

Central Kitsap Fire and Rescue  
Station 45

Bid No. 2022-STA45BUILD-50-01

ADDENDUM # 2  
May 2, 2022

**TO ALL BIDDERS:**

The Bid Documents issued 04/04/2022 for the project noted above are amended by this Addendum # 2

Receipt of this addendum shall be acknowledged by inserting its number in the space provided on the bid form.

**PROJECT MANUAL ITEMS:**

- ITEM 1. Specification Section 00 01 10 Table of Contents
  - a. REPLACE. Updated to include the new section for Vertical Pivot Gates.
- ITEM 2. Specification Section 00 01 15 Index of Drawings
  - a. REPLACE. Added W1.00 and W2.00 sheets.
- ITEM 3. Specification Section 03 35 36 Polished Concrete Finishing
  - a. REPLACE struck out Mockup paragraph 1.6.
- ITEM 4. Specification Section 05 05 13 Shop-Applied Coatings for Metal
  - a. REPLACE. Removed paragraph 1.2.D
- ITEM 5. Specification Section 08 11 13 Hollow Metal Doors and Frames
  - a. REPLACE. Added paragraph for door louvers.
- ITEM 6. Specification 31 31 14 Vertical Pivot Gates
  - a. NEW SPECIFICATION SECTION

**DRAWINGS**

**Civil:**

- ITEM 1. Sheet C6.00
  - a. REPLACE SHEET. Updated notes with regards to the washwater collection tank alarm system.
- ITEM 2. Sheet W1.00
  - a. NEW SHEET. This sheet is being used for the retaining wall permits. This simply isolates the three retaining walls on the site plan.
- ITEM 3. Sheet W2.00
  - a. NEW SHEET. This sheet is being used for the retaining wall permits. This illustrates the required wall profiles and footing steps for the three retaining walls.

**Landscape:**

- ITEM 1. Sheet L1.04
  - a. REPLACE SHEET: Added detail for Critical Area Buffer signage.



**Architectural:**

- ITEM 1. Sheet A00.02
  - a. REPLACE SHEET. Updated sheet index to include new W1.00 and W2.00 sheets.
- ITEM 2. Sheet A21.01
  - a. REPLACE SHEET. Added bike rack to the public entry area
- ITEM 3. Sheet A31.01
  - a. REPLACE SHEET. Added bike rack to elevation with the basis of design note.
- ITEM 4. Sheet A71.01
  - a. REPLACE SHEET. Added a shower seat to the ADA restroom shower.
- ITEM 5. Sheet A61.03
  - a. REPLACE SHEET. Revised steel trim depth from 8" to 4"

**Structural:**

- ITEM 1. Sheet S00.01
  - a. REPLACE SHEET
    - i. Revise Geotechnical Report Reference to add reference to supplemental geotechnical letter recommendations dated April 25, 2022.
    - ii. Revise Allowable Passive Pressure
- ITEM 2. Sheet S22.02
  - a. REPLACE SHEET
    - i. REVISE floor beams in Mech/Storage 201 at the Training Anchor Support.
    - ii. ADD 175 psf live load floor loading requirement at Electrical 204 for future PV inverter equipment.
- ITEM 3. Sheet S50.06
  - a. REPLACE SHEET
    - i. Revise details 7, 8, and 10/S50.06 to reference the geotechnical report and supplemental letter for required backfill drainage.
    - ii. Revise detail 11/S50.06 for an extended footing heel and to reference the geotechnical report and supplemental letter for required backfill drainage.
- ITEM 4. Sheet S50.07
  - a. REPLACE SHEET
    - i. Revise typical retaining wall schedule detail 10/S50.07.
    - ii. Add new detail 5/S50.07 for the vertical control joints in the site retaining walls.
    - iii. Revise detail 11/S50.07 for an extended footing heel and to reference the geotechnical report and supplemental letter for required backfill drainage.



