SCOTTS VALLEY
WATER DISTRICT

Date: 8/5/26

2026 Glenwood Tank Site Projects:
Site Improvements (Secant Wall Installation)

ADDENDUM NO. 2

The following clarifications and revisions are hereby incorporated in the Contract Documents, Construction Specifications and Plans for the project entitled, *"Glenwood Tank Site Project – Site Improvements (Secant Wall Installation), Scotts Valley Water District"*:

CONTRACT DOCUMENTS, CONSTRUCTION SPECIFICATIONS AND PLANS

CONTRACT DOCUMENTS:

Section 1 – Bid Documents: 1-C Bid Forms, Page 10,

Delete: Entire Page 10

Substitute: Revised Page 10 Attached

Perimeter Protective Fence has been changed to 6-feet tall (Item No. 3).

Secant Wall method of installation has been changed. A stem wall has been incorporated within the grade beam to accommodate the introduction of tie-backs. Stem Wall has been added to the Grade Beam bid section (Item No. 9).

The amount of un-reinforced concrete slurry pile depth has been increased. Depth of un-reinforced concrete slurry pile has been reduced with the introduction of tie-backs. Increase in amount has been reflected in Un-Reinforced Concrete Slurry Pile (Items No. 10).

The amount reinforced concrete pile has been increased. Depth of reinforced concrete pile has been reduced with the introduction of tie-backs. Size of rebar has been reduced within the footing from No. 14 vertical to No. 8 vertical. Increase in amount has been reflected in Reinforced Concrete Pile (Items No. 11).

Due to site constraints and an updated Geotechnical Report with updated seisment paraments the project was able to incorporate tie-backs to reduce the overal wall depth. Tie-backs, unit cost and quantity has been added as Post Tension Tie-Back Anchors (Items No. 12).

The new wall revision require a bench to cut into the hill side for the tie-back caps to be exsposed. This will require gabion basket to be installed at edges of slope to accommodate grade changes. Gabion basket and Grading, unit cost and quantity has been added as Gabion basket (Items No. 13).

CONTRACT PLANS:

Sheet C1.1 - Existing Site Plan & Demolition,

Revision: Delta 1 – Addendum No. 2 – Secant Wall Revision

Add: Barricade fence location and height

Original 4-foot fence is not high enough for site protection for the District. Protective fencing can be incorporated with new bench and gabion basket.

Sheet C2.1 - Site Improvement Plan,

Revision: Delta 1 – Addendum No. 2 – Secant Wall Revision

Add: Gabion baskets and excavating a bench on the exterior of the new Secant Wall.

Sheet C3.1 - Grading & Drainage Plan,

Revision: Delta 1 – Addendum No. 2 – Secant Wall Revision

Add: Grading of bench for new Secant Wall and revision to how the new storm pipe will connect to the existing outlet for the tank site.

Sheet S0.0 - Structural Specification Sheet,

Delete: Entire Sheet

Substitute: Revised Sheet S0.0 – Addendum 2 – Wall Revisions, dated 08-03-2026

Sheet S1.0 - Foundation Plan,

Delete: Entire Sheet

Substitute: Revised Sheet S1.0 – Addendum 2 – Wall Revisions, dated 08-03-2026

Sheet S2.0 - Foundation Plan,

Delete: Entire Sheet

Substitute: Revised Sheet S2.0 – Addendum 2 – Wall Revisions, dated 08-03-2026

Sheet S3.0 - Foundation Details,

Add: Entire Sheet

SPECIFICATIONS:

03 00 10 – Grade Beam,

Delete: Entire Specification

Substitute: 03 00 10 – Grade Beam and Stemwall Specification

03 00 40 - Post Tensioned Soil Tieback Anchors,

Add: Entire Specification

Added for payment description

31 51 13 - Post Tensioned Soil Tieback Anchors,

Add: Entire Specification

Wire Mesh Gabions and Mattresses Twisted or Welded Mesh,

Add: Entire Specification

GEOTECHNICAL REPORT:

Add: Technical Memo (Addendum No. 1) to original Geotechnical Report

Updated seismic parameters and slope stability analysis with new design criteria

Bid Schedule – Glenwood Tank – Site Improvements

Item No.	Description	Payment Reference	Unit	EST. QTY.	Unit Price	Extended Price
1	Mobilization	§3-A.01 G	LS	1		$
2	Clearing and Grubbing	§3-A.03 F	LS	1		$
3	Slope Safety (6-ft Barricade fence)	§3-A.04 E	LS	1		$
4	Erosion Control	§3-A.06 E	LS	1		$
5	AC Pavement (2-inches)	§3-D.12 E	SQ FT	1,270		$
6	Storm Improvements	STORM - 1.2	LS	1		$
7	Minor Concrete (Curb & Gutter)	§3-D.15 A	LF	113		$
8	Chain-link Fencing	§3-D.21C (6)	LF	70		$
9	Grade Beam & Stem Wall	03 00 10 – 1.02	LF	60		$
10	Un-Reinforced Concrete Slurry Pile	03 00 20 - 1.02	EA	13		$
11	Reinforced Concrete Pile	03 00 30 -1.02	EA	14		$
12	Post Tension Tie-Back Anchors	03 00 40 -1.02	EA	14		$
13	Gabion Basket & Excavation	Gabion -7.0	LS	1		$
Total Bid Price					$	

_____ $ _____

(Written total of Contact Bid)

All bid entries must be filled in.

Addenda Received and Reviewed:

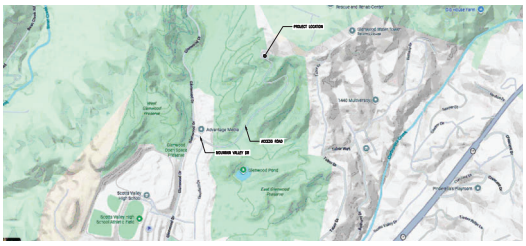
(Indicate with check marks in respective boxes)

Addenda Number and Date

_____ Reviewed _____

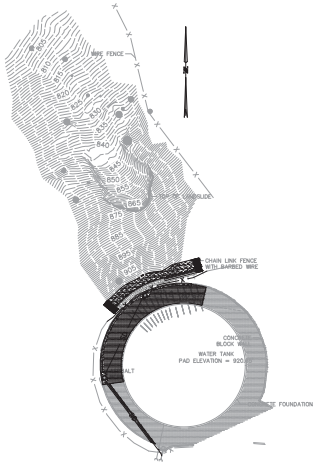
The undersigned agrees that the enclosed cash deposit, cashier's check, certified check, or surety bond accompanying this bid shall be left on deposit with the District, that its amount is the measure of the liquidated damages which the District will sustain by the default of the undersigned through failure to execute and deliver the above agreement, insurance and bonds within ten (10) calendar days of written notice of the award of the contract and the money or surety bond so deposited by Contractor shall be collectible and become the property of the District in case of such default.

GLENWOOD TANK IMPROVEMENT PLANS
SLOPE STABILIZATION - SECANT WALL
SCOTTS VALLEY, CALIFORNIA



VICINITY MAP
SCALE: N.T.S.

SCOTTS VALLEY WATER DISTRICT



SITE PLAN
SCALE: 1"=30'

CLIENT:
SCOTTS VALLEY WATER DISTRICT
2 CIVIC CENTER DRIVE
SCOTTS VALLEY, CA 95066
OFFICE: 831.438.2363

CIVIL ENGINEER:
CJG/CIVIL CONSULTANTS GROUP, INC
4444 SCOTTS VALLEY DRIVE, STE 6
SCOTTS VALLEY, CA 95066
OFFICE: 831.438.4420

STRUCTURAL ENGINEER:
R3 CONSULTING ENGINEERS
105 LOCUST STREET, STE A
SANTA CRUZ, CA 95060
OFFICE: 831.588.7628

UTILITY/NOTIFICATIONS

GAS AND ELECTRIC:	PACIFIC GAS AND ELECTRIC
SANITARY SEWER:	CITY OF SCOTTS VALLEY
STORM DRAIN SYSTEM:	CITY OF SCOTTS VALLEY
WATER:	SCOTTS VALLEY WATER DISTRICT

SURVEYOR:
ALPHA SURVEY
4444 SCOTTS VALLEY DRIVE, STE 6
SCOTTS VALLEY, CA 95066
OFFICE: 831.438.4453

GEOTECHNICAL ENGINEERS:
HARO, KASUNICH AND ASSOCIATES, INC.
116 EAST LAKE AVE
WATSONVILLE, CA 95076
OFFICE: 831.722.4175

R3 CONSULTING ENGINEERS
105 LOCUST STREET, STE A
SANTA CRUZ, CA 95060
OFFICE: 831.588.7628

ABBREVIATIONS

AC	ASPHALT CONCRETE
BFP	BACK FLOW PREVENTER
BFW	BOTTOM FACE OF WALL
BFC	BOTTOM FACE OF CURB
CB	CATCH BASIN
CL	CENTERLINE
CONC	CONCRETE
DI	DROP INLET/DITCH INLET
DIP	DUCTILE IRON PIPE
EC	EDGE OF CONCRETE
EP	EDGE OF PAVEMENT
EG	EXISTING GRADE
(E)	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOW LINE
GB	GRADE BREAK
HP	HIGH POINT
INV	INVERT
LP	LOW POINT
ME	MATCH EXISTING
MIN	MINIMUM
PL	PROPERTY LINE
PSE	PUBLIC SERVICE EASEMENT
ROW	RIGHT OF WAY
TBW	TOP BACK OF WALL
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL
WV	WATER VALVE

CIVIL SHEET INDEX
C0.1 - COVER SHEET
C0.2 - OVERVIEW SHEET
C1.1 - EXISTING SITE/DEMOLITION PLAN
C2.1 - SITE IMPROVEMENT PLAN
C3.1 - GRADING AND DRAINAGE PLAN
C4.1 - EROSION CONTROL PLAN

STRUCTURAL SHEET INDEX
S0.0 - STRUCTURAL SPECIFICATIONS
S1.0 - FOUNDATION PLAN
S2.0 - WALL SECTION
S3.0 - FOUNDATION DETAILS

GENERAL NOTES

1. NO CHANGE TO THE PLANS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL BY THE OWNER OR OWNERS REPRESENTATIVES AND THE SCOTTS VALLEY WATER DISTRICT.
2. CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS AND INVERTS OF EXISTING UTILITY PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY OWNER OR OWNERS REPRESENTATIVES OF VARIANCE FROM THOSE SHOWN ON THE PLANS.
3. IF ANY INDICATIONS OF ARCHEOLOGICAL REMAINS ARE ENCOUNTERED DURING GRADING ACTIVITIES FOR ANY DEVELOPMENT WITHIN THE PROJECT SITE, ALL WORK SHALL BE HALTED WITHIN 200 FOOT RADIUS OF THE FIND. OWNER SHALL RETAIN A QUALIFIED ARCHEOLOGIST RETAINED TO DETERMINE THE NATURE OF THE DISCOVERY AND RECOMMEND APPROPRIATE EVALUATION PROCEDURES.
4. THE WITHIN PLANS ARE COPYRIGHTED AS AN UNPUBLISHED WORK BY CJG/CIVIL CONSULTANTS GROUP, INC. ALL IDEAS DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THESE DRAWINGS ARE OWNED BY, AND THE PROPERTY OF CJG/CIVIL CONSULTANTS GROUP, INC. AND WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON, AND IN CONNECTION WITH, THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF CJG/CIVIL CONSULTANTS GROUP, INC. COPYRIGHT 2023 TODD R. CREAMER, D.B.A. AS CJG/CIVIL CONSULTANTS GROUP, INC.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES TO VERIFY THE EXISTENCE AND/OR LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK. AND SHALL NOTIFY U.S.A. @ (800) 227-2600 AT LEAST 48-HOURS IN ADVANCE OF EXCAVATION.

CONTRACTOR RESPONSIBILITY

CONTRACTOR AGREES THAT HE SHOULD ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, AND THAT REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED DURING WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE DESIGN PROFESSIONALS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.

UNDERGROUND FACILITIES AND UTILITIES HAVE BEEN SHOWN BASED ON RECORD DRAWINGS AND VISIBLE EVIDENCE FOUND IN FIELD. NO WARRANTY IS MADE REGARDING THE COMPLETENESS OR ACCURACY OF SUCH INFORMATION. PRIOR TO CONSTRUCTION, DETERMINE THE EXACT LOCATION OF UNDERGROUND FACILITIES AND UTILITIES, AND PRESERVE SAME FROM DAMAGE. PRIOR TO CONSTRUCTION, VERIFY LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AT THE CROSSING POINTS WITH PROPOSED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNERS REPRESENTATIVES IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE DRAWINGS AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITION HAS BEEN EVALUATED. CONTACT UNDERGROUND SERVICES ALERT (USA) (1-800-227-2600) TWO (2) WORKING DAYS PRIOR TO DIGGING. REPAIR UNDERGROUND UTILITIES DAMAGED BY CONSTRUCTION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES ASSOCIATED WITH CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE UNDERGROUND FACILITIES AND UTILITIES.

IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE DESIGN PROFESSIONAL FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES TO VERIFY THE EXISTENCE AND/OR LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK. AND SHALL NOTIFY U.S.A. @ (800) 227-2600 AT LEAST 48-HOURS IN ADVANCE OF EXCAVATION.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL SURVEYING AND OR STAKING BY A LICENSED SURVEYOR FOR ALL CONSTRUCTION PURPOSES.

USA NORTH 811 Call 811 Before You Dig

NORTH
SCALE: 1"=30'
0 30 60 90 120

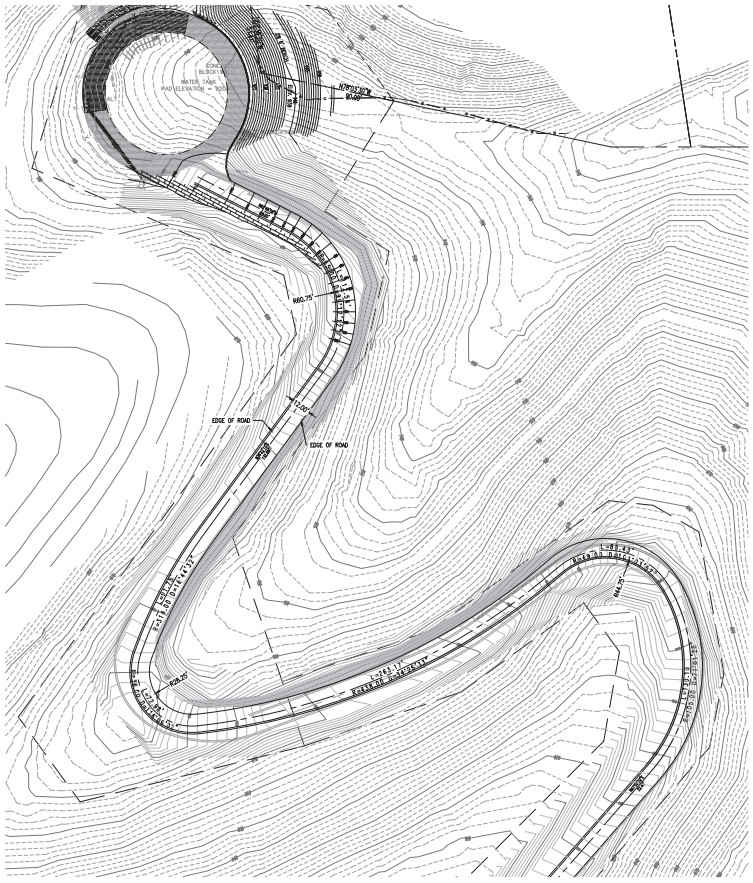
REVISIONS	BY
BID SET	VL
ADDENDUM 2, WALL REVISION	VL

COVER SHEET

CJG/CIVIL CONSULTANTS GROUP, INC
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
831.438.4420

GLENWOOD TANK IMPROVEMENT PLANS
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066

Date: 08.03.26
Scale: 1" = 30'
Drawn: VL/TC
Job: 165-100
Sheet: C0.1
Of 6 Sheets



1 ACCESS ROAD OVERVIEW
Scale: 1"=30'

SCALE: 1"=30'
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USA NORTH 811 Call Before You Dig

REVISIONS	BY
BID SET	VL
ADDENDUM 2, WALL REVISION	VL

OVERVIEW SHEET

CHG CIVIL CONSULTANTS GROUP, INC
Engineers/Planners
1646 Dutton Valley Drive / Suite E
Livermore, CA 94550
(925) 456-4500

GLENWOOD TANK IMPROVEMENT PLANS
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066

Date:	08.03.26
Scale:	1" = 30'
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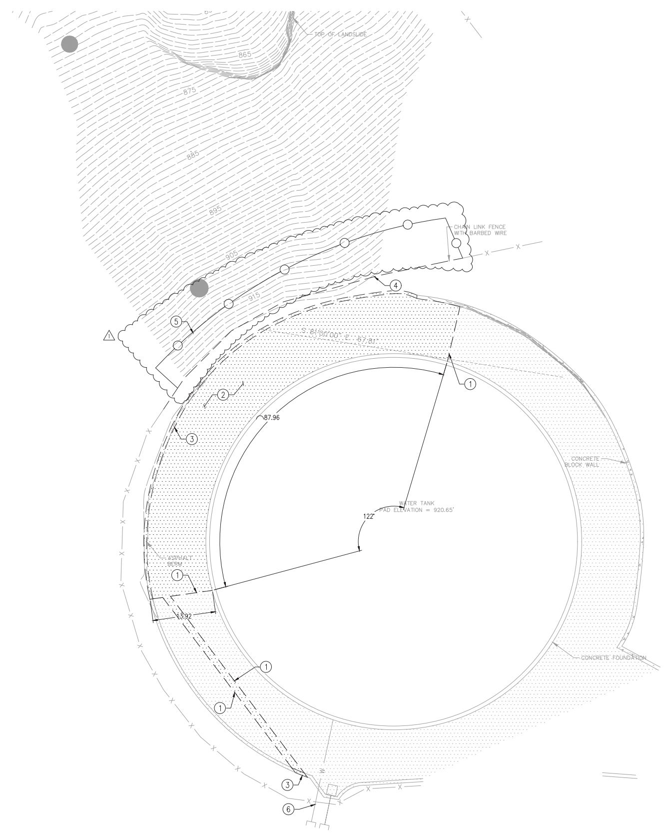
Of	6 Sheets



DEMOLITION AND SITE PREPARATION NOTES

THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.

THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.

UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.

ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.

DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF GRADING AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.

IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.

ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.

'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.

TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.

LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.

THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LEGEND

EXISTING CONCRETE TO REMAIN

EXISTING AC PAVEMENT TO REMAIN

EXISTING CONCRETE TO BE REMOVED

EXISTING AC PAVEMENT TO BE REMOVED

ABBREVIATIONS

AC	ASPHALT CONCRETE	FH	FIRE HYDRANT
AD	AREA DRAIN	FL	FLOWLINE
APN	ASSESSORS PARCEL NUMBER	FNC	FENCE
BFC	BOTTOM FACE OF CURB	FW	FACE OF WALL
BFS	BOTTOM FACE OF STEP	HC	HANDICAP
BFW	BOTTOM FACE OF WALL	INV	INVERT
BLDG	BUILDING	LIP	LIP OF GUTTER
BR	BOTTOM OF RAMP	MTR	METER
CB	CATCH BASIN	N	NEW
CO	CLEANOUT	SDAD	STORM DRAIN AREA DRAIN
CNDT	CONDUIT	SDDI	STORM DRAIN DROP INLET
COMM	COMMUNICATION	SSCO	SANITARY SEWER CLEANOUT
CONC	CONCRETE	TC	TOP OF CURB
DBL	DOUBLE	TFC	TOP FACE OF CURB
DIA	DIAMETER	TBC	TOP BACK OF CURB
E	EXISTING	TBW	TOP BACK OF WALL
EC	EDGE OF CONCRETE	THRESH	THRESHOLD
EL	ELEVATION	TR	TOP OF RAMP
ELEC	ELECTRIC	TS	TOP OF STEP
EP	EDGE OF PAVEMENT	TYP	TYPICAL
EX	EXISTING	TW	TOP OF WALL
FC	FACE OF CURB	WM	WATER METER
		WV	WATER VALVE

(X) SITE DEMOLTION NOTES

1. SAWCUT LINE
2. REMOVE EXISTING AC PAVEMENT
3. REMOVE PORTION OF EXISTING AC BERM
4. REMOVE PORTION OF EXISTING FENCE TO NEAREST POST
5. INSTALL 6 FT POLYETHYLENE BARRICADE FENCING DURING DEMOLITION AND CONSTRUCTION
6. PROTECT EXISTING OVERFLOW LINE

NORTH

SCALE: 1"=10'

0 10 20 30 40

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BID SET	VL
ADDENDUM 2 WALL REVISION	VL

EXISTING SITE AND DEMOLITION PLAN

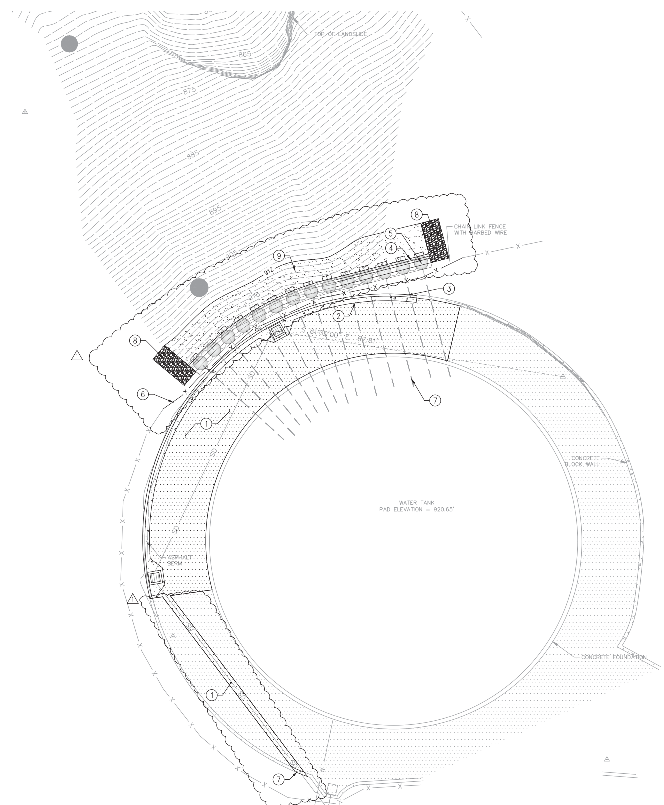
REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 63561
CIVIL
STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
831.438.4420

GLENWOOD TANK IMPROVEMENT PLANS
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066

Date:	08.03.26
Scale:	1" = 10'
Drawn:	VL/TC
Job:	165-100
Sheet:	C1.1
Of 6 Sheets	

Drawing: Z:\Shared\CAD - SVWD\CAD\165-100 - Glenwood Tank - Second Wall\Design\CAD\Sheets\165-100 - C1.1 - EX SITE & DEMO.dwg Layout: C1.1 - EX-SITE & DEMO Last Saved: Mon Aug 03, 2026 - 6:20pm Last Plotted: Mon Aug 03, 2026 - 6:22pm By: Vanessa

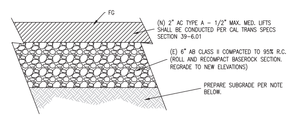


LEGEND

- (E) AC PAVEMENT
- (E) CONCRETE
- AC PAVEMENT
- CONCRETE
- STORM DRAIN DROP INLET
- — X — CHAINLINK FENCE

(X) SITE IMPROVEMENT NOTES

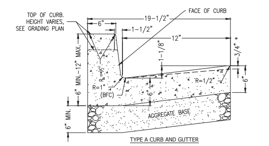
1. INSTALL AC PAVEMENT PER DETAIL 1 BELOW
2. INSTALL CONCRETE GUTTER PER DETAIL 2 BELOW
3. INSTALL CONCRETE CURB PER DETAIL 2 BELOW
4. SLURRY WALL, SEE STRUCTURAL PLANS
5. SECANT WALL (CONCRETE STRUCTURAL PILE), SEE STRUCTURAL PLANS
6. INSTALL NEW FENCE WITH BARBED WIRE PER DETAIL 3 BELOW
7. REPLACE AC BERM
8. GABION BASKET PER DETAIL 4 BELOW
9. EXCAVATE BENCH FOR INSTALLATION OF TIEBACKS



PAVEMENT SUBGRADE COMPACTION REQUIREMENTS (PER TABLE 5 OF THE GEOTECH REPORT)
LOW-EXPANSIVE SOIL SUBGRADE, COMPACTED TO 95% R.C. / EXPANSIVE SOIL SUBGRADE SHALL BE COMPACTED TO 87 - 92% WITH AT LEAST 3% OVER OPTIMUM.

1 AC PAVEMENT SECTION

Scale: NTS



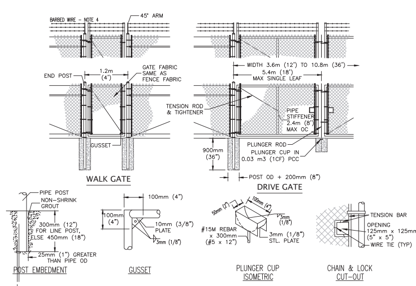
TYPE A CURB AND GUTTER

NOTES:
1. TYPE A CURB & GUTTER AND SIDEWALK ARE TO BE CONSTRUCTED OF CLASS B CONCRETE, 6 SACK MINIMUM.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 20° INTERVALS, AND AT THE ENDS OF RETURNS. EXPANSION JOINTS SHALL BE AT MAXIMUM 60 FEET SPACING.

* COUNTER SLOPE OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO AND WITHIN 24" OF THE CURB RAMP SHALL NOT BE STEEPER 1"V IN 20"H (CBC 11B-406.5.8). COUNTER SLOPE OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO AND WITHIN 24" OF ACCESSIBLE DROP-OFFS/LOADING ZONES SHAL NOT BE STEEPER 1"V IN 50"H OR 2.0% MAX.

2 CONCRETE CURB & GUTTER

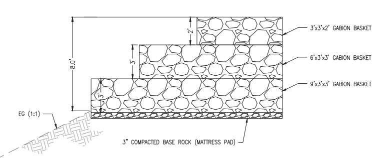
Scale: NTS



NOTES:
1. SECURE DRIVE-FIT GALVANIZED CAP TO POST WITH 6 mm (1/4") ROUND-HEAD RIVET.
2. H DENOTES FABRIC WIDTH AND NOMINAL FENCE HEIGHT. H = 1.5 m (5') UNLESS OTHERWISE NOTED.
3. IF FENCE WITH TOP RAIL IS SPECIFIED, DELETE STEEL TENSION WIRE AT TOP, AND PIPE RAILS AT INTERMEDIATE, SLOPE, END AND CORNER POSTS. EXTEND TENSION ROD TO TOP RAIL.
4. BARBED WIRE SHALL BE USED ONLY WHEN SPECIFIED.
5. POST SPACING IS MAXIMUM 3.0 m (10').
6. FILL CLEAR OPENINGS GREATER THAN 75 mm (3") WITH FABRIC. FOR OPENINGS LESS THAN 450 mm (18'), TIE FABRIC TO POSTS.
7. USE ONE POST FOR COMBINED SLOPE AND CORNER POST IF TOP OF CHANNEL WALL IS CONSTRUCTED AS SHOWN FOR "ALTERNATE".
8. STEEL BANDS AT TENSION BARS SHALL BE 3 mm X 25 mm (1/8" x I"), MINIMUM, SPACED AT MAXIMUM 400 mm (16').
9. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES. HOWEVER, ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.

3 CHAINLINK FENCE

Scale: NTS



4 GABION BASKET

Scale: NTS

NORTH

SCALE: 1"=10'

0 10 20 30 40

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REVISIONS	BY
BID SET	VL
ADDENDUM 2 WALL REVISION	VL

SITE IMPROVEMENT PLAN

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 62561 CIVIL STATE OF CALIFORNIA

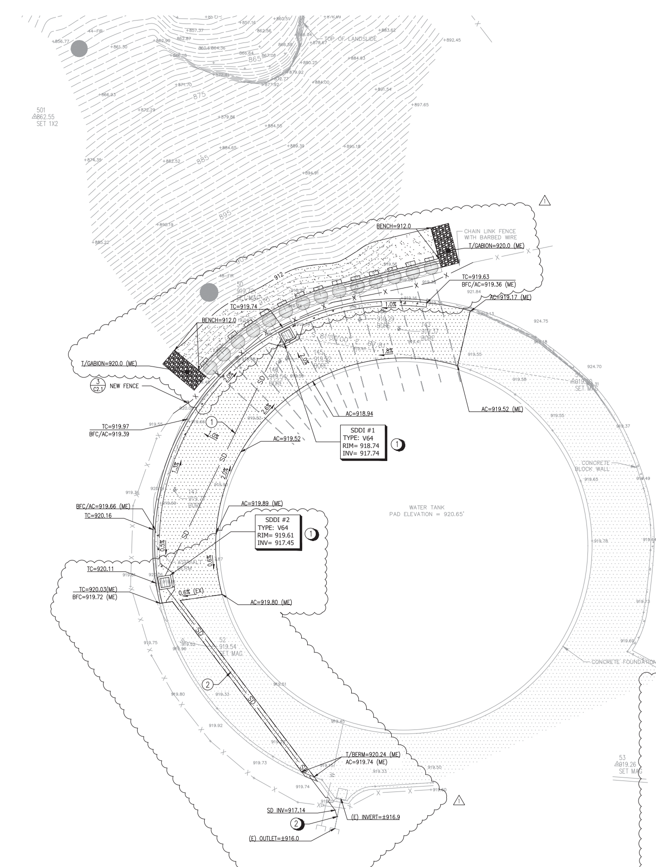
C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
831.438.4420

GLENWOOD TANK IMPROVEMENT PLANS
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066

Date:	08.03.26
Scale:	1" = 10'
Drawn:	VL/TC
Job:	165-100
Sheet:	C2.1

Of 6 Sheets

Drawing: Z:\Shared\CAD - SYMD\CAD\165-100 - Glenwood Tank - Secant Wall\Design\CAD\Sheets\165-100 - C2.1 - SITE IMP.dwg Layout: C2.1 - SITE IMP Last Saved: Mon Aug 03, 2026 - 6:20pm Last Plotted: Mon Aug 03, 2026 - 6:22pm By: Vanessa



LEGEND

- (E) AC PAVEMENT
- (E) CONCRETE
- AC PAVEMENT
- CONCRETE
- STORM DRAIN DROP INLET
- —X— CHAINLINK FENCE

GENERAL GRADING NOTES

1. SURFACE VEGETATION PRESENT AT THE TIME OF CONSTRUCTION SHOULD BE STRIPPED TOGETHER WITH ORGANIC LADEN TOPSOIL. THE ACTUAL DEPTH SHOULD BE DETERMINED BY THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION. FOR PLANNIG PURPOSES THE AVERAGE DEPTH MAY BE ASSUMED TO BE 3-INCHES IN VEGETATED AREAS.
2. ALL MATERIAL TO BE USED AS FILL WITHIN BUILDING PAD AREAS & PARKING OR DRIVEWAY AREAS TO BE FREE OF ALL VEGETATION & FOREIGN MATTER AND SHALL BE APPROVED BY THE SOILS ENGINEER.
3. THESE SOILS WILL NEED TO BE PROCESSED; MOISTURE CONDITIONED AND RECOMPACTED AS ENGINEERED FILL. AT A MINIMUM, SUBGRADE SHOULD BE SACRIFIED TO A DEPTH OF 8-INCHES; MOISTURE CONDITIONED AND RECOMPACTED AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
4. STRIPPINGS MAY BE PLACED IN PLANTING AREAS; ALL EXCESS STRIPPING SHALL BE HAULED OFF. PAVING DEBRIS SHALL BE HAULED OFF TO AN APPROVED DISPOSAL SITE.
5. ALL WORK SHOWN OR NOTED IN THESE PLANS SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, ALL LOCAL, STATE AND FEDERAL MINIMUM STANDARDS AND THE LATEST EDITION OF THE UNIFORM BUILDING CODE.
6. CONTRACTOR SHALL PROTECT ALL EXISTING SITE IMPROVEMENTS NOT IDENTIFIED FOR REMOVAL DURING CONSTRUCTION. THEY SHALL REPAIR ANY DAMAGE TO NEW CONDITION AT THEIR EXPENSE.
7. VERIFY ALL EXISTING SITE CONDITIONS, SITE DIMENSIONS AND GRADES PRIOR TO THE START OF CONSTRUCTION.
8. ALL GRADING AND RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THE PROJECT.
9. GRADING SLOPES FOR BOTH CUT AND FILL SHALL NOT EXCEED 2(H):1(V) UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.
10. ALL SOFTSCAPE GRADES ADJACENT TO NEW BUILDINGS SHALL BE 8" (MIN.) BELOW FINISH FLOOR.
11. CONTRACTOR SHALL GRADE TO ENSURE DRAINAGE FLOWS AWAY FROM EXISTING BUILDINGS.
12. IN AREAS WHERE SPACE LIMITATIONS PRECLUDE PERFORMING MECHANICAL COMPACTION, A FLOWABLE SAND-CEMENT SLURRY OR OTHER APPROVED CONTROLLED DENSITY FILL (CDF) OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE USED IN PLACE OF SOIL.
13. LEVEL LANDINGS SHALL BE PROVIDED AT ALL DOORS WITH A MAXIMUM SLOPE OF 2.0%. LANDINGS SHALL EXTEND A MINIMUM OF 5-FEET (60-INCHES) AWAY FROM THE DOOR.
14. DOOR LANDINGS SHALL EXTEND A MINIMUM OF 24" PAST THE DOOR AS MEASURED FROM THE DOOR LATCH SIDE OF THE DOOR (PER CBC 11B-404.2.4) UNLESS OTHERWISE STATED BY ENGINEER.
15. EXISTING CRAWL SPACE VENTILATION SHALL NOT BE COVERED COMPLETELY. REFER TO ARCHITECTURAL PLANS FOR MINIMUM CRAWL SPACE VENTILATION OPENING REQUIREMENTS.

(X) STORM DRAINAGE PIPE DATA:

(1) 59 LF OF 6" Ø SDR-35 PIPE @ 0.5% SLOPE

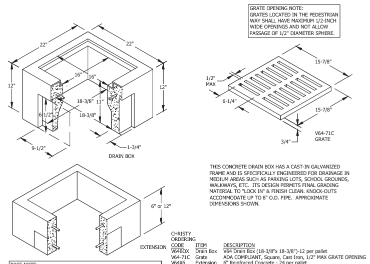
(2) 63 LF OF 8" Ø SDR-35 PIPE @ 0.5% SLOPE

(X) STORM DRAINAGE NOTES:

(1) V64 CHRISTY BOX PER DETAIL 1 BELOW

(2) POINT OF CONNECTION TO EXISTING STORM PIPE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION, DEPTH, SIZE AND MATERIAL PRIOR TO START OF CONSTRUCTION. SEE DETAIL 3 BELOW.

GRATE OPENING NOTE:
GRATES LOCATED IN THE PEDESTRIAN WAY SHALL HAVE MAXIMUM 1/2-INCH WIDE OPENINGS AND NOT ALLOW PASSAGE OF 1/2" DIAMETER SPHERE.



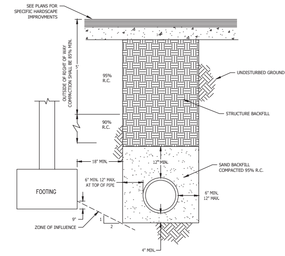
THIS CONCRETE DRAIN BOX HAS A CAST-IN GALVANIZED FRAME AND IS SPECIFICALLY ENGINEERED FOR DRAINAGE IN MEDIUM AREAS SUCH AS PARKING LOTS, SCHOOL GROUNDS, WALKWAYS, ETC. ITS DESIGN PERMITS FINAL GRADING MATERIAL TO "LOCK IN" & FINISH CLEAN. KNOCK-OUTS ACCOMMODATE UP TO 8" O.D. PIPE. APPROXIMATE DIMENSIONS SHOWN.

CHRISTY ORDERING CODE	ITEM	DESCRIPTION
V64BOX	Drain Box	V64 Drain Box (18-3/8"x 18-3/8")-12 per pallet
V64-71C	Grate	ADA COMPLIANT, Square, Cast Iron, 1/2" MAX GRATE OPENING
V64X6	Extension	6" Reinforced Concrete - 24 per pallet
V64X12	Extension	12" Reinforced Concrete - 12 per pallet

BASE NOTE:
CONTRACTOR SHALL POUR CONCRETE BASE. BASE SHALL BE MINIMUM 4" THICK AND EXTEND A MINIMUM OF 2" FROM OUTER EDGE OF DRAINAGE STRUCTURE. DRAINAGE STRUCTURE SHALL BE GROUTED TO CONCRETE BASE FOR WATER TIGHT SEAL

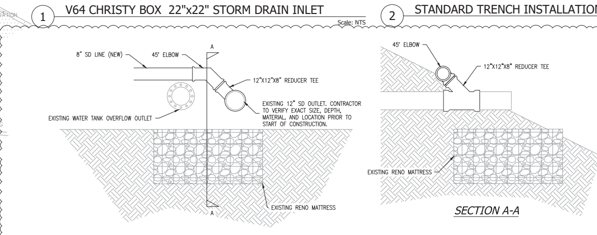
(1) V64 CHRISTY BOX 22"x22" STORM DRAIN INLET

Scale: NTS



(2) STANDARD TRENCH INSTALLATION

Scale: NTS



(3) STORM DRAIN OUTLET CONNECTION

Scale: NTS

NORTH

SCALE: 1"=10'

0 10 20 30 40

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BID SET	VL
ADDENDUM 2 WALL REVISION	VL

GRADING AND DRAINAGE PLAN

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 63561 CIVIL STATE OF CALIFORNIA

C2G/CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
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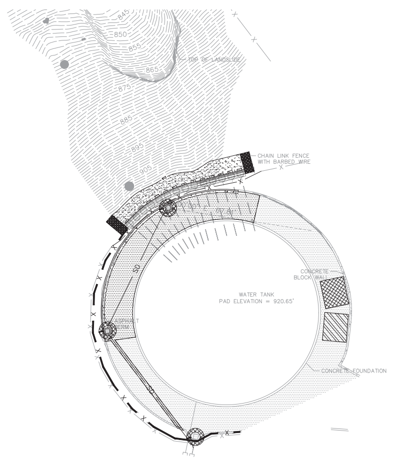


EROSION CONTROL NOTES

1. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. HAY BALES, FILTER BERMS, OR OTHER MEANS SHALL BE EMPLOYED TO PREVENT TURBID RUNOFF TO ADJOINING PROPERTIES.

