



Thursday, October 15, 2020

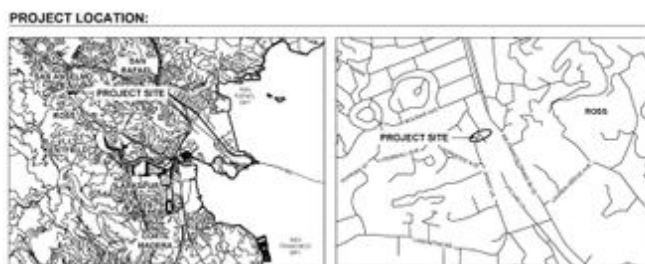
California Fish Passage Forum

Project Name	Ross Valley Sanitary District Shady Lane Abandoned Sewer and Barrier Removal Project
Contact Name	Steve Moore
Lead Organization	Ross Valley Sanitary District
Contact Email	smoore@rvsd.org
Phone Number	(415) 870-9764
Date	Thursday, October 15, 2020

PROJECT INFORMATION

1. Location of Project 37°58'1.48"N 122°33'39.17"W

2. Attach a map of your project



3. Description of project, including, deliverables and outcomes you seek to achieve. Please clearly describe which portion of the project Forum funding would be applied to, and the specific deliverables and outcomes expected to result from this funding.

In 2019, Ross Valley Sanitary District (RSVD) replaced an aging sanitary sewer line that crossed the bed of Ross Creek immediately upstream of Shady Lane Bridge with a deeper siphon pipe. The abandoned sewer line remains encased in a concrete weir on the bed of the creek and is currently acting as an unsightly and ecologically detrimental grade control for the creek. The weir is 3.5-ft tall measured from the bottom of the two-foot deep scour pool. The 18-inch drop from the top of the encasement to the water surface exceeds fish passage design criteria for the younger age classes of fish. A geomorphic assessment provides the basis for the concept design to remove this barrier by replacing the abandoned sewer line and concrete encasement with a natural channel bottom composed of the native channel bed material of coarse cobble and boulders.

700-ft below the project site, Ross Creek joins San

Anselmo Creek to form Corte Madera Creek. This barrier is the first barrier that migrating steelhead will encounter. Removing it will provide passage for resident-trout sized juvenile steelhead and also younger age classes between Corte Madera Creek and 8,000-lf of the Ross Creek stream channel that is accessible upstream.

75% design plans are completed for this project. The grant is requesting funding for the following items:

Tas k #	Task	Deliverable	Outcome	CA Fish Passage Forum	RVSD
1	Mobilization	Contract signed, bonds and permits in place.	Contractor is ready to begin demolition		\$25,605

2	Demolition	Exposed encased sewer line removed	Barrier removed and fish passage restored for all age class salmonids	\$5,250	\$1,900
3	Channel Restoration	Natural channel installed	Grade restored and flow heterogeneity created		\$36,890
4	Planting	Plants installed per plan and irrigated for two years.	Shade on the channel restored and native habitat created	\$11,575	
Total				\$16,825	\$64,395

4. Select all components that apply to your project.

Development of engineering design plans

Barrier removal or remediation

Habitat restoration

If you answered "yes" to question 6, please provide the PAD ID number(s).

735324

18. Attach a copy of your monitoring plan, (if available) and indicate the person and/or organization that will be responsible for implementing.**



SHDY_MonitoringPlan.pdf

If you would like to also upload a

5. List all partner organizations.

Ross Valley Sanitary District
Town of Ross
Friends of Corte Madera Creek Watershed
Marin RCD

6. Does the barrier(s) being addressed through this project have a Passage Assessment Database (PAD) identification number(s)?

YES

7. Describe the barrier(s) under "average" conditions, if it is a complete, temporal, or partial barrier, how often passage is provided for both adult and juvenile anadromous fish, and if the information is available (e.g., meets fish passage criteria for adults 45% of the time and 0% of the time for juveniles). Please specify which species you are referring to when describing barrier status.

The current entry in the PAD notes the weir is not a barrier based on professional judgment. Follow up discussions with the Ross Taylor, the original assessor, has led to a revised understanding that this feature does create a barrier to fish passage. The following quote describes this further.

"The ecological benefits of removing the abandoned sewer line encasement would be improved passage for resident-trout sized juvenile steelhead and also younger age classes of fish. The 18-inch drop from top of encasement to the water surface exceeds fish passage design criteria for the younger age classes of fish." Ross Taylor personal discussion.

8. Indicate how you determined that this barrier is a high priority project and/or addresses a high priority barrier. (Please check all that apply.)

Endorsed by an agency

Local knowledge/conversation with local representatives

9. List the name(s) of the recovery plans and the specific task that name this barrier/project as a high priority, the agency that endorsed this project, or the local representative that names this project as a priority.

The California Department of Fish and Wildlife conducted a stream habitat assessment of Ross Creek in 2009. The recommendations in the report (CDFW 2013) include the following:

Increase the canopy on Ross Creek by planting appropriate native vegetation.

Access for migrating salmonids ...should be assessed.... Where needed, (barriers) should be replaced or modified to improve fish passage.

10. The California Fish Passage Forum (Forum) has seven (7) overall objectives. Please check each objective your project will help to address. (check all that apply)

1. Remediate barriers to effective fish migration.

11. Provide a brief explanation of how your project addresses all of the checked boxes in question 10.

A 21-inch sewer, encased in concrete, rests on the bed of Ross Creek. The concrete casing forms a 3.5-ft dam in the bed of the creek, sufficient to be a barrier to most YOY steelhead seeking summer rearing habitat or to smolts attempting to leave the creek. This project completely removes this barrier.

12. Select each anadromous fish species that will benefit from your

Coho salmon

Steelhead/rainbow trout

13. Provide all relevant data on anticipated outcomes of implementing this project. *

- **30-lf** Stream miles restored or enhanced
- **1,500-sf** Acres of habitat restored
- **1** Number of barriers removed/remediated
- **2** Outreach accomplishments (number of presentations given, materials produced, individuals reached etc.)

14. Provide the location and distance in stream miles to downstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

The Corte Madera Creek Flood Control Project 0.35 miles downstream of the project is considered a complete barrier to steelhead spawning, although there are records of a few spawners navigating it. The Marin County Flood Control and Water Conservation District plans to retrofit the concrete channel and the fish ladder at its upstream end to provide fish passage for all age classes in 2022.

15. Provide the location and distance in stream miles to upstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

The first barrier upstream of the project is a concrete arch culvert with concrete aprons about 3,000 feet upstream. It was modeled as passable by adults for 10% of flows with the main problem being lack of depth (Ross Taylor Associates 2000)

16. Indicate which of the Forum's priority habitats that will be enhanced or restored as a result of this project (choose all that apply).

Spawning habitat

Rearing habitat

17. Has the owner and/or responsible organization/agency of the barrier(s) proposed for removal and/or remediation been identified, notified, and given permission for this project to proceed as proposed?

YES

If YES, please provide the name of the entity that owns/is responsible, and describe how consent to proceed was obtained/documented, and their role (if any) in any monitoring.

The barrier is owned by the Ross Valley Sanitary District, which is the project sponsor.

***The Forum recommends, as a bare minimum, applicants use the [California Fish Passage Forum's Fish Passage Barrier Removal Performance Measures and Monitoring Worksheet](#), and one year minimum pre- and post-project monitoring.*

19. Will your project be implemented within 12-18 months?

YES

20. Describe below the project's timeline (including permits), as well as implementation and monitoring dates. Please describe any issues that exist, if any, that could delay project implementation.

Permit Applications Submitted Fall 2020
Permits Received (anticipated) April 2021
Bid Documents Complete May 2021
Construction Advertised May 2021
Construction Starts Sept 2021
Construction Ends Nov 2021
Monitoring Year 1 2022
Monitoring Year 5 2026

21. Attach any designs of your project as well as any photos.



2020.09.02_SHDY_75pct w OHWM.pdf



LOS-RDG to Fish Passage Forum_Corte Mad...



SHDY_Grant Photos.pdf

PROJECT COSTS & BUDGET

22. Total Project Cost. 148284

23. Total funding amount being requested from the Forum. 20190

24. Total matching contributions (cash and in-kind) that will be included in your project. Include all matching contributions that have been secured and that are anticipated/requested. 128094

25. Total matching funds or in-kind support secured at time of application. 128094

26. List all partner contributions (cash and/or in-kind) using the table below:

	Match Source	Cash Contribution	In-Kind Contribution	Total Contribution
Partner 1	RVSD	\$128,094		\$77,274
Partner 2				
Partner 3				
Partner 4				
Partner 5				
Partner 6				
Partner 7				

27. Will the project be fully funded if funding being requested from the Forum is awarded?

YES

28. Attach a project budget sheet below that describes the overall project budget. Budgets MUST include:

- Total cost of project
- Total funding request from the Forum clearly indicating how/on what those funds will be spent.
- Monitoring costs
- Accompanying narrative explaining budget categories, amounts listed, what will be accomplished, and what deliverables are expected, etc. as needed.

If you do not have a detailed budget for your project, you can find a template and other resources on the [Funding page](#) of the Forum's website.

Attach a project budget, including a narrative that describes the overall project budget and a detailed budget breakdown. (Word, .pdf, or .xls)



2020.10.15_SHDY_Fish Passage Grant_ESTI...

PROJECT TEAM CAPABILITIES

29. Describe the experience and capabilities of up to three of the project leaders relative to their ability to implement this project. Please also describe any other Forum-supported projects project leaders have been involved with.

