CHILDREN'S HEALTH COUNCIL

CREEK BANK STABILIZATION PROJECT: PHASE II

PALO ALTO, CALIFORNIA

STATEMENT OF PURPOSE

THIS PROJECT WILL PROVIDE 275 LINEAR FEET OF BANK STABILIZATION ALONG SAN FRANCSQUITO CREEK THROUGH LOG CRIB WALL INSTALLATION AND RIPARIAN PLANTINGS. IT WILL BENEFIT THE CREEK BY PROVIDING SLOPE STABILITY AND SALMONID HABITAT.

REGULATORY CONTEXT

PROJECT GOALS AND THE DESIGN OF THE PROJECT HAVE BEEN DEVELOPED UNDER THE GUIDANCE OF THE FOLLOWING:

- SAN FRANCISQUITO CREEK JOINT POWERS AUTHORITY
- STANFORD UNIVERISTY
- US ARMY CORPS OF ENGINEERS
- US FISH AND WILDLIFE SERVICE
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
- CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
- SANTA CLARA VALLEY WATER DISTRICT
- NATIONAL MARINE FISHERIES SERVICE

AS SUCH THE PROJECT IS SUBJECT TO CONDITIONS OF APPROVAL AND RESTRICTIONS THAT WERE PUT IN PLACE TO PROTECT SENSITIVE HABITAT TYPES AND SPECIAL STATUS SPECIES.

THE PROJECT WILL BE PERFORMED WITH PERMITS AND/OR CONSULTATIONS FROM THE FOLLOWING AGENCIES:

- US ARMY CORPS OF ENGINEERS
- NATIONAL MARINE FISHERIES SERVICES
- US FISH AND WILDLIFE SERVICE
- CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
- CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
- CITY OF PALO ALTO

CHARACTERIZATION OF THE PROJECT

1. TOE STABILIZATION - THE CHANNEL TOE WILL BE PROTECTED BY LARGE ALLUVIUM COBBLES AND BOULDERS BURIED UNDERNEATH THE CREEK BED. THIS MATERIAL WILL BE THE FOUNDATION OF THE CRIB WALL.

2. ROOTWADS - THE CHANNEL TOE WILL INCLUDE ROOTWADS ALONG THE EXISTING POOL OF THE CREEK IN ORDER TO REDUCE WATER VELOCITIES AND PROVIDE FISH HABITAT.

3. LOWER CHANNEL BANK - A NEW CHANNEL BANK WILL BE INSTALLED CONSISTING OF A CRIB WALL WITH A SLOPE OF 1:1 AND STABILIZED BY THREADED REBAR PINS. A MIXTURE OF COARSE ALLUVIUM (GRAVEL TO COBBLE SIZED MATERIAL) WILL BE PLACED BEHIND THE CRIB WALL AND WITHIN THE CRIB WALL CAVITIES. THE CRIB WALL WILL BE ANCHORED TO THE EXISTING CREEK BANK WITH HELICAL ANCHORS.

4. UPPER CHANNEL BANK - ABOVE THE CRIB WALL, THE CHANNEL BANK WILL BE GRADED TO A MAXIMUM SLOPE OF 2:1 (H:V) AND PLANTED WITH NATIVE TREES, SHRUBS, AND GRASSES.

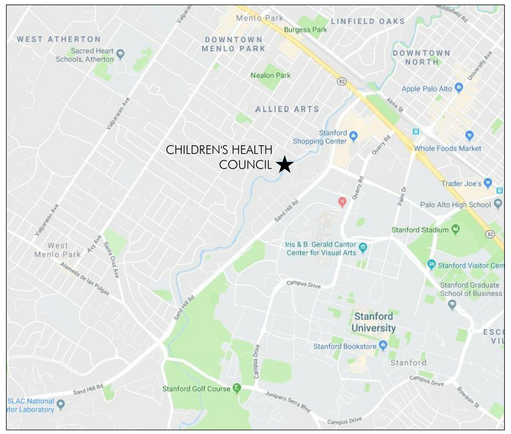
EARTHWORK QUANTITIES

THE PROJECT INVOLVES THE EXCAVATION OF LANDSLIDE DEPOSITION OF ARTIFICIAL FILL MATERIAL, ALLUVIUM SILTY SAND, AND ALLUVIUM GRAVELLY SAND WHICH WILL BE RE-USED ON THE PROJECT SITE. LARGER ALLUVIUM ROCK SUCH AS BOULDERS AND COBBLES SHALL BE PURCHASED AND DELIVERED TO THE PROJECT SITE. ENGINEERED FILL MATERIAL SHALL CONSIST OF ALLUVIUM COBBLE AND GRAVEL AND SHALL BE PURCHASED AND DELIVERED TO THE SITE.

- CUT = 1370 CU. YDS. (HAUL OFF SITE)
- IMPORT BOULDERS = 670 CU. YDS.
- IMPORT FILTER ROCK = 180 CU. YDS.
- IMPORT ENGINEERED FILL = 1780 CU. YDS.

FIELD MODIFICATIONS

NO FIELD MODIFICATIONS SHALL OCCUR WITHOUT WRITTEN CONSENT FROM THE LANDOWNER. ALL PROPOSED FIELD MODIFICATIONS SHALL BE SHOWN GRAPHICALLY ON CONSTRUCTION DOCUMENTS IN RED INK AND PRESENTED TO THE LANDOWNER FOR APPROVAL.

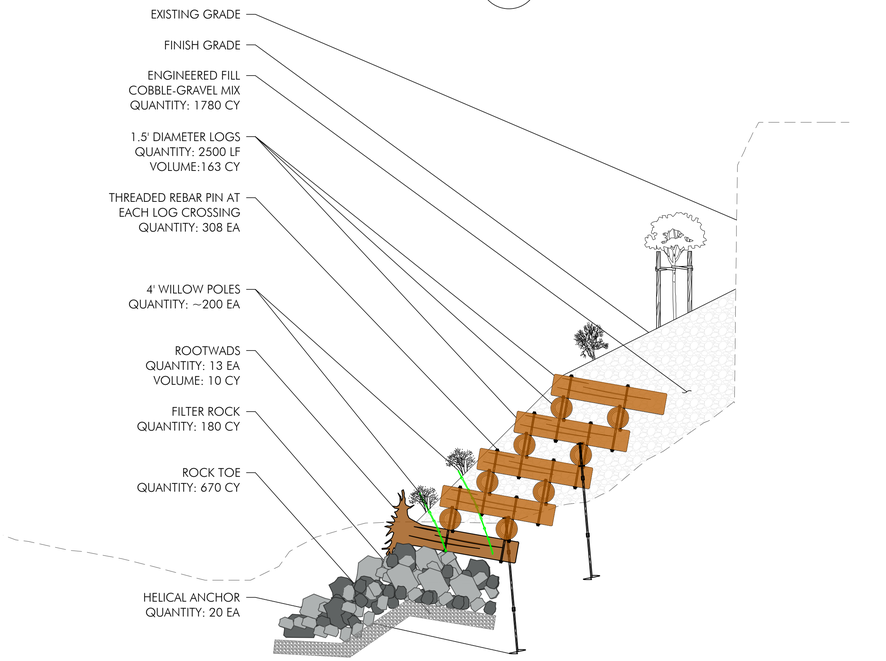


1 VICINITY MAP

NOT TO SCALE

2 LOCATION PLAN

NOT TO SCALE



3 TYPICAL SECTION

0 5
SCALE: 1 " = 5'

PROJECT SCHEDULE

THIS DESIGN IS INTENDED TO BE CONSTRUCTED DURING ONE SUMMER CONSTRUCTION SEASON (MAY 1 THROUGH OCTOBER 15TH).

UTILITIES

THERE MAY BE UNKNOWN UNDERGROUND UTILITIES LOCATED WITHIN THE PROJECT BOUNDARY. THE CONTRACTOR WILL CONTACT A UTILITY COMPANY TO MARK UNDERGROUND UTILITIES AND/OR CONFIRM THAT THERE ARE NO ADDITIONAL UNDERGROUND UTILITIES.

FEMA FLOODPLAIN NOTES

- THIS PROJECT IS LOCATED WITHIN A FEMA DESIGNATED FLOODWAY.
- WORK WITHIN THE 100-YEAR FLOODPLAIN WILL NOT INCREASE RISK OF FLOODING.
- WATER SURFACE PROFILES NOTED WITH "FEMA" ARE FROM THE 2014 FLOOD INSURANCE STUDY

LOCATION DESCRIPTION

THE PROPERTY IS LOCATED AT 650 CLARK WAY, PALO ALTO, CALIFORNIA 94304

SURVEY CONTROL

HORIZONTAL DATUM: NAD83, CALIFORNIA STATE PLANE ZONE III, U.S. SURVEY FEET
VERTICAL DATUM: NAVD88, U.S. SURVEY FEET

CONTROL POINTS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1268	91.70	1987341.30	6074099.86	CP 1
1930	89.75	1987221.26	6074226.76	CP 2
1969	76.77	1987174.17	6075603.01	BM 458
1972	86.02	1986864.21	6074480.60	CP 3

DESIGNED FOR

CHILDREN'S HEALTH COUNCIL
650 CLARK WAY
PALO ALTO, CALIFORNIA 94304
CONTACT: TERRY BOYLE

LEAD CONSULTANT

WRA, INC.
2169-G E. FRANCISCO BLVD.
SAN RAFAEL, CA 94901
CONTACT: BRIAN BARTELL
(415) 424-7588
BARTELL@WRA-CA.COM

SHEET INDEX

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info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II
CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
01/28/21	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

TITLE

Sheet

G-1.0

Path: \\WRA-FILESERVER\Autocad\Acad 2000 Files\27000\27109\CAD\Phase 2 Submittal\60% Design\27109 G-1 Title.dwg

SITE PLAN NOTES:

1. THE SITE IS IDENTIFIED AS APN: 142-02-15.
2. SITE TOPOGRAPHY WITHIN WORK ARE FROM COTTON SHIRES AND ASSOCIATES FIELD SURVEY, 2017. TOPOGRAPHY FROM REMAINING SITE AREAS TAKEN FROM PALO ALTO GIS.
3. TREELINES TAKEN FROM AERIAL PHOTOGRAPHY, 2017. TREE LOCATIONS WITHIN AND ADJACENT TO WORK AREA SURVEYED BY WRA IN FEBRUARY 2018, AND APRIL 2020.
4. NO KNOWN UTILITIES ARE LOCATED WITHIN THE WORK AREA. CONTRACTOR WILL BE RESPONSIBLE FOR MARKING ALL UTILITIES PRIOR TO STARTING CONSTRUCTION.
5. THE PROJECT WILL NOT RESULT IN AN INCREASE OF IMPERMEABLE SURFACE ON THE SITE.
6. FEMA FLOODPLAIN MAPPING SHOWN HEREIN TAKEN FROM SHAPEFILES PROVIDED BY FEMA FOR FIRM #06085C0010H.
7. SITE ACCESS WILL BE THROUGH THE EXISTING ENTRANCE FROM CLARK WAY.
8. NO EARTH DISTURBING WORK WILL OCCUR IN AREAS WITH EXISTING ASPHALT COVER.
9. WORK AREA AND ELEMENTS ARE SHOWN ON THIS SHEET FOR LOCATION ONLY. SEE SHEETS C-2.1 AND C-2.0 THROUGH C-3.2 FOR DETAILS AND SPECIFICATIONS ON PROPOSED WORK.

SITE PLAN LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	PUBLIC EASEMENT
(100)	(E) CONTOUR (2 FT)
100	PROPOSED CONTOUR (2 FT)
	EXISTING TREE LINE
FP	100-YEAR FLOOD ZONE
	STAGING AREA
	FLOW
LOG	LIMIT OF GRADING
LOD	LIMIT OF DISTURBANCE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED
	TEMPORARY ACCESS ROUTE

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0 20
SCALE: 1 " = 20 '