2. ALL AREA ON AND OFF SITE, EXPOSED DURING CONSTRUCTION, IF NOT PERMANENTLY LANDSCAPED PER PLANS, SHALL BE PROTECTED BY MULCHING AND/OR PLANTING OF THE FOLLOWING APPROVED EROSION CONTROL MIX, AT A RATE OF 35 POUNDS PER ACRE:

BLANDO BROME	50%
ROSE CLOVER (PELLET INOCULATED)	35%
CREEPING RED FESCUE	15%
ZORRO ANNUAL FESCUE	TRACE
WILDFLOWERS	TRACE

3. UNNECESSARY GRADING AND DISTURBING OR SOIL SHALL BE AVOIDED.

4. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE OR STOCKPILED IN A MANNER TO AVOID RUNOFF ONTO ADJOINING PROPERTIES.

5. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED AREAS SHALL BE PERMANENTLY REVEGETATED PER LANDSCAPE PLANS.

6. ANY MATERIAL STOCKPILED DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.

7. DURING CONSTRUCTION, NO TURBID SITE WATER SHALL BE PERMITTED TO ENTER STORM DRAIN SYSTEM. USE OF SILT AND GREASE TRAPS, FILTER BERMS, OR HAY BALES MAY BE USED TO PREVENT SUCH DISCHARGE.

8. CONTRACTOR SHALL NOTIFY COUNTY 48 HOURS BEFORE ANY EARTHWORK IS BEGUN.

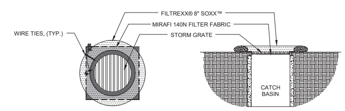
9. ALL CONSTRUCTION SHALL CONFORM "EXCAVATION, GRADING, EROSION AND SEDIMENT CONTROL REGULATIONS" PER DSA. NO CLEARING, GRADING, OR EXCAVATION SHALL TAKE PLACE BETWEEN OCTOBER 15, AND APRIL 15 UNLESS THERE IS AN APPROVED WINTER EROSION CONTROL PLAN. ALL DISTURBED SOUL SHALL BE SEEDED, MULCHED, OR OTHERWISE PROTECTED BY OCTOBER 15.

LEGEND

- SILT FENCE
- INLET PROTECTION
- FIBER ROLL

SWPPP MANAGER TO MARK KNOWN LOCATIONS

- MATERIALS & EQUIPMENT STORAGE AREA
- SANITARY FACILITY



DRAIN INLET PLAN **DRAIN INLET SECTION**

NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
4. CONTRACTOR SHALL EXTEND MIRAFI 140N FABRIC 6" BEYOND CATCH BASIN AFTER PLACEMENT OF GRATE
5. CONTRACTOR SHALL REMOVE ALL FILTER FABRIC FROM ALL STORM DRAIN INLETS UPON COMPLETION OF PROJECT

1 FILTREX® INLET PROTECTION

Scale: NTS

EROSION CONTROL BMP'S

ALL CONSTRUCTION SITES

DELINEATE CLEARING LIMITS, SENSITIVE OR CRITICAL AREAS, TREES, DRAINAGE COURSES, AND BUFFER ZONES TO PREVENT EXCESSIVE OR UNNECESSARY DISTURBANCE AND EXPOSURE OF SOIL.

1. IDENTIFY ALL STORM DRAINS, DRAINAGE SWALES AND CREEKS LOCATED NEAR THE CONSTRUCTION SITE AND MAKE SURE ALL SUBCONTRACTORS ARE AWARE OF THEIR LOCATIONS TO PREVENT POLLUTANTS FROM ENTERING THEM.
2. PRESERVE EXISTING VEGETATION, WHERE REQUIRED AND WHEN FEASIBLE, TO THE MAXIMUM EXTENT PRACTICABLE.
3. PHASE GRADING OPERATIONS, TO THE EXTENT POSSIBLE, TO LIMIT AREAS OF DISTURBANCE AND TIME OF EXPOSURE
4. AVOID AND/OR MINIMIZE IMPACTS OF EXCAVATION AND GRADING DURING WET WEATHER AND IMMEDIATELY PRECEDING EXPECTED WET WEATHER. EXTRA BMP MATERIALS WILL BE KEPT ONSITE FOR PRE-RAIN INSTALL BETWEEN OCTOBER 15 AND APRIL 15.
5. MINIMIZE CUTS AND FILLS.
6. IMPLEMENT MEASURES TO MINIMIZE EROSION, MANAGE STORM WATER RUNOFF, AND PREVENT POLLUTANTS FROM CONSTRUCTION ACTIVITIES FROM ENTERING STORM DRAINS.
7. ALIGN TEMPORARY AND PERMANENT ROADS AND DRIVEWAYS ALONG SLOPE CONTOURS.
8. WASH VEHICLES AT AN APPROPRIATE OFF-SITE FACILITY. IF EQUIPMENT MUST BE WASHED ON-SITE, USE WASH DOWN AREAS DEVELOPED FOR SPECIFIC SITE REQUIREMENTS AND APPROVED BY THE CITY REPRESENTATIVE. DO NOT USE SOAPS, SOLVENTS, DEGREASERS, OR STEAM CLEANING EQUIPMENT, AND PREVENT WASH WATER FROM ENTERING STORM DRAINS.

GOOD HOUSEKEEPING PRACTICES

1. DO NOT WASH DOWN PAVEMENT OR SURFACES WHERE SILT HAS BEEN DEPOSITED OR MATERIALS HAVE SPILLED. USE DRY CLEANUP METHODS.
2. AVOID CONTAMINATING CLEAN RUNOFF FROM AREAS ADJACENT TO YOUR SITE BY USING BERMS AND/OR TEMPORARY OR PERMANENT DRAINAGE DITCHES TO DIVERT WATER FLOW AROUND THE SITE.
3. COVER EXPOSED PILES OF SOIL, CONSTRUCTION MATERIALS AND WASTES WITH PLASTIC SHEETING OR TEMPORARY ROOFS. BEFORE IT RAINS, SWEEP AND REMOVE MATERIALS FROM SURFACES THAT DRAIN TO STORM DRAINS, CREEKS, OR CHANNELS.
4. PLACE TRASH CANS AROUND THE SITE TO REDUCE POTENTIAL LITTER. DISPOSE OF NON-HAZARDOUS CONSTRUCTION WASTES IN COVERED DUMPSTERS OR RECYCLING RECEPTACLES. RECYCLE LEFTOVER MATERIALS WHENEVER POSSIBLE.
5. DISPOSE OF ALL WASTES PROPERLY. MATERIALS THAT CAN NOT BE REUSED OR RECYCLED MUST BE TAKEN TO AN APPROPRIATE LANDFILL OR DISPOSED OF AS HAZARDOUS WASTE, AS APPROPRIATE.
6. COVER OPEN DUMPSTERS WITH PLASTIC SHEETING OR A TARP DURING RAINY WEATHER. SECURE THE SHEETING OR TARP AROUND THE OUTSIDE OF THE DUMPSTER. IF THE DUMPSTER HAS A COVER, CLOSE IT.
7. ANY DEWATERING MUST FIRST BE APPROVED BY THE CITY AND APPROPRIATE REGULATORY AGENCIES.
8. TRAIN YOUR EMPLOYEES AND INFORM CONTRACTORS AND SUBCONTRACTORS ABOUT STORM WATER MANAGEMENT REQUIREMENTS AND THEIR RESPONSIBILITIES FOR COMPLIANCE.

MINIMIZE SOIL MOVEMENT

1. STOCKPILED SOIL AND MATERIALS SHOULD BE COVERED AND STABILIZED WITH TARPS, GEOTEXTILE FABRIC, HYDROSEEDING AND/OR EROSION CONTROL BLANKETS.
2. CREATE A BERM AND/OR INSTALL SILT FENCING AROUND STOCKPILED MATERIALS TO PREVENT STORM WATER RUNOFF FROM TRANSPORTING SEDIMENT OFFSITE.
3. USE STANDARD EROSION CONTROL SEEDING, PLANTING, MULCHING, GEOTEXTILE FABRIC AND/OR EROSION CONTROL BLANKETS TO STABILIZE DISTURBED SOIL AND REDUCE THE POTENTIAL FOR EROSION.
4. USE OTHER SOIL STABILIZERS AS APPROVED BY THE CITY OF SAN MATEO.

STRUCTURES TO CONTROL AND CONVEY RUNOFF

1. CONVEY RUNOFF BY USE OF EARTH DIKES, DRAINAGE SWALES AND/OR DITCHES WHEN FEASIBLE.
2. USE SLOPE DRAINS TO COLLECT AND CONVEY WATER FOR DISCHARGE BELOW SLOPES WHEN FEASIBLE.
3. USE VELOCITY DISSIPATION DEVICES, FLARED CULVERT END SECTIONS AND/OR CHECK DAMS TO REDUCE RUNOFF VELOCITY AND MITIGATE EROSION WHEN FEASIBLE.

CAPTURE SEDIMENT

1. USE TERRACING, RIPRAP, SAND BAGS, ROCKS, APPROVED TEMPORARY VEGETATION AND/OR OTHER APPROVED BMP'S ON SLOPES TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENTS. DO NOT USE ASPHALT RUBBLE OR OTHER DEMOLITION DEBRIS FOR THIS PURPOSE.
2. PROTECT STORM DRAIN INLETS FROM SEDIMENT-LADEN RUNOFF. STORM DRAIN INLET PROTECTION DEVICES INCLUDE FILTREX 8" SOXX W/ FILTER FABRIC, FILTER FABRIC FENCES AND BLOCK AND GRAVEL FILTERS.
3. SAND BAGS, GRAVEL BAGS AND STRAW WATTLES AROUND STORM DRAIN INLETS THAT ARE EXPOSED VEHICULAR TRAFFIC ARE NOT ALLOWED.

OTHER RUNOFF CONTROLS

1. TEMPORARY SEDIMENT BASIN
2. SEDIMENT TRAP
3. BRUSH OR ROCK FILTER
4. SILT FENCE
5. SAND OR GRAVEL BAG BARRIER (NOT IN TRAFFIC AREAS)

TRACKING CONTROL

1. IMPLEMENT MEASURES AS NECESSARY TO MINIMIZE TRACKING OF SOIL OFF SITE
2. USE DRY SWEEPING METHODS WHEN CLEANING SEDIMENTS FROM STREETS, DRIVEWAYS AND PAVED AREAS BY HAND. WHEN USING MECHANICAL STREET SWEEPERS, USE FINE WATER SPRAY TO REDUCE DUST AND IMPROVE SEDIMENT REMOVAL WHILE MINIMIZING RUNOFF.

PAINT WORK

1. DO NOT CLEAN PAINT BRUSHES OR RINSE PAINT CONTAINERS INTO A STREET, GUTTER, STORM DRAIN, OR CREEK.
2. FOR WATER-BASED PAINTS, PAINT OUT BRUSHES TO THE EXTENT POSSIBLE AND RINSE TO A DRAIN LEADING TO THE SANITARY SEWER (I.E., INDOOR PLUMBING).
3. FOR OIL-BASED PAINTS, PAINT OUT BRUSHES TO THE EXTENT POSSIBLE, AND FILTER AND REUSE THINNERS AND SOLVENTS. DISPOSE OF UNUSABLE THINNERS, OIL-BASED PAINT, SLUDGES AND RESIDUE AS HAZARDOUS WASTE.
4. NON-HAZARDOUS PAINT CHIPS AND DUST FROM DRY STRIPPING AND SAND BLASTING MAY BE SWEPT UP OR COLLECTED IN PLASTIC DROP CLOTHS AND DISPOSED OF AS TRASH. CHEMICAL PAINT STRIPPING RESIDUE AND CHIPS AND DUST FROM MARINE PAINTS OR PAINTS CONTAINING LEAD OR TRIBUTYL TIN MUST BE DISPOSED OF AS A HAZARDOUS WASTE.
5. WHEN STRIPPING OR CLEANING BUILDING EXTERIORS WITH HIGH-PRESSURE WATER, COVER OR BERM STORM DRAIN INLETS. COLLECT (MOP OR VACUUM) BUILDING CLEANING WATER FOR DISPOSAL IN A PRE-AUTHORIZED MANNER.
6. RECYCLE, RETURN TO SUPPLIER OR DONATE UNWANTED WATER-BASED (LATEX) PAINT.
7. DRIED LATEX PAINT MAY BE DISPOSED OF IN THE TRASH.

CEMENT AND CONCRETE WORK

1. AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT MORTAR ON-SITE.
2. STORE DRY AND WET CONCRETE AND CEMENT UNDER COVER, PROTECTED FORM RAINFALL AND RUNOFF.
3. WASH OUT CONCRETE TRANSIT MIXERS ONLY IN DESIGNATED WASH-OUT AREAS. WHENEVER POSSIBLE, RECYCLE WASHOUT BY PUMPING BACK INTO MIXERS FOR REUSE. DO NOT DISPOSE OF WASHOUT INTO THE STREET, STORM DRAINS, DRAINAGE DITCHES, OR CREEKS. DESIGNATED WASH-OUT AREAS MUST BE MAINTAINED TO PREVENT OVER FLOW.
4. WHENEVER POSSIBLE, RETURN CONTENTS OF MIXER BARREL TO THE OFF-SITE YARD FOR RECYCLING. DISPOSE OF SMALL AMOUNTS OF EXCESS CONCRETE, GROUT, AND MORTAR IN THE TRASH.

ROADWORK/PAVEMENT

5. APPLY CONCRETE, ASPHALT, AND SEAL COAT DURING DRY WEATHER TO PREVENT CONTAMINANTS FROM CONTACTING STORMWATER RUNOFF.
6. COVER STORM DRAIN INLETS AND MANHOLES WHEN PAVING OR APPLYING SEAL COAT, SLURRY SEAL, FOG SEAL, AND SIMILAR MATERIALS.
7. ALWAYS PARK PAVING MACHINES OVER DRIP PANS OR ABSORBENT MATERIALS, SINCE THEY TEND TO DRIP CONTINUOUSLY.
8. WHEN MAKING SAW-CUTS IN PAVEMENT, USE AS LITTLE WATER AS POSSIBLE. COVER POTENTIALLY AFFECTED STORM DRAIN INLETS COMPLETELY WITH FILTER FABRIC DURING THE SAWING OPERATION AND CONTAIN THE SLURRY BY WET-VACUUMING, OR BY PLACING STRAW BALES, SANDBAGS, OR GRAVEL DAMS AROUND THE CATCH BASINS. AFTER THE LIQUID DRAINS OR EVAPORATES, SHOVEL OR VACUUM THE SLURRY RESIDUE FROM THE PAVEMENT OR GUTTER AND REMOVE FROM SITE.
9. 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) BE VACUUMED FROM THE AREA ALONG THE CURB WHERE SEDIMENT HAS ACCUMULATED BY BLOCKING A STORM DRAIN INLET.
10. ALLOW AGGREGATE RINSE TO SETTLE, AND PUMP THE WATER TO THE SANITARY SEWER IF ALLOWED BY YOUR LOCAL WASTEWATER AUTHORITY.
11. DO NOT WASH SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO A STREET OR STORM DRAIN. COLLECT AND RETURN TO AGGREGATE BASE STOCKPILE, OR DISPOSE WITH TRASH.
12. RECYCLE BROKEN CONCRETE AND ASPHALT.

HAZARDOUS MATERIAL SPILL PREVENTION, SPILL REPORTING AND RESPONSE

1. ALL HAZARDOUS MATERIALS SHALL BE STORED SO THAT THEY ARE PROTECTED FROM INCLEMENT WEATHER AND VANDALISM.
2. MOTOR VEHICLES SHALL NOT BE FUELED ON THE PROJECT SITE.
3. SPILL CONTAINMENT MEASURES MUST BE MADE PRIOR TO FUELING WHEN FUELING EQUIPMENT OTHER THAN MOTOR VEHICLES.
4. VEHICLE MAINTENANCE, OTHER THAN EMERGENCY REPAIRS, SHALL NOT BE PERFORMED ON THE PROJECT SITE.
5. ALL INACTIVE VEHICLES/EQUIPMENT SHALL USE COVERS AND/OR DRIP PANS.
6. APPROPRIATE EMERGENCY SPILL CONTAINMENT SUPPLIES SHALL BE MAINTAINED ON SITE BY THE CONTRACTOR.
7. SPILLS GREATER THAN ONE QUART SHALL BE IMMEDIATELY REPORTED TO THE CITY'S REPRESENTATIVE.
8. SPILLS SHALL BE DIKED OR CONTAINED BY TRAINED PERSONNEL TO PREVENT THE SPILLED HAZARDOUS MATERIAL FROM ENTERING THE STORM WATER SYSTEM OR LEAVING THE PROJECT SITE.
9. SPILLS OF LESS THAN FIVE (5) GALLONS SHALL BE ABSORBED USING AN APPROPRIATE MATERIAL. ALL CONTAMINATED MATERIALS SHALL BE CONTAINERIZED, REMOVED FROM THE JOBSITE AND DISPOSED IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
10. SPILLS IN EXCESS OF FIVE (5) GALLONS SHALL BE ABSORBED USING AN APPROPRIATE MATERIAL AND PLACED IN CONTAINERS UNDER THE DIRECTION OF THE CITY OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY.
11. ANY CONTAMINATED SOIL SHALL BE REMOVED BY THE CONTRACTOR AND REPLACED WITH ACCEPTABLE FRESH SOIL.
12. ANY CONTAMINATED STORMWATER WILL BE MANAGED AS NON-STORMWATER.
13. RESPONSE SHALL BE CARRIED OUT BY APPROPRIATELY TRAINED PERSONNEL UTILIZING SAFE PRACTICES.

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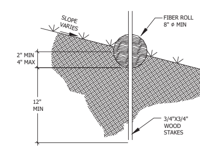


CONSTRUCTION SPECIFICATIONS

LOCATE FIBER ROLLS ON LEVEL CONTOURS SPACED AS FOLLOWS:

- SLOPE INCLINATION OF 4 :1 (H:V) OR FLATTER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 20 FT.

- SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H:V) FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT. (A CLOSER SPACING IS MORE EFFECTIVE).

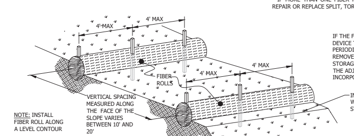
- SLOPE INCLINATION OF 2:1 (H:V) OR GREATER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 10 FT. (A CLOSER SPACING IS MORE EFFECTIVE).

- TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL. STAKE FIBER ROLLS INTO A 2 TO 4 IN. DEEP TRENCH WITH A WIDTH EQUAL TO THE DIAMETER OF THE FIBER ROLL.

- DRIVE STAKES AT THE END OF EACH FIBER ROLL AND SPACED 4 FT MAXIMUM ON CENTER.

- USE WOOD STAKES WITH A NOMINAL CLASSIFICATION OF 0.75 BY 0.75 IN. AND A MINIMUM LENGTH OF 24 IN.

- IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED. REPAIR OR REPLACE SPLIT, TORN, UNRAVELING OR SLUMPING FIBER ROLLS.



NOTE: INSTALL FIBER ROLL ALONG A LEVEL CONTOUR

IF THE FIBER ROLL IS USED AS A SEDIMENT CAPTURE DEVICE, OR AS AN EROSION CONTROL DEVICE TO MAINTAIN SHEET FLOWS, SEDIMENT THAT ACCUMULATES IN THE BMP MUST BE PERIODICALLY REMOVED IN ORDER TO MAINTAIN BMP EFFECTIVENESS. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-HALF THE DESIGNATED SEDIMENT STORAGE DEPTH, USUALLY ONE-HALF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE ADJACENT GROUND SURFACE. SEDIMENT REMOVED DURING THE MAINTENANCE MAY BE INCORPORATED INTO EARTHWORK ON THE SITE OR DISPOSED AT AN APPROPRIATE LOCATION.

