STRUCTURAL NOTES

General Notes:
These structural notes supplement the drawings. Any discrepancy found among the drawings, these notes, and the site conditions shall be reported to the Engineer, who shall correct such discrepancy in writing. Any work done by the Contractor after discovery of such discrepancy shall be done at the Contractor's risk. **The Contractor shall verify and coordinate the dimensions among all drawings prior to proceeding with any work or fabrication.** The Contractor is responsible for all bracing and shoring during construction.

All construction shall conform to the applicable portions of the latest edition of the International Building Code except where noted.

Design Criteria:
1. Live Load = 2' Soil Surcharge @ Parking Area Above
2. Soil — Loads per PanGEO report No. 19-062, Dated Dec. 28, 2021
   = 35 to 45 PCF Active Pressure, based on slope of ground
   = 400 PCF, Passive Pressure

Steel:
1. All steel piles shall be ASTM A992, Fy=50 Ksi, except as noted.
2. Welding shall be by AWS certified welders with E70 electrodes in accordance with AWS D1.1-75.
3. All steel members and parts shall be shop painted with two coats of red oxide primer after fabrication.
4. Anchor rods shall have Fy= 55 Ksi. Anchorages shall provide full load transfer to soldier piling by the use of A36 bevel plates.

Carpentry:
1. Lagging shall be ground contact pressure treated #2 Hem-Fir material.

Soldier Pile Installation Sequence

1. Drill holes for soldier pile.
2. Place soldier piles in hole properly aligned and spaced.
3. Excavate and chip out concrete adjacent to steel soldier pile to allow for placement of timber lagging.
4. Place timber lagging and attach to steel piles.
5. Continue with excavation, chipping, and lagging placement.

Soldier Pile With Tie-Backs Installation Sequence

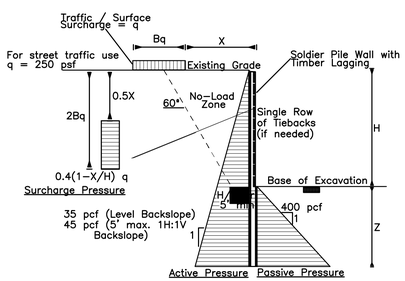
1. Drill holes for soldier pile.
2. Place soldier piles in hole properly aligned and spaced.
3. Excavate and chip out concrete adjacent to steel soldier pile to allow for placement of timber lagging.
4. Place timber lagging and attach to steel piles.
5. Drill anchor rods to the required slope and length.
6. Test anchors per manufacturer by tensioning the anchor to 150% of design load and hold for 24 hours. SR-3 anchor design load is 26,000#.
7. Continue with excavation, chipping, and lagging placement.

CAUTION

CONTRACTOR TO FIELD VERIFY ALL CONDITIONS AND ALL ELEVATIONS.

DRAWING DISCREPANCIES
The contractor shall alert MC Squared, Inc. of any discrepancies found on the drawings, such as missing data, typos, or any other items that do not make good sense.

DRAWING DIMENSIONS
The structural drawings are not dimensioned. The architectural plans should be followed for dimensions between grid lines, length and width of building, and floor to floor heights.The structural drawings are only dimensioned for the structural details.