Steve Moore is the General Manager of the Ross Valley Sanitary District and will continue to be the client representative for this project.

Erik Stromberg, ASLA, CERP is a Principal at Restoration Design Group. He is the project manager for the design team and has over 15 years' experience designing and overseeing the construction of urban stream restoration projects in the Bay Area.

Sandy Guldman, President of the Friends of Corte Madera Creek Watershed, helped prepare this grant and is a project partner. She was the project manager during construction (contracts, invoicing, etc.) for the Pinole Fish Passage Project, FPF Cooperative Agreement Award F15AC00085

OUTREACH

30. Does your project have a public and/or community outreach component? If so, please describe (e.g., public workshops, tours, signs, scientific journal articles, scientific conference presentations, educational forums, professional photo/video development, website, press release, newsletter, social media outreach, volunteers, schools, etc.)

RVSD will publicize this in its newsletter. Friends of Corte Madera Creek Watershed will describe it in the first issue of its newsletter that appears after construction.

ALIGNMENT WITH NATIONAL PRIORITIES

31. Which National Fish Habitat Partnership (NFHP) National Conservation Strategies will be addressed by your project? (select all that apply)

3. Reconnect fragmented fish habitats.

Review the [NFHP National Conservation Strategies](#).

32. What U.S. Fish & Wildlife Service (USFWS) Climate Change Strategies will be addressed by your project? (select all that apply)

3.1 Take conservation action for climate-vulnerable species.

3.2 Promote habitat connectivity and integrity.

Review the [USFWS: Rising to the Urgent Challenge – Strategic Plan for Responding to Accelerating Climate Change](#).

33. Provide specific information about how your project addresses the climate change strategy you checked in question 32.

Temperature monitoring in Ross Creek conducted by Friends of Corte Madera Creek Watershed each summer since 2008 documents summer temperatures in Ross Creek that are too warm for steelhead trout in reaches downstream of the immediate effect of cool water leaking from the low-level release valve at Phoenix Lake Dam. This project will increase the riparian canopy and promote lower water temperatures in the summer.

When steelhead seek to escape unfavorable conditions, they need to move into deep pools and areas with structure that provide high-flow refugia in the winter and thermal refugia in the summer. These pools are found both upstream and downstream of the exposed sewer line. Removing this barrier is important to allow steelhead free access to these areas.

34. Would an existing tribal, commercial, recreational, or subsistence fishery be enhanced as a result of the project? If yes, please describe. If not, is there a future fishery that would potentially be restored through increased habitat as a result of this project? If so, describe.

Not applicable.

Thank you for your interest in the Forum, and for taking the time to submit this proposal. You will be contacted by the Forum to discuss the outcome of this funding process.



Monitoring Plan Shady Lane Sewer Removal Project San Anselmo, California

October 14, 2020

Prepared for:
Ross Valley Sanitary District
2960 Kerner Blvd
San Rafael, CA 94901

Contents

Project Description	1
Monitoring Plan Goals and Objectives.....	2
Vegetation.....	2
Vegetation Monitoring Method and Period	2
Vegetation Performance Criteria and Goals.....	2
Vegetation Adaptive Management Measures	2
Channel Stability	3
Floodplain Morphology Monitoring Method and Period	3
Geomorphic Adaptive Management Measures	3
Additional Monitoring and Reporting	4
Schedule for Monitoring and Reporting	4

Project Description

In 2019, Ross Valley Sanitary District (RSVD) replaced an existing sanitary sewer line crossing the bed of Ross Creek immediately upstream of Shady Lane Bridge with a deeper siphon pipe. The abandoned sewer line remains in the bed of the creek and is currently acting as an unsightly and ecologically detrimental grade control/weir for the creek. The weir is 3.5-ft tall measured from the bottom of the two-foot deep scour pool. The 18-inch drop from top of encasement to the water surface exceeds fish passage design criteria for the younger age classes of fish.

The RVSD will remove this barrier by replacing the abandoned sewer line with a natural channel bottom composed of the native channel bed material of coarse cobble and boulders. The concept design is included as Attachment 1 to this document.

Site access and the project improvements were developed in a manner to limit disturbance and to preserve existing riparian vegetation within the project footprint.

**RESTORATION
DESIGN
GROUP, INC**

BERKELEY
2612B 8th Street
Berkeley
California 94710
510.644.2798

MOUNT SHASTA
1808 Deetz Road
Mount Shasta
California 96067

Monitoring Plan Goals and Objectives

The primary monitoring goals of the Shade Lane Sewer Removal Project are to measure and monitor the project area to ensure that the restored channel remains stable (no excessive erosion or sedimentation) and the revegetation planted as part of the project remains viable and provides cover.

Vegetation

The vegetation planting component is anticipated to provide stability to upper banks and habitat. The monitoring program is designed to collect the data necessary to determine if success is being achieved at all stages of plant growth and determine if adjustments are necessary.

Vegetation Monitoring Method and Period

The initial 5-year establishment period will involve efforts to establish native plantings so that they can out-compete undesirable invasive plants. To ensure that this is occurring, the Project Sponsor or its representative will monitor percent cover within the project footprint and compare the change to pre-project conditions.

The monitoring will first measure pre-project cover in the project area. The subsequent post-project monitoring will measure and report progress toward achieving 80-90% of the pre-project cover at the end of five years. Monitoring will be conducted annually for 5 years.

Vegetation Performance Criteria and Goals

Table 1. Vegetation Performance Criteria

	Year 1	Year 2	Year 3	Year 4	Year 5
% Cover Canopy (>8-ft)	15% of pre-project conditions	35% of pre-project conditions	50% of pre-project conditions	65% of pre-project conditions	80% of pre-project conditions
% Cover Ground (<8-ft)	25% of pre-project conditions	40% of pre-project conditions	55% of pre-project conditions	75% of pre-project conditions	90% of pre-project conditions

Table 1 shows the specific objectives for vegetation performance criteria. At year 5, a comprehensive evaluation of vegetative cover will be conducted to ensure success.

Vegetation Adaptive Management Measures

Based upon the monitoring results, the project vegetation specialist may determine that modifications to the original revegetation plans are in order due to different or changing conditions. For example, there may be natural native plant colonization that is different than what is prescribed by the planting plan

or there might be areas subject to frequent scour or too dry to support the intended vegetation cover. The vegetation specialist should propose a modified cover that complies with hydraulic objectives, the project goals, and other requirements set by the regulatory agencies.

Channel Stability

The primary geomorphic performance criterion for channel morphology is whether or not the channel grade is stable. While there are no specific quantitative performance criteria for this monitoring item, the goal is avoidance of any condition (e.g. headcuts, bank erosion, excessive deposition) that may lead to significant erosion next to critical structures such as bridge crossings or deposition that leads to significant reduction in flood conveyance. This goal will be evaluated by a review of thalweg survey data (Years 1, 3, and 5) and visual inspection (annually).

Floodplain Morphology Monitoring Method and Period

Visual Inspections

The channel and project area will be inspected annually for five years for any problems and areas of excessive erosion or deposition. The inspections will be visual but will also include examination of photos and thalweg surveys in order to determine any trends (see below).

Photopoints

The project sponsors or its representatives will conduct photographic surveys for the first five years at four fixed photo-monitoring stations to observe changes over time.

Geomorphic Survey

The project sponsors or its representatives will conduct a thalweg survey of the project area for Year 1, 3, and 5 post-construction to observe changes over time.

Geomorphic Adaptive Management Measures

Channel changes, as measured by the methods above, will be compared by a geomorphologist against previous data in order to assess changes and make recommendations, if necessary. The key areas of concern will likely be: incision of the channel to a degree that could impair stability or habitat quality or sedimentation to a degree that could impair flood conveyance. The project geomorphologist should make recommendations to rectify any problems in consultation with the Project Sponsor and appropriate agencies. No specific adaptive management measures are included in this task.

If surveys or visual inspections indicate that there may be excessive erosion adjacent to critical structures, then measures will be implemented accordingly to repair the eroded area. Depending on the extent and severity of the erosion, a registered geotechnical engineer may be retained.