INSTALL A FIBER ROLL NEAR SLOPE WHERE IT TRANSITIONS INTO A STEEPER SLOPE

2 FIBER ROLLS

Scale: NTS

NORTH

SCALE: 1"=20'
0 20 40 60 80

REVISIONS	BY
BID SET	VL
ADDENDUM 2 WALL REVISION	VL

EROSION CONTROL PLAN

C 67561 TODD R. CREAMER CIVIL STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
831.438.4420

GLENWOOD TANK IMPROVEMENT PLANS
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066

Date:	08.03.26
Scale:	1" = 20'
Drawn:	VL/TC
Job:	165-100
Sheet:	C4.1
Of	6 Sheets

A. SCOPE OF WORK

1. NEW SECANT PILE RETAINING WALL WITH TIEBACKS TO PROVIDE SLOPE STABILIZATION.

B. REFERENCE DOCUMENTS

1. GEOTECHNICAL REPORT: "GEOTECHNICAL INVESTIGATION FOR HILLSIDE STABILIZATION, SVWD GLENWOOD WATER TANK, SCOTTS VALLEY, CALIFORNIA" BY HARO, KASUNICH AND ASSOCIATES, INC. DATED JULY 20, 2023.
2. GEOTECHNICAL UPDATE REPORT: "GEOTECHNICAL UPDATE REPORT FOR HILLSIDE STABILIZATION, SVWD GLENWOOD WATER TANK, SCOTTS VALLEY, CALIFORNIA" BY R3 GEOTECHNICAL ENGINEERS, INC. DATED JULY 31, 2026.

C. GENERAL NOTES

1. CONSTRUCTION SHALL CONFORM TO THE 2025 CALIFORNIA BUILDING CODE (2025 CBC), APPLICABLE SAFETY CODES AND TO THE RULES AND REGULATIONS OF ALL AGENCIES HAVING JURISDICTION.
2. THESE GENERAL NOTES APPLY EXCEPT WHERE SPECIFICALLY SHOWN BY NOTES ON DRAWINGS AND/OR DETAILS.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
4. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH DRAWINGS OF OTHER DISCIPLINES WITH REFERENCE TO MATERIALS, LAYOUT, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK, AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT FOR DIRECTION.
5. THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES AND DIMENSIONS AS SHOWN ON DRAWINGS. THE CONTRACTOR SHALL REPORT ANY VARIATION THAT WILL MODIFY THE STRUCTURAL SYSTEM OR ANY STRUCTURAL ELEMENT TO THE STRUCTURAL ENGINEER.
6. ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND OTHER DRAWINGS SHOULD BE REFERRED TO REGARDING INFORMATION FOR THE FOLLOWING:
   a. FINISHED FLOOR ELEVATIONS, FLOOR DEPRESSION, OTHER CHANGES IN ELEVATION, SLOPES, DRAINS, CURBS, PADS, CHAMFERS, GROOVES, INSERTS OR EMBEDDED ITEMS, AND OTHER ARCHITECTURAL ITEMS.
   b. SIZE AND LOCATION OF ALL ROOF AND FLOOR OPENINGS (EXCEPT AS SHOWN).
   c. SIZES AND LOCATION OF ALL NON-BEARING PARTITION WALLS, ALL DOOR AND WINDOW OPENINGS.
   d. STAIR FRAMING, HANGERS AND DETAILS (EXCEPT AS SHOWN).
   e. WATERPROOFING, FIRE PROOFING AND WATERSTOPS.
   f. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, AND OTHER MECHANICAL ITEMS.
   g. ELECTRIC CONDUIT RUNS, BOXES, OUTLETS AND OTHER ELECTRICAL ITEMS.
   h. SIZE, LOCATIONS AND DETAILS OF MACHINE OR EQUIPMENT FOUNDATIONS, BASES AND ANCHORAGE.
   i. ANCHORAGE AND BRACING FOR MECHANICAL, ELECTRICAL, PLUMBING EQUIPMENT, ETC.
7. DETAILS AND NOTES SHOWN IN THIS SET OF DRAWINGS AND TITLED "TYPICAL" ARE TYPICAL AND SHALL APPLY UNLESS OTHERWISE NOTED. TYPICAL DETAILS REPRESENT THE GENERAL INTENT FOR ALL DETAILING NOT NOTED OR SHOWN IN SPECIFIC DETAILS OR ON PLANS.
8. THE STRUCTURAL DRAWINGS INDICATE PRINCIPAL CONSTRUCTION DETAILS BUT DO NOT ILLUSTRATE EVERY CONDITION. DETAILS OF CONSTRUCTION NOT SPECIFICALLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITIONS OR TYPICAL DETAILS.
9. DO NOT SCALE STRUCTURAL DRAWINGS, USE WRITTEN DIMENSIONS. IF DIMENSIONS ARE OMITTED OR NOT CLEAR, CONTACT THE ARCHITECT.
10. DIMENSION LINES ON STRUCTURAL DRAWINGS ARE TO CENTER LINES OF ELEMENTS, UNLESS OTHERWISE NOTED.
11. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER UNLESS SHOWN ON STRUCTURAL DRAWINGS.
12. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR APPROVAL BEFORE THEY ARE CONSTRUCTED.
13. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PROVISIONS FOR CONSTRUCTION ACCESS AND METHODS OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL COORDINATE REQUIREMENTS FOR ACCESS OPENINGS, RAMPS, CRANE SUPPORTS, AND ANY OTHER CONSTRUCTION ITEMS OR DEVICES WITH SUBCONTRACTOR(S) AND THE ENGINEER.
15. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING, GUYING OR OTHER TEMPORARY SUPPORT TO ENSURE CORRECT AND ACCURATE STRUCTURE GEOMETRY.
16. ADEQUATE TEMPORARY BRACING AND SHORING SHALL BE PROVIDED TO PREVENT OVERSTRESS OF THE STRUCTURE DUE TO SUPPORT OF CONSTRUCTION MATERIALS, ERECTION EQUIPMENT AND ANY OTHER ERECTION LOADS. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE SHORING AND/OR UNDERPINNING OF EXISTING FOOTINGS ON THE ADJACENT OR SUBJECT PROPERTY.
17. UNLESS SPECIFICALLY APPROVED BY THE ENGINEER IN WRITING, BACKFILL SHALL NOT BE PLACED AGAINST WALLS UNTIL WALL DESIGN STRENGTH HAS BEEN ATTAINED AND ALL PERMANENT SUPPORTS ARE IN PLACE.
18. THE CONTRACTOR SHALL BE EXPECTED TO BE THOROUGHLY FAMILIAR WITH THE BUILDING SITE CONDITIONS, GRADES, DRAWINGS AND SPECIFICATIONS, MATERIAL DELIVERY FACILITIES AND ALL OTHER MATTERS AND CONDITIONS WHICH MAY AFFECT THE OPERATION AND COMPLETION OF WORK. THE CONTRACTOR SHALL ASSUME ALL RISKS CONCERNED WITH THE AFOREMENTIONED SITUATIONS, ACTIVITIES AND/OR OPERATIONS.
19. EXISTING UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THE TOPOGRAPHIC BASE MAP ARE BASED ON RECORD LOCATIONS. ADDITIONAL UTILITIES MAY BE PRESENT IN OTHER LOCATIONS. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY LINES AND CONNECTIONS INCLUDING SEWER, WATER, GAS, AND ELECTRIC SERVICES BEFORE AND DURING HIS WORK.
20. THE CONTRACTOR SHALL CAREFULLY EXCAVATE (POTHOLE) TO VISUALLY VERIFY CLEARANCE FROM ALL UTILITIES AND SHALL PROTECT UTILITIES FROM HARM AS REQUIRED TO PREVENT DAMAGE AND TO MAINTAIN THEIR USE. CONSULT THE ENGINEER IF UTILITY LINES, PIPING OR OTHER ELEMENTS CONFLICTING WITH THE WORK ARE ENCOUNTERED.
21. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA NORTH 811) A MINIMUM OF TWO WORKING DAYS PRIOR TO ANY EXCAVATION OR DRILLING TO HAVE ALL EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
22. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE THAT ALL PROPERTY IS PROTECTED DURING CONSTRUCTION. ANY DAMAGED OR CHANGED CONDITIONS SHALL BE REPAIRED AND RESTORED TO THE PRE-CONSTRUCTION CONDITIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AT HIS/HER OWN EXPENSE.
23. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONNEL AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

D. RETAINING WALL GENERAL NOTES

1. RETAINING WALL DESIGN CRITERIA IS BASED ON REFERENCED GEOTECHNICAL DOCUMENT.
2. GEOTECHNICAL ENGINEER SHALL VERIFY SOIL STRATA DURING PILE DRILLING AND NOTIFY R3 CONSULTING ENGINEERS (THE ENGINEER), IF FIELD CONDITIONS ARE DIFFERENT FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT.
3. CONTRACTOR SHALL DESIGN AND PROVIDE DEWATERING, IF REQUIRED, TO MAINTAIN WATER LEVEL AT LEAST 3 FEET BELOW THE BOTTOM OF THE EXCAVATION. DEWATERING SHALL ALSO PREVENT HEAVING OF THE SUB-GRADE OR FLOWING OR RUNNING GROUND AT THE EXCAVATION FACE. DEWATERING SHALL BE INSTALLED AND MAINTAINED SUCH THAT SOIL PARTICLES ARE NOT REMOVED BY THE DEWATERING SYSTEM.
4. SUBMIT DEWATERING PLAN, IF USED, TO THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
5. SURCHARGES AT THE TOP OF THE NEW RETAINING WALL SHALL BE LIMITED AS FOLLOWS EXCEPT AS NOTED ON THE PLAN OR ELEVATIONS:
   a. STORAGE OF MATERIALS: 250 PSF LOADS
   b. TRUCK TRAFFIC AND EQUIVALENT (H20) EQUIPMENT LOADING: 5 FEET BACK FROM TOP OF WALL, TYP.
   c. EXCAVATOR, CRANE OR OTHER SIMILAR HEAVY EQUIPMENT: 10 FEET BACK FROM TOP OF WALL. SURCHARGE FOR HEAVY EQUIPMENT GREATER THAN ABOVE SHALL BE CONFIRMED WITH THE ENGINEER AND MAY REQUIRE TRENCH PLATES, INCREASED LAGGING, DRILLED PIERS, INCREASED TIEBACKS AND/OR OTHER MEASURES TO AVOID OVERSTRESSING THE RETAINING WALL SYSTEM.
6. ALL STRUCTURAL DETAILS AND SHAPES SHOWN ARE MINIMUM SIZES REQUIRED. CONTRACTOR MAY SUBSTITUTE EQUAL OR GREATER SIZES WITH THE ENGINEER'S PRIOR APPROVAL.
7. DEMOLITION, GENERAL SITE EXCAVATION, SITE DEWATERING AND REMOVAL OF EXISTING OBSTRUCTIONS SHALL BE COORDINATED WITH INSTALLATION OF SECANT WALL SYSTEM TO PREVENT LOSS OF GROUND AND CAVING OF BANKS.
   a. EXISTING BUILDING FOUNDATIONS, RETAINING WALLS, AND WATER TANK SHALL BE PROTECTED DURING PILE INSTALLATION.
8. DURING CONSTRUCTION THE CONTRACTOR SHALL MONITOR THE RETAINING WALL SYSTEM AND ADJACENT IMPROVEMENTS FOR INDICATIONS OF MOVEMENT OR LOSS OF GROUND. THE CONTRACTOR SHALL STOP EXCAVATION OPERATIONS AND BACKFILL AGAINST THE EXCAVATION FACE IF LOSS OF GROUND, DEFLECTION OR DISTRESS OF THE RETAINING WALL SYSTEMS OR ADJACENT IMPROVEMENTS IS OBSERVED. CONTRACTOR SHALL NOTIFY THE ENGINEER OF OBSERVED DISTRESS OR MOVEMENT.
9. ALL CHANGES TO THE RETAINING WALL SYSTEMS AND ANY INFORMATION REGARDING INSTALLATION OF THE RETAINING WALL SYSTEMS OTHER THAN AS SHOWN OR SPECIFIED ON THE STRUCTURAL DRAWINGS AND NOTES SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION.
10. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT AND BECOME FAMILIAR WITH THE CONDITION OF THE ADJACENT IMPROVEMENTS IN ORDER TO SELECT PROPER EQUIPMENT FOR DEMOLITION, EXCAVATION AND RECOMPACTION TO AVOID DAMAGE TO THE ADJACENT PROPERTIES BY EXCESSIVE VIBRATION.
11. DESIGN OF TEMPORARY SLOPES IS NOT INCLUDED IN THE SCOPE OF WORK. TEMPORARY SLOPES SHOULD BE DESIGNED BY OTHERS AND SHOULD CONFORM TO APPLICABLE CALIFORNIA CODE OF REGULATIONS TITLE 8 SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS (CAL OSHA SAFETY ORDERS).
12. CONTRACTOR PERFORMING THE DRILLING WORK SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE IN CONSTRUCTION OF DRILLED SHAFT SOLDIER BEAMS, SECANT WALLS, AND TIEBACKS SIMILAR TO THE SCOPE AND MAGNITUDE OF WORK SHOWN ON THE DRAWINGS. CONTRACTOR SHALL SUBMIT EVIDENCE OF EXPERIENCE TO THE ENGINEER PRIOR TO CONSTRUCTION.
13. STOP DRILLING AND CONSULT THE ENGINEER IF UTILITY LINES, PIPING, FOUNDATIONS OR INDICATIONS OF OBSTRUCTIONS ARE ENCOUNTERED DURING DRILLING OF SECANT WALL OR TIEBACKS. USE CARE IN DRILLING SO THAT THE FOLLOWING INDICATIONS OF UTILITIES OR FOUNDATIONS IN THE WAY ARE RECOGNIZED:
    a. ABNORMAL RESISTANCE TO DRILLING.
    b. FOREIGN MATERIAL PULLED FROM THE HOLE.

E. HAZARDOUS MATERIALS ON SITE

1. R3 CONSULTING ENGINEERS ASSUMES NO RESPONSIBILITY FOR THE MANAGEMENT OF HAZARDOUS MATERIALS THAT MAY BE ON THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PERSONNEL WITHIN THE WORK AREA ARE PROTECTED FROM EXPOSURE TO HAZARDOUS MATERIALS. IF MATERIALS ARE DISCOVERED THAT MAY BE HAZARDOUS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND CEASE WORK UNTIL CONDITIONS CAN BE MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

F. CONCRETE

1. CONCRETE SHALL DEVELOP THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
   a. SECANT WALL PILES, GRADE BEAMS, STRUCTURAL CONCRETE: 5000 PSI
   b. OTHER MISCELLANEOUS STRUCTURAL CONCRETE: 2500 PSI
   c. LEAN CONCRETE "PRIMARY" SECANT PILES: 200 PSI 1-1/2 SACKS OF CEMENT PER CUBIC YARD
2. SLUMP FOR STRUCTURAL CONCRETE SHALL BE NOT LESS THAN 2" AND NOT MORE THAN 4".
3. CONCRETE SHALL BE PLACED IN A CONTINUOUS OPERATION UNTIL THE SECTION IS COMPLETE BETWEEN PREDETERMINED CONSTRUCTION JOINTS. CONCRETE SHALL BE OF A CONSISTENCY TO PERMIT PLACING INTIMATELY AROUND REINFORCING BARS AND AGAINST FORMS.
4. EXPOSED SURFACES OF CONCRETE SHALL BE KEPT MOIST OR CURED BY PROTECTIVE COVERINGS APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. FORMS SHALL BE TIGHT, CLEAN AND WETTED BEFORE PLACING CONCRETE.
6. ALL DEFECTIVE WORK SHALL BE REPAIRED BY THE CONTRACTOR AS SPECIFIED.
7. SELECTION OF MATERIALS AND MIXING AND PLACING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND ACI SPECIFICATIONS.

G. GROUT

1. GROUT UNDER ALL PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AND BE PROPORTIONED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. GROUT USED IN THE PENETRATION LENGTH OF THE TIEBACKS SHALL BE "PORTLAND CEMENT" SLURRY OR BATCHED CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND CONTAIN A MINIMUM OF FIVE AND A HALF (5.5) SACKS OF CEMENT PER CUBIC YARD. THE CONTRACTOR SHALL INCREASE THE CEMENT CONTENT OR OTHER MIX PROPERTIES AS REQUIRED SUCH THAT THE ANCHORS WILL BE ABLE TO ACHIEVE THE SPECIFIED DESIGN LOAD AND TEST LOAD. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR JOB GROUT.
3. SELECTION OF MATERIALS AND MIXING AND PLACING OF GROUT SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND ACI SPECIFICATIONS.

H. REINFORCEMENT

1. REINFORCING STEEL:
   a. DEFORMED BARS -- ASTM A615, GRADE 60
   b. WELDED WIRE FABRIC -- ASTM A185
   c. TIE WIRES -- ASTM A82, BLACK, SOFT-ANNEALED, 18 GA OR HEAVIER
2. REINFORCING BARS AND WELDED WIRE FABRIC SHALL BE FREE FROM LOOSE RUST OR ANY OTHER COATING WHICH WILL DESTROY OR REDUCE BOND.
3. REINFORCING BARS SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER WHICH WILL INJURE THE MATERIAL, AND SHALL BE ACCURATELY PLACED AND POSITIVELY SECURED.
4. THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1-1/2 TIMES THE NOMINAL DIAMETER OF THE BARS, OR 1-1/3 TIMES THE MAXIMUM SIZE AGGREGATE, NOR LESS THAN 1-1/2".
5. UNLESS OTHERWISE NOTED, LAP SPLICES OF BOTTOM FOOTING BARS SHALL BE STAGGERED AT LEAST 5'-0" MINIMUM FROM LAPS IN OTHER BOTTOM FOOTING BARS. STAGGER LAP SPLICES OF TOP FOOTING BARS SIMILARLY.
6. WHEN LAP SPLICING REINFORCEMENT BARS OF DIFFERENT SIZES, USE THE LARGEST BAR LAP SPLICE LENGTH.
7. UNLESS OTHERWISE NOTED, CONCRETE COVERAGE OF REINFORCING BARS SHALL BE AS FOLLOWS:
   a. 3" WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND
   b. 2" FOR #6 THROUGH #18 BAR WHERE CONCRETE IS EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   c. 1-1/2" FOR #5 AND SMALLER BAR OR WIRE WHERE CONCRETE IS EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   d. 1-1/2" FOR PRIMARY REINFORCEMENT, STIRRUPS, TIES, SPIRALS, AND HOOPS IN BEAMS, COLUMNS, PEDESTALS AND TENSION TIES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   e. 1-1/2" FOR #14 AND #18 BARS IN SLABS, JOISTS AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   f. 3/4" FOR #11 AND SMALLER BAR IN SLABS, JOISTS AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
8. SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION AND PLACING OF REINFORCING STEEL.