1 SOIL PRESSURE DISTRIBUTION
1/2" = 1'-0"

TABLE 1
REQUIRED GEOTECHNICAL SPECIAL INSPECTIONS

SYSTEM or MATERIAL	INSPECTION: IBC CODE REFERENCE	INSPECTION: CODE or STANDARD REFERENCE	FREQUENCY: Continuous	FREQUENCY: Periodic	REMARKS
SOILS					
GEOTECHNICAL INVESTIGATIONS	TABLE 1705.6				GEOTECHNICAL INVESTIGATION SHALL INCLUDE ITEMS OF SPECIAL INSPECTION AND TESTING AS NOTED IN TABLE 5 OF THE GUIDELINES
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	TABLE 1705.6			X	BY THE GEOTECHNICAL ENGINEER
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	TABLE 1705.6			X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	TABLE 1705.6			X	TESTING OF COMPACTED FILL MATERIALS (SEE TABLE 5)
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	TABLE 1705.6		X		BY THE GEOTECHNICAL ENGINEER
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	TABLE 1705.6			X	
DRIVEN DEEP FOUNDATION ELEMENTS					
VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS	TABLE 1705.7		X		BY THE GEOTECHNICAL ENGINEER
DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED	TABLE 1705.7		X		OBSERVATION BY GEOTECHNICAL ENGINEER
INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	TABLE 1705.7		X		
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT AND DAMAGE TO FOUNDATION ELEMENT	TABLE 1705.7		X		
FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2	TABLE 1705.7				
FOR CONCRETE ELEMENTS AND CONCRETE-FILLED ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3	TABLE 1705.7				
FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE	TABLE 1705.7				
TENSION ANCHORS					
INSTALLATION STRESSING	1707.1	GEOTECHNICAL REPORT	X		BY THE GEOTECHNICAL ENGINEER SPECIAL INSPECTIONS APPLY TO TENDON TYPE AND SIZE, CORROSION PROTECTION, DEPTH OF EMBEDMENT, BONDED LENGTH, TYPE OF GROUT USED, AND RECORD OF PRESTRESS

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTIONS

SYSTEM or MATERIAL	INSPECTION: IBC CODE REFERENCE	INSPECTION: CODE or STANDARD REFERENCE	FREQUENCY: Continuous	FREQUENCY: Periodic	REMARKS
FABRICATORS					
FABRICATORS	1704.2.5			X	SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP.
	1704.2.5.1				THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES AND SHALL REVIEW FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENT.
	1704.2.5.1				SPECIAL INSPECTIONS REQUIRED BY SECTION 1705 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY A NATIONALLY RECOGNIZED ACCREDITING AUTHORITY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

STEEL					
FABRICATION OF STRUCTURAL ELEMENTS	1704.2.5	AISC 360 N2		X	REFER TO INSPECTION OF FABRICATOR REQUIREMENTS APPROVAL BASED ON NATIONALLY RECOGNIZED ACCREDITING AUTHORITY
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS		AISC 360 A3.3 AISC 360 N 3.2 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS RCSC 2.1		X	MANUFACTURER'S CERTIFIED TEST REPORTS
SNUG-TIGHT JOINT HIGH-STRENGTH BOLT INSTALLATION	1705.2.1	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS SECTION 9		X	ALL CONNECTIONS INSPECTED AND VERIFIED SNUG
PRETENSIONED AND SLIP-CRITICAL JOINT HIGH-STRENGTH BOLT INSTALLATION USING TURN-OF-THE-NUT METHOD WITH MATCH MARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHOD	1705.2.1			X	ALL CONNECTIONS INSPECTED. CONNECTIONS USING DIRECT TENSION INDICATORS, ALL BOLTS SHALL BE INSPECTED AFTER SNUGGING AND AFTER PRETENSIONING
PRETENSIONED AND SLIP-CRITICAL JOINT HIGH-STRENGTH BOLT INSTALLATION USING TURN-OF-THE-NUT METHOD WITHOUT MATCH MARKING OR CALIBRATED WRENCH METHOD	1705.2.1	AISC 360, SECTION M2.5	X		ALL CONNECTIONS INSPECTED
MATERIAL VERIFICATION OF STRUCTURAL STEEL	1705.2.1 2203.1	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 N3.2 AISC 360 A3.1 AISC 360 M5.5		X	CERTIFIED MILL TEST REPORTS
FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.2	APPLICABLE ASTM MATERIAL STANDARDS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	1705.2	AISC 360 N3.2 AISC 360 A3.5 APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFICATE OF COMPLIANCE
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	1705.2	AWS D1.1 SECTION 6	X		ALL WELDS VISUALLY INSPECTED PER AWS D1.1 6.9
MULTIPASS FILLET WELDS	1705.2	AWS D1.1 SECTION 6	X		ALL WELDS VISUALLY INSPECTED PER AWS D1.1 6.9
SINGLE PASS FILLET WELDS GREATER THAN 5/16"	1705.2	AWS D1.1 SECTION 6	X		ALL WELDS VISUALLY INSPECTED PER AWS D1.1 6.9
PLUG AND SLOT WELDS	1705.2	AWS D1.1 SECTION 6	X		ALL WELDS VISUALLY INSPECTED PER AWS D1.1 6.9
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"	1705.2	AWS D1.1 SECTION 6		X	ALL WELDS VISUALLY INSPECTED PER AWS D1.1 6.9

