fully funded phase or segment of total project

Project Title:	SMART Marin Civic Center Station Kiss-and-Ride and Micromobility Connector
Subproject Title	North Bay Transit Access Improvements (Marin Share)
Project/Subproject Number:	10.1
Total RM3 Funding:	\$ 224,000

(add rows as necessary)

RM3 Deliverable Segment Funding Plan - Funding by planned year of allocation

Funding Source	Phase	Prior	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Future committed	Total Amount (\$ thousands)	Amount Expended (\$ thousands)	Amount Remaining (\$ thousands)
RM3	ENV										\$ -		\$ -
	ENV										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ENV Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PSE										\$ -		\$ -
	PSE			\$ 224							\$ 224		\$ 224
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
PSE Subtotal		\$ -	\$ -	\$ 224	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 224	\$ -	\$ 224
RM 3	ROW										\$ -		\$ -
	ROW										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ROW Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	CON										\$ -		\$ -
	CON										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
CON Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3 Funding Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Funding Total		\$ -	\$ -	\$ 224	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 224	\$ -	\$ 224

Project Title:	SMART Marin Civic Center Station Kiosk-and-Ride and Micromobility Connector
Subproject Title	North Bay Transit Access Improvements
Project/Subproject Number:	10.1
Total RM3 Funding:	\$ 224,000

Please update the columns below based on your allocation month. The first six months of cash flow are monthly, followed by quarterly, then annually as long as you can reasonably estimate projected expenditures

Notes: RM3 funds should be drawn down approximately proportionately with other funding sources in the same phase. The allocation expiration date will be the end of the final fiscal year in which RM3 funds are planned to be expended for the requested phases.

**Regional Measure 3
Allocation Request
Estimated Budget Plan**

Project Title:	SMART Marin Civic Center Station Kiss-and-Ride and Micromobility Connector
Subproject Title	North Bay Transit Access Improvements (Marin Share)
Project/Subproject Number:	10.1
Total RM3 Funding:	\$ 224,000

1. Direct Labor of Implementing Agency (specify by name and job function)			
	Estimated Hours	Rate/Hour	Total Estimated cost
SMART			\$ 24,000
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
Direct Labor Subtotal			\$ 24,000
2. Overhead and direct benefits (specify)		Rate	x Base
Overhead		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
Overhead and Benefit Subtotal			\$ -
3. Direct Capital Costs (include engineer's estimate on construction, right-of-way, or vehicle acquisition)			
	Unit (if applicable)	Cost per unit	Total Estimated cost
			\$ -
			\$ -
			\$ -
Direct Capital Costs Subtotal			\$ -
4. Consultants (Identify purpose and/or consultant)			
			Total Estimated cost
RSE			\$ 200,000
Constultants Subtotal			\$ 200,000
5. Other direct costs			
			Total Estimated cost
Other Direct Costs Subtotal			\$ -
Total Estimated Costs			\$ 224,000

Comments:

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
AUTHORIZING ACCEPTANCE OF \$4,713,000 OF REGIONAL MEASURE 3 (RM3) BRIDGE TOLL FUNDS AND
COMPLIANCE WITH METROPOLITAN TRANSPORTATION COMMISSION (MTC) RM3 BRIDGE TOLL FUND
REQUIREMENTS FOR THE SMART PATHWAY/GREAT REDWOOD TRAIL – NOVATO (HANNA RANCH TO
ROWLAND/VINTAGE WAY) PROJECT**

WHEREAS, SB 595 (Chapter 650, Statutes 2017), commonly referred as Regional Measure 3, identified projects eligible to receive funding under the Regional Measure 3 Expenditure Plan; and

WHEREAS, the Metropolitan Transportation Commission (MTC) is responsible for funding projects eligible for Regional Measure 3 funds, pursuant to Streets and Highways Code Section 30914.7(a) and (c); and

WHEREAS, MTC has established a process whereby eligible transportation project sponsors may submit allocation requests for Regional Measure 3 funding; and

WHEREAS, allocation requests to MTC must be submitted consistent with procedures and conditions as outlined in Regional Measure 3 Policies and Procedures (MTC Resolution No. 4404; and

WHEREAS, Sonoma-Marín Area Rail Transit District (SMART) is an eligible sponsor of transportation project(s) in the Regional Measure 3 Expenditure Plan; and

WHEREAS, the SMART Pathway/Great Redwood Trail – Novato (Hanna Ranch to Rowland/Vintage Way) Project (Project) is eligible for consideration in the Regional Measure 3 Expenditure Plan, as identified in California Streets and Highways Code Section 30914.7(a); and

WHEREAS, the Regional Measure 3 allocation request, attached hereto in the Initial Project Report and incorporated herein as though set forth at length, lists the project, purpose, schedule, budget, expenditure and cash flow plan for which SMART is requesting that MTC allocate Regional Measure 3 funds; now, therefore, be it

**NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY
FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:**

- SMART, and its agents shall comply with the provisions of the Metropolitan Transportation Commission's Regional Measure 3 Policies and Procedures; and
- SMART certifies that the project is consistent with the Regional Transportation Plan (RTP); and
- The year of funding for any design, right-of-way and/or construction phases has taken into consideration the time necessary to obtain environmental clearance and permitting approval for the project; and
- The Regional Measure 3 phase or segment is fully funded, and results in an operable and useable segment; and

- SMART approves the allocation request and updated Initial Project Report, including cash flow plan, attached to this resolution; and
- SMART has reviewed the project needs and has adequate staffing resources to deliver and complete the project within the schedule set forth in the allocation request and updated Initial Project Report, attached to this resolution; and
- SMART is an eligible sponsor of projects in the Regional Measure 3 Expenditure Plan, and is authorized to submit an application for Regional Measure 3 funds for SMART Pathway/Great Redwood Trail – Novato (Hanna Ranch to Rowland/Vintage Way), in accordance with California Streets and Highways Code 30914.7(a); and
- SMART certifies that the projects and purposes for which RM3 funds are being requested is in compliance with the requirements of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.), and with the State Environmental Impact Report Guidelines (14 California Code of Regulations Section 15000 et seq.) and if relevant the National Environmental Policy Act (NEPA), 42 USC Section 4-1 et. seq. and the applicable regulations thereunder; and
- There is no legal impediment to SMART making allocation requests for Regional Measure 3 funds and there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of SMART to deliver such project; and
- SMART agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and
- SMART indemnifies and holds harmless MTC, BATA, and their Commissioners, representatives, agents, and employees from and against all claims, injury, suits, demands, liability, losses, damages, and expenses, whether direct or indirect (including any and all costs and expenses in connection therewith), incurred by reason of any act or failure to act of SMART, its officers, employees or agents, or subcontractors or any of them in connection with its performance of services under this allocation of RM3 funds. SMART agrees at its own cost, expense, and risk, to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against MTC, BATA, and their Commissioners, officers, agents, and employees, or any of them, arising out of such act or omission, and to pay and satisfy any resulting judgments. In addition to any other remedy authorized by law, so much of the funding due under this allocation of RM3 funds as shall reasonably be considered necessary by MTC may be retained until disposition has been made of any claim for damages; and
- SMART shall, if any revenues or profits from any non-governmental use of property (or project) that those revenues or profits shall be used exclusively for the public transportation services for which the project was initially approved, either for capital improvements or maintenance and operational costs, otherwise the Metropolitan Transportation Commission is entitled to a proportionate share equal to MTC's percentage participation in the projects(s); and
- Assets purchased with RM3 funds including facilities and equipment shall be used for the public transportation uses intended, and should said facilities and equipment cease to be operated or maintained for their intended public transportation purposes for its useful life, that the Metropolitan Transportation Commission (MTC) shall be entitled to a present day

value refund or credit (at MTC's option) based on MTC's share of the Fair Market Value of the said facilities and equipment at the time the public transportation uses ceased, which shall be paid back to MTC in the same proportion that Regional Measure 3 funds were originally used; and

- SMART shall post on both ends of the construction site(s) at least two signs visible to the public stating that the Project is funded with Regional Measure 3 Toll Revenues; and
- SMART authorizes its General Manager, or his/her designee, to execute and submit an allocation request for the construction phase with MTC for Regional Measure 3 funds in the amount of \$4,713,000, for the project, purposes and amounts included in the project application attached to this resolution; and
- The General Manager, or his/her designee, is hereby delegated the authority to make non-substantive changes or minor amendments to the allocation request or IPR as he/she deems appropriate; and
- A copy of this resolution shall be transmitted to MTC in conjunction with the filing of the SMART application referenced herein.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

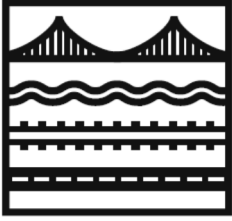
ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District



Regional Measure 3

Initial Project Report

SB 595 Project Information

Project Number	26
Project Title	SMART Pathway/Great Redwood Trail Novato (Hanna Ranch to Rowland/Vintage)
Project Funding Amount	\$4,713,000

I. Overall Project Information

a. Project Sponsor / Co-sponsor(s) / Implementing Agency

Sonoma-Marin Area Rail Transit District (SMART)

b. Project Purpose

The project will construct a critical gap closure in the non-motorized infrastructure network in Novato, Marin County, connecting local endpoints at Hanna Ranch Road and the intersection of Rowland Boulevard/Vintage Way, to create a safe path of travel of bicycles and pedestrians.

c. Detailed Project Description

The Project is located in the City of Novato and would be constructed along SMART-owned Right-of-Way (ROW) between where the existing constructed pathway terminates on the south side of Hanna Ranch Road and where the City of Novato's recently constructed Pathway terminates at the junction of Rowland Blvd. and Vintage Way South. The Project would close the current gap between these two segments, and one in which bicyclists and pedestrians currently cannot circumvent without trespassing or making lengthy, inconvenient detours.

The Project will construct .4 miles of Class 1 non-motorized paved pathway within and along the publicly owned railroad right-of-way. This segment of Pathway will close a gap between two existing pathway segments and will create a fully separated bicycle and pedestrian facility where no alternative facility currently exists. The project will facilitate safe, zero emission and active transportation choices between Novato north of Highway 37 and Novato south of Highway 37. The Project will better connect communities within Novato where current barriers, including the U.S. 101, impede people from traveling by biking, walking or rolling between neighborhoods. Specifically, this Project helps link the communities around Bel Marin Keys in South Novato, to the Vintage Oaks area and to Downtown Novato.



Regional Measure 3 Initial Project Report

Impediments to Project Completion

No specific impediments have been identified. The matching funds for the project are One Bay Area Grant and have been transferred to the Federal Transit Administration for administration. That grant agreement is pending execution.

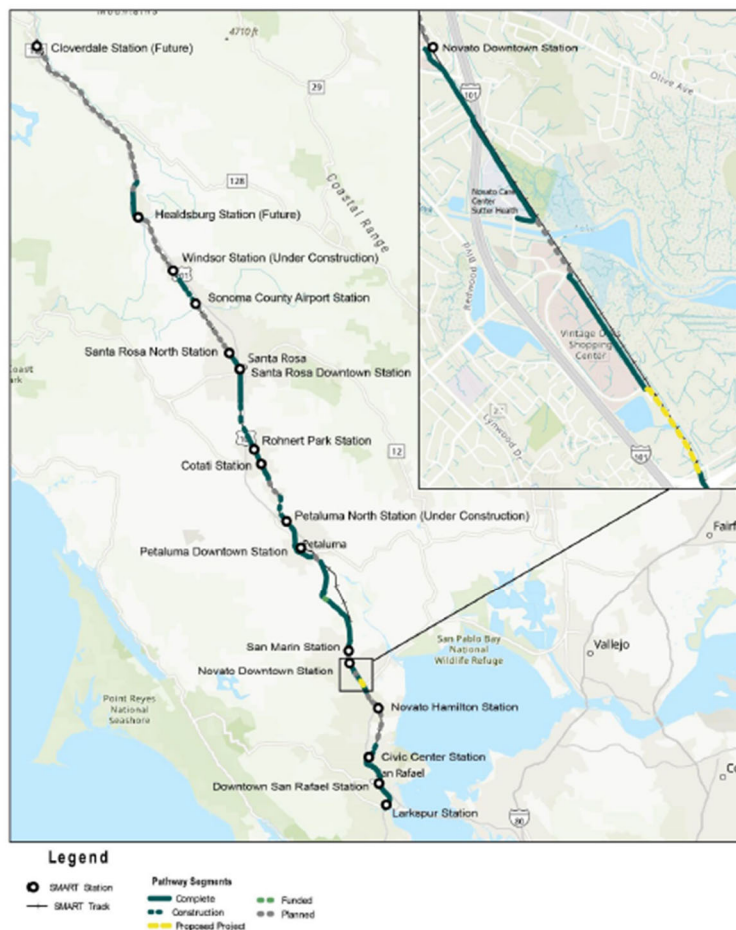
d. Operability (describe entities responsible for operating and maintaining project once completed/implemented)

SMART will be responsible for owning, operating and maintaining the project(s) once completed.

e. Project Graphic(s)

SMART Pathway Gap Closure Project Between Hanna Ranch Road and Rowland Way South/Vintage Way Maps

SMART System Overview Map and Project Detail

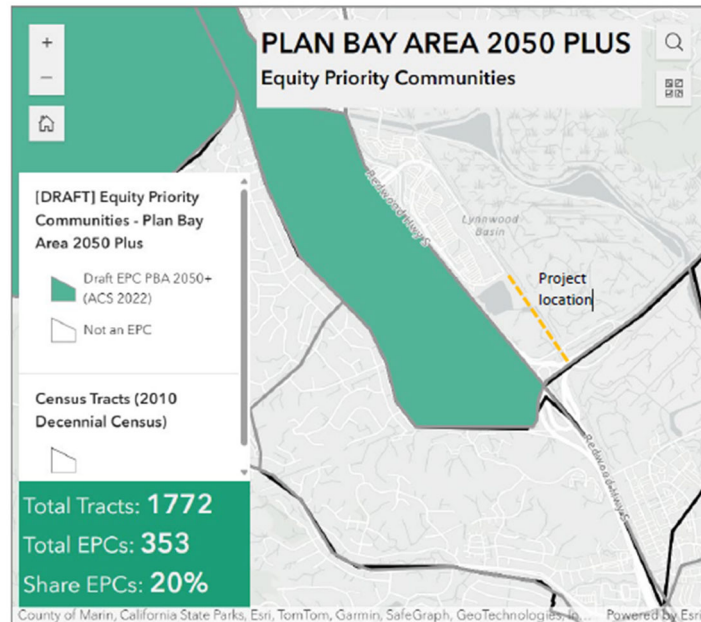




Regional Measure 3 Initial Project Report

Project Location Map in relation to nearby Plan Bay Area 2050+ Equity Priority Communities.

MTC's Plan Bay Area 2050 Plus Draft Equity Priority Community's Map



II. Project Phase Description and Status

a. Environmental/Planning

Does NEPA apply? Partial/Yes ☐ No ☒

SMART completed CEQA for the SMART project in June 2008 and NEPA, with Caltrans as the Federal Designated lead agency in 2015.

b. Design

SMART completed 30% engineering with \$881,000 of SMART Measure Q funds, with the project to be delivered via Design-Build to complete the remaining engineering and construction work.

c. Right-of-Way Activities / Acquisition

Right of way is publicly owned by SMART.

d. Construction / Vehicle Acquisition / Operating

The project will be delivered with a design-build delivery method and is scheduled

III. Project Schedule

SMART PATHWAY/GRT NOVATO (HANNA TO ROWLAND/VINTAGE) Phase-Milestone	Planned	
	Start Date	Completion Date
Environmental Studies, Preliminary Eng. (ENV / PE / PA&ED)	2006	June 2008 FEIR



Regional Measure 3 Initial Project Report

		May 2015 NEPA – Caltrans CE
Final Design - Plans, Specs. & Estimates (PS&E) 30%	January 2023	August 2024
Right-of-Way Activities /Acquisition (R/W)	2002	2002
Construction (Design-Build delivery)	July 2025	October 2027

IV. Project Budget

SMART PATHWAY/GRT NOVATO (HANNA TO ROWLAND/VINTAGE WAY) Capital Project	Total Amount - Escalated to Year of Expenditure (YOE)- (Thousands)
Environmental Studies & Preliminary Eng (ENV / PE / PA&ED)	N/A
Design - Plans, Specifications and Estimates (PS&E)	N/A
Right-of-Way Activities /Acquisition (R/W)	N/A
Design-Build Construction (CON)	\$6,214,000
Total Project Budget (in thousands)	\$6,214,000

V. Project Funding

Excel Attachment Included ☒

VI. Planned RM3 Funding Requests in Next 12 Months

No additional RM3 fund requests are planned for this project in the next 12 months.

Regional Measure 3

Allocation Request

Funding Plan - Deliverable Segment - Fully funded phase or segment of total project

Project Title:	SMART Pathway/Great Redwood Trail Novato - Hanna Ranch Rd to Rowland Blvd/A
Subproject Title	North Bay Transit Access Improvements (Marin Share)
Project/Subproject Number:	10.9
Total RM3 Funding:	\$ 4,713,000

(add rows as necessary)

RM3 Deliverable Segment Funding Plan - Funding by planned year of allocation

Funding Source	Phase	Prior	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Future committed	Total Amount (\$ thousands)	Amount Expended (\$ thousands)	Amount Remaining (\$ thousands)
RM3	ENV										\$ -		\$ -
	ENV										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ENV Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PSE										\$ -		\$ -
	PSE										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
PSE Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	ROW										\$ -		\$ -
	ROW										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ROW Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	CON			\$ 4,713							\$ 4,713		\$ 4,713
OBAG/FTA	CON			\$ 1,000							\$ 1,000		\$ 1,000
OBAG-PCA/FTA	CON			\$ 500							\$ 500		\$ 500
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
CON Subtotal		\$ -	\$ -	\$ 6,213	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,213	\$ -	\$ 6,213
RM 3 Funding Subtotal		\$ -	\$ -	\$ 4,713	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,713	\$ -	\$ 4,713
Capital Funding Total		\$ -	\$ -	\$ 6,213	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,213	\$ -	\$ 6,213

Project Title:	SMART Pathway/Great Redwood Trail Novato - Hanna Ranch Rd to Rowland Blvd/Vintage Way
Subproject Title	North Bay Transit Access Improvements (Marin Share)
Project/Subproject Number:	10.9
Total RM3 Funding:	\$ 4,713,000

Please update the columns below based on your allocation month. The first six months of cash flow are monthly, followed by quarterly, then annually as long as you can reasonably estimate projected expenditures

Notes: RM3 funds should be drawn down approximately proportionately with other funding sources in the same phase. The allocation expiration date will be the end of the final fiscal year in which RM3 funds are planned to be expended for the requested phase.

**Regional Measure 3
Allocation Request
Estimated Budget Plan**

Project Title:	SMART Pathway/Great Redwood Trail Novato - Hanna Ranch Rd to Rowland Blvd
Subproject Title	North Bay Transit Access Improvements (Marin Share)
Project/Subproject Number:	10.9
Total RM3 Funding:	\$ 4,713,000

1. Direct Labor of Implementing Agency (specify by name and job function)			
	Estimated Hours	Rate/Hour	Total Estimated cost
SMART Staff (Construction Management)			\$ 261,000
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
Direct Labor Subtotal			\$ 261,000
2. Overhead and direct benefits (specify)			
	Rate	x Base	
Overhead		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
Overhead and Benefit Subtotal			\$ -
3. Direct Capital Costs (include engineer's estimate on construction, right-of-way, or vehicle acquisition)			
	Unit (if applicable)	Cost per unit	Total Estimated cost
Design-Build Construction Contract			\$ 5,403,000
			\$ -
			\$ -
			\$ -
Direct Capital Costs Subtotal			\$ 5,403,000
4. Consultants (Identify purpose and/or consultant)			
			Total Estimated cost
CoCo Consult (DB assistance)			\$ 100,000
CM Consultant (Construction Management/Inspection)			\$ 400,000
Quality Assurance Consultant(materials testing)			\$ 50,000
Constultants Subtotal			\$ 550,000
5. Other direct costs			
			Total Estimated cost
Other Direct Costs Subtotal			\$ -
Total Estimated Costs			\$ 6,214,000

Comments:

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
AUTHORIZING ACCEPTANCE OF \$40,000,000 OF REGIONAL MEASURE 3 (RM3) BRIDGE TOLL FUNDS AND
COMPLIANCE WITH METROPOLITAN TRANSPORTATION COMMISSION (MTC) RM3 BRIDGE TOLL FUND
REQUIREMENTS FOR THE SMART RAIL WINDSOR TO HEALDSBURG EXTENSION PROJECT**

WHEREAS, SB 595 (Chapter 650, Statutes 2017), commonly referred as Regional Measure 3, identified projects eligible to receive funding under the Regional Measure 3 Expenditure Plan; and

WHEREAS, the Metropolitan Transportation Commission (MTC) is responsible for funding projects eligible for Regional Measure 3 funds, pursuant to Streets and Highways Code Section 30914.7(a) and (c); and

WHEREAS, MTC has established a process whereby eligible transportation project sponsors may submit allocation requests for Regional Measure 3 funding; and

WHEREAS, allocation requests to MTC must be submitted consistent with procedures and conditions as outlined in Regional Measure 3 Policies and Procedures (MTC Resolution No. 4404; and

WHEREAS, Sonoma-Marín Area Rail Transit District (SMART) is an eligible sponsor of transportation project(s) in the Regional Measure 3 Expenditure Plan; and

WHEREAS, the SMART Rail Extension Windsor to Healdsburg Project (Project) is eligible for consideration in the Regional Measure 3 Expenditure Plan, as identified in California Streets and Highways Code Section 30914.7(a); and

WHEREAS, the Regional Measure 3 allocation request, attached hereto in the Initial Project Report and incorporated herein as though set forth at length, lists the project, purpose, schedule, budget, expenditure and cash flow plan for which SMART is requesting that MTC allocate Regional Measure 3 funds; now, therefore, be it

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

- SMART, and its agents shall comply with the provisions of the Metropolitan Transportation Commission's Regional Measure 3 Policies and Procedures; and
- SMART certifies that the project is consistent with the Regional Transportation Plan (RTP); and
- The year of funding for any design, right-of-way and/or construction phases has taken into consideration the time necessary to obtain environmental clearance and permitting approval for the project; and
- The Regional Measure 3 phase or segment is fully funded, and results in an operable and useable segment; and
- SMART approves the allocation request and updated Initial Project Report, including cash flow plan, attached to this resolution; and
- SMART has reviewed the project needs and has adequate staffing resources to deliver and complete the project within the schedule set forth in the allocation request and updated Initial Project Report, attached to this resolution; and

- SMART is an eligible sponsor of projects in the Regional Measure 3 Expenditure Plan, and is authorized to submit an application for Regional Measure 3 funds for SMART Rail Extension Windsor to Healdsburg Project, in accordance with California Streets and Highways Code 30914.7(a); and
- SMART certifies that the projects and purposes for which RM3 funds are being requested is in compliance with the requirements of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.), and with the State Environmental Impact Report Guidelines (14 California Code of Regulations Section 15000 et seq.) and if relevant the National Environmental Policy Act (NEPA), 42 USC Section 4-1 et seq. and the applicable regulations thereunder; and
- There is no legal impediment to SMART making allocation requests for Regional Measure 3 funds and there is no pending or threatened litigation which might in any way adversely affect the proposed project, or the ability of SMART to deliver such project; and
- SMART agrees to comply with the requirements of MTC's Transit Coordination Implementation Plan as set forth in MTC Resolution 3866; and
- SMART indemnifies and holds harmless MTC, BATA, and their Commissioners, representatives, agents, and employees from and against all claims, injury, suits, demands, liability, losses, damages, and expenses, whether direct or indirect (including any and all costs and expenses in connection therewith), incurred by reason of any act or failure to act of SMART, its officers, employees or agents, or subcontractors or any of them in connection with its performance of services under this allocation of RM3 funds. SMART agrees at its own cost, expense, and risk, to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against MTC, BATA, and their Commissioners, officers, agents, and employees, or any of them, arising out of such act or omission, and to pay and satisfy any resulting judgments. In addition to any other remedy authorized by law, so much of the funding due under this allocation of RM3 funds as shall reasonably be considered necessary by MTC may be retained until disposition has been made of any claim for damages; and
- SMART shall, if any revenues or profits from any non-governmental use of property (or project) that those revenues or profits shall be used exclusively for the public transportation services for which the project was initially approved, either for capital improvements or maintenance and operational costs, otherwise the Metropolitan Transportation Commission is entitled to a proportionate share equal to MTC's percentage participation in the projects(s); and
- Assets purchased with RM3 funds including facilities and equipment shall be used for the public transportation uses intended, and should said facilities and equipment cease to be operated or maintained for their intended public transportation purposes for its useful life, that the Metropolitan Transportation Commission (MTC) shall be entitled to a present day value refund or credit (at MTC's option) based on MTC's share of the Fair Market Value of the said facilities and equipment at the time the public transportation uses ceased, which shall be paid back to MTC in the same proportion that Regional Measure 3 funds were originally used; and
- SMART shall post on both ends of the construction site(s) at least two signs visible to the public stating that the Project is funded with Regional Measure 3 Toll Revenues; and
- SMART authorizes its General Manager, or his/her designee, to execute and submit an allocation request for the construction phase with MTC for Regional Measure 3 funds in the amount of \$40,000,000, for the project, purposes and amounts included in the project application attached to this resolution; and
- The General Manager, or his/her designee, is hereby delegated the authority to make non-substantive changes or minor amendments to the allocation request or IPR as he/she deems appropriate; and

- A copy of this resolution shall be transmitted to MTC in conjunction with the filing of the SMART application referenced herein.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

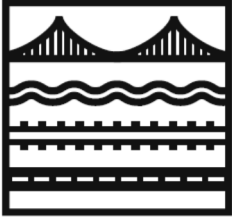
ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District



Regional Measure 3

Initial Project Report

SB 595 Project Information

Project Number	7
Project Title	SMART Rail Extension to Windsor and Healdsburg
Project Funding Amount	\$40,000,000

I. Overall Project Information

a. Project Sponsor / Co-sponsor(s) / Implementing Agency

Sonoma-Marin Area Rail Transit District (SMART)

b. Project Purpose

Project #7 in SB595 states “Sonoma-Marin Area Rail Transit District (SMART). Provide funding to extend the rail system north of the Charles M. Schulz-Sonoma County Airport to the Cities of Windsor and Healdsburg. The project sponsor is the Sonoma-Marin Area Rail Transit District. Forty million dollars (\$40,000,000).” This project allocation request is to extend the SMART rail system north from the Town of Windsor to the City of Healdsburg.

c. Detailed Project Description

Extend the SMART rail system up to 8.8-miles north between the Town of Windsor and the City of Healdsburg at the northern city limits/Lytton Road crossing. Project includes Class 4 mainline track (rated for passenger service up to 79 mph) with sidings, gauntlet tracks at stations to accommodate freight rail service, street grade crossings, Class 1 paved non-motorized pathway with pedestrian grade crossings, bridges including the Healdsburg Russian River Rail Bridge, one station with amenities, broadband capacity expansion, and rail systems compliant with Federal Railroad Administration Positive Train Control requirements.

SMART has successfully completed the portion of RM3 Project #7 voter prioritized service between Sonoma County Airport and the Town of Windsor, reconstructing the dormant railroad with the support of State and Federal funding partners and opening revenue service to the public June 2025. The remaining scope of RM3 Project #7 is the reconstruction of the railroad between Windsor and Healdsburg and is the subject of this RM3 allocation request.

SMART Windsor to Healdsburg will be delivered via Progressive Design Build (PDB), allowed in California law as of January 2024. SMART initiated a Request for Qualifications March 2025 and is engaged in the PDB procurement with an anticipated Phase 1 contract award in September 2025. Subsequent PDB



Regional Measure 3 Initial Project Report

Phase 2 contracts will be let as design and pricing advances on the project. The full project is anticipated to be delivered in 2028. The PDB procurement includes options to complete additional work north of Healdsburg, beyond the scope of this RM3 funding allocation.

Impediments to Project Completion

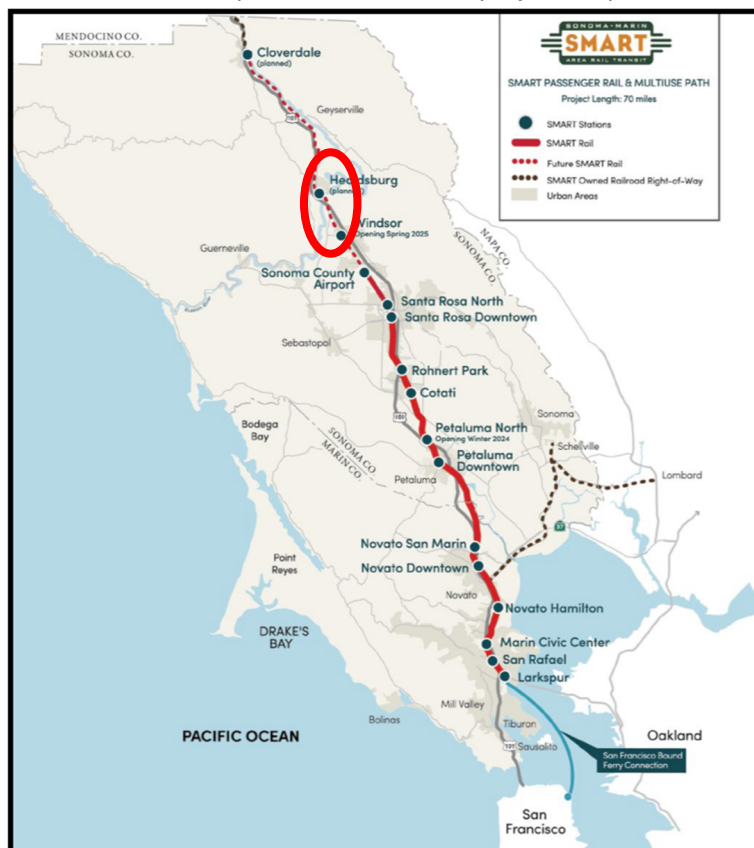
Matching funds for this project include Federal Railroad Administration Consolidated Rail Infrastructure and Safety Improvements (CRISI), pending execution. Additional state fund sources are pending application decisions in June 2025. Estimates for regulatory permits for the Healdsburg Russian River Rail Bridge work are included in the project schedule though the timeline is not fully in SMART's control.

- d. **Operability** (describe entities responsible for operating and maintaining project once completed/implemented)

SMART will be responsible for owning, operating and maintaining the project(s) once completed.

- e. **Project Graphic(s)**

SMART Corridor map with PDB contract project scope circled.





II. Project Phase Description and Status

a. Environmental/Planning

Does NEPA apply? Partial/Yes ☒ No ☐

SMART completed CEQA for the SMART project, including rail to Windsor and Healdsburg, in June 2008. Currently NEPA only applies to the Healdsburg Extension only for systems work.

For the Healdsburg Extension, the Federal Railroad Administration was the responsible agency for a Categorical Exclusion (issued August 16, 2024) for Positive Train Control-Systems work for the rail project between Windsor and Healdsburg.

b. Design

SMART awarded a contract for project cost estimating and support services in September 2024 to CoCoConsult. The contractor provides initial cost estimating and support throughout the PDB procurement and implementation. The PDB contractor (to be awarded September 2025) is responsible for providing 10-65% engineering/design in the Phase 1 portion of the project delivery and 65-100% engineering/design plus construction in the Phase 2 portions of the project delivery.

c. Right-of-Way Activities / Acquisition

Right of way is publicly owned by SMART.

d. Construction / Vehicle Acquisition / Operating

The PDB contractor (to be awarded September 2025) is responsible for providing 10-65% engineering/design in the Phase 1 portion of the project delivery and 65-100% engineering/design plus construction in the Phase 2 portions of the project delivery. The project is currently estimated to be delivered in 2028.

III. Project Schedule

WINDSOR TO HEALDSBURG EXTENSION Phase-Milestone	Planned	
	Start Date	Completion Date
Environmental Studies, Preliminary Eng. (ENV / PE / PA&ED)	2006	June 2008 FEIR August 2024 (NEPA CE FRA Systems)
Right-of-Way Activities /Acquisition (R/W)	2002	2002
Progressive Design Build – Phase 1 & 2 (Engineering-Construction)	September 2025	December 2028



IV. Project Budget

WINDSOR TO HEALDSBURG EXTENSION Capital Project	Total Amount - Escalated to Year of Expenditure (YOE)-
Environmental Studies & Preliminary Eng (ENV / PE / PA&ED)	N/A
Design - Plans, Specifications and Estimates (PS&E)	N/A
Right-of-Way Activities /Acquisition (R/W)	N/A
Progressive Design-Build Construction (CON)	\$269,000,000
Total Project Budget	\$269,000,000

V. Project Funding

Excel Attachment Included ☒

VI. Planned RM3 Funding Requests in Next 12 Months

SMART is initiating this request for allocation of RM3 funds early to ensure adequate time for Commission review and consideration. SMART intends to award the Phase 1 Progressive Design Build contract in September 2025 with an allocation of Transit and Intercity Rail Capital Program (TIRCP) funds requested for consideration before the California Transportation Commission in June 2025. Allocation of RM3 funds would be necessary in advance of Phase 2 contract award estimated Spring 2026.

**Regional Measure 3
Allocation Request
Funding Plan - Deliverable Segment - Fully funded phase or segment of total project**

Project Title:	SMART Rail Extension Windsor to Healdsburg Project	
Subproject Title		
Project/Subproject Number:	7.1	
Total RM3 Funding:	\$	40,000,000

(add rows as necessary)

RM3 Deliverable Segment Funding Plan - Funding by planned year of allocation (dollars in thousands)

Funding Source	Phase	Prior	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Future committed	Total Amount (\$)	Amount Expended (\$)	Amount Remaining (\$)
RM3	ENV										\$ -		\$ -
	ENV										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ENV Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PSE										\$ -		\$ -
	PSE										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
PSE Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	ROW										\$ -		\$ -
	ROW										\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
											\$ -		\$ -
ROW Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PDB CON				\$ 20,000	\$ 20,000					\$ 40,000		\$ 40,000
FY23 Congressional Appropriation	PDB CON		\$ 1,800								\$ 1,800		\$ 1,800
FRA CRISI	PDB CON			\$ 28,140							\$ 28,140		\$ 28,140
TIRCP	PDB CON		\$ 34,810								\$ 34,810		\$ 34,810
TIRCP	PDB CON			\$ 81,000							\$ 81,000		\$ 81,000
SCCP (Pending)	PDB CON			\$ 56,000							\$ 56,000		\$ 56,000
LPPC (Pending)	PDB CON			\$ 25,000							\$ 25,000		\$ 25,000
SCTA Measure M	PDB CON			\$ 2,250							\$ 2,250		\$ 2,250
											\$ -		\$ -
											\$ -		\$ -
CON Subtotal		\$ -	\$ 36,610	\$ 192,390	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 269,000	\$ -	\$ 269,000
RM 3 Funding Subtotal		\$ -	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000
Capital Funding Total		\$ -	\$ 36,610	\$ 192,390	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 269,000	\$ -	\$ 269,000

**Regional Measure 3
Allocation Request
Cash Flow Plan**

Project Title:	SMART Rail Extension Windsor to Healdsburg Project
Subproject Title:	
Project/Subproject Number:	7.1
Total RM3 Funding:	\$ 40,000,000

(please include all planned funding, add rows as necessary)
Please update the columns below based on your allocation month. The first six months of cash flow are monthly, followed by quarterly, then annually as long as you can reasonably estimate projected expenditures

RM3 Cash Flow Plan for Deliverable Segment - Funding by requested expenditure period (dollars in thousands)																							
List all funding sources besides RM3		Phase	Prior	Dec-24	Jan-25	Feb-25	Mar-25	(April - June 2025)	(July- Sept 2025)	(Oct- Dec 2025)	(Jan - March 2026)	(April - June 2026)	(July- Sept 2026)	(Oct - Dec 2026)	(Jan - March 2027)	(April - June 2027)	(July- Sept 2027)	(Oct- Dec 2027)	(Jan - March 2028)	committed (if applicable)	Amount (\$ millions)	Expended (\$ millions)	Remaining (\$ millions)
RM 3	ENV																				\$ -		\$ -
Other																					\$ -		\$ -
																					\$ -		\$ -
																					\$ -		\$ -
																					\$ -		\$ -
ENV Subtotal			\$ -								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PSE																				\$ -	\$ -	\$ -
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PSE Subtotal			\$ -								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	ROW																				\$ -	\$ -	\$ -
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ROW Subtotal			\$ -								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM 3	PDB CON										\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000
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CON Subtotal			\$ -								\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000
RM 3 Funding Subtotal			\$ -								\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000
Capital Funding Total			\$ -								\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000
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Notes: RM3 funds should be drawn down approximately proportionately with other funding sources in the same phase. The allocation expiration date will be the end of the final fiscal year in which RM3 funds are planned to be expended for the requested phase.

DRAFT

Regional Measure 3 Allocation Request Estimated Budget Plan

Project Title:	SMART Rail Extension Windsor to Healdsburg Project
Subproject Title	0
Project/Subproject Number:	7.1
Total RM3 Funding:	\$ 40,000,000

1. Direct Labor of Implementing Agency (specify by name and job function)			
	Estimated Hours	Rate/Hour	Total Estimated cost
SMART Staff (Project Management and Administration)			\$ 14,100,000
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
Direct Labor Subtotal			\$ 14,100,000
2. Overhead and direct benefits (specify)			
	Rate	x Base	
Overhead		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
		\$ -	
Overhead and Benefit Subtotal			\$ -
3. Direct Capital Costs (include engineer's estimate on construction, right-of-way, or vehicle acquisition)			
	Unit (if applicable)	Cost per unit	Total Estimated cost
Progressive Design Build Construction			\$ 242,000,000
			\$ -
			\$ -
			\$ -
Direct Capital Costs Subtotal			\$ 242,000,000
4. Consultants (Identify purpose and/or consultant)			
			Total Estimated cost
Construction Management Support, Quality Assurance (Materials Testing), Systems Testing Service, Permitting Support			\$ 12,900,000
Consultants Subtotal			\$ 12,900,000
5. Other direct costs			
			Total Estimated cost
Wetland, Riparian, In Water Mitigation and Environmental Permitting			\$ 7,100,000
Other Direct Costs Subtotal			\$ 7,100,000
Total Estimated Costs			\$ 269,000,000

Comments:

Date: September 28, 2022
W.I.: 1611
Referred by: PLNG
Revised: 10/25/23

ABSTRACT

MTC Resolution No. 4530, Revised

This Resolution sets forth MTC's regional Transit-Oriented Communities (TOC) Policy, which seeks to support the region's transit investments by creating communities around transit stations and along transit corridors that not only support transit ridership, but that are places where Bay Area residents of all abilities, income levels, and racial and ethnic backgrounds can live, work and access services, such as education, childcare, and healthcare. The TOC Policy is rooted in Plan Bay Area 2050 (PBA2050), the region's Long Range Transportation Plan/Sustainable Communities Strategy. The TOC Policy applies to areas within one half-mile of the following types of existing and planned fixed-guideway transit stops and stations: regional rail, commuter rail, light-rail transit, bus rapid transit, and ferries. The policy requirements consist of the following four elements: 1) minimum required and allowed residential and/or commercial office densities for new development; 2) policies focused on housing production, preservation and protection, and commercial anti-displacement and stabilization policies; 3) parking management; and 4) transit station access and circulation. Further discussion of the Transit-Oriented Communities Policy is contained in the Joint MTC Planning with the ABAG Administration Committee summary sheet dated September 9, 2022.

On October 25, 2023, Appendix 1 was added and related changes were made to Attachment A to clarify the scope of the TOC Policy's application to transit extensions. Further discussion of the amendment to the Resolution is contained in the Joint MTC Planning with the ABAG Administrative Committee summary sheet dated October 13, 2023.

Re: Adoption of a Transit-Oriented Communities (TOC) Policy.

METROPOLITAN TRANSPORTATION COMMISSION

RESOLUTION NO. 4530

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the San Francisco Bay Area pursuant to Government Code Section 66500 et seq; and

WHEREAS, MTC adopted Resolution No. 3434 which set forth MTC's Regional Transit Expansion Program of Projects in 2001, which was amended to add the Transit-Oriented Development Policy in 2005; and

WHEREAS, the TOD Policy successfully increased zoned capacity for residential development in key transit expansion corridors and initiated the regional Station Area Planning Program by requiring major transit expansion projects to meet minimum housing density thresholds around stations in new transit corridors before programming regional discretionary funds for project construction; and

WHEREAS, the TOD Policy applied to a specific set of transit expansion projects listed in Resolution No. 3434, the majority of which have been completed or are under construction; and

WHEREAS, the Station Area Planning program was expanded to become the Priority Development Area Program in 2008 which has resulted in over 61 completed plans with zoning for more than 100,000 housing units and more than 75 million square feet of commercial development near transit to date; and

WHEREAS, California law (California Government Code Section 65080) requires development of a regional Sustainable Communities Strategy to achieve a specified greenhouse gas (GHG) reduction target; and

WHEREAS, in 2021, MTC unanimously adopted Plan Bay Area 2050, the region's Long Range Transportation Plan/Sustainable Communities Strategy, which includes designated Growth Geographies, including Priority Development Areas and Transit-Rich Areas, where future growth in housing and jobs would be focused over the next 30 years, as well as strategies to allow a greater mix of housing densities and types and greater commercial densities in Growth Geographies, both of which are high-impact strategies for achieving the Plan's GHG reduction target; and

WHEREAS, incentivizing local jurisdictions to plan and zone for higher residential and commercial densities in areas within one half-mile of existing and planned fixed-guideway transit stops and stations supports the region's transit investments and implements key GHG reduction strategies from Plan Bay Area 2050; and

WHEREAS, incentivizing local jurisdictions to also adopt policies focused on increasing housing production of all types, particularly affordable housing production, preservation and protection, commercial anti-displacement and stabilization, parking management, and transit station access and circulation further supports regional transit investments and Plan Bay Area 2050 implementation, now, therefore, be it

RESOLVED, that MTC adopts the 2022 Transit-Oriented Communities Policy, developed, as detailed in Attachment A, and attached hereto and incorporated herein as though set forth at length.

METROPOLITAN TRANSPORTATION COMMISSION

A handwritten signature in black ink, appearing to be 'AP' followed by a long horizontal stroke.

Alfredo Pedroza, Chair

The above resolution was entered into by the Metropolitan Transportation Commission at a duly called and noticed meeting held in San Francisco, California and at other remote locations, on September 28, 2022.

Date: September 28, 2022
W.I.: 1611
Referred by: PLNG
Revised: 10/25/23

Attachment A
MTC Resolution No. 4530, Revised

TRANSIT-ORIENTED COMMUNITIES POLICY

TABLE OF CONTENTS

Goals	3
Definitions.....	3
Existing Transit and Transit Enhancements or Improvements	4
Transit Extensions.....	5
Opt-In for Jurisdictions Not Served by Fixed-Guideway Transit Service.....	5
TOC Policy Requirements	5
1. Density Requirements for New Development	5
1A. Calculation of Minimum and Allowable Maximum Residential and Commercial Office Density	6
1B. Minimum and Allowable Maximum Density for New Residential Development.....	6
1C. Minimum and Allowable Maximum Density for New Commercial Office Development	9
2. Affordable Housing Production, Preservation, and Protection Policies and Commercial Protection and Stabilization Policies	12
2A. Affordable Housing Production	12
2B. Affordable Housing Preservation.....	14
2C. Affordable Housing Protection and Anti-Displacement	16
2D. Commercial Protection and Stabilization	18

3. Parking Management	19
4. Transit Station Access and Circulation.....	21
Funding	22
Implementation	22
Evaluation and Policy Updates	23
Technical Assistance.....	23

GOALS

MTC's Transit-Oriented Communities (TOC) Policy seeks to support the region's transit investments by creating communities around transit stations and along transit corridors that not only support transit ridership, but that are places where Bay Area residents of all abilities, income levels, and racial and ethnic backgrounds can live, work, and access services, such as education, childcare, and healthcare. The TOC Policy is rooted in Plan Bay Area 2050 (PBA2050), the region's Long Range Transportation Plan/Sustainable Communities Strategy, and addresses components in all four elements of the Plan, including transportation, housing, the economy, and the environment. Four goals guide the TOC Policy and advance PBA 2050 implementation:

- Increase the overall housing supply and residential densities for new development and prioritize affordable housing in transit-rich areas.
- Increase commercial densities for new development in transit-rich areas near regional transit hubs served by multiple transit providers.
- Prioritize bus transit, active transportation, and shared mobility within and to/from transit-rich areas, particularly to Equity Priority Communities located more than one half-mile from transit stops or stations.
- Support and facilitate partnerships to create equitable transit-oriented communities within the San Francisco Bay Area Region.

DEFINITIONS

Transit-oriented communities (TOCs) are locations within one half-mile from transit stops and stations that are designed to enable people to access and use transit more often for more types of trips. TOCs accomplish this through greater land use density and diversity of uses, implementation of Complete Streets¹, effective parking management, and robust multimodal access that maximizes the geographic area accessible from a stop or station via space-efficient forms of mobility (walking, cycling, shared mobility, and public transit) over space-intensive

¹ See [MTC Resolution No. 4493](#).

modes (single-occupancy vehicle travel). **Equitable TOCs** seek to ensure opportunity for people of all abilities, income levels, and racial and ethnic backgrounds to live and work in transit-accessible locations by prioritizing the production, preservation, and protection of affordable housing and community-serving businesses from potential displacement that may result from new development and increasing land values or rents. Equitable TOCs also prioritize access to transit for people with disabilities and/or mobility impairments by ensuring that all state and federal accessibility laws, codes, and guidelines are followed and that universal design principles, which enable access not only for people with disabilities but also for people with a wide range of ages, sizes, and abilities, are employed to the greatest extent possible.

TOCs directly support implementation of PBA2050 *Strategies H3: Allow a greater mix of housing densities and types in Growth Geographies* and *EC4: Allow greater commercial densities in Growth Geographies*. More specifically, the TOC Policy applies to areas within one half-mile of the following types of existing and planned **fixed-guideway transit² stops and stations**: regional rail (e.g., Bay Area Rapid Transit, Caltrain), commuter rail (e.g., Capitol Corridor, Altamont Corridor Express, Sonoma-Marín Area Rail Transit, Valley Link), light-rail transit (LRT), bus rapid transit (BRT), and ferries.

Existing Transit and Transit Enhancements or Improvements

As noted, the TOC Policy will apply to jurisdictions with fixed-guideway transit service stops and stations, as defined above, as well as any enhancements and improvements to these services, including infill stops and stations. Future One Bay Area Grant (OBAG) funding cycles (i.e., OBAG 4 and subsequent funding cycles) will consider funding revisions that prioritize investments in transit station areas that are subject to and compliant with the TOC Policy. (Please see FUNDING section for further detail.)

² “Fixed guideway means a public transportation facility that uses and occupies a separate right-of-way or rail line for the exclusive use of public transportation and other high occupancy vehicles, or uses a fixed catenary system and a right of way usable by other forms of transportation. This includes, but is not limited to, rapid rail, light rail, commuter rail, automated guideway transit, people movers, ferry boat service, and fixed-guideway facilities for buses (such as bus rapid transit) and other high occupancy vehicles.” (49 CFR § 611.105)

Transit Extensions

In the case of fixed-guideway transit extensions, jurisdictions and project sponsors must comply with TOC Policy requirements as set forth in Appendix 1 to receive allocation(s) of regional discretionary capital funding or endorsement(s) for the transit project extension.

Opt-In for Jurisdictions Not Served by Fixed-Guideway Transit Service

Jurisdictions with transit stops and stations that are not served by fixed-guideway service (e.g., areas that are only served by regular fixed-route bus transit) may choose to “opt in” and voluntarily meet TOC Policy requirements.³

TOC POLICY REQUIREMENTS

TOC Policy requirements consist of the following four elements: 1) minimum and allowable residential and/or commercial office densities for new development; 2) policies focused on affordable housing production, preservation and protection, and commercial anti-displacement and stabilization policies; 3) parking management; and 4) transit station access and circulation. These requirements, described further below, apply to areas within one half-mile of existing and planned fixed-guideway transit stops and stations: regional rail, commuter rail, light-rail transit (LRT), and bus rapid transit (BRT), and ferries.

1. Density Requirements for New Development

The TOC Policy seeks to ensure that local planning and zoning will enable new development built within one half-mile of existing or planned fixed-guideway transit stops or stations to be built at sufficiently high densities to support transit ridership and increase the proportion of trips taken by transit. The density requirements do not require that local jurisdictions plan or zone for a particular type of land use, nor do they apply to parcels occupied by existing dwelling units to minimize the risk of displacement.

³ For locations with no fixed-guideway transit service, the Tier 4 density and parking management requirements will apply in addition to all other TOC Policy requirements.

1A. Calculation of Minimum and Allowable Maximum Residential and Commercial Office Density

On *average*, minimum and allowable maximum densities should be at or above the ranges specified in the TOC Policy (see Tables 1 and 2) within the half-mile station area. This includes parcels where it may not be physically possible to construct new residential, commercial office, or mixed-use buildings within the specified density ranges due to small parcel sizes, environmental factors, or conflicts with Airport Land Use Compatibility Plans, etc.

1B. Minimum and Allowable Maximum Density for New Residential Development

The TOC Policy seeks to ensure that local jurisdiction planning and zoning will enable new residential development built within one half-mile of existing or planned fixed-guideway transit stops or stations to be built at sufficiently high densities to support transit ridership and increase the proportion of trips taken by transit. The TOC Policy does not require that areas within a station area be zoned for residential uses. It also does not specify any zoning standards for parcels that are currently occupied by existing single- or multi-family dwelling units to minimize the risk of potential displacement.

As shown in Table 1 below, the TOC Policy establishes the following zoning standards for parcels where residential uses are allowed but that are not occupied by existing single- or multi-family residential units:

- **Minimum Density:** Land use plans and zoning must require that new residential development be built at or above the minimum densities specified in Table 1, on average. In other words, a local jurisdiction's plans/zoning could require minimum densities that are higher than those specified in Table 1, but plans/zoning could not allow new development to be built at densities that are lower than those specified in Table 1, on average.
- **Allowable Maximum Density:** If a local jurisdiction's land use plans and zoning set an allowable maximum density for new residential development, then the allowable maximum density must be the same as or higher than the specified allowable maximum density in Table 1, on average. In other words, a local jurisdiction's plans/zoning could allow higher densities than those specified in Table 1, but plans/zoning could not set a density limit (or maximum allowable density) that is *lower* than that specified in Table 1,

on average. The allowable maximum densities are consistent with PBA2050 modeling for Strategy H3 (see [Forecasting and Modeling Report](#), pp.44-45) and apply to base zoning (i.e., any density bonuses would be in addition to or on top of the allowable maximum densities specified in Table 1).

- While the TOC Policy does not specify requirements for building heights, local jurisdictions should not limit building heights such that new residential development at the densities specified by the TOC Policy becomes infeasible.

Table 1: Minimum and Allowable Maximum Density for New Residential Development

<i>Level of Transit Service</i>	<i>Minimum Density¹</i>	<i>Allowable Maximum Density^{1, 2}</i>
Tier 1: Rail stations serving regional centers (i.e., Downtown San Francisco, Downtown Oakland, and Downtown San José)	100 units/net acre or higher	150 units/net acre or higher
Tier 2: Stop/station served by two or more BART lines or BART and Caltrain	75 units/net acre or higher	100 units/net acre or higher
Tier 3: Stop/station served by one BART line, Caltrain, light rail transit, or bus rapid transit	50 units/net acre or higher ³	75 units/net acre or higher ³
Tier 4: Commuter rail (SMART, ACE, Capitol Corridor, Valley Link) stations, Caltrain stations south of Tamien, or ferry terminals	25 units/net acre or higher	35 units/net acre or higher
<p>Notes:</p> <ol style="list-style-type: none"> 1. Or equivalent in Floor Area Ratio, or Form-Based development standards; excludes parcels currently occupied by homes. 2. The allowable densities are consistent with PBA2050 modeling for Strategy H3 (see Forecasting and Modeling Report, pp.44-45). 3. Tier 3 jurisdictions with a population of 30,000 or less may comply with Tier 4 residential density requirements. 		

1C. Minimum and Allowable Maximum Density for New Commercial Office Development

The TOC Policy seeks to ensure that any new commercial office development built within one half-mile of existing or planned fixed-guideway transit stops or stations is built at sufficiently high densities to support transit ridership, increase the proportion of work trips taken by transit, and increase the number of jobs that are accessible via transit. While the TOC Policy does not specify density requirements for other types of commercial uses, jurisdictions are strongly encouraged to plan and zone for a diverse mix of land uses within transit station areas to support the service and recreational needs of residents, workers, and/or visitors.

The TOC Policy does not require that areas within a station area be zoned for commercial office uses. It also does not specify any zoning standards for parcels that are currently occupied by existing single- or multi-family dwelling units to minimize the risk of potential displacement.

As shown in Table 2 below, the TOC Policy establishes the following zoning standards for parcels where commercial office uses are allowed but that are not occupied by existing single- or multi-family residential units:

- **Minimum Density:** Land use plans and zoning must require that new commercial office development be built at or above the minimum densities specified in Table 2, on average. In other words, a local jurisdiction's zoning could require minimum densities that are higher than those specified in Table 2, but zoning could not allow densities that are lower than those specified in Table 2, on average.
- **Allowable Maximum Density:** If a local jurisdiction's land use plans and zoning set an allowable maximum density for new commercial office development, then the allowable maximum density must be the same as or higher than the specified allowable maximum density in Table 2, on average. In other words, a local jurisdiction's zoning could allow higher densities than those specified in Table 2, but zoning could not set a density limit that is lower than that specified in Table 2, on average. The allowable maximum densities are consistent with PBA 2050 modeling for Strategy EC4 (see [Forecasting and Modeling Report](#), pp. 57-58).

- While the TOC Policy does not specify requirements for building heights, local jurisdictions should not limit building heights such that new commercial office development at the densities specified by the TOC Policy becomes infeasible.

Table 2: Minimum and Allowable Maximum Density for New Commercial Office Development

<i>Level of Transit Service</i>	<i>Minimum Density¹</i>	<i>Allowable Maximum Density^{1, 2}</i>
Tier 1: Rail stations serving regional centers (i.e., Downtown San Francisco, Downtown Oakland, and Downtown San José)	4 Floor Area Ratio (FAR) or higher	8 FAR or higher
Tier 2: Stop/station served by two or more BART lines or BART and Caltrain	3 FAR or higher	6 FAR or higher
Tier 3: Stop/station served by one BART line, Caltrain, light rail transit, or bus rapid transit	2 FAR or higher	4 FAR or higher
Tier 4: Commuter rail (SMART, ACE, Capitol Corridor, Valley Link) stations, Caltrain stations south of Tamien, or ferry terminals	1 FAR or higher	3 FAR or higher
<p>Note:</p> <ol style="list-style-type: none"> 1. For mixed-use projects that include a commercial office component, this figure shall not be less than the equivalent of the applicable allowed or permitted FAR standard. 2. The allowable densities are consistent with PBA 20505 modeling for Strategy EC4 (see Forecasting and Modeling Report, pp. 57-58). 		

2. Affordable Housing Production, Preservation, and Protection Policies and Commercial Protection and Stabilization Policies

While the production of all housing is a key goal of the TOC Policy, the provision of more affordable housing as well as the protection and preservation of existing affordable housing, particularly in locations that provide good access to transit, is an important means of advancing equity in the region. The affordable housing and anti-displacement policy options included in this requirement are based upon the most comprehensive review to date of the efficacy of policies in this arena, the 2021 “White Paper on Anti-Displacement Strategy Effectiveness” commissioned by the California Air Resources Board to support evidence-based state and local policy.⁴ Furthermore, the experience of Bay Area and California communities points to the need for a comprehensive approach that includes a mix of production, preservation, and protection policies.

Given the region’s diverse needs and housing and land use contexts, a “menu” of policy options is provided such that local jurisdictions can fulfill TOC Policy requirements by implementing the affordable housing production, preservation, and protection policies that best meet local needs. Policies may be implemented jurisdiction wide,

or as an overlay in transit station areas, and should address a jurisdiction’s Regional Housing Needs Allocation and other housing needs as identified in the Housing Element. In some cases, state housing laws already require some of the policy options that are included here. However, many of these laws have sunset dates or more limited provisions. Jurisdictions that opt to enact local ordinances that either eliminate the sunset date or provide more significant legal protections can use such actions to satisfy this TOC Policy requirement.

2A. Affordable Housing Production

Two (2) or more of the policies listed in Table 3 below should apply in transit station areas that are subject to the TOC Policy. The adopted policies should address a documented local housing need. MTC/ABAG will issue subsequent guidance that provides further detail as to what should

⁴ Karen Chapple and Anastasia Loukaitou-Sideris, “White Paper on Anti-Displacement Strategy Effectiveness”, February 28, 2021, available at <https://ww2.arb.ca.gov/sites/default/files/2021-04/19RD018%20-%20Anti-Displacement%20Strategy%20Effectiveness.pdf>.

be included in affordable housing production policies for them to be considered compliant with the TOC Policy requirement.

Table 3: Affordable Housing Production Policies that Fulfill TOC Policy Requirement

<i>Affordable Housing Production Policy</i>	<i>Description</i>
Inclusionary Zoning	Requires that 15% of units in new residential development projects above a certain number of units be deed-restricted affordable to low-income households. A lower percentage may be adopted if it can be demonstrated by a satisfactory financial feasibility analysis that a 15% requirement is not feasible.
Affordable Housing Funding	Dedicated local funding for production of deed-restricted affordable housing.
Affordable Housing Overlay Zones	Area-specific incentives, such as density bonuses and streamlined environmental review, for development projects that include at least 15% of units as deed-restricted affordable housing; exceeds any jurisdiction-wide inclusionary requirements or benefits from state density bonus.
Public Land for Affordable Housing	Policies to prioritize the reuse of publicly owned land for affordable and mixed-income housing that go beyond existing state law, typically accompanied by prioritization of available funding for projects on these sites.
Ministerial Approval	Grant ministerial approval of residential developments that include, at a minimum 15% affordable units if projects have 11 or more units, or that exceed inclusionary or density bonus affordability requirements and do not exceed 0.5 parking spaces per unit.

<i>Affordable Housing Production Policy</i>	<i>Description</i>
Public/Community Land Trusts (This policy may be used to fulfill either the housing production or preservation requirement, but not both.)	Investments or policies to expand the amount of land held by public- and non-profit entities such as co-operatives, community land trusts, and land banks with permanent affordability protections.
Development Certainty and Streamlined Entitlement Process	Include the vested rights and five hearing limit provisions currently outlined in SB330 (2019, Skinner) without a sunset date.

2B. Affordable Housing Preservation

Two (2) or more of the policies listed in Table 4 below should apply in transit station areas that are subject to the TOC Policy. The adopted policies should address a documented local housing need. MTC/ABAG will issue subsequent guidance that provides further detail as to what should be included in affordable housing preservation policies for them to be considered compliant with the TOC Policy requirement.

Table 4: Affordable Housing Preservation Policies that Fulfill TOC Policy Requirement

<i>Affordable Housing Preservation Policy</i>	<i>Description</i>
Funding to Preserve Unsubsidized Affordable Housing	Public investments to preserve unsubsidized housing affordable to lower- or moderate-income residents (sometimes referred to as “naturally occurring affordable housing”) as permanently affordable.
Tenant/Community Opportunity to Purchase	Policies or programs that provide tenants or mission-driven nonprofits the right of first refusal to purchase a property at the market price when it is offered for sale, retaining existing residents and ensuring long-term affordability of the units by requiring resale restrictions to maintain affordability.

<i>Affordable Housing Preservation Policy</i>	<i>Description</i>
Single-Room Occupancy (SRO) Preservation	Limits the conversion of occupied SRO rental units to condominiums or other uses that could result in displacement of existing residents.
Condominium Conversion Restrictions	Require that units converted to condos be replaced 1:1 with comparable rental units, unless purchased by current long-term tenants or converted to permanently affordable housing with protections for existing tenants.
Public/Community Land Trusts (This policy may be used to fulfill either the housing production or preservation requirement, but not both.)	Investments or policies to expand the amount of land held by public- and non-profit entities such as co-operatives, community land trusts, and land banks with permanent affordability protections.
Funding to Support Preservation Capacity	Dedicated local funding for capacity building or other material support for community land trusts or other community-based organizations engaged in affordable housing preservation.
Mobile Home Preservation	Policy or program to preserve mobile homes from conversion to other uses that may result in displacement of existing residents.
Preventing Displacement from Substandard Conditions and Associated Code Enforcement Activities (This policy may be used to fulfill either the housing preservation or protection requirement, but not both.)	Policies, programs, or procedures designed to minimize the risk of displacement caused by substandard conditions, including through local code enforcement activities.

2C. Affordable Housing Protection and Anti-Displacement

Two (2) or more of the policies listed in Table 5 below should apply in transit station areas that are subject to the TOC Policy. The adopted policies should address a documented local housing need. MTC/ABAG will issue subsequent guidance that provides further detail as to what should be included in affordable housing protection and anti-displacement policies for them to be considered compliant with the TOC Policy requirement.

Table 5: Affordable Housing Protection and Anti-Displacement Policies that Fulfill TOC Policy Requirement

<i>Affordable Housing Protection and Anti-Displacement Policy</i>	<i>Description</i>
“Just Cause” Eviction ⁵	Defines the circumstances for evictions, such as nonpayment of rent, violation of lease terms, or permanent removal of a dwelling from the rental market, with provisions that are more protective of tenants than those established by AB 1482 (2019, Chiu) . ⁶
No Net Loss and Right to Return to Demolished Homes	Include the no net loss provisions currently outlined in SB 330 (2019, Skinner) <i>without a sunset date</i> . Require one-to-one replacement of units that applies the same or a deeper level of affordability, the same number of bedrooms and bathrooms, and comparable square footage to the units demolished. Provide displaced tenants with right of first refusal to rent new comparable units at the same rent as demolished units.

⁵ Just Cause protections have been found to have a high impact on preventing displacement soon after its implementation ([Chapple, 2021](#)). A 2019 study found that cities with just cause eviction laws had much lower eviction and eviction filing rates than those who did not ([Cuellar, 2019](#)).

⁶ This could include, for example, greater limitations on no fault evictions such as “substantial remodels” and/or permanently implementing just cause protections (the protections provided by AB 1482 expire on January 1, 2030).

<i>Affordable Housing Protection and Anti-Displacement Policy</i>	<i>Description</i>
Legal Assistance for Tenants ⁷	Investments or programs that expand access to legal assistance for tenants threatened with displacement. This could range from a “right to counsel” ⁸ to dedicated public funding for tenant legal assistance.
Foreclosure Assistance	Provide a dedicated funding source to support owner-occupied homeowners (up to 120% AMI) at-risk of foreclosure, including direct financial assistance (e.g., mortgage assistance, property tax delinquency, HOA dues, etc.), foreclosure prevention counseling, legal assistance, and/or outreach.
Rental Assistance Program	Provide a dedicated funding source and program for rental assistance to low-income households.
Rent Stabilization	Restricts annual rent increases based upon a measure of inflation or other metric, with provisions exceeding those established by AB 1482 (2019, Chiu) . ⁹

⁷ Tenant right to counsel has been shown to decrease the rate of evictions and eviction filings. In New York City, where it was first implemented, 84% of tenants facing eviction were able to remain in their homes. In the first six months of San Francisco’s program, two-thirds of tenants who received full scope representation avoided eviction and eviction filings decreased by 10% ([Chapple, 2021](#)).

⁸ “Right to counsel” extends the right to an attorney, required in criminal procedures, to tenants in eviction trials, which are civil procedures.

⁹ For example, restricting maximum annual rent increases to the percent change in the Consumer Price Index, or permanently implementing rent stabilization protections.

<i>Affordable Housing Protection and Anti-Displacement Policy</i>	<i>Description</i>
Preventing Displacement from Substandard Conditions and Associated Code Enforcement Activities (This policy may be used to fulfill either the housing preservation or protection requirement, but not both.)	Policies, programs, or procedures designed to minimize the risk of displacement caused by substandard conditions, including through local code enforcement activities. This may include, but not be limited to, proactive rental inspection programs, assistance to landlords for property improvements in exchange for anti-displacement commitments, and enhanced relocation assistance requirements for temporary displacement due to substandard conditions that pose an immediate threat to health and safety.
Tenant Relocation Assistance	Policy or program that provides relocation assistance (financial and/or other services) to tenants displaced through no fault of their own, with assistance exceeding that required under state law.
Mobile Home Rent Stabilization	Restricts annual rent increases on mobile home residents based upon a measure of inflation or another metric.
Fair Housing Enforcement	Policy, program, or investments that support fair housing testing, compliance monitoring, and enforcement.
Tenant Anti-Harassment Protections	Policy or program that grants tenants legal protection from unreasonable, abusive, or coercive landlord behavior.

2D. Commercial Protection and Stabilization

One (1) or more of the policies in Table 6 should apply in transit station areas that are subject to the TOC Policy unless the jurisdiction can document that there are no potential impacts to small businesses and/or community non-profits. MTC/ABAG will issue subsequent guidance that provides further detail as to what should be included in commercial protection and stabilization policies for them to be considered compliant with the TOC Policy requirement.

Table 6: Commercial Protection and Stabilization Policies that Fulfill TOC Policy Requirement

<i>Commercial Protection and Stabilization Policy</i>	<i>Description</i>
Small Business and Non-Profit Overlay Zone	Establish boundaries designated for an overlay, triggering a set of protections and benefits should development impact small businesses (including public markets) or community-serving non-profits.
Small Business and Non-Profit Preference Policy	Give priority and a right of first offer to local small businesses and/or community-serving non-profits when selecting a tenant for new market-rate commercial space.
Small Business and Non-Profit Financial Assistance Program	Dedicated funding program for any impacted small business and community-serving non-profits.
Small Business Advocate Office	Provide a single point of contact for small business owners and/or a small business alliance.

3. Parking Management

Reducing automobile trips and prioritizing the limited land area near transit for other shared transportation modes and active transportation is a key complement to residential and commercial density increases that support higher transit ridership on the region's existing and planned fixed-guideway transit investments.

Off-street vehicle parking standards for new residential or general and neighborhood-serving commercial¹⁰ development should meet the standards listed in Table 7. These standards do not supersede other applicable requirements for parking for people with disabilities that is required by the California Building Code, or other state or federal laws, or off-street parking for deliveries. Standards may apply to individual projects or may be met through creation of a parking district that provides shared vehicle parking for multiple land uses within an area.

¹⁰ This generally includes retail and service businesses.

In addition to the requirements listed in Table 7, all new residential or general and neighborhood-serving commercial development must provide the following:

- A minimum of one secure bicycle parking space per dwelling unit.
- A minimum of one secure bicycle parking space per 5,000 occupied square feet for office commercial.
- Allow unbundled parking.
- Allow shared parking between different land uses.

Jurisdictions should also adopt policies or programs included in [MTC/ABAG's Parking Policy Playbook](#) to address transportation demand management (TDM) and curb management in these locations.

Table 7: Parking Management Requirements

<i>Level of Transit Service</i>	<i>New Residential Development</i>	<i>New Commercial Development</i>
Tier 1: Rail stations serving regional centers (i.e., Downtown San Francisco, Downtown Oakland, and Downtown San José)	No minimum parking requirement allowed. Parking maximum of 0.375 spaces per unit or lower.	No minimum parking requirement allowed. Parking maximum equivalent to 0.25 spaces per 1,000 square feet or lower.
Tier 2: Stop/station served by two or more BART lines or BART and Caltrain	No minimum parking requirement allowed. Parking maximum of 0.5 spaces per unit or lower.	No minimum parking requirement allowed. Parking maximum of 1.6 per 1,000 square feet or lower.
Tier 3: Stop/station served by one BART line, Caltrain, light rail transit, or bus rapid transit	No minimum parking requirement allowed. Parking maximum of 1.0 spaces per unit or lower.	No minimum parking requirement allowed. Parking maximum of 2.5 spaces per 1,000 square feet or lower.

<i>Level of Transit Service</i>	<i>New Residential Development</i>	<i>New Commercial Development</i>
Tier 4: Commuter rail (SMART, ACE, Capitol Corridor, Valley Link) stations, Caltrain stations south of Tamien, or ferry terminals	Parking maximum of 1.5 spaces per unit or lower.	Parking maximum of 4.0 spaces per 1,000 square feet or lower.

4. Transit Station Access and Circulation

This requirement seeks to facilitate robust multimodal access to transit stations that maximizes the geographic area accessible from a stop or station via space-efficient forms of mobility (walking, cycling, shared mobility, and public transit) over space-intensive modes (single-occupancy vehicle travel). This helps enable increased residential and commercial density within transit station areas, but also enables those living, working, or accessing destinations beyond the half-mile station area to utilize the region’s transit network for more of their trips without having to rely on private automobiles.

Transit station access and circulation should prioritize access to transit for people with disabilities and/or mobility impairments by ensuring that all state and federal accessibility laws, codes, and guidelines are followed and that universal design principles, which enable access not only for people with disabilities but also for people with a wide range of ages, sizes, and abilities, are employed to the greatest extent possible.

Local jurisdictions, in coordination with transit agencies, community members, and other stakeholders, should complete the following in all transit station areas subject to the TOC Policy:

1. Adopt policies and design guidelines that comply with MTC’s Complete Streets Policy¹¹ and prioritize implementation of the regional Active Transportation Network and any relevant [Community Based Transportation Plans](#).

¹¹ See [MTC Resolution No. 4493](#).

2. Complete an access gap analysis and accompanying capital and/or service improvement program for station access via a 10-minute walk (including for people who use wheelchairs or other mobility aids), and 15-minute bicycle or bus/shuttle trip either as a separate study or analysis or as part of a specific or area plan, active transportation plan, or other transportation plan or study that, at a minimum, includes the following:
 - a. The geographic area that can currently be accessed via a 10- or 15-minute trip by these modes, with particular focus on access to Equity Priority Communities and other significant origins and/or destinations;
 - b. Infrastructure and/or service improvements that would expand the geographic area that can be accessed via a 10- or 15-minute trip by these modes; and
 - c. Incorporation of recommended improvements into a capital improvement or service plan for the local jurisdiction and/or transit agency (if applicable).
3. In coordination with transit operators, other mobility service providers, and the community, identify opportunities for [Mobility Hub](#) planning and implementation using [MTC Mobility Hub locations](#) and MTC's [Mobility Hub Implementation Playbook](#).

FUNDING

To assist jurisdictions with TOC Policy compliance, MTC's One Bay Area Grant (OBAG3) program and the Regional Early Access Planning Grants of 2021 (REAP 2.0) will offer planning support to jurisdictions subject to the Policy. Future OBAG funding cycles (i.e., OBAG4) will consider funding revisions that prioritize investments in transit station areas that are subject to and compliant with the TOC Policy.

IMPLEMENTATION

The TOC Policy shall be implemented by requiring local jurisdictions with transit station areas subject to the policy to provide documentation to MTC demonstrating that the policy requirements have been satisfied. Within six months of policy adoption, MTC will provide guidance regarding documentation that local jurisdictions should provide to demonstrate TOC Policy compliance.

The TOC Policy complements the regional PDA Planning and Technical Assistance Program, which provides funding and technical guidance for comprehensive community planning in PDAs. MTC/ABAG will update PDA planning guidelines to include TOC Policy requirements, as well as guidance on how to achieve TOC Policy compliance, and will use the PDA Planning and Technical Assistance Program to assist local jurisdictions with TOC Policy implementation.

EVALUATION AND POLICY UPDATES

In conjunction with Plan Bay Area updates, MTC will evaluate the TOC Policy and its outcomes every four (4) years. Staff will recommend any revisions or modifications to the TOC Policy based on these evaluations.

TECHNICAL ASSISTANCE

In addition to the guidance referenced in the Policy, MTC will provide further guidance on TOC Policy requirements to local jurisdictions with transit station areas subject to the Policy, including assistance with determining appropriate housing policies, transportation demand management, parking and curb management policies and programs, and transit station access and circulation.

Date: September 28, 2022
W.I.: 1611
Referred by: PLNG
Revised: 10/25/23

Attachment A
MTC Resolution No. 4530, Revised

APPENDIX 1 – TRANSIT EXTENSIONS

This Appendix 1 details TOC Policy compliance requirements for fixed-guideway transit extension projects seeking allocations of regional discretionary capital funding or endorsements for federal or state discretionary capital funding. The requirements in this Attachment are intended to:

- Honor the purpose and goals of the TOC Policy including the aim to be comprehensive and not focused solely on transit investments.
- Avoid delaying delivery timelines for projects moving into construction phases, which could hamper or disadvantage transit investments.
- Allow appropriate time for local jurisdictions to comply with the TOC Policy.

Accordingly, this Appendix details the applicability of the TOC Policy during stages of project delivery in which a project may be seeking funding, with a focus on implementation for projects with sufficiently defined station areas that are not yet entering construction. Given the many nuances involved in project delivery, MTC staff will work with project sponsors and exercise discretion in terms of placing projects in their appropriate phase at the time of allocation for the purposes of determining TOC Policy compliance requirements.

This Appendix is limited to defining the TOC Policy's application to transit extensions and does not alter other portions of the Resolution that expect local governments to demonstrate compliance with TOC Policy requirements by the OBAG 4 cycle, anticipated in 2026.

Additionally, beginning in 2026, the requirements contained herein will also apply to fixed guideway transit extension projects seeking MTC endorsement for federal or state discretionary capital funding.

Transit Extension TOC Applicability by Project Phase

1. Project Development/Environmental Review

Allocations can proceed so long as project sponsors, and local jurisdictions as applicable, provide a letter acknowledging that future allocation requests to MTC will be subject to the TOC policy pursuant to later phases. These commitments can take the form of a City Council resolution or a letter signed by the Mayor or City Manager.¹² For any project funding falling in this category, MTC staff will work with the project sponsor and applicable jurisdictions to ensure successful TOC Policy implementation as the project is further developed.

Generally, projects in this category are in the earliest stages of development (planning/pre-environmental) and lacking defined station areas. Funding sought under this category would seek to further define the project, determine station location(s), assess environmental compliance, etc. Funding for environmental documents on proposed transit extensions with pre-determined station locations, but which have not been adopted for further advancement by the project sponsor, will fall into this category.

2. Project Design and Early Right-of-Way Acquisition

Jurisdictions shall commit in writing to take steps toward achieving compliance by 2026 for the station area(s) attached to the transit extension project(s) that seek regional discretionary funding. The written commitment must state specific steps being taken for each of the four TOC Policy areas (density, affordability, parking, and access/circulation). These commitments can take the form of a City Council resolution or a letter signed by the Mayor or City Manager.¹³

Generally, these projects will have approved environmental documents, be adopted for advancement by a project sponsor, have defined station areas, and be in a pre-construction phase. This project category also applies to funding for early right of way purchases, which suggest reasonable certainty on station area location. Funding for various project phases could apply to

¹² For projects requesting allocations between now and December 2023, jurisdictions must submit the letter by Dec. 31, 2023. For projects seeking allocations thereafter, jurisdictions must submit the letter with their allocation request.

¹³ Commitment letters for projects in Stage 2 have the same timing requirements as commitment letters for projects in Stage 1.

this category, including supplemental environmental studies for an adopted project which do not re-assess station location, preliminary and final design, and advanced right of way acquisition.

3. Project Construction

Jurisdictions do not need to submit a letter of commitment, but they should work with MTC staff to achieve compliance by 2026.

For projects that have advanced to the construction phase, funding allocations can proceed without TOC compliance or commitments. This category generally applies to projects that are imminently issuing bid documents, contracts, or notices to proceed on major construction packages, or which have already begun final construction.



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Sonoma County Board of Supervisors

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Marin County Board of Supervisors

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May 21, 2025

Sonoma- Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Fiscal Year 2026 Draft Budget

Dear Board Members:

RECOMMENDATIONS: Information and Discussion Item

SUMMARY:

The Fiscal Year 2026 Draft Budget is being presented for the Board of Directors for review and comment.

Passenger Rail and Pathways

The Fiscal Year 2026 revenue estimate for passenger rail and pathways totals \$81.9 million compared to \$124.4 million in Fiscal Year 2025. Of the \$81.9 million, \$5.7 million is anticipated federal and state project specific capital grants for construction. State and Federal grants provide \$18.6 million support to the Fiscal Year 2025 operating budget and state of good repair. The \$18.6 million includes \$5.6 million from 5337 Federal State of Good Repair Funds, which are being received in Fiscal Year 2026 for the first time.

Overall expenditures have decreased in Fiscal Year 2026 due to completion of a large capital construction program in Fiscal Year 2025, which included the Petaluma North Station, three pathway segments, and the Windsor Station and Extension. The engineering and construction project costs are \$62 million less than in Fiscal Year 2025.

Fund Balance	FY25 Amended Budget	FY26 Budget	Difference
Beginning Fund Balance	\$ 81,342,877	\$ 61,508,650	\$ (19,834,227)
Revenues	FY25 Amended Budget	FY26 Budget	Difference
SMART S&U Tax	\$ 53,570,427	\$ 50,899,964	\$ (2,670,463)
Federal Funds	\$ 8,444,271	\$ 11,273,703	\$ 2,829,432
State Funds	\$ 54,788,550	\$ 12,985,431	\$ (41,803,119)
Regional Funds	\$ 1,276,000	\$ 1,048,400	\$ (227,600)
Other Sources	\$ 6,333,036	\$ 5,733,161	\$ (599,875)
Total Revenues	\$ 124,412,284	\$ 81,940,659	\$ (42,471,625)
Expenditures	FY25 Amended Budget	FY26 Budget	Difference
Debt Service	\$ 16,904,116	\$ 16,996,844	\$ 92,728
Salaries & Benefits	\$ 28,822,096	\$ 30,418,226	\$ 1,596,130
- Reduction for Salaries Charged to Projects	\$ (1,655,611)	\$ (1,663,687)	\$ (8,076)
- Reduction for Admin Salaries and Services to Freight	\$ (32,895)	\$ (34,944)	\$ (2,049)
Services & Supplies	\$ 19,367,741	\$ 18,238,151	\$ (1,129,590)
Contribution to OPEB/CalPERS Liability Fund	\$ 1,000,000	\$ 750,000	\$ (250,000)
Vehicle/Equipment Capital Reserve	\$ 2,000,000	\$ 1,000,000	\$ (1,000,000)
Operating Reserve	\$ 450,346	\$ 1,231,027	\$ 780,681
Projects			
Non-Capital	\$ 4,632,481	\$ 4,658,214	\$ 25,733
State of Good Repair	\$ 1,164,218	\$ 8,831,723	\$ 7,667,505
Equipment	\$ 886,108	\$ 2,419,000	\$ 1,532,892
Facilities	\$ 65,944,804	\$ 6,459,886	\$ (59,484,918)
Infrastructure	\$ 2,484,052	\$ -	\$ (2,484,052)
Non-Revenue Vehicles	\$ 971,305	\$ 346,000	\$ (625,305)
Land Acquired	\$ 1,307,750	\$ -	\$ -
Total Expenditures	\$ 144,246,511	\$ 89,650,440	\$ (53,288,321)
Fund Balance	FY25 Amended Budget	FY26 Budget	Difference
Final Fund Balance	\$ 61,508,650	\$ 53,798,869.56	\$ (7,709,780.54)

Freight Rail

In Fiscal Year 2026, total revenues are estimated at \$2.6 million and total expenditures are estimated at \$2.6 million. The estimated fund balance at the end of Fiscal Year 2026 is estimated to be \$0.

Comments on the Draft Budget

The draft Fiscal Year 2026 budget was posted on SMART's website on Friday, May 9, 2025 and was sent to the over 9,400 individuals that are signed up to receive SMART related information. Members of the public can also view the budget in person at SMART's main office at the address below.

Public comments will be accepted until 5:00pm Monday, June 2, 2025. Comments can be emailed to Claire Springer, Budget and Finance Manager at cspringer@sonomamarintrain.org or sent to:

Sonoma-Marín Area Rail Transit District
Attn: Claire Springer
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

The SMART Board of Directors will be asked to adopt the final budget at their meeting on Wednesday, June 18, 2025. The Board will be notified of all comments received and whether they have been incorporated into the final document.

REVIEWED BY: ☐ Finance _____ ☒ Counsel _____/s/_____

Sincerely,

/s/

Heather McKillop
Chief Financial Officer

Attachment(s): Draft Fiscal Year 2026 Budget



Draft Proposed Fiscal Year 2025/2026 Budget

Contents

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT’S BOARD OF DIRECTORS	2
SONOMA-MARIN AREA RAIL TRANSIT EXECUTIVE MANAGEMENT TEAM	2
ABOUT SMART	3
SMART’s History	3
SMART’s Passenger Rail System	5
SMART OVERVIEW	ERROR! BOOKMARK NOT DEFINED.
Performance Measures	10
Budget Cycle	13
Basis of Budgeting	14
Fund Structure	14
BUDGET OVERVIEW	15
REVENUES	16
Fiscal Year 2025 Estimated Revenues	17
Sales Tax	18
State Revenues	19
Federal Revenues	21
State Funds – Project Specific	22
Local Governments – Project Specific	23
Other SMART Revenues	23
EXPENDITURES BY OBJECTIVES - RIDERSHIP	25
EXPENDITURES BY OBJECTIVES – PATHWAYS	26
EXPENDITURES BY OBJECTIVES - EXTENSIONS	27
EXPENDITURES BY OBJECTIVES - FREIGHT	28
EXPENDITURES	29
Passenger Rail Operations	29
Administration	31
ENVIRONMENTAL PROJECTS	36
STATE OF GOOD REPAIR AND CAPITAL PROJECTS	39
FREIGHT	42
RESERVES	46
DEBT	47
APPENDIX A – PASSENGER RAIL OVERVIEW OF SOURCES & USES	48
APPENDIX B – FREIGHT OVERVIEW OF SOURCES & USES	50
APPENDIX C – POSITION AUTHORIZATION	51
APPENDIX D -STATISTICAL INFORMATION	53
APPENDIX E - STATEMENT OF INVESTMENT POLICY	57
APPENDIX F: APPROPRIATION CALCULATION	62
APPENDIX G – ORGANIZATION CHART	63

Sonoma-Marín Area Rail Transit District’s Board of Directors

SMART is governed by a 12-member Board consisting of elected officials appointed as specified in AB 2224: two county supervisors each from Marin and Sonoma counties, three appointed City Council members from each county and two representatives from the Golden Gate Bridge District.

Chris Coursey – Chair

Sonoma County Board of Supervisors

Janice Cader Thompson

Sonoma County Mayors’ and
Councilmembers Association

Victoria Fleming

Sonoma County Mayors’ and
Councilmembers Association

Ariel Kelley

Sonoma County Mayors’ and
Councilmembers Association

Mark Milberg

Transportation Authority of Marin

Gabe Paulson

Marin County Council of Mayors and
Councilmembers

Mary Sackett – Vice Chair

Marin County Board of Supervisors

Kate Colin

Transportation Authority of Marin

Patty Garbarino

Golden Gate Bridge, Highway and
Transportation District

Eric Lucan

Marin County Board of Supervisors

Barbara Pahre

Golden Gate Bridge Highway/Transportation
District

David Rabbitt

Sonoma County Board of Supervisors

Sonoma-Marín Area Rail Transit Executive Management Team

Eddy Cumins

General Manager

Bill Gamlen

Chief Engineer

Marc Bader

Chief Operating Officer

Jessica Sutherland

General Counsel

Heather McKillop

Chief Financial Officer

About SMART

The Sonoma-Marín Area Rail Transit (SMART) District was established by the California Legislature with the authorization of Assembly Bill 2224 in 2002. The SMART District includes Sonoma and Marin Counties and was created to provide the unified and comprehensive structure for ownership and governance of the passenger and freight rail system within Sonoma and Marin Counties, as well as to provide passenger and freight train service along the existing publicly owned railroad right-of-way.

SMART rail service began in August of 2017 with two-way passenger train service spanning 43 miles and 10 stations, from Downtown San Rafael in Marin County to Airport Boulevard in Sonoma County.

In March of 2022, SMART assumed the right-of-way between Healdsburg and the Mendocino County line from the North Coast Rail Authority (NCRA) and the freight operations on the Brazos Branch from the Northwestern Pacific Railroad Company (NWPCo), the service operator from Napa County to Petaluma since 2011.

Passenger rail service is provided by diesel multiple unit (DMU) rail vehicles utilizing one of the first Positive Train Control systems for passenger rail. In late 2019, two new stations were built in Downtown Novato and Larkspur, facilitating connection to the regional Ferry to San Francisco. These two stations in Marin County brought rail service to its current total of 45 miles. In January of 2025, SMART opened its newest infill station, Petaluma North, for a total of 13 passenger stations. The rail and pathway extension to Windsor will open in June of 2025, and will increase the number of passenger stations to 14 and the length of SMART's system to 48 miles.

SMART is currently operating at its highest levels of service ever, with 42 weekday trips and 16 weekend trips.

As of 2024, SMART and partner agencies had constructed 28 miles of bicycle/pedestrian pathway, including 21 miles of Class I pathway, on its right-of-way. The pathway connects to the stations where cyclists can find secure parking or can bring their bicycles on-board the train. With the additions opened in 2025, SMART has added 9.2 miles, for a total length of pathway of 37.2 miles.

SMART's History

2002	The SMART District was created by the California Legislature
2008	SMART's ¼ cent sales tax was passed
August 2017	Service started between San Rafael and Santa Rosa Airport to include 34 weekday trips and 10 weekend trips
October 2017	Tubbs Fire
January 2019	SMART reaches the One Millionth Rider mark
February 2019	Area flooding
October	Kincade Fire

December 2019	Larkspur Extension and Downtown Novato Station open
January 2020	Service increases to 38 weekday trips
March 2020	COVID-19 Shelter-in-Place orders; weekday trips reduced to 16 and weekend service annulled
August 2020	LNU Lighting Complex Fires
May – June 2021	Fares lowered by 40%; 10 additional weekday trips are added for a total of 26 weekday trips; Saturday service returns
March 2022	Assumed freight operations from the Northwestern Pacific Railroad Company (NWPCo.)
June 2022	Additional 10 weekday trips added for a total of 36 weekday trips
September 2022	Launched real-time map and arrival prediction tool on SMART website
October 2022	Additional two weekday trips are added for a total of 38 weekday trips
June 2023	Launched free Summer Youth Pass
June 2023	Commenced new SMART Connect service at Sonoma Co. Airport Station
July 2023	Reduced 31-day pass price by 15% to reflect hybrid work schedule of 3 days a week in office
October 2023	Added one weekend round trip for total of 16 weekend trips
November 2023	Groundbreaking for Petaluma North Station and pathways
November 2023	Secured funding to complete previously suspended work on the Windsor Extension and re-engaged contractors
January – March 2024	Strategic Plan listening sessions held to inform the Strategic Plan update
April 2024	Youth and Seniors Ride Free Program implemented
June 2024	Launched SMART Connect shuttle at Larkspur
August 2024	Additional four weekday trips added for a total of 42 weekday trips
December 2024	SMART's 2025-2030 Strategic Plan adopted
January 2025	Opened Petaluma North Station and completed the McDowell Boulevard grade crossing and paving work
January 2025	McInnis Pathway construction completed and pathway opened
June 2025	Pathway segments from South Point Boulevard in Petaluma to Main Street in Penngrove and from Golf Course Drive in Rohnert Park to Bellevue Avenue in Santa Rosa to open to the public
June 2025	Windsor Extension to be completed, Windsor Station to open
June 2025	Pathway segment from Airport Boulevard in Santa Rosa to Windsor Road in Windsor to open as part of the Windsor Extension project
June 30, 2025	Healdsburg Extension Progressive Design-Build bid closing

SMART's Passenger Rail and Pathway System

System Statistics

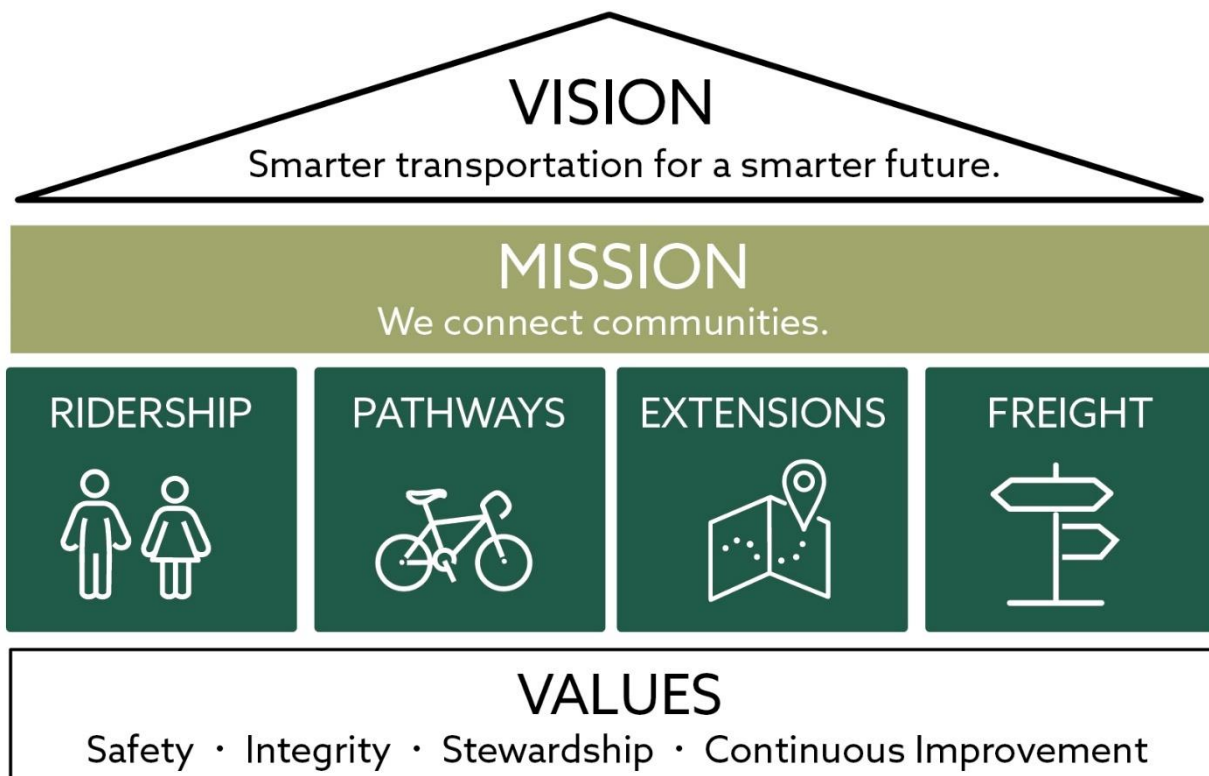
- Forty-eight (48) miles rail corridor – connecting the Larkspur Ferry to the Town of Windsor
- Twenty-one (21) miles of thirty-nine (39) miles of pathway opened by the end of June 2025 and maintained by SMART, providing a first/ last mile connection to the rail corridor
- Fourteen (14) stations constructed and open as of the end of June 2025
- Seven (7) park-n-ride lots (inclusive of Windsor)
- Seventy-four (74) public crossings
- Thirty-five (35) bridges
- Two (2) tunnels
- Fleet of eighteen (18) Diesel Multiple Units (DMUs)





SMART's Mission, Vision, and Values

In Fiscal Year 2022, the Board of Directors established and approved SMART's Vision, Mission, Objectives, and Values. In Fiscal Year 2023, strategies for these objectives were developed and presented. In Fiscal Year 2025, guided by the Citizen's Oversight Committee, the Board of Directors approved the Strategic Plan 2025-2030, which identifies a robust set of strategies to achieve identified goals around SMART's four pillars: Ridership, Pathways, Extensions, and Freight. SMART's 2025-2030 Strategic Plan incorporated many of the existing SMART services, projects, and initiatives funded and implemented in Fiscal Years 2024 and 2025, while identifying new strategies and actions to guide the agency through 2030.



Fiscal Year 2025 Progress Toward SMART's Goals

While the Strategic Plan was adopted in the second quarter of Fiscal Year 2025, the 2025 Budget was developed to support and implement its core goals. The following sections present the projects delivered under each of the four strategic objective areas.

Ridership

The Fiscal Year 2025 Budget aimed to increase ridership through a range of initiatives, including the opening of new stations as the system moves to full buildout. As such, SMART entered the new year by opening the Petaluma North Station, the City of Petaluma's second station. In June

of 2025, the Windsor Station is slated to open, extending the system an additional three miles to the north. This marks a significant milestone in SMART's development, and the first extension of the SMART system since the Larkspur Station opened in 2019. This station adds Windsor into the SMART network and completes a project that began back in 2019, which was then suspended in 2020, and then reactivated in 2023. While ridership has been increasing steadily over the last several years, these new connections will bring a wave of new users to SMART.

SMART increased its service in Fiscal Year 2025 by implementing two additional weekday round trips, bringing the total number of weekday trips to forty-two (42). This increased number of trains during weekdays better serves community members traveling for work, school, or leisure. Through the strategic addition of service, SMART has increased both peak hour and off-peak ridership in FY25. SMART continued to provide additional service for events like the Marin County Fair, Giants games, and the Butter and Eggs Festival.

The Youth and Seniors Ride Free program began in April 2024 and has led to increases in youth, senior, and adult ridership. Comparing ridership data for March 2024 and March 2025, SMART saw an increase in youth ridership of 130%, an increase in senior ridership of 71%, and an increase in adult riders of 11%. Youth and seniors now make up an estimated 42% of SMART riders, mirroring the demographic patterns in Sonoma and Marin Counties. The increased ridership among both fare-paying and free-fare riders points to the success of this program and other efforts to grow ridership.

The SMART Shuttle added a second location in June of 2024 with the SMART Connect Larkspur Shuttle, linking the Larkspur station to the Ferry Terminal. This is in addition to the already existing SMART Connect Airport Shuttle, that connects SMART's Airport Station with the Sonoma County Airport. The Larkspur Shuttle is funded through a partnership between SMART, the Golden Gate Bridge Highway and Transportation District, and the Transportation Authority of Marin. While the initial offering of the Larkspur Shuttle was four days a week, positive customer feedback led to an expansion of service in April 2025 to seven days a week. Both shuttles now operate daily, providing SMART riders with an integral first and last mile connection.

To further increase ridership, SMART has closely monitored the system to improve its service and enhance rider experience. The rollout of real-time Public Information Display Signs occurred over the winter, and now provide the public with real-time information on train arrival times at every station platform. Working with partner agencies, SMART has collaborated to facilitate regional connectivity through the Marin-Sonoma Coordinated Transit Service Plan (MASCOTS) to integrate public transportation service in the North Bay. SMART has increased coordination efforts with transit providers to improve bus and ferry connections and adjust wherever necessary and possible. As a result of these projects, services, programs, and enhancements, SMART is currently outpacing its Fiscal Year 2025 ridership estimate of 904,200 riders and is on course to surpass 1,000,000 annual riders for the first time since its inception.

Pathway

The Fiscal Year 2025 Budget funded the design and construction of several pathway segments. The McInnis to Smith Ranch pathway segment was opened in January, adding 0.9 miles of

multi-use pathway for public use. In June of 2025, SMART will open two pathway segments filling in gaps in Sonoma County, from Southpoint Boulevard in Petaluma to Main Street in Penngrrove and from Golf Course Drive in Rohnert Park to Bellevue Avenue in Santa Rosa. These two segments increased the pathway mileage by 5.6 miles. The Windsor Extension adds three miles of pathway from Airport Boulevard in unincorporated Santa Rosa to Windsor River Road in Windsor. Completing these segments substantially advances SMART's progress toward building a continuous pathway for the public that provides a connections to SMART stations and the communities in the North Bay for cyclists and pedestrians.

The Joe Rodota to Third Street pathway segment in Santa Rosa had planned to commence construction in Fiscal Year 2025, but due to increased project costs, construction was postponed until those funding challenges could be addressed. Funds have been allocated in the Fiscal Year 2026 budget and the project has been combined with City of Santa Rosa work, as well as work requested and funded by a private developer to take advantage of economies of scale.

Two segments – from Guerneville Road to Airport Boulevard in Santa Rosa and from Hanna Ranch Road to Vintage Way in Novato – were planned to start construction in Fiscal Year 2025, but are moving into the construction phase in Fiscal Year 2026 due to funding and permitting requirements. The Puerto Suello pathway design project was procured and initiated in Fiscal Year 2025 and will continue work into the new fiscal year. There are remaining pathway segments in Marin and Sonoma Counties that are still in the design stage, which will continue into Fiscal Year 2026.

Extensions

In Fiscal Year 2025, SMART completed and opened the Petaluma North Station and the Windsor Extension, significantly expanding SMART's system, bringing rail service and pathways to the residential communities in northern Petaluma and Windsor.

SMART had planned to enter the design phase of the Healdsburg Extension in Fiscal Year 2025. The development of the progressive design-build strategy has required significant staff time, and therefore the procurement and award stage of the process will extend into Fiscal Year 2026. Currently, Fiscal Year 2026 only includes funding initiation of the project.

During Fiscal Year 2025, SMART succeeded in having the Plan Bay Area amended to include SMART system extensions north to Healdsburg and Cloverdale. Securing the inclusion of SMART's extensions in Plan Bay Area was a key action outlined in the Strategic Plan, and it makes the Healdsburg and Cloverdale extensions eligible for regional design and construction funding.

SMART is involved in planning activities related to the East/West Rail Highway 37 Corridor Project and will continue to participate in corridor activities. Working with partners, SMART seeks to incorporate rail into the corridor project. SMART's engineering team is working with Caltrans on a rail service plan analysis.

Freight

In Fiscal Year 2025, the Freight Division secured \$4 million of funding through the State of California for operations, capital, and State of Good Repair projects. While not the \$10 million that had been hoped for, this amount will allow freight to move into the Fiscal Year 2026 without immediate fiscal pressure. The new funds allowed additional projects to be added in Fiscal Year 2025 for maintenance of three of the bridges. In Fiscal Year 2025, the timbers were purchased to address long lead times, and the engineering department has prepared documents to allow for the procurement of the bridge maintenance agreement. These will begin construction in Fiscal Year 2026.

Additionally, SMART partnered with Caltrans to complete the grade crossing repair in front of the Schellville Depot in Fiscal Year 2025.

The freight division of SMART continues to seek out additional customers and ways to increase revenue. Freight's storage customer is currently storing cars at its Schellville location. While overall freight has held steady in revenue generation, it is actively working to advance strategies to increase its revenues.

Performance Measures – National Transit Database (NTD)

After data reporting was required by Congress in 1974, the Federal Transit Administration's National Transit Database (NTD) was set up as the system of record to track the financial, operating and asset conditions of American transit systems. The NTD records the financial, operating, and asset condition of transit systems helping to keep track of the industry and provide publicly available information and statistics. The NTD is designed to support local, state and regional planning efforts and to help governments and other decision-makers make multi-year comparisons and trend analyses. It contains a wealth of information such as agency funding sources, inventories of vehicles and maintenance facilities, safety event reports, measures of transit service provided and consumed, and data on transit employees.

FTA uses NTD data to apportion funding to urbanized and rural areas in the United States. Transit agencies report data on a number of key metrics including Vehicle Revenue Miles (VRM), Vehicle Revenue Hours (VRH), Passenger Miles Traveled (PMT), Unlinked Passenger Trips (UPT), and Operating Expenses (OE).¹

SMART reports our information to NTD in October of each year for the previous fiscal year after the completion of the annual financial audit

¹ <https://www.transit.dot.gov/ntd>

NTD Metrics	2020	2021	2022	2023	2024
Boardings	567,103	122,849	354,328	640,099	850,270
Vehicle Revenue Miles	821,415	398,291	679,245	977,309	1,013,842
Passenger Miles	13,516,234	3,148,345	7,855,912	13,922,153	18,401,990
Operating Expense	\$ 28,757,008	\$ 24,833,822	\$ 27,834,598	\$ 30,585,066	\$ 35,581,765
Operating Cost per Vehicle Revenue Mile	\$ 35.01	\$ 62.35	\$ 40.98	\$ 31.30	\$ 35.10
Operating Cost per Passenger Mile	\$ 2.13	\$ 7.89	\$ 3.54	\$ 2.20	\$ 1.93
Passenger Trips per Vehicle Revenue Mile	0.7	0.3	0.5	0.7	0.8
Investment Per Passenger Mile (IPPM) = (Cost - Fare/ Passenger Miles)	\$ 1.90	\$ 7.66	\$ 3.38	\$ 2.07	\$ 1.81
Fare Revenues	\$ 3,090,457	\$ 706,938	\$ 1,283,112	\$ 1,800,747	\$ 2,192,253
Farebox Recovery (Fare Revenues/Operating Expense)	11%	3%	5%	6%	6%
Average Fare (Fares/ Boardings)	\$ 5.45	\$ 5.75	\$ 3.62	\$ 2.81	\$ 2.58
Cost per Boarding (Operating Expense/ Boardings)	\$ 50.71	\$ 202.15	\$ 78.56	\$ 47.78	\$ 41.85
Subsidy per Boarding [(Cost - Fare)/ Boardings]	\$ 45.00	\$ 196.39	\$ 74.93	\$ 44.97	\$ 39.27

Note: Fiscal Years 2020, 2021, and 2022 were impacted by COVID and had reduced or curtailed service.

Fiscal Year 2026 – Budgeting for Success: Developing a Budget that Advances the Strategic Plan Goals

The five-year Strategic Plan provides a financial roadmap for achieving SMART's goals, as it informs the allocation of resources, investment decisions, and budgeting strategies needed to execute those goals. With each annual budget, SMART assesses requirements to meet its obligations, namely debt service, reserves, as well as operations and maintenance expenditures. After funding these obligations, SMART evaluates revenues for capital and state of good repair projects. SMART leadership and finance staff look at specific projects and initiatives requested to determine how they fit into the priorities set by the Strategic Plan across capital, operating, and administrative budgets. While many of the plan's actions are already partially or fully funded, other activities and initiatives have not yet have received funding, either from outside sources or internal Measure Q funds.



Figure 3: Strategic Plan-Budget Feedback Loop

For the Fiscal Year 2026 Budget, funding was prioritized as detailed here to ensure that the budget supports the implementation of the Strategic Plan. Listed below are the Strategic Plan's five-year goals and the strategies that inform the Fiscal Year 2026 Budget.

Ridership Goal: Increase to 5,000 riders per day

Strategies to advance this goal in Fiscal Year 2026:

- Maintain SMART's system at the utmost state of good repair, providing reliability, safety, cleanliness, and accessibility for all riders
- Work with other transit providers to improve connections for easier first/last mile
- SMART Connect Shuttle service 7 days a week for improved first/last mile
- Continue affordable and user-friendly fare programs through the extension of the Youth and Seniors Fare Free program
- Complete SMART's Quality of Life Study
- Enrich the customer experience with an upgrade to the SMART website
- Continue monitoring the system/ridership and adjusting where necessary
- FY26 Ridership estimate: 1,120,000

Pathway Goal: Maintain existing pathway, design and construct planned pathway, enhance user experience

Strategies to advance this goal in Fiscal Year 2026:

- Maintain the existing pathway in a state of good repair
- Construct Joe Rodota to Third Street segment
- Complete preliminary design work for the Puerto Suello Tunnel segment
- Initiate construction of Hanna Ranch to Vintage Way in Novato and Guerneville to Airport in Santa Rosa pathway segments
- Complete design and permitting stage of pathways, ensure all segments are shovel ready
- Pursue grant funding for unfunded segments
- Brainstorm ways to improve pathway for users, and investigate possible funding partners
- Expand the information available about the pathway on SMART's website

Extension Goal: Complete system extension to Cloverdale and explore planning the development of east/west alignment

Strategies to advance this goal in Fiscal Year 2026:

- Healdsburg Extension – award progressive design-build contract, initiate first package(s)
- Pursue funding for extension north to Cloverdale
- East/ West Rail
 - Continue participation in Highway 37 corridor activities
 - Work with partners to incorporate rail into the project
 - Complete Caltrans rail service plan analysis
 - Continue to partner with Caltrans and FRA Corridor ID Program through SMART East-West project development and subsequent phases

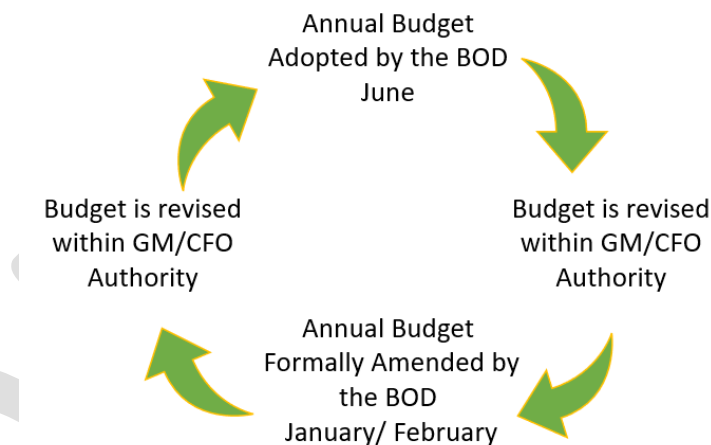
Freight Goal: Ensure long-term sustainability of freight operations

Strategies to advance this goal in Fiscal Year 2026:

- Market freight and storage opportunities at SMART to acquire new business and increase annual revenue
- Leverage storage track at Schellville and Burdell
- Promote transload opportunities at Victory Station (Schellville)
- Evaluate potential fee increase
- Conduct required maintenance on bridges, track, crossings, equipment, and other components of the freight operation

Budget Cycle

The Administrative Code of SMART, as adopted by the Board of Directors in July 2013, provides that the Board of Directors will adopt an annual budget no later than the District's June meeting for the ensuing fiscal year.



The budget outlines the expected revenues and expenditure amounts needed for salaries, benefits, services, supplies, capital and other necessary spending throughout the fiscal year. The budget limits the amount of total expenditures that can be incurred without further Board approval.

Budget adjustments can be made and approved by the Chief Financial Officer as long as total expenditures in the Board-adopted Budget are not exceeded. In the event that total expenditures need to be increased, a budget amendment must be presented to the Board of Directors for approval.

Mid-year, an amended budget will be presented to the Board of Directors for approval. The amended budget will include the most recent expectations for revenues and expenditures projected through fiscal year end.

At the end of each fiscal year, once the financial audit has been finalized, a comparison of the previous year's budget to actual expenditures will be generated and presented to the Board of Directors for information.

Basis of Budgeting

The District's financial statements are reported using the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred regardless of the timing of related cash flows. Sales taxes are recorded when earned and reported as non-operating revenue. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the funder have been met.

The District's budget is prepared on a modified accrual basis with the following exceptions:

- Inclusion of capital outlays and debt principal payments as expenditures
- Inclusion of asset sale proceeds and debt issuance proceeds
- Exclusion of gains and losses on disposition of property and equipment
- Exclusion of the non-cash portion of long-term unfunded pension accruals

Fund Structure

SMART reports its financial activity as an enterprise. We have two funds, the General Fund (01), with several sub funds for purposes of segregating expenditures, and the Freight Fund (60).

Fund	Description
01	General Fund
02	Bond Fund
03	Bond Reserve Fund
08	General Reserve Fund
15	Self-Insurance Fund
18	OPEB Pension Fund
20	Equipment Replacement Fund
30	Landing Way Replacement Fund
50	Capital Engineering Projects Fund
60	Freight

BUDGET OVERVIEW

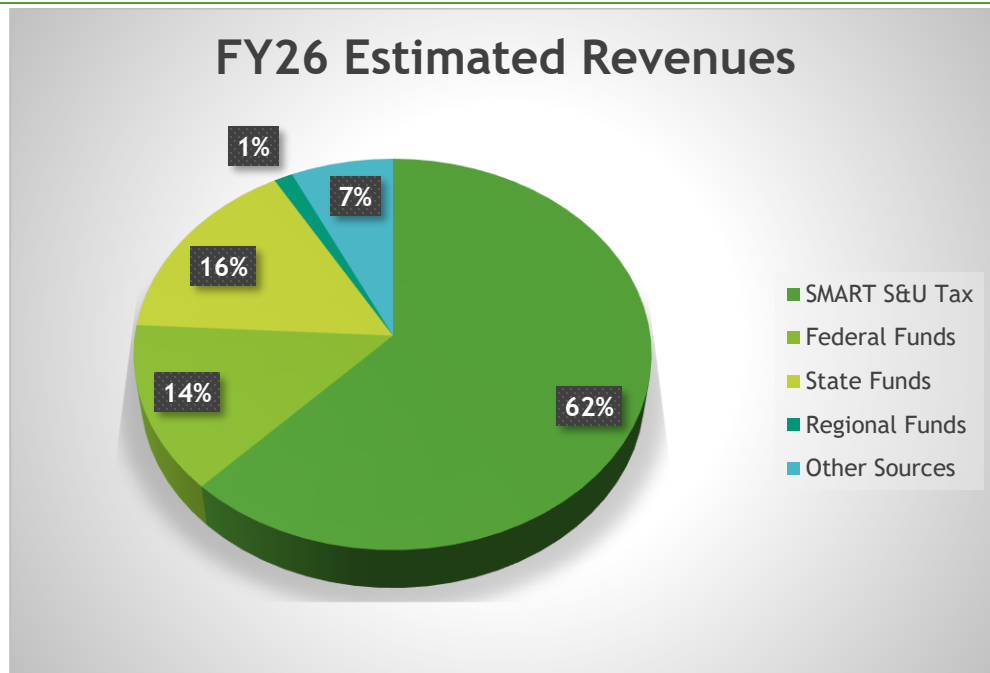
Passenger

The Fiscal Year 2026 revenue estimate for passenger rail and pathways totals \$81.9 million. Compared to \$124.4 million in Fiscal Year 2025, Fiscal Year 2026 revenues appear lower because many large capital construction projects were completed as of the end of Fiscal Year 2025. For example, revenues related to design and construction projects for pathways and extensions total \$7.5 million in Fiscal Year 2026 as compared to \$43.3 million in Fiscal Year 2025.

SMART will receive Federal 5337 funds for State of Good Repair projects in this fiscal year, allowing the agency to undertake necessary maintenance, replacement, and rehabilitation projects. These 5337 funds in the amount of \$5.6 million are in addition to the State and Federal grants which provide \$12.5 million of formula funds to support to the Fiscal Year 2026 operating budget.

Revenues	FY25 Amended Budget	FY26 Budget	Difference
SMART S&U Tax	\$ 53,570,427	\$ 50,899,964	\$ (2,670,463)
Federal Funds	\$ 8,444,271	\$ 11,273,703	\$ 2,829,432
State Funds	\$ 54,788,550	\$ 12,985,431	\$ (41,803,119)
Regional Funds	\$ 1,276,000	\$ 1,048,400	\$ (227,600)
Other Sources	\$ 6,333,036	\$ 5,733,161	\$ (599,875)
Total Revenues	\$ 124,412,284	\$ 81,940,659	\$ (42,471,625)
Expenditures	FY25 Amended Budget	FY26 Budget	Difference
Debt Service	\$ 16,904,116	\$ 16,996,844	\$ 92,728
Salaries & Benefits	\$ 28,822,096	\$ 30,418,226	\$ 1,596,130
- Reduction for Salaries Charged to Projects	\$ (1,655,611)	\$ (1,663,687)	\$ (8,076)
- Reduction for Admin Salaries and Services to Freight	\$ (32,895)	\$ (34,944)	\$ (2,049)
Services & Supplies	\$ 19,367,741	\$ 18,238,151	\$ (1,129,590)
Contribution to OPEB/CalPERS Liability Fund	\$ 1,000,000	\$ 750,000	\$ (250,000)
Vehicle/Equipment Capital Reserve	\$ 2,000,000	\$ 1,000,000	\$ (1,000,000)
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State of Good Repair	\$ 1,164,218	\$ 8,831,723	\$ 7,667,505
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Non-Revenue Vehicles	\$ 971,305	\$ 346,000	\$ (625,305)
Land Acquired	\$ 1,307,750	\$ -	\$ -
Total Expenditures	\$ 144,246,511	\$ 89,650,440	\$ (53,288,321)

Revenues



Fiscal Year 2026 Estimated Revenues

Revenues by Funding Sources	FY 26
Sales and Use Tax	
Measure Q	\$ 46,265,300
Measure Q Cost of Collection	\$ (683,796)
Net Sales & Use Tax	\$ 45,581,504
Measure Q Roll forward	\$ 3,818,460
Transfer from Reserve Funds	\$ 1,500,000
Subtotal	\$ 50,899,964
Federal Funds	
5307 - Urbanized Area Formula Funds	\$ 3,848,178
5337 - Federal State of Good Repair Funds	\$ 5,642,175
Community Project Funds - Discretionary Earmark	\$ 1,520,000
Quick Strike (CMAQ) McInnis to Smith Ranch Rd Pathway	\$ -
FRA - Consolidated Rail Infrastructure and Safety Improvements (CRISI)	\$ -
FRA - Suicide Prevention Grant	\$ -
FTA / OBAG 2 - Hanna Ranch to Vintage Way	\$ 91,600
FTA/ OBAG 3 - Hanna Ranch to Vintage Way	\$ 171,750
Subtotal	\$ 11,273,703
State Funds	
AHSC - Affordable Housing and Sustainable Communities	\$ 1,610,000
Caltrans Sustainability Communities Competitive Planning Grant	\$ 159,354
ITIP - Complete Streets	\$ 896,000
LCTOP - Low Carbon Transit Operating Program	\$ 760,918
LPP - Local Partner Program	\$ 727,443
SB1 - SRA - State Rail Assistance	\$ 3,500,000
STA - State of Good Repair (SGR)	\$ 340,634
STA - State Transit Assistance (Revenue)	\$ 2,094,129
STA - State Transit Assistance (Population)	\$ 1,266,953
TIRCP - Windsor to Healdsburg (Design)	\$ 1,380,000
State Funds - Shuttle Service	\$ 250,000
Subtotal	\$ 12,985,431
Regional Funds	
RM3 - Civic Center Kiss-n-Ride	\$ 224,000
RM3 - Hanna Ranch to Vintage Way	\$ 824,400
Subtotal	\$ 1,048,400
Other Sources	
Advertising	\$ 175,000
Charges for Services	\$ 112,851
Fares - Passenger Rail	\$ 2,541,000
Fares - Shuttle	\$ 2,000
Interest Earning	\$ 800,000
Misc.	\$ 55,885
Parking	\$ 17,580
Rent - Real Estate	\$ 494,025
Other Governments/ Private Sector	\$ 1,534,821
Subtotal	\$ 5,733,161
Total Revenues	\$ 81,940,659

THE FLOW OF FUNDING

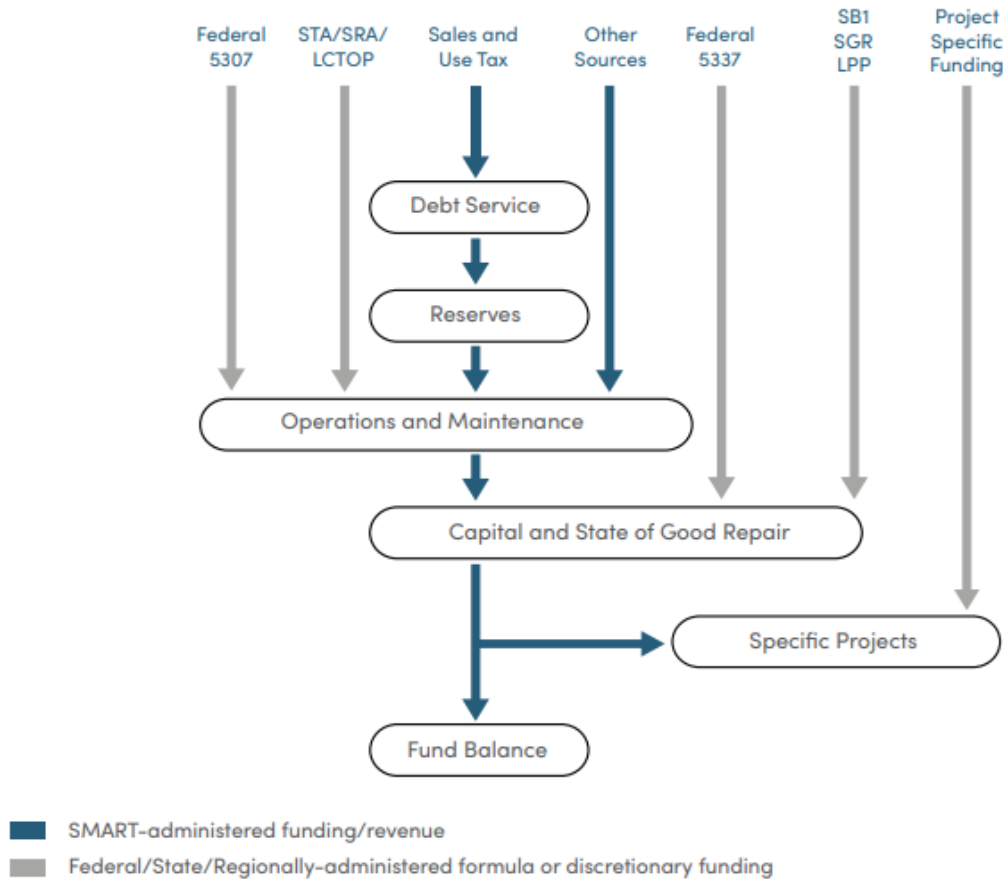


Figure 6: Flow of Funding

This funding flow chart was included in the Strategic Plan and helps to illustrate the funding SMART receives from all funding sources, and the activities each source can fund.

Sales Tax

On November 4, 2008, more than two-thirds of the voters in Sonoma and Marin counties approved Measure Q implementing the 2008 Measure Q Sales Tax. The 2008 Measure Q Sales Tax is a sales and use tax of one quarter of one percent (1/4%) imposed for a period of 20 years beginning April 1, 2009, on the gross receipts from all tangible personal property sold at retail businesses in the counties and a use tax at the same rate on the storage, use, or other consumption in the counties of such property purchased from any retailer, subject to certain exceptions. While we saw a decrease of revenues in Fiscal Year 2020, subsequent growth was in the double digits for Fiscal Year 2021 and 2022. While Fiscal Year 2023 finished out a little over a percentage point above Fiscal Year 2022, Fiscal Year 2024 showed a decrease in revenues from the previous year. Fiscal Year 2025 forecasts are down from the initial budgeted amount shown here, likely coming in under the 2024 amount. Taking into account the current uncertainty in the economy and the collections

amount we have seen so far in Fiscal Year 2025, we are utilizing a conservative estimate for Fiscal Year 2026.

SMART HISTORICAL SALES TAX COLLECTIONS

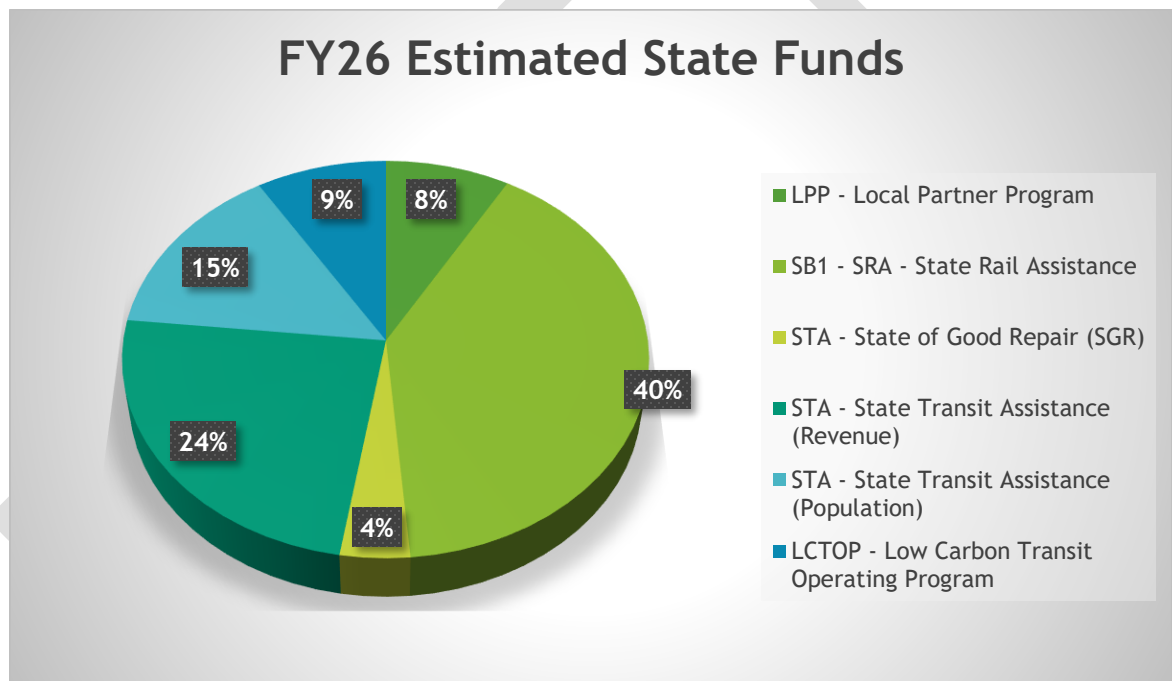
	Sales Tax	Growth Rate	
2009	\$ 4,976,687		
2010	\$ 24,059,929	383.45%	Actual
2011	\$ 26,826,843	11.50%	Actual
2012	\$ 28,303,501	5.50%	Actual
2013	\$ 30,435,753	7.53%	Actual
2014	\$ 32,473,329	6.69%	Actual
2015	\$ 33,845,426	4.23%	Actual
2016	\$ 34,776,012	2.75%	Actual
2017	\$ 36,061,895	3.70%	Actual
2018	\$ 37,135,476	2.98%	Actual
2019	\$ 41,241,140	11.06%	Actual
2020	\$ 38,978,630	-5.49%	Actual
2021	\$ 44,002,410	12.89%	Actual
2022	\$ 49,074,830	11.53%	Actual
2023	\$ 49,649,375	1.17%	Actual
2024	\$ 48,837,349	-1.64%	Actual
2025	\$ 50,426,000	3.25%	Estimated
2026	\$ 46,265,300	-8.25%	Estimated
	\$ 657,369,885		

State Revenues

SMART receives formula allocation from four (4) state revenue programs itemized below. SMART may receive other state grants but those are competitive applications, are project specific, and typically provide one-time funding.

- **State Transit Assistance (STA):** A portion of the revenues derived from the sales tax on diesel fuel purchases and registration fees is appropriated by the State Legislature to the State Transit Assistance Program for public transportation purposes. These STA revenues are allocated to public transit agencies throughout the State based on population and operating revenues by formula. This fund source increased through 2017 Senate Bill 1, the Road Repair and Accountability Act. SB1 created an additional STA program, the STA State of Good Repair (SGR) Program to provide annual funding to transit operators in California for eligible transit maintenance, rehabilitation, and capital projects.
- **State Rail Assistance (SRA):** Created through Senate Bill 1 (SB1), SRA directs a 0.5% portion of new diesel sales tax revenue for allocation: half to the state's five commuter rail providers (Altamont Corridor Express Authority (ACE), North County Transit Development Board (Coaster), Peninsula Corridor Joint Powers Board (Caltrain), Sonoma-Marín Area Rail Transit District (SMART), Southern California Regional Rail Authority (Metrolink)) and half to intercity rail corridors.

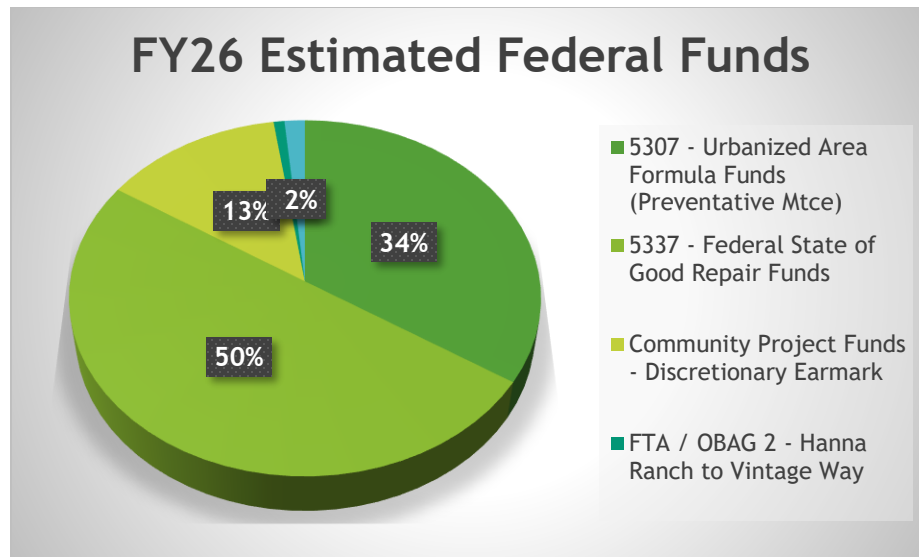
- **Local Partnership Program (LPP):** SB 1 established the Local Partnership Program Formula fund source. This program continuously appropriates funding annually from the Road Maintenance and Rehabilitation Account to local and regional transportation agencies that have sought and received voter approval of taxes or that have imposed fees dedicated solely for transportation improvements. The funds are managed by the California Transportation Commission, which also manages a competitive portion of the Local Partnership Program.
- **Low Carbon Transit Operations Program (LCTOP):** LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emissions and improve mobility, with a priority on serving disadvantaged communities. Funds for this program come from State Cap and Trade auctions. Approved projects in LCTOP will support new or expanded bus or rail services, expand intermodal transit facilities, or support equipment acquisition, fueling, maintenance and other costs to operate those services or facilities.



Federal Revenues

SMART is a direct recipient of Federal Transit Administration (FTA) and Federal Rail Administration (FRA) grant funds. The Fiscal Year 2026 Budget includes the following federal funds sources:

- 5337 Funds: FTA Formula funds providing capital assistance for maintenance, replacement, and rehabilitation projects of fixed guideway systems to help transit agencies in urbanized areas maintain assets in a state of good repair. SMART became eligible for these funds in Fiscal Year 2025, but as this fund source is budgeted in arrears, Fiscal Year 2026 will be our first year receiving these funds.
- 5307 Funds: FTA Urbanized Area Formula Funds that can be used for capital projects, operating assistance, job access, reverse commute projects, and transportation related planning. SMART became eligible for these funds in Fiscal Year 2020.
- Community Project Funds: The Consolidated Appropriations Act, 2023 appropriated \$360.46 million in Community Project Funding (CPF), also known as Congressionally Directed Spending (CDS). The SMART Rail Extension to Healdsburg – Preliminary Design was nominated by U.S. Congressman Jared Huffman and funded directly through an Act of Congress.
- One Bay Area Grant 2 (OBAG 2): Federal Highway Administration funds for projects in the Bay Area as determined by the Metropolitan Transportation Commission, the second round featured \$900 million in funding, of which SMART was awarded for its Hanna Ranch Road to Vintage Way pathway segment in Marin County.
- One Bay Area Grant 3 (OBAG 3): Federal Highway Administration funding for projects that improve safety, spur economic development, and help the Bay Area meet climate change and air quality improvement goals as determined by the Metropolitan Transportation Commission. The third round of this program included more than \$750 million in federal funding, and the Hanna Ranch Road to Vintage Way pathway segment is also partially funded with this round of funding.



State Funds – Project Specific

- Windsor to Healdsburg Extension
 - TIRCP – Transit and Intercity Rail Capital Program
 - \$1,380,000 budgeted in FY26
- Joe Rodota to Third Street in Santa Rosa Pathway Construction
 - AHSC – Affordable Housing Sustainable Communities Program
 - \$225,000 of funding rolling into FY26
 - LPP – Local Partnership Program
 - \$727,443 budgeted in FY26
- Guerneville Road to Airport Boulevard in Santa Rosa Pathway Construction
 - ITIP Complete Streets – Interregional Transportation Improvement Program
 - \$896,000 budgeted to FY26
- Petaluma North Station Solar Project
 - AHSC – Affordable Housing Sustainable Communities Program
 - \$1,300,000 budgeted in FY26
- Quality of Life & Economic Impact Assessment
 - STP: Sustainable Transportation Planning Grant through Caltrans
 - \$159,354 rolling into FY26
- Shuttle Service
 - Funded by State of California General Fund Budget Act of 2023
 - \$250,000 budgeted to FY26
- Workforce Development
 - AHSC – Affordable Housing Sustainable Communities Program
 - \$85,000 budgeted in FY26

Regional Funds – Project Specific

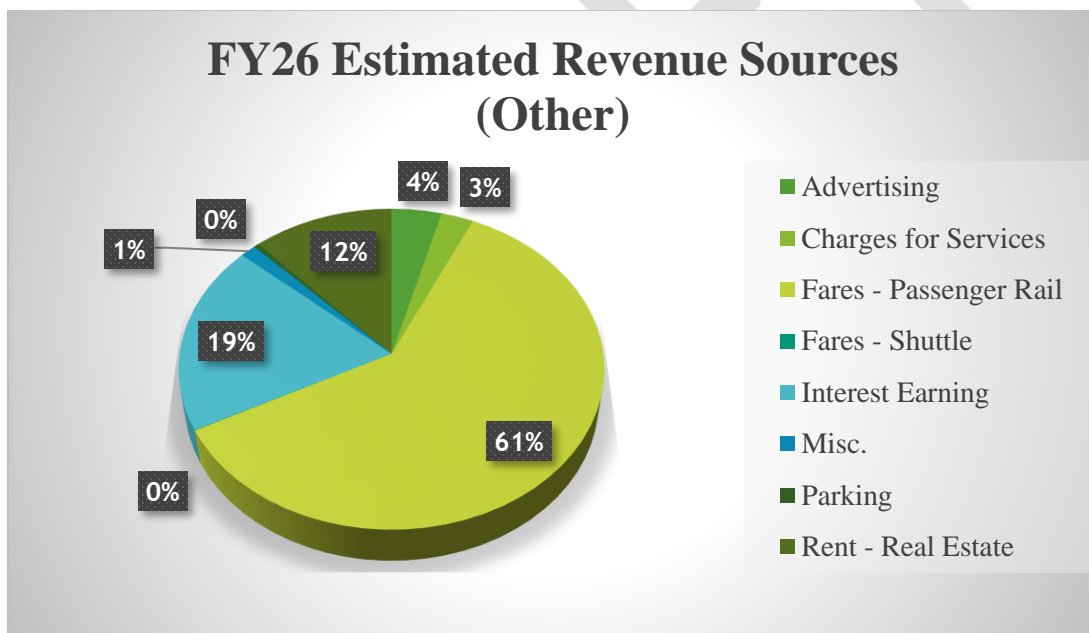
- Civic Center Kiss-n-Ride

- RM3 – Regional Measure 3
 - \$224,000 budgeted to FY26
- Hanna Ranch to Vintage Way in Novato
 - RM3 – Regional Measure 3
 - \$824,400 budgeted in FY26

Local Governments/Private Sector – Project Specific

- Joe Rodota to 3rd Street Traffic Signal Construction
 - City of Santa Rosa
 - \$831,804 budgeted in FY26
- 4th Street Station Access (as part of Joe Rodota to 3rd Street Project)
 - Private Developer
 - \$703,017 budgeted in FY26

Other SMART Revenues



- Farebox Revenues: SMART passengers pay for their rides using the fare structure approved by the SMART Board in 2015 and 2016. SMART participates in the regional Clipper fare system that allows riders to transfer seamlessly among Bay Area operators using one fare media card. SMART also has its own mobile ticket app that provides easy purchasing of multiple or discounted tickets without purchasing a Clipper card. The fares are based on the distance travelled by a rider, like other commuter rail services. In May of 2021, fares were lowered by approximately 40%. SMART also provides several discounts to SMART riders.