I. STRUCTURAL STEEL

1. MATERIALS:
   a. WIDE FLANGE SHAPES -- ASTM A992
   b. ALL OTHER ROLLED SHAPES, PLATES & BARS -- ASTM A36
   c. PIPE -- ASTM A53, GRADE B
   d. HOLLOW STRUCTURAL SECTIONS (HSS) -- ASTM A1085, GRADE A OR ASTM A500, GRADE B
   e. HIGH STRENGTH BOLTS -- ASTM A325
   f. MACHINE BOLTS -- ASTM A307
   g. ANCHOR BOLTS (RODS) -- ASTM F1554, GRADE 36 OR ASTM A36
2. FABRICATION AND CONSTRUCTION SHALL CONFORM TO THE STEEL CONSTRUCTION MANUAL, SPECIFICATIONS AND CODES, 14TH EDITION, BY AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
3. WELDING:
   a. ALL SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH STRUCTURAL STEEL WELDING CODE, AWS D1.1.
   b. 70 KSI ELECTRODES SHALL BE USED AT ALL WELDED STEEL CONNECTIONS.
   c. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS.
   d. A WELDING PROCEDURE SPECIFICATION (WPS) SHALL BE DEVELOPED WITH THE INFORMATION REQUIRED BY AWS D1.1. THE WPS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, AND SHALL ALSO BE PROVIDED TO THE OWNER, ARCHITECT AND BUILDING OFFICIAL. THE WPS SHALL INCLUDE A LIST OF THE POSITION, ELECTRODE STICKOUT, VOLTAGE AND AMPERAGE (WITH ACCEPTABLE LIMITS), BEAD SIZE, WELD SEQUENCE, STRESS RELIEVING AND OTHER PERTINENT DATA.
   e. ALL WELDS SHALL BE STARTED AND ENDED ON RUNOFF TABS WHERE PRACTICAL. ALL RUNOFF TABS SHALL BE REMOVED.
   f. WELD DAMS SHALL NOT BE ALLOWED PER AWS D1.1.
   g. OWNER SHALL RETAIN A TESTING LABORATORY TO INSPECT AND TEST WELDS (SHOP AND FIELD) AS FOLLOWS: (I) PROVIDE SPECIAL INSPECTION FOR ALL WELDS. (II) MEASURE 25% OF FILLET WELDS AND CHECK FINAL PASS OF 25% OF MULTI-PASS FILLET WELDS AND PARTIAL PENETRATION WELDS BY MAGNETIC PARTICLE TESTING. (III) TEST ALL COMPLETE PENETRATION WELDS ULTRASONICALLY.
   h. ALL DEFECTIVE WELDS, AS ESTABLISHED FROM INSPECTION AND TESTING, SHALL BE GROUND OUT, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE.
4. BOLT HOLES IN STEEL SHALL BE 1/16" LARGER THAN BOLTS, U.O.N. BOLT HOLES IN COLUMN BASE PLATES MAY BE OVERSIZED PER AISC REQUIREMENTS. ALL BOLT HOLES SHALL BE DRILLED OR PUNCHED. BURNING OF BOLT HOLES IS NOT PERMITTED.
5. ALL HIGH STRENGTH BOLTS SHALL BE FULLY TENSIONED, U.O.N.
6. BEFORE FABRICATION, SHOP DRAWINGS FOR ALL STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

J. PROCEDURE FOR INSTALLATION OF SECANT WALL

1. SECANT PILES SHALL BE ERECTED IN DRILLED HOLES (SHAFTS). DRIVING OR VIBRATING OF SOLDIER BEAMS IS NOT PERMITTED.
   a. SHAFTS SHALL BE CASED TO PROVIDE PROTECTION AGAINST SLOUGHING OR CAVING.
   b. SHAFT INSTALLATION SHALL OVERLAP TO FORM A CONTINUOUS WALL PER THE DETAILS.
   c. SHAFTS SHALL NOT VARY BY MORE THAN 2" FROM THE PLANNED LOCATION.
   d. SHAFT SHALL BE WITHIN 1% OF VERTICAL.
2. PLACE REINFORCING STEEL CAGES IN SUCH A WAY TO MAINTAIN MINIMUM CONCRETE COVERAGE THROUGHOUT DEPTH OF PILE.
3. FILL THE SHAFT WITH CONCRETE AS REQUIRED BY THE DETAILS. RETRACT CASING AS CONCRETE IS PLACED. CONCRETE SHALL BE PLACED EVENLY ON ALL SIDES OF THE REINFORCING STEEL AND SHALL BE PLACED USING THE TREMIE METHOD IF MORE THAN 1 FOOT OF WATER IS PRESENT IN THE BOTTOM OF THE HOLE.
4. EXCAVATE PER NOTES AND DETAILS AS REQUIRED FOR GRADE BEAM CONSTRUCTION.
5. INSTALL GRADE BEAM. INSTALL AND TEST TIEBACKS PER THE INSTALLATION PROCEDURES ON THIS SHEET.

K. PROCEDURES FOR INSTALLATION OF TIEBACKS

1. TIEBACK TENDONS SHALL BE DEFORMED RODS, CONFORMING TO ASTM 615 GR. 75 OR ASTM A722 GRADE 150 WITH UPSET THREADS
2. ALL TIEBACKS ARE PERMANENT ANCHOR SYSTEMS AND SHALL BE DOUBLE CORROSION PROTECTED.
3. TIEBACKS SHALL BE INSTALLED USING A SMOOTH OUTER CASING ADVANCED AS DRILLING PROCEEDS TO PREVENT CAVING OF GROUND. DRILL CASING SHALL EXTEND TO THE BOTTOM OF THE DRILL HOLE (TIEBACK LENGTH).
   a. DRILLING WITH EXTERNAL FLUSHING OF CUTTINGS (OUTSIDE OF CASING) SHORING SHALL NOT BE USED.
   b. CONTRACTOR SHALL DESIGN PENETRATION (BONDED) LENGTHS FOR TIEBACKS, GIVEN THE REQUIREMENTS OF THESE DRAWINGS.
4. INSTALL TENDON THROUGH THE CASING. BACKFILL TIEBACK WITH GROUT THROUGH THE DRILL CASING. RETRACT CASING AS GROUT OR BACKFILL IS PLACED. CONTRACTOR SHOULD TAKE CARE TO PREVENT LOSS OF BACKFILL (GROUT) INTO NEARBY PROPERTIES OR STRUCTURES.
   a. COVER THE TENDON IN THE UNBONDED LENGTH WITH SEALED PVC SLEEVE AND PROVIDE A CUSHION OR GAP BETWEEN THE TIEBACK GROUT AND THE BACK OF THE GRADE BEAM TO ALLOW THE ANCHOR TO MOVE DURING TESTING.
   b. POST GROUT AS REQUIRED TO ACHIEVE TIEBACK TEST LOADS. DURING PRESSURE GROUTING OPERATIONS, CONTRACTOR SHALL OBSERVE IMPROVEMENTS BEYOND TO WATCH FOR VISUAL SIGNS OF HEAVING GROUND, LOSS OF GROUND, OR DAMAGE TO SLABS-ON-GRADE AND ASPHALT PAVING.
4. ALL TIEBACKS SHALL BE TESTED PER BELOW. CONTRACTOR SHALL PERFORM TIEBACK TESTING WHEN GROUT IN THE PENETRATION LENGTH HAS ATTAINED THE APPROPRIATE COMPRESSIVE STRENGTH AS DETERMINED BY THE CONTRACTOR.
   a. ANCHORS SHALL BE STRESSED STRAIGHT AND TRUE. STOP TESTING AND NOTIFY ENGINEER IF PIER ROTATION OR KINKING OF THE TENDON OCCURS.
   b. CONTRACTOR SHALL MONITOR THE MOVEMENT OF THE TIEBACK TENDON ANCHORAGE USING A TRIPOD-MOUNTED DIAL GAUGE WITH A PRECISION OF 0.001 INCHES.
5. TESTING:
   a. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF PTI DC35.1.
   b. PERFORMANCE TEST: FIRST 1 PRODUCTION TIEBACK, AS DETERMINED BY THE ENGINEER, SHALL BE INCREMENTALLY LOADED TO THE TEST LOAD (1.33 TIMES THE DESIGN LOAD). HOLD EACH INCREMENTAL LOAD UNTIL MOVEMENT HAS STABILIZED.

      PERFORMANCE TEST LOADING SCHEDULE:
      DESIGN LOAD = DL,
      TEST LOAD = TL = 1.33 DL,
      ALIGNMENT LOAD = AL = 0.05 × TL (BUT NOT LESS THAN 8 KIPS).

      APPLY THE ALIGNMENT LOAD AND SET THE DIAL GAUGE TO ZERO. THEN APPLY, IN SEQUENCE:
      AL; AL, 0.25DL;
      AL, 0.25DL, 0.50DL;
      AL, 0.25DL, 0.50DL, 0.75DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.20DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.20DL, 1.33DL (PROOF TEST);

      PROOF TEST LOADING SCHEDULE
      HOLD 1.33DL TEST LOAD FOR 10 MINUTES.
      RECORD MOVEMENTS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES.

      IF THE MOVEMENT OVER 10 MINUTES EXCEEDS 0.04 INCHES, EXTEND THE TEST TO A TOTAL OF 60 MINUTES AND RECORD MOVEMENT AT 15, 20, 25, 30, 45, 60 MINUTES. CYCLE BACK TO ALIGNMENT LOAD AND RECORD MOVEMENT.

      FOLLOWING SUCCESSFUL TESTING, LOAD ANCHOR TO DESIGN LOAD, LOCK OFF.
      LOCK NUTS OR WEDGES SHALL NOT BE USED DURING PERFORMANCE TESTING.

   c. PROOF TEST: ALL TIEBACKS NOT PERFORMANCE TESTED SHALL BE PROOF TESTED TO THE TEST LOAD (1.33 TIMES THE DESIGN LOAD) AND LOCKED OFF AT THE DESIGN LOAD SHOWN ON THE ELEVATIONS. APPLY THE ALIGNMENT LOAD AND SET THE DIAL GAUGE TO ZERO. PERFORMANCE TEST LOADING SCHEDULE: DESIGN LOAD = DL, TEST LOAD = TL = 1.33DL, ALIGNMENT LOAD = AL = 0.05 × TL (BUT NOT LESS THAN 8 KIPS). APPLY AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.25DL, 1.33DL (MIN. 10-MINUTE HOLD), AL. RECORD THE ELONGATION AT EACH INCREMENT AND AT THE ALIGNMENT LOAD. HOLD THE TEST LOAD FOR 10 MINUTES AND RECORD MOVEMENTS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES. FOLLOWING SUCCESSFUL TESTING, LOAD ANCHOR TO DESIGN LOAD, LOCK OFF.
6. TIEBACK TESTS SHALL BE CONSIDERED ACCEPTABLE IF:
   a. LESS THAN 0.04 INCHES OF MOVEMENT IS OBSERVED BETWEEN THE 1- AND 10-MINUTE HOLD, OR MOVEMENT IS LESS THAN 0.08 INCHES PER LOG CYCLE OF TIME (I.E., 6- TO 60-MINUTE INTERVAL) IF THE TEST HOLD IS CONTINUED FOR 60 MINUTES.
   b. THE TOTAL DISPLACEMENT BETWEEN THE ALIGNMENT LOAD AND TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH: (TEST LOAD − ALIGNMENT LOAD) × (UNBONDED LENGTH) ÷ (STEEL AREA) × (29,000 KSI).
   c. A PULLOUT FAILURE DOES NOT OCCUR. PULLOUT FAILURE IS DEFINED AS THE CONDITION WHEN CONTINUED PUMPING OF THE JACK DOES NOT INCREASE THE LOAD (GAUGE PRESSURE) WHILE THE TIEBACK DISPLACEMENT CONTINUES TO INCREASE.
   d. TIEBACK LOCK-OFF LOAD IS WITHIN 5% OF THE SPECIFIED DESIGN LOAD.
7. IN THE EVENT A TIEBACK FAILS TO MEET THE TEST CRITERIA, THE CONTRACTOR MAY CHOOSE TO REGROUT AND RETEST THE TIEBACK. CONTACT THE ENGINEER FOR RECOMMENDATIONS IF TIEBACK TEST LOADS CANNOT BE ACHIEVED. ADDITIONAL COSTS ASSOCIATED WITH FAILED TIEBACKS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ISOLATED TIEBACKS THAT TEST ABOVE THE DESIGN LOAD BUT FAIL TO MEET THE TEST CRITERIA MAY BE REVIEWED AND ACCEPTED BY THE ENGINEER.
9. CUT THE TENDON 1 INCH FROM THE LOCK NUT OR WEDGES.
10. A TIEBACK TEST REPORT SHALL BE COMPILED BY THE INSPECTOR AFTER COMPLETION OF ALL TIEBACK TESTS FOR EACH WALL. THE REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

L. DRILLED ANCHORS -- ANCHOR BOLTS, THREADED RODS OR REBAR SET IN EPOXY

1. EPOXY ADHESIVE SHALL BE USED FOR ALL ALL-THREAD ROD (A.T.R.) ANCHORS AND REINFORCING STEEL (REBAR) DOWELS EMBEDDED IN EXISTING CONCRETE, EXCEPT EPOXY SYSTEMS SHALL NOT BE USED TO SUPPORT GRAVITY LOADS EXPOSED TO FIRE AND NOT BURIED IN CONCRETE WITH A MINIMUM COVER OF 3 INCHES.
2. EPOXY ADHESIVE SYSTEMS SHALL BE SIMPSON "SET-3G" (ICC ESR-4057), OR EQUIVALENT. ALTERNATIVE ANCHORING SYSTEMS MAY BE USED ONLY WITH PRIOR WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
3. ALL THREADED RODS (ATR'S) AND ANCHOR BOLTS (A.B.'S) SHALL BE ASTM A307. MINIMUM DEPTH OF EMBEDMENT SHALL BE AS DETAILED ON THE DRAWINGS.
4. TEST 25% OF THE INSTALLED A.T.R. ANCHORS. TESTING OF REBAR DOWELS IS NOT REQUIRED.
5. PULL-OUT TEST LOAD VALUES:

A.T.R. OR REBAR DIAMETER	EMBEDMENT	PULL-OUT LOAD
3/8"	3-1/2"	2,900 LBS.
1/2"	4-1/2"	4,100 LBS.
5/8"	5-5/8"	6,600 LBS.
3/4"	6-3/4"	7,000 LBS.
7/8"	7-7/8"	11,800 LBS.
1"	9"	12,500 LBS.

6. IF ANY ANCHOR SHOULD FAIL, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

M. MONITORING PROGRAM

1. PRIOR TO DRILLING WORK AT THE SITE, A VISUAL SURVEY SHALL BE MADE AND PHOTOGRAPHS TAKEN (BY OWNER OR GENERAL CONTRACTOR) OF IMPROVEMENTS NEAR THE PLANNED SHORING TO ESTABLISH EXISTING CONDITIONS. PHOTO SURVEY SHALL INCLUDE INTERIORS OF ADJACENT BUILDINGS.
2. ADJACENT STRUCTURES SHALL BE MONITORED (SURVEYED) FOR HORIZONTAL AND VERTICAL MOVEMENT BY AN INDEPENDENT LICENSED LAND SURVEYOR OR QUALIFIED CIVIL ENGINEER AT THE FOLLOWING LOCATIONS, PROVIDED ACCESS FROM THE NEIGHBORS
   a. EVERY 25 FEET ALONG THE EXISTING TANK FOOTING.
3. MONITORING POINTS SHALL BE SURVEYED FOR HORIZONTAL AND VERTICAL MOVEMENT AT THE FOLLOWING INTERVALS:
   a. PRIOR TO DEMOLITION.
   b. UPON INSTALLATION OF EACH SEQUENCE OF PILES.
   c. ONCE A WEEK UNTIL ALL TIEBACKS ARE LOCKED OFF.
   d. ONCE EVERY OTHER WEEK FOR 6 WEEKS.
4. THE CONTRACTOR SHALL STOP EXCAVATION AND NOTIFY R3 CONSULTING ENGINEERS AND THE GEOTECHNICAL ENGINEER IF MORE THAN 0.03 FEET OF HORIZONTAL OR VERTICAL MOVEMENT IS OBSERVED.
5. SURVEY MONITORING RESULTS SHALL BE SUBMITTED TO R3 CONSULTING ENGINEERS AND THE GEOTECHNICAL ENGINEER WITHIN 3 DAYS OF FIELD SURVEY MEASUREMENTS.
   a. SURVEY MEASUREMENTS SHALL BE ACCOMPANIED BY A FIGURE CLEARLY DEPICTING THE LOCATION OF EACH MEASUREMENT. MEASUREMENTS SHALL BE REPORTED WITH RESPECT TO BASELINE MEASUREMENT AND PREVIOUS MEASUREMENT.
6. ADDITIONAL SURVEY MEASUREMENTS DURING OR AFTER CONSTRUCTION SHALL BE MADE IF REQUESTED BY R3 CONSULTING ENGINEERS.
7. DURING NEW CONSTRUCTION, THE GENERAL CONTRACTOR SHALL VISUALLY MONITOR THE RETAINING WALL SYSTEM AND NEARBY IMPROVEMENTS ON A DAILY BASIS FOR INDICATIONS OF MOVEMENT. THE GENERAL CONTRACTOR SHALL STOP EXCAVATION OPERATIONS IF DEFLECTION OR DISTRESS IS OBSERVED AND SHALL IMMEDIATELY NOTIFY THE ENGINEER.

N. SPECIAL INSPECTION

1. THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR TO PERFORM SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 1704 OF THE 2025 CBC AS A MINIMUM. THE SPECIAL INSPECTOR SHALL BE FROM AN APPROVED SPECIAL INSPECTION AGENCY. THE FOLLOWING ITEMS OF WORK REQUIRE SPECIAL INSPECTION:
   a. CONCRETE
   b. REINFORCING STEEL
   c. STRUCTURAL WELDING
   d. TESTING OF ANCHORS, BOLTS AND DOWELS INSTALLED IN EXISTING CONCRETE
   e. VERIFICATION OF SOIL CONDITIONS -- BY GEOTECHNICAL ENGINEER OF RECORD
   f. PIER INSTALLATION (BY GEOTECHNICAL ENGINEER)
   g. TIEBACKS: INTERMITTENT OBSERVATION OF INSTALLATION, FULL-TIME OBSERVATION OF ALL TESTING.
2. THE TESTING AND INSPECTION AGENCY SHALL COMPILE TESTING AND INSPECTION REPORTS DETAILING THE ITEMS OF WORK WHICH HAVE BEEN INSPECTED. A COPY OF THE REPORTS SHALL BE SENT TO THE OWNER, STRUCTURAL ENGINEER AND CONTRACTOR FOR REVIEW.