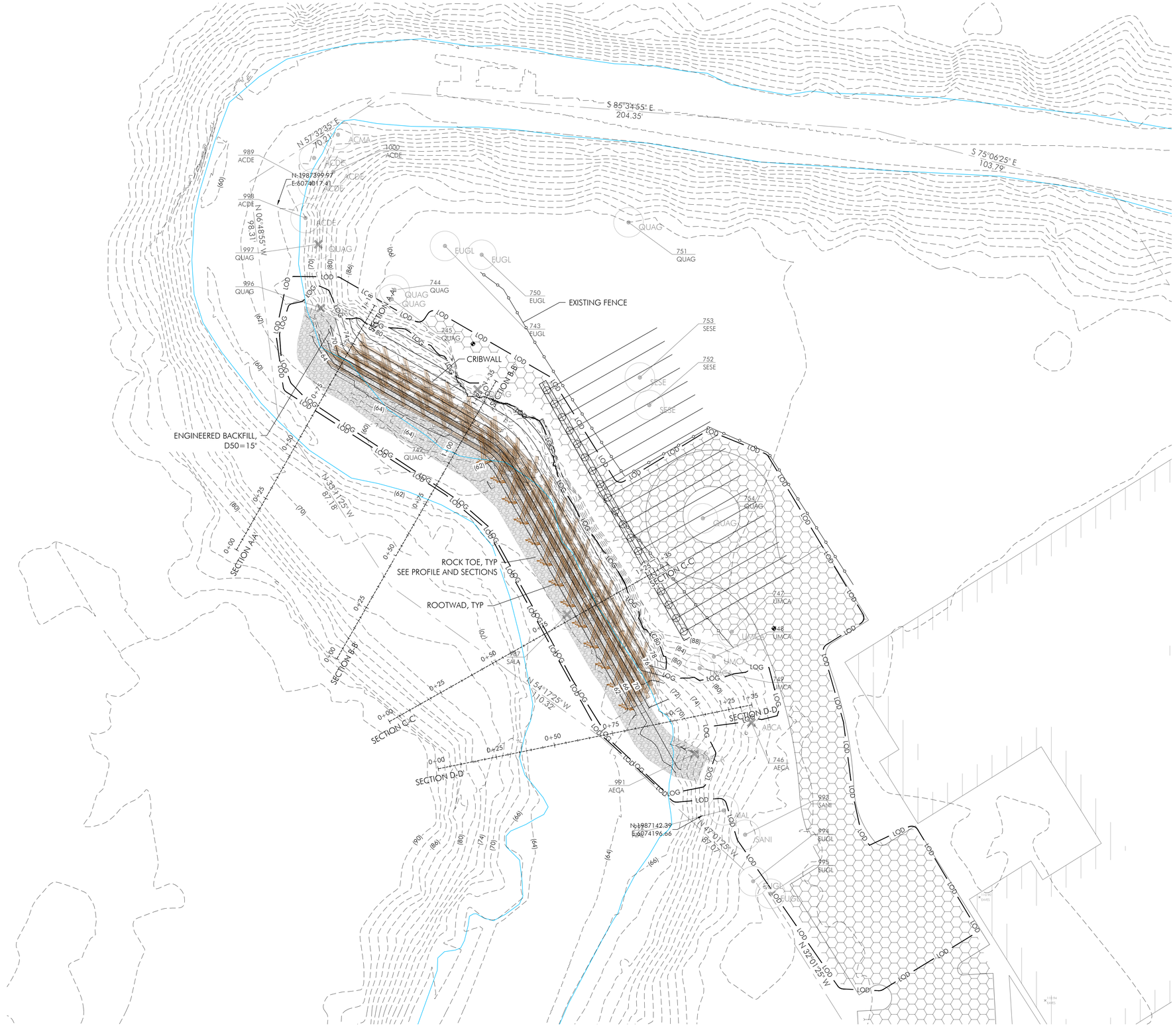
SITE PLAN

Sheet

C-2.0

GRADING LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
(100)	(E) CONTOUR (2 FT)
	PROPOSED CONTOUR (2 FT)
	STAGING AREA
	FLOW
LOG	LIMIT OF GRADING
LOD	LIMIT OF DISTURBANCE
	ORDINARY HIGH WATER
	EXISTING TREE
	EXISTING TREE TO BE REMOVED



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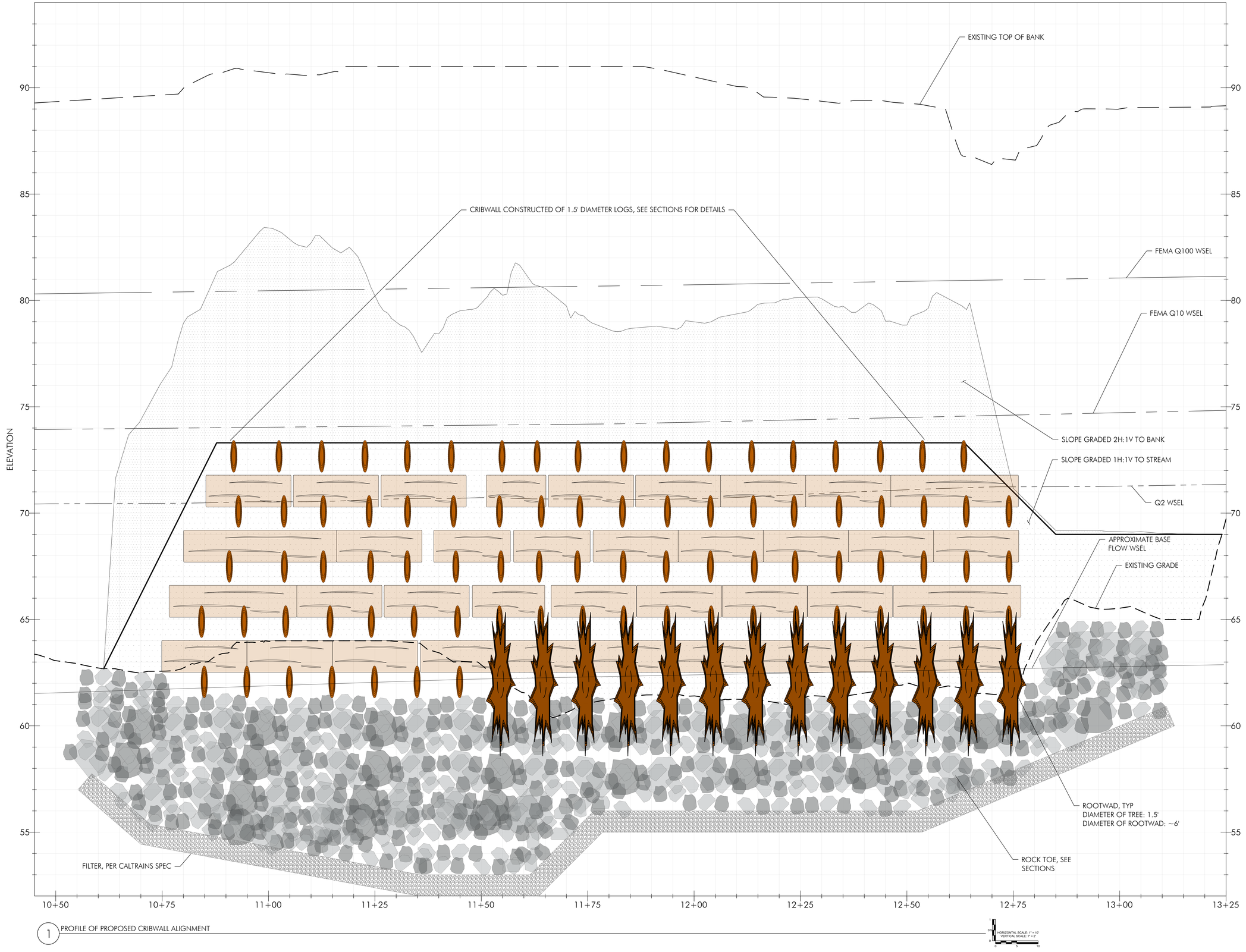
0 20
SCALE: 1 " = 20 '

GRADING PLAN

Sheet

C-2.1



1 PROFILE OF PROPOSED CRIBWALL ALIGNMENT

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'

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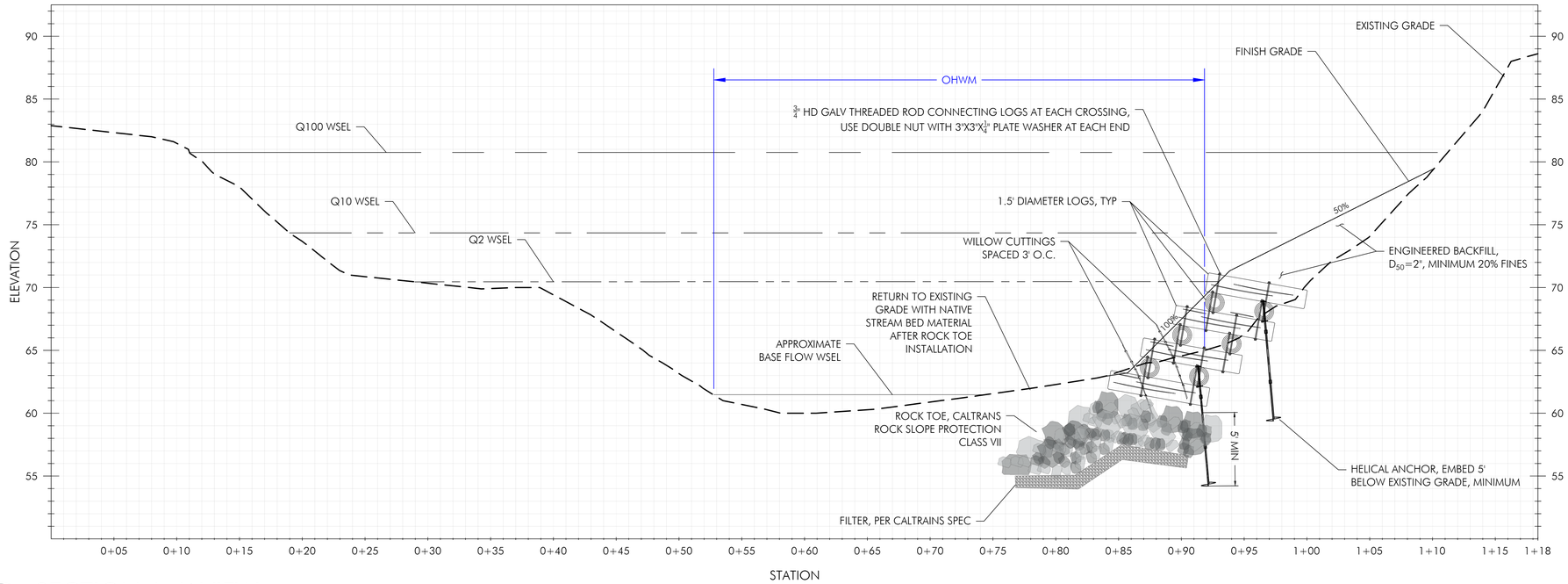
PROFILE

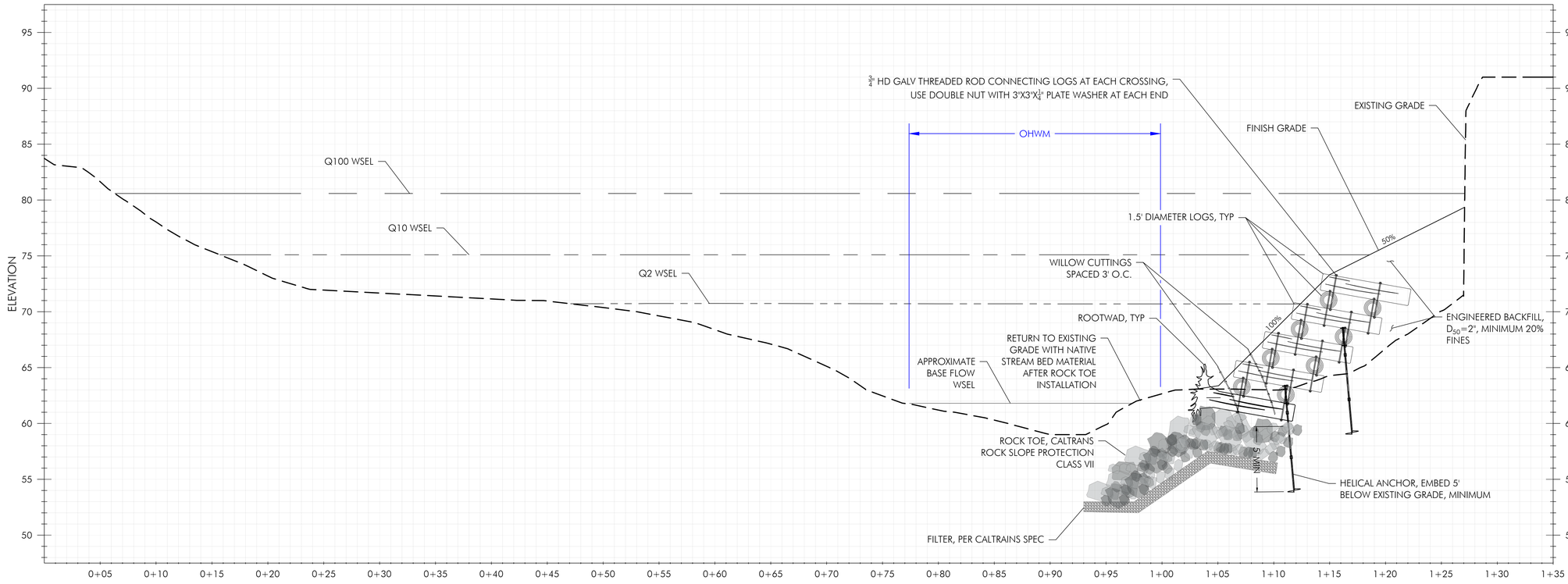
Sheet

C-3.0



1 SECTION A-A' VIEW

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



2 SECTION B-B' VIEW

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

NOTE: CONNECTIONS SHOWN ARE NOT IN THE SAME VERTICAL PLANE

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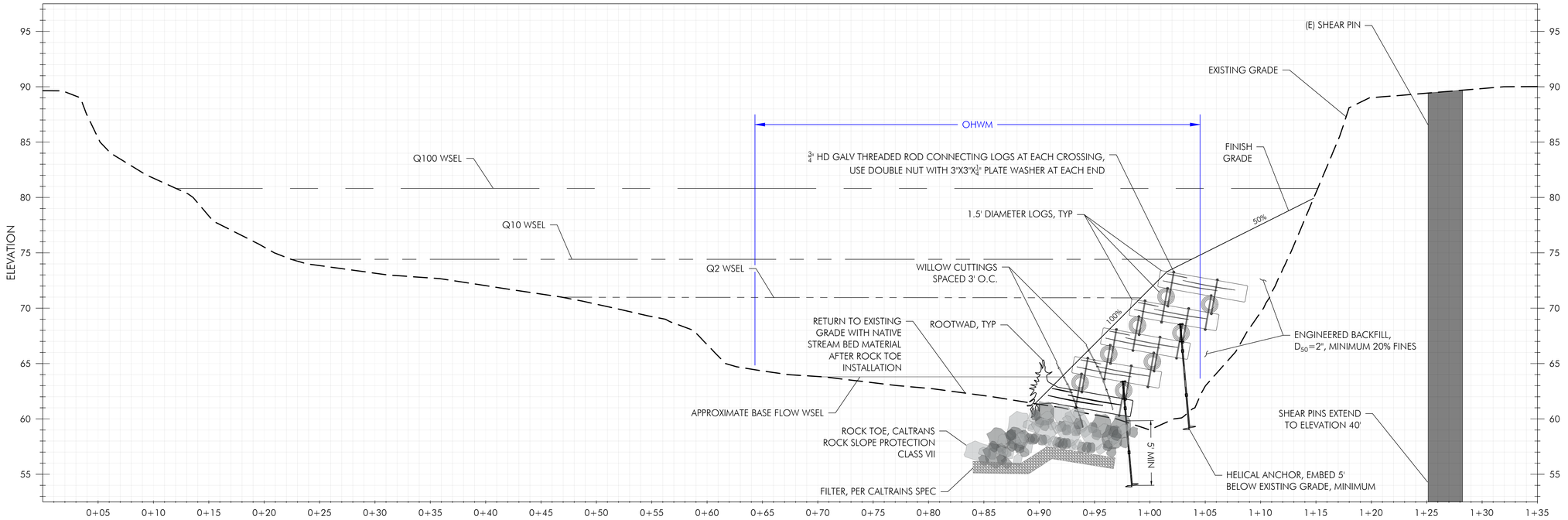
ORIGINAL DRAWING SIZE: 24 X 36