Additional Monitoring and Reporting

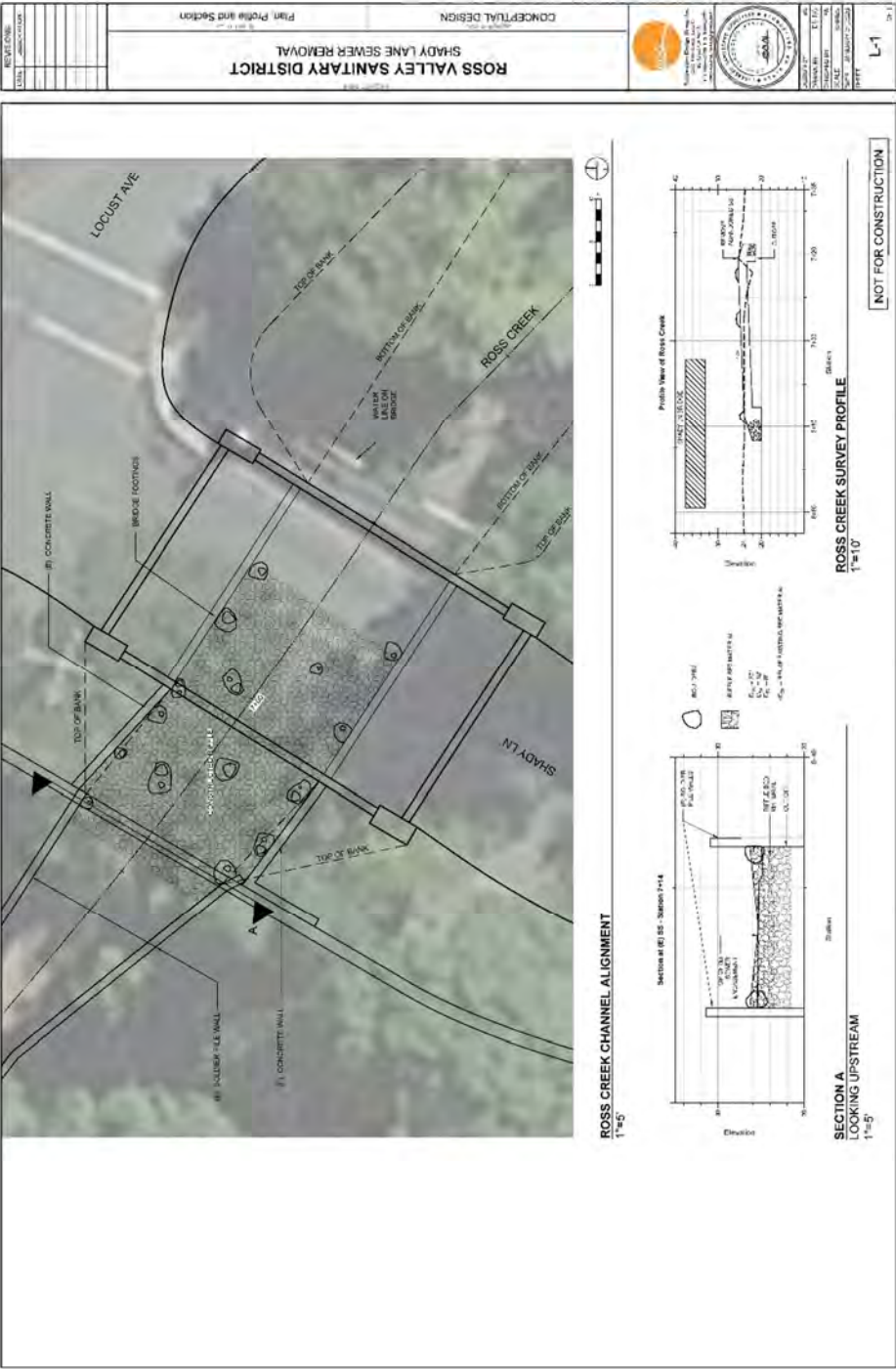
For the benefit of the Project Sponsor, monitoring reports will also include observations of other maintenance and management concerns within the project area including but not limited to:

- Debris jams
- Invasive species
- Sediment management concerns
- Scour at bridge abutments

Schedule for Monitoring and Reporting

Monitoring will occur yearly for a minimum of 5 years or as required by the agency permits governing this project. The first report will be submitted by December 31st of the year construction is complete. All subsequent reports will be submitted by December 31 of the respective year.

Attachment I. Concept Diagram



ROSS VALLEY SANITARY DISTRICT

SHADY LANE SEWER REMOVAL PROJECT

75% DESIGN PLANS SEPTEMBER 2, 2020

CLIENT:

ROSS VALLEY SANITARY DISTRICT:
STEVE MOORE, GENERAL MANAGER
2960 KERNER BLVD.
SAN RAFAEL, CA 94901
(415) 870-9764

CONSULTANTS:

LANDSCAPE ARCHITECTURE AND ENGINEERING:
RESTORATION DESIGN GROUP, INC.
ERIK STROMBERG, PROJECT MANAGER
2332C FIFTH STREET
BERKELEY, CA 94710
(510) 644-2798

SURVEY:

OBERKAMPER & ASSOCIATES CIVIL ENGINEERS, INC.
 JAMES D. CLARK, PRESIDENT
 7200 REDWOOD BLVD., SUITE 308
 NOVATO, CA 94945
 (415) 599-2645

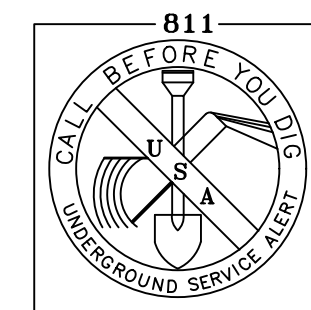
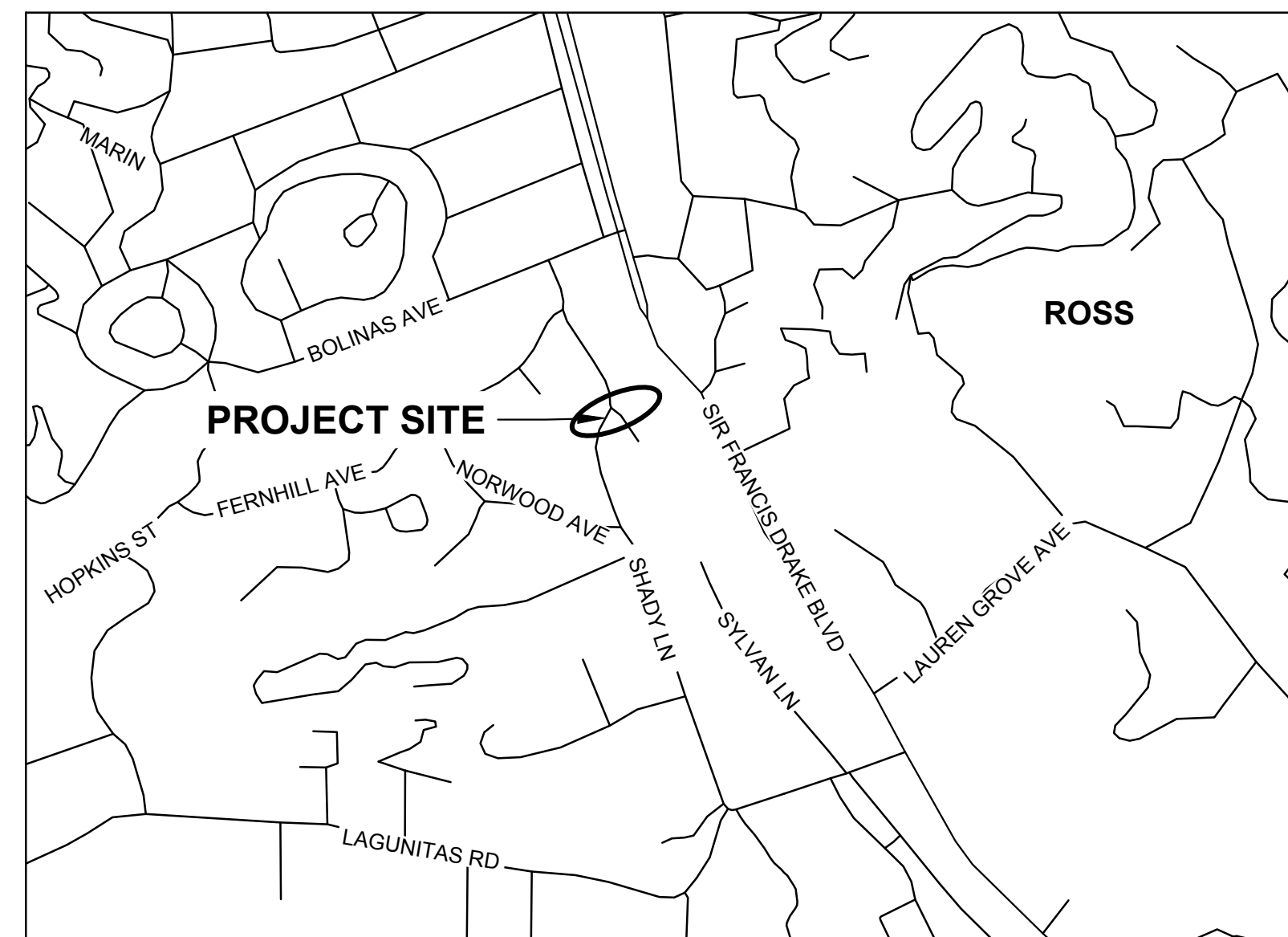
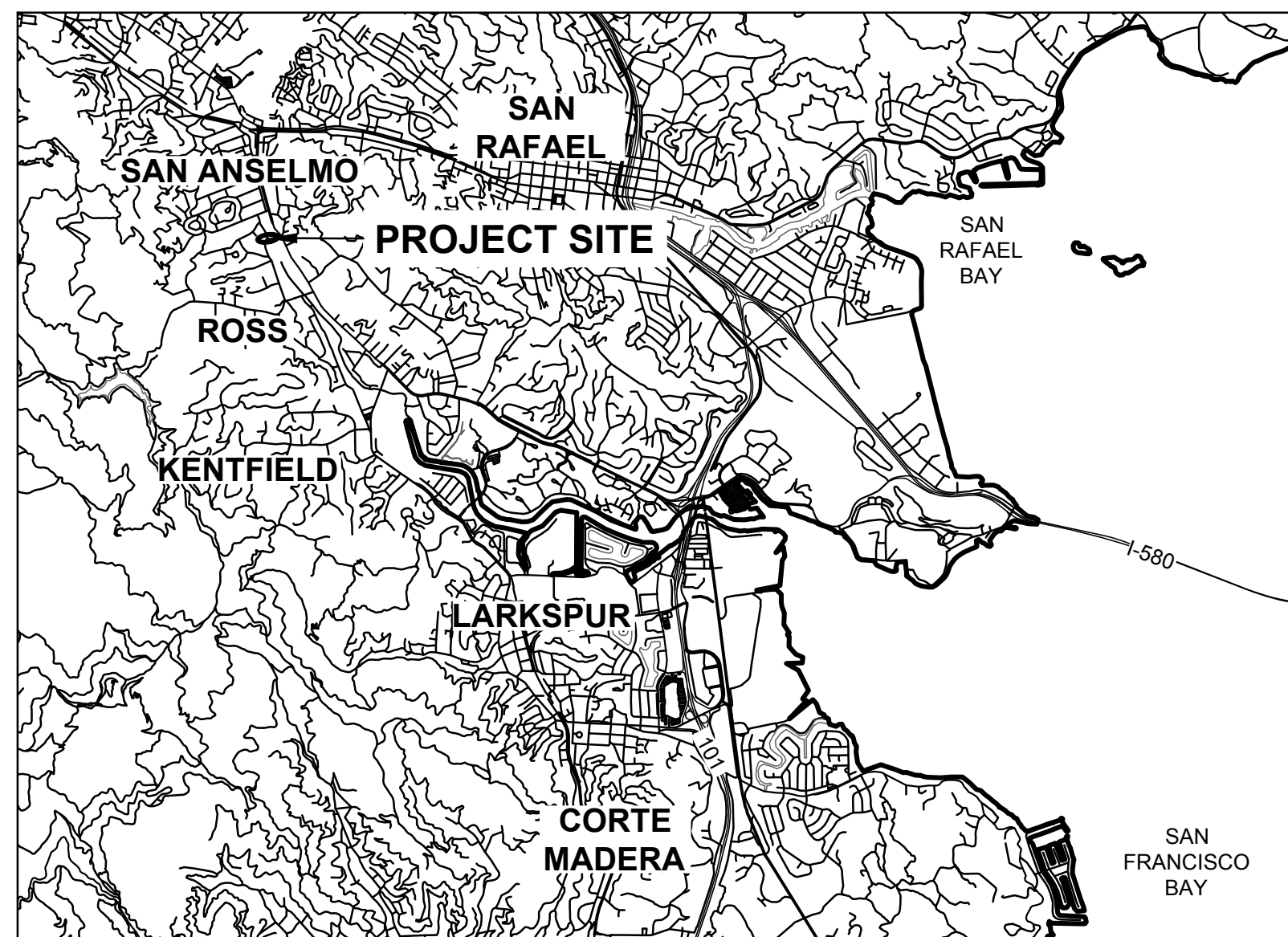
ABBREVIATIONS