O. SPECIAL INSPECTION PROGRAM

1. CONCRETE PLACEMENT AND TESTING (CONTINUOUS INSPECTION DURING APPLICATION AND SAMPLING):
2. CONCRETE SHALL BE SAMPLED AND TESTED FOR QUALITY CONTROL DURING THE PLACEMENT OF CONCRETE AS FOLLOWS:
   (i) SAMPLING FRESH CONCRETE: COMPLY WITH ACI 318 SECTION 26.12.2.1.
   (ii) SLUMP: ASTM C143 -- ONE TEST FOR EACH LOAD AT POINT OF DISCHARGE OF CHUTE, AND ONE FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS.
   (iii) COMPRESSIVE TEST SPECIMEN: ASTM C31 -- ONE SET OF 4 STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED.
   a. REPORT TEST RESULTS IN WRITING TO THE ENGINEER AND CONTRACTOR ON THE SAME DAY THAT TESTS ARE MADE. REPORT OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONTRACTOR, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN THE STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, AND COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7-DAY AND 28-DAY TESTS.
   b. ADDITIONAL TESTS: THE TESTING SERVICE SHALL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE WHEN TEST RESULTS INDICATE THE SPECIFIED CONCRETE STRENGTHS AND OTHER CHARACTERISTICS HAVE NOT BEEN ATTAINED IN THE STRUCTURE. THE TESTING SERVICE SHALL CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C42, OR BY OTHER METHODS AS DIRECTED BY THE ENGINEER. OWNER SHALL PAY FOR SUCH TESTS CONDUCTED, AND IF ANY UNACCEPTABLE CONCRETE IS VERIFIED, TEST COST WILL BE BACK-CHARGED TO THE CONTRACTOR.
3. REINFORCEMENT PLACEMENT (PERIODIC INSPECTION): SPECIAL INSPECTOR SHALL OBSERVE PLACEMENT OF REINFORCEMENT INCLUDING REBAR SIZE, GRADE, SPACING, CLEARANCES AND SECURITY DURING THE CONCRETE PLACEMENT OPERATION. SPECIAL INSPECTOR SHALL OBSERVE THAT REINFORCING IS FREE OF DIRT, MUD OR OTHER MATERIALS PRIOR TO CONCRETE PLACEMENT.
4. WELDING (PERIODIC INSPECTION): SPECIAL INSPECTION OF WELDING SHALL BE IN ACCORDANCE WITH THE 2025 CBC, SECTION 1704, AWS D1.1 AND NOTE IV.3 ON SHEET S1.0. INSPECTOR SHALL PERFORM OR OBSERVE THE FOLLOWING:
   a. PERFORM VERIFICATION OF AVAILABILITY OF WPS AND MANUFACTURER CONSUMABLE CERTIFICATES.
   b. OBSERVE MATERIALS AND WELDER IDENTIFICATIONS.
   c. OBSERVE FIT-UP OF FILLET AND GROOVE WELDS, AND CONFIGURATION AND FINISH OF ACCESS HOLES.
   d. OBSERVE USE OF QUALIFIED WELDERS.
   e. OBSERVE CONTROL AND HANDLING OF CONSUMABLES, NO WELDING OVER CRACKED TACK WELDS, ENVIRONMENTAL CONDITIONS, WPS IS FOLLOWED, AND WELDING TECHNIQUES OF WELDERS.
   f. OBSERVE WELDS ARE CLEANED.
   g. PERFORM VERIFICATION THAT WELDS MEET VISUAL ACCEPTANCE CRITERIA, NOTE OF ARC STRIKES, VERIFICATION OF BACKING BAR REMOVAL, VERIFICATION OF WELD TAB REMOVAL, VERIFICATION OF REPAIR ACTIVITIES.
   h. PERFORM DOCUMENTATION OF ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER.
5. INSPECTION AND TESTING OF ANCHORS AND DOWELS (PERIODIC INSPECTION):
   a. SPECIAL INSPECTOR SHALL OBSERVE THAT DRILLED HOLES ARE FREE OF DUST AND DEBRIS PRIOR TO PLACEMENT OF NON-SHRINK GROUT OR EPOXY OF DRILLED ANCHORS AND DOWELS OR EXPANSION ANCHORS.
   b. ANCHORS SHALL BE PULL TESTED AS SPECIFIED IN NOTES.
   c. TESTING APPARATUS SHALL BE SUCH THAT IT TESTS NOT ONLY THE ANCHOR IN DIRECT TENSION, BUT ALSO THE ADJACENT CONCRETE FOR CONE FAILURE. IF ANY ANCHOR SHOULD FAIL, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. THE IMMEDIATELY ADJACENT ANCHORS SHALL ALSO BE TESTED AT THE CONTRACTOR'S EXPENSE.
   d. TEST EQUIPMENT SHALL BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
   e. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
      (i) HYDRAULIC RAM METHOD: THE ANCHOR SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD.
      (ii) TESTING SHALL OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.

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HILLSIDE STABILIZATION PROJECT FOR THE :
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066
STRUCTURAL SPECIFICATIONS

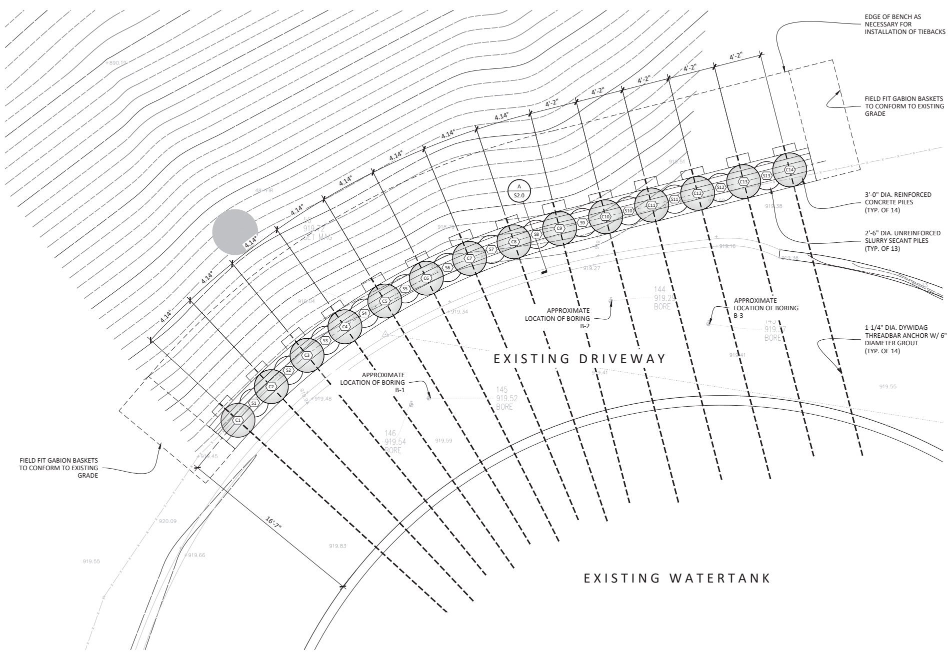
REVISIONS

#	DESCRIPTION	DATE
	BID SET	06/04/2026
	BID ADDENDUM NO. 2 - WALL REVISION	08/03/2026

DATE
AUGUST 3, 2026

JOB NUMBER
1031-C-25-GLE

S0.0



EDGE OF BENCH AS NECESSARY FOR INSTALLATION OF TIEBACKS
FIELD FIT GABION BASKETS TO CONFORM TO EXISTING GRADE
3'-0" DIA. REINFORCED CONCRETE PILES (TYP. OF 14)
2'-6" DIA. UNREINFORCED SLURRY SECANT PILES (TYP. OF 13)
1-1/4" DIA. DYWIDAG THREADBAR ANCHOR W/ 6" DIAMETER GROUT (TYP. OF 14)
APPROXIMATE LOCATION OF BORING B-1
APPROXIMATE LOCATION OF BORING B-2
APPROXIMATE LOCATION OF BORING B-3
EXISTING DRIVEWAY
EXISTING WATERTANK
FIELD FIT GABION BASKETS TO CONFORM TO EXISTING GRADE
A
S2.0
4.14"
4'-2"
16'-7"

1 TIE BACK RETAINING WALL PLAN

SCALE: 1/8"=1'-0"

NORTH

FOUNDATION NOTES:

1 REFER TO STRUCTURAL SPECIFICATIONS AND TYPICAL STRUCTURAL DETAILS SHEET S0.0.

2 DIMENSIONS ARE TO FACE OF CONCRETE, CENTERLINE FOOTING AND POSTS, ETC., UNLESS NOTED OTHERWISE. NOTIFY ARCHITECT OF ANY DISCREPANCIES. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE BEGINNING WORK.

3 THE GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION PER GEOTECHNICAL REPORT RECOMMENDATIONS AND INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT.

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HILLSIDE STABILIZATION PROJECT FOR THE :

GLENWOOD TANK SITE

SCOTTS VALLEY, CA 95066

FOUNDATION PLAN

REVISIONS

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REGISTERED PROFESSIONAL ENGINEER No. 68222 Exp. 09/30/2027 CIVIL STATE OF CALIFORNIA

DATE
AUGUST 3, 2026

JOB NUMBER
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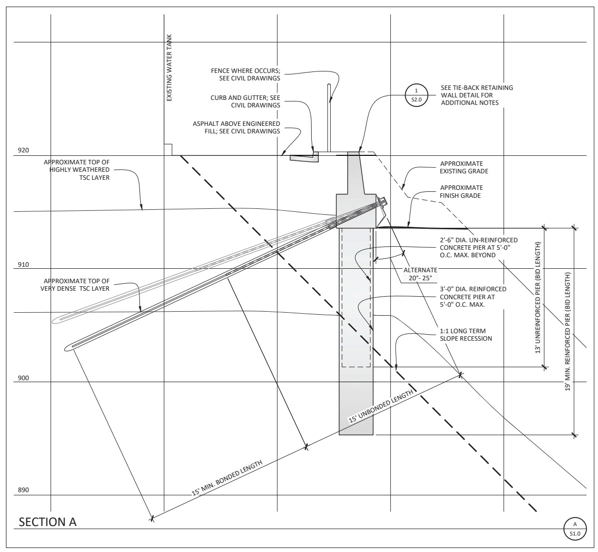
S1.0


EXISTING WATER TANK
FENCE WHERE OCCURS; SEE CIVIL DRAWINGS
CURB AND GUTTER; SEE CIVIL DRAWINGS
ASPHALT ABOVE ENGINEERED FILL; SEE CIVIL DRAWINGS
1
S2.0
SEE TIE-BACK RETAINING WALL DETAIL FOR ADDITIONAL NOTES
920
APPROXIMATE TOP OF HIGHLY WEATHERED TSC LAYER
APPROXIMATE EXISTING GRADE
APPROXIMATE FINISH GRADE
2'-6" DIA. UN-REINFORCED CONCRETE PIER AT 5'-0" O.C. MAX. BEYOND
910
ALTERNATE 20°- 25°
APPROXIMATE TOP OF VERY DENSE TSC LAYER
3'-0" DIA. REINFORCED CONCRETE PIER AT 5'-0" O.C. MAX.
1:1 LONG TERM SLOPE RECESSION
13' UNREINFORCED PIER (BID LENGTH)
19' MIN. REINFORCED PIER (BID LENGTH)
900
15' UNBONDED LENGTH
15' MIN. BONDED LENGTH
890
A
S1.0

SECTION A

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HILLSIDE STABILIZATION PROJECT FOR THE :

GLENWOOD TANK SITE

SCOTTS VALLEY, CA 95066

WALL SECTION

REVISIONS

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No. 68222
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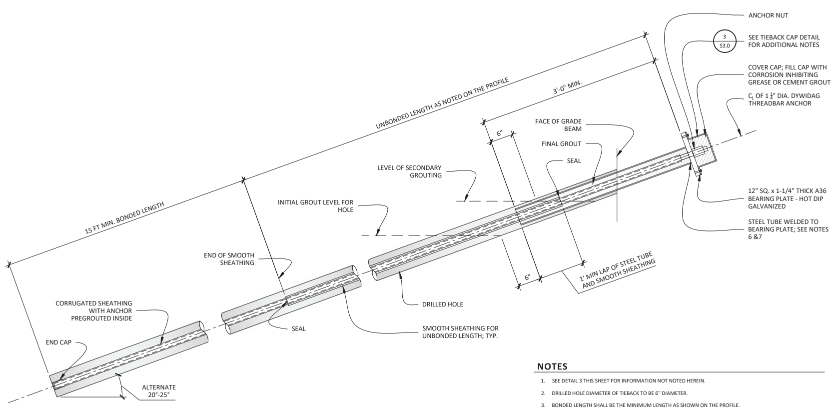
S2.0

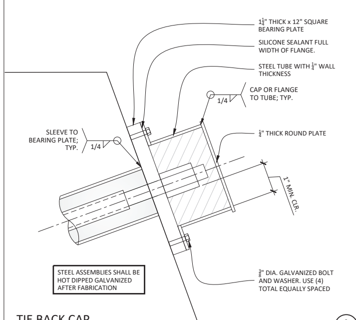

ANCHOR NUT
3 S3.0
SEE TIEBACK CAP DETAIL FOR ADDITIONAL NOTES
COVER CAP; FILL CAP WITH CORROSION INHIBITING GREASE OR CEMENT GROUT
C_L OF 1 ¼" DIA. DYWIDAG THREADBAR ANCHOR
UNBONDED LENGTH AS NOTED ON THE PROFILE
3'-0" MIN.
FACE OF GRADE BEAM
6"
FINAL GROUT
SEAL
LEVEL OF SECONDARY GROUTING
INITIAL GROUT LEVEL FOR HOLE
12" SQ. x 1-1/4" THICK A36 BEARING PLATE - HOT DIP GALVANIZED
STEEL TUBE WELDED TO BEARING PLATE; SEE NOTES 6 &7
15 FT MIN. BONDED LENGTH
END OF SMOOTH SHEATHING
6"
1' MIN LAP OF STEEL TUBE AND SMOOTH SHEATHING
DRILLED HOLE
CORRUGATED SHEATHING WITH ANCHOR PREGROUTED INSIDE
SEAL
SMOOTH SHEATHING FOR UNBONDED LENGTH; TYP.
END CAP
ALTERNATE 20°-25°

NOTES

1. SEE DETAIL 3 THIS SHEET FOR INFORMATION NOT NOTED HEREIN.
2. DRILLED HOLE DIAMETER OF TIEBACK TO BE 6" DIAMETER.
3. BONDED LENGTH SHALL BE THE MINIMUM LENGTH AS SHOWN ON THE PROFILE.
4. POST GROUTING SHALL BE USED BY CONTRACTOR WHERE DEEMED APPLICABLE. POST GROUT TUBE NOT SHOWN.
5. PROVIDE CENTRALIZERS AND SPACERS FOR TIEBACK ANCHORS AS REQUIRED PER THE MANUFACTURER'S REQUIREMENTS. CENTRALIZERS SHALL BE SPACED NO GREATER THAN 10 FT ON CENTER.
6. GALVANIZE STEEL TUBE/BEARING PLATE ASSEMBLY AFTER FABRICATION.
7. STEEL TUBE WELDED TO BEARING PLATE. INSIDE DIAMETER OF STEEL TUBE (MIN. THICKNESS = ¼") TO BE 1" GREATER THAN OUTSIDE DIAMETER OF SMOOTH SHEATHING.

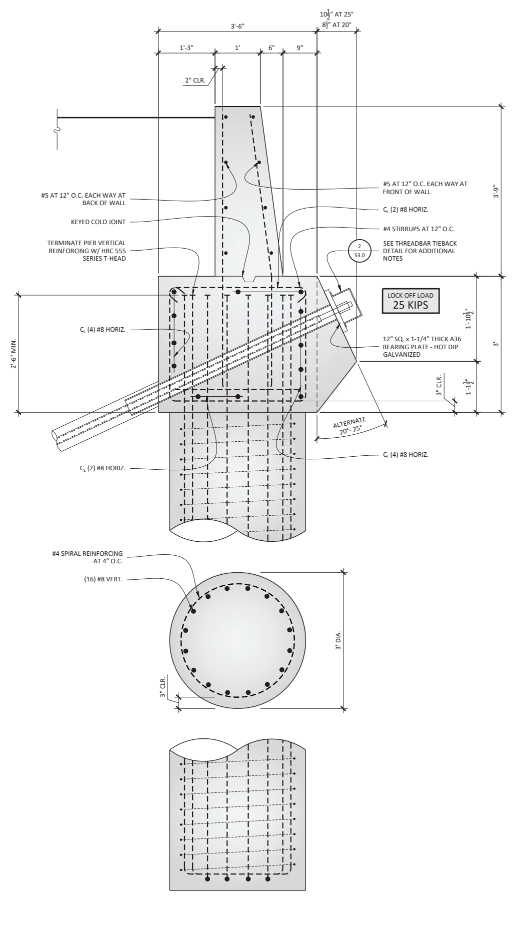
THREADBAR TIE BACK

2 S3.0


1¼" THICK x 12" SQUARE BEARING PLATE
SILICONE SEALANT FULL WIDTH OF FLANGE.
STEEL TUBE WITH ¼" WALL THICKNESS
CAP OR FLANGE TO TUBE; TYP.
1/4
SLEEVE TO BEARING PLATE; TYP.
1/4
¼" THICK ROUND PLATE
1" MIN. CLR.
STEEL ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION
⅜" DIA. GALVANIZED BOLT AND WASHER. USE (4) TOTAL EQUALLY SPACED

TIE BACK CAP

3 S3.0


10½" AT 25°
8½" AT 20°
3'-6"
1'-3"
1'
6"
9"
2" CLR.
#5 AT 12" O.C. EACH WAY AT BACK OF WALL
KEYED COLD JOINT
TERMINATE PIER VERTICAL REINFORCING W/ HRC 555 SERIES T-HEAD
#5 AT 12" O.C. EACH WAY AT FRONT OF WALL
C_L (2) #8 HORIZ.
#4 STIRRUPS AT 12" O.C.
2 S3.0
SEE THREADBAR TIEBACK DETAIL FOR ADDITIONAL NOTES
3'-9"
LOCK OFF LOAD
25 KIPS
C_L (4) #8 HORIZ.
2'-6" MIN.
12" SQ. x 1-1/4" THICK A36 BEARING PLATE - HOT DIP GALVANIZED
1'-10½"
3'
3" CLR.
1'-1½"
ALTERNATE 20°- 25°
C_L (2) #8 HORIZ.
C_L (4) #8 HORIZ.
#4 SPIRAL REINFORCING AT 4" O.C.
(16) #8 VERT.
3' DIA.
3" CLR.

TIE BACK RETAINING WALL

1 S3.0

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FOUNDATION DETAILS

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S3.0

SECTION 03 00 10 – CONCRETE GRADE BEAM AND STEM WALL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

A. Structural drawings sheets S0.0, S1.0, S2.0 and S3.0

B. General provisions of Contract Agreement form, including appendices and exhibits.

C. Section 03 11 00 – Concrete Forming and Accessories

D. Section 03 21 00 – Reinforcement Bars

E. Section 03 30 00 – Cast-in-place Concrete

F. Section 03 35 00 – Concrete Finishing

1.02 PAYMENT

A. This section includes the following:

1. Concrete Grade Beam and Stemwall: The Bidder shall include in its proposal all labor, materials, equipment, supervision, layout, forming, reinforcing steel coordination, concrete placement, finishing, curing, and incidental work required for the complete installation of the reinforced concrete grade beam. The Bidder shall include all costs associated with coordinating and integrating the vertical pier reinforcing steel into the grade beam, including proper alignment, lap splices, dowels, development lengths, concrete cover, reinforcing support, field adjustments, and coordination with the drilled pier/secant pile installation. No additional compensation shall be provided for work required to properly connect, embed, develop, or otherwise integrate the vertical pier reinforcing into the grade beam unless specifically approved in writing by the Owner prior to performance of the work.

SECTION 03 00 40 – POST TENSIONED SOIL TIEBACK ANCHORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

A. Structural drawings sheets S0.0, S1.0, S2.0 and S3.0

B. General provisions of Contract Agreement form, including appendices and exhibits.

C. Section 31 51 13 – Post Tensioned Soil Tieback Anchors

1.02 PAYMENT

A. This section includes the following:

1. Post-Tensioned Soil Tieback Anchors: The Bidder shall include in its proposal all costs associated with the complete installation of the post-tensioned soil tieback anchors, including layout, drilling, temporary casing or drilling fluid as required, hole stabilization, tendon fabrication and installation, centralizers, spacers, corrosion protection, bond-breakers, sheathing, trumpets, bearing plates, wedges, anchor heads, grout mixing and placement, staged or secondary grouting where required, stressing, load testing, lock-off, anchor cutoff, spoil handling, groundwater control, testing coordination, cleanup, and disposal. The Bidder shall include all labor, materials, equipment, supervision, survey control, access, temporary work, quality control, documentation, and incidental work required to complete the post-tensioned soil tieback anchor installation in accordance with the Contract Documents.