- In May 2021, a new Weekend Day Pass was implemented. The Weekend Day Pass is \$10.00 for adults and \$5.00 for passengers with disabilities and Clipper START customers. The Weekend Day Pass offers unlimited rides for the entire day.
- In September 2021, the 31-Day Pass was lowered to \$135.00 for adults and \$67.50 for youth, seniors, and passengers with disabilities. In July 2023, the 31-day pass was lowered again and was priced based on a 3-day work week and an average of 3-zones travelled. This reduced the price to \$117.00 for adults and \$58.50 for seniors, youth, and passengers with disabilities.
- In April 2024, the Youth and Seniors Ride Free Program was implemented, and is planned to continue through June 2025. In April of 2025, the program was re-approved by the Board to continue through June 2026.
- Advertising Revenues: Revenues from advertising space sold onboard trains and station platform shelter panels.
- Charges for Services: Includes flagging services SMART provides for external entities that need to do work in SMART's right of way.
- Interest Earnings: Interest earnings are budgeted in Fiscal Year 2026 at less than in Fiscal Year 2025 due to decreased fund balance and lower interest rates.
- Lease Revenues: Revenues generated by real estate holdings
- Miscellaneous Revenues: These revenues vary each year but are assumed to be similar to past Fiscal Years.
- Parking Revenue: Parking fees are suspended during the hours of 4:00 am and 11:59 pm. Effective July 1, 2023, those wishing to park overnight pay a fee of \$5.00 to park between the hours of 12:00 am and 3:59 am, for up to five nights.
- Shuttle Revenue: SMART Connect marked its first full year of shuttle service in Fiscal Year 2024, expanded to a second location at the Larkspur Station in Fiscal Year 2025 and has recently extended to seven days a week from its previous four days a week service levels. Revenues are budgeted based on a percentage increase from previous years

RIDERSHIP

Expenditures – Ridership

Planned ridership expenditures are based on the following priorities for reaching Strategic Plan goals:

- Continue “Youth and Seniors Ride Free” program
- Undertake Preventative Maintenance and State of Good Repair projects to maintain the safety, quality, and efficiency of SMART’s rail system
- Maintain compliance with all requirements and regulations
- Collaborate with transit providers to improve bus/ferry connections
- Continue monitoring the system/ridership and adjusting where necessary
- Improve website ease of use for riders
- Ridership estimate: 1,210,000

Ridership	
Category	FY26 Budget Amount
Administration	\$ 10,492,618.59
Operations	\$ 27,140,233.00
Website	\$ 154,666.67
Quality of Life & Economic Analysis	\$ 60,000.00
Healdsburg Storage Racks	\$ 36,500.00
Generator Plug Retrofit at all Platforms	\$ 20,489.00
Power Drop at Fulton	\$ 30,000.00
Replace Standby battery banks for wayside signals	\$ 70,400.00
Guideway & Track Main Line Surfacing	\$ 345,338.00
Fire Suppression System	\$ 60,000.00
DMU Light Replacement	\$ 200,000.00
IT Projects	\$ 248,000.00
Bridges - St. Vincent Culvert	\$ 250,000.00
Civic Center Kiss-n-Ride (Design)	\$ 224,000.00
Ram Truck (1502)	\$ 50,000.00
F150 Crew Cab XL (2 axle) - 1608	\$ 48,000.00
F150 Crew Cab XL - 1609	\$ 48,000.00
Used Hyrail boom Truck	\$ 200,000.00
Switches - 4/year	\$ 120,000.00
On-Board DMU Cameras	\$ 750,000.00
Fabric Building for Scrubber storage/ garage	\$ 30,000.00
Backup Generator at Roblar	\$ 50,000.00
Coupler/ Gear Shaft Overhaul	\$ 625,000.00
Cummins New Engine after Treatment System	\$ 700,000.00
Cummins Mid-Life Overhaul or New Engines	\$ 1,250,000.00
Radiator Fan Modification	\$ 150,000.00
Battery Overhaul	\$ 90,000.00
Transmission Overhaul	\$ 90,000.00
Mahle Cooling System Overhaul	\$ 250,000.00
Master Control Overhaul	\$ 192,000.00
DMU Air Brake Overhaul and Air Supply Unit	\$ 1,151,404.00
Energy Cushion Device Crash System	\$ 150,000.00
RailQuip Car Mover	\$ 100,000.00
Calipri Digital Wheel Measurement Gauge	\$ 75,000.00
Total	\$ 45,451,649.26

PATHWAYS

Expenditures – Pathways

Planned pathway expenditures are based on the following priorities for reaching Strategic Plan goals:

- Construct funded segments of the pathway
 - Hanna Ranch Rd to Vintage Way
 - Guerneville Rd to Airport Blvd
 - Joe Rodota to 3rd Street
- Complete design and permitting of pathway segments
- Continue mitigation projects to mitigate impact of the pathway as required
- Maintain pathway in a state of good repair
- Complete pathway wayfinding program
- Expand information available about the pathway on SMART's website

Pathways	
Category	FY26 Budget Amount
Administration	\$ 2,330,835.00
Operations	\$ 34,461.00
Engineering	\$ 341,174.28
Website	\$ 154,666.67
IT Projects	\$ 248,000.00
Quality of Life & Economic Analysis	\$ 60,000.00
Mitigate Pathway Segments	
- Petaluma Riparian Construction & Monitoring	\$ 23,800.00
- Crane Creek Riparian Monitoring	\$ 518,930.00
- Helen Putnam Riparian Monitoring	\$ 125,131.82
- Windsor Riparian Mitigation Monitoring	\$ 38,800.00
Design Pathway Segments	
- Marin-Sonoma Pathway - Design	\$ 221,660.17
- Marin Pathway - Design	\$ 275,000.00
- Puerto Suello Pathway - Design	\$ 385,465.00
Pathway Repairs & Rehab	\$ 115,200.00
Pathway Wayfinding Project	\$ 85,000.00
Windsor to Healdsburg Project Development - Pathway	\$ 38,500.00
Windsor to Healdsburg - Pathway	\$ 367,500.00
Construct Pathway Segments	
- Joe Rodota Trail to 3rd Street	\$ 1,454,886.00
- Hanna Ranch Road to Vintage Way	\$ 1,145,000.00
- Guerneville Road to Airport Blvd.	\$ 1,120,000.00
Total	\$ 9,084,009.94

EXTENSIONS

Expenditures – Extensions

Planned extension expenditures are based on the following priorities for reaching Strategic Plan goals:

- Award contract for progressive design-build of the Extension from Windsor to Healdsburg
- Finish the development phase of the progressive design-build project from Windsor to Healdsburg
- Install and bring online Petaluma North Station solar project
- Continue participating in Highway 37 corridor activities to incorporate East/ West rail
- Conduct mitigation activities for extension/station projects as required

Extensions	
Category	FY26 Budget Amount
Administration	\$ 6,421,723.12
Engineering	\$ 209,106.82
Website	\$ 154,666.67
IT Projects	\$ 248,000.00
State Route 37 Study	\$ 6,000.00
Quality of Life & Economic Analysis	\$ 60,000.00
Mitigate Extension Projects	
- San Rafael Creek Riparian Construction & Monitoring	\$ 63,816.75
- Las Gallinas Riparian Enhancement & Monitoring	\$ 23,800.00
- Mira Monte Restoration	\$ 195,000.00
- IOS-1 Riparian Mitigation	\$ 240,000.00
Petaluma North - Solar Project	\$ 1,300,000.00
Windsor to Healdsburg Project Development	\$ 236,500.00
Windsor to Healdsburg	\$ 2,257,500.00
Total	\$ 11,416,113.35

FREIGHT

Expenditures – Freight

Planned Freight expenditures are based on the following priorities for reaching Strategic Plan goals:

- Conduct required maintenance on bridges, track, crossings, equipment, and other components of the freight operation
- Fiscal Year 2026 budgets funds to improve bridges
 - Bridge timbers were purchased in prior fiscal years to support Fiscal Year 2026 bridge improvements
 - Bridges to be repaired: Novato Creek, Sears Point Drainage, Wingo – Sonoma Creek
- Partner to repair Grandview Avenue grade crossing
- Replace railroad ties at the end of their useful life
- Continue to market freight and storage opportunities at SMART
- Leverage storage track at Schellville and Burdell
- Promote transload opportunities at Victory Station (Schellville)

Freight	
Category	FY26 Budget Amount
Salaries and Benefits	\$ 1,075,090
Operations	\$ 943,788
Grade Crossing Repair (Grandview Avenue)	\$ 20,000
Tie Replacement	\$ 50,000
Bridges	
- Brazos Branch - Phase II (Novato Creek)	\$ 54,121
- Phase II (Sears Point Drainage)	\$ 217,974
- Phase II (Wingo - Sonoma Creek)	\$ 203,205
Work for Others: SR37 Grade Crossing Modificati	\$ 7,000
Total	\$ 2,571,179

Expenditures

Passenger Rail Operations

Passenger Rail Operations delivers SMART's core mission to move people in a safe, reliable, and affordable way.

Transportation

The Transportation Division is responsible for operating the trains, checking fares, assisting passengers, ensuring onboard passenger safety, and guaranteeing compliance with FRA regulations related to train operations and passenger service. The Operations Control Center monitors the status of the entire system, dispatches passenger and freight trains, and is the emergency point of contact for outside first responder agencies.

Vehicle Maintenance

The Vehicle Maintenance Division is responsible for preventative maintenance, inspections, cleaning, and repairs of the Diesel Multiple Units (DMUs).

Maintenance of Way

The Maintenance of Way Division is responsible for track and right of way inspection and maintenance, train control and grade crossing warning device maintenance and inspections, and maintenance of all SMART owned facilities (pathway, stations, moveable bridge electronics and mechanics, buildings, and right of way fencing).

In addition to Transportation, Vehicle Maintenance, and Maintenance of Way, two additional departments are under the operations budget.

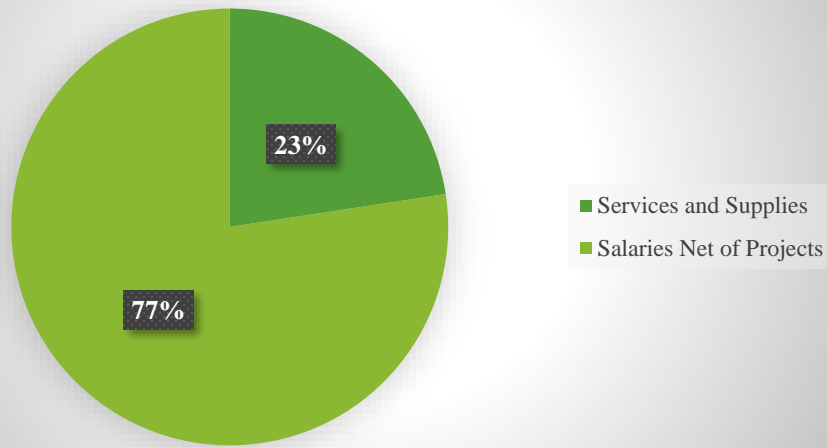
Public Safety

The Public Safety Department works to ensure public, infrastructure, and facility safety, including coordinating with Federal, State, and local jurisdictions to provide incident response.

Train Control Systems

Train control systems perform a wide variety of functions – including: safely routing trains, safely separating trains, tracking and reporting the location of trains; detecting and reporting broken rail; detecting and reporting misaligned switches; detecting and reporting misaligned bridges; and detecting and reporting faults; interconnecting traffic signals; operating grade crossing warning systems; and providing positive train control (PTC) to prevent derailments and collisions.

FY26 Operations Budget



In Fiscal Year 2026, the Operations Department has 121 full-time equivalent (FTE) employees with an estimated budget for salaries and benefits of \$21,034,689. Salaries and Benefits make up 77% of the total Operations budget.

Operations Salaries and Benefits	FY26
Operations General	\$ 1,266,868
Maintenance of Way	\$ 4,724,656
Transportation	\$ 9,537,047
Vehicle Maintenance	\$ 4,403,361
Safety	\$ 1,102,757
Total:	\$ 21,034,689

This budget funds no new Operations positions. However, it does transition one position in the Safety division from limited-term to full-time permanent and upgrades that position to a Senior Code Compliance Officer. This budget assumes all currently open positions are filled.

Department	Current Position	Requested Position
Safety	Code Compliance Officer (Limited Term)	Senior Code Compliance Officer

Operations Salaries and Benefits are increasing by \$1,301,024 or 6.6%. These increases result from the implementation of raises in accordance with SMART's collective bargaining agreements and cost of living increases, as well as an projected increases in health benefits (at 15%) and other benefits (at an average of 10%).

SMART operates 42 weekday trips and 16 trips each weekend day. This represents a 10.5% increase in weekday trips and a 60% increase in weekend trips compared to January 2020. The Operations Supplies and Services Budget (shown below) funds the full year of operations of SMART rail service to the Windsor Station, and accounts for the additional operations costs for increased track mileage. Finance and Operations leadership reviewed the Operations budget to identify cost savings based on preceding years' data. One notable difference in this budget is the removal of funds in the Contract Services – Administrative account for exigencies to more accurately reflect historical spending. Finance and Operations management reviewed the Operations budget to identify cost savings based on preceding years' data. Overall, this results in a 12.1% reduction in Supplies and Services from the Fiscal Year 2025 Amended Budget.

Account Description	FY 25 Amended Budget	FY26 Requested Budget
Maintenance of Equipment	\$ 485,904	\$ 443,947
Maintenance of Signals	\$ 142,500	\$ 190,000
Maintenance of Revenue Vehicles	\$ 361,000	\$ 546,000
Maintenance of Facilities	\$ 263,345	\$ 297,794
Maintenance of Railway	\$ 233,363	\$ 239,300
Maintenance of Pathway	\$ 30,500	\$ 30,500
Training & Travel Expense	\$ 58,050	\$ 66,164
Rental/ Leases - Equipment	\$ 51,960	\$ 56,400
Mileage Reimbursement & Auto Tolls	\$ 1,000	\$ 380
Contract Services - Administrative	\$ 1,132,252	\$ 269,776
Contract Services - Transportation	\$ 842,337	\$ 786,249
Communications	\$ 50,996	\$ 53,700
Uniform Expense	\$ 69,200	\$ 65,000
Personal Protective Equipment	\$ 26,100	\$ 25,500
Fuel and Lubricants	\$ 1,829,684	\$ 1,780,000
Memberships	\$ 1,900	\$ 1,600
Miscellaneous Expense	\$ 10,000	\$ -
Office Expense	\$ 54,000	\$ 54,532
Postage	\$ 32,500	\$ 24,000
Consumables	\$ 62,500	\$ 53,500
Small Tools and Equipment	\$ 79,320	\$ 100,000
Software	\$ 77,823	\$ 25,663
Public Relations Expense	\$ 123,902	\$ 30,000
Utilities	\$ 957,980	\$ 1,000,000
Grand Total	\$ 6,978,116	\$ 6,140,005

Administration

The Administration budget funds the day-to-day business functions of the organization including finance, human resources, planning, legal, real estate, information technology, government/ legislative relations, and engineering not dedicated to specific projects.

Communications and Marketing Department

The Communications Department consists of three different areas of focus: Media and Public Relations, Marketing, and Customer Service.

Media and Public Relations is responsible for keeping SMART's external audiences informed and engaged about the agency's services, programs, and projects through media relations, digital and social media platforms, SMART's website, rail safety education, and community presentations.

Marketing is responsible for outreach and marketing, including producing marketing materials and managing advertising both for SMART services and on SMART's trains and platforms.

Customer Service is responsible for responding to customer inquiries through phone calls and emails received.

Finance and Procurement Department

The Finance Department is responsible for a wide variety of compliance functions required of SMART by state and federal law. These include accounting, budgeting, finance, payroll, treasury, procurement, and grant budgeting and reporting.

Human Resource Department

The Human Resources Department is responsible for recruitment and selection of employees, employee compensation, labor negotiations, performance management, and compliance with state and federal labor laws and regulations.

Information Systems Department

The Information Systems Department develops, operates, and maintains SMART's information and telecommunications systems. It manages the function and cybersecurity of: administrative Information Systems for 4 offices including email, servers, and printers; 1,500 devices consisting of computers, cell phones, vehicle locators, printers, radios, cameras, and network devices; railroad Information Systems such as CCTV, radio, platform equipment, and fare collection devices.

Legal Department

The Legal Department is responsible for transactional matters, litigation, and risk management for SMART.

Planning Department

The Planning Department is responsible for rail and multiuse pathway planning and service delivery studies; ridership and service planning analyses and recommendations; capital planning studies; local and regional agency planning coordination; planning first-last mile solutions.

Real Estate

The Real Estate Department is responsible for managing SMART's Right-of-Way and processing all third-party requests for access to the Right-of-Way. It also handles property sales and acquisitions and supports all departments with title research and boundary information.

Engineering

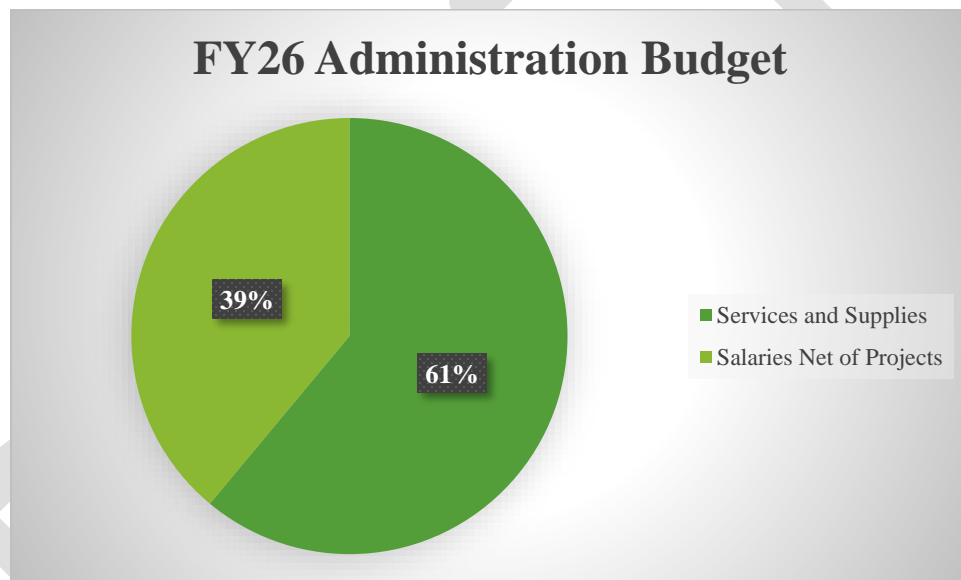
SMART's Engineering Department is responsible for planning and managing the expansion of the rail and pathway systems, managing SMART's existing infrastructure, supporting grant applications, and coordinating with local jurisdictions. Most of the staff time in engineering is charged to projects, but time associated with leave, training, and non-project related activities are included in the chart below.

In Fiscal Year 2026, SMART's Administration Division has 47 full-time equivalent (FTE) employees and interns with an estimated budget for salaries and benefits of \$7,719,850. The Budget does not add any new positions under Administration. However, it does upgrade several positions to different job titles. By this action, current personnel will stay within the current pay structure but will be eligible for higher annual raises for more years. The exception to this is the Junior Engineer position, which is currently vacant. By changing this position to an Associate Engineer, this position is upgraded to lead small projects and assist in the delivery of larger projects in this year and beyond.

Department	Current Position	Requested Position
Finance	Procurement Technician	Buyer I
Human Relations	HR Specialist	HR Analyst
Planning	Assistant Planner	Associate Planner
Engineering	Junior Engineer	Associate Engineer

A three percent (3%) cost of living increase has been included for all non-bargaining unit employees, except for those eligible for a five percent (5%) raise based on their current pay within the range for their position classification. Two limited-term positions from Fiscal Year 2025 were eliminated, one in the Marketing and Outreach Department and one in the Legal Department. Projected increases in health benefits (at 15%) and other benefits (at an average of 10%) were included. These changes led to a 2.1% increase in Administrative salaries and benefits between Fiscal Year 2025 and Fiscal Year 2026.

Administration Salaries & Benefits	FY26
Finance	\$ 3,274,876
IS	\$ 685,807
HR	\$ 606,689
Legal	\$ 792,440
Marketing and Outreach	\$ 594,841
Board	\$ 190,962
Real Estate	\$ 582,211
Planning	\$ 392,974
Planning - Pathway	\$ 197,568
Engineering (non-Project Specific)	\$ 401,481
Total:	\$ 7,719,850



Overall, the Administrative Budget has decreased by \$238,995 over the Fiscal Year 2025 Amended Budget. This decrease is attributable to:

- Combined efforts to budget more accurately
- Fewer new program implementation costs
- A decrease in expected training and travel costs. After initiation of District staff development funds in Fiscal Year 2025, the program budget was decreased to match actual use of funds by employees.
- Several major projects were completed in Fiscal Year 2025, reducing expenses for contracted services and public relations expenses.

Other budget areas show increases due to 15% jump in railroad, liability, property and other insurance outlays; higher amounts projected for the provisions for Claims; additional costs related to the maintenance of radios.

Account Description	FY 25 Amended Budget	FY26 Requested Budget
Insurance	\$ 3,184,605	\$ 3,652,064
Provisions for Claims	\$ 500,000	\$ 750,000
Maintenance of Radios	\$ 196,910	\$ 233,931
Auditing/ Accounting Services	\$ 61,710	\$ 59,870
Fiscal Accounting Services	\$ 6,300	\$ 4,000
Legal Services	\$ 775,000	\$ 790,000
Agency Extra Help	\$ 155,000	\$ 90,866
Training & Travel Expense	\$ 310,678	\$ 173,760
Contracted Services	\$ 225,000	\$ 110,000
Printing Services	\$ 62,800	\$ 65,400
Fiscal Agent Fees	\$ 5,000	\$ 3,000
Permits/ Fees	\$ 20,090	\$ 30,180
Fare Collection Fees	\$ 306,500	\$ 293,452
Public/ Legal Notices	\$ 64,000	\$ 38,146
Rental/ Leases - Equipment	\$ 56,035	\$ 51,440
Rental/ Leases - Buildings	\$ 453,667	\$ 453,667
Mileage Reimbursement & Auto Tolls	\$ 41,642	\$ 33,212
Contract Services - Administrative	\$ 2,555,479	\$ 2,303,508
Contract Services - Personnel	\$ 270,500	\$ 208,650
Communications	\$ 353,200	\$ 299,908
Claims Processing Payroll	\$ 50,000	\$ 45,000
Facility Services	\$ 3,600	\$ 3,600
Uniform Expense	\$ 5,000	\$ 3,700
Personal Protective Equipment	\$ 3,000	\$ 2,000
Memberships	\$ 62,390	\$ 62,130
Miscellaneous Expense	\$ 1,000,000	\$ 1,000,000
Office Expense	\$ 50,600	\$ 49,600
Books/ Periodicals	\$ 3,500	\$ 2,500
Postage	\$ 8,265	\$ 5,600
Small Tools and Equipment	\$ 1,000	\$ 700
Computer Hardware	\$ 182,500	\$ 171,600
Computer Software	\$ 1,067,570	\$ 986,062
Marketing/ Promotional Items	\$ 30,000	\$ 42,000
Public Relations Expense	\$ 262,000	\$ 75,000
Utilities	\$ 3,600	\$ 3,600
Grand Total	\$ 12,337,140	\$ 12,098,146

Non-Capital Projects

Environmental Projects

As part of SMART's expansions and pathway projects, environmental permits often require riparian mitigation projects to compensate for temporary and permanent construction impacts on the environment. These projects entail restoring creeks, rivers, and marshland by planting native trees and scrubs, removing invasive plant species, and cleaning up trash. There are performance and monitoring criteria for each project for periods of 5 to 10 years to confirm success of the mitigation efforts.

Project Name	FY26 Budget Amount
San Rafael Creek Riparian Construction & Monitoring	\$ 63,816.75
Las Gallinas Riparian Enhancement & Monitoring	\$ 23,800.00
Mira Monte Restoration	\$ 195,000.00
Petaluma Riparian Construction & Monitoring	\$ 23,800.00
Crane Creek Riparian Monitoring	\$ 549,712.00
Helen Putnam Riparian Monitoring	\$ 125,131.82
Windsor Riparian Mitigation Monitoring	\$ 38,800.00
IOS-1 Riparian Mitigation	\$ 240,000.00
Total	\$ 1,260,060.57

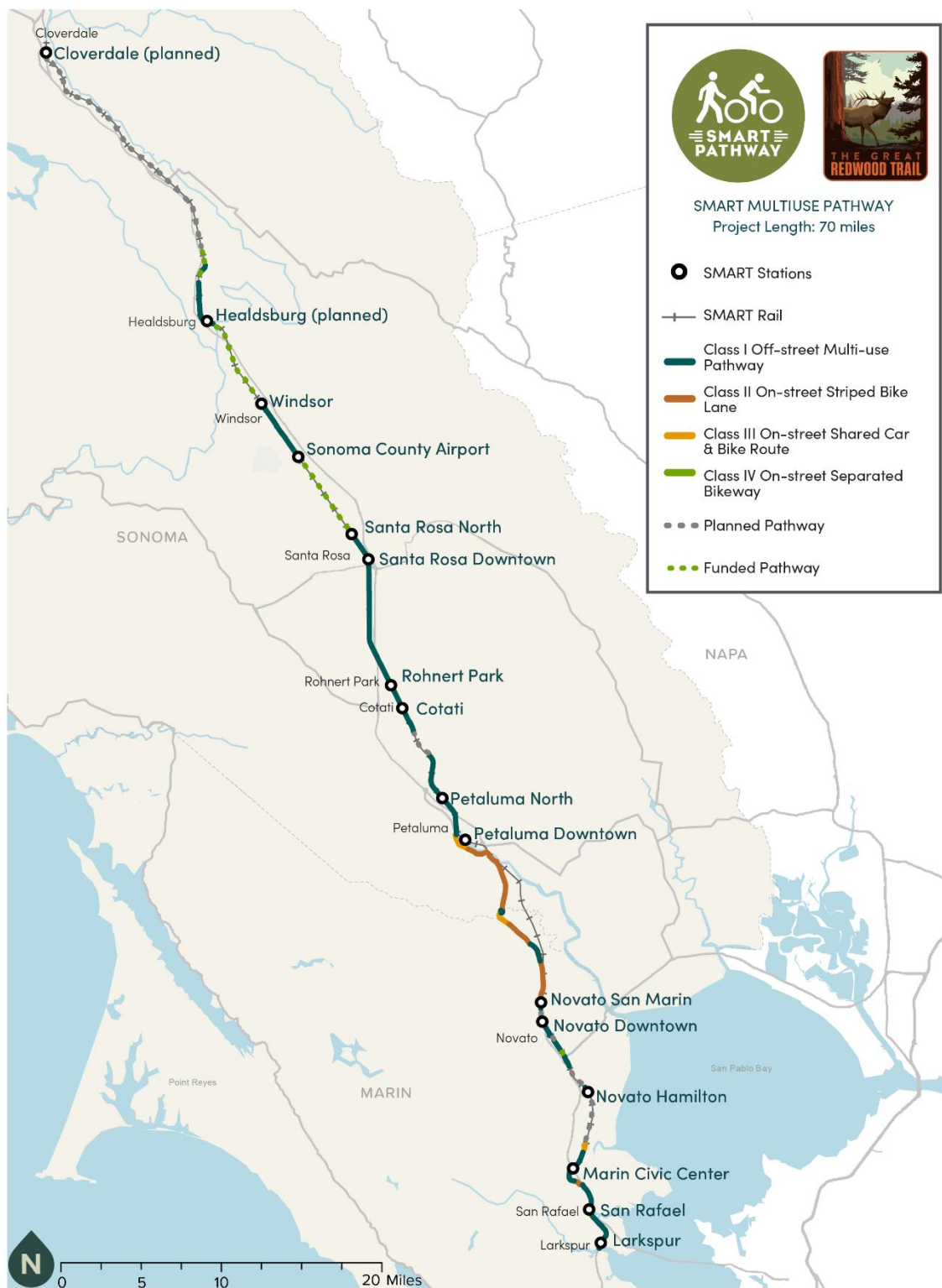
Other Non-Capital Projects

Categorized as non-capital, these projects serve an organizational need and advance SMART objectives but do not directly result in a tangible asset to the Agency, defined as having a useful life of at least a year and a value of at least \$5,000. Many of these non-capital projects are funded by grants. Others, namely the Joe Rodota Trail to 3rd Street Project, are assets being built as part of a SMART capital project but result in an asset for another entity with dedicated outside funding.

Non-Capital Projects		FY26
Department	Project Name	Amount
Maintenance of Way	Generator Plug Retrofit at all Platforms	\$ 20,489.00
	Power drop - Fulton	\$ 30,000.00
Total		\$ 50,489.00
Marketing and Outreach	Website	\$ 464,000.00
Total		\$ 464,000.00
MOW and Vehicle Maintenance	Healdsburg Storage Racks	\$ 36,500.00
Total		\$ 36,500.00
Engineering - Pathway	Pathway Design - Marin & Sonoma & Puerto Suello	\$ 882,125.17
Total		\$ 882,125.17
Engineering	Windsor to Healdsburg Project Development	\$ 275,000.00
	Joe Rodota Trail to 3rd Street Project - City & Developer	\$ 1,534,821.00
	State Route 37	\$ 6,000.00
Total		\$ 1,815,821.00
Planning	Quality of Life & Economic Analysis	\$ 180,000.00
Total		\$ 180,000.00
	Total Non-Capital Projects	\$ 3,428,935

Pathway Segments Completing Design	Length (in miles)
Marin-Sonoma Pathways - \$221,660	6.2
- Main Street to East Railroad Avenue	1.48
- Joe Rodota Trail 3rd Street	0.06
- Santa Rosa Downtown Station to 6th Street	0.04
- Guerneville Road to West Steele Lane	0.32
- West Steele Lane to San Miguel Boulevard	1.2
- San Miguel Boulevard to Airport Boulevard	3.1
Marin Pathways - \$275,000	5.95
- Smith Ranch Road to Main Gate Road/ Novato - Hamilton Station	2.65
- State Access Road to Bay Trail	1.4
- Hanna Ranch Road to South Side of Novato Creek	1.26
- Grant Avenue to Olive Avenue	0.26
- Olive Avenue to Rush Creek Place	0.38
Puerto Suello to San Pedro Road - \$385,465	

This table breaks down the pathway segments listed above in the Pathway Design line item with the segment length and budget amount assigned to the item in Fiscal Year 2026.



State of Good Repair and Capital Projects

49 CFR 625.5 defines State of Good Repair (SGR) as the condition in which a capital asset can operate at a full level of performance. Per FTA, “having well maintained, reliable transit infrastructure – track, signal systems, bridges, tunnels, vehicles and stations – will help ensure safe, dependable and accessible services.” State of Good Repair expenditures are those costs that keep our assets in a condition where the asset can operate at a full level of performance. This requires regular repairs and replacements of those assets

SMART has broken out costs for projects related to capital assets into State of Good Repair and Capital/Engineering Projects.

State of Good Repair Projects		FY26
Department	Project Name	Amount
Engineering	Bridges	\$ 250,000
Total		\$ 250,000
Vehicle Maintenance	Coupler/ Gear Shaft Overhaul	\$ 625,000
	Cummins New Engine after Treatment System	\$ 700,000
	Cummins Mid-Life Overhaul or New Engines	\$ 1,250,000
	Radiator Fan Modification	\$ 150,000
	Battery Overhaul	\$ 90,000
	Transmission Overhaul	\$ 90,000
	Mahle Cooling System Overhaul	\$ 250,000
	Master Control Overhaul	\$ 192,000
	DMU Air Brake Overhaul and Air Supply Unit	\$ 1,151,404
	On-Board DMU Cameras	\$ 750,000
	Fire Suppression System	\$ 60,000
	DMU Light Replacement	\$ 200,000
Total		\$ 5,508,404
Maintenance of Way	Guideway & Track Main Line Surfacing	\$ 345,338
	Switches - 4/year	\$ 120,000
	Replace Standby battery banks for wayside signals	\$ 70,400
Total		\$ 535,738
Maintenance of Way - Pathway	Pathway Repairs & Rehab	\$ 115,200
Total		\$ 115,200
Other	Miscellaneous State of Good Repair Project	\$ 2,422,381
Total		\$ 2,422,381
	Total State of Good Repair	\$ 8,831,723

The Fiscal Year 2026 Budget includes expenditures related to capital projects for specific pathway segments and extensions. These costs are funded by revenues from various grants and Measure Q.

In the Fiscal Year 2026, there are several State of Good Repair projects, including a repair of the St. Vincent's Culvert (bridge), various overhauls and modifications, light replacements on the DMUs, a new on-board camera system, as well as an overhaul of the fire suppression system on the trains. On the right-of-way, there is funding for guideway and track surfacing, pathway repairs and rehabilitation, and switches and battery banks.

Project Specific		FY26
Department	Project Name	Amount
Planning - Pathway	Wayfinding	\$ 85,000.00
Total		\$ 85,000.00
Engineering - Pathway	Joe Rodota Trail to 3rd Street	\$ 1,454,886.00
	Hanna Ranch Road to Vintage Way	\$ 1,145,000.00
	Guerneville Road to Airport Blvd.	\$ 1,120,000.00
Total		\$ 3,719,886.00
Engineering	Petaluma North - Solar Project	\$ 1,300,000.00
	Windsor to Healdsburg Extension	\$ 2,625,000.00
	Civic Center Kiss-n-Ride (Design)	\$ 224,000.00
Total		\$ 4,149,000.00
	Total Project Specific	\$ 7,953,886

Several pathway projects are funded in the Fiscal Year 2026 Budget. The first of these is the completion of the pathway wayfinding signage project, which was designed in Fiscal Year 2024, and commenced installation in Fiscal Year 2025. The funds allocated in this budget will also construct the Joe Rodota Trail to Third Street in Santa Rosa segment of the pathway and initiate construction on the 0.4 mile Hanna Ranch Road to Vintage Way pathway segment in Novato, and the 4.7 mile Guerneville Road to Airport Boulevard pathway segment in Santa Rosa.

The Petaluma North Station Solar Project will be constructed using funds from the State of California's Affordable Housing Sustainable Communities grant program. This will add solar panels to the station site with the intention of offsetting energy usage and costs at the station with solar power.

The Windsor to Healdsburg Extension progressive design-build project will commence in Fiscal Year 2026. The amount currently budgeted for the Extension is rolling from Fiscal Year 2025, with the intention that more revenues and expenditures will be added through a budget amendment to fund any design or early works packages that can be accomplished in Fiscal Year 2026. That decision will be made in tandem with the awarding of the progressive design-build contract later in the year.

The Civic Center Kiss-n-Ride project will include the design costs for a designated location at the Civic Center where passengers can be driven and dropped off in order to connect with SMART rail service. Future construction will be contingent on grant funding.

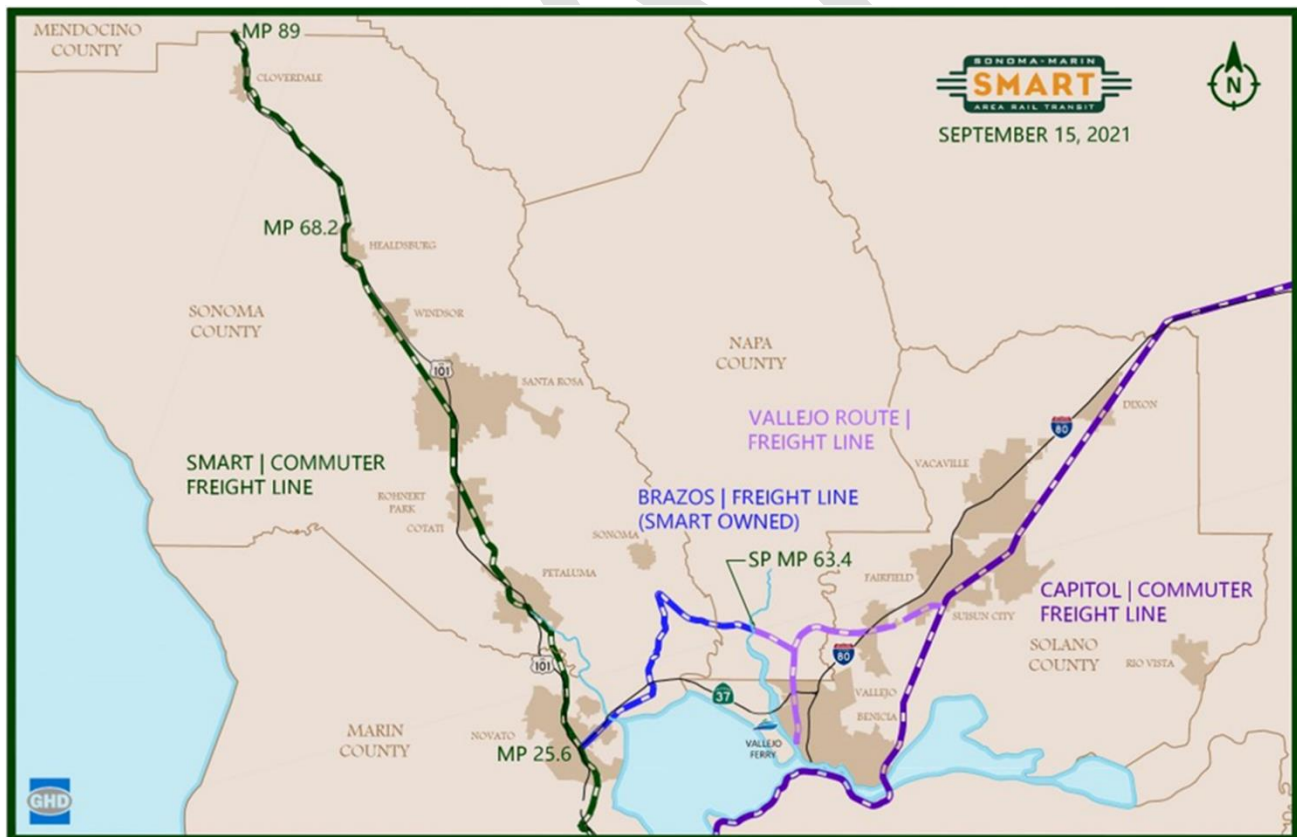
Capital Administration and Operations Projects		FY26
Department	Project Name	Amount
IS	IS Equipment	\$ 744,000.00
Total		\$ 744,000.00
Operations Administration	Non-Revenue Vehicles	\$ 346,000.00
Total		\$ 346,000.00
Maintenance of Way	Fabric Building for Scrubber storage/ garage	\$ 30,000.00
	Backup Generator at Roblar	\$ 50,000.00
Total		\$ 80,000.00
Vehicle Maintenance	Energy Cushion Device Crash System	\$ 150,000.00
	RailQuip Car Mover	\$ 100,000.00
	Calipri Digital Wheel Measurement Gauge	\$ 75,000.00
Total		\$ 325,000.00
	Total Projects/ Capital	\$ 1,495,000

The Fiscal Year 2026 Budget funds capital projects required for the Administration and Operations Divisions. The Information Systems Department has many pieces of equipment that are capital items and require replacement on a regular schedule. These IS projects include servers, firewalls, routers, switches, concentrators, and routers. The non-revenue vehicle program at SMART schedules vehicles for replacement based on their useful life calculations. There are three trucks and a hyrail boom truck included as part of the Operations budget. A fabric building to provide storage for the scrubber and act as a small garage and a backup generator at the Roblar facility will be utilized by SMART's Maintenance of Way Division. SMART's DMUs are due for an overhaul to the energy cushion device crash system based on the manufacturer's guidance. The RailQuip car mover will be utilized in the SMART Rail Operations Center yard to allow the DMUs to be able to be moved for maintenance purposes.

FREIGHT

Freight

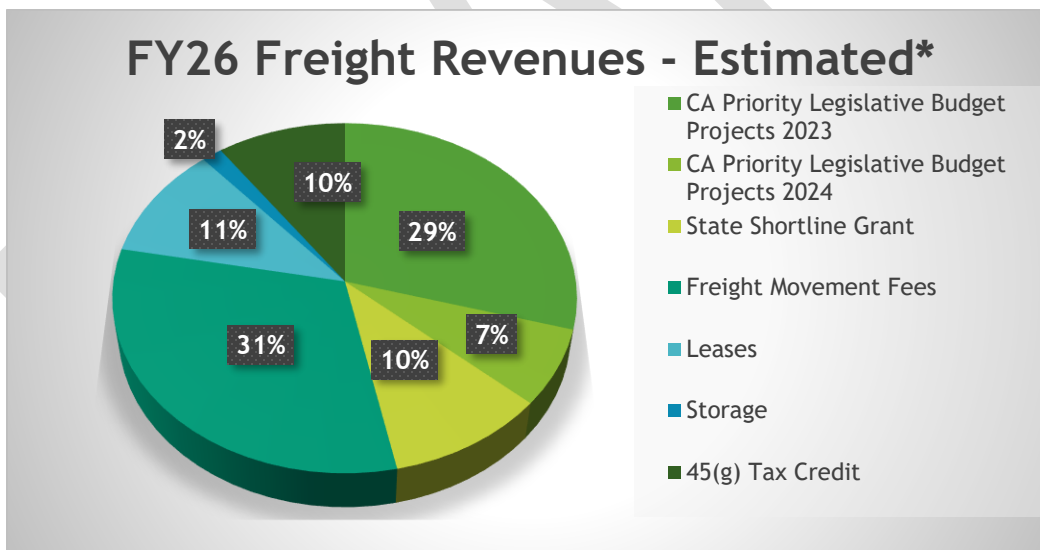
In March of 2022, SMART assumed the freight operations from the Northwestern Pacific Railroad Company (NWPCo) which had been operating service from Napa County to Petaluma since 2011. SMART began in-house operations on July 1, 2022. Over the past three years, SMART has worked to maintain and improve the freight right-of-way and facilities as well as increase its revenue base by attracting storage and freight customers. Currently there are three customers that receive primarily feed grain. In addition, there is a freight car storage location at the Schellville yard, currently storing rail cars for one customer. Service consists of two round trips a week to Petaluma customers as well as two round trips to the California Northern Railroad to receive and deliver rail cars to and from the interchange.



For Fiscal Year 2026, revenues for freight operations are estimated at \$2.5 million. SMART anticipates spending \$1,075,089 on salaries and benefits, \$943,789 on operations, and \$552,301 on capital repairs and replacements. Revenues and expenditures for freight operations are tracked separately in Fund 60. Administrative expenses are allocated from Fund 01 based on a ratio of total passenger miles freight operated to total passenger miles commuter rail operated, with a passenger mile for freight defined as cars multiplied by miles.

The SMART Board of Directors approved six and a half (6.5) fulltime equivalent (FTEs) positions in December 2025 to operate the Freight Division for the organization. The Fiscal Year 2026 budget for salaries and benefits for freight operations is estimated at \$1,075,089. This budget funds one (1) freight manager, three (3) freight utility workers, two (2) freight utility worker/dispatchers, and a half-time (1/2) administrative assistant. The details regarding these positions can be found in Appendix C. A three percent (3%) cost of living increase is included for Fiscal Year 2026.

The SMART Freight Division evaluates and prioritizes the work necessary to run the service and comply with all Federal Railroad Administration requirements. Improvements to the Schellville Depot and repairs to high priority bridges were completed in previous fiscal years. Further maintenance on the Novato Creek Bridge, the Sears Point Drainage Bridge, and the Wingo-Sonoma Creek Bridge is included in the Fiscal Year 2026 budget. Additionally, The Freight Manager continues to reach out to potential new customers to increase revenues.



*Chart does not include the two revenue sources that register at 0%, Caltrans SR 37 Engineering Support, and Miscellaneous

Revenues	
CA Priority Legislative Budget Projects 2023	\$ 750,000
CA Priority Legislative Budget Projects 2024	\$ 180,528
Caltrans SR37 Construction Support	\$ 7,000
State Shortline Grant	\$ 262,651
Freight Movement Fees	\$ 800,000
Leases	\$ 270,000
Storage	\$ 40,000
45(g) Tax Credit	\$ 251,000
Misc.	\$ 10,000
Total Revenues	\$ 2,571,179



Account Description	FY25 Amended Budget	FY26 Requested Budget
Salaries and Benefits	\$ 947,674	\$ 1,075,090
Freight Cost Allocation - Administration	\$ 32,895	\$ 22,538
Insurance	\$ -	\$ -
Maintenance of Equipment	\$ 55,285	\$ 37,085
Maintenance of Radios	\$ -	\$ -
Maintenance of Signals	\$ 15,000	\$ 15,000
Maintenance of Revenue Vehicles	\$ 23,000	\$ 65,000
Maintenance of Facilities	\$ 13,800	\$ 15,000
Maintenance of Railway	\$ 119,000	\$ 150,000
Training & Travel Expense	\$ 2,500	\$ -
Permits and Fees	\$ 52,960	\$ 73,090
Rental/ Leases - Equipment	\$ 57,947	\$ 58,905
Mileage Reimbursement & Auto Tolls	\$ 1,000	\$ 1,000
Contract Services - Administrative	\$ 252,598	\$ 250,230
Communications	\$ 9,678	\$ 10,000
Uniform Expense	\$ 5,000	\$ 2,000
Fuel and Lubricants	\$ 115,200	\$ 90,200
Memberships	\$ 1,100	\$ 1,100
Miscellaneous Expense	\$ 122,841	\$ 101,500
Postage	\$ 4,770	\$ 4,500
Small Tools and Equipment	\$ 21,600	\$ 16,000
Software	\$ 8,640	\$ 8,640
Utilities	\$ 22,000	\$ 22,000
Total	\$ 1,884,488	\$ 2,018,878
Projects		
Grade Crossing Repair (Schellville)	\$ 141,633	\$ -
Brazos Branch - Phase II (Novato Creek)	\$ 133,221	\$ 54,121
Phase II (Sears Point Drainage)	\$ 225,000	\$ 217,974
Phase II (Wingo - Sonoma Creek)	\$ 250,000	\$ 203,205
Tie Replacment	\$ 50,000	\$ 50,000
WFO: SR37 Grade Crossing Modification - Engineering	\$ 12,500	\$ 7,000
Grade Crossing Repair (Grandview Avenue)	\$ -	\$ 20,000
Total	\$ 670,721	\$ 552,301
Grand Total	\$ 2,555,209	\$ 2,571,179

Reserves

SMART has several reserves that have been established for various purposes.

Pension & OPEB Liability Reserve

This reserve is to ensure that SMART has funds set aside for future pension costs. We have set aside \$1,000,000 for Fiscal Year 2026 for a Fiscal Year 2026 balance of \$6,574,676.

Vehicles & Equipment Reserve

This reserve is used to accumulate funds for future capital equipment needs such as DMU replacement. The Fiscal Year 2025 balance is \$11,317,250. The Fiscal Year 2026 budget adds an additional \$1,000,000 for a total reserve of \$12,317,250.

Corridor Completion Reserve

This reserve was established in the Fiscal Year 2021 amended budget to set aside funds for design, environmental costs, or to leverage grant funding. The balance as of June 30, 2025 is \$7,000,000. Staff is recommending utilizing \$1.5 million for ROW in Fiscal Year 2026. That would leave a remaining balance of \$5,500,000.

Operating Reserve

The Fiscal Year 2025 operating reserve was \$11,728,963. We have calculated 25% of the operating costs for Fiscal Year 2026 which would result in an increase of \$1,231,027 for a total of \$12,959,990.

Fund Balance

The estimated fund balance for Fiscal Year 2025 year-end is \$81,342,877. The difference between revenues and expenditures for Fiscal Year 2026 is \$9,209,708. Of that, \$1,500,000 will be coming from the Corridor Completion Reserve and the remaining \$7,709,708 will be coming from the unassigned fund balance. This leaves a fund balance of \$53,798,870 at the conclusion of Fiscal Year 2026.

Debt

In October of 2020, SMART successfully pursued a taxable advance refunding of the 2011A bonds. The refunding matched the existing March 1, 2029 final maturity date of the 2011A bonds. These bonds are secured by a gross lien on SMART's ¼ cent sales tax. The bonds were rated "AA" by Standard & Poor's. The debt service schedule is listed below.

Fiscal Year	Series 2020 Bonds Principal	Series 2020 Bonds Interest	Debt Service
2021	\$3,365,000.00	\$566,576.35	\$3,931,576.35
2022	13,280,000.00	1,656,755.80	14,936,755.80
2023	14,015,000.00	1,581,192.60	15,596,192.60
2024	14,765,000.00	1,479,443.70	16,244,443.70
2025	15,580,000.00	1,324,115.90	16,904,115.90
2026	15,860,000.00	1,136,844.30	16,996,844.30
2027	16,105,000.00	893,869.10	16,998,869.10
2028	16,385,000.00	614,930.50	16,999,930.50
2029	13,615,000.00	284,281.20	13,899,281.20
Total	\$122,970,000.00	\$9,538,009.45	\$132,508,009.45

APPENDIX A – PASSENGER RAIL OVERVIEW OF SOURCES & USES

Appendix A - Passenger Rail/Pathway Sources & Uses				
FISCAL YEAR 2025-2026 DRAFT BUDGET - SOURCES AND USES				
		A	B	C
		FY25 Amended Budget	FY26 Requested Budget	Difference
1	Beginning Fund Balance *	\$ 81,342,877	\$ 61,508,650	\$ (19,834,227)
2	Revenues			
3	SMART S&U Tax			
4	Measure Q	\$ 50,426,000	\$ 46,265,300	\$ (4,160,700)
5	Measure Q Cost of Collection	\$ (800,000)	\$ (683,796)	\$ 116,204
6	Net Sales & Use Tax	\$ 49,626,000	\$ 45,581,504	\$ (4,044,496)
7	Measure Q Roll Forward	\$ 2,636,677	\$ 3,818,460	\$ 1,181,783
8	Transfer from Capital Fund	\$ 1,307,750	\$ 1,500,000	\$ 192,250
9	Subtotal	\$ 53,570,427	\$ 50,899,964	\$ (2,670,463)
10	Federal Funds			
11	5307 - Urbanized Area Formula Funds (Preventative Maintenance)	\$ 3,770,292	\$ 3,848,178	\$ 77,886
12	5337 - Federal State of Good Repair Funds	\$ -	\$ 5,642,175	\$ 5,642,175
13	Discretionary Earmark	\$ 1,800,000	\$ 1,520,000	\$ (280,000)
14	FTA / OBAG 2 - Hanna Ranch to Vintage Way	\$ -	\$ 91,600	\$ 91,600
15	FTA/ OBAG 3 - Hanna Ranch to Vintage Way	\$ -	\$ 171,750	\$ 171,750
16	FRA - Consolidated Rail Infrastructure and Safety Improvements (CRISI)	\$ 1,749,298	\$ -	\$ (1,749,298)
17	FRA Suicide Prevention Grant	\$ 50,954	\$ -	\$ (50,954)
18	Quick Strike (CMAQ) McInnis to Smith Ranch Rd	\$ 1,073,727	\$ -	\$ (1,073,727)
19	Subtotal	\$ 8,444,271	\$ 11,273,703	\$ 2,829,433
20	State Funds			
21	AHSC - Affordable Housing and Sustainable Communities	\$ 7,117,376	\$ 1,610,000	\$ (5,507,376)
22	ATP - SoCo Pathway - CTC/Caltrans/MTC	\$ 6,809,453	\$ -	\$ (6,809,453)
23	Caltrans Sustainability Communities Competitive Planning Grant	\$ 400,000	\$ 159,354	\$ (240,646)
24	Clean California Transit Grant	\$ 881,316	\$ -	\$ (881,316)
25	ITIP - Complete Streets	\$ -	\$ 896,000	\$ 896,000
26	LCTOP - Low Carbon Transit Operating	\$ 566,356	\$ 760,918	\$ 194,562
27	LPP - Local Partnership Program	\$ 1,188,864	\$ 727,443	\$ (461,421)
28	ITIP - Windsor Systems	\$ 6,624,890	\$ -	\$ (6,624,890)
29	SCC - Windsor	\$ 13,035,910	\$ -	\$ (13,035,910)
30	SRA - State Rail Assistance	\$ 3,700,000	\$ 3,500,000	\$ (200,000)
31	STA - State Transit Assistance (Population)	\$ 1,162,223	\$ 1,266,953	\$ 104,730
32	STA - State Transit Assistance (Revenue)	\$ 2,451,807	\$ 2,094,129	\$ (357,678)
33	STA - SGR (State of Good Repair)	\$ 340,634	\$ 340,634	\$ -
34	State Funds - Shuttle Service	\$ 500,000	\$ 250,000	\$ (250,000)
35	TIRCP - Petaluma North and McDowell Crossing	\$ 8,559,722	\$ -	\$ (8,559,722)
36	TIRCP - Windsor to Healdsburg	\$ 1,450,000	\$ 1,380,000	\$ (70,000)
37	Subtotal	\$ 54,788,550	\$ 12,985,431	\$ (41,803,119)
38	Regional Funds			
39	Regional Measure 3 (RM3)	\$ 1,276,000	\$ 1,048,400	\$ (227,600)
40	Subtotal	\$ 1,276,000	\$ 1,048,400	\$ (227,600)
41	Other Sources			
42	Advertising	\$ 132,100	\$ 175,000	\$ 42,900
43	Charges for Services	\$ 109,564	\$ 112,851	\$ 3,287
44	Fare Revenues - Passenger Rail	\$ 2,215,290	\$ 2,541,000	\$ 325,710
45	Fare Revenues - Shuttle	\$ 1,200	\$ 2,000	\$ 800
46	Interest Earning	\$ 1,500,000	\$ 800,000	\$ (700,000)
47	Misc.	\$ 54,257	\$ 55,885	\$ 1,628
48	Parking	\$ 11,400	\$ 17,580	\$ 6,180
49	Rent - Real Estate	\$ 479,636	\$ 494,025	\$ 14,389
50	Other Governments/Private Sector	\$ 1,829,589	\$ 1,534,821	\$ (294,768)
51	Subtotal	\$ 6,333,036	\$ 5,733,161	\$ (599,875)
52	Total Revenues	\$ 124,412,284	\$ 81,940,659	\$ (42,471,625)
53	Total Revenues + Fund Balance	\$ 205,755,161	\$ 143,449,309	\$ (62,305,852)

		FY25 Amended Budget	FY26 Requested Budget	Difference
54				
55				
56	Debt Service	\$ 16,904,116	\$ 16,996,844	\$ 92,728
57	Salaries & Benefits	\$ 28,822,096	\$ 30,418,226	\$ 1,596,130
58	Reduction for Salaries Charged to Projects	\$ (1,655,611)	\$ (1,663,687)	\$ (8,077)
59	Reduction for Allocation of Salaries/ Services/ Supplies to Freight	\$ (32,895)	\$ (34,944)	\$ (2,049)
60	Service & Supplies	\$ 19,367,741	\$ 18,238,151	\$ (1,129,590)
61	Total Salaries, Benefits, Service, & Supplies	\$ 46,501,331	\$ 46,957,746	\$ 456,415
62	Contribution to OPEB/ CalPERS Liability Fund	\$ 1,000,000	\$ 750,000	\$ (250,000)
63	Contribution to Capital Sinking Fund	\$ 2,000,000	\$ 1,000,000	\$ (1,000,000)
64	Operating Reserve	\$ 450,346	\$ 1,231,027	\$ 780,681
65	Total Reserve Contributions	\$ 3,450,346	\$ 2,981,027	\$ (469,319)
66	Total Debt Service, Operating, Reserves	\$ 66,855,793	\$ 66,935,616	\$ 79,823
67	Balance	\$ 138,899,368	\$ 76,513,693	\$ (62,385,675)
68				
69				
70	Non-Capital Projects	\$ 4,632,481	\$ 4,658,214	\$ 25,733
71	Total Non-Capital Projects	\$ 4,632,481	\$ 4,658,214	\$ 25,733
72	State of Good Repair and Projects	\$ 1,164,218	\$ 8,831,723	\$ 7,667,505
73	Total State of Good Repair	\$ 1,164,218	\$ 8,831,723	\$ 7,667,505
74	Capital Projects			
75	Equipment	\$ 886,108	\$ 2,419,000	\$ 1,532,892
76	Facilities	\$ 65,944,804	\$ 6,459,886	\$ (59,484,918)
77	Infrastructure	\$ 2,484,052	\$ -	\$ (2,484,052)
78	Non-Revenue Vehicles	\$ 971,305	\$ 346,000	\$ (625,305)
79	Land Acquisition	\$ 1,307,750	\$ -	\$ (1,307,750)
80	Total Capital Expenditures	\$ 71,594,019	\$ 9,224,886	\$ (62,369,133)
81	Ending Fund Balance	\$ 61,508,650	\$ 53,798,870	\$ (7,709,780)

APPENDIX B – FREIGHT OVERVIEW OF SOURCES & USES

Appendix B - Freight Sources and Uses				
Fiscal Year 2025-2026 Budget (Estimated)				
		FY25 Amended Budget	FY26 Requested Budget	Difference
1	Beginning Fund Balance	\$ 213,236	\$ -	\$ (213,236)
2	Revenues			
3	California State Transportation Agency (Cal STA)	\$ 393,549	\$ -	\$ (393,549)
4	CA Priority Legislative Budget Projects 2023	\$ -	\$ 750,000	\$ 750,000
5	CA Priority Legislative Budget Projects 2024		\$ 180,528	\$ 180,528
6	Caltrans SR 37 Construction Support	\$ 12,500	\$ 7,000	\$ (5,500)
7	State Shortline Grant	\$ 399,776	\$ 262,651	\$ (137,125)
8	Freight Movement Fees	\$ 700,000	\$ 800,000	\$ 100,000
9	Leases	\$ 270,000	\$ 270,000	\$ -
10	Storage	\$ 104,800	\$ 40,000	\$ (64,800)
11	45(g) Tax Credit	\$ 250,580	\$ 251,000	\$ 420
12	Misc.	\$ 342,420	\$ 10,000	\$ (332,420)
13	Total Revenues	\$ 2,473,625	\$ 2,571,179	\$ 97,554
14	Total Revenues + Fund Balance	\$ 2,686,861	\$ 2,571,179	\$ (115,682)
15	Expenditures			
16	Salaries & Benefits	\$ 947,674	\$ 1,075,089	\$ 127,415
17	Services & Supplies	\$ 926,833	\$ 943,789	\$ 16,956
18	SR 37 Grade Crossing PE Review	\$ 12,500	\$ 7,000	\$ (5,500)
19	Tie Replacement	\$ 50,000	\$ 50,000	\$ -
20	Brazos Branch - Novato Creek	\$ 133,221	\$ 54,121	\$ (79,100)
21	Brazos Branch - Sears Point Drainage	\$ 225,000	\$ 217,974	\$ (7,026)
22	Brazos Branch - Wingo - Sonoma Creek	\$ 250,000	\$ 203,205	\$ (46,795)
23	Grade Crossing Repair	\$ 141,633	\$ 20,000	\$ (121,633)
24	Total	\$ 2,686,861	\$ 2,571,179	\$ (115,682)
25	Ending Fund Balance	\$ -	\$ -	\$ -

APPENDIX C – POSITION AUTHORIZATION

# of Positions	Position Title	Hourly		Annual	
		Min	Max	Min	Max
1	Accountant I	\$ 38.39	\$ 47.99	\$ 79,851.20	\$ 99,819.20
1	Accounting Manager	\$ 67.73	\$ 84.66	\$ 140,878.40	\$ 176,092.80
1	Accounts Payable Technician	\$ 32.29	\$ 40.36	\$ 67,163.20	\$ 83,948.80
3	Administrative Assistant	\$ 33.10	\$ 41.38	\$ 68,848.00	\$ 86,070.40
1	Assistant General Counsel	\$ 93.38	\$ 116.73	\$ 194,230.40	\$ 242,798.40
1	Associate Planner	\$ 44.30	\$ 55.38	\$ 92,144.00	\$ 115,190.40
1	Budget and Finance Manager	\$ 67.73	\$ 84.66	\$ 140,878.40	\$ 176,092.80
1	Buyer I	\$ 39.15	\$ 48.94	\$ 81,432.00	\$ 101,795.20
1	Chief Financial Officer	\$ 122.45	\$ 153.06	\$ 254,696.00	\$ 318,364.80
1	Clerk of the Board/ Executive Assistant	\$ 47.94	\$ 59.93	\$ 99,715.20	\$ 124,654.40
1	Communications and Marketing Coordinator	\$ 41.33	\$ 51.66	\$ 85,966.40	\$ 107,452.80
1	Communications and Marketing Manager	\$ 76.64	\$ 95.80	\$ 159,411.20	\$ 199,264.00
1	Communications and Marketing Specialist	\$ 56.98	\$ 71.23	\$ 118,518.40	\$ 148,158.40
1	General Counsel	\$ 122.52	\$ 153.15	\$ 254,841.60	\$ 318,552.00
1	General Manager	\$ 156.92	\$ -	\$ 326,393.60	\$ -
2	Grants and Budget Analyst	\$ 54.24	\$ 67.80	\$ 112,819.20	\$ 141,024.00
1	Grants and Legislative Affairs Manager	\$ 78.52	\$ 98.15	\$ 163,321.60	\$ 204,152.00
1	Human Resources Analyst	\$ 47.71	\$ 59.58	\$ 99,236.80	\$ 123,926.40
1	Human Resources Manager	\$ 76.64	\$ 95.80	\$ 159,411.20	\$ 199,264.00
1	Information Systems Analyst	\$ 47.94	\$ 59.93	\$ 99,715.20	\$ 124,654.40
1	Information Systems Manager	\$ 78.56	\$ 98.20	\$ 163,404.80	\$ 204,256.00
1	Information Systems Technician	\$ 42.37	\$ 52.96	\$ 88,129.60	\$ 110,156.80
1	Legal Administrative Assistant	\$ 38.39	\$ 47.99	\$ 79,851.20	\$ 99,819.20
1	Ops Information Systems Technician	\$ 45.63	\$ 57.04	\$ 94,910.40	\$ 118,643.20
1	Payroll Technician	\$ 34.07	\$ 42.59	\$ 70,865.60	\$ 88,587.20
1	Planning Manager	\$ 76.64	\$ 95.80	\$ 159,411.20	\$ 199,264.00
1	Procurement and Contracts Analyst	\$ 50.37	\$ 62.96	\$ 104,769.60	\$ 130,956.80
1	Procurement and Contracts Manager	\$ 71.16	\$ 88.95	\$ 148,012.80	\$ 185,016.00
1	Real Estate Manager	\$ 84.55	\$ 105.69	\$ 175,864.00	\$ 219,835.20
1	Regulatory Compliance & Civil Rights	\$ 76.64	\$ 95.80	\$ 159,411.20	\$ 199,264.00
1	Senior Buyer	\$ 55.60	\$ 69.50	\$ 115,648.00	\$ 144,560.00
1	Senior Management Analyst	\$ 61.33	\$ 76.66	\$ 127,566.40	\$ 159,452.80
1	Senior Planner	\$ 56.98	\$ 71.23	\$ 118,518.40	\$ 148,158.40
1	Senior Real Estate Officer	\$ 56.95	\$ 71.19	\$ 118,456.00	\$ 148,075.20
	Interns (Multiple)	\$ 20.00		\$ 41,600.00	\$ -
35					
# of Positions	Position Title				
Capital					
2	Assistant Engineer	\$ 50.37	\$ 62.96	\$ 104,769.60	\$ 130,956.80
2	Associate Engineer	\$ 58.41	\$ 73.01	\$ 121,492.80	\$ 151,860.80
1	Chief Engineer	\$ 100.47	\$ 125.59	\$ 208,977.60	\$ 261,227.20
1	Junior Engineer	\$ 43.44	\$ 54.30	\$ 90,355.20	\$ 112,944.00
1	Manager Train Control Systems	\$ 100.47	\$ 125.59	\$ 208,977.60	\$ 261,227.20
1	Principal Engineer	\$ 78.56	\$ 98.20	\$ 163,404.80	\$ 204,256.00
1	Senior Engineer	\$ 67.73	\$ 84.66	\$ 140,878.40	\$ 176,092.80
9					

# of Positions	Position Title				
Operations					
1	Administrative Services Specialist	\$ 47.93	\$ 59.91	\$ 99,694.40	\$ 124,612.80
3	Bridge Tender	\$ -	\$ 35.83	\$ -	\$ 74,526.40
1	Chief Operating Officer	\$ 105.65	\$ 132.06	\$ 219,752.00	\$ 274,684.80
1	Chief of Police	\$ 91.04	\$ 113.80	\$ 189,363.20	\$ 236,704.00
3	Code Compliance Officer	\$ 37.45	\$ 46.81	\$ 77,896.00	\$ 97,364.80
6	Conductor *	\$ -	\$ 46.88	\$ -	\$ 97,510.40
	Conductor Trainee*	\$ -	\$ 39.86	\$ -	\$ 82,908.80
28	Engineer *	\$ -	\$ 56.37	\$ -	\$ 117,249.60
	Engineer Trainee*	\$ -	\$ 47.91	\$ -	\$ 99,652.80
1	Facilities Maintenance Supervisor	\$ 52.80	\$ 64.18	\$ 109,824.00	\$ 133,494.40
3	Facilities Maintenance Technician		\$ 44.81	\$ -	\$ 93,204.80
2	Inventory and Parts Clerk	\$ 34.07	\$ 42.59	\$ 70,865.60	\$ 88,587.20
1	Materials Sourcing Specialist	\$ 39.33	\$ 49.16	\$ 81,806.40	\$ 102,252.80
1	Inventory and MMS Manager	\$ 61.34	\$ 76.68	\$ 127,587.20	\$ 159,494.40
1	Lead Facility Maintenance Engineer	\$ -	\$ 49.29	\$ -	\$ 102,523.20
1	Maintenance of Way Manager	\$ 80.52	\$ 100.65	\$ 167,481.60	\$ 209,352.00
1	Maintenance of Way Superintendent	\$ 67.73	\$ 84.66	\$ 140,878.40	\$ 176,092.80
2	Operation Communication Specialist	\$ 38.39	\$ 47.99	\$ 79,851.20	\$ 99,819.20
1	Safety & Compliance Officer	\$ 69.40	\$ 86.75	\$ 144,352.00	\$ 180,440.00
1	Senior Administrative Assistant	\$ 36.53	\$ 45.66	\$ 75,982.40	\$ 94,972.80
1	Senior Code Compliance Officer	\$ 43.07	\$ 53.83	\$ 89,580.40	\$ 111,969.52
2	Signal Supervisor	\$ 56.31	\$ 68.43	\$ 117,124.80	\$ 142,334.40
8	Signal Technician **	\$ -	\$ 59.34	\$ -	\$ 123,427.20
	Signal Technician Trainee (2) **	\$ -	\$ 44.50	\$ -	\$ 92,560.00
2	Track Maintenance - Laborers	\$ -	\$ 33.50	\$ -	\$ 69,680.00
5	Track Maintainer I	\$ -	\$ 44.38	\$ -	\$ 92,310.40
1	Track Maintainer II	\$ -	\$ 48.82	\$ -	\$ 101,545.60
2	Track Maintenance Supervisor	\$ 52.67	\$ 64.03	\$ 109,553.60	\$ 133,182.40
1	Transportation Manager	\$ 80.52	\$ 100.65	\$ 167,481.60	\$ 209,352.00
1	Transportation Superintendent	\$ 67.73	\$ 84.66	\$ 140,878.40	\$ 176,092.80
12	Transportation Supervisor	\$ 59.87	\$ 74.84	\$ 124,529.60	\$ 155,667.20
10	Vehicle Maintenance - Laborers		\$ 34.31	\$ -	\$ 71,364.80
1	Vehicle Maintenance Manager	\$ 80.52	\$ 100.65	\$ 167,481.60	\$ 209,352.00
5	Vehicle Maintenance Supervisor	\$ 59.87	\$ 74.84	\$ 124,529.60	\$ 155,667.20
12	Vehicle Maintenance Technician ***		\$ 54.23	\$ -	\$ 112,798.40
	Vehicle Maintenance Tech Trainee (2) ***		\$ 40.67	\$ -	\$ 84,593.60
119					
Freight					
0.5	Administrative Assistant	\$ 33.10	\$ 41.38	\$ 68,848.00	\$ 86,070.40
1	Freight Manager	\$ 80.52	\$ 100.65	\$ 167,481.60	\$ 209,352.00
3	Freight Utility Worker	\$ 37.45	\$ 46.81	\$ 77,896.00	\$ 97,364.80
2	Freight Utility Worker/ Dispatcher	\$ 37.45	\$ 46.81	\$ 77,896.00	\$ 97,364.80
6.5					
Total FTE	169.5				
*	Total positions cannot exceed 34.				
**	Total positions cannot exceed 8.				
***	Total positions cannot exceed 12.				

APPENDIX D -STATISTICAL INFORMATION

SMART is a special district established by the California Legislature through the enactment of AB 2224 in 2002, which created the Sonoma-Marín Area Rail Transit (SMART) District and established a comprehensive set of powers and duties regarding the formation, governance, organization, maintenance, and operation of the District. The SMART District includes both Sonoma and Marin Counties and was created to provide a unified and comprehensive structure for the ownership and governance of the passenger and freight rail system within Sonoma and Marin Counties and to provide passenger and freight train service along the existing, publicly owned railroad right-of-way.

Marin County

Marin County is in the northwestern part of the San Francisco Bay Area, with its county seat located in San Rafael. Marin County is across the Golden Gate Bridge from San Francisco, and is included in the San Francisco–Oakland–Berkeley, CA Metropolitan Statistical Area. The county is governed by the Marin County Board of Supervisors. According to the 2020 Census, Marin County had the second highest income per capita of all U.S. counties.

San Quentin State Prison is located in the county, as is George Lucas' Skywalker Ranch. The Marin County Civic Center was designed by Frank Lloyd Wright and draws thousands of visitors a year to guided tours of its arch and atrium design. Marin County's outdoor attractions include the Muir Woods redwood forest, the Marin Headlands, Stinson Beach, the Point Reyes National Seashore, and Mount Tamalpais.

Sonoma County

Sonoma County is in the northwestern part of the San Francisco Bay Area, with its county seat in its largest city, Santa Rosa. It is positioned to the north of Marin County and the south of Mendocino County. It is the northernmost county in the nine-county San Francisco Bay Area region. Sonoma County includes the Santa Rosa and Petaluma Metropolitan Statistical Areas.

In California's Wine Country region, which also includes Napa, Mendocino, and Lake counties, Sonoma County is the largest producer. It has thirteen approved American Viticultural Areas and more than 350 wineries. According to Visit California, tourism spending in Sonoma County was over \$2.4 billion in 2024. In Marin County, tourism spending was \$953 million in 2024.

POPULATION OF MARIN COUNTY AND INCORPORATED CITIES

Area	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Marin County	263,010	262,313	262,234	260,969	258,956	259,512	255,470	252,959	254,743	254,550
Belvedere	2,129	2,131	2,148	2,139	2,124	2,103	2,078	2,045	2,052	2,058
Corte Madera	9,631	9,625	10,043	10,138	10,114	10,147	9,967	9,885	9,957	9,966
Fairfax	7,528	7,533	7,714	7,443	7,399	7,496	7,410	7,354	7,400	7,407
Larkspur	12,312	12,325	12,588	12,331	12,253	12,963	12,728	12,571	12,750	12,731
Mill Valley	15,024	14,956	14,669	14,743	14,674	14,002	13,817	13,664	13,679	13,688
Novato	54,593	54,516	54,151	54,062	53,702	53,008	51,936	51,392	51,578	51,690
Ross	2,538	2,536	2,528	2,548	2,550	2,330	2,280	2,267	2,290	2,309
San Anselmo	13,017	12,982	12,908	12,845	12,757	12,772	12,515	12,405	12,519	12,551
San Rafael	60,551	60,661	60,020	60,207	59,807	61,179	60,237	59,681	59,917	59,885
Sausalito	7,227	7,234	7,421	7,301	7,252	7,159	6,955	6,865	6,936	6,941
Tiburon	9,644	9,647	9,366	9,581	9,540	9,065	8,903	8,798	8,894	8,910
Remainder of County	68,816	68,167	68,678	67,631	66,784	67,288	66,644	66,032	66,771	66,414

Source: County/City estimates as of January 1, 2024 and January 1, 2025
State of California Department of Finance, Demographic Research Unit

POPULATION OF SONOMA COUNTY AND INCORPORATED CITIES

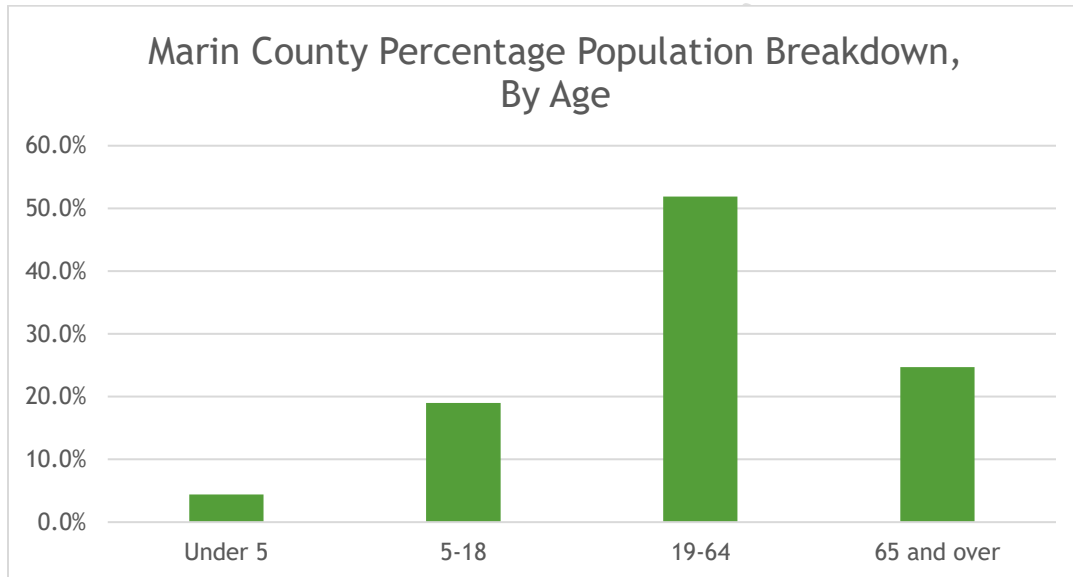
Area	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sonoma County	503,322	502,758	498,849	495,058	491,134	484,674	480,623	478,174	482,050	482,848
Cloverdale	8,927	8,988	9,141	9,279	9,213	9,029	8,869	8,787	8,763	8,678
Cotati	7,376	7,453	7,739	7,628	7,533	7,512	7,410	7,360	7,353	7,290
Healdsburg	11,734	11,757	12,232	12,166	12,089	11,174	10,993	10,914	11,010	10,972
Petaluma	61,488	61,657	62,251	62,195	61,873	59,756	58,552	58,321	58,858	59,094
Rohnert Park	42,586	42,490	43,178	43,134	43,069	44,287	43,701	43,693	44,089	44,062
Santa Rosa	176,937	178,064	177,017	175,183	173,628	177,396	175,351	174,523	177,043	178,452
Sebastopol	7,648	7,650	7,795	7,830	7,741	7,477	7,418	7,366	7,338	7,367
Sonoma	10,929	11,072	11,423	11,164	11,050	10,755	10,804	10,677	10,595	10,507
Windsor	27,445	27,492	28,356	28,596	28,248	26,134	25,836	25,560	25,669	25,625
Remainder of County	148,252	146,135	139,717	137,883	136,690	138,631	131,674	130,991	131,332	130,801

Source: County/City estimates as of January 1, 2024 and January 1, 2025
State of California Department of Finance, Demographic Research Unit

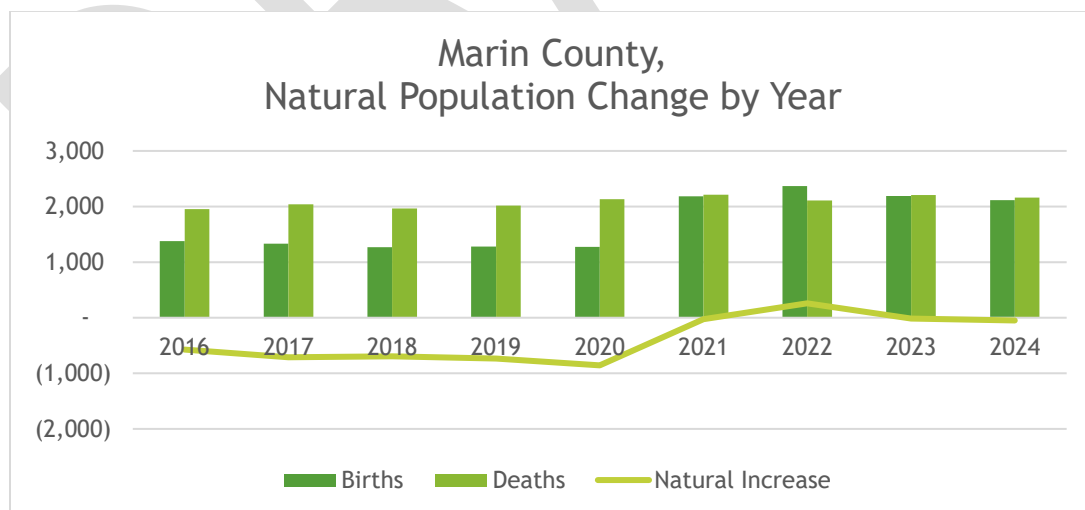
DEMOGRAPHICS OF MARIN AND SONOMA COUNTIES

Marin County

The median age in Marin County is 48.2 years with 59.9% of the population having a bachelor's degree. The life expectancy is 84.3 years which is almost five years longer than the average American's life expectancy.



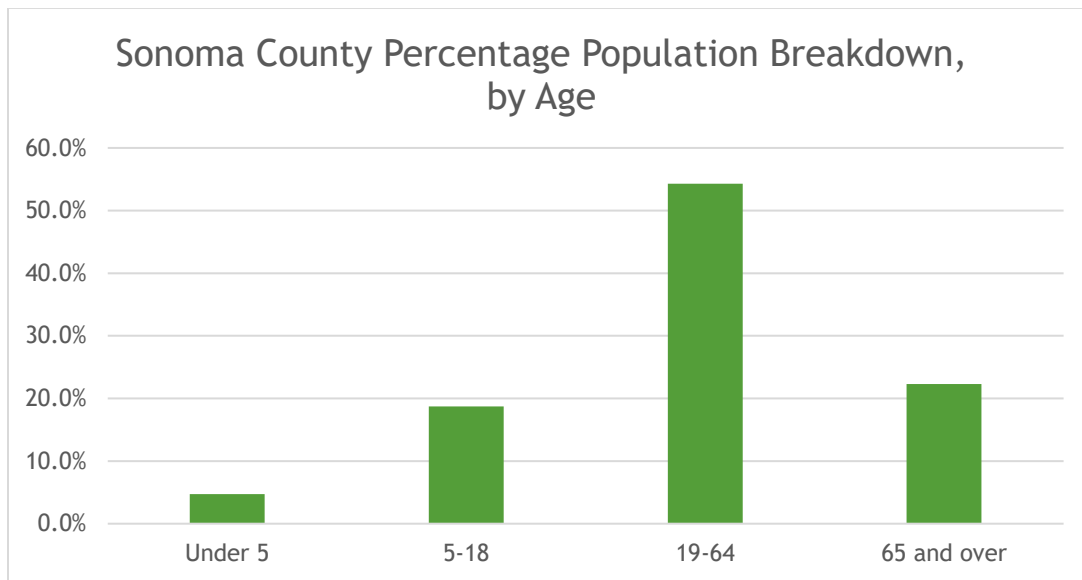
Source: Census.gov



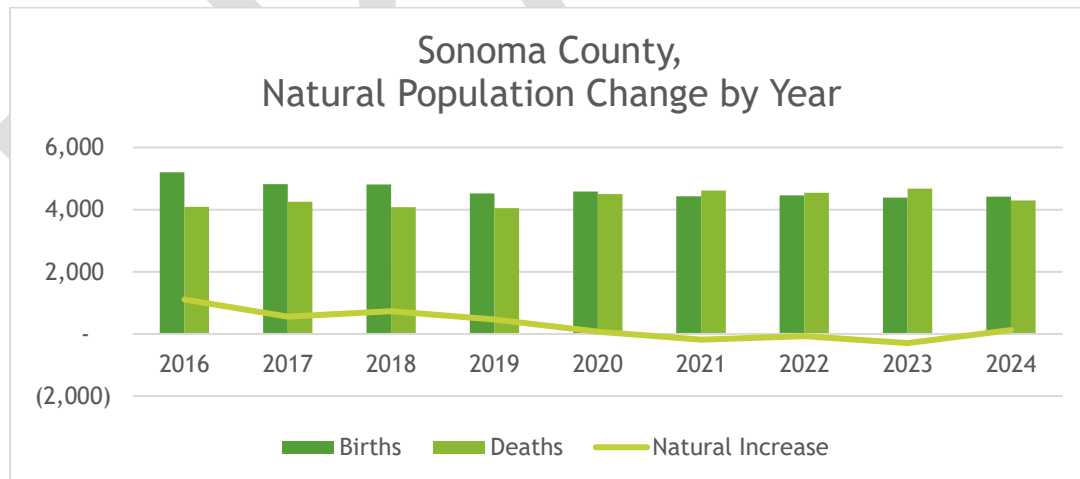
Source: State of California Department of Public Health and State of California Department of Finance, Demographic Research Unit

Sonoma County

The median age in Sonoma County is 43.3 years with 37.4% of the population having a bachelor's degree. The life expectancy is 80.6 years which is slightly over the California average of 79.4 years.



Source: State of California Department of Public Health and State of California Department of Finance, Demographic Research Unit



Source: State of California Department of Public Health and State of California Department of Finance, Demographic Research Unit

APPENDIX E - STATEMENT OF INVESTMENT POLICY

SMART's 2024-2025 Investment Policy

1.0 Policy:

This investment policy is intended to outline the guidelines and practices to be used in effectively managing the SMART District (District's) available cash and investment portfolio. District monies not required for immediate cash requirements will be invested in compliance with the California Government Code Section 53600, et seq. Investment of Surplus.

2.0 Scope:

This policy applies to all the financial assets accounted for in the District's Annual Comprehensive Financial Report and any new fund created by the District, unless specifically exempted. The investment of bond proceeds will be governed by the provisions of relevant bond documents.

3.0 Prudence:

The Board of Directors and Chief Financial Officer shall adhere to the guidance provided by the "prudent investor rule," California Government Code Section 53600.3, which obligates a fiduciary to ensure that "when investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency. Within the limitations of this section and considering individual investments as part of an overall strategy, investments may be acquired as authorized by law."

4.0 Objectives:

In accordance with California Government Code Section 53600.5, and in order of importance, the Chief Financial Officer shall adhere to the following three criteria:

- (a) Safety of Principal – Safety of principal is the foremost objective of the investment program. Investments of the District shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio.
- (b) Liquidity – Investments shall be made whose maturity date is compatible with cash flow requirements and which will permit easy and rapid conversion into cash without substantial loss of value.
- (c) Return on Investment – The District's investment portfolio shall be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the District's investment risk constraints and the cash flow characteristics of the portfolio.

5.0 Delegation of Authority:

The authority of the Board to purchase or sell securities for the District's portfolio, may be delegated by the Board to the Chief Financial Officer, who shall thereafter assume full responsibility for those transactions until the delegation of authority is revoked. The Chief Financial Officer shall act in accordance with established written procedures and internal controls for the operation of the investment program consistent with this investment policy.

The oversight responsibility for the investment program is hereby delegated to the Chief Financial Officer who shall monitor and review all investments for consistency with this Investment Policy.

The Chief Financial Officer may delegate investment decision making and execution authority to an independent SEC-registered investment advisor. The advisor shall comply with this Policy and such other written instructions as are provided by the Chief Financial Officer.

6.0 Investment Procedures:

The Chief Financial Officer shall establish written operational procedures pertaining to the investment of District funds. These procedures shall be compliant with the parameters and limits set forth by this investment policy. The procedures should regulate actions regarding: safekeeping, repurchase agreements, wire transfer agreements, banking service contracts, and collateral/depository agreements. Such procedures shall include explicit delegation of authority to persons responsible for investment transactions. No person may engage in an investment transaction except as provided under the terms of this policy and the procedures established by the Chief Financial Officer.

7.0 Ethics and Conflicts of Interest:

Officers and employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. Employees and investment officials shall disclose any material interests in financial institutions with which they conduct business to the Chief Financial Officer. They shall further disclose any personal financial/investment positions that could be related to the performance of the investment portfolio. Employees and officers shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the District.

8.0 Authorized Financial Dealers and Institutions:

For brokers/dealers of government securities and other investments, the Chief Financial Officer shall select only brokers/dealers who are licensed and in good standing with the California Department of Securities, the Securities and Exchange Commission, the National Association of Securities Dealers or other applicable self-regulatory organizations. Before engaging in investment transactions with a broker/dealer, the Chief Financial Officer shall obtain a signed verification form that attests the individual has reviewed the District's Investment Policy, and intends to present only those investment recommendations and transactions to the District that is appropriate under the terms and conditions of the Investment Policy.

If an Investment Advisor is authorized to conduct investment transactions on the District's behalf, the Investment Advisor may use their own list of approved broker/dealers and financial institutions for investment purposes.

9.0 Authorized and Suitable Investments:

The District is governed by the California Government Code, Sections 53600, *et seq.* Within the context of these limitations, the investments listed below are authorized. Those investments not identified are considered

to be ineligible.

1. **U.S. Treasury Obligations.** United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the full faith and credit of the United States are pledged for the payment of principal and interest.
2. **U.S. Agency Obligations.** Federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises.
3. **California State and Local Agency Obligations.** Obligations of the State of California or any local agency within the state, including bonds payable solely out of revenues from a revenue producing property owned, controlled or operated by the state or any local agency or by a department, board, agency or authority of the state or any local agency.
4. **Other State Obligations.** Registered treasury notes or bonds of any of the other forty-nine (49) United States in addition to California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any of the other forty-nine (49) United States, in addition to California.
5. **Bankers' Acceptances.** Time drafts or bills of exchange that are drawn on and accepted by a commercial bank and brokered to investors in the secondary market. The maximum maturity of an issue will be one hundred eighty (180) days. Securities eligible for investment under this subdivision shall be rated in the highest letter and number category by nationally recognized statistical-rating organization. The maximum exposure shall be no more than 40% of the portfolio value. However, no more than 30% of the agency's money may be invested in the bankers' acceptances of any one commercial bank pursuant to this section.
6. **Commercial Paper.** Commercial paper of "prime" quality of the highest ranking or of the highest letter and number rating as provided for by a nationally recognized statistical-rating organization. The entity that issues the commercial paper shall meet all of the following conditions in either paragraph a or paragraph b:
 - a. The entity meets the following criteria: (i) Is organized and operating in the United States as a general corporation. (ii) Has total assets in excess of five hundred million dollars (\$500,000,000). (iii) Has debt other than commercial paper, if any, that is rated "A" or its equivalent or higher by a nationally recognized statistical-rating organization.
 - b. The entity meets the following criteria: (i) Is organized within the United States as a special purpose corporation, trust, or limited liability company. (ii) Has program wide credit enhancements including, but not limited to, over collateralization, letters of credit, or surety bond. (iii) Has commercial paper that is rated "A-1" or higher, or the equivalent, by a nationally recognized statistical-rating organization.

Eligible commercial paper shall have a maximum maturity of two hundred seventy (270) days or less. The District may invest no more than 25% of its money in eligible commercial paper. The District may purchase no more than 10% of the outstanding commercial paper of any single issuer.

7. **Medium-Term Notes.** Medium-term notes are defined in Government Code Section 53601 as all

corporate and depository institution debt securities with a maximum remaining maturity of five (5) years or less, issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. Notes eligible for investment under this subdivision shall be rated "A" or its equivalent or better by a nationally recognized statistical-rating organization. Purchases of medium-term notes shall not include other instruments authorized by section 53601 and may not exceed 30% of the portfolio value. No more than 10% of SMART's total investment assets may be invested in the commercial paper and medium-term notes of any single issuer.

8. **Negotiable Certificates of Deposit.** Negotiable certificates of deposit issued by a nationally or state-chartered bank, a savings association or a federal association (as defined by Section 5102 of the Financial Code), a state or federal credit union, or by a state-licensed branch of a foreign bank. Securities eligible for investment under this subdivision shall be rated in the highest letter and number category by a nationally recognized rating service for short-term ratings (A-1/P1/F-1) and AA or better for longer-term ratings. Purchases of negotiable certificates of deposit may not exceed 30% of the District's aggregate portfolio.
9. **Time Deposits.** The District may invest in non-negotiable time deposits (CDs) that are FDIC insured or fully collateralized in a state or national bank, savings association or federal association, federal or state credit union located in California, including U.S. branches of foreign banks licensed to do business in California. To be eligible to receive local agency deposits, a financial institution must receive a minimum overall "satisfactory rating" for meeting the credit needs of California Communities in its most recent evaluation. CDs are required to be collateralized as specified under Government Code Section 53630 et seq. The District, at its discretion, may waive the collateralization requirements for any portion that is covered by federal deposit insurance. The District shall have a signed agreement with any depository accepting District funds per Government Code Section 53649. No deposits shall be made at any time in CDs issued by a state or federal credit union if a member of the Governing Council or the Finance Director serves on the board of directors or any committee appointed by the board of directors of the credit union. In accordance with Government Code Section 53638, any deposit shall not exceed that total shareholder's equity of any depository bank, nor shall the deposit exceed the total net worth of any institution.
10. **Local Agency Investment Fund (LAIF)** is a pooled investment fund through the State Chief Financial Officer. Deposits for the purpose of investment in the Local Agency Investment Fund of the State Treasury may be made up to the maximum amount permitted by State Treasury policy.
11. **Money Market Funds.** The Chief Financial Officer may invest in shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940 (Government Code Section 53601(k).)

The following criteria will be used in evaluating companies:

- a. Attain the highest ranking letter and numerical rating provided by not less than two nationally recognized rating services; or
- b. Have an investment advisor registered or exempt from registration with the Securities and Exchange Commission with not less than five (5) years' experience managing money market mutual funds and with assets under management in excess of five hundred million dollars (\$500,000,000).

- c. The maximum purchase price of shares shall not exceed 20% of the portfolio. However, no more than 10% of the agency's funds may be invested in shares of beneficial interest of any one mutual fund.

12. Local Government Investment Pools. Shares of beneficial interest issued by a joint powers authority organized pursuant to Government Code Section 6509.7 that invests in the securities and obligations authorized in subdivisions (a) to (o) of Government Code Section 53601, inclusive. Each share shall represent an equal proportional interest in the underlying pool of securities owned by the joint powers authority. To be eligible under this section, the joint powers authority issuing the shares shall have retained an investment adviser that meets all of the following criteria:

- a. The adviser is registered or exempt from registration with the Securities and Exchange Commission.
- b. The adviser has not less than five (5) years of experience investing in the securities and obligations authorized in subdivisions (a) to (o) Government Code Section 53601, inclusive.
- c. The adviser has assets under management in excess of five hundred million dollars (\$500,000,000).

Credit criteria and sectors and issuers percentages for investments listed in this section will be determined at the time the security is purchased. A decline in the overall investment balances that causes the percent to any investment above its maximum policy limit will not be considered out of compliance. The District may from time to time be invested in a security whose rating is downgraded. In the event a rating drops below the minimum allowed rating category for that given investment type, the Chief Financial Officer shall notify the District General Manager and District Council and recommend a plan of action.

10.0 Prohibited Investments:

Under the provisions of California Government Code Sections 53601.6 and 53631.5, the District shall not invest any funds covered by this Investment Policy in inverse floaters, range notes, mortgage-derived, interest-only strips or any investment that may result in a zero interest accrual if held to maturity.

11.0 Collateralization:

Collateralization is required on Certificates of Deposit as per California Government Code section 53601. The collateralization level for certificates of deposit is 100% of market value of principal and accrued interest.

The entity chooses to limit collateral to the following: U.S. Treasuries and Federal Agency Obligations. Collateral will always be held by an independent third party with whom the entity has a current custodial agreement. A clearly marked evidence of ownership (safekeeping receipt) must be supplied to the entity and retained. The right of collateral substitution is granted.

12.0 Safekeeping and Custody:

All securities purchased may be delivered versus payment ("DVP") basis, and held in safekeeping pursuant to a safekeeping agreement.

13.0 Maximum Maturities:

To the extent possible, the District will attempt to match its investments with anticipated cash flow

requirements. For certain instruments, the term of the investment is limited by market convention or as otherwise prescribed herein. No investments may be acquired that exceed five (5) years, unless approved by the Board at least ninety (90) days in advance of the purchase.

14.0 Internal Control:

The Chief Financial Officer shall establish an annual process of independent review by an external auditor. This review will provide internal control by assuring compliance with policies and procedures. The Chief Financial Officer may, at any time, further restrict the securities approved for investment as deemed appropriate.

15.0 Performance Standards:

The investment portfolio will be designed to obtain a market average rate of return during budgetary and economic cycles, taking into account the District's investment risk constraints and cash flow needs.

16.0 Reporting:

In accordance with Government Code Section 53607, the Chief Financial Officer shall submit an annual report to the Board indicating the types of investment by fund, institution, date of maturity, and amount of deposit, and shall provide the current market value of all securities with a maturity of more than twelve (12) months, rates of interest, and expected yield to maturity.

17.0 Investment Policy Adoption:

The Chief Financial Officer may, at any time, further restrict the securities approved for investment as deemed appropriate.

Additionally, the Chief Financial Officer shall annually send a copy of the current Investment Policy to all approved dealers. Each dealer is required to return a signed statement indicating receipt and understanding of the District's investment policies.

APPENDIX F: APPROPRIATION CALCULATION

Information not yet received, however it will be included in the Final Budget

APPENDIX G – ORGANIZATION CHART

To be added to the Final Budget document.



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
Councilmembers Association

Kate Colin
Transportation Authority of Marin

Victoria Fleming
Sonoma County Mayors' and
Councilmembers Association

Patty Garbarino
Golden Gate Bridge,
Highway/Transportation District

Ariel Kelley
Sonoma County Mayors' and
Councilmembers Association

Eric Lucan
Marin County Board of Supervisors

Mark Milberg
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

Gabe Paulson
Marin County Council of Mayors and
Councilmembers

David Rabbitt
Sonoma County Board of Supervisors

Eddy Cumins
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Santa Rosa, CA 94954

SUBJECT: Adopt a Resolution authorizing the General Manager to Execute Construction Contract No. EV-BB-25-001 with Triangle Properties, Inc. dba Triangle Land Restoration in the amount of \$493,198

Dear Board Members:

RECOMMENDATION:

Adopt Resolution No. 2025-05 authorizing the General Manager to execute Construction Contract No. EV-BB-25-001 with Triangle Properties, Inc. dba Triangle Land Restoration in the amount of \$493,198. This contract fulfills agency permit requirements by providing mitigation for impacts resulting from the construction of the SMART Golf Course Boulevard to Bellevue Ave Pathway project.

SUMMARY:

Construction Contract No. EV-BB-25-001 provides environmental mitigation to offset impacts as a result of constructing the bicycle and pedestrian pathway between Golf Course Drive in Rohnert Park and Bellevue Avenue in Santa Rosa. This environmental enhancement project includes the planting of native trees to restore riparian vegetation that was impacted by constructing the pathway. The mitigation work in this contract is a mandated permit condition and has received approval from the California Department of Fish and Wildlife (CDFW) and the California Regional Water Quality Control Board.

A formal Invitation for Bid was issued on March 10, 2025, to hire a contractor to construct and maintain the Riparian Mitigation. A Pre-Bid meeting and site walk was held on March 27, 2025. On April 15, 2025, SMART held a public bid opening. SMART received a total of 2 sealed bids from the following contractors:

Contractor	Amount
Surf to Snow Environmental Resource Management, Inc	\$541,304.87
Triangle Properties, Inc. dba Triangle Land Restoration	\$493,198

The Engineer's estimate for the project was \$439,425.

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
APPROVING CONTRACT NO. EV-BB-25-001 WITH TRIANGLE PROPERTIES, INC. DBA TRIANGLE LAND
RESTORATION FOR THE IMPLEMENTATION AND MAINTNCE OF THE CRANE CREEK POPPY DRAIANGE
RIPARIAN ENHANCEMENT IN SANTA ROSA**

WHEREAS, The Sonoma-Marín Area Rail Transit District (SMART) prepared construction documents for a Riparian Enhancement at Crene Creek Poppy Drainage Regional Park; and

WHEREAS, SMART initiated a formal Invitation for Bid for Contract No. EV-BB-25-001 on March 10, 2025 which included advertising the opportunity in local newspapers, trade journals, the SMART website and other related outreach outlets; and

WHEREAS, SMART conducted a pre-bid site walk for interested contractors on March 27, 2025; and

WHEREAS, SMART received two bids on April 15, 2025 and conducted a public bid opening; and

WHEREAS, Triangle Properties, Inc. dba Triangle Land Restoration submitted the lowest bid for the work of \$493,198.00 and

WHEREAS, SMART determined that Triangle Properties, Inc. dba Triangle Land Restoration submitted the lowest responsive and responsible bid; and

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

1. The foregoing Recitals are true and correct and are incorporated herein and form a part of this Resolution.
2. The General Manager is authorized to execute Contract No. EV-BB-25-001 with Triangle Properties, Inc. dba Triangle Land Restoration in the amount of \$493,198.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marín Area Rail Transit District

**DOCUMENT 00 52 00
AGREEMENT FOR CONTRACTOR SERVICES**

This agreement (“Agreement”), dated as of May 21, 2025 (“Effective Date”) is by and between the Sonoma-Marín Area Rail Transit District, a Special District of the State of California (hereinafter “SMART”), and Triangle Properties, Inc. dba Triangle Land Restoration, whose place of business is located at 10151 Elder Creek Rd., Sacramento, CA 95829 (hereinafter “Contractor”).

**RIPARIAN ENHANCEMENT PROJECT AT CRANE CREEK POPPY DRAINAGE
CONTRACT # EV-BB-25-001**

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set for, Contractor and SMART agree as follows:

A G R E E M E N T

ARTICLE 1. LIST OF EXHIBITS

Section 1.01 The following exhibits are attached hereto and incorporated herein:

- (a) Exhibit A: Schedule of Rates

ARTICLE 2. WORK.

Section 2.01 Contractor shall complete all work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents.

ARTICLE 3. NOTICES TO SMART.

Section 3.01 SMART has designated **Negin Saghaee, Project Manager**, to act as SMART’s Representative(s), who will represent SMART in performing SMART’s duties and responsibilities and exercising SMART’s rights and authorities in Contract Documents. SMART may change the individual(s) acting as SMART’s Representative(s), or delegate one or more specific functions to one or more specific SMART’s Representatives, including without limitation engineering, architectural, inspection and general administrative functions, at any time with written notice and without liability to Contractor. Each SMART Representative is the beneficiary of all Contractor obligations to SMART, including without limitation, all releases and indemnities.

Section 3.02 All notices or demands to SMART under the Contract Documents shall be to SMART’s Representative at: **5401 Old Redwood Hwy Suite 200, Petaluma, CA, 94954** or to such other person(s) and address(es) as SMART shall provide to Contractor.

Project Manager: Negin Saghaee
Phone: 707-285-8183
Email: nsaghaee@sonomamarintrain.org

ARTICLE 4. CONTRACT TIME AND LIQUIDATED DAMAGES.

Section 4.01 Contract Time and Notice to Proceed. Contractor shall complete project implementation, including planting of all plants by December 31, 2025.

Contractor shall achieve full project completion, including the one year of maintenance and final invoicing, within twelve (12) months following the date of SMART's Notice of Project Implementation Acceptance.

SMART may give a Notice to Proceed at any time within 60 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to being issued a Notice to Proceed.

Contractor shall complete the Work so that a Final Inspection Report can be issued in accordance with Section 01770 (Contract Closeout).

ARTICLE 5. CONTRACT SUM.

Section 5.01 SMART shall pay Contractor the Contract Sum for completion of Work in accordance with the Contract Documents as follows:

Total Contract Sum: \$493,198.00

The Contract Sum includes all allowances (if any).

Contractor agrees that 48 CFR Part 31, Contract Cost Principles and Procedures and 2 CFR Part 200 shall be used to determine the allowability of individual terms of cost. Any costs for which payment has been made to the Contractor that are determined by subsequential audit to be unallowable under 48 CFR Part 31 or 2 CFR Part 200 are subject to repayment by the Contractor to SMART.

ARTICLE 6. CONTRACTOR REPRESENTATIONS.

In order to induce SMART to enter into this Agreement, Contractor makes the following representations and warranties:

Section 6.01 Contractor has visited the Site and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, all local conditions, and all federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.

Section 6.02 Contractor has examined thoroughly and understood all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, products specifications or reports, available for Bidding purposes, of physical conditions, including Underground Facilities, or which may appear in the Drawings. Contractor accepts the determination set forth in these Documents and Document 00 70 00 - General Conditions of the limited extent of the information contained in such materials upon which Contractor may be entitled to rely. Contractor agrees that, except for the information so identified, Contractor does not and shall not rely on any other information contained in such reports and drawings.

Section 6.03 Contractor has conducted or obtained and has understood all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in Section 5.2 of this Document 00 52 00 - Agreement) that pertain to the subsurface conditions, as-built conditions, Underground Facilities and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance or furnishing of Work, as Contractor considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Document 00 70 00 - General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by Contractor for such purposes.

Section 6.04 Contractor has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

Section 6.05 Contractor has given SMART prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and as-built drawings and actual conditions and the written resolution thereof through Addenda issued by SMART is acceptable to Contractor.

Section 6.06 Contractor is duly organized, existing and in good standing under applicable state law, and is duly qualified to conduct business in the State of California.

Section 6.07 Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents and the Work to be performed herein. The Contract Documents do not violate or create a default under any instrument, agreement, order or decree binding on Contractor.

Section 6.08 Contractor has listed the following Subcontractors pursuant to the Subcontractor Listing Law, California Public Contract Code §4100 *et seq.*:

Name of Subcontractor and Location of Mill or Shop	Description of Work: Reference To Bid Items	CA DIR Registration Number	Contractor's License No.
Triangle Properties, Inc. dba Triangle Land Restoration 10151 Elder Creek Rd, Sacramento, CA 95829	1 – 4: Mobilization & Demobilization, SWPPP, Invasive plant removal, treatment, & disposal, temporary fencing. 8-21: Riparian Seed Mix, Erosion Control, fabric, riparian trees & shrubs, herbaceous plants, native willow poles foliage cages, 16, 20 & 12.5 ga, irrigation: drip & tank, solar powered booster pump & airgap tank, mainline AG, trenched, sleeve. 23-24: As-Built documentation and one-year maintenance	1000043924	1019754
Pile Construction, Inc. 8838 Elder Creek Rd, Sacramento, CA 95828	5: Sub-grade excavation 6: Rock purchase and installation 7: Excess native material distribution	1000005126	876223
Skyline Fencing, Inc. 1337 Adams Court, Woodland, CA 95776	22: Chain Link Fence & Gate	2000004779	1097162

Section 6.09 Contractor has designated **Rebekah Tueller**, Project Manager, to act as Contractor's Representative(s), who will represent Contractor in performing Contractor's duties and responsibilities and exercising Contractor's rights and authorities in Contract Documents. Contractor has also designated **Mike Peterson**, Superintendent, to act as Contractor's Superintendent. Contractor may change the individual(s) acting as Contractor's Representative(s), or delegate one or more specific functions to one or more specific Contractor's Representatives, at any time upon prior written notice and approval and without liability to SMART, but Contractor is limited to two representatives.

Project Manager: Rebekah Tueller	Superintendent: Mike Peterson
Phone: 916-936-5047	Phone: 916-870-4183
Email: rtueller@teichert.com	Email: mpeterson@teichert.com

ARTICLE 7. CONTRACTOR DOCUMENTS.

Section 7.01 Contract Documents consist of the following documents incorporated by reference, including all changes, Addenda, and Modifications thereto:

Document 00 52 00:	This Agreement
IFB:	Invitation for Bid
Document 00 70 00:	General Conditions
General Requirements:	Division 1 Specifications
Technical Specifications:	Riparian Mitigation and Monitoring Plan
	Technical Specifications

Section 7.02 There are no Contract Documents other than those listed in Section 7.01. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 70 00 - General Conditions.

ARTICLE 8. INSURANCE.

Contractor shall procure and maintain for the duration of the Agreement insurance against all claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, employees, or subcontractors with limits and deductibles specified below:

Section 8.01 Workers' Compensation Insurance. Workers' Compensation as required by the State of California, with Statutory Limits, and Employer's Liability insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.

Section 8.02 General Liability Insurance. Commercial General Liability insurance covering products-completed and ongoing operations, property damage, bodily injury and personal injury using an occurrence policy form, in an amount no less than \$5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. Said insurance shall remain in effect for five (5) years after Final Completion and acceptance of the final payment for the Work, contractual liability, and coverage for explosion, collapse, and underground hazards.

Section 8.03 Automobile Insurance. Automobile Liability insurance covering bodily injury and property damage in an amount no less than \$5,000,000 combined single limit for each occurrence. Said insurance shall include coverage for owned, hired, and non-owned vehicles.

Section 8.04 Contractor's Pollution Liability Insurance. Contractor's Pollution Liability Insurance in an amount no less than \$2,000,000 per occurrence or claim. The Contractor's Pollution Liability policy shall be written on an occurrence basis with coverage for bodily injury, property damage and environmental damage, including cleanup costs arising out of third-party claims, for pollution conditions, and including claims of environmental authorities, for the release of pollutants caused by construction activities related to the Contract. Coverage shall include the Contractor as the named insured and shall include coverage for acts by others for whom the Contractor is legally responsible.

Coverage to be provided for bodily injury to or destruction of tangible property, including the resulting loss of use thereof, loss of use of tangible property that has been physically injured,

and natural resource damage. There shall be no exclusions or limitations regarding damages or injury from existence, removal or abatement of lead paint. There shall be no insured vs. insured exclusion in the policy.

Section 8.05 Endorsements. Prior to commencing work, Contractor shall file Certificate(s) of Insurance with SMART evidencing the required coverage and endorsement(s) and, upon request, a certified duplicate original of any of those policies. Said endorsements and Certificate(s) of Insurance shall stipulate:

- (a) “SMART, its officers, and employees” and the “County of Sonoma, its officers, agents, and employees” shall be named as additional insured on all policies listed above, with the exception of the workers compensation insurance policy (as applicable).
- (b) That the policy(ies) is Primary Insurance and the insurance company(ies) providing such policy(ies) shall be liable thereunder for the full amount of any loss or claim which Contractor is liable, up to and including the total limit of liability, without right of contribution from any other insurance effected or which may be effected by the Insureds.
- (c) Inclusion of the Insureds as additional insureds shall not in any way affect its rights either as respects any claim, demand, suit or judgment made, brought or recovered against Contractor. Said policy shall protect Contractor and the Insureds in the same manner as though a separate policy had been issued to each, but nothing in said policy shall operate to increase the insurance company’s liability as set forth in its policy beyond the amount or amounts shown or to which the insurance company would have been liable if only one interest had been named as an insured.
- (d) Contractor hereby grants to SMART a waiver of any right to subrogation which any insurer of said Contractor may acquire against SMART by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not SMART has received a waiver of subrogation endorsement from the insurer.
- (e) The insurance policy(ies) shall be written by an insurance company or companies acceptable to SMART. The insurance underwriter(s) for all insurance policies except Workers’ Compensation shall have an A.M. Best Company rating of A VII or better. Such insurance company shall be authorized to transact business in the state of California. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of SMART, warrant such increase. Contractor shall increase required insurance amounts upon direction by SMART.

Section 8.06 Deductibles and Retentions. Contractor shall be responsible for payment of any insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insured. Contractor shall also be responsible for the payment of all deductibles or retention on Contractor’s policies without right of

contribution from SMART.

Section 8.07 Injuries. If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from SMART under provisions of the Workers' Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from SMART, SMART may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If SMART is compelled to pay compensation, SMART may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse SMART.

Section 8.08 Subcontractor Responsibility. Contractor shall require and verify that subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure SMART is named additional insured on insurance required from subcontractors.

Section 8.09 Claims Made Coverage. If any insurance specified above is written on a claims-made coverage form, Contractor shall:

- (a) Ensure that the retroactive date is shown on the policy, and such date must be before the date of this Agreement or beginning of any work under this Agreement;
- (b) Maintain and provide evidence of similar insurance for at least three (3) years following project completion, including the requirement of adding all additional insureds; and
- (c) If insurance is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to Agreement effective date, Contractor shall purchase "extending reporting" coverage for a minimum of three (3) years after completion of the work.

Section 8.10 Documentation. The following documentation shall be submitted to SMART:

- (a) Properly executed Certificates of Insurance clearly evidencing all coverages and limits required above. Said Certificates shall be submitted prior to the execution of this Agreement. At SMART's request, Contractor shall provide certified copies of the policies that correspond to the policies listed on the Certificates of Insurance. Contractor agrees to maintain current Certificates of Insurance evidencing the above-required coverages and limits on file with SMART for the duration of this Agreement.
- (b) Copies of properly executed endorsements required above for each policy. Said endorsement copies shall be submitted prior to the execution of this Agreement. Contractor agrees to maintain current endorsements evidencing the above-specified

requirements on file with SMART for the duration of this Agreement.

- (c) After the Agreement has been signed, signed Certificates of Insurance shall be submitted for any renewal or replacement of a policy that already exists, at least ten (10) days before expiration or other termination of the existing policy.

Please email all renewal certificates of insurance and corresponding policy documents to InsuranceRenewals@sonomamarintrain.org.

Section 8.11 Policy Obligations. Contractor's indemnity and other obligations shall not be limited by the foregoing insurance requirements.

Section 8.12 Material Breach. If Contractor, for any reason, fails to maintain insurance coverage, which is required pursuant to this Agreement, the same shall be deemed a material breach of this Agreement. SMART, in its sole option, may terminate this Agreement and obtain damages from Contractor resulting from said breach. Alternatively, SMART may purchase such required insurance coverage, and without further notice to Contractor, SMART may deduct from sums due to Contractor any premium costs advanced by SMART for such insurance. These remedies shall be in addition to any other remedies available to SMART.

Section 8.13 Notice of Cancellation. Each insurance policy required above shall provide that coverage shall not be cancelled, except with notice to SMART.

ARTICLE 9. MISCELLANEOUS.

Section 9.01 Terms and Abbreviations. Terms and abbreviations used in this Agreement are defined in Document 00 70 00 - General Conditions and Section 01420 (References and Definitions) and will have the meaning indicated therein.

Section 9.02 Use of Recycled Paper. SMART requires that all printing jobs produced under this Agreement be printed on recycled content papers. Recycled-content papers are defined as papers containing a minimum of 30 percent postconsumer fiber by weight. All papers used in the performance of a print job for SMART shall be recycled-content paper. If paper meets the 30 percent requirement, the recycling logo should be printed on the project.

Section 9.03 Signers of this Agreement. It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of SMART or acting as an employee, agent, or representative of SMART, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of the SMART is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.

Section 9.04 No Assignment of Contract. Contractor shall not assign any portion of the Contract Documents, and may subcontract portions of the Contract Documents

only in compliance with the Subcontractor Listing Law, California Public Contract Code §4100 *et seq.*

Section 9.05 Assignment of Rights to Awarding Body. In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time SMART tenders final payment to Contractor, without further acknowledgment by the parties.

Section 9.06 Prevailing Wages. Contractor and all Subcontractors shall pay to all workers employed not less than the prevailing rate of wages as determined in accordance with the Labor Code as indicated herein.

All Contractors, contractors, and subcontractors doing business with public agencies through the State of California (including SMART) shall comply with applicable labor compliance requirements including, but not limited to prevailing wages, SB 854, Labor Code Sections 1725.5, 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815. Public Works Contractor Registration Programs, Electronic Certified Payroll Records submission to the State Labor Commissioner and other requirements, described at <http://www.dir.ca.gov/Public-Works/Contractors.html>.

Applicable projects are subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and shall be made available to any interested party on request.

Pursuant to Section 1861 of the Labor Code, Contractor represents that it is aware of the provisions of Section 3700 of the Labor 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 Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.

Section 9.07 Licensing Laws. The Contractor and all subcontractors shall comply with the provisions of Chapter 9 Division 3 of the Business and Professions code concerning the licensing of contractors. All Contractors shall be licensed in accordance with the laws of the State of California and any Contractor not so licensed is subject to the penalties imposed by such laws. Prior to commencing any work under contract, all Contractors and subcontractors must show that they hold appropriate and current Contractor Licenses in the State of California. The Contractor shall provide such subcontractor

information, including the class type, license, number, and expiration date to SMART.

Section 9.08 California Air Resources Board (“CARB”) In-Use Off-Road Diesel-Fueled Fleets Certification of Compliance. Contractor shall comply, and shall ensure all subcontractors comply, with all applicable requirements of the most current version of the regulations imposed by California Air Resources Board (“CARB”) including, without limitation, all applicable terms of Title 13, California Code of Regulations Division 3, Chapter 9 and all pending amendments (“Regulation”). Throughout this agreement, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor’s and its subcontractors’ fleets including, without limitation, the Certificates of Reported Compliance (“CRCs”), fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep, or maintain pursuant to the Regulation upon two (2) calendar days’ notice from SMART. Contractor shall be solely liable for any and all costs associated with compliance with the Regulation as well as for any and all penalties, fines, damages, or costs associated with any and all violations, or failures to comply with the Regulation.

Section 9.09 Drug-Free Workplace. Contractor certifies that it will provide a drug-free workplace in compliance with Government Code §8350-§8357.

Section 9.10 Continuation of Work. Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).

Section 9.11 Applicable Law and Forum. This Agreement shall be construed and interpreted according to the substantive law of California, regardless of the law of conflicts to the contrary in any jurisdiction. Venue for any action to enforce the terms of this Agreement or for the breach thereof shall be in the Superior Court of the State of California in the County of Marin.

Section 9.12 Claims Procedures. Contractor accepts the claims procedure established by Article 12 of Document 00 70 00 - General Conditions, as established under Section 930.2 of the California Government Code.

Section 9.13 Relationships of the Parties: No Intended Third-Party Beneficiaries. The Parties intend by this Agreement to establish a cooperative funding

Triangle Properties, Inc. dba Triangle Land Restoration
Document 00 52 00 - Agreement
EV-BB-25-001

relationship, and do not intend to create a partnership, joint, venture, joint enterprise, or any other business relationship. There is no third person or entity who is an intended third-party beneficiary under this Agreement. No incidental beneficiary, whatever relationship such person may have with the Parties, shall have any right to bring an action or suit, or to assert any claim against the Parties under this Agreement. Nothing contained in this Agreement shall be construed to create and the Parties do not intend to create any rights in third parties.

Section 9.14 No Waiver of Breach. The waiver by SMART of any breach of any term or promise contained in this Agreement shall not be deemed to be a waiver of such term or provision or any subsequent breach of the same or any other term or promise contained in this Agreement.

Section 9.15 Use of SMART Name and Logo Restrictions. Contractor is prohibited from using SMART's name and logo unless expressly authorized herein or by written authorization from SMART's legal counsel.

Section 9.16 Acceptance of Electronic Signatures and Counterparts. The parties agree that this Contract, Agreements ancillary to this Contract, and related documents to be entered into this Contract will be considered executed when all parties have signed this Agreement. Signatures delivered by scanned image as an attachment to electronic mail or delivered electronically through the use of programs such as DocuSign must be treated in all respects as having the same effect as an original signature. Each party further agrees that this Contract may be executed in two or more counterparts, all of which constitute one and the same instrument.

Section 9.17 Time of Essence. Time is and shall be of the essence of this Agreement and every provision hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date.

CONTRACTOR: TRIANGLE PROPERTIES, INC. DBA TRIANGLE LAND RESTORATION

By: _____
Troy Reimche, Director of Teichert Property Holdings

Date: _____

SONOMA-MARIN AREA RAIL TRANSIT (SMART)

By: _____
Eddy Cumins, General Manager

Date: _____

CERTIFICATES OF INSURANCE ON FILE WITH AND APPROVED AS TO SUBSTANCE FOR SMART:

By: _____
Ken Hendricks, Procurement and Contracts Manager

Date: _____

APPROVED AS TO FORM FOR SMART:

By: _____
District Counsel

Date: _____

Triangle Properties, Inc. dba Triangle Land Restoration
Document 00 52 00 - Agreement
EV-BB-25-001

**EXHIBIT A
SCHEDULE OF RATES**

ITEM	ITEM DESCRIPTION	QTY	UNIT	PER UNIT COST	TOTAL ITEM COST
1	Mobilization and Demobilization	1	LS	\$14,750.00	\$14,750.00
2	SWPPP (Plan, Annual Reports and Monitoring)	1	LS	\$17,390.00	\$17,390.00
3	Invasive Plant Removal, Treatment, and Disposal (0.51 acre)	1	LS	\$14,760.00	\$14,760.00
4	Temporary Construction Fencing	750	LF	\$4.80	\$3,600.00
5	Subgrade Excavation	300	CY	\$192.50	\$57,750.00
6	Rock Purchase and Installation	445	TON	\$210.00	\$93,450.00
7	Excess Native Material Distribution	340	CY	\$116.00	\$39,440.00
8	Riparian Seed Mix	0.73	AC	\$8,232.88	\$6,010.00
9	Erosion Control Fabric	602	SY	\$8.00	\$4,816.00
10	Riparian Trees and Shrubs - Deepot 40	780	EACH	\$42.00	\$32,760.00
11	Riparian Herbaceous Plants - Deepot 16	218	EACH	\$35.00	\$7,630.00
12	Native Willow Poles for Biostabilization	19	EACH	\$36.00	\$684.00
13	Foliage Protection Cages – 16 Gauge Welded Wire (Trees)	79	EACH	\$50.00	\$3,950.00
14	Foliage Protection Cages – 20 Gauge Chicken Wire (Shrubs)	496	EACH	\$25.00	\$12,400.00
15	Foliage Protection Cages – 12.5 Gauge Welded Wire (Trees and Shrubs)	205	EACH	\$34.00	\$6,970.00
16	Irrigation - Drip System	1	LS	\$13,750.00	\$13,750.00
17	Irrigation - Tank	1	LS	\$16,510.00	\$16,510.00
18	Irrigation – Solar Panels, Booster Pump and Airgap Tank	1	LS	\$42,350.00	\$42,350.00
19	Irrigation- Mainline (Aboveground)	2,672	LF	\$4.00	\$10,688.00
20	Irrigation - Mainline Trenched	100	LF	\$19.00	\$1,900.00

21	Irrigation - Sleeve	110	LF	\$14.00	\$1,540.00
22	Chain Link Fence and Gate	1	LS	\$13,200.00	\$13,200.00
23	As- Built Documentation	1	LS	\$5,400.00	\$5,400.00
24	One Year Maintenance	12	MON	\$5,958.334	\$71,500.00
TOTAL PRICE:					\$493,198.00

Notes

The above costs include all labor, supervision, equipment, materials, supplies, insurance, overhead, profit, and all other direct and indirect costs associated with performing the work included in this Agreement.

LS = Lump Sum
CY = Cubic Yard
LF = linear Feet
TON = Ton
SY = Square Yard
AC = Acre
MON = Month

Prices shall be in United States Dollars

Item Descriptions

Item 1: Mobilization and Demobilization

Mobilization and Demobilization will be paid for at the contract LUMP SUM (LS) price, which price shall constitute full compensation for all such work. Mobilization cannot exceed 10% of the total bid amount. The scope of work for mobilization shall include, but not limited to, furnishing all labor, materials, tools, equipment; moving all equipment and materials onto the site; and work and incidentals for the establishment of all facilities necessary for the implementation of the Project. This includes establishing the construction staging area and construction entrance, providing security for on-site storage of equipment and materials; providing sanitary facilities for workers; and all other work and operations that must be performed or costs incurred prior to beginning work on the various Contract items on the Project Site. This Bid Item shall also include demobilization of contractor's equipment and excess materials from the site. Contractor shall leave the site in a clean manner free of loose material and debris as determined by SMART's Project Manager. Final payment for mobilization shall occur following demobilization and final cleanup when all required items per the Contract are fulfilled and the site is free of equipment and clean and ready for use by

the public, all in accordance with the requirements of the Contract Documents and no additional compensation will be made.

Item 2: SWPPP Preparation (Plan, Annual Reports, and Monitoring)

SWPPP Preparation shall be paid for at the contract at the LUMP SUM (LS) fixed price, which shall include full compensation for all labor, materials, tools, equipment, and all incidental work required for the preparation, and submittal of the approved site specific Storm Water Pollution Prevention Plan (SWPPP Plan) by a Qualified SWPPP Developer for a Risk Level 2 site, including providing updates to the Plan as necessary, preparing Annual Reports, providing SWPPP Monitoring as required, and all other related work items shown in the Contract Drawings and Specifications and as directed by SMART's Project Manager.

Item 3: Invasive Plant Removal, Treatment, and Disposal

This payment item shall include full compensation for all labor, materials, tools, equipment, and all incidental work required for the removal of the invasive plants and non-native trees shown on the Contract Drawings, including preparation of a removal and treatment plan, mechanical removal, herbicide treatment where applicable, disposal costs, and any related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 4: Temporary Construction Fencing:

Payment for Temporary Construction Fencing shall be paid at the contract price LINEAR FEET (LF), which shall include full compensation for furnishing all labor, materials, tools, and equipment for Temporary Construction Fencing, including but not limited to furnishing and installing orange construction fence materials, site preparation, disposal of unused materials, maintenance of the fence during the construction period, and removal of the fence and all accessories following the completion of construction, all in accordance with the requirements of the Contract Documents and no additional compensation will be made therefor.

Item 5: Subgrade Excavation

Payment for Subgrade Excavation shall be paid CUBIC YARD (CY), which include full compensation for all labor, materials, tools, equipment, and all incidental work required for excavating, filling, and backfilling to attain the indicated finished grades within the designated limits as shown on the Contract Drawings; hauling the excavated material to the soil reuse area; and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 6: Rock Purchase and Installation

Payment for Rock Purchase and Installation shall be paid TON (TON) which include full compensation for purchasing rock for all labor, materials, tools, equipment, and all incidental work required for the purchase and installation of rock and all other related Work items as shown on the Contract Documents and as directed by SMART's Project Manager.

Item 7: Excess Native Material Distribution

Payment for Excess Native Material Distribution which shall be paid at the contract price CUBIC YARD (CY), for all labor, materials, tools equipment, and all incidental Work required for hauling the excess excavated material to the native soil distribution area; spreading the soil evenly within the distribution area; and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 8: Riparian Seed Mix

Payment for Riparian Seed Mix shall be paid for at the contract price ACRE (AC) for all labor, materials, tools, equipment, and all incidental work required for seeding of the new riparian seeding areas, including site preparation, furnishing and distributing seed, maintaining seeded areas until acceptance by SMART's Project Manager, and all other related work items as shown in the Contract Documents and as directed by the SMART's Project Manager

Item 9: Erosion Control Fabric

Payment for Erosion Control Fabric shall be paid at the contract price SQUARE YARD (SY) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the erosion control fabric as shown in the Contract Documents and as directed by SMART's Project Manager

Item 10: Riparian Trees and Shrubs - Deepot 40

Payment for Riparian Trees and Shrubs shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the Deepot 40 container plants as shown in the Contract Documents and as directed by SMART's Project Manager

Item 11: Riparian Herbaceous Plants - Deepot 16

Payment for Riparian Herbaceous Plants shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing Deepot 16 container plants as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 12: Native Willow Poles for Biostabilization

Payment for Native Willow Poles shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for harvesting and installing native willow poles at the locations and in the manner shown in the Contract Documents and as directed by SMART's Project Manager.

Item 13: Foliage Protection Cages - 16 Gauge Welded Wire (Trees)

Payment for Foliage Protection Cages – 16 Gauge Welded Wire (Trees) shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing foliage protection cages (made from welded wire and secured with T-posts) around newly planted trees at the locations and in the manner shown in the Contract Documents and as directed by SMART's Project Manager.

Item 14: Foliage Protection Cages – 20 Gauge Chicken Wire (Shrubs)

Payment for Foliage Protection Cages – 20 Gauge Chicken Wire (Shrubs) shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing foliage protection cages (made from chicken wire and secured with T-posts) around newly planted shrubs at the locations and in the manner shown in the Contract Documents and as directed by SMART's Project Manager.

Item 15: Foliage Protection Cages - 12.5 Gauge Welded Wire (Trees and Shrubs)

Payment for Foliage Protection Cages – 12.5 Gauge Welded Wire (Trees and Shrubs) shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing foliage protection cages (made from welded wire and secured with T-posts) around newly planted trees at the locations and in the manner shown in the Contract Documents and as directed by SMART's Project Manager.

Item 16: Irrigation - Drip System

Payment for Drip Irrigation System shall be paid at the contract price EACH (EA) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing all lateral lines, hose, valves, emitters, and other irrigation components not described in other bid items at the locations and in the manner shown in the Contract Documents and as directed by SMART's Project Manager.

Item 17: Irrigation – Tank

Payment for Irrigation - Tank shall be paid for at the contract LUMP SUM (LS) for all labor, materials, tools, equipment, and all incidental work required for installing a water tank and other related materials (including gravel and a retaining ring) for irrigation as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 18: Irrigation – Solar Panels, Booster Pump and Airgap Tank

Payment for Irrigation – Solar Panels and Booster Pump shall be paid for at the contract LUMP SUM (LS) price for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing solar panels and a booster pump , and airgap tank and all other related work as shown in the Contract Documents and as directed by SMART's Project Manager. The Contractor shall submit the specifications and a detailed layout plan for the system for approval by SMART's Project Manager prior to installation.

Item 19: Irrigation - Mainline (Aboveground)

Payment for Irrigation – Mainline (Aboveground) shall be paid at the contract price LINEAR FEET (LF) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the aboveground mainline and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 20: Irrigation – Mainline (Trenched)

Payment for Irrigation - Mainline (Trenched) shall be paid at the contract price LINEAR FEET (LF) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the irrigation mainline; this includes trenching and backfilling for the mainline pipe and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 21: Irrigation – Sleeve

Payment for Irrigation - Sleeve shall be paid at the contract price LINEAR FEET (LF) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the irrigation sleeve, this includes trenching and backfilling for the sleeve and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 22: Chain Link Fence and Gate

Payment for Chain Link Fence – Chain link fence and gate shall be paid at the contract price LUMP SUM (LS) for all labor, materials, tools, equipment, and all incidental work required for furnishing and installing the chain link fence and gate around the solar panels, booster pump, and airgap tank and all other related work items as shown in the Contract Documents and as directed by SMART's Project Manager.

Item 23: As- Built Documentation

Payment for As-Built Documentation shall be paid for at the contract LUMP SUM (LS) price for preparing as-built documentation of invasive plant removal areas, extent of grading and rock placement, planting and irrigation installation locations and details and other relevant

information consistent with the Contract Documents in manner that facilitates annual monitoring and reporting (e.g., CAD or GIS-based drawings.).

Item 24: One Year Maintenance

Payment for One Year Maintenance shall be paid for at the contract per MONTH (MON) price paid for all labor, materials, tools, equipment, and all incidental work necessary for maintenance of the irrigation system and plantings, and all other related work items within the one-year maintenance period. This includes filling the water tank as required, manually watering the herbaceous plantings as required, adjusting the irrigation schedule to ensure adequate watering, and providing maintenance and making repairs to the irrigation system as needed. This also includes removal of invasive, non-native plants within the mitigation areas, weed removal within planting basins, maintaining the foliage protection cages and mulch, and replacing any dead plantings at the discretion of SMART's Project Manager at the end of the one-year maintenance period. This bid item includes the aforementioned and all other related work items shown in the Contract Documents and as directed by SMART's Project Manager.