SECTIONS

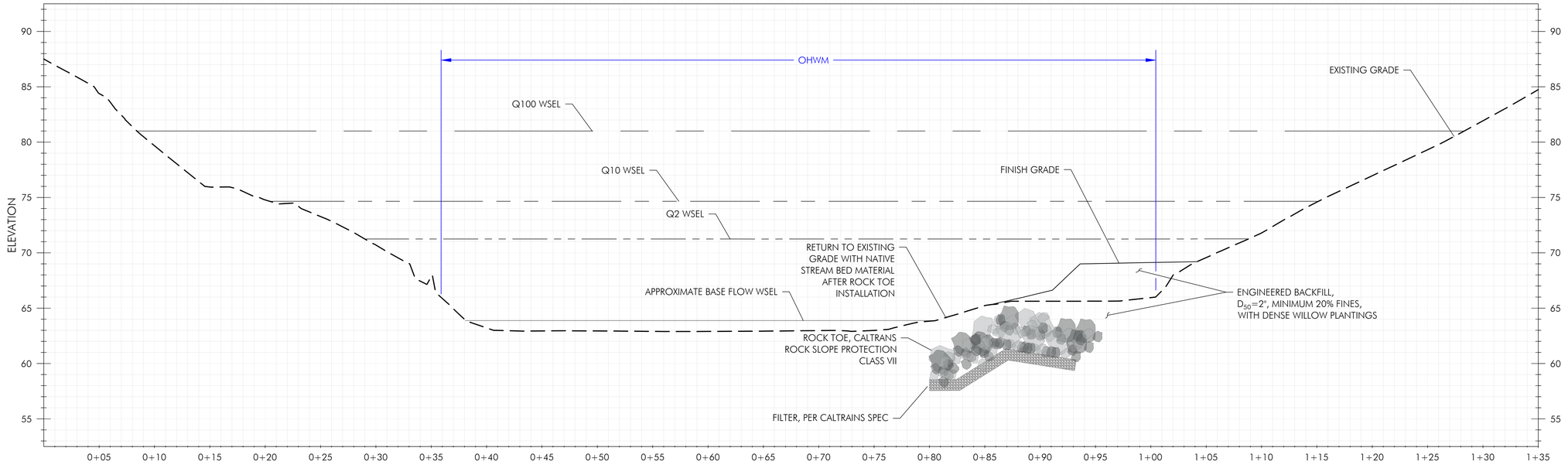
Sheet

C-3.1



C SECTION C-C' VIEW

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



D SECTION D-D' VIEW

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

NOTE: CONNECTIONS SHOWN ARE NOT IN THE SAME VERTICAL PLANE

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PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

SECTIONS

Sheet

C-3.2

LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
(100)	(E) CONTOUR (2 FT)
100	PROPOSED CONTOUR (2 FT)
LOG	LIMIT OF GRADING
	CHANNEL ALIGNMENT
	TREE PROTECTION FENCING
	TEMPORARY ACCESS ROUTE
TREE TAG NUMBER TREE IDENTIFIER	EXISTING TREE
	EXISTING TREE TO BE REMOVED

TREE IDENTIFIER	BOTANICAL NAME	COMMON NAME
ACDE	ACACIA DEALBATA	SILVER WATTLE
ACMA	ACER MACROPHYLLUM	BIGLEAF MAPLE
AECA	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE
AIAL	AILANTHUS ALTISSIMA	TREE OF HEAVEN
EUGL	EUCALYPTUS GLOBULUS	BLUE GUM EUCALYPTUS
QUAG	QUERCUS AGRIFOLIA	COAST LIVE OAK
SALA	SALIX LAEVIGATA	RED WILLOW
SANI	SAMBUCUS NIGRA SSP. CAERULEA	BLUE ELDERBERRY
SESE	SEQUOIA SEMPERVIRENS	COAST REDWOOD
UMCA	UMBELLULARIA CALIFORNICA	CALIFORNIA BAY

PLANTING LEGEND

LOWER RIPARIAN AREA

BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	SPACING (OC FEET)	QUANTITY	24" BOX REPLACEMENT
SALIX LASIOLEPIS	ARROYO WILLOW	4' POLE CUTTINGS	3	96	
SALIX EXIGUA	SANDBAR WILLOW	4' POLE CUTTINGS	3	96	
ALNUS RHOMBIFOLIA	WHITE ALDER	15 GAL	10	3	1.5
ALNUS RHOMBIFOLIA	WHITE ALDER	24" BOX	10	3	3

MIDDLE CRIBWALL AREA

BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	SPACING (OC FEET)	QUANTITY	24" BOX REPLACEMENT
AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	15 GAL	12	4	2
QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GAL	12	1	0.5
POPULUS FREMONTII	FREMONT COTTONWOOD	15 GAL	15	2	1
ROSA CALIFORNICA	CALIFORNIA WILD ROSE	1 GAL	6	5	
RUBUS URSINUS	CALIFORNIA BLACKBERRY	1 GAL	6	8	
SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	1 GAL	4	13	
SAMBUCUS NIGRA SPP. CAERULIA	BLUE ELDERBERRY	16" DEEPOT	6	6	

TOP OF BANK AREA

BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	SPACING (OC FEET)	QUANTITY	24" BOX REPLACEMENT
AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	24" BOX	12	2	2
QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX	12	1	1
UMBELLULARIA CALIFORNICA	CALIFORNICA BAY	24" BOX	15	4	4
					TOTAL TREES 15

REMOVED TREE MITIGATION

TAG#	BOTANICAL NAME	COMMON NAME	CANOPY SIZE (FEET)	REQD. 24" BOX REPLACEMENT
742	QUERCUS AGRIFOLIA	COAST LIVE OAK	11.8	3
996	QUERCUS AGRIFOLIA	COAST LIVE OAK	10.5	3
746	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	33	4
991	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	19.3	3
987	SALIX LAEVIGATA	RED WILLOW	5	2
				TOTAL TREES 15

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CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED LANDSCAPE ARCHITECT
Robert Brian Bartel
Lic. No. 6050
Signature
August 31 2022
Renewal Date
Date
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: CHL
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

N
0 20
SCALE: 1 " = 20 '

PLANTING PLAN

Sheet

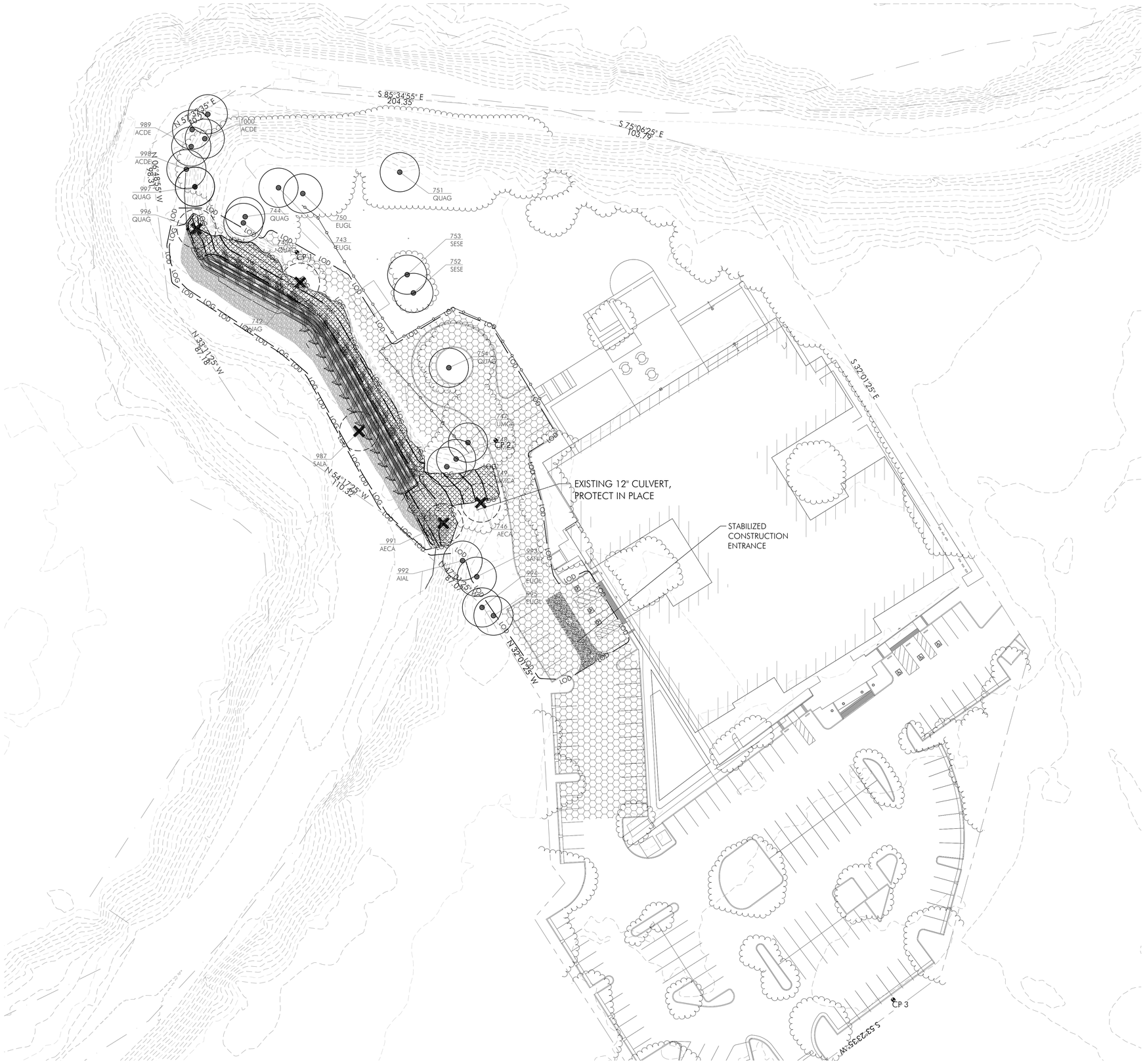
C-4.0

EROSION CONTROL LEGEND

SYMBOL	DESCRIPTION
	PARCEL BOUNDARY
(100)	(E) CONTOUR (2 FT)
100	PROPOSED CONTOUR (2 FT)
	STAGING AREA
	FLOW
LOG	LIMIT OF GRADING
LOD	LIMIT OF DISTURBANCE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED
SW	STRAW WATTLE
	COIR FIBER MATTING
	EXISTING CURB
	STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. CONTRACTOR SHALL COMPLY WITH NPDES CONSTRUCTION GENERAL PERMIT.
2. CONTRACTOR SHALL COMPLY WITH CAL TRANS FIBER ROLL (TYPE 2) STANDARDS. SEE SHEET C-6.1.
3. CONTRACTOR SHALL COMPLY WITH CAL TRANS ROLLED EROSION CONTROL PRODUCTS MODIFIED TO USE WOOD STAKES. SEE SHEET C-6.2.
4. ALL MATERIALS SHALL BE BIODEGRADABLE



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N
0 30
SCALE: 1 " = 30 '

EROSION CONTROL PLAN

Sheet

C-5.0

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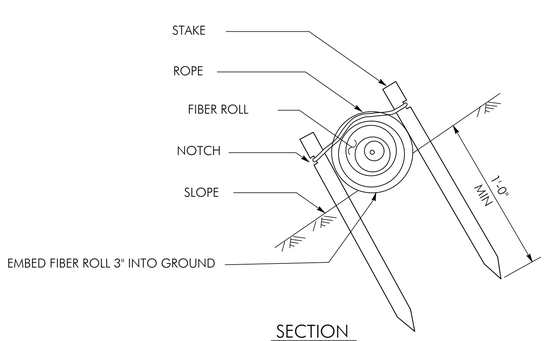