TABLE 3
REQUIRED TESTING for SPECIAL INSPECTIONS

SYSTEM or MATERIAL	TESTING: IBC CODE REFERENCE	TESTING: CODE or STANDARD REFERENCE	FREQUENCY: Continuous	FREQUENCY: Periodic	REMARKS
GEOTECHNICAL					
GEOTECHNICAL ENGINEER TO PERFORM TESTING OF COMPACTED FILL MATERIALS	1803				TESTING PER GEOTECHNICAL REPORT
FILL IN-PLACE DENSITY OR PREPARED SUBGRADE DENSITY	1705.6			X	BY THE GEOTECHNICAL ENGINEER
MATERIAL VERIFICATION		VARIES; CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X	BY THE GEOTECHNICAL ENGINEER
TENSION ANCHORS	1705.6		PERFORMANCE TEST FIRST (X) ANCHORS TO xxx% DL AND PROOF LOAD REMAINING ANCHORS TO xxx% DL		PER GEOTECHNICAL REPORT

TABLE 4
STRUCTURAL OBSERVATION

SYSTEM or MATERIAL	INSPECTION: IBC CODE REFERENCE	INSPECTION: CODE or STANDARD REFERENCE	FREQUENCY: Continuous	FREQUENCY: Periodic	REMARKS
AS REQUIRED BY THE BUILDING OFFICIAL	1704.6				
SEISMIC RESISTANCE	1704.6.1			X	SEE COMMENTARY
WIND REQUIREMENTS	1704.6.2			X	SEE COMMENTARY