INVITATION FOR BID

FOR

**RIPARIAN ENHANCEMENT PROJECT AT
CRANE CREEK POPPY DRAINAGE**

SOLICITATION NO. EV-BB-25-001

Sonoma-Marín Area Rail Transit District (SMART)
5401 Old Redwood Hwy., Ste. 200
Petaluma, CA 94954

ON FILE WITH BOARD CLERK

Issue Date: March 10, 2025

Deadline for Bids: April 15, 2025



ATTACHMENT B
DOCUMENT 00 70 00
GENERAL CONDITIONS

RIPARIAN ENHANCEMENT PROJECT
AT CRANE CREEK POPPY DRAINAGE

ON FILE WITH BOARD CLERK

CONTRACT NO. EV-BB-25-001



ATTACHMENT C

GENERAL REQUIREMENTS

**RIPARIAN ENHANCEMENT PROJECT
AT CRANE CREEK POPPY DRAINAGE**

ON FILE WITH BOARD CLERK

CONTRACT NO. EV-BB-25-001

ATTACHMENT D

RIPARIAN MITIGATION AND MONITORING PLAN



SMART Non-Motorized Pathway Segment 3: Golf Course Drive (MP 48.5) to Bellevue Avenue (MP 51.3) Riparian Mitigation at Crane Creek Regional Park, “Poppy Drainage”

Final Riparian Mitigation and Monitoring Plan – REV2

Rohnert Park and Santa Rosa, Sonoma County, California



Prepared for:

Sonoma-Marin Area Rail Transit (SMART)
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

Attn: Bill Gamlen

bgamlen@sonomamarintrain.org

October 2024

Prepared by:

WRA, Inc.
2169 G East Francisco Boulevard
San Rafael, CA 94901

Attn: Leslie Allen

allen@wra-ca.com

WRA# 320122

Contents

1.0	INTRODUCTION	1
2.0	MITIGATION SITE DESCRIPTION	2
2.1	Site Location and Name	2
2.2	Property Ownership and History	2
2.3	Pre-Project Conditions	2
3.0	MITIGATION APPROACH AND CALCULATIONS	3
4.0	BASIS OF DESIGN SUMMARY	4
4.1	Hydrology	4
4.1.1	Bankfull Flow	4
4.1.2	Flood Flows	5
4.2	Hydraulics	5
4.3	Channel Design	5
4.3.1	Geometry	5
4.3.2	Planform	6
4.3.3	Profile	6
5.0	IMPLEMENTATION PLAN	6
5.1	Site Preparation, Access, and Staging	6
5.1.1	Photo Points	6
5.1.2	Site Preparation	6
5.1.2	Access and Staging	6
5.2	Invasive Plant Management	7
5.3	Earthwork and Biostabilization	7
5.3.1	Grade Control	7
5.4	Erosion Control and Seeding	8
5.5	Irrigation	8
5.6	Planting	9
5.7	As-built Documentation	10
6.0	PERFORMANCE MONITORING	11
6.1	Monitoring Period	11
6.2	Performance Standards	11
6.3	Monitoring Methods	12
6.3.1	Seasonal Inspections	12
6.3.2	Photo Documentation and General Site Conditions	12
6.3.3	Vegetation	12



7.0	MAINTENANCE DURING MONITORING PERIOD	13
7.1	Irrigation	13
7.2	Replacement Plantings.....	14
7.3	Browse Protection	14
7.4	Invasive Plant Management	14
7.5	Grazing Accommodations	14
8.0	ADAPTIVE MANAGEMENT	15
9.0	REPORTING.....	16
9.1	As-Built Report	16
9.2	Annual Reports	16
10.0	ANTICIPATED SCHEDULE.....	17
11.0	FUNDING MECHANISMS	19
12.0	REFERENCES.....	19

List of Tables

Table 1.	Required Ratio and Quantities of Riparian Mitigation	3
Table 2.	Flood-Frequency Estimates at Poppy Drainage	5
Table 3	Impaired Versus Reference Reach Characteristics for Project Area	5
Table 4.	Riparian Seed Mix.....	8

List of Appendices

APPENDIX A. FIGURES

Figure 1. Off-Site Riparian Mitigation Project Location

Figure 2. Proposed Riparian Mitigation Sites

*Figure 3. Bankfull Flow Versus Drainage Area for Sonoma County
(Collins & Leventhal, 2013)*

*Figure 4. Bankfull Width Versus Drainage Area for Sonoma County
(Collins & Leventhal, 2013)*

Figure 5. Typical Channel Section for Project Reach Slope

APPENDIX B. PRE-PROJECT PHOTOGRAPHS

APPENDIX C. RIPARIAN MITIGATION DESIGN PLANS

APPENDIX D. SONOMA COUNTY REGIONAL PARKS INTEGRATED PEST MANAGEMENT PLAN

APPENDIX E. REGIONAL CURVES OF HYDRAULIC GEOMETRY FOR WADEABLE STREAMS



List of Preparers

Leslie Allen	Project Manager/Principal
Ingrid Morken, PLA	Landscape Architect
Andrew Smith, PE	Senior Restoration Engineer
Bridgette Medeghini	Restoration Engineer
Aaron Sutherlin	Restoration Engineering Director
Joe Broberg	Ecologist
Peter Kobylarz	GIS Analyst

List of Acronyms and Abbreviations

Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
cfs	cubic feet per second
LiDAR	light detection and ranging
psf	pounds per square foot
Regional Parks	Sonoma County Regional Parks
RMMP	Riparian Mitigation and Monitoring Plan
SMART	Sonoma-Marin Area Rail Transit
WRA	WRA, Inc.



1.0 INTRODUCTION

WRA, Inc. (WRA) has prepared this Riparian Mitigation and Monitoring Plan (RMMP) outlining the off-site riparian habitat mitigation approach proposed by the Sonoma-Marin Area Rail Transit District (SMART) and preliminarily approved by regulatory agencies as aquatic habitat mitigation for impacts that would result from SMART's Non-Motorized Pathway Segment 3 Golf Course Drive (MP 48.5) to Bellevue Avenue (MP 51.3) project. The proposed Non-Motorized Pathway Segment 3 is approximately 2.8 miles long and is located between Golf Course Drive and Bellevue Avenue in the Cities of Rohnert Park and Santa Rosa in Sonoma County. After incorporation of extensive avoidance and minimization efforts in the project design and schedule, construction of the Non-Motorized Pathway will result in some unavoidable impacts to riparian habitat, such as ditches that parallel the railroad and removal of trees. Implementation of this RMMP will provide habitat compensation for those impacts (impact and mitigation quantities and ratios are detailed in Section 3, below).

The habitat enhancements at the proposed mitigation site were developed in cooperation between the permittee (SMART) and the landowner, Sonoma County Regional Parks. By partnering together, these two public agencies hope to contribute jointly to environmental improvements in the North Bay by enhancing riparian habitat conditions at an existing public park and constructing a new public pathway to facilitate non-motorized transportation.

This RMMP outlines the following:

- (i) plans for invasive plant management and planting;
- (ii) plans for erosion repair and channel improvements;
- (iii) performance monitoring methods;
- (iv) success criteria;
- (v) maintenance activities and adaptive management approach; and
- (vi) reporting requirements for a 5-year period.

Implementation of this RMMP satisfies specific compensatory mitigation requirements of the following permits or authorizations issued to SMART's Non-Motorized Pathway Segment project named herein. Agency staff names and contact information at the time these permits were issued are also provided.

Agency	California Department of Fish and Wildlife	North Coast Regional Water Quality Control Board
Permit ID	EPIMS-SON-23219-R3	ECM PIN CW-876319; WDID# 1B21198WNSO
Date issued	October 24, 2022	September 29, 2023
Agency Contact	Nick Wagner Environmental Scientist (707) 428-2075 nicholas.wagner@wildlife.ca.gov R3LSA@wildlife.ca.gov	Kaete King Environmental Scientist (707) 576-2830 kaete.king@waterboards.ca.gov



2.0 MITIGATION SITE DESCRIPTION

2.1 Site Location and Name

Riparian mitigation will be implemented at Crane Creek Regional Park, located approximately one mile east of the limits of the City of Rohnert Park, Sonoma County, and approximately 3.5 miles southeast of the Non-Motorized Pathway Segment 3 project (Figure 1, Appendix A). For the purposes of the mitigation design and development of this RMMP, the drainage identified for habitat enhancement is referred to herein as Poppy Drainage, in reference to the nearby Poppy Trail (Figure 2, Appendix A). This site name is not designated on any official park maps. The mitigation site is described below.

2.2 Property Ownership and History

The County of Sonoma owns the property and Sonoma County Regional Parks (Regional Parks) operates Crane Creek Regional Park. Crane Creek Regional Park features rolling grasslands and beautiful oaks east of Rohnert Park. The 128-acre park has 3.5 miles of trails and an 18-hole disc golf course. Crane Creek flows through the middle of the park as a seasonal stream that does not flow in the summer months. Prior to European arrival, the property was in the territory of the Coast Miwok and adjacent to the Southern Pomo native American tribes. The park is located on land settled by Robert Crane in 1852 and was passed to several different private landowners until it was acquired by the County of Sonoma and City of Rohnert Park in 1975. There is evidence of chicken farming prior to acquisition of the property by the County, and an adjacent neighbor has been seasonally grazing the property since approximately 2016. The Crane Creek Regional Park Master Plan (Regional Parks 2001) is the guiding document for management of the property, which states the property is to be “maintained in its current natural condition and its existing features will be protected and enhanced. Care will be taken to minimize erosion-prone sites by monitoring use and native species will be encouraged where desirable.” A partnership that includes Regional Parks, City of Rohnert Park, and the Sonoma County Agricultural Preservation & Open Space District, is in the process of expanding Crane Creek Regional Park by an additional 75 acres and extending the existing Copeland Creek Trail from city limits through Sonoma State University to Crane Creek Regional Park.

Contact: **Minona Heaviland**, *Natural Resources Park Program Supervisor*
 Minona.Heaviland@sonoma-county.org
 (707) 291-7669

2.3 Pre-Project Conditions

The Poppy Drainage feature is an unnamed, freshwater stream that supports ephemeral flow and drains northwest to Crane Creek, a larger stream system. This mitigation area is located adjacent to the Poppy Trail, which runs parallel to it to the south, and it also crosses the Creek Trail which crosses over the Poppy Drainage via a small footbridge. The mitigation area is mostly devoid of tree cover and is characterized by an abundance of non-native grasses in uplands. The topographic bottom of the drainage supports some wetland vegetation including rushes (*Juncus* sp.) and sedges (*Carex* sp.), particularly toward the downstream end of the mitigation area. Non-native invasive plant species are prevalent in portions of the mitigation area (see Figure 2) and include approximately 0.49 acre of Himalayan blackberry (*Rubus armeniacus*) and teasel (*Dipsacus sativus*) infestations. An electrified cattle fence borders the northeastern edge of the



proposed mitigation area for much of its length. Three headcuts occur in the channel at the downstream end of the mitigation as shown in Appendix C. Downstream of the mitigation area, a mature riparian corridor is established and is characterized by tree canopies consisting of coast live oak (*Quercus agrifolia*) and California buckeye (*Aesculus californica*) and understories of snowberry (*Symphoricarpos albus*), coyote brush (*Baccharis pilularis*), rushes, and mugwort (*Artemisia douglasiana*) as well as the non-native Himalayan blackberry. The mitigation area largely lacks riparian canopy and is suitable for planting oaks and other native plant species (see Section 4). Existing conditions at this drainage are visible on Figure 2 (Appendix A) and in attached site photographs (Appendix B).

3.0 MITIGATION APPROACH AND CALCULATIONS

The permits issued by CDFW and the North Coast Regional Water Quality Control Board for SMART's Non-Motorized Pathway Segment 3 project (see Section 1.0) require SMART to provide at least 0.64 acre and 2,254 linear feet of riparian mitigation within the North Coast Water Board Region. Details regarding the sources and extent of impacts triggering the need for riparian mitigation were provided to the agencies during their permit negotiations with SMART, and both agencies reviewed a concept-level mitigation proposal for the enhancement of Poppy Drainage at Crane Creek Regional Park. Habitat enhancements at the Poppy Drainage, in the form of invasive plant removal, erosion and headcut repair, and planting, will encompass approximately 1.3 acres over 2,255 linear feet of stream. A summary of the permitted impacts and required minimum riparian mitigation quantities is provided in Table 1.

Table 1. Required Ratio and Quantities of Riparian Mitigation

PERMITTED RIPARIAN IMPACTS	MITIGATION RATIO (MITIGATION TO IMPACT)	MINIMUM MITIGATION QUANTITY REQUIRED	MITIGATION OFFERED	DESIGNED MITIGATION RATIO (MITIGATION TO IMPACT)
0.32 acre	2:1	0.64 acre	1.3 acres	>4:1
1,127 linear feet		2,254 linear feet	2,255 linear feet	2:1
16 trees	varies	103 trees	131 trees	varies

The NMP Segment 3 project will remove 14 native riparian trees of varying sizes, and two non-native trees. Based on the riparian tree replacement ratios listed below, which are cited in the project's Final Lake and Streambed Alteration Agreement, a minimum of 103 native riparian trees must be planted in these mitigation areas.

- **1:1** replacement for non-native trees;
- **1:1** for removal of native trees up to 3 inches DBH;
- **3:1** for removal of native trees 4 to 6 inches DBH;
- **6:1** for removal of native trees greater than 6 inches DBH;
- **4:1** for removal of oak trees up to 6 inches DBH;
- **5:1** for removal of oak trees between 7 and 15 inches DBH; and
- **10:1** for removal of oak trees greater than 15 inches DBH.



4.0 BASIS OF DESIGN SUMMARY

The proposed improvements are designed to mimic natural, stable conditions. Proposed improvements are intended to address existing areas of erosional degradation along the Poppy Drainage. Improvements will maintain a vegetated alluvial channel with appropriately placed grade control elements to establish and maintain a stable cross section and longitudinal profile. Grade control structures are proposed to attenuate the propagation of multiple headcuts within the project reach.

The stabilization elements will include grade control structures and riprap revetment within the channel and energy dissipation at the stormwater outfalls. The proposed grade control structures include sculpted concrete and grouted boulder drops with a 4H:1V sloping face, as well as grouted cross vanes. These structures are installed to achieve a flatter bed slope based on the expected long-term stable slope.

The rehabilitation effort focuses on a multi-stage channel geometry that seeks to re-establish a riparian corridor with hydraulic connection to a functional floodplain. The channel staging is based on an estimated bankfull flow that informs the channel geometry. There is no proposed major modification to the existing meander planform, as it remains relatively intact with minimal lateral migration. The revegetation plan also matches the staged geometry, where hydrologic zones determine the locations of wetland, riparian, and upland plant species.

The design approach incorporates observation and assessment of stable vegetated reaches of the Poppy Drainage and applying a similar configuration to incised, unstable and unvegetated reaches. The design approach is validated at the 60% milestone using available regional curves and 1-D normal depth hydraulic modeling.

4.1 Hydrology

4.1.1 Bankfull Flow

The bankfull discharge was initially estimated using regional curves obtained from Regional Curves of Hydraulic Geometry for Wadeable Streams in Marin and Sonoma Counties, San Francisco Bay Area – Data Summary Report (Collins & Leventhal, 2013) included with this report as Appendix E and a graph provided in Figure 3. Bankfull discharge was then calibrated using hydraulic calculations to estimate discharge based on observed bankfull conditions within on site reference reaches. Stable bankfull channel dimensions were extrapolated from the LiDAR surface and NOT GPS-grade topography. However, for the sake of comparing regional curves with observed condition at the 60% design milestone, this approach for estimating bankfull flow is considered adequate.



4.1.2 Flood Flows

Caltrans Regional Flood-Frequency Equations were used for initial runoff estimates at the downstream end of the Project reach (128-acre drainage area). A summary of the results is provided in Table 2.

Table 2. Flood-Frequency Estimates at Poppy Drainage

RECURRENCE INTERVAL	FLOW (CFS)
Bankfull	11
100-year	90

4.2 Hydraulics

Channel material stability calculations were calculated based on Manning's formula for open channel flow at the existing constricted channel and at the proposed channel grades. The Manning's roughness was estimated to be 0.033 for a weedy channel (Chow 1959). Calculations were performed iteratively to reach a channel width with shear stresses near 1.84 pounds per square foot (psf) based on the design channel slopes. This shear stress value was chosen based on guidance from Fischenich (2001) for allowable shear stresses of long native grasses.

4.3 Channel Design

Channel design characteristics were chosen based on a departure analysis (Table 3) that includes an assessment of perceived stable on-site reference reach conditions as well as a comparison of those values to estimated values from regional curves shown in Figure 4 (Appendix A). These values were then calibrated using hydraulic calculations to assess estimated shear stress and velocity for the proposed channel configuration.

Table 3 Impaired Versus Reference Reach Characteristics for Project Area

PARAMETERS	IMPAIRED REACH STATION 7+75 TO 10+75	REFERENCE REACH STATION 10+75 TO 14+00
Area (Square Feet)	18.9	4.3
Top Width (Feet)	20	9
Bottom Width (Feet)	5.2	2.5
Max Depth (Feet)	1.5	0.75
Width to Depth	8.67	12.0
Slope	4.0%	2.5%

4.3.1 Geometry

The proposed typical cross section is shown in Figure 5 (Appendix A). The geometry consists of two stages, bankfull and floodplain. The dimensions of the bankfull flow are based on reference reach observations. The bankfull channel is sized to convey the bankfull flow of $Q = 11$ cfs, maintain an approximate width-to-depth ratio of approximately 14, and convey sediment in a manner that reduces the tendency for aggradation and erosion. The typical floodplain width conveys the 100-year return interval discharge and was determined using an entrenchment ratio



of approximately 2.0, representing a moderately entrenched channel which is consistent with reference reach conditions.

4.3.2 Planform

At this design milestone, it is determined that the channel planform exists in a stable manner, with active erosion downcutting vertically, and not laterally. Planform modifications are not recommended.

4.3.3 Profile

Based on an assessment of the LiDAR data, the existing average bed slope within the unstable reach exists at approximately 4.0%. A stable longitudinal profile along the Poppy Drainage (reference reach) exists at approximately 2.5% within the existing alluvium. This slope is proposed in areas where grade control will not be installed. Grade control (described below in Section 5.3) will be placed to allow a steeper, approximate 5% slope, in designated areas.

5.0 IMPLEMENTATION PLAN

The steps involved in implementing this RMMP are detailed below and depicted in the attached plans and specifications (Appendix C).

5.1 Site Preparation, Access, and Staging

Site preparation, access, and staging are addressed on sheet C-1.1 (Appendix C).

5.1.1 Photo Points

Before work commences, Regional Parks staff will establish at least five permanent photo point locations from which photographs will be taken of representative “pre-restoration” views of the mitigation areas. The photo point locations will be mapped using GPS technology so that they can be revisited to document as-built conditions (see Section 5.7) and during each year of performance monitoring (see Section 6.3.2).

5.1.2 Site Preparation

Site preparation will include installation of fencing or flagging to demarcate all work areas and access routes, clearing, and grubbing of work areas as needed, and installing preliminary erosion and sediment control measures where ground disturbance work will occur. Staging and stockpile areas will be located outside of sensitive habitat and jurisdictional waters, and appropriate perimeter controls will be installed.

5.1.2 Access and Staging

Access to the Poppy Drainage site will occur via the Pressley Road parking lot. From the parking lot, the project site can be accessed by an existing compressed gravel, multi-use trail (Creek Trail). Staging may occur at the parking lot or other appropriate areas designated by Regional Park. This proposed access scenario will be confirmed and may be adjusted once Regional Parks meets with the future contractor.



5.2 Invasive Plant Management

Approximately 0.49 acre of Himalayan blackberry and Fuller's teasel infestations occur along the Poppy Drainage. These infestations occur in several locations shown on Figure 2 (Appendix A) and sheet C-1.1 (Appendix C). Upstream of the Creek Trail footbridge, approximately 85 percent of the channel and nearby banks are covered with Himalayan blackberry and/or Fuller's teasel. Downstream, Himalayan blackberry is concentrated into several dense patches. In addition, a patch occurs in a minor drainage west of Poppy Drainage. Himalayan blackberry is included in the California Invasive Plant Council's (Cal-IPC) invasive plant inventory with a rating of "High", while Fuller's teasel has a rating of "Moderate", meaning both species have the potential to spread rapidly and displace native plants (Cal-IPC 2006).

To prepare planting zones for new native plantings, the Himalayan blackberry and Fuller's teasel infestations will be cleared through a combination of mechanical removal and herbicide application. Additional mechanical clearing and targeted application of herbicide may be necessary in subsequent months and years to ensure the Himalayan blackberry does not resprout. Mechanical treatment of the Himalayan blackberry would likely consist of using hand tools, such as pick axes, loppers, and chainsaws. All non-native vegetation that is mechanically removed will either be masticated on site or legally disposed at a green waste facility.

Any contractor or Regional Parks staff involved in herbicide application will adhere to guidance in the Sonoma County Regional Parks Integrated Pest Management (IPM) Plan and applicable direction from the County Board of Supervisors, which require:

- i. using the least toxic option that will be effective for the target weed species, and
- ii. monthly reporting to Regional Parks on the quantity of herbicide used.

A copy of the County's 2019 IPM Plan is provided as Appendix D.

Any contractor or Regional Parks staff involved in herbicide application will be licensed in the state of California and will select appropriate chemicals that are effective on the target plant species and approved for application in aquatic settings.

5.3 Earthwork and Biostabilization

Earthwork in Poppy Drainage will focus on removing erosional features that have caused several headcuts. This area will be graded to create a naturalistic channel, and grade control structures are also proposed to attenuate the propagation of multiple headcuts within the project reach. The grading plans, cross sections, and creek stabilization details are shown on Sheets C-2.0, C-3.0, C-3.1, and C-4.0 (Appendix C).

5.3.1 Grade Control

Small grade control structures in the form of constructed riffles are proposed in the design as a means of protection and due to their benefits, which include the following:

- Continuity of the bankfull channel and floodplain: riffles maintain a consistent bankfull channel and have relatively short transitional areas between upstream and downstream floodplain.



- Less turbulent energy: decreasing the head loss between the upstream and downstream ends requires less energy dissipation and reduces the turbulence from a large hydraulic jump associated with larger, steeper grade control structures.
- Provides improved aesthetics, geomorphic consistency and allows a greater diversity of riparian vegetation to establish.

Rock sizing for the riffles is developed using methods defined in the CDFW Salmonid Stream Restoration Manual (CDFW 2009). The minimum thickness for each rock type should be twice the dimension of the D50 or average size particle.

5.4 Erosion Control and Seeding

After invasive plant removal and earthwork activities, the seed mix presented in Table 4 will be applied to disturbed ground, and permanent erosion control treatments such as erosion control blankets and/or fiber rolls made of biodegradable materials will be installed to help stabilize and revegetate the disturbed streambanks as needed.

The species and seeding rates of native herbaceous plants to be installed within the disturbed areas of the streambanks are listed in Table 4, and the seeding areas are identified on sheets L-1.0 (Appendix C). Seeds will be sourced from a Northern California seed supplier. Seeding will occur between September 15 and October 15 or as approved by SMART's project manager, prior to installing the erosion control treatments.

Table 4. Riparian Seed Mix

SCIENTIFIC NAME	COMMON NAME	PURE LIVE SEED (LBS/ACRE)
<i>Achillea millefolium</i>	yarrow	0.5
<i>Asclepias fascicularis</i>	narrow leaf milkweed	0.5
<i>Bromus carinatus</i>	California brome	8
<i>Elymus glaucus</i>	blue wildrye	8
<i>Eschscholzia californica</i>	California poppy	2
<i>Festuca microstachys</i>	small fescue	8
<i>Hordeum brachyantherum</i>	meadow barley	8
<i>Lupinus bicolor</i>	bicolored lupine	4
<i>Scrophularia californica</i>	bee plant	2
<i>Stipa pulchra</i>	purple needlegrass	5
TOTAL:		46.0

5.5 Irrigation

A temporary drip irrigation system will be installed to provide supplemental water to the tree and shrub plantings in the dry summer months and as required during the winter months until



the plants are established, for two to three years after installation¹. Excessive watering of these drought-resistant species will be avoided because it may encourage root rot or excessive aboveground growth without deep roots. Either an existing or new water tank will be installed to hold water for the irrigation systems (see sheet C-1.1 in Appendix C). Water will be delivered via water truck to the tank.

5.6 Planting

Table 5 identifies the species and quantities of native riparian trees, shrubs, and herbaceous plants to be grown in containers and installed within the planting areas as shown on the Planting Plans (Appendix C). If these exact quantities or sizes by species are not available at the time of project implementation, the contractor responsible for implementing the planting will coordinate with Regional Parks to select suitable substitutions, and such deviations from the plans would be noted in the as-built documentation (see Section 4.6).

To the greatest extent feasible, plants will be propagated using materials collected within the Laguna de Santa Rosa watershed as part of the riparian mitigation efforts at that location. Using local propagules, the plantings will be grown at nurseries that can demonstrate they are implementing best management practices to avoid and minimize the spread of Phytophthora and/or other plant pathogens. Regional Parks is already working with the Laguna de Santa Rosa Foundation to propagate plants that can be used in this riparian enhancement effort. This Foundation is certified by the Accreditation to Improve Restoration and Native Plant Nursery Stock Cleanliness (AIR); AIR requirements and the Foundation's best management practices (BMPs) for preventing the spread of plant pathogens are available upon request. If Regional Parks or a restoration contractor involved in implementation of this project need to procure additional plant material, SMART will ensure that their contract obligates them to procure the plant materials from a facility that meets the California Native Nursery Network's current Phytosanitary BMPs and Guidelines to minimize Phytophthora pathogens in restoration and fieldwork.

All plants will be installed between October 15 and December 31, after irrigation installation has occurred (see Section 9 Anticipated Schedule). Planting holes for the trees and shrubs will be dug to a width of twice the diameter of the planting container. Plantings will be placed within holes such that the root ball extends one inch above the finished grade. Three inches of wood bark mulch shall be placed within the planting basins. The tree plantings and some shrub species will be protected from wildlife browsing and livestock damage by installing foliage protection cages around them. The protective cages will be made from welded wire and secured with T-posts or other materials as approved by Regional Parks. Trunk protection may also be installed to deter damage by rodents. These details and specifications will be resolved at advanced stages of design and during contractor negotiations and scoping.

¹ The Final LSAA issued for SMART's pathway project (see date issued and permit number on page 1) indicates that plantings must survive at least three years without irrigation, which implies ceasing irrigation after two years. Because Regional Parks was concerned that three years of irrigation would be necessary in this relatively dry location, the Draft RMMP provided to CDFW in March 2024 disclosed that irrigation may be continued for a third year.



Table 5. Riparian Planting Palette

SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	SPACING (FEET)	QUANTITY
TREES				
<i>Acer macrophyllum</i>	big leaf maple	Deepot 40	20	12
<i>Aesculus californica</i>	California buckeye	Deepot 40	20	25
<i>Quercus agrifolia</i>	coast live oak	Deepot 40	20	20
<i>Quercus kelloggii</i>	black oak	Deepot 40	20	20
<i>Quercus lobata</i>	valley oak	Deepot 40	20	35
<i>Salix lasiolepis</i>	arroyo willow	Live Stake	10	19
TOTAL:				131
SHRUBS				
<i>Baccharis pilularis</i>	coyote brush	Deepot 40	8	118
<i>Frangula californica</i>	coffeeberry	Deepot 40	8	118
<i>Heteromeles arbutifolia</i>	toyon	Deepot 40	8	127
<i>Rosa californica</i>	California rose	Deepot 40	8	127
<i>Rubus ursinus</i>	California blackberry	Deepot 40	6	81
<i>Symphoricarpos albus</i>	snowberry	Deepot 40	6	97
TOTAL:				668
HERBACEOUS PLANTS				
<i>Achillea millefolium</i>	yarrow	Deepot 16	3	19
<i>Artemisia douglasiana</i>	mugwort	Deepot 16	4	13
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	Deepot 16	4	12
<i>Carex barbarae</i>	valley sedge	Deepot 16	2	42
<i>Elymus triticoides</i>	creeping wild rye	Deepot 16	2	42
<i>Juncus patens</i>	common rush	Deepot 16	2	50
<i>Scrophularia californica</i>	bee plant	Deepot 16	2	21
<i>Symphyotrichum chilense</i>	Pacific aster	Deepot 16	3	19
TOTAL:				218

5.7 As-built Documentation

After completion of the implementation activities described above, and no later than December 31 of Year 0 (see Section 10 Anticipated Schedule) the restoration contractor will prepare as-built documentation of invasive plant treatment, erosion repair, and plant, live pole, or acorn installation in a format that facilitates annual monitoring and reporting (e.g., CAD or GIS-based drawings depicting erosion repair locations/dimensions, planted species, container sizes, locations, etc.). During this same period, Regional Parks staff will revisit the permanent photo point locations (see Section 5.1.1) to capture as-built conditions. The as-built documentation and photos will be included in the as-built report discussed in Section 9.1, below.



6.0 PERFORMANCE MONITORING

6.1 Monitoring Period

Monitoring of the riparian mitigation areas will be conducted for a minimum 5-year period by biologists or restoration specialists experienced in the identification and ecology of locally native riparian plants as well as invasive plants common to Northern California. Year 0 is when plant propagation, invasive plant management, erosion repair, and seed application is prescribed. See Section 10 for the anticipated overall schedule and monitoring frequency.

6.2 Performance Standards

Performance standards over the five-year monitoring period are proposed herein to satisfy certain measures in the NMP Segment 3 project's Final Lake and Streambed Alteration Agreement (LSAA) and to reflect expected conditions that would be suitable to the mitigation site. These performance standards are intended to document an increasing extent of healthy native riparian vegetation cover and sustained suppression of re-infestation by highly invasive plant species over the five-year period. Complete eradication of invasive plant species is not expected or proposed. A comparison to reference sites is not necessary or proposed.

Measure 3.2 in the Final LSAA outlines Revegetation Success, Monitoring, and Maintenance as follows:

Permittee shall monitor and maintain, as necessary, all plants for a minimum of five years. At the end of the five years of monitoring, with at least three years without supplemental irrigation, the plantings shall attain at least 80 percent site cover of the treatment area, 85 percent survival success (for non-tree species), 85 percent survival each for non-oak trees and oaks, and shall not contain more than 5 percent relative cover of plants listed on Cal-IPC high or moderate lists.

If revegetation survival and/or cover requirements do not meet established goals as determined by CDFW, Permittee is responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

Measure 3.4 in the Final LSAA outlines Control Invasive Species as follows:

Permittee is responsible for monitoring and if needed, eradication of invasive exotic [plant] species that may occur within the project area for a minimum of two years following project completion. All revegetation efforts shall include local plant materials native to the project area.

Table 6 outlines WRA's recommendations for tracking revegetation success in a manner that is compatible with the Final LSAA measures. The performance standards proposed for Years 1 through 4 are recommended targets only and are not required by the Final LSAA. Only the Year 5 performance standards are required by the Final LSAA.



Table 6. Vegetation Performance Standards

PARAMETER	Vegetation		
RELEVANT AREA	Treatment Areas (Riparian Planting and Invasive Plant Removal; acreage to be confirmed by as-built documentation [see Section 5.7]) [see Sheets C-1.1 and L-1.2 in Appendix C]		
SUCCESS CRITERIA	Native riparian vegetation is well-established and reproducing naturally, and active infestations by target invasive plant species are minimal.		
PERFORMANCE STANDARDS	YEARS 1-3	YEAR 4	YEAR 5
Native Tree Planting Survival	90%	85%	85%
Native Tree and Shrub Cover ¹	25-65% relative cover	75% relative cover	80% relative cover
Invasive Plant Cover ²	≤5% relative cover	≤5% relative cover	≤5% relative cover
¹ Including any natural recruits.			
² Species rated by Cal-IPC as High or Moderate, excluding grasses.			

6.3 Monitoring Methods

6.3.1 Seasonal Inspections

Periodic seasonal inspections of the mitigation area will be conducted to assess and anticipate the need for and timing of upcoming monitoring, maintenance, or other corrective actions. Results of these inspections will inform maintenance actions and frequency.

6.3.2 Photo Documentation and General Site Conditions

The permanent photo points (see Sections 5.1.1 and 5.7) will be revisited each summer in which vegetation monitoring occurs and photographs will be collected to document the year's conditions. Notes will be collected to inform narrative summaries of the overall mitigation site performance, to be included in annual reports.

6.3.3 Vegetation

Vegetation monitoring will occur in the “treatment areas” (i.e., all Riparian Planting Areas identified in Appendix C, including those that overlap with invasive plant removal areas) to document plant establishment and success in meeting performance standards. Monitoring shall occur in May or June, when plants have put on most of their annual growth and are most identifiable. During each monitoring event, a biologist shall document conditions in the treatment areas following the methods outlined below. The total size or area (in square feet and/or acres) of each planting or revegetation zone will be documented by the as-built maps, and any plant cover estimates will be quantified relative to those areas/sizes.

SPECIES COMPOSITION

The monitors will locate the Riparian Planting Areas using the as-built maps and will walk through and around these areas to create a list of all easily observable native tree, shrub, and herbaceous species present. Grasses may be included in this list, which will be provided in annual reports. There are no performance standards associated with species composition; however, the data may prove useful for qualitative analysis and making recommendations regarding invasive plant management or replacement planting.



NATIVE TREE PLANTING SURVIVAL

Tree plantings will be located using as-built maps, and inspected for survival. Live and dead plantings will be tallied by species, and the precise locations of dead plantings will be documented (to facilitate replacement, if recommended or required). The tally of live plantings will be converted to percent survival based on all plantings originally installed. As the monitoring period progresses, if it becomes infeasible to distinguish accurately between planted and naturally recruited trees, the monitors may propose to the regulatory agencies that the survival criterion be adjusted to include all native trees present in the treatment areas or abandoned altogether in favor of vegetation cover measurements described below.

NATIVE TREE AND SHRUB COVER

Relative percent cover occupied by the woody parts and foliage of planted native trees and shrubs (collectively, not by individual species) throughout each revegetation area will be visually estimated by walking through or around each planting area. As the monitoring period progresses, if it becomes infeasible to distinguish between the cover of planted and naturally recruited plants, monitoring and reporting will focus on all native vegetation observed. In this case, relative cover occupied collectively by all native trees, shrubs, and herbaceous plants (planted and naturally recruited) will be estimated and recorded.

INVASIVE PLANT SPECIES COVER

Because project implementation is designed to remove and treat existing infestations of Himalayan blackberry and Fuller's teasel, cover by invasive plants species is expected to remain low following project implementation and with at least two years of maintenance-level invasive plant management. Monitors will inspect all treatment areas for the presence of invasive plant species that are rated High or Moderate by Cal-IPC, excluding grasses. If found, the size of the infestation will be measured/estimated, and the relative cover of such target invasive species will be estimated.

7.0 MAINTENANCE DURING MONITORING PERIOD

Maintenance during the monitoring period will be conducted by Regional Parks staff and/or a restoration contractor with demonstrated experience in installing and maintaining California native plantings as well as in treating and managing invasive plant species common to riparian settings in Northern California. Herbicide application, if utilized, will be conducted by a professional currently licensed by the state of California. Descriptions of anticipated maintenance activities are provided below.

7.1 Irrigation

The goal of irrigation is to develop a robust and self-sustaining vegetation community with deep-rooted plants that are resilient enough to withstand the long, dry summers common in the region. This will be accomplished through regular, deep watering during the dry, summer season to encourage deep rooting during the first two years following plant installation. Irrigation will be used in the winter months if necessary to sustain the plantings during drought or lower than normal rainfall conditions. The irrigation schedule will be guided by weather conditions and if the restoration areas are meeting the performance standards. To meet the Final LSAA performance requirements at the end of Year 5, irrigation should be operated only during Years 1 and 2, and discontinued Years 3 through 5. The restoration contractor will maintain and make repairs to the



irrigation system as needed until it is discontinued. Removal of the irrigation system should not occur until the monitors and/or Regional Parks are certain that the Year 5 performance standards (see Section 6.2) can be met.

7.2 Replacement Plantings

If annual monitoring determines that survival of the native riparian tree plantings is not likely to meet the Year 5 performance standards identified in Table , replacement plantings will be recommended. The restoration contractor and monitor will determine how many replacement plantings are needed, which species is/are most appropriate, and will assess if the replacement plantings should be installed at the same or a more suitable planting location within the treatment area.

While planted shrubs are not subject to percent survival thresholds, they will contribute to overall native revegetation cover estimates; therefore, if the monitors determine that mortality of planted shrubs is negatively impacting the progress of native vegetation cover expansion toward Year 5 performance standards, they may recommend replacement shrub plantings.

Replacing dead tree and shrub plantings will likely result in CDFW requiring additional years of survival and cover monitoring; therefore, the monitors should carefully consider their recommendations for replacement planting against the likelihood of the vegetation cover standards being met by Year 5 without adding plantings. If planting survival is not likely to be met, but vegetation cover is likely to be met, discussions with CDFW, Regional Parks, and SMART should be initiated to agree upon an approach that minimizes the cost of monitoring and maintenance while achieving the mitigation goals intended by the revegetation.

7.3 Browse Protection

Browse protection devices installed around tree and shrub plantings will be inspected and repaired as needed. If the type of devices installed continue failing, alternative methods may be proposed. The restoration contractor and monitors will collaborate with Regional Parks to determine when removal of browse protection is recommended.

7.4 Invasive Plant Management

After the initial invasive plant management effort described in Section 5.2, above, maintenance-level management and re-treatment of target invasive plant species will be implemented on an as-needed basis for at least Years 1 and 2, one to three times per year, during the time of year most effective for managing the target species. Adjustments to the invasive plant management approach can be made based on the professional judgement of the restoration contractor and/or monitors.

7.5 Grazing Accommodations

Regional Parks collaborates with local livestock producers to implement cattle grazing as a vegetation management tool at Crane Creek Regional Park. This RMMP does not provide a grazing plan or grazing prescriptions; however, planting areas and irrigation systems will be protected with an electric fence to exclude cattle, similar to the existing fencing in the Park, as well as by sturdy browse-protection cages where plantings are planned outside fenced areas. All



fencing and cattle-detering cages will remain in place as needed until Regional Parks develops and implements a grazing plan for the Park.

Grazing animals have been observed to preference areas where there is shade from mature trees, and these areas will remain available to grazing animals. In addition, during this mitigation project's five-year performance monitoring period and before the grazing plan is developed, Regional Parks will collaborate with the Sonoma Resource Conservation District to develop an off-stream water source at Crane Creek Regional Park. As part of this process, Regional Parks will ensure that sufficient water supply away from creeks and drainages is provided for cattle during the grazing season, to reduce the potential for erosion in and around the mitigation area.

The riparian mitigation/restoration contractor is not responsible for managing on-site grazing or water supplies for livestock.

8.0 ADAPTIVE MANAGEMENT

If regular inspections or annual monitoring reveal that the mitigation is not on track to meet performance standards after appropriate implementation of recommended maintenance activities, an assessment will be made to determine the cause and develop potential solutions consistent with the mitigation requirements. Some potential causes or sources of underperformance include:

- Drought or excessive rain (flooding)
- Excessive erosion
- Fire
- Excessive herbivory
- Failure of irrigation system
- Failure of cattle exclusion fences or cages
- Competition from invasive plants

Remedial measures will be developed and selected in cooperation between Regional Parks and SMART. SMART will be responsible for funding remedial actions that are beyond typical maintenance, and Regional Parks will be responsible for implementing remedial actions that are within the capabilities of their existing staff and equipment. Examples of remedial actions that Regional Parks may implement include, but are not limited to:

- Additional planting;
- Stabilizing erosion using hand tools, seeding, planting, or placement of rock and woody debris;
- Altering the irrigation duration, methods, water source, or frequency;
- Altering the grazing regime; or
- Applying innovative invasive plant management techniques.

In situations where the stressors are occurring regionally or globally, Regional Parks, SMART, and regulatory agencies may agree to modify performance standards to align with current regional or global conditions. Additionally, if any of the performance standards are repeatedly not being met but the mitigation is successful in terms of area, appearance, and function, Regional Parks, SMART, and regulatory agencies may agree to modify performance standards accordingly.



9.0 REPORTING

9.1 As-Built Report

By January 31 of the year following completion of the restoration work described in this RMMP, a letter report outlining the as-built conditions will be prepared and submitted to CDFW and the North Coast Regional Water Quality Control Board (see contact information provided in Section 1, above). The as-built report will include the as-built documentation (including photographs) described in Section 5.7.

9.2 Annual Reports

A monitoring report will be prepared each year that monitoring is conducted, according to the schedule outlined in Section 10. The report will be prepared by Regional Parks staff. At a minimum, the reports will include the following information.

- Permit ID numbers associated with SMART's Non-motorized Pathway Segment 3 projects.
- Dates of all surveys and site inspections conducted.
- Photographs of current and past years' conditions.
- Quantitative results of native tree planting survival monitoring.
- Quantitative results of native tree and shrub cover (and herbaceous or ground cover, if contributions to overall native cover are notable).
- Qualitative descriptions of the health, vigor, and expansion/establishment of native riparian vegetation within the treatment areas.
- Quantitative results of target invasive plant cover.
- Qualitative descriptions of the conditions/status of target invasive plant infestations.
- List of report preparers.

Reports will be submitted to the following agencies:

Agency	California Department of Fish and Wildlife	North Coast Regional Water Quality Control Board
Permit ID	EPIMS-SON-23219-R3	ECM PIN CW-876319; WDID# 1B21198WNSO
Email Address	R3LSA@wildlife.ca.gov	NorthCoast@waterboards.ca.gov

Copies of the report will be provided to the following parties:

- **Sonoma County Regional Parks**
Attn: Hattie Brown, *Natural Resources Manager*
Email address: Hattie.Brown@sonoma-county.org
- **Sonoma-Marin Area Rail Transit**
Attn: Bill Gamlen, *Chief Engineer*
Email address: BGamlen@SonomaMarinTrain.org



10.0 ANTICIPATED SCHEDULE

YEAR	TIMING	ACTIVITY (RESPONSIBLE PARTY)
Year 0	June -October 2025	Initiate plant propagation and/or procurement from materials collected within the Laguna de Santa Rosa Watershed (A)
	August-October 2025	Establish permanent photo monitoring points, document pre-enhancement conditions (A) Implement treatment of invasive plant infestations (B) Implement grading (B)
	September-November 2025	Install irrigation systems (B)
	November-December 2025	Install container plants; apply seed mix; initiate irrigation depending on precipitation conditions (B)
	By December 31, 2025	Prepare as-built documentation (B)
	By January 31, 2026	Submit as-built report to agencies (C)
Year 1	Spring and Summer 2026	Conduct general site inspections for invasive plant infestations, seed germination, planting health, irrigation, and other maintenance needs (B)
	Spring/Summer and/or Fall 2026	Conduct maintenance-level invasive management; provide irrigation as needed (B)
	Spring/Summer 2026	Conduct performance monitoring (see Section 6.0) and communicate maintenance recommendations to Contractor (A)
	Summer/Fall 2026	Conduct recommended maintenance activities (see Section 7.0) (B)
	By December 31, 2026	Prepare Year 1 report (A)
	By January 31, 2027	Submit Year 1 report to agencies (C)
Year 2	Spring and Summer 2027	Conduct general site inspections for invasive plant infestations, planting health, irrigation, and other maintenance needs (A)
	Spring/Summer and/or Fall 2027	Conduct maintenance-level invasive plant management; provide irrigation as needed (A)
	Spring/Summer 2027	Conduct performance monitoring (see Section 6.0) and communicate maintenance recommendations to staff (A)
	Summer/Fall 2027	Conduct recommended maintenance activities (see Section 7.0) (A)



YEAR	TIMING	ACTIVITY (RESPONSIBLE PARTY)
	By December 31, 2027	Discontinue irrigation (A) Prepare Year 2 report (A)
	By January 31, 2028	Submit Year 2 report to agencies (C)
Year 3	Spring and Summer 2028	Conduct general site inspections for invasive plant infestations, planting health, and other maintenance needs (A)
	Spring/Summer 2028	Conduct performance monitoring (see Section 6.0) and communicate maintenance recommendations to staff (A)
	Summer/Fall 2028	Conduct recommended maintenance activities (see Section 7.0) (A)
	By December 31, 2028	Prepare Year 3 report (A)
	By January 31, 2029	Submit Year 3 report to agencies (C)
Year 4	Spring and Summer 2029	Conduct general site inspections for invasive plant infestations, planting health, irrigation, and other maintenance needs (A)
	Spring/Summer 2029	Conduct performance monitoring (see Section 6.0) and communicate maintenance recommendations to staff (A)
	Summer/Fall 2029	Conduct recommended maintenance activities (see Section 7.0) (A)
	By December 31, 2029	Prepare Year 4 report (A)
	By January 31, 2030	Submit Year 4 report to agencies (C)
Year 5	Spring and Summer 2030	Conduct general site inspections for invasive plant infestations, planting health, irrigation, and other maintenance needs (A)
	Spring/Summer 2030	Conduct performance monitoring (see Section 6.0) and communicate maintenance recommendations to staff (A)
	Summer/Fall 2030	Conduct recommended maintenance activities (see Section 7.0) (A)
	By December 31, 2030	Prepare Year 5 report (A)
	By January 31, 2031	Submit Year 5 report to agencies (C)
RESPONSIBLE PARTIES: A: Sonoma County Regional Parks B: SMART's Contractor/Consultants C: SMART		



11.0 FUNDING MECHANISMS

SMART is responsible for ensuring that sufficient funds are provided to cover the costs associated with implementation, monitoring, and maintenance activities identified in this RMMP, as well as future adaptive management actions. SMART will utilize local sales tax revenue to fund these activities.

12.0 REFERENCES

- | | |
|-------------------------------------|---|
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| Collins & Leventhal 2013 | Regional Curves of Hydraulic Geometry for Wadeable Streams in Marin and Sonoma Counties, San Francisco Bay Area. Watershed Sciences and Marin County Flood Control District, San Rafael, California. |
| Chow 1959 | Chow. 1959. Open Channel Hydraulics. New York: McGraw-Hill. |
| DiTomaso et al. 2013 | DiTomaso, J.M., G.B. Kyser et al. 2013. <i>Weed Control in Natural Areas in the Western United States</i> . Weed Research and Information Center, University of California. 544 pp. |
| Fischenich 2001 | Fischenich, C. (2001). Stability Thresholds for Stream Restoration Materials. EMMRP Technical Notes Collection. |
| Regional Parks 2001 | Crane Creek Regional Park Management Plan. Prepared by Sonoma County Regional Parks Department. Approved 2001. |
| The Nature Conservancy | Controlling Himalayan Blackberry in the Pacific Northwest. March 2004. Available online: https://www.invasive.org/gist/moredocs/rubarm01.pdf |



APPENDIX A. FIGURES





Figure 1. Off-site Riparian Mitigation Project Location

SMART Non-Motorized Pathway
Segment 3- Golf Course Drive to Bellevue Avenue
Rohnert Park and Santa Rosa, Sonoma County, California

0 1 2 Miles

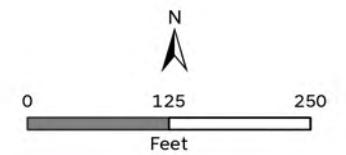




**Figure 2.
Riparian Mitigation Sites**

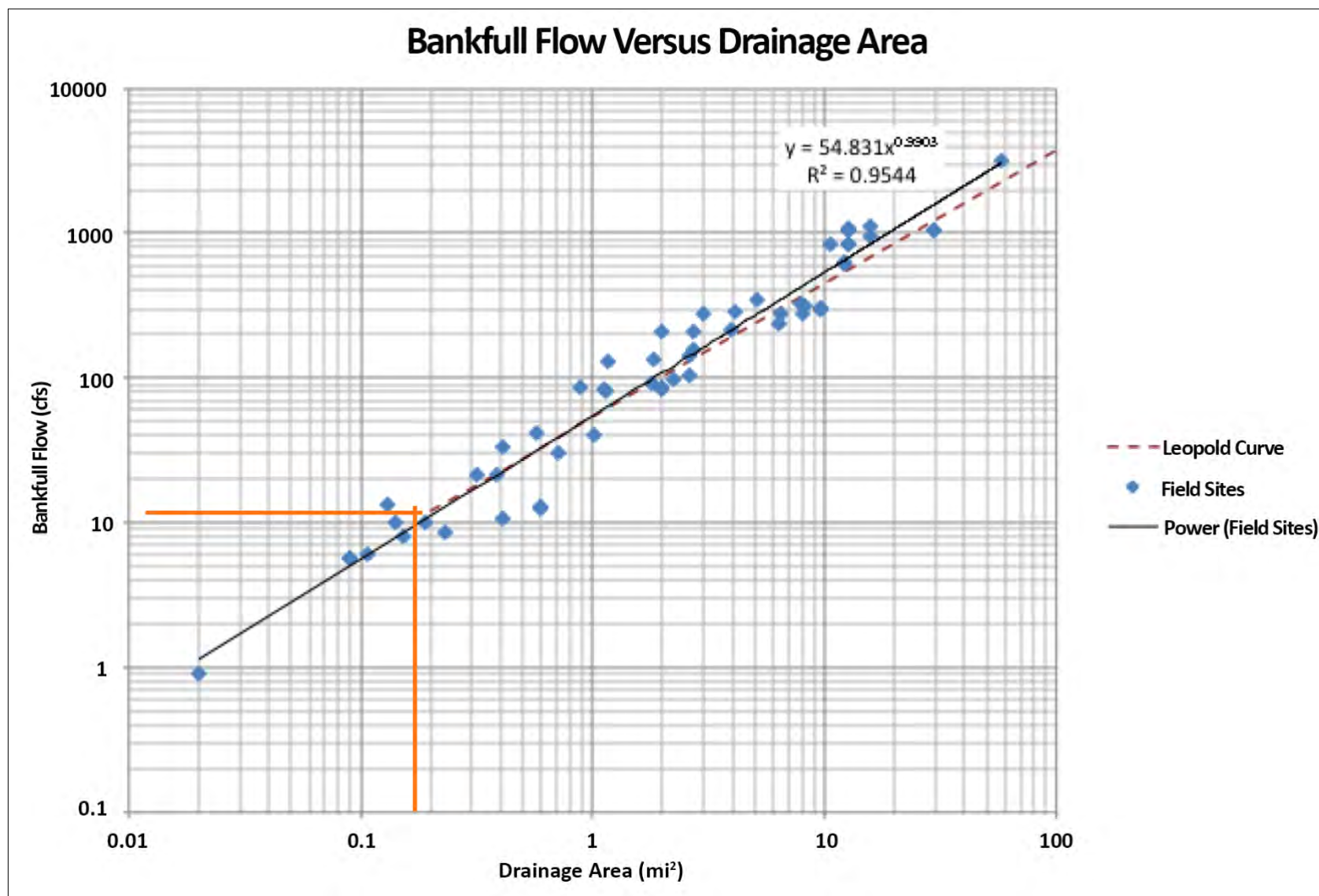
SMART Non-Motorized Pathway
Segment 3 - McInnis Parkway (MP 20.1)
to Smith Ranch Road (MP 21.0)
San Rafael, Marin County, California

- Crane Creek Park Boundary
- Poppy Drainage
- Minor Drainage
- Crane Creek
- Riparian Planting Area
- Himalayan blackberry Removal
- Himalayan blackberry and Teasel Removal



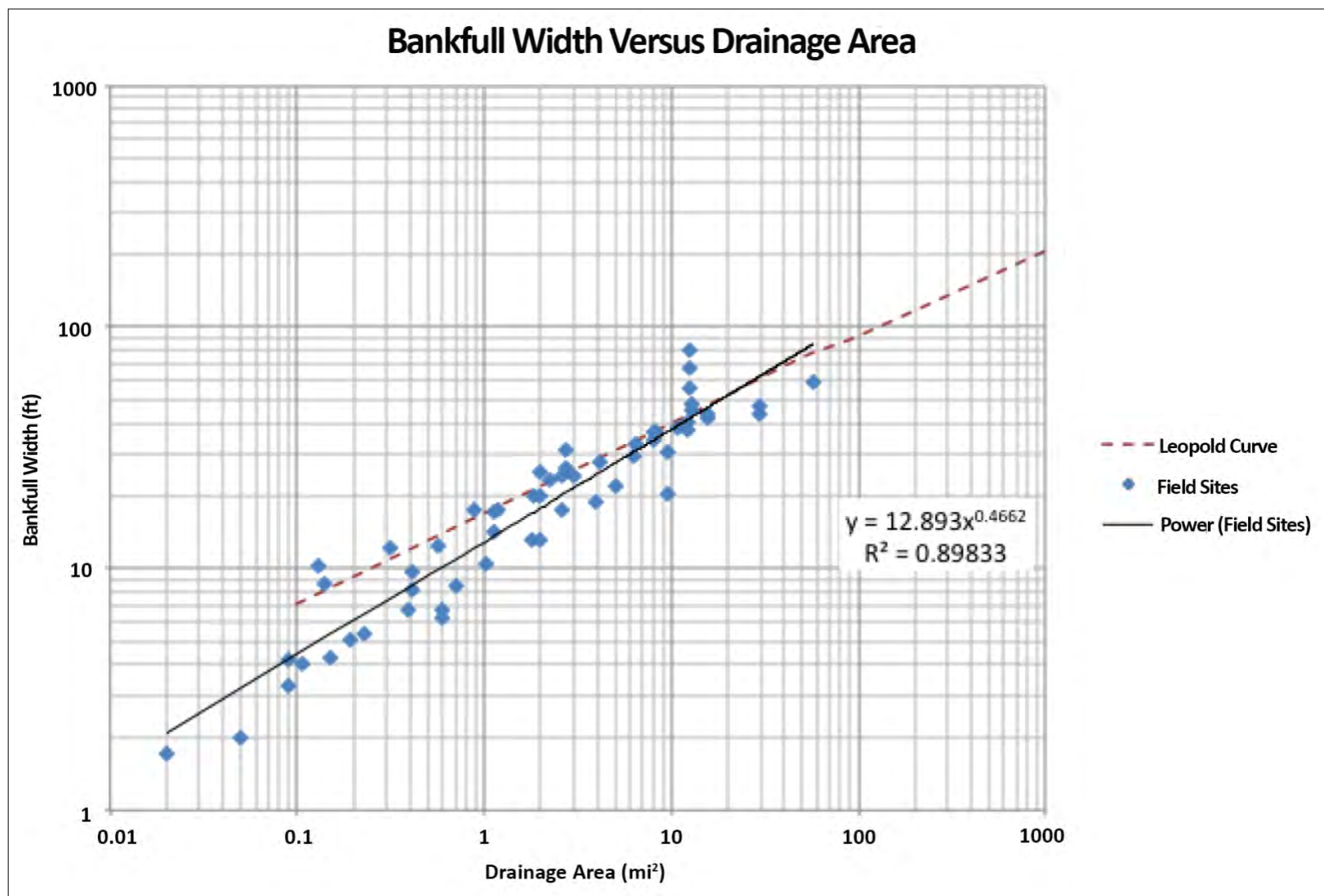
Path: L:\Acad 2000 Files\31000\31368\GIS\ArcMap_Pro\31368Base\31368Base.aprx

Sources: Esri Imagery, WRA | Prepared By: njander, 4/25/2024



**Figure 3. Bankfull Flow Versus Drainage Area for Sonoma County
(Collins & Leventhal 2013)**

SMART Non-Motorized Pathway
Segment 3: Golf Course Drive to Bellevue Avenue
Rohnert Park and Santa Rosa, Sonoma County, California



**Figure 4. Bankfull Width Versus Drainage Area for Sonoma County
(Collins & Leventhal 2013)**

SMART Non-Motorized Pathway
Segment 3: Golf Course Drive to Bellevue Avenue
Rohnert Park and Santa Rosa, Sonoma County, California

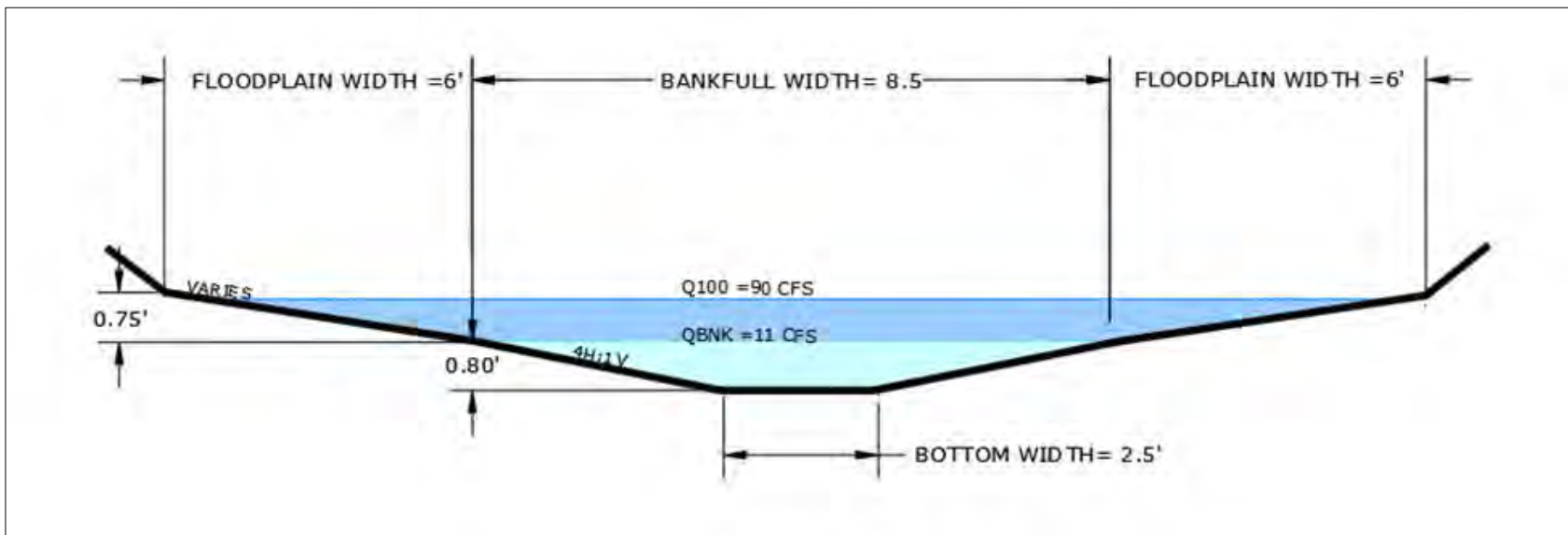


Figure 5. Typical Channel Section for Riparian Mitigation Slope

SMART Non-Motorized Pathway
 Segment 3: Golf Course Drive to Bellevue Avenue
 Rohnert Park and Santa Rosa, Sonoma County, California

APPENDIX B. PRE-PROJECT PHOTOGRAPHS





Photo 1: View of the central portion of the Poppy Drainage, with Himalayan blackberry removal areas visible in the channel downstream. Tree and shrub cover is sparse in most of the mitigation area, and herbaceous uplands are mostly composed of non-native grasses. Photo taken 11/6/2023.



Photo 2: A large head cut in the central part of the Poppy Drainage full of water after winter rains . Photo taken 3/6/2023.



Photo 3: A large infestation of Himalayan blackberry and Fuller's teasel along the Poppy Drainage, upstream of the Creek Trail bridge. Photo taken 11/6/2023.



Photo 4: Channel incision along the Poppy Drainage towards the downstream end of the mitigation area, with Himalayan blackberry lining the banks. Photo taken 11/6/2023.



Photo 5: The downstream end of the Poppy Drainage mitigation area. Native wetland plants including rushes and sedges are visible in the foreground, while an infestation of Himalayan blackberry is visible in the background. Photo taken 11/6/2023.



Photo 6: Erosion within the Poppy Drainage upstream of the Creek Trail bridge. Photo taken 11/6/2023.



Photo 7: A smaller side drainage where riparian plantings and Himalayan blackberry control will take place. Photo taken 11/6/2023.



Photo 8: A smaller side drainage originating near the parking lot where riparian plantings will be installed. Photo taken 2/16/24.

APPENDIX C. RIPARIAN MITIGATION DESIGN PLANS (100% UPDATED JUNE 2024)



SMART NON-MOTORIZED PATHWAY SEGMENT 3 - POPPY DRAINAGE

RIPARIAN MITIGATION

CRANE CREEK REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

SMART

NON- MOTORIZED

PATHWAY SEGMENT 3 -

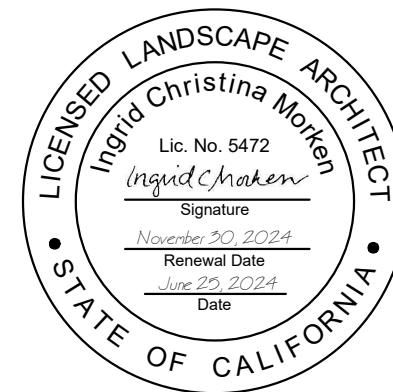
POPPY DRAINAGE

RIPARIAN MITIGATION

CRANE CREEK

REGIONAL PARK

SONOMA COUNTY, CALIFORNIA



06/25/24

100% FINAL PLAN SET

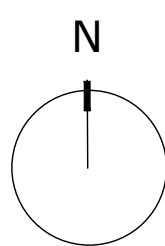
Date

Issues And Revisions

No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

SCALE: AS INDICATED



TITLE SHEET AND

GENERAL NOTES

Sheet 1 of 14

G-1.0

SHEET INDEX

1. G-1.0 TITLE SHEET AND GENERAL NOTES
2. C-1.1 SITE PREPARATION & ACCESS PLAN
3. C-2.0 GRADING PLAN & PROFILE
4. C-3.0 CHANNEL SECTIONS
5. C-3.1 CHANNEL SECTIONS
6. C-4.0 CREEK STABILIZATION DETAILS
7. EC-1.0 EROSION CONTROL DETAILS
8. L-1.0 EROSION CONTROL AND SEEDING PLAN
9. L-2.0 PLANTING SCHEDULE, DETAILS, AND TYPICAL LAYOUT
10. L-2.1 PLANTING QUANTITIES AND NOTES
11. L-2.2 PLANTING AND FENCING PLAN
12. L-3.0 IRRIGATION NOTES AND DETAILS
13. L-3.1 IRRIGATION PLAN
14. L-3.2 IRRIGATION DETAILS



1

VICINITY MAP

NOT TO SCALE

GENERAL NOTES

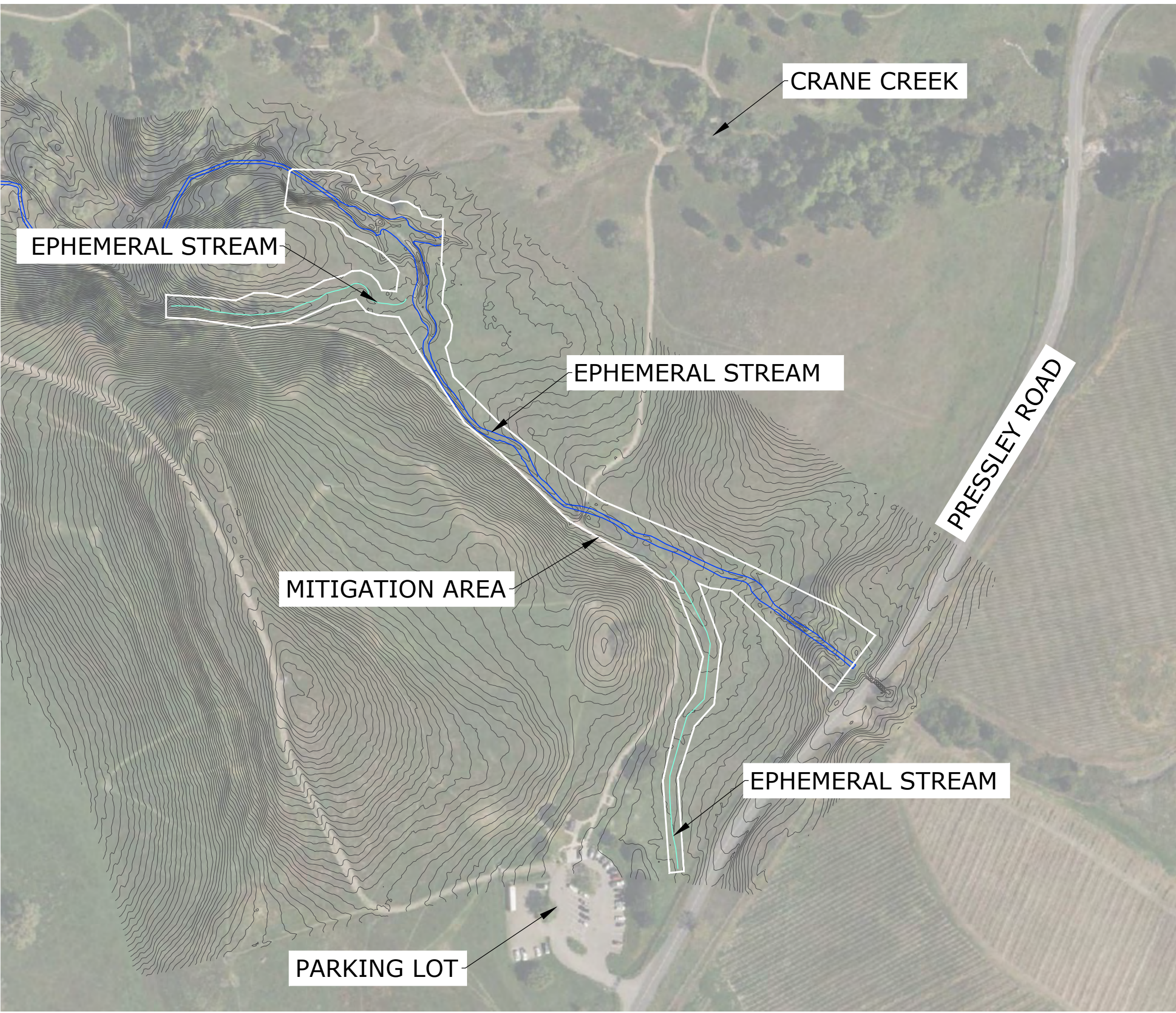
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND OTHER INFRASTRUCTURE IN THE PROJECT AREA.
2. EXISTING TOPOGRAPHIC DATA FROM 2013 SONOMAVEG LIDAR.
3. HORIZONTAL DATUM: NAD83 CALIFORNIA STATE PLANES, ZONE II, US FOOT
4. VERTICAL DATUM: NAVD88, U.S. SURVEY FEET.
5. DESIGN IS BASED ON AVAILABLE LIDAR, NOT A TOPOGRAPHY SURVEY.
6. THE CONTRACTOR SHALL UTILIZE A LICENSED SURVEY TO ESTABLISH AND MAINTAIN HORIZONTAL AND VERTICAL CONTROL ON SITE.

EARTHWORK VOLUMES (CY)		
TOTAL CUT	TOTAL FILL	EXCESS CUT
420	80	340

NOTE: NEAT LINE QUANTITIES - DOES NOT ACCOUNT FOR EXPANSION OR COMPACTION.

Applicable Specifications (CALTRANS)	
72	Slope Protection

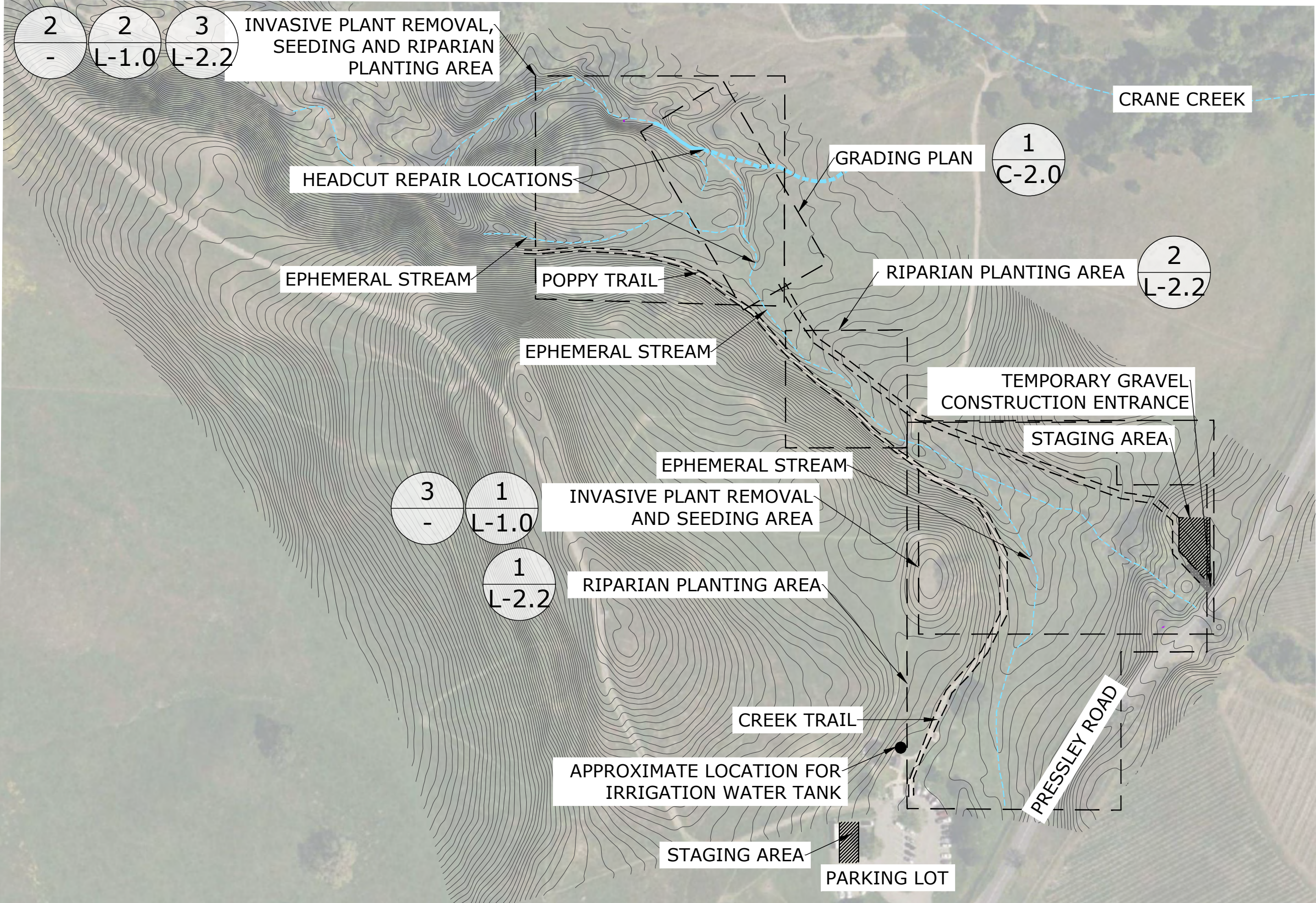
Applicable Specifications (SMART)	
31 11 00	Site Clearing (Clearing and Grubbing)
31 20 00	Earthwork
31 23 19	Dewatering
31 60 00	Soil Erosion, Sediment Control, Topsoiling and Seeding



2

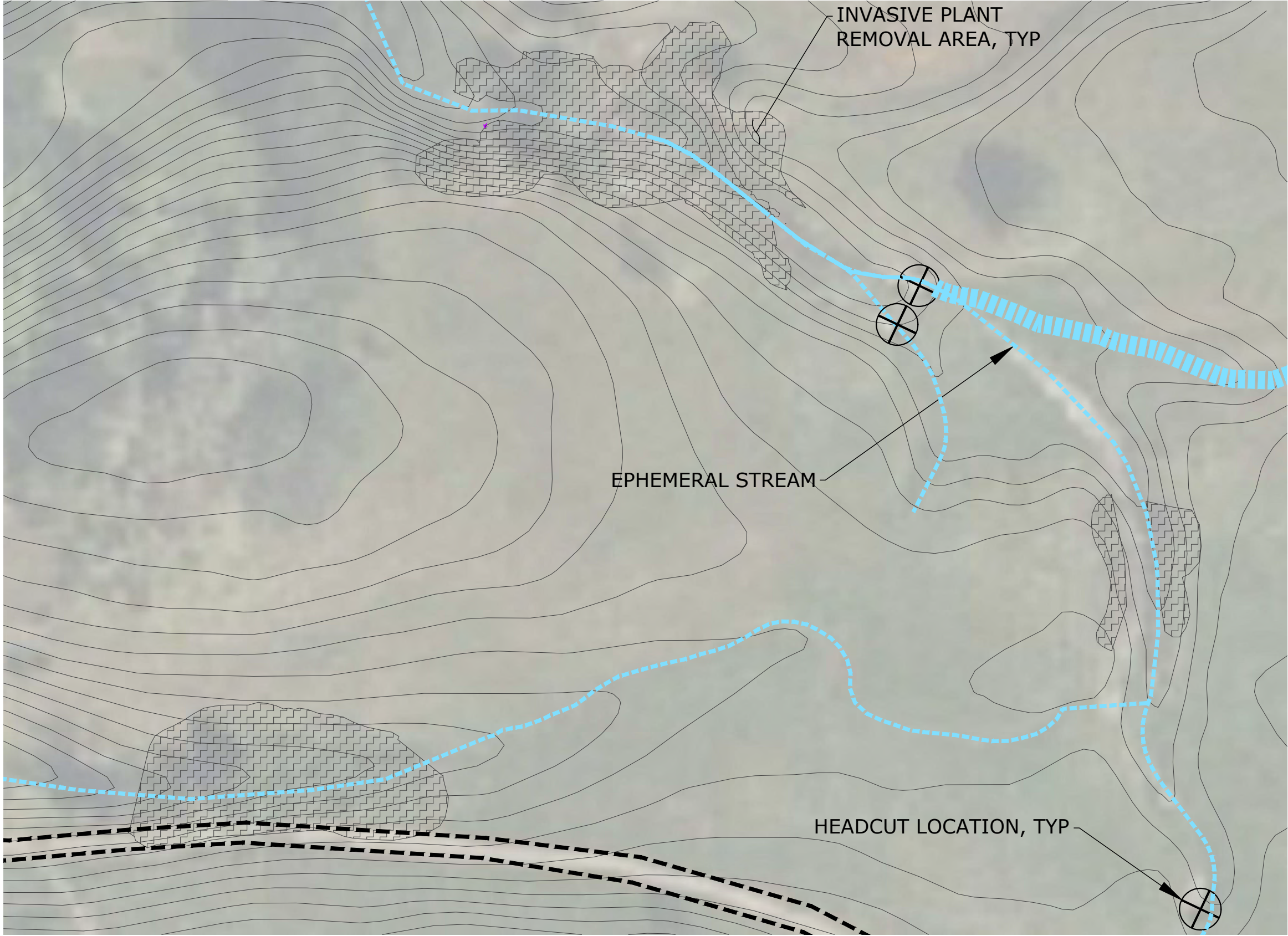
SITE MAP

SCALE: 1"=150'



1 SITE ACCESS AND KEY MAP
SCALE: 1"=150'

0 150
SCALE: 1" = 150'



2 INVASIVE PLANT REMOVAL PLAN
SCALE: 1"=30'

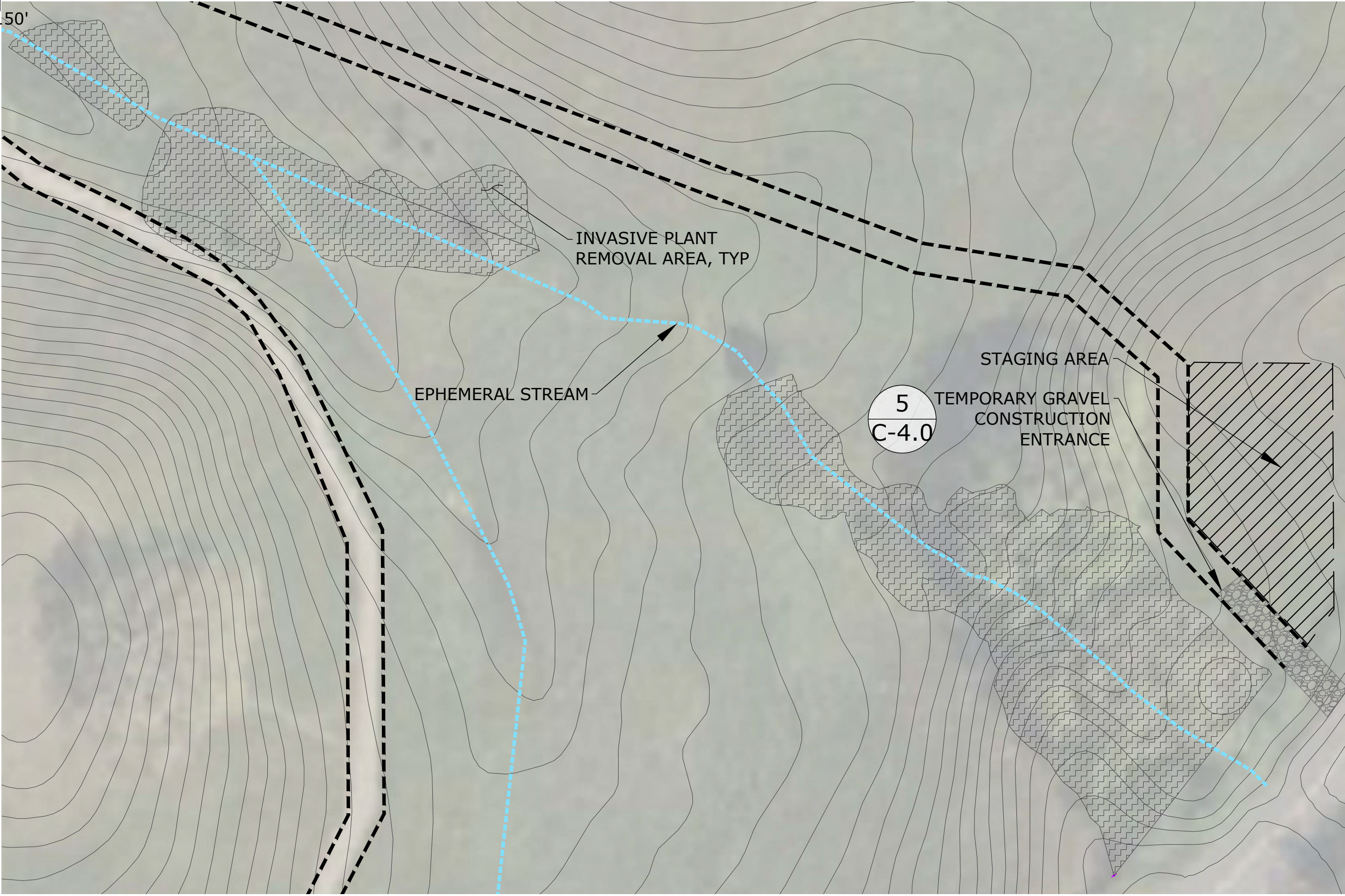
0 30
SCALE: 1" = 30'

LEGEND

- EXISTING CONTOUR
- SITE ACCESS ROUTE
- INVASIVE PLANT REMOVAL AREA (0.51 ACRE)
- HEADCUT LOCATIONS
- EXISTING STREAM ALIGNMENT

POPPY DRAINAGE SITE PREPARATION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL SENSITIVE HABITATS AS REQUIRED. ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED AROUND WORK AREAS AS NEEDED.
- THE CONTRACTOR SHALL SUBMIT A SITE CLEARING PLAN PER THE SPECIFICATIONS FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO COMMENCING WORK.
- THE CONTRACTOR SHALL LAY OUT CONSTRUCTION ENTRANCES/EXITS, HAUL ROUTES, STAGING AREAS, AND CONSTRUCTION FENCE FOR APPROVAL PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
- INVASIVE NON-NATIVE HIMALAYAN BLACKBERRY AND FULLER'S TEASEL SHALL BE REMOVED PRIOR TO IRRIGATION AND PLANT INSTALLATION.
 - THE CONTRACTOR SHALL SUBMIT A NON-NATIVE PLANT REMOVAL PLAN, INCLUDING METHODS FOR HIMALAYAN BLACKBERRY AND FULLER'S TEASEL REMOVAL, TO SMART'S PROJECT MANAGER FOR APPROVAL.
 - HIMALAYAN BLACKBERRY (*RUBUS ARMENIACUS*) AND FULLER'S TEASEL (*DIPSACUS FULLONUM*) REMOVAL SHALL BE DONE BY MECHANICAL METHODS SUCH AS CUTTING.
 - HERBICIDE APPLICATION SHALL ADHERE TO THE SONOMA COUNTY REGIONAL PARKS INTEGRATED PEST MANAGEMENT PLAN AND APPLICABLE GUIDANCE FROM THE SONOMA COUNTY BOARD OF SUPERVISORS, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, AND THE REGIONAL WATER QUALITY CONTROL BOARD THE INVASIVE PLANT REMOVAL PLAN SHALL INCLUDE THE RELEVANT GUIDELINES AND BEST MANAGEMENT PRACTICES FROM THESE ENTITIES.
 - BIOMASS DEBRIS FROM THE INVASIVE NON-NATIVE PLANT REMOVAL ACTIVITIES SHALL BE REMOVED AND PROPERLY DISPOSED OF AT A GREEN WASTE FACILITY.
- CONTRACTOR SHALL MOW AND/OR TRIM EXISTING GRASSES IN AREAS OUTSIDE LIMIT OF GRADE PRIOR TO PLANT INSTALLATION.
- CONTRACTOR SHALL CUT FENCE AND REMOVE ONE FENCE POST ALONG PRESSLEY ROAD AT LOCATION IDENTIFIED BY SMART'S PROJECT MANAGER AND INSTALL A TEMPORARY GATE FOR SITE ACCESS. THE STAGING AND SITE ACCESS ROUTE LOCATED HERE SHALL BE USED FOR HEAVY EQUIPMENT AND VEHICLE TRAFFIC FOR ACCESSING PROJECT LOCATIONS WHICH REQUIRE GRADING AND EARTHWORK.
- THERE SHALL BE NO VEHICULAR SITE ACCESS FROM PARKING LOT, ATVS ARE ALLOWED ON EXISTING TRAILS DURING DRY CONDITIONS ONLY.
- TEMPORARY CHAINLINK FENCES WITH GATES SHALL BE INSTALLED AROUND STAGING AREAS.
- EXACT LOCATION OF THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WILL BE DETERMINED BY SMART'S PROJECT MANAGER BASED ON SITE CONDITIONS.



3 INVASIVE PLANT REMOVAL PLAN
SCALE: 1"=30'

0 30
SCALE: 1" = 30'



2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

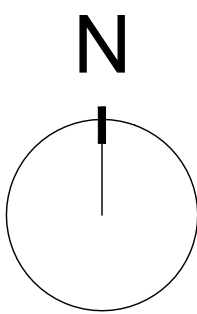
**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

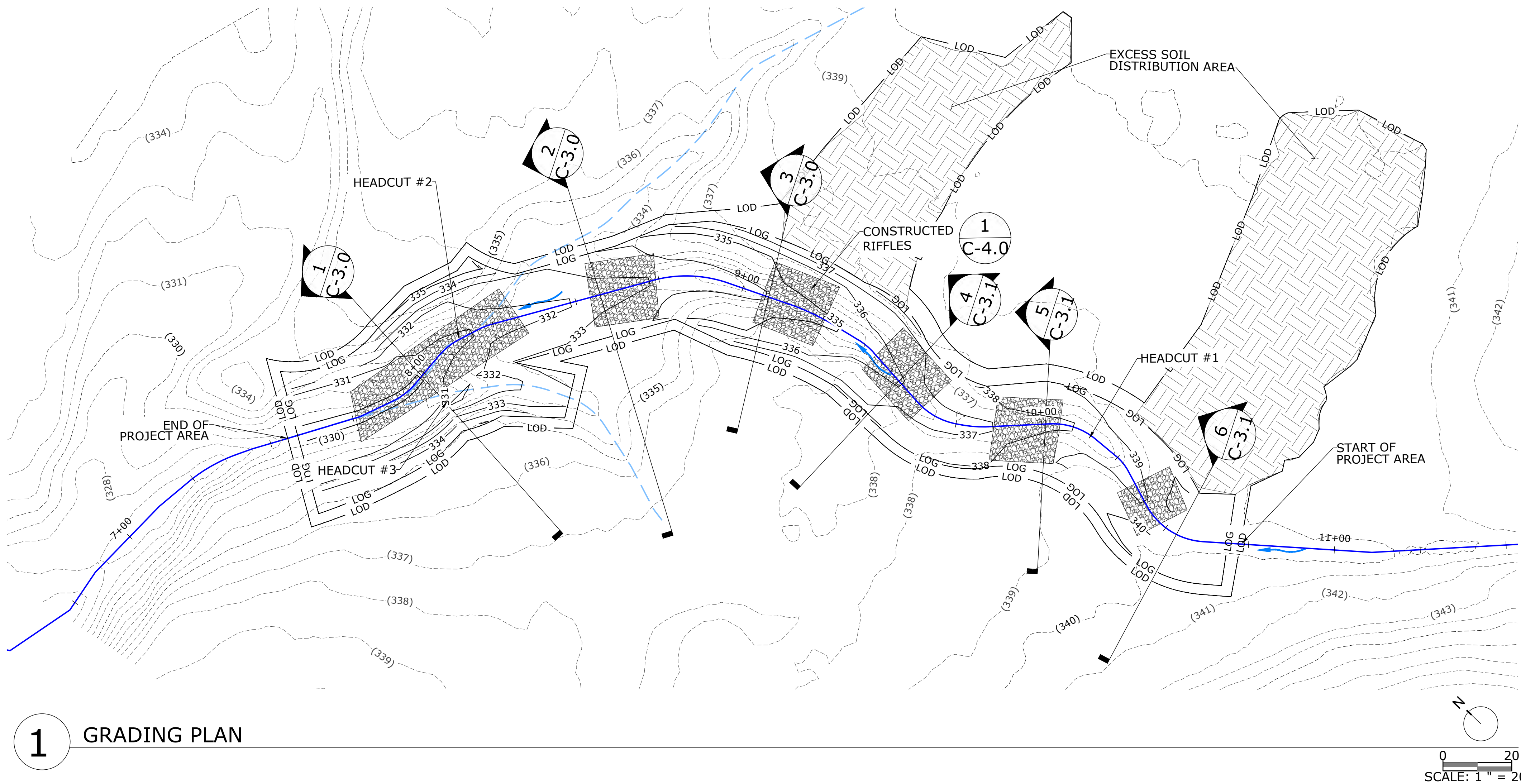
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CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34



**SITE PREPARATION &
ACCESS PLAN**

Sheet 2 of 14

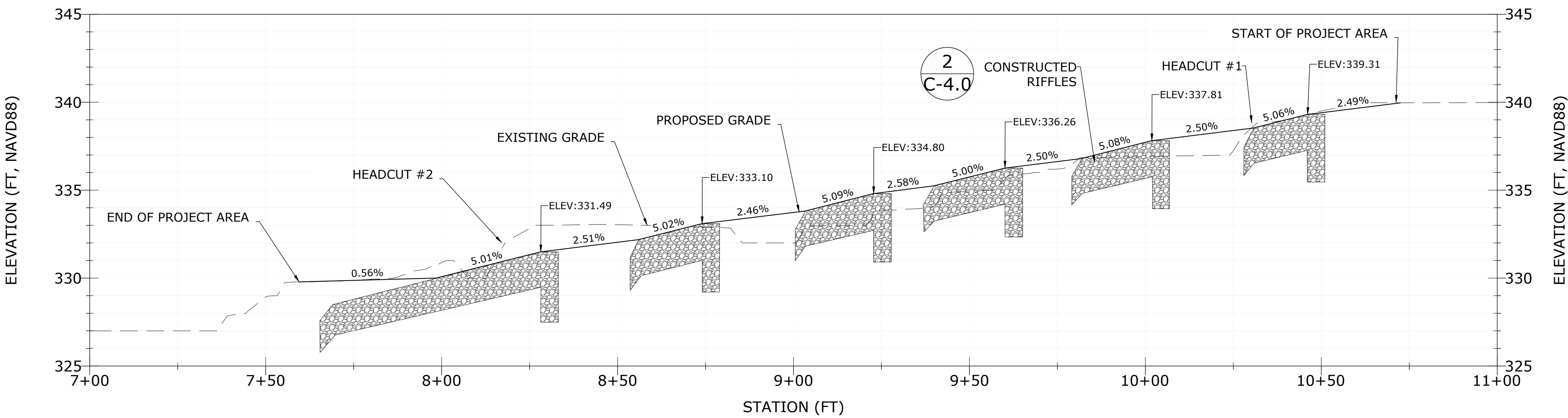
C-1.1



GRADING PLAN LEGEND	
SYMBOL	DESCRIPTION
— LOD —	LIMIT OF DISTURBANCE
— LOG —	LIMIT OF GRADING
---(1)---	EXISTING CONTOURS
— 1 —	PROPOSED CONTOURS
— 10+00 —	CHANNEL ALIGNMENT
→	FLOW DIRECTION
[Pattern]	CONSTRUCTED RIFFLE
[Pattern]	EXCESS SOIL DISTRIBUTION AREA

- GRADING NOTES:**
1. CONTOURS SHOWN IN 1' INTERVALS.
 2. THE GRADING PLANS INDICATE FINISHED GRADE ELEVATIONS. ELEVATIONS GIVEN IN NAVD88.
 3. NATIVE EXCESS SOIL WILL BE FIELD FIT AS DIRECTED BY THE SMART PROJECT MANGER.
 4. NATIVE EXCESS SOIL SHALL BE SPREAD THINLY SUCH THAT IT IS NOT GREATER THAN 6 INCHES DEEP IN ANY ONE LOCATION.
 5. EXISTING CONTOURS WITHIN THE ACTIVE CHANNEL, TREE AND BRUSH AREAS MAY NOT MEET 1 FOOT ACCURACY AND SHOULD BE CONSIDERED APPROXIMATE. ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE PLANS SHALL BE MADE CLEAR TO THE SMART PROJECT MANAGER PRIOR TO COMMENCING WORK.
 6. FOR ROCK GRADATION, SEE SPECIFICATION SECTION 72 SLOPE PROTECTION SPECIAL PROVISIONS.

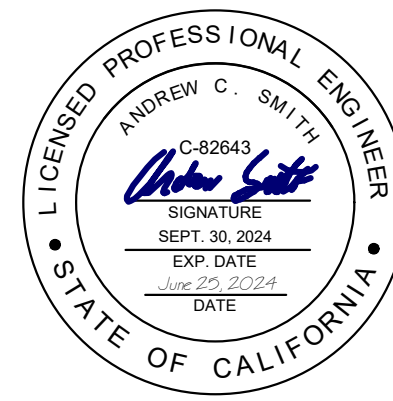
1 GRADING PLAN



2 PROFILE VIEW

**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**
SONOMA COUNTY, CALIFORNIA



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C-2.0



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(415) 454-0129 Fax

**SMART
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**CRANE CREEK
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SONOMA COUNTY, CALIFORNIA



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CHANNEL SECTIONS

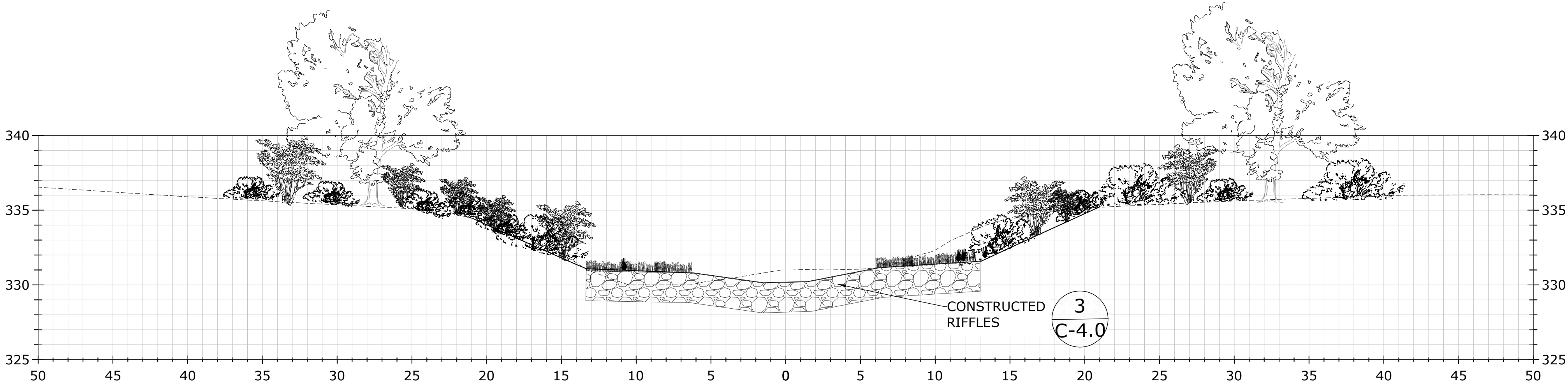
Sheet 4 of 14

C-3.0

SECTION LEGEND

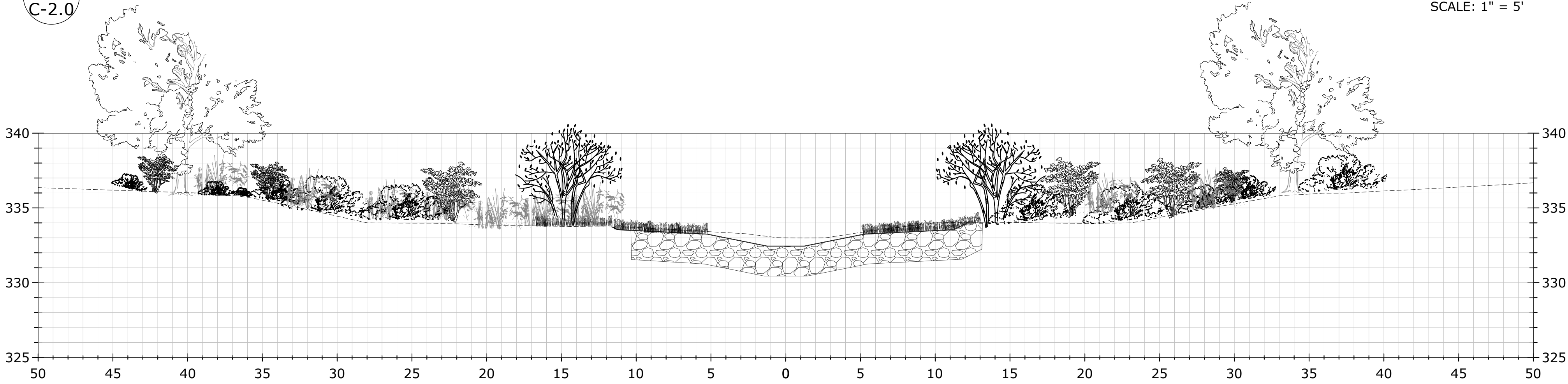
SYMBOL	DESCRIPTION
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	EXISTING GRADE
	PROPOSED GRADE
	PROPOSED ROCK



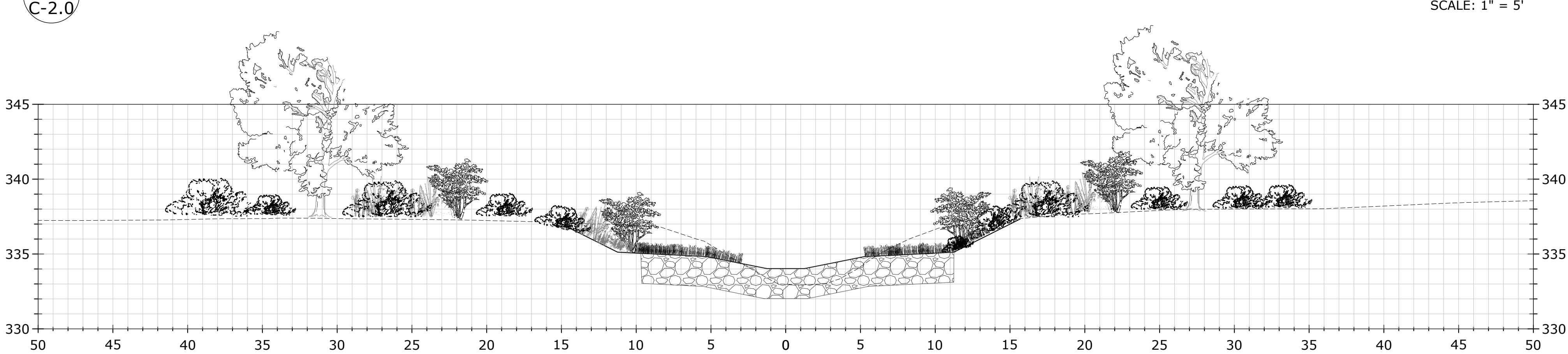
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C-2.0

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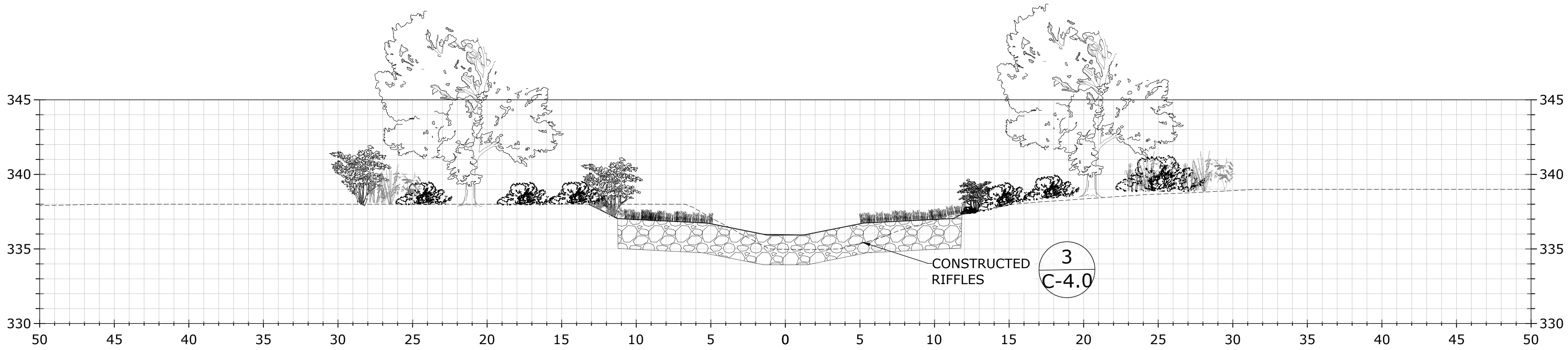
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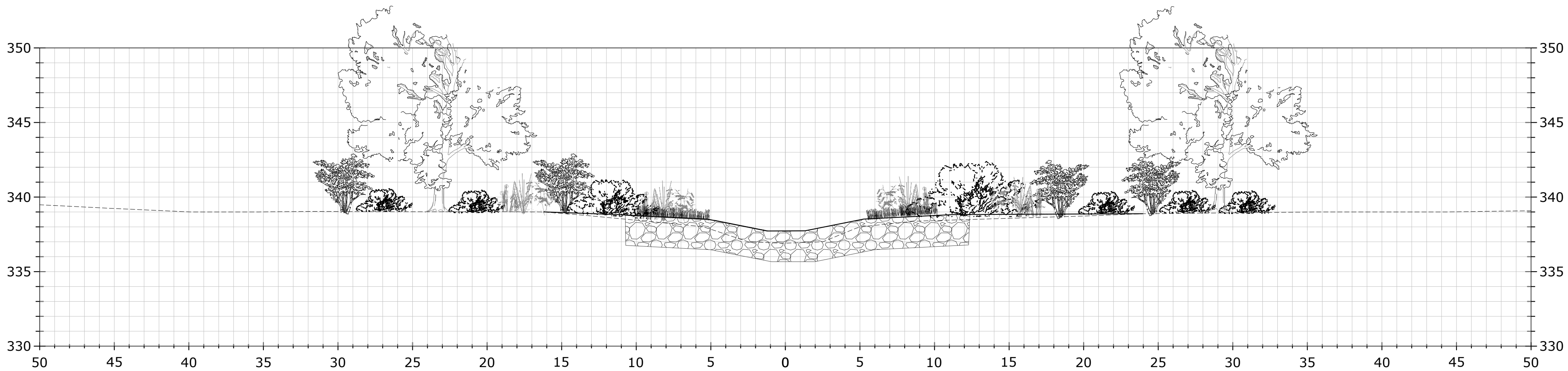
3 STATION 9+10
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SCALE: 1" = 5'



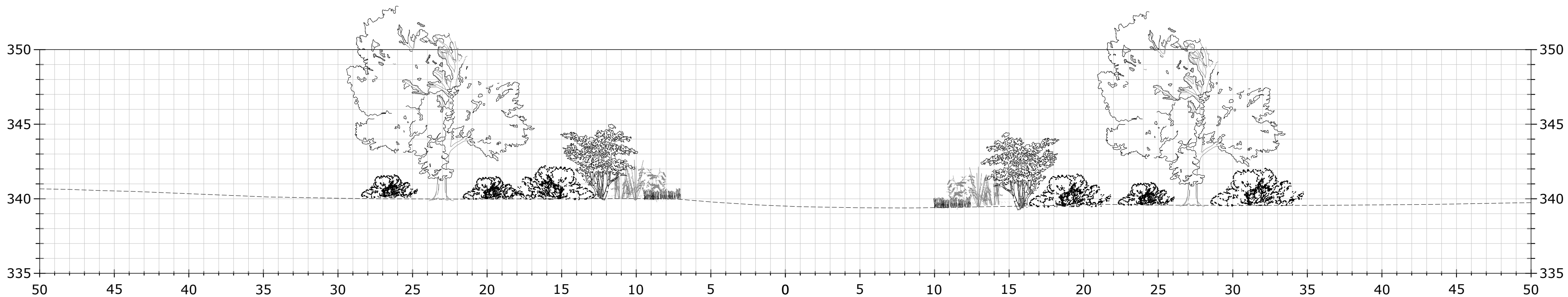
4 STATION 9+50
C-2.0

SCALE: 1" = 5'



5 STATION 10+00
C-2.0

SCALE: 1" = 5'



6 STATION 10+50
C-2.0

SCALE: 1" = 5'

SECTION LEGEND	
SYMBOL	DESCRIPTION
	EXISTING GRADE
	PROPOSED GRADE
	PROPOSED ROCK

**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



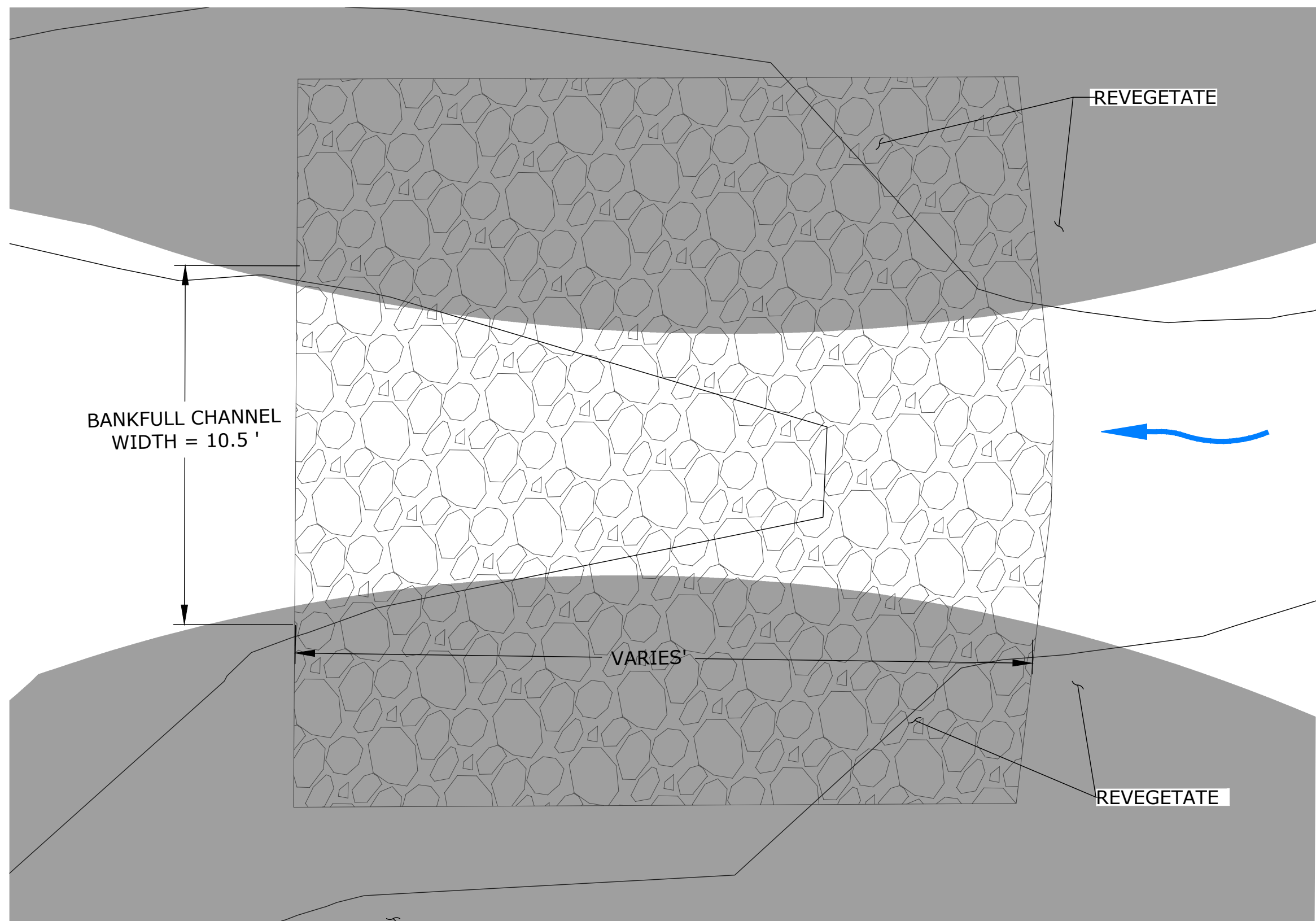
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CHECKED BY: ICM, AJS
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**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

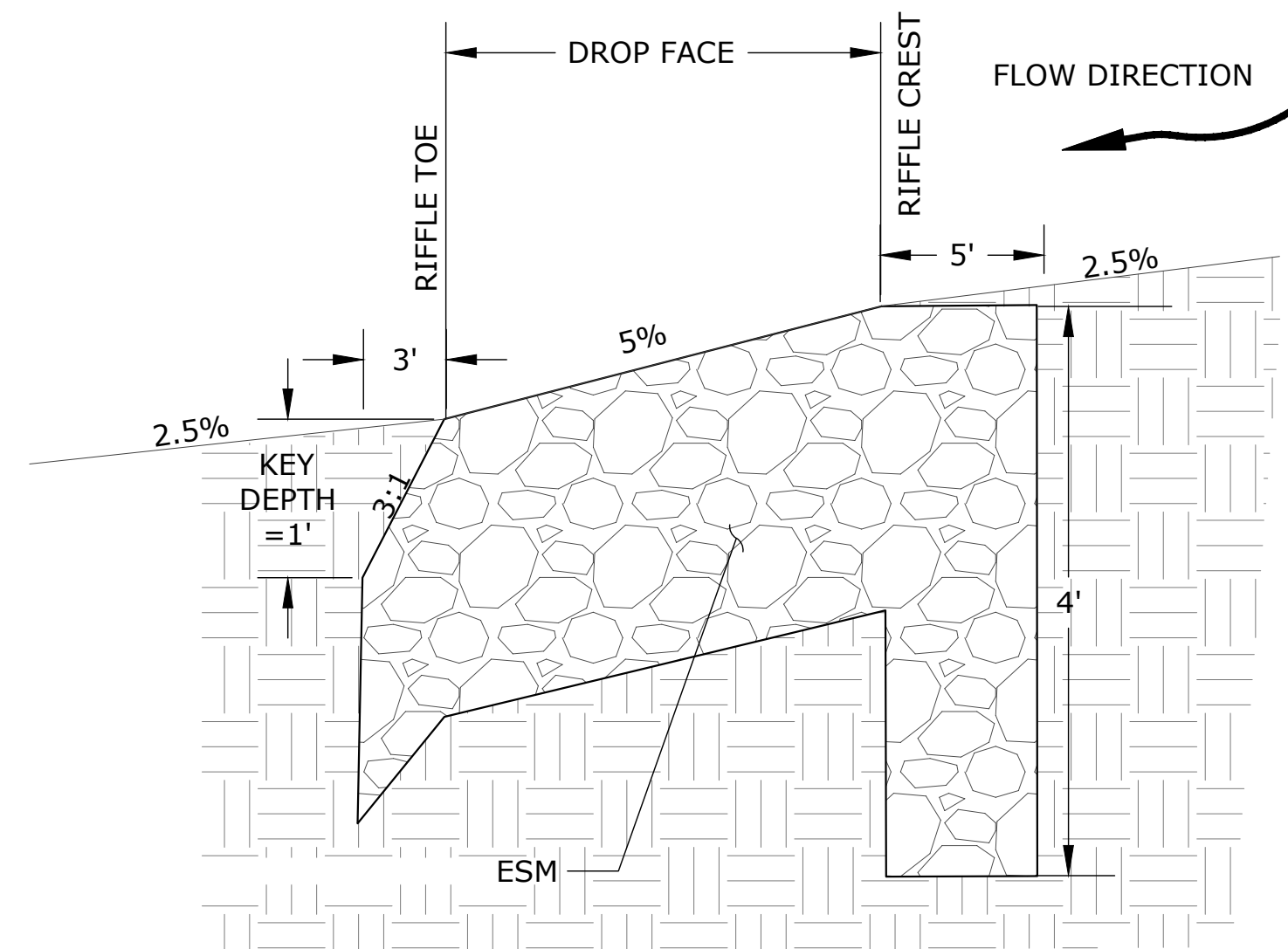
**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



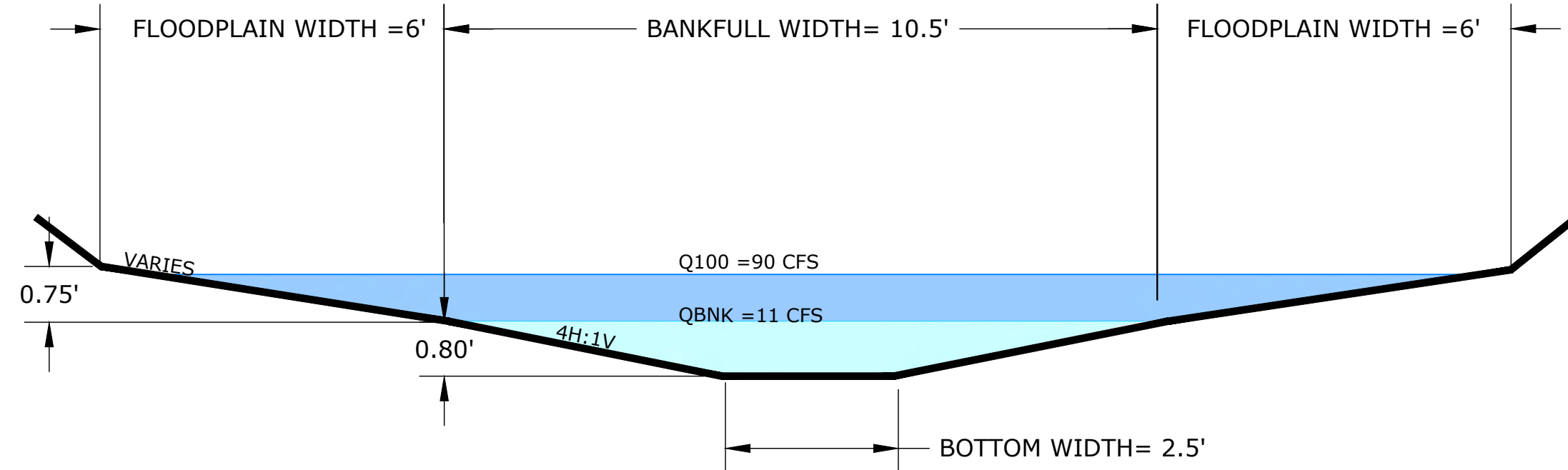
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NOT TO SCALE



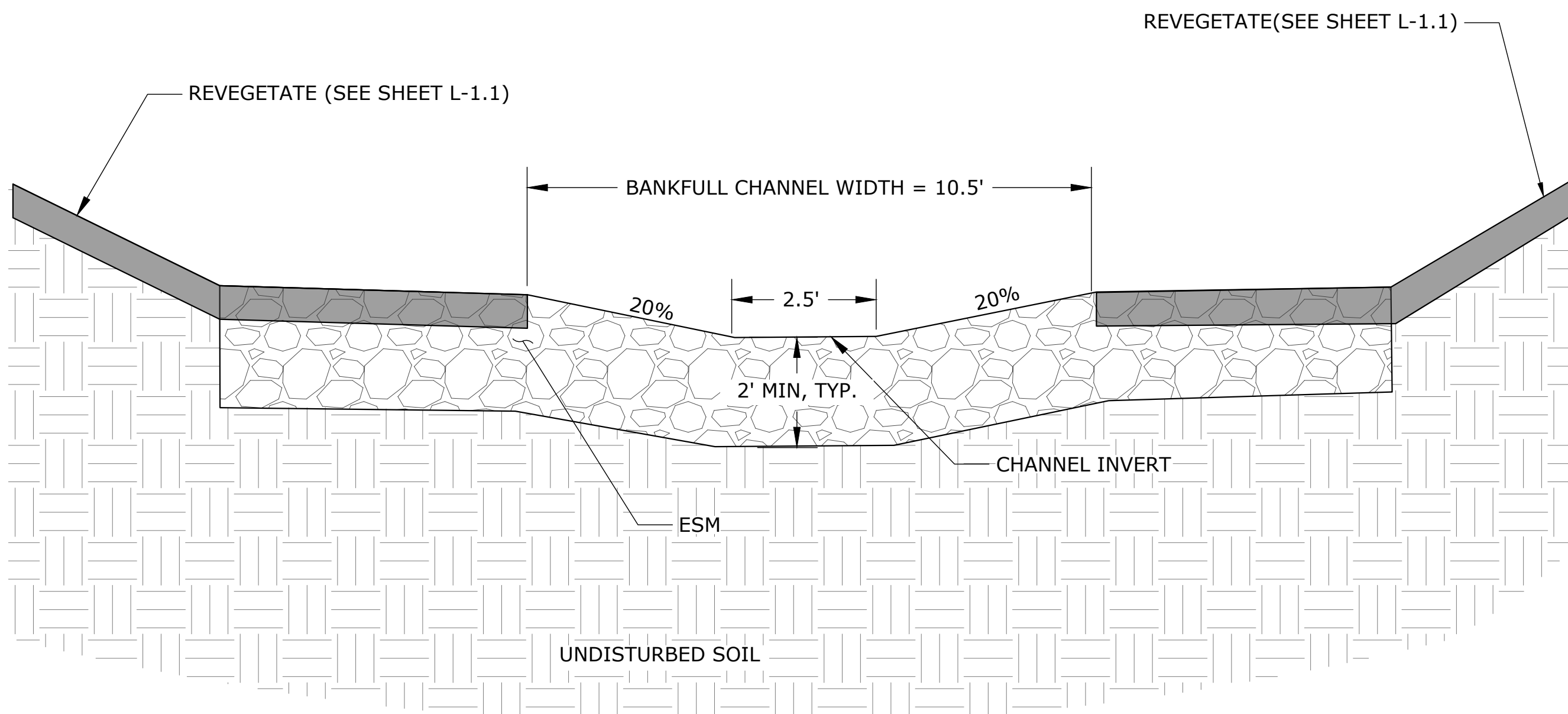
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C-2.0

NOT TO SCALE



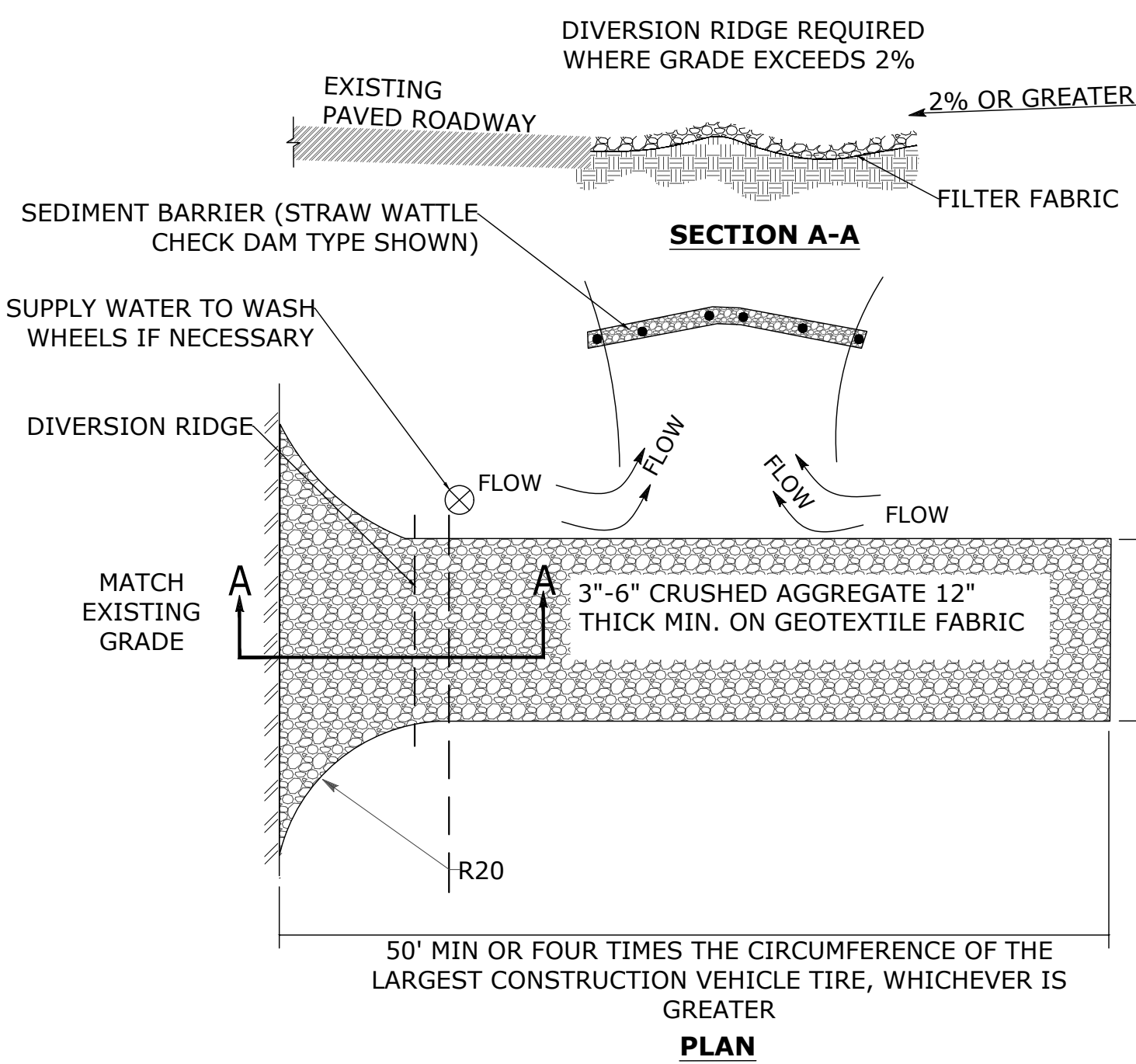
4 TYPICAL CHANNEL SECTION FOR SLOPE OF 2.5%
C-2.0

NOT TO SCALE



3 CONSTRUCTED RIFFLE - TYPICAL SECTION
C-3.0

NOT TO SCALE



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

12' MIN OR AS REQUIRED TO ACCOMMODATE ANTICIPATED TRAFFIC, WHICHEVER IS GREATER

06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
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ORIGINAL DRAWING SIZE: 22 X 34

STABILIZATION DETAILS

Sheet 6 of 14

C-4.0

5 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
C-1.1

NOT TO SCALE

**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

SCALE: AS INDICATED

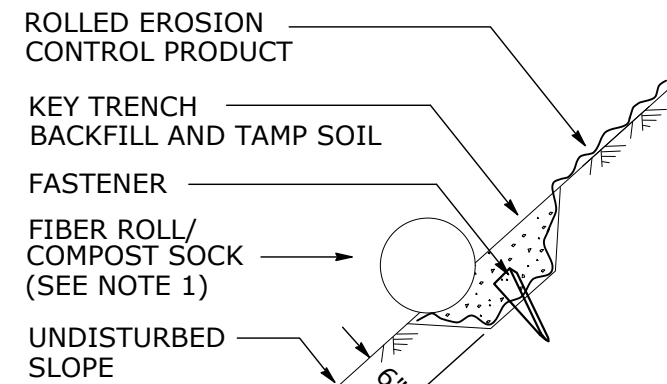
**EROSION CONTROL
DETAILS**

Sheet 7 of 14

EC-1.0

NOTES:

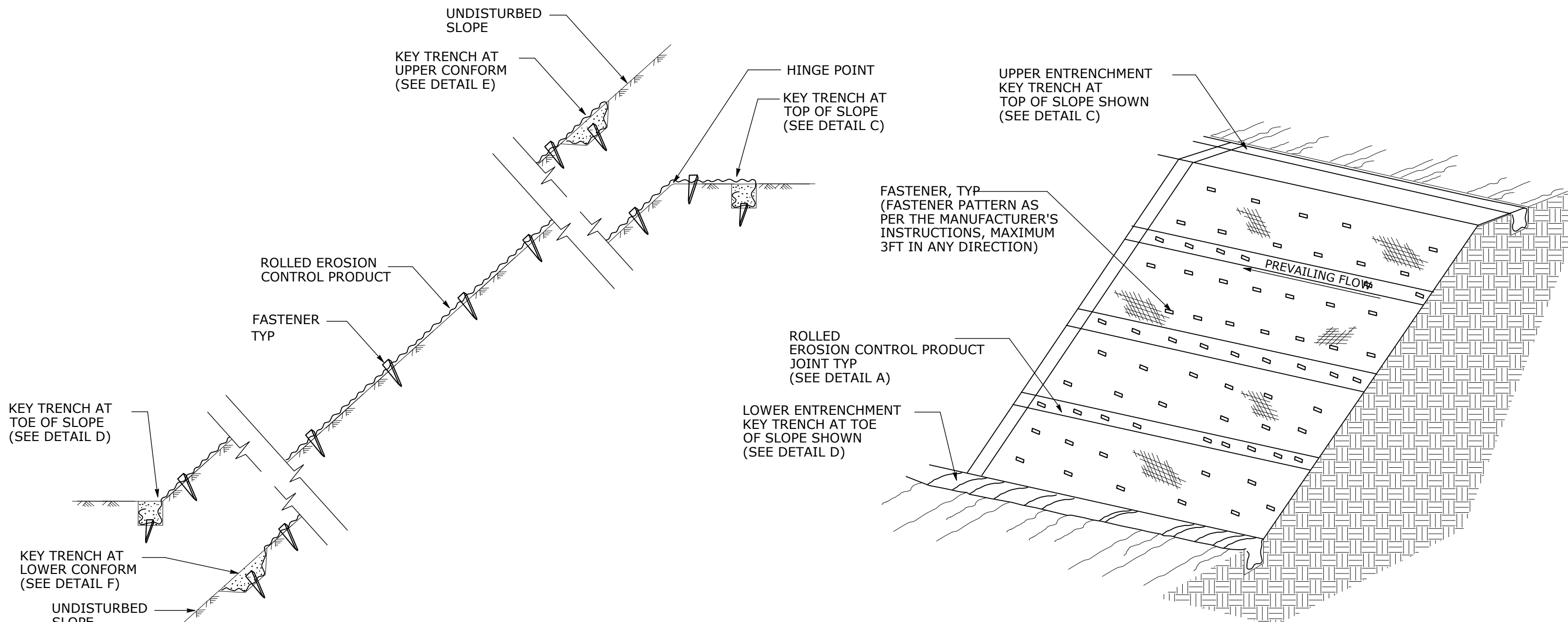
1. TRENCHED FIBER ROLL/COMPOST SOCK SHOWN FOR REFERENCE PURPOSES ONLY.
2. IF TRANSVERSE ROLLED EROSION CONTROL PRODUCT JOINTS ARE REQUIRED ON SLOPES, SEE DETAIL B.
3. EROSION CONTROL FABRIC AND FIBER ROLLS SHALL BE COMPOSED OF BIODEGRADABLE MATERIALS. SEE SMART SPECIFICATIONS 31 60 00.
4. EROSION CONTROL FABRIC SHALL BE PLACED WITHIN BANKFULL CHANNEL WIDTH. SEE SHEET C-4.0 FOR BANKFULL WIDTH.
5. EROSION CONTROL FABRIC STAKES SHALL BE WOOD OR OTHER BIODEGRADABLE MATERIAL APPROVED BY SMART'S PROJECT MANAGER.
6. FABRIC SHALL NOT BE CUT TO INSTALL STAKES.