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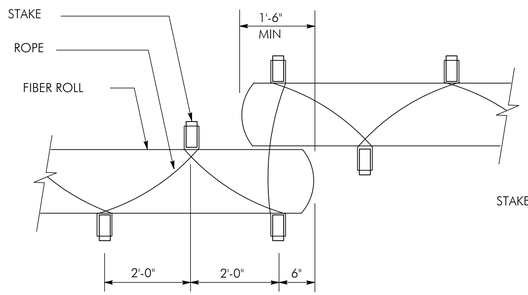
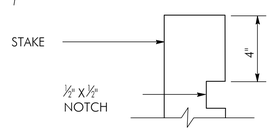


PLAN

FIBER ROLL
(TYPE 2)



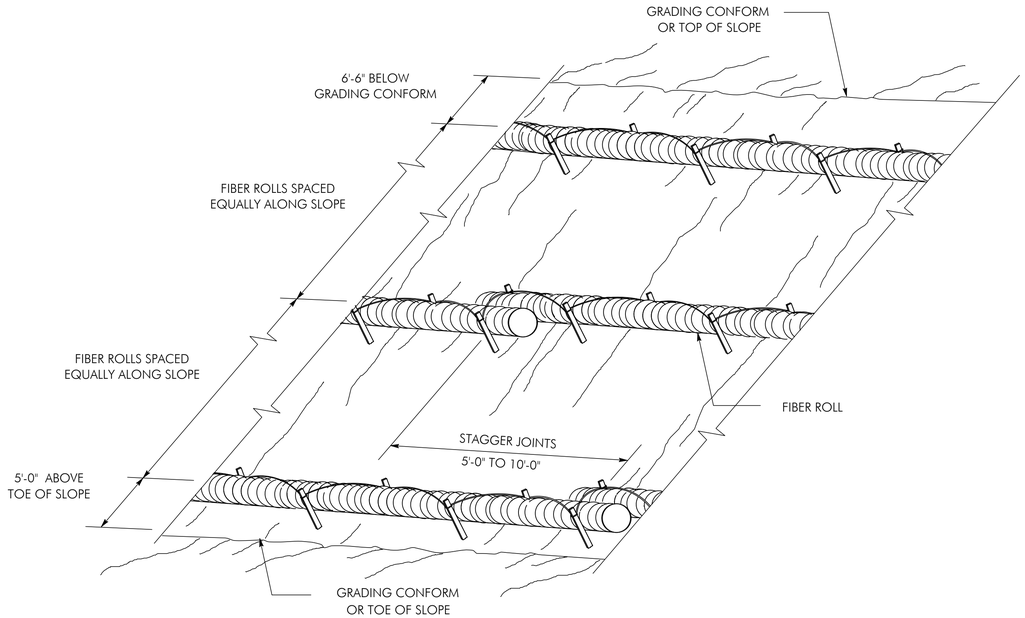
ELEVATION

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.

NOT FOR CONSTRUCTION



PERSPECTIVE

FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL DETAILS (FIBER ROLL)

NO SCALE

RNSP H51 DATED APRIL 3, 2009 SUPERSEDES NSP H51 DATED DECEMBER 1, 2006
THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED NEW STANDARD PLAN RNSP H51

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM, CHL
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

EROSION CONTROL DETAILS

Sheet

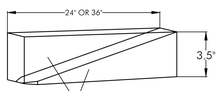
C-5.1

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION



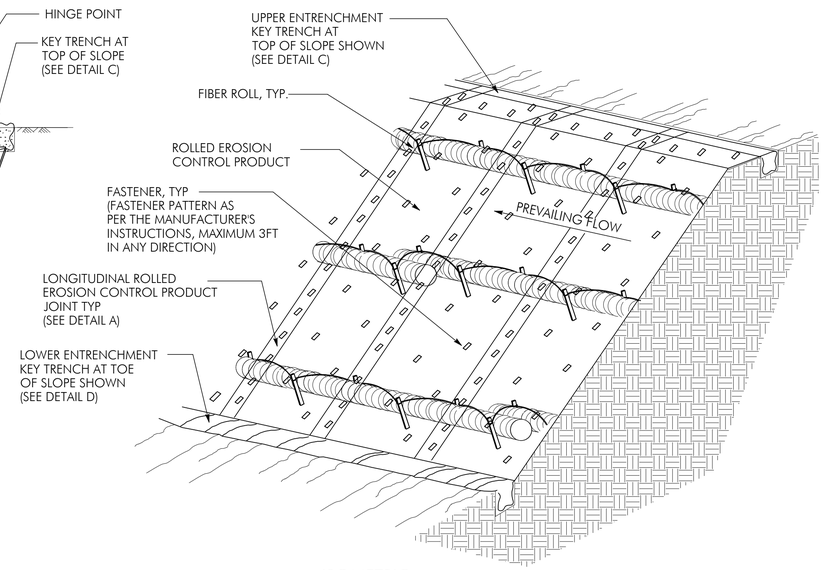
CUT 2 WOOD STAKES (AS SHOWN) FROM ONE PIECE OF 2X4 DOUGLAS FIR STUD (NON-PRESSURE TREATED)

FASTENER DETAIL

NOTE: FABRIC SHALL NOT BE CUT TO INSTALL STAKES

SECTION

ROLLED EROSION CONTROL PRODUCT ON SLOPE WITH VARIOUS KEY ENTRENCHMENTS

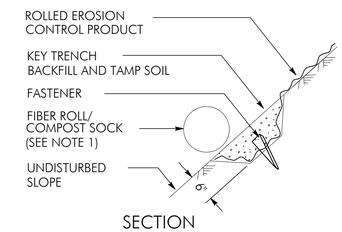


ISOMETRIC

ROLLED EROSION CONTROL PRODUCT ON SLOPE

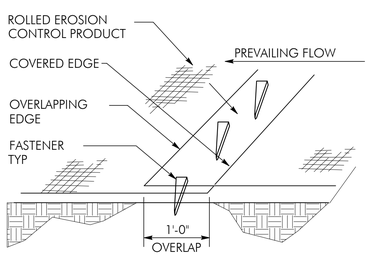
NOTE:

1. FIBER ROLL/COMPOST SOCK SHOWN FOR REFERENCE PURPOSES ONLY.
2. IF TRANSVERSE ROLLED EROSION CONTROL PRODUCT JOINTS ARE REQUIRED ON SLOPES, SEE DETAIL B.



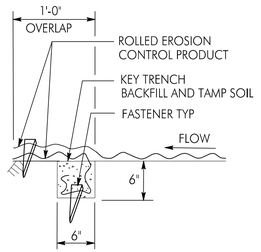
SECTION

DETAIL F KEY TRENCH AT LOWER CONFORM



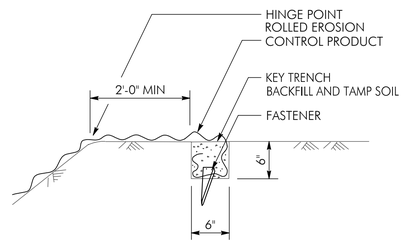
PERSPECTIVE

DETAIL A LONGITUDINAL ROLLED EROSION CONTROL PRODUCT JOINT



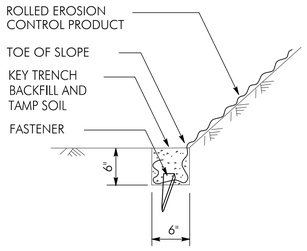
SECTION

DETAIL B TRANSVERSE ROLLED EROSION CONTROL PRODUCT JOINT



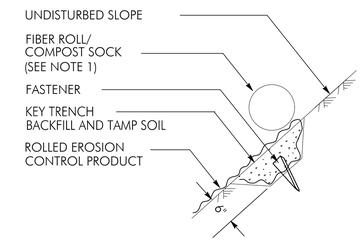
SECTION

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

NOTE: THIS DRAWING SHEET IS A CAL TRANS DETAIL FOR ROLLED EROSION CONTROL PRODUCT MODIFIED TO USE WOOD STAKE FASTENERS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ROLLED EROSION CONTROL PRODUCT

NO SCALE

NSP H53 DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP H53

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
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PROJECT #27109
DRAWN BY: ACS, BMM, CHL
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

EROSION CONTROL DETAILS

Sheet

C-5.2

POLLUTION PREVENTION — IT'S PART OF THE PLAN

Construction projects are required to implement year-round stormwater BMPs, as they apply to your project.

Runoff from streets and other paved areas is a major source of pollution to San Francisco Bay. Construction activities can directly affect the health of the Bay unless contractors and crews plan ahead to keep construction dirt, debris, and other pollutants out of storm drains and local creeks. Following these guidelines will ensure your compliance with City of Palo Alto Ordinance requirements.






MATERIALS & WASTE MANAGEMENT

Non-Hazardous Materials

- ☐ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or when they are not in use.
- ☐ Use (but don't overuse) reclaimed water for dust control.
- ☐ Ensure dust control water doesn't leave site or discharge to storm drains.

Hazardous Materials

- ☐ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ☐ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ☐ Follow manufacturer's application instructions for hazardous materials and do not use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ☐ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ☐ Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leaks. Never clean out a dumpster by hosing it down on the construction site.
- ☐ Place portable toilets away from storm drains. Make sure they are in good working order. Check frequently for leaks.
- ☐ Dispose of all wastes and demolition debris properly. Recycle materials and wastes that can be recycled, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation.
- ☐ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
- ☐ Keep site clear of litter (e.g. lunch items, cigarette butts).
- ☐ Prevent litter from uncovered loads by covering loads that are being transported to and from site.

Construction Entrances and Perimeter

- ☐ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ☐ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

EQUIPMENT MANAGEMENT & SPILL CONTROL

Maintenance and Parking

- ☐ Designate an area of the construction site, well away from streams or storm drain inlets and fitted with appropriate BMPs, for auto and equipment parking, and storage.
- ☐ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ☐ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ☐ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ☐ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment, and do not use diesel oil to lubricate equipment or parts onsite.

Spill Prevention and Control

- ☐ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ☐ Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks. Use drip pans to catch leaks until repairs are made.
- ☐ Clean up leaks, drips and other spills immediately and dispose of cleanup materials properly.
- ☐ Use dry cleanup methods whenever possible (absorbent materials, cat litter and/or rags).
- ☐ Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.
- ☐ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ☐ Report any hazardous materials spills immediately! Call City of Palo Alto Communications, **(650) 329-2413**. If the spill poses a significant hazard to human health and safety, property or the environment, you must report it to the State Office of Emergency Services. **(800) 852-7550 (24 hours).**

EARTHMOVING

Grading and Earthwork

- ☐ Schedule grading and excavation work during dry weather.
- ☐ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ☐ Remove existing vegetation only when absolutely necessary, plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- ☐ Prevent sediment from migrating offsite and protect storm drain inlets, drainage courses and streams by installing and maintaining appropriate BMPs (e.g., silt fences, gravel bags, fiber rolls, temporary swales, etc.).
- ☐ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ☐ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells.
  - Buried barrels, debris, or trash.
- ☐ If the above conditions are observed, document any signs of potential contamination and clearly mark them so they are not disturbed by construction activities.

Landscaping

- ☐ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ☐ Stack bagged material on pallets and under cover.
- ☐ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

CONCRETE MANAGEMENT & DEWATERING

Concrete Management

- ☐ Store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Store materials off the ground, on pallets. Protect dry materials from wind.
- ☐ Wash down exposed aggregate concrete only when the wash water can (1) flow onto a dirt area; (2) drain onto a bermed surface from which it can be pumped and disposed of properly; or (3) block any storm drain inlets and vacuum washwater from the gutter. If possible, sweep first.
- ☐ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will fl ow into a temporary waste pit, and make sure wash water does not leach into the underlying soil. (See CASQA Construction BMP Handbook for properly designed concrete washouts.)

Dewatering

- ☐ Reuse water for dust control, irrigation or another on-site purpose to the greatest extent possible.
- ☐ Be sure to obtain a Permit for Construction in the Public Street from Public Works Engineering before discharging water to a street, gutter, or storm drain. Call the Regional Water Quality Control Plant (RWQCP) at **(650) 329-2598** for an inspection prior to commencing discharge. Use filtration or diversion through a basin, tank, or sediment trap as required by the approved dewatering plan. Dewatering is not permitted from October to April.
- ☐ In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the City inspector to determine what testing to do and to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

PAVING/ASPHALT WORK

Paving

- ☐ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ☐ Cover storm drain inlets and manholes when applying seal coat, slurry seal, fog seal, or similar materials.
- ☐ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.

Sawcutting & Asphalt/Concrete Removal

- ☐ Protect storm drain inlets during saw cutting.
- ☐ If saw cut slurry enters a catch basin, clean it up immediately.
- ☐ Shovel or vacuum saw cut slurry deposits and remove from the site. When making saw cuts, use as little water as possible. Sweep up, and properly dispose of all residues.

PAINTING & PAINT REMOVAL

Painting Cleanup and Removal

- ☐ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ☐ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ☐ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ☐ Sweep up or collect paint chips and dust from non-hazardous dry stripping and sand blasting into plastic drop cloths and dispose of as trash.
- ☐ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state certified contractor.


STORM DRAIN POLLUTERS MAY BE LIABLE FOR FINES OF UP TO $10,000 PER DAY!