Ø	DIAMETER
AC	ASPHALT CONCRETE
BB	BOTTOM OF BANK
CLR	CLEAR
CL	CENTERLINE
CONC.	CONCRETE
DIA.	DIAMETER
EC	EDGE OF BANKFULL CHANNEL
(E)	EXISTING
FG	FINISH GRADE
FL	FLOW LINE
FP	FLOOD PLAIN
FS	FINISH SURFACE
GB	GRADE BREAK
GS	GROUND SHOT ELEVATION
HP	HIGH POINT
IE	INVERT ELEVATION
LB	LEFT BANK
LP	LOW POINT
L.O.W.	LIMIT OF WORK
MH	MANHOLE
MIN	MINIMUM
MM	MEET AND MATCH
MMWD	MARIN MUNICIPAL WATER DISTRICT
N.I.C.	NOT IN CONTRACT
OC	ON CENTER
O.R.	OWNER'S REPRESENTATIVE
PA	PLANTING AREA
PG&E	PACIFIC GAS AND ELECTRIC
PP	PRESERVE AND PROTECT
P.U.E.	PUBLIC UTILITY EASEMENT
RB	RIGHT BANK
R.O.W.	RIGHT-OF-WAY
SCO	SEWER CLEANOUT
SL	STREET LIGHTING UTILITY
SN	SIGN
SSMH	SANITARY SEWER MANHOLE
TB	TOP OF BANK
TBD	TO BE DETERMINED
TC	TOP OF CURB
TG	TOP OF GRATE
TP	TOP OF PIPE
TW	TOP OF WALL
TYP.	TYPICAL
UON	UNLESS OTHERWISE NOTED
UV	UTILITY VAULT
WTR	WATER UTILITY

SHEET LIST TABLE

T-1 TITLE SHEET
C-1 LAYOUT PLAN & PROFILE
C-2 TYPICAL SECTION & DETAILS
L-1 REVEGETATION PLAN & DETAILS

PROJECT LOCATION:



2 WORKING DAYS
BEFORE YOU DIG CALL USA
TOLL FREE 811

[illegible]