   The Bidder shall be responsible for coordinating the post-tensioned soil tieback anchor installation with the reinforced concrete piles, slurry secant piles, reinforced concrete grade beam, wall reinforcing, drainage systems, utilities, adjacent improvements, and other construction. This shall include maintaining the required anchor location, inclination, orientation, unbonded length, bonded length, drilling diameter, tendon position, grout cover, corrosion protection, bearing plate alignment, anchor head elevation, stressing sequence, test loads, lock-off load, and connection to the supporting wall system. The Bidder shall verify that the proposed means and methods are compatible with the subsurface conditions, site access, construction sequencing, and adjacent structures.

   Additional compensation will not be allowed for work necessary to complete the tieback anchors, maintain required tendon alignment and inclination, stabilize the drill holes, achieve the required bond capacity, perform proof and performance testing, regrout anchors where permitted or required, coordinate with adjacent piles and structural elements, or integrate the anchor heads and bearing assemblies with the wall system unless specifically approved in writing by the Owner prior to performance of the work.

Construction Specification

Wire Mesh Gabions and Mattresses Twisted (Woven) or Welded Mesh

1. Scope

The work consists of furnishing, assembling, and installing rock filled wire mesh gabion baskets and mattresses.

2. Types

Gabions shall consist of rectangular wire mesh formed containers filled with rock. Gabions will conform to one of the following types:

Woven mesh-Nonraveling, double twisted, hexagonal wire mesh consisting of two wires twisted together in two 180-degree turns.

Welded mesh-Welded-wire mesh with a uniform square or rectangular pattern and a resistance weld at each intersection. The welded wire connections shall conform with the requirements of ASTM A 185, including wire smaller than W1.2 (0.124 in.), except that the welded connections shall have a minimum average shear strength of 70 percent and a minimum shear strength of 60 percent of the minimum ultimate tensile strength of the wire.

Gabions-Gabions shall be furnished as baskets or mattresses as specified in section 7. Baskets and mattresses shall be fabricated within a dimension tolerance of plus or minus 5 percent.

Baskets-Baskets are at least 12 inches high.

Mattresses-Mattresses are no more than 12 inches thick.

3. Material

Gabions shall be fabricated, assembled, and installed in accordance with the nominal wire sizes and dimensions shown in tables 64-1 and 64-2, using the following materials unless otherwise specified in section 7.

Wire for fabrication and assembly shall be hot-dipped galvanized. The wire shall have a minimum tensile strength of 60,000 pounds per square inch. Galvanized steel wire shall conform to ASTM A 641, class 3, soft temper.

When epoxy or polyvinyl chloride (PVC) coated wire is specified in section 7, the galvanized wire shall be coated by fusion bonded epoxy; fusion bonded, extruded; or extruded and bonded PVC material. The wire coating shall be black, gray, green, or silvery, and the initial properties of the PVC coating shall meet the following requirements:

a. Specific gravity. In the range of 1.30 to 1.40, ASTM D 792.
b. Abrasion resistance. The percentage of weight loss shall be less than 12 percent when tested according to ASTM D 1242, method B, at 200 cycles, CSI-A abrader tape, 80 grit.
c. Brittleness temperature. Not higher than 15 degrees F, ASTM D 746.
d. Tensile strength. Extruded coating (not less than 2,980 lb/in2, ASTM D 412); fusion bonded coating (not less than 2,275 lb/in2, ASTM D 638).
e. Modulus of elasticity. Extruded coating (not less than 2,700 lb/in2 at 100 percent strain, ASTM D 412); fusion bonded coating (not less than 1,980 lb/in2 at 100 percent strain, ASTM D 638).

f. Ultraviolet light exposure. An exposure period of not less than 3,000 hours at 63 degrees centigrade, ASTM G 152.
g. Salt spray test. A test period of not less than 3,000 hours, ASTM B 117.

After the exposure to ultraviolet light and the salt spray test as specified above, the PVC coating shall not show cracks, blisters, splits, nor noticeable change of coloring (surface chalk). In addition, the specific gravity shall not change more than 6 percent, resistance to abrasion shall not change more than 10 percent, tensile strength shall not change more than 25 percent, and modulus of elasticity shall not change more than 25 percent from their initial values.

The wire sizes shown in tables 64-1 and 64-2 are the size of the wire after galvanizing and before coating with PVC.

Table 64-1 Minimum requirements*

Gabion baskets-height 12, 18, or 36 inches; length as specified

Type of wire	Mesh size (in)	Wire diameter (in)	PVC coating (in)	Total diameter (in)	Galvanized coating (oz./ft$^{2)}$
Woven mesh	3.25 x 4.5	0.118	None	0.118	0.80
	3.25 x 4.5	0.105	0.02	0.145	0.80
Selvage		0.153	None	0.153	0.80
		0.132	0.02	0.172	0.80
Lacing and internal connecting wire		0.086	0.02	0.126	0.70
Welded	3 x 3	0.118	None	0.118	0.80
Mesh	3 x 3	0.105	0.02	0.145	0.80
Spiral binder		0.105	0.02	0.145	0.80

Table 64-2 Minimum requirements*

Gabion mattresses-height 6, 9, or 12 inches; length as specified

Type of wire	Mesh size (in)	Wire diameter (in)	PVC coating (in)	Total diameter (in)	Galvanized coating (oz./ft$^{2)}$
Woven mesh	2.5 x 3.25	0.086	0.02	0.126	0.70
Selvage		0.105	0.02	0.145	0.80
Lacing and internal connecting wire		0.086	0.02	0.126	0.70
Welded mesh	1.5 x 3	0.080	0.02	0.120	0.70
Spiral binder		0.105	0.02	0.145	0.80

*Note: The wire sizes and PVC coating thickness shown are nominal sizes. The wire sizes include the galvanizing coating thickness.

Spiral binders are the standard fastener for welded-mesh gabion baskets and mattresses, and shall be formed from wire meeting the same quality and coating thickness requirements as specified for the gabion baskets and mattresses.

Alternate fasteners for use with wire mesh gabions, such as ring fasteners, shall be formed from wire meeting the same quality and coating thickness requirements as specified for the gabions and, as a minimum, shall conform to the manufacturer's recommendations.

Standard fasteners and alternate fasteners must provide a minimum strength of 1,400 pounds per lineal foot for gabion baskets and 900 pounds per lineal foot for gabion mattresses. When used to interconnect gabion baskets or mattresses with PVC coating, ring fasteners shall be made of stainless steel and spiral fasteners will be PVC coated. All fasteners shall meet all of the closing requirements of the gabion manufacturer in addition to any requirements specified in section 7.

Rock shall conform to the quality requirements in Maine Construction Specification 461, Rick Riprap, unless otherwise specified in section 7. At least 85 percent of the rock particles, by weight, shall be within the predominant rock size range.

Gabion basket or mattress height	Predominant rock size (in)	Minimum rock dimension (in)	Maximum rock dimension (in)
12-, 18-, or 36-inch basket	4 to 8	4	8
6-, 9-, or 12-inch mattress	3 to 6	3	6

At least 30 days before delivery to the site, the contractor shall inform the engineer in writing of the source from which the rock will be obtained. The test data and other information by which the material was determined by the contractor to meet the specification are included. The contractor shall provide the engineer free access to the source for the purpose of obtaining samples for testing and source approval.

Bedding or filter material, when specified, shall meet the gradation shown on the plans, or as specified in section 7, and the requirements of Maine Construction Specification 423 Earth Fill and Gravel Fill. Geotextile, when specified, shall conform to the requirements specified in section 7 and those of Maine Construction Specification 495, Geotextile.

4. Foundation preparation

The foundation on which the gabions are to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. Surface irregularities, loose material, vegetation, and all foreign matter shall be removed from the foundation. When fill is required, it shall consist of material conforming to the specified requirements. Gabions and bedding or specified geotextiles shall not be placed until the foundation preparation is completed and the subgrade surfaces have been inspected and approved by the COTR.

Compaction of bedding or filter material is required as specified in section 7. The surface of the finished material shall be to grade and free of mounds, dips, or windrows. Geotextile shall be installed in accordance with the requirements of Maine Construction Specification 495, Geotextile.

5. Assembly and placement

Unless otherwise specified in section 7, the assembly and placement of gabions shall be in accordance with the following procedures:

Assembly-Rotate the gabion panels into position and join the vertical edges with fasteners for gabion assembly. Where lacing wire is used, wrap the wire with alternating single and double half-hitches at 4- to 5-inch intervals. Where spiral fasteners are used for welded-wire mesh, crimp the ends to secure the spirals in place. Where ring type alternate fasteners are used for basket assembly, install the fasteners at a maximum spacing of 6 inches. Use the same fastening procedures to install interior diaphragms where they are required.

Interior diaphragms are required where any inside dimension exceeds 3 feet. Diaphragms are installed to assure that no open intervals are present that exceed 3 feet.

Placement-Place the empty gabions on the foundation and interconnect the adjacent gabions along the top, bottom, and vertical edges using lacing wire. Wrap the wire with alternating single and double half-hitches at 4 to 6-inch intervals. Unless otherwise specified in section 7, lacing wire will be the only fastener allowed for interconnecting woven mesh gabions. Spiral fasteners are commonly used for the assembly and interconnection of welded mesh gabions. Spirals are screwed down at the connecting edges then each end of the spiral is crimped to secure it in place. Lacing may be used as needed to supplement the interconnection of welded mesh gabions and the closing of lids.

Interconnect each layer of gabions to the underlying layer of gabions along the front, back, and sides. Stagger the vertical joints between the gabions of adjacent rows and layers by at least half of a cell length.

6. Filling operation

After adjacent empty woven wire gabion units are set to line and grade and common sides properly connected, they shall be placed in straight line tension and stretched to remove any kinks from the mesh and to gain a uniform alignment. Welded-mesh gabions do not require stretching. The gabions may be staked to maintain the established proper alignment before the rock is placed. No stakes shall be placed through geotextile material. Connecting lacing wire and other fasteners (as allowed) shall be attached during the filling operation to preserve the strength and shape of the structure.

Internal connecting crosstie wires shall be placed in each unrestrained gabion cell of more than 18 inches in height, including gabion cells left temporarily unrestrained. Two internal connecting wires shall be placed concurrently with rock placement at each 12-inch interval of depth. In woven mesh gabions these crossties are placed evenly spaced along the front face and connecting to the back face. All crosstie wires shall be looped around two mesh openings and each wire end shall be secured by a minimum of five 180-degree twists around itself after looping.

In welded mesh gabions these crossties or stiffeners are placed across the corners of the gabions (at 12 inches from the corners) providing diagonal bracing. Lacing wire or preformed hooked wire stiffeners may be used.

The gabions shall be carefully filled with rock by machine or hand methods to ensure alignment, avoid bulges, and provide a compact mass that minimizes voids. Machine placement requires supplementing with hand work to ensure the desired results. The cells in any row shall be filled in stages so that the depth of rock placed in any one cell does not exceed the depth of rock in any adjoining cell by more than 12 inches. Along the exposed faces, the outer layer of stone shall be carefully placed and arranged by hand to ensure a neat, compact placement with a uniform appearance.

The last layer of rock shall be uniformly leveled to the top edges of the gabions. Lids shall be stretched tight over the rock filling using only approved lid closing tools as necessary. The use of crowbars or other single point leverage bars for lid closing is prohibited as they may damage the baskets. The lid shall be stretched until it meets the perimeter edges of the front and end panels. The gabion lid shall then be secured to the

sides, ends, and diaphragms with spiral binders, approved alternate fasteners, or lacing wire wrapped with alternating single and double half-hitches in the mesh openings.

Any damage to the wire or coatings during assembly, placement, and filling shall be repaired promptly in accordance with the manufacturer's recommendations or replaced with undamaged gabion baskets.

7. Payment

This bidder shall include in the proposal the sum to cover the material, rock, preparation, assembly and filling and closing of the gabion walls associated with the project as set forth in the Contract Documents.

R3 Geotechnical Engineers
105 Locust Street Suite A | Santa Cruz, CA 95060 | (831) 440-7786 | www.r3ce.com | abuckner@r3ce.com

Project No.: 1031-C-25-GLE
July 31, 2026

Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, CA

Attn: Nate Gillespie

Subject: Addendum 1 to the Geotechnical Investigation

Project: Proposed Slope Stabilization Wall
Glenwood Drive Water Tank
Scotts Valley, CA
APN: 023-241-13

To Mr. Gillespie:

At your request, R3 Geotechnical Engineers (R3GE) has completed an addendum to the geotechnical design criteria contained in the original geotechnical investigation prepared by Haro, Kasunich & Associates, Inc. (HKA), dated July 20, 2023, for the proposed Glenwood Water Tank slope stabilization project. I was the licensed engineer of record who signed the geotechnical report while employed at HKA.

The purpose of this addendum is to update the project to the requirements of the 2025 California Building Code (CBC), revised the slope stability model, and provide revised geotechnical design criteria and recommendations for the proposed secant pile retaining wall.

Except as specifically superseded by this addendum, the findings, conclusions, recommendations, and design criteria contained in the original geotechnical investigation remain applicable.

The following items have been updated:

1. Seismic design criteria in accordance with the 2025 California Building Code and ASCE 7-22.
2. Static and Pseudo-static slope stability evaluation.
3. Foundation and Lateral earth pressure recommendations for design of the secant pile stabilization wall.
4. Tieback bond stress.
5. Preparation of this addendum letter.

1. Seismic Design Criteria

Seismic design parameters were evaluated in general accordance with the 2025 California Building Code (CBC) and ASCE 7-22 using project site coordinates and mapped seismic hazard values obtained from the seismic design maps. Site classification was evaluated based on estimated shear wave velocity derived from Standard Penetration Test (SPT) correlations in accordance with ASCE 7-22 Section 20.3, where direct shear wave velocity measurements are not available. The site is interpreted to range between Site Class CD-D.

Where the estimated shear wave velocity range resulted in differing site classifications, the governing seismic response parameters were conservatively selected by adopting the most critical values associated with the evaluated Site Classes CD and D in accordance with ASCE requirements. Accordingly, the adopted seismic design criteria represent a conservative envelope of the governing seismic response parameters associated with the anticipated range of subsurface conditions.

Parameter	Value
Mapped Spectral Acceleration, Short Period, S_S	1.93 g
Mapped Spectral Acceleration, 1-second Period, S_1	0.75 g
MCE Site Spectral Response Acceleration, Short Period, S_{MS}	2.10 g
MCE Site Spectral Response Acceleration, 1-second Period, S_{M1}	2.25 g
Design Spectral Response Acceleration, Short Period, S_{DS}	1.40 g
Design Spectral Response Acceleration, 1-second Period, S_{D1}	1.50 g
Site-Modified Peak Ground Acceleration, PGA_M	0.77 g

Table 1: Seismic Design Criteria

The seismic parameters presented above are intended for structural design of the proposed foundation system. These parameters should be reviewed and confirmed by the project Structural Engineer based on the final building configuration, risk category, and structural design requirements.

2. Revised Slope Stability

2.1 Methodology

Static limit equilibrium slope stability analyses were performed using GeoStudio 2025.2.1 SLOPE/W with the Morgenstern-Price general limit equilibrium method. Random slip surface searches were performed to identify the critical failure surfaces for Cross Section AA presented in the original geotechnical investigation.

The subsurface conditions, slope geometry, groundwater assumptions, material properties, and geotechnical design parameters used in the original analysis remain unchanged. The only modification incorporated into this addendum is the updated horizontal seismic coefficient (Kh), which was revised based on the reduced Maximum Considered Earthquake Geometric Mean Peak Ground Acceleration (PGA_M) determined in accordance with the 2025 California Building Code (CBC) and ASCE 7-22 seismic design provisions. The updated seismic design criteria result in an approximately 35 percent reduction in PGA_M relative to the values adopted in the original geotechnical report.

Consistent with the original geotechnical investigation and current geotechnical engineering practice, a minimum Factor of Safety of 1.5 was considered acceptable for static loading conditions and 1.0 for pseudo-static seismic loading. Factors of Safety below these values do not necessarily indicate imminent slope failure but may warrant additional evaluation, mitigation, or performance-based design.

2.2 Seismic Design Parameters

The horizontal seismic coefficient (kh) used in the pseudo-static slope stability analyses was developed based on the updated seismic design criteria of the 2025 California Building Code (CBC). The Maximum Considered Earthquake Geometric Mean Peak Ground Acceleration (PGA_M) was determined using the CBC seismic design maps for the project site and a conservative Site Class CD, resulting in a PGAM of 0.77g. The design earthquake magnitude of Mw = 7.5 was obtained from deaggregation of the U.S. Geological Survey (USGS) Unified Hazard Tool.

The horizontal seismic coefficient (kh) was determined using the procedure presented by Blake et al. (2002), *Analysis of Earthquake-Induced Landslide Hazards*, Chapter 5 of California Geological Survey Special Publication 117A (2008). Based on the updated seismic design parameters, a horizontal seismic coefficient of kh = 0.27 was adopted for the pseudo-static slope stability analyses. The revised seismic coefficient supersedes the value presented in the original geotechnical report and forms the basis for the updated pseudo-static slope stability analyses presented herein.

2.3 Geotechnical Model

The subsurface conditions, stratigraphy, groundwater assumptions, material strength parameters, and slope geometry used in the updated analyses are unchanged from those presented in the original geotechnical investigation. The only modification incorporated into the updated slope stability analyses is the revised horizontal seismic coefficient (kh) based on the updated 2025 California Building Code seismic design criteria.

2.4 Analysis Results

The results of the updated slope stability analyses are summarized in Table 2-4. Detailed SLOPE/W output and critical failure surfaces are provided in Appendix A.

Analysis Case	Cross Section	Figure No.:	Condition	Calculated FS	Min. Required FS
Existing	AA	A1	Static	0.657	1.50
Existing	AA	A2	Pseudo-static	0.901	1.00
Existing – Proposed	AA	A3	Static	1.622	1.50
Existing – Proposed	AA	A4	Pseudo-static	1.447	1.00

Table 2: SLOPE/W Analysis Results

The updated analyses confirm the overall conclusions of the original geotechnical investigation. The existing slope does not satisfy the recommended minimum factors of safety under either static or pseudo-static loading conditions, while the proposed secant pile stabilization wall provides acceptable stability under both loading cases.

The principal change resulting from the updated 2025 CBC seismic design criteria is a reduction in the required lateral resisting force that must be provided by the secant pile stabilization wall. Based on the updated pseudo-static analysis, the required lateral resisting force is approximately 7,500 pounds per

linear foot of wall, compared to 15,000 pounds per linear foot reported in the original geotechnical investigation.

Accordingly, the secant pile stabilization wall should be designed to provide a minimum lateral resisting capacity of 7,500 pounds per linear foot. Except as modified herein, the conclusions, recommendations, and design criteria presented in the original geotechnical investigation remain applicable.

3. Lateral Design Loads

The updated lateral design criteria presented herein are based on the revised slope stability analyses performed using the 2025 California Building Code seismic design parameters. The recommended design loads should be used for structural design of the secant pile stabilization wall. The Structural Engineer shall evaluate the wall for the applicable load combinations and determine the required pile diameter, embedment, reinforcement, tieback loads (if applicable), and structural capacity.