## SUBSTITUTION REQUESTS

- ITEM 1. Section 06 17 33 – Wood I-Joists
  - a. WebJoist WJ-L6 for Red-S – Rejected
  - b. WebJoist WEB-I 4732 for RED-I90 and RED I65 – Rejected
- ITEM 2. Section 07 25 00 – Weather Barriers
  - a. Paragraph 2.3.A.1.a: Soprema Sopraseal LM204 VP – Approved
  - b. Paragraph 2.3.B.3.b: Soprema Sopraseal Stick VP – Approved
- ITEM 3. Section 09 30 00 – Tiling
  - a. Paragraph 2.4.B.1: Ardex Bond coat is rejected. Schluter required for warranty
  - b. Paragraph 2.4.C.1: Ardex grout is approved. Color to be selected by architect from the full line of colors.
- ITEM 4. Section 09 90 00 Painting and Coating
  - a. Section 2.2.B: Miller Paints, Manufacturer approved. Specific paints to be reviewed in submittals.
- ITEM 5. Section 10 28 00 Toilet Accessories
  - a. Section 2.5: American Specialties, Inc. – Approved
- ITEM 6. Section 10 11 00 Visual Display Surfaces
  - a. Section 2.3: American Specialties, Inc. – Approved
- ITEM 7. Section 10 51 00 Lockers
  - a. Scranton Tufftech lockers. Approved manufacturer. Submit cut sheets for locker configuration to match specifications.
- ITEM 8. Section 22 13 00 Paragraph 2.06
  - a. Eric'sons Dura Trench, Trench Drain and Grate (TD-1 & TD-2) – Rejected
- ITEM 9. Section 22 30 00 – Plumbing Equipment
  - a. Paragraph 2.01.A – Rheem – Approved manufacturer only. Specific product to be reviewed in the submittal.
- ITEM 10. Section 23 05 93 – Testing, Adjusting, and Balancing
  - a. Paragraph 1.06 – Smart TAB – Approved
- ITEM 11. Section 23 33 00 Air Duct Accessories
  - a. Control Dampers: Air Balance - Manufacturer accepted for bid, product subject to submittal approval.
  - b. Combination Fire/Smoke Dampers: Air Balance - Manufacturer accepted for bid, product subject to submittal approval.
- ITEM 12. Section 23 37 00 Air Outlets and Inlets -
  - a. Louvers: American Warming - Manufacturer accepted for bid, product subject to submittal approval.
- ITEM 13. Section 23 51 00 Chimneys and Stacks
  - a. Section 2.01.A – Metal-Fab – Manufacturer approved only. Products to be reviewed in submittals.
- ITEM 14. Section 23 83 16 Electric Duct Coils
  - a. Electric Duct Coils: Warren Technology Electric Duct Heaters - Manufacturer accepted for bid, product subject to submittal approval.



## QUESTIONS

### Landscape:

- ITEM 1. The controller in the legend sheet L3.01, ESP-MC18, has been discontinued since way back around 2008 or so. What product should be bid instead?
- a. Provide Rainbird ESP-LXD Decoder Controller or Approved Equal
- ITEM 2. The Hunter PASV-101 electric drain valve in the legend sheet L3.01 is not and has never been a drain valve, it was an electric anti-siphon valve intended to be used in a remote control valve situation and installed *above* ground which makes it impossible to be utilized as a system drain valve. It's also discontinued and no symbol is found on the plans. If required, where should it be located and what product should be bid instead?
- a. Provide Manual Drain Valve at the end of Zones, 6, 8, and 10.
- ITEM 3. Flow meter (flow sensor) is not included in legend sheet L3.01 but shown in detail 1 and detail 6 sheet L3.03. If required, what product should be bid?
- a. Provide Hunter Flow Click FCT 200 or Approved Equal
- ITEM 4. Legend sheet L3.01 states CL200 laterals and sleeves, specifications 328000 2.1 A 1 states SCH40 laterals and sleeves. Please clarify.
- a. Provide Schedule 40 For Mainlines and CL200 for Lateral Lines
- ITEM 5. Specifications 328000 2.11 A states Hunter two-wire. Controller in legend is invalid, and depending on what product is determined to replace it, two wire may not be appropriate. Please clarify.
- a. Provide Rainbird ESP-LXD Decoder Controller or Approved Equal
- ITEM 6. Double check is not included in irrigation legend sheet L3.01, but is included in details 1 & 3 sheet L3.03. I have not found an irrigation double check in the civil plans or specs. Is the double check the responsibility of the irrigation contractor and if so, what product should be bid?
- a. Provide Standard Double Detection Check Valve Assembly (2" Size) per Silverdale Water District, see link [https://cms9files1.revize.com/silverdale/Construction/2022a\\_NonResidential\\_Details.pdf](https://cms9files1.revize.com/silverdale/Construction/2022a_NonResidential_Details.pdf) GC to determine who installs the DCVA.