250 Hamilton Avenue
Palo Alto, CA 94301
650.329.2211
cityofpaloalto.org

CITY OF PALO ALTO

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
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11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

EROSION CONTROL NOTES AND SPECIFICATIONS

Sheet

C-5.3

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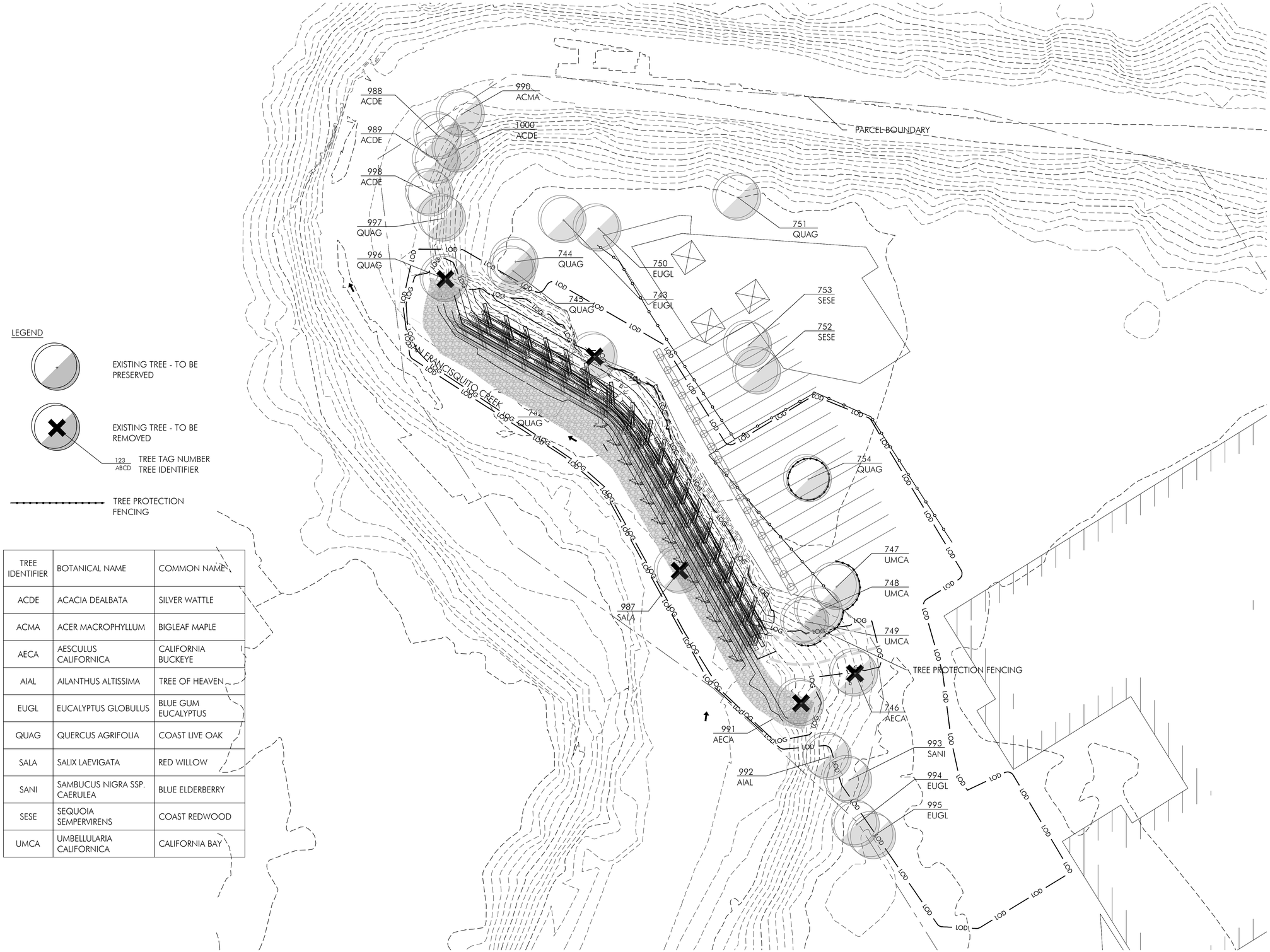

LEGEND

EXISTING TREE - TO BE PRESERVED

EXISTING TREE - TO BE REMOVED

123 ABCD — TREE TAG NUMBER / TREE IDENTIFIER

TREE PROTECTION FENCING

TREE IDENTIFIER	BOTANICAL NAME	COMMON NAME
ACDE	ACACIA DEALBATA	SILVER WATTLE
ACMA	ACER MACROPHYLLUM	BIGLEAF MAPLE
AECA	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE
AIAL	AILANTHUS ALTISSIMA	TREE OF HEAVEN
EUGL	EUCALYPTUS GLOBULUS	BLUE GUM EUCALYPTUS
QUAG	QUERCUS AGRIFOLIA	COAST LIVE OAK
SALA	SALIX LAEVIGATA	RED WILLOW
SANI	SAMBUCUS NIGRA SSP. CAERULEA	BLUE ELDERBERRY
SESE	SEQUOIA SEMPERVIRENS	COAST REDWOOD
UMCA	UMBELLULARIA CALIFORNICA	CALIFORNIA BAY

wra
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2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED LANDSCAPE ARCHITECT
Robert Brian Bartels
Lic. No. 6050
Signature
August 31, 2022
Renewal Date
Date
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
01/28/21	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

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0 20
SCALE: 1 " = 20 '

TREE REMOVAL AND PROTECTION PLAN

Sheet

C-6.0

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City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
Planning Division, 250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2441
http://www.cityofpaloalto.org

Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property, and that they be shown on approved site plans. A completed disclosure statement must accompany all building permit applications that include exterior work, all demolition or grading permit applications, or other development activity.

PROPERTY ADDRESS: 650 Clark Way Palo Alto, CA 94304

Are there Regulated trees on or adjacent to the property? YES NO (If no, proceed to Section 4)

[Sections 1- 4 MUST be completed by the applicant. Please circle and/or check where applicable.]

1. Where are the trees? Check those that apply. **(Plans must be submitted showing over 4" diameter trees)**
   - ☑ On the property
   - ☐ On adjacent property overhanging the project site
   - ☐ In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

*Street trees **require special protection by a fenced enclosure,** per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form by calling Public Works Operations at 493-5953 for inspection of required type I, II or III fencing (see attached Detail #605).

2. Are there any Protected or Designated Trees? YES (Check where applicable) NO
   - ☑ Protected Tree (s)
   - ☐ Designated Tree (s)
   - ☐ Over overhanging the property

3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? YES NO
*If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM , Section 6.25). Attach this report to Sheet T-1,"Tree Protection, its Part of the Plan!", per Site Plan Requirements.*

4. Are the Site Plan Requirements** completed? YES NO

**Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM , Section 2.15 for area to be fenced)

I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to criminal and/or civil legal action.

Signature: _____ Print: _____ Date: _____
(Prop. Owner or Agent)

FOR STAFF USE:

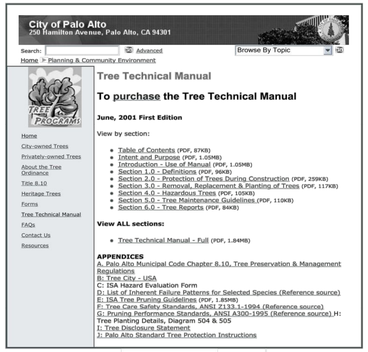
Protective Fencing
Sections 5-6 must be **completed by staff** for the issuance of any development permit (demolition, grading or building permit).

5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. YES NO
(N/A if there are no protected trees, check here ☐)

6. Street Trees. A signed Public Works Street Tree Protection Verification form is attached. YES NO
(N/A if there are no street trees, check here ☐).

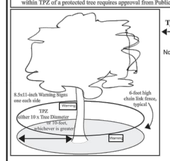
Regulated Trees – a) Street trees – trees on public property; b) Protected trees – Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees – commercial or non-residential property trees, which are part of an approved landscape plan.
Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at http://www.cityofpaloalto.org/planning-community/pacc_technical-manual.html

S:\Plan\Plados\Arborist\Tree Protection Info\Tree Disclosure Statement Revised 08/06



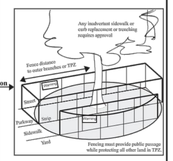
For written specifications associated with illustrations below, see Public Works Specifications Section 31
Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM) (www.cityofpaloalto.org/trees/)

Tree Protection Zone (TPZ) shown in gray (radius of TPZ equals 10-times the diameter of the tree or 10-feet, whichever is greater).
- Restricted activity area -- see Tree Technical Manual Sec 2.15(E).
- Restricted trenching area -- see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.

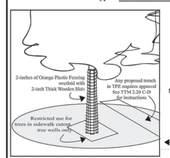


Type I Tree Protection
For all Ordinance Protected and Designated trees, as detailed in the site specific tree preservation report (TPR) prepared by the applicant's project arborist as diagramed on the plans.

Note: Ordinance Protected & Designated Trees. Issuance of a permit requires applicant's project arborist written verification Type I is installed correctly according to the plans and Tree Preservation Report



Type II Tree Protection



Note: Street Trees. Issuance of a permit requires Public Works Operations inspection and signed approval on the Street Tree Verification (STV) form provided.

Type III Tree Protection
(to be used only with approval of Public Works Operations)

Tree fencing is required and shall be erected before demolition, grading or construction begins.

Rev	By	Date
0	DWW	12/14/92
01	D.D.	08/04/04
02	D.D.	08/10/06

Tree Protection During Construction

City of Palo Alto Standard

Approved by: Dave Dockter
PE No.
Date 2006
Dwg No. 605

Scale: NTS

APPENDIX J

PALO ALTO STREET TREE PROTECTION INSTRUCTIONS --SECTION 31--

31-1 General
- **a. Tree protection has three primary functions,** 1) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.
- **b. The Tree Protection Zone (TPZ)** is a restricted area around the base of the tree with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents
- **a. Detail #05** – Illustration of situations described below.
- **b. Tree Technical Manual (TTM) Forms** (http://www.cityofpaloalto.org/trees/)
  1. Trenching Restriction Zones (TTM, Section 2.20(C))
  2. Arborist Reporting Protocol (TTM, Section 6.30)
  3. Site Plan Requirements (TTM, Section 6.53)
  4. Tree Disclosure Statement (TTM, Appendix I)
- **c. Street Tree Verification (STV) Form** (http://www.cityofpaloalto.org/trees/forms)

31-3 Execution
- **a. Type I Tree Protection:** The fence shall enclose the entire TPZ of the tree(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.
- **b. Type II Tree Protection:** For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
- **c. Type III Tree Protection:** To be used only with approval of Public Works Operations. Trees situated in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.
- **d. Size, type and area to be fenced.** All trees to be preserved shall be protected with six (6') foot high chain link fences. Fences are to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.
- **e. "Warning" signs.** A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inches x 11-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."
- **f. Duration.** Tree fencing shall be erected before demolition; grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ. Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.
- **g. During construction**
  1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
  2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code.
  3. The following tree preservation measures apply to all trees to be retained:
     - a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
     - b. The ground under and around the tree canopy area shall not be altered.
     - c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION
City of Palo Alto 2004 Standard Drawings and Specifications
Street Tree Verification of Protection, PWE, Section 31 Revised 08/06

Table 2-2 Palo Alto Tree Technical Manual

CONTRACTOR & ARBORIST INSPECTION SCHEDULE

Reference the Palo Alto Tree Technical Manual is available at www.cityofpaloalto.org/environment/

ALL CHECKED ITEMS APPLY TO THIS PROJECT:

1. ☑ **Inspection of Protective Tree Fencing**. For Public Trees, the Street Tree Verification Form shall be signed by the City Arborist. For Protected Trees, the project site arborist shall provide an initial Monthly Tree Activity Report form with a photograph verifying that he has conducted a field inspection of the trees and that the correct type of protective fencing is in place around the designated tree protection zone (TPZ) prior to issuance of a demolition, grading, or building permit. (See TTM, Verification of Tree Protection, Section 1.39).
2. ☑ **Pre-Construction Meeting**. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading operators, project site arborist, City Arborist, and, if a city maintained irrigation system is involved, the Parks Manager (Contact 650-496-6962).
3. ☑ **Inspection of Rough Grading or Trenching**. Contractor shall ensure the project site arborist performs an inspection during the course of rough grading or trenching adjacent to or within the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 24 hours advance notice of such activity.
4. ☑ **Monthly Tree Activity Report Inspection**. The project site arborist shall perform a minimum monthly activity inspection to monitor and advise on conditions, tree health and retention or, immediately if there are *any nevirkness* to the approved plans or protection measures. The Tree Technical Manual Monthly Tree Activity Report format shall be used and sent to the Planning Dept. landscape review staff no later than 14 days after issuance of building permit date. Fax to (650) 329-2154. (See TTM, Monthly Tree Activity Inspection Report, Addendum 11 & section 1.17).
5. ☑ **Special activity within the Tree Protection Zone**. Work in the TPZ trees (see also #7 below) requires the direct onsite supervision of the project arborist (see TTM, Trenching, Excavation & Equipment, Section 2.20 C).
6. ☐ **Landscape Architect Inspection.** For discretionary development projects, prior to occupancy or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see TTM, Planting Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The Planning Dept. landscape reviewr staff shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.
7. ☐ **List Other** (please describe as called out in the site Tree Preservation Report, Sheet T-1, T-2, etc.)
   - _____
   - _____

City of Palo Alto Tree Technical Manual ADDENDUM 11

Arborist Firm Data Here
mail:
ISA/TSA Certified Arborist #WE-000
Contact Cell #

Monthly Tree Activity Report- *Construction Site*

Inspection Date: _____ Inspection #_____	Site address: Palo Alto, CA	Contractor- Main Site Contact Information	#1: Job site superintendent Company: Email: Job site Office: Cell: Mail:
		Also present:	• _____ • _____
Distribution:	1. City of Palo Alto 2. Others	Attn: Dave Dockter	Dave.dockter@cityofpaloalto.org 650-329-2440

Provide the requested minimum information with each report, continuize as necessary. To be completed by project site arborist. Send monthly to city arborist at above address until project completion. Use additional sheets as needed.