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www.mc2-inc.com

DATE	REVISION	REV

Sheet Contents: Structural Notes & Details

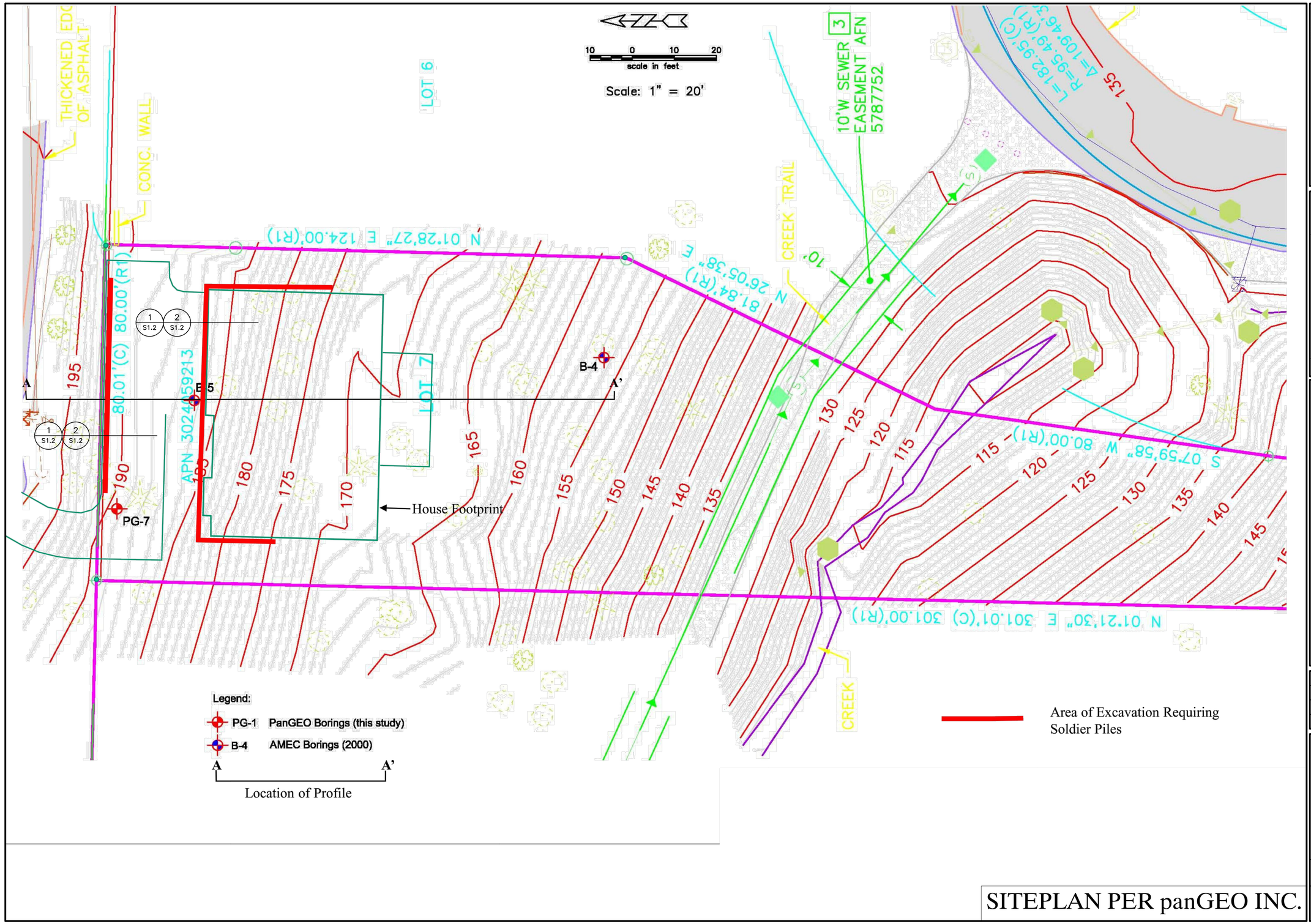
Project: Temporary Soldier Pile Wall West Lot
9617 S.E. 64th St
Mercer Island, WA
Benjamin Altman

Designed By	JAG
Drawn By	GHM
Checked By	JMC
Date	04-08-22

LESSE M. CHASE — STATE OF WASHINGTON — 47564 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
04-08-22

Project Number: 2022-0033

Sheet Number: S1.0
1 of 3



SITEPLAN PER panGEO INC.

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DATE
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REV

Sheet Contents: Site Plan

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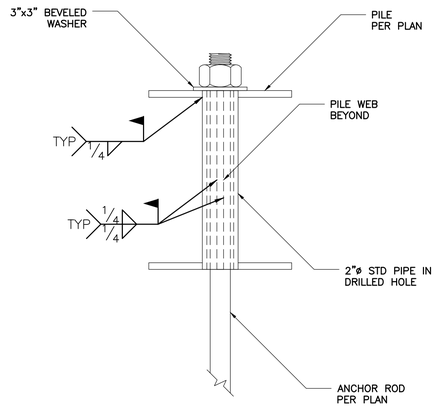
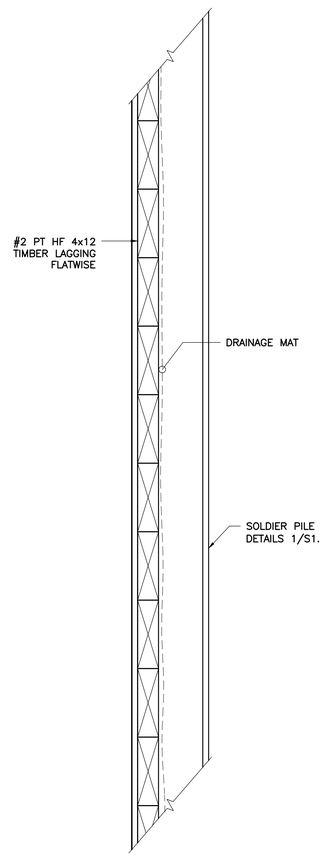
JESSE M. CHASE STATE OF WASHINGTON 47564 CIVIL ENGINEER PROFESSIONAL ENGINEER
04-08-22