### General:

- ITEM 1. Specification 033536 – Polished Concrete, section 1.6 MOCKUP states: "Construct and participate as specified in Section 014339 – Mockups." No such specification exists. Please advise if this section is to be removed, or please provide Section 014339.
- o Mockup Section has been removed. See revised spec section 03 35 36
- ITEM 2. Specification 050513 – Shop-Applied Coatings for Metal, section 1.2D lists: "089100 – Louvers" as a related requirement. No such specification section exists. Notes per Door schedule on sheet A60.01 indicate Louvers are to be used and are also indicated in the Mechanical sheet M22.00 Crawl Space (see below). No section for Louvers are shown in the 081113 Hollow Metal Doors and Frames specification. Please provide specifications for louvers to be installed.
- o Paragraph 1.2.D has been removed.
  - o Specification 08 11 13 added paragraph for Louvers.



- ITEM 3. Specification 101400 – Signage indicates multiple types of signs, including Panel Signs and Applied Decal Signs. Section 3.6 – Schedule lists multiple types of signs and types to be supplied for the building. The only signs shown within the contract drawings are the exterior Building Identification Sign, Parking Signs and the Monument Sign. Is there a sheet or detail that references the location of other signage, such as the room/door identification, the interpretive sign and alarmed exit sign?
- There is not a sheet for the other signs. The room signs locations and types are based on local codes. The bicycle sign will be mounted above the bike rack (see updated exterior elevation sheet). There is no interpretive sign or alarmed exit signs.
- ITEM 4. Sheet A80.01 describes quite a few items as owner furnished, but the specification 119000 does not address all items and/or who is to furnish. Please advise what is truly FOIC vs FCIC. Also, this spec appears to have portions included that are left over from a fall protection scope of a prior project.
- Ignore paragraph 1.3. This is incorrect.
  - Equipment Schedule and Furniture Schedule on sheet A80.01 states whether items are owner furnished contractor installed (OFCI) Contractor Furnished Contractor Installed (CFCI) or Owner Furnished Owner Installed (OFOI). Please use this table as your reference for who provides and who installs.
- ITEM 5. Will a hazmat abatement spec be issued, or only what is described in the 003100-A report?
- Only what is described in the included report.
- ITEM 6. Spec 323113 describes a horizontal sliding gate whereas 15/A12.01 shows a vertical lifting type. Can you speak to this?
- Gate will be a vertical lifting gate as shown in the site details. New specification section 32 31 14 added.
- ITEM 7. Will a spec be issued for chain link and wood fencing, or only what is shown on L2.00 and C5.32?
- Only what is shown on those pages.
- ITEM 8. Will a spec be issued for precast concrete sills shown on A51.01?
- No specification for those sills. Sills to match the CMU wainscot color.
- ITEM 9. Is there a specification for the awning?
- Section 10 71 13 Exterior Sun Control Devices
- ITEM 10. GC to provide a Certificate of Liability Insurance and Erosion control Bond / Covenants within 10 working days of project award