1. Assignment Activity (Demolition/grading/sewer/trenching/foundation list relevant visits)
   a. Pre-construction meeting requirement with sub-contractors
   b. Inspect to verify that tree protection measures are in place
   c. Determine if field adjustments, watering or plan revisions may be needed
2. Field Observations (general site-wide and list by individual tree number)
   a. Tree Protection Fences (TPF) are …
   b. Trenching has/will occur …
3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due
   a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x)
   b. Root zone buffer material (wood chips) can be installed next
   c. Schedule sewer trench, foundation dig with …
4. Photographs (use often)
5. Tree Location Map (mandatory 8.5 x 11 sheet)
6. Recommendations, notes or monitor items for project/staff/schedule
   •
7. Past visits (list carry-over items satisfied/still outstanding)
   •

Respectfully submitted,

Project site arborist
Consultant contact information (Include email, cell#, and mailing)
CC:

Enter Date CPA Monthly Tree Activity Report: Type site address here Page #1 of 1

City of Palo Alto
Tree Department
Public Works Operations
PO Box 10250 Palo Alto, CA 94303
650/496-5953 FAX: 650/853-9289
treeprotection@CityofPaloAlto.org

Verification of Street Tree Protection

Applicant Instructions: Complete upper portion of this form. Mail or FAX this form along with signed Tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.

APPLICATION DATE:	
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	

This section to be filled out by City Tree Staff

1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES ☐ NO* ☐ * If NO, go to #2 below
Inspected by:	
Date of Inspection:	
2. The Street Trees at the above address are **NOT** adequately protected. The following modifications are required: _____ _____ _____ Indicate how the required modifications were communicated to the applicant.	
Subsequent Inspection	
Street trees at above address were found to be adequately protected:	YES ☐ NO* ☐ * If NO, indicate in "Notes" below the disposition of case.
Inspected by:	
Date of inspection:	
Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.	

Return approved sheet to Applicant for demolition or building permit issuance.
S:\PWD\OPS\Trees\DS\BLTreeProtect 9/1706

---WARNING---
Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a $500 fine per day*

Palo Alto Municipal Code Section 8.10.110

City of Palo Alto Tree Protection Instructions are located at http://www.city.palo-alto.ca.us/trees/technical-manual.html

SPECIAL INSPECTIONS **PLANNING DEPARTMENT**
TREE PROTECTION INSPECTIONS MANDATORY

PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.

BUILDING PERMIT DATE: _____
DATE OF 1ST TREE ACTIVITY REPORT: _____
CITY STAFF: _____

REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLIMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WITHIN A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.

Apply Tree Protection Report on sheet(s) T-2

Use addtional "T" sheets as needed

T-1

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-1

Project Data

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

SPECIAL TREE PROTECTION INSTRUCTIONS

Sheet

T-1.0

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City of Palo Alto
Tree Protection - It's Part of the Plan!

wra
ENVIRONMENTAL CONSULTANTS

December 2, 2019

Terry Boyle
Chief Financial Officer
Children's Health Council
650 Clark Way
Palo Alto, CA 94304

Re: Tree Survey/Tree Preservation Report, San Francisquito Creek Bank Restoration Project, Palo Alto, Santa Clara County, CA.

Dear Mr. Boyle:

This letter summarizes the methods and results of an arborist survey performed on February 6, 2018, and November 1, 2019 at the site of the San Francisquito Creek Bank Restoration Project (Project) located at 650 Clark Way in Palo Alto, Santa Clara County, California (Project Area). The survey was conducted by ISA-Certified Arborist, Scott Yarger (ISA #WE-6300A) for the purpose of assessing a potential hazard tree that is proposed for removal as part of the creek bank stabilization. This report was prepared in accordance with the City of Palo Alto requirement for a tree survey letter report to be submitted when an application request for tree removal is submitted. The survey also documented the presence of all trees within and directly adjacent to the Project Area (including protected and non-protected), as defined by Chapter 8.10, "Tree Preservation and Management Regulations" (Tree Ordinance). Lastly, this letter provides Best Management Practices (BMPs) for managing protected trees during construction, to prevent injury from construction-related activities, and to ensure that trees not proposed for removal are preserved in their current state.

The purpose of the Project is to stabilize a portion of the eastern San Francisquito Creek bank that runs adjacent to Children's Health Council (CHC) property, a school that specializes in providing education and clinical services to children and teens with learning differences. The project is needed to prevent further loss of outdoor learning areas used by CHC's students. Phase 1 of the Project which was completed in 2019, included construction of a system of shear pins and a tie beam, along the top of the eroding bank, to prevent further erosion. The shear pins consist of a cast-in-drilled-hole (CIDH) pier reinforced with a wide flange steel beam or a circular cage of reinforcing steel.

Phase 2 of the Project will rebuild and stabilize approximately 275 linear feet of bank along San Francisquito Creek between the top of the eroding bank and the channel of the creek. The Project will construct a live log crib wall supported by a geoengineered foundation on the east bank of the creek. The crib wall foundation consists of large boulders, cobble alluvium, and rootwads secured together and embedded within the bank. The crib wall structure consists of wooden logs and will be anchored to the foundation and existing bank with support anchors and rooted vegetation. Slopes on and above the crib wall will be graded and planted with native trees, shrubs, and

grasses. Project work is scheduled to commence in May 1, 2021 and be completed by October 15, 2021, thus minimizing impacts to aquatic species and habitat.

Regulatory Background

The City of Palo Alto Municipal code regulates the protection of specific trees on public and private properties in the City in order to preserve and protect the economic, aesthetic, and environmental values mature trees provide to the citizens of Palo Alto. A "tree" is defined by the Tree Ordinance as: "any woody plant which has a trunk four inches or more in diameter at four and one-half feet above natural grade level." A "protected tree" is defined as: any coast live oak (*Quercus agrifolia*) or valley oak (*Quercus lobata*) measuring 11.5 inches in diameter (36 inch circumference) when measured at breast height (4.5 feet above grade; "DBH"), or any coast redwood (*Sequoia sempervirens*) measuring 18 inches DBH (57 inches circumference). Additional protections are afforded to "heritage trees" which receive designation by a vote of the City council, and "street trees" which are situated in the City right-of-way.

A tree removal permit from the City of Palo Alto is required to remove, damage, or relocate or to conduct ground disturbance work within the "dripline area" of a protected tree on private property. "Dripline area" is defined per the Tree Ordinance as, "a radial area surrounding a tree trunk location equal to ten times the tree's DBH," (i.e. a 12-inch DBH coast live oak would have a radial dripline area of 120 inches or 10 feet). Additional regulations and guidelines governing the protection of trees during construction, removal of protected trees, replacement of permitted tree removal, and format and content of tree reports required as tree removal permit applications is provided in the City's Tree Protection Manual.

Tree removal permit applications for protected tree removals require payment of a $145.00 review process fee, and may include conditions of approval including tree replacement plantings or payment of in-lieu fees. The size and number of replacement trees are determined by the Tree Technical Manual and are based on the canopy size of the tree, with smaller size trees typically requiring replacement at a two to one ratio (trees replaced for trees removed), and the largest size trees requiring replacement at up to a six to one ratio. However, if the City authorizes removal of a protected tree because it is "dead, dangerous, or a nuisance, no tree replacement is required."

Methods

On February 6, 2018, and November 1, 2019, ISA-Certified Arborist, Scott Yarger, traversed the Project Area and vicinity on foot to evaluate, identify and inventory all trees as defined per the Tree Ordinance. Locations of surveyed trees were recorded using a handheld GPS unit with sub-meter accuracy. Each tree was given an aluminum tree tag with unique identification number. Several surveyed trees had been previously surveyed as indicated by old aluminum tree tags. If the tree had been previously surveyed, the old tree tag number was recorded. Information including species, DBH, dripline radius, approximate height, health, structure, and overall condition ratings were recorded. In cases where an irregular bulge or one or more scaffold branches were located at breast height, the diameter was measured below the irregular feature in order to best represent the size of the tree.

As described above, this letter report was prepared in accordance with the City's Tree Protection Manual for inclusion in a tree removal application for tree removal, not in connection with a development project. As a conservative measure, the survey included all "trees" as defined by the Tree Ordinance within the Project Area.

General notes on the condition of the protected trees were taken, including health, structure, and overall condition. Assessment of the health, structure, and overall condition of each tree was conducted according to the narratives listed in Table 1.

Table 1. Rating narratives for tree assessment

Health	
Good	Tree is free from symptoms of disease and stress
Fair	Tree shows some symptoms of disease or stress including twig and small branch dieback, evidence of fungal / parasitic infection, thinning of crown, or poor leaf color
Poor	Tree shows symptoms of severe decline
Structure	
Good	Tree is free from major structural defects.
Fair	Tree shows some structural defects in branches but overall structure is stable.
Poor	Tree shows structural failure of a major branch or co-dominant trunk, or structural insecurity such as major heart rot or cavities which could affect the tree's overall stability.
General Condition	
Good	Tree shows condition of foliage, bark, and overall structure characteristic of the species and lacking obvious defect, or disease
Fair	Tree shows condition of foliage, bark, and overall structure characteristic of the species with some evidence of stress, defect, or disease
Poor	Tree shows condition of foliage, bark, and overall structure uncharacteristic of the species and/or with obvious evidence of stress, defect, decline or disease.

Results

A total of 26 trees were identified within the Project Area and immediately surrounding area, including four trees which are of large enough and of a qualifying species to be considered protected per the Tree Ordinance. A complete list of all trees surveyed is presented in Attachment A. A map showing the location of each tree in relation to Project activities is provided in Attachment B. Tree protection buffers (i.e. driplines), for protected trees proposed for removal as measured in accordance with the Tree Ordinance as a radius 10 times the trunk diameter are shown on Attachment B. Representative photographs of trees proposed for removal as well as trees that will be preserved are provided in Attachment C. Protected trees within the Project Area were composed of one species, coast live oak (*Quercus agrifolia*). Other tree species surveyed within this Project Area included California bay (*Umbellularia californica*), blue gum (*Eucalyptus globulus*), California buckeye (*Aesculus californica*), coast redwood (*Sequoia sempervirens*), red willow (*Salix laevigata*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), bigleaf maple (*Acer macrophyllum*), and silver wattle (*Acacia dealbata*).

The largest surveyed tree was a very large, overmature, multi-trunk California bay (tree #747) which measured approximately 118.2 inches aggregate DBH. The largest single-trunk tree, was an approximately 65-inch DBH blue gum (tree #743).

The overall condition, health, and structure of trees inventoried during this assessment ranged from poor to good, with most trees ranking fair in all categories. A total of six trees are proposed for removal to facilitate construction of the Project. Two of the trees proposed for removal are large enough in size and of qualifying species to be considered ordinance-protected, therefore requiring a tree removal permit from the City of Palo Alto to remove. The two ordinance-protected trees proposed for removal include tree #724, a 14.1-inch DBH coast live oak tree which is located on the precipice of the eroding creek bank. It has been severely undermined by erosion, and has broken and exposed roots including the taproot, and significant structural roots exposed. Failure of this tree would exacerbate erosion, and it would pose a safety hazard if left in place.

The second ordinance-protected tree proposed for removal is a 12.6-inch DBH coast live oak (tree #996) which is located at toe of slope at the bottom of the eroding creekbank along the downstream limit of the proposed crib wall. This tree is similar to tree #724 in that it is generally healthy and in good condition, with poor structure, which is undermined by the eroding creek bank. The remaining non-protected trees proposed for removal include two California buckeyes (tree #746 and #991), one small shrubby red willow (tree #987) within the creek bed, and one 4-inch DBH coast live oak (tree #997), which is growing along the eroding creek bank.

Trees ranking poor in structure included the large, overmature, non-protected California bay trees (trees #747, #748, and #749). Each of the bay trees that rated poor in structure had extensive heart rot, evident by numerous cavities and the presence of artist's conk (*Ganoderma applanatum*) fungal fruiting bodies. The heart rot in these trees was extensive, and was observed throughout the crown. Large tree cavities in basal trunks and scaffold branches were host to numerous beehives, and previous limb failures and crown dieback was observed in these trees.

Trees that ranked "good" in all categories included, one protected coast live oak tree (tree #754), a dominant, mature tree with good form, vigor and structure, located in a tree island in the parking lot turnaround, and two non-protected coast redwood trees (trees #752, and #753) located in the interior of the school playfield. As shown in Attachment B, construction activity will occur within the dripline of the protected coast live oak tree, tree #754. Recommended BMPs to preserve this protected tree during construction are provided below.

The observed maladies and considerations of severity, along with species characteristics guided the assignment of the structural condition, health, and overall condition score for each tree. The overall condition, structural condition, health of inventoried trees was found to be generally fair. Table 2 below summarizes the assessment results of all inventoried trees in the Project Area.