SECTION

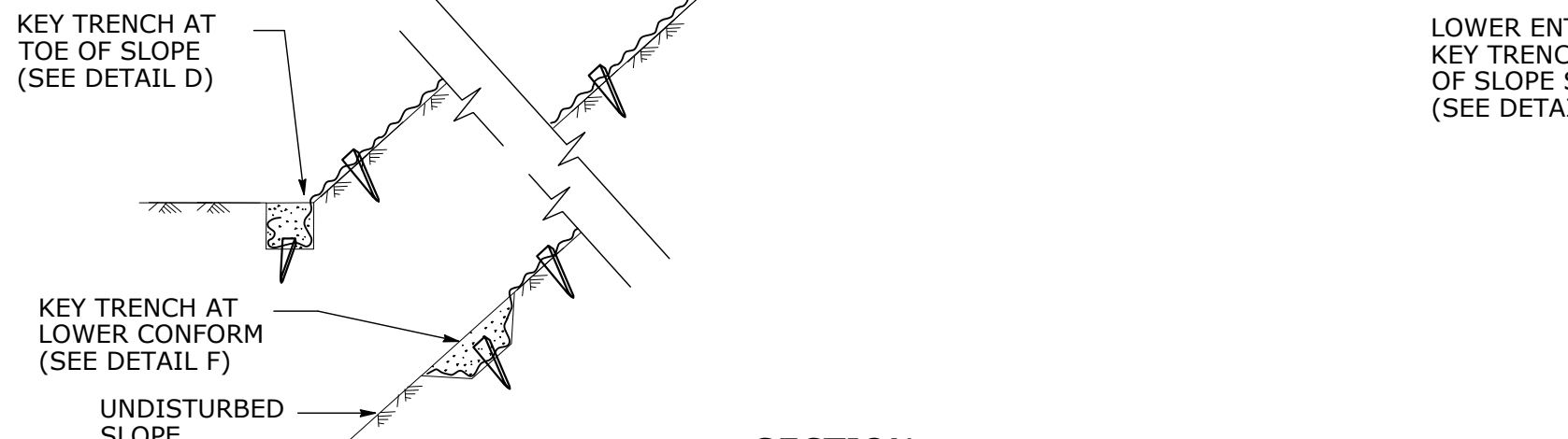
DETAIL F

KEY TRENCH AT
LOWER CONFORM



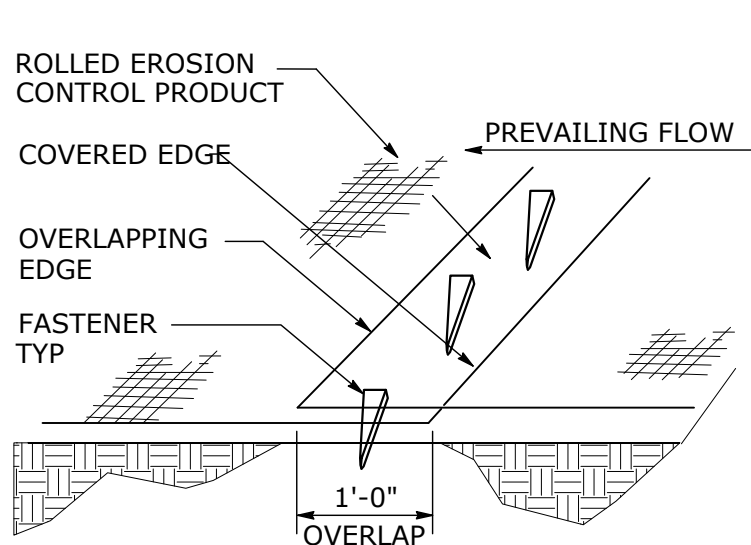
ISOMETRIC

ROLLED EROSION CONTROL PRODUCT
ON SLOPE



SECTION

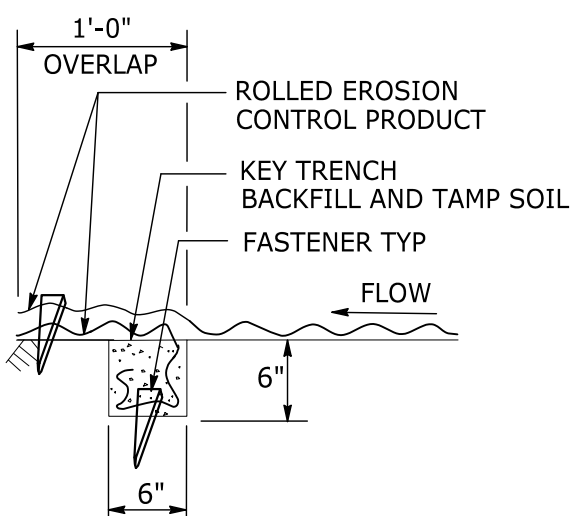
ROLLED EROSION CONTROL PRODUCT
ON SLOPE WITH VARIOUS KEY ENTRENCHMENTS



PERSPECTIVE

DETAIL A

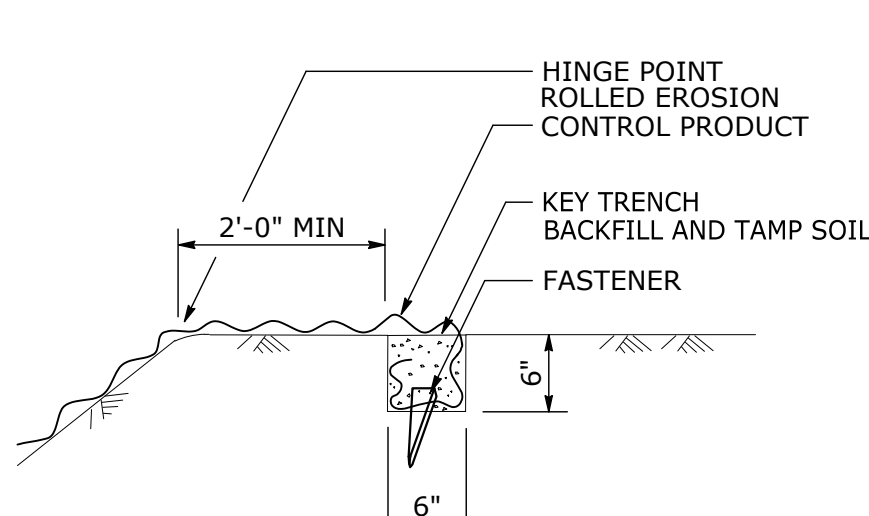
LONGITUDINAL ROLLED EROSION
CONTROL PRODUCT JOINT



SECTION

DETAIL B

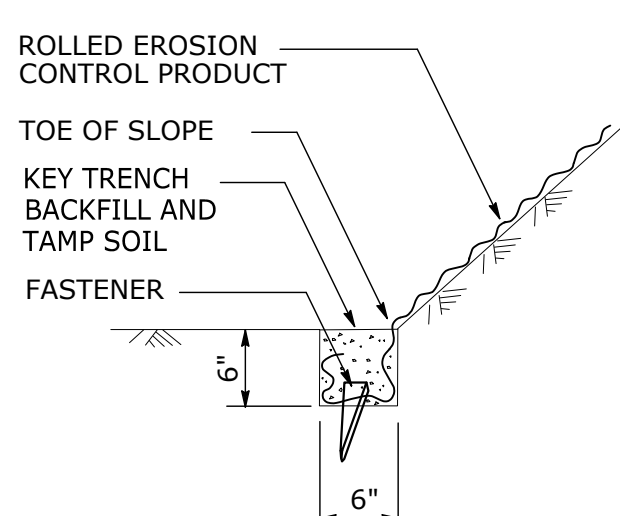
TRANSVERSE ROLLED EROSION
CONTROL PRODUCT JOINT



SECTION

DETAIL C

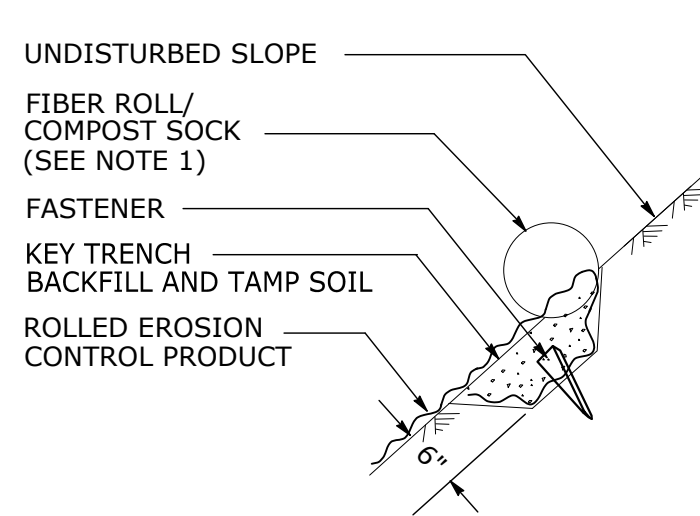
KEY TRENCH AT
TOP OF SLOPE



SECTION

DETAIL D

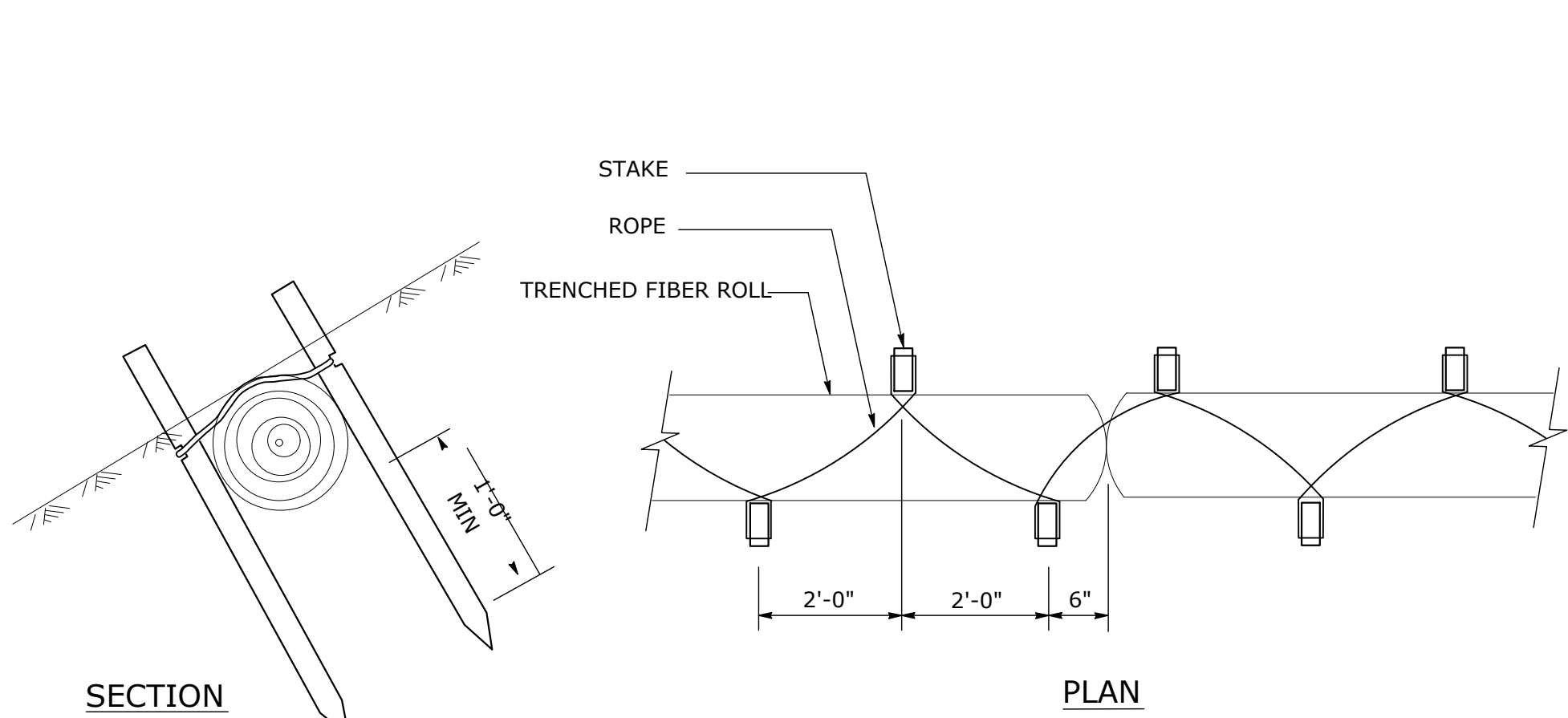
KEY TRENCH AT
TOE OF SLOPE



SECTION

DETAIL E

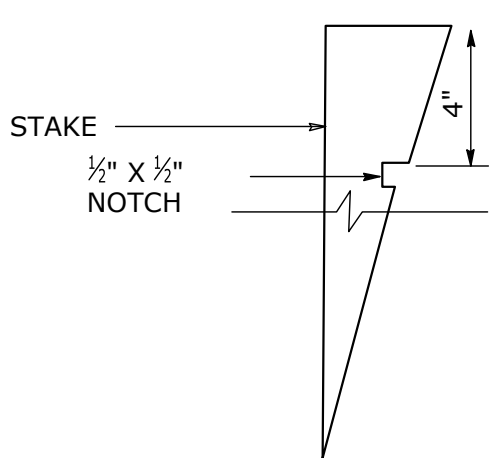
KEY TRENCH AT
UPPER CONFORM



SECTION

ENTRENCHED FIBER ROLL
(TYPE 2)

PLAN

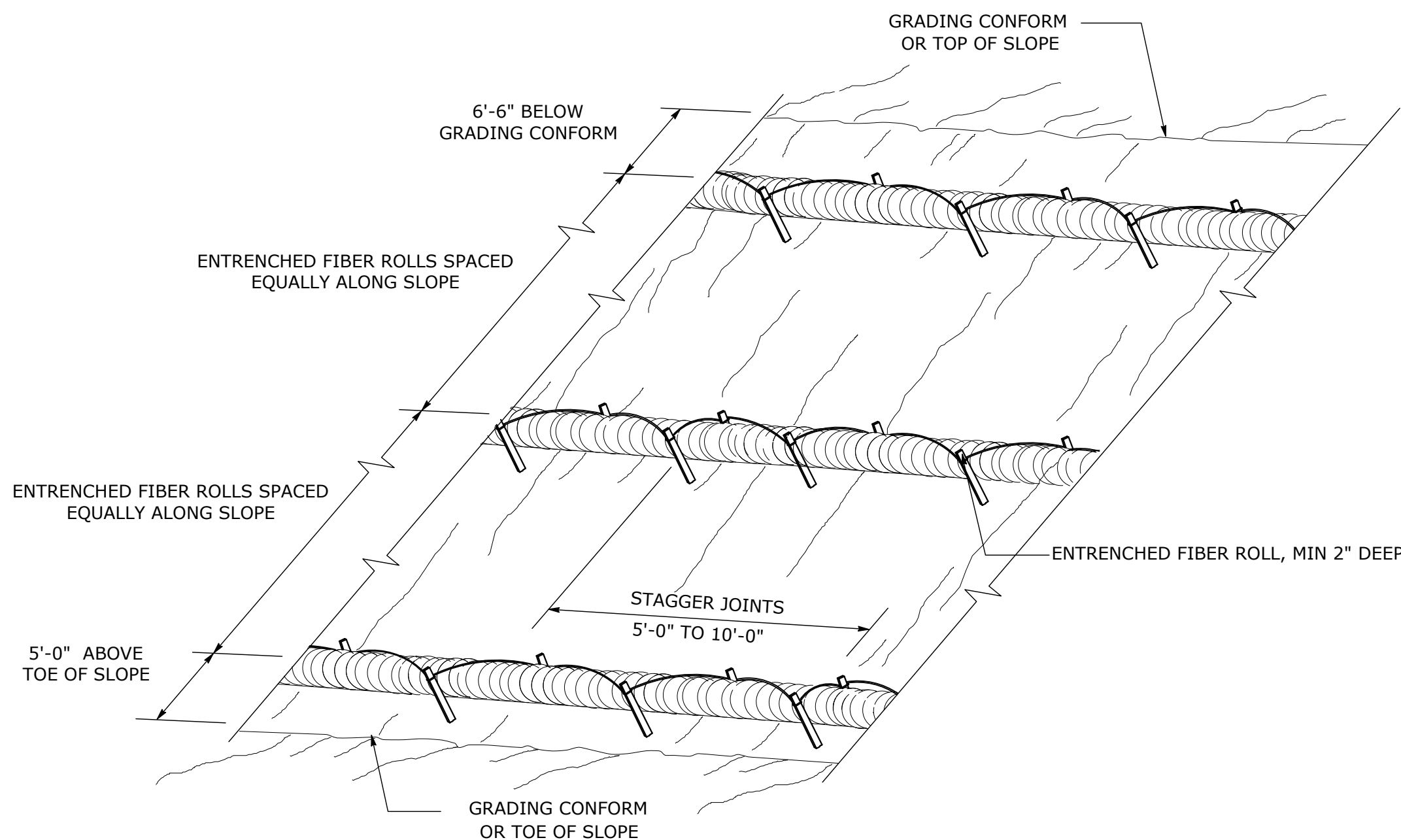


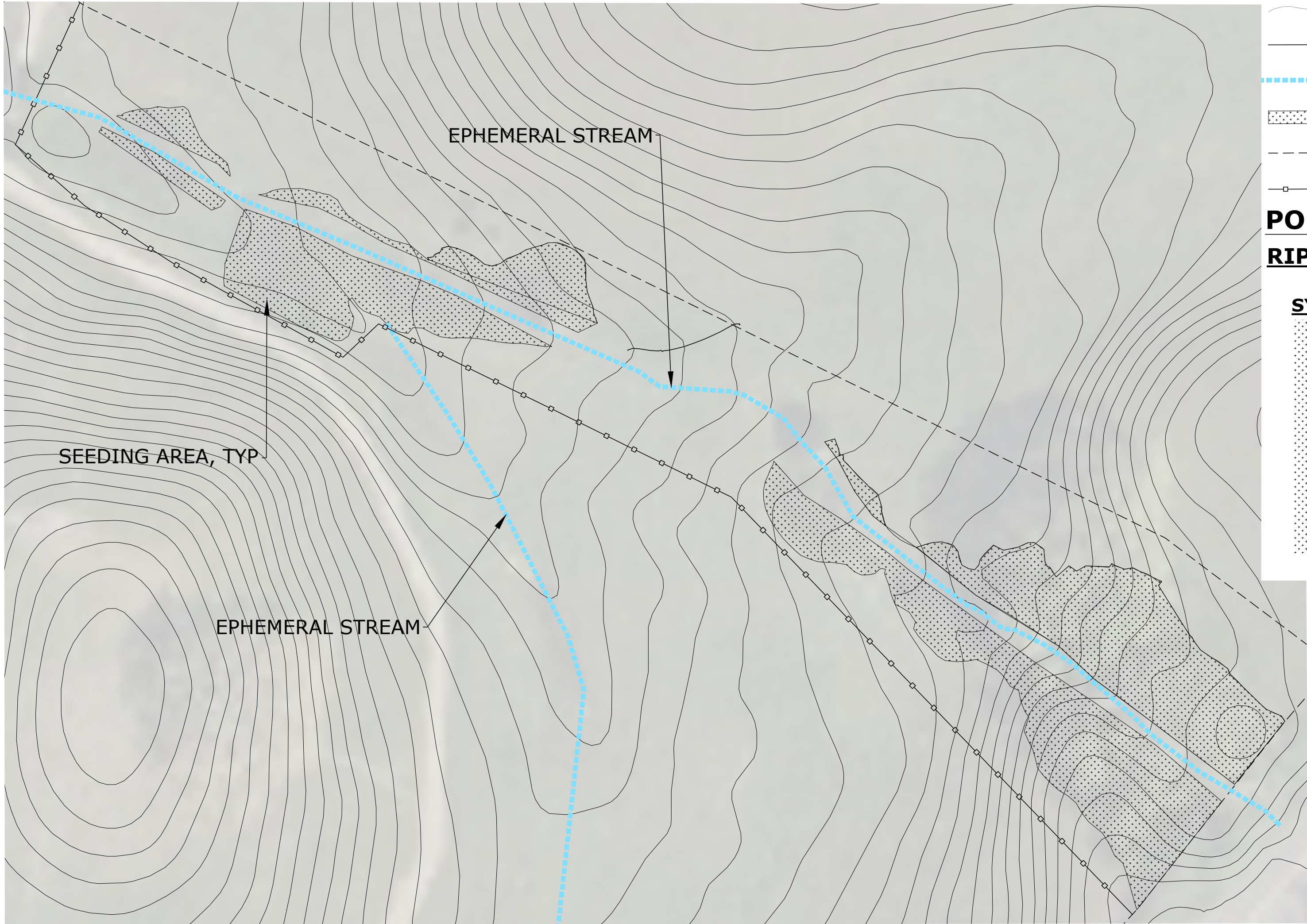
ELEVATION

STAKE NOTCH DETAIL

NOTES:

1. FIBER ROLL SPACING VARIES DEPENDING UPON SLOPE INCLINATION.
2. INSTALLATIONS SHOWN IN THE PERSPECTIVES ARE FOR SLOPE INCLINATION OF 10:1 AND STEEPER.





1 SEEDING PLAN - UPPER POPPY DRAINAGE
SCALE: 1"=30'

SEEDING NOTES

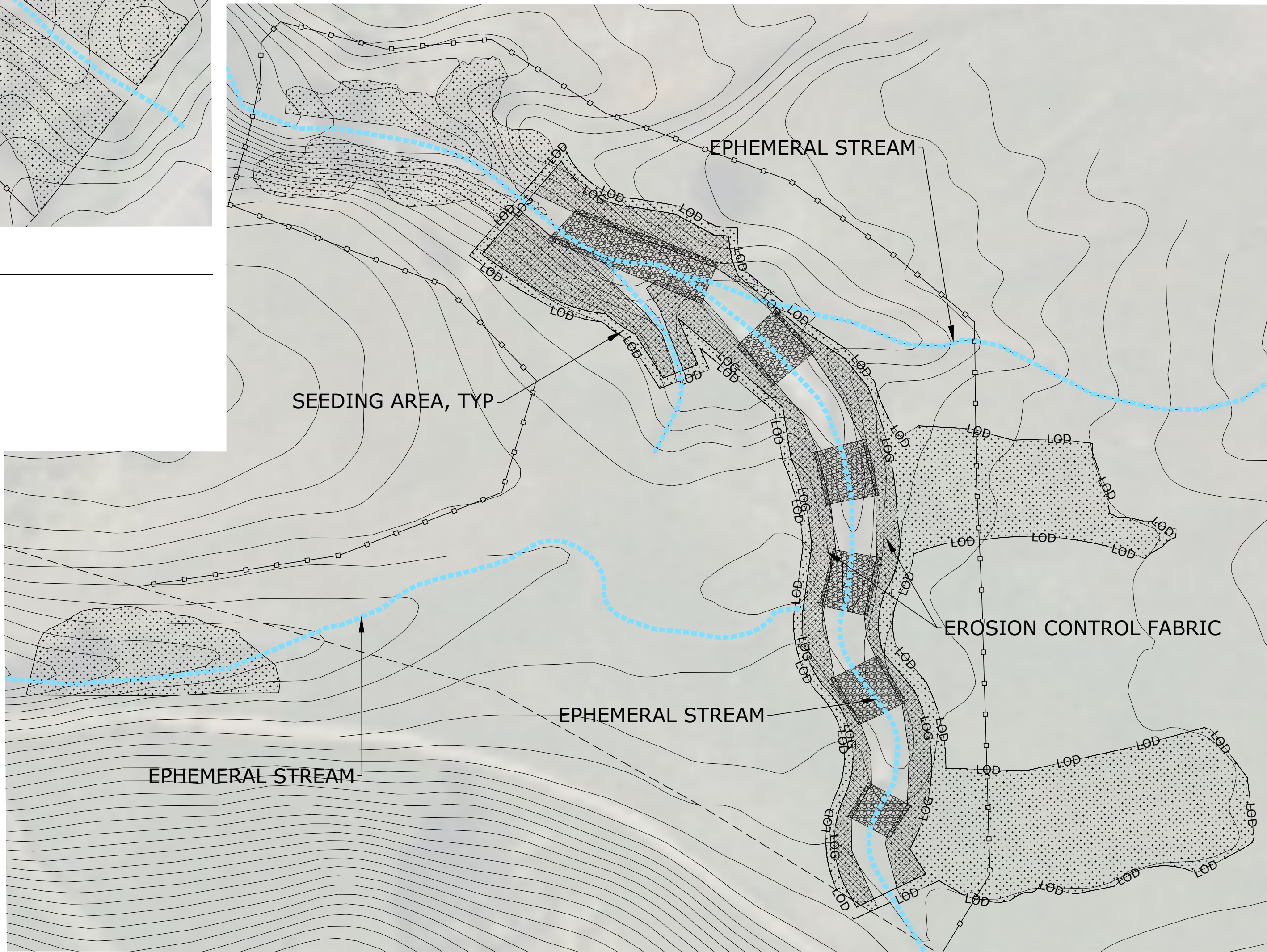
- SEED PROCUREMENT: SEED SHALL BE PROVIDED BY THE CONTRACTOR ON THE BASIS OF PURE LIVE SEED (PLS). THE SEED TAGS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO APPLICATION.
- SEEDING SCHEDULE: SEEDING SHALL OCCUR BETWEEN SEPTEMBER 15TH AND OCTOBER 15TH UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER.
- SEEDING SHALL OCCUR PRIOR TO EROSION CONTROL FABRIC INSTALLATION.
- SEEDING AREAS SHALL BE MARKED PRIOR TO SEED APPLICATION AND APPROVED BY SMART'S PROJECT MANAGER. SEEDING SHALL OCCUR IN AREAS OF GROUND DISTURBANCE, INCLUDING INVASIVE PLANT REMOVAL AREAS, WITHIN THE LIMIT OF DISTURBANCE, AND OTHER DISTURBED AREAS ASSOCIATED WITH STAGING, SITE ACCESS, AND CONSTRUCTION ACTIVITIES.
- SOIL WILL BE PREPARED FOR SEED INSTALLATION BY HAND RAKING OR DISKING.
- THE SEED MIXES SHALL BE MANUALLY BROADCASTED.
- THE BROADCAST SEED MIX SHALL INCLUDE THE FOLLOWING COMPONENTS:
 - SEED
 - STRAW: STRAW SHALL BE 100% RICE STRAW.
 - SAND: SAND SHALL BE FINE (0.1 - 0.25 MILLIMETER DIAMETER), MEDIUM (0.25 - 0.5 MILLIMETER DIAMETER), OR COARSE (0.5 - 1.0 MILLIMETER DIAMETER) CLASS SAND, AS SPECIFIED. THE SAND SHALL CONTAIN NO GERMINATION, GROWTH-INHIBITING PROPERTIES, OR ELEMENTS OR COMPOUNDS AT CONCENTRATIONS THAT WILL BE PHYTOTOXIC.
 - THE CONTRACTOR SHALL PROVIDE SUBMITTALS OF THE COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL.
- BROADCAST SEEDING SHALL OCCUR AS FOLLOWS:
 - RAKING OR TILLING: AREAS DESIGNATED BY SMART'S PROJECT MANAGER SHALL BE RAKED OR TILLED TO A MINIMUM DEPTH OF FOUR (4) INCHES.
 - INERT MATERIALS: AFTER RECEIVING APPROVAL FOR THE SEED, THE SEED SHALL BE THOROUGHLY AND COMPLETELY BLENDED WITH INERT MATERIAL. THE MIXING OF THE SEED MIX WITH INERT MATERIAL SHALL BE BY VOLUME AS SPECIFIED: ONE PART SEED MIX / THREE PARTS MEDIUM SAND.
 - THE SEED/INERT MATERIAL MIXTURE SHALL BE UNIFORMLY AND EVENLY BROADCAST OVER THE DESIGNATED AREAS. BROADCASTING MAY BE DONE BY HAND-HELD SPREADER, GRAVITY DROP SEEDER, CYCLONE SPREADER, OR ANOTHER TYPE OF EQUIPMENT OR METHOD, AS APPROVED BY SMART'S PROJECT MANAGER.
 - THE SEED SHALL BE INCORPORATED INTO THE SOIL TO A MINIMUM DEPTH OF ONE-QUARTER (1/4) INCH AND A MAXIMUM DEPTH OF ONE-HALF (1/2) INCH. THE INCORPORATION MAY OCCUR BY HAND-RAKING OR THE USE OF A CHAIN HARROW OR TINE HARROW, SUBJECT TO APPROVAL BY SMART'S PROJECT MANAGER.
 - STRAW: FOLLOWING SEEDING, RICE STRAW SHALL BE APPLIED TO ALL AREAS OF NATIVE SOIL THAT WERE SEEDED UNLESS OTHERWISE DIRECTED BY SMART'S PROJECT MANAGER. STRAW SHALL BE APPLIED AT A RATE OF 3,000 POUNDS PER ACRE.

LEGEND

- EXISTING CONTOUR
- PROPOSED GRADE
- EPHEMERAL STREAM
- SEEDING AREA
- EXISTING FENCE
- TEMPORARY ELECTRIC FENCE (BY OTHERS)
- EROSION CONTROL FABRIC - 602 SY

POPPY DRAINAGE - SEED MIX
RIPARIAN SEED MIX (0.73 ACRE)

SYMBOL	SCIENTIFIC NAME	COMMON NAME	PURE LIVE SEED LBS / ACRE	ESTIMATED LBS PURE LIVE SEED
	ACHILLEA MILLEFOLIUM	YARROW	0.5	0.4
	ASCLEPIAS FASCICULARIS	NARROWLEAF MILKWEED	0.5	0.4
	BROMUS CARINATUS	CALIFORNIA BROME	8	5.8
	ELYMUS GLAUCUS	BLUE WILDRYE	8	5.8
	ESCHSCHLOZIA CALIFORNICA	CALIFORNIA POPPY	2	1.5
	FESTUCA MICROSTACHYS	SMALL FESCUE	8	5.8
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	8	5.8
	LUPINUS BICOLOR	BICOLORED LUPINE	4	2.9
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	1.5
	STIPA PULCHRA	PURPLE NEEDLEGRASS	5	3.7
	TOTAL		46	33.6



2 SEEDING AND EROSION CONTROL PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'

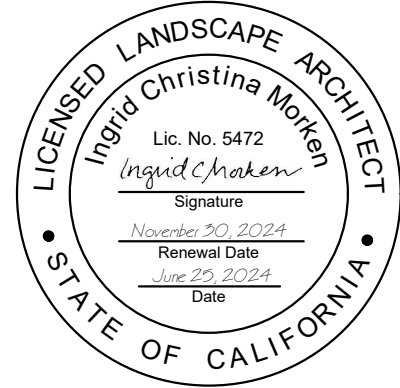


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SMART
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PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

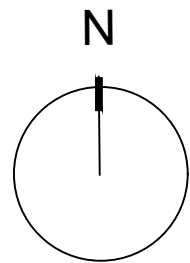
SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

0 30
SCALE: 1" = 30'



EROSION CONTROL
AND SEEDING PLAN

Sheet 8 of 14

L-1.0

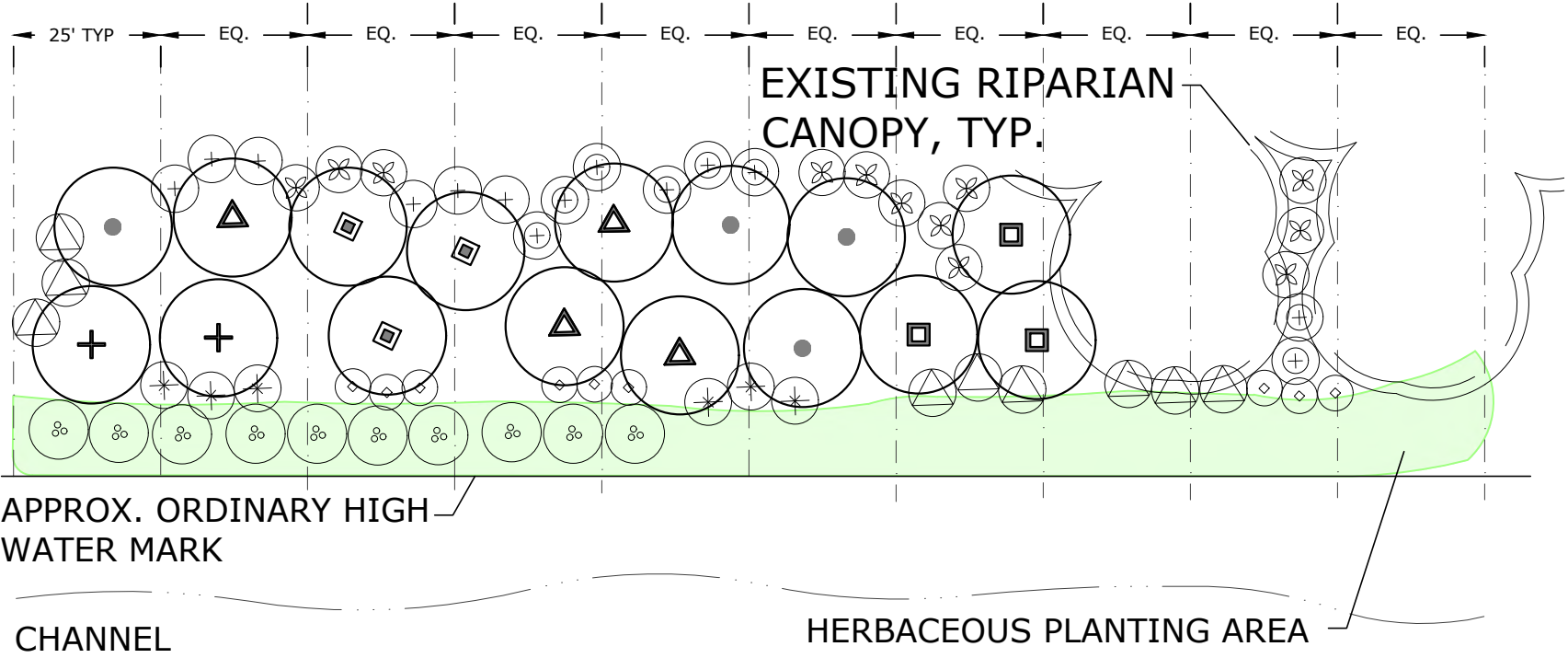
POPPY DRAINAGE - PLANTING SCHEDULE

RIPARIAN PLANTING AREA 1.3 ACRES

RIPARIAN TREES					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	ACER NEGUNDO	BOX ELDER	20	DEEPOT 40	12
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	20	DEEPOT 40	25
	QUERCUS AGRIFOLIA	COAST LIVE OAK	20	DEEPOT 40	25
	QUERCUS KELLOGGII	BLACK OAK	20	DEEPOT 40	25
	QUERCUS LOBATA	VALLEY OAK	20	DEEPOT 40	25
	SALIX LASIOLEPIS	ARROYO WILLOW	10	LIVE STAKE	19

RIPARIAN SHRUBS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	BACCHARIS PILULARIS	COYOTE BRUSH	8	DEEPOT 40	118
	FRANGULA CALIFORNICA	COFFEEBERRY	8	DEEPOT 40	118
	HETEROMELES ARBUTIFOLIA	TOYON	8	DEEPOT 40	127
	RIBES SANGUINEUM	RED FLOWERING CURRANT	6	DEEPOT 40	97
	ROSA CALIFORNICA	CALIFORNIA ROSE	8	DEEPOT 40	127
	RUBUS URSINUS	CALIFORNIA BLACKBERRY	6	DEEPOT 40	81

HERBACEOUS PLANTS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	ACHILLEA MILLEFOLIUM	YARROW	3	DEEPOT 16	19
	ARTEMISIA DOUGLASIANA	MUGWORT	4	DEEPOT 16	13
	CAREX BARBARAE	VALLEY SEDGE	2	DEEPOT 16	42
	ELYMUS TRITICOIDES	CREEPING WILD RYE	2	DEEPOT 16	42
	JUNCUS PATENS	COMMON RUSH	2	DEEPOT 16	50
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	DEEPOT 16	33
	SYMPHYOTRICHUM CHILENSE	PACIFIC ASTER	3	DEEPOT 16	19

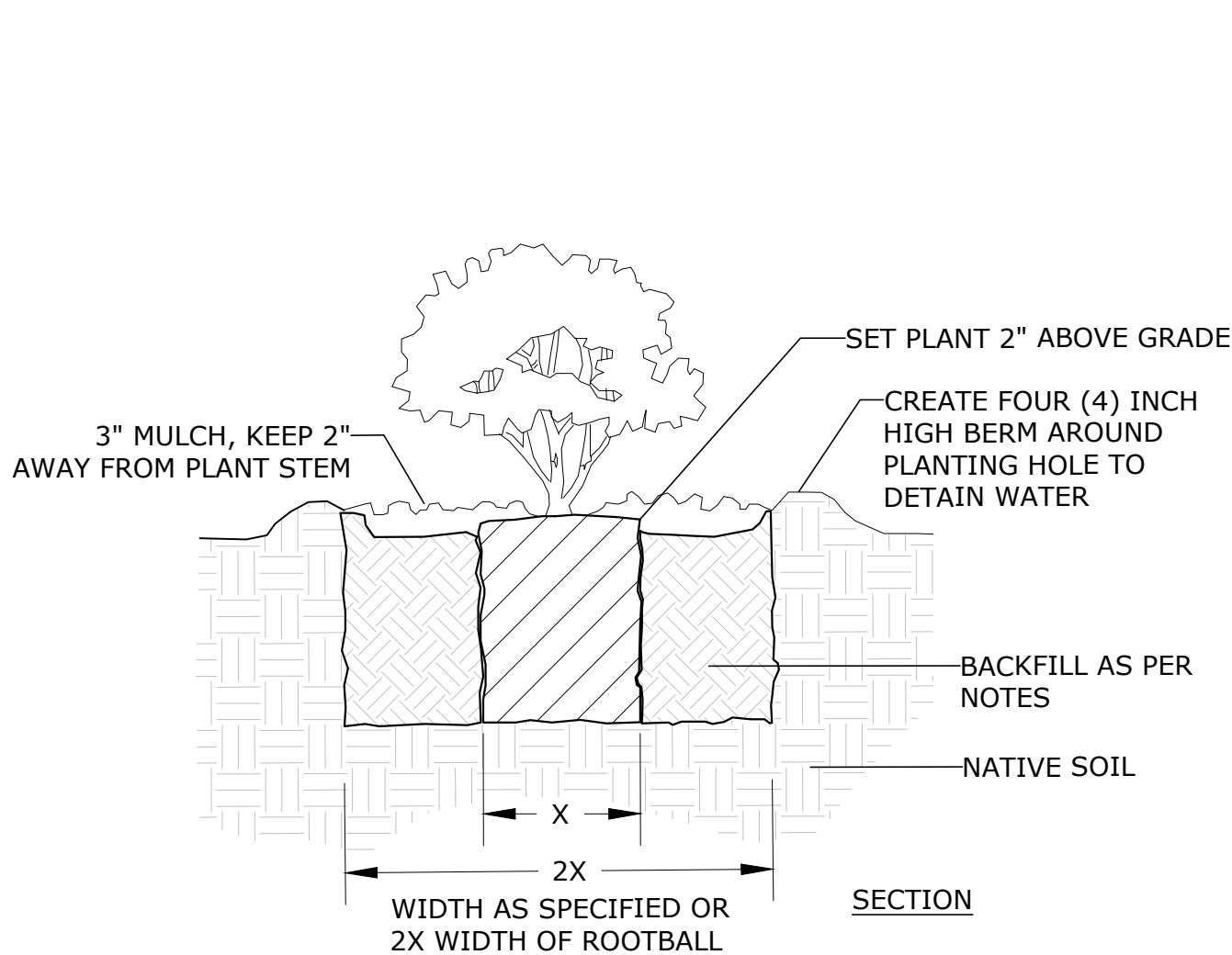


PLANT LEGEND

	SCIENTIFIC NAME	COMMON NAME
	ACER NEGUNDO	BOX ELDER
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE
	QUERCUS AGRIFOLIA	COAST LIVE OAK
	QUERCUS KELLOGGII	BLACK OAK
	QUERCUS LOBATA	VALLEY OAK
	SALIX LASIOLEPIS	ARROYO WILLOW
	BACCHARIS PILULARIS	COYOTE BRUSH
	FRANGULA CALIFORNICA	COFFEEBERRY
	HETEROMELES ARBUTIFOLIA	TOYON
	RIBES SANGUINEUM	RED FLOWERING CURRANT
	ROSA CALIFORNICA	CALIFORNIA ROSE
	RUBUS URSINUS	CALIFORNIA BLACKBERRY

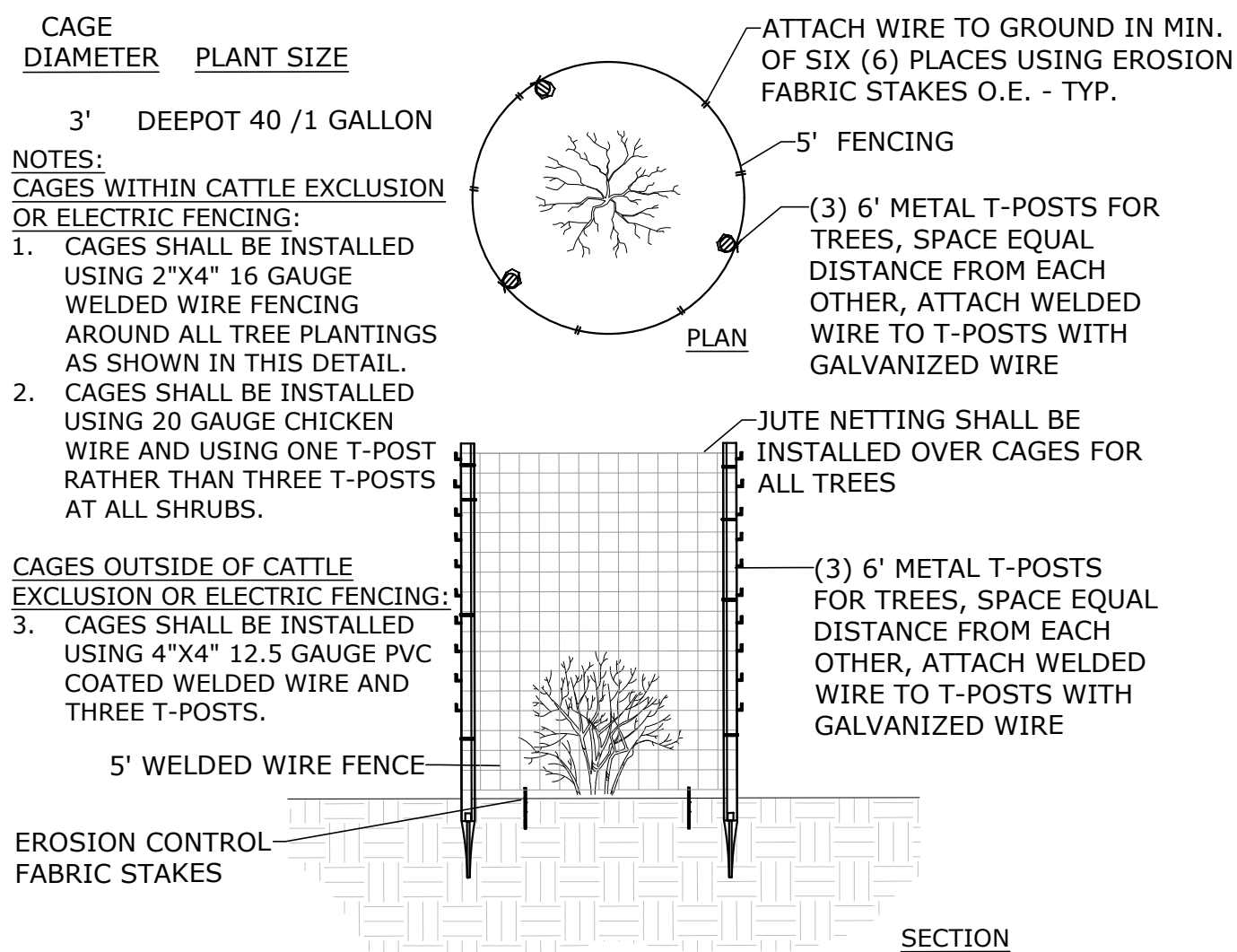
1 TYPICAL PLANT LAYOUT

SCALE: 1"=30'



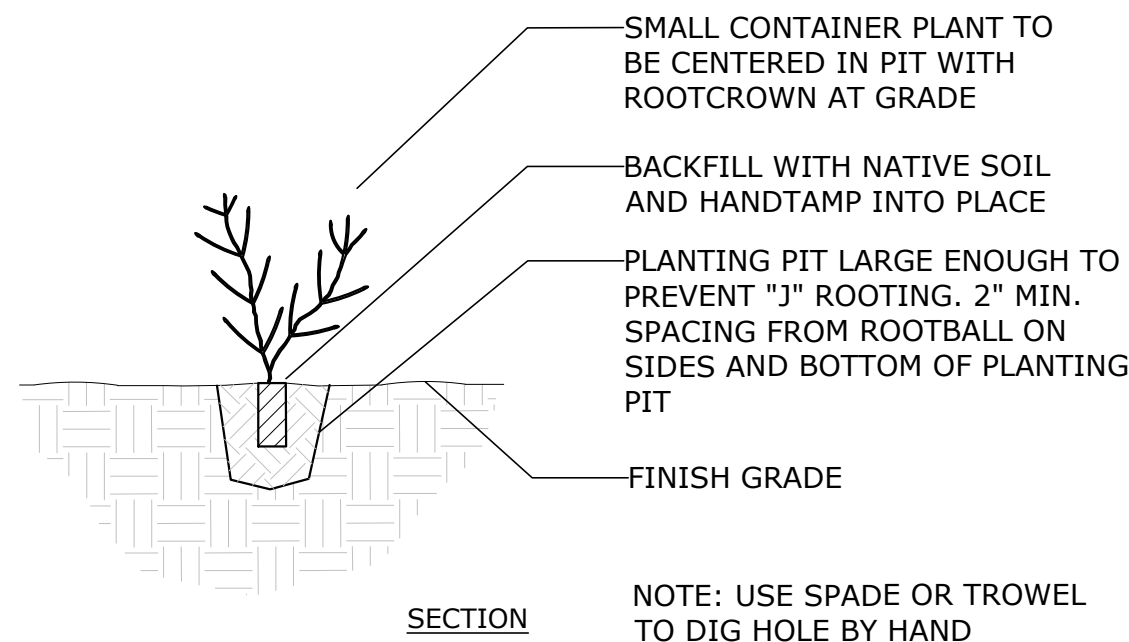
2 TREE & SHRUB PLANTING DETAIL

NOT TO SCALE



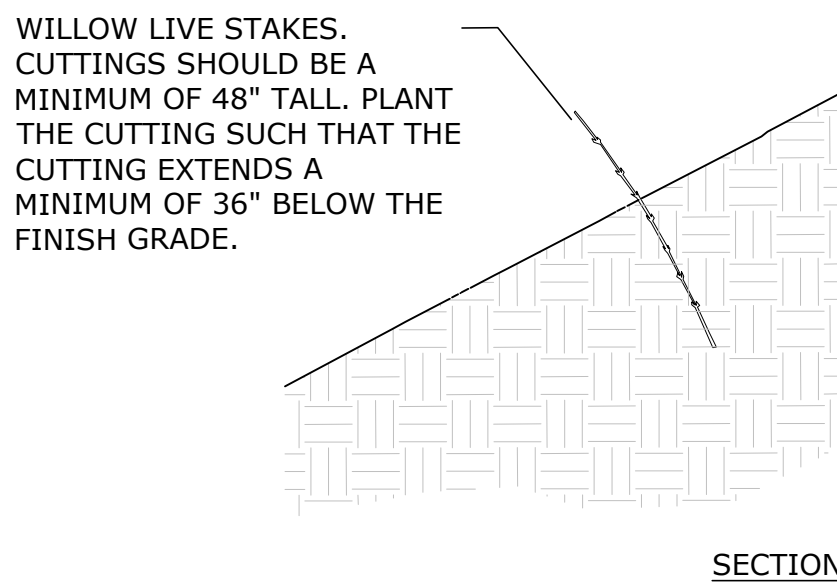
3 FOLIAGE PROTECTION CAGE

NOT TO SCALE



4 HERBACEOUS PLANTING DETAIL

NOT TO SCALE



5 WILLOW LIVE STAKE DETAIL

NOT TO SCALE



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SMART
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PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

PLANTING SCHEDULE,
DETAILS, AND TYPICAL
LAYOUT

Sheet 9 of 14

L-2.0

PLANTING, WILLOW CUTTING. AND FENCING NOTES



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PLANTING NOTES

1. PLANT PROCUREMENT: CONTRACTOR SHALL WORK WITH SMART'S PROJECT MANAGER TO PROCURE THE PLANTS FROM A NURSERY RECOMMENDED BY REGIONAL PARKS. THE PLANTS SHALL BE DELIVERED TO THE PROJECT SITE BY THE OWNER OR NURSERY AND APPROVED BY SMART'S PROJECT MANAGER AND CONTRACTOR.
2. PLANTING SCHEDULE: PLANTINGS SHALL BE INSTALLED IN FALL OR EARLY WINTER (OCTOBER 15TH - DECEMBER 31) TO ALLOW PLANTS TO ESTABLISH DURING THE WINTER RAINY SEASON, UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER. THE IRRIGATION SYSTEM SHALL BE INSTALLED PRIOR TO PLANTING.
3. PLANTING LAYOUT FOR TREES, SHRUBS, AND HERBACEOUS PLANTINGS: THE CONTRACTOR SHALL USE PIN FLAGS OR OTHER IDENTIFIERS TO MARK THE LOCATION OF THE PLANTS AT THE PROJECT SITE FOR REVIEW BY SMART'S PROJECT MANAGER PRIOR TO THE INSTALLATION OF THE DRIP EMITTERS, TUBING AND PLANTINGS. PIN FLAGS SHALL HAVE A UNIQUE COLOR AND/OR IDENTIFYING MARK FOR EACH PLANT SPECIES.
4. PLANTING HOLES: PLANTING HOLES SHALL BE DUG ACCORDING TO THE DIMENSIONS SHOWN IN THE PLANTING DETAIL.
5. PLANT FERTILIZER: CONTRACTOR SHALL INSTALL '1-YEAR NUTRI-PAK TREES, SHRUBS & EVERGREENS' ONE-YEAR TIME RELEASE FERTILIZER PACKETS BY NUTRI-PAK OR EQUIVALENT SLOW RELEASE FERTILIZER AS APPROVED BY SMART'S PROJECT MANAGER. THE FERTILIZER SHALL HAVE THE FOLLOWING RATIO OF NITROGEN, PHOSPHOROUS, AND POTASSIUM: 16-8-8. THE FERTILIZER SPECIFICATIONS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL. INSTALL ONE FERTILIZER PACK AT THE BOTTOM OF THE PLANTING HOLE PRIOR TO PLANTING THE TREE/SHRUBS.
6. COMPOST SHALL BE INCORPORATED INTO THE BACKFILL OF PLANTING PITS IN GRADED AREAS AT A RATIO OF 3:1 (NATIVE BACKFILL: COMPOST).
7. MULCH: THE CONTRACTOR SHALL INSTALL A 3-INCH LAYER OF WOOD BARK MULCH AROUND ALL TREES AND SHRUBS AS SHOWN ON THE PLANTING DETAILS. MULCH SHALL BE ORGANIC AND WEED-FREE WITH A ONE-HALF INCH MINIMUM AND A THREE INCH MAXIMUM PARTICLE SIZE. CONTRACTOR SHALL PROVIDE A SUBMITTAL OF THE MULCH TO SMART'S PROJECT MANAGER FOR APPROVAL.
8. FOLIAGE PROTECTION CAGES: THE CONTRACTOR SHALL INSTALL FOLIAGE PROTECTION CAGES FOLLOWING THE COMPLETION OF PLANT INSTALLATION AROUND THE PLANTS IDENTIFIED IN THE PLANT LEGEND AND IN ACCORDANCE WITH THE DETAIL ON SHEET L-2.0
9. WATERING: NEWLY PLANTED TREES AND SHRUBS SHALL BE WATERED REGULARLY TO PREVENT PLANT MATERIAL FROM WILTING. PLANTINGS SHALL BE INSTALLED AFTER THE AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED AND TESTED. IN THE CASE THAT THIS IS NOT POSSIBLE, PLANTINGS SHALL BE MANUALLY WATERED FROM THE TIME THAT THEY ARE PLANTED UNTIL THE TIME THAT THE AUTOMATIC IRRIGATION SYSTEM IS IN OPERATION.
- 10.WARRANTY: THE CONTRACTOR SHALL GUARANTEE THE SURVIVAL OF ALL OF THE PLANTS FOR THE DURATION OF THE ONE-YEAR MAINTENANCE PERIOD. THE MAINTENANCE PERIOD SHALL BE 1 YEAR AFTER COMPLETION OF THE PLANTING AND APPROVAL OF THE INSTALLATION BY SMART'S PROJECT MANAGER. AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL REPLACE, AT NO ADDITIONAL COST TO THE OWNER, PLANT MATERIAL THAT IS DETERMINED TO BE EITHER DEAD OR IN POOR HEALTH.

FENCING NOTES

1. A TEMPORARY ELECTRIC FENCE SHALL BE INSTALLED BY OTHERS AROUND SOME OF THE PLANTING AREAS TO EXCLUDE CATTLE IN COORDINATION WITH REGIONAL PARKS. THE TEMPORARY ELECTRIC FENCE SHALL BE AT MINIMUM 3 FEET AWAY FROM EXISTING TRAILS.

WILLOW CUTTING NOTES:

1. WILLOW CUTTING INSTALLATION SHALL OCCUR BETWEEN DECEMBER 1ST AND DECEMBER 31ST OR AS APPROVED BY SMART'S PROJECT MANAGER.
2. WILLOW CUTTINGS WILL BE COLLECTED ON-SITE OR AS APPROVED BY SMART'S PROJECT MANAGER.
3. IN AN ATTEMPT TO INCREASE THE POSSIBILITY THAT WILLOW POLES ARE COLLECTED FROM BOTH MALE AND FEMALE PLANTS, WILLOW POLES SHALL BE COLLECTED FROM A MINIMUM OF 5 INDIVIDUAL TREES.
4. WILLOW POLES SHALL BE CUT FROM ONE-YEAR-OLD BRANCHES. WILLOW POLES SHALL HAVE A MINIMUM LENGTH OF THREE (3) FEET LONG AND A MAXIMUM LENGTH OF FOUR (4) FEET FOR THE WILLOW TRENCHES AND INDIVIDUAL INSTALLATION UPSTREAM OF THE HEADCUT. WILLOW POLES SHALL HAVE A MINIMUM CUT-END DISTAL DIAMETER OF ¾" AND A MAXIMUM CUT-END BASAL DIAMETER OF 1 1/2". WILLOW POLES SHALL HAVE CONTINUOUS BARK AND STEMS THAT ARE NOT SPLIT, AS SOLELY DETERMINED BY SMART'S PROJECT MANAGER.
5. WILLOW POLES SHALL BE HARVESTED FROM A MAXIMUM 30% OF EACH DONOR PLANT AND THE PLANT SHALL BE LEFT IN A HEALTHY, VIGOROUS, AND VISUALLY APPEALING STATE.
6. UNLESS IMMEDIATELY SOAKED AND INSTALLED, WILLOW POLES SHALL BE WRAPPED IN WET BURLAP. POLES MAY BE BUNDLED PRIOR TO BEING WRAPPED WITH A MAXIMUM OF TEN POLES PER BUNDLE. BUNDLES SHALL BE KEPT SHADED, COVERED, COOL, MOIST, AND OUT OF WIND OR SUN AT ALL TIMES UNTIL INSTALLATION OF THE POLES. POLES SHALL BE KEPT FROM FREEZING.
7. SOAK EACH WILLOW POLE IN WATER PRIOR TO PLANTING. THE BASAL END OF EACH WILLOW POLE SHALL BE SOAKED IN A BUCKET OF WATER, TO A MINIMUM DEPTH OF 24", FOR A MINIMUM OF 10 DAYS, IMMEDIATELY PRECEDING PLANTING. POLES SHALL BE INSTALLED WITHIN 14 DAYS FOLLOWING HARVESTING.
8. SMART'S PROJECT MANAGE SHALL ACCEPT PLANT MATERIAL BEFORE THE START OF PLANTING.
9. WILLOW POLES SHALL BE IN INSTALLED IN THE WILLOW PLANTING AREAS SHOWN IN THE PLANS. THE CONTRACTOR SHALL STAKE OR MARK THE OUTER LIMITS OF THE PLANTING AREAS FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.
10. DIG PLANTING HOLES A MINIMUM DIAMETER OF 9" AND DEPTH OF 36" OR 75% TOTAL LENGTH OF WILLOW POLE.

SMART
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RIPARIAN MITIGATION

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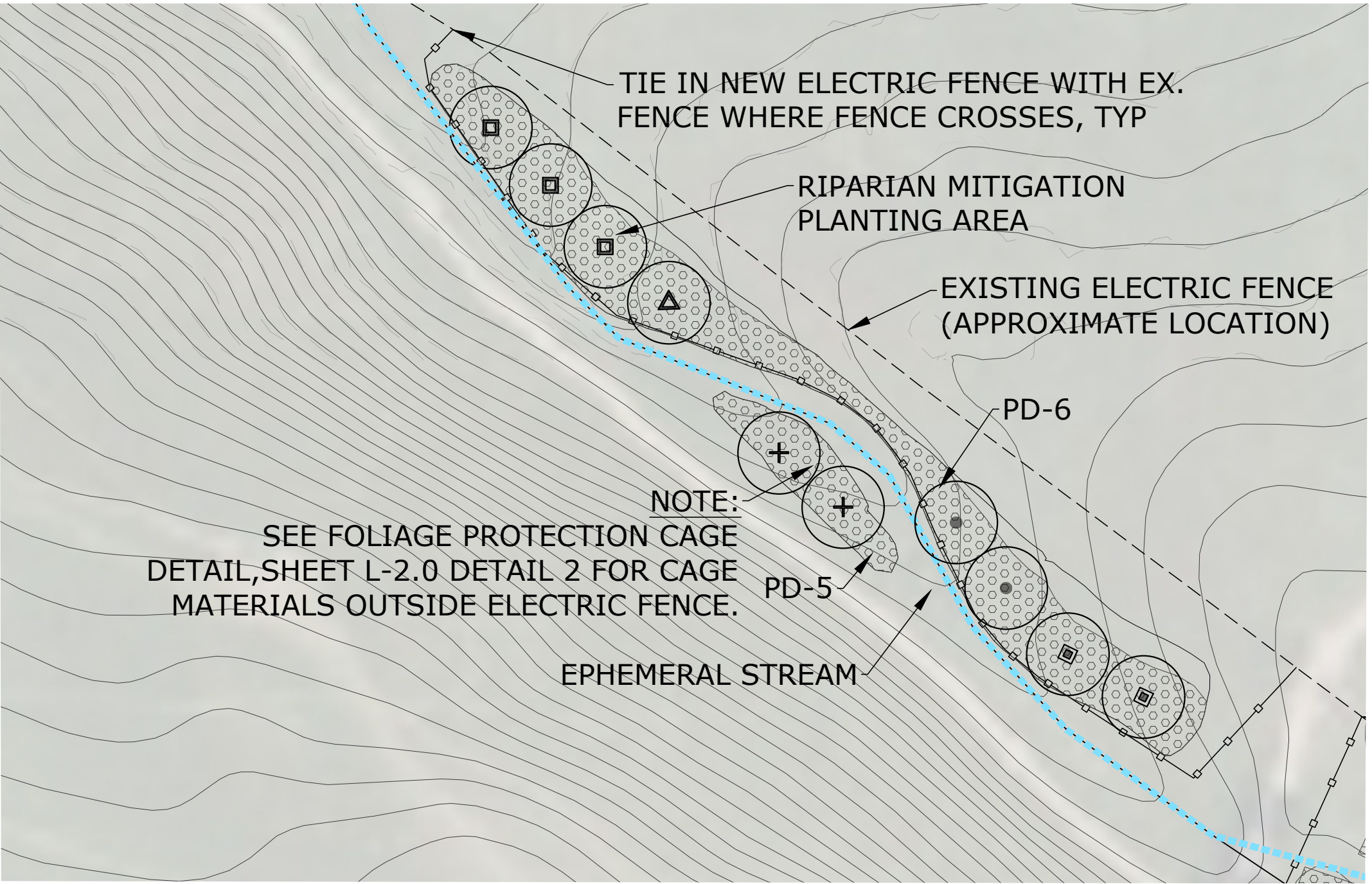
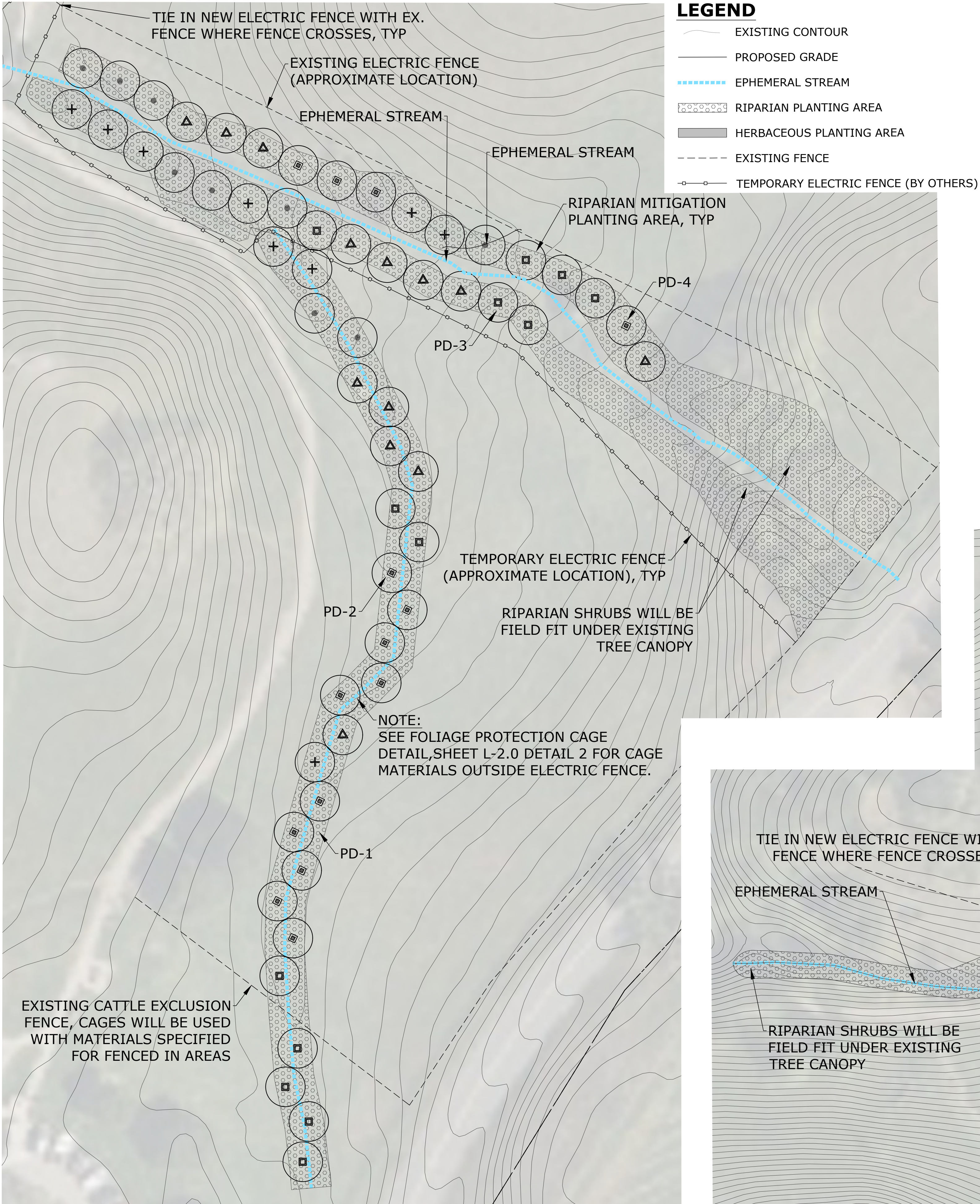
QUANTITY ESTIMATES FOR POPPY DRAINAGE PLANTING AREAS																									
SYMBOL	AREA ACRE	AREA SQ. FT.	TREES							SHRUBS							HERBACEOUS							PLANT TOTAL	
			ACE NEG	AES CAL	QUE AGR	QUE KEL	QUE LOB	SAL LAS	TOTAL	BAC PIL	FRA CAL	HET ARB	RIB SAN	ROS CAL	RUB URS	TOTAL	ACH MIL	ART DOU	CAR BAR	ELY TRI	JUN PAT	SCR CAL	SYM CHI		TOTAL
PD-1	0.12	5,160	1	1	3	3	5	0	13	10	10	11	8	11	7	57	0	0	0	0	0	0	0	0	70
PD-2	0.12	5,160	1	2	3	2	5	0	13	10	10	11	8	11	7	57	0	0	0	0	0	0	0	0	70
PD-3	0.23	9,975	3	4	3	4	0	0	14	20	20	22	17	22	14	115	0	0	0	0	0	0	0	0	129
PD-4	0.24	10,270	4	2	3	4	4	0	17	21	21	22	17	22	14	117	0	0	0	0	0	0	0	0	134
PD-5	0.01	620	2	0	0	0	0	0	2	1	0	2	1	2	0	6	0	0	0	0	0	0	0	0	8
PD-6	0.08	3,514	0	2	3	1	2	0	8	8	8	8	6	8	5	43	0	0	0	0	0	0	0	0	51
PD-7	0.08	3,326	0	5	3	0	1	3	12	7	7	7	6	7	5	39	8	5	15	15	18	12	7	80	131
PD-8	0.10	4,161	0	2	0	0	2	8	12	8	8	9	7	9	6	47	3	2	7	8	9	6	4	39	98
PD-9	0.08	3,305	1	4	0	1	3	0	9	7	7	7	6	7	5	39	6	4	13	14	17	11	6	71	119
PD-10	0.10	4,495	0	3	0	1	3	8	15	9	9	10	7	10	6	51	2	2	7	5	6	4	2	28	94
PD-11	0.08	3,480	0	0	4	5	0	0	9	8	8	8	6	8	6	44	0	0	0	0	0	0	0	0	53
PD-12	0.10	4,537	0	0	3	4	0	0	7	9	10	10	8	10	6	53	0	0	0	0	0	0	0	0	60
TOTAL	1.34	58,003	12	25	25	25	25	19	131	118	118	127	97	127	81	668	19	13	42	42	50	33	19	218	1017

PROJECT #31368
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CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

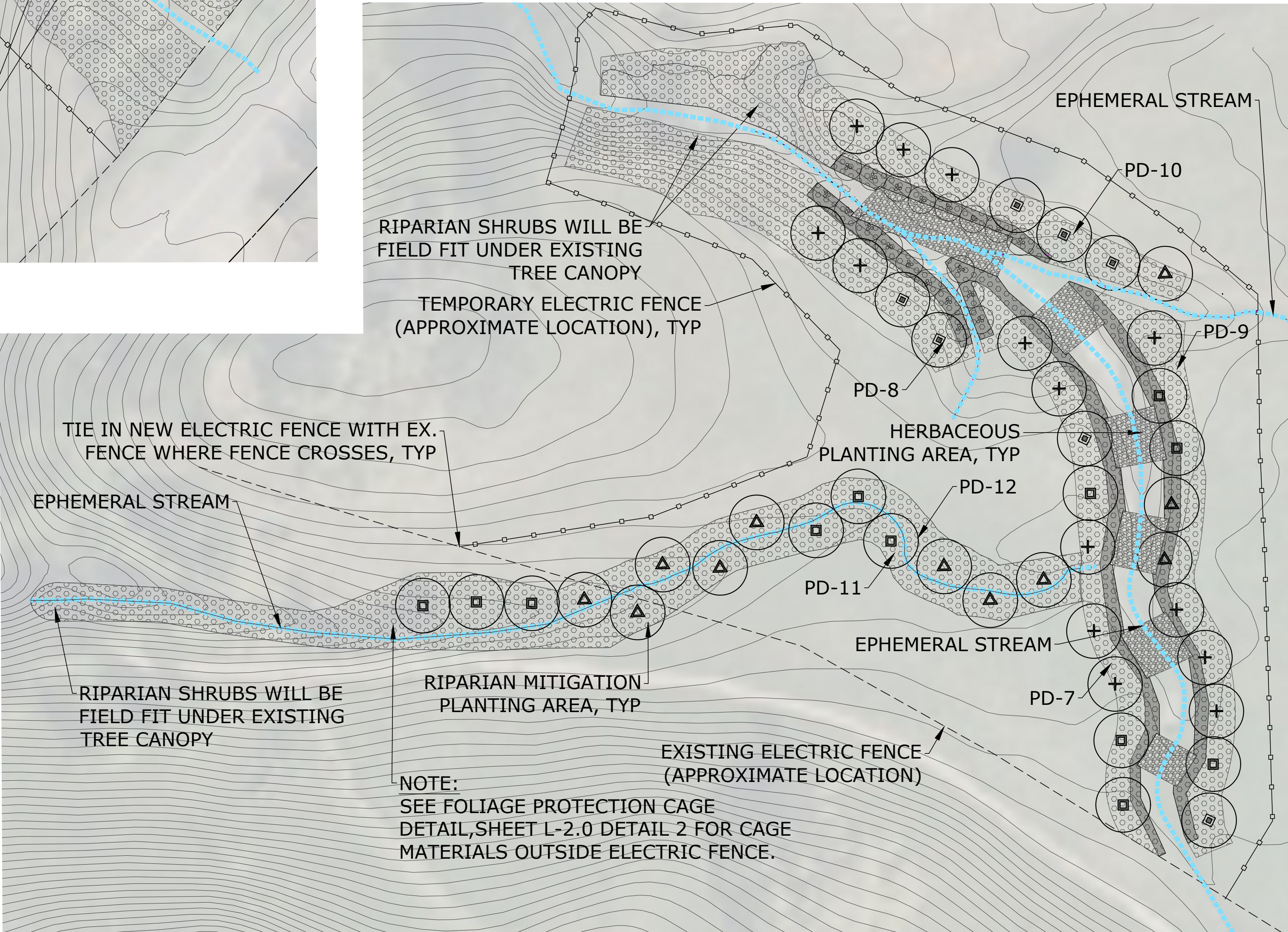
PLANTING QUANTITIES,
AND NOTES

Sheet 10of 14

L-2.1



2 PLANTING AND FENCING PLAN - MIDDLE POPPY DRAINAGE
SCALE: 1"=30'



3 PLANTING AND FENCING PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'

1 PLANTING AND FENCING PLAN - UPPER POPPY DRAINAGE
SCALE: 1"=30'



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**SMART
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RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

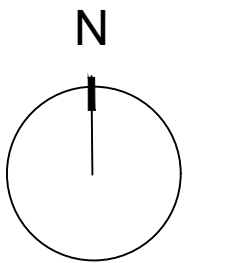
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0 30
SCALE: 1" = 30'



**PLANTING AND
FENCING PLAN**

Sheet 11 of 14

L-2.2

IRRIGATION LEGEND

SYMBOL	NAME
	10,000 GAL. POLY TANK, DARK GREEN
	MASTER VALVE: HUNTER ICV-201G-FS-DC; HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX
	GATE VALVE. NIBCO T-113 GATE VALVE, SIZE THE SAME SIZE AS THE LARGEST PIPE CONNECTED TO GATE VALVE, INSTALL IN VALVE BOX.
	REMOTE CONTROL VALVE. HUNTER "DRIP KIT" ICZ-101-25-LF; OPERATING PRESSURE: UP TO 120 PSI HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX.
	AIR VACUUM RELIEF VALVE (ARV). HUNTER AVR-075 AIR/VACUUM RELIEF VALVE OR APPROVED EQUAL. INSTALL AT HIGH POINT WITHIN EACH ZONE AFTER REMOTE CONTROL VALVE. INSTALL IN VALVE BOX.
	QUICK COUPLING VALVE. HUNTER HQ44-LRC, 1" INLET, 2-PIECE BODY, 2 SLOTS QUICK COUPLING VALVE WITH LOCKING COVER, ACME KEY OR APPROVED EQUAL. OPERATING PRESSURE: UP TO 150 PSI
	EMITTER FLUSH VALVE ASSEMBLY
	PRESSURE REDUCING VALVE AND PRESSURE GAUGE. WILKINS MODEL 600-L-SC OR APPROVED EQUAL. SIZED TO FIT
	MAINLINE PIPE - ABOVEGROUND: HDPE 4710 SDR 9 PIPE OR APPROVED EQUAL, 1 1/2"
	MAINLINE PIPE - TRENCHED: HDPE 4710 SDR 9 PIPE, 1 1/2"
	IRRIGATION SLEEVE: PVC SCHEDULE 80 PIPE, SIZED TO FIT
	LATERAL LINE PIPE: SALCO NON-RIGID PVC, PVC TYPE IPS, OR APPROVED EQUAL. SIZED TO FIT
	CONTROLLER STATION #
	APPROXIMATE FLOW (GPM)
	REMOTE CONTROL VALVE SIZE

SUPPLY TUBING AND DRIP EMITTER LEGEND

LOCATION DESCRIPTION	MODEL NUMBER	MODEL DESCRIPTION
ALL DRIP IRRIGATION AREAS	TWPE-700 - 1K	HUNTER 1/2" POLYETHYLENE SUPPLY TUBING
DEEPOT 40 TREE OR SHRUB	HE-050-B	TWO (2) 0.5 GPH HUNTER SINGLE OUTLET POINT SOURCE EMITTERS WITH SELF-PIERCING BARB, BLUE

IRRIGATION NOTES

GENERAL

1.

THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR IS REQUIRED TO INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE CONTRACT WORK, INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES WHICH MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IN THE EVENT OF FIELD DIFFERENCES, THE CONTRACTOR IS REQUIRED TO PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF SMART'S PROJECT MANAGER. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH, OVER, OR UNDER WALLS, ROADWAYS, DECOMPOSED GRANITE SHOULDERS, PAVING, STRUCTURE, ETC., BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL REQUIRED REVISIONS.

2.

THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL IRRIGATION COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION.

3.

THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

4.

THE WATER TANK SHALL BE 10,000 GALLON POLY TANK (144" DIAMETER x 163" TALL) DARK GREEN IN COLOR.

5.

THE BASE OF THE TANK SHALL CONSIST OF 4 TO 6 INCHES OF PEA GRAVEL IN A 14 GAUGE STEEL RETAINING RING.

6.

THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE TANK WITH SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.

PIPE AND VALVE INSTALLATION

10.

CONTRACTOR SHALL SHALL SUBMIT THE SPECIFICATIONS AND A DETAILED LAYOUT PLAN FOR THE CHAIN LINK FENCE AND GATE SURROUNDING THE SOLAR-POWERED BOOSTER PUMP AND SOLAR ARRAY FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.

11.

THE ABOVEGROUND MAINLINE SHALL SIT ON TOP OF EXISTING GRADE. INSTALL U-SHAPED STAPLES AT 20-FT. INTERVALS OR AS NEEDED TO SECURE MAINLINE IN PLACE.

12.

THE TRENCHED MAINLINE SHALL BE INSTALLED AS SHOWN NEAR THE WATER TANK AND UNDER TRAILS AND PATHWAYS. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE TRENCHED TO ABOVEGROUND MAINLINE TRANSITION FOR APPROVAL BY SMART'S PROJECT MANAGER.

13.

THE CONTRACTOR SHALL ROUTE THE MAINLINE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL FLAG THE MAINLINE AND VALVE LOCATIONS FOR SMART'S PROJECT MANAGER'S REVIEW AND APPROVAL PRIOR TO GROUND DISTURBANCE.

14.

LATERAL LINES AND DRIP SUPPLY TUBING SHALL BE AT GRADE, EXCEPT AT PATHS, CHANNELS, OR ROAD CROSSINGS. THE CONTRACTOR SHALL SLEEVE ALL LATERALS AND MAINLINES PASSING UNDERNEATH PAVEMENT, ROADS, TRAILS, OR OVER DRAINAGE CHANNELS.

15.

THE CONTRACTOR SHALL AVOID INSTALLING TRENCHES OR PERFORMING GROUND DISTURBING ACTIVITIES UNDER THE DRIPLINE OF TREES UNLESS APPROVED BY SMART'S PROJECT MANAGER.

16.

THE CONTRACTOR SHALL PERFORM A PRESSURE TEST OF THE MAINLINES AT 125 PSI AND THE LATERAL LINES AT 100 PSI FOR FOUR HOURS AS FEASIBLE FOR APPROVAL BY SMART'S PROJECT MANAGER.

17.

QUICK COUPLERS SHALL BE INSTALLED AT THE LOWER POPPY DRAINAGE SITE TO ALLOW FOR HAND WATERING OF HERBACEOUS PLANTINGS WITHIN THE CHANNEL.

18.

INSTALL CHECK VALVES AS NEEDED AT ELEVATION CHANGES ALONG LATERAL LINES TO MINIMIZE LOW-HEAD DRAINAGE. THE CONTRACTOR SHALL SUBMIT SPECIFICATIONS TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION.

19.

THE IRRIGATION VALVE BOXES SHALL BE BURIED HALFWAY WHERE FEASIBLE SO THAT THEY ARE SECURED IN SOIL BUT ALSO VISIBLE FOR MAINTENANCE.

20.

THE CONTRACTOR SHALL OPTIMIZE THE VALVE BOX LAYOUT TO MINIMIZE THE TOTAL NUMBER OF VALVE BOXES REQUIRED.

21.

THE CONTRACTOR SHALL LOCK ALL VALVE BOXES UNLESS

wra
Environmental Consultants

2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

LICENSED LANDSCAPE ARCHITECT
Ingrid Christina Morken
Lic. No. 5472
Signature
November 20, 2024
Renewal Date
June 20, 2024
Date
STATE OF CALIFORNIA

06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

1

TRENCHING
NOT TO SCALE

PLAN

2

SLEEVE TRENCHING
NOT TO SCALE

SECTION

3

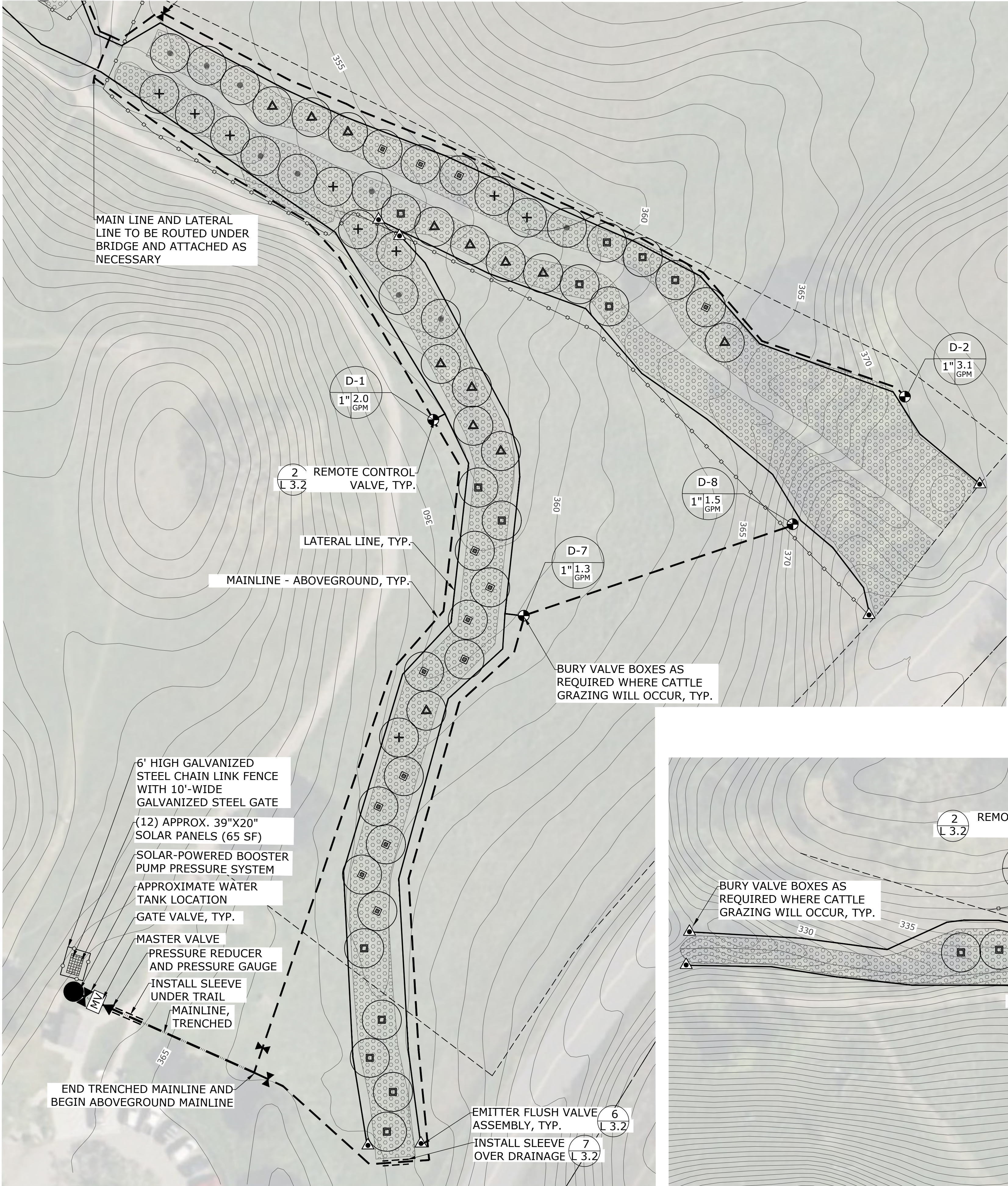
THRUST BLOCK
NOT TO SCALE

IRRIGATION NOTES AND
DETAILS

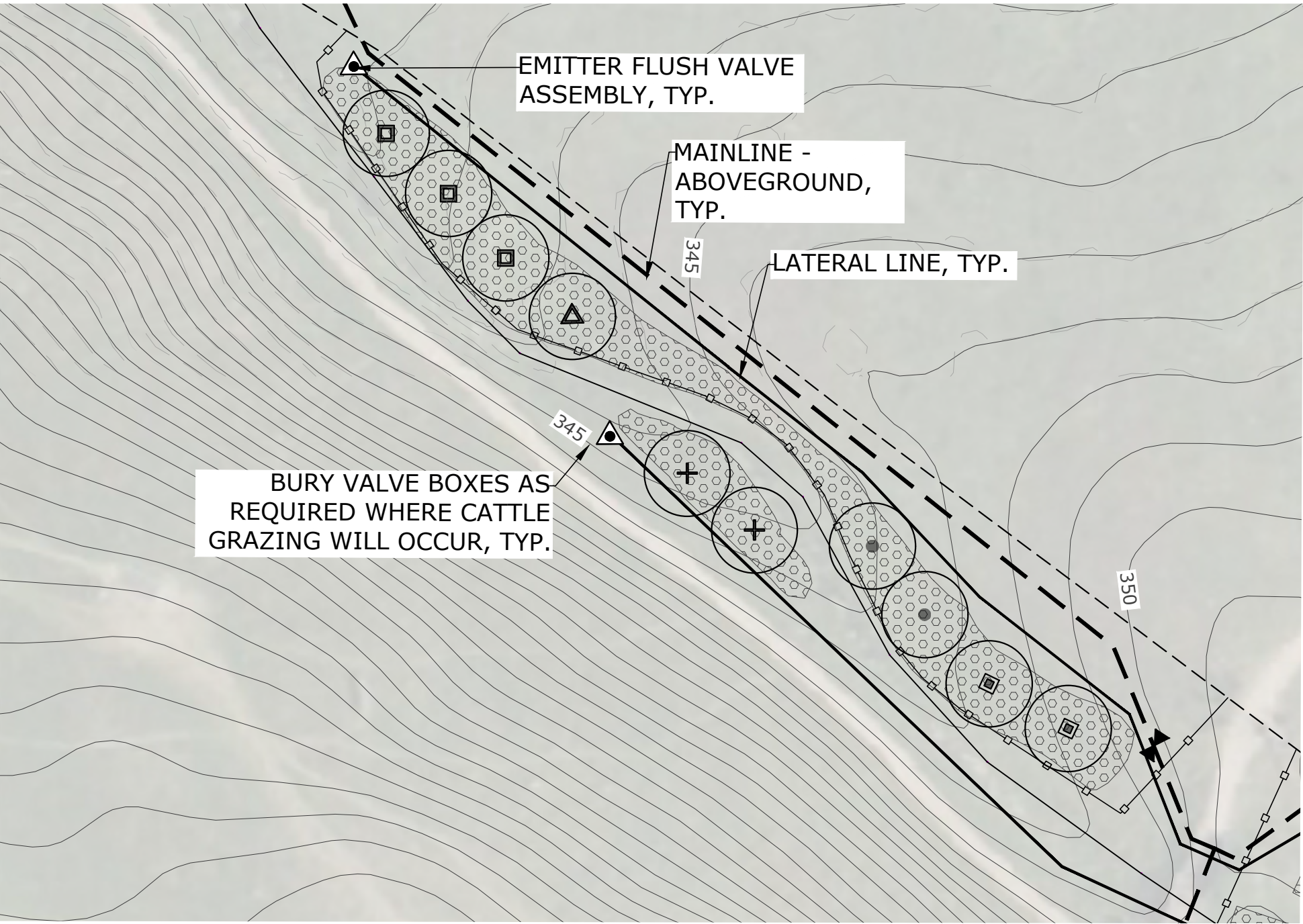
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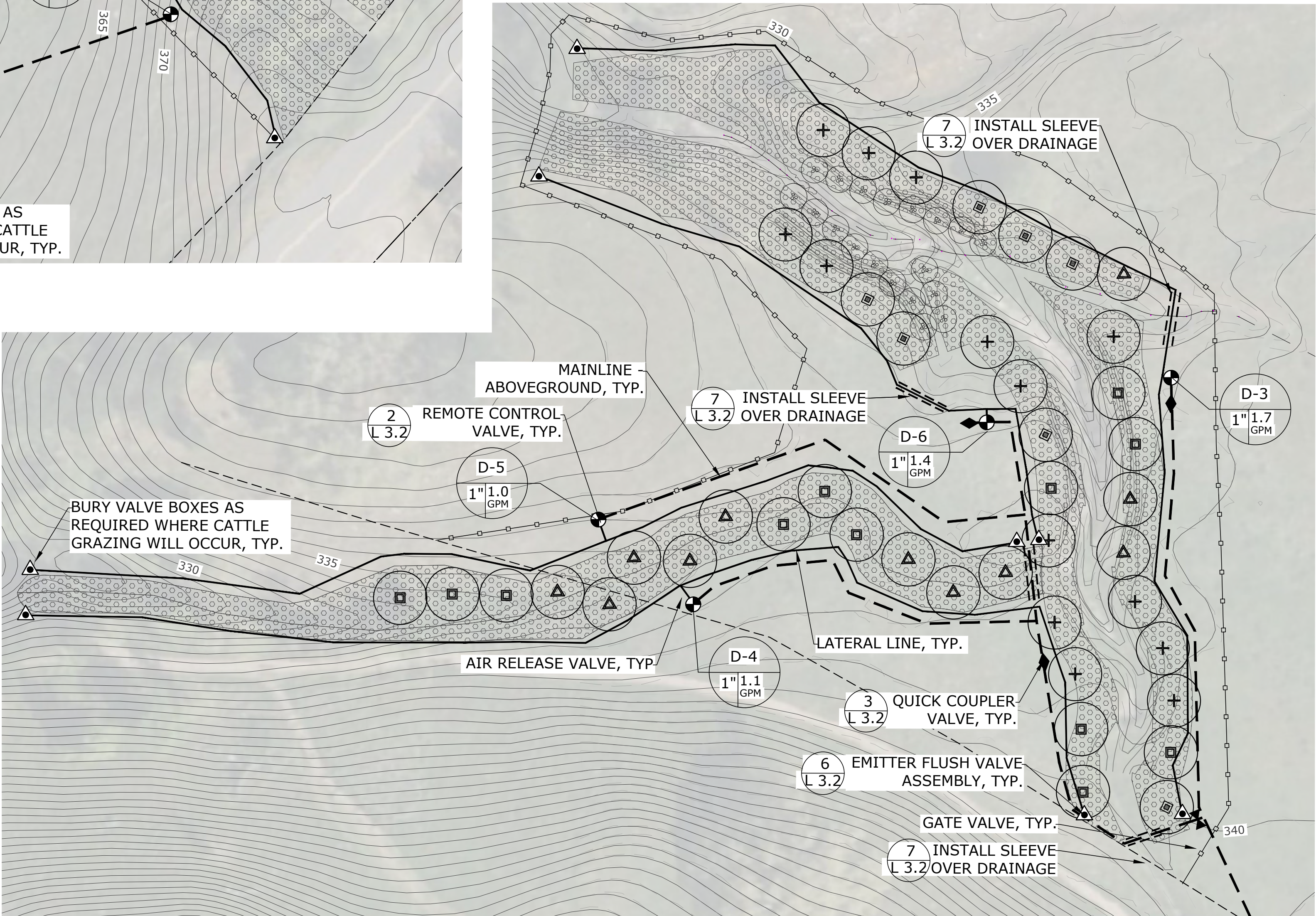
Page 290 of 467



1 IRRIGATION PLAN - UPPER POPPY DRAINAGE
SCALE: 1"=30'



2 IRRIGATION PLAN - MIDDLE POPPY DRAINAGE
SCALE: 1"=30'



3 IRRIGATION PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'



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**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

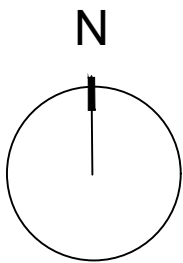
SONOMA COUNTY, CALIFORNIA



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0 30
SCALE: 1" = 30'



IRRIGATION PLAN

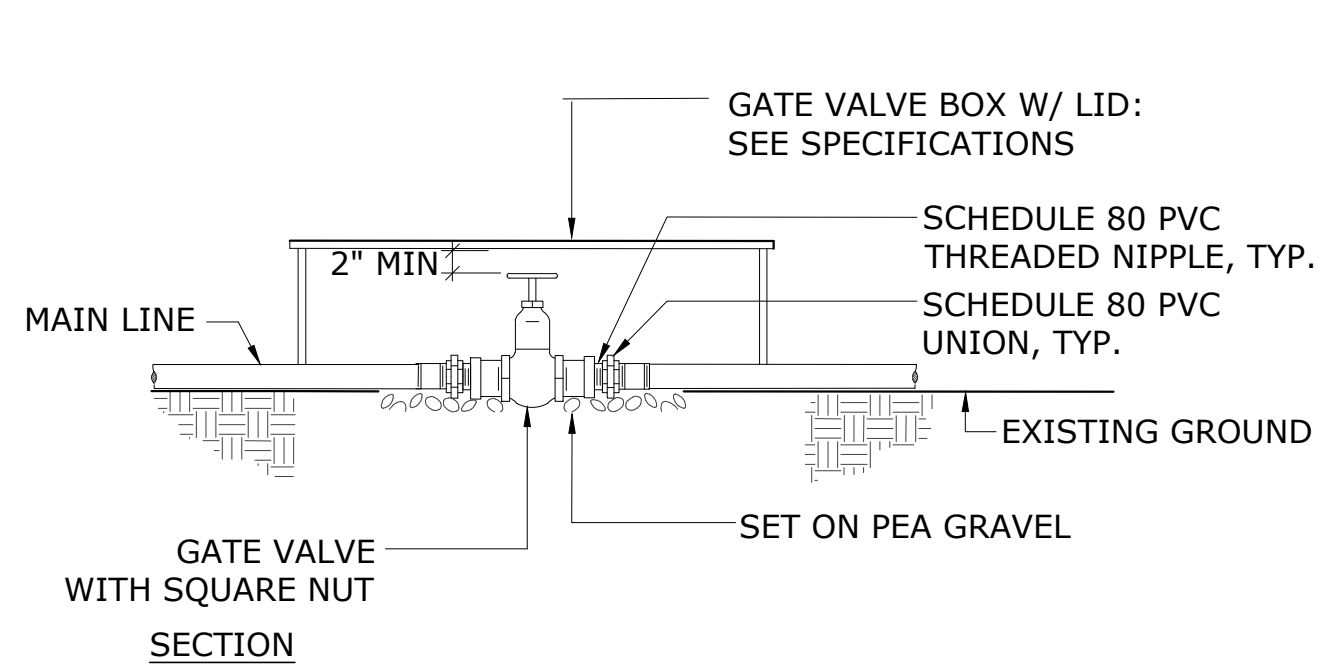
Sheet 13 of 14

L-3.1

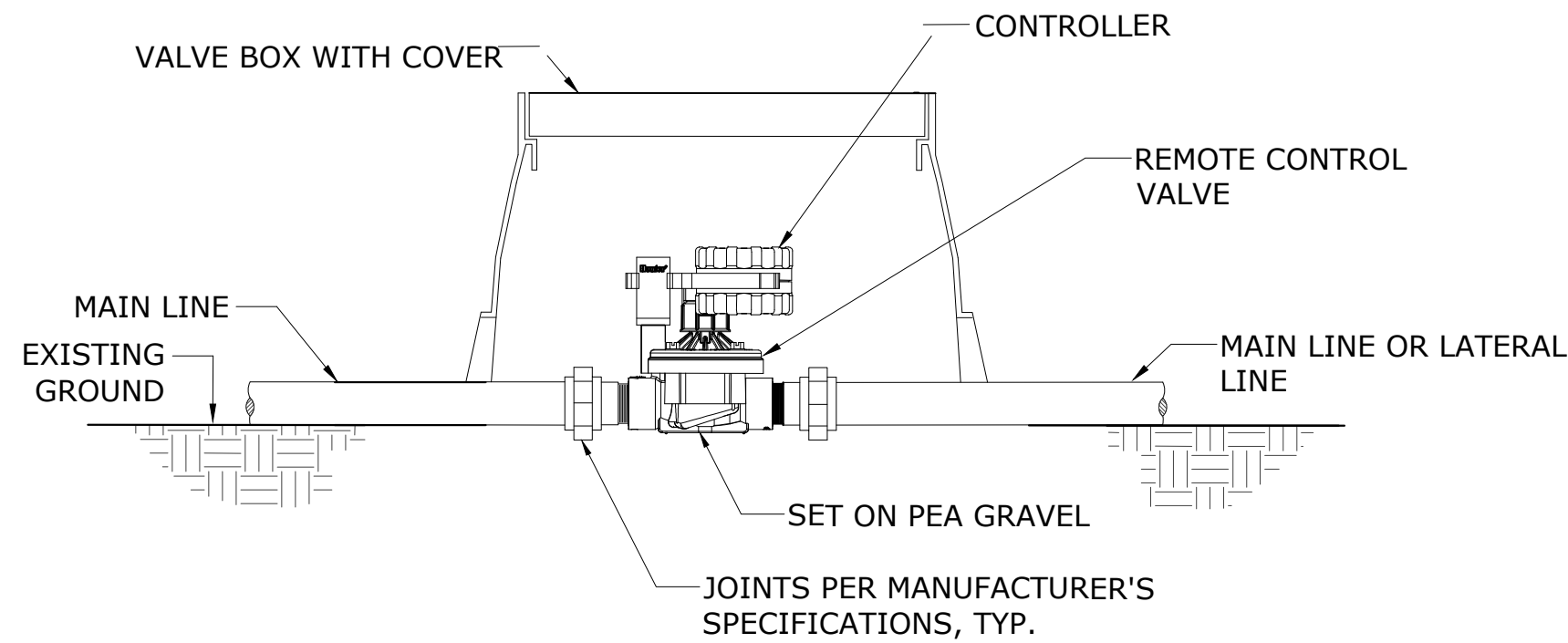
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PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

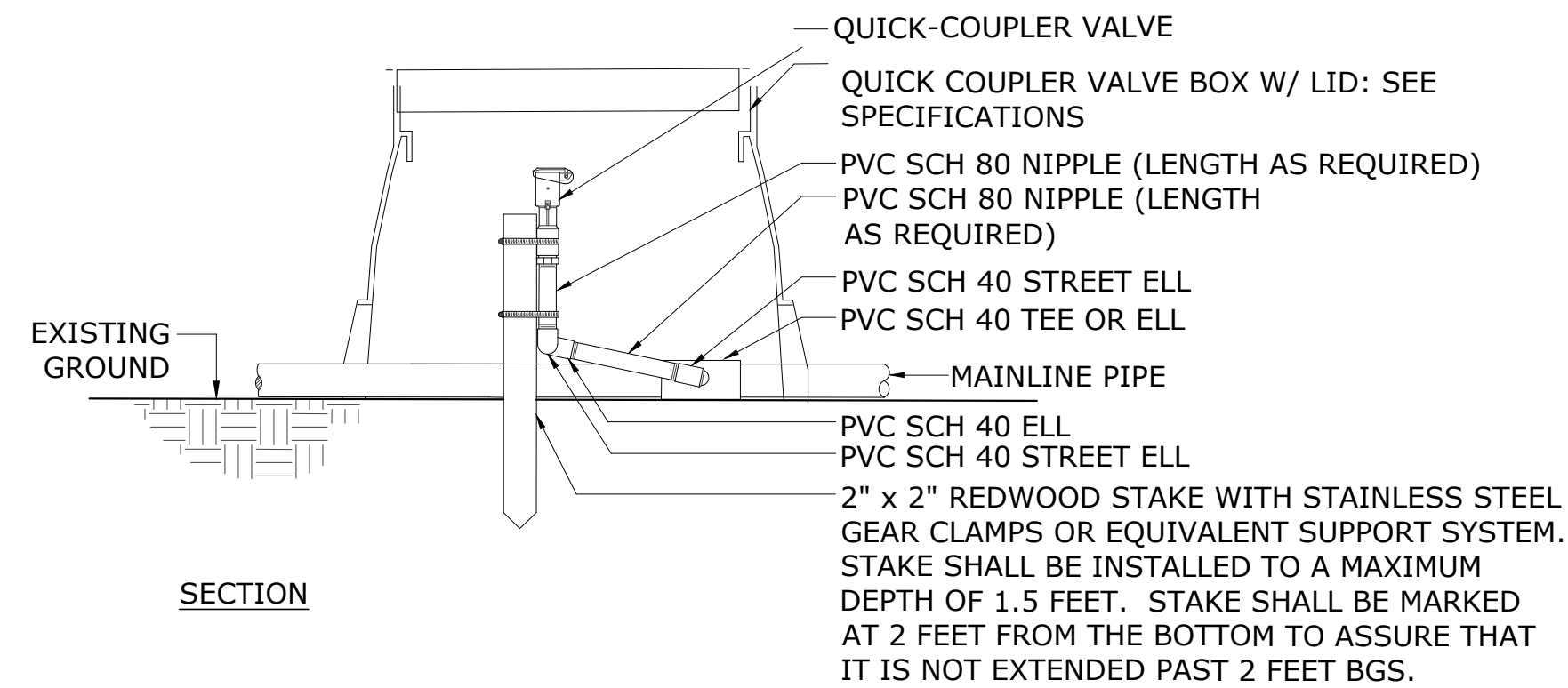
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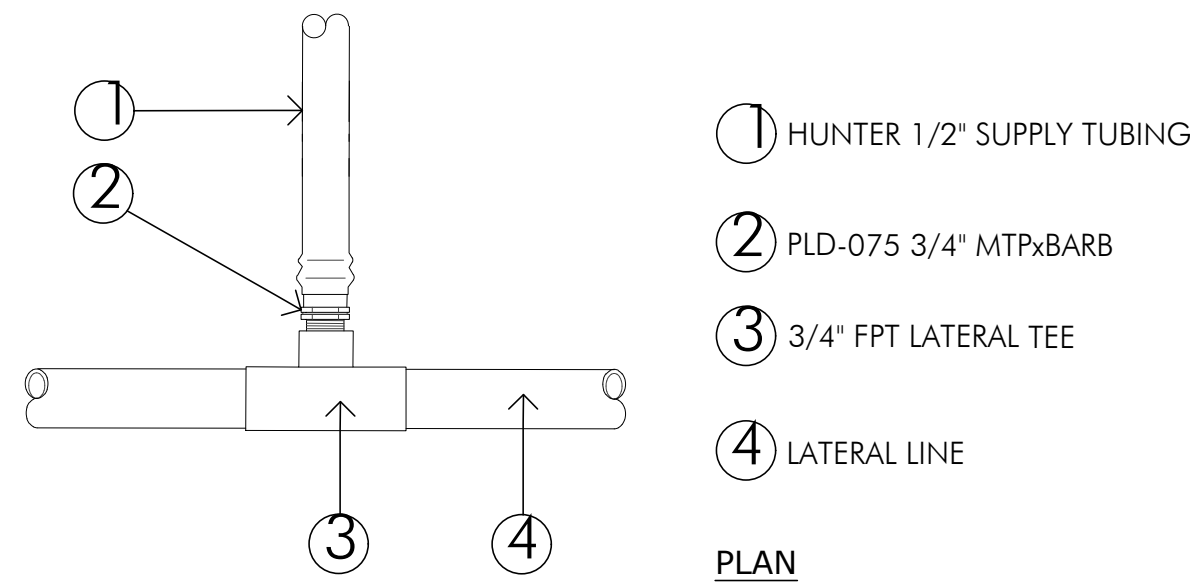
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NOT TO SCALE



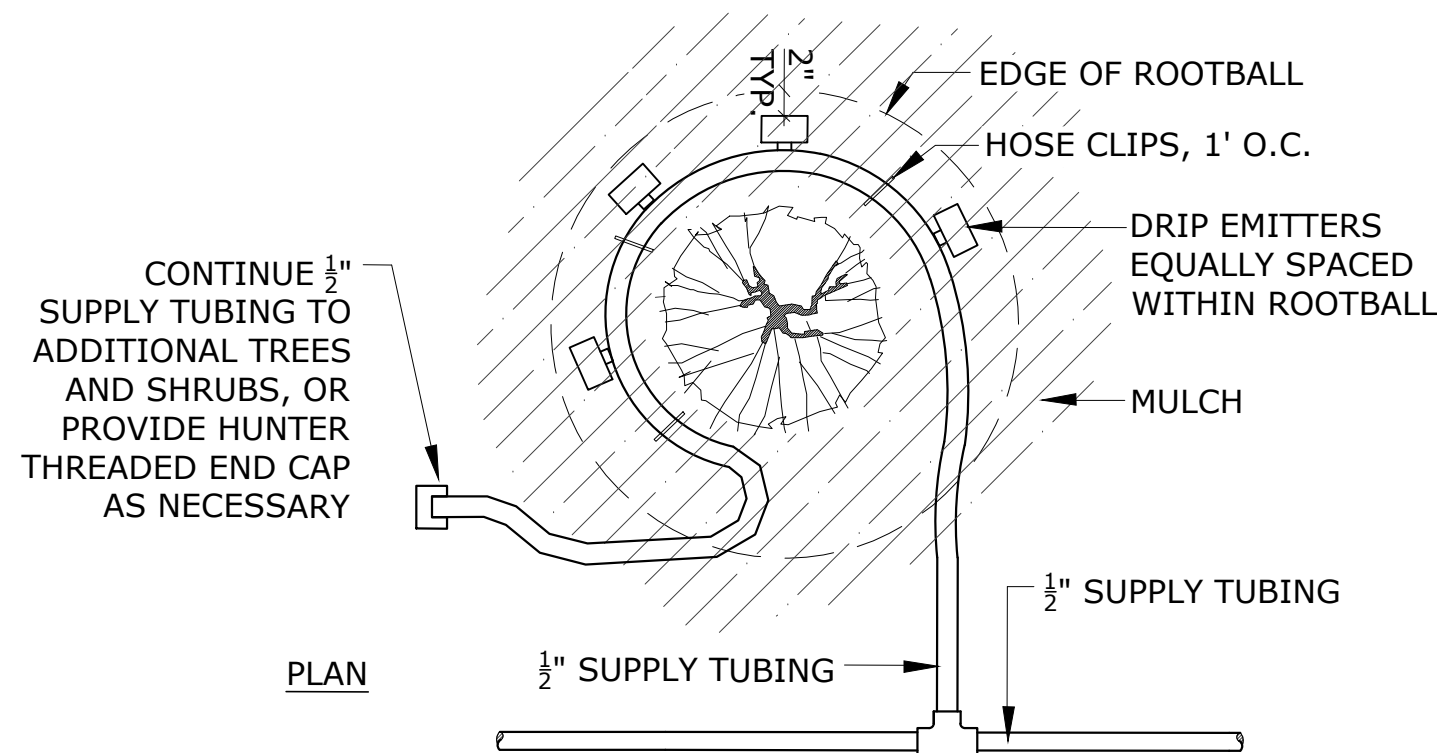
2 MASTER VALVE AND REMOTE CONTROL VALVE
NOT TO SCALE



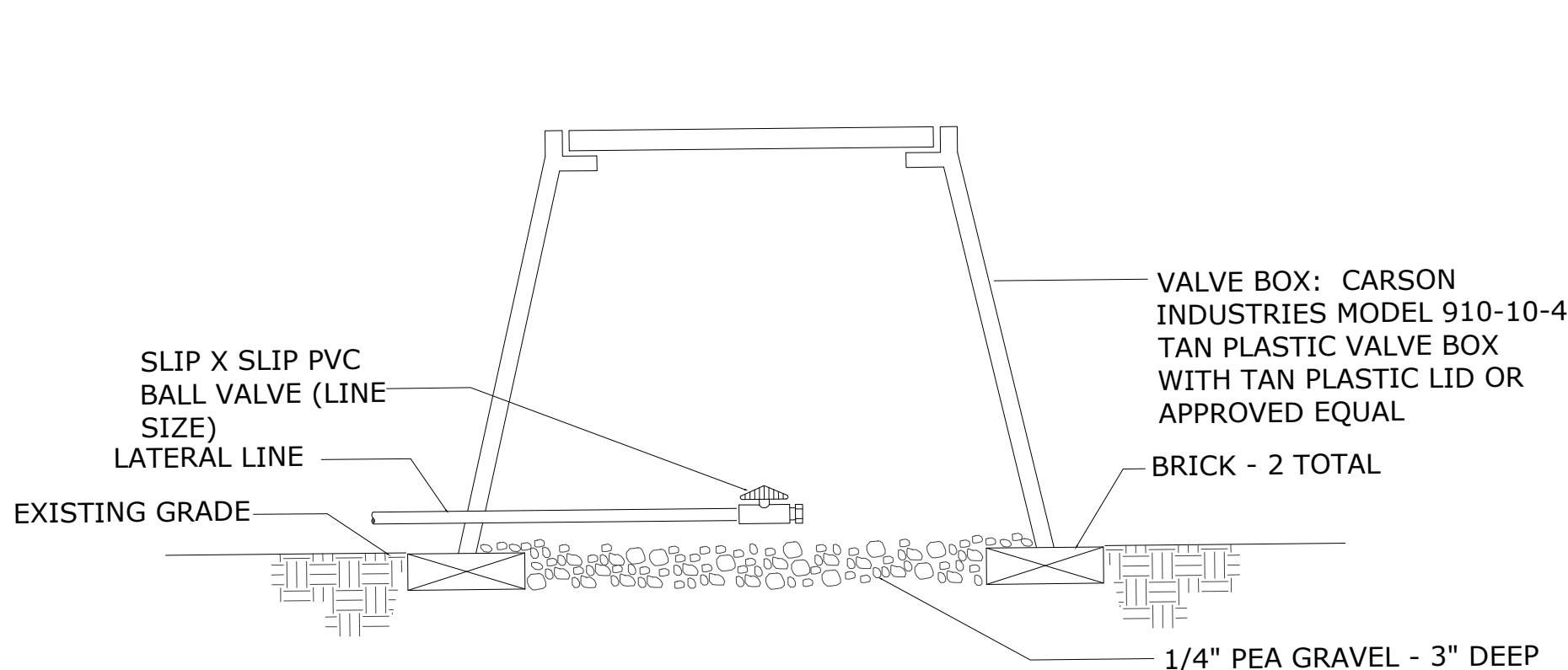
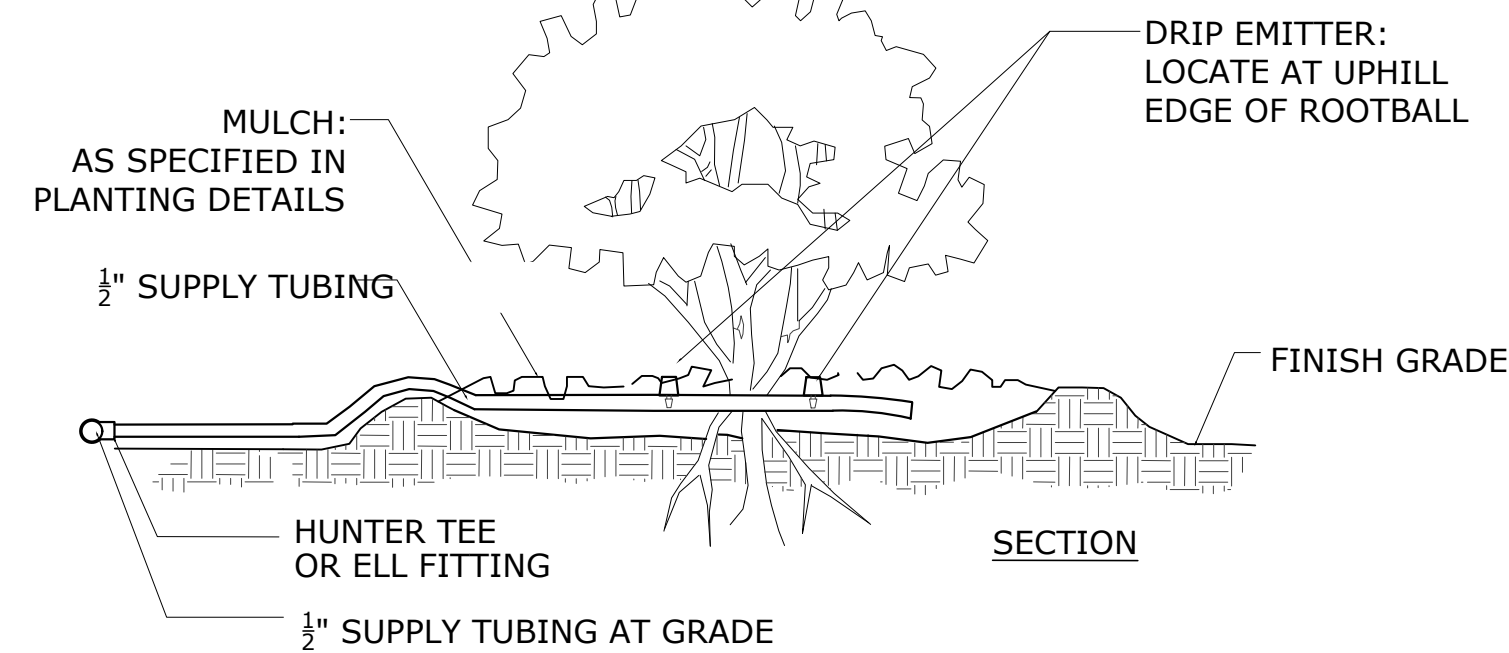
3 QUICK COUPLING VALVE
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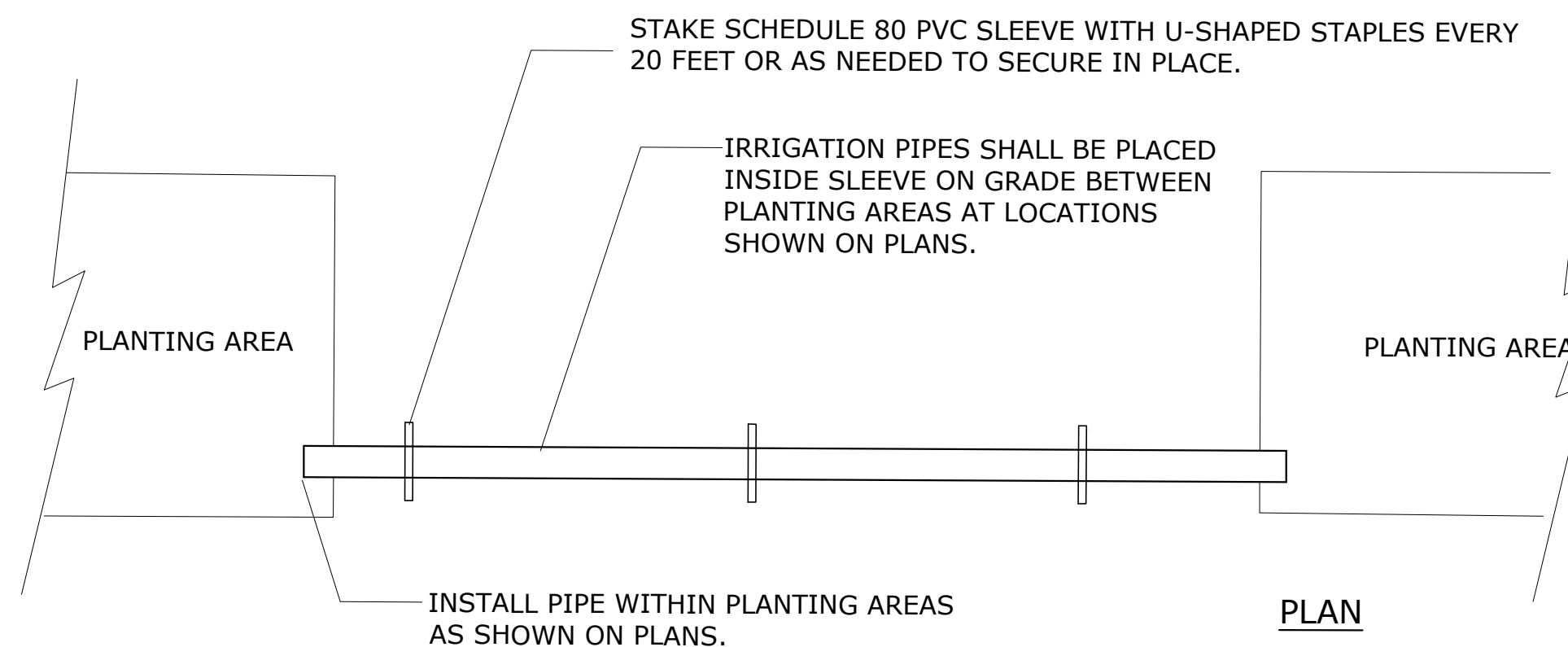
4 LATERAL LINE TO AT-GRADE SUPPLY TUBING CONNECTION
NOT TO SCALE



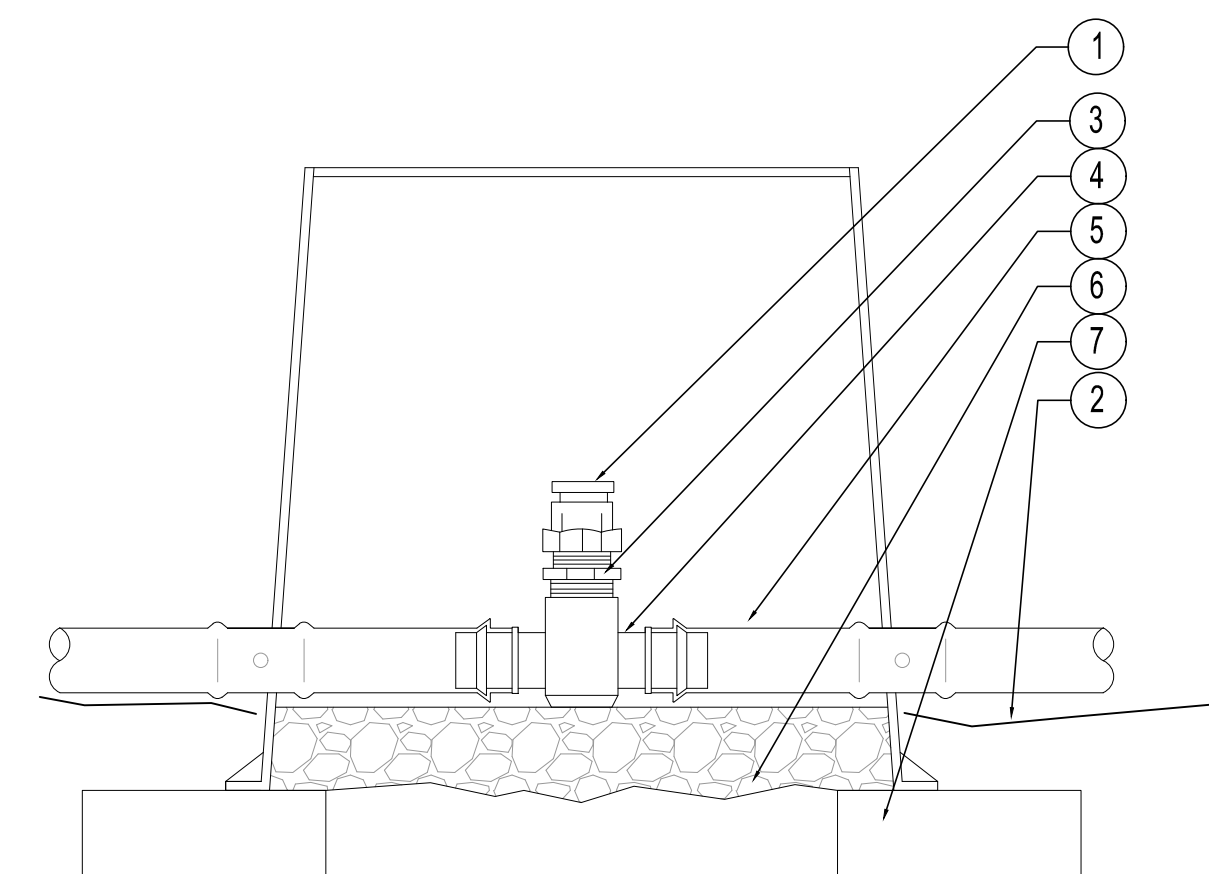
5 DRIP EMITTERS WITH SUPPLY TUBING
NOT TO SCALE



6 EMITTER LINE FLUSH ASSEMBLY
NOT TO SCALE



7 MAINLINE AND LATERAL LINE ABOVE GROUND SLEEVE
NOT TO SCALE



LEGEND:

- | | |
|-------------------------------|-------------------------|
| ① AIR RELIEF VALVE | ④ PLD-075-TBTEE FITTING |
| ② FINISHED GRADE | ⑤ SUPPLY LINE |
| ③ 3/4" MPT X 1/2" FPT BUSHING | ⑥ FILTER FABRIC |
| | ⑦ BRICK |

NOTES:
AIR RELIEF VALVE TO BE INSTALLED AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

8 AIR RELIEF VALVE
NOT TO SCALE

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IRRIGATION DETAILS

Sheet 14 of 14

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APPENDIX D. SONOMA COUNTY REGIONAL PARKS INTEGRATED PEST MANAGEMENT PLAN





Integrated Pest Management Plan

Sonoma County Regional Parks

August 2019

2300 County Center Drive, Suite 100A
Santa Rosa, CA 95403
parks.sonomacounty.ca.gov



Table of Contents

Introduction.....	1
IPM Guidelines	2
Plan Purpose.....	2
Goals	2
IPM Plan	3
Action Thresholds.....	3
Control Methods	3
Biological Control.....	3
Cultural Control	3
Manual or Mechanical Control	3
Physical Control.....	4
Chemical Control	4
Laws, Rules & Regulations.....	4
Contractors	4
Safety & Training	5
Staff Training.....	5
Applicator Training.....	5
Notification	5
Specifications	5
Posting Duration	5
Posting Locations.....	6
Restricted Entry	6
Monitoring	6
Record Keeping & Reporting	6
Record Keeping	6
Reporting.....	6
Monthly Reports	6
Annual Report.....	7
Pest Management Implementation.....	7
Aquatic Facilities	7
Swimming Areas.....	7
Fishing or Other Recreation.....	7
Riparian Areas	7

Beaches and Shorelines.....	7
Park Infrastructure	7
Buildings.....	8
Corporation Yards.....	8
Community Gardens & Teaching Gardens.....	8
Trails	8
Parking Lots	8
Playing Fields.....	8
Playgrounds.....	8
Plazas	8
Campgrounds	8
Picnic Areas	8
Dog Parks.....	8
Fuels.....	9
Rangeland, Natural Lands and Open Space Preserves	9
IPM Implementation	10
Conclusion	16
Appendix A: Definitions.....	17
Appendix B: Resolution of the Sonoma County Board of Supervisors.....	18
Appendix C: Early Detection Rapid Response Priority Weed List	23

Introduction

The Sonoma County Regional Parks Department owns and/or manages a broad spectrum of facilities throughout Sonoma County for natural resource protection and recreation. The mission of the Sonoma County Regional Parks Department (Regional Parks) is to create healthy communities and contribute to the economic vitality of Sonoma County by acquiring, developing, managing, and maintaining parks and trails countywide. Regional Parks preserves irreplaceable natural and cultural resources, and offers opportunities for recreation and education to enhance the quality of life and well-being of residents and visitors to Sonoma County. As a part of this mission, Regional Parks has adopted this Integrated Pest Management Plan to guide management decision making to support biodiversity, habitat quality, public safety and recreation.

Integrated Pest Management (IPM) is a pest management strategy that focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment and non-target organisms. These strategies require the selection, integration and implementation of various pest control techniques considering the various economic, ecological and sociological consequences.

Implementing an IPM Plan requires a thorough understanding of pests, their life cycles, environmental requirements and natural enemies as well as the establishment of a regular, systematic program for surveying pests and their damage. Regional Parks endeavors to implement the least toxic method available to address pest management while meeting the goals of this plan and the department's mission. In an IPM program, pesticides are used as a last resort when careful monitoring indicates they are needed according to action thresholds established herein. Development of specific pest management practices shall be done utilizing contemporary and applicable IPM research, IPM literature and through consultation with qualified pest management professionals.

IPM Guidelines

Plan Purpose

The purpose of this plan is to provide procedural guidelines for the management of various pest species in areas maintained by Regional Parks. This plan encompasses thresholds of action to control pests, methods used for control of pests, legal compliance, safety & training, public notification, monitoring and reporting, and techniques for implementation based on the unique facilities owned and/or managed by Regional Parks. This IPM Plan is intended to be updated every ten years to reflect current best management practices and available science.

Goals

Regional Parks IPM goals:

1. Preserve and enhance biodiversity on lands owned and/or managed by Regional Parks
2. Eliminate the use of synthetic pesticides for routine, ongoing maintenance
3. Protect and/or enhance habitat quality
4. Protect and/or enhance water quantity and quality
5. Reduce fire hazard and increase public safety through fire fuel management
6. Reduce human contact with synthetic herbicides, insecticides, and fungicides through the reduction of application and use in public spaces
7. Eliminate the use of synthetic herbicides or insecticides on playing fields, plazas, playgrounds, picnic areas, and campgrounds
8. Where chemical treatment methods become the only effective tool to manage a pest, select the least toxic pesticide that will result in pest control
9. Comply with Resolution of the Sonoma County Board of Supervisors establishing Integrated Pest Management Policies and prohibiting the use of synthetic pesticides, including herbicides, insecticides, and fungicides, in sensitive areas

Recognizing that pest management is an on-going and evolving discipline, these practices shall be subject to adaptation as needed to reflect new laws, information, techniques, equipment and materials.

IPM Plan

Action Thresholds

An action threshold is an observable condition or set of conditions that must be present before a pest control method can be initiated. Action thresholds are designed to initiate a control method or combination of methods when it will be effective in meeting the goals of this plan and keeping a pest below the defined action threshold. The action threshold should take into account the pest's natural population fluctuations, natural enemies, time needed for control measures to take effect, and other available information. Action thresholds for specific pests are listed in the Pest Management Implementation section of this plan.

Control Methods

The following IPM techniques-referred to as Control Methods-shall be utilized for treatment of a pest once an Action Threshold has been met. In an IPM approach, a combination of control methods are used to reach the desired outcome. Non-chemical control methods shall always be considered before chemical control methods are applied.

Biological Control

Biological Control involves the use of beneficial organisms such as insects or ungulates. Examples include:

- Use of cattle, sheep, goats, or other grazing animals
- Maintenance of existing beneficial organism populations, including native species and habitat areas
- Encouraging plant diversity to provide food and habitat for beneficial species
- Supplementation of beneficial organism populations through releases in partnership or at the request of the California Department of Food and Agriculture

Cultural Control

Cultural control involves the use of horticultural or other practices that provide for optimum plant health and thereby reduce vulnerability to pests. Examples include:

- Selection of plant materials suited to the site
- Insuring proper soil fertility through mulching, compost, or appropriate fertilizer application, avoiding nutrient deficiencies and excesses
- Modification of the environment to disrupt the pest cycle such as alteration of irrigation, pruning, and adjustments to mowing heights
- Removal of plant debris that harbors insects and plant pathogens

Manual or Mechanical Control

Manual or mechanical control employs tools and machinery to control pest levels.

Examples include:

- Use of shovels, hoes, mowers, or string weed trimmers to remove the target pest
- Removal of infested plants or plant parts
- Removal of host plants for target pest
- Use of traps

Physical Control

Physical control involves activities that manipulate the environment. Examples include:

- Physical barriers such as mulch, weed cloth, screens or wire mesh to exclude entry of pest
- Removal of attractants such as food or nesting materials
- Solarizing/tarping to treat seedbank
- Controlled burning

Chemical Control

Chemical control involves chemical pesticides including naturally occurring substances such as neem or clove oil as well as synthetic pesticides. When synthetic chemical control methods become necessary, Regional Parks utilizes the least toxic option that will be effective in controlling the target weed. Pesticides for use in California carry a signal word to indicate toxicity to humans. These words are “Caution,” “Warning,” and “Danger” in order of increasing toxicity. Regional Parks endeavors to only use products that carry the “Caution” level designation. Synthetic chemical controls will generally be reserved for targeted pest management and will not be employed as a tool for routine maintenance of park facilities. Examples include:

- Use of least toxic and smallest quantity of pesticide required to produce desired outcomes for pest management; i.e. spot spraying target weeds for which non-chemical control is ineffective
- Proper timing of pesticide application for optimum pest control and applicator/public safety

Laws, Rules & Regulations

All Federal, State, and County laws, rules and regulations pertaining to the handling and use of pesticides will be followed.

Contractors

Regional Parks may solicit the services of a private pest control firm when appropriate, such as pesticide application in an aquatic system when other control methods have proved ineffective. All contractors performing pest control work for the Regional Parks Department will be required to follow sound IPM practices and all Federal, State, and County laws, rules and regulations.

Safety & Training

Staff Training

The success of any IPM program is dependent on the skills and knowledge of those involved with its implementation. Information and training is to be provided for Regional Parks staff and will include:

- Principles and components of IPM
- Management strategies regarding common pests
- Management strategies regarding area-specific pests
- Non-chemical pest control techniques
- Safe application of pesticides

Applicator Training

All personnel involved in pesticide handling and application will have the following training:

- Annual training on the safe and proper handling, application, and disposal of pesticides
- Supervisorial staff will maintain Qualified Applicator Certificates or Licenses, which require annual continuing education in the areas of laws and regulations and pest control methods.

Notification

Notification signs shall be posted to inform staff and the public when a pesticide application is scheduled to occur, the name of the chemical, and associated restrictions on entering the application area. The following parameters shall be used for notification signs:

Specifications

- 8 1/2" x 11" in dimension
- Be printed in black lettering on a white background
- Be printed in English and Spanish
- Include the following information:
 - Date and time of planned application
 - Location within the site to be treated
 - The pest(s)
 - The brand name of pesticide(s) used and active ingredient
 - Warning to stay out of treated areas for a specific time
 - A departmental phone number to call for more information
 - Date and time of sign posting

Posting Duration

Signs shall be posted a minimum of 48 hours prior to the start of the pesticide application and will remain posted for a minimum of 48 hours after the application unless the pesticide label specifies a longer interval.

Posting Locations

Signs shall be posted at all sidewalks and paths that normally enter the site or treated area within the site, at any other location where people would normally enter the site or treated area, and any other logical location that would provide adequate warning to people entering the site or treated area.

Restricted Entry

Entry to treated areas will be restricted when circumstances warrant, in addition to the use of notification signs. Entry restrictions may be in the form of physical barricades, warning tape or temporary fencing.

Monitoring

Monitoring utilizes a variety of techniques ranging from casual observation to statistically valid quantitative sampling in order to measure pest damage, track populations of beneficial and pest organisms, and provide assessment of the site and surroundings. Careful records are necessary to determine when specific control tactics are to be implemented to keep pest levels below the Action Threshold. These records are further utilized to measure the effectiveness of specific tactics, to pinpoint problem areas and may be used in subsequent years for planning and timing of control activities. High priority weed species that are the subject of monitoring and control are listed in Appendix C. Priority weeds determinations are dynamic and change as new information becomes available.

Record Keeping & Reporting

Record Keeping

Records of pesticide use shall be completed by all persons applying pesticides. These records are to include:

- Date and time of application
- Brand name of the pesticide
- Active ingredient
- Target pest(s)
- Amount of pesticide used
- Name (or initials) of applicator
- Where application was made (location, host, specific site within a park, etc.)
- Weather and site conditions

These records shall be submitted to the Maintenance Supervisor. This information is provided monthly in summary form to the Sonoma County Department of Agriculture.

Reporting

Monthly Reports

The Maintenance Supervisor will prepare a monthly summary report of all pesticides

used. This is sent to the Sonoma County Department of Agriculture by the 10th of the month following application as required by law.

Annual Report

Regional Parks staff will compile an annual report. This report will include:

- Detailed pesticide usage data
- Discussion of efficacy of methods
- Discussions of methods being used to reduce pesticide usage

Pest Management Implementation

The following section provides information regarding Regional Parks facility types, specific action thresholds and associated recommendations for pest management implementation. Pest management techniques will vary depending on the facility type, and not all pest types will occur or have the potential to occur in all facility types.

Aquatic Facilities

Regional Parks owns and/or manages a variety of aquatic facilities. Aquatic facilities can be defined as any park that has significant aquatic features such as river or ocean access, ponds, and lakes. Aquatic facilities provide important natural resource values and recreation opportunities. These facilities can be further bisected into the following management categories:

Swimming Areas

Swimming areas are aquatic facilities providing lifeguarded swimming opportunities

Fishing or Other Recreation

Fishing or other recreation areas are aquatic facilities providing fishing access and non-swimming recreation such as kayaking

Riparian Areas

The interface of a river or stream and adjacent land. These areas may or may not be accessible to people and recreation.

Beaches and Shorelines

The interface of an ocean or bay and adjacent land. These areas may or may not be accessible to people and recreation

Park Infrastructure

Park infrastructure encompasses the built environment within parks and includes both public and staff facilities. All park properties include some type of infrastructure; the following categories have been created to meet the goals of this IPM Plan and provide an adaptive approach to management:

Buildings

Examples of buildings within parks include Visitor's Centers, restrooms, concession stands, etc. Buildings are excluded from synthetic pesticide application.

Corporation Yards

Corporation yards are staff areas used for storing vehicles, tools, equipment and performing tasks such as tool maintenance or fabricating signage.

Community Gardens & Teaching Gardens

Community and teaching garden areas are designated within a larger park for the purpose of agricultural production. Community gardens are often managed by a community group and provide gardening opportunities on public land to the adjacent populations. Teaching gardens are managed by Regional Parks staff and utilized by Community Engagement programs such as school field trips. These facilities may employ organic agricultural techniques. Community and teaching gardens are excluded from synthetic pesticide application.

Trails

Trails include single track, multi-use, Class I bike paths, ranch and fire roads.

Parking Lots

Parking lots include paved or gravel parking areas providing access to park facilities. Parking lots are excluded from synthetic pesticide application.

Playing Fields

Playing fields include synthetic or natural turf areas maintained for field sports such as baseball, soccer, etc. Playing fields are excluded from synthetic pesticide application.

Playgrounds

Playgrounds are improved areas designed and equipped for children's play. Playgrounds may include traditional play structures or permanent design features intentionally created out of natural materials. Playgrounds include infrastructure such as skate parks. Playgrounds are excluded from synthetic pesticide application.

Plazas

Plazas are improved areas for the purpose of gathering. Plazas may include pervious or impervious surfaces. Plazas may or may not have amenities such as benches and picnic tables. Plazas are excluded from synthetic pesticide application.

Campgrounds

Campgrounds are areas used for overnight accommodation often contain amenities such as picnic benches and cooking grills. Campgrounds are excluded from synthetic pesticide application.

Picnic Areas

Picnic areas improved areas for the purpose of gathering. Picnic areas contain amenities such as picnic benches and tables. Picnic areas are excluded from synthetic pesticide application.

Dog Parks

Dog parks are improved areas designed and equipped for dog's play. Dog parks may contain amenities such as picnic benches and tables. Dog parks are excluded from synthetic pesticide application.

The resolution of the Sonoma County Board of Supervisors on June 4, 2019 prohibits the use of “synthetic herbicides or synthetic insecticides on agency-maintained campuses, sidewalks, playing fields, plazas, playgrounds, County-maintained libraries, or in other “no synthetic spray” zones. As established in this IPM Plan, the infrastructure excluded from pesticide use includes buildings, community and teaching gardens, parking lots, playing fields, playgrounds, plazas, campgrounds, picnic areas, and dog parks as defined above.

Fuels

California’s native vegetation has evolved with and is adapted to periodic fire. However, fire suppression in recent history has led to increased vegetative fuels in wildland areas that now merit active management to preserve ecosystem health and reduce the likelihood of catastrophic fires due to fuel loads. For the purposes of this plan, the fuels category may occur in any facility type and has associated Action Thresholds for management as a pest type.

Regional Parks is actively engaged in fire fuels treatments for the preservation of habitat quality, ecosystem function, and public safety. Treatments may include thinning of ladder fuels, invasive plant removal, and the creation of fuel breaks for community protection or emergency personnel access.

Rangeland, Natural Lands and Open Space Preserves

Rangeland, Natural Lands and Open Space Preserves include properties with minimal recreation infrastructure and typically include trailhead parking with a variety of hiking, biking and/or equestrian trails. These properties may or may not include bathroom and drinking water facilities. Grazing may be present.

IPM Implementation				
PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Aquatic				
	swimmers itch (cercarial dermatitis)	Aquatic: swimming	Swimmers itch present in impounded swimming facility disconnected from flow/riverine system	Post signs Chemical: Chlorinate Physical: Provide showers
	Cyanobacteria	Aquatic: swimming, fishing or other recreation	Cyanobacteria present	Post signs
	Aquatic weeds Examples: Azolla, Eurasian milfoil, ceratophyllum, Ludwigia, hyacinth	Aquatic: swimming, fishing or other recreation, riparian	Weed population present at level that directly impacts recreation, natural resources or infrastructure	Manual/mechanical removal Contract with qualified firm for application of herbicides approved for aquatic use
	Quagga mussels (<i>Dreissena rostriformis bugensis</i>) and/or Zebra mussels (<i>Dreissena polymorpha</i>)	Aquatic facilities: swimming, fishing or other recreation	Habitat suitable to support invasive mussels	Implement monitoring If Quagga or Zebra mussels are found, implement best management practices for treatment and prohibition of transmission

PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Fuels				
	Vegetative fuels	All	Fuels within defensible space boundaries of buildings	Manual/mechanical removal Biological: Grazing
	Vegetative fuels	All	Fuels along Regional Park boundaries	Manual/Mechanical removal or thinning Biological: Grazing
	Vegetative fuels	Rangeland, Agricultural & Natural Lands	Invasive trees or shrubs known to increase fire intensity in otherwise fire adapted landscape; e.g. eucalyptus or Douglas fir trees	Manual/Mechanical: removal or thinning Removal may be paired with chemical treatment as necessary at minimum level required to achieve project goals

PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Invertebrate pests				
	Aphids, beetles, mites	All	Populations present at levels that threaten biodiversity, agricultural production, could lead to pest transmission, and/or cause catastrophic stand mortality	<p>Implement Best Management Practices to avoid further infestation or transmission of pest</p> <p>Cultural: assess water, plant density, pruning, and nutrient elements</p> <p>Chemical: Use organic low risk insecticides such as neem oil or soap</p> <p>Cultural: Remove infested material</p>
	Aphids, beetles, mites	Rangeland, Agricultural & Natural Lands	Populations present at levels that threaten biodiversity, agricultural production, and/or could lead to catastrophic stand mortality	<p>Implement Best Management Practices to avoid further infestation or transmission of pest</p> <p>Contact forester or other qualified specialist</p>
	Bees	All	Bee nest found in area directly affecting employee and/or public safety, particularly around high traffic infrastructure	<p>Cultural: Contact a beekeeper for removal</p> <p>Physical: Install barriers to prevent re-establishment if possible</p>

PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Invertebrate pests				
	Wasps and Hornets	All	Wasp or hornets nest found in area directly affecting employee and/or public safety, particularly around high traffic infrastructure	Manual/Mechanical: Remove nest Physical: Install barriers to prevent re-establishment if possible Contract with qualified pest treatment firm
Plant pathogens				
	Sudden Oak Death	All	Host species shows signs of infection with significant oak trees present within transmission radius not showing signs of infection	Monitor Cultural: Remove infected plants Quarantine infected waste Implement best practices to avoid spread and/or transmission to new sites
	Plant Pathogens	All	Plant pathogen detected on existing plantings or recently acquired nursery stock with potential to cause stand mortality	Cultural: Remove and dispose of infected materials per current recommendations Avoid transmission to new sites

PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Vegetative				
	Unwanted weed species: grass or forbs Examples: Harding grass, Medusahead, yellow star thistle	Park Infrastructure Rangeland, Agricultural, & Natural Lands	Weed species present at levels that negatively affect forage quality, habitat structure, other natural resource values, or recreation	Biological: Grazing Manual/mechanical removal Physical: mulch, solarizing, controlled burning Chemical: herbicide
	Unwanted weed species: shrubs Examples: Arundo, broom spp., Red Sesbania	Park Infrastructure Rangeland, Agricultural, & Natural Lands	Weed species present at levels that negatively affect forage quality, habitat structure, other natural resource values, or recreation	Biological: Grazing Manual/mechanical removal Physical: solarizing, controlled burning Chemical: herbicide
	Unwanted weed species: trees Examples: Acacia, Eucalyptus	Park Infrastructure Rangeland, Agricultural, & Natural Lands	Weed species present at levels that negatively affect forage quality, habitat structure, other natural resource values, public safety or recreation	Biological: Grazing Manual/mechanical removal Physical: solarizing, controlled burning Chemical: herbicide

PEST CATEGORY	PEST	FACILITY TYPE	ACTION THRESHOLD	TREATMENT
Vertebrate				
	Birds Example: starlings	Park Infrastructure	Population and behavior at level causing significant damage to infrastructure; i.e. foraging or nesting damage to buildings	<p>Cultural: aversive conditioning with faux predators or reflective objects, elimination of food sources</p> <p>Physical: exclusionary structures such as screens, wires, etc.</p> <p>Contract with qualified pest control firm for aversive conditioning, exclusion, or other treatment</p>
	Mesocarnivores Examples: raccoon, skunks, opossums	Park Infrastructure	Population at level causing significant damage to infrastructure and/or risks to employee or public health	<p>Cultural: removal of attractants such as food and habitat around infrastructure</p> <p>Physical: implement exclusions to prohibit rodent entry to buildings</p> <p>Contract with qualified pest control firm</p>
	Rodents Examples: mice, rats, squirrels, gophers, bats	Park Infrastructure	Population at level causing significant damage to infrastructure and/or risks to employee or public health	<p>Cultural: removal of attractants such as food and habitat around infrastructure</p> <p>Physical: implement exclusions to prohibit rodent entry to buildings</p> <p>Contract with qualified pest control firm</p>

Conclusion

Regional Parks will implement this IPM Plan to achieve efficient and effective pest control supporting biodiversity, habitat quality, public safety, recreation. Regional Parks will comply with all applicable laws and regulations including the Sonoma County Board of Supervisor Resolution passed on June 4, 2019 (Appendix B). Monitoring and adaptive management will be used in conjunction with this IPM Plan to enable staff to select non-synthetic chemical control methods whenever possible. This plan will be evaluated periodically and updated on a ten-year cycle to reflect changes in best management practices, laws, information, techniques, equipment and materials.