PROJECT TITLE
CROSS VALLEY SANITARY DISTRICT
SHADY LANE SEWER REMOVAL PROJECT

SHEET TITLE
TITLE SHEET

DESIGN PHASE
75% DESIGN PLANS



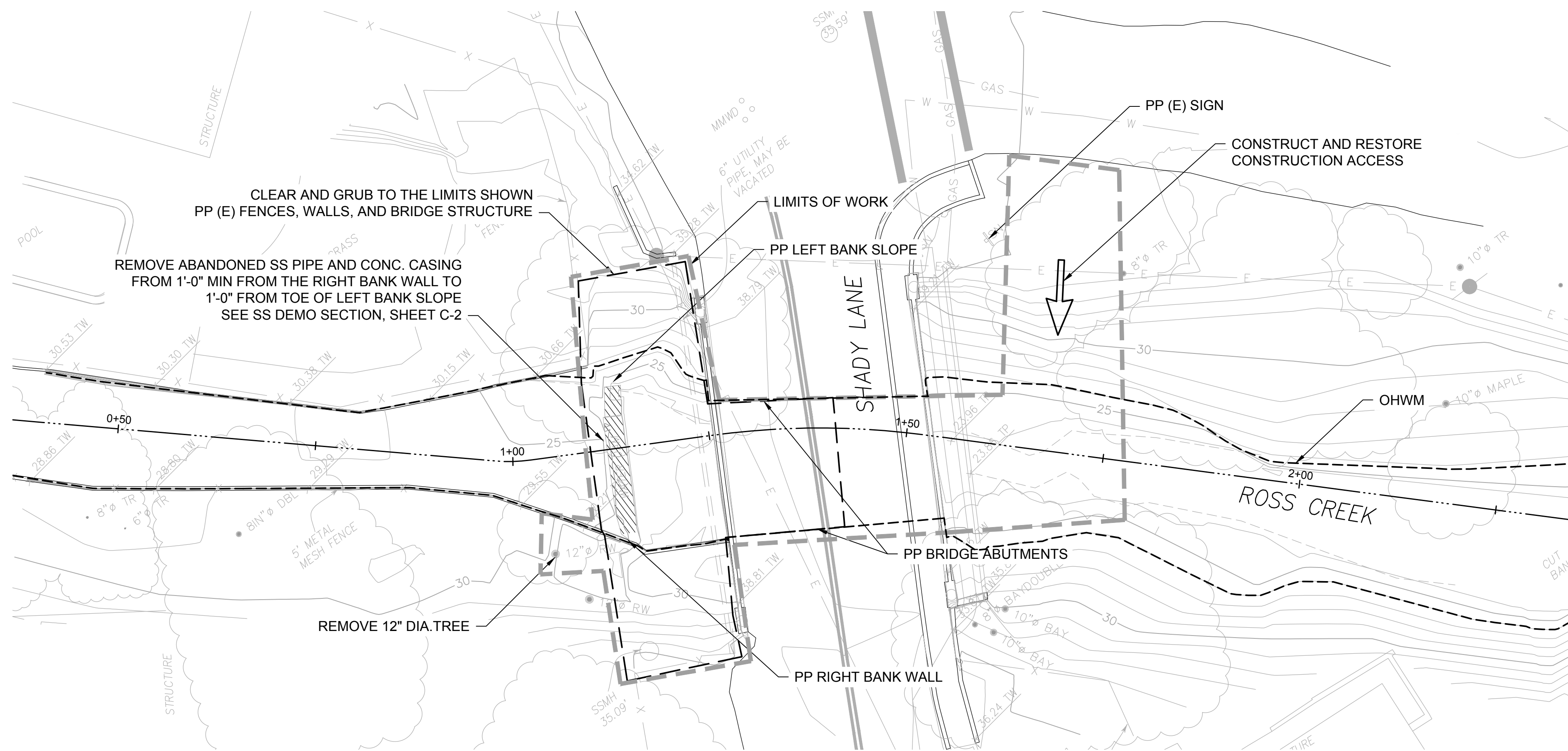
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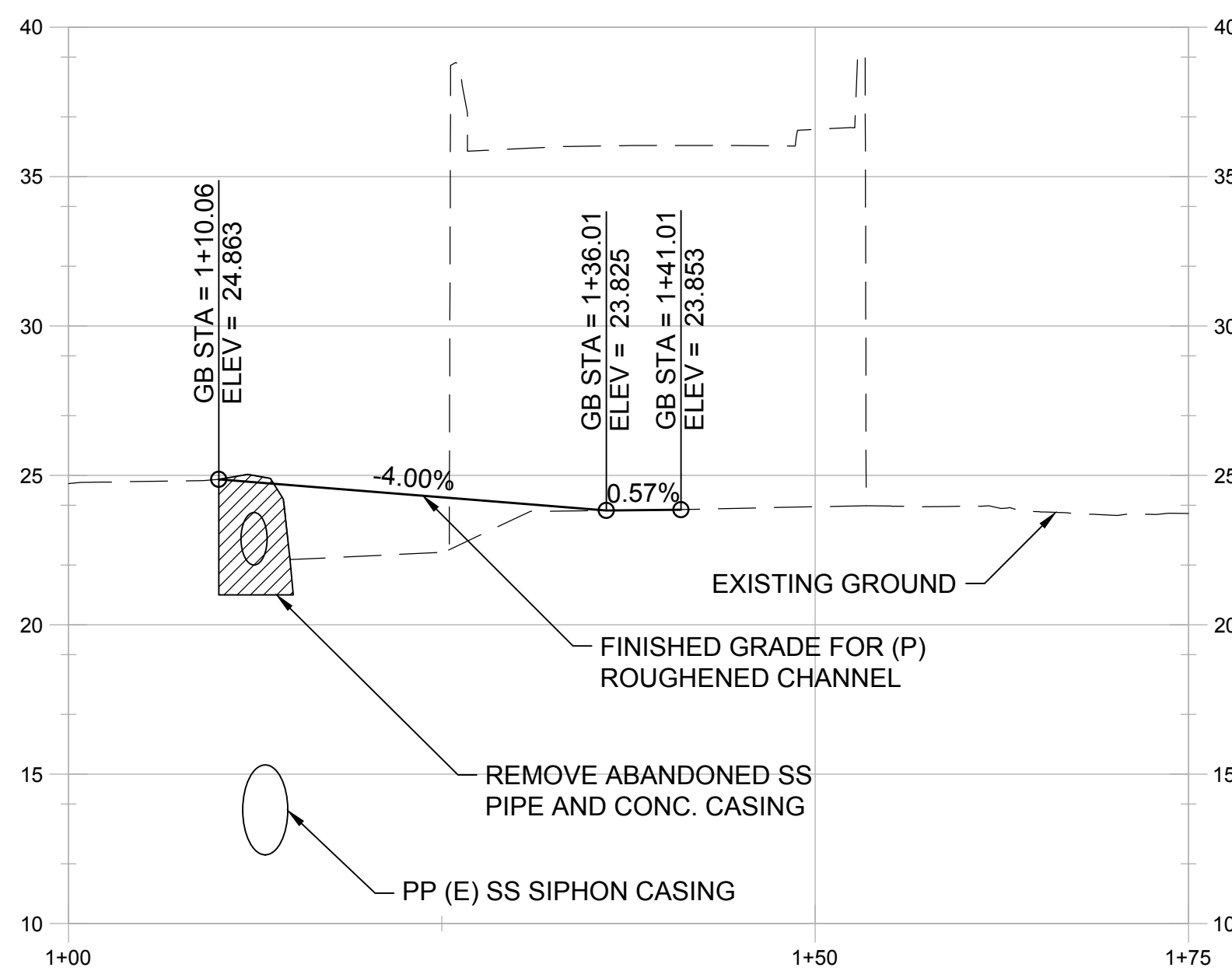
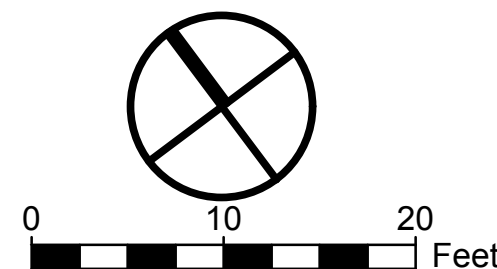
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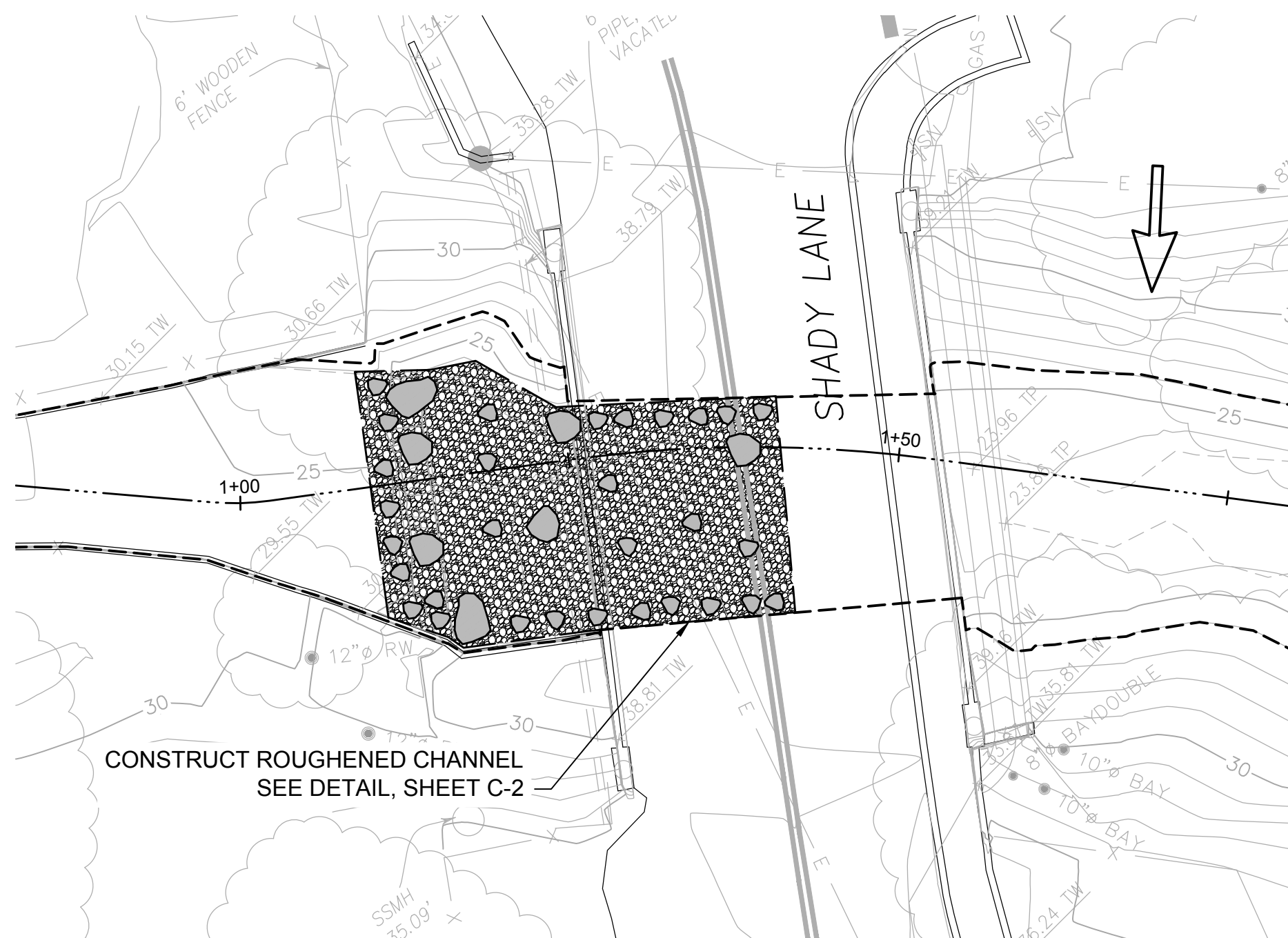
DEMO PLAN

SCALE: 1" = 10' HORIZONTAL



PROFILE

SCALE: 1" = 10' HORIZONTAL
1" = 5' VERTICAL



PLAN

SCALE: 1" = 10' HORIZONTAL

GENERAL NOTES

1. CONTRACTOR SHALL LIMIT DISTURBED AREA AS MUCH AS POSSIBLE FOR CONSTRUCTING CONSTRUCTION ACCESS.
2. CONTRACTOR SHALL FULLY RESTORE ALL DISTURBED AREAS, SEE SHEET L-1.
3. CONCRETE CASING SIZE AND SHAPE SHOWN AS APPROXIMATE. ACTUAL DIMENSIONS MAY VARY.

DEWATERING NOTES

1. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN 15 DAYS PRIOR TO SCHEDULED ENTERING OF THE CHANNEL WITH MACHINERY.
2. DEWATER PLAN SHALL DESCRIBE HOW THE CONTRACTOR PLANS TO CONTROL WATER DURING CONSTRUCTION, INCLUDING:
 - 2.a. NOTING WORK WILL BE SCHEDULED TO BE COMPLETED IN THE DRY TO AVOID CLEAR WATER DIVERSION AROUND THE PROJECT SITE.
 - 2.b. A DESCRIPTION OF WHERE AND HOW DISCHARGE WILL BE MANAGED TO INFILTRATE OR SETTLE FINES BEHIND A COFFER DAM PRIOR TO FLOWING DOWNSTREAM OF THE PROJECT SITE IF WATER IS ENCOUNTERED DURING EXCAVATION.