Table 2. Tree Assessment Results Summary

Criteria Assessed/Rating	Condition	Health	Structure
Good	7 (27%)	9 (35%)	4 (15%)
Fair	16 (62%)	17 (65%)	12 (46%)
Poor	3 (11%)	0 (0%)	10 (39%)

Summary and Recommendations

The Project Area four trees which are considered protected under the Tree Ordinance, all of which are coast live oak trees (trees #742, #751, #754, and #996). The Project Area contains 22 non-protected trees. The proposed Project would remove just two protected coast live oak trees (trees #742, and #996), and four non-protected trees (trees #746, #987, #991, and #997), and would preserve the remaining 20 trees. Trees proposed for removal are not viable for preservation due hazardous growing conditions along the rapidly eroding creek bank or location within the limit of grade of the Project. A tree removal permit shall be obtained for the removal of the two protected coast live oak trees. It is my professional judgement that both of the protected trees proposed for removal tree are in risk of failure and, as outlined in Section 3.10 "When Tree Replacement is Required" of the Tree Technical Manual, tree replacement is not required for a tree removal that is authorized by the City because it is, "dead, dangerous, or a nuisance." If left in place with or without the project, the trees proposed for removal has the potential to fail, causing accelerated erosion of the creek bank on-site and debris-related flooding off-site. Therefore, the trees is considered dangerous and no replacement is proposed.

A complete list of all trees surveyed within the Project Area is presented in Attachment A. A figure displaying the locations of all surveyed trees, tree removals and preserved trees, as well as tree protection fencing is presented in Attachment B. Representative photographs of trees proposed for removal as well as trees that will be preserved are provided in Attachment C. Tree Hazard Evaluation Forms for the two protected trees proposed for removal, trees #742, and #996 are provided in Attachment D.

Tree Protection and Preservation Plan

Construction-related ground disturbance can have negative impacts to tree health and longevity via mechanical injury to roots, trunks, or branches, soil compaction, and changes in existing grade for instance. In accordance with Section 2, "Protection of Trees During Construction" of the City of Palo Alto Tree Technical Manual, a "Tree Protection and Preservation Plan is required if any activity is proposed within the dripline of a Protected or Designated Tree." The only protected tree which is proposed for preservation is protected coast live oak tree #754. This section provides a Tree Protection and Preservation Plan (Plan) which assesses potential impacts to tree #754, and recommends avoidance and minimization measures to reduce potential construction-related impacts to a less than significant level.

Tree #754 is a mature, healthy tree with good form, vigor and structure, located in a tree island in the parking lot turnaround. The entirety of the tree dripline area (as defined above as 10 times the trunk diameter) is located within the limit of disturbance. However, the tree is unlikely to be significantly impacted, as it is outside of the limit of grade. Construction activities intersecting with the tree's dripline area are limited to vehicle access and staging on existing asphalt surrounding the tree.

However, as described above, Projects including construction activities within protected tree driplines area required to implement tree protection measures outlined in Section 2, "Protection of Trees During Construction" of the City of Palo Alto Tree Technical Manual. In order to avoid and minimize damage to protected trees which are designated for preservation and not proposed for direct impact by project activities, the Project shall follow all tree protection guidelines outlined in Section 2, "Protection of Trees During Construction" as excerpted and adapted to site

specifications below. Tree protection measures that are deemed not applicable due to construction specifications are omitted from this Plan.

Pre-construciton Requirements

A. Site Plan. All trees to be preserved shall be shown on site plans. In addition, for protected trees, the site plans shall show the trunk diameter, dripline and tree protection zone (TPZ) to be enclosed with specified fencing as a bold dashed line. The TPZ is herein defined as equal to the tree's dripline area (i.e. a radial distance from the tree trunk equal to ten times the trunk diameter).

B. Verification of Tree Protection. The project arborist or contractor shall verify in writing that all preconstruction protection measures have ben met. Written verification must be submitted to and approved by the Planning Department prior to grading permit issuance.

C. Pre-construction Meeting. The demolition, grading and underground contractors, construction superintendent and other pertinent personnel are required to meet with the project arborist at the site prior to beginning work to review procedures, tree protection measures and to establish haul routes, staging areas, contacts, watering, etc.

D. Protective Tree Fencing for Protected Trees. Fenced enclosures shall be erected around trees to be protected to achieve three primary goals, (1) to keep the foliage crowns and branching structure clear from contact by equipment, materials and activities; (2) to preserve roots and soil conditions in an intact and non-compacted state and; (3) to identify the tree protection zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.

As described above, the only protected tree designated for preservation that is within the limit of work is tree #754. Since this tree is located in a planting strip/tree island within the parking lot turnaround, it is already protected from intrusion by the existing curb. Therefore installation of a temporary chainlink tree protection fence at the edge of the curb will provide sufficient protection.

Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project permit. A warning sign shall be prominently displayed on each fence. The sign shall be a minimum of 8.5 x 11-inches and clearly state: WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a penalty according to Palo Alto Municipal Code Section 8.10.110.9.

Although not ordinance protected, as a conservative measure, temporary tree protection fencing should be installed along the southern dripline of the clump of mature bay trees to prevent inadvertent damage from heavy machinery access

Damage to Trees, and Periodic Inspections

Adherence to the above recommended and required tree protection measures will ensure that significant damage to protected trees to be preserved will not occur. However, any damage to trees incidental during construction shall be reported to the project arborist, job superintendent or

City arborist within 6 hours of the damage so that appropriate damage mitigation in compliance with the Tree Technical Manual can be implemented in a timely manner.

The City may require monthly inspections by the project arborist or landscape architect to verify tree protection measures for protected trees are being implemented in accordance with this plan and the City's Tree Technical Manual.

Please feel free to contact me or Brian Bartell if you have any questions or concerns.

Sincerely yours,

Scott Yarger
ISA-Certified Arborist WE-9300A
yarger@wra-ca.com

Enclosures:

Attachment A – Tree Survey Table
Attachment B – Tree Removal and Protection Plan
Attachment C – Representative Photographs
Attachment D – Tree Hazard Evaluation Forms

Project Data

T-2

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-2

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
SEPT. 30, 2022
EXP. DATE
DATE
STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

SPECIAL TREE PROTECTION INSTRUCTION

Sheet

T-2.0

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City of Palo Alto
Tree Protection - It's Part of the Plan!

Attachment A. Children's Health Council San Francisquito Creek Bank Restoration Project Tree Survey: February 2018 & November 2019.

Tag_ID	Species	Common Name	Multistem	Ordinance Protected Tree	Tree Impact	DBH_1	DBH_2	DBH_3	DBH_4	DBH_5	Total DBH (inches)	Dripline Area (feet)	Estimated Height (feet)	Condition	Health	Structure
742	*Quercus agrifolia*	Coast live oak	No	Yes	Remove	14.1	0.0	0.0	0.0	0.0	14.1	11.9	30	Fair	Good	Poor
743	*Eucalyptus globulus*	Blue gum	No	No	Preserve	50.0	0.0	0.0	0.0	0.0	50	41.7	60	Fair	Fair	Fair
744	*Quercus agrifolia*	Coast live oak	No	No	Preserve	4.0	0.0	0.0	0.0	0.0	4	3.3	8	Good	Good	Fair
745	*Quercus agrifolia*	Coast live oak	Yes	No	Preserve	6.2	1.5	0.0	0.0	0.0	7.7	6.4	1	Good	Good	Fair
746	*Aesculus californica*	California buckeye	Yes	No	Remove	8.9	10.3	10.5	4.8	5.1	39.6	33.0	25	Good	Good	Fair
747	*Umbellularia californica*	California bay	Yes	No	Preserve	33.2	34.0	32.0	19.0	0.0	118.2	98.5	54	Fair	Fair	Poor
748	*Umbellularia californica*	California bay	Yes	No	Preserve	23.1	35.0	6.0	0.0	0.0	58.1	48.4	45	Fair	Fair	Poor
749	*Umbellularia californica*	California bay	Yes	No	Preserve	28.0	14.0	14.5	10.0	12.0	78.5	65.4	45	Fair	Fair	Poor
750	*Eucalyptus globulus*	Blue gum	No	No	Preserve	19.3	0.0	0.0	0.0	0.0	19.3	16.1	35	Fair	Fair	Fair
751	*Quercus agrifolia*	Coast live oak	Yes	Yes	Preserve	20.0	10.1	12.0	0.0	0.0	42.1	35.1	40	Good	Good	Fair
752	*Sequoia sempervirens*	Coast redwood	No	No	Preserve	16.1	0.0	0.0	0.0	0.0	16.1	13.4	35	Good	Good	Good
753	*Sequoia sempervirens*	Coast redwood	No	No	Preserve	14.8	0.0	0.0	0.0	0.0	14.8	12.3	35	Good	Good	Good
754	*Quercus agrifolia*	Coast live oak	No	Yes	Preserve	22.1	0.0	0.0	0.0	0.0	22.1	18.4	30	Good	Good	Good
987	*Salix laevigata*	Red willow	Yes	No	Remove	4.0	1.0	1.0	0.0	0.0	6	5.0	8	Fair	Fair	Poor
988	*Acacia dealbata*	Silver wattle	No	No	Preserve	5.5	0.0	0.0	0.0	0.0	5.5	4.6	11	Poor	Fair	Poor
989	*Acacia dealbata*	Silver wattle	Yes	No	Preserve	4.5	4.0	0.0	0.0	0.0	8.5	7.1	12	Poor	Fair	Poor
990	*Acer macrophyllum*	Bigleaf maple	Yes	No	Preserve	8.0	7.0	7.0	6.1	0.0	28.1	23.4	35	Poor	Fair	Poor
991	*Aesculus californica*	California buckeye	Yes	No	Remove	11.9	11.3	0.0	0.0	0.0	23.2	19.3	28	Fair	Fair	Fair
992	*Ailanthus altissima*	Tree of Heaven	No	No	Preserve	6.1	0.0	0.0	0.0	0.0	6.1	5.1	30	Fair	Fair	Fair
993	*Sambucus nigra. ssp. caerulea*	Blue elderberry	Yes	No	Preserve	5.5	2.5	1.0	1.0	1.0	11.1	9.3	12	Fair	Fair	Poor
994	*Eucalyptus globulus*	Blue gum	Yes	No	Preserve	65.0	0.0	0.0	0.0	0.0	65	54.2	70	Fair	Fair	Good
995	*Eucalyptus globulus*	Blue gum	No	No	Preserve	51.5	0.0	0.0	0.0	0.0	51.5	42.9	70	Fair	Fair	Fair
996	*Quercus agrifolia*	Coast live oak	No	Yes	Remove	12.6	0.0	0.0	0.0	0.0	12.6	10.5	33	Fair	Good	Poor
997	*Quercus agrifolia*	Coast live oak	No	Yes	Preserve	4.0	0.0	0.0	0.0	0.0	4	3.3	12	Fair	Fair	Fair
998	*Acacia dealbata*	Silver wattle	No	No	Preserve	6.1	0.0	0.0	0.0	0.0	6.1	5.1	40	Fair	Fair	Fair
1006	*Acacia dealbata*	Silver wattle	No	No	Preserve	9.7	0.0	0.0	0.0	0.0	9.7	8.1	40	Fair	Fair	Fair

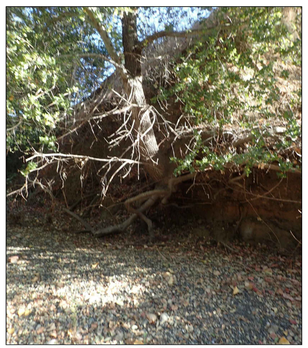
Photograph 1. Photograph depicting protected coast live oak tree (tree #742), which is proposed for removal. The eroding creek bank, exposed roots, and slight lean can be seen at left.