Appendix A: Definitions

Action Threshold: an observable condition or set of conditions that must be present before a pest control method can be initiated. Action thresholds are designed to initiate a control method or combination of methods when it will be effective in meeting the goals of this plan and keeping a pest below the defined action threshold. The action threshold should take into account the pest's natural population fluctuations, natural enemies, time needed for control measures to take effect, and other available information.

Biological Control: use of beneficial organisms such as insects or ungulates.

Chemical Controls: chemical pesticides including naturally occurring substances such as neem or clove oil as well as synthetic pesticides

Cultural Control: horticultural practices that provide for optimum plant health and thereby reduce vulnerability to pests

Host: the site, plant, or animal on which the pest lives or depends upon for a particular life stage

IPM: Integrated Pest Management (IPM) is a pest management strategy that focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment and non-target organisms. These strategies require the selection, integration and implementation of various pest control techniques considering the various economic, ecological and sociological consequences.

Manual/Mechanical Control: employs tools and machinery to control pest levels

Monitoring: a variety of techniques ranging from casual observation to statistically valid quantitative sampling in order to measure pest damage, track populations of beneficial and pest organisms, and provide assessment of the site and surroundings.

Pest: various insect, plant, disease and animal pests have been identified in general terms. The common names of pests are used, though in some cases the scientific name could be used for purposes of clarification.

Physical Control: activities that manipulate the environment

Weed: a plant considered undesirable in a particular situation. Weeds may be native, non-native, and/or invasive.

Appendix B: Resolution of the Sonoma County Board of
Supervisors
June 4, 2019

Date: June 4, 2019

Item Number: _____

Resolution Number: _____

☐ 4/5 Vote Required

Concurrent Resolution Of The Board Of Supervisors Of The County Of Sonoma, The Board Of Directors Of The Sonoma County Water Agency, The Board Of Directors Of The Sonoma County Agricultural Preservation And Open Space District, And The Board Of Commissioners Of The Community Development Commission, State Of California, Establishing Integrated Pest Management Policies And Prohibiting The Use Of Synthetic Pesticides, Including Herbicides, Insecticides, and Fungicides, In Sensitive Areas

Whereas, the County of Sonoma, the Sonoma County Water Agency (Sonoma Water), the Sonoma County Agricultural Preservation And Open Space District (Ag + Open Space), and the Sonoma County Community Development Commission, are committed to using pesticides appropriately, thoughtfully, and only when necessary, and wish to provide the public with the information required to confirm this is the case;

Whereas, Integrated Pest Management is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties; holistic Integrated Pest Management techniques can lessen the need for pesticides, including synthetic herbicides;

Whereas, the County of Sonoma and Sonoma Water are in the process of updating their Integrated Pest Management policies;

Whereas, at the request of a coalition of community advocates and County leadership, the County of Sonoma's Department of General Services determined it was feasible to stop using synthetic herbicides on the County campus, and stopped using such chemicals for vegetation management on the County campus in 2018;

Whereas, a trial of roadside vegetation management using certified organic alternatives to synthetic herbicides will commence in 2019;

Whereas, Sonoma County Regional Parks, Sonoma County Transportation and Public Works, and Sonoma Water, have established Integrated Pest Management programs or are in process of updating Integrated Pest Management programs that will facilitate environmental stewardship, support public health and safety, and reduce synthetic pesticide use;

Whereas, an annual report on pesticide use, publicly accessible Integrated Pest Management programs, and a publicly available list of “no synthetic spray” zones will enhance transparency and accountability by enabling the public to understand and comment upon pesticide policies;

Whereas, some synthetic pesticides — including herbicides, insecticides, and fungicides — have been shown to increase the prevalence of resistant weeds, insects, and fungi, which in turn leads to increased use of existing synthetic pesticides and development of new synthetic pesticides, and may additionally contribute to global public health threats including the rise of *Candida auris*;

Whereas there is public concern about research findings that certain synthetic herbicides, insecticides, and fungicides induce epigenetic modifications in plants, invertebrates, and vertebrates, and public concern that these chemicals may lead to long-term human health impacts, including endocrine disruption and carcinogenesis;

Whereas, it is the intent of the County of Sonoma, Sonoma Water, Ag + Open Space, and the Sonoma County Community Development Commission, to reduce human contact with synthetic herbicides, insecticides, and fungicides through the reduction of application and use in public spaces;

Whereas, the threat of catastrophic wildfire and the need to expand vegetation management efforts should not drive an increase in the application of synthetic herbicides, but should instead instigate a holistic, ecological approach to wildfire risk reduction and vegetation management;

Now, Therefore, Be It Resolved, Therefore, the Board of Supervisors of the County of Sonoma, the Board of Directors of the Sonoma County Water Agency, the Board Of Commissioners of the Community Development Commission, and the Board of Directors of the Sonoma County Agricultural Preservation and Open Space District hereby concurrently resolve as follows:

1. The County of Sonoma, Sonoma Water, Ag + Open Space, and the Sonoma County Community Development Commission will not use synthetic herbicides or synthetic insecticides on agency-maintained campuses, sidewalks, playing fields, plazas, playgrounds, County-maintained libraries, or in other “no synthetic spray” zones established in Integrated Pest Management plans.
2. By the end of 2019, staff for the County of Sonoma, Sonoma Water, Ag + Open Space, and the Sonoma County Community Development Commission are directed to submit their respective “no synthetic spray” zones to their respective boards for approval.
3. In parks and sensitive areas, synthetic pesticides will not be used for routine, ongoing maintenance, and pesticide use will be limited to targeted, specific weed infestations where non-chemical means are ineffective and the threat of non-action is significant as established in Integrated Pest Management Plans.
4. The County of Sonoma, Sonoma Water, Ag + Open Space, and the Sonoma County Community Development Commission will eliminate pesticide use in all areas and by all departments and contractors to the maximum extent practicable.
5. Pesticides shall be used only if evaluation indicates they are needed and they are applied according to agency guidelines.
6. The County of Sonoma, Sonoma Water, Ag + Open Space, and the Sonoma County Community Development Commission will, to the maximum extent practicable, implement organic or mechanical alternatives to synthetic pesticides.
7. Any required treatments shall be made with the goal of removing only the target organism.
8. Pest controls shall be selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment.
9. The use of pesticides shall not be used in a manner that threatens water quality.

10. Sonoma County and Sonoma Water staff are directed to partner with other agencies and organizations to encourage the use of Integrated Pest Management. Each agency is directed to continue the policy that native or drought-tolerant vegetation will be preferred and planted strategically to reduce water, pesticide, and fertilizer needs.
11. Each County Department with landscape management responsibilities shall have an Integrated Pest Management Plan that integrates countywide policies.
12. Staff for each agency shall report to its Board annually on pesticide use.
13. For the annual report to the Sonoma County Board of Supervisors, as part of the County's existing stormwater program, the Permit and Resources Management Department (Permit Sonoma) shall coordinate the preparation of an annual report on countywide pesticide use in County operations. Departments with landscape management activities are directed to provide Permit Sonoma with any necessary information or data required to complete this report.

Supervisors/Directors/Commissioners:

Gorin:	Zane:	Gore:	Hopkins:	Rabbitt:
Ayes:	Noes:	Absent:	Abstain:	

So Ordered.

Appendix C: Early Detection Rapid Response Priority Weed List

Common Name	Scientific Name
Kangaroo Thorn	<i>Acacia paradoxa</i>
Periwinkle	<i>Vinca</i> sp.
Acacia	<i>Acacia dealbata</i>
Iceplant	<i>Carpobrotus edulis</i>
Nepalese firethorn	<i>Pyracantha crenulata</i>
Biddy Biddy	<i>Acaena novae-zelandiae</i>
Capeweed	<i>Arctotheca calendula</i>
Dusky Dog Fennel	<i>Chamaemelum fuscum</i>
Eggleaf Spurge	<i>Euphorbia oblongata</i>
French Broom	<i>Genista monspessulana</i>
Herb Robert	<i>Geranium purpureum</i>
Scotch Broom	<i>Cytisus scoparius</i>
Wild Geranium	<i>Geranium dissectum</i>
Annual yellow sweetclover	<i>Melilotus indicus</i>
Lollypop tree	<i>Myoporum laetum</i>
Barbed Goatgrass	<i>Aegilops triuncialis</i>
Bearded Creeper	<i>Crupina vulgaris</i>
Buffaloberry	<i>Solanum rostratum</i>
Butterfly Bush	<i>Buddleja davidii</i>
Carolina Horse Nettle	<i>Solanum carolinense</i>
Cotoneaster	<i>Cotoneaster</i> sp.
Denseflowered chordgrass	<i>Spartina densiflora</i>
Dog Fennel, Stinking Chamomile	<i>Anthemis cotula</i>
English Ivy	<i>Hedera helix</i>
Giant Reed	<i>Arundo Donax</i>
Japanese honeysuckle	<i>Lonicera japonica</i>
Meadow fescue	<i>Festuca pratensis</i>
Perennial Pepperweed	<i>Lepidium latifolium</i>
Portuguese Broom	<i>Cytisus striatus</i>
Rattlebox	<i>Sesbania punicea</i>
Reed Canarygrass	<i>Phalaris arundinaceae</i>
Russian Knapweed	<i>Centaurea repens</i>
Saltwater chordgrass	<i>Spartina alterniflora</i>
Salvation echium	<i>Echium plantagineum</i>
Scotch Cottonthistle	<i>Onopordum acanthium</i>

Water Primrose	Ludwigia sp.
White sweetclover	Melilotus albus
Wooly Distaff Thistle	Carthamus lanatus
Andean Tussock Grass	Nassella formicarum
Butter and Eggs	Linaria vulgaris
Cut-leaved blackberry	Rubus laciniatus
Diffuse Knapweed	Centaurea diffusa
Glossy Privet	Ligustrum lucidum
Illyrian cottonthistle	Onopordum Illyricum
Monbretia	Crocosmia x crocosmiiflora
Purple Awned wallaby grass	Danthonia pilosa
Purple Loosestrife	Lythrum salicaria
Tall Oatgrass	Arrenatherum elatius
Tansy Ragwort	Senecio jacobaeae
Vasey's grass	Paspalum urvillei
American Pokeweed	Phytolacca americana
Iberian Knapweed	Centaurea iberica
Plumeless Thistle	Carduus acanthoides
Skeleton Weed, Hogbite	Chondrilla juncea
Spotted Knapweed	Centaurea maculosa
Whitestem distaff thistle	Carthamus leucocaulos
Japanese knotweed	Fallopia japonica
Robert's Geranium	Geranium robertianum
Andean Pampas Grass	Cortaderia jubata
Pampas Grass	Cortaderia selloana
Stinkwort	Dittrichia Graveolens
Castorbean	Ricinus communis
Finestem Needlegrass	Naseela tenuissima
Gazania	Gazania linearis

APPENDIX E. REGIONAL CURVES OF HYDRAULIC GEOMETRY FOR WADEABLE STREAMS





Regional Curves of Hydraulic Geometry for Wadeable Streams In Marin and Sonoma Counties, San Francisco Bay Area

Data Summary Report May 10, 2013

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Contents

1.0 Introduction	5
1.1 BACKGROUND TO BANKFULL CHANNEL DIMENSIONS	5
1.2 BACKGROUND TO HYDRAULIC GEOMETRY AND REGIONAL CURVE ANALYSIS	9
1.3 STUDY LIMITATIONS.....	12
2.0 Data Collection METHODS	13
2.1 SITE SELECTION METHODS	13
2.2. FIELD DATA COLLECTION METHODS.....	13
2.3 DATA ANALYSIS GIS METHODS	16
2.4 BANKFULL DISCHARGE CALCULATION METHODS.....	17
3.0 RESULTS	18
4.0 Conclusions and Next Steps	35
5.0 REFERENCES	38

Tables and Figures

Figure 1: Graph of flood frequency and sediment discharge showing effective and bankfull discharge. From Wolman and Miller, 1960.	8
Figure 2: A natural river at bankfull flow.	8
Figure 3: Schematic cross-section of a river showing bankfull depth (from Rosgen 1996).....	9
Figure 4: Original Leopold Regional Curves (1978) for bankfull dimensions versus drainage area (reprinted from Rosgen 1996)....	11
Figure 5: Location of Marin County Survey Sites. San Antonio Creek straddles the Marin and Sonoma County line.	19
Figure 6: Location of Sonoma County Survey Sites	20
Figure 7: Frequency Distribution of Field Sites by Channel Slope Class	21
Figure 8: Frequency Distribution of Field Sites by Drainage Area Class.....	21
Figure 9: Frequency Distribution of Field Sites by Dominant Geomorphic Type ...	22
Figure 10: Frequency Distribution of Field Sites by Rosgen Stream Class.....	23
Figure 11: Plot of Bankfull Cross-Sectional Area versus Drainage Area	26
Figure 12: Plot of Bankfull Width versus Drainage Area	27
Figure 13: Plot of Bankfull Depth versus Drainage Area.....	28
Figure 14: Plot of Bankfull Floodprone Width versus Drainage Area.	29
Figure 15: Plot of Bankfull Floodprone Width versus Drainage Area with unstable sites of Rosgen Stream Class F and G channels removed from the analysis.....	30
Figure 16: Plot of Bankfull Flow versus Drainage Area	31
Figure 17: Plot of Mean Depth to Max Depth	32

Figure 18: Plot of Manning's n by Rosgen Channel Type	33
Figure 19: Plot of Bankfull Mean Velocity versus Drainage Area	33
Figure 20: Plot of Drainage Network Length by Bankfull Cross Sectional Area	34

Table 1: Calculated Recurrence Interval for Bankfull Discharge at Gage Sites	25
Table 2: List of Field Sites	39

Appendix A

Original Leopold Expression of Hydraulic geometry

Appendix B

Rosgen Stream Types

1.0 INTRODUCTION

This project report presents the results of a multi-year effort to develop regional design curves of hydraulic channel geometry (“regional curves”) for wadeable streams in Marin and Sonoma Counties in the San Francisco Bay Area. The project was funded in part by the US EPA under the Estuary 2100 program grant through the San Francisco Estuary Partnership (SFEP). Through this project, we have performed geomorphic field surveys at 45 sites in Marin and Sonoma Counties to develop a series of plots of hydraulic geometry dimensions of cross-sectional area, width, and depth at what was identified from field surveys as the possible channel stage associated with the discharge that tends to maintain stable channel geometry. Rivers develop in a stochastic, heterogeneous world of varying local conditions and widely ranging inputs of water and sediment. Despite this they develop a persistent morphology in which channel geometry (width and mean depth) is on the average relatively stable. In alluvial valleys there is a central tendency of stable streams to form a floodplain bench. Although the term that defines the flow that maintains stable channel geometry could be associated with “bankfull flow” and/or “effective discharge”, we chose to use the term bankfull flow to represent the discharge stage and hydraulic geometry associated with the formation of a floodplain bench identified in the field.

This report presents the results of the first phase of data analysis covered under this grant that satisfies (and in fact exceeds) the requirements of the original EPA grant that partially funded this study. These requirements include regional curve plots of bankfull width, depth and cross-sectional area as a function of drainage area. In addition, to these plots, we have included several other plots of various data parameters along with our initial interpretation of the results. Subsequent phases of data analysis will include a more in-depth stratification and analysis of the data to look for statistically meaningful correlations of other watershed and channel data parameters to provide greater insight of the causative influence’s on stable channel geometry. This next phase of data analysis will depend upon future funding but will include statistical analyses of the influences of upstream channel network length, precipitation, geology, Rosgen Stream Class, and geomorphic setting.

1.1 Background to Bankfull Channel Dimensions

The concept of stable or “bankfull” flow and dimension is based upon observations and measurements that natural stream channels are created and maintained by moderate, frequent flow events because these events move the most sediment over time and thus do the most work to form the creek channel dimensions (i.e. width, depth, area and planform). These flow events were defined by Dunne and Leopold (1978): *“The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which moving sediment,*

forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.”

As measured in the field, bankfull stage defines the boundary between the active channel and its floodplain. Over the long-term, bankfull flow carries the bulk of the systems sediment supply and forms the equilibrium channel dimensions in alluvial channels (i.e. channel free to adjust their bed and banks). The bankfull flow is commonly associated with recurrence intervals between 1.2 and 1.8 years. Lesser discharges occur more often but lack the shear forces to move enough sediment over time to define the channel morphology and higher flood flows may have greater stream power to move sediment, yet they do not occur with sufficient frequency to define and maintain channel geometry.

The floodplain feature, when one is present, is a relatively flat bench or plain at the level of bankfull that carries floods, which are flows that exceed bankfull stage. Higher alluvial benches above the floodplain elevation, referred to as terraces, are abandoned floodplains. Some terraces may still be floodprone while others are not. When a floodplain is present, energy of the flood is dissipated as water and sediment are spread across the feature. When one is not present, flood flows remain confined and consequently, larger shear forces arise along the channel boundary (bed and banks) and there is a greater probability of stream erosion and increased bedload transport. Channel stability represents the central tendency of a channel to maintain its bankfull cross sectional area (bankfull width times mean bankfull depth) and its floodplain. Although it may laterally migrate, a stable channel in an alluvial valley will transport its water and sediment load and develop pattern and profile that maintains bankfull cross sectional area without abandoning its floodplain.

Bankfull discharge is the flow commonly used for restoration design (Figure 1). In stable channels it is very close to or very slightly smaller than “effective discharge” which is the flow responsible for mobilizing most all the sediment load. We expect that as a channel become more entrenched as it is incising, effective discharge becomes increasingly closer to bankfull flow. Although stream systems are not static over time, they can be in quasi-equilibrium stable condition within a time frame of importance to human activity. The importance of bankfull flow has been well recognized since the 1960s and verified through numerous field and academic studies. Figure 2 shows a natural river just below the bankfull stage. Figure 3 shows the schematic cross-section showing bankfull stage and floodprone area.

Bankfull dimensions of a stable channel reflect the conditions of local rainfall, geology, sediment load, vegetation, and hydrology. Stable channels develop a configuration that is considered to be in equilibrium with their water and sediment supply, however changes in one of these parameters or in the vegetation conditions along the banks or supply of large woody debris can initiate a cycle of instability and adjustment that results in floodplain

abandonment. In the San Francisco Bay Area many channels have adjusted to legacy and modern land use practices by increasing their peak flows, incising their streambeds, and abandoning their floodplains. Incised alluvial channels have a central tendency to form a new inner bench floodplain within their terrace banks. During large floods, such incised natural channels will generally not achieve long-term stability until sufficient floodprone width (above the level of the floodplain) has been gained through terrace and bank erosion. Although different definitions of floodprone width are possible, the definition used here is the quantitative expression used by Rosgen (1996): the width measured at twice the maximum bankfull depth

An additional channel metric that is important to understand when evaluating channel stability is the entrenchment ratio. It is the ratio of floodprone width to bankfull width. It is used as by Rosgen in his Stream Classification System where channels that are slightly entrenched have an entrenchment ratio of 2.2, moderately entrenched have a ratio of 1.4 to 2.2, and highly entrenched channels have a ratio less than 1.4 (Rosgen, 1996). Rosgen considers that highly entrenched channels on valley floors with stream gradients less than 4 percent tend to be unstable. These channel types are called F and G channels depending primarily upon their entrenchment ratio and width/depth ratios. A graphic example of the Rosgen Stream Classification system is located in the Appendix B.

It is important to note that an incised channel is not necessarily highly entrenched or unstable. A channel can be deeply incised into its valley floor but still have developed sufficient floodprone and bankfull width to attain stability.

Within incised channels, the inner floodplain bench may only be a relatively short-term feature until sufficient adjustments in hydraulic geometry have been achieved to create a broad enough “floodprone width” to pass the largest floods without continued adjustment. This is why the floodprone width, not just bankfull width, is an essential design parameter for stream restoration. There may also be cycles of channel adjustment due to episodic events of very high recurrence interval floods that exceed the elevation of floodprone width, such as from El Nino events, or have very high sediment loading from landslide producing storms. The amount of time required for a channel to attain stability, where a very large flood won’t cause a change in cross sectional area or floodplain abandonment could be considerable, in the tens to hundreds of years. Given current influences of land use impacts and a changing climatic regime, we suggest that floodprone width should be considered in all restoration and channel stability evaluations.

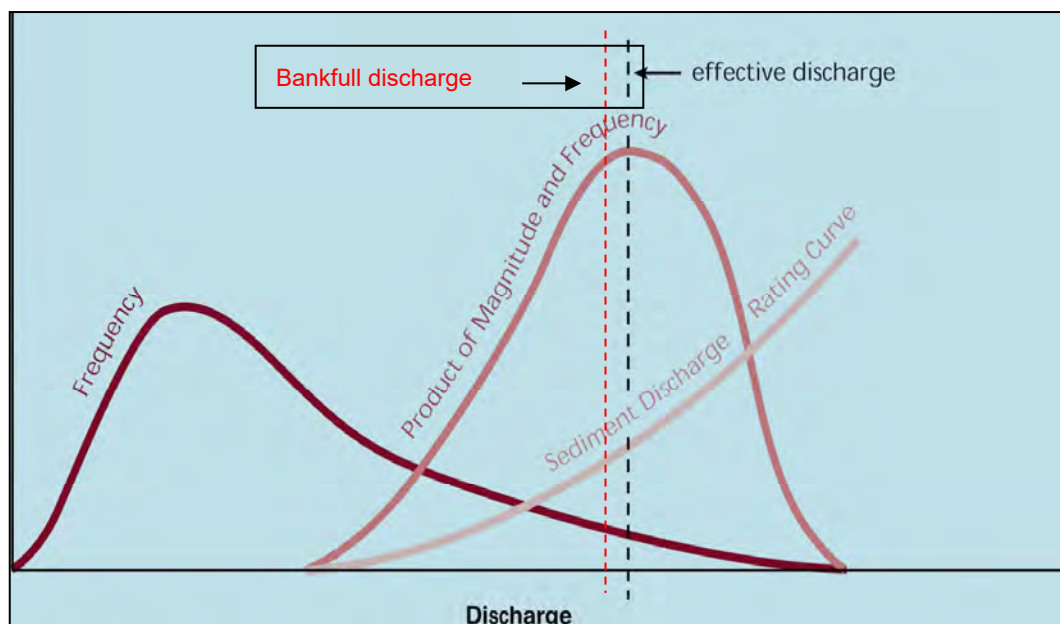


Figure 1: Graph of flood frequency and sediment discharge showing effective and bankfull discharge. From Wolman and Miller, 1960.



Figure 2: A natural river at bankfull flow.

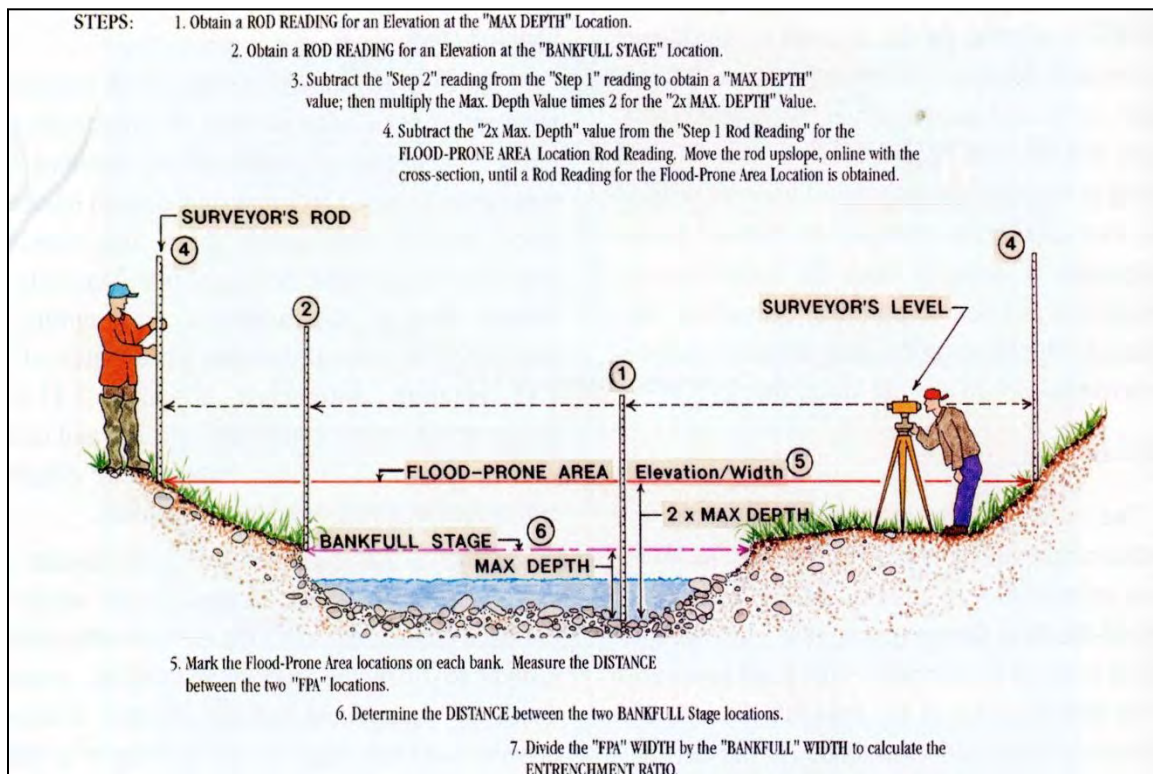


Figure 3: Schematic cross-section of a river showing bankfull depth (from Rosgen 1996)

1.2 Background to Hydraulic Geometry and Regional Curve Analysis

Consistent and accurate identification of bankfull stage in the field is an important tool for managers, landowners, and stream practitioners involved in restoration design and bank stabilization projects. It was therefore the primary focus of this field study. Regional curves are a power law curve fit for plots of measured estimates of bankfull width, depth, cross sectional area, and often discharge plotted against drainage area. Drainage area can be easily measured from maps to predict one or more of these parameters.

Figure 4 shows an example of hydraulic geometry curves for various western regions including the San Francisco Bay Area curve developed by Dunne and Leopold (1978). Dr. Leopold and his collaborators developed and published regional curve data in the 1960s and 1970s for a variety of locations around the United States. Regional curve plots for bankfull flow, width, depth and cross-sectional area were plotted against drainage area for several locations including the San Francisco Bay Area curve for 30-inches of rainfall. Figure 4 indicates that variations in stable channel dimensions exist regionally, but because we cannot see the data points it is not possible to view the range of variation of local streams for a single region. Leopold's single Bay Area regional curve does not show the scatter of data about the trend line or stratify the data to account for the wide

variability in rainfall and geology. For the original Leopold expression of hydraulic geometry sees Appendix A.

Based upon some original data tables that Leopold used for developing several curves we have been able to determine that his technique for determining bankfull parameters was based upon flood frequency analyses of USGS gage sites and not based upon field surveys of floodplain benches. It appears that for the San Francisco Bay Area regional curve, Dr. Leopold selected the 1.5 year recurrence interval to establish the expected bankfull discharge and hydraulic geometry parameters. Our approach differed in that we developed our regional curves based on determining bankfull parameters from field surveys. We believe this to be a better approach for developing regional curves intended for use in creek restoration design projects that rely on bankfull geometry rather than on flood frequency estimates. We also expect that field conditions should reflect possible changes in discharge that have been brought about by legacy and modern land use practices. We do not know which specific streams or how many sites were used by Leopold, but the label on his curve is for an average rainfall of 30 inches. From reviewing the data tables we surmise that 30 inches was the average amount from all the gage sites he analyzed.

Regional curves are central to the ecological restoration design process, as well as sustainable channel management. A number of approaches to creek assessment and restoration design have been developed that utilize regional curves as integral to channel design to foster natural creek functions that provide for stable and therefore relatively sustainable sediment transport, flood conveyance, aquatic habitat, and riparian development. The regional design curves provided under this project provide hydraulic geometry design curves from channels that were sought to represent a variety of field conditions. Although not all channels had stable sites, an effort was made to seek reaches with the least amount of active erosion and perform enough reconnaissance to identify various bankfull stage indicators representing the floodplain bench or its incipient formation. Identifying inner floodplain benches within unstable channels is challenging at the best, but with regional curves as an additional tool, we believe that this information will help guide other engineers, geomorphologists, landscape architects and planners involved in creek restoration design or stream network analyses. We additionally used the Rosgen Stream Classification system, described in applied River Morphology (Rosgen, 1996), to identify the stream stability classes of our survey sites. This information provides an independent but additional evaluation tool to assess the status of the sites that we used to construct the regional curves.

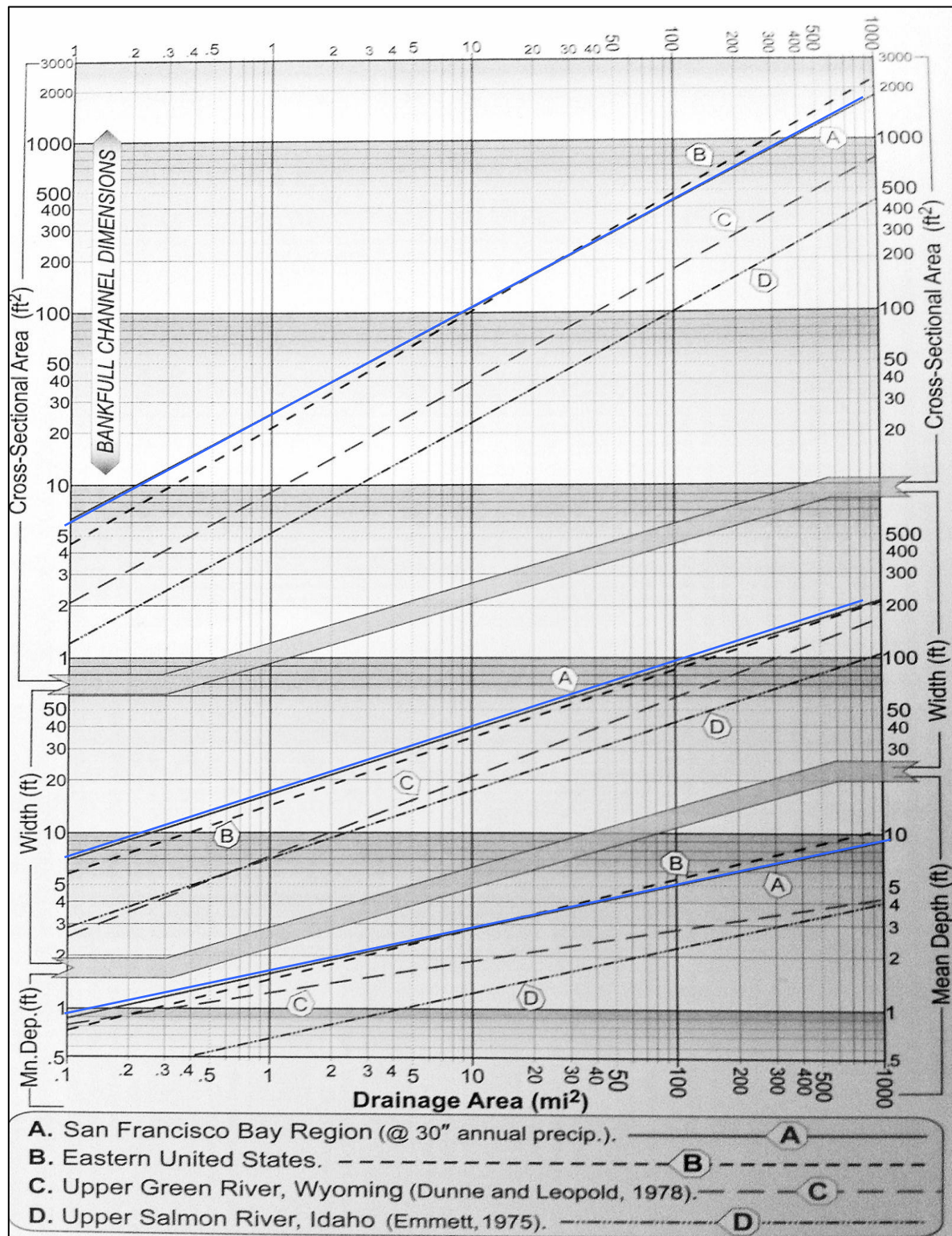


Figure 4: Original Leopold Regional Curves (1978) for bankfull dimensions versus drainage area (reprinted from Rosgen 1996). The San Francisco Bay Area curve is shown as line A in blue.

In our experience, many poorly functioning or failed restoration projects are caused by failure to build appropriate channel dimensions, especially for both the bankfull and floodprone width. Floodprone width might be one of the most overlooked components in hydraulic geometry analyses and restoration design. Poor choices in channel dimensions in the design of restoration projects can lead to a cycle of unanticipated channel adjustments that can lead to landscape instability, costly repairs, and problems of excessive sedimentation or erosion, as well as diminished water quality and aquatic habitat. By focusing data collection in two counties with similar hydro-geomorphic provinces, this project attempts to expand and improve upon the original San Francisco Bay Area Regional Curve developed by Dr. Luna Leopold prior to the 1970s.

Regional curves are being developed around the country. Examples of other areas conducting regional curves projects can be found at the NRCS website: <http://wmc.ar.nrcs.usda.gov/technical/HHSWR/Geomorphic/index.html>.

1.3 Study Limitations

The bankfull regional curves presented in this report are applicable to the field identification of bankfull geometry and discharge in non-tidal reaches of streams within Marin and Sonoma Counties. The impacts of urbanization and land-use activities over the last two centuries have altered the natural geometry and channel equilibrium in many of these streams. Indeed, most of the channels located at USGS stream gage sites have water impoundments and diversion operations upstream of the gage sites. These counties have sufficient open space areas and relatively low density development that we were able to access and survey adjustable alluvial channels that under a variety of geology, topography, and adjacent land use practices. The factors that influence creek channel morphology have not been fully evaluated in Bay Area streams. Bankfull discharge and its hydraulic geometry environment should not necessarily be considered static. It should be periodically reassessed through field surveys that will reflect a complex, dynamic and potentially changing relationship of a stream working to develop equilibrium with its imposed hydrology and bedload transport requirements. Typically, our large to moderate sized watersheds have constant perturbations imposed by modern land use. Constraints such as these should be considered when assessing the applicability of these regional curves. These curves cannot replace the need to collect original data at any stream restoration project.

Streams included in this study varied greatly in how easily identifiable the bankfull characteristics were in the field. Many of our creeks are actively incising, creating episodic cycles of incision often initiated by moderate to large flood events and probably associated with both land use and climate change. When performing geomorphic field surveys within incised creeks, bankfull elevation can often be difficult to identify if a floodplain bench is not present. Therefore, additional field

indicators and lines of evidence of bankfull parameters were used wherever possible. These limitations are discussed in further detail below.

2.0 DATA COLLECTION METHODS

2.1 Site Selection Methods

An initial goal of the project was to collect data at a range of stable creek sites across the two Counties. Given that many (if not most) creeks in these areas are in the process of adjusting their hydraulic geometry to land use changes, it was often difficult to find stable sites in places where access was assured. Once a stream area was selected, reconnaissance could often take half a day to just find a site that had a minimal amount of active erosion, no structural impacts, and where bankfull could be estimated. Although we tried to pick the most stable site within the available stream reach, not all sites could be considered to represent long-term stability. Because the Rosgen Stream Classification was used, we could apply the quantitative metrics of this classification system to identify which stream sites would be considered most stable within the classification scheme. Whether or not this system is used by others, the metrics are reproducible quantitative measures that can improve our understanding of channel conditions.

Field sites were selected by identifying reaches with the following characteristics:

- Sites showing channel characteristics that had stable conditions wherever possible, but in their absence, sites that had the least evidence of active erosion from incision or bank widening within the reconnaissance area.
- Public lands or sites where permission to access was obtainable.
- Non-tidal conditions, no structural influences unless at an actively operating USGS stream gage site.
- A stream reach exhibiting consistent bankfull elevation relative to the stream bed over a length of approximately seven bankfull channel widths.

Data was collected over a range of elevation, stream order, and mean annual precipitation, and geomorphic conditions. Figures 5 and 6 show the location of field sites in Marin and Sonoma Counties, respectively.

2.2. Field Data Collection Methods

Fieldwork involved completion of a field data form (developed specifically for the project), survey of at least one cross section, survey of the longitudinal profile through the cross section, a pebble count and measurement of protrusion heights of large cobbles or boulders, if warranted at each cross section. Field data were

collected between 2009 and 2011 for the purpose of computing bankfull geometry and discharge.

A reconnaissance survey was performed at each site until a suitable cross section and longitudinal profile site could be found. Because these computations are based on the relative elevation of the bankfull channel, data collection was focused on identification and surveying of bankfull features. Before surveying, but after the reconnaissance survey to select a reach to survey, the field team often re-walked the reach of interest a distance of at least 5 to 7 times the estimated bankfull width, upstream or downstream from the cross section site, to identify potential morphological features representing bankfull stage. This distance represented the minimum distance of all the longitudinal profile surveys.

When bankfull conditions were difficult to determine at one cross section or when two sites presented differing conditions of width/depth ratio and entrenchment ratio (floodprone width divided by bankfull width), but had obvious bankfull indicators, an additional cross section would also be surveyed. The width/depth ratio and entrenchment ratio are also the primary metrics used in the Rosgen Stream classification system for identifying stable and/unstable conditions. For surveying the cross sections and profiles and conducting the pebble counts, we generally followed the methods outlined in the USDA's Stream Channel Reference Sites: An Illustrated Guide to Field Techniques (Harrelson, Rawlins and Potygundy, 1994). Specific field surveys conducted include the following:

- *Bankfull Stage Longitudinal Survey* – A survey of field indicators for bankfull stage was conducted at each location for at least the length of 5 to 7 bankfull widths. The field indicators of bankfull stage typically included the following and all were used in tandem to represent lines of evidence of bankfull elevation:
 - Depositional features that can sometimes represent the floodplain, including adjacent relatively flat bench that has consistency on either side of the channel, topographic breaks in the bank, top of point bars and/or short, alternating lateral bars with consistent elevational gradient along the reach;
 - Consistency of bankfull stream gradient with surface water gradient along the length of the reach. When available, knowledge of the last peak discharge and the high water mark was used to establish whether it was above or below bankfull stage to help establish the bankfull elevation;

- Changes in particle size along the cross section. Commonly smaller particles deposited from suspension are found on the floodplain than in the channel bed or banks, but special circumstances can produce the opposite; and
- Consistency of riparian elevation, however, some species can often grow below bankfull stage.
- *Thalweg and Water Surface Longitudinal Survey* – The elevation of the streambed thalweg that best defined the sequences of riffles, runs, pools and glides, as well as water surface, high water marks, and bankfull were surveyed to establish the riffle head features and to best determine the bankfull stream gradient from estimates of both the bankfull stage survey and the riffle head to riffle head gradient from the thalweg survey.
- *Cross-Section Surveys* - One to two cross-sections were surveyed by level at locations along the profile where the creek showed the best-defined bankfull characteristics and the greatest stability relative to site conditions. Cross section surveys were extended above the floodprone width wherever possible to exceed the floodprone height.
- *Pebble Counts* – Wolman pebble counts were conducted at each cross-section and plotted to develop the various particle size distributions for the bed surface at each section as well as noting the largest particle in the cross section. In particular, the d50 and d84 particle sizes were developed and tracked per cross section.
- *Average Protrusion Height* - In boulder-influenced streams, we measured the average protrusion height to refine estimates of hydraulic roughness using empirical formulas.
- *Miscellaneous Other Observations* – Numerous other observations and measurements were collected and recorded and will be used at the next phase of data analysis. These observations include the percent fines (<2 mm) in the channel banks (visually estimated) as well as notes to the following:
 - Bank strength (as noted above the percent of silt-clay [cohesion] in channel banks/bed (visual estimation))
 - Percent of vegetation density and classes
 - Assessment and measurement of large woody debris in the channel (especially important in wood dominated systems)
 - Historical land use influences
 - Local geology

- Bed morphology
- Qualitative assessment of current dominant sediment source to reach
- Visual estimate of dominant bed sediment class
- Dominant geomorphic setting i.e., alluvial fan, narrow alluvial valley floor, low gradient wide alluvial valleys, narrow colluvial valley floor, generally high gradient canyons dominated by bedrock control in channel bed
- Historical changes in Rosgen Stream Classes
- Observations of the amount of historical incision occurring

All field data were entered into an Excel spread sheets to develop a matrix of all stream parameters.

2.3 Data Analyss GIS Methods

Some parameters were not measurable in the field and were measured by using a Geographic Information System (GIS) database. Staff at the San Francisco Estuary Institute (SFEI) made these measurements by using ArcGIS 10.0. Many of these values may be used in future Phase 2 analyses that will involve stratifying the regional curves by different parameters.

The measurements included the follows items:

- *Drainage Area (square miles)* – Drainage areas were calculated in ArcGIS using the BAARI streams and NHD flowline databases brought into a 10m Digital Elevation Model (DEM) by first calculating flow direction and flow accumulation, snapping the pour point to the cell of highest flow accumulation, running the GIS watershed tool, and calculating total watershed area.
- *Upstream Drainage Network Length (feet)* – SFEI used BAARI streams upstream of point (using watershed boundary) and calculated sum of length. This analysis included mapped culverts. The flow lengths are summed lengths of all BAARI streams within the modeled watershed area. SFEI calculated the percentage of lines within drainage areas that were classified as culverts, and it was typically very small (~0.5%).
- *Drainage Density (miles/square mile)* – Drainage density is the linear feet of channel network as determined by GIS measurements described above divided by the watershed drainage area. It is a measure of the degree of channelization in the watershed and therefore reflects natural variation caused by different geologic and climatic settings. It can also provide an indirect measure of changes from urbanization when ditches and storm drains are included in the analysis.

- *Drainage Area above Dams for USGS gage sites (square miles)* – SFEI used drainage area procedure at dam points to develop the drainage areas above the dams. These areas were subtracted from the total drainage area to provide a better estimate of contributing drainage area for bankfull flow at the surveyed gage sites.
- *Impervious Surface (percent impervious)* - National Land Cover Database (NLCD) Impervious Surface grid for year 2006 was used to perform Zonal Statistical analyses.
- *Precipitation (inches)* - The precipitation was based on the Oregon State PRISM average precipitation for the period of 1981-2010 to develop the mean annual precipitation (MAP) values at each specific survey sites. Note that the PRISM is generated at a fairly coarse scale using available rainfall data (but certainly not all rainfall data) and applying statistical methods. The MAP results may not be as accurate as specific site-specific rain gauge data (if available), but for consistency PRISM MAP values were used for data analysis at all sites.

Vegetation Acreage (square meters) – The CalVeg dataset (USFS) 2002 and 2003 was used and a clip on each drainage area was performed to develop vegetation acreages.

2.4 Bankfull Discharge Calculation Methods

To calculate bankfull discharge, measured field parameters were entered into a spreadsheet called STREAMS (Mecklenburg 2006), which was specifically developed for analysis of fluvial-geomorphic data. Estimates of bankfull discharge assisted us in determining whether we had picked a reasonable elevation for bankfull stage, as well as providing us the opportunity to plot a regional curve of bankfull flow. Various hydraulic parameters were calculated from riffle slopes plotted independently in excel spreadsheets. Width/depth and Entrenchment ratios, pebble counts, and stream gradient were also used to classify channel stability as per the Rosgen Stream Classification system (Rosgen, 1996) and to stratify the data per stream class at a later Phase 2 of the project. For each data collection site, except for the USGS gage sites where recurrence intervals could be determined, the following parameters were used in the STREAMS spreadsheet to calculate bankfull discharge:

- Mean bankfull depths (D_{bkt})
- Maximum bankfull depth (D_{max}) (to determine height to measure floodprone width)
- Channel slope (S_{bkt}) (bankfull gradient determined from thalweg longitudinal profile from riffle head to riffle head and/or bankfull stage survey)

- Bankfull width (W_{bkf})
- Floodprone width (W_{fpa}) (measured at twice maximum bankfull depth)
- Bankfull flow ($Q_{bkf}=V_{bkf}*A_{bkf}$) (calculated from measurement of stream slope and equations for Manning's n values) (A is area = $W_{bkf} D_{bkf}$)
- Wetted perimeter (P) $\sim 2*D_{bkf} + W_{bkf}$ (used to determine hydraulic radius)
- Hydraulic radius (R) = A_{bkf}/P (P = wetted perimeter)
- Roughness/friction factor/Manning's n values under bankfull flow conditions = $R^{1/6}/(U/U^*)g^{1/2}$ (where U/U^* = relative roughness and g = gravitational acceleration]
- Velocity $_{bkf}$ (estimated from Manning's equation $V_{bkf} = 1.4895 R^{2/3} S^{1/2}/n$)
- Bed sediment sizes (d_{50}/d_{84}) from pebble counts
- Various Rosgen stream typing parameters including the following:
 - Width/depth ratio (W_{bkf}/D_{bkf})
 - Entrenchment ratio (W_{bkf}/W_{fpa})

Bankfull Flow Recurrence Interval - At field sites located near a USGS stream gage station, the longitudinal profiles and cross-section bankfull elevations were used to select or evaluate the bankfull stage at the streamflow-gauging station. In some cases the gage elevation was tied into the survey allowing the bankfull elevation to be compared to the stage-discharge relation developed by USGS for the gage site. At other sites we developed a flood frequency relationship and looked for indications of the rate of increase in discharge slowing as flow spilled onto a bankfull bench and used this value to determine which inner bench represented bankfull discharge at some of the more difficult sites that were influenced by upstream dams. The recurrence interval of each bankfull discharge was determined from a frequency distribution of annual peak discharges following methods described in Bulletin 17B.

3.0 RESULTS

3.1 Field Site Characteristics

This section summarizes the broad characteristics of the survey sites. There were a total of 57 cross sections surveyed at 45 different field sites. Marin had 32 sites and Sonoma had 13. Many parameters could be used to characterize the various survey sites, but the following five were selected as readily available and easily understood metrics to provide a basis for expressing the range of site conditions. Figure 5 and 6 show the locations of the field sites in Marin and Sonoma Counties.

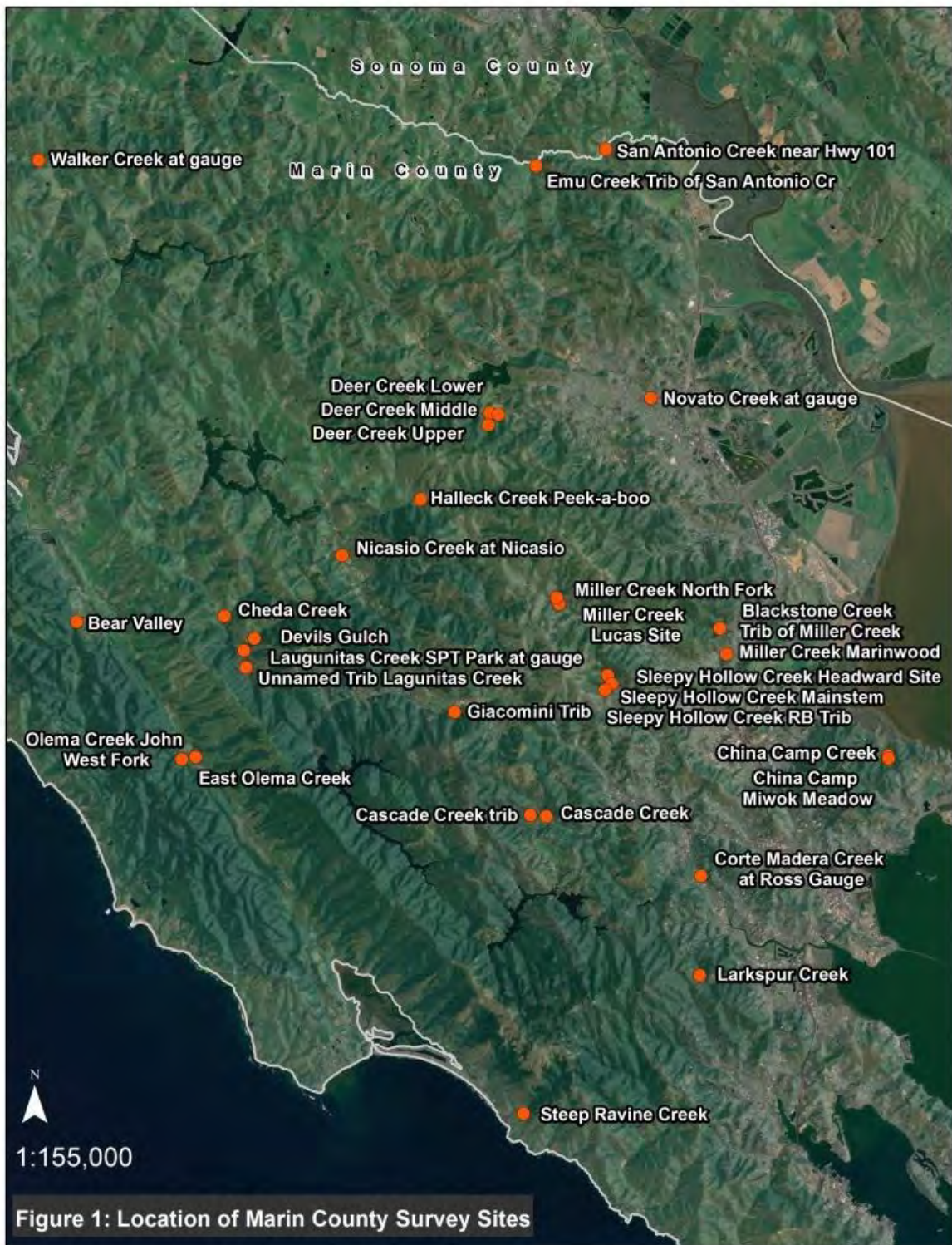


Figure 5: Location of Marin County Survey Sites. San Antonio Creek straddles the Marin and Sonoma County line.



Figure 6: Location of Sonoma County Survey Sites

Table 2 (page 39) shows the list of sites surveyed as part of this project along with some key parameters. The streams in this study are single-channels with slopes ranging from 0.12% to 9.5%. More details on site characteristics are described below. The data is presented in plots of frequency distributions which are simply counts of the number of data points (sites) that are within the specified parameter range. For example, Figure 7 shows the number of field sites (the “total” columns in blue) within each specified range of slopes. These types of plots provide information on the range and characteristics of the project field sites.

Range of channel slope (gradient) – Channel slopes in the dataset ranged from 0.12% to 9.5%. The majority of slopes were in the 1% to 1.5% range and under but there were 8 sites with slope greater than 4%, which is often considered the slope range for steeper channel morphologies such as step-pools and cascade type channels. There were 2 sites at slopes greater than 6 percent, which are steep enough to be influenced by debris flow processes. As shown in Figure 7, about 59% of the sites have channel slopes less than 1.5%.

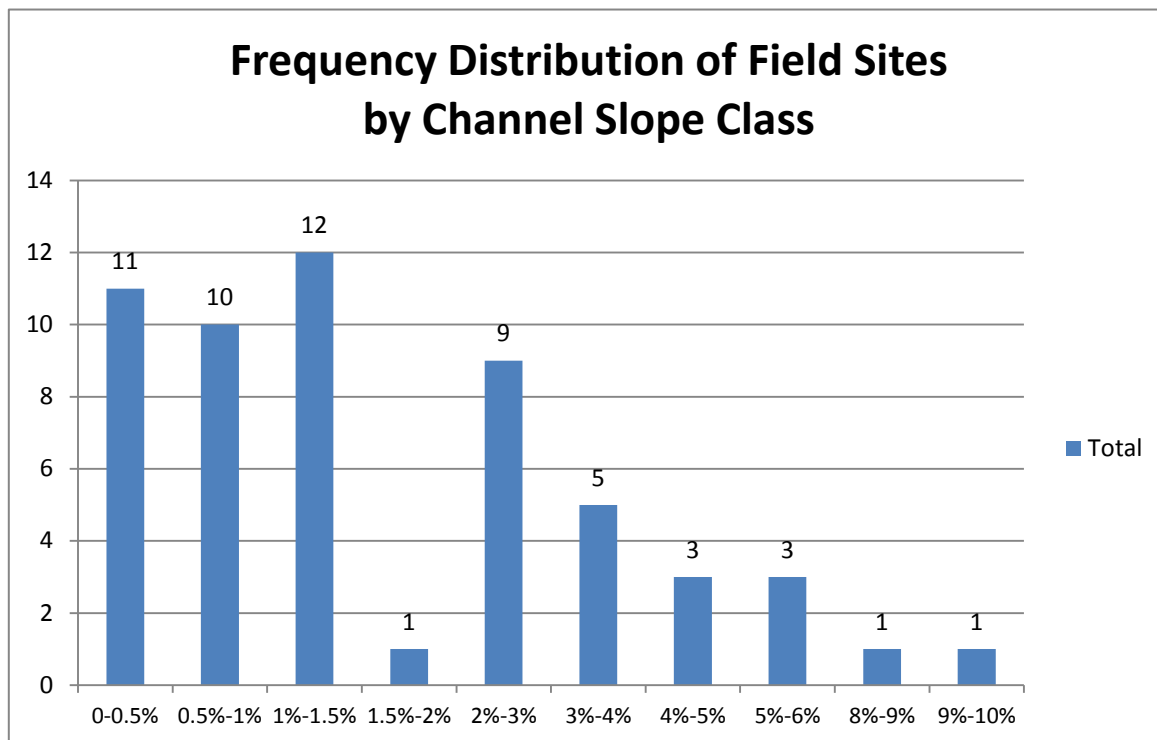


Figure 7: Frequency Distribution of Field Sites by Channel Slope Class

Drainage Area – Drainage areas varied from 0.02 mi² to 50 mi² with the majority of sites at 5 mi² or less. Shown below in Figure 8 is a frequency distribution of number of sites in each drainage area class. About 63% of the sites had drainage areas less than 5 mi².

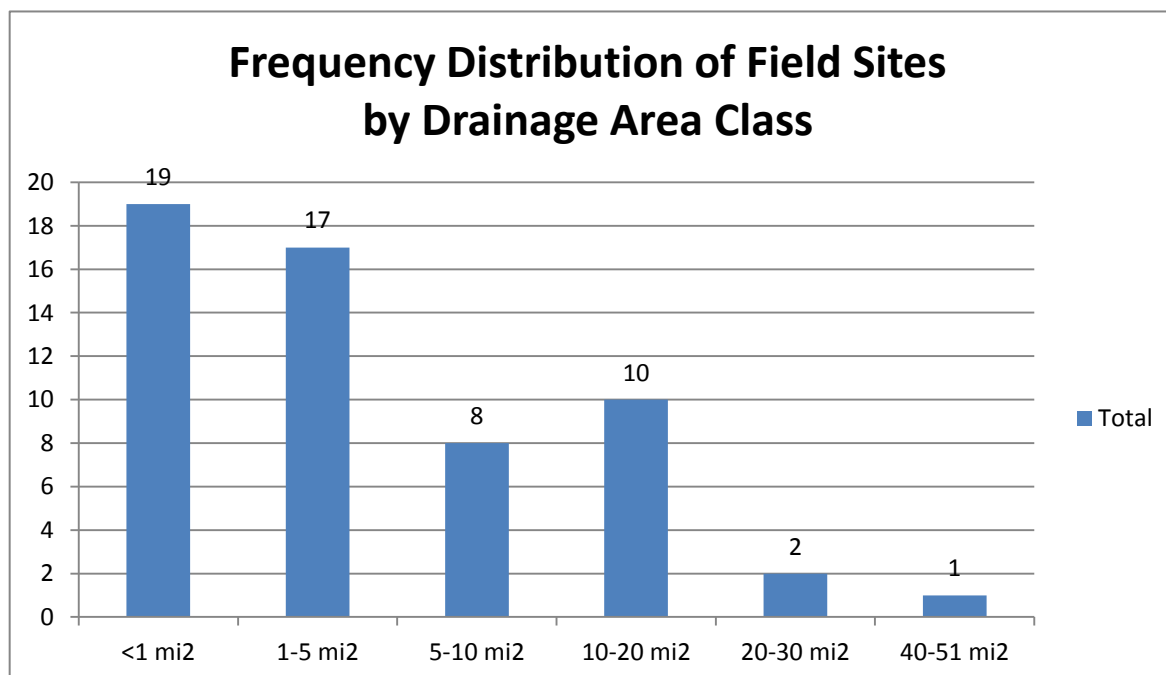


Figure 8: Frequency Distribution of Field Sites by Drainage Area Class

Dominant Geomorphic Setting - For each site, the dominant geomorphic setting was noted in the field. These settings are based on local observations from the field site and not from extensive mapping. About 35% of the sites were in a wide alluvial valley, 22% were on alluvial fans. Figure 9 shows the frequency distribution of field sites by dominant geomorphic type.

The categories of dominant geomorphic setting are as follows:

- Type 1. Wide alluvial valley, $>5 W_{bkf}$
- Type 2. Narrow predominantly alluvial valley, $<2 W_{bkf}$
- Type 3. Moderately wide alluvial valley, $2-5 W_{bkf}$
- Type 4. Alluvial fan
- Type 5. Narrow, predominantly colluvial valley or canyon
- Type 6. Steep, mostly bedrock confined canyon
- Type 7. Plain, often uplands transitional to tidelands

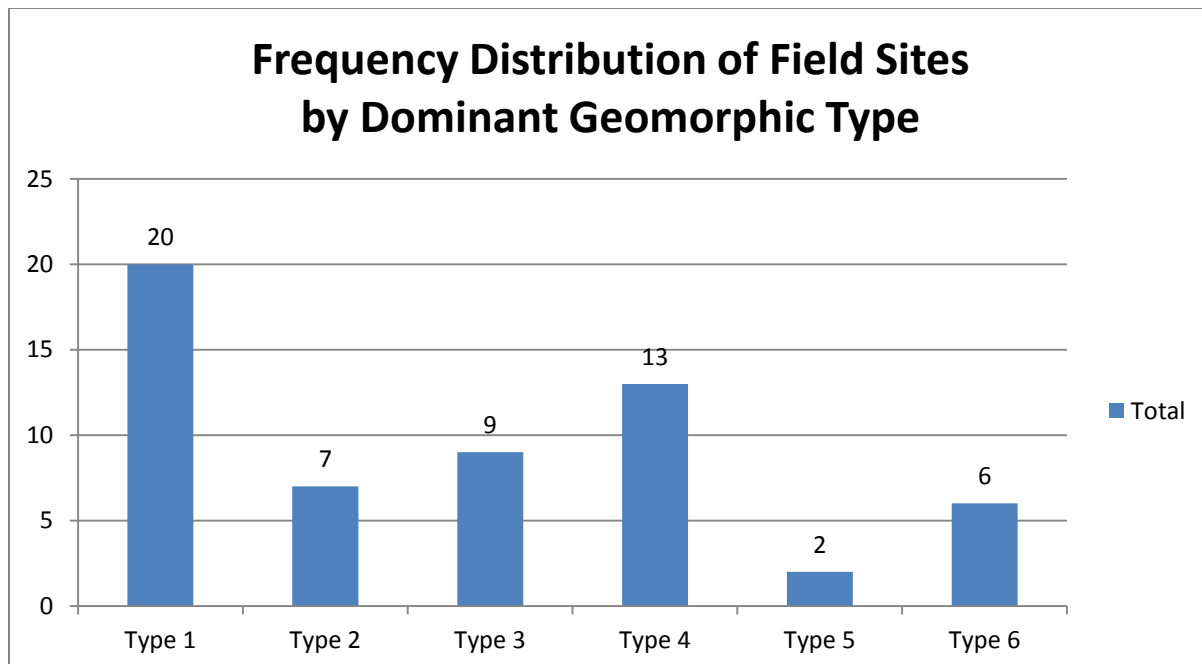


Figure 9: Frequency Distribution of Field Sites by Dominant Geomorphic Type

Mean Annual Precipitation – Mean annual precipitation (MAP) values were developed from the Oregon State Precipitation PRISM project and ranged from 30.8 to 53.6 inches per year of rainfall. This fairly large variation in MAP over this relatively small area is typical of the orographic effects of the Pacific Ocean and the mountainous terrain of Marin and Sonoma Counties. The combined average rainfall for the sites is 43.37 inches. The average rainfall for the sites reported by Leopold was 30 inches. We expect that the methodologies of determining average rainfall are different for the two regional curves. More precipitation data is now

available throughout various watersheds than was available during the 1970s when Leopold constructed his San Francisco Bay Area Regional Curve, but we also expect that many of our sites are located in more upland topography, where rainfall tends to be greater than the primarily lowland USGS gage sites evaluated by Leopold.

Rosgen Stream Type – The Rosgen (1996) Stream Classification System was used to classify the various stream types as shown below in Figure 10. Note that for three sites a modified Rosgen classification system was used that allowed the width/depth ratio to vary by ± 3 , instead of the usual spread of two, and for the classification system's threshold of 12 to be changed to 10 for a few of these sites. This adjustment was based on previous discussions with Dave Rosgen and experience applying the system in the SF Bay Area (Rosgen personal communication 2002). Note that there were two very small streams in China Camp that did not classify under the modified Rosgen system. One site was on an alluvial fan along a losing reach (reach of stream that loses surface flow to groundwater) and the other was in bedrock. The frequency distribution shown below of number of field sites per Rosgen Stream Class indicates that the majority of sites classify as a Rosgen B type with entrenchment ratios that range from 1.4 to 2.2 (± 0.2) and a W/D ratios >12 (± 2). A classification breakdown that identifies the stream sites relative to their classification and which were classified using the modified Rosgen system is provided in Table 2 (page 25).

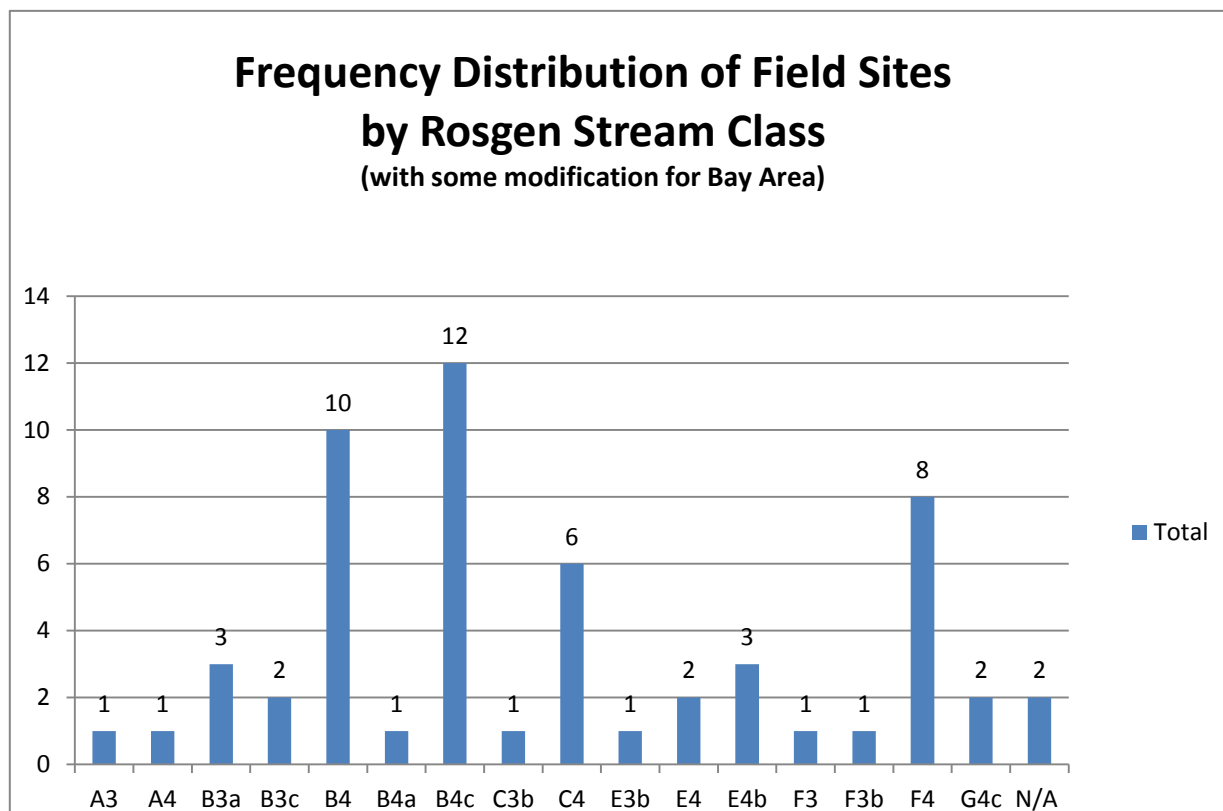


Figure 10: Frequency Distribution of Field Sites by Rosgen Stream Class

The sites that are classified as F or G type streams are considered unstable in the Rosgen Classification system. These surveys were from sites that did not have any identifiable stable reaches in the field. As a result, for these stream classes (F and G), we feel that bankfull cross sectional area (width times depth) is the most reliable metric from a regional curves, rather than relying on width or depth for developing stable channel geometry. We included these channel types because in Phase 2 of our project we hope to stratify regional curves by stream type to see if differences in width and depth of stable channels can be statistically detected. Without this kind of stratification, it is difficult to determine from any regional curve what the channel stability conditions were for particular sites or to assess the impact of these sites on the curve regression results.

3.2 Regional Curves of Bankfull Conditions

This section presents the results of the first phase of data analysis covered under project funding. The terms of the original EPA grant that partially funded this study require regional curve plots of only bankfull width, depth and cross-sectional area as a function of drainage area (Figures 6-8). In addition, to these plots, we have also included several other plots of various data parameters along with our initial interpretation. The next Phase 2 of data analysis, given additional funding, will include a more in-depth stratification of data by different parameters, including Rosgen Stream Class. We hope to improve correlation and explain causation of the variation in data to better assess influences on bankfull channel geometry, especially as it relates to relative stability.

Comparison with the Original Leopold Regional Curves

As discussed earlier, Leopold appears to have developed his San Francisco Bay Area Regional Curve by performing flood frequency analyses to determine the discharge associated with the 1.5-year recurrence interval of streams gaged by the USGS. If true, our field based method differs substantially than the flood frequency analysis method used by Leopold. Leopold felt that the 1.5 year return period best represented the average bankfull discharge that was reported at the time to commonly occur between 1.3 and 1.7 years. Table 1 shows our field-based estimates of the recurrence interval of bankfull discharges at five USGS gage stations that we assessed. Note that all, except the Sonoma Creek gage site have significant upstream water diversions reservoirs that have all been in place longer than 50 years. We believe that enough time has passed to provide sufficient field indications of bankfull discharge at the gage sites that can be calibrated through flood frequency analyses that includes the influences of the dams. At the gage sites bankfull discharge ranged from a recurrence interval of 1.1 to 1.5 years. The one site that had a recurrence interval of 1.5 years was Walker Creek, which has the least urban impacts of the five sites but a long history of grazing usage. We believe that the lower estimates of 1.1 to 1.3 are in keeping with recurrence intervals from other urbanized and altered watersheds that have increased peak flows caused by urban runoff and increased drainage density (the latter is increased by artificial channels such as ditches and storm drains).

Table 1: Calculated Recurrence Interval for Bankfull Discharge at Gage Sites

Site	Bankfull Discharge (cfs)	Reservoir Upstream	Approximate Recurrence Interval (years)
Corte Madera Creek at Ross, Gage Site 11460000	953	Yes	1.3
Lagunitas Creek at Samuel P. Taylor Park, Gage Site 1146400	842	Yes	1.1
Novato Creek at Novato, Gage Site 11459500	303	Yes	1.2
Sonoma Creek at Agua Caliente, Gage Site 11458500	3139	No	1.2
Walker Creek near Marshall, Gage Site 11460750	1065	Yes	1.5

Note: Recurrence intervals were determined from a flood frequency analysis of Peak Annual flows from USGS data.

Regional curve plots are provided in this section with the original Leopold curve added to our graphic plots for comparison purposes only. The location of the original Leopold line is drawn as close as possible to the published graph shown in Figure 4 but it was not derived by plotting Leopold's original data, since we do not know which gage sites were used. Also, Leopold's original regional curve did not extend to drainage areas less than 0.1mi². This is probably because USGS gage data were not available for such small streams. However, many creek restoration projects are constructed on these smaller streams and thus our regional curves help fill in data gaps for these smaller drainage areas. It is important to note that for sites with upstream reservoirs, we adjusted the drainage areas for the regional curves to exclude the area impounded behind the dams. We expect that this was not done for the Leopold curves.

Figure 11 shows a strong relationship between bankfull cross sectional area and drainage area as indicated by the high R^2 value of 0.958 shown in Figure 7. The difference with the original Leopold trendline is quite high especially at the smaller watershed drainage sizes. This pronounced difference especially for the smaller drainage areas, which is also seen for the other two plots of width and depth, may be the result not only of the different calculation methodology (1.5 recurrence interval versus bankfull field indicators), but also that Leopold's trendline is likely based on gaged sites that did not have drainage areas smaller than 0.1 mi² and likely included the drainage area behind dams for sites that had upstream reservoirs.

We consider the regional curves of cross sectional area to be the most useful curve compared to width or depth because cross sectional area tends to reduce the influence of local variations associated with differences in the width/depth ratio. On the other hand, the plots showing width and depth are independently more likely to indicate a stronger signature and influence of channel stability if data were stratified by width/depth ratio, entrenchment ratio, and Rosgen Stream Classification which combines the two ratios, among other things, into stream classes. This hypothesis would be further tested in Phase 2 if funding is available.

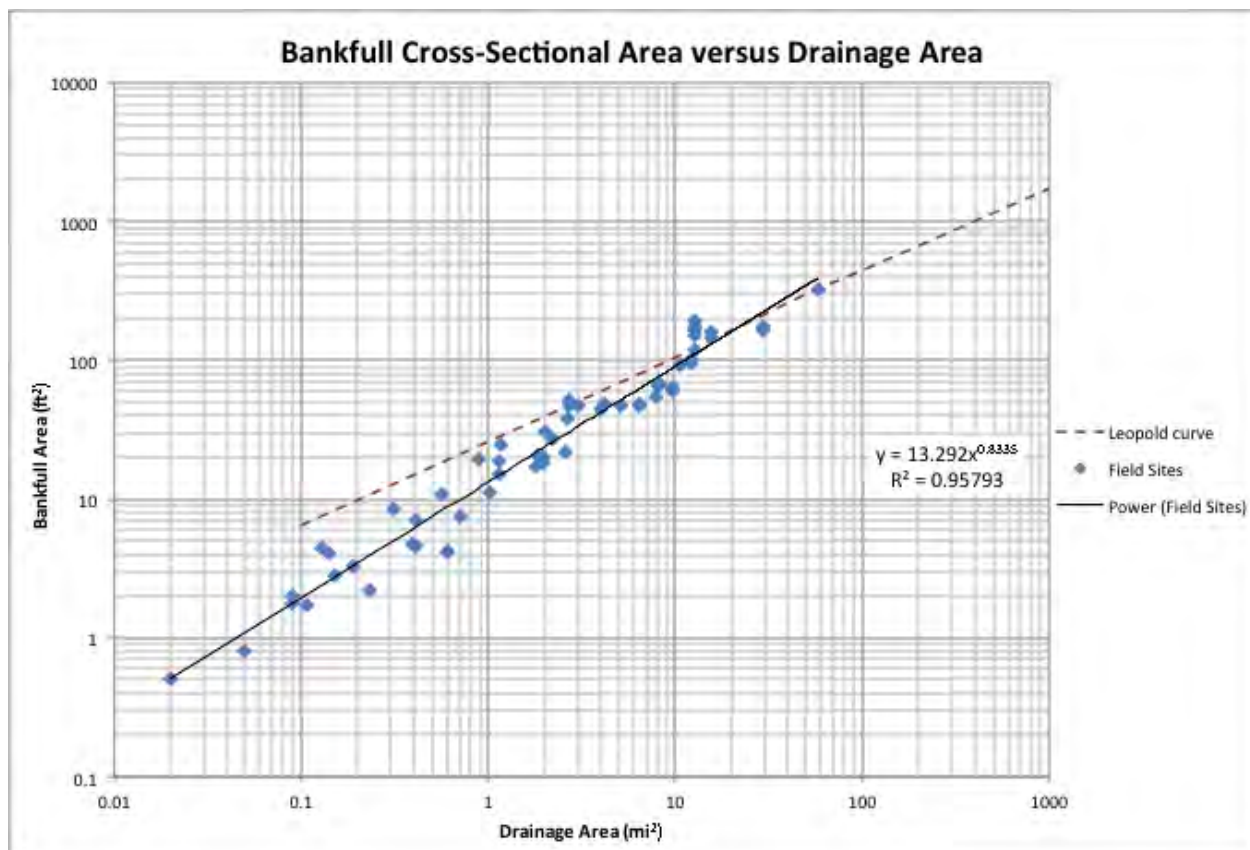


Figure 11: Plot of Bankfull Cross-Sectional Area versus Drainage Area

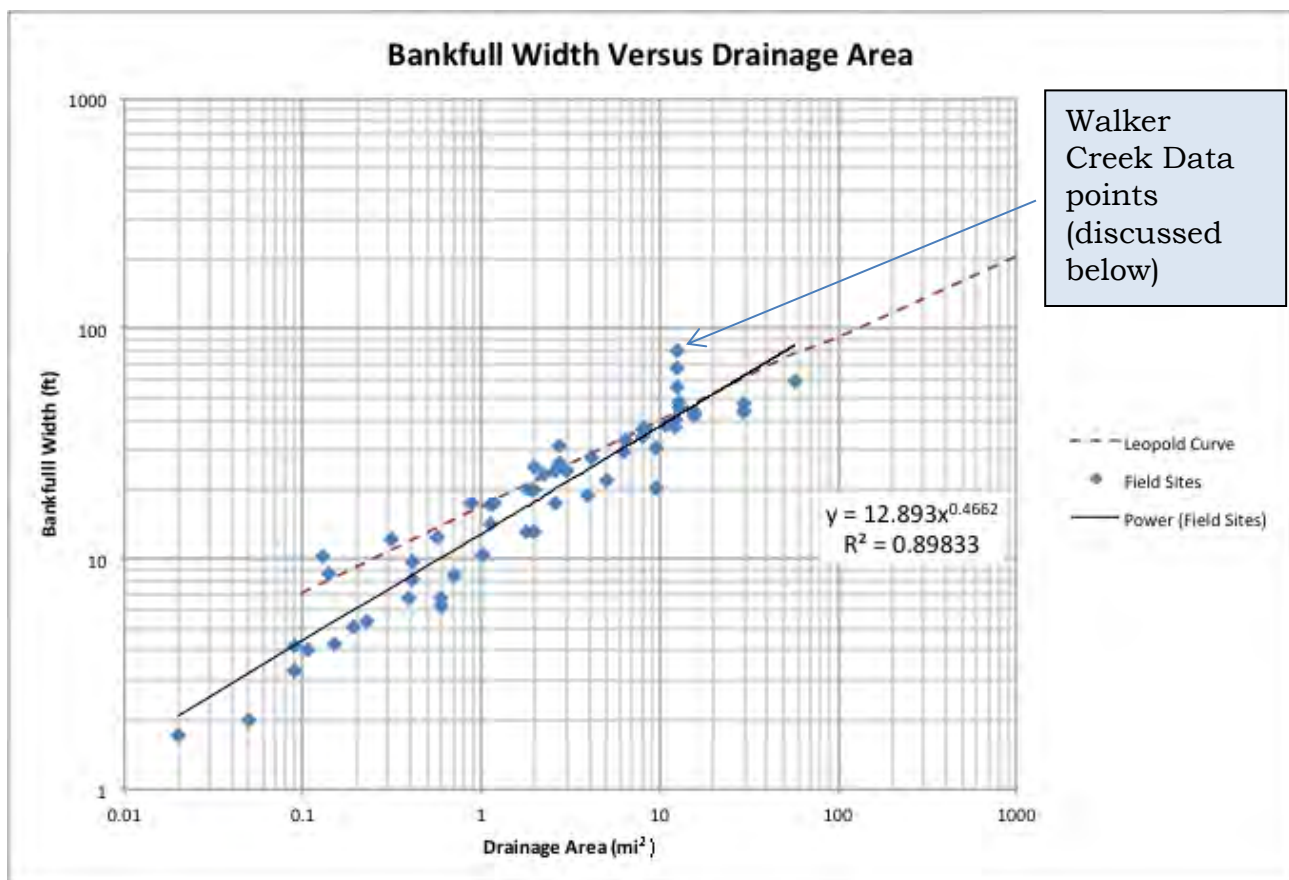


Figure 12: Plot of Bankfull Width versus Drainage Area

In addition, we expect that a number of gaged streams evaluated by Leopold had their width and depth artificially influenced by instream structures, such as weirs or bridges, since many gage sites tend to be associated with these controls.

Figure 12 shows a strong relationship between watershed area and bankfull width as indicated by the R^2 of 0.898. Again the difference between our results and the original Leopold results is most pronounced for smaller drainage basins. As can be seen in the plot a broad variation in channel width can occur as shown for the widest three data points for the same channel at cross sectional area of 12.6 ft. Although the cross sectional areas have a very small range, the bankfull widths for three cross sections on Walker Creek range from 55 to 80 ft (as shown in figure 12 at the 12.6 mi² drainage area), and the site with the widest bankfull width is the one considered to have a more stable form relative to the Rosgen Stream Classification that indicates that the wider channel is a B type channel as opposed to an F at the two other narrow sites. The narrower sites are more unstable because their width depth and entrenchment ratios are low and their floodprone widths are too narrow relative to their bankfull widths. This demonstrates the value of the next step in Phase 2 to stratify the data relative to stream type if additional finding can be secured.

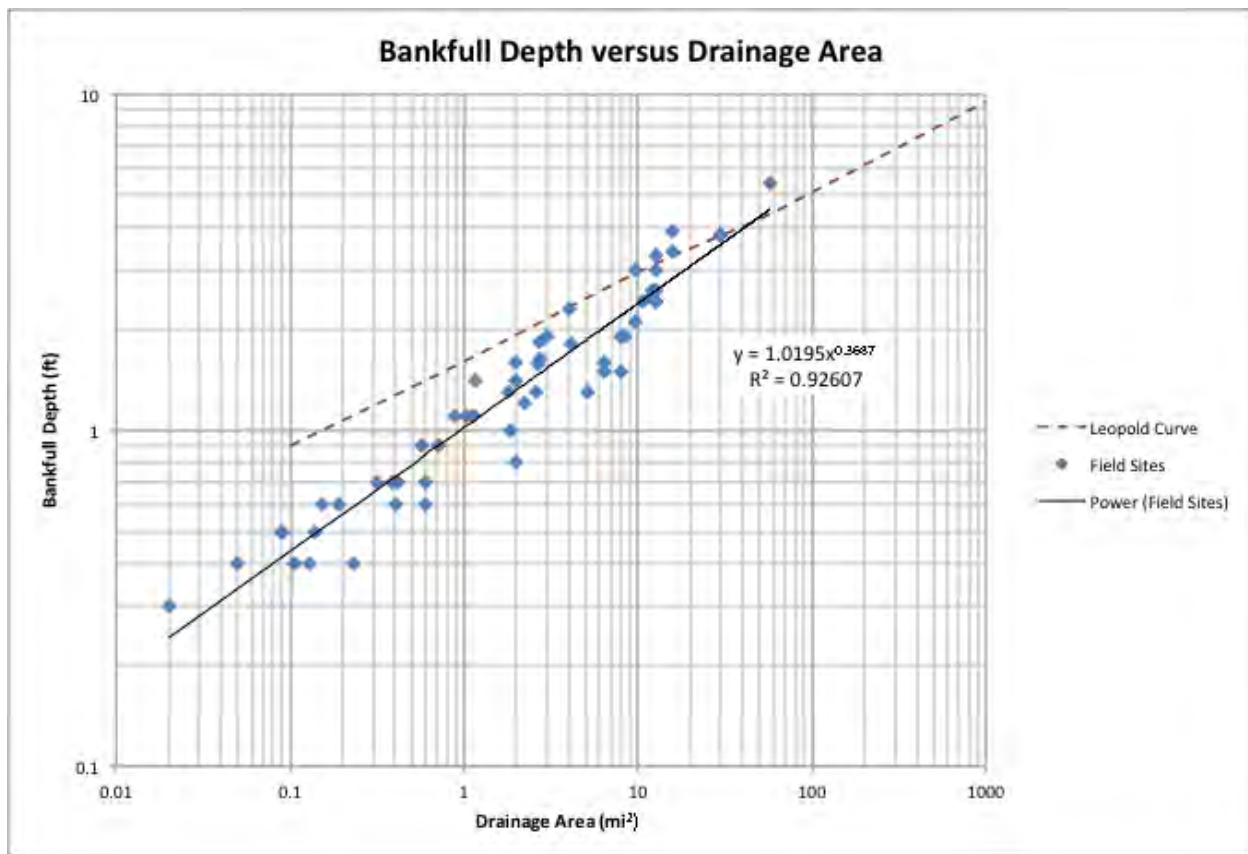


Figure 13: Plot of Bankfull Depth versus Drainage Area

Figure 13 shows that the correlation between watershed area and bankfull mean depth is also statistically strong across the range of drainage areas as indicated by the R^2 of 0.926. As described above, the difference in results is most pronounced at the smaller drainage basins. The implication of the differences in the trend lines for stream restoration projects is the potential of designing stable channels versus ones that could have inherent instability because the width depth ratio is too large or too small. If one relied on regional curves that are derived from uniform flood frequency recurrence intervals, such as that derived by the Leopold curve, then the bankfull depth relative to bankfull width could lead to designing entrenched channels. For example, for a channel of a 1 mi^2 drainage area, the bankfull depth based upon our field derived regional curve should be about 1.1 ft. From Figure 12 the width should be about 12.89 ft, providing a cross sectional area of about 14.18 ft^2 . This would provide a width/depth ratio of 11.7. Alternatively, if the width and depth were derived from the Leopold curves, 17 ft and 1.55 ft would respectively provide a cross sectional area of about 26.3 ft^2 . The width/depth ratio would still be 11.0 but the cross sectional area of a design channel would be too large, leading to an entrenched condition that if applying the Rosgen Classification System, would create an unstable F or G channel.

Figures 14 and 15 both show the correlation of floodprone width against drainage area. However, Figure 14 includes the correlation of all the data but also shows the unstable G and F Rosgen Stream Classes plotted as light yellow markers. For this graph the R^2 value of 0.804 is lower than that for Figure 15 that has an improved R^2 value of 0.871 because it correlates the data without using the unstable and therefore aberrant G and F data. These graphs demonstrate the importance of understanding channel stability conditions when using or developing regional curves.

As an example to illustrate the importance of using the proper curve for creek restoration design, if the floodprone width were determined for a channel with a 1 mi^2 drainage area from the two different plots in Figures 14 and 15, the respective widths would be 23.7 ft and 26.1 ft. If the entrenchment ratio for the channel was determined, the floodprone width would be divided by the bankfull width of 12.89, equaling either 1.8 or 2.02 depending on Figure 10 or Figure 11. With a width/depth ratio of 11.7, the Rosgen Stream Class would be designed for a relatively stable B Stream Class, which are defined by entrenchment ratios ranging from 1.4 to 2.2 \pm 0.2 and width/depth ratios greater than 12 \pm 2.0. As can be

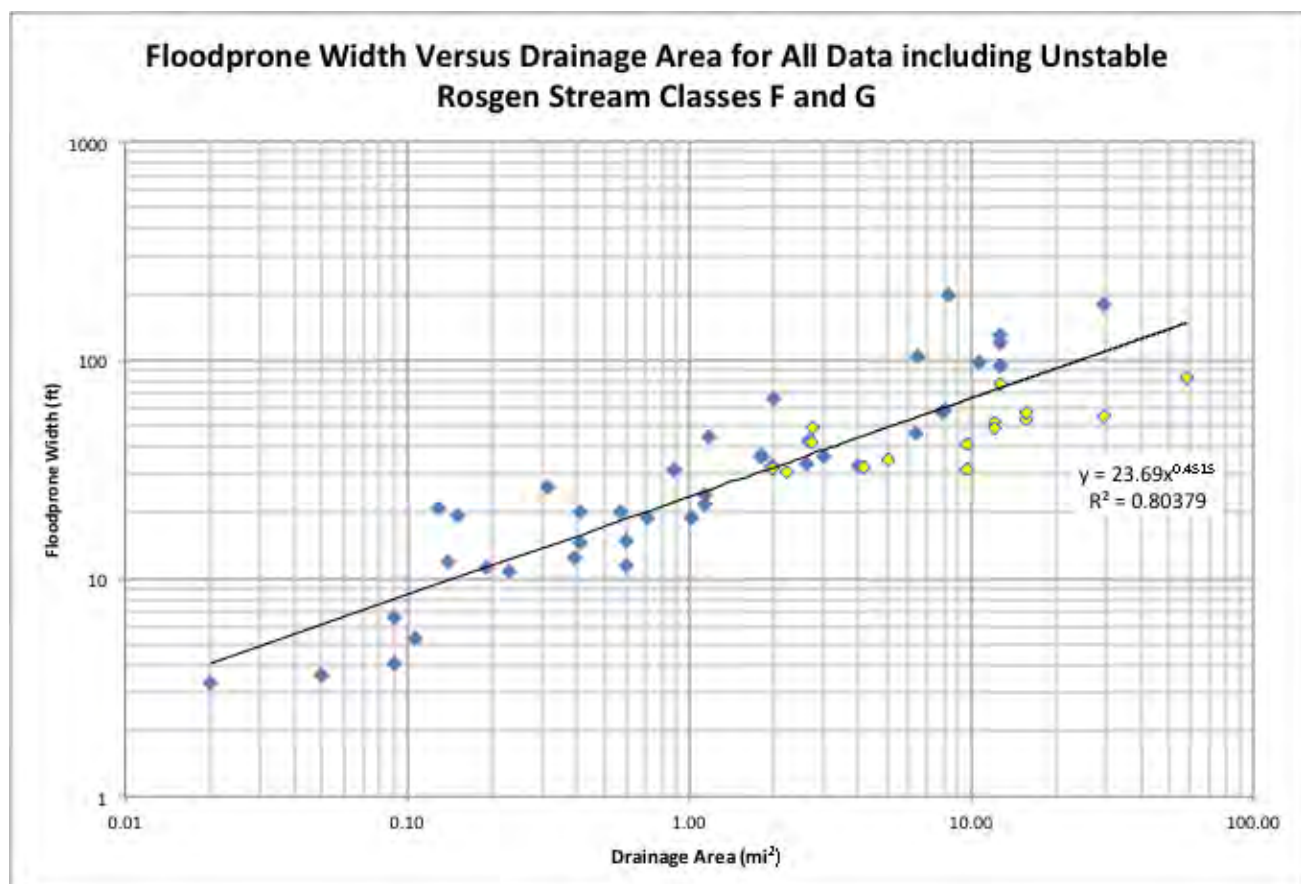


Figure 14: Plot of Bankfull Floodprone Width versus Drainage Area. The yellow data markers indicate unstable conditions of Rosgen Stream Class F and G channels.

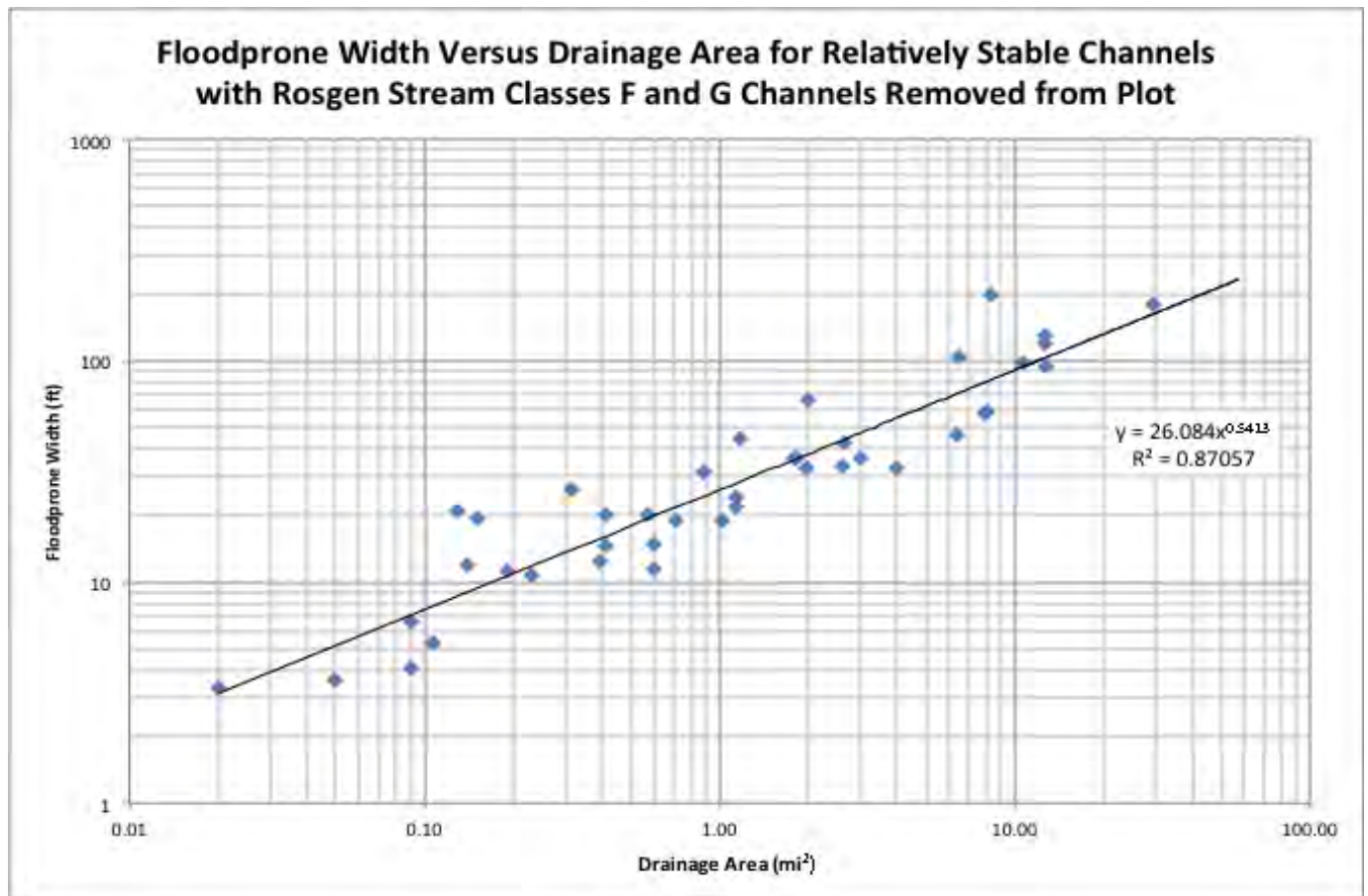


Figure 15: Plot of Bankfull Floodprone Width versus Drainage Area with unstable sites of Rosgen Stream Class F and G channels removed from the analysis.

seen, the predicted width/depth ratio of 11.7 is close to the threshold of stability. We expect with improved refinement and stratification of regional curves data for width and depth, better predictions of stable hydraulic geometry could be derived.

Note that we are not aware of a regional curve for flood-prone width for the Bay Area, nor have we seen this parameter developed for other regions. If the data were stratified based upon Rosgen stream classes, we expect that there could be stronger correlations within each of the Rosgen stream types, but clearly the most stable stream types would be of interest for restoration design. If correlations are good for stable versus stable Rosgen stream types, it might be possible to use stratified regional curves in the future to assess the potentially stability of a site just by knowing its drainage area and bankfull width. Since there are several channels that have unstable G and F Rosgen Stream Classes, if the data were stratified by stream type we would expect to see some strong relations with larger floodprone widths for the more stable channel types.

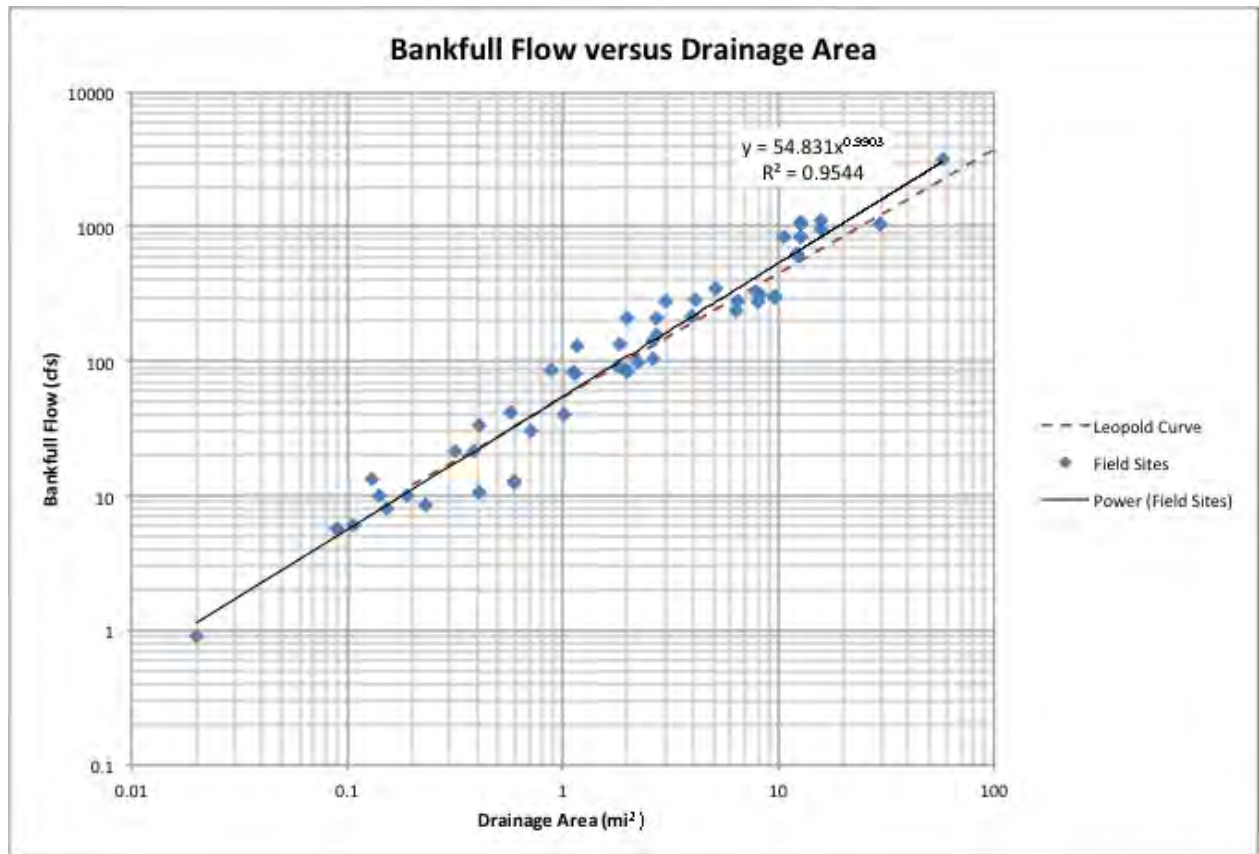


Figure 16: Plot of Bankfull Flow versus Drainage Area

Figure 16 shows the results of the best fit trend line for bankfull flow versus drainage area. It has an excellent correlation coefficient of $R^2 = 0.954$ for the relation between the calculated bankfull flow versus drainage area. The calculated bankfull flow curve agrees fairly closely with the Leopold curve that was developed using the 1.5 year recurrence interval flow for gaged streams. This might indicate that as urbanization influences and peak flow have increased, perhaps even due to increased rainfall since the 1970s, bankfull discharge has not significantly changed but its frequency has increased.

The ratio of mean depth to maximum depth is a non-dimensional metric representing the shape of the channel. Higher values are indicative of more rectangular shaped channels; a value of 1 representing a perfect rectangle. Figure 17 shows lower values represent more triangular channel shapes. The slope of the best fit line approximates 0.54. During Phase 2 we would expect to see distinct patterns relating to channel stability, especially if additional data were collected on all stream types to create a valid, statistically large data set, combined with this existing data set, and all stratified by Rosgen Stream Classes.

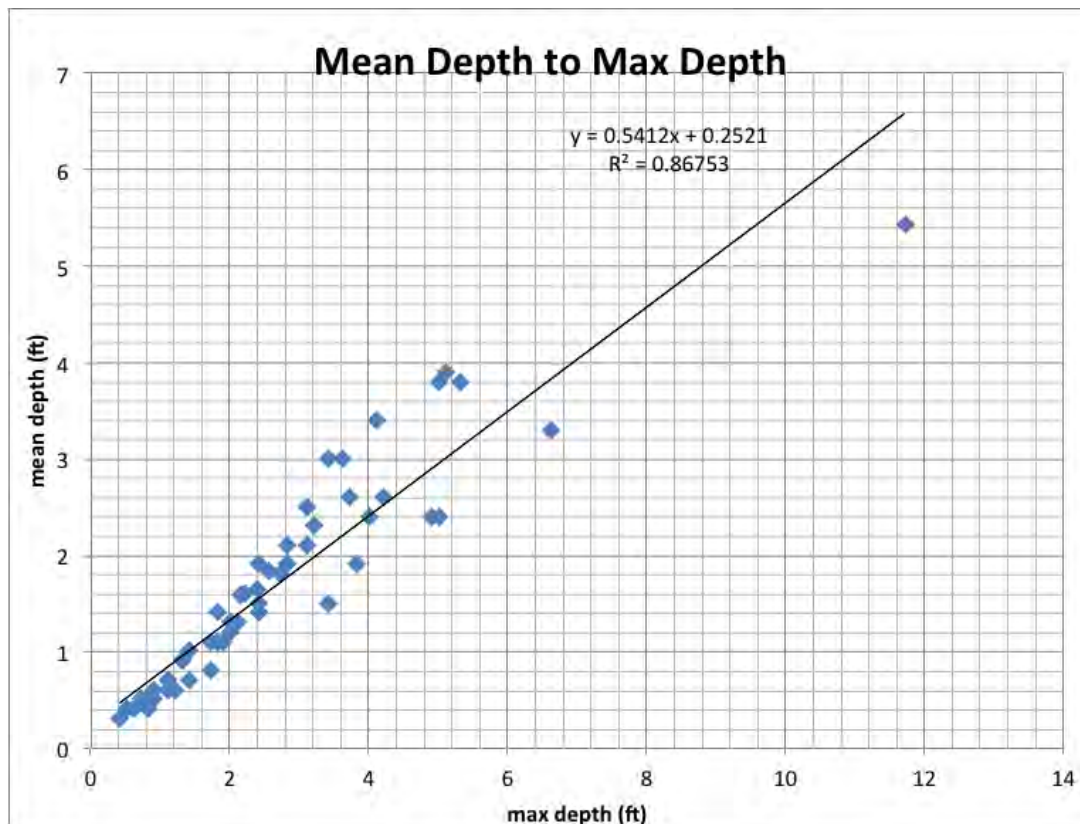


Figure 17: Plot of Mean Depth to Max Depth

This relationship can be used in the field to estimate mean depth. The mean depth would be attained by multiplying the maximum bankfull depth by 0.5412 and adding 0.2521 (the Y-intersect of the best fit line). The estimated mean depth can be multiplied by the measured channel width to estimate cross-sectional area. If this plot was stratified to represent which channels were stable we expect that a higher correlation coefficient would be achieved and therefore designs for restoration projects might be guided toward designing a more stable channel form.

A plot of Manning's n by Rosgen stream type is shown in Figure 18. Manning's n is a commonly used factor that represents the degree of hydraulic resistance to channel flow. Manning's n involves all forms of resistance including bank and bed forms, and vegetation into one factor. For this project, Manning's n values were calculated using a version of the Manning-Strickler empirical relations that estimate n values from the d_{50} or d_{84} grain size. Note that there are other approaches to calculating Manning's n values that will be further developed in Phase 2 of the project, if funded. For this project, Manning's values were calculated by the STREAMS program and the values shown in Figure 18 were all calculated using the same approach. As would be expected, the results show that the higher gradient (steeper) stream types (the Rosgen "A" or "Ba" channels) tend to show higher Manning's n values. Please refer to Appendix B for the Rosgen Stream Type table.

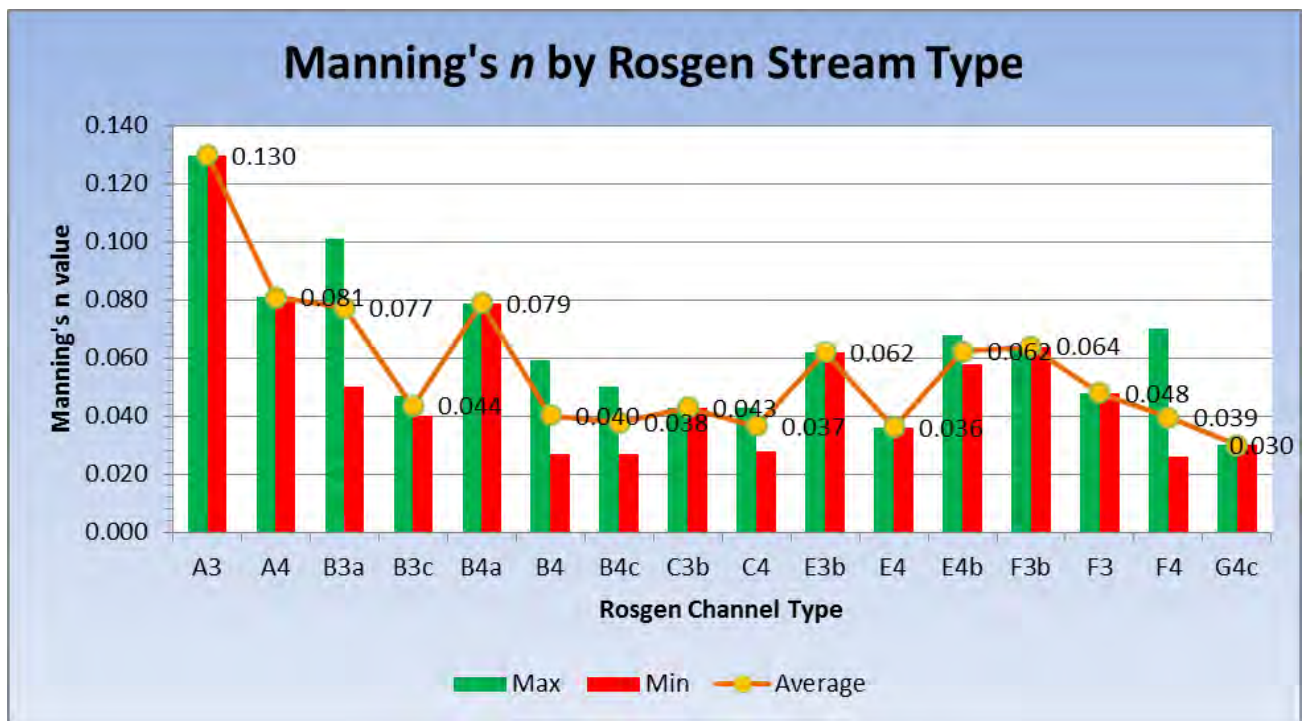


Figure 18: Plot of Manning's n by Rosgen Channel Type

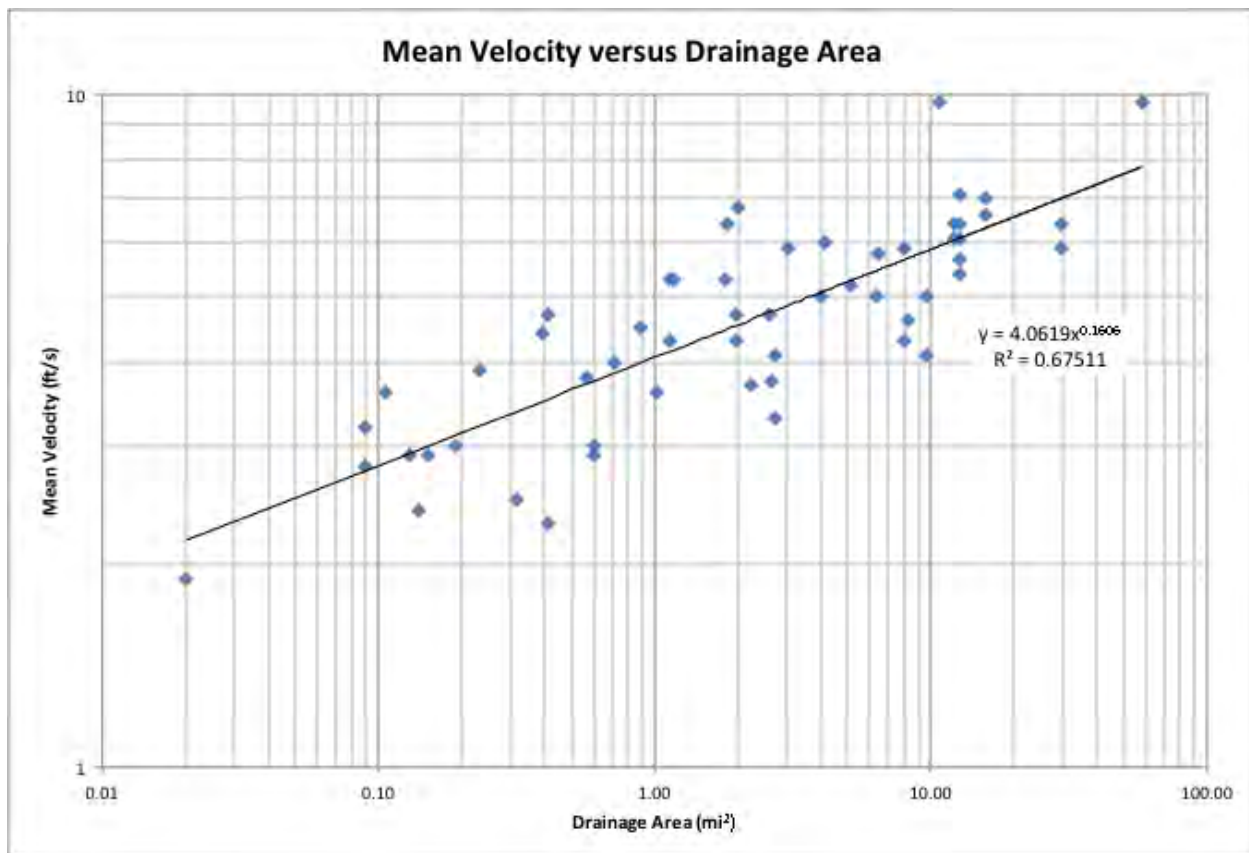


Figure 19: Plot of Bankfull Mean Velocity versus Drainage Area

Mean bankfull velocity was calculated using the bankfull flow value divided by bankfull cross-section area. Since bankfull flow is calculated by Manning's equation using the calculated Manning's n values described above, this estimate of bankfull velocity is approximate but was consistently developed across the range of sites. As shown in Figure 19, the statistical correlation was fairly poor ($R^2 = 0.675$) which may reflect how the values were calculated or that additional data stratification is required. If funded, other variables or combination of variables (such as slope-area products) will be analyzed to see if they are statistically more predictive.

Although regional curves use drainage area as a predictor of hydraulic geometry, we questioned whether drainage area would be the best or only predictor of these parameters given that many changes in the stream network have probably caused bankfull conditions to change since the 1970s when the Leopold Regional Curve was developed. Although the drainage area in many cases is still the same, the stream network and its drainage density has often been substantially altered, for example through headward erosion of first order tributaries, by ditching, by connecting channels that were previously disconnected from mainstem channels (often by alluvial fans at the base of steep hillsides), and by extensive storm drains or agricultural tiling systems.

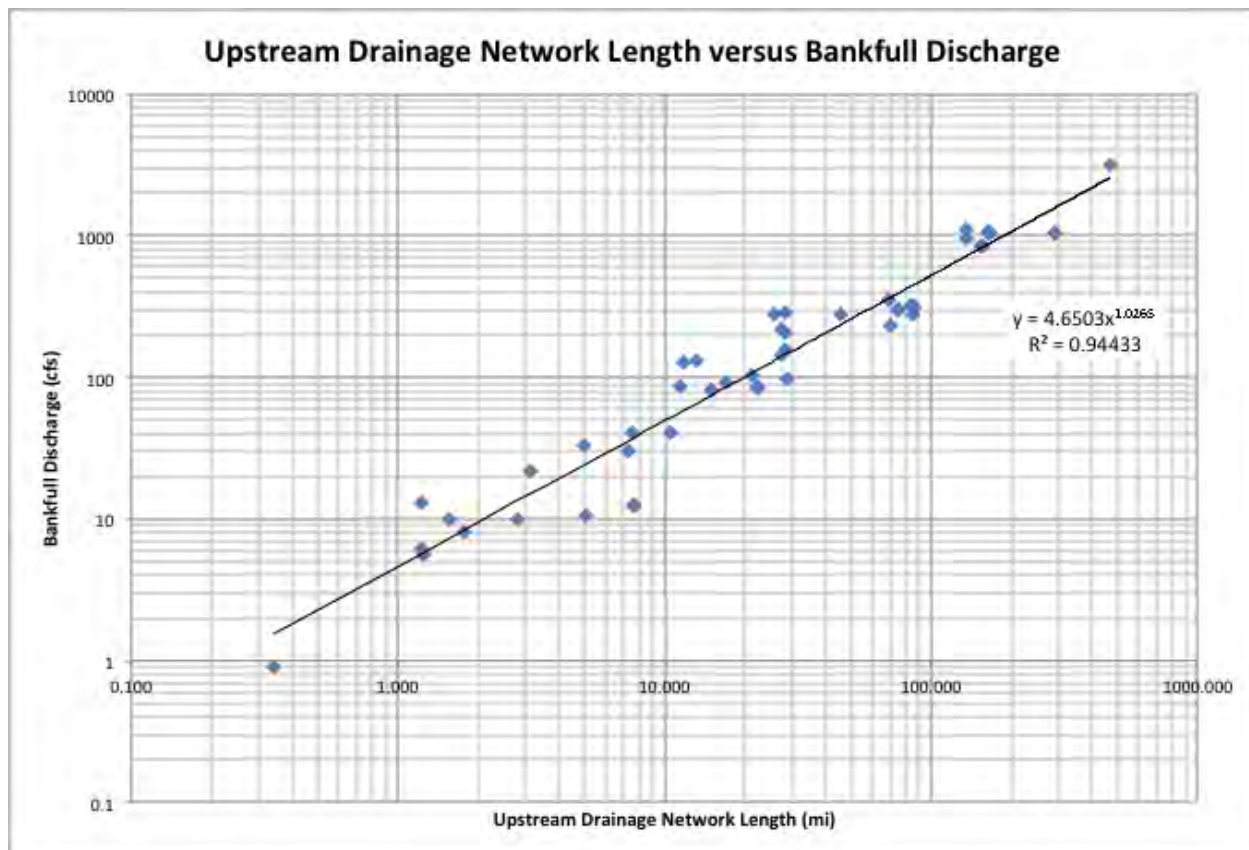


Figure 20: Plot of Drainage Network Length by Bankfull Cross Sectional Area

The relationship of upstream channel network length to drainage area shown in Figure 20 has a high R^2 value of 0.95. This plot shows the relationship of all the data points that had a densified stream network mapped by SFEI. Because the stream network mapping has not been mapped for several cross sections sites in northern Sonoma County, these data points were removed from this plot. The plot indicates that stream network length, when it includes culverts and ditches, is a very good predictor of bankfull cross sectional area and works as well as drainage area which had a similar R^2 of 0.96. We expect that in watersheds that have been highly urbanized, and when GIS tools are readily available to make this calculation, especially where there are intensive additions of storm drains, that drainage network length could become a better predictor of hydraulic geometry than drainage area. This will be explored more in a Phase 2 of the project, if funded.

4.0 CONCLUSIONS AND NEXT STEPS

The results of this project demonstrate that the relationship between bankfull channel dimensions and watershed drainage area in the Marin and Sonoma Counties of San Francisco Bay Area is strong and therefore provides a strong basis for use in restoration design and channel management. The curves of bankfull cross sectional area developed by this project can be used by both designers and planners to help determine bankfull dimensions. Following further data analysis of the more stable channels surveyed under this project, we expect to show the dimensions of the floodprone width that will provide much improved conditions for channel stability that will help protect natural creek functions during flooding events. The existing graphs include a mix of channel conditions including several incised channels (classified as Rosgen F and G type channels) that are in the data set. The importance of creating the appropriate floodprone width is therefore likely of key importance to natural channel design.

Regional curves are a useful tool in the design toolkit for restoration engineers, planners and fluvial-geomorphologists. However, as for any empirically derived dataset, care should be used when applying regional curves relationships outside of the limits of the original dataset. In addition, it is also important to look at the specifics of each project site and to utilize hydraulic models that analyze specific watershed and site scale processes that may impact channel dimensions. Regional curves are only one tool for the creek designer and manager, and all projects need to evaluate site-specific conditions using as many of the tools that can contribute to the assessment.

Datasets such as regional design curves are best developed at the local watershed or larger County scale as done in this project for Marin and Sonoma Counties. Because design consultants typically lack pertinent data and funding for research,

regional curves are not practically done as part of any one local or specific restoration project. The expense and time associated with extra data collection and analysis can often be prohibitive to some projects, especially smaller ones. There is a direct practical analogy of these curves to the development of rainfall intensity-duration-frequency (I-D-F) curves that are produced by flood control agencies and provided to engineers working on county or district projects. Public works agencies typically do not expect each practitioner to collect and analyze the historical rainfall data for each project and then develop a unique set of I-D-F curves. Regional design curves for creek restoration exemplify this type of data set that is best developed on a regional level and then provided to the individual project designers.

Given current influences of land use impacts and a changing climatic regime, we suggest that it is key to incorporate floodprone width into any channel restoration design that uses hydraulic geometry concepts.

Next steps in the project development should include further stratification in Phase 2 and analyses of the data to look for causative controls on channel morphology. We would also be adding to our database of regional curve sites from other creeks in Marin/Sonoma Counties as well as from other Counties around the Bay Area. Additional funding will allow this work to proceed and the results would allow a more in depth analysis of the causative factors on stable channel geometry that would be useful across a broad spectrum of users.

In particular, we propose that a Phase 2 for this project could potentially include the following key items depending on interest and funding:

- Expand our current database of 57 data points. We would perform field survey and develop stable channel characteristics at a range of both stable and at unstable sites. We will also be able to focus our additional data points at locations of interest to local, state and federal agencies, such as steep gradient systems or creek systems impacted by land use. Additional data points will allow us to stratify and statistically analyze the data with a higher degree of certainty.
- Further stratify the datasets to investigate the dominant controls and influences on channel morphology. For example:
 - Determine how watersheds with increased drainage density (from artificial channels such as storm drains and ditches) might compare to historical conditions and how that would influence bankfull channel geometry.
 - Stratify data by Rosgen Stream Classes and compare regional curves that include versus remove unstable stream classes of and G type channels.
 - Stratify data by geomorphic conditions, such as alluvial fans, versus confined and unconfined valleys, to determine if there are predictable or unpredictable metrics of bankfull geometry.

- Further stratify data by precipitation and geologic conditions to test for differences.
- Work with a professional statistician to perform a wider range of statistical analysis.
- Add a riparian vegetation expert top our team to develop a database of field indicators of the extent of flood plain on the landscape. This assessment is useful to groups seeking to develop a scientific basis for stream setback requirements. Our work is already being incorporated into a study of stream setbacks being conducted by the San Francisco Estuary Institute (SFEI).
- Develop the dataset to assess water quality impacts of sediment production from channel erosion as unstable channels adjust their form to achieve more equilibrium conditions.
- Prepare a formal methods and procedures guidance document that clearly documents the work performed and can assist others in collecting field data and developing regional curves in other areas around San Francisco Bay.
- Publish the findings in a refereed journal and prepare lectures of findings and applicability of stratified regional curves for creek restoration design and watershed analyses.

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Table 2: Site Characteristics

<i>Site</i>	<i>Drainage Area (mi²)</i>	<i>MAP (in) PRISM data</i>	<i>Rosgen Stream Class</i>	<i>Slope</i>	<i>d50 (mm)</i>	<i>d84 (mm)</i>	<i>BF Cross-Section Area (ft²)</i>	<i>Bank-full Width (ft)</i>	<i>Mean Bank-full Depth (ft)</i>	<i>Bank-full Flow (cfs)</i>
Bear Valley	1.79	42.11	E4	0.0133	23.94	69.78	17.30	13.10	1.30	92.40
Blackstone x-section 1	0.60	40.68	B4	0.0270	59	140	4.20	6.20	0.70	12.80
Blackstone x-section 2	0.60	40.68	E4b	0.0277	48	120	4.20	6.70	0.60	12.40
Carriger creek upstream of grove	3.98	45.6	A3	0.0800	140	620	43.60	18.70	2.30	215.90
Carriger Creek lower fan	6.45	42.03	C4	0.0160	40	100	48.20	33.10	1.50	278.00
Carriger Upper Fan	4.13	45.98	F3b	0.0348	110	310	48.30	27.40	1.80	289.00
Cascade Creek (Fairfax) x-section 1	1.97	49.3	B3c	0.0200	67	150	20.20	24.90	0.80	86.60
Cascade Creek (Fairfax) x-section 2	1.97	49.3	B3c	0.0200	----	140	18.00	13.20	1.40	84.70
Cascade Trib	0.71	50.49	E4b	0.0471	43	200	7.60	8.50	0.90	30.00
Cheda Creek X-Section 1	1.13	40.96	B4c	0.0141	17	49	15.20	14.10	1.10	81.10
Cheda Creek X-Section 2	1.13	40.96	B4c	0.0141	38	84	18.90	17.00	1.10	82.20
China Camp Creek - Xsec1	0.09	30.77	A4	0.0546	38	110	1.80	3.30	0.50	5.60
China Camp Creek - Xsec2	0.09	30.77	B4a	0.0546	38	110	2.00	4.20	0.50	5.60
China Camp Miwok Meadow South Trib 1	0.02	33.28	N/A	0.0136	12	27	0.50	1.70	0.30	0.90
China Camp Gully North Fork	0.05	33.3	N/A	---	---	---	0.80	2.00	0.40	---
Corte Madera Crk at Ross Gage - Sec 1, modified	15.65	42	F4	0.0037	18	43	145.20	43.30	3.40	952.60

for upstm dam										
Corte Madera Crk upstream of Ross gage - Xsec 3, modified for upstm dam	15.65	42	G4c	0.0037	27	52	160.00	42.10	3.90	1103.50
Crane Crk at Regional Park	2.00	40.18	C3b	0.0236	44	120	31.00	19.90	1.60	210.00
Deer Creek Lower Xsection 1	0.23	46.44	B4c	0.0352	11	38	2.20	5.40	0.40	8.60
Deer Creek Middle	0.11	44.13	B4c	0.0320	8.7	42	1.70	4.00	0.40	6.10
Deer Creek Upper	0.15	46.44	E4	0.0112	13	45	2.80	4.30	0.60	8.10
Devils Gulch, modified for upst dam	2.22	43.5	F3	0.0120	69	140	26.90	23.20	1.20	98.70
East Fork Olema Crk	1.17	42.42	C4	0.0117	31	64	24.40	17.60	1.40	129.60
Emu Trib of San Antonio Crk	2.61	41.74	B4c	0.0099	40	65	22.20	17.50	1.30	105.00
Giacomini Trib	0.31	44.42	E3b	0.0302	83	210	8.50	12.20	0.70	21.50
Graham Crk	1.83	46.2	B3a	0.0460	66	130	20.80	19.90	1.00	133.20
Halleck Cr. Peekaboo	5.10	50.18	F4	0.0109	23	61	47.00	22.00	1.30	349.80
Lagunitas Crk SPT Park Sec 1 (not a riffle). Modified for upst dam	12.73	43.43	C4	0.0069	31	190	148.70	45.30	3.30	842.30
Lagunitas Crk SPT Park Sec 2 (riffle). Modified for upstm dam	12.73	43.43	B4c	0.0069	14	46	117.90	48.40	2.40	832.70
Unnamed Trib into Lagunitas Crk	0.13	41.15	B4	0.0340	39	88	4.50	10.30	0.40	13.20
Larkspur Creek	0.41	46.51	B4c	0.0114	39	80	4.60	8.10	0.60	10.60
Miller Crk Marinwood	6.36	45.34	B4c	0.0047	14	27	47.20	29.40	1.60	234.30
Miller Lucas Site	0.89	52.62	B4c	0.0142	31	87	19.40	17.60	1.10	86.90
Miller North Fork	0.57	52.62	B4	0.0211	39	110	10.80	12.40	0.90	41.40

Nicasio at Nicasio, modified for upst dam	10.70	46.03	C4	0.0012	28	54	92.80	38.30	2.40	843.90
Novato Crk Section 1, modified for upst dam	9.66	41.45	G4c	0.0036	8.2	19	60.50	20.50	3.00	303.00
Novato Crk Section 2, modified for upst dam	9.66	41.45	F4 (B4c)	0.0036	13	42	63.70	30.20	2.10	299.90
Olema Crk John West Fork	3.02	41.84	B4c	0.0097	27	64	46.40	24.30	1.90	275.80
San Antonio Crk near Hwy 101 Sec 1	29.55	38.59	F4	0.0022	8.4	24	166.20	43.40	3.80	1057.20
San Antonio Crk near Hwy 101 sec 2	29.55	38.59	C4	0.0022	16	37	177.70	47.00	3.80	1042.90
Sausal Creek Sec 1 Sec 2	12.08	45.44	F4	0.0067	41	81	96.40	37.30	2.60	612.50
Sausal Creek Sec 2	12.08	45.44	F4	0.0067	23	84	101.70	40.30	2.50	624.90
Sleepy Hollow Creek, headward site, San Anselmo	0.14	38.78	B3a	0.0959	74	200	4.10	8.70	0.50	10.00
Sleepy Hollow Creek, Mainstem	0.41	41.75	B4	0.0244	33	64	7.10	9.60	0.70	33.50
Sleepy Hollow Creek, RB Trib	0.19	45.81	E4b	0.0445	19	130	3.30	5.10	0.60	9.90
Sonoma Crk Agua Caliente GS	58.02	37.83	F4	0.0060	44	94	321.00	59.00	5.43	3139.00
Sonoma Creek Apex Fan	7.95	44.46	B4	0.0210	52	120	54.20	36.80	1.50	320.70
Sonoma Crk Fan	8.03	45.63	B4c	0.0060	41	110	65.00	33.80	1.90	277.10
Sonoma Crk Lower Fan	8.26	47.11	C4	0.0075	50	140	68.70	36.90	1.90	313.70
Sonoma Sugarloaf Site 1	2.74	44.79	F4	0.0114	32	150	50.80	31.00	1.64	208.00
Sonoma Sugarloaf Site 2	2.73	44.79	F4	0.0125	42	105	47.68	26.00	1.83	159.00
Sonoma Sugarloaf Site 3	2.63	44.86	B4c	0.0090	25	125	37.92	24.00	1.58	142.00

Steep Ravine Crk	1.02	49.73	B3a	0.0546	100	280	11.10	10.50	1.10	40.60
Walker Crk at USGS gage Sec1 at gage (glide), modified for upst of dam	12.66	43.33	B4	0.0039	8.7	30	175.80	67.20	2.60	1064.90
Walker Crk Sec2 (in pool), modified for upst of da	12.66	43.33	B4	0.0038	17	44	194.00	80.40	2.40	1050.70
Walker Crk Sec3 (riffle), modified for upst of da	12.66	43.33	B4	0.0039	40	68	165.50	55.60	3.00	1055.70
West Fife Trib @ Armstrong Park	0.39	56.34	B4	0.0248	19	61	4.80	6.80	0.70	21.40

Appendix A: Original Luna Leopold Expression of Hydraulic Geometry

In the original Leopold formulation (Leopold and Maddock 1953), discharge was taken as the dominant independent variable and dependent variables (such as width, depth, velocity, slope, friction etc.) related to it by a simple power law functions as shown below. A similar description can be plotted using drainage area as a substitute for flow in areas where the flow is not known.

$$w = aQ^b$$

$$d = cQ^f$$

$$v = kQ^m$$

and commonly added are slope (S) and friction factor (n)

$$S = gQ^z$$

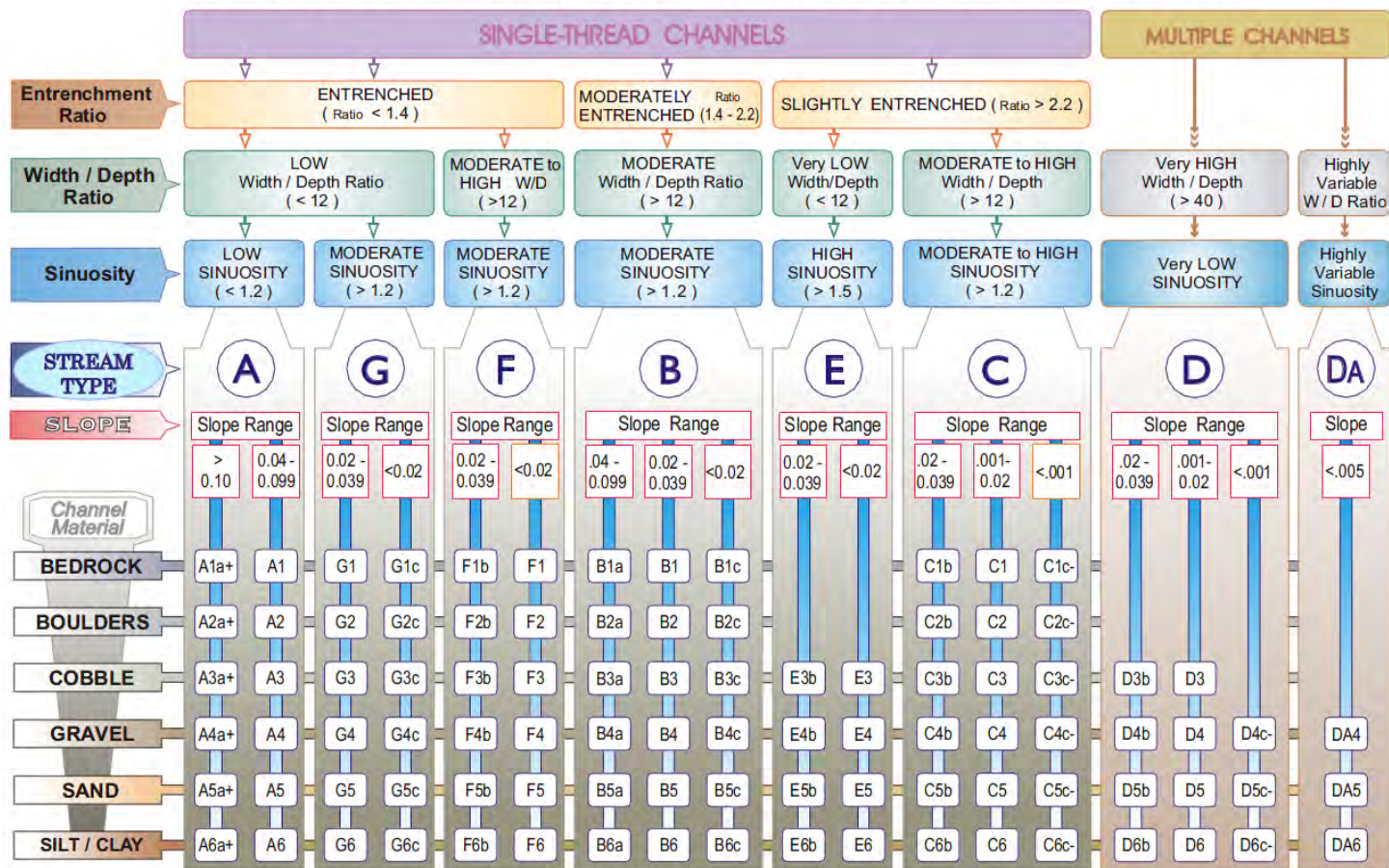
$$n = tQ^y$$

Where w, d, v and s are width, depth, velocity and down-channel bed slope respectively. From continuity, $Q = W \times D \times V$ for a rectangular channel, and therefore, $a \times c \times k = 1$ and also $b + f + m = 1$. For regional curves, stable channel dimensions are identified in the field and then plotted as a function of drainage area. There are a multitude of theories behind this power law formulation that involve maximizing or minimizing some stream parameters (Singh 2003). For our purposes, field measurements are the key data element for developing restoration designs. Planform geometry characteristics (meander wavelength, radius of curvature, and amplitude) can also be plotted to assess if there is a correlation with independent channel parameters such as drainage area or slope.

Note that from numerous studies conducted across the United States, it has been determined that the width and area correlations from regional curves are the best fit with drainage area and flow and that depth and slope (especially slope) are more poorly correlated and should therefore be used with more caution. This approach above is what has been typically done for development of regional curves across the United States (partial listing of regional curve studies available upon request). This type of approach has been recommended by the US Geological Survey and Natural Resource Conservation Service as a tool in practical restoration design and associated benefits to water quality.