REVISIONS	
DATE	DESCRIPTION
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PROJECT TITLE ROSS VALLEY SANITARY DISTRICT SHADY LANE SEWER REMOVAL PROJECT	
SHEET TITLE LAYOUT PLAN & PROFILE	
DESIGN PHASE 75% DESIGN PLANS	



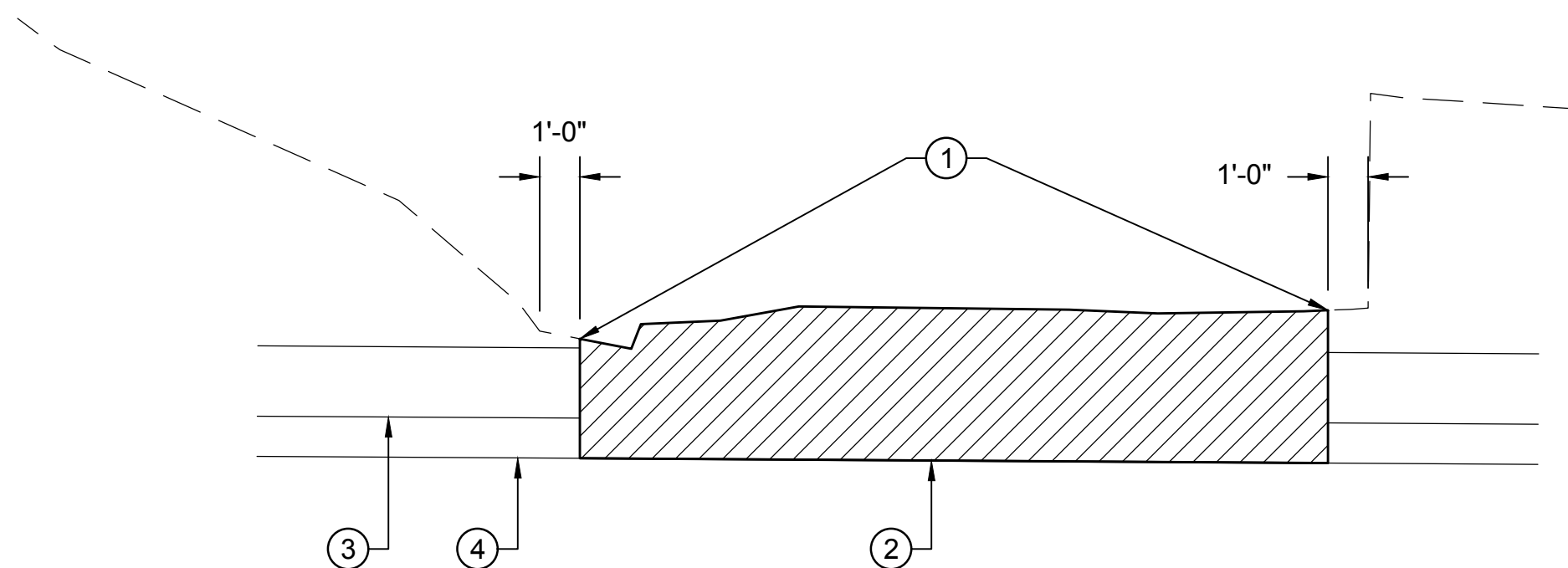
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SHEET	

C-1

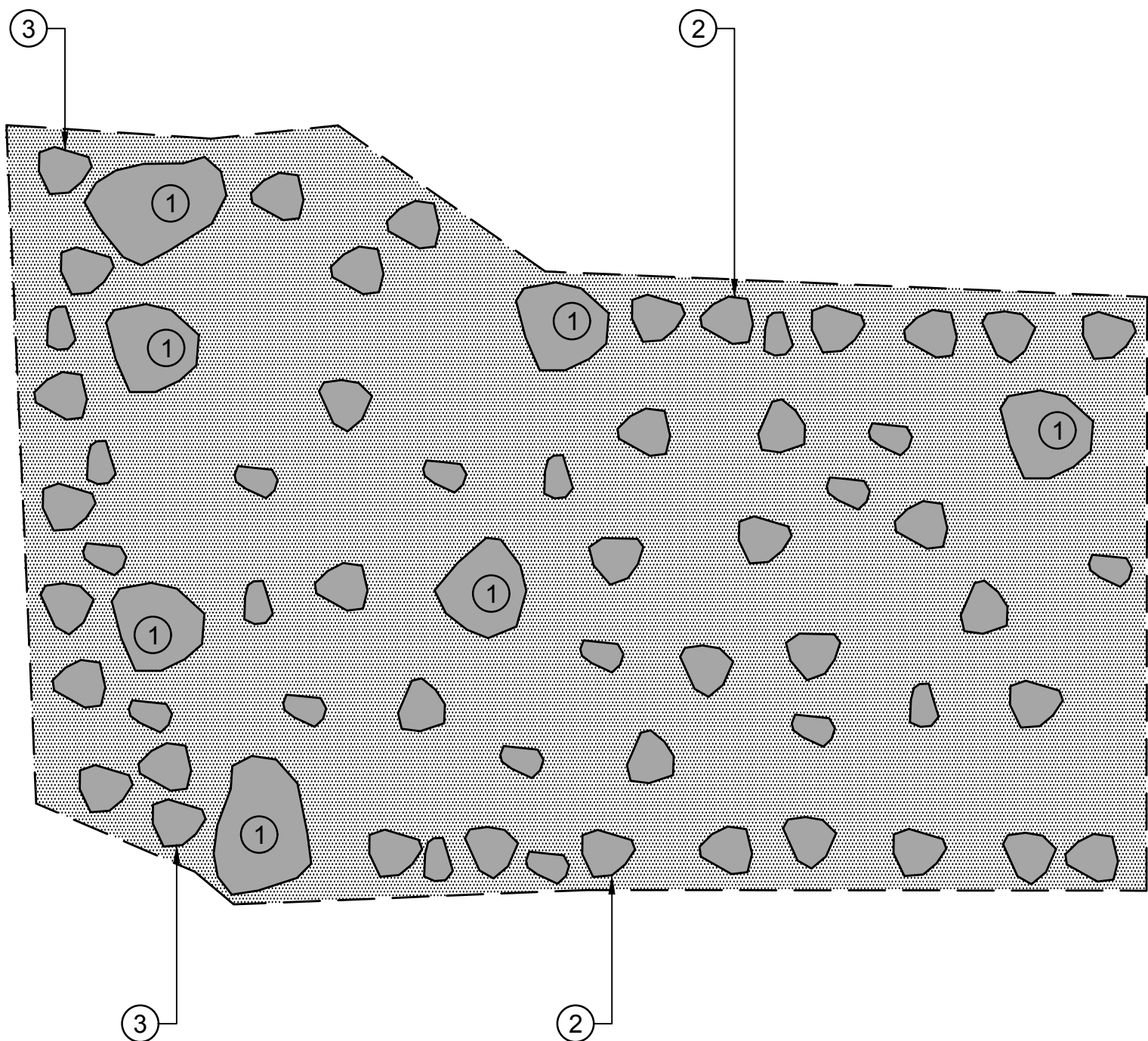
OF 4



SECTION VIEW

1 DEMO ABANDONED SANITARY SEWER PIPE SECTION
SCALE: 1/4" = 1'-0"

- 1 START CONC. DEMOLITION 1'-0" MIN FROM FACE OF EXISTING WALL OR TOE OF EXISTING SLOPE. PP EXISTING WALL AND SLOPE.
- 2 REMOVE ABANDONED SS SEWER PIPE AND CONC. CASING. BOTTOM OF CONC. ELEV IS UNKNOWN AND ESTIMATED AS 1'-0" BELOW ABANDONED SS PIPE.
- 3 ABANDONED 21" SS PIPE.
- 4 ESTIMATED BOTTOM OF CONC. CASING.