Project Number: 2022-0033

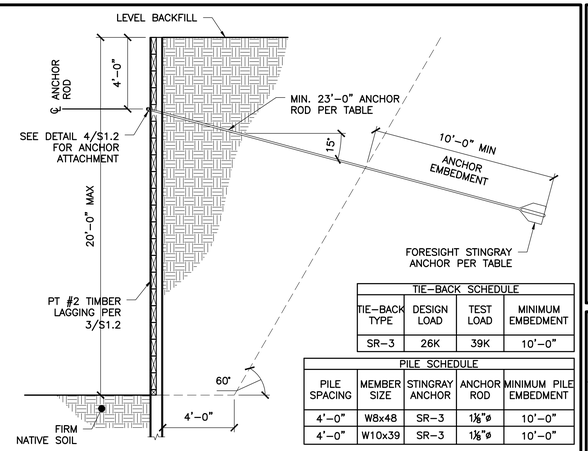
Sheet Number: S1.1
2 of 3



6 ANCHOR TO PILE SECTION
3" = 1'-0"



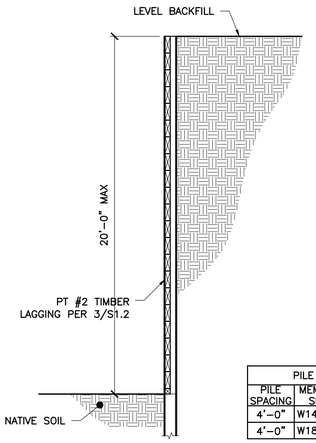
3 TIMBER LAGGING
1" = 1'-0"



TIE-BACK SCHEDULE			
TIE-BACK TYPE	DESIGN LOAD	TEST LOAD	MINIMUM EMBEDMENT
SR-3	26K	39K	10'-0"

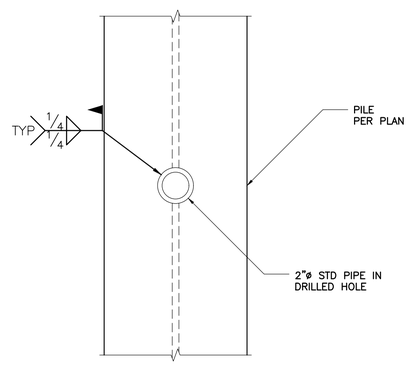
PILE SCHEDULE				
PILE SPACING	MEMBER SIZE	STINGRAY ANCHOR	ANCHOR ROD	MINIMUM PILE EMBEDMENT
4'-0"	W8x48	SR-3	1⅛"ø	10'-0"
4'-0"	W10x39	SR-3	1⅛"ø	10'-0"

1 WEST LOT TEMPORARY SHORING
1/4" = 1'-0"

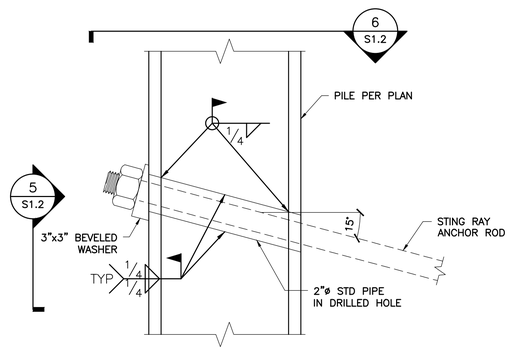


PILE SCHEDULE		
PILE SPACING	MEMBER SIZE	MINIMUM PILE EMBEDMENT
4'-0"	W14x193	23'-0"
4'-0"	W18x130	23'-0"

2 TEMPORARY SHORING (UNRESTRAINED ALT.)
1/4" = 1'-0"



5 PIPE TO PILE ELEVATION
3" = 1'-0"



4 ANCHOR TO PILE CONNECTION PROFILE
3" = 1'-0"

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Sheet Number
S1.2
3 of 3