Appendix B: Summary of the Rosgen Stream Classification System

The Key to the Rosgen Classification of Natural Rivers



KEY to the *ROSGEN* CLASSIFICATION of NATURAL RIVERS. As a function of the "continuum of physical variables" within stream reaches, values of **Entrenchment** and **Sinuosity** ratios can vary by +/- 0.2 units; while values for **Width / Depth** ratios can vary by +/- 2.0 units.

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Stream TYPE →		A	B	C	D	DA	E	F	G
Dominate Bed Material	Bedrock								
	Boulder								
	Cobble								
	Gravel								
	Sand								
	Silt-Clay								
Entrchmnt.		< 1.4	1.4 - 2.2	> 2.2	n/a	> 4.0	> 2.2	< 1.4	< 1.4
W/D Ratio		< 12	> 12	> 12	> 40	< 40	< 12	> 12	< 12
Sinuosity		1 - 1.2	> 1.2	> 1.2	n/a	variable	> 1.5	> 1.2	> 1.2
H ₂ O Slope		.04-.099	.02-.039	< .02	< .04	<.005	<.02	< .02	.02-.039

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ATTACHMENT E
TECHNICAL SPECIFICATIONS

ON FILE WITH BOARD CLERK

**RIPARIAN ENHANCEMENT PROJECT
AT CRANE CREEK POPPY DRAINAGE**

CONTRACT NO. EV-BB-25-001



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
Councilmembers Association

Kate Colin
Transportation Authority of Marin

Victoria Fleming
Sonoma County Mayors' and
Councilmembers Association

Patty Garbarino
Golden Gate Bridge,
Highway/Transportation District

Ariel Kelley
Sonoma County Mayors' and
Councilmembers Association

Eric Lucan
Marin County Board of Supervisors

Mark Milberg
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

Gabe Paulson
Marin County Council of Mayors and
Councilmembers

David Rabbitt
Sonoma County Board of Supervisors

Eddy Cumins
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Santa Rosa, CA 94954

SUBJECT: Adopt a Resolution authorizing the General Manager to execute a Memorandum of Understanding with the County of Sonoma

Dear Board Members:

RECOMMENDATION:

Adopt Resolution No. 2025-16 authorizing the General Manager to execute a Memorandum of Understanding (MOU) with the County of Sonoma to construct riparian enhancements at Crane Creek Regional Park and for Regional Park staff to maintain and report on the improvements as mitigation for construction of SMART's non-motorized pathway impacts.

SUMMARY:

SMART is implementing riparian enhancements in Sonoma County's Crane Creek Regional Park to satisfied environmental permitting requirements for the construction of two non-motorized pathways: 1) Golf Course Drive in Rohnert Park to Bellevue Avenue in Santa Rosa, and 2) West Steel Lane to Airport Boulevard in Santa Rosa. SMART staff negotiated the attached MOU with Sonoma County Regional Park that permits SMART to make improvements in the Crane Creek Regional Park and for Regional Park staff to maintain the improvements and prepare annual reports documenting the establishment of the improvements for six years.

BACKGROUND:

SMART is completing the construction of the non-motorized pathway between Golf Course Drive in Rohnert Park and Bellevue Avenue in Santa Rosa and preparing for construction of pathway between West Steel Lane and Airport Boulevard in Santa Rosa. Environmental impacts will occur as part of the planned pathway construction. Both the California Department of Fish and Wildlife and the California Regional Water Quality Control Board have conditioned the pathway construction projects with riparian mitigation requirements.

In partnership with Sonoma County Regional Parks, SMART has identified riparian enhancement opportunities at Crane Creek Regional Park that will repair erosion damage and plant native trees and plants. Crane Creek Regional Park in Santa Rosa is owned and operated by Sonoma County and is in the same watershed as the Golf Course Drive to Bellevue Avenue and West Steel Lane and Airport Boulevard. Implementation of riparian enhancements in Crane Creek Regional Park (Project) is beneficial to both parties – it satisfies permit requirements for SMART and makes desirable site improvements at Crane Creek Regional Park. SMART, through the attached MOU, proposes to reimburse the County for its effort for riparian maintenance, monitoring, and reporting, up to \$439,843.00 over the 6-year term of this agreement. SMART has been conditioned with a 5-year establishment period for the enhancements to the natural environment. The reason the term of the MOU is for six years is because the reporting on the establishment is at the end of each year. SMART, through the attached MOU, would pay all costs associated with the design, permitting, and construction of the Project.

SMART and the County executed a similar MOU for environmental enhancement work in the Helen Putnam Regional Park. The Sonoma County Board of Supervisor approved the MOU on March 11, 2025

Staff recommends approving Resolution No. 2025-16 authorizing the General Manager to execute a MOU with Sonoma County to construct and maintain riparian enhancements in Crane Creek Park in an amount of \$439,834 and term of 6 years.

FISCAL IMPACT: The cost for Year 0 is in the draft Fiscal Year 2026 budget and the remaining funds are assumed to be budgeted in the future for years 1-6.

REVIEWED BY: [x] Finance ____/s/____ [x] Counsel ____/s/____

Respectfully,

/s/
Bill Gamlen, P.E.
Chief Engineer

Attachment(s):

- 1) Resolution No. 2025-16
- 2) Memorandum of Understanding with County of Sonoma

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT APPROVING A MEMORANDUM OF UNDERSTANDING WITH THE COUNTY OF SONOMA TO MAINTAIN AND REPORT ON RIPARIAN ENHANCEMENTS IN SANTA ROSA AT CRANE CREEK REGIONAL PARK

WHEREAS, The Sonoma-Marin Area Rail Transit District (SMART) SMART is implementing a section of non-motorized pathway between Golf Course Drive in Rohnert Park and Bellevue Avenue in Santa Rosa and another between West Steel Lane and Airport Boulevard in Santa Rosa in which environmental impacts will occur as a result of the construction of the pathway; and

WHEREAS, the California Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board have conditioned the project with mitigating for riparian impacts; and

WHEREAS, SMART has identified riparian enhancement opportunities to fulfill permit mitigation requirements in the Crane Creek Regional Park in Santa Rosa which is in the same watershed as the pathway project; and

WHEREAS, County owns and operates Crane Creek Regional Park; and

WHEREAS, the parties desire to enter into this MOU to permit SMART to construct the mitigation improvements and for County Regional Parks staff to own, maintain and prepare reports documenting the establishment of the mitigation improvements; and

WHEREAS, SMART, through this MOU, has agreed to pay all costs associated with the design, permitting, and construction of the Project; and

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

1. The foregoing Recitals are true and correct and are incorporated herein and form a part of this Resolution.
2. The General Manager is authorized to execute a Memorandum of Understanding with Sonoma County to permit SMART to construct the mitigation improvements and for County Regional Parks staff to own, maintain and prepare reports documenting the establishment of the mitigation improvements in Crane Creek Regional Park.

Resolution No. 2025-16
Sonoma-Marin Area Rail Transit District
May 21, 2025

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marin Area Rail Transit District held on the 21st day of May 2025, by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Board of Directors
Sonoma-Marin Area Rail Transit District

ATTEST:

Leticia Rosas, Clerk of Board of Directors
Sonoma-Marin Area Rail Transit District

MEMORANDUM OF UNDERSTANDING AGREEMENT

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AND SONOMA COUNTY REGIONAL PARKS CRANE CREEK RIPARIAN MITIGATION

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is entered into as of _____, 20__, by and between the **SONOMA-MARIN AREA RAIL TRANSIT DISTRICT** (hereinafter SMART), a public entity duly established under the laws of California, and **COUNTY OF SONOMA**, a political subdivision of the State of California, by and through the Department of Regional Parks (County).

Recitals

- A. The SMART rail corridor, historically known as the Northwestern Pacific Railroad Authority (NWPRA), generally parallels Highway 101 running north - south in Sonoma and Marin Counties. The corridor owned by the SMART District includes the corridor from Milepost (MP) 89.9 in Cloverdale southward to MP 11.4 in Corte Madera.
- B. SMART has completed California Environmental Quality Act (CEQA) review and designed and constructed a passenger rail service, stations and accompanying multi use path along an approximately 45-mile existing rail corridor which will eventually extended to 70-miles from Cloverdale in Sonoma County, California, to Larkspur, Marin County, California (the "SMART Rail and Pathway Project").
- C. SMART is implementing sections of pathway including a segment between Golf Course Drive in Rohnert Park and Bellevue Avenue in Santa Rosa and another between West Steel Lane and Airport Boulevard in Santa Rosa. As part of the planned pathway construction, it has been determined that environmental impacts will occur. Both the California Department of Fish and Wildlife and the California Regional Water Quality Control Board have conditioned the project with riparian mitigation requirements.
- D. SMART is seeking locations to construct Riparian Enhancements to comply with permits from the Environmental Permitting agencies.
- E. SMART has identified riparian enhancement opportunities to fulfill permit mitigation requirements in the Sonoma County Crane Creek Regional Park in Rohnert Park which is in the same watershed as the pathway projects.
- F. County owns Crane Creek Regional Park.
- G. SMART is interested in constructing Riparian Enhancements in Crane Creek Regional Park (Project).
- H. The parties desire to enter into this MOU to provide for the construction, maintenance and establishment of the Project.
- I. SMART, through this MOU, has agreed to pay all costs associated with the design, permitting, and construction of the Project.

- J. County has agreed to allow the Project to be constructed on County property and to provide maintenance, monitoring, and reporting for the Project.
- K. SMART, through this MOU, has agreed to reimburse County for its effort for riparian maintenance, monitoring, and reporting, up to \$439,843 over the term of this agreement.

MOU

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, County and SMART agree as follows:

1. RECITALS

- A. The above recitals are true and correct and are hereby incorporated in and expressly form a part of this MOU.

2. COORDINATION

- A. SMART's and County's Representative for purposes of this MOU shall be:

SMART

Bill Gamlen
Chief Engineer
Sonoma - Marin Area Rail Transit (SMART)
5401 Old Redwood Highway, Suite 200
Petaluma, California 94954
Phone: 707.794.3330
Email: bgamlen@sonomamarintrain.org

COUNTY

Melanie Parker
Deputy Director
2300 County Center Drive
Suite A120
Santa Rosa, CA 95403
Phone: 707.565.2041
Email: Melanie.parker@sonoma-county.org

3. SCOPE OF WORK

- A. Design, construction, maintenance, and monitoring of riparian enhancements in the Crane Creek Regional Park near Rohnert Park according to the permits from the California Regional Water Quality Control Board (Exhibit E) and California Department of Fish and Wildlife (Exhibit F). A concept mitigation plan depicting the improvements is included as Exhibit A. The Project will include design and construction of irrigation, invasive removals, and planting. The Mitigation area comprises two drainages. The construction of the Poppy drainage mitigation is anticipated to begin in the summer of 2025, while the Fiddleneck drainage mitigation will start in the summer of 2026.
- B. The activities covered in this agreement include the maintenance and monitoring of the Project. After SMART installs the plantings and irrigation system, the County will maintain the improvements as the plantings establish themselves in the natural environment and become part of the Crane Creek Regional Park native ecosystem, and prepare an annual monitoring report documenting the establishment of the improvement. At the conclusion of the term of this agreement, the proposed improvements will become the property of the County.

4. **SMART'S RESPONSIBILITIES**

SMART agrees to perform the following:

A. Management:

- i. SMART shall be responsible for the management of the implementation of the Project, which includes preparing design and construction documents for the Project.
- ii. SMART shall manage the installation and construction of Project.

B. Design: SMART shall submit design and construction documents to the County for review and approval, which shall not be unreasonably withheld, and approval authority is delegated to an appropriate professional, such as landscape architects, ecological restoration specialist, or similar.

C. Environmental Permits: SMART shall be responsible for securing environmental permits, including but not limited to, the costs associated with any environmental clearance, analysis, compliance documentation, permits or other entitlements as may be required.

- i. SMART will prepare and submit the year 1 as-built report.

D. Construction. SMART shall be responsible for procurement of all materials, installation, and construction work for the Project, at its own expense. Upon completion of construction, SMART shall provide County with written notice of its determination that construction pursuant to the approved designs has been complete. If County determines that the Project has not been completed pursuant to approved designed and permits, County shall notify SMART within 21 calendar days after SMART's written notice of determination of Project completion of any needed corrections. SMART shall respond to any concerns raised by County by correcting any defects or responding in writing to the County's objections within 21 days thereafter. If no objections are made by County, or SMART corrects or fully responds to any issues identified by County, construction shall be deemed complete and applicable guarantee periods shall commence.

E. Payment: SMART shall reimburse the County for the maintenance, monitoring, and reporting of the Project in accordance with the terms in Section 7.

F. Review: SMART shall promptly review all monitoring reports prepared by County and will have 14 calendar days to review and respond to submittals from the County related to the Project. If no comments are received within 14 calendar days, the documents will be deemed approved, and the County will send final monitoring reports to SMART for submission to the permitting agencies.

5. **COUNTY'S RESPONSIBILITIES**

County agrees to perform the following:

- A. Design Review: The County shall promptly review SMART's design and construction documents for the Project and will have 14 calendar days to review and respond to submittals from SMART related to the Project. If no comments are received within 14 calendar days, the documents and designs details will be deemed approved.
- B. Plant Source: The County has an existing contract for collection of local seeds and propagation of native plants. The County shall mobilize to collect and grow plants that are genetically adapted to local park conditions. The propagated plants can be used to replace trees and vegetation that have failed. If local seed source is not collected, locally sourced native plants should be identified for the project.
- C. Construction: The County may consult with SMART in overseeing the construction of the improvements but may not direct SMART's contractor.
- D. Maintenance, Monitoring, and Reporting: After construction is complete, pursuant to Section 4 (d), and plants are out of the contractors' guarantee period, the County shall perform all maintenance, monitoring, and reporting for the project.
 - i. County shall assume maintenance and monitoring responsibilities after construction is deemed complete. County shall be responsible for irrigation, preventing the return of invasive plant species that were removed as part of the Project, removing trash, installing and maintaining any protective fencing, replacing plantings that have died or been removed, and other activities as necessary to maintain the original intent of the Project improvements as identified in Exhibit A.
 - ii. New planting projects typically require the most maintenance and attention in the first few years. This work consists of irrigation maintenance, weed removal, and in some cases replacement of plantings that don't take hold. Once the plants are established, irrigation, and weeding tapers off to a point where the plantings have assimilated into the natural environment and do not require any support. Therefore, it is anticipated that the level of effort will be greatest in the first few years and be reduced near the end of the term of this agreement.
 - iii. SMART is required to submit monitoring reports to the permitting agencies to document the establishment of the Proposed Improvements. The County shall prepare monitoring reports for Poppy drainage restoration site and Fiddleneck drainage restoration site for years 2,3,4 and 5.
 - a. Draft Reports shall be submitted to SMART no later than November 1st of all reporting years. County shall promptly respond and address comments to maintain the Final Reports schedule.

- b. Final Reports shall be submitted to SMART no later than December 31st of the same year.
- iv. The County shall inform SMART, in a timely manner, when there are concerns about the success of the Project.
- v. If regular inspections or annual monitoring reveal that the mitigation is not on track to meet performance standards after appropriate implementation of recommended maintenance activities, an assessment will be made to determine the cause and develop potential solutions following the recommendations of section 8.0 Adaptive Management of the Riparian Mitigation and Monitoring Plan. SMART will be responsible for funding remedial actions that are beyond typical maintenance, and Regional Parks will be responsible for implementing remedial actions that are within the capabilities of their existing staff and equipment.
- vi. Once the Project has been deemed complete and this MOU has expired, the County shall maintain the property as it sees fit, and have no further obligation to SMART for the maintenance or success of the improvements install by SMART hereunder.

6. TERM

The term of this MOU is until January 31st, 2032.

7. PAYMENT

SMART shall pay the County for work performed by the County pursuant to this Agreement and under the terms of Section 5. Payment for the work shall not exceed \$439,843 without prior consent by the parties to exceed such sum. Payment shall be made based upon the yearly expenditure schedule outlined in Exhibit C and County meeting responsibilities outlined in Section 5. County shall invoice SMART, on an annual basis, for work that will be completed in the upcoming year. If the reasonable completion of any task for which County has responsibility hereunder cannot be completed within the not-to-exceed amount set forth by the section 7, then County shall have no obligation to complete such work until such time as the not-to-exceed amount has been adjusted to reflect the actual cost to County for the completion of the task.

8. ADDITIONAL REQUIREMENTS

A. Amendments to MOU

This MOU may be amended only by the mutual written consent of both parties.

B. Indemnification

- i. SMART shall indemnify, defend, protect, hold harmless, and release County, its officers, agents, and employees, from and against any and all

claims, loss, proceedings, damages, causes of action, liability, costs, or expense (including attorneys' fees and witness costs) arising from or in connection with, or caused by any act, omission, or negligence of such indemnifying party. This indemnification obligation shall not be limited in any way by any limitation of the amount or type of acts, disability benefit acts, or other employee benefits.

- ii. County shall indemnify, defend, protect, hold harmless and release SMART, its officers, agents, and employees, from and against any and all claims, loss, proceedings, damages, causes of action, liability costs, or expense (including attorney's fees and witness costs) arising from or in connection with, or caused by any act, omission, or negligence of such indemnifying party. This indemnification obligation shall not be limited in any way by any limitation of the amount or type of acts, disability benefit acts, or other employee benefits.

C. Insurance

- i. SMART shall require its contractors to maintain in force, during the construction of the project, a policy of general liability insurance, including coverage of bodily injury liability and property damage liability, naming the County, its officers, agents, and employees as the additional insured in an amount of \$1 million per occurrence and \$2 million in aggregate. Coverage shall be evidenced by certificate of insurance in form satisfactory to the County that shall be delivered to the County prior to commencement of the work.
- ii. County its agents and contractors shall maintain in force, during the maintenance, monitoring and reporting period of the project, a policy of general liability insurance, including coverage of bodily injury liability and property damage liability, naming the SMART, its officers, agents, and employees as the additional insured in an amount of \$1 million per occurrence and \$2 million in aggregate. Coverage shall be evidence by a certificate of insurance in a form satisfactory to the SMART that shall be delivered to SMART, after the construction project is complete, but prior to commencement of the County's maintenance, monitoring and reporting responsibilities.

D. Termination

Either party may terminate this MOU by giving 30-days prior written notice to the other party, in the manner described in Section 8 of this MOU of its intent to terminate. SMART shall pay the County for all expenses associated with the proportion of work completed as of the termination date. Should the MOU be terminated, the County shall allow SMART and/or contractor to take over maintenance and monitoring responsibilities of the Planned Improvement at no cost. County shall provide whatever access and permits are necessary at no cost to SMART and may confer but shall not interfere with the maintenance, monitoring and reporting obligations. At the completion of the establishment period or when the permitting agencies determine that SMART has fulfilled its riparian mitigation obligations, the Planned Improvements will become the property of the County.

E. Notice

Unless otherwise requested by a party, all notices, demands, requests, consents, or other communications which may be or are required to be given by either party to the other shall be in writing and shall be deemed effective upon service. Notices shall be deemed to have been properly given when served on the party to whom the same is to be given by hand delivery or by deposit in the United States mail addressed to the party as follows:

SMART: Bill Gamlen, P.E.
Chief Engineer
Sonoma-Marín Area Rail Transit District
5401 Old Redwood Highway
Petaluma, CA 94954

County: Melanie Parker
Deputy Director, Regional Parks
2300 County Center Drive
Suite A120
Santa Rosa, CA 95403

When a notice is given by a generally recognized overnight courier service, the notice, invoice, or payment shall be deemed received on the next business day. When a notice or payment is sent via United States Mail, it shall be deemed received seventy-two (72) hours after deposit in the United States Mail, registered or certified, return receipt requested, with the postage thereon fully prepaid. In all other instances, notices, and payments shall be effective upon receipt by the recipient. Changes may be made in the names and addresses of the person to whom notices are to be given by giving notice pursuant to this paragraph.

F. Governing Law

This MOU shall be governed by and construed in accordance with the laws of the State of California. Venue shall be the County of Sonoma.

G. Entire MOU

This instrument contains the entire MOU between the parties, and no statement, promise, or inducement made by either party or agents of the parties that is not contained in this written contract shall be valid or binding; and this contract may not be enlarged, modified, or altered except in writing signed by the parties.

H. Authority of County

The undersigned hereby represents and warrants that he or she has authority to execute and deliver this MOU on behalf of County.

I. No Waiver of Breach

The waiver by any of the Parties of any breach of any term or promise contained in this MOU shall not be deemed to be a waiver of such term or provision or any subsequent breach of the same or any other term or promise contained in this MOU.

J. Time of Essence

Time is and shall be of the essence of this MOU and every provision hereof.

K. Construction

To the fullest extent allowed by law, the provisions of this MOU shall be construed and given effect in a manner that avoids any violation of statute, ordinance, regulation, or law. The parties covenant and agree that in the event that any provision of this MOU is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby. County and SMART acknowledge that they have each contributed to the making of this MOU and that, in the event of a dispute over the interpretation of this MOU, the language of the MOU will not be construed against one party in favor of the other. County and SMART acknowledge that they have each had an adequate opportunity to consult with counsel in the negotiation and preparation of this MOU.

L. Consent

Wherever in this MOU the consent or approval of one party is required to an act of the other party, such consent or approval shall not be unreasonably withheld or delayed.

M. Relationship of the Parties:

The Parties do not intend to create a partnership, joint venture, joint enterprise, agency, or employee-employer relationship. The Parties intend by this agreement to establish only relationship of an independent Contractor (County) in performing the service specify herein, County shall control the work and the manner in which it is performed. County is not to be considered an agent or employee of SMART and is not entitled to participate in any pension plan, worker's compensation plan, insurance bonus, or similar benefits SMART provides its employees. In the event SMART exercise Its right to terminate this Agreement County expressly agrees that it sha have no resource or right of appeal under rules, regulations, ordinances, or laws applicable to SMART employees.

N. No Intended Third-Party Beneficiaries:

There is no third person or entity who is an intended third-party beneficiary under this agreement. No incidental beneficiary, whatever relationship such person may have with the Parties, shall have any right to bring an action or suit, or to assert any claim against the Parties under this agreement. Nothing contained in this agreement shall be constructed to create and the Parties do not intend to create any rights in third parties.

O. Captions

The captions in this MOU are solely for convenience of reference. They are not a part of this MOU and shall have no effect on its construction or interpretation.

P. Acceptance of Electronic Signatures and Counterparts

The parties agree that this MOU, including the Exhibits hereto, will be considered executed when all parties have signed this MOU. Signatures delivered by scanned image as an attachment to electronic mail or delivered electronically through the use of programs such as DocuSign must be treated in all respects as having the same effect as an original signature. Each party further agrees that this Contract may be executed in two or more counterparts, all of which constitute one and the same instrument.

IN WITNESS WHEREOF, the District and the County have executed this MOU as of the date first above written.

COUNTY OF SONOMA:

SONOMA-MARIN AREA RAIL TRANSIT
DISTRICT:

By: _____
Bert Whitaker
Director, Regional Parks

By: _____
Eddy Cumins, General Manager

APPROVED AS TO FORM:

APPROVED AS TO FORM FOR DISTRICT:

By: _____
Deputy County Counsel

By: _____
Jessica Sutherland,
SMART General Counsel

EXHIBIT A

DESIGN

A1: Poppy Drainage Final Plan

A2: Fiddleneck Drainage 90% Plan

SMART NON-MOTORIZED PATHWAY SEGMENT 3 - POPPY DRAINAGE
RIPARIAN MITIGATION
CRANE CREEK REGIONAL PARK
SONOMA COUNTY, CALIFORNIA



2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

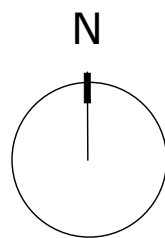
SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

SCALE: AS INDICATED



TITLE SHEET AND
GENERAL NOTES

Sheet 1 of 14

G-1.0

SHEET INDEX

1. G-1.0 TITLE SHEET AND GENERAL NOTES
2. C-1.1 SITE PREPARATION & ACCESS PLAN
3. C-2.0 GRADING PLAN & PROFILE
4. C-3.0 CHANNEL SECTIONS
5. C-3.1 CHANNEL SECTIONS
6. C-4.0 CREEK STABILIZATION DETAILS
7. EC-1.0 EROSION CONTROL DETAILS
8. L-1.0 EROSION CONTROL AND SEEDING PLAN
9. L-2.0 PLANTING SCHEDULE, DETAILS, AND TYPICAL LAYOUT
10. L-2.1 PLANTING QUANTITIES AND NOTES
11. L-2.2 PLANTING AND FENCING PLAN
12. L-3.0 IRRIGATION NOTES AND DETAILS
13. L-3.1 IRRIGATION PLAN
14. L-3.2 IRRIGATION DETAILS



1 VICINITY MAP
NOT TO SCALE

GENERAL NOTES

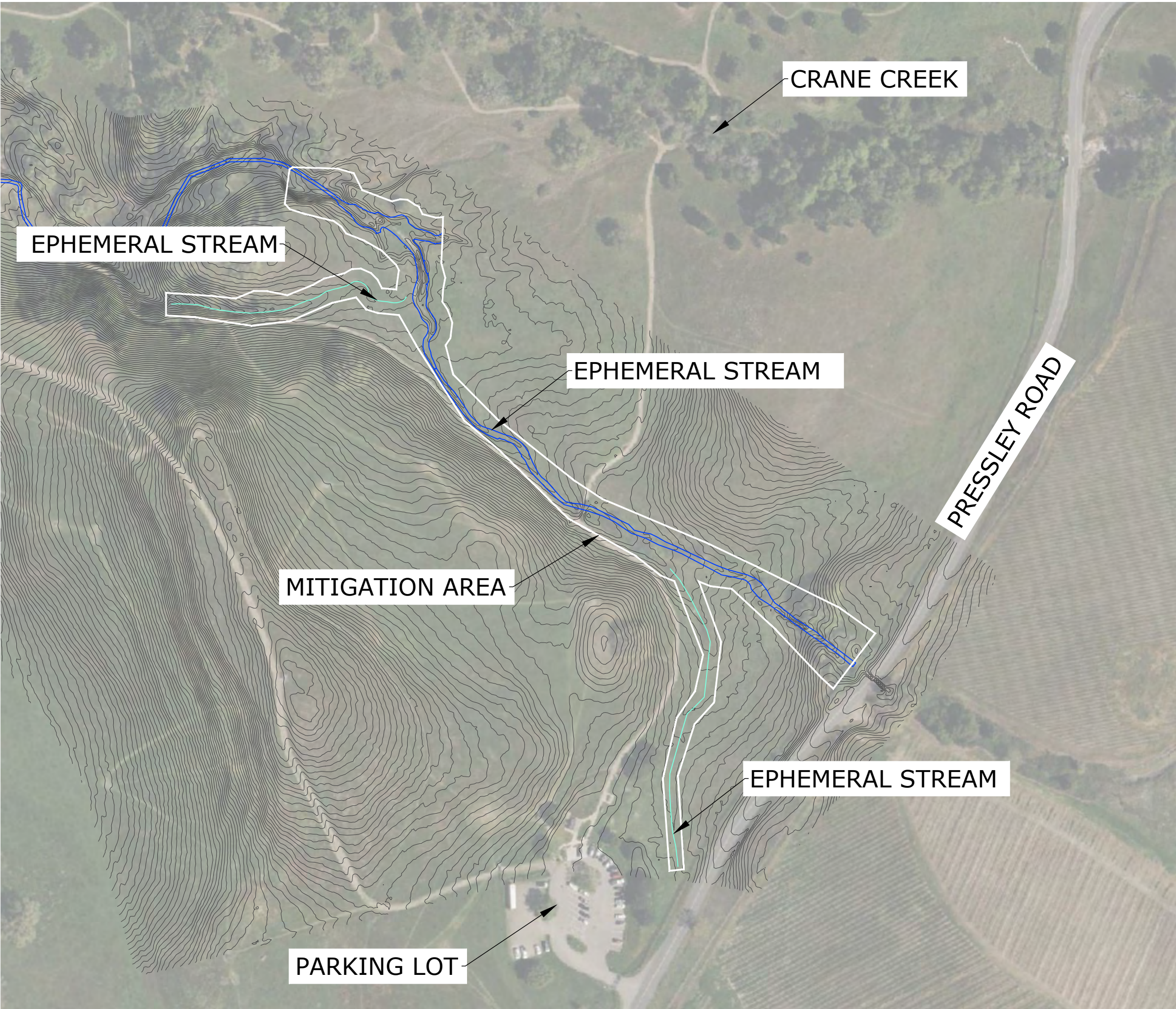
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND OTHER INFRASTRUCTURE IN THE PROJECT AREA.
2. EXISTING TOPOGRAPHIC DATA FROM 2013 SONOMAVEG LIDAR.
3. HORIZONTAL DATUM: NAD83 CALIFORNIA STATE PLANES, ZONE II, US FOOT
4. VERTICAL DATUM: NAVD88, U.S. SURVEY FEET.
5. DESIGN IS BASED ON AVAILABLE LIDAR, NOT A TOPOGRAPHY SURVEY.
6. THE CONTRACTOR SHALL UTILIZE A LICENSED SURVEY TO ESTABLISH AND MAINTAIN HORIZONTAL AND VERTICAL CONTROL ON SITE.

EARTHWORK VOLUMES (CY)		
TOTAL CUT	TOTAL FILL	EXCESS CUT
420	80	340

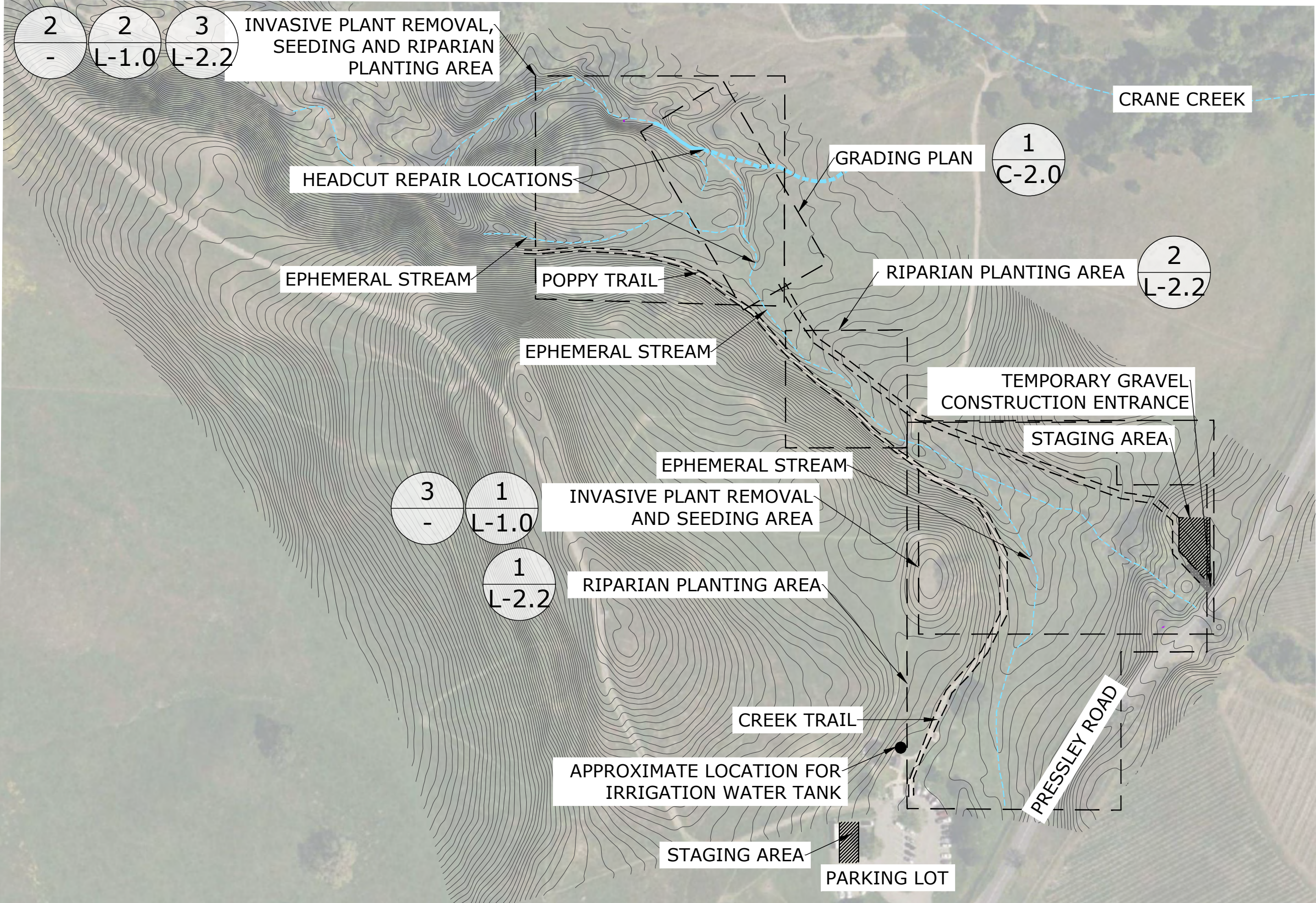
NOTE: NEAT LINE QUANTITIES - DOES NOT ACCOUNT FOR EXPANSION OR COMPACTION.

Applicable Specifications (CALTRANS)	
72	Slope Protection

Applicable Specifications (SMART)	
31 11 00	Site Clearing (Clearing and Grubbing)
31 20 00	Earthwork
31 23 19	Dewatering
31 60 00	Soil Erosion, Sediment Control, Topsoiling and Seeding

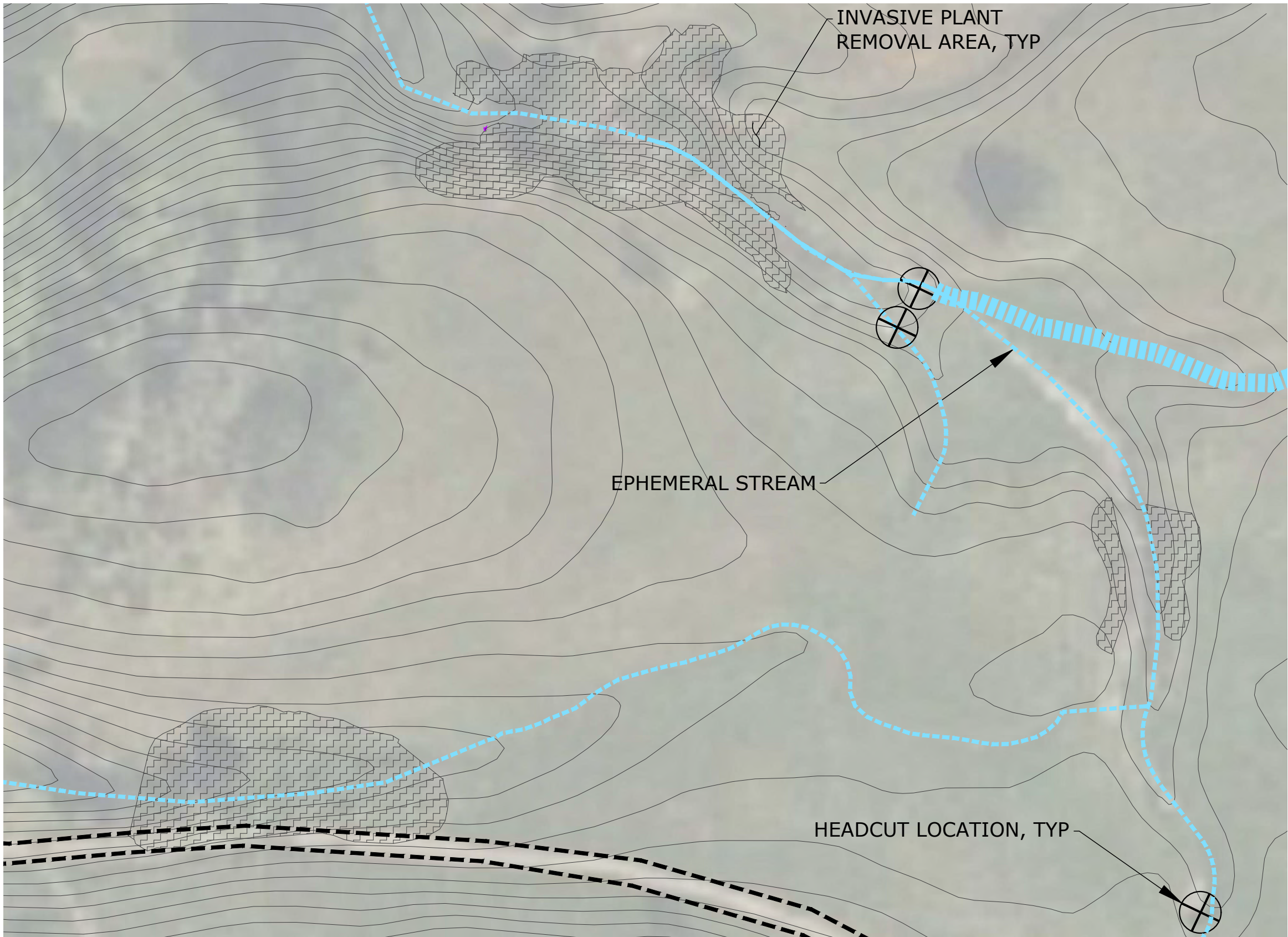


2 SITE MAP
SCALE: 1"=150'



1 SITE ACCESS AND KEY MAP
SCALE: 1"=150'

0 150
SCALE: 1" = 150'



2 INVASIVE PLANT REMOVAL PLAN
SCALE: 1"=30'

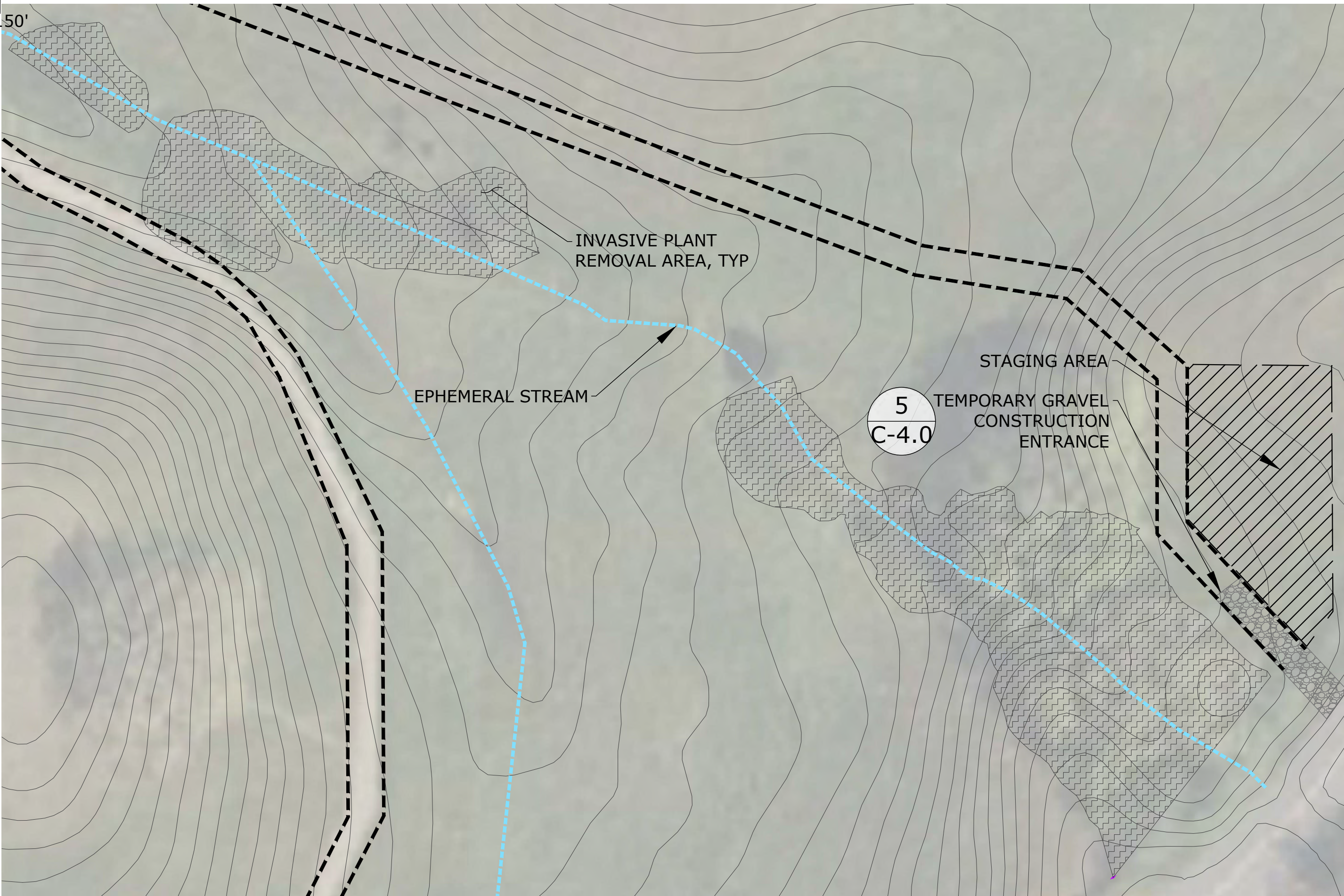
0 30
SCALE: 1" = 30'

LEGEND

- EXISTING CONTOUR
- SITE ACCESS ROUTE
- INVASIVE PLANT REMOVAL AREA (0.51 ACRE)
- HEADCUT LOCATIONS
- EXISTING STREAM ALIGNMENT

POPPY DRAINAGE SITE PREPARATION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL SENSITIVE HABITATS AS REQUIRED. ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED AROUND WORK AREAS AS NEEDED.
- THE CONTRACTOR SHALL SUBMIT A SITE CLEARING PLAN PER THE SPECIFICATIONS FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO COMMENCING WORK.
- THE CONTRACTOR SHALL LAY OUT CONSTRUCTION ENTRANCES/EXITS, HAUL ROUTES, STAGING AREAS, AND CONSTRUCTION FENCE FOR APPROVAL PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
- INVASIVE NON-NATIVE HIMALAYAN BLACKBERRY AND FULLER'S TEASEL SHALL BE REMOVED PRIOR TO IRRIGATION AND PLANT INSTALLATION.
 - THE CONTRACTOR SHALL SUBMIT A NON-NATIVE PLANT REMOVAL PLAN, INCLUDING METHODS FOR HIMALAYAN BLACKBERRY AND FULLER'S TEASEL REMOVAL, TO SMART'S PROJECT MANAGER FOR APPROVAL.
 - HIMALAYAN BLACKBERRY (*RUBUS ARMENIACUS*) AND FULLER'S TEASEL (*DIPSACUS FULLONUM*) REMOVAL SHALL BE DONE BY MECHANICAL METHODS SUCH AS CUTTING.
 - HERBICIDE APPLICATION SHALL ADHERE TO THE SONOMA COUNTY REGIONAL PARKS INTEGRATED PEST MANAGEMENT PLAN AND APPLICABLE GUIDANCE FROM THE SONOMA COUNTY BOARD OF SUPERVISORS, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, AND THE REGIONAL WATER QUALITY CONTROL BOARD THE INVASIVE PLANT REMOVAL PLAN SHALL INCLUDE THE RELEVANT GUIDELINES AND BEST MANAGEMENT PRACTICES FROM THESE ENTITIES.
 - BIOMASS DEBRIS FROM THE INVASIVE NON-NATIVE PLANT REMOVAL ACTIVITIES SHALL BE REMOVED AND PROPERLY DISPOSED OF AT A GREEN WASTE FACILITY.
- CONTRACTOR SHALL MOW AND/OR TRIM EXISTING GRASSES IN AREAS OUTSIDE LIMIT OF GRADE PRIOR TO PLANT INSTALLATION.
- CONTRACTOR SHALL CUT FENCE AND REMOVE ONE FENCE POST ALONG PRESSLEY ROAD AT LOCATION IDENTIFIED BY SMART'S PROJECT MANAGER AND INSTALL A TEMPORARY GATE FOR SITE ACCESS. THE STAGING AND SITE ACCESS ROUTE LOCATED HERE SHALL BE USED FOR HEAVY EQUIPMENT AND VEHICLE TRAFFIC FOR ACCESSING PROJECT LOCATIONS WHICH REQUIRE GRADING AND EARTHWORK.
- THERE SHALL BE NO VEHICULAR SITE ACCESS FROM PARKING LOT, ATVS ARE ALLOWED ON EXISTING TRAILS DURING DRY CONDITIONS ONLY.
- TEMPORARY CHAINLINK FENCES WITH GATES SHALL BE INSTALLED AROUND STAGING AREAS.
- EXACT LOCATION OF THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WILL BE DETERMINED BY SMART'S PROJECT MANAGER BASED ON SITE CONDITIONS.



3 INVASIVE PLANT REMOVAL PLAN
SCALE: 1"=30'

0 30
SCALE: 1" = 30'



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SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

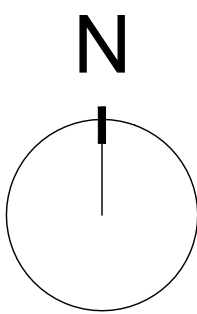
CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA



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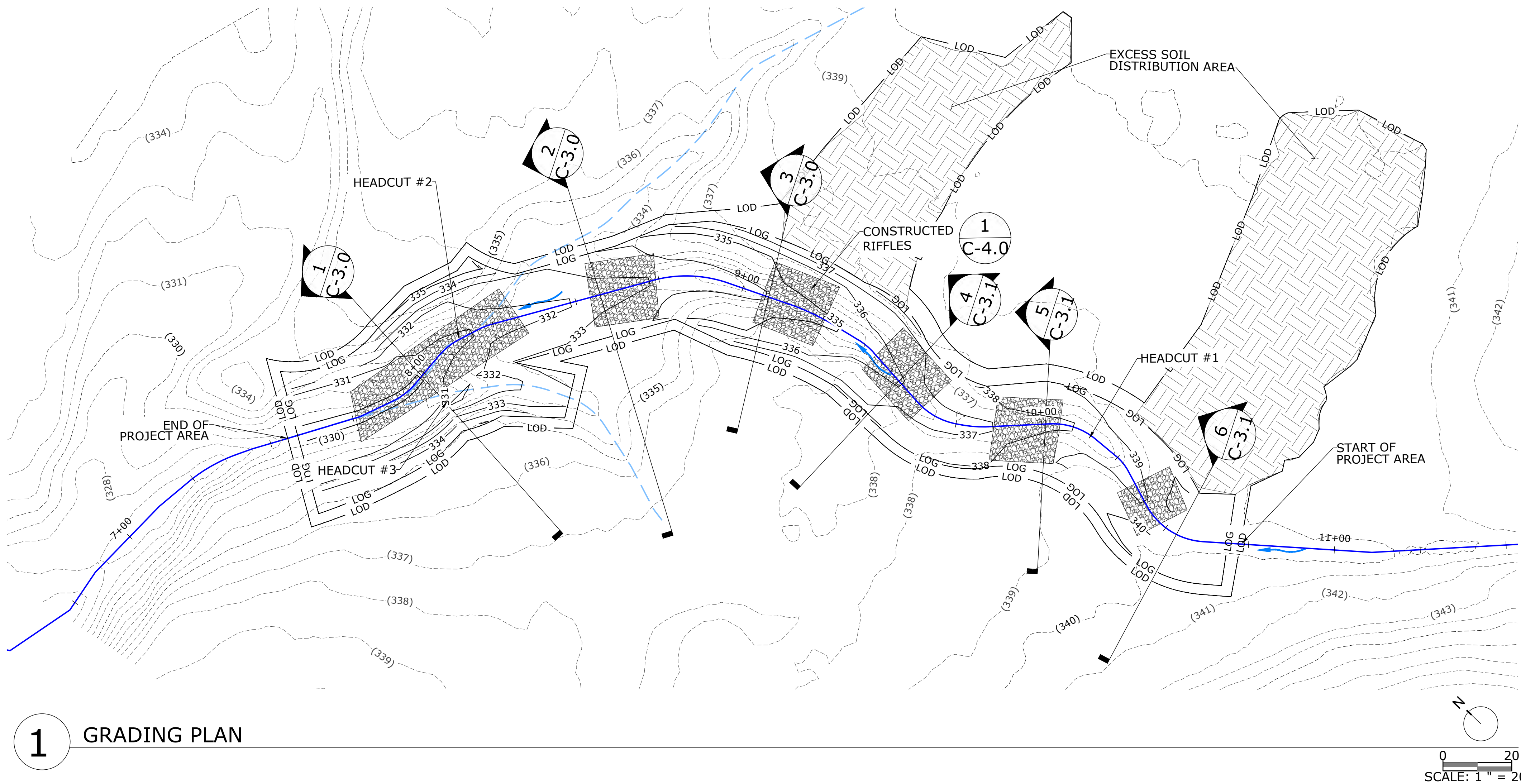
PROJECT #31368
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ORIGINAL DRAWING SIZE: 22 X 34



SITE PREPARATION &
ACCESS PLAN

Sheet 2 of 14

C-1.1



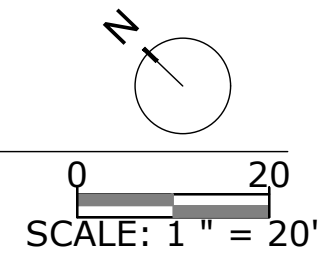
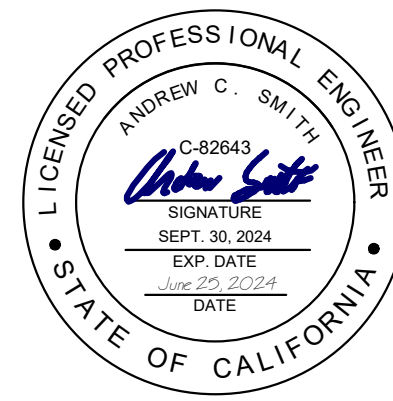
GRADING PLAN LEGEND	
SYMBOL	DESCRIPTION
— LOD —	LIMIT OF DISTURBANCE
— LOG —	LIMIT OF GRADING
---(1)---	EXISTING CONTOURS
— 1 —	PROPOSED CONTOURS
— 10+00 —	CHANNEL ALIGNMENT
	FLOW DIRECTION
	CONSTRUCTED RIFFLE
	EXCESS SOIL DISTRIBUTION AREA

- GRADING NOTES:**
1. CONTOURS SHOWN IN 1' INTERVALS.
 2. THE GRADING PLANS INDICATE FINISHED GRADE ELEVATIONS. ELEVATIONS GIVEN IN NAVD88.
 3. NATIVE EXCESS SOIL WILL BE FIELD FIT AS DIRECTED BY THE SMART PROJECT MANGER.
 4. NATIVE EXCESS SOIL SHALL BE SPREAD THINLY SUCH THAT IT IS NOT GREATER THAN 6 INCHES DEEP IN ANY ONE LOCATION.
 5. EXISTING CONTOURS WITHIN THE ACTIVE CHANNEL, TREE AND BRUSH AREAS MAY NOT MEET 1 FOOT ACCURACY AND SHOULD BE CONSIDERED APPROXIMATE. ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE PLANS SHALL BE MADE CLEAR TO THE SMART PROJECT MANAGER PRIOR TO COMMENCING WORK.
 6. FOR ROCK GRADATION, SEE SPECIFICATION SECTION 72 SLOPE PROTECTION SPECIAL PROVISIONS.

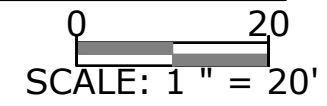
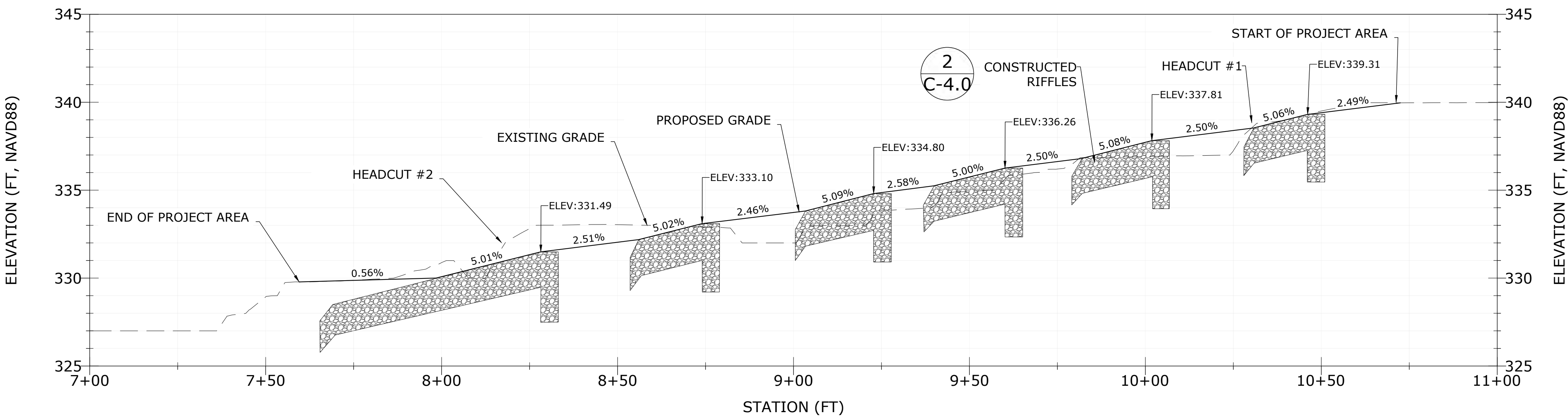
**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



1 GRADING PLAN



2 PROFILE VIEW

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C-2.0

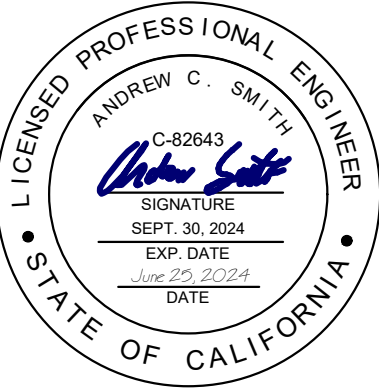


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**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



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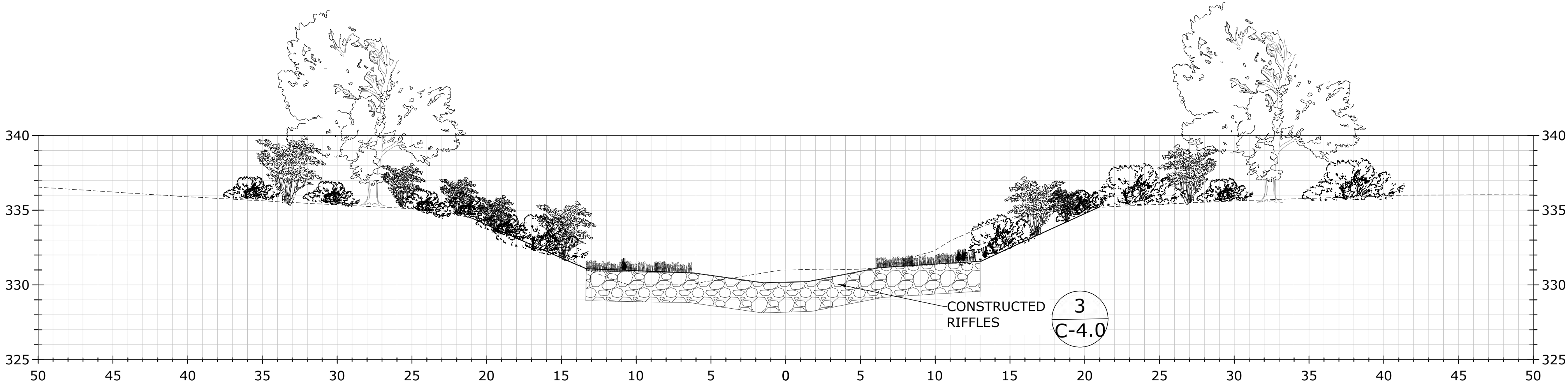
CHANNEL SECTIONS

Sheet 4 of 14

C-3.0

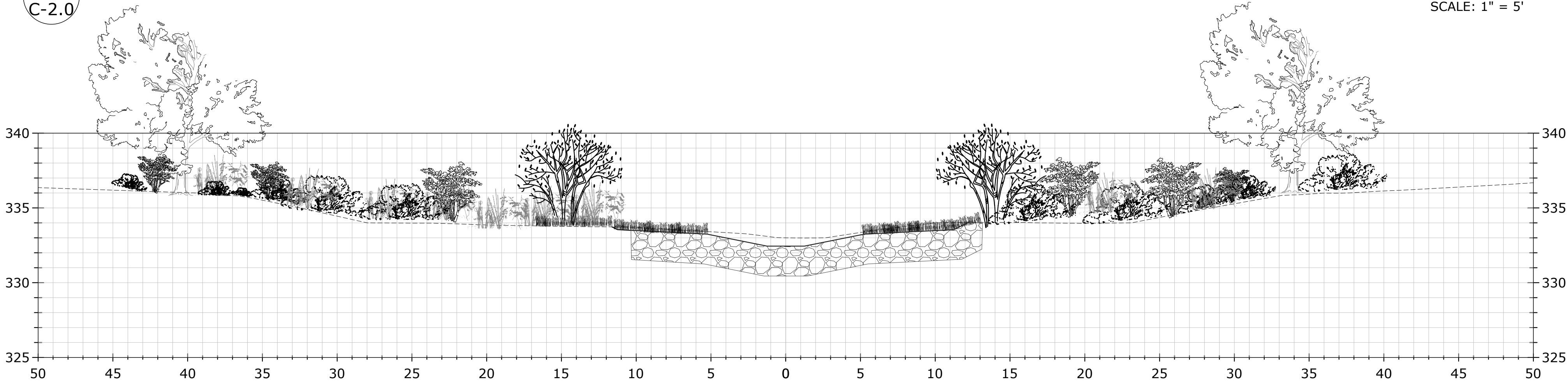
SECTION LEGEND

SYMBOL	DESCRIPTION
	EXISTING GRADE
	PROPOSED GRADE
	PROPOSED ROCK



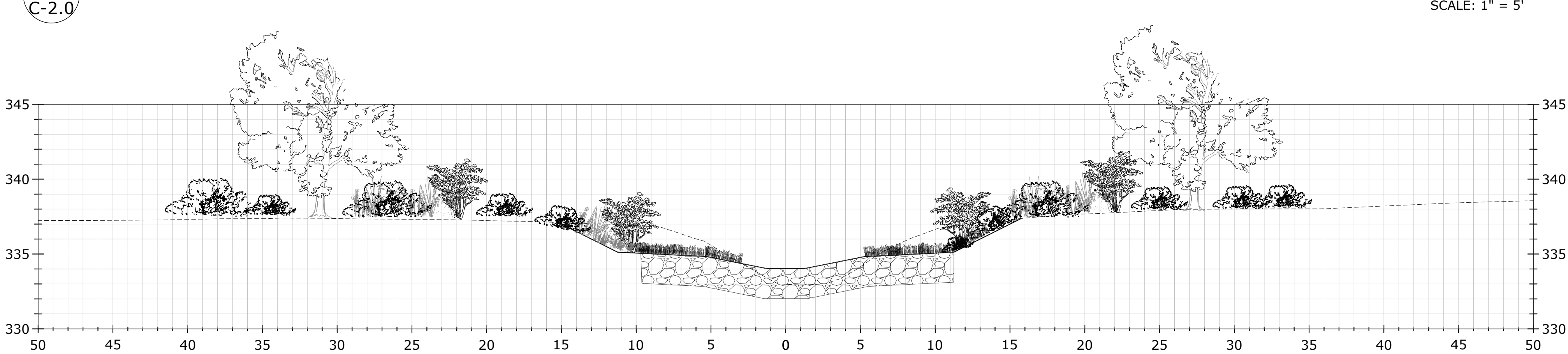
1 STATION 8+00
C-2.0

SCALE: 1" = 5'



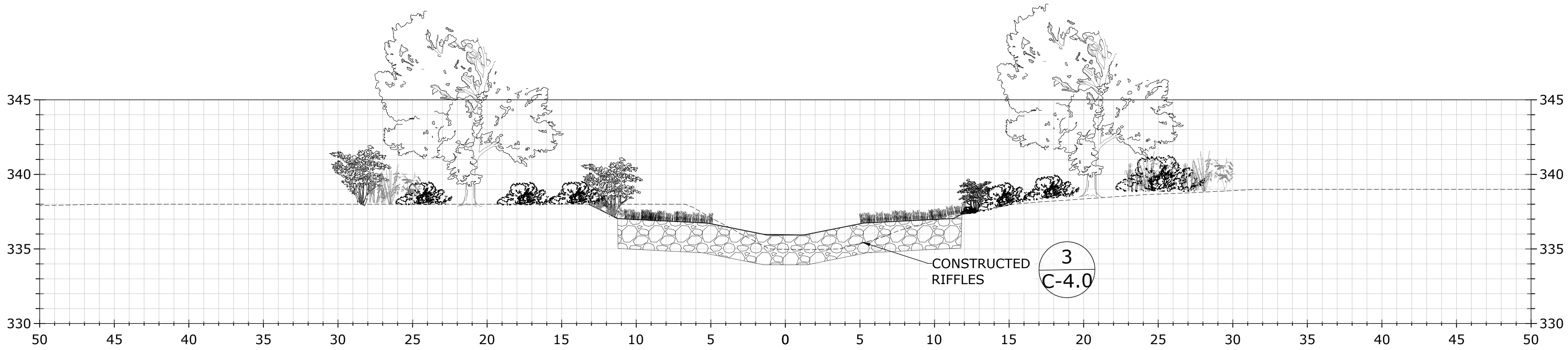
2 STATION 8+60
C-2.0

SCALE: 1" = 5'



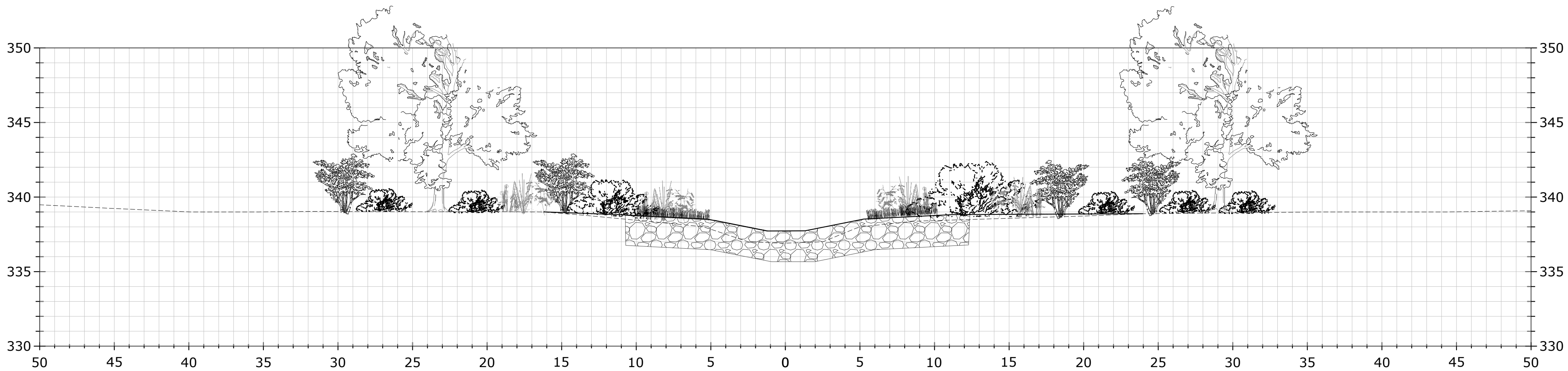
3 STATION 9+10
C-2.0

SCALE: 1" = 5'



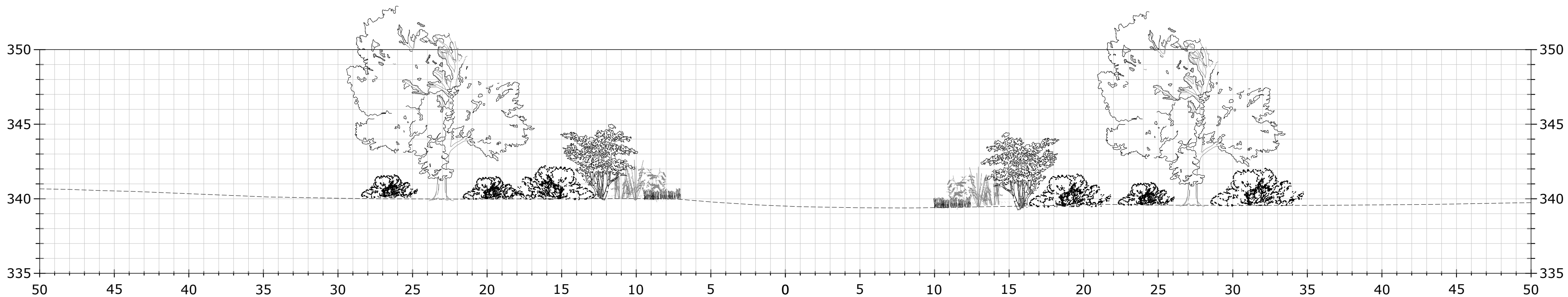
4 STATION 9+50
C-2.0

SCALE: 1" = 5'



5 STATION 10+00
C-2.0

SCALE: 1" = 5'



6 STATION 10+50
C-2.0

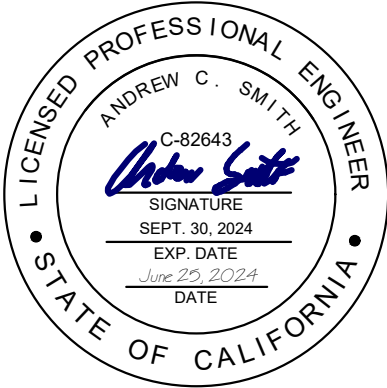
SCALE: 1" = 5'

SECTION LEGEND	
SYMBOL	DESCRIPTION
	EXISTING GRADE
	PROPOSED GRADE
	PROPOSED ROCK

**SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



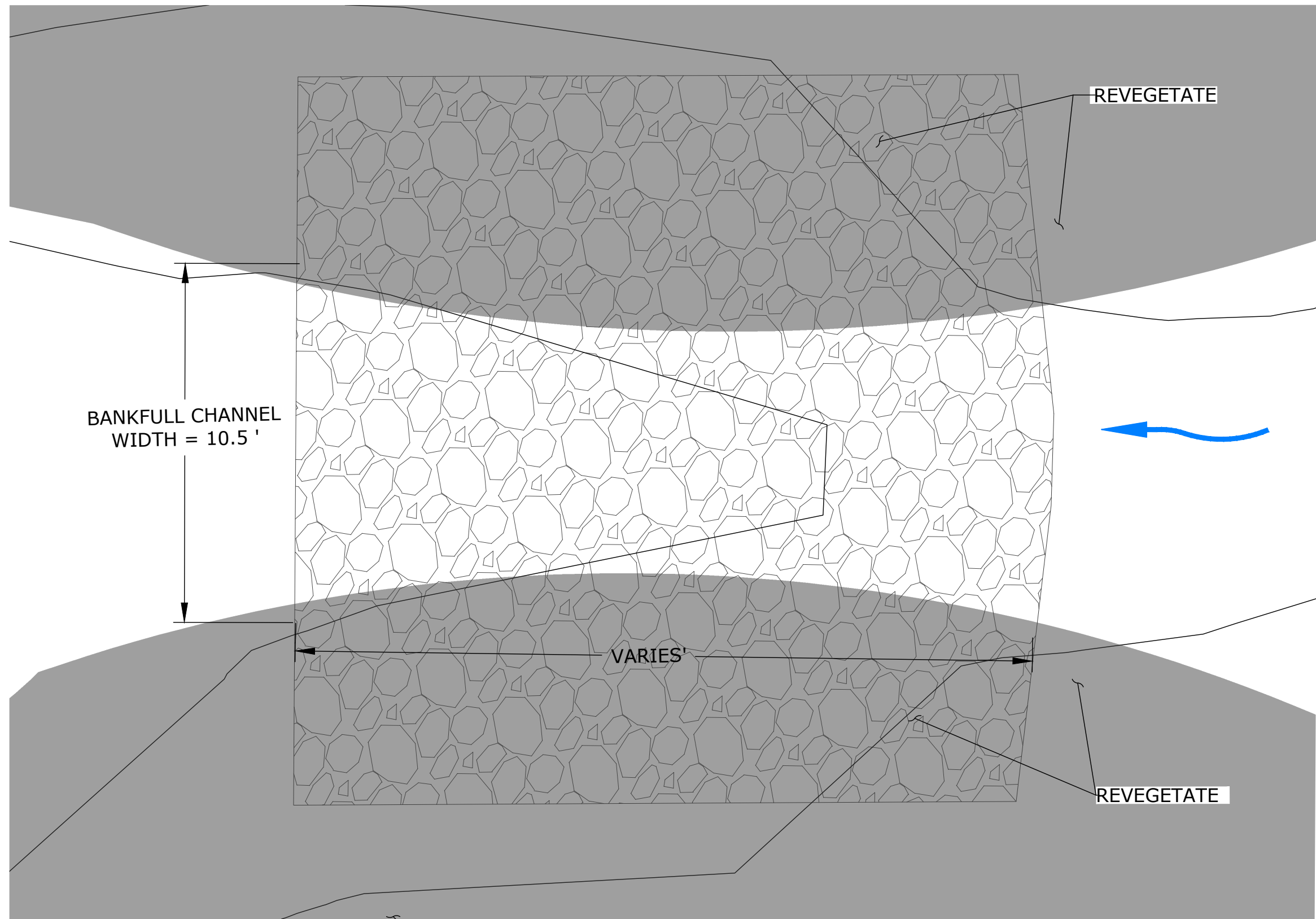
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**SMART
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PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

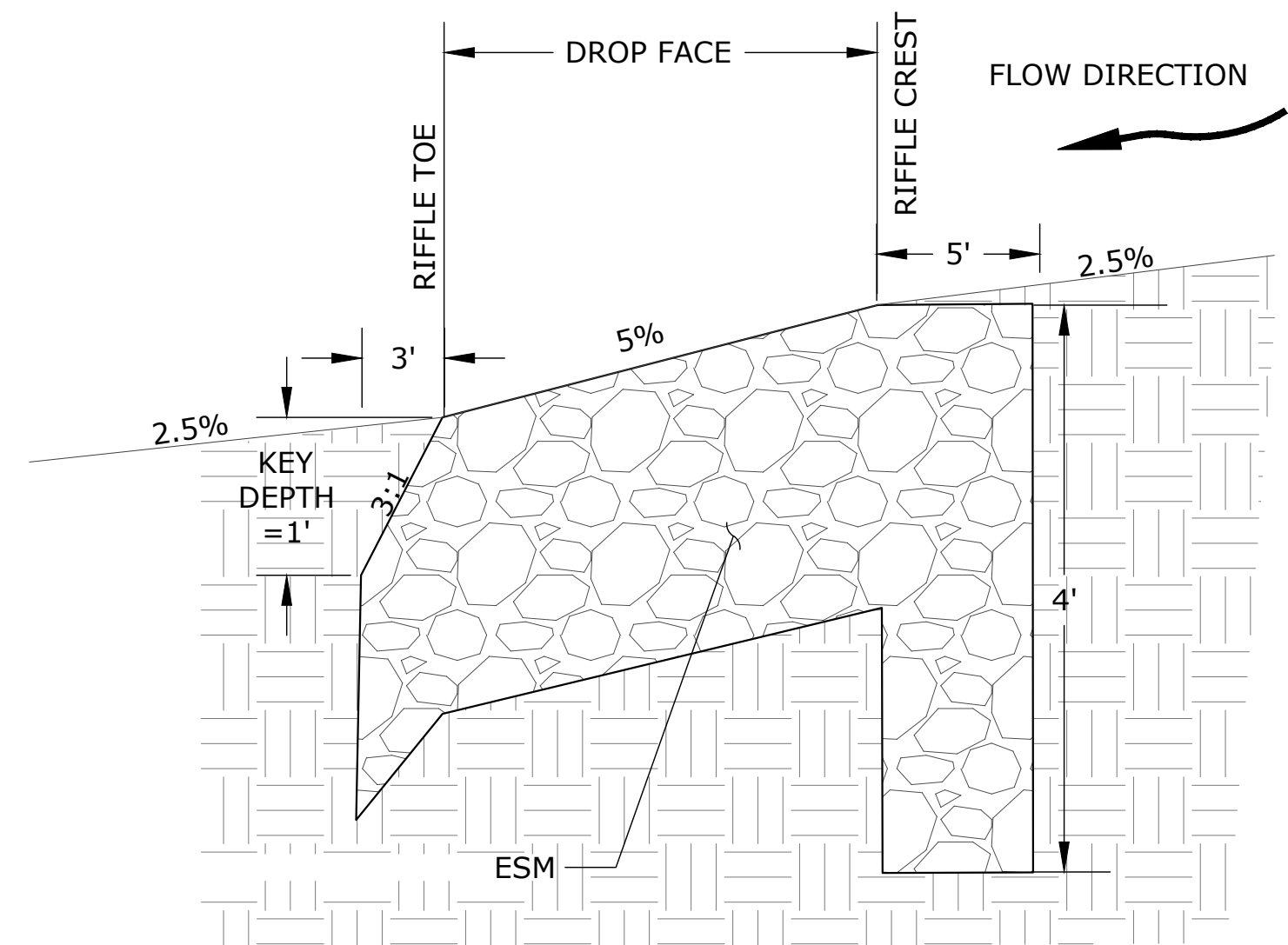
**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



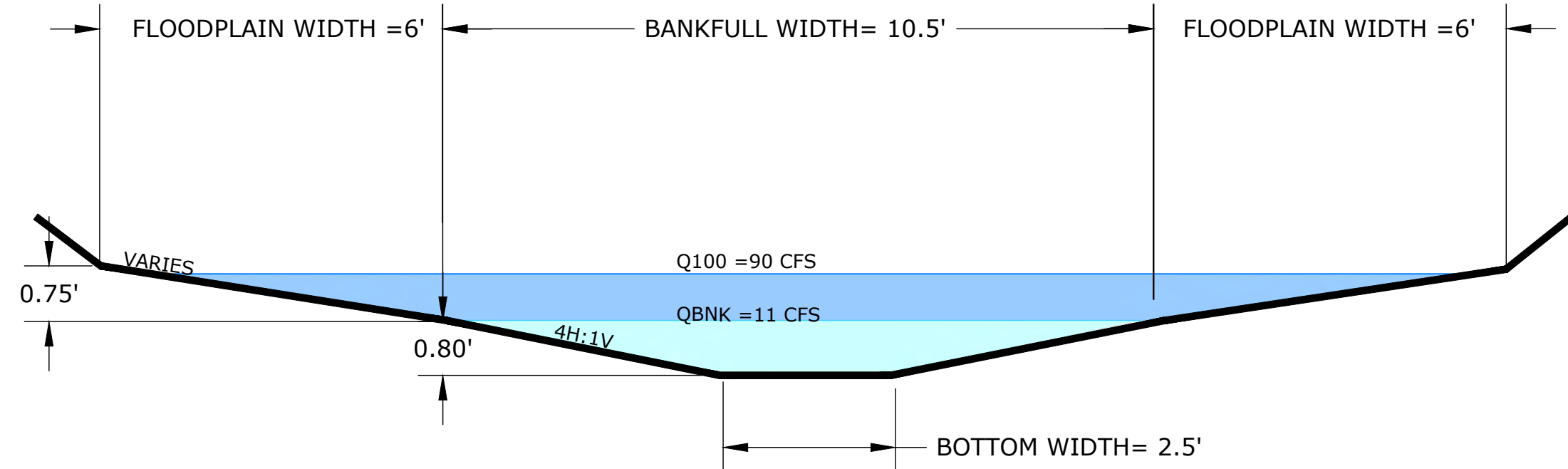
1 CONSTRUCTED RIFFLE - TYPICAL PLAN
C-2.0

NOT TO SCALE



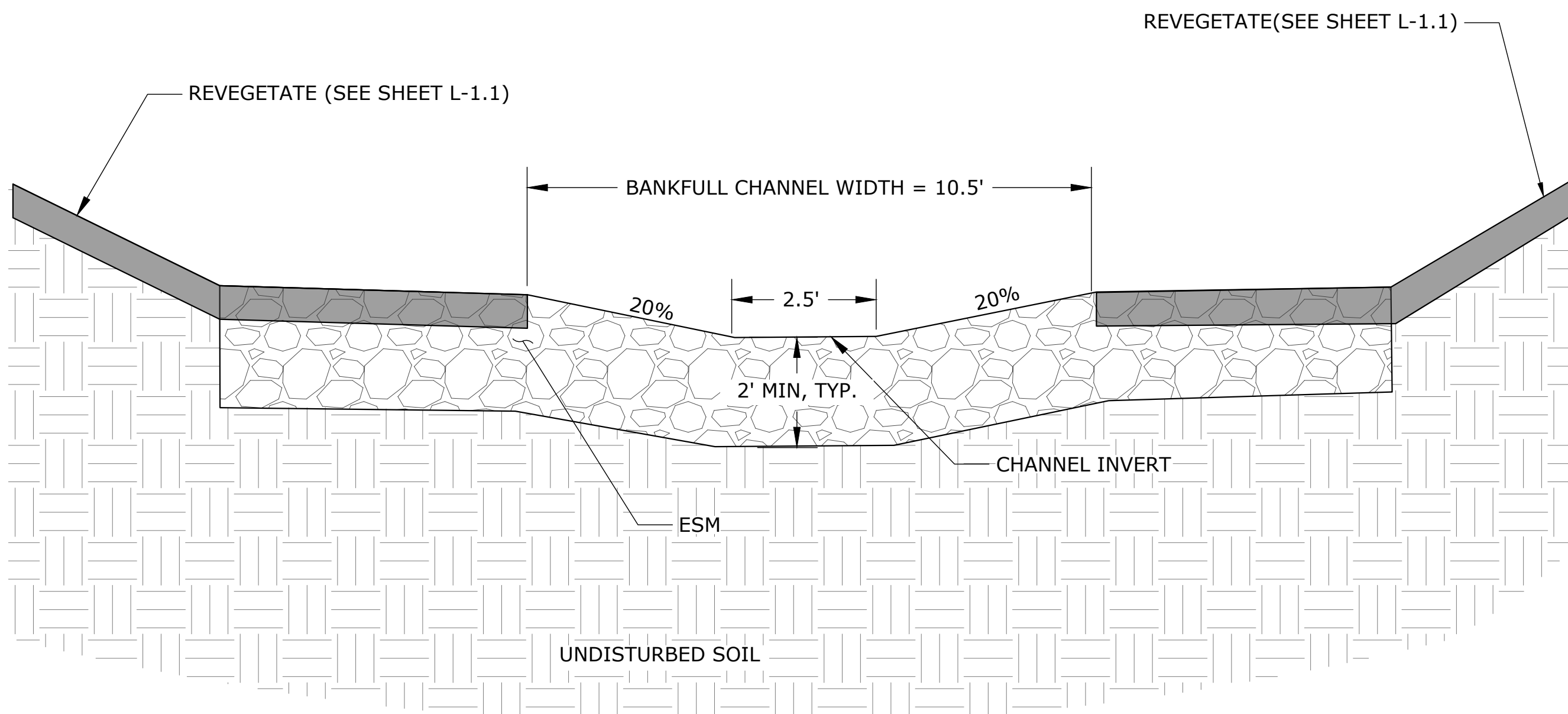
2 CONSTRUCTED RIFFLE - TYPICAL PROFILE
C-2.0

NOT TO SCALE



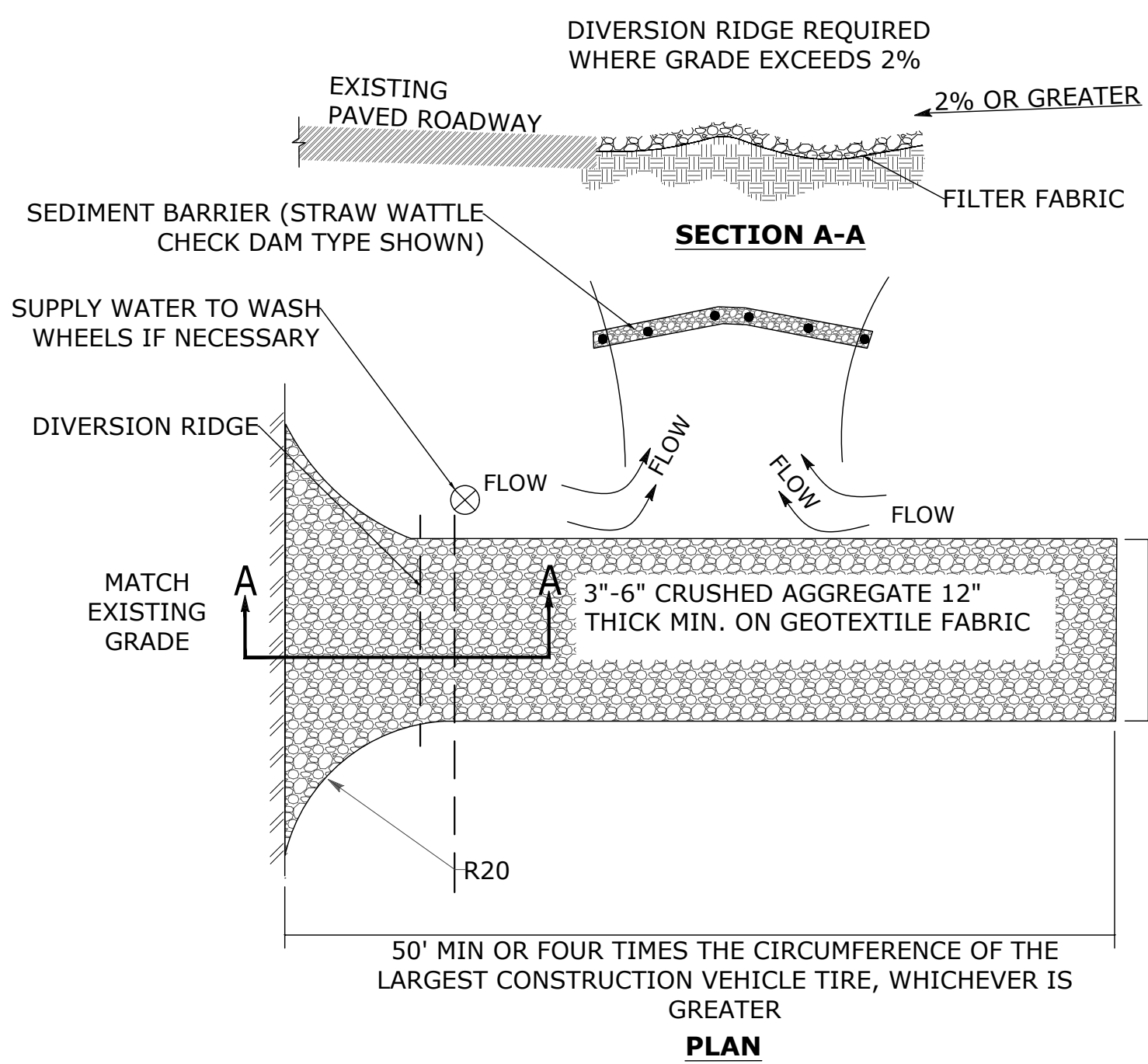
4 TYPICAL CHANNEL SECTION FOR SLOPE OF 2.5%
C-2.0

NOT TO SCALE



3 CONSTRUCTED RIFFLE - TYPICAL SECTION
C-3.0

NOT TO SCALE



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

12' MIN OR AS REQUIRED TO ACCOMMODATE ANTICIPATED TRAFFIC, WHICHEVER IS GREATER

5 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
C-1.1

NOT TO SCALE

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STABILIZATION DETAILS

Sheet 6 of 14

C-4.0

**SMART
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PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA



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SCALE: AS INDICATED

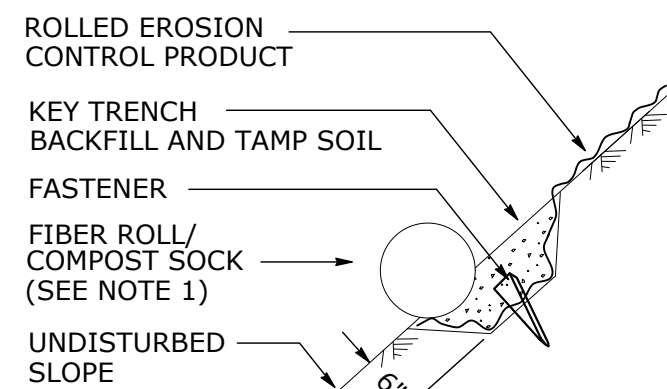
**EROSION CONTROL
DETAILS**

Sheet 7 of 14

EC-1.0

NOTES:

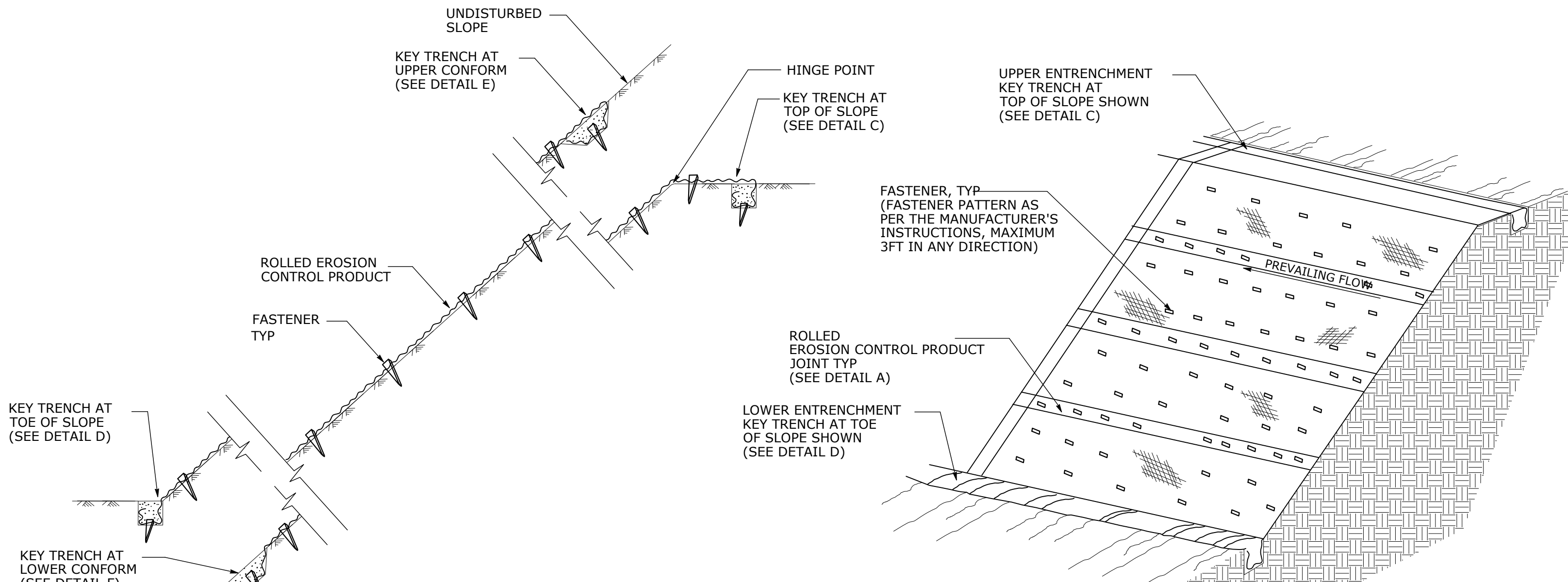
1. TRENCHED FIBER ROLL/COMPOST SOCK SHOWN FOR REFERENCE PURPOSES ONLY.
2. IF TRANSVERSE ROLLED EROSION CONTROL PRODUCT JOINTS ARE REQUIRED ON SLOPES, SEE DETAIL B.
3. EROSION CONTROL FABRIC AND FIBER ROLLS SHALL BE COMPOSED OF BIODEGRADABLE MATERIALS. SEE SMART SPECIFICATIONS 31 60 00.
4. EROSION CONTROL FABRIC SHALL BE PLACED WITHIN BANKFULL CHANNEL WIDTH. SEE SHEET C-4.0 FOR BANKFULL WIDTH.
5. EROSION CONTROL FABRIC STAKES SHALL BE WOOD OR OTHER BIODEGRADABLE MATERIAL APPROVED BY SMART'S PROJECT MANAGER.
6. FABRIC SHALL NOT BE CUT TO INSTALL STAKES.



SECTION

DETAIL F

KEY TRENCH AT
LOWER CONFORM



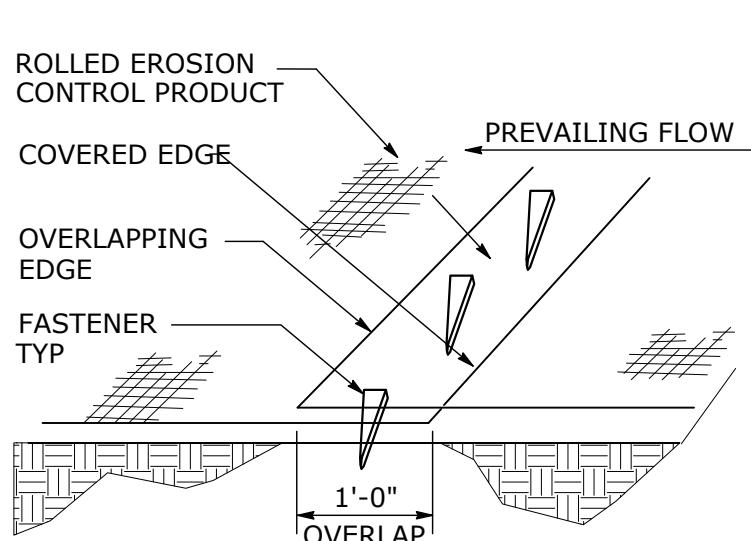
ISOMETRIC

ROLLED EROSION CONTROL PRODUCT
ON SLOPE



SECTION

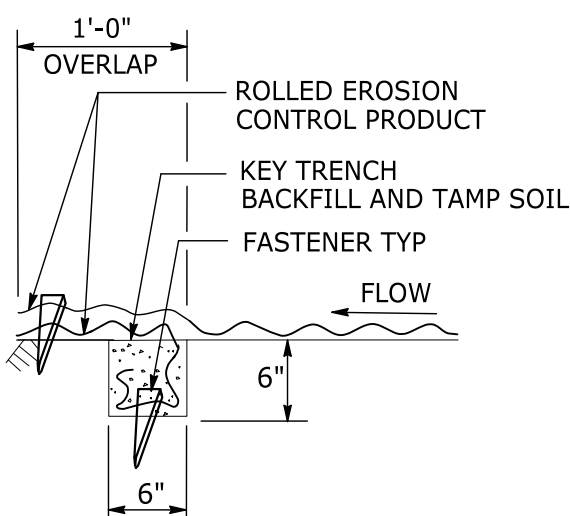
ROLLED EROSION CONTROL PRODUCT
ON SLOPE WITH VARIOUS KEY ENTRENCHMENTS



PERSPECTIVE

DETAIL A

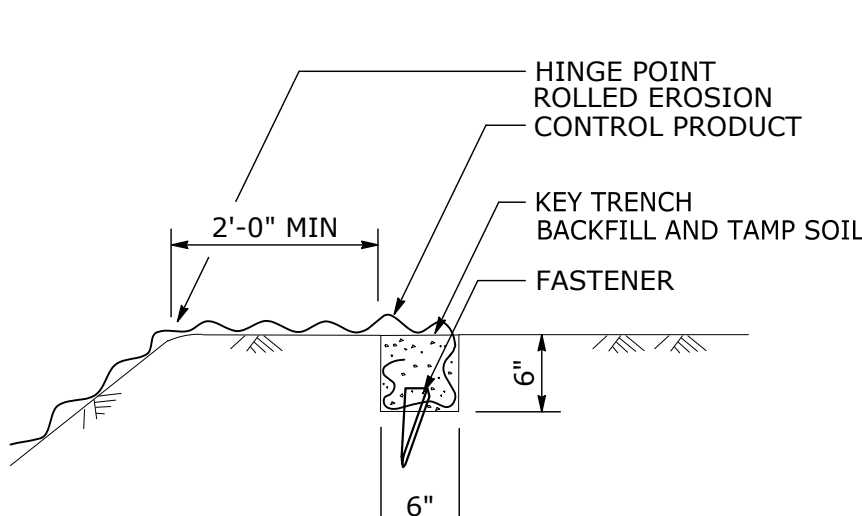
LONGITUDINAL ROLLED EROSION
CONTROL PRODUCT JOINT



SECTION

DETAIL B

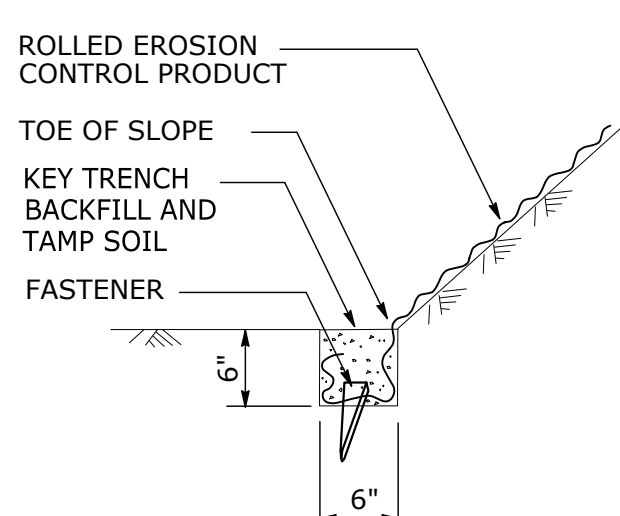
TRANSVERSE ROLLED EROSION
CONTROL PRODUCT JOINT



SECTION

DETAIL C

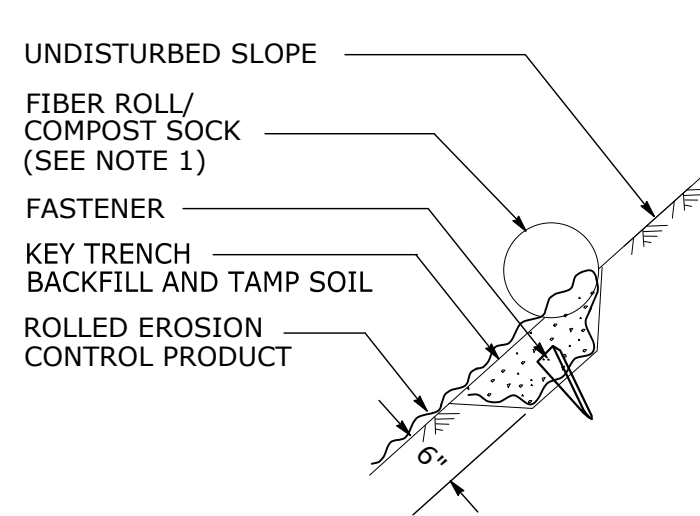
KEY TRENCH AT
TOP OF SLOPE



SECTION

DETAIL D

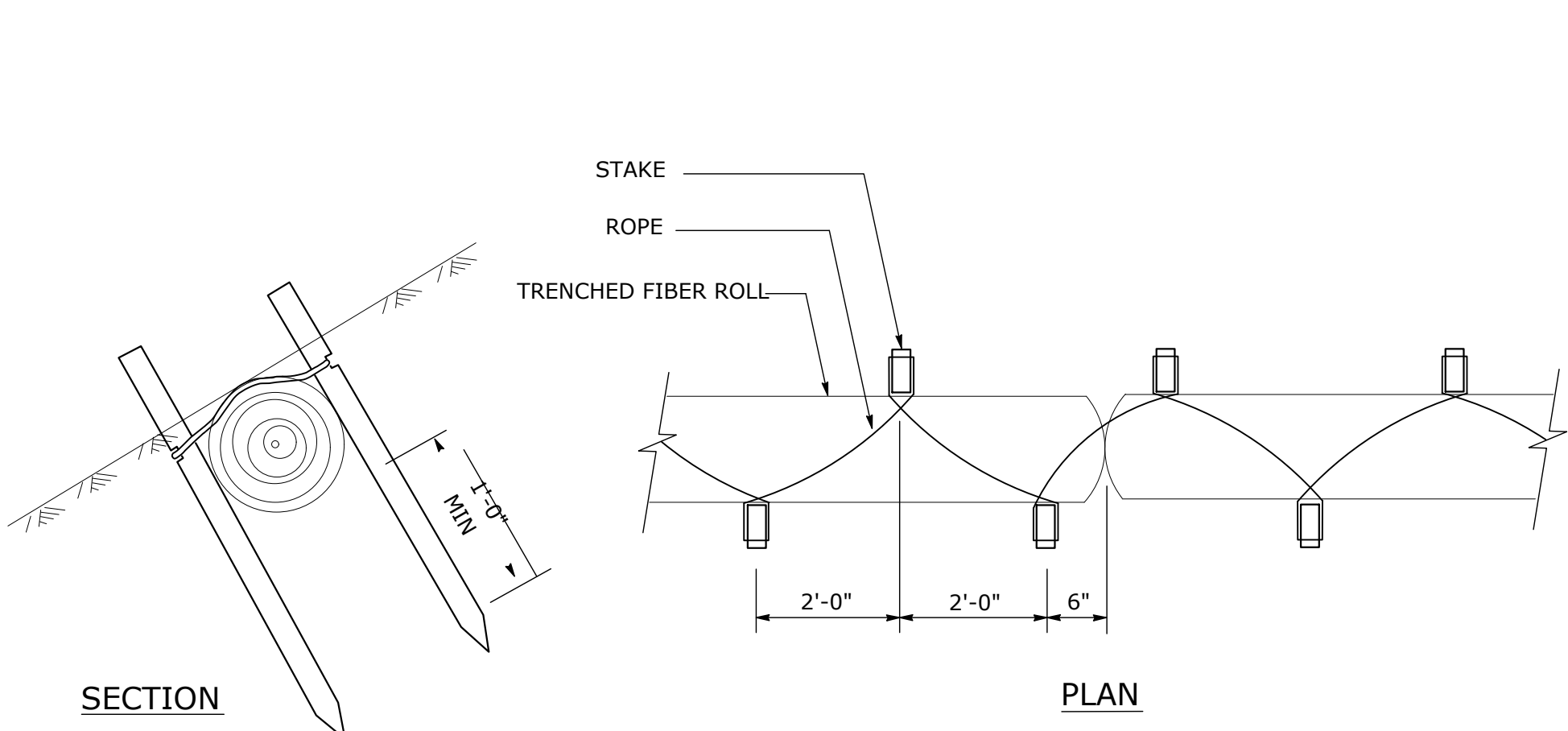
KEY TRENCH AT
TOE OF SLOPE



SECTION

DETAIL E

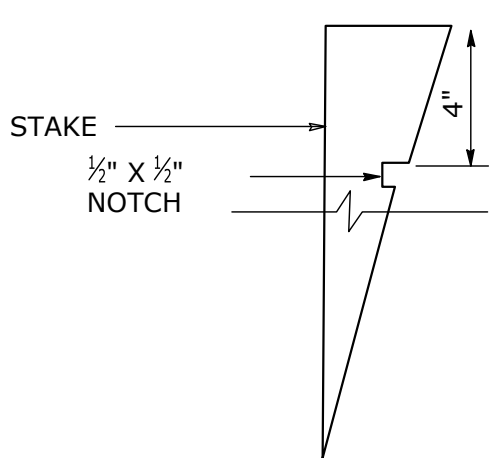
KEY TRENCH AT
UPPER CONFORM



SECTION

ENTRENCHED FIBER ROLL
(TYPE 2)

PLAN

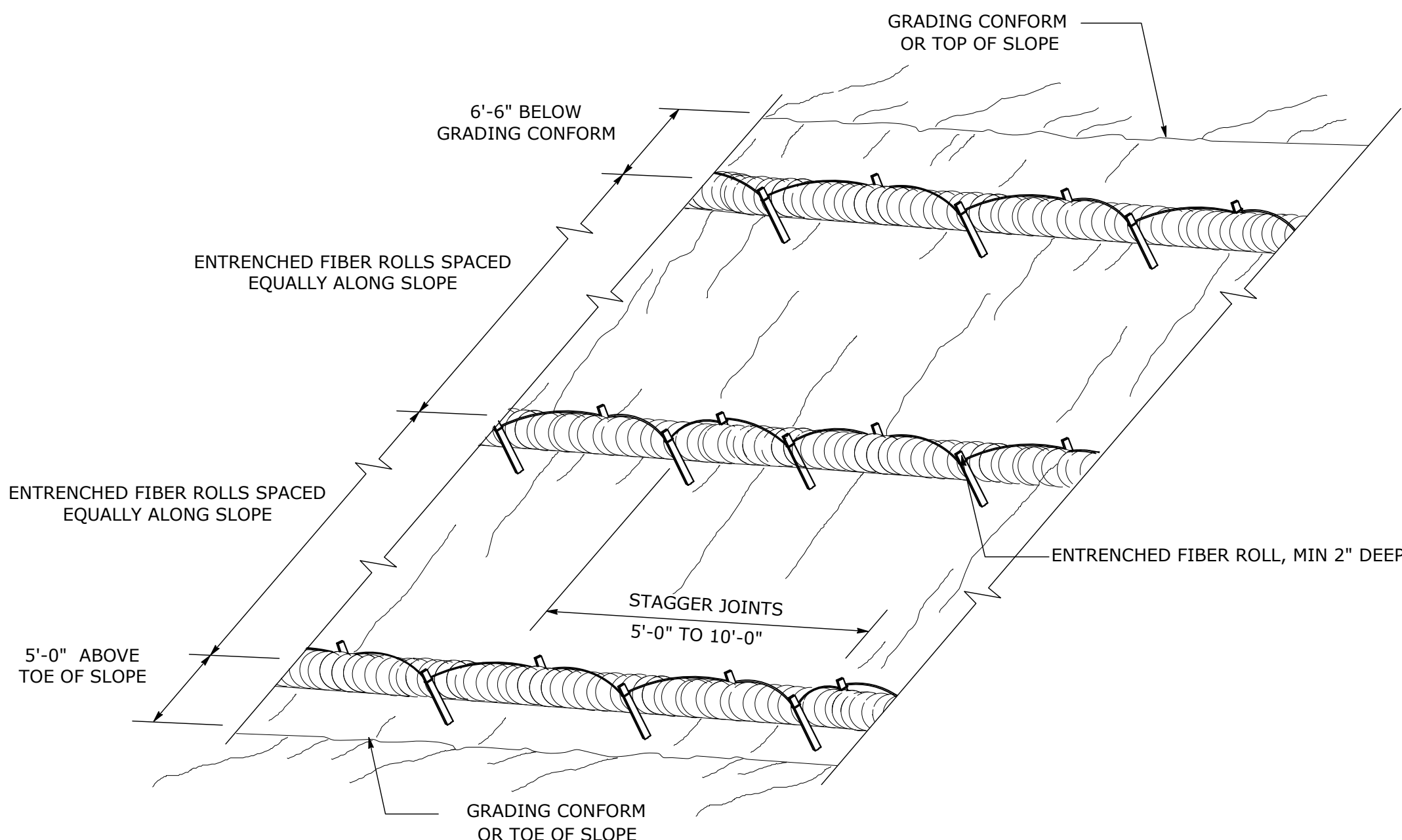


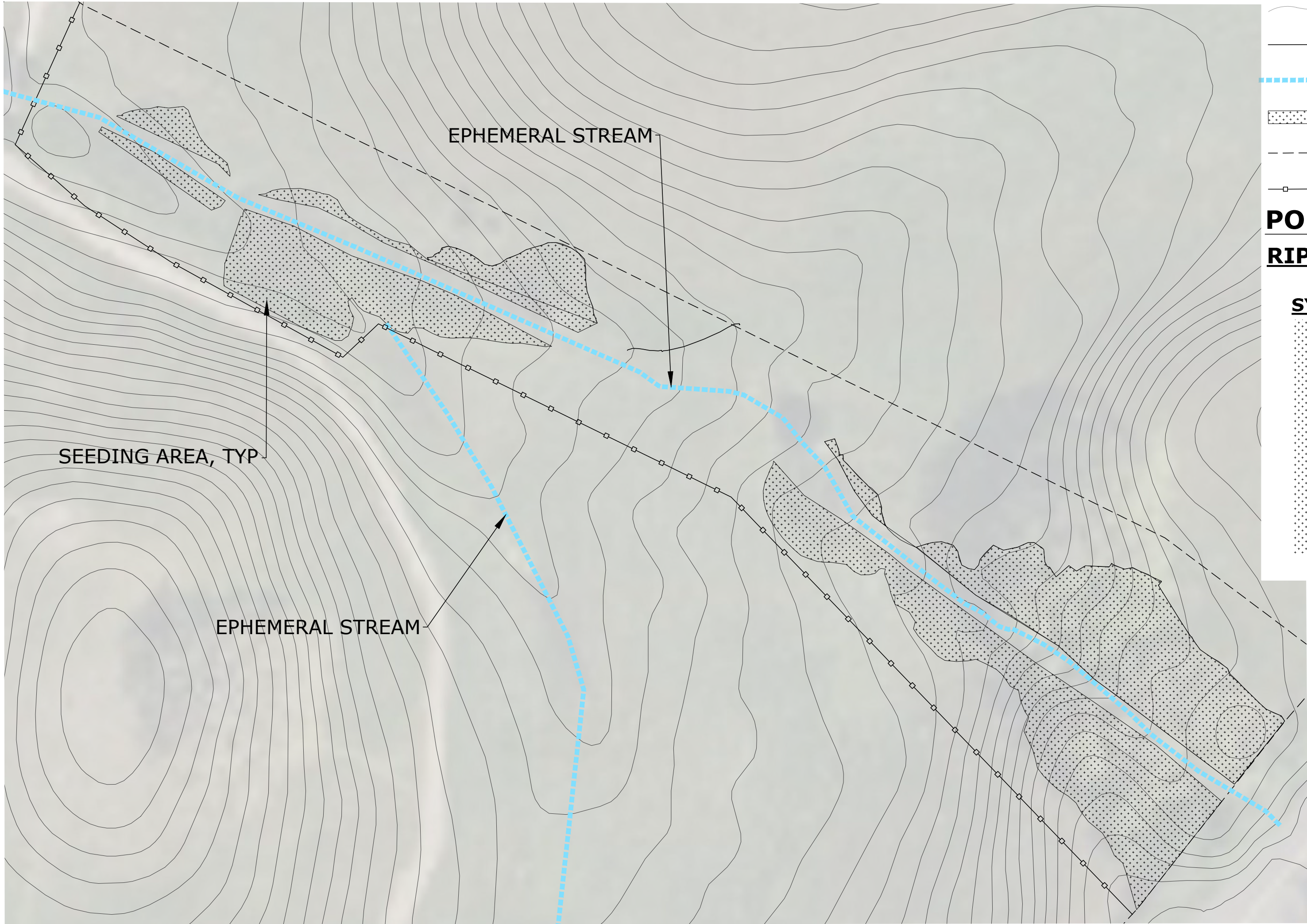
ELEVATION

STAKE NOTCH DETAIL

NOTES:

1. FIBER ROLL SPACING VARIES DEPENDING UPON SLOPE INCLINATION.
2. INSTALLATIONS SHOWN IN THE PERSPECTIVES ARE FOR SLOPE INCLINATION OF 10:1 AND STEEPER.





1 SEEDING PLAN - UPPER POPPY DRAINAGE
SCALE: 1"=30'

SEEDING NOTES

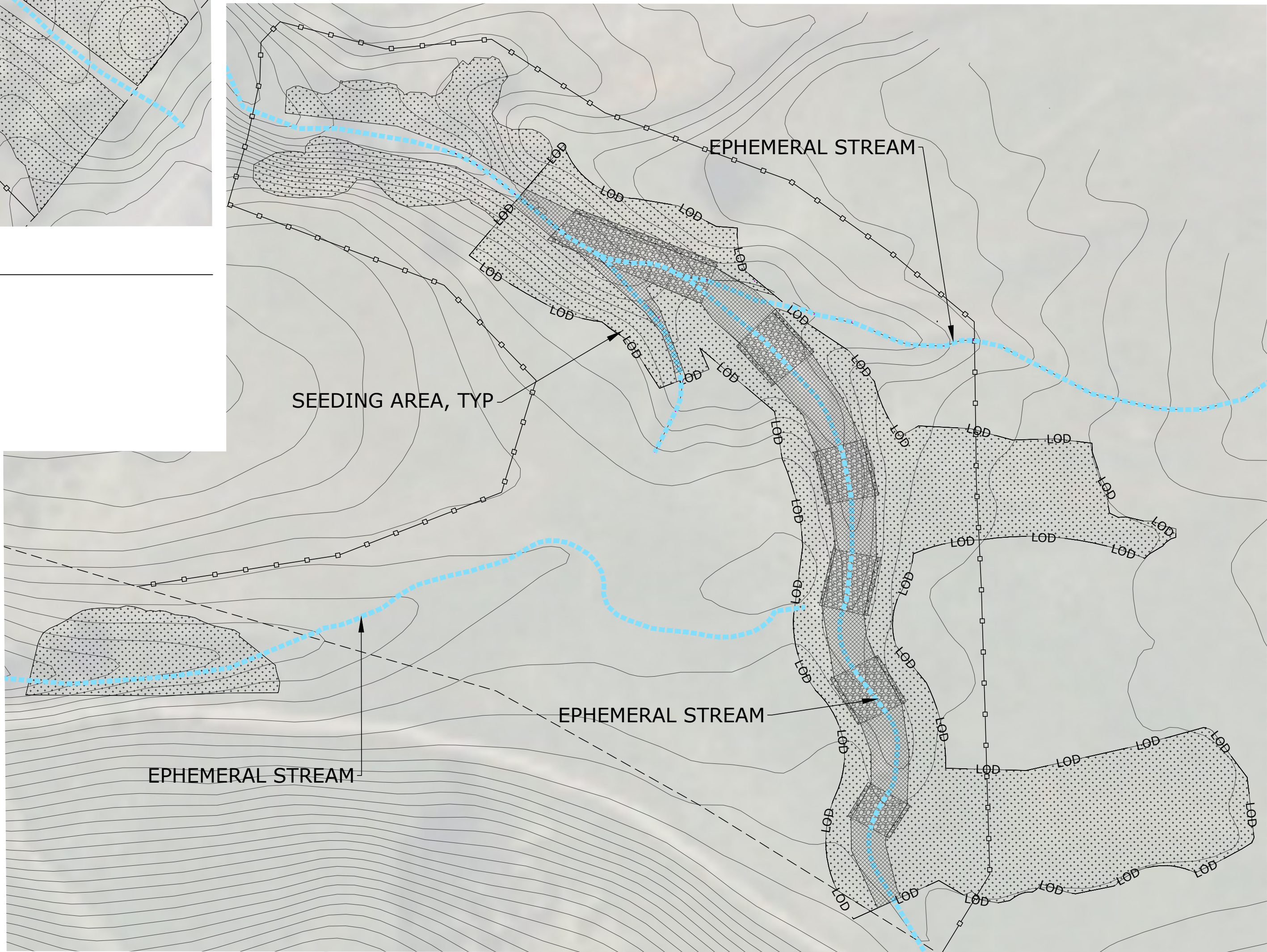
- SEED PROCUREMENT: SEED SHALL BE PROVIDED BY THE CONTRACTOR ON THE BASIS OF PURE LIVE SEED (PLS). THE SEED TAGS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO APPLICATION.
- SEEDING SCHEDULE: SEEDING SHALL OCCUR BETWEEN SEPTEMBER 15TH AND OCTOBER 15TH UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER.
- SEEDING SHALL OCCUR PRIOR TO EROSION CONTROL FABRIC INSTALLATION.
- SEEDING AREAS SHALL BE MARKED PRIOR TO SEED APPLICATION AND APPROVED BY SMART'S PROJECT MANAGER. SEEDING SHALL OCCUR IN AREAS OF GROUND DISTURBANCE, INCLUDING INVASIVE PLANT REMOVAL AREAS, WITHIN THE LIMIT OF DISTURBANCE, AND OTHER DISTURBED AREAS ASSOCIATED WITH STAGING, SITE ACCESS, AND CONSTRUCTION ACTIVITIES.
- SOIL WILL BE PREPARED FOR SEED INSTALLATION BY HAND RAKING OR DISKING.
- THE SEED MIXES SHALL BE MANUALLY BROADCASTED.
- THE BROADCAST SEED MIX SHALL INCLUDE THE FOLLOWING COMPONENTS:
 - SEED
 - STRAW: STRAW SHALL BE 100% RICE STRAW.
 - SAND: SAND SHALL BE FINE (0.1 - 0.25 MILLIMETER DIAMETER), MEDIUM (0.25 - 0.5 MILLIMETER DIAMETER), OR COARSE (0.5 - 1.0 MILLIMETER DIAMETER) CLASS SAND, AS SPECIFIED. THE SAND SHALL CONTAIN NO GERMINATION, GROWTH-INHIBITING PROPERTIES, OR ELEMENTS OR COMPOUNDS AT CONCENTRATIONS THAT WILL BE PHYTOTOXIC.
 - THE CONTRACTOR SHALL PROVIDE SUBMITTALS OF THE COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL.
- BROADCAST SEEDING SHALL OCCUR AS FOLLOWS:
 - RAKING OR TILLING: AREAS DESIGNATED BY SMART'S PROJECT MANAGER SHALL BE RAKED OR TILLED TO A MINIMUM DEPTH OF FOUR (4) INCHES.
 - INERT MATERIALS: AFTER RECEIVING APPROVAL FOR THE SEED, THE SEED SHALL BE THOROUGHLY AND COMPLETELY BLENDED WITH INERT MATERIAL. THE MIXING OF THE SEED MIX WITH INERT MATERIAL SHALL BE BY VOLUME AS SPECIFIED: ONE PART SEED MIX / THREE PARTS MEDIUM SAND.
 - THE SEED/INERT MATERIAL MIXTURE SHALL BE UNIFORMLY AND EVENLY BROADCAST OVER THE DESIGNATED AREAS. BROADCASTING MAY BE DONE BY HAND-HELD SPREADER, GRAVITY DROP SEEDER, CYCLONE SPREADER, OR ANOTHER TYPE OF EQUIPMENT OR METHOD, AS APPROVED BY SMART'S PROJECT MANAGER.
 - THE SEED SHALL BE INCORPORATED INTO THE SOIL TO A MINIMUM DEPTH OF ONE-QUARTER (1/4) INCH AND A MAXIMUM DEPTH OF ONE-HALF (1/2) INCH. THE INCORPORATION MAY OCCUR BY HAND-RAKING OR THE USE OF A CHAIN HARROW OR TINE HARROW, SUBJECT TO APPROVAL BY SMART'S PROJECT MANAGER.
 - STRAW: FOLLOWING SEEDING, RICE STRAW SHALL BE APPLIED TO ALL AREAS OF NATIVE SOIL THAT WERE SEEDED UNLESS OTHERWISE DIRECTED BY SMART'S PROJECT MANAGER. STRAW SHALL BE APPLIED AT A RATE OF 3,000 POUNDS PER ACRE.

LEGEND

- EXISTING CONTOUR
- PROPOSED GRADE
- EPHEMERAL STREAM
- SEEDING AREA
- EXISTING FENCE
- TEMPORARY ELECTRIC FENCE (BY OTHERS)
- EROSION CONTROL FABRIC

POPPY DRAINAGE - SEED MIX
RIPARIAN SEED MIX (0.73 ACRE)

SYMBOL	SCIENTIFIC NAME	COMMON NAME	PURE LIVE SEED LBS/ ACRE	ESTIMATED LBS PURE LIVE SEED
	ACHILLEA MILLEFOLIUM	YARROW	0.5	0.4
	ASCLEPIAS FASCICULARIS	NARROWLEAF MILKWEED	0.5	0.4
	BROMUS CARINATUS	CALIFORNIA BROME	8	5.8
	ELYMUS GLAUCUS	BLUE WILDRYE	8	5.8
	ESCHSCHLOZIA CALIFORNICA	CALIFORNIA POPPY	2	1.5
	FESTUCA MICROSTACHYS	SMALL FESCUE	8	5.8
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	8	5.8
	LUPINUS BICOLOR	BICOLORED LUPINE	4	2.9
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	1.5
	STIPA PULCHRA	PURPLE NEEDLEGRASS	5	3.7
	TOTAL		46	33.6



2 SEEDING PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'



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SMART
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RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

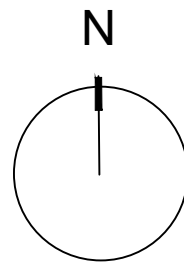
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SCALE: 1" = 30'



EROSION CONTROL
AND SEEDING PLAN

Sheet 8 of 14

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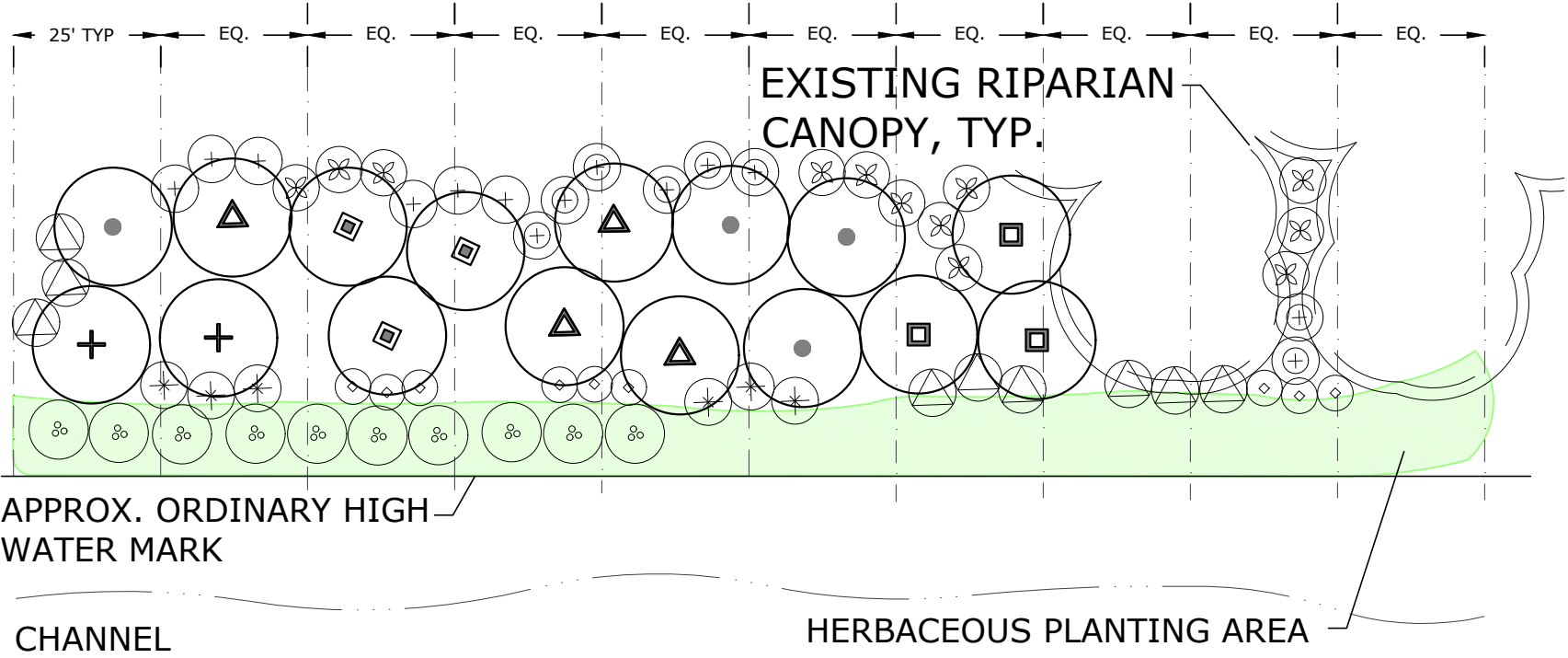
POPPY DRAINAGE - PLANTING SCHEDULE

RIPARIAN PLANTING AREA 1.3 ACRES

RIPARIAN TREES					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	ACER NEGUNDO	BOX ELDER	20	DEEPOT 40	12
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	20	DEEPOT 40	25
	QUERCUS AGRIFOLIA	COAST LIVE OAK	20	DEEPOT 40	25
	QUERCUS KELLOGGII	BLACK OAK	20	DEEPOT 40	25
	QUERCUS LOBATA	VALLEY OAK	20	DEEPOT 40	25
	SALIX LASIOLEPIS	ARROYO WILLOW	10	LIVE STAKE	19

RIPARIAN SHRUBS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	BACCHARIS PILULARIS	COYOTE BRUSH	8	DEEPOT 40	118
	FRANGULA CALIFORNICA	COFFEEBERRY	8	DEEPOT 40	118
	HETEROMELES ARBUTIFOLIA	TOYON	8	DEEPOT 40	127
	RIBES SANGUINEUM	RED FLOWERING CURRANT	6	DEEPOT 40	97
	ROSA CALIFORNICA	CALIFORNIA ROSE	8	DEEPOT 40	127
	RUBUS URSINUS	CALIFORNIA BLACKBERRY	6	DEEPOT 40	81

HERBACEOUS PLANTS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE	ESTIMATED QUANTITY
	ACHILLEA MILLEFOLIUM	YARROW	3	DEEPOT 16	19
	ARTEMISIA DOUGLASIANA	MUGWORT	4	DEEPOT 16	13
	CAREX BARBARAE	VALLEY SEDGE	2	DEEPOT 16	42
	ELYMUS TRITICOIDES	CREEPING WILD RYE	2	DEEPOT 16	42
	JUNCUS PATENS	COMMON RUSH	2	DEEPOT 16	50
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	DEEPOT 16	33
	SYMPHYOTRICHUM CHILENSE	PACIFIC ASTER	3	DEEPOT 16	19

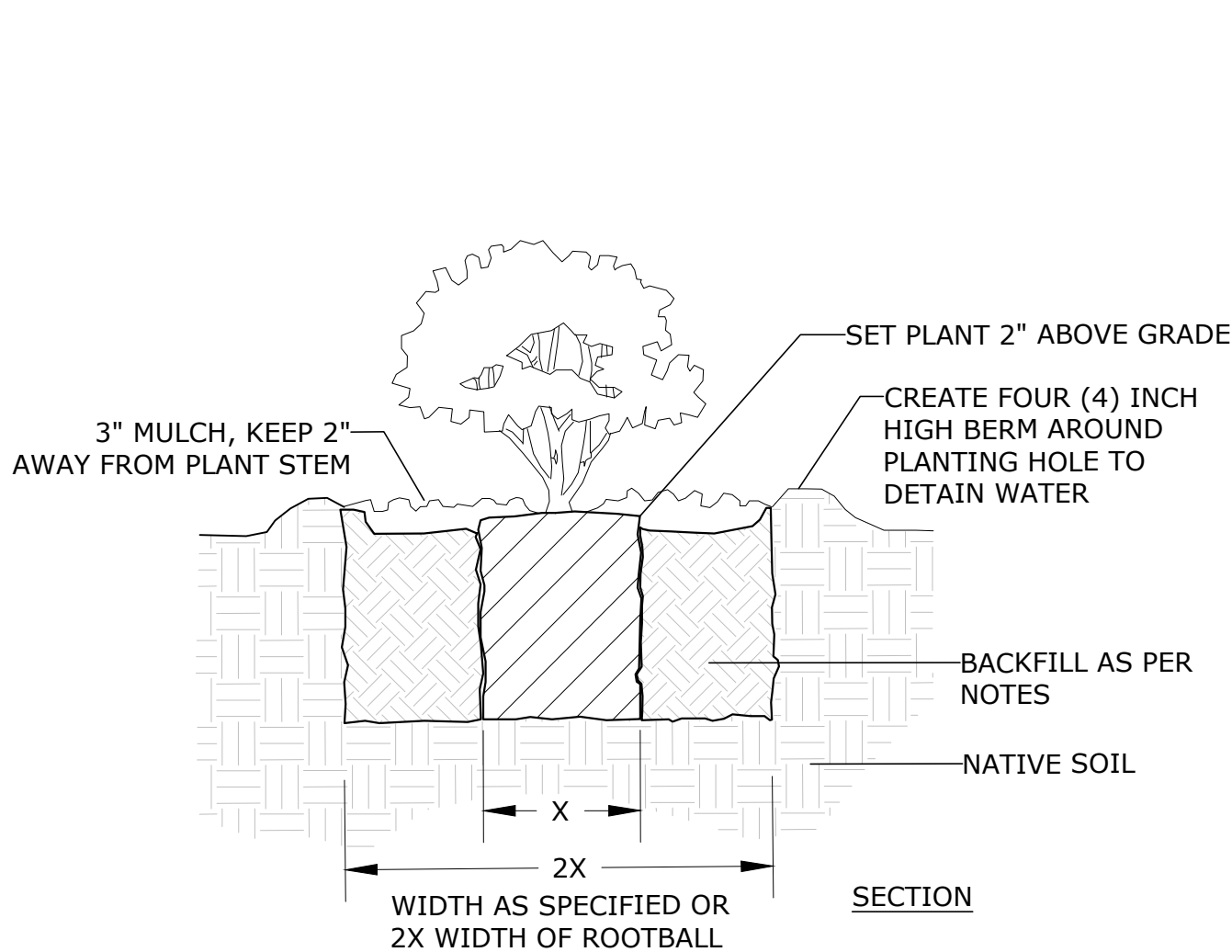


PLANT LEGEND

	SCIENTIFIC NAME	COMMON NAME
	ACER NEGUNDO	BOX ELDER
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE
	QUERCUS AGRIFOLIA	COAST LIVE OAK
	QUERCUS KELLOGGII	BLACK OAK
	QUERCUS LOBATA	VALLEY OAK
	SALIX LASIOLEPIS	ARROYO WILLOW
	BACCHARIS PILULARIS	COYOTE BRUSH
	FRANGULA CALIFORNICA	COFFEEBERRY
	HETEROMELES ARBUTIFOLIA	TOYON
	RIBES SANGUINEUM	RED FLOWERING CURRANT
	ROSA CALIFORNICA	CALIFORNIA ROSE
	RUBUS URSINUS	CALIFORNIA BLACKBERRY

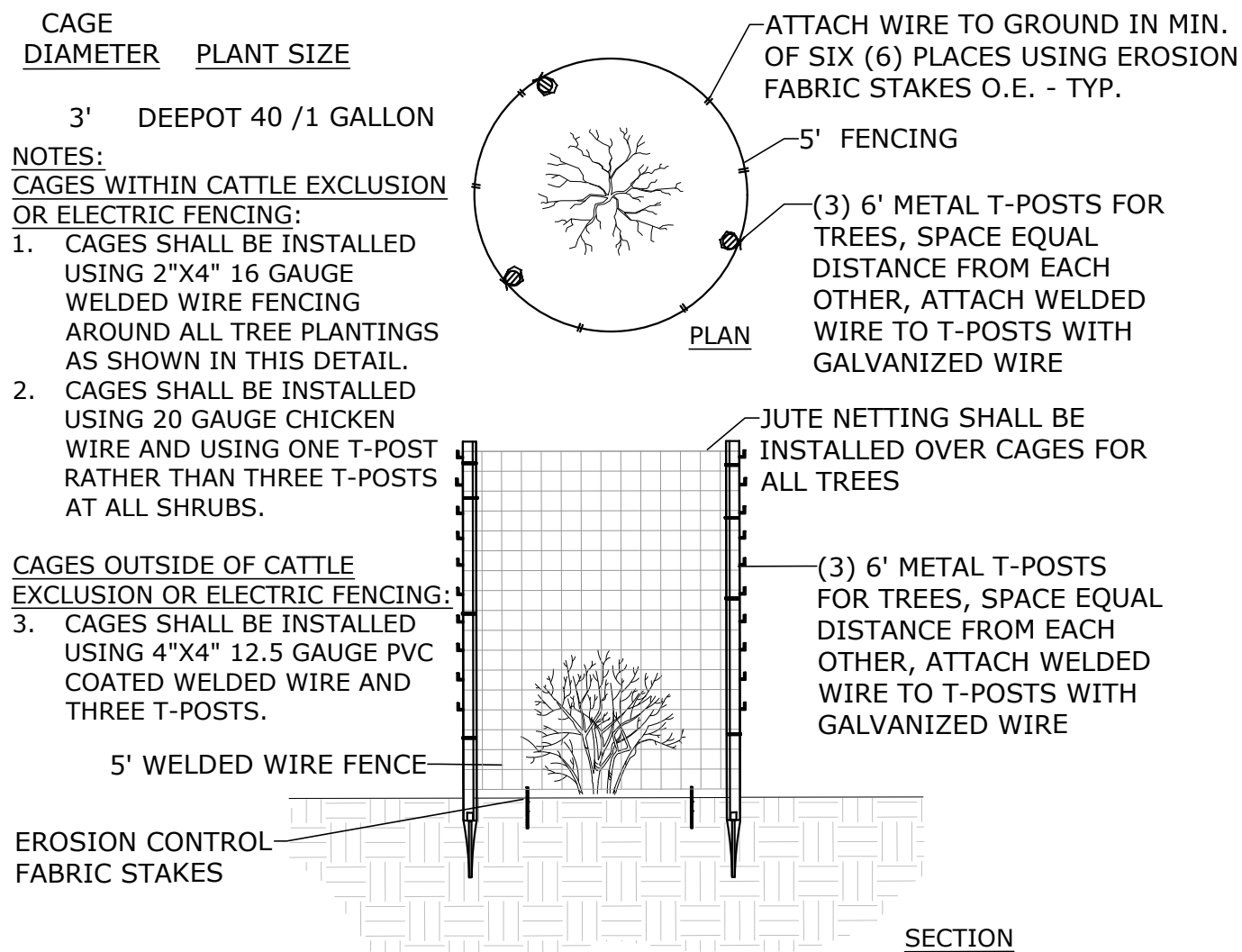
1 TYPICAL PLANT LAYOUT

SCALE: 1"=30'



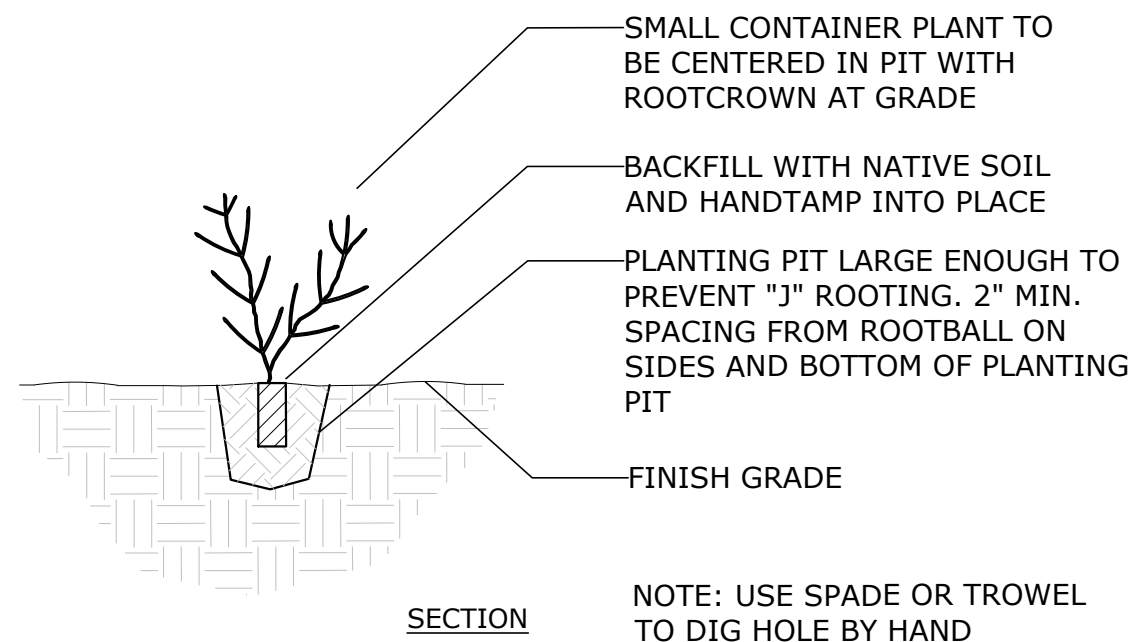
2 TREE & SHRUB PLANTING DETAIL

NOT TO SCALE



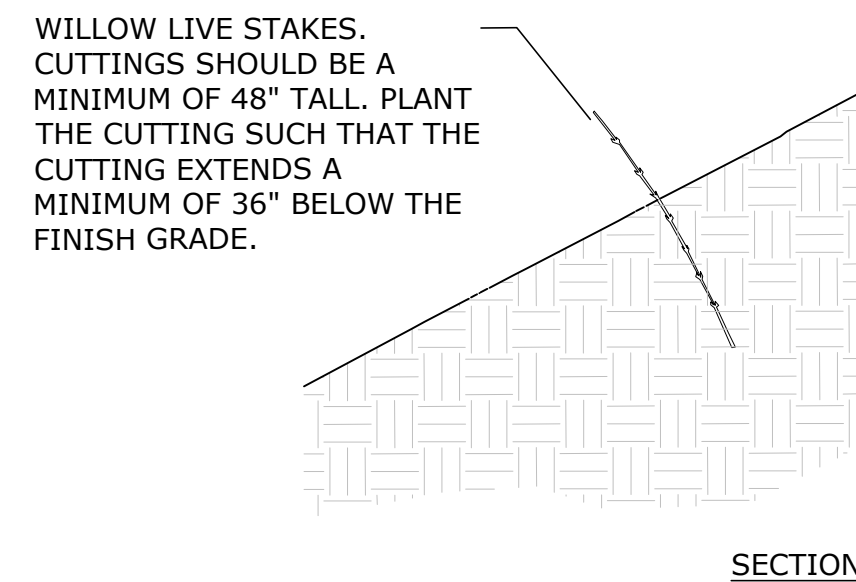
3 FOLIAGE PROTECTION CAGE

NOT TO SCALE



4 HERBACEOUS PLANTING DETAIL

NOT TO SCALE



5 WILLOW LIVE STAKE DETAIL

NOT TO SCALE



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SMART
NON- MOTORIZED
PATHWAY SEGMENT 3 -
POPPY DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA



06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

PLANTING SCHEDULE,
DETAILS, AND TYPICAL
LAYOUT

Sheet 9 of 14

L-2.0

PLANTING, WILLOW CUTTING. AND FENCING NOTES



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PLANTING NOTES

1. PLANT PROCUREMENT: CONTRACTOR SHALL WORK WITH SMART'S PROJECT MANAGER TO PROCURE THE PLANTS FROM A NURSERY RECOMMENDED BY REGIONAL PARKS. THE PLANTS SHALL BE DELIVERED TO THE PROJECT SITE BY THE OWNER OR NURSERY AND APPROVED BY SMART'S PROJECT MANAGER AND CONTRACTOR.
2. PLANTING SCHEDULE: PLANTINGS SHALL BE INSTALLED IN FALL OR EARLY WINTER (OCTOBER 15TH - DECEMBER 31) TO ALLOW PLANTS TO ESTABLISH DURING THE WINTER RAINY SEASON, UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER. THE IRRIGATION SYSTEM SHALL BE INSTALLED PRIOR TO PLANTING.
3. PLANTING LAYOUT FOR TREES, SHRUBS, AND HERBACEOUS PLANTINGS: THE CONTRACTOR SHALL USE PIN FLAGS OR OTHER IDENTIFIERS TO MARK THE LOCATION OF THE PLANTS AT THE PROJECT SITE FOR REVIEW BY SMART'S PROJECT MANAGER PRIOR TO THE INSTALLATION OF THE DRIP EMITTERS, TUBING AND PLANTINGS. PIN FLAGS SHALL HAVE A UNIQUE COLOR AND/OR IDENTIFYING MARK FOR EACH PLANT SPECIES.
4. PLANTING HOLES: PLANTING HOLES SHALL BE DUG ACCORDING TO THE DIMENSIONS SHOWN IN THE PLANTING DETAIL.
5. PLANT FERTILIZER: CONTRACTOR SHALL INSTALL '1-YEAR NUTRI-PAK TREES, SHRUBS & EVERGREENS' ONE-YEAR TIME RELEASE FERTILIZER PACKETS BY NUTRI-PAK OR EQUIVALENT SLOW RELEASE FERTILIZER AS APPROVED BY SMART'S PROJECT MANAGER. THE FERTILIZER SHALL HAVE THE FOLLOWING RATIO OF NITROGEN, PHOSPHOROUS, AND POTASSIUM: 16-8-8. THE FERTILIZER SPECIFICATIONS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL. INSTALL ONE FERTILIZER PACK AT THE BOTTOM OF THE PLANTING HOLE PRIOR TO PLANTING THE TREE/SHRUBS.
6. COMPOST SHALL BE INCORPORATED INTO THE BACKFILL OF PLANTING PITS IN GRADED AREAS AT A RATIO OF 3:1 (NATIVE BACKFILL: COMPOST).
7. MULCH: THE CONTRACTOR SHALL INSTALL A 3-INCH LAYER OF WOOD BARK MULCH AROUND ALL TREES AND SHRUBS AS SHOWN ON THE PLANTING DETAILS. MULCH SHALL BE ORGANIC AND WEED-FREE WITH A ONE-HALF INCH MINIMUM AND A THREE INCH MAXIMUM PARTICLE SIZE. CONTRACTOR SHALL PROVIDE A SUBMITTAL OF THE MULCH TO SMART'S PROJECT MANAGER FOR APPROVAL.
8. FOLIAGE PROTECTION CAGES: THE CONTRACTOR SHALL INSTALL FOLIAGE PROTECTION CAGES FOLLOWING THE COMPLETION OF PLANT INSTALLATION AROUND THE PLANTS IDENTIFIED IN THE PLANT LEGEND AND IN ACCORDANCE WITH THE DETAIL ON SHEET L-2.0
9. WATERING: NEWLY PLANTED TREES AND SHRUBS SHALL BE WATERED REGULARLY TO PREVENT PLANT MATERIAL FROM WILTING. PLANTINGS SHALL BE INSTALLED AFTER THE AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED AND TESTED. IN THE CASE THAT THIS IS NOT POSSIBLE, PLANTINGS SHALL BE MANUALLY WATERED FROM THE TIME THAT THEY ARE PLANTED UNTIL THE TIME THAT THE AUTOMATIC IRRIGATION SYSTEM IS IN OPERATION.
- 10.WARRANTY: THE CONTRACTOR SHALL GUARANTEE THE SURVIVAL OF ALL OF THE PLANTS FOR THE DURATION OF THE ONE-YEAR MAINTENANCE PERIOD. THE MAINTENANCE PERIOD SHALL BE 1 YEAR AFTER COMPLETION OF THE PLANTING AND APPROVAL OF THE INSTALLATION BY SMART'S PROJECT MANAGER. AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL REPLACE, AT NO ADDITIONAL COST TO THE OWNER, PLANT MATERIAL THAT IS DETERMINED TO BE EITHER DEAD OR IN POOR HEALTH.