Design Condition	Backslope / Frontslope Condition	Design Value
Active, Free to Yield	Level	30 pcf (EFW)
Active, Restrained Condition	Level	20H psf (Rectangular Distribution)
Seismic	Level	10H psf (Rectangular Distribution)

Table 3: Lateral Earth Pressure

Notes:

1. Equivalent fluid weights (EFW) should be applied as triangular lateral earth pressure distributions over the retained height of the wall.
2. The restrained lateral pressure should be applied below the tieback elevation. Active lateral earth pressure may be used above the tieback elevation.
3. The seismic earth pressure increment should be applied as a uniform rectangular pressure distribution over the retained height of the wall, with the resultant acting at 0.6H above the base of the wall. The seismic increment should be added to the applicable static earth pressure condition.
4. Surcharge loads from structures, hardscape, vehicles, stockpiles, or other imposed loads should be evaluated by the Structural Engineer and added to the recommended earth pressures, as appropriate.

4. Tieback Design Criteria

Where required by the structural design, tiebacks may be incorporated into the secant pile stabilization wall system to satisfy structural strength and serviceability requirements. Tiebacks should be designed by the project structural engineer using the updated wall design loads presented in this addendum.

For tiebacks with bonded lengths developed within the highly weathered Santa Cruz Mudstone, an allowable design bond stress of 4,800 psf may be used, subject to successful verification by proof and/or

performance testing during construction. The allowable bond stress should be applied only to the portion of the bonded length embedded within the highly weathered Santa Cruz Mudstone.

Tieback proof and performance testing should be performed in accordance with the project specifications and applicable PTI requirements. If field testing does not verify the recommended bond stress, the tieback design should be revised using the verified field capacity.

Except for the revised allowable bond stress presented herein, the tieback diameter, inclination, minimum bonded and unbonded lengths, installation requirements, and other recommendations presented in the original geotechnical investigation remain applicable.

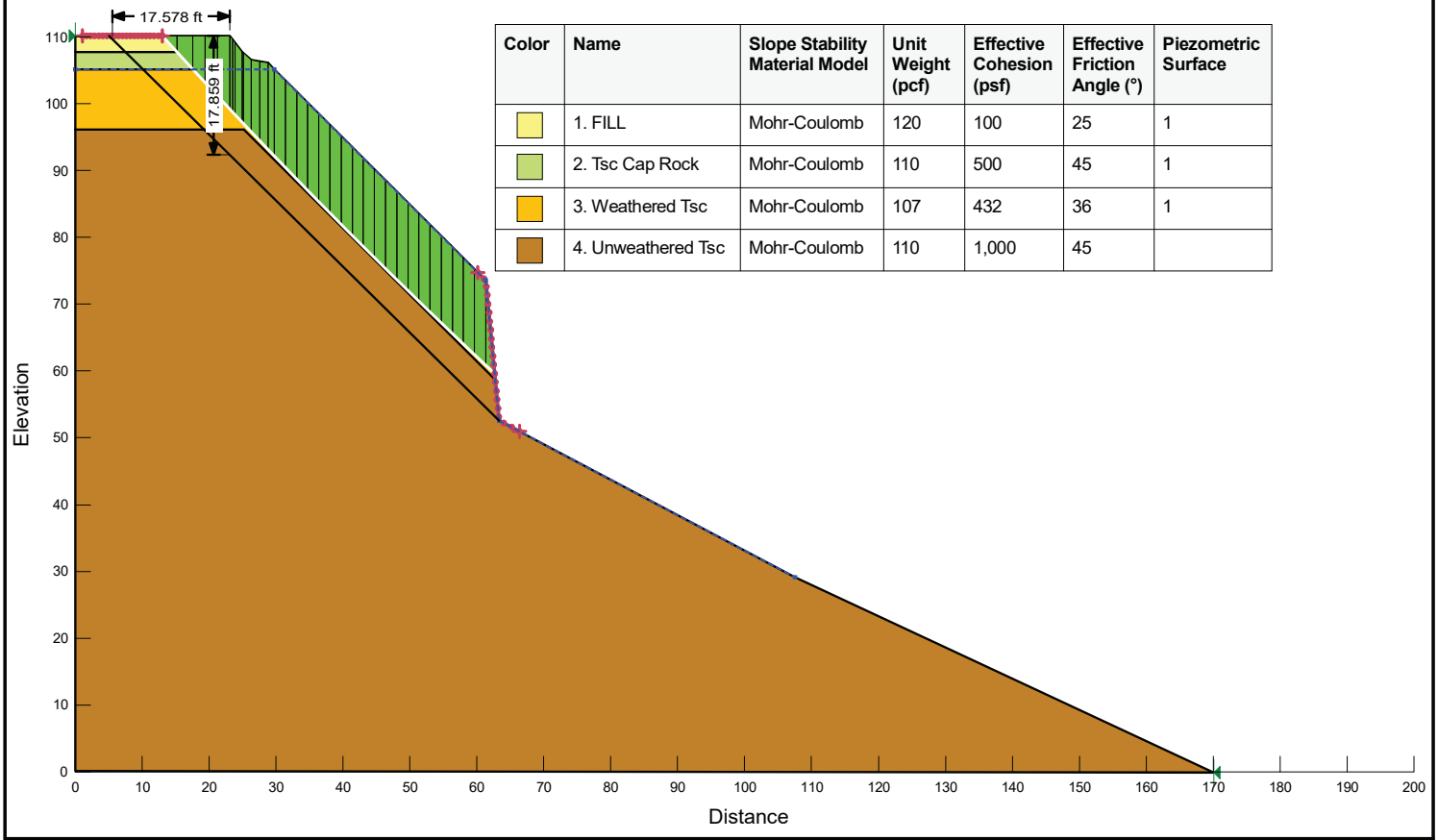
Should you have any questions or require additional information, please contact me.

Sincerely,

Ashton J. Buckner, P.E. 93365
Principal Engineer
R3 Geotechnical Engineers

APPENDIX A

Slope Stability Results



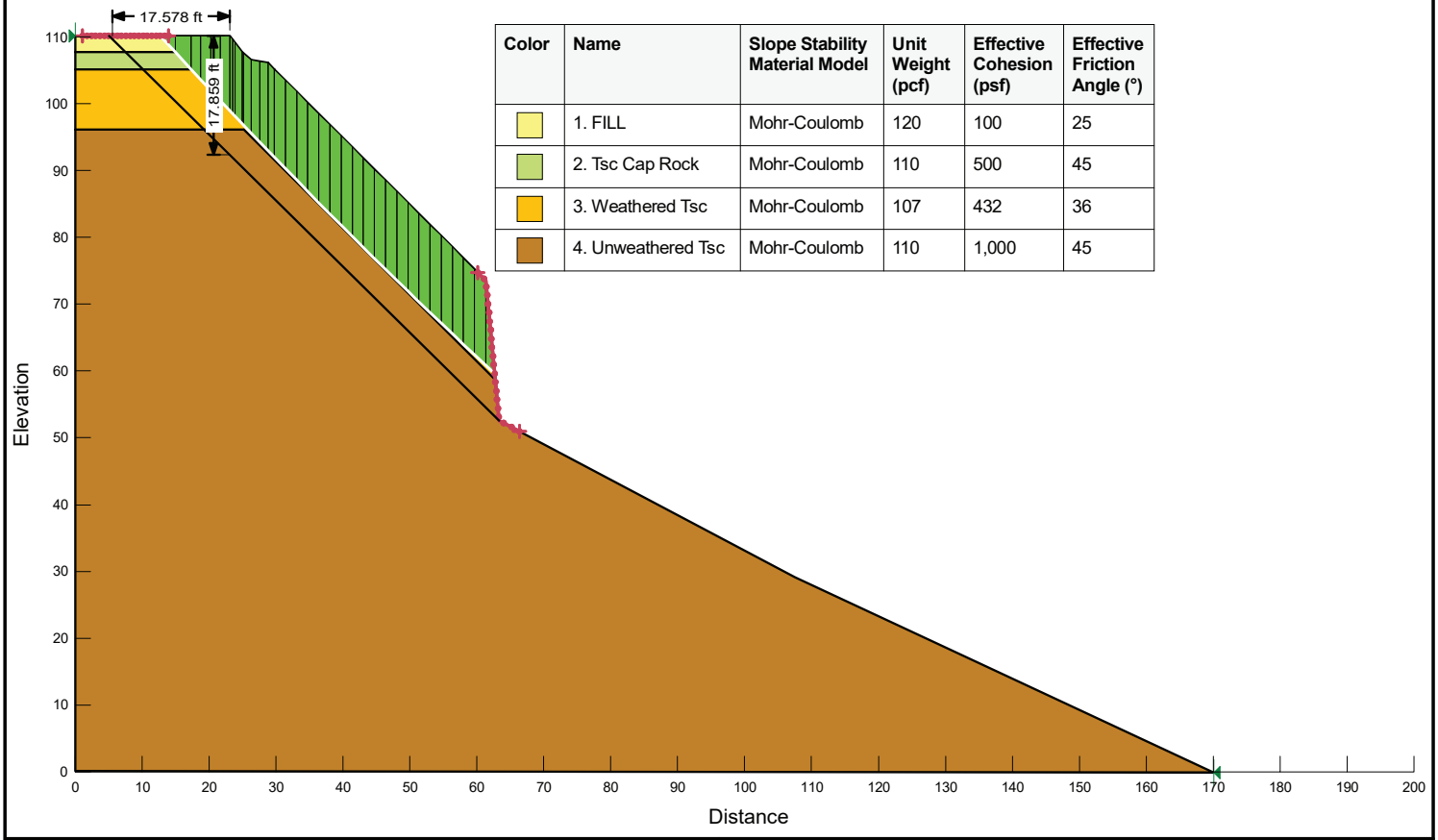
Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Piezometric Surface
	1. FILL	Mohr-Coulomb	120	100	25	1
	2. Tsc Cap Rock	Mohr-Coulomb	110	500	45	1
	3. Weathered Tsc	Mohr-Coulomb	107	432	36	1
	4. Unweathered Tsc	Mohr-Coulomb	110	1,000	45	

R3 Geotechnical Engineers

1. EXISTING - STATIC

Factor of Safety: 0.657 | Horz Seismic Coef.: 0

Date: 07/15/2026 | Created By: AJB | Scale: 1:256 | Project: 2026 GLENWOOD TANK | Figure No.: A1



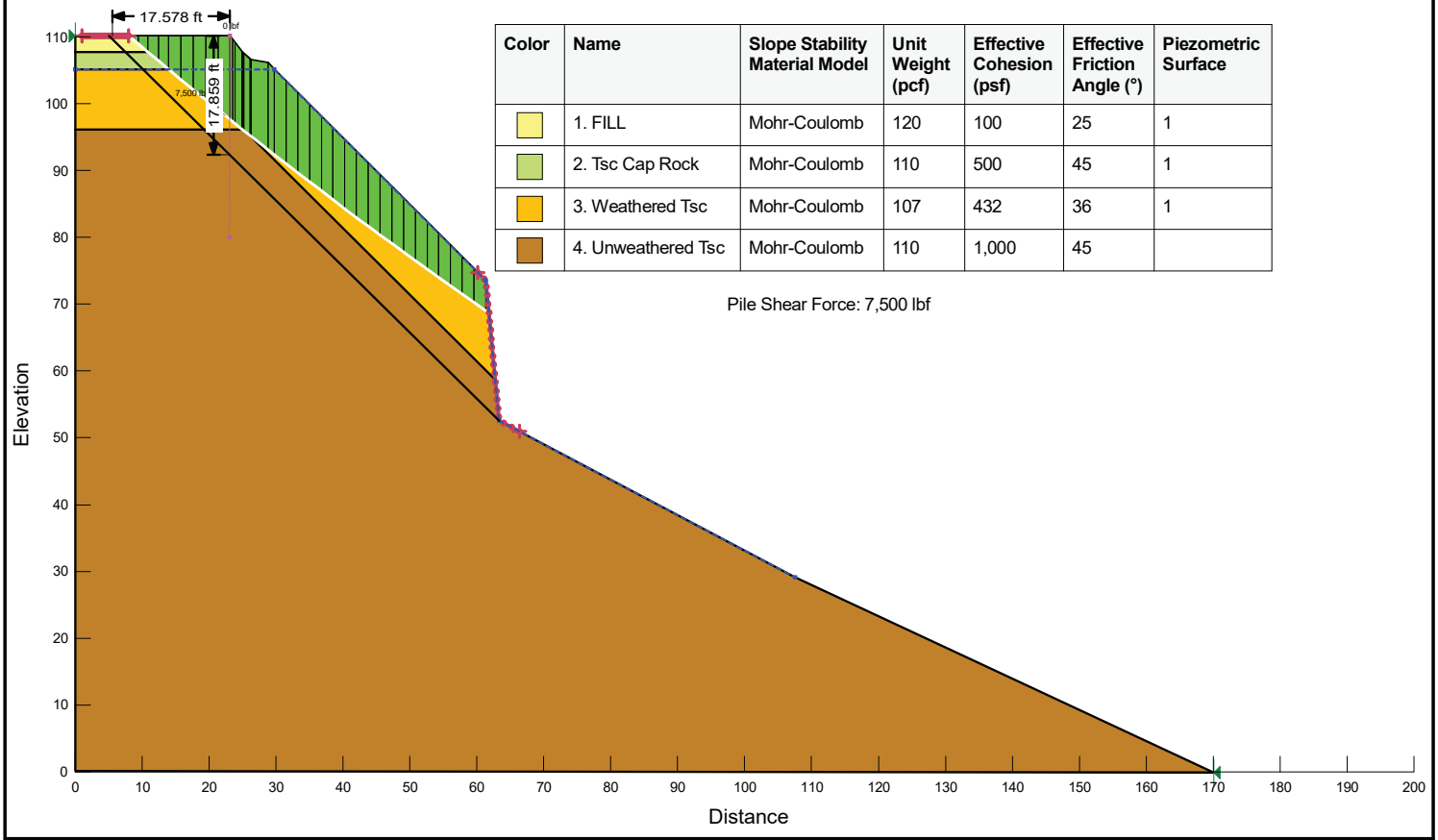
Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	1. FILL	Mohr-Coulomb	120	100	25
	2. Tsc Cap Rock	Mohr-Coulomb	110	500	45
	3. Weathered Tsc	Mohr-Coulomb	107	432	36
	4. Unweathered Tsc	Mohr-Coulomb	110	1,000	45

R3 Geotechnical Engineers

2. EXISTING - SEISMIC

Factor of Safety: 0.901 | Horz Seismic Coef.: 0.27

Date: 07/15/2026 | Created By: AJB | Scale: 1:256 | Project: 2026 GLENWOOD TANK | Figure No.: A2



Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Piezometric Surface
	1. FILL	Mohr-Coulomb	120	100	25	1
	2. Tsc Cap Rock	Mohr-Coulomb	110	500	45	1
	3. Weathered Tsc	Mohr-Coulomb	107	432	36	1
	4. Unweathered Tsc	Mohr-Coulomb	110	1,000	45	

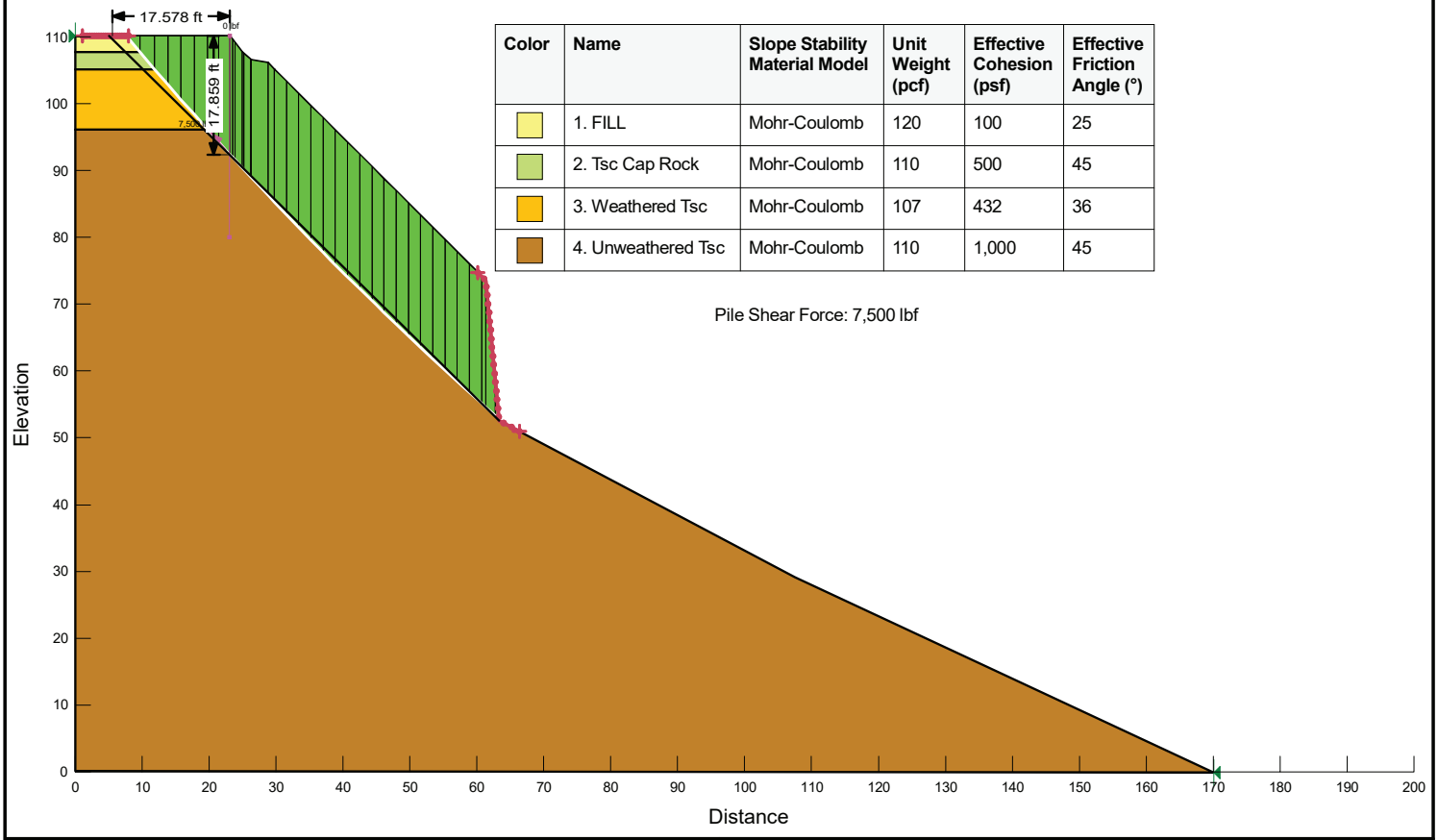
Pile Shear Force: 7,500 lbf

R3 Geotechnical Engineers

3. PROPOSED - STATIC

Factor of Safety: 1.622 | Horz Seismic Coef.: 0

Date: 07/15/2026 | Created By: AJB | Scale: 1:256 | Project: 2026 GLENWOOD TANK | Figure No.: A3



Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	1. FILL	Mohr-Coulomb	120	100	25
	2. Tsc Cap Rock	Mohr-Coulomb	110	500	45
	3. Weathered Tsc	Mohr-Coulomb	107	432	36
	4. Unweathered Tsc	Mohr-Coulomb	110	1,000	45

Pile Shear Force: 7,500 lbf

R3 Geotechnical Engineers

4. PROPOSED - SEISMIC

Factor of Safety: 1.447 | Horz Seismic Coef.: 0.27

Date: 07/15/2026 | Created By: AJB | Scale: 1:256 | Project: 2026 GLENWOOD TANK | Figure No.: A4