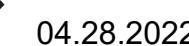


## ATTACHMENTS

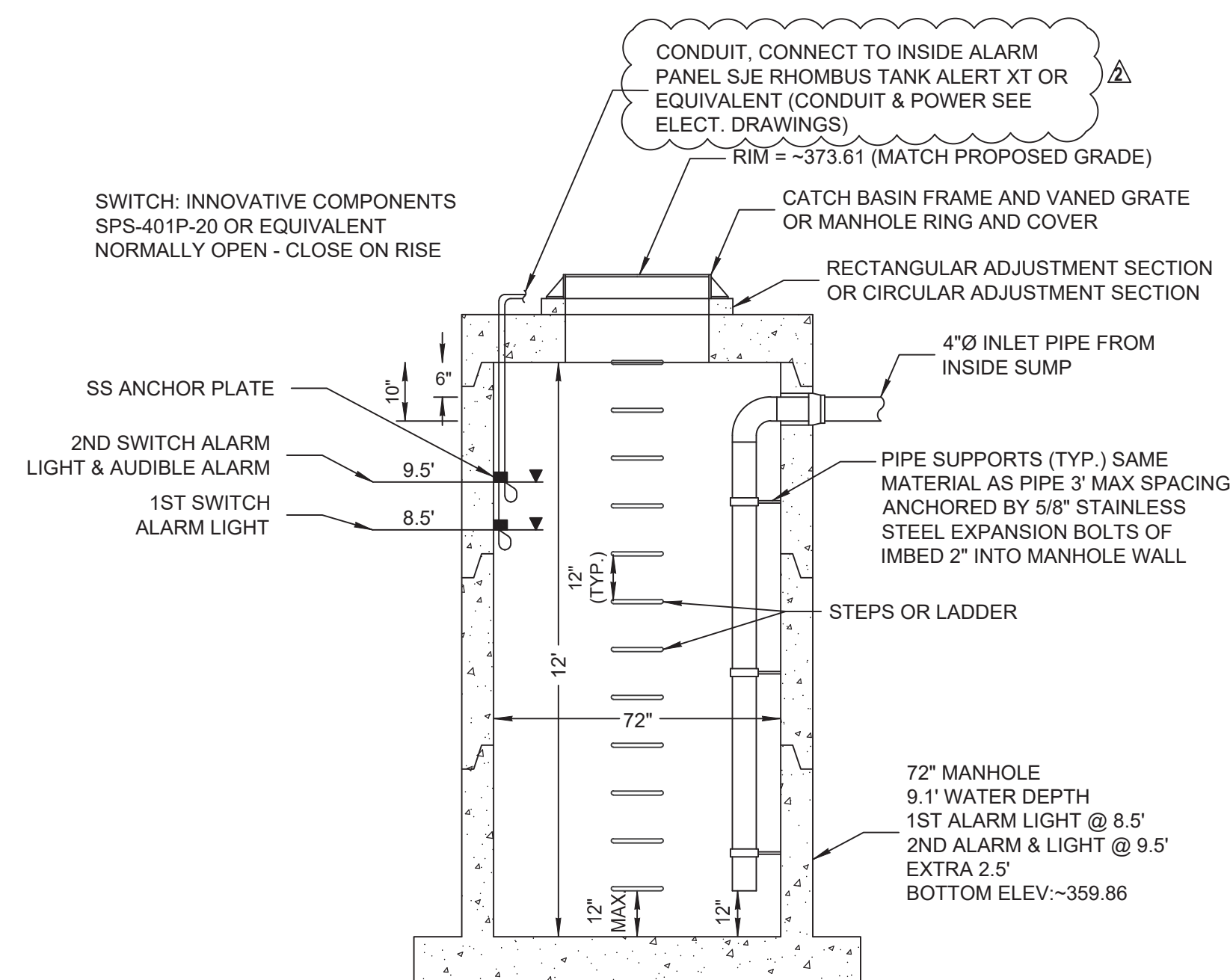
1. Civil Sheets: C6.00, W1.00, W2.00
2. Landscape Sheet: L1.04
3. Architectural Sheet: A00.02, A2201, A31.01, A61.03, A71.01
4. Structural Sheets: S00.01, S22.02, S50.06, S50.07
5. Geotech letter dated April 25, 2022. Addresses seismic parameters and backfill for retaining walls.
6. Specification Sections:
  - a. 00 01 10 Table of Contents
  - b. 00 01 15 Index of Drawings
  - c. 03 35 36 Polished Concrete Finishing
  - d. 05 05 13 Shop-Applied Coatings for Metal
  - e. 08 11 13 Hollow Metal Doors and Frames
  - f. 32 31 14 Vertical Pivot Gates
7. Bike Rack Basis of Design cut sheet