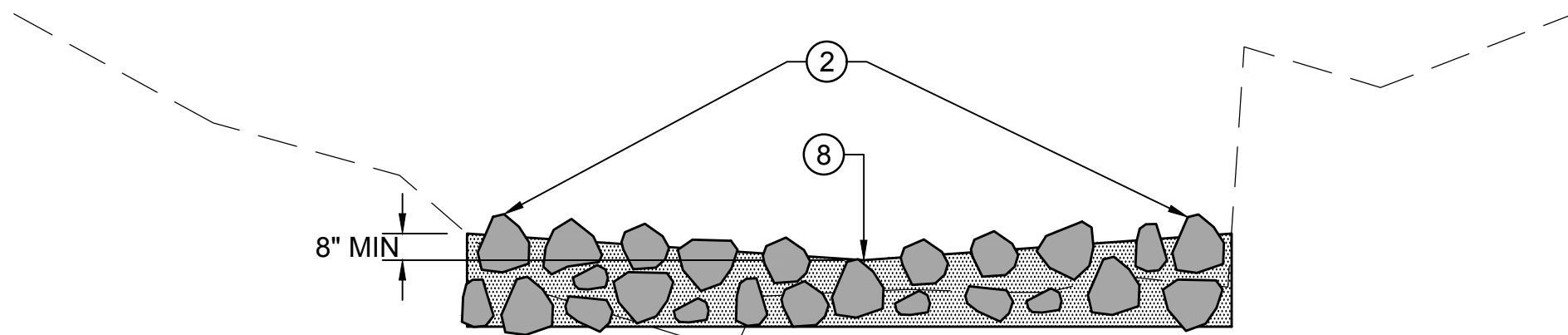
PLAN

2 ROUGHENED CHANNEL DETAIL
SCALE: 1/4" = 1'-0"

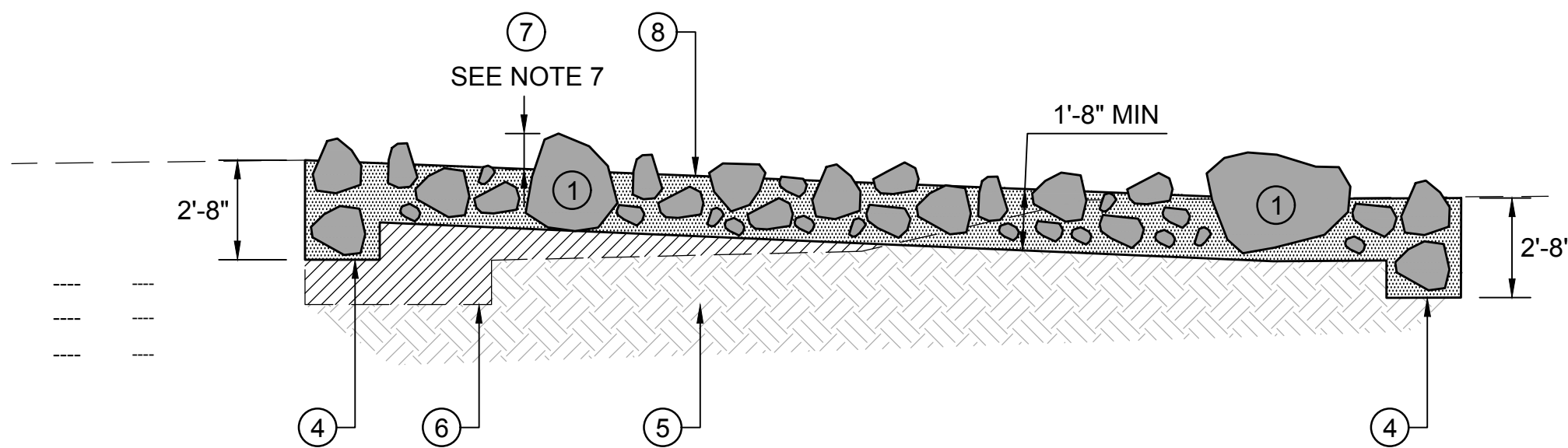
- 1 PLACE 20" TO 28" DIA. BOULDERS PER DIRECTION BY ENGINEER.
- 2 PLACE 12" MIN DIA. ROCKS ALONG FACE OF BRIDGE WALL AND TOE OF SLOPE. SEE SECTION, THIS SHEET.
- 3 COMPLETELY COVER REMAINING EXISTING CONC. WITH 8" MIN DIA. ROCKS.
- 4 CONSTRUCT CUTOFF WITH 12" MIN DIA. ROCKS.
- 5 COMPACTED SUBGRADE.
- 6 BUILD UP REQUIRED GRADE WITH NATIVE MATERIAL AND COMPACT.
- 7 EXPOSE INDIVIDUAL ROCKS NO MORE THAN 1/3 ROCK DIA. TO CREATE AN IRREGULAR SURFACE.
- 8 ELEVATIONS SHOWN IN PROFILE, SEE SHEET C-1.

ROUGHENED CHANNEL GRADATION:
INSTALL IN LIFTS AS REQUIRED TO
ENSURE VOIDLESS CONDITION

- D100 = 28-IN
- D84 = 12-IN
- D50 = 5-IN
- D16 = 1.39-IN
- D8 = 0.079-IN



SECTION




PROFILE

REVISIONS	
DATE	DESCRIPTION

PROJECT TITLE ROSS VALLEY SANITARY DISTRICT SHADY LANE SEWER REMOVAL PROJECT	SHEET TITLE TYPICAL SECTION & DETAILS
	DESIGN PHASE 75% DESIGN PLANS



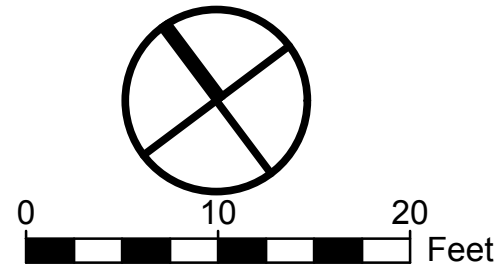
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SHEET

C-2

OF 4



TREE SCHEDULE

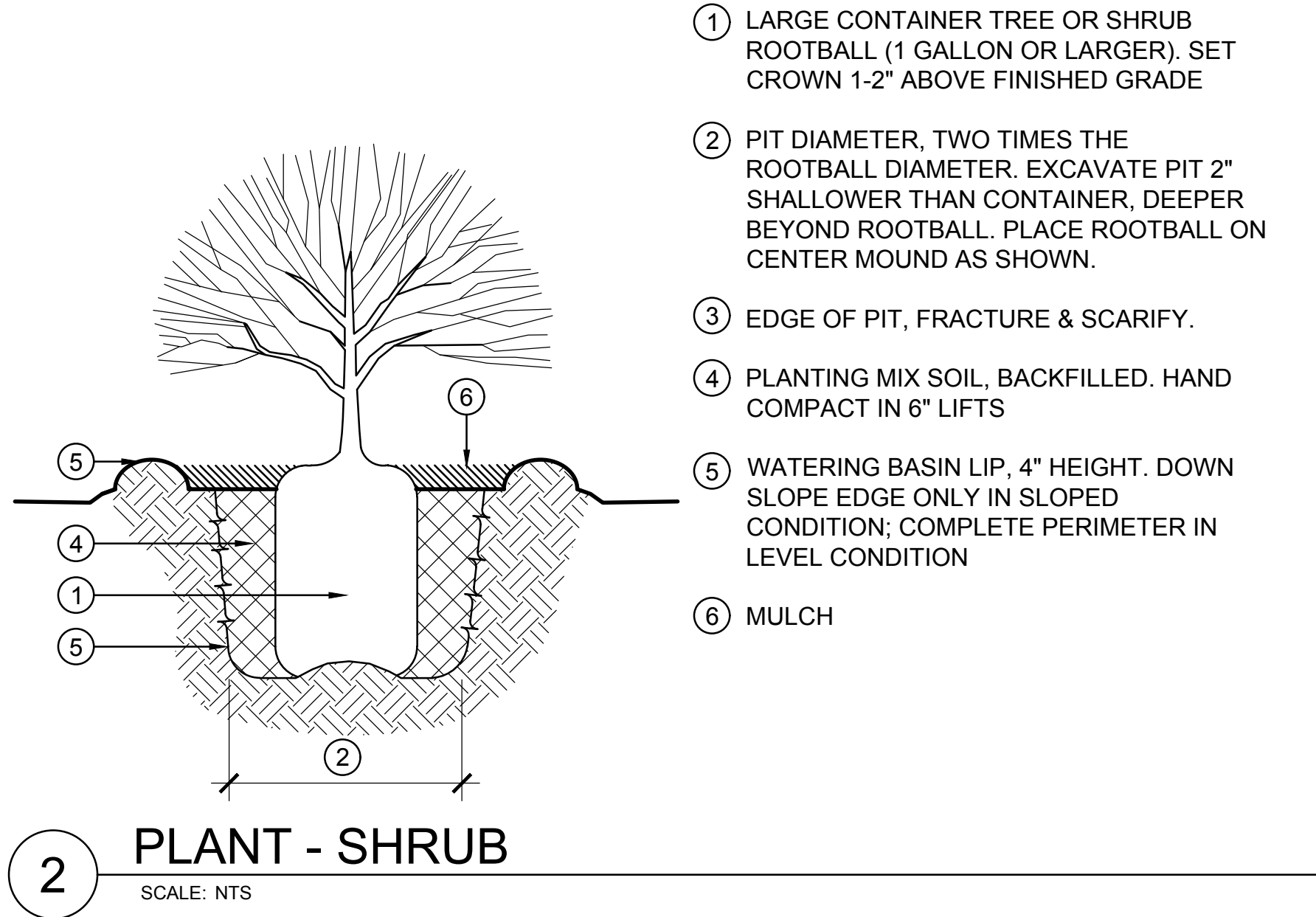
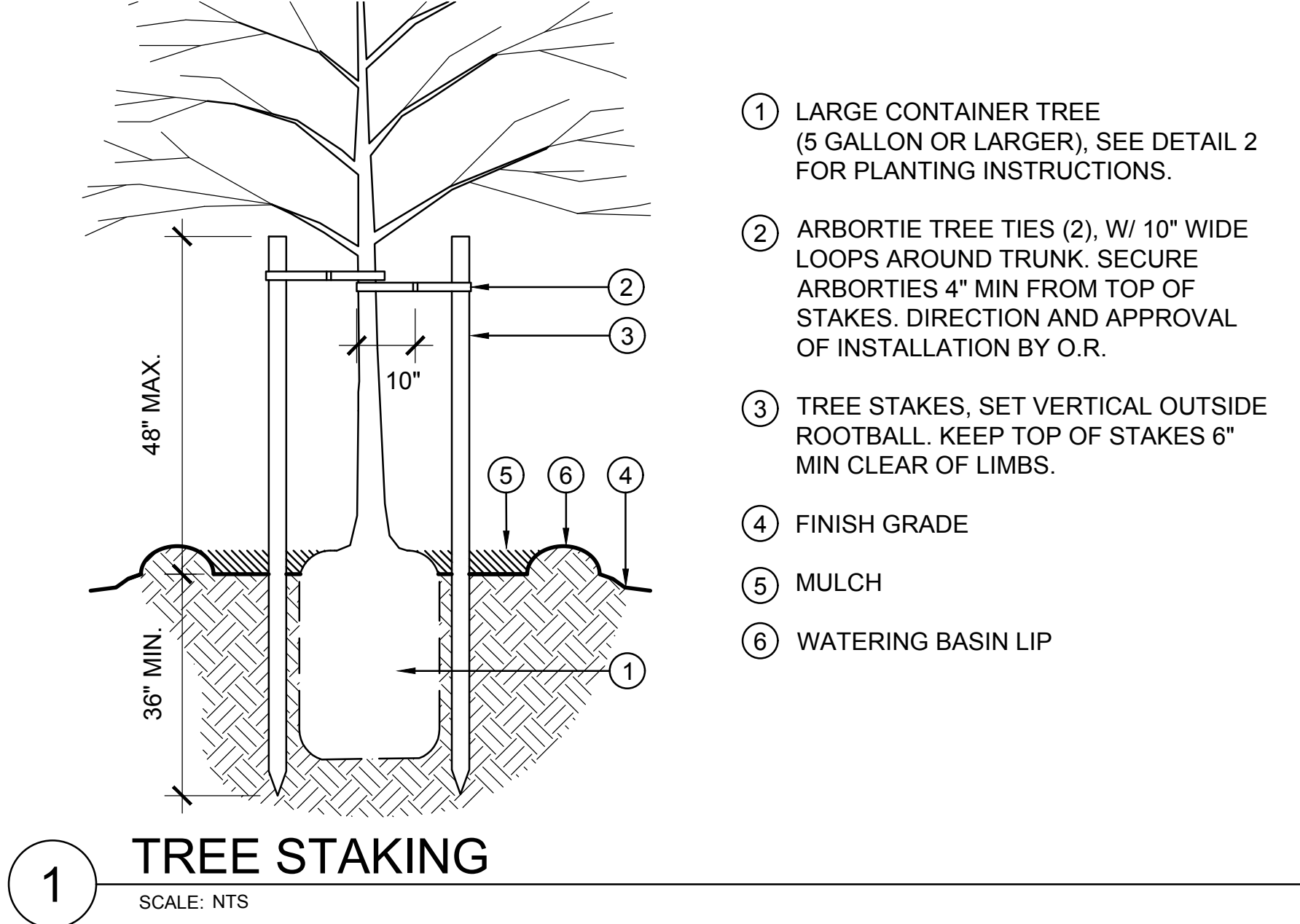
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	ACER NEGUNDO	BOX ELDER	5G	3
	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	5G	3