Photograph 2. Photograph depicting tree #742, which is proposed for removal. The tree is outwardly asymptomatic of pests or disease, but is severely undercut by the eroding creek bank, making preservation infeasible.

wra ENVIRONMENTAL CONSULTANTS — Attachment C. Representative Photographs — 1

Photograph 3. Tree #754, a protected coast live oak tree designated for preservation.

wra ENVIRONMENTAL CONSULTANTS — Attachment C. Representative Photographs — 2



Photograph 4. Tree #996, a protected coast live oak tree, which is significantly undercut by the eroding creek bank. Tree #998 is proposed for removal, as it is within the limit of grade, and is not feasible to preserve.

wra ENVIRONMENTAL CONSULTANTS — Attachment C. Representative Photographs — 3

A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas
TREE HAZARD EVALUATION FORM 2nd Edition

Site/Address: 650 Clark Way, Palo Alto, CA
Map/Location: (see letter report)
Owner: public ___ private X ___ unknown ___ other ___
Date: 2/6/18 Inspector: Scott Yaeger, ISA#WE-8804A, TRAQ
Date of last inspection: N/A

HAZARD RATING: 4 Failure Potential × 2 Size of part + 1 Target Rating = 7 Hazard Rating
___ immediate action needed
___ Needs further inspection
___ Dead tree

TREE CHARACTERISTICS
Tree # 725 Species: Coast live oak
DBH: 14 in. # of trunks: 1 Height: 30 ft. Spread: 10 ft. r.
Form: X generally symmetric ☐ minor asymmetry ☐ major asymmetry ☐ stump sprout ☐ stag-headed
Crown class: X dominant ☐ co-dominant ☐ intermediate ☐ suppressed
Live crown ratio: 90 %. Age class: ☐ young X semi-mature ☐ mature ☐ over-mature/senescent
Pruning history: ☐ crown cleaned ☐ excessively thinned ☐ topped ☐ crown raised ☐ pollarded ☐ crown reduced ☐ flush cuts ☐ cabled/braced X none ☐ multiple pruning events Approx. dates: ___
Special Value: ☐ specimen ☐ heritage/historic ☐ wildlife ☐ unusual ☐ street tree ☐ screen ☐ shade X indigenous X protected by gov. agency

TREE HEALTH
Foliage color: X normal ☐ chlorotic ☐ necrotic Epicormics? Y (N)
Foliage density: X normal ☐ sparse Leaf size: ☐ normal ☐ small
Annual shoot growth: ☐ excellent X average ☐ poor Twig Dieback? Y N
Woundwood development: ☐ excellent X average ☐ poor ☐ none
Vigor class: ☐ excellent X average ☐ fair ☐ poor
Major pests/diseases: Tree is asymptomatic but is undercut with exposed taproot and structural roots at risk of failing.
Growth obstructions: ☐ stakes ☐ wire/ties ☐ signs ☐ cables ☐ curb/pavement ☐ guards X other Rapidly eroding creek bank

SITE CONDITIONS
Site Character: ☐ residence ☐ commercial ☐ industrial ☐ park ☐ open space ☐ natural ☐ woodland/forest
Landscape type: ☐ parkway ☐ raised bed ☐ container ☐ mound ☐ lawn ☐ shrub border ☐ wind break
Irrigation: X none ☐ adequate ☐ inadequate ☐ excessive ☐ trunk wetted
Recent site disturbance? (N) Y ☐ construction X soil disturbance ☐ grade change ☐ tree clearing ☐ site clearing
% dripline paved: (50) 0-25% 25-50% 50-75% 75-100% Pavement lifted? Y N
% dripline w/ fill soil: (50) 0-25% 25-50% 50-75% 75-100%
% dripline grade lowered: (50) 0-25% 25-50% 50-75% 75-100%
Soil problems: ☐ drainage ☐ shallow ☐ compacted ☐ droughty ☐ saline ☐ alkaline ☐ acidic ☐ small volume ☐ disease center X history of fail ☐ clay ☐ impervious ☐ slope ___° aspect: ___
Obstructions: ☐ lights ☐ signage ☐ line-of-sight ☐ view ☐ overhead lines ☐ underground utilities ☐ traffic ☐ adjacent veg. ☐ ___
Exposure to wind: X single tree ☐ below canopy ☐ above canopy ☐ recently exposed ☐ windward, canopy edge ☐ area prone to windthrow
Prevailing wind direction: Unknown Occurrence of snow/ice storms: X never ☐ seldom ☐ regularly

TARGET
Use Under Tree: ☐ building ☐ parking ☐ traffic ☐ pedestrian X recreation ☐ landscape ☐ hardscape ☐ small features ☐ utility lines
Can target be moved? Y (N) Can use be restricted? (Y) N
Occupancy: X occasional use ☐ intermittent use ☐ frequent use ☐ constant use

The International Society of Arboriculture assumes no responsibility for conclusions or recommendations derived from use of this form.

A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas
TREE HAZARD EVALUATION FORM 2nd Edition

Site/Address: 650 Clark Way, Palo Alto, CA
Map/Location: (see letter report)
Owner: public ___ private X ___ unknown ___ other ___
Date: 11/1/19 Inspector: Scott Yaeger ISA#WE-8804A
Date of last inspection: N/A

HAZARD RATING: 3 Failure Potential × 2 Size of part + 1 Target Rating = 6 Hazard Rating
___ Immediate action needed
___ Needs further inspection
___ Dead tree

TREE CHARACTERISTICS
Tree # 998 Species: Coast live oak
DBH: 12.6 # of trunks: 1 Height: 33ft Spread: 10ft dia.
Form: ☐ generally symmetric X minor asymmetry ☐ major asymmetry ☐ stump sprout ☐ stag-headed
Crown class: X dominant ☐ co-dominant ☐ intermediate ☐ suppressed
Live crown ratio: 90 % Age class: ☐ young X semi-mature ☐ mature ☐ over-mature/senescent
Pruning history: ☐ crown cleaned ☐ excess/vely thinned ☐ topped ☐ crown raised ☐ pollarded ☐ crown reduced ☐ flush cuts ☐ cabled/braced X none ☐ multiple pruning events Approx. dates: ___
Special Values: ☐ specimen ☐ heritage/historic ☐ wildlife ☐ unusual ☐ street tree ☐ screen ☐ shade X indigenous X protected by gov. agency

TREE HEALTH
Foliage color: X normal ☐ chlorotic ☐ necrotic Epicormics? Y (N)
Foliage density: X normal ☐ sparse Leaf size: ☐ normal ☐ small
Annual shoot growth: ☐ excellent X average ☐ poor Twig Dieback? Y N
Woundwood development: ☐ excellent X average ☐ poor ☐ none
Vigor class: ☐ excellent X average ☐ fair ☐ poor
Major pests/diseases: Tree has poor structure with corrected lean growing in highly erosive creek bank
Growth obstructions: ☐ stakes ☐ wire/ties ☐ signs ☐ cables ☐ curb/pavement ☐ guards X other eroding creek bank

SITE CONDITIONS
Site Character: ☐ residence ☐ commercial ☐ industrial ☐ park ☐ open space ☐ natural ☐ woodland/forest
Landscape type: ☐ parkway ☐ raised bed ☐ container ☐ mound ☐ lawn ☐ shrub border ☐ wind break
Irrigation: X none ☐ adequate ☐ inadequate ☐ excessive ☐ trunk wetted
Recent site disturbance? (N) Y ☐ construction X soil disturbance ☐ grade change ☐ tree clearing ☐ site clearing
% dripline paved: (50) 0-25% 25-50% 50-75% 75-100%
% dripline w/ fill soil: (50) 0-25% 25-50% 50-75% 75-100%
% dripline grade lowered: (50) 0-25% 25-50% 50-75% 75-100%
Soil problems: ☐ drainage ☐ shallow ☐ compacted ☐ droughty ☐ saline ☐ alkaline ☐ acidic ☐ small volume ☐ disease center X history of fail ☐ clay ☐ impervious ☐ slope ___° aspect: ___
Obstructions: ☐ lights ☐ signage ☐ line-of-sight ☐ view ☐ overhead lines ☐ underground utilities ☐ traffic ☐ adjacent veg. ☐ ___
Exposure to wind: X single tree ☐ below canopy ☐ above canopy ☐ recently exposed ☐ windward, canopy edge ☐ area prone to windthrow
Prevailing wind direction: Unknown Occurrence of snow/ice storms: X never ☐ seldom ☐ regularly

TARGET
Use Under Tree: ☐ building ☐ parking ☐ traffic ☐ pedestrian X recreation ☐ landscape ☐ hardscape ☐ small features ☐ utility lines
Can target be moved? Y (N) Can use be restricted? (Y) N
Occupancy: X occasional use ☐ intermittent use ☐ frequent use ☐ constant use

The International Society of Arboriculture assumes no responsibility for conclusions or recommendations derived from use of this form.

TREE DEFECTS
ROOT DEFECTS:
Suspend root rot: Y (N) Mushroom/conk/bracket present: Y (N) ID: ___
Exposed roots: X severe ☐ moderate ☐ low Undermined: X severe ☐ moderate ☐ low
Root pruned: N / X distance from trunk: ___ Root area affected: 350 % Buttress wounded: Y (N) When: ___
Restricted root area: ☐ severe ☐ moderate X low Potential for root failure: X severe ☐ moderate ☐ low
Lean: 25 deg. from vertical ☐ natural ☐ unnatural ☐ self-corrected Soil heaving: (Y) N
CROWN DEFECTS: Indicate presence of leafless defects and rate their severity (s = severe, m = moderate, l = low)

DEFECT	ROOT CROWN	TRUNK	SCAFFOLDS	BRANCHES
Poor taper	N/A	N/A		N/A
Bow, sweep				
Codominants/forks				
Multiple attachments				
Included bark				
Excessive end weight				
Cracks/splits				
Hangers				
Girdling				
Wounds/seam				
Decay				
Cavity				
Conks/mushrooms/bracket				
Bleeding/sap flow				
Loose/cracked bark				
Nesting hole/bee hive				
Deadwood/stubs				
Borers/termites/ants				
Cankers/galls/burls				
Previous failure				

HAZARD RATING
Tree part most likely to fail: Roots - Whole tree
Inspection period: ___ annual ___ triannual ___ other ___
Failure Potential × Size of Part + Target Rating = Hazard Rating
4 × 2 + 1 = 7
Failure potential: 1 - low; 2 - medium; 3 - high; 4 - severe
Size of part: 1 - <6" (15 cm); 2 - 6-18" (15-45 cm); 3 - 18-30" (45-75 cm); 4 - >30" (75 cm)
Target rating: 1 - occasional use; 2 - intermittent use; 3 - frequent use; 4 - constant use

HAZARD ABATEMENT
Prune: ☐ remove defective part ☐ reduce end weight ☐ crown clean ☐ thin ☐ raise canopy ☐ crown reduce ☐ restructure ☐ lateps
Cable/Brace: ___ Inspect further: ☐ root crown ☐ decay ☐ aerial ☐ monitor
Remove tree: (Y) N Replace? Y N Move target: Y N Other: ___
Effect on adjacent trees: X none ☐ evaluate
Notification: X owner ☐ manager X governing agency Date: See letter report

COMMENTS
The tree is at severe risk of failure due to broken and exposed structural roots resulting from a rapidly eroding creek bank. Preservation is not feasible

T-3

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-3

Project Data

wra ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
info@wra-ca.com

CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER — ANDREW C. SMITH — C-82643 — SIGNATURE — SEPT. 30, 2022 — EXP. DATE — DATE — STATE OF CALIFORNIA

Date	Issues And Revisions	No.
03/27/19	CONCEPT	
08/19/19	30% DESIGN	
11/24/20	30% DESIGN REVISION	

PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

SPECIAL TREE PROTECTION INSTRUCTION

Sheet

T-3.0

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City of Palo Alto

Tree Protection - It's Part of the Plan!

TREE DEFECTS

ROOT DEFECTS:

Suspect root rot: Y (O) **Mushroom/conk/bracket present:** Y N ID: _____

Exposed roots: ☐ severe ☒ moderate ☐ low **Undermined:** ☒ severe ☐ moderate ☐ low

Root pruned: N/A distance from trunk **Root area affected:** 50 % **Bottom wounded:** Y (O) **When:** _____

Restricted root area: ☐ severe ☐ moderate ☒ low **Potential for root failure:** ☒ severe ☐ moderate ☐ low

LEAN: _____ deg. from vertical ☐ natural ☐ unnatural ☒ self-corrected **Soil heaving:** (Y) N

Decay in plane of lean: Y (O) **Roots broken** (Y) N **Soil cracking:** (Y) N

Compounding factors: Rapidly eroding creek bank **Failure severity:** ☐ severe ☒ moderate ☐ low

CROWN DEFECTS: Indicate presence of individual defects and rate their severity (s = severe, m = moderate, l = low)

DEFECT	VISIT CROWN	TRUNK	SCAFFOLDS	BRANCHES
Poor taper	N/A	N/A	N/A	N/A
Bow, sweep				
Codominants/forks				
Multiple attachments				
Included bark				
Excessive end weight				
Cracks/splits				
Hedged				
Girdling				
Wounds/decay				
Decay				
Cavity				
Conks/mushrooms/brackets				
Bleeding/sap flow				
Loose/cracked bark				
Nesting hole/bee hive				
Deadwood/stubs				
Borers/termites/ants				
Cankers/galls/burls				
Broken/hollow				

HAZARD RATING

Tree part most likely to fail: Roots - whole tree

Inspection period: _____ annual _____ biannual _____ other: _____

Failure Potential + Size of Part + Target Rating = Hazard Rating

3 + 2 + 1 = 6

Failure potential: 1 - low; 2 - medium; 3 - high; 4 - severe
Size of part: 1 - <6" (15 cm); 2 - 6-18" (15-45 cm); 3 - 18-30" (45-75 cm); 4 - >30" (75 cm)
Target rating: 1 - occasional use; 2 - intermittent use; 3 - frequent use; 4 - constant use

HAZARD ABATEMENT

Prune: ☐ remove defective part ☐ reduce end weight ☐ prevent clash ☐ thin ☐ raise canopy ☐ prevent reduce ☐ restructure ☐ shape

Cable/Brace: _____ **Inspect further:** ☐ root crown ☐ decay ☐ cavity ☐ monitor

Remove tree: (Y) N **Replace?** Y N **Move target:** Y N **Other:** _____

Effect on adjacent trees: ☒ none ☐ evaluate

Notification: ☐ owner ☐ manager ☒ governing agency **Date:** See letter report

COMMENTS

Tree is at risk of failure due to lean and undermined roots, and rapidly eroding creek bank. preservation is not feasible due to location in limit of grade of bank stabilization improvements (ie. crib wall).

Project Data

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http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-4 T-4

wra
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CREEK BANK STABILIZATION PROJECT - PHASE II

CHILDREN'S HEALTH COUNCIL
PALO ALTO, CALIFORNIA

NOT FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
ANDREW C. SMITH
C-82643
SIGNATURE
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PROJECT #27109
DRAWN BY: ACS, BMM
CHECKED BY: RBB
ORIGINAL DRAWING SIZE: 24 X 36

SPECIAL TREE PROTECTION INSTRUCTION

Sheet 15 OUT OF 15

T-4.0

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