END OF ADDENDUM # 2

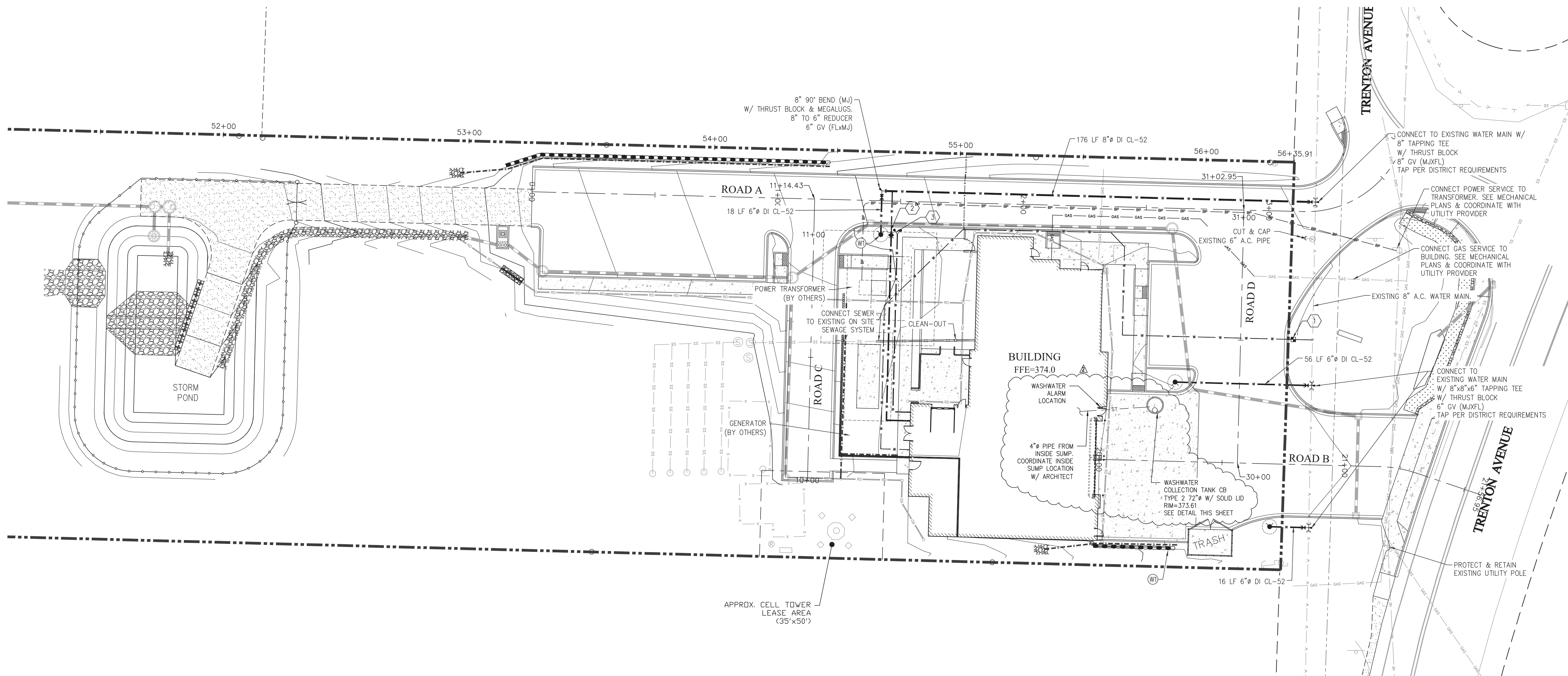




THE APPROXIMATE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES THAT MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE, PRESERVE AND PROTECT UNDERGROUND UTILITIES.



1,500 GAL. CAPACITY  
NOT TO SCALE



# CENTRAL KITSAP FIRE & RESCUE STATION 45

S.D.A.P. &amp; A.C.U.P.

3735 TRENTON AVE NE, BREMERTON, WA 98310  
Portion of the Southeast Quarter of Section 1,  
Township 24 North, Range 1 East, W.M. in Kitsap County, Washington

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## UTILITY PLAN

SHEET #

**C6.00**



THE APPROXIMATE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES THAT MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE, PRESERVE AND PROTECT UNDERGROUND UTILITIES.

275 FIFTH STREET, SUITE 100  
BREMERTON, WA 98337  
360-377-8773  
RFMARCH.COM



3735 TRENTON AVE NE, BREMERTON, WA 98310  
 Portion of the Southeast Quarter of Section 1,  
 Township 24 North, Range 1 East, W.M. in Kitsap County, Washington