FENCING NOTES

1. A TEMPORARY ELECTRIC FENCE SHALL BE INSTALLED BY OTHERS AROUND SOME OF THE PLANTING AREAS TO EXCLUDE CATTLE IN COORDINATION WITH REGIONAL PARKS. THE TEMPORARY ELECTRIC FENCE SHALL BE AT MINIMUM 3 FEET AWAY FROM EXISTING TRAILS.

WILLOW CUTTING NOTES:

1. WILLOW CUTTING INSTALLATION SHALL OCCUR BETWEEN DECEMBER 1ST AND DECEMBER 31ST OR AS APPROVED BY SMART'S PROJECT MANAGER.
2. WILLOW CUTTINGS WILL BE COLLECTED ON-SITE OR AS APPROVED BY SMART'S PROJECT MANAGER.
3. IN AN ATTEMPT TO INCREASE THE POSSIBILITY THAT WILLOW POLES ARE COLLECTED FROM BOTH MALE AND FEMALE PLANTS, WILLOW POLES SHALL BE COLLECTED FROM A MINIMUM OF 5 INDIVIDUAL TREES.
4. WILLOW POLES SHALL BE CUT FROM ONE-YEAR-OLD BRANCHES. WILLOW POLES SHALL HAVE A MINIMUM LENGTH OF THREE (3) FEET LONG AND A MAXIMUM LENGTH OF FOUR (4) FEET FOR THE WILLOW TRENCHES AND INDIVIDUAL INSTALLATION UPSTREAM OF THE HEADCUT. WILLOW POLES SHALL HAVE A MINIMUM CUT-END DISTAL DIAMETER OF ¾" AND A MAXIMUM CUT-END BASAL DIAMETER OF 1 1/2". WILLOW POLES SHALL HAVE CONTINUOUS BARK AND STEMS THAT ARE NOT SPLIT, AS SOLELY DETERMINED BY SMART'S PROJECT MANAGER.
5. WILLOW POLES SHALL BE HARVESTED FROM A MAXIMUM 30% OF EACH DONOR PLANT AND THE PLANT SHALL BE LEFT IN A HEALTHY, VIGOROUS, AND VISUALLY APPEALING STATE.
6. UNLESS IMMEDIATELY SOAKED AND INSTALLED, WILLOW POLES SHALL BE WRAPPED IN WET BURLAP. POLES MAY BE BUNDLED PRIOR TO BEING WRAPPED WITH A MAXIMUM OF TEN POLES PER BUNDLE. BUNDLES SHALL BE KEPT SHADED, COVERED, COOL, MOIST, AND OUT OF WIND OR SUN AT ALL TIMES UNTIL INSTALLATION OF THE POLES. POLES SHALL BE KEPT FROM FREEZING.
7. SOAK EACH WILLOW POLE IN WATER PRIOR TO PLANTING. THE BASAL END OF EACH WILLOW POLE SHALL BE SOAKED IN A BUCKET OF WATER, TO A MINIMUM DEPTH OF 24", FOR A MINIMUM OF 10 DAYS, IMMEDIATELY PRECEDING PLANTING. POLES SHALL BE INSTALLED WITHIN 14 DAYS FOLLOWING HARVESTING.
8. SMART'S PROJECT MANAGE SHALL ACCEPT PLANT MATERIAL BEFORE THE START OF PLANTING.
9. WILLOW POLES SHALL BE IN INSTALLED IN THE WILLOW PLANTING AREAS SHOWN IN THE PLANS. THE CONTRACTOR SHALL STAKE OR MARK THE OUTER LIMITS OF THE PLANTING AREAS FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.
10. DIG PLANTING HOLES A MINIMUM DIAMETER OF 9" AND DEPTH OF 36" OR 75% TOTAL LENGTH OF WILLOW POLE.

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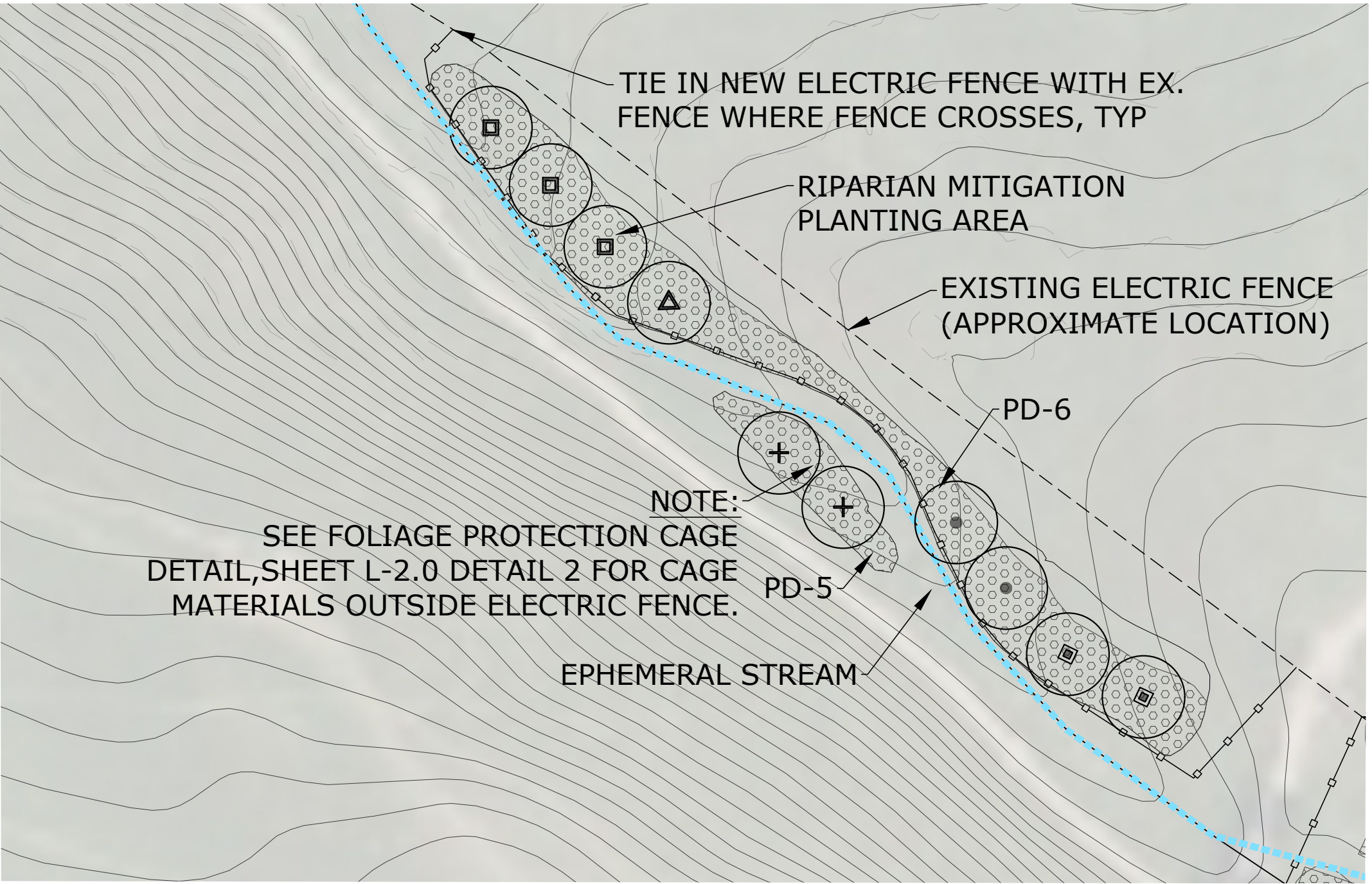
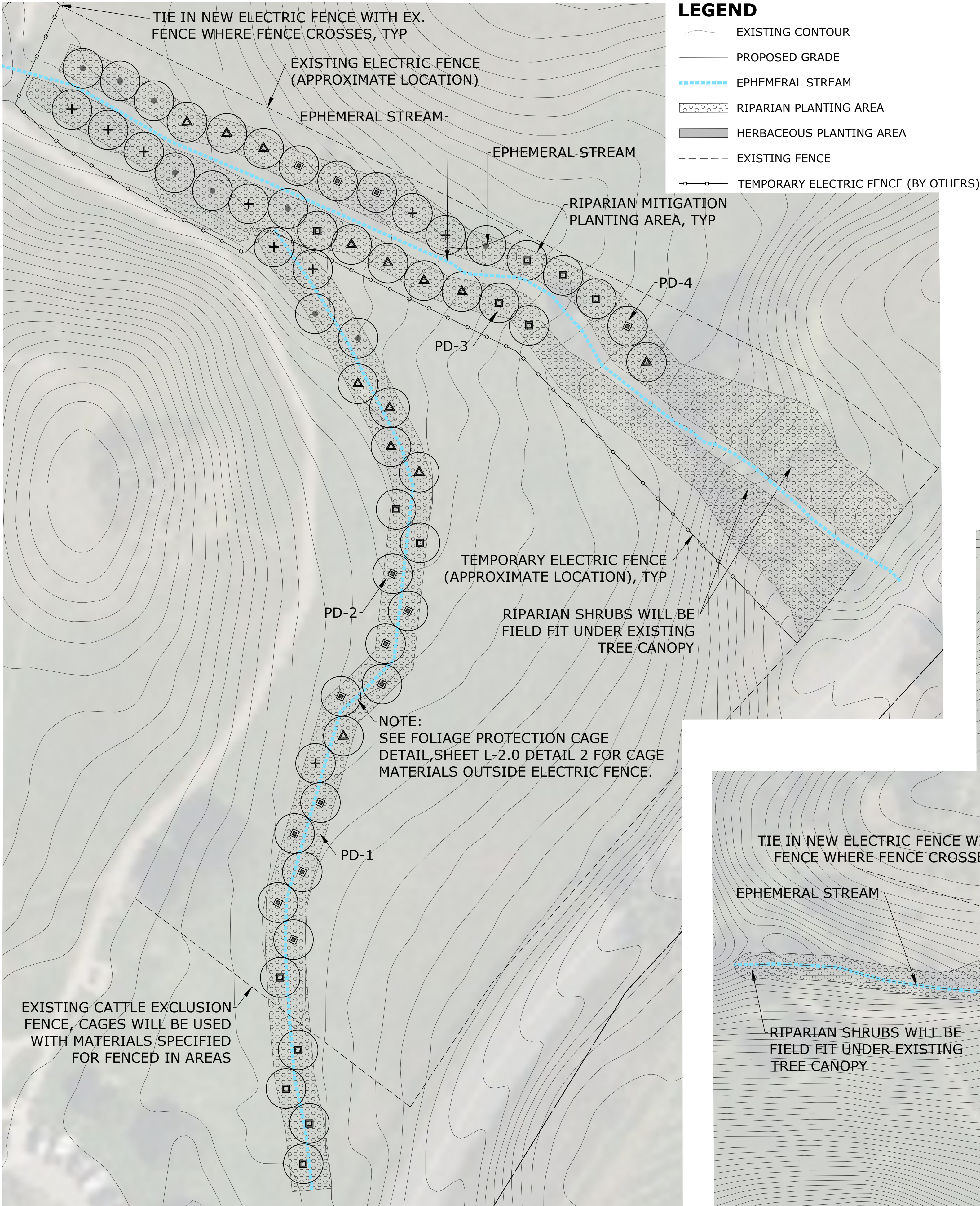
QUANTITY ESTIMATES FOR POPPY DRAINAGE PLANTING AREAS																									
SYMBOL	AREA ACRE	AREA SQ. FT.	TREES							SHRUBS							HERBACEOUS							PLANT TOTAL	
			ACE NEG	AES CAL	QUE AGR	QUE KEL	QUE LOB	SAL LAS	TOTAL	BAC PIL	FRA CAL	HET ARB	RIB SAN	ROS CAL	RUB URS	TOTAL	ACH MIL	ART DOU	CAR BAR	ELY TRI	JUN PAT	SCR CAL	SYM CHI		TOTAL
PD-1	0.12	5,160	1	1	3	3	5	0	13	10	10	11	8	11	7	57	0	0	0	0	0	0	0	0	70
PD-2	0.12	5,160	1	2	3	2	5	0	13	10	10	11	8	11	7	57	0	0	0	0	0	0	0	0	70
PD-3	0.23	9,975	3	4	3	4	0	0	14	20	20	22	17	22	14	115	0	0	0	0	0	0	0	0	129
PD-4	0.24	10,270	4	2	3	4	4	0	17	21	21	22	17	22	14	117	0	0	0	0	0	0	0	0	134
PD-5	0.01	620	2	0	0	0	0	0	2	1	0	2	1	2	0	6	0	0	0	0	0	0	0	0	8
PD-6	0.08	3,514	0	2	3	1	2	0	8	8	8	8	6	8	5	43	0	0	0	0	0	0	0	0	51
PD-7	0.08	3,326	0	5	3	0	1	3	12	7	7	7	6	7	5	39	8	5	15	15	18	12	7	80	131
PD-8	0.10	4,161	0	2	0	0	2	8	12	8	8	9	7	9	6	47	3	2	7	8	9	6	4	39	98
PD-9	0.08	3,305	1	4	0	1	3	0	9	7	7	7	6	7	5	39	6	4	13	14	17	11	6	71	119
PD-10	0.10	4,495	0	3	0	1	3	8	15	9	9	10	7	10	6	51	2	2	7	5	6	4	2	28	94
PD-11	0.08	3,480	0	0	4	5	0	0	9	8	8	8	6	8	6	44	0	0	0	0	0	0	0	0	53
PD-12	0.10	4,537	0	0	3	4	0	0	7	9	10	10	8	10	6	53	0	0	0	0	0	0	0	0	60
TOTAL	1.34	58,003	12	25	25	25	25	19	131	118	118	127	97	127	81	668	19	13	42	42	50	33	19	218	1017

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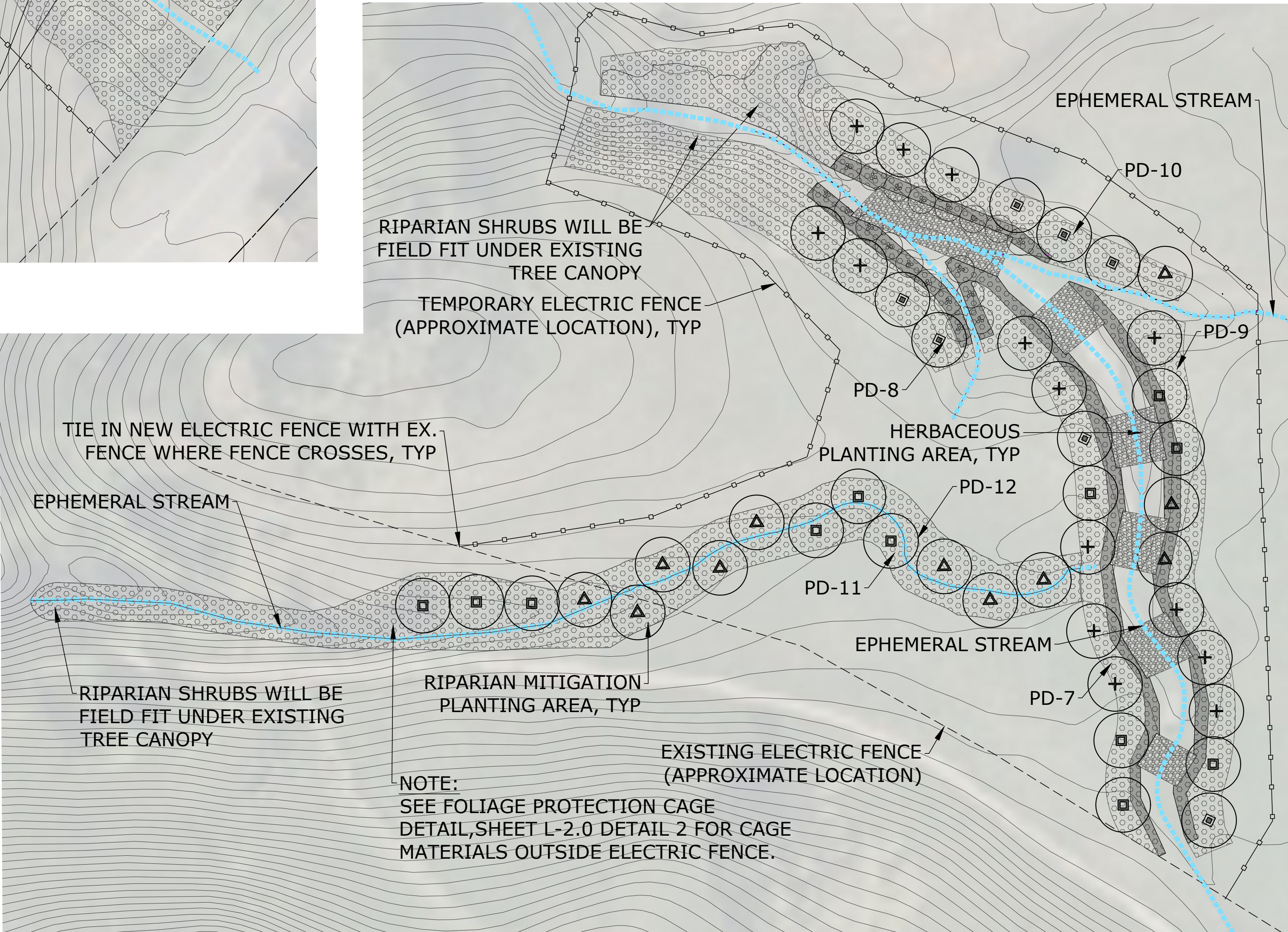
PLANTING QUANTITIES,
AND NOTES

Sheet 10of 14

L-2.1



2 PLANTING AND FENCING PLAN - MIDDLE POPPY DRAINAGE
SCALE: 1"=30'



3 PLANTING AND FENCING PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'



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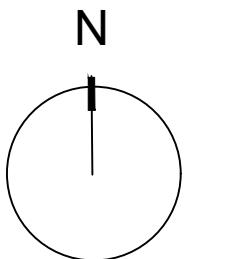
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0 30
SCALE: 1" = 30'



**PLANTING AND
FENCING PLAN**

Sheet 11 of 14

L-2.2

IRRIGATION LEGEND

SYMBOL	NAME
	10,000 GAL. POLY TANK, DARK GREEN
	MASTER VALVE: HUNTER ICV-201G-FS-DC; HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX
	GATE VALVE. NIBCO T-113 GATE VALVE, SIZE THE SAME SIZE AS THE LARGEST PIPE CONNECTED TO GATE VALVE, INSTALL IN VALVE BOX.
	REMOTE CONTROL VALVE. HUNTER "DRIP KIT" ICZ-101-25-LF; OPERATING PRESSURE: UP TO 120 PSI HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX.
	AIR VACUUM RELIEF VALVE (ARV). HUNTER AVR-075 AIR/VACUUM RELIEF VALVE OR APPROVED EQUAL. INSTALL AT HIGH POINT WITHIN EACH ZONE AFTER REMOTE CONTROL VALVE. INSTALL IN VALVE BOX.
	QUICK COUPLING VALVE. HUNTER HQ44-LRC, 1" INLET, 2-PIECE BODY, 2 SLOTS QUICK COUPLING VALVE WITH LOCKING COVER, ACME KEY OR APPROVED EQUAL. OPERATING PRESSURE: UP TO 150 PSI
	EMITTER FLUSH VALVE ASSEMBLY
	PRESSURE REDUCING VALVE AND PRESSURE GAUGE. WILKINS MODEL 600-L-SC OR APPROVED EQUAL. SIZED TO FIT
	MAINLINE PIPE - ABOVEGROUND: HDPE 4710 SDR 9 PIPE OR APPROVED EQUAL, 1 1/2"
	MAINLINE PIPE - TRENCHED: HDPE 4710 SDR 9 PIPE, 1 1/2"
	IRRIGATION SLEEVE: PVC SCHEDULE 80 PIPE, SIZED TO FIT
	LATERAL LINE PIPE: SALCO NON-RIGID PVC, PVC TYPE IPS, OR APPROVED EQUAL. SIZED TO FIT
	CONTROLLER STATION #
	APPROXIMATE FLOW (GPM)
	REMOTE CONTROL VALVE SIZE

SUPPLY TUBING AND DRIP EMITTER LEGEND

LOCATION DESCRIPTION	MODEL NUMBER	MODEL DESCRIPTION
ALL DRIP IRRIGATION AREAS	TWPE-700 - 1K	HUNTER 1/2" POLYETHYLENE SUPPLY TUBING
DEEPOT 40 TREE OR SHRUB	HE-050-B	TWO (2) 0.5 GPH HUNTER SINGLE OUTLET POINT SOURCE EMITTERS WITH SELF-PIERCING BARB, BLUE

IRRIGATION NOTES

GENERAL

1. THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR IS REQUIRED TO INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE CONTRACT WORK, INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES WHICH MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IN THE EVENT OF FIELD DIFFERENCES, THE CONTRACTOR IS REQUIRED TO PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF SMART'S PROJECT MANAGER. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH, OVER, OR UNDER WALLS, ROADWAYS, DECOMPOSED GRANITE SHOULDERS, PAVING, STRUCTURE, ETC., BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL REQUIRED REVISIONS.

2. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL IRRIGATION COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION.

3. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

WATER TANK

4. THE WATER TANK SHALL BE 10,000 GALLON POLY TANK (144" DIAMETER x 163" TALL) DARK GREEN IN COLOR.

5. THE BASE OF THE TANK SHALL CONSIST OF 4 TO 6 INCHES OF PEA GRAVEL IN A 14 GAUGE STEEL RETAINING RING.

6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE TANK WITH SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.

FLOW AND PRESSURE REQUIREMENTS

7. THE CONTRACTOR SHALL VERIFY MINIMUM STATIC PRESSURES AND A MINIMUM FLOW RATES AT THE POINTS OF CONNECTION AS NOTED ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO SMART'S PROJECT MANAGER.

8. THE CONTRACTOR SHALL VERIFY THAT ALL IRRIGATION COMPONENTS OPERATE AT THE OPERATION PRESSURE STATED IN THE MANUFACTURER'S SPECIFICATIONS. REPORT ANY DISCREPANCIES TO SMART'S PROJECT MANAGER.

9. A SOLAR-POWERED BOOSTER PUMP PRESSURE SYSTEM SHALL BE INSTALLED AT THE WATER TANK IN ORDER TO PROVIDE ADEQUATE PRESSURE FOR THE IRRIGATION SYSTEM AS SHOWN IN THE DRAWINGS. THE CONTRACTOR SHALL WORK WITH A PUMP SPECIALIST TO INSTALL THE SOLAR-POWERED BOOSTER PUMP PRESSURE SYSTEM, INCLUDING AN BOOSTER PUMP, SOLAR ARRAY, AND OTHER REQUIRED COMPONENTS AND ENSURE THAT IT MEETS COUNTY REQUIREMENTS. THE CONTRACTOR SHALL SUBMIT THE SPECIFICATIONS AND A DETAILED LAYOUT PLAN FOR THE SYSTEM FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.

PIPE AND VALVE INSTALLATION

11 THE ABOVEGROUND MAINLINE SHALL SIT ON TOP OF EXISTING GRADE. INSTALL U-SHAPED STAPLES AT 20-FT. INTERVALS OR AS NEEDED TO SECURE MAINLINE IN PLACE.

12. THE TRENCHED MAINLINE SHALL BE INSTALLED AS SHOWN NEAR THE WATER TANK AND UNDER TRAILS AND PATHWAYS. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE TRENCHED TO ABOVEGROUND MAINLINE TRANSITION FOR APPROVAL BY SMART'S PROJECT MANAGER.

13. THE CONTRACTOR SHALL ROUTE THE MAINLINE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL FLAG THE MAINLINE AND VALVE LOCATIONS FOR SMART'S PROJECT MANAGER'S REVIEW AND APPROVAL PRIOR TO GROUND DISTURBANCE.

14. LATERAL LINES AND DRIP SUPPLY TUBING SHALL BE AT GRADE, EXCEPT AT PATHS, CHANNELS, OR ROAD CROSSINGS. THE CONTRACTOR SHALL SLEEVE ALL LATERALS AND MAINLINES PASSING UNDERNEATH PAVEMENT, ROADS, TRAILS, OR OVER DRAINAGE CHANNELS.

15. THE CONTRACTOR SHALL AVOID INSTALLING TRENCHES OR PERFORMING GROUND DISTURBING ACTIVITIES UNDER THE DRIPLINE OF TREES UNLESS APPROVED BY SMART'S PROJECT MANAGER.

16. THE CONTRACTOR SHALL PERFORM A PRESSURE TEST OF THE MAINLINES AT 125 PSI AND THE LATERAL LINES AT 100 PSI FOR FOUR HOURS AS FEASIBLE FOR APPROVAL BY SMART'S PROJECT MANAGER.

17. QUICK COUPLERS SHALL BE INSTALLED AT THE LOWER POPPY DRAINAGE SITE TO ALLOW FOR HAND WATERING OF HERBACEOUS PLANTINGS WITHIN THE CHANNEL.

18. INSTALL CHECK VALVES AS NEEDED AT ELEVATION CHANGES ALONG LATERAL LINES TO MINIMIZE LOW-HEAD DRAINAGE. THE CONTRACTOR SHALL SUBMIT SPECIFICATIONS TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION.

19. THE IRRIGATION VALVE BOXES SHALL BE BURIED HALFWAY WHERE FEASIBLE SO THAT THEY ARE SECURED IN SOIL BUT ALSO VISIBLE FOR MAINTENANCE.

20. THE CONTRACTOR SHALL OPTIMIZE THE VALVE BOX LAYOUT TO MINIMIZE THE TOTAL NUMBER OF VALVE BOXES REQUIRED.

21. THE CONTRACTOR SHALL LOCK ALL VALVE BOXES UNLESS

OTHERWISE SPECIFIED IN WRITING BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL TURN OVER 3 SETS OF KEYS TO THE VALVE BOXES TO SMART'S PROJECT MANAGER. OPERATION, MAINTENANCE, AND REPORTING

22. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROGRAM THE IRRIGATION CONTROLLERS TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES MAKING ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE, AND WIND EXPOSURES.

23. THE CONTRACTOR SHALL SEND THE IRRIGATION SCHEDULE BY VALVE TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO OPERATION.

24. THE CONTRACTOR SHALL PREPARE AN OPERATION AND MAINTENANCE MANUAL OF THE IRRIGATION SYSTEMS WHICH WILL INCLUDE THE CONTRACTOR'S NAME AND CONTACT INFORMATION, AND INFORMATION ON EACH IRRIGATION COMPONENT, INCLUDING THE MANUFACTURER'S NAME, MAKE AND MODEL NUMBER, NAME AND ADDRESS OF LOCAL MANUFACTURER'S REPRESENTATIVE, AND DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AS PER MANUFACTURER.

25. MAINTENANCE STAFF TRAINING: THE CONTRACTOR SHALL PERFORM A FULL INSTRUCTION SESSION IN THE PRESENCE OF THE DESIGNATED MAINTENANCE PERSONNEL DEMONSTRATING THE IRRIGATION CONTROLLER SYSTEM,SYSTEM TESTING, TROUBLE-SHOOTING, ETC. INCLUDE INSTRUCTIONS ON HOW TO TURN OFF THE SYSTEM IN CASE OF EMERGENCY.

26. THE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM, REPLACE ANY BROKEN OR DEFECTIVE PARTS, AND ENSURE THE IRRIGATION SCHEDULE IS ADEQUATE TO SUSTAIN THE HEALTH OF THE PLANTS FOR A 1-YEAR MAINTENANCE PERIOD.

27. THE CONTRACTOR SHALL INSPECT THE IRRIGATION SYSTEM AND REPORT TO SMART'S PROJECT MANAGER HOW THE PLANTS AND IRRIGATION SYSTEM ARE PERFORMING DURING THE 1-YEAR MAINTENANCE PERIOD.



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TRENCHING

NOT TO SCALE

2

SLEEVE TRENCHING

NOT TO SCALE

3

THRUST BLOCK

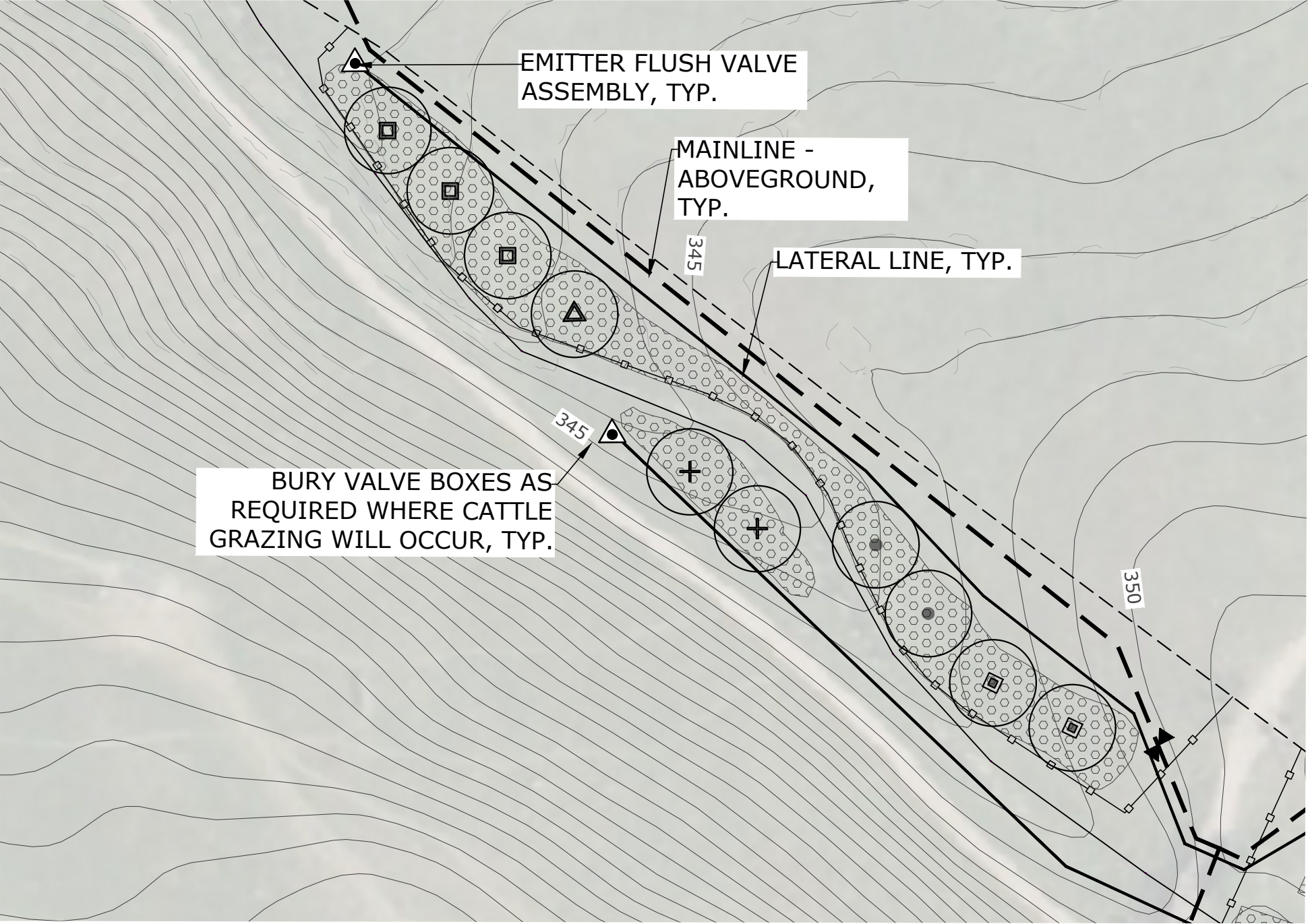
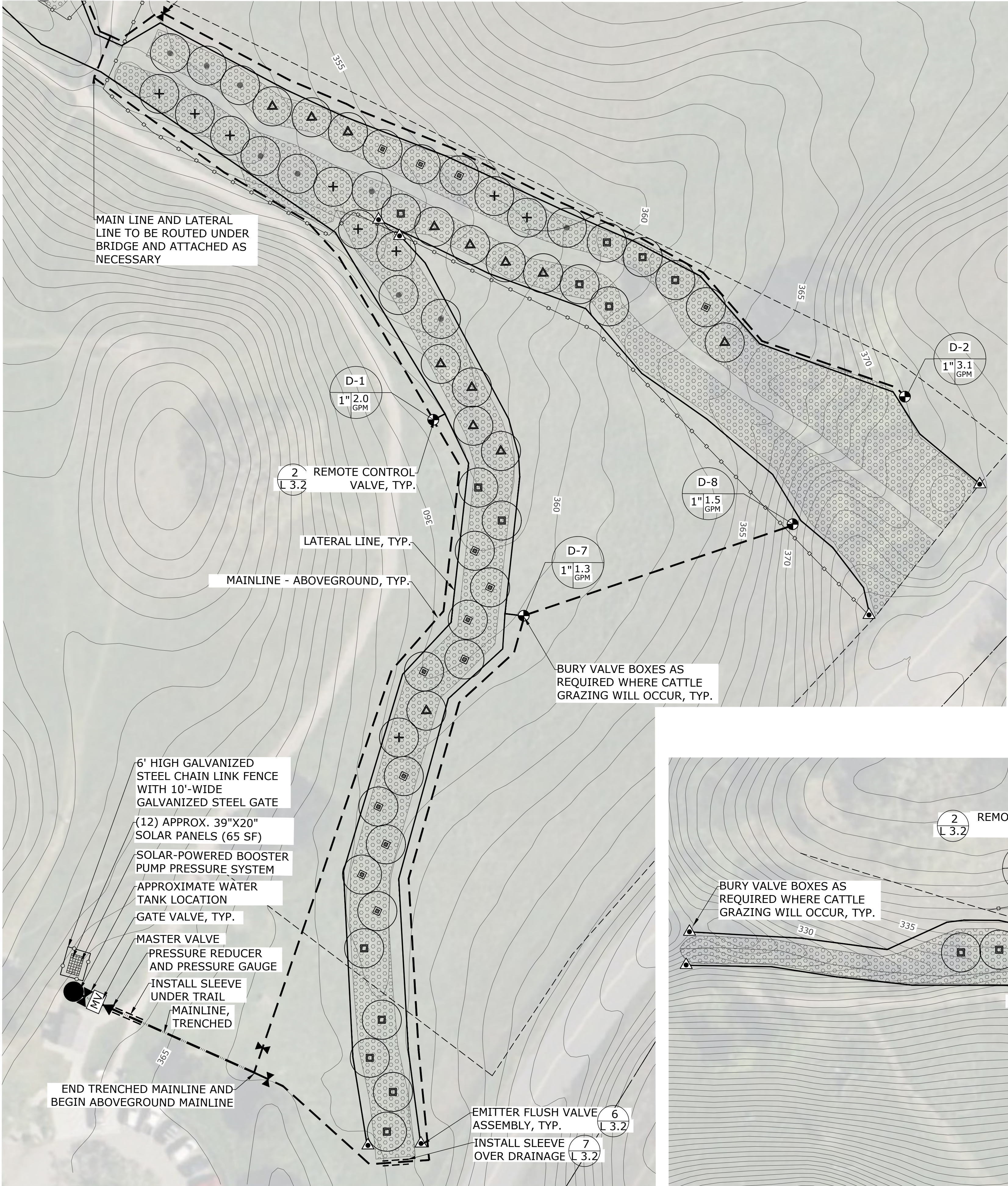
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IRRIGATION NOTES AND
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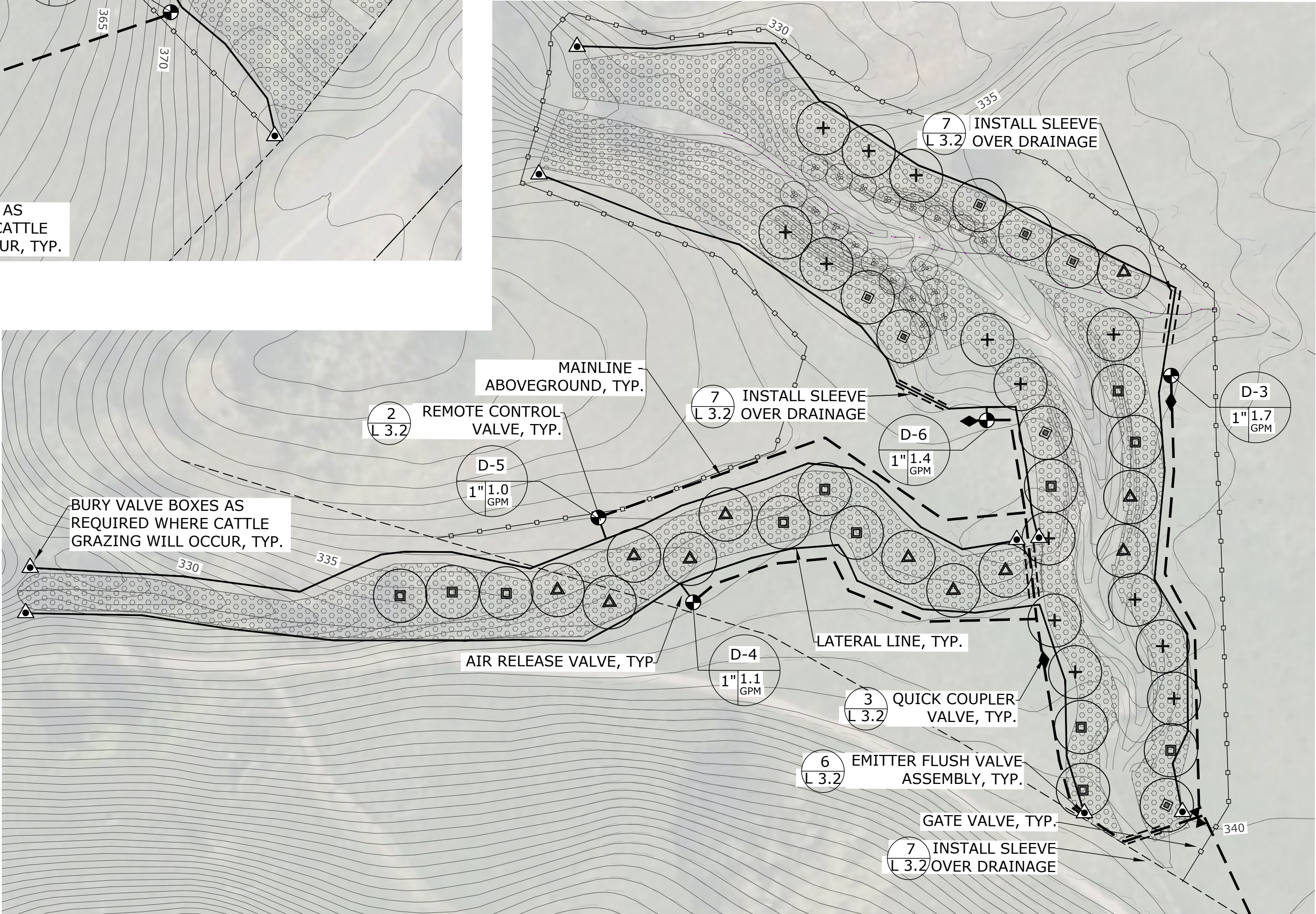
Sheet 12 of 14

L-3.0

Page 395 of 467



2 IRRIGATION PLAN - MIDDLE POPPY DRAINAGE
SCALE: 1"=30'



3 IRRIGATION PLAN - LOWER POPPY DRAINAGE
SCALE: 1"=30'



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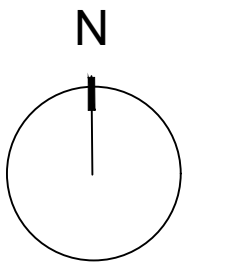
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IRRIGATION PLAN

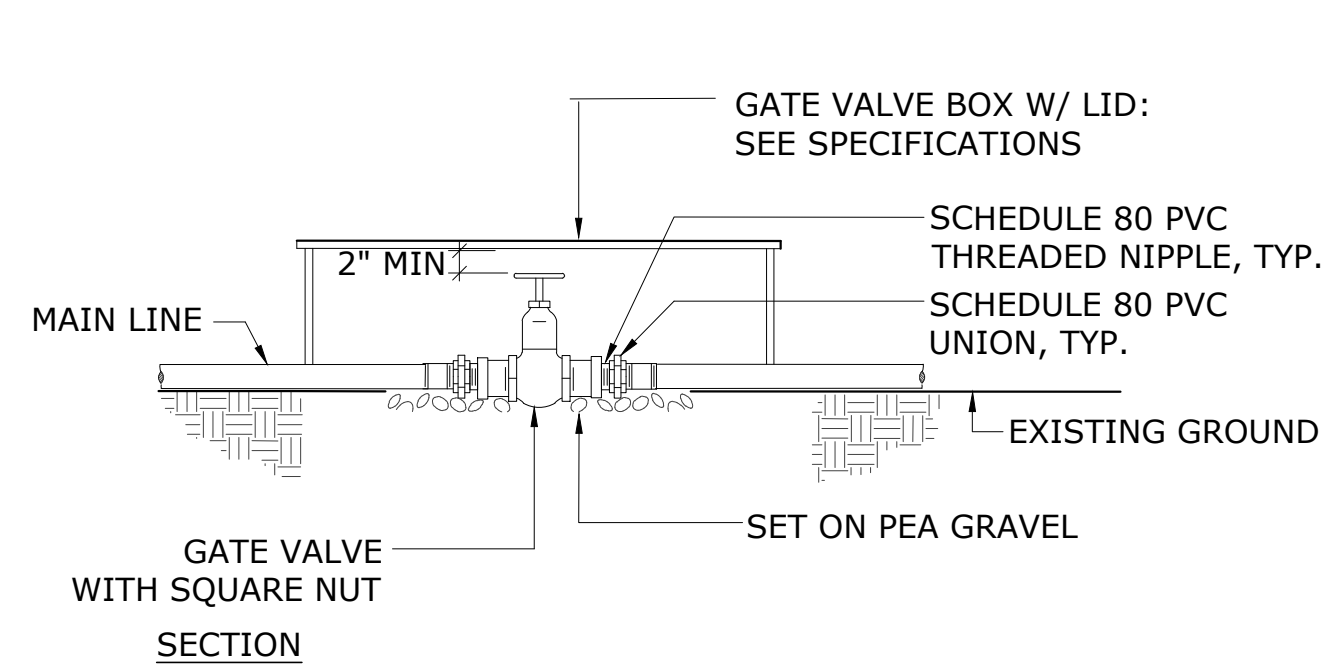
Sheet 13 of 14

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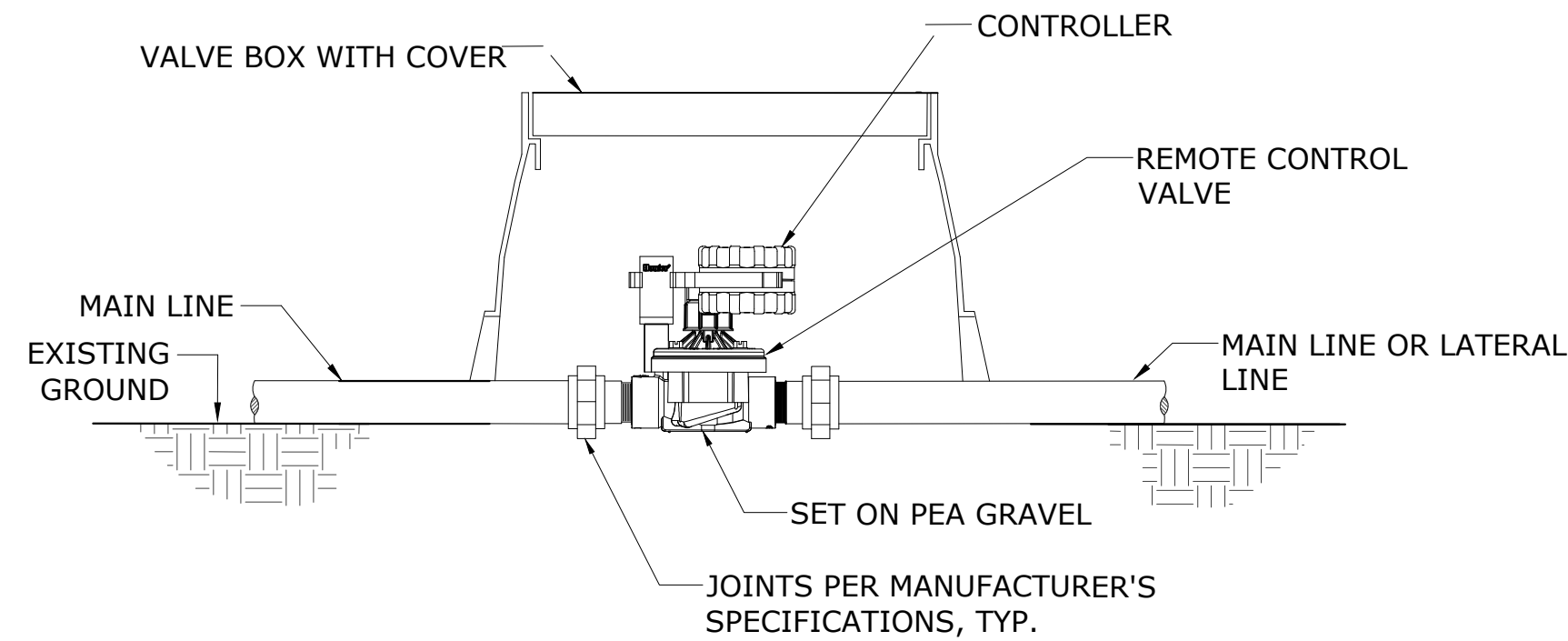
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POPPY DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

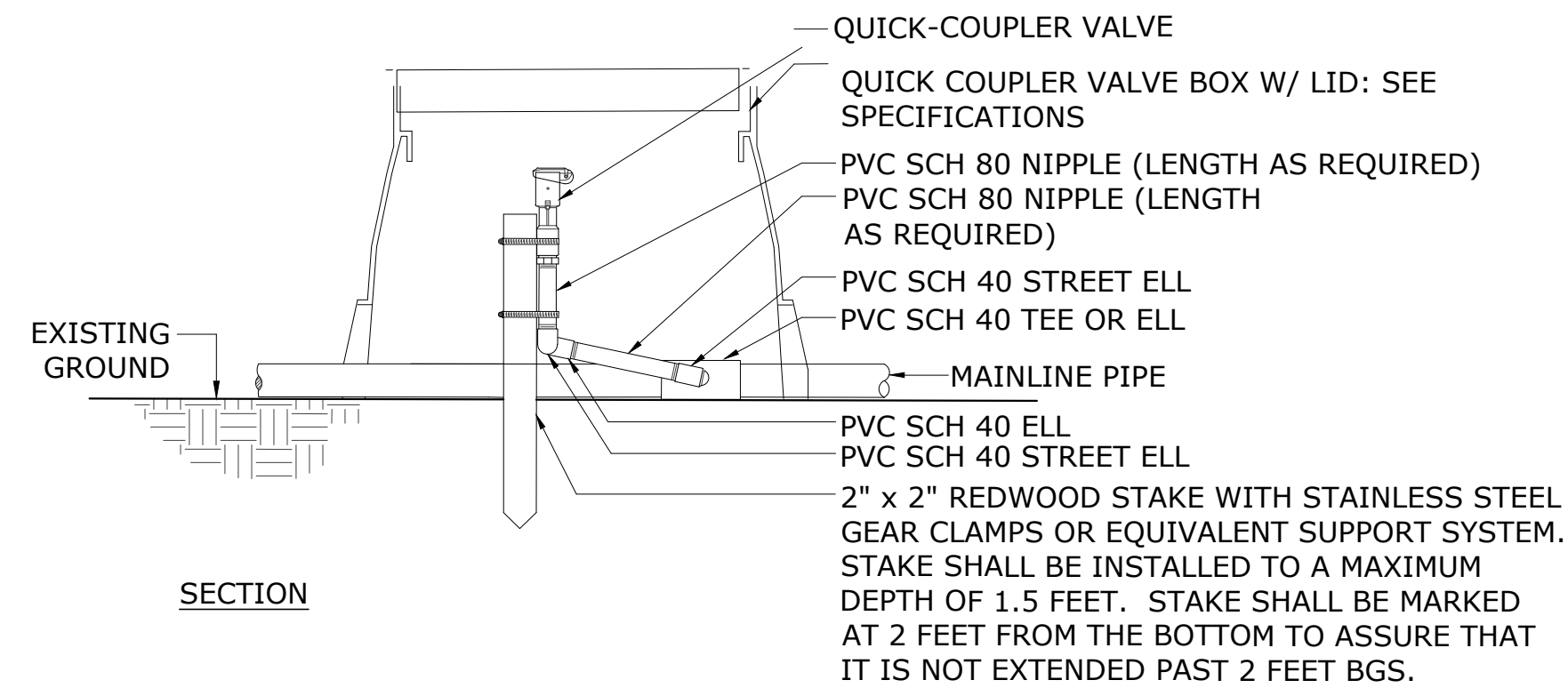
SONOMA COUNTY, CALIFORNIA



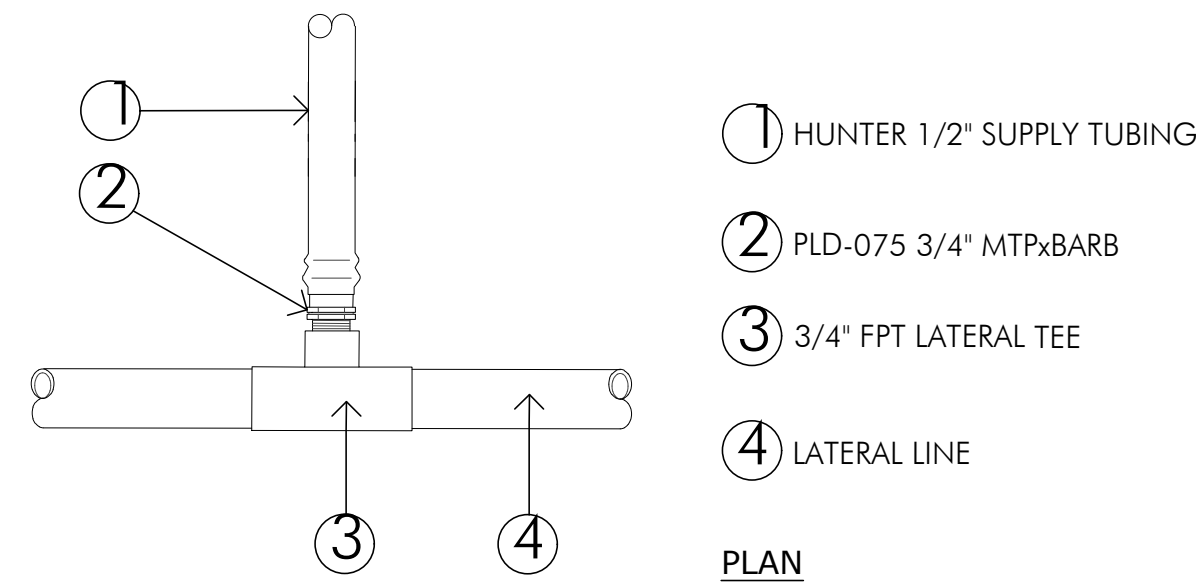
1 GATE VALVE ASSEMBLY
NOT TO SCALE



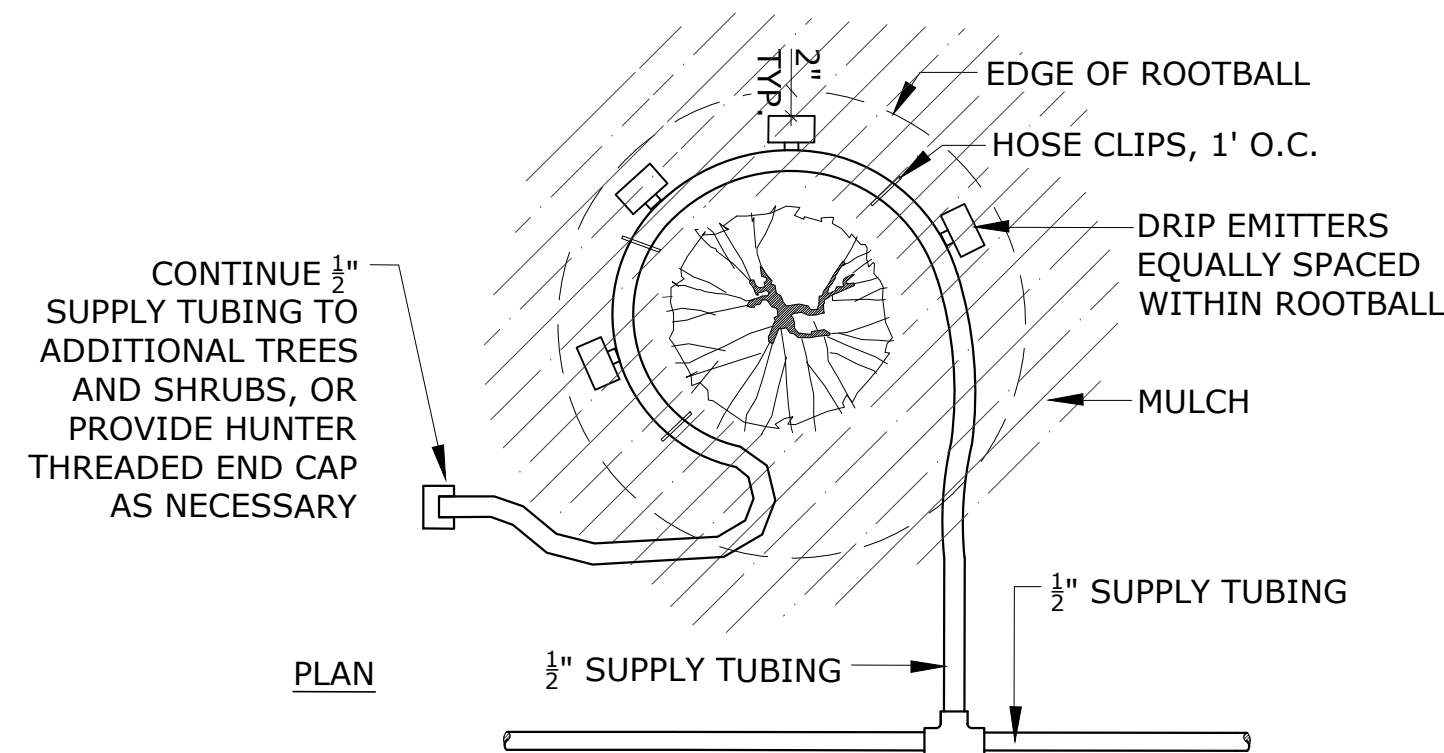
2 MASTER VALVE AND REMOTE CONTROL VALVE
NOT TO SCALE



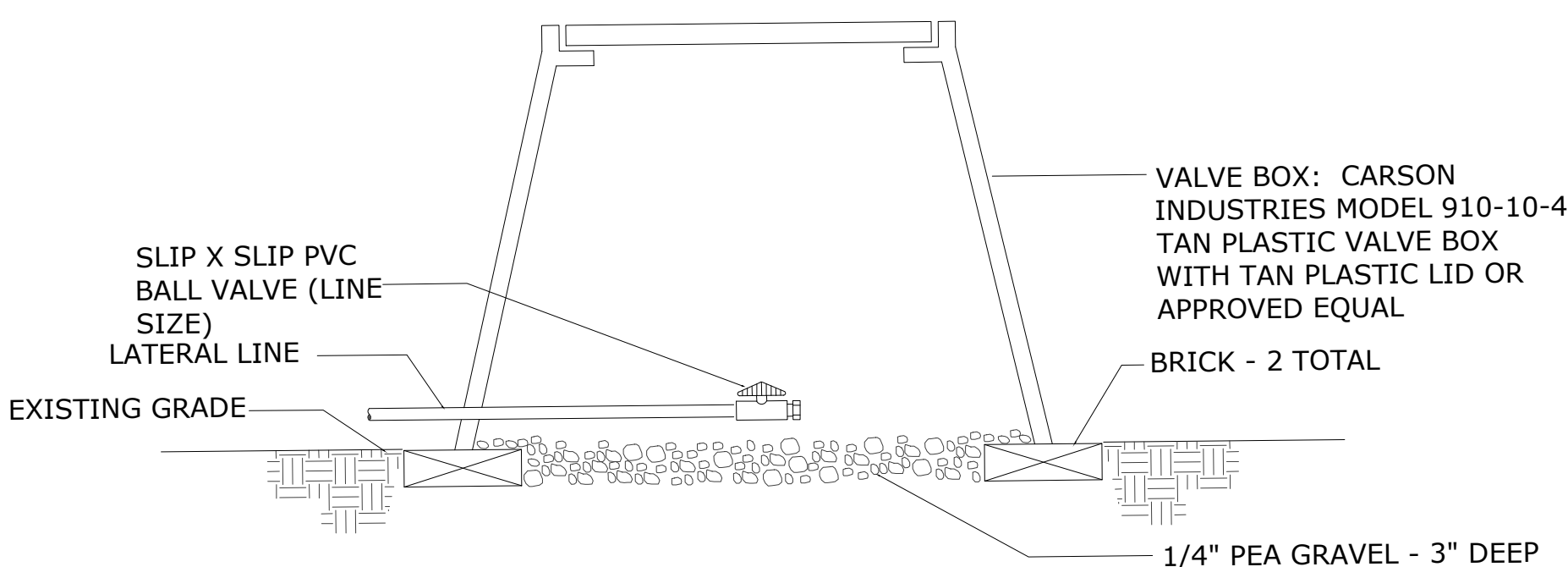
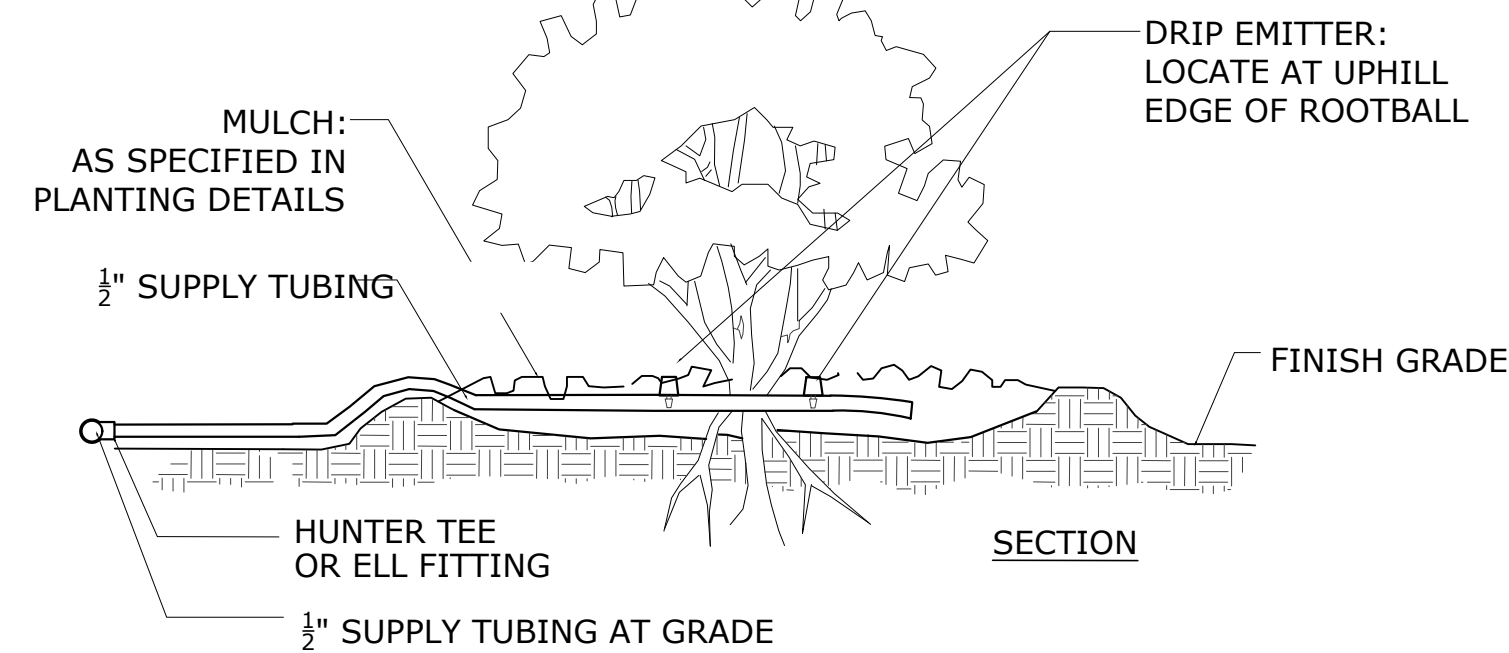
3 QUICK COUPLING VALVE
NOT TO SCALE



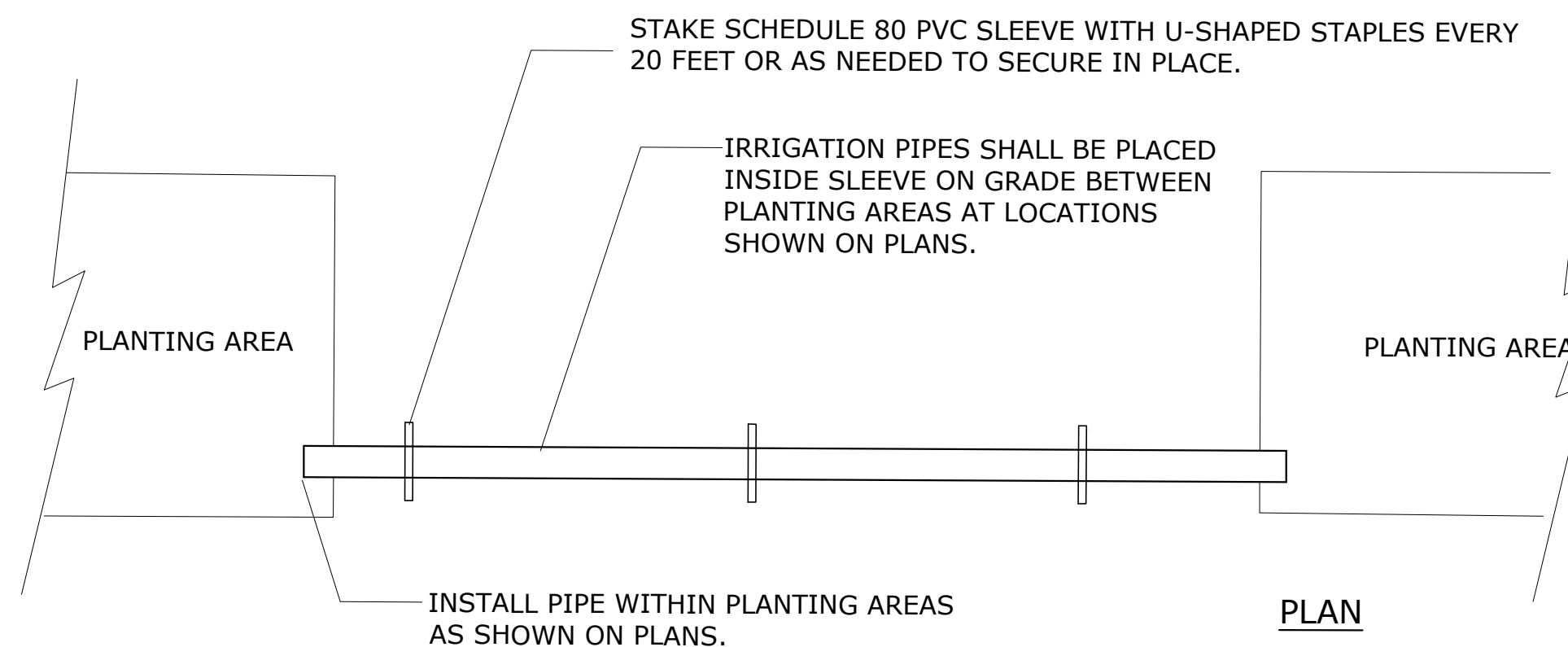
4 LATERAL LINE TO AT-GRADE SUPPLY TUBING CONNECTION
NOT TO SCALE



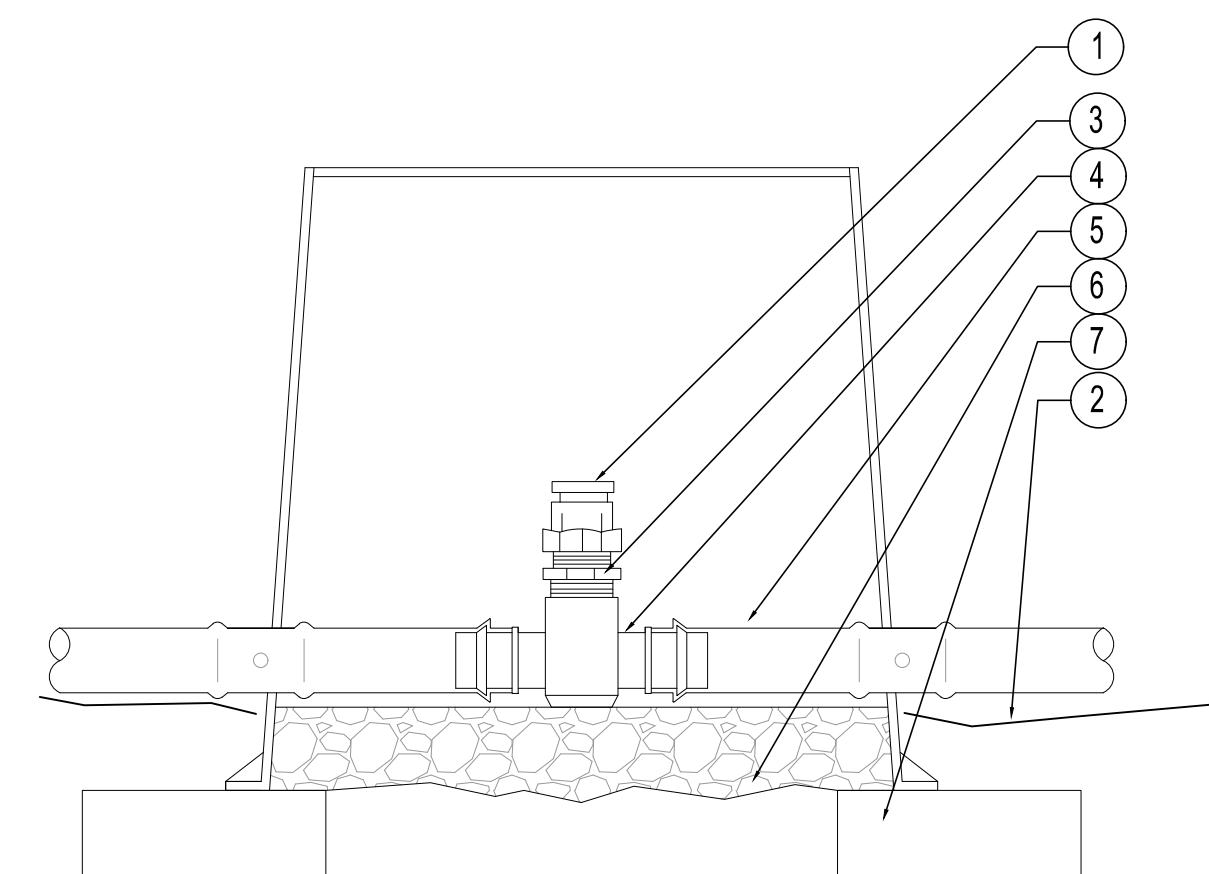
5 DRIP EMITTERS WITH SUPPLY TUBING
NOT TO SCALE



6 EMITTER LINE FLUSH ASSEMBLY
NOT TO SCALE



7 MAINLINE AND LATERAL LINE ABOVE GROUND SLEEVE
NOT TO SCALE



LEGEND:

- | | |
|-------------------------------|-------------------------|
| ① AIR RELIEF VALVE | ④ PLD-075-TBTEE FITTING |
| ② FINISHED GRADE | ⑤ SUPPLY LINE |
| ③ 3/4" MPT X 1/2" FPT BUSHING | ⑥ FILTER FABRIC |
| | ⑦ BRICK |

NOTES:
AIR RELIEF VALVE TO BE INSTALLED AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

8 AIR RELIEF VALVE
NOT TO SCALE

06/25/24 100% FINAL PLAN SET
Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DAG, BMM
CHECKED BY: ICM, AJS
ORIGINAL DRAWING SIZE: 22 X 34

IRRIGATION DETAILS

Sheet 14 of 14

L-3.2

Attachment A2

SMART NON-MOTORIZED PATHWAY - SEGMENTS 37 AND 38

FIDDLENECK DRAINAGE

RIPARIAN MITIGATION

CRANE CREEK REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

wra

Environmental Consultants

2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

SMART

NON- MOTORIZED

PATHWAY SEGMENTS

37 AND 38 -

FIDDLENECK

DRAINAGE

RIPARIAN MITIGATION

CRANE CREEK

REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

SHEET INDEX

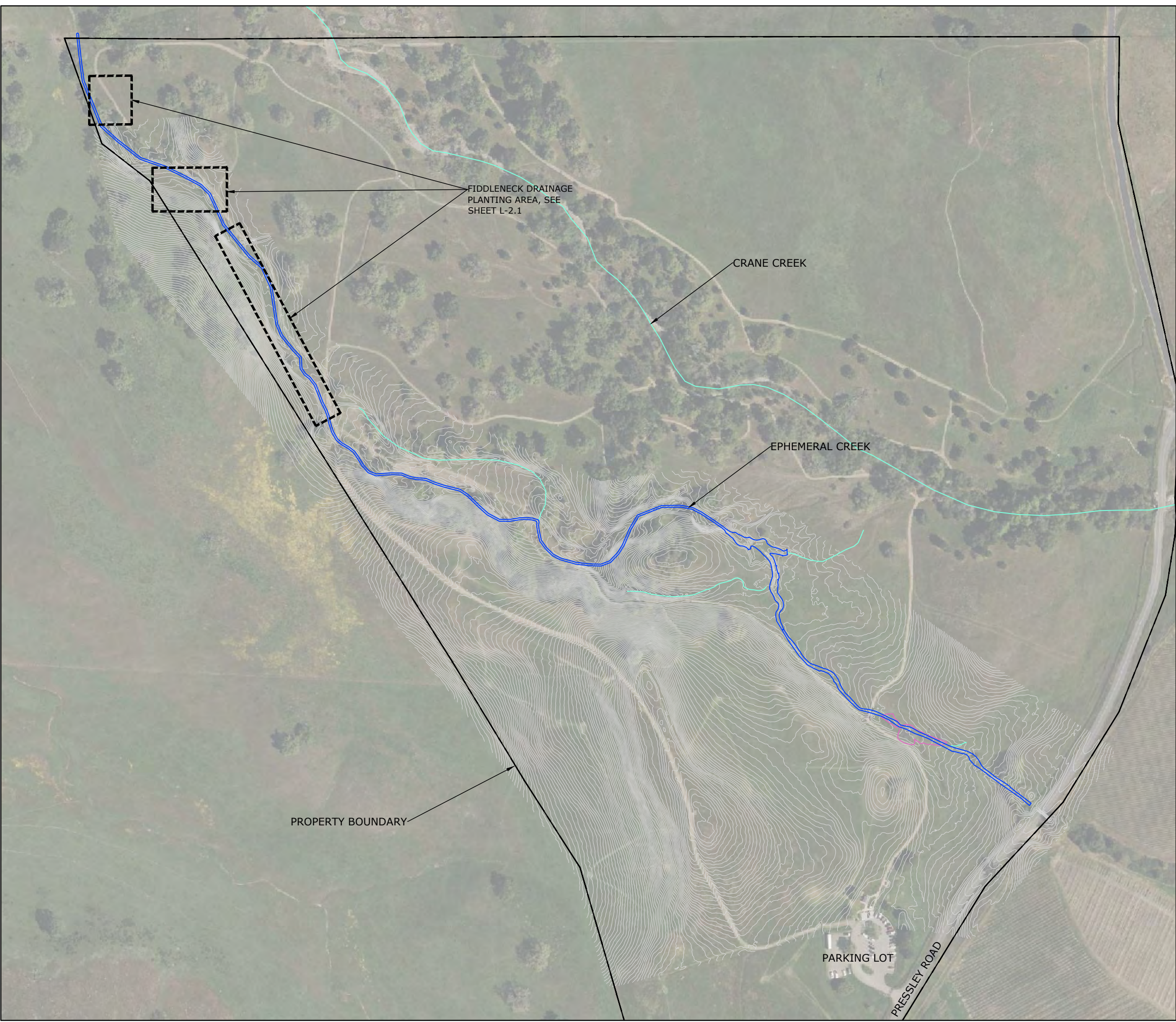
- L-1.0 COVER SHEET
- L-1.1 SITE PREPARATION AND ACCESS PLAN
- L-2.0 PLANTING DETAILS, AND TYPICAL LAYOUT
- L-2.1 PLANTING SCHEDULE AND NOTES
- L-2.2 PLANTING AND FENCING PLAN
- L-3.0 IRRIGATION NOTES AND DETAILS
- L-3.1 IRRIGATION PLANS
- L-3.2 IRRIGATION DETAILS

GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND OTHER INFRASTRUCTURE IN THE PROJECT AREA.
- 2. EXISTING TOPOGRAPHIC DATA FROM 2013 SONOMAVEG LIDAR.
- 3. HORIZONTAL DATUM: NAD83 CALIFORNIA STATE PLANES, ZONE II, US FOOT
- 4. VERTICAL DATUM: NAVD88, U.S. SURVEY FEET.



1 VICINITY MAP
NOT TO SCALE



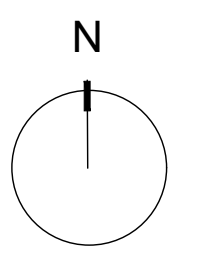
2 FIDDLENECK DRAINAGE SITE MAP
SCALE: 1"=250'

NOT FOR CONSTRUCTION

05/29/24	90% PSE	
Date	Issues And Revisions	No.

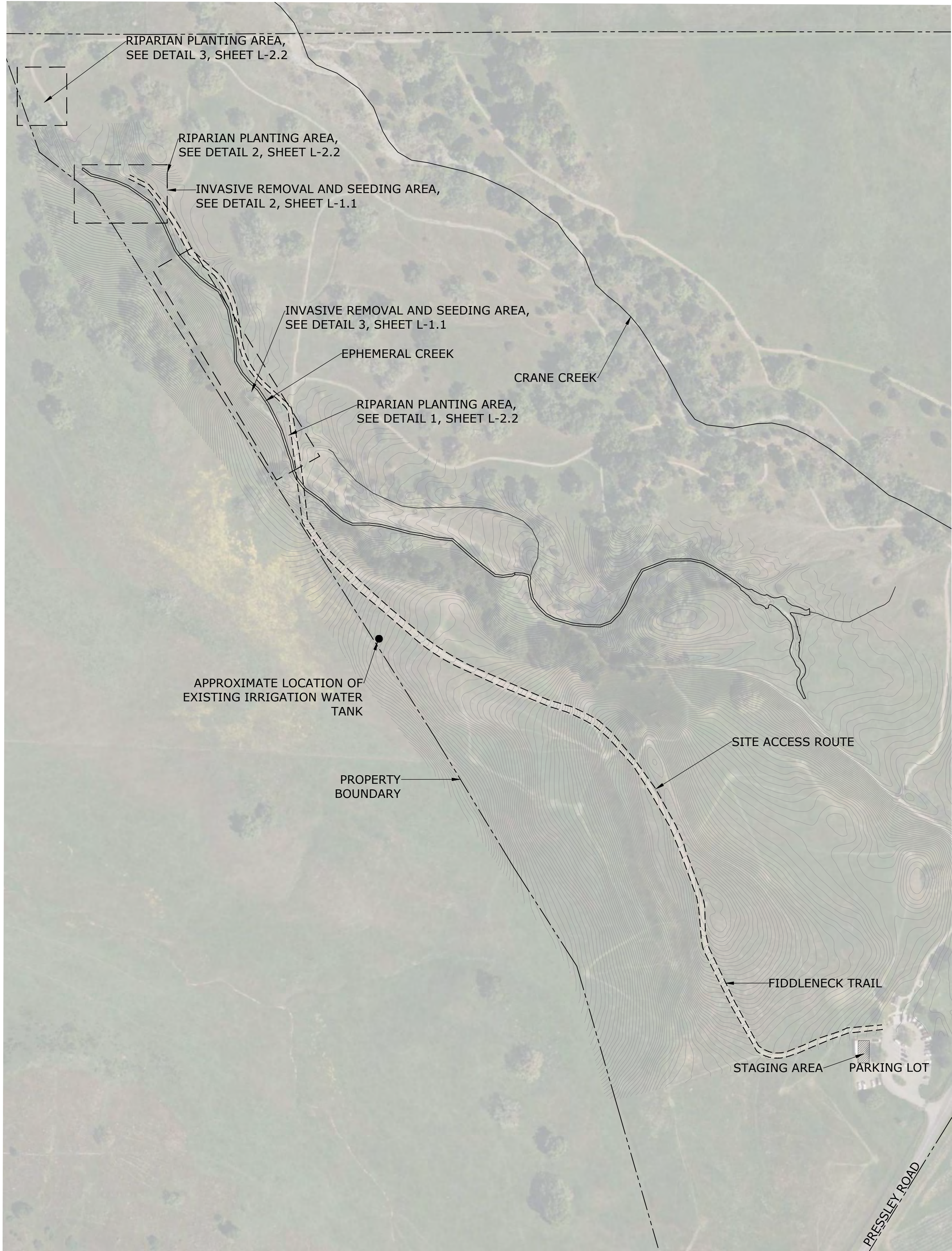
PROJECT #31368
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CHECKED BY: IM
ORIGINAL DRAWING SIZE: 22 X 34

SCALE: AS INDICATED

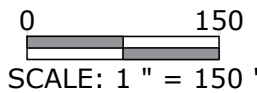


COVER SHEET
Sheet 1 of 9

L-1.0



1 FIDDLENECK DRAINAGE - SITE ACCESS PLAN
SCALE: 1"=150'

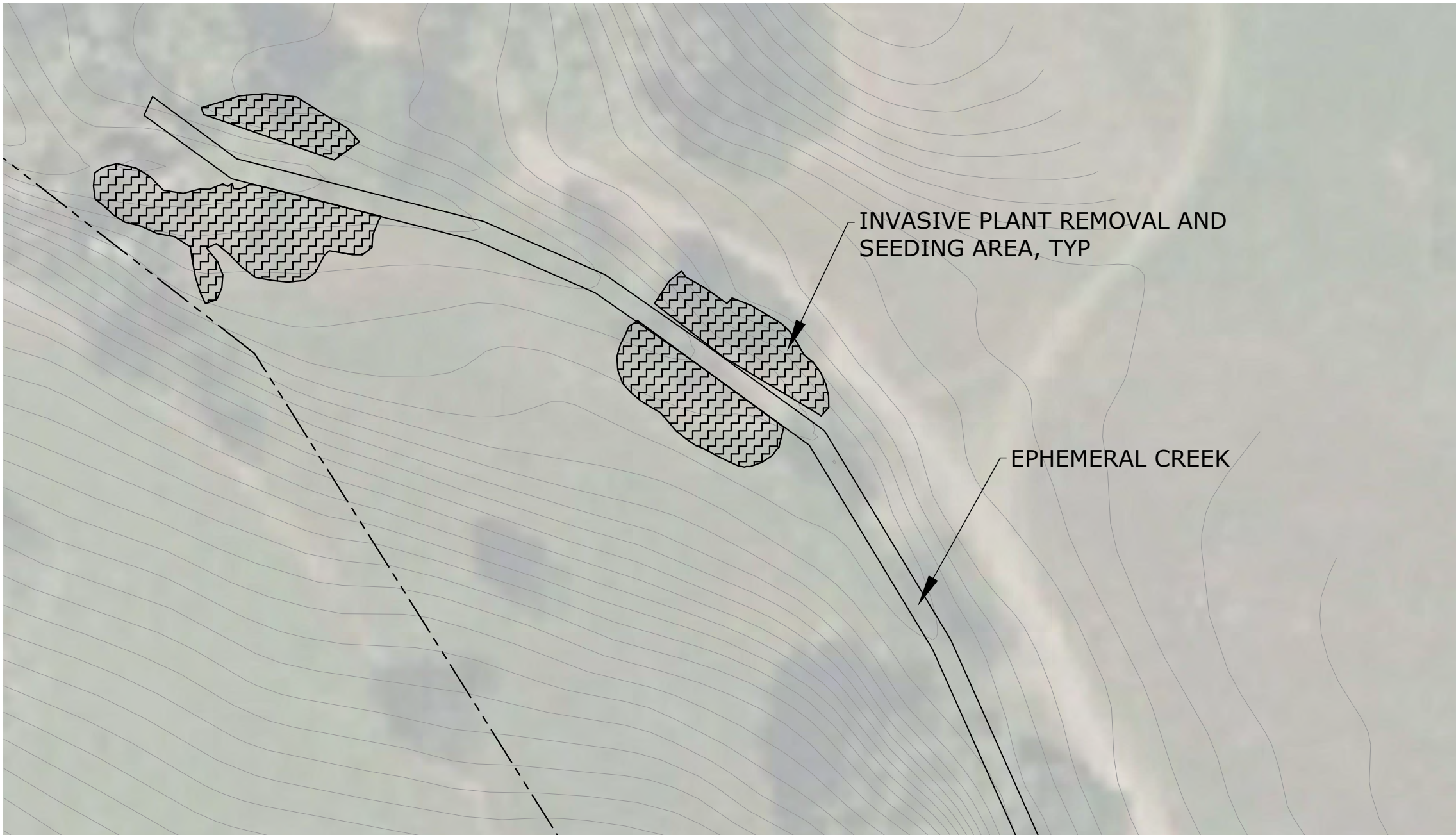


LEGEND

- EXISTING CONTOUR
- SITE ACCESS ROUTE
- INVASIVE PLANT REMOVAL AND SEEDING AREA (0.1 ACRE)

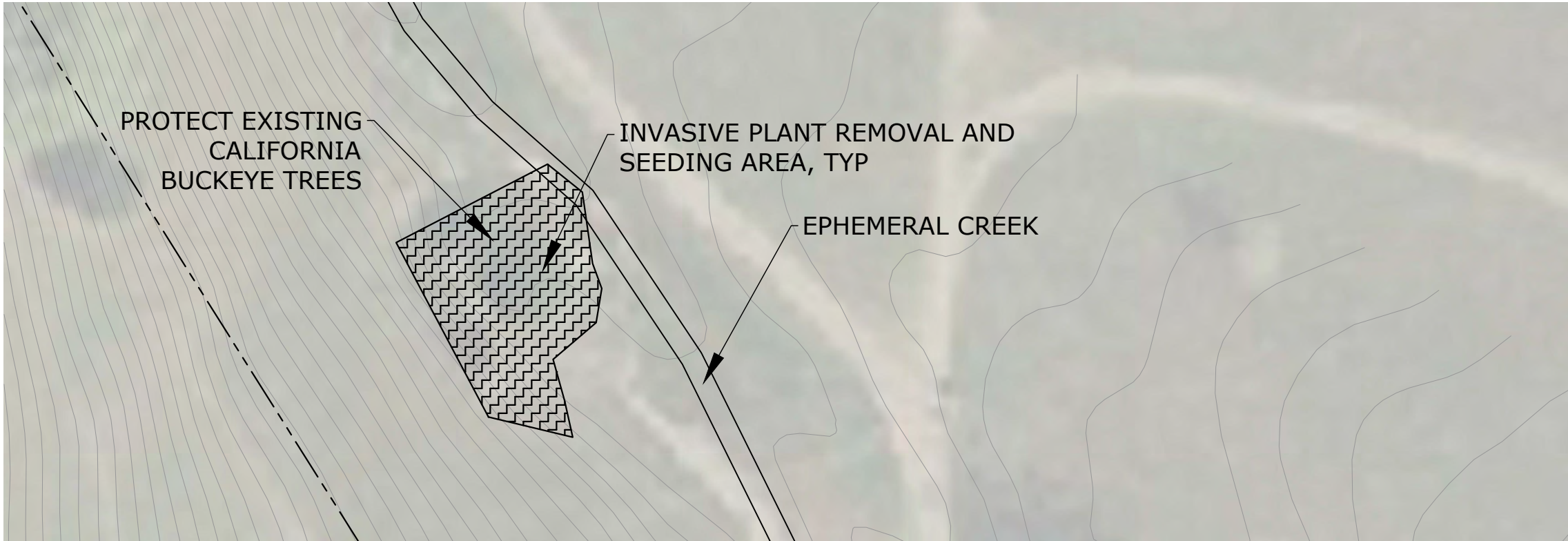
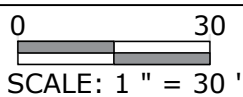
FIDDLENECK DRAINAGE SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL SENSITIVE HABITATS AS REQUIRED. ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED AROUND WORK AREAS AS NEEDED.
2. THE CONTRACTOR SHALL SUBMIT A SITE CLEARING PLAN PER THE SPECIFICATIONS FOR APPROVAL BY SMART'S PROJECT MANAGER PRIOR TO COMMENCING WORK.
3. THE CONTRACTOR SHALL LAY OUT CONSTRUCTION ENTRANCES/EXITS, HAUL ROUTES, STAGING AREAS, AND CONSTRUCTION FENCE FOR APPROVAL PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. INVASIVE NON-NATIVE HIMALAYAN BLACKBERRY SHALL BE REMOVED PRIOR TO IRRIGATION AND PLANT INSTALLATION.
 - 4.1. THE CONTRACTOR SHALL SUBMIT A NON-NATIVE PLANT REMOVAL PLAN, INCLUDING METHODS FOR HIMALAYAN BLACKBERRY REMOVAL, TO THE SMART'S PROJECT MANAGER FOR APPROVAL.
 - 4.2. HIMALAYAN BLACKBERRY REMOVAL SHALL BE DONE BY MECHANICAL METHODS SUCH AS CUTTING DURING INITIAL REMOVAL ACTIVITIES. FOLLOWING CUTTING, AN HERBICIDE MAY BE APPLIED TO THE CUT STEMS. THE MOST EFFECTIVE AND LEAST TOXIC HERBICIDE SHALL BE USED.
 - 4.3. HERBICIDE APPLICATION SHALL ADHERE TO THE SONOMA COUNTY REGIONAL PARKS INTEGRATED PEST MANAGEMENT PLAN AND APPLICABLE GUIDANCE FROM THE SONOMA COUNTY BOARD OF SUPERVISORS, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, AND THE REGIONAL WATER QUALITY CONTROL BOARD. THE INVASIVE PLANT REMOVAL PLAN SHALL INCLUDE THE RELEVANT GUIDELINES AND BEST MANAGEMENT PRACTICES FROM THESE ENTITIES.
 - 4.4. BIOMASS DEBRIS FROM THE INVASIVE NON-NATIVE PLANT REMOVAL ACTIVITIES SHALL BE REMOVED AND PROPERLY DISPOSED OF AT A GREEN WASTE FACILITY.
5. TEMPORARY CHAINLINK FENCES WITH GATES SHALL BE INSTALLED AROUND STAGING AREAS.
6. SEEDING SHALL BE MANUALLY BROADCASTED IN INVASIVE PLANT REMOVAL AREAS USING THE SEED MIX SPECIFIED ON PAGE L-2.1.



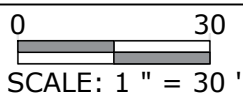
2 FIDDLENECK DRAINAGE - INVASIVE PLANT REMOVAL PLAN

SCALE: 1"=30'



3 FIDDLENECK DRAINAGE - INVASIVE PLANT REMOVAL PLAN

SCALE: 1"=30'



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**SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

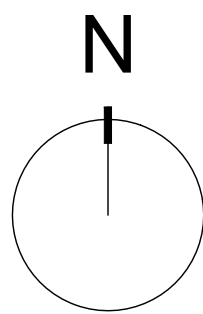
SONOMA COUNTY, CALIFORNIA

NOT FOR CONSTRUCTION

05/29/24 90% PSE

Date Issues And Revisions No.

PROJECT #31368
DRAWN BY: DG
CHECKED BY: IM
ORIGINAL DRAWING SIZE: 22 X 34



**SITE PREPARATION AND
ACCESS PLAN**

Sheet 2 of 9

L-1.1

**SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA

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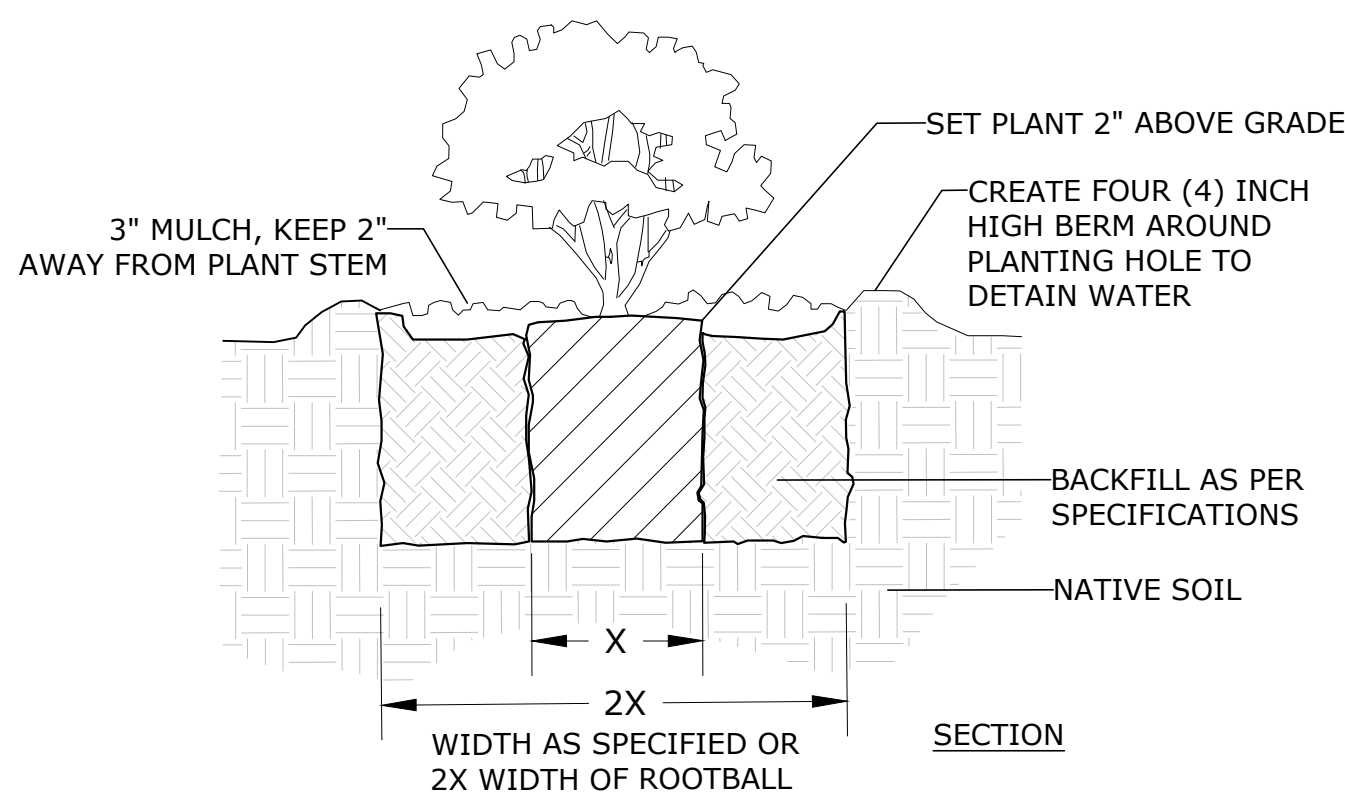
Date Issues And Revisions No.

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CHECKED BY: IM
ORIGINAL DRAWING SIZE: 22 X 34

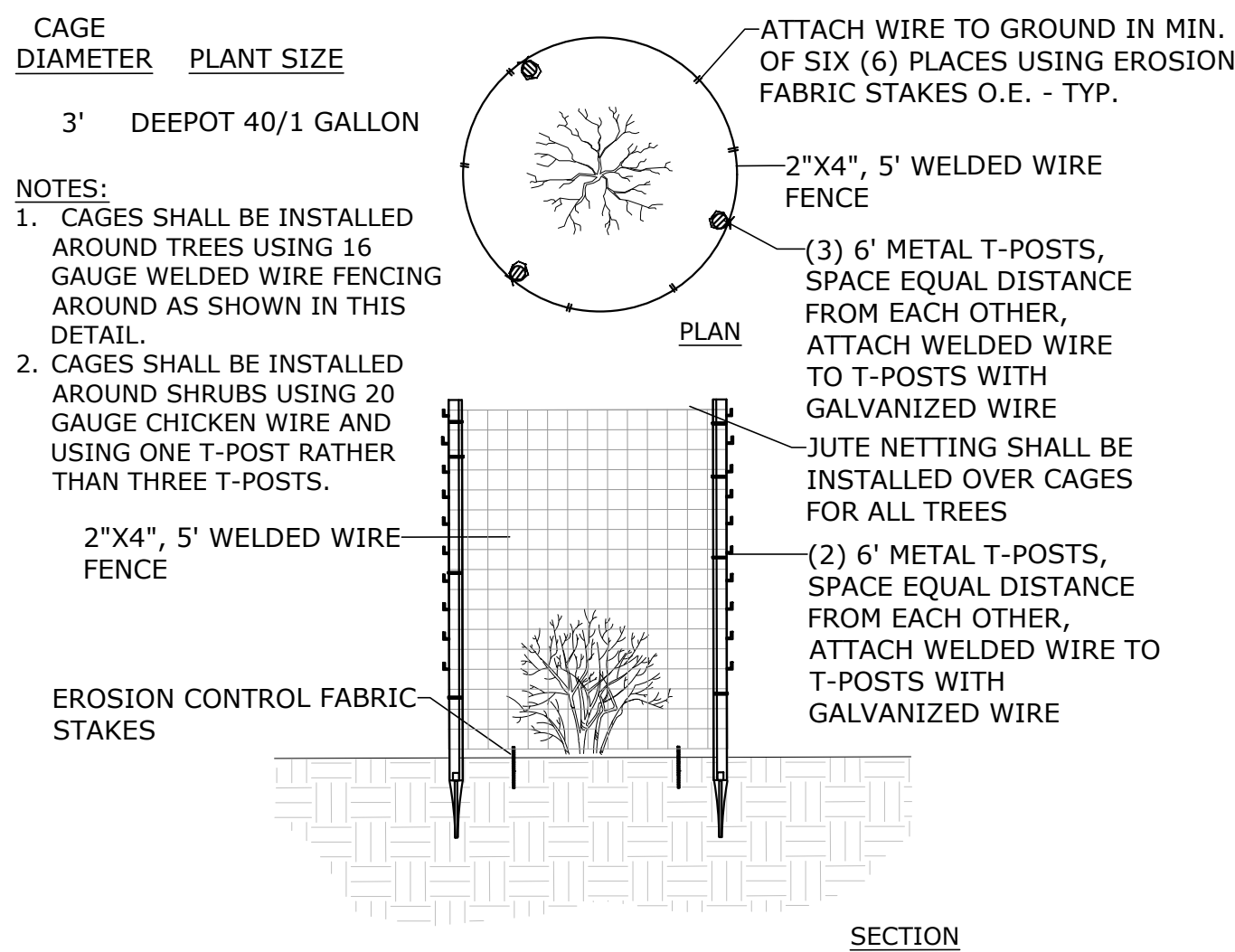
PLANTING NOTES,
DETAILS, AND TYPICAL
LAYOUT

Sheet 3 of 9

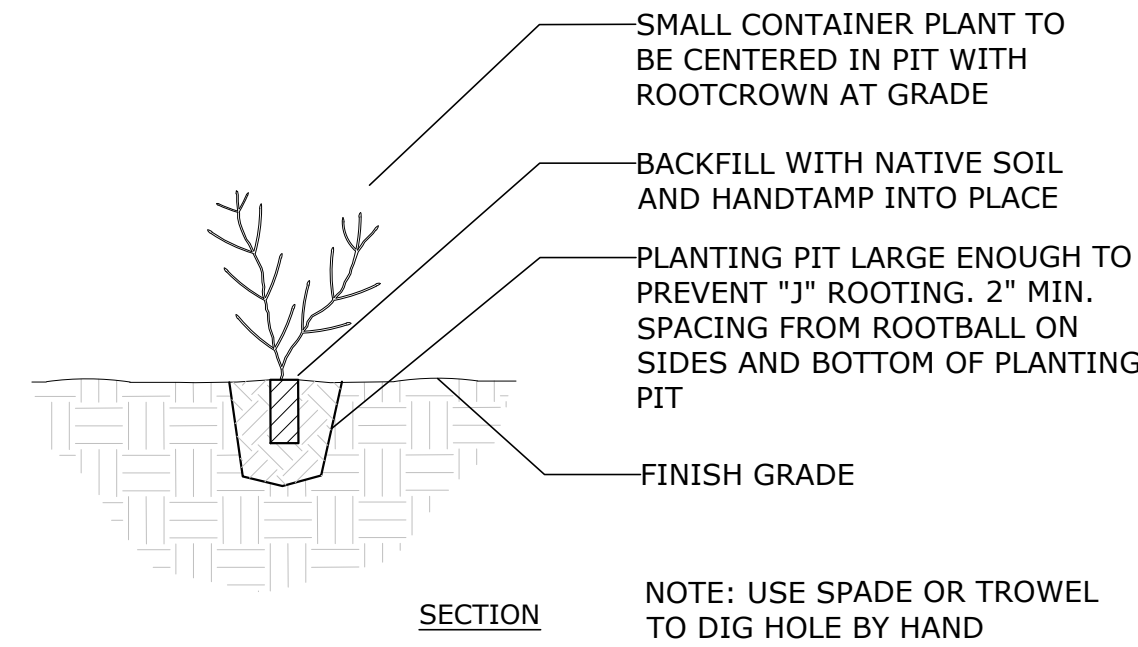
L-2.0



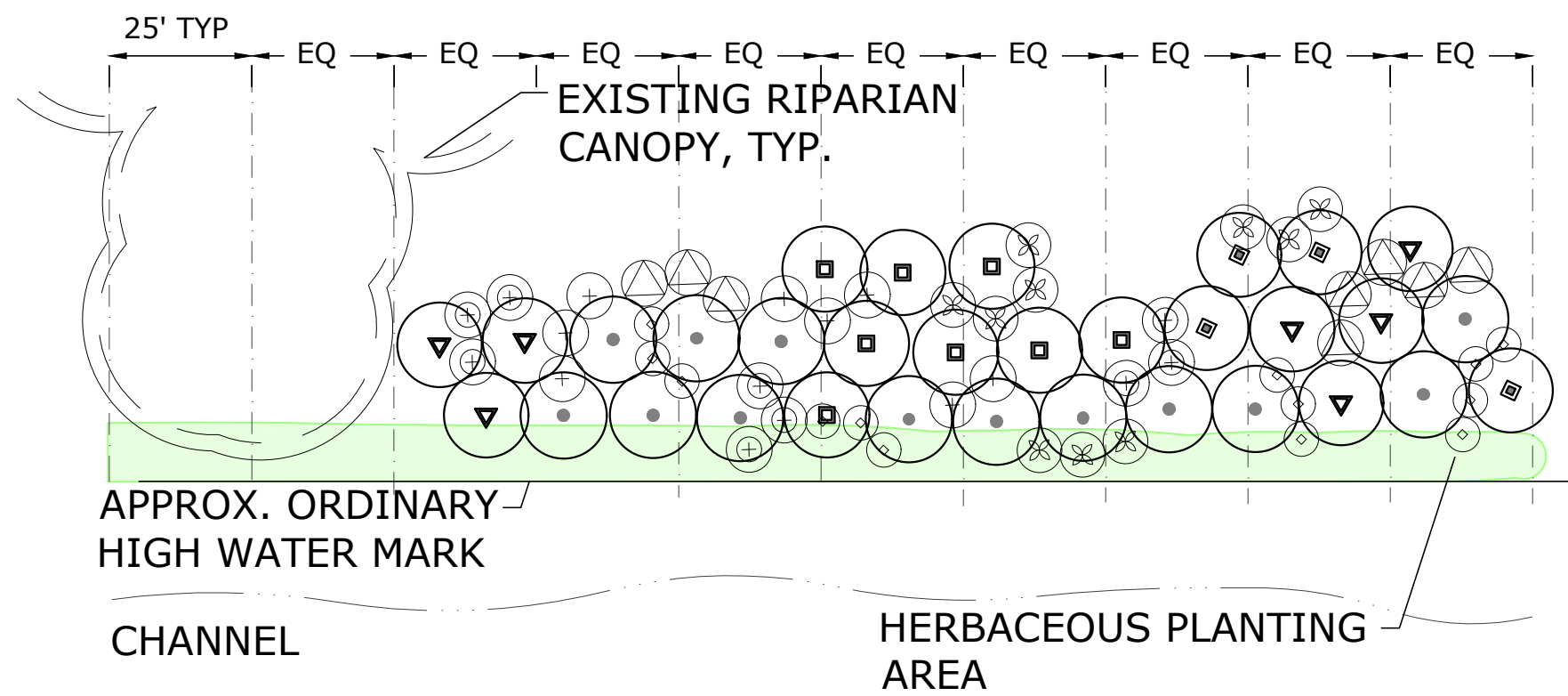
1 TREE & SHRUB PLANTING DETAIL
NOT TO SCALE



2 FOLIAGE PROTECTION CAGE
NOT TO SCALE



3 HERBACEOUS PLANTING DETAIL
NOT TO SCALE



4 FIDDLENECK DRAINAGE - TYPICAL PLANT LAYOUT
NOT TO SCALE

PLANT LEGEND

SCIENTIFIC NAME

COMMON NAME

	<i>AESCULUS CALIFORNICA</i>	CALIFORNIA BUCKEYE
	<i>QUERCUS AGRIFOLIA</i>	COAST LIVE OAK
	<i>QUERCUS KELLOGGII</i>	BLACK OAK
	<i>QUERCUS LOBATA</i>	VALLEY OAK
	<i>BACCHARIS PILULARIS</i>	COYOTE BRUSH
	<i>FRANGULA CALIFORNICA</i>	COFFEEBERRY
	<i>HETEROMELES ARBUTIFOLIA</i>	TOYON
	<i>ROSA CALIFORNICA</i>	CALIFORNIA ROSE
	<i>RUBUS URSINUS</i>	CALIFORNIA BLACKBERRY
	<i>ACHILLEA MILLEFOLIUM</i>	YARROW
	<i>ARTEMISIA DOUGLASIANA</i>	MUGWORT
	<i>CAREX BARBARAE</i>	VALLEY SEDGE
	<i>ELYMUS TRITICOIDES</i>	CREEPING WILD RYE
	<i>JUNCUS PATENS</i>	COMMON RUSH
	<i>SCROPHULARIA CALIFORNICA</i>	BEE PLANT
	<i>SYMPHYOTRICHUM CHILENSE</i>	PACIFIC ASTER

SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

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05/29/24 90% PSE

DateIssues And RevisionsNo.

PROJECT #31368
DRAWN BY: DG
CHECKED BY: IM
ORIGINAL DRAWING SIZE: 22 X 34

PLANTING SCHEDULE AND
NOTES

Sheet 4 of 9

L-2.1

SEEDING NOTES

1. SEED PROCUREMENT: SEED SHALL BE PROVIDED BY THE CONTRACTOR ON THE BASIS OF PURE LIVE SEED (PLS). THE SEED SEED TAGS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO APPLICATION.
2. SEEDING SCHEDULE: SEEDING SHALL OCCUR BETWEEN SEPTEMBER 15TH AND OCTOBER 15TH UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER.
3. SEEDING AREAS SHALL BE MARKED PRIOR TO SEED APPLICATION AND APPROVED BY SMART'S PROJECT MANAGER.
4. SOIL WILL BE PREPARED FOR SEED INSTALLATION BY HAND RAKING OR DISKING.
5. THE SEED MIXES SHALL BE MANUALLY BROADCASTED.
6. THE BROADCAST SEED MIX SHALL INCLUDE THE FOLLOWING COMPONENTS:

6.1. SEED

6.2. STRAW: STRAW SHALL BE 100% RICE STRAW.

6.3. SAND: SAND SHALL BE FINE (0.1 - 0.25 MILLIMETER DIAMETER), MEDIUM (0.25 - 0.5 MILLIMETER DIAMETER), OR COARSE (0.5 - 1.0 MILLIMETER DIAMETER) CLASS SAND, AS SPECIFIED. THE SAND SHALL CONTAIN NO GERMINATION, GROWTH-INHIBITING PROPERTIES, OR ELEMENTS OR COMPOUNDS AT CONCENTRATIONS THAT WILL BE PHYTOTOXIC.

6.4. THE CONTRACTOR SHALL PROVIDE SUBMITTALS OF THE COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL.
7. BROADCAST SEEDING SHALL OCCUR AS FOLLOWS:

7.1. RAKING OR TILLING: AREAS DESIGNATED BY SMART'S PROJECT MANAGER SHALL BE RAKED OR TILLED TO A MINIMUM DEPTH OF FOUR (4) INCHES.

7.2. INERT MATERIALS: AFTER RECEIVING APPROVAL FOR THE SEED, THE SEED SHALL BE THOROUGHLY AND COMPLETELY BLENDED WITH INERT MATERIAL. THE MIXING OF THE SEED MIX WITH INERT MATERIAL SHALL BE BY VOLUME AS SPECIFIED: ONE PART SEED MIX / THREE PARTS MEDIUM SAND.

7.3. THE SEED/INERT MATERIAL MIXTURE SHALL BE UNIFORMLY AND EVENLY BROADCAST OVER THE DESIGNATED AREAS. BROADCASTING MAY BE DONE BY HAND-HELD SPREADER, GRAVITY DROP SEEDER, CYCLONE SPREADER, OR ANOTHER TYPE OF EQUIPMENT OR METHOD, AS APPROVED BY SMART'S PROJECT MANAGER.

7.4. THE SEED SHALL BE INCORPORATED INTO THE SOIL TO A MINIMUM DEPTH OF ONE-QUARTER (1/4) INCH AND A MAXIMUM DEPTH OF ONE-HALF (½) INCH. THE INCORPORATION MAY OCCUR BY HAND-RAKING OR THE USE OF A CHAIN HARROW OR TINE HARROW, SUBJECT TO APPROVAL BY SMART'S PROJECT MANAGER.

7.5. STRAW: FOLLOWING SEEDING, RICE STRAW SHALL BE APPLIED TO ALL AREAS OF NATIVE SOIL THAT WERE SEEDED UNLESS OTHERWISE DIRECTED BY SMART'S PROJECT MANAGER. STRAW SHALL BE APPLIED AT A RATE OF 3,000 POUNDS PER ACRE.

PLANTING NOTES

1. PLANT PROCUREMENT: CONTRACTOR SHALL WORK WITH SMART'S PROJECT MANAGER TO PROCURE THE PLANTS FROM A NURSERY RECOMMENDED BY REGIONAL PARKS. THE PLANTS SHALL BE DELIVERED TO THE PROJECT SITE BY THE OWNER OR NURSERY AND APPROVED BY SMART'S PROJECT MANAGER AND CONTRACTOR.
2. PLANTING SCHEDULE: PLANTINGS SHALL BE INSTALLED IN FALL OR EARLY WINTER (OCTOBER 15TH - DECEMBER 31) TO ALLOW PLANTS TO ESTABLISH DURING THE WINTER RAINY SEASON, UNLESS OTHERWISE APPROVED BY SMART'S PROJECT MANAGER. THE IRRIGATION SYSTEM SHALL BE INSTALLED PRIOR TO PLANTING.
3. PLANTING LAYOUT FOR TREES, SHRUBS, AND HERBACEOUS PLANTINGS: THE CONTRACTOR SHALL USE PIN FLAGS OR OTHER IDENTIFIERS TO MARK THE LOCATION OF THE PLANTS AT THE PROJECT SITE FOR REVIEW BY SMART'S PROJECT MANAGER PRIOR TO THE INSTALLATION OF THE DRIP EMITTERS, TUBING AND PLANTINGS. PIN FLAGS SHALL HAVE A UNIQUE COLOR AND/OR IDENTIFYING MARK FOR EACH PLANT SPECIES.
4. PLANTING HOLES: PLANTING HOLES SHALL BE DUG ACCORDING TO THE DIMENSIONS SHOWN IN THE PLANTING DETAIL.
5. PLANT FERTILIZER: CONTRACTOR SHALL INSTALL '1-YEAR NUTRI-PAK TREES, SHRUBS & EVERGREENS' ONE-YEAR TIME RELEASE FERTILIZER PACKETS BY NUTRI-PAK OR EQUIVALENT SLOW RELEASE FERTILIZER AS APPROVED BY SMART'S PROJECT MANAGER. THE FERTILIZER SHALL HAVE THE FOLLOWING RATIO OF NITROGEN, PHOSPHOROUS, AND POTASSIUM: 16-8-8. THE FERTILIZER SPECIFICATIONS SHALL BE SUBMITTED TO SMART'S PROJECT MANAGER FOR APPROVAL. INSTALL ONE FERTILIZER PACK AT THE BOTTOM OF THE PLANTING HOLE PRIOR TO PLANTING THE TREE/SHRUBS.
6. MULCH: THE CONTRACTOR SHALL INSTALL A 3-INCH LAYER OF WOOD BARK MULCH AROUND ALL TREES AND SHRUBS AS SHOWN ON THE PLANTING DETAILS. MULCH SHALL BE ORGANIC AND WEED-FREE WITH A ONE-HALF INCH MINIMUM AND A THREE INCH MAXIMUM PARTICLE SIZE. CONTRACTOR SHALL PROVIDE A SUBMITTAL OF THE MULCH TO SMART'S PROJECT MANAGER FOR APPROVAL.
7. FOLIAGE PROTECTION CAGES: THE CONTRACTOR SHALL INSTALL FOLIAGE PROTECTION CAGES FOLLOWING THE COMPLETION OF PLANT INSTALLATION AROUND THE PLANTS IDENTIFIED IN THE PLANT LEGEND AND IN ACCORDANCE WITH THE DETAIL ON SHEET L-2.0
8. WATERING: NEWLY PLANTED TREES AND SHRUBS SHALL BE WATERED REGULARLY TO PREVENT PLANT MATERIAL FROM WILTING. PLANTINGS SHALL BE INSTALLED AFTER THE AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED AND TESTED. IN THE CASE THAT THIS IS NOT POSSIBLE, PLANTINGS SHALL BE MANUALLY WATERED FROM THE TIME THAT THEY ARE PLANTED UNTIL THE TIME THAT THE AUTOMATIC IRRIGATION SYSTEM IS IN OPERATION.
9. WARRANTY: THE CONTRACTOR SHALL GUARANTEE THE SURVIVAL OF ALL OF THE PLANTS FOR THE DURATION OF THE ONE-YEAR MAINTENANCE PERIOD. THE MAINTENANCE PERIOD SHALL BE 1 YEAR AFTER COMPLETION OF THE PLANTING AND APPROVAL OF THE INSTALLATION BY SMART'S PROJECT MANAGER. AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL REPLACE, AT NO ADDITIONAL COST TO THE OWNER, PLANT MATERIAL THAT IS DETERMINED TO BE EITHER DEAD OR IN POOR HEALTH.

FENCING NOTES

1. A TEMPORARY ELECTRIC FENCE SHALL BE INSTALLED BY OTHERS AROUND THE PLANTING AREAS TO EXCLUDE CATTLE IN COORDINATION WITH REGIONAL PARKS. THE TEMPORARY ELECTRIC FENCE SHALL BE AT MINIMUM 3 FEET AWAY FROM EXISTING TRAILS.

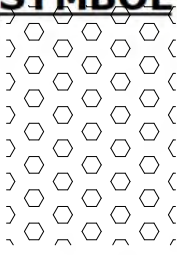
FIDDLENECK DRAINAGE - PLANTING SCHEDULE

RIPARIAN PLANTING AREA (0.54 ACRE)

RIPARIAN TREES

SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	15	DEEPOT 40
	QUERCUS AGRIFOLIA	COAST LIVE OAK	15	DEEPOT 40
	QUERCUS KELLOGGII	BLACK OAK	15	DEEPOT 40
	QUERCUS LOBATA	VALLEY OAK	15	DEEPOT 40

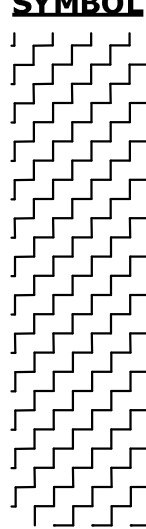
RIPARIAN SHRUBS

SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE
	BACCHARIS PILULARIS	COYOTE BRUSH	8	DEEPOT 40
	FRANGULA CALIFORNICA	COFFEEBERRY	8	DEEPOT 40
	HETEROMELES ARBUTIFOLIA	TOYON	8	DEEPOT 40
	ROSA CALIFORNICA	CALIFORNIA ROSE	8	DEEPOT 40
	RUBUS URSINUS	CALIFORNIA BLACKBERRY	6	DEEPOT 40

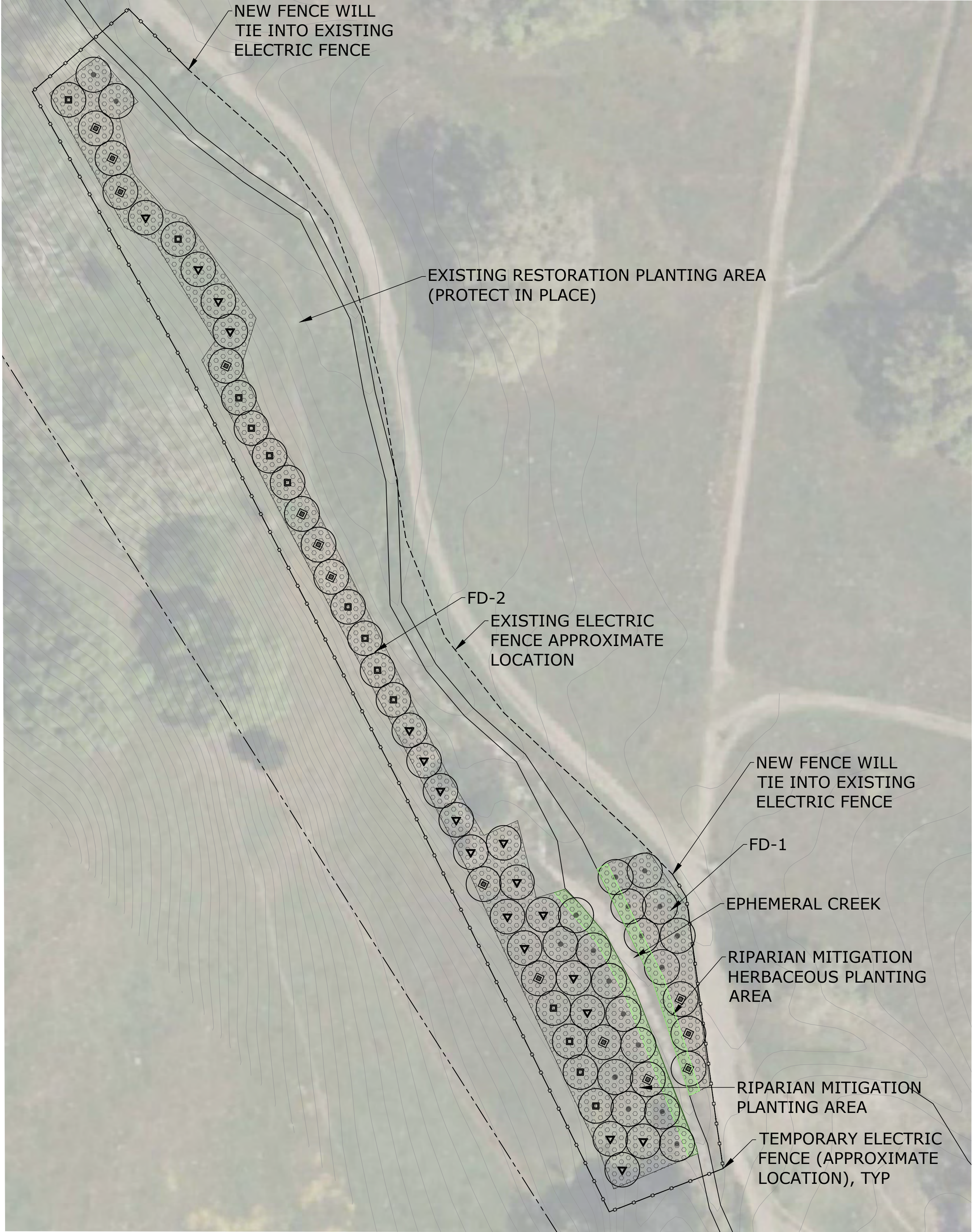
HERBS, FORBS, AND GRASSES

SYMBOL	SCIENTIFIC NAME	COMMON NAME	ON-CENTER SPACING(FT)	CONTAINER SIZE
	ACHILLEA MILLEFOLIUM	YARROW	3	DEEPOT 16
	ARTEMISIA DOUGLASIANA	MUGWORT	4	DEEPOT 16
	CAREX BARBARAE	VALLEY SEDGE	2	DEEPOT 16
	ELYMUS TRITICOIDES	CREEPING WILD RYE	2	DEEPOT 16
	JUNCUS PATENS	COMMON RUSH	2	DEEPOT 16
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	DEEPOT 16
	SYMPHYOTRICHUM CHILENSE	PACIFIC ASTER	3	DEEPOT 16

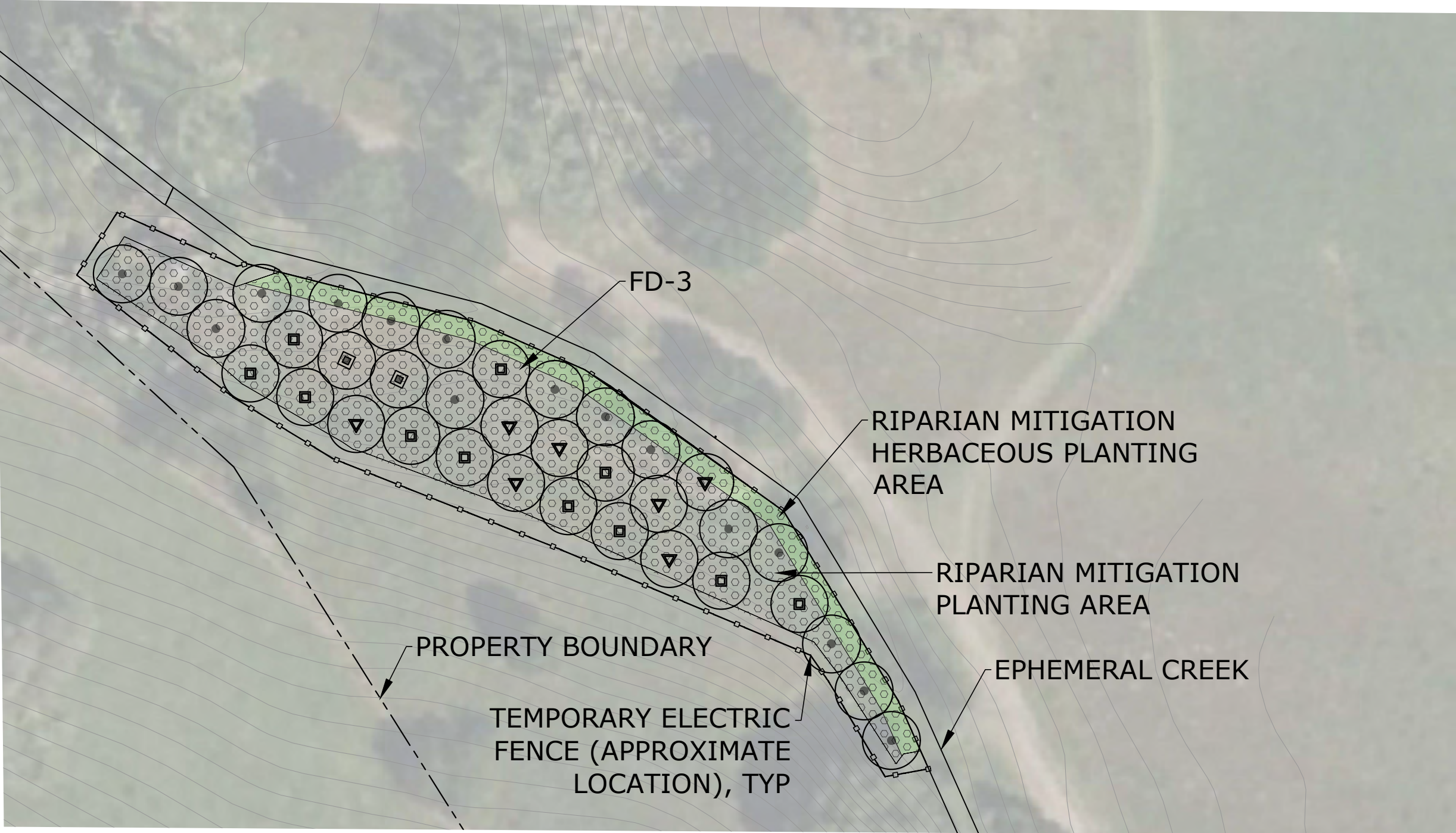
RIPARIAN SEED MIX (0.1 ACRE)

SYMBOL	SCIENTIFIC NAME	COMMON NAME	PURE LIVE SEED LBS/ ACRE	ESTIMATED LBS. PURE LIVE SEED
	ACHILLEA MILLEFOLIUM	YARROW	0.5	0.05
	ASCLEPIAS FASCICULARIS	NARROWLEAF MILKWEED	0.5	0.05
	BROMUS CARINATUS	CALIFORNIA BROME	8	0.79
	ELYMUS GLAUCUS	BLUE WILDRYE	8	0.79
	ESCHSCHLOZIA CALIFORNICA	CALIFORNIA POPPY	2	0.20
	FESTUCA MICROSTACHYS	SMALL FESCUE	8	0.79
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	8	0.79
	LUPINUS BICOLOR	BICOLORED LUPINE	4	0.40
	SCROPHULARIA CALIFORNICA	BEE PLANT	2	0.20
	STIPA PULCHRA	PURPLE NEEDLEGRASS	5	0.50
	TOTAL		46	4.57

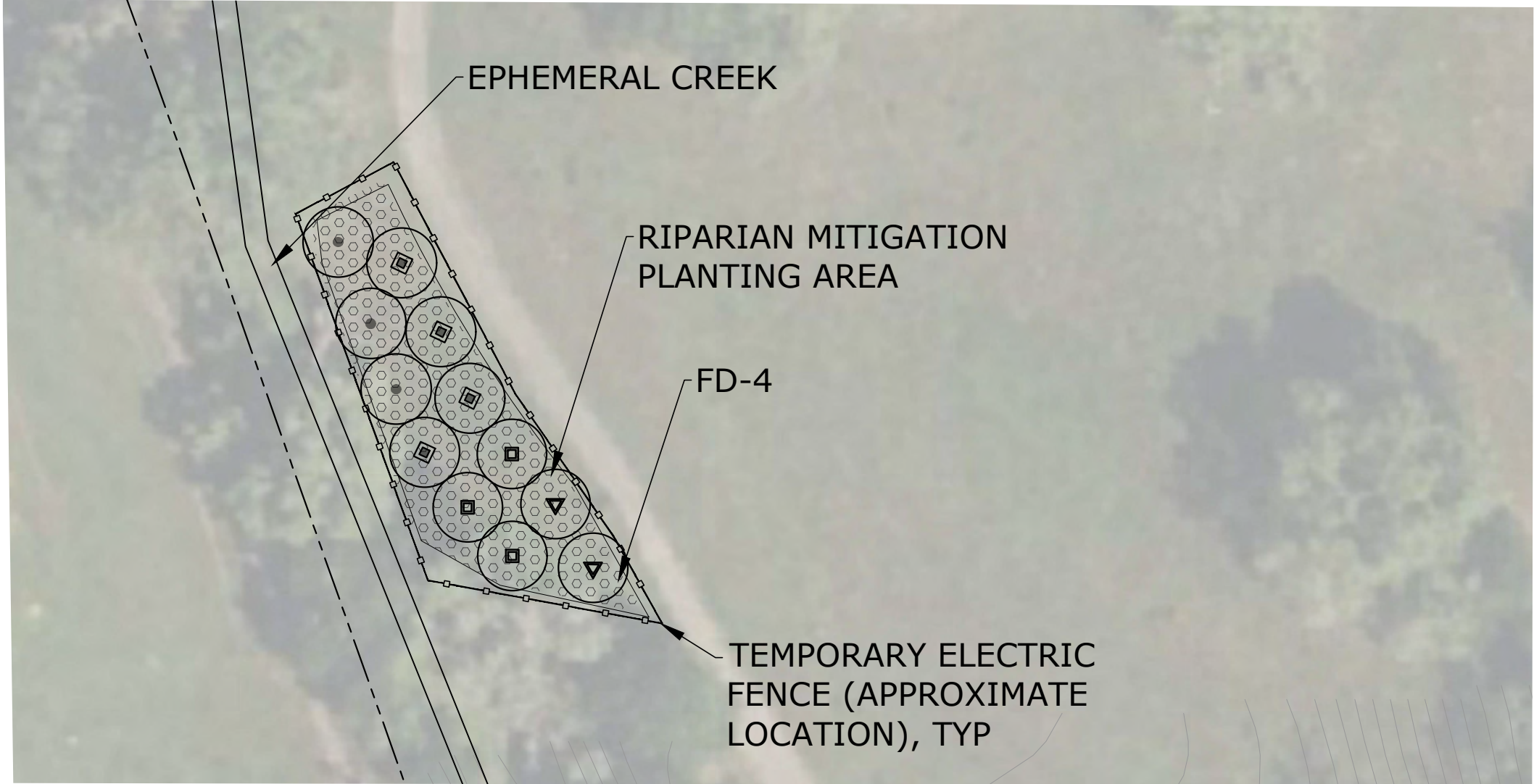
QUANTITY ESTIMATES FOR FIDDLENECK DRAINAGE PLANTING AREAS																						
SYMBOL	SIZE	SIZE	TREES					SHRUBS					HERBACEOUS								PLANT	
	ACRE	SQ. FT.	AES CAL	QUE AGR	QUE KEL	QUE LOB	TOTAL	BAC PIL	FRA CAL	HET ARB	ROS CAL	RUB URS	TOTAL	ACH MIL	ART DOU	CAR BAR	ELY TRI	JUN PAT	SCR CAL	SYM CHI		TOTAL
FD-1	0.05	2,071	7	0	0	3	10	2	2	2	2	3	11	2	2	5	5	5	5	2	26	47
FD-2	0.28	12,077	12	14	19	11	56	11	11	13	13	20	68	3	3	6	6	6	6	3	33	157
FD-3	0.16	6,999	16	11	7	2	36	7	7	8	8	12	42	5	5	11	11	11	11	5	59	137
FD-4	0.06	2,537	3	3	2	4	12	2	2	3	3	4	14	0	0	0	0	0	0	0	0	26
TOTAL	0.54	23,684	38	28	28	20	114	22	22	26	26	39	135	10	10	22	22	22	22	10	118	367



1 PLANTING AND FENCING PLAN - UPPER FIDDLENECK DRAINAGE
SCALE: 1"=30'



2 PLANTING AND FENCING PLAN - MIDDLE FIDDLENECK DRAINAGE
SCALE: 1"=30'



3 PLANTING AND FENCING PLAN - LOWER FIDDLENECK DRAINAGE
SCALE: 1"=30'

LEGEND

EXISTING CONTOUR

CREEK ALIGNMENT

TEMPORARY ELECTRIC FENCE (BY OTHERS)

EXISTING ELECTRIC FENCE

PLANTING AREA (0.54 ACRE)

HERBACEOUS RIPARIAN PLANTING AREA

wra

Environmental Consultants

2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION

CRANE CREEK
REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

NOT FOR CONSTRUCTION

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SCALE: 1 " = 30 '

N

PLANTING AND FENCING
PLAN

Sheet 5 of 9

L-2.2

IRRIGATION LEGEND

SYMBOL	NAME
	EXISTING 5,000 GAL. POLY TANK
	MASTER VALVE: HUNTER ICV-201G-FS-DC; HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX
	GATE VALVE. NIBCO T-113 GATE VALVE, SIZE THE SAME SIZE AS THE LARGEST PIPE CONNECTED TO GATE VALVE, INSTALL IN VALVE BOX.
	REMOTE CONTROL VALVE. HUNTER "DRIP KIT" ICZ-101-25-LF; OPERATING PRESSURE: UP TO 120 PSI HUNTER NODE-BT-100 BATTERY-OPERATED CONTROLLER OR APPROVED EQUAL, INSTALL IN VALVE BOX.
	AIR VACUUM RELIEF VALVE (AVRV). HUNTER AVR-075 AIR/VACUUM RELIEF VALVE OR APPROVED EQUAL. INSTALL IN SAME BOX WITH REMOTE CONTROL VALVE.
	QUICK COUPLING VALVE. HUNTER HQ44-LRC, 1" INLET, 2-PIECE BODY, 2 SLOTS QUICK COUPLING VALVE WITH LOCKING COVER, ACME KEY OR APPROVED EQUAL. OPERATING PRESSURE: UP TO 150 PSI
	EMITTER FLUSH VALVE ASSEMBLY
	PRESSURE REDUCING VALVE AND PRESSURE GAUGE. WILKINS MODEL 600-L-SC OR APPROVED EQUAL. SIZED TO FIT
	EXISTING MAINLINE PIPE - ABOVEGROUND IPS, 1 1/4"
	MAINLINE PIPE - ABOVEGROUND: HDPE 4710 SDR 9 PIPE OR APPROVED EQUAL, 1 1/4"
	MAINLINE PIPE - TRENCHED: HDPE 4710 SDR 9 PIPE, 1 1/4"
	IRRIGATION SLEEVE: PVC SCHEDULE 80 PIPE, SIZED TO FIT
	LATERAL LINE PIPE: SALCO NON-RIGID PVC, PVC TYPE IPS, OR APPROVED EQUAL. SIZED TO FIT
	CONTROLLER STATION # APPROXIMATE FLOW (GPM) REMOTE CONTROL VALVE SIZE

SUPPLY TUBING AND DRIP EMITTER LEGEND

LOCATION DESCRIPTION	MODEL NUMBER	MODEL DESCRIPTION
ALL DRIP IRRIGATION AREAS	TWPE-700 - 1K	HUNTER 1/2" POLYETHYLENE SUPPLY TUBING
DEEPOT 40 TREE OR SHRUB	HE-050-B	TWO (2) 0.5 GPH HUNTER SINGLE OUTLET POINT SOURCE EMITTERS WITH SELF-PIERCING BARB, BLUE

IRRIGATION NOTES

GENERAL

1. THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR IS REQUIRED TO INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE CONTRACT WORK, INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES WHICH MAY NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IN THE EVENT OF FIELD DIFFERENCES, THE CONTRACTOR IS REQUIRED TO PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF SMART'S PROJECT MANAGER. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH, OVER, OR UNDER WALLS, ROADWAYS, DECOMPOSED GRANITE SHOULDERS, PAVING, STRUCTURE, ETC., BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL REQUIRED REVISIONS.

2. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL IRRIGATION COMPONENTS TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION.

3. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.

WATER TANK

4. AN EXISTING 5,000 GALLON WATER TANK ON SITE SHALL BE USED AND RELOCATED AS SHOWN ON THE DRAWINGS.

5. THE BASE OF THE TANK SHALL CONSIST OF 4 TO 6 INCHES OF PEA GRAVEL IN A 14 GAUGE STEEL RETAINING RING.

6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE TANK WITH SMART'S PROJECT MANAGER PRIOR TO INSTALLATION.

FLOW AND PRESSURE REQUIREMENTS

7. THE CONTRACTOR SHALL VERIFY THAT ALL IRRIGATION COMPONENTS OPERATE AT THE OPERATION PRESSURE STATED IN THE MANUFACTURER'S SPECIFICATIONS. REPORT ANY DISCREPANCIES TO SMART'S PROJECT MANAGER.

PIPE AND VALVE INSTALLATION

8. THE ABOVEGROUND MAINLINE SHALL SIT ON TOP OF EXISTING GRADE. INSTALL U-SHAPED STAPLES AT 20-FT. INTERVALS OR AS NEEDED TO SECURE MAINLINE IN PLACE.

9. THE TRENCHED MAINLINE SHALL BE INSTALLED AS SHOWN NEAR THE WATER TANK AND UNDER TRAILS AND PATHWAYS. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE TRENCHED TO ABOVEGROUND MAINLINE TRANSITION FOR APPROVAL BY SMART'S PROJECT MANAGER.

10. THE CONTRACTOR SHALL ROUTE THE MAINLINE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL FLAG THE MAINLINE AND VALVE LOCATIONS FOR SMART'S PROJECT MANAGER'S REVIEW AND APPROVAL PRIOR TO GROUND DISTURBANCE.

11. THE CONTRACTOR SHALL REUSE THE EXISTING MAINLINE TO THE EXTENT POSSIBLE.

12. LATERAL LINES AND DRIP SUPPLY TUBING SHALL BE AT GRADE, EXCEPT AT PATHS, CHANNELS, OR ROAD CROSSINGS. THE CONTRACTOR SHALL SLEEVE ALL LATERALS AND MAINLINES PASSING UNDERNEATH PAVEMENT, ROADS, TRAILS, OR OVER DRAINAGE CHANNELS.

13. THE CONTRACTOR SHALL AVOID INSTALLING TRENCHES OR PERFORMING GROUND DISTURBING ACTIVITIES UNDER THE DRIPLINE OF TREES UNLESS APPROVED BY SMART'S PROJECT MANAGER.

14. THE CONTRACTOR SHALL PERFORM A PRESSURE TEST OF THE MAINLINES AT 125 PSI AND THE LATERAL LINES AT 100 PSI FOR FOUR HOURS FOR APPROVAL BY SMART'S PROJECT MANAGER.

15. QUICK COUPLERS SHALL BE INSTALLED TO ALLOW FOR HAND WATERING OF HERBACEOUS PLANTINGS WITHIN THE CHANNEL.

16. THE CONTRACTOR SHALL OPTIMIZE THE VALVE BOX LAYOUT TO MINIMIZE THE TOTAL NUMBER OF VALVE BOXES REQUIRED.

17. THE CONTRACTOR SHALL LOCK ALL VALVE BOXES UNLESS OTHERWISE SPECIFIED IN WRITING BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL TURN OVER 3 SETS OF KEYS TO THE VALVE BOXES TO SMART'S PROJECT MANAGER.

OPERATION, MAINTENANCE, AND REPORTING

18. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROGRAM THE IRRIGATION CONTROLLERS TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES MAKING ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE, AND WIND EXPOSURES.

19. THE CONTRACTOR SHALL SEND THE IRRIGATION SCHEDULE BY VALVE TO SMART'S PROJECT MANAGER FOR APPROVAL PRIOR TO OPERATION.

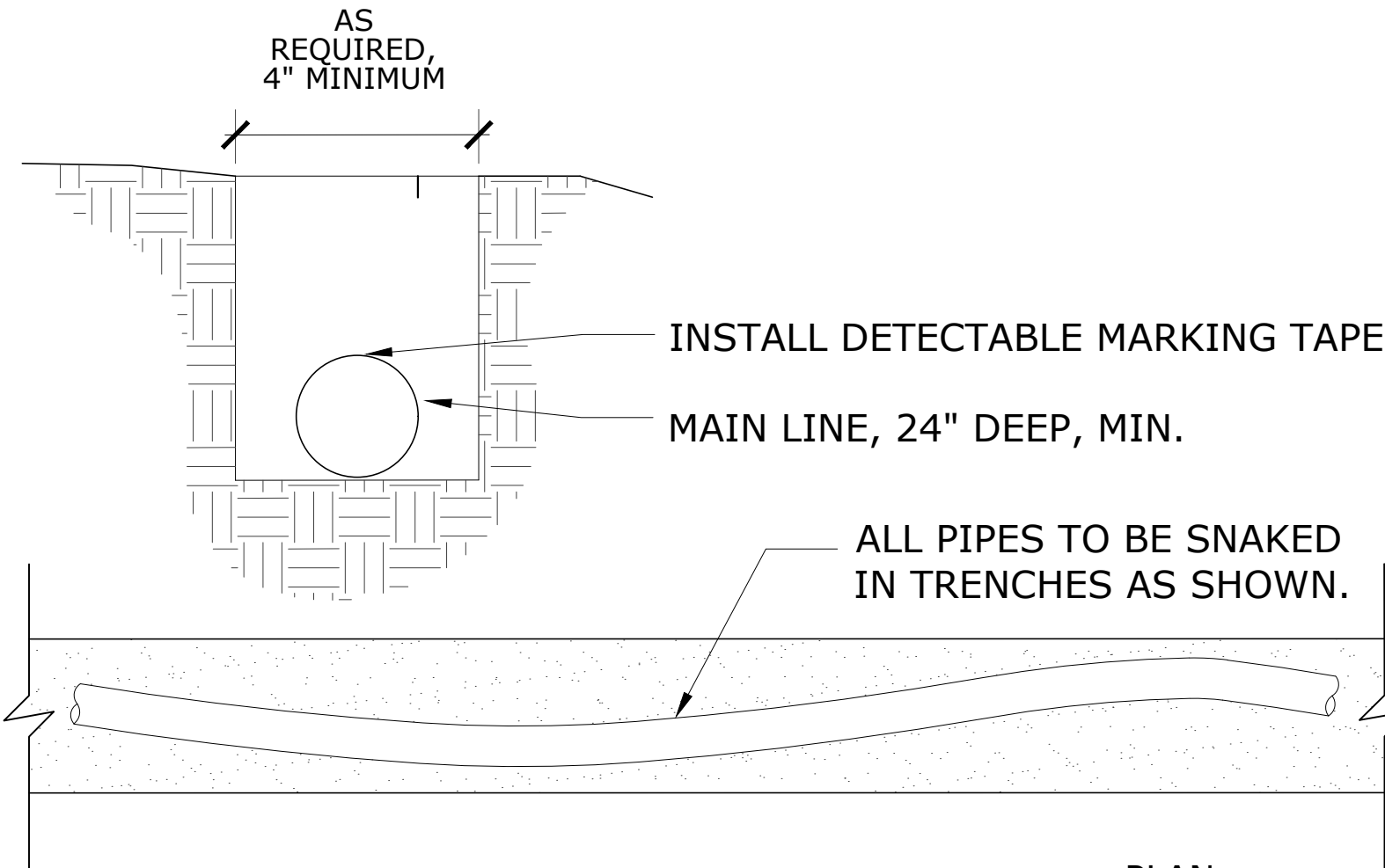
20. THE CONTRACTOR SHALL PREPARE AN OPERATION AND MAINTENANCE MANUAL OF THE IRRIGATION SYSTEMS WHICH WILL INCLUDE THE CONTRACTOR'S NAME AND CONTACT INFORMATION, AND INFORMATION ON EACH IRRIGATION COMPONENT, INCLUDING THE MANUFACTURER'S NAME, MAKE AND MODEL NUMBER, NAME AND ADDRESS OF LOCAL

MANUFACTURER'S REPRESENTATIVE, AND DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AS PER MANUFACTURER.

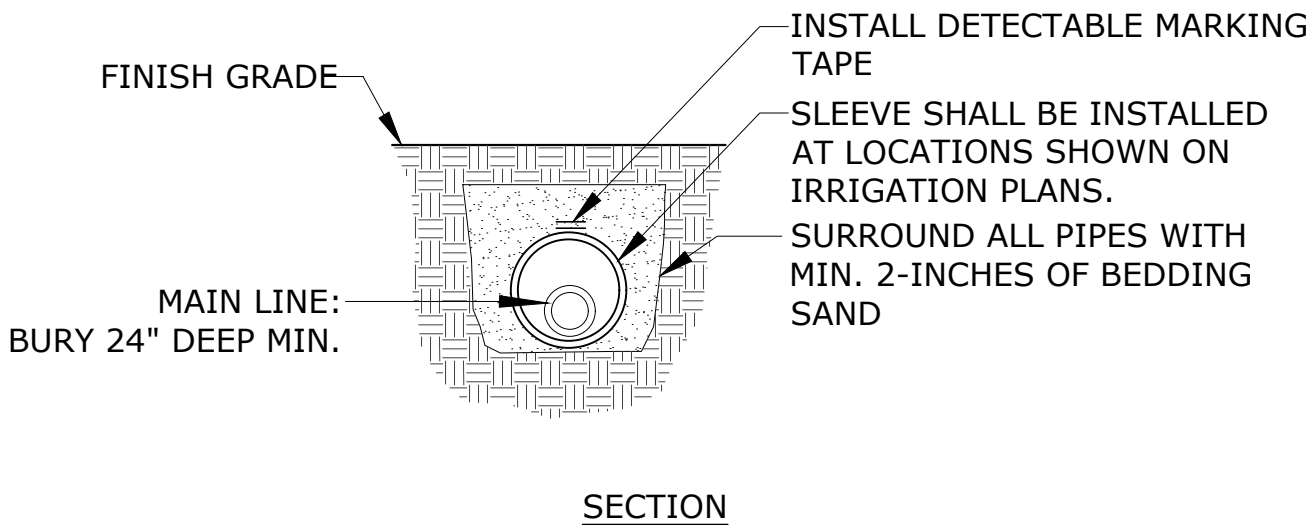
21. MAINTENANCE STAFF TRAINING: THE CONTRACTOR SHALL PERFORM A FULL INSTRUCTION SESSION IN THE PRESENCE OF THE DESIGNATED MAINTENANCE PERSONNEL DEMONSTRATING THE IRRIGATION CONTROLLER SYSTEM,SYSTEM TESTING, TROUBLE-SHOOTING, ETC. INCLUDE INSTRUCTIONS ON HOW TO TURN OFF THE SYSTEM IN CASE OF EMERGENCY.

22. THE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM, REPLACE ANY BROKEN OR DEFECTIVE PARTS, AND ENSURE THE IRRIGATION SCHEDULE IS ADEQUATE TO SUSTAIN THE HEALTH OF THE PLANTS FOR A 1-YEAR MAINTENANCE PERIOD.

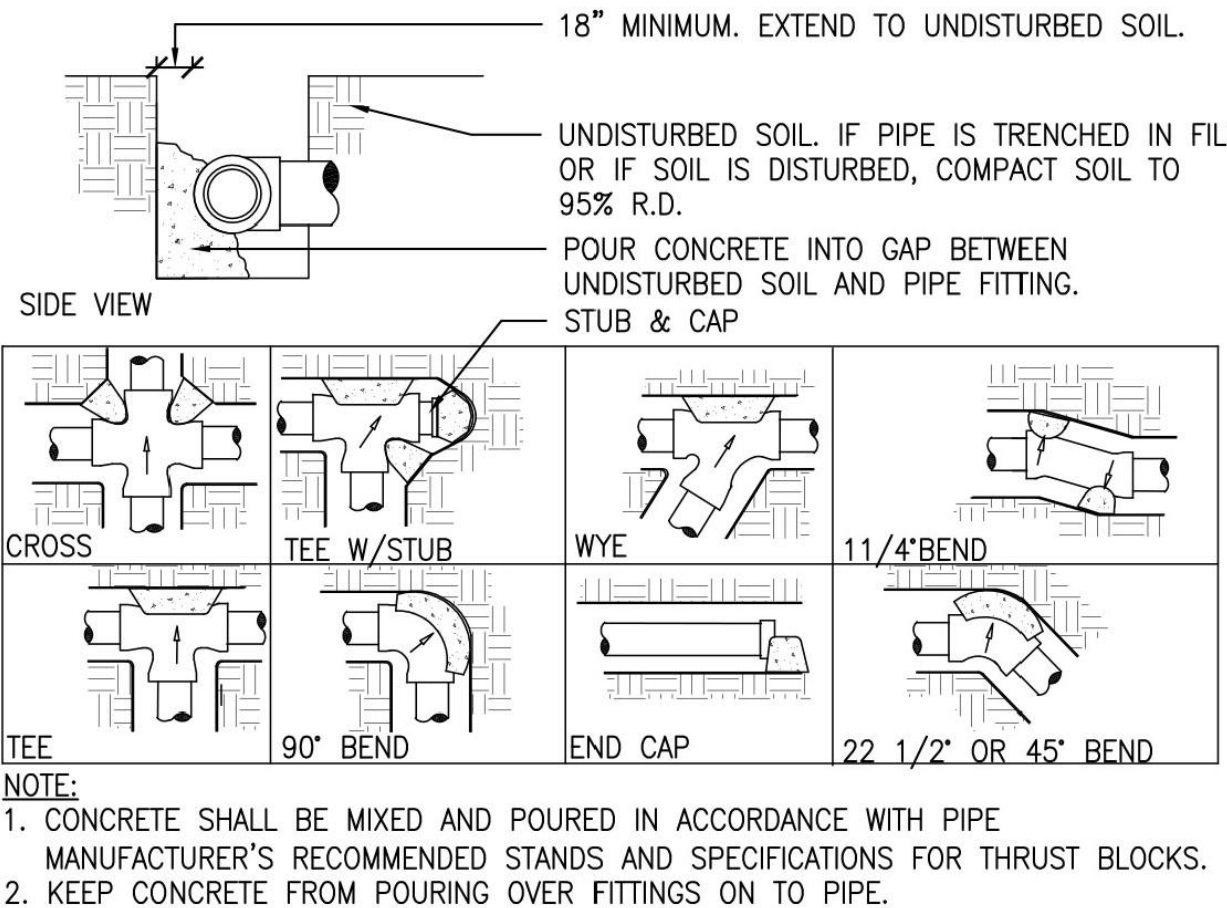
23. THE CONTRACTOR SHALL INSPECT THE IRRIGATION SYSTEM AND REPORT TO SMART'S PROJECT MANAGER HOW THE PLANTS AND IRRIGATION SYSTEM ARE PERFORMING DURING THE 1-YEAR MAINTENANCE PERIOD.



1 TRENCHING
NOT TO SCALE



2 SLEEVE TRENCHING
NOT TO SCALE



3 THRUST BLOCK
NOT TO SCALE

**SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA

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**IRRIGATION NOTES AND
DETAILS**

Sheet 6 of 9

L-3.0

**SMART
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PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA

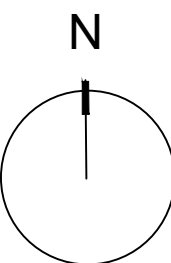
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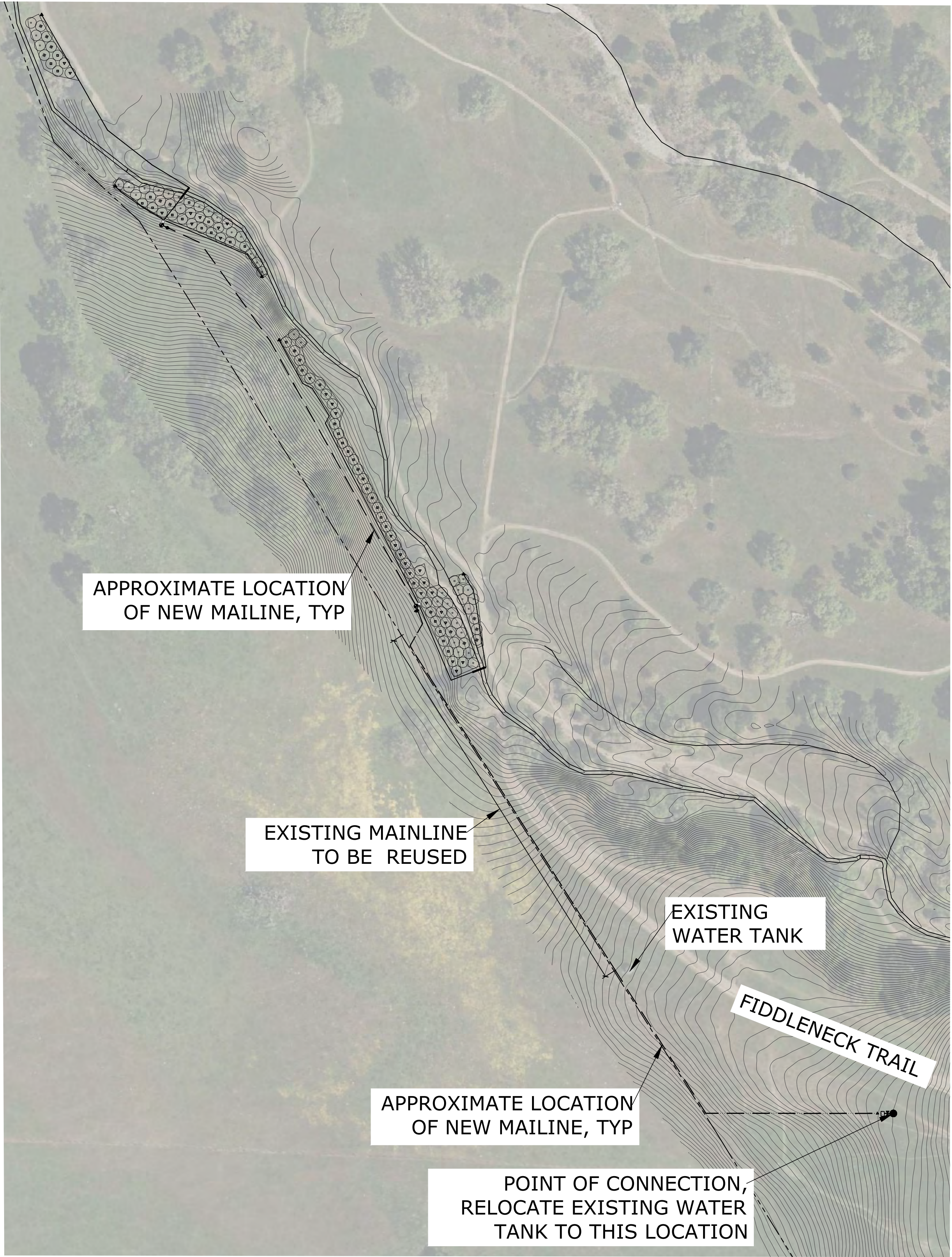
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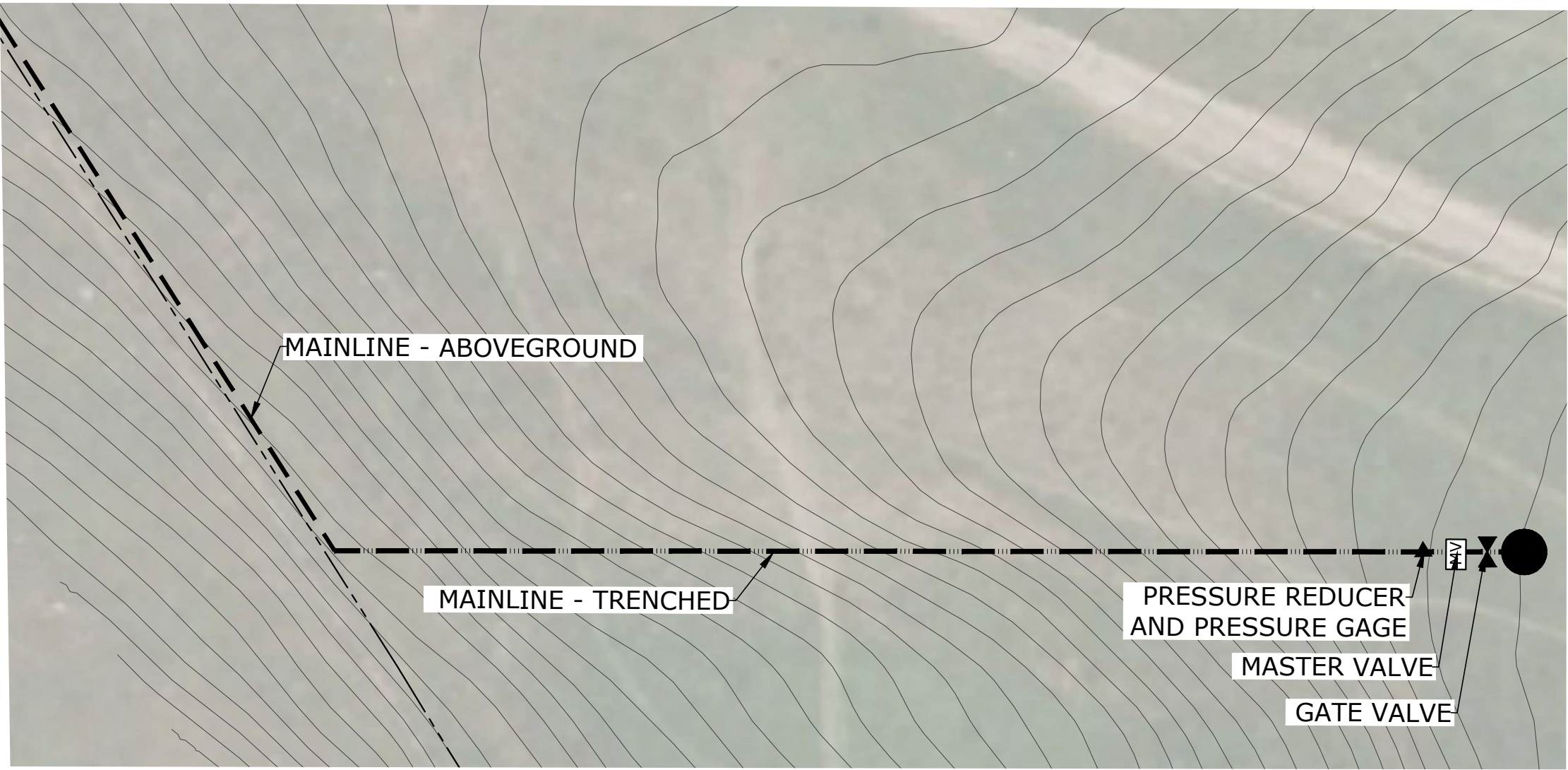
IRRIGATION OVERVIEW

Sheet 7 of 9

L-3.1



1 IRRIGATION OVERVIEW
SCALE: 1"=100'



2 IRRIGATION POINT OF CONNECTION FIDDLENECK DRAINAGE
SCALE: 1"=30'

**SMART
NON- MOTORIZED
PATHWAY SEGMENTS
37 AND 38 -
FIDDLENECK
DRAINAGE
RIPARIAN MITIGATION**

**CRANE CREEK
REGIONAL PARK**

SONOMA COUNTY, CALIFORNIA

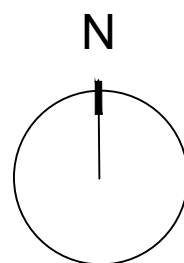
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Date	Issues And Revisions	No.
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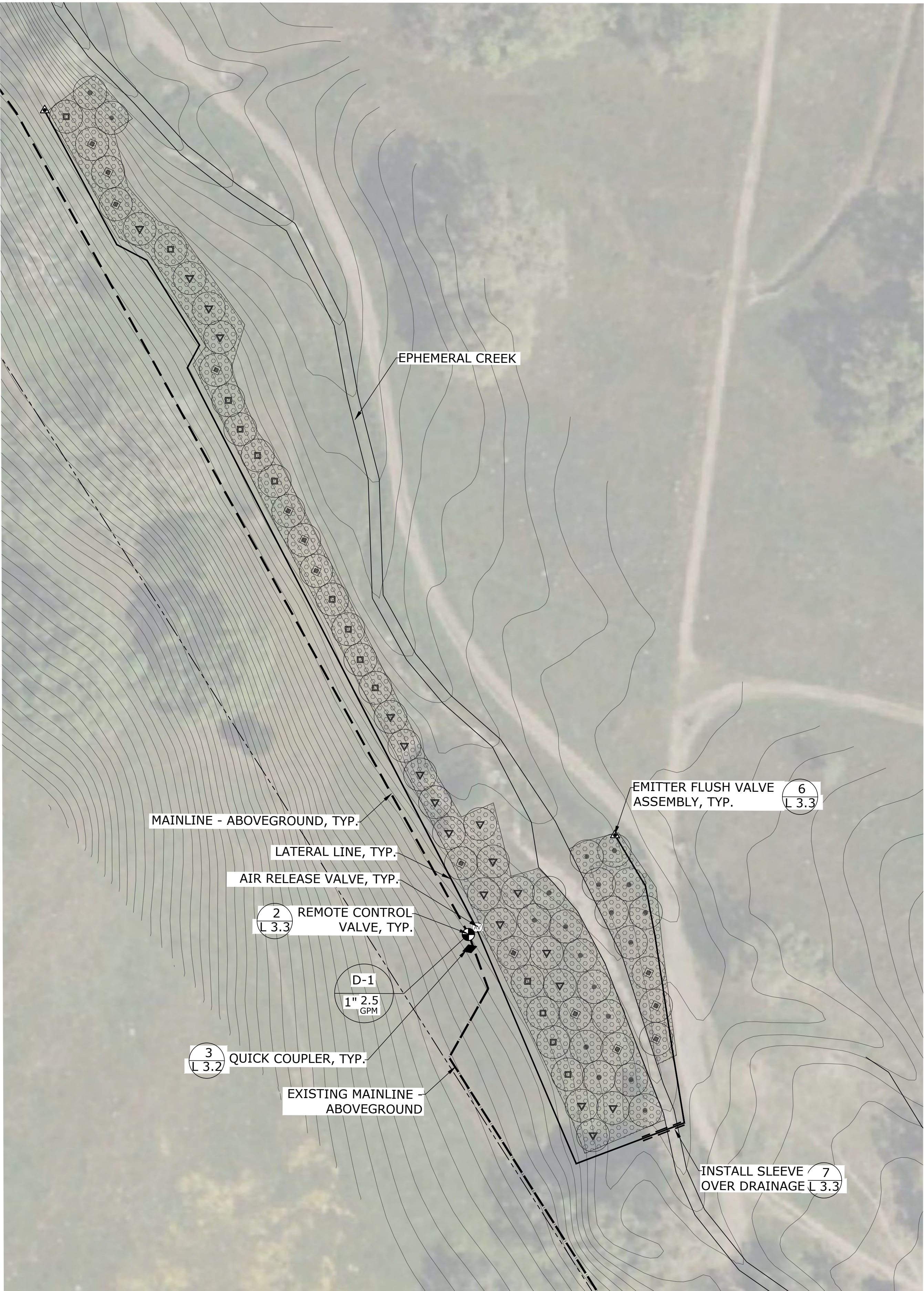
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SCALE: 1" = 30'



IRRIGATION PLAN

Sheet 8 of 9

L-3.2



1 IRRIGATION PLAN - UPPER FIDDLENECK DRAINAGE
SCALE: 1"=30'



2 IRRIGATION PLAN - MIDDLE AND LOWER FIDDLENECK DRAINAGE
SCALE: 1"=30'

CRANE CREEK REGIONAL PARK

SONOMA COUNTY, CALIFORNIA

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IRRIGATION DETAILS

Sheet 9 of 9

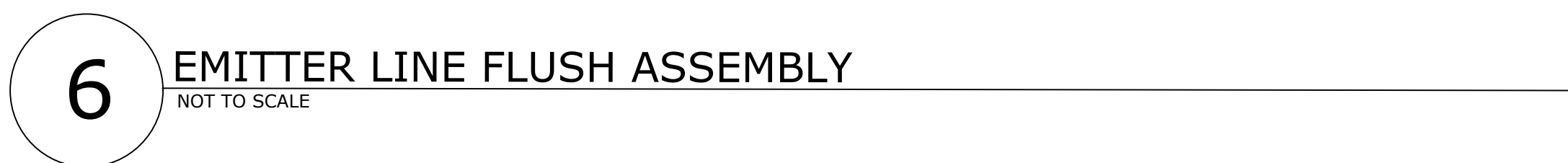
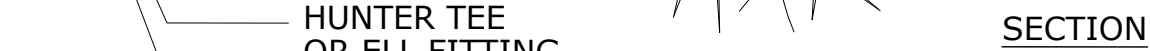


EXHIBIT B

SAMPLE MONITORING REPORT

SONOMA-MARIN AREA RAIL TRANSIT (SMART)

RIPARIAN ENHANCEMENT FOR SEGMENTS 1 & 2: LAKEVILLE STREET (MP 39.0) TO PAYRAN STREET (MP 39.2) AND SOUTHPOINT BOULEVARD (MP 40.4) TO MAIN STREET (MP 43.4) 1ST YEAR MONITORING REPORT (2023)

Sonoma County, California

Prepared For:

Sonoma-Marin Area Rail Transit (SMART)
5401 Old Redwood Highway, Suite 200
Petaluma, California 94954
Contact: Negin Saghaee

Prepared By:

Triangle Properties, Inc.
Contact: Barry Baba
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bbaba@teichert.com

Date:

November 2023



CONTENTS

Riparian Enhancement Mitigation Monitoring for Segments 1 & 2: Lakeville Street to Payran Street and Southpoint Boulevard to Main Street 1st Year Monitoring Report (2023)

Sonoma-Marin Area Rail Transit (SMART), Sonoma County, California

1	INTRODUCTION.....	1
1.1	Project Site Description.....	1
1.2	Non-Motorized Pathways Project Requirements	2
2	SITE PREPARATION.....	2
2.1	Trash Removal and Vegetation Clearing.....	2
2.2	Fencing	3
3	PLANTING PLAN	3
4	ESTABLISHMENT AND MAINTENANCE	4
4.1	Irrigation.....	4
4.2	Weed Management	5
4.3	Site Protection/General Site Maintenance	5
5	MITIGATION MONITORING AND SUCCESS CRITERIA.....	5
5.1	Photo Monitoring.....	6
5.2	Plant Health, Height, and Survivorship	6
6	RESULTS AND DISCUSSION	7
6.1	Photo Monitoring.....	7
6.2	Tree and Shrub Plantings	7
6.3	Native Forbs, Grasses, and Rushes	8
6.4	Vegetation/Invasive Weeds	8
7	SUMMARY.....	9
8	REFERENCES.....	10

LIST OF TABLES

Table 1. Proposed Planting Plan	3
Table 2. Tree and Shrub Mitigation Plantings: 2023 Monitoring Results	7
Table 3. Target Invasive/Noxious Terrestrial Weeds.....	9

LIST OF FIGURES

Figure 1. Project Location and Vicinity Map

Figure 2. Mitigation Site Map

Figure 3. Mitigation Plantings (2023)

LIST OF APPENDICES

Appendix A Photo Monitoring

Appendix B Flora Inventory

1 INTRODUCTION

In June 2022, WRA Environmental Consultants (WRA) prepared a Riparian Enhancement Plan (Plan) for Segments 1 & 2 of the Sonoma-Marin Area Rail Transit District (SMART) Non-Motorized Pathways project (NMP Project) (WRA 2022). Collectively, Segments 1 and 2 of the NMP Project resulted in impacts to 0.046 acre and 411 linear feet of streams or channels (including shading), and 0.06 acre and 30 linear feet of riparian vegetation. Mitigation measures for these impacts were identified in two permits issued for the NMP Project: a California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (EPIMS-SON-22639-R3) and a San Francisco Bay Regional Water Quality Control Board (RWQCB) Clean Water Act Section 401 Water Quality Certification and Order (WDID#2CW447818) (the Permits). In addition to other mitigation measures,¹ the Permits require that SMART implement the Plan, which involves the enhancement of 0.44 acres and 740 linear feet of stream and riparian habitat through the removal of invasive vegetation and the planting of native trees, shrubs, forbs and grasses within two mitigation areas adjacent to the Project (the Mitigation Sites). In total, as discussed in this report, the Plan provides for compensation at ratios of approximately 4 to 1 by area and 1.7 to 1 by length.

In November 2022, SMART contracted Triangle Properties, Inc. (Triangle) to establish, maintain and monitor the Mitigation Sites for a period of 5 years. In compliance with the Permits and the Plan, this report summarizes the habitat establishment and maintenance performed to date, as well as the first-year monitoring results for the Mitigation Sites.

1.1 Project Site Description

The Mitigation Sites are located along an ephemeral drainage ditch which runs parallel to the SMART railroad track between mile post (MP) 38.9 and 39.1 just northwest of the Petaluma River and southwest of Cedar Grove Park in the City of Petaluma (Figure 1). As described in the Plan, the Mitigation Sites total approximately 19,140 square feet (0.44 acre) in size and 740 feet in length. Site 1 (ESED07), located furthest to the south, is comprised of an approximately 13,290 square foot (0.31 acre) earthen ditch beginning at MP 38.91 just north of the Petaluma River and extending approximately 363 linear feet parallel with the tracks ending just south of Cedar Grove Park Road (MP 38.98). Site 2 (ESED12) consists of approximately 5,850 square feet (0.13 acre) of earthen ditch located just north of Site 1 and west of Cedar Grove Park Road, extending approximately 377 linear feet northwest from MP 38.98 along the SMART railroad track.

Prior to enhancement, the existing vegetation within the Mitigation Sites consisted primarily of non-native blackberries, forbs, and grasses, as well as some native trees and shrubs. Most of the area was dominated by invasive riparian plants, including Himalayan blackberry (*Rubus armeniacus*), perennial pepperweed (*Lepidium latifolium*), black mustard (*Brassica nigra*), poison hemlock (*Conium maculatum*), fennel (*Foeniculum vulgare*), stinkwort (*Dittrichia graveolens*), and harding grass (*Phalaris aquatica*). Coast live oak (*Quercus agrifolia*), arroyo willow (*Salix lasiolepis*), and coyote brush (*Baccharis pilularis*)

¹ In addition to the implementing the Plan, SMART was required to purchase 0.6 acres of seasonal wetland re-establishment credits from the Burdell Ranch Mitigation Bank. (San Francisco Bay Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification and Order for SMART Non-Motorized Pathways Segments 1 & 2 Project, Sonoma County (WDID#2CW447818), dated 22 Aug. 2022.)

represent existing native trees and shrubs present within the Mitigation Sites. Within Site 1, the banks of the earthen ditch were densely vegetated with Himalayan blackberry intermixed with native trees and shrubs. Coast live oak spans the western bank along the railroad track and shades much of the site. A dense stand of arroyo willow and coyote brush are present at the south and north ends at Site 1, respectively. Openings within tree/shrub canopies (primarily eastern bank) were dominated by Himalayan blackberry, poison hemlock, fennel, black mustard, perennial pepperweed, and harding grass. Site 2 contains a shallower, vegetated earthen ditch which is hydrologically connected to Site 1 via a culvert beneath Cedar Grove Park Road. Site 2 contains a row of scattered coast live oaks on the western bank closest to the tracks and, prior to the enhancement activities, was also dominated by Himalayan blackberry, perennial pepperweed, and harding grass.

1.2 Non-Motorized Pathways Project Requirements

The NMP Project requires the planting, maintenance, and monitoring of Mitigation Sites 1 and 2 over a 10-year period. To protect the site from human foot traffic and associated impacts, all of Site 1 and the majority of Site 2 are required to be fenced prior to planting. Planting specifications include the installation of native trees, shrubs, forbs, grasses, and rushes within designated areas, as depicted in Appendix C of the Plan (WRA 2022). The Plan also sets forth the requirements for monitoring the performance standards of the newly planted trees and shrubs (WRA 2022).

It is important to acknowledge that there were discrepancies between the planting quantities identified on the plan sheet compared to those calculated in the tables of Appendix C of the Plan. Following a review of the site and proposed plant quantities, Triangle, in collaboration with SMART, determined that the specifications on the plan sheets more accurately reflected field conditions. Consequently, the data in the tables of the Plan regarding plant quantities was disregarded in favor of adhering to the plan sheet specifications. This baseline not only serves as the foundation for minimum planting requirements but also sets the parameters for success criteria.

2 SITE PREPARATION

Prior to fencing and planting, all boundaries of the mitigation sites were delineated in December 2022 using a Trimble GPS unit with sub-meter accuracy. Subsequently, in January 2023, Triangle removed all trash from the area and cleared/grubbed all non-native vegetation (e.g., Himalayan blackberry, fennel, poison hemlock, etc.). In addition, Triangle installed fencing around the perimeter of the Mitigation Sites as outlined in the Plan.

2.1 Trash Removal and Vegetation Clearing

In January 2023, Triangle removed and disposed of all trash observed within the mitigation planting areas. In addition, all non-native, invasive weeds were mechanically cleared from the site with string-trimmers, hedge-trimmers, and by hand-pulling. Triangle's Biologist was present throughout all vegetation clearing to guide laborers and distinguish between non-native and native plants.

2.2 Fencing

Section 3.4 of the Plan recommended the installation of fencing around the perimeter of the Mitigation Sites to protect the plantings from human foot traffic and related impacts. Pursuant to this requirement, Triangle installed a 4-foot-tall chain link fence around the entire perimeter of Site 1 and the majority of Site 2. In addition, three access gates – two at Site 1 and one at Site 2 – were installed to facilitate watering and maintenance activities.

3 PLANTING PLAN

The Plan provides a comprehensive description of the native trees, shrubs, forbs, grasses, and rushes to be installed at each of the Mitigation areas. Table 1 below summarizes the species, container sizes, and quantities of each species to be installed. A more detailed layout was provided for tree, shrub, forb and rush on the plan sheets, while a more general approach was suggested for the grasses. This flexibility was to allow the contractor (Triangle) to adapt and field-fit grass plantings needed.

TABLE 1. PROPOSED PLANTING PLAN

COMMON NAME	BOTANICAL NAME	CONTAINER	MITIGATION AREA	
		SIZE*	SITE 1	SITE 2
TREES				
Coast Live Oak	Quercus agrifolia	5-Gal	3	2
Arroyo Willow	Salix lasiolepis	Live Stake	12	--
SHRUBS/VINES				
Coyote Brush	Baccharis pilularis	D-40	11	22
Mule Fat	Baccharis salicifolia	D-40	22	--
Toyon	Heteromeles arbutifolia	1-Gal	--	3
Hairy Honeysuckle	Lonicera hispidula	D-40	7	--
Twinberry	Lonicera involucrata	D-40	20	--
Silver Bush Lupine	Lupinus albifrons	1-Gal	4	10
Red Flowering Currant	Ribes sanguineum	1-Gal	8	8
California Wild Rose	Rosa californica	D-40	6	7
Dwarf Rose	Rosa gymnocarpa	D-40	3	22
California Blackberry	Rubus ursinus	D-40	10	22
FORBS, GRASSES, RUSHES				
Mugwort	Artemisia douglasiana	D-40	15	33
Blue Wildrye	Elymus glaucus	Plug	105	80
Creeping Wildrye	Elymus triticoides	Plug	105	80
Gray Rush	Juncus patens	D-40	78	65

*Container Size Measurements

5-Gallon = 10.25 in. (diameter) x 12" (depth)

1-Gallon = 6 in. (diameter) x 7" (depth)

Deepot (D40L) = 2.7 in. (diameter) x 10 in. (depth), for a total volume of 40 cu. in.

Plug = 2 ¼ in. (square) x 3" (depth)

Triangle installed all tree, shrub, and forb plants in February 2023 in accordance with the planting specifications outlined in Appendix C of the Plan. In addition, common snowberry (*Symphoricarpos albus*), was added to the planting matrix as it was included in the Plan table for Mitigation Site 1 but not

depicted in the planting specification sheet. Individual plants were initially installed with Tubex® shrub shelters to protect them from small herbivores such as rabbits and voles, as well as weed management activities. Immediately following installation, each planting was thoroughly hand-watered, and two 2-gph drip emitter was installed at each planting location to facilitate supplemental irrigation during the establishment period. To help retain water during irrigation events, a crescent-shaped well was created on the uphill side of plantings on slopes.

The actual total number of trees and shrubs installed at the Mitigation sites exceeded the minimum number required. This overplanting of container seedlings was to ensure that the minimum success criteria would be met at the end of the monitoring period without the potential need for replanting.

Native forb (i.e., mugwort) and grass species (i.e., blue wildrye and creeping wildrye) were strategically withheld from planting and are being deferred to Fall 2024. By delaying the planting of native forbs and grasses for two consecutive years, the project aims to concentrate its efforts on reducing the prevalence of existing weeds and minimizing the seed bank. This approach is intended to create conditions more favorable for the successful establishment of the native plants in the future.

4 ESTABLISHMENT AND MAINTENANCE

Following initial planting efforts at the Mitigation Sites, Triangle conducted bi-monthly site visits to maintain and further establish the riparian plantings, as well as monitor the success of plantings and management efforts. Maintenance encompassed a variety of activities, including providing supplemental irrigation, replacement planting, weed management, trash removal, and general fence repairs as needed.

4.1 Irrigation

At the time of planting, an Irrigation system was established, utilizing a 1-inch polypropylene (poly) mainline and ½-inch poly distribution lines. Two 2-gallon-per-hour (gph) emitters were installed at each tree and shrub planting location. During the first year, water was imported to the site using a water wagon and portable 5-HP trash pump to pressurize existing irrigation lines. Gray rushes were installed adjacent to the ephemeral ditch and did not require supplemental watering.

During the 2023 maintenance season, all tree and shrub plantings were watered bi-weekly from April to August, then monthly in September and October. Routine maintenance included checking the irrigation system and individual emitters to ensure all plants were being properly watered. Irrigation schedules are designed to wean plants off supplemental irrigation after a 2- or 3-year establishment period. Generally, plants are watered bi-weekly during the first year of establishment and once monthly during the second year. Supplemental irrigation typically occurs during the dry season (May through September) and will be terminated following the second year of establishment unless drought conditions persist in the third year.

4.2 Weed Management

A 2-foot-diameter weed-free circle was cleared around each seedling and will continue to be maintained during the first 3 years of establishment.

Noxious, invasive, and other non-native plant species that compete with the native plants or reduce the habitat quality of the Mitigation Sites were targeted for removal during regular site visits. Targeted species included Himalayan blackberry, poison hemlock, fennel, black mustard, common bindweed (*Convolvulus arvensis*), yellow star-thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), bull thistle (*Cirsium vulgare*), milk thistle (*Silybum marianum*), and perennial pepperweed. Weed control methods included hand-pulling, string-trimming, and herbicide applications.

Weed management efforts were strategically timed to precede the bolting or flowering stage of each targeted species. In cases where these plants were in the flowering or seeding phase, treatment methods included cutting, hand-pulling, and off-site disposal of the removed material. Herbicide selections were based on timing, efficacy, appropriateness for environmental and site conditions, and safety considerations. All herbicide applications were made under the supervision of QAL#117803 and in strict accordance with relevant label requirements. Care was taken to avoid any adverse impact on non-target native species.

4.3 Site Protection/General Site Maintenance

General site maintenance efforts included removing all trash and litter during routine site visits, addressing and repairing damage to irrigation lines, and ensuring that the perimeter fencing and access gates remained in good condition.

In May 2023, an incident occurred where several cattle escaped from a neighboring property, causing damage to the two access gates and numerous plantings at the Mitigation Site. The gates were promptly repaired, and all plantings affected by cattle were replaced in June 2023. Additionally, a third gate located at the far south end of Site 2 was removed (stolen) in May 2023. Since this gate was not necessary for maintenance, Triangle and SMART agreed to just fence off the opening instead of replacing the gate. As part of ongoing maintenance activities, shrub shelters were also removed throughout the summer as seedlings outgrew them.

5 MITIGATION MONITORING AND SUCCESS CRITERIA

Plan requires that the plantings within the Mitigation Sites be monitored annually. The native grasses and forbs are to be monitored for 5 years, while the tree and shrub plantings are to be monitored for 10 years. Success criteria relate to the survival and health of tree and shrub plantings, and the expansion of the grass and forb species. There are no specific survivorship requirements established for the grass/forb plantings. In addition to these annual monitoring requirements, inspections of the entire Mitigation Area are to be conducted periodically or seasonally to assess conditions and the need for and timing of watering and weed management.

All monitoring was designed to evaluate the success of the Project and to identify and evaluate factors influencing plant establishment. Monitoring was also developed with the goal of creating a systematic, adaptive management-based approach to future management efforts at the site.

5.1 Photo Monitoring

Permanent photo stations were established to qualitatively document site conditions and changes in vegetation development over successive monitoring periods. These photo stations included fixed structures (i.e., tree canopies, fence lines, etc.) to provide a consistent reference and background against which yearly comparisons could be made.

5.2 Plant Health, Height, and Survivorship

A census of all tree and shrub plantings was conducted in August 2023 to assess percent survival and overall success of the Project. At the time of installation, plants were accurately mapped using a handheld GPS unit with sub-foot accuracy. Subsequently, digital maps were created and utilized in the field to confirm the presence or absence (i.e., death) of plants. Data on plant health, height, and survivorship were collected for each tree and shrub planting.

To evaluate the condition or health of each plant, a rating scale from 0 to 4 was used, where 0 = dead, including instances where plants couldn't be located (i.e., missing); 1 = poor to severe decline, characterized by few green leaves and no apical growth; 2 = fair condition, marked mostly by green foliage, but some defects and minimal apical growth; 3 = good health, green foliage and some new growth; and 4 = excellent health, healthy foliage and vigorous growth. Visual assessments considered various factors such as the amount of new growth, growth patterns, color, and seasonal characteristics typical of each species. Factors affecting these measurements include weed competition, water availability, herbivory, soil characteristics, and disease. Whenever possible, notes were taken regarding these factors to aid in the explanation and discussion of the results.

To determine survivorship, the number of surviving plants, defined as those with a health rating of 2 or higher, was divided by the minimum number required by the Plan (i.e., Table 1). Additionally, any volunteers established at the site (i.e., health ≥ 2 and height $\geq 2'$) because of maintenance activities (e.g., invasive weed control, supplemental watering, etc.) were also noted.

Plant height was visually estimated and categorized into one of the following ranges: < 2ft, 2-4ft, 4-8ft, 8-12ft, 12-16ft, 16-20ft, or ≥ 20 ft. The midpoint of each range was used when calculating the average height for each species. Currently, no plants were recorded greater than the 4-8 ft range.

No quantitative monitoring is required for the native forb, grass, or rush plantings. However, a qualitative observation of their presence and expansion is required during the first 5 years of monitoring. In August 2023, a general assessment of the previously installed gray rush seedlings was conducted to review its presence at the site since initial planting efforts.

6 RESULTS AND DISCUSSION

A summary of this year's (2023) monitoring efforts is provided below. Monitoring results include an evaluation of all tree and shrub plantings and an overall assessment of existing vegetation, invasive weeds, and site conditions.

6.1 Photo Monitoring

Five photo monitoring stations have been established for the Project (Appendix A). A map showing the location and directional view of each of the photo stations is also included in Appendix A.

6.2 Tree and Shrub Plantings

Table 2 below provides a summary of the 2023 monitoring results for mitigation tree and shrub plantings. The table includes information on the minimum number of plantings required to be planted per the Plan, actual numbers planted, percent survival (calculated from minimum number required), and average health ratings. Figure 3 shows the locations of all surviving plantings in 2023.

TABLE 2. TREE AND SHRUB MITIGATION PLANTINGS – 2023 MONITORING RESULTS

COMMON NAME	BOTANICAL NAME	MIN. # REQUIRED	TOTAL # PLANTED	TOTAL # SURVIVING	PERCENT SURVIVAL*	AVERAGE HEALTH	AVERAGE HEIGHT
TREES							
Coast Live Oak	Quercus agrifolia	3	8	8	267%	3.6	2.5'
Arroyo Willow	Salix lasiolepis	12	12	8	66.7%	3.6	2.9'
SHRUBS/VINES							
Coyote Brush	Baccharis pilularis	33	45	45	136%	4.0	2.6'
Mule Fat	Baccharis salicifolia	22	24	23	105%	3.9	3.3'
Toyon	Heteromeles arbutifolia	3	4	4	133%	3.0	1.0'
Hoary Honeysuckle	Lonicera hispidula	7	8	8	115%	3.9	1.0'
Twinberry	Lonicera involucrata	20	31	31	155%	3.9	1.4'
Silver Bush Lupine	Lupinus albifrons	14	17	17	121%	4.0	3.7'
Red Flowering Currant	Ribes sanguineum	16	19	16	100%	3.6	1.6'
California Wild Rose	Rosa californica	13	20	19	146%	3.6	1.8'
Dwarf Rose	Rosa gymnocarpa	25	35	26	104%	3.4	0.3'
California Blackberry	Rubus ursinus	32	50	46	144%	3.8	1.2'
Common Snowberry	Symphoricarpos albus	0	4	4	> 100%	3.8	2.0'
TOTALS		200	277	255	127%	3.8	N/A

* Calculated as the "Total Number Surviving" by the "Minimum Number Required to be Planted".

The Plan specifies the installation of 200 native tree and shrub plantings across both Mitigation Sites 1 and 2. As part of this project, vining shrubs (i.e., California blackberry and twinberry) were considered shrubs for monitoring purposes. The Plan also requires that 100% of the tree plantings must be surviving in Years 1 and 2, and 85% must be alive from Years 3 through 10. Furthermore, shrub plantings must maintain 90%, 85%, 80%, 75%, and 70% in Year's 1, 2, 3, 4, and 5, respectively.

Due to initial overplanting efforts, the percent survival² of tree and shrub plantings was 127%, representing Year 1 results. The overall health of plantings in 2003 was assessed at 3.8, signifying healthy plantings throughout both sites. However, it was observed that arroyo willow, designated for planting at Mitigation Site 1, did not maintain 100% survivorship for trees.

The cause of the higher mortality in arroyo willow remains uncertain, but it should also be noted that natural colonization and expansion of existing arroyo willows is occurring at the site. This expansion of willows, notably since initiating weed management efforts, may affect the feasibility or necessity of replacing the four willows that did not survive. Considering this, Triangle plans to reassess the ongoing recruitment of arrow willows each year to determine whether additional replanting is necessary. This adaptive approach recognizes the evolving dynamics of the site and the natural processes occurring there.

6.3 Native Forbs, Grasses, and Rushes

Installed gray rush seedlings were planted along the ephemeral ditch at both Sites 1 and 2 in February 2023. These were all observed successfully growing and establishing in the absence of any supplemental watering, indicating the suitability of their planting locations.

As previously mentioned in Section 3, all native forb and grass species were strategically withheld from planting in 2022/23 and are being deferred to Fall 2024. This delay is a proactive measure intended to focus efforts on reducing the prevalence of existing weeds before introducing native forbs and grasses. By addressing weed management first, this approach aims to facilitate easier establishment and expansion of the natives.

6.4 Vegetation/Invasive Weeds

Prior to enhancement activities, both Mitigation Sites were predominantly overrun by numerous invasive weeds. Native coast live oaks are prevalent at both sites and provide some substantial canopy cover, particularly along the western bank of Site 1. A dense stand of arroyo willows and coyote brush are also present at the south and north ends of Site 1, respectively. Much of the understory vegetation consists of non-native and invasive weeds. A complete list of the flora observed in 2023 is included in Appendix B. First-year (and second-year) vegetation management efforts focus on the control and removal of invasive weeds.

The original Plan identified four invasive species to target for removal. Triangle observed several additional invasive species to include as part of the ongoing vegetation management efforts. Table 3 provides a comprehensive summary of the invasive species identified within the Project Site, which were specifically targeted in the weed control initiatives. The list includes all terrestrial species categorized as “invasive (High or Alert)” by the California Invasive Plant Council (Cal-IPC) or labeled as “noxious” by the California Department of Food and Agriculture (CDFA). Additionally, several other weed species were included if they posed a potential threat to the success of the restoration efforts.

² Calculated by dividing the “Total Number Surviving” by the “Minimum Number Required to be Planted.”

TABLE 3. TARGET INVASIVE/NOXIOUS INVASIVE WEEDS

Common Name	Scientific Name	Cal-IPC Rating	CDFA Rating
Black mustard	<i>Brassica nigra</i>	Moderate	---
Italian thistle	<i>Carduus pycnocephalus</i>	Moderate	---
Yellow star-thistle	<i>Centaurea solstitialis</i>	High	C
Bull thistle	<i>Cirsium vulgare</i>	Moderate	C
Poison hemlock	<i>Conium maculatum</i>	Moderate	----
Stinkwort	<i>Dittrichia graveolens</i>	Moderate, Alert	----
Italian thistle	<i>Festuca perennis</i>	Moderate	C
Fennel	<i>Foeniculum vulgare</i>	Moderate	
Perennial pepperweed	<i>Lepidium latifolium</i>	High	C
Harding grass	<i>Phalaris aquatica</i>	Moderate	---
Himalayan blackberry	<i>Rubus armeniacus</i>	High	----
Milk thistle	<i>Silybum marianum</i>	Limited	---

All invasive species listed in Table 3 were initially manually removed/cleared by hand in January 2023. Subsequent efforts involve the application of herbicides to control any resprouting weeds. As previously mentioned in Section 3, this ongoing maintenance strategy aims to reduce all non-native vegetation, including the existing weed seed bank.

7 SUMMARY

This report represents the first year of monitoring for Segments 1 & 2 of the SMART Non-Motorized Pathways project. The goal of the NMP Project is to enhance and establish riparian vegetation through the installation, maintenance, and monitoring of riparian plantings and removal of invasive weeds.

Prior to initiating enhancement activities, invasive plants (e.g., Himalayan blackberry, poison hemlock, fennel, perennial pepperweed, black mustard, and harding grass) were predominant in the understory at both Mitigation Sites. Four species were originally identified for removal in the Plan. This list was later expanded by Triangle to encompass additional species for ongoing and future management. Initially, these weeds were cleared and removed by hand followed by herbicide applications to effectively manage resprouts and new seedlings.

A total of 200 tree and shrub planting, as outlined in the WRA (2022) plan specifications (Appendix C of the Plan), were installed across both sites in February 2023. Additional contingency plants were also included to address any future mortalities. In addition, 143 gray rush container seedlings were also installed along the edges of the ephemeral ditch per the Plan. All proposed forb (mugwort) and grass (blue wildrye and creeping wildrye) plantings were deferred to November 2024. This was intended to allow for more effective management and reduction of competing invasive weeds during this interim period, ensuring a more favorable environment for the future establishment of the proposed forb and grass species.

To protect mitigation efforts, a 4-foot-tall chain link fence was installed around the entire perimeter of Site 1 and the majority of Site 2. Fencing included the placement of three access gates – two at Site 1 and one at Site 2 – to facilitate activities such as watering and maintenance.

In May 2023, cattle escaped from a neighboring property and unexpectedly entered at the site, resulting in damage to some plantings, as well as the gates along the perimeter fence. Both damaged plantings and gates were replaced and repaired in June 2023. In addition, one of the gates on the far south end of Site 1 was removed and stolen. Since this gate was not integral to maintenance activities, a decision was made to fence off the opening rather than replacing the gate.

Supplemental irrigation was provided bi-weekly to all tree and shrub plantings from April to August, and once monthly in September and October 2023. Irrigation schedules are designed to gradually wean plants off supplemental watering after a 2- or 3-year establishment period. No supplemental irrigation was provided to gray rush plantings, and no such provision or need is planned for the proposed the future forb/grass plantings. These species are more adapted and expected to be established through natural precipitation only. However, a flexible approach to establish and maintain these plantings will be provided should monitoring indicate a necessity. To date, all rushes were successfully established without the need for supplemental watering.

Mitigation efforts for the NMP Project will continue to be monitored annually over the several years. Specifically, forb and grass plantings will be qualitatively monitored annually through 2027, and tree and shrub plantings will be assessed quantitatively over the next 9 years, concluding in 2032. This monitoring aligns with the mitigation monitoring requirements outlined in the WRA 2022 Plan.

All plantings have been recorded with a GPS unit and will be revisited each year with updated information pertaining to plant health and height data. Should any of the mitigation plantings fall below the minimum success criteria for a given year, a detailed framework is in place to guide decision-making. For example, for tree plantings, a success rate of 100% is expected in Years 1 and 2, followed by 85% from Years 3 through 10. Similarly, shrub plantings are expected to achieve success rates of 90%, 85%, 80%, 75%, and 70% in Year's 1, 2, 3, 4, and 5, respectively. Natural recruitment of target native tree and shrub species will also be considered in evaluating success criteria. Currently, no further replanting of additional trees or shrub seedlings is deemed necessary. In the event that mitigation plantings fall below established success criteria, discussions regarding additional replanting or other corrective actions, informed by the circumstances leading to the mortality, will be reviewed and implemented in collaboration with SMART.

8 REFERENCES

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WRA Environmental Consultants (WRA). 2022. Riparian Enhancement Plan for Segments 1 & 2: Lakeville Street (MP 39.0) to Payran Street (MP 39.3) and Southpoint Boulevard (MP 40.4) to Main Street (MP 43.4), SMART Various Non-Motorized Pathways Project, Petaluma and Penngrove, Sonoma County, California. Prepared for the Sonoma-Marin Area Rail Transit (SMART).

LIST OF FIGURES

Figure 1. Project Location and Vicinity Map

Figure 2. Mitigation Site Map

Figure 3. Mitigation Plantings (2023)

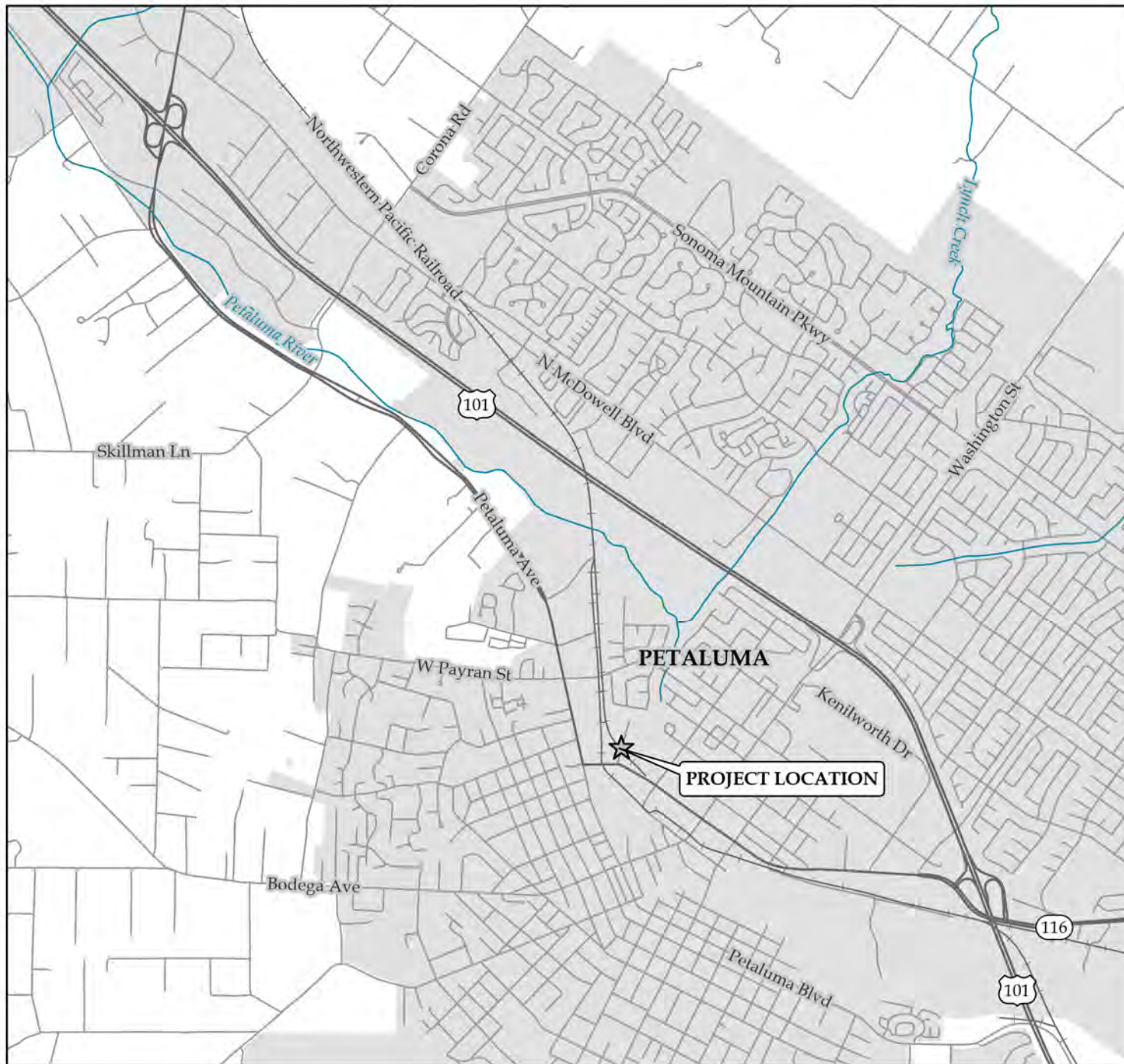
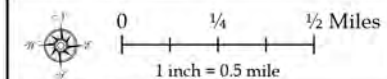


FIGURE 1
PROJECT VICINITY MAP
SMART VARIOUS
NON-MOTORIZED
PATHWAYS PROJECT
(SEGMENTS 1 & 2)
SONOMA COUNTY, CALIFORNIA

LEGEND:



DISCLAIMER:

The data was mapped for assessment purposes only. No liability is assumed for the accuracy of the data shown.

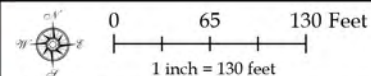




FIGURE 2
MITIGATION SITE MAP
SMART VARIOUS
NON-MOTORIZED
PATHWAYS PROJECT
(SEGMENTS 1 & 2)
SONOMA COUNTY, CALIFORNIA

LEGEND:

- Site 1 (ESED07)
- Site 2 (ESED12)



SOURCE:

Aerial Photography Provided by
 ESRI Basemaps & Affiliates
 (Sonoma County; February 20, 2021)

DISCLAIMER:

The data was mapped for assessment purposes only. No liability is assumed for the accuracy of the data shown.



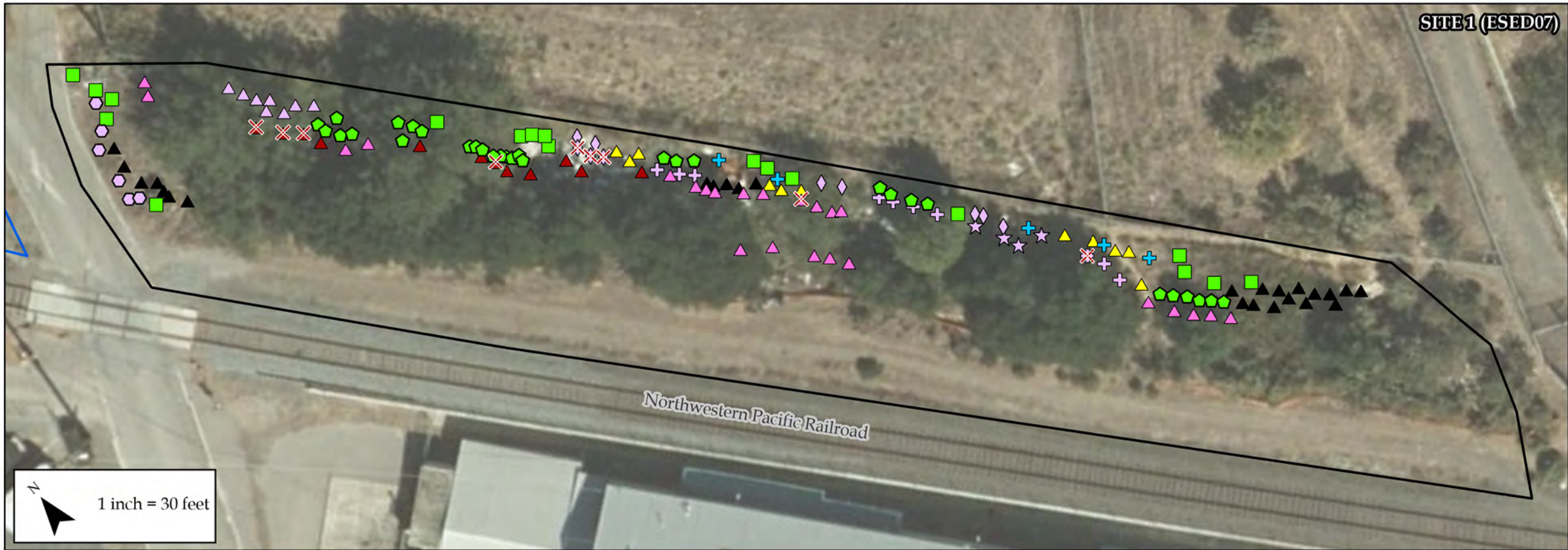


FIGURE 3
PLANTING LOCATIONS
SMART VARIOUS
NON-MOTORIZED
PATHWAYS PROJECT
(SEGMENTS 1 & 2)
SONOMA COUNTY, CALIFORNIA

LEGEND:

- ✕ Dead/Missing
- ▲ Arroyo Willow
- Blue Wildrye
- ▲ CA Blackberry
- ▲ CA Wild Rose
- + Coast Live Oak
- ☆ Common Snowberry
- Coyote Brush
- Creeping Wildrye
- + Dwarf Rose
- △ Hoary Honeysuckle
- ▲ Mule Fat
- ◇ Red Flowering Currant
- Silver Bush Lupine
- Toyon
- Twinberry
- Site 1 (ESED07)
- Site 2 (ESED12)

SOURCE:
Aerial Photography Provided by
ESRI Basemaps & Affiliates
(Sonoma County; February 20, 2021)

DISCLAIMER:
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for the accuracy of the data shown.*



SMART Various Non-Motorized Pathways Project
Riparian Enhancement Plan for Segments 1 & 2

Monitoring Photos (2023)

Photo 1

15 February 2023

Photo Station #1

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 2

24 March 2023

Photo Station #1

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 3

17 August 2023

Photo Station #1

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 4

15 February 2023

Photo Station #2

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 5

24 March 2023

Photo Station #2

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 6

17 August 2023

Photo Station #2

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 7

15 February 2023

Photo Station #3

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 8

24 March 2023

Photo Station #3

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 9

17 August 2023

Photo Station #3

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 10

15 February 2023

Photo Station #4

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 11

24 March 2023

Photo Station #4

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 12

17 August 2023

Photo Station #4

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 10

15 February 2023

Photo Station #5

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 11

24 March 2023

Photo Station #5

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



Photo 12

17 August 2023

Photo Station #5

*SMART Various Non-Motorized Pathway Project
Riparian Enhancement Plan for Segments 1 & 2*



SMART Various Non-Motorized Pathways Project
Riparian Enhancement Plan for Segments 1 & 2

Flora Inventory (2023)



SMART RESTORATION PROJECT

SONOMA COUNTY

Flora Inventory

Spring/Summer 2023

ANGIOSPERMS, EUDICOTS

AMARANTHACEAE (AMARANTH FAMILY)

*Amaranthus albus**

Tumbleweed

APIACEAE (CARROT FAMILY)

*Conium maculatum**

Poison hemlock

*Foeniculum vulgare**

Fennel

ASTERACEAE (SUNFLOWER FAMILY)

*Anthemis cotula**

Mayweed, Dog fennel

Baccharis pilularis subsp. *consanguinea*

Coyote brush

Baccharis salicifolia subsp. *salicifolia*

Mule fat

Carduus pycnocephalus subsp. *Pycnocephalus*

Italian thistle

*Centaurea solstitialis**

Yellow star-thistle

*Cirsium vulgare**

Bull thistle

*Dittrichia graveolens**

Stinkwort

*Helminthotheca echioides**

Bristly ox-tongue

*Lactuca serriola**

Prickly lettuce

*Logfia gallica**

Daggerleaf cottonrose

*Pseudognaphalium luteoalbum**

Common cudweed

*Senecio vulgaris**

Common groundsel

*Silybum marianum**

Milk thistle

Sonchus asper subsp. *asper**

Prickly sow thistle

*Sonchus oleraceus**

Common sow thistle

Xanthium strumarium

Cocklebur

BRASSICACEAE (MUSTARD FAMILY)

*Brassica nigra**

Black mustard

*Brassica rapa**

Field mustard, Turnip

*Capsella bursa-pastoris**

Shepherd's purse

*Hirschfeldia incana**

Perennial mustard

*Lepidium latifolium**

Perennial pepperweed

*Raphanus raphanistrum**

Jointed charlock

*Raphanus sativus**

Radish

CAPRIFOLIACEAE (HONEYSUCKLE FAMILY)

Lonicera hispidula

Hairy honeysuckle, Hoary honeysuckle

Lonicera involucrata

Twinberry

Symphoricarpos albus var. *laevigatus*

Snowberry

CARYOPHYLLACEAE (PINK FAMILY)

*Cerastium glomeratum**

Sticky mouse-ear chickweed

<i>Stellaria media</i> *	Common chickweed
<u>CHENOPODIACEAE</u> (GOOSEFOOT FAMILY)	
<i>Atriplex prostrata</i> *	Fat-hen
<i>Chenopodium album</i> *	Lamb's quarters
<u>CONVOLVULACEAE</u> (MORNING-GLORY FAMILY)	
<i>Convolvulus arvensis</i> *	Bindweed
<u>EUPHORBIACEAE</u> (SPURGE FAMILY)	
<i>Croton setiger</i>	Doveweed, Turkey-mullein
<u>FABACEAE</u> (LEGUME FAMILY)	
<i>Acemispson americanus</i> var. <i>americanus</i>	Spanish clover
<i>Lupinus albus</i>	Silver bush lupine
<i>Medicago polymorpha</i> *	California burclover
<i>Melilotus indica</i> *	Sourclover
<i>Vicia sativa</i> *	Spring vetch
<i>Vicia villosa</i> var. <i>villosa</i> *	Hairy vetch
<u>FAGACEAE</u> (OAK FAMILY)	
<i>Quercus agrifolia</i>	Coast live oak
<u>GERANIACEAE</u> (GERANIUM FAMILY)	
<i>Erodium botrys</i> *	Longbeak filaree, Broadleaf filaree
<i>Erodium cicutarium</i> *	Redstem filaree
<i>Erodium moschatum</i> *	Greenstem filaree
<i>Geranium dissectum</i> *	Cutleaf geranium, Cranesbill
<i>Geranium purpureum</i> *	Little robin
<u>GROSSULARIACEAE</u> (GOOSEBERRY FAMILY)	
<i>Ribes sanguineum</i> var. <i>glutinosum</i>	Red flowering currant
<u>LYTHRACEAE</u> (LOOSESTRIFE FAMILY)	
<i>Lythrum hyssopifolia</i> *	Hyssop loosestrife
<u>MALVACEAE</u> (MALLOW FAMILY)	
<i>Malvella leprosa</i>	Alkali-mallow
<i>Malva parviflora</i> *	Cheeseweed, Little mallow
<u>ONAGRACEAE</u> (EVENING PRIMROSE FAMILY)	
<i>Epilobium brachycarpum</i>	Annual willowherb
<i>Epilobium densiflorum</i>	Denseflower willowherb
<u>PLANTAGINACEAE</u> (PLANTAIN FAMILY)	
<i>Kickxia</i> sp.*	Kickxia
<i>Plantago lanceolata</i> *	English plantain
<i>Veronica arvensis</i> *	Corn speedwell
<u>POLYGONACEAE</u> (BUCKWHEAT FAMILY)	
<i>Polygonum aviculare</i> subsp. <i>depressum</i> *	Common knotweed

<i>Persicaria</i> sp.	Smartweed
<i>Rumex crispus</i> *	Curly dock
ROSACEAE (ROSE FAMILY)	
<i>Heteromeles arbutifolia</i>	Toyon, Christmas berry
<i>Rosa californica</i>	California wild rose
<i>Rosa gymnocarpa</i> var. <i>gymnocarpa</i>	Dwarf rose
<i>Rubus armeniacus</i> *	Himalayan blackberry
<i>Rubus ursinus</i>	
RUBIACEAE (MADDER FAMILY)	
<i>Galium aparine</i> *	Goose grass
SALICACEAE (WILLOW FAMILY)	
<i>Salix lasiolepis</i>	Arroyo willow
SOLANACEAE (NIGHTSHADE FAMILY)	
<i>Solanum</i> sp.	Nightshade
<i>Nicotiana acuminata</i> var. <i>multiflora</i>	Manyflower tobacco
ANGIOSPERMS, MONOCOTS	
CYPERACEAE (SEDGE FAMILY)	
<i>Cyperus eragrostis</i>	Tall flatsedge
JUNCACEAE (RUSH FAMILY)	
<i>Juncus effusus</i>	Pacific rush
<i>Juncus patens</i>	Spreading rush
POACEAE (GRASS FAMILY)	
<i>Avena barbata</i> *	Slender wild oat
<i>Avena fatua</i> *	Wild oat
<i>Bromus diandrus</i> *	Ripgut grass
<i>Bromus hordeaceus</i> *	Soft chess
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Festuca myuros</i> *	Six-weeks fescue, Rattail fescue
<i>Festuca perennis</i> *	Rye grass
<i>Hordeum murinum</i> subsp. <i>leporinum</i> *	Hare wall barley
<i>Phalaris aquatica</i> *	Harding grass
<i>Polypogon monspeliensis</i> *	Rabbitfoot grass, Annual beard grass
<i>Poa annua</i> *	Annual bluegrass

EXHIBIT C

YEARLY EXPEDITOR SCHEDULE

Year	Fee	Fiscal Year	Calendar Year
0	\$36,712	25/26	2025
1	\$77,109	26/27	2026
2	\$83,035	27/28	2027
3	\$80,035	28/29	2028
4	\$71,172	29/30	2029
5	\$64,246	30/31	2030
6	\$27,534	31/32	2031
Total:	\$439,843		

Note: "Fiscal Year" is from July 1st to June 30th of the following year.

EXHIBIT D

SONOMA COUNTY REGIONAL PARKS RATE SHEET

Sonoma County Regional Parks	
Natural Resources Division	
Billing Rates for FY 2024-2025*	
Staff Title	Rate
Division Manager	\$ 130.68
Park Program Supervisor	\$ 93.31
Senior Maintenance	\$ 74.15
Park Program Assistant	\$ 36.54
Park Ranger Assistant	\$ 35.20
Maintenance Worker II	\$ 68.94
Park Aide	\$ 28.01
<i>*Note: Billing Rates will increase for FY2025-26, and subsequent future years</i>	

EXHIBIT E

CALIFORNIA WATER QUALITY CONTROL BOARD PERMIT

North Coast Regional Water Quality Control Board

September 29, 2023

Sonoma-Marin Area Rail Transit
Attn: Bill Gamlen
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954
BGamlen@sonomamarintrain.org

Dear Mr. Gamlen:

Subject: Notice of Applicability (NOA) for Coverage under the State Water Resources Control Water Quality Order 2004-0004-DWQ for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction

File: SMART Non-Motorized Pathway Segment 3 Golf Course to Bellevue Project, ECM PIN CW-876319; WDID 1B21198WNSO

On September 10, 2021, the North Coast Regional Water Quality Control Board (Regional Water Board) received a Notice of Intent seeking coverage under the State Water Resources Control Water Quality Order 2004-0004-DWQ for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction (General WDR) for the SMART Non-Motorized Pathway Segment 3 Golf Course to Bellevue Project (project) from Leslie Allen of WRA on behalf of Bill Gamlen of SMART (applicant). The Notice of Intent was deemed incomplete on September 21, 2021. The final supplemental information to complete the Notice of Intent was received on September 27, 2023.

The project is located adjacent to SMART railroad tracks between Mileposts 46.8 and 51.3, between Golf Course Drive and Bellevue Avenue. The purpose of the project is to add non-vehicular transportation options through Sonoma and Marin counties. This

project provides a new connection between two previously constructed segments. The project involves construction of 2.8 miles of paved pathway adjacent to existing rail in the SMART right of way. The project will include pedestrian crossings at major intersections, utility relocation, fill grading along the pathway, culvert extensions, and a single bridge crossing over a waterway.

Proposed mitigation for project impacts includes the purchase of at least 0.003 acre of seasonal wetland mitigation bank credits. A bill of sale for the purchase of 0.05 acre of wetland creation credits from Hazel Mitigation Bank was provided on September 27, 2023. Compensation for riparian and stream impacts will be provided with implementation of off-site riparian mitigation at Crane Creek Regional Park.

On July 17, 2023, an off-site riparian mitigation concept was submitted. On September 27, 2023, a supplemental letter, the riparian mitigation concept, and wetland mitigation credits were submitted. The supplemental letter specified the following conditions that SMART will comply with:

1. SMART will advance the Crane Creek riparian mitigation concept by having WRA
 - a. Prepare plans and specifications for planting and biotechnical repair of headcuts, and
 - b. Prepare a Riparian Mitigation and Monitoring Plan (MMP).
 - c. These plans must be developed in cooperation with the Sonoma County Regional Parks and a Memorandum of Understanding between SMART and the Regional Parks must be developed.
2. Drafts of the riparian mitigation design and MMP will be provided to the Water Board and CDFW for review no later than January 31, 2024, providing four months for review and correspondence before pathway construction begins on June 1, 2024.
3. Mitigation planting and headcut repair would be implemented at Crane Creek Regional Park between October and December 2024, the same year as pathway construction.

The pathway generally consists of an 8-foot-wide asphalt concrete pathway with two 2-foot-wide gravel shoulders. As the pathway approaches the roadway crossings, the pathway narrows for safety. Some areas like crossings may be Portland cement rather than asphalt. The pathway alignment shifts from one side of the track to the other at some rail crossings to minimize impacts to existing infrastructure and environmentally sensitive areas.

A pedestrian bridge will be installed over the Laguna de Santa Rosa. The bridge will be a 111-foot-long prefabricated Corten steel bow truss pedestrian bridge. It will be placed on concrete abutments that are placed to clear span the waterway. The abutments will be built on piles to minimize impacts to the creek and surrounding infrastructure. No work would occur within the creek channel for bridge construction.

Five non-jurisdictional culvert locations will be extended, some of which include more than one culvert. One reinforced concrete pipe will be extended at a freshwater seasonal wetland (FSW57). The exiting end of the culvert will be filled with rock slope protection, resulting in 4.69 cubic yards of permanent, unavoidable fill to the wetland. Another reinforced concrete pipe will exit to an ephemeral stream earthen ditch (ESED16), requiring rock slope protection fill of 2.44 cubic yards to the channel. The clear-span bridge over the Laguna de Santa Rosa will result in approximately 500 square feet of new shading over 10 feet of the creek's length.

Impacts to riparian vegetation and trees include 0.31 acre of permanent impact along 1,050 linear feet. In total, 16 riparian trees would be removed; of those, 14 are native species.

Receiving Water:	Laguna de Santa Rosa and an unnamed wetland and an ephemeral stream earthen ditch.
Permanent Area Impacted:	0.003 acre seasonal wetland and 0.002 acre ephemeral stream earthen ditch
Latitude/Longitude:	38.3624 °N / 122.69408 °W

Regional Water Board staff has determined that the proposed activities may proceed under the General WDR and you should familiarize yourself with its provisions. This authorization for any dredge and fill activities expires on September 29, 2028. Conditions and monitoring requirements outlined in this certification are not subject to the expiration date outlined above and remain in full effect and are enforceable.

A complete fee of \$2,066, (Category E, Low Impact Discharges), was received for the Project on September 22, 2021. This General WDR will be subject to annual billing while the project is constructed and monitored, per the fee schedule that is current at the time of annual billing. Currently the annual fee is \$365; the annual fee is expected to increase every year. The fee calculator may be found at: https://www.waterboards.ca.gov/resources/fees/water_quality/docs/dredgefillcalculator.xlsm

Annual fees will be automatically invoiced to the Applicant. **The applicant must notify the Regional Water Board at project and/or monitoring completion with a final report in order to request to terminate annual billing. Notification should be sent to the staff listed at the bottom of this Order and to Northcoast@waterboards.ca.gov.** Regional Water Board staff will verify that conditions of the General WDR have been met and may request a site visit at that time to confirm status of Project and compliance with this General WDR.

Please contact Kaete King at kaete.king@waterboards.ca.gov or (707) 576-2830 or Gil Falcone at Gil.Falcone@waterboards.ca.gov or (707) 576-2830 if you have any questions.

Sincerely,

Valerie Quinto
Executive Officer

Weblink: State Water Resources Control Water Quality Order 2004-0004-DWQ for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction can be found here:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

cc: State Water Resources Control Board, Stateboard401@waterboards.ca.gov
Jennifer Siu, EPA Region 9, Siu.Jennifer@epa.gov
Nick Wagner, CDFW, Nicholas.Wagner@Wildlife.ca.gov
Leslie Allen, WRA, allen@wra-ca.com

EXHIBIT F

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE PERMIT

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
BAY DELTA REGION
2825 CORDELIA ROAD, SUITE 100
FAIRFIELD, CA 94534



STREAMBED ALTERATION AGREEMENT
EPIMS-SON-23219-R3
BELLEVUE-WILFRED CHANNEL AND UNNAMED DRAINAGES

SONOMA-MARIN AREA RAIL TRANSIT
SMART VARIOUS NON-MOTORIZED PATHWAYS SEGMENT 3: GOLF COURSE
DR. (MP 48.5) TO BELLEVUE AVE (MP 51.3)

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Sonoma-Marin Area Rail Transit (SMART) (Permittee) as represented by Bill Gamlen.

RECITALS

WHEREAS, pursuant to Fish and Game Code section 1602, Permittee notified CDFW on September 14, 2021 and provided subsequent documentation that Permittee intends to complete the project described herein.

WHEREAS, pursuant to Fish and Game Code section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located at four locations between the Cities of Rohnert Park and Santa Rosa in unincorporated areas of the County of Sonoma, State of California, as described below, from south to north.

Location 1. Bellevue-Wilfred Channel, approximately 0.11 miles west of the northbound Highway 101 Santa Rosa Avenue offramp, 38.371280 and -122.715958, Assessor's Parcel Number (APN) 045-033-046.

Location 2. Unnamed drainage that is a tributary to the Laguna de Santa Rosa, adjacent to the east side of the SMART right of way from approximately 0.16 miles south of Todd Road at 38.384782 and -122.720776 to approximately 0.35 miles north of Todd Road at 38.392405 and -122.720826, APNs 134-102-085 and 134-171-060

Location 3. Unnamed drainage that is a tributary to the Laguna de Santa Rosa, approximately 400 feet north of Todd Road, 38.388270 and -122.720875, APN 134-102-085.

Location 4. Small unnamed drainage, approximately 0.18 miles north of West Robles Avenue, 38.397076 and -122.720918, APN 043-133-016.

PROJECT DESCRIPTION

The project is limited to installing a pedestrian bridge, removing riparian trees, and extending two culverts to accommodate a new non-motorized pathway (NMP) that will be constructed from Mile Post (MP) 48.5 to MP 51.3 (Exhibit A).

A pedestrian bridge (Location 1, Exhibit A Sheet EV622) will be installed where the NMP crosses over the Laguna de Santa Rosa at the Wilfred-Bellevue Channel. The bridge will be a 111 foot long prefabricated Corten steel bow truss pedestrian bridge. The bridge will be placed on concrete abutments that will be located to clear span the stream. The abutments will be built on piles to minimize impacts to the stream and surrounding infrastructure. The piles will be driven outside of the stream. The pedestrian bridge is being constructed adjacent to the existing railroad bridges. No work will occur within the stream channel for the bridge construction.

Up to 16 trees will be removed (Location 2) to accommodate the NMP.

The two existing culverts (Locations 3 and 4, Exhibit A Sheets EV628 and EV631), that will be extended include one 24-inch diameter culvert and one 30-inch diameter culvert composed of reinforced concrete pipe. Culvert work will include removing existing culvert end treatments including rip rap and headwalls. New culvert pipe will be placed under the NMP and minor grading will occur from the end of the extended culvert to the right of way to maintain positive drainage flow. The new end treatment for these culverts will consist of headwalls, retaining walls, riprap, or a combination of these. The culvert diameters and capacities will not be altered.

The project will result in the removal of a total of 16 trees as follows: 14 native trees including oak (*Quercus* sp.), California buckeye (*Aesculus californica*), and arroyo willow (*Salix lasiolepis*) and two nonnative trees including red gum (*Eucalyptus camaldulensis*) and Italian stone pine (*Pinus pinea*).

Access to the project will be from the existing SMART right of way. No work will occur in the stream where surface water is present, therefore dewatering will not be necessary.

The project will result in permanent impacts to 0.32 acres (14,076 square feet) and 1,127 linear feet of stream and riparian habitat, and there will be no temporary impacts.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include:

- California tiger salamander (*Ambystoma californiense*): California Endangered Species Act (CESA) listed as threatened; Sonoma County Distinct Population Segment: Federal Endangered Species Act (ESA) listed as endangered
- tricolored blackbird (*Agelaius tricolor*): CESA listed as threatened
- white-tailed kite (*Elanus leucurus*): California Fully Protected
- California red-legged frog (*Rana draytonii*): California Species of Special Concern (SSC), ESA listed as threatened
- Steelhead – central California coast DPS (*Oncorhynchus mykiss irideus* pop. 8), ESA listed as threatened
- Pallid bat (*Antrozous pallidus*), SSC
- burrowing owl (*Athene cunicularia*): SSC
- western pond turtle (*Actinemys marmorata*): SSC
- American badger (*Taxidea taxus*): SSC
- nesting birds
- waterfowl
- aquatic organisms
- riparian habitat and vegetation
- aquatic habitat
- water quality

The adverse effects the project could have on the fish or wildlife resources identified above include:

- loss of riparian and aquatic habitat
- change in contour of bed, bank, and channel
- change in flow depth, width, or velocity
- change in composition of channel materials
- increase of bank erosion during the project
- change in gradient of bed, channel, or bank
- loss of bank stability during the project
- soil compaction or other disturbance to soil layer
- restriction or increase in sediment transport
- short term release of contaminants
- colonization by exotic plant species
- disruption of nesting birds and other wildlife
- loss of aquatic and terrestrial wildlife species
- temporary impediment to migration of aquatic and terrestrial species
- increased turbidity
- disturbance from project activity

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site with the Permittee to verify compliance with the Agreement. The Permittee's presence is necessary for safety as SMART's railroad is active.
- 1.5 No Trespass. To the extent that any provisions of this Agreement provide for activities that require the Permittee to traverse another owner's property, such provisions are agreed to with the understanding that the Permittee possesses the legal right to so traverse. In the absence of such right, any such provision is void.
- 1.6 Designated Representative. Before initiating ground-disturbing Project activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this Agreement. The Permittee shall notify CDFW in writing five days prior to commencement of Project activities of the Designated Representative's name, business address, and contact information. Permittee shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this Agreement.
- 1.7 Notify CDFW Prior to Work. The Permittee shall notify CDFW by email at least five working days prior to commencement of covered activities. See contact information below.
- 1.8 Unauthorized Take. The Permittee is required to comply with all applicable State and Federal laws, including the California Endangered Species Act (CESA) and

Federal Endangered Species Act. This Agreement does not authorize the take of any state or federal endangered or threatened species. Liability for any take or incidental take of such listed species remains the responsibility of the Permittee for the duration of the project. Any unauthorized take of such species may result in prosecution and nullification of the Agreement. The Permittee has State authorization for incidental take of California tiger salamander under Fish and Game Code section 2081, subdivision (b), *CESA Incidental Take Permit No 2081-2021-089-03, California Department of Fish and Wildlife, dated August 26, 2022.*

- 1.9 Fish Passage. The Project shall comply with Fish and Game Code section 5901 and shall not install or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

Work Period and Planning

- 2.1 Work Period. All work shall begin on or after June 15 and all work shall be completed by October 15. Revegetation work is not limited to this work window but must be completed within the same season as project activities. If more time is needed to complete project activities, the work period may be modified in writing on a week-by-week basis by a CDFW representative. Requests for a work period extension shall: 1) describe the extent of work already completed; 2) detail the activities that remain to be completed; 3) detail the time required to complete each of the remaining activities; 4) provide photographs of both the current work completed and the proposed site for continued work; and 5) include an assessment of additional biological impacts as a result of the work extension.
- 2.2 Conduct Work During Daylight Hours. Work is restricted to daylight hours (one hour after sunrise to sunset).
- 2.3 Seasonal Work Restricted to Periods of Dry Weather. The work period for completing the work within the project area as defined in the project description shall be restricted to periods of dry weather. The project area is defined as the bed, bank, channel, and associated riparian habitat. The Permittee shall monitor forecasted precipitation. Construction activities shall cease when the National Weather Service 72-hour weather forecast indicates a 30 percent chance or higher of precipitation. All necessary erosion control measures shall be implemented prior to the onset of precipitation. Construction equipment and materials shall be removed if inundation is likely. After any storm event, the Permittee shall inspect all sites currently under construction and all sites scheduled to begin construction within the next 72 hours for erosion and

sediment problems and take corrective action as needed. Seventy-two hour weather forecasts from the National Weather Service shall be consulted and work shall not resume until runoff ceases and there is less than a 30 percent forecast for precipitation for the following 24-hour period.

- 2.4 No Work in Stream Where Surface Water Present. No work or equipment operation shall occur in the portion of the streambed where surface water is present or anticipated during the term of this agreement.
- 2.5 Best Management Practices. All Best Management Practices (BMPs) and other conditions as submitted in the Notification shall be implemented as part of this project, unless otherwise conditioned herein.
- 2.6 Work According to Documents. Except as they are contradicted by measures required by this Agreement, all work shall be conducted in conformance with the project description above and the avoidance, minimization, and mitigation measures provided in the notification package.
- 2.7 Work According to Plans. All work shall be completed according to the plans and all associated appendices and attachments submitted to CDFW including the engineering plans titled *Non-Motorized Pathway Segment 3*, prepared by SMART with support from GHD and other firms, dated June 2021. If the Permittee finds it necessary to update project plans prior to construction, the updated plans will be submitted to CDFW at least 30 days prior to beginning project activities to determine if an Amendment to this Agreement is required. Project activities shall not proceed until CDFW has accepted the updated plans in writing. At the discretion of CDFW, minor plan modifications may require an amendment to this Agreement. At the discretion of the CDFW, if substantial changes are made to the original plans this Agreement becomes void and the Permittee shall submit a new notification.

Wildlife Protection and Prevention - Biologist

- 2.8 Qualified Biologist Approval. No later than 30 days prior to project activities covered by this Agreement, the Permittee shall submit to CDFW, for review and approval, the qualifications for the biologist that shall oversee the implementation of the conditions in this Agreement and conduct surveys or monitoring work using the Biologist Resume Form (found at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=202869>) or another format containing the same information. Project activities covered by this Agreement may not commence unless CDFW has approved the proposed biologist. At minimum the CDFW approved biologist shall have a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting

surveys for each species that may be present within the project area.

- 2.9 CDFW Approved Biologist On-site. A Qualified Biologist shall be on site daily to monitor compliance with all conditions of this Agreement, unless otherwise approved in writing by CDFW. The Qualified Biologist shall have the authority to halt project activities, through communication with the Project Manager or their on-site designee, in order to comply with the terms of this Agreement and otherwise avoid impacts to species and or habitats. If the on-site Qualified Biologist has requested a work stop due to failure to implement any of the conditions CDFW shall be contacted within 24 hours.
- 2.10 Training Session for Personnel. Permittee shall ensure that a CDFW-approved Qualified Biologist conducts an education program for all persons employed on the project prior to performing covered activities. Instruction shall consist of a presentation by the designated Qualified Biologist that includes a discussion of the biology and general behavior of any sensitive species which may be in the area, how they may be encountered within the work area, and procedures to follow when they are encountered. The status of CESA-listed species including legal protection, penalties for violations and project-specific protective management measures provided in this Agreement shall be discussed. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to on-site project activity. Copies of the Agreement for this project shall be maintained at the worksite with the project supervisor. The Permittee or Qualified Biologist shall prepare and distribute wallet-sized cards or a factsheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign an affidavit stating they attended the program and understand all protection measures. These forms shall be filed at the Permittee's office and be available to CDFW upon request.

Wildlife Protection and Prevention

- 2.11 Nesting Bird Surveys, Nest Protection, and Monitoring. If project activities are scheduled to occur during the general nesting season for birds (i.e., February 1 to August 31), a Qualified Biologist shall conduct a survey for active nests located within a minimum 500-foot radius of the project site. The survey shall be conducted no more than seven days prior to beginning project activities. The survey shall include searching thoroughly for cavity nesters, canopy nesters, as well as bank nesters. More than one qualified biologist may be needed to adequately search the project site and surrounding area. If tricolored blackbird is found during surveys, CDFW shall be notified immediately. If any active nests are discovered during the survey, the qualified biologist who conducted the survey shall determine appropriate buffer distances and shall consult with CDFW on these distances. No-disturbance buffers shall be demarcated in the field with high visibility fencing or flagging. If appropriately distanced no-disturbance buffers cannot be adhered to

during project activities, project activities shall be delayed until the nest is no longer active, as determined by a Qualified Biologist. The Qualified Biologist shall monitor the nest during project activities each day for one week, and weekly thereafter, to ensure that the nest is not being disturbed by project activities, unless otherwise approved by CDFW in writing. CDFW may increase the level of monitoring and the Permittee shall adhere CDFW required monitoring frequency. If the Qualified Biologist observes potential nest-disturbance behavior being displayed by nesting birds, the Qualified Biologist shall stop all work and contact CDFW within 24 hours. In this event, work shall not resume without CDFW's written permission. Nest monitoring shall occur as described above until the Qualified Biologist determines that the nest is no longer active and young are no longer dependent on parental care. If a delay in project activities greater than seven days occurs during the nesting season, a qualified biologist shall conduct another survey and consult with CDFW if active nests are found, prior to the project resuming work

- 2.12 Tricolored Blackbird. If nesting tricolored blackbird or evidence of their presence is found, CDFW shall be notified immediately, and work shall not occur without written approval from CDFW allowing the Project to proceed. Project activities shall not occur within 500 feet of an active nest unless otherwise approved in writing by CDFW. Presence of nesting tricolored blackbird may require a CESA Incidental Take Permit before Project activities may commence.
- 2.13 Bat Surveys. Prior to any tree trimming or removal, a Qualified Biologist shall conduct a habitat assessment for bats. The habitat assessment shall be conducted a minimum of 30 days prior to tree removal and shall include a visual inspection of potential roosting features (e.g., cavities, crevices in wood and bark, or exfoliating bark for colonial species, and suitable canopy for foliage-roosting species). If suitable habitat trees are found, they shall be flagged or otherwise clearly marked, CDFW shall be notified immediately, and tree trimming or removal shall not proceed without approval in writing from CDFW. Trees may be removed only if: a) presence of bats is presumed, or documented during the surveys described below, in trees with suitable bat habitat, and removal using the two-step removal process detailed below occurs only during seasonal periods of bat activity from approximately March 1 through April 15 and September 1 through October 15, or b) after a qualified bat biologist, under prior written approval of the proposed survey methods by CDFW, conducts night emergence surveys or complete visual examination of roost features that establish absence of roosting bats. Two-step tree removal shall be conducted over two consecutive days, as follows: 1) the first day (in the afternoon), under direct supervision and instruction by a qualified bat biologist with experience conducting two-step tree removal limbs and branches shall be removed by a tree cutter using chainsaws only. Limbs with cavities, crevices or deep bark fissures shall be avoided, and 2) the second day the entire tree shall be removed. CDFW reserves the right to provide additional provisions to this Agreement in the event that roosting bats are found and an Amendment to this Agreement may be required.

- 2.14 Burrowing Owl Surveys. To protect burrowing owl in their winter habitat, if project activities shall occur between September 1 and January 31, a Qualified Biologist shall conduct a habitat assessment and surveys, if warranted based on the habitat assessment, pursuant to the Department of Fish and Game Staff Report on Burrowing Owl Mitigation (2012) survey methodology prior to the commencement of project activities. If burrowing owl is detected, a Qualified Biologist shall establish suitable buffers to ensure the owl is not disturbed by the project pursuant to the above survey methodology's buffer distances, unless otherwise approved in writing by CDFW. To prevent encroachment, the established buffers shall be clearly marked by high visibility material. The established buffers shall remain in effect until the burrow is no longer occupied as confirmed by the Qualified Biologist, unless a burrowing owl exclusion plan is submitted to CDFW for review, including but not limited to habitat compensation and funding for management in perpetuity. The habitat compensation and funding shall be approved in writing by CDFW and completed prior to project start unless, otherwise approved in writing by CDFW.
- 2.15 Western Pond Turtle Surveys. A Qualified Biologist shall conduct a pre-construction survey for the western pond turtle and their nests within 48 hours of the commencement of project activities. If western pond turtle or their nests are detected at any time CDFW shall be notified immediately, and the Qualified Biologist shall relocate the turtle to appropriate habitat within the stream it was found. The Permittee shall prepare and implement a Western Pond Turtle Habitat Improvement Plan, if western pond turtle or their nests are found, if required and approved by CDFW.
- 2.16 American Badger Surveys. A Qualified Biologist shall conduct a pre-construction survey for the American badger and suitable dens within 48 hours of the commencement of project activities. The survey area shall include the project area and a 50-foot buffer zone within suitable habitat. If badgers are found on or adjacent to the project site a 50-foot construction avoidance buffer shall be established and CDFW shall be immediately notified. If the occupied den must be disturbed, Permittee shall submit a relocation plan to CDFW and receive written approval.
- 2.17 California Red-legged Frog Habitat Assessment and Surveys. At least two weeks prior to the commencement of ground-disturbing activities, the Project activity area and nearby vicinity, including a minimum 500-foot radius surrounding the Project activity area, shall be assessed by a Qualified Biologist for the presence of California red-legged frog individuals and habitat features. Habitat features include both aquatic habitat such as plunge pools and ponds and terrestrial habitat such as burrows or other refugia. If habitat occurs, then no more than 48 hours prior to ground-disturbing activities the area shall be surveyed by a Qualified Biologist. The results of the habitat feature assessment and survey shall be submitted to CDFW via email (see Contact Information) for written acceptance prior to starting Project activities. Burrows and refugia sites shall be flagged or otherwise marked for

avoidance; Project activities shall avoid habitat features to the extent feasible. If California red-legged frogs are encountered during the assessment or Project activities, the Project activity shall not proceed or all work shall cease, and CDFW shall immediately be notified. Work shall not proceed until the frog, through its own volition, moves out of harm's way and CDFW has provided permission in writing to proceed with the Project activity. In this case, CDFW may require additional protection measures which shall be implemented by the Permittee. If California red-legged frog is encountered or the Qualified Biologist determines that impacts to the species are likely to occur, Permittee shall consult with USFWS pursuant to the ESA and receive written approval from CDFW prior to the impact.

- 2.18 Daily Inspections. At the beginning of each workday, a Biological Monitor shall inspect the project area unless otherwise approved in writing by CDFW. If special status species are encountered during project activities, all work shall cease and CDFW shall immediately be notified. Work shall not proceed without written approval from CDFW.
- 2.19 Wildlife Encounters. If any wildlife is encountered during the course of construction, all work in the immediate area shall cease and said wildlife shall be allowed to leave the construction area unharmed. If any listed fish and wildlife are encountered, the Permittee shall contact CDFW immediately.
- 2.20 Trenches and Holes. At the end of each work all trenches and holes greater than one foot deep shall be covered to prevent wildlife from entering. When trenches cannot be fully covered, an escape ramp shall be placed at each end of any constructed open trench or hole to allow any wildlife that may have become entrapped in the trench or hole to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.
- 2.21 Pipes, Hoses, and Similar Structures. All pipes, hoses, or similar structures less than 12 inches in diameter shall be closed or covered to prevent animal entry. All construction pipes or similar structures greater than 2 inches in diameter stored at the project area overnight shall be inspected thoroughly for wildlife before the pipe or similar structure is buried, capped, used, or moved.
- 2.22 Refueling of Equipment. Refueling of construction equipment and vehicles may not occur within 175 feet of any water body, or anywhere that spilled fuel could drain to a water body. Tarps or similar material shall be placed underneath the construction equipment and vehicles, when refueling, to capture incidental spillage of fuels. Equipment and vehicles operating in the project area shall be checked and maintained daily to prevent leaks of fuels, lubricants, or other liquids.

Vegetation Protection

- 2.23 Habitat Protection. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the project. Vegetation outside the construction corridor shall not be removed or damaged without prior consultation and approval of a CDFW representative.
- 2.24 Vegetation Marked for Protection. Prior to project activities, the Permittee shall clearly mark all vegetation within the project area that shall be avoided during project activities.
- 2.25 Riparian Tree Protection. For each existing tree with a greater than four-inch diameter at breast height within or adjacent to the work area that will be retained following the project, a critical root zone shall be established by the Qualified Biologist. The critical root zone shall extend from the trunk to the dripline (i.e., the outer extent of the tree canopy) of each tree within the project area and shall be flagged or fenced off from work. Protection and avoidance of the critical root zone shall be emphasized during the on-site education program to avoid impacts. If work will be conducted within the root protection zone of a tree that tree shall be considered an "impacted tree", and the Permittee or Qualified Biologist shall monitor the tree for signs of mortality as a result of project. If the tree becomes injured or shows signs of mortality, additional revegetation actions shall be required.
- 2.26 Tree Drip Line. Construction materials, equipment storage, and parking areas shall be located outside the drip line of any preserved tree. Construction equipment shall not cause root compaction.
- 2.27 Riparian Tree Removal. No more than 16 trees shall be removed as part of this project, and no more than 15 percent of the canopy of other trees shall be trimmed. If the removal of additional trees is required or more than 15 percent of a tree is trimmed, the Permittee must receive approval from CDFW in writing before construction activities begin, and additional tree plantings may be required.
- 2.28 Prohibited Plant Species. Permittee shall not plant, seed or otherwise introduce invasive exotic plant species. Prohibited exotic plant species include those identified in the California Exotic Pest Plant Council's database, which is accessible at: www.cal-ipc.org/paf/.
- 2.29 Phytophthora. Permittee shall implement measures to avoid using plant stock that may be infected with the plant pathogen *Phytophthora* sp. Measures to avoid contamination with *Phytophthora* sp. may include, but are not limited to, avoiding collection of propagules from: 1) known or likely infected areas; 2) during wet conditions; 3) when soil is muddy; or 4) from within 0.5 meters of the soil surface. Measures may also include implementing heat or chemical treatments to collected seeds prior to installation.

- 2.30 Allowable Herbicide. If herbicide use is necessary, only herbicides registered with the California Department of Pesticide Regulation shall be used. All herbicides shall be applied in accordance with regulations set forth by the California Department of Pesticide Regulation and according to labeled instructions. Only herbicides approved for use in aquatic environments are permitted. Care shall be taken to avoid herbicide contact with native vegetation, and it shall only be applied on calm days (wind speed less than 5 miles per hour) to prevent airborne transfer of herbicide. No herbicides shall be used where threatened or endangered species occur, unless otherwise approved by in writing by CDFW.
- 2.31 Disposal of Vegetation and Debris. All removed vegetation and debris shall be moved outside the ordinary high-water mark prior to inundation by water. All removed vegetation and debris shall be disposed of according to state and local laws and ordinances.
- 2.32 Treat Exposed Areas. All exposed/disturbed areas and access points within the riparian zone left barren of vegetation as a result of the construction activities shall be restored by seeding with a blend of native erosion control grass seed. Seeded areas shall be mulched. Landscape fabric shall not be used. Revegetation shall be completed as soon as possible after construction activities in those areas cease. Seeding placed after October 15 must be covered with broadcast straw, jute netting, coconut fiber blanket or similar erosion control blanket.

Culvert Design and Construction

- 2.33 Culvert Design. The culvert design shall be properly aligned within the channel and otherwise engineered, installed and maintained, to resist washout and erosion of the stream bed, stream banks and/or fill.
- 2.34 Culvert Backfill. Backfill material shall be free of rocks, limbs or other debris that could dent the pipe or allow water to seep around the pipe. The crossing backfill base and sidewall material shall be compacted before the pipe is placed in its bed. A minimum amount of fill material shall be used for the bed to reduce seepage into and along the fill.
- 2.35 Culverts shall be kept open. Permanent culverts shall be maintained and kept open year-round. The Permittee is responsible for such maintenance as long as the culvert remains in the stream. Substantial changes to the bed, channel or bank necessary for maintenance may require separate notification under Fish and Game Code section 1602, subdivision (a).

Bridge Design and Construction

- 2.36 Bottom of Bridges above 100-year Mark. The bottom of bridge superstructure shall be of sufficient height to allow unrestricted passage of water and debris during

100-year storms. As long as the bridge remains, the Permittee is responsible for maintaining free-flowing conditions under the bridge and clearing of all debris. Substantial changes to the bed, channel, or bank necessary for maintenance may require an amendment to this Agreement or separate notification under Fish and Game Code section 1602, subdivision (a).

2.37 Abutment Location. Abutments shall be located outside the stream banks and above ordinary high water.

Concrete and Cement Based Products

2.38 Concrete – Primary Containment. The Permittee shall install the necessary containment structures to control the placement of wet concrete and to prevent it from entering into the channel outside of those structures. No concrete shall be poured within the high flow line if the 15-day weather forecast indicates any chance of rain greater than 20 percent.

2.39 Cement Based Products. All cement-based products (concrete, mortar, etc.) poured or applied wet onsite shall be excluded from the wetted channel or areas where they may come into contact with water for a period of 30 days after application. During that time the product shall be kept moist and runoff from the product shall not be allowed to enter the stream. Commercial sealants may be applied to the product surface or mixture where difficulty in excluding flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is cured.

2.40 Concrete – Designated Monitor. At all times when the Permittee is pouring or working with wet concrete within CDFW jurisdictional area there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures.

Rock Slop Protection

2.41 Rock Slop Protection - Limitations. Rock slope protection (i.e., riprap) shall not be used for armoring/protecting the bank if any of the following criteria apply:

- Rock slope protection could transfer erosive forces to the opposite bank or another area downstream;
- Rock slope protection would narrow or otherwise constrain the stream channel, limiting passage of peak flows and debris; or
- Installation of the rock would require removal of woody vegetation and/or trees over a 4-inch diameter breast height, unless otherwise permitted in this Agreement.

- 2.42 Rock Slope Protection and Rock Trenches. Permittee shall install angular, energy dissipating rock slope protection and rock trenches that are properly sized to withstand wash out during peak flows. Rock that is placed within the channel shall be installed below grade. Only clean material such as rock riprap that is free of trash, debris, and deleterious material shall be used. Asphalt shall not be used.
- 2.43 Fill Voids in Rock Slope Protection and Rock Trenches. Permittee shall ensure that all voids and spaces within the riprap are filled with smaller rock, gravels, and native soil material, and/or willow cuttings. Cementitious grouts shall not be used.
- 2.44 Geotextile Lining. Geotextile lining may only be used to ensure the engineered stability of the rock slope protection and the Permittee shall monitor it for the life of the project to ensure that it is never exposed to the stream. If the geotextile lining is exposed to the stream, CDFW must be notified, proper permits acquired, and the rock slope protection structure must be repaired immediately. This may require additional permits from CDFW. **No geotextile lining shall be placed where it may be exposed to stream flows.**

Erosion and Sediment Control

- 2.45 Erosion Control. At no time shall silt laden runoff be allowed to enter a river, stream, or lake or directed to where it may enter a river, stream, or lake. Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter a river, stream, or lake. Erosion control measures, such as, silt fences, straw hay bales, gravel or rock lined ditches, water check bars, and broadcasted straw shall be used wherever sediment has the potential to leave the work site and enter the river, stream, or lake.
- 2.46 Excavation. No spoil from the excavation shall be placed on the stream side. Excavated spoil shall be removed to an area where the sediment will not deliver to a watercourse.
- 2.47 No Monofilament. Permittee shall not use erosion control materials containing plastic monofilament netting (erosion control matting) or similar material containing netting within the project area due to documented evidence of amphibians and reptiles becoming entangled or trapped in such material. Acceptable substitutes include coconut coir matting or similar.
- 2.48 Erosion Control Monitoring. Permittee shall monitor erosion control measures during and after each storm event and repair and/or replace ineffective measures immediately.
- 2.49 Groundwater Encountered. Nuisance groundwater encountered during excavation within the streambed or floodplain shall be discharged at a location where it will

infiltrate into the soil, resulting in no overland flow. Turbid water shall not be allowed to flow downstream.

- 2.50 Disposal and Removal of Materials. All removed spoils and construction debris shall be moved outside of the work area prior to inundation by water. Spoil sites shall not be located within the stream channel or areas that may be subjected to stream flows, where spoil may be washed back into a stream, or where it may impact streambed habitat, aquatic or riparian vegetation. All removed material shall be disposed of according to State and local laws and ordinances.
- 2.51 Stockpiled Materials. Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted.
- 2.52 No Dumping. Permittee and all contractors, subcontractors, and employees shall not dump any litter or construction debris within the stream, or where it may pass into the stream.
- 2.53 Pick Up Debris. Permittee shall pick up all debris and waste daily.
- 2.54 Wash Water. Water containing mud, silt, or other pollutants from equipment washing or other activities shall not be allowed to enter a lake or flowing stream or placed in locations that may be subjected to high storm flows.

Toxic and Hazardous Material

- 2.55 Toxic Materials. Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into the stream or its tributaries shall be contained in water tight containers or removed from the project area.
- 2.56 Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering the Waters of the State.
- 2.57 Spill Kits. Prior to entering the work site, all field personnel shall know the location of spill kits and trained in their appropriate use.
- 2.58 Spill of Material Deleterious to Fish and Wildlife. In the event of a hazardous materials spill into a stream (e.g., concrete or bentonite), Permittee shall immediately notify the California Office of Emergency Services State Warning Center by calling 1-800-852-7550 and immediately provide written notification to CDFW by email at R3LSA@wildlife.ca.gov. Permittee shall take all reasonable

measures to document the extent of the impacts and affected areas including photographic documentation of affected areas, injured fish and wildlife. If dead fish or wildlife are found in the affected area, Permittee shall collect carcasses and immediately deliver them to CDFW. Permittee shall meet with CDFW within ten days of the reported spill in order to develop a resolution including: site clean-up, site remediation and compensatory mitigation for the harm caused to fish, wildlife and the habitats on which they depend as a result of the spill. The Permittee shall be responsible for all spill clean-up, site remediation and compensatory mitigation costs. Spill of materials to waters of the state that are deleterious to fish and wildlife are in violation of Fish and Game Code section 5650 et. seq. and are subject to civil penalties for each person responsible. CDFW reserves the right to refer the matter to the District Attorney's Office if a resolution cannot be agreed upon and achieved within a specified timeframe, generally six months from the date of the incident.

- 2.59 Spill Containment. All activities performed in or near a river, stream, or lake shall have absorbent materials designated for spill containment and cleanup activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the cleanup activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.

3. Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

- 3.1 Revegetation Plan. Permittee shall submit a Revegetation Plan (Plan) for CDFW review and written approval no later than 30 days prior to Plan implementation. The Plan shall be implemented within the same season as project activities unless otherwise approved in writing by CDFW. If planting occurs in a later year, a higher replacement ratio may be required by CDFW to offset the temporal loss of habitat, and an amendment to this or another associated Agreement may be required. The Plan shall include: 1) the revegetation of at least 0.64 acres and 2,254 linear feet of riparian habitat onsite or offsite as close to the project site as possible, and within the same watershed, to offset permanent impacts, unless otherwise approved in writing by CDFW, and 2) a detailed planting plan using native species appropriate to the area. More than restoration one plan may be necessary for restoration activities in different locations. The Plan shall include monitoring and success criteria. An amendment to this Agreement or a separate Agreement may be required by CDFW based on the Plan.

To compensate for the removal of trees, the Permittee shall replace all removed trees at the below minimum ratios within the stream from which they are removed, unless otherwise approved by CDFW. The plan shall describe the number of each species removed, diameter at breast height

(DBH) of each removed tree, and from which stream the removal occurred. If the restoration plan must be revised, the revised plan shall be submitted to CDFW no later than 30 days prior to plan implementation and must be approved by CDFW in writing.

- 1:1 for removal of non-native trees;
- 1:1 for removal of native trees up to 3 inches DBH
- 3:1 for removal of native trees 4 to 6 inches DBH;
- 6:1 for removal of native trees greater than 6 inches DBH;
- 4:1 for removal of oak (*Quercus* sp.) trees up to 6 inches DBH;
- 5:1 for removal of oak trees between 7 and 15 inches DBH; and
- 10:1 for removal of oak trees greater than 15 inches DBH.

Replacement tree plantings shall consist of 5-gallon or greater saplings and locally collected seeds, stakes, or other suitable nursery stock as appropriate, unless otherwise approved by CDFW, and shall be native species to the area adapted to the lighting, soil, and hydrological conditions at the replanting site. If acorns are used for oak tree replanting, each planting will include a minimum of three acorns planted at an approximately two-inch depth to minimize predation risk. Large acorns shall be selected for plantings. Replacement oaks shall come from nursery stock grown from locally sourced acorns, or from acorns gathered locally, preferably from the same watershed in which they are planted.

- 3.2 Revegetation Success, Monitoring, and Maintenance. Permittee shall monitor and maintain, as necessary, all plants for a minimum of five years. At the end of the five years of monitoring, with at least three years without supplemental irrigation, the plantings shall attain at least 80 percent site cover of the treatment area, 85 percent survival success (for non-tree species), 85 percent survival each for non-oak trees and oaks, and shall not contain more than 5 percent relative cover of plants listed on Cal-IPC high or moderate lists.

If revegetation survival and/or cover requirements do not meet established goals as determined by CDFW, Permittee is responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

- 3.3 Irrigation. When supplemental watering is used to establish and maintain plant growth in order to meet success criteria, irrigation shall be done in the most water efficient manner possible, such as using hand watering, drip/microirrigation or through the use of a time release system.

- 3.4 Control Invasive Species. Permittee is responsible for monitoring and if needed, eradication of invasive exotic species that may occur within the project area for a minimum of two years following project completion. All revegetation efforts shall include local plant materials native to the project area.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

- 4.1 Survey Reports. Survey results for nesting birds and special status species described above shall be submitted to CDFW prior to the start of project activities.
- 4.2 Revegetation Annual Report. Permittee shall submit an annual status report on the revegetation work to CDFW by January 31 of each year after the initial revegetation work for the duration of the monitoring period (see Measure 3.1). This report shall include the percent survival, percent cover, and size of both tree and shrub species; an overview of the revegetation effort; photos from designated photo stations; and the method used to assess these parameters.
- 4.3 Photographic Documentation of Work. Prior to commencement of work a minimum of four (4) vantage points that offer representative views of the project site and work areas shall be identified. The Permittee shall photograph the project area from each of the vantage points, noting the direction and magnification of each photo. Upon completion of work, the Permittee shall photograph post-project conditions from the vantage points using the same direction and magnification as pre-project photos. A reference key shall be submitted with the photos describing the location of the photo, the direction of the view, and whether the photo is pre- or post-construction. All photos shall be submitted within 30 days of project conclusion.
- 4.4 California Natural Diversity Data Base. If any special status or other sensitive species are observed during project surveys or at any time during project implementation or mitigation and monitoring work, Permittee shall submit California Natural Diversity Data Base (CNDDB) forms to the CNDDB within five working days of the sightings and provide the CDFW Bay Delta Region (Region 3) with copies of the CNDDB forms and survey maps. Refer to <https://wildlife.ca.gov/Data/CNDDB/Submitting-Data> for online submission forms and additional information on CNDDB.

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be submitted through EPIMS as instructed by CDFW.

To Permittee:

Bill Gamlen
Sonoma-Marín Area Rail Transit
EPIMS-SON-23219-R3
SMART Various Non-Motorized Pathways Segment 3: Golf Course Dr. (MP 48.5)
to Bellevue Ave (MP 51.3)
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954
BGamlen@sonomamarintrain.org

To CDFW:

Department of Fish and Wildlife
Bay Delta Region
EPIMS-SON-23219-R3
SMART Various Non-Motorized Pathways Segment 3: Golf Course Dr. (MP 48.5)
to Bellevue Ave (MP 51.3)
R3LSA@wildlife.ca.gov; Nick.Wagner@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with, or obtaining any other permits or authorizations that might be required under, other federal, state, or local laws or regulations before beginning the project or an activity related to it. For example, if the project causes take of a species listed as threatened or endangered under the Endangered Species Act (ESA), such take will be unlawful under the ESA absent a permit or other form of authorization from the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the Fish and Game Code including, but not limited to, Fish and Game Code sections 2050 *et seq.* (threatened and endangered species), section 3503 (bird nests and eggs), section 3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall use the "Amendments & Extension" form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall use the "Amendments & Extension" form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with Fish and Game Code section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall use the "Amendments & Extension" form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with Fish and Game Code section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable Fish and Game Code section 711.4 filing fee listed at <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>.

TERM

This Agreement shall expire on December 31, 2026, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as Fish and Game Code section 1605, subdivision (a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

- A. Engineering plans titled *Non-Motorized Pathway Segment 3*, prepared by SMART with support from GHD and other firms, dated June 2021.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with Fish and Game Code section 1602.

CONCURRENCE

Through the electronic signature by the permittee or permittee's representative as evidenced by the attached concurrence from CDFW's Environmental Permit Information Management System (EPIMS), the permittee accepts and agrees to comply with all provisions contained herein.

The EPIMS concurrence page containing electronic signatures must be attached to this agreement to be valid.



Chris Coursey, Chair
Sonoma County Board of Supervisors

Mary Sackett, Vice Chair
Marin County Board of Supervisors

Janice Cader Thompson
Sonoma County Mayors' and
Councilmembers Association

Kate Colin
Transportation Authority of Marin

Victoria Fleming
Sonoma County Mayors' and
Councilmembers Association

Patty Garbarino
Golden Gate Bridge,
Highway/Transportation District

Ariel Kelley
Sonoma County Mayors' and
Councilmembers Association

Eric Lucan
Marin County Board of Supervisors

Mark Milberg
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

Gabe Paulson
Marin County Council of Mayors and
Councilmembers

David Rabbitt
Sonoma County Board of Supervisors

Eddy Cumins
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.SonomaMarinTrain.org

May 21, 2025

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Status of Vacant Positions as required by AB 2561

Dear Board Members:

RECOMMENDATIONS: Informational Only

SUMMARY:

California State Assembly Bill (AB) 2561 (McKinnor) was approved on September 22, 2024, and added §3502.3 to the Government Code. This law requires public agencies to present the status of their union vacancies at a public hearing at least once per fiscal year. It also requires the agency to provide a summary of recruitment and retention efforts, and identify any necessary changes to policies, procedures, and recruitment efforts that may lead to obstacles in the hiring process. The presentation must be made prior to the adoption of a final budget for the fiscal year.

Below are the current vacancy rates per bargaining unit.

Teamsters (Technicians) Vacancy Rate	
Total number of approved headcount	19
Total number of vacancies	0
Vacancy Rate%	0%
Teamsters (Supervisor) Vacancy Rate	
Total number of approved headcount	5
Total number of vacancies	2
Vacancy Rate%	40%
Operating Engineers Local 3 (OE3) Vacancy Rate	
Total number of approved headcount	34
Total number of vacancies	1
Vacancy Rate%	3%
IAMAW (Machinists) Vacancy Rate	
Total number of approved headcount	25
Total number of vacancies	1
Vacancy Rate%	4%

Status of Current Vacancies

Teamsters – Supervisor Bargaining Unit

This unit is comprised of 5 positions with 2 vacancies. One position, Signal Supervisor, is vacant due to an internal promotion. An identified candidate is currently in background process and an offer letter is expected once the process is complete. The second position, Track Maintenance Supervisor, is vacant due to an internal promotion. An open recruitment was held and closed on May 4, 2025. Qualified applicants are being scheduled for interviews to be held in May.

IAMAW (Machinists) Bargaining Unit

This unit is comprised of 25 positions, with one position vacant, a Vehicle Maintenance Technician, due to the employee making a career change. A recruitment is active and open to both internal and external candidates.

Operating Engineers Local 3 (OE3) Bargaining Unit

This unit is comprised of 34 positions, with one position vacant, Engineer-Conductor, due to an employee leaving the area. The District currently has candidates in background to fill this position.

Recruitment and Retention Efforts

SMART participates in local job fairs and promotes job openings on various platforms including our website, job boards, and social media. SMART offers an Employee Referral program for certain hard to fill union positions. SMART distributes current job openings to a network of contacts across various organizations including educational institutes, veteran organizations, transportation organizations, Employment Development Department, Department of Rehabilitation, and others. For difficult positions to fill, SMART may retain the services of professional recruiter agencies.

SMART strives to retain talent by offering competitive pay, strong benefits, and retirement plans. In addition, SMART updates job descriptions as positions become available to ensure accurate job postings; offers internal promotion opportunities and education and training reimbursements; has established internal technician trainee programs that allow employees to learn on the job skills as well as classroom education to facilitate growth within the organization.

Identified necessary changes to policies, procedures, and recruitment activities

At this point, Staff has not identified any necessary changes to policies, procedures, or recruitment activities, however, SMART continues to evaluate and take steps to recruit and retain qualified candidates. It is worth noting that 47% of current staff has been with SMART for 6+ years (6 to 16+ years).

FISCAL IMPACT: There is no fiscal impact with this AB 2561 status update.

REVIEWED BY: [x] Finance /s/ [X] Counsel /s/

Respectfully,

/s/

Lisa Hansley
Human Resources Manager