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	RUBUS PARVIFLORUS	WESTERN THIMBLEBERRY	1G	28
	RIBES SANGUINEUM	RED FLOWERING CURRANT	1G	12
MULCH			AREA (SF)	
	MULCH (4-INCH DEPTH)		775	

REVEGETATION NOTES

- INSTALL ALL PLANTS PER DETAILS AND NOTES ON SHEET L-1.
- CONTAINER PLANTS SHALL BE RESTORATION GRADE NATIVE PLANTS SOURCED WITHIN 20 MILES OF THE PROJECT SITE. CULTIVARS OF NATIVE SPECIES WILL NOT BE ACCEPTED. COUNTY OF ORIGIN FOR EACH PLANT SHALL BE NOTED IN SUBMITTAL.
- PLANTS SHALL BE UNEVENLY SPACED, UNLESS DIRECTED OTHERWISE BY O.R. IN THE FIELD.



EROSION CONTROL NOTES

- INSTALL STRAW WATTLES AT BOTTOM OF SLOPES (ABOVE RB WALL AND LB CHANNEL ROCK) AND 3/4 THE WAY UP SLOPES, PER O.R. DIRECTION IN THE FIELD.
- REMOVE ALL TEMPORARY BMP'S UPON COMPLETION OF IN-CHANNEL WORK.
- INSTALL EROSION CONTROL FABRIC AT CONSTRUCTION ACCESS TO LIMITS OF DISTURBANCE ON SLOPE.

REVISIONS

DATE	DESCRIPTION
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PROJECT TITLE

ROSS VALLEY SANITARY DISTRICT
SHADY LANE SEWER REMOVAL PROJECT

SHEET TITLE

REVEGETATION PLAN & DETAILS

DESIGN PHASE

75% DESIGN PLANS

RDG

Restoration Design Group, Inc.
2332 Fifth Street, Suite C
Berkeley, CA 94710
T: 510.644.2798 F: 510.644.2799
www.restorationdesigngroup.com

LICENSED LANDSCAPE ARCHITECT
ERIK STROMBERG
SEP 29/21
DATE
STATE OF CALIFORNIA

DESIGN BY

MT, ES

DRAWN BY

MT, NQ

CHECKED BY

ES

SCALE

AS NOTED

DATE

SEPTEMBER 2, 2020

SHEET

L-1

OF 4



Dear Fish Passage Forum Members,

13- October 2020

The Marin RCD enthusiastically supports this project to remove the abandoned concrete lined sanitary sewer that crosses Ross Creek. It is a prominent feature within the creek that can be seen from the Shady Lane Bridge. The community has been requesting that this barrier be removed from the creek and now is the time to do this work.

Removing this fish migration barrier is an important component of the goal to improve fish passage throughout the Ross Valley Watershed. Thankfully this project is not overly complicated and can be completed quickly, with a target date for construction next summer. Once done, we can move on to additional barriers that have been identified upstream of the project site.

Please accept this letter of support as an additional reason to fund this project.

Sincerely,

DocuSigned by:

Nancy Scolari

5415581A0ACE42F...

Nancy Scolari
Executive Director

Ross Creek Sanitary Sewer Line Barrier Removal Project

Photographs



View of weir from downstream end of bridge. (Sep. 2019)



Looking down at the abandoned sewer line from Shady Lane bridge. (Sep. 2009)



Looking downstream towards the bridge crossing, adjacent wall footings are noticeably eroded. (Sep. 2019)



Looking upstream to constricted channel through bridge crossing. (Sep. 2009)



Weir flow over abandoned sewer line during winter base flow (Jan. 2020)



The abandoned sewer line is easily visible from the Shady Lane Bridge. (Jan. 2020)

RESTORATION DESIGN GROUP, INC

 Project Name: **SHADY LANE SEWER REMOVAL PROJECT**

Date: OCTOBER 15, 2020

Project Stage: 75% DESIGN SUBMITTAL



ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST	CA FISH PASSAGE FORUM GRANT	RVSD
1	MOBILIZATION	1	LS	\$ 10,000.00	\$ 10,000.00		\$ 10,000.00
2	TEMPORARY TRAFFIC CONTROL	1	LS	\$ 5,000.00	\$ 5,000.00		\$ 5,000.00
3	PREPARE EROSION AND SEDIMENT CONTROL PLAN	1	LS	\$ 1,500.00	\$ 1,500.00		\$ 1,500.00
4	CLEARING AND GRUBBING	1	LS	\$ 2,500.00	\$ 2,500.00		\$ 2,500.00
5	LOCAL DEWATERING ALLOWANCE	1	LS	\$ 5,000.00	\$ 5,000.00		\$ 5,000.00
6	TEMPORARY CONSTRUCTION ENTRANCE	1	EA	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00
7	PERMANENT FIBER ROLLS	100	LF	\$ 3.50	\$ 350.00		\$ 350.00
8	TEMPORARY SILT FENCE	85	LF	\$ 3.00	\$ 255.00		\$ 255.00
9	TREE REMOVAL	1	EA	\$ 1,000.00	\$ 1,000.00		\$ 1,000.00
10	CEMENT CONCRETE REMOVAL	30	CY	\$ 175.00	\$ 5,250.00	\$ 5,250.00	
11	CHANNEL EXCAVATION	18	CY	\$ 50.00	\$ 900.00		\$ 900.00
12	IMPORTED BORROW	12	CY	\$ 50.00	\$ 600.00		\$ 600.00
13	COBBLES (12-IN)	37	CY	\$ 350.00	\$ 12,950.00		\$ 12,950.00
14	STREAM BOULDERS (12-IN TO 28-IN)	16	TN	\$ 800.00	\$ 12,800.00		\$ 12,800.00
15	CONSTRUCT ROUGHENED CHANNEL BED	620	SF	\$ 15.00	\$ 9,300.00		\$ 9,300.00
16	EROSION CONTROL BLANKET	124	SY	\$ 10.00	\$ 1,240.00		\$ 1,240.00
17	15 GALLON TREES	6	EA	\$ 300.00	\$ 1,800.00	\$ 1,800.00	
18	1 GALLON PLANT	40	EA	\$ 100.00	\$ 4,000.00	\$ 4,000.00	
19	MULCH	775	SF	\$ 1.00	\$ 775.00	\$ 775.00	
20	IRRIGATION	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	
				SUBTOTAL	\$ 81,220.00	\$ 16,825.00	\$ 64,395.00
				20% CONTINGENCY	\$ 16,244.00	\$ 3,365.00	\$ 12,879.00
				TOTAL CONSTRUCTION COST	\$ 97,464.00	\$ 20,190.00	\$ 77,274.00

MAINTENANCE AND MONITORING COSTS 5 YEAR ESTABLISHMENT PERIOD

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST	CA FISH PASSAGE FORUM GRANT	RVSD
	HAND WATERING (6x/YR FOR 3 YEARS)	18	VST	\$ 1,200.00	\$ 21,600.00		\$ 21,600.00
	GENERAL MAINTENANCE AND WEEDING (2X/YR FOR 5 YEARS)	10	VST	\$ 1,200.00	\$ 12,000.00		\$ 12,000.00
	ANNUAL MONITORING AND REPORTING	5	YR	\$ 1,750.00	\$ 8,750.00		\$ 8,750.00
				SUBTOTAL	\$ 42,350.00		\$ 42,350.00
				20% CONTINGENCY	\$ 8,470.00		\$ 8,470.00
				CONSTRUCTION, IRRIGATION, MAINTENANCE AND MONITORING COSTS	\$ 148,284.00	\$ 20,190.00	\$ 128,094.00