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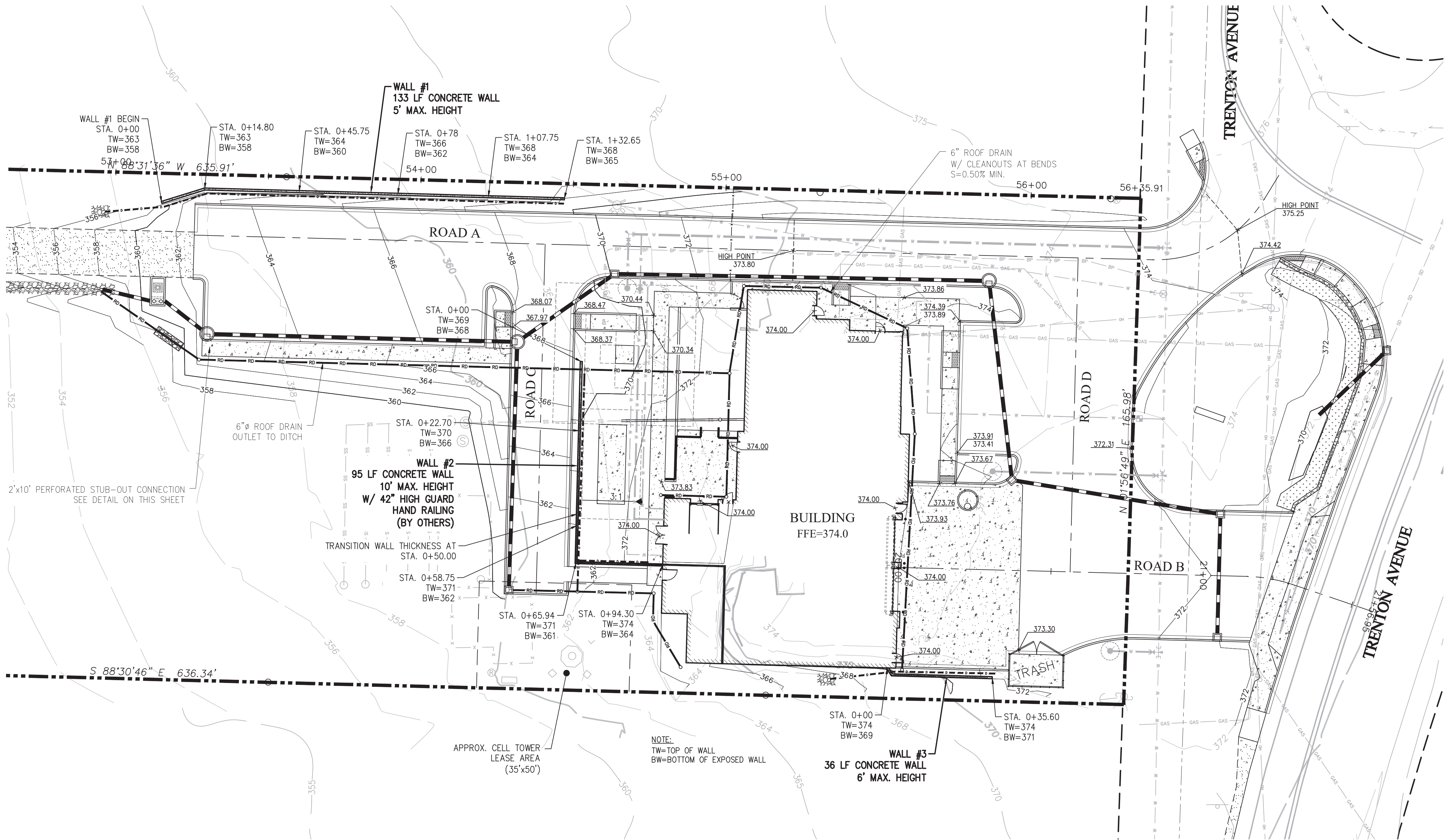
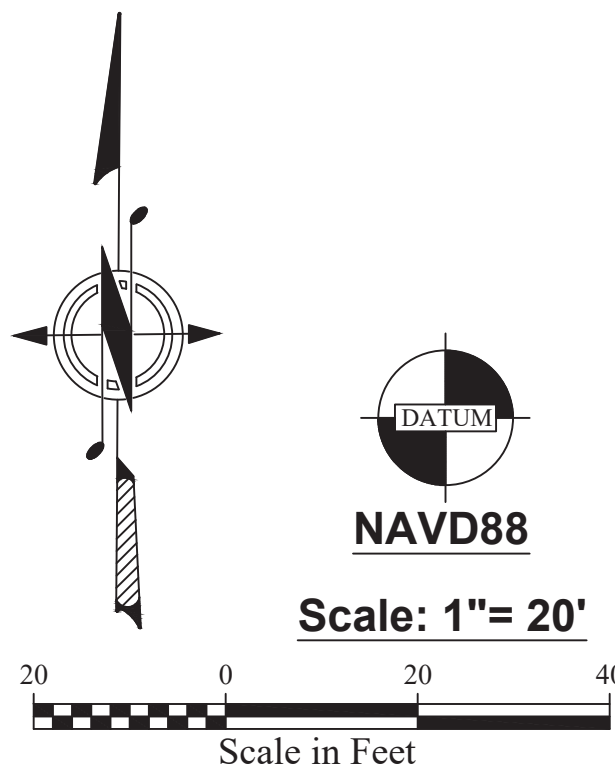
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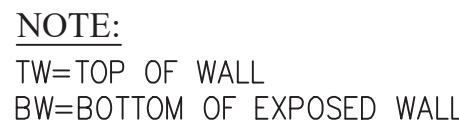
**W1.00**



server-host\AutoCAD Projects\1568 REM CKER STATION 45 NORTH PERRY\1568 WALL PLAN & PROFILE.dwg 4/20/2022 2:32:46 PM. AEnio



THE APPROXIMATE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES THAT MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE, PRESERVE AND PROTECT UNDERGROUND UTILITIES.



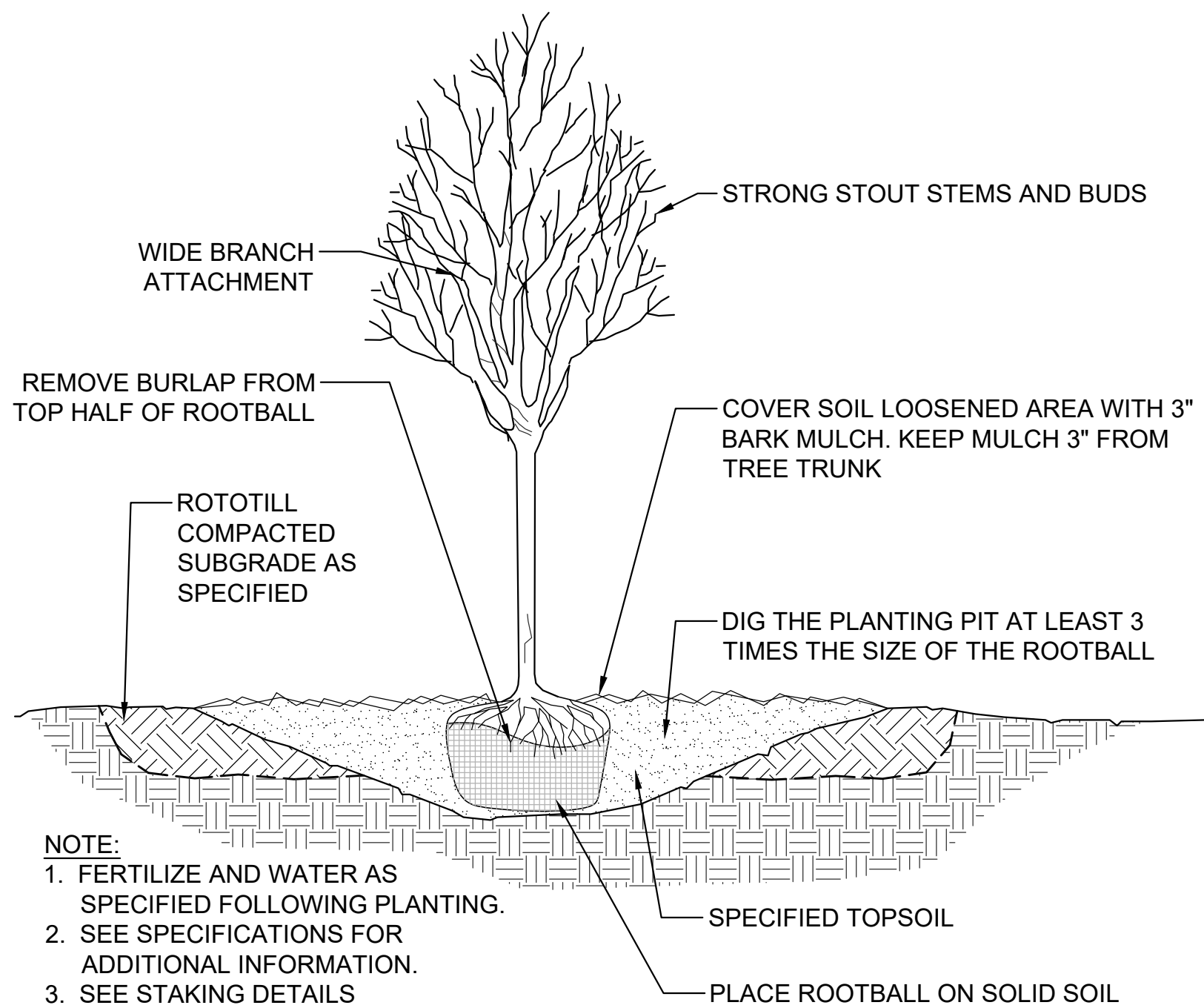
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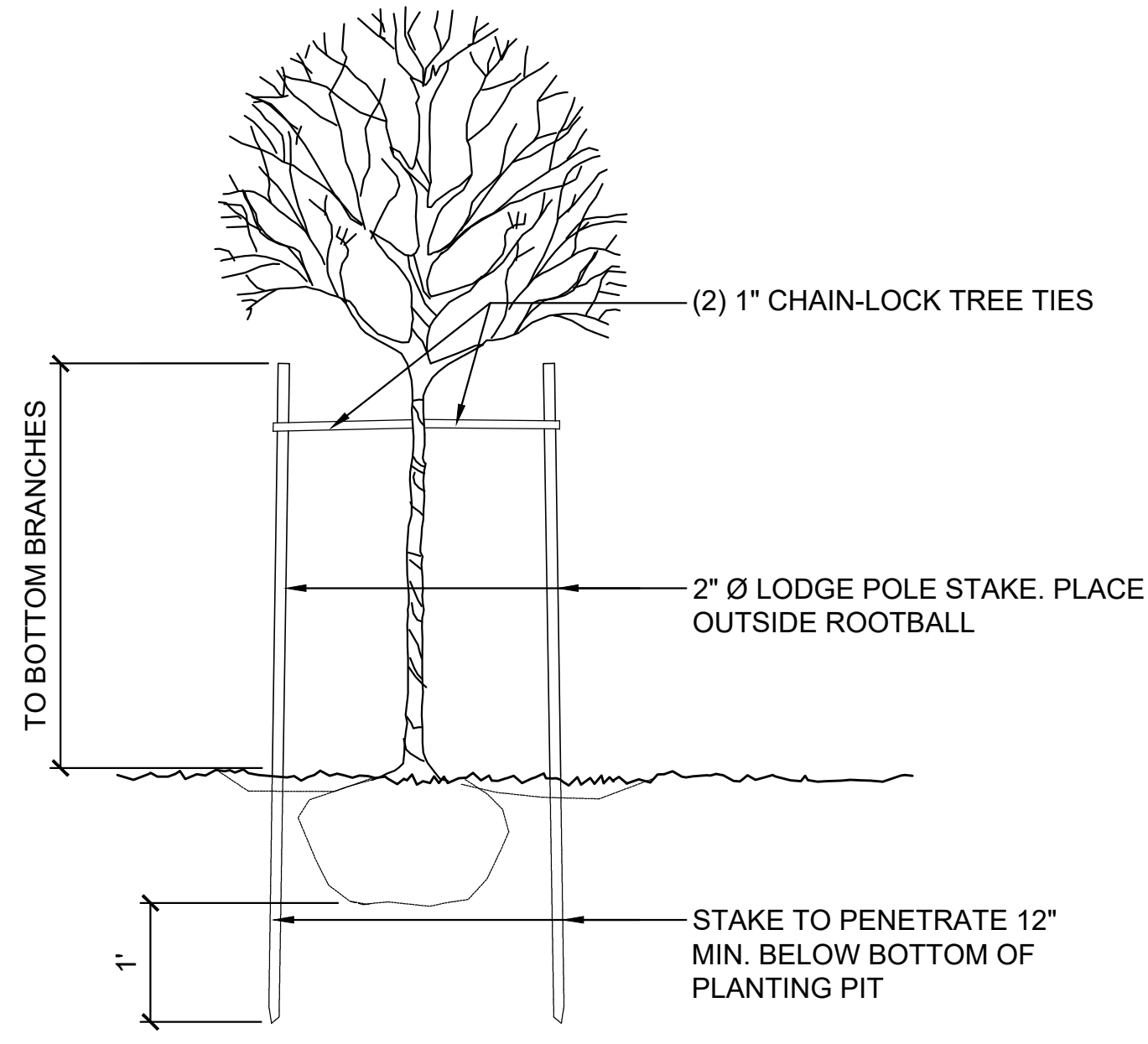
SHEET #

**W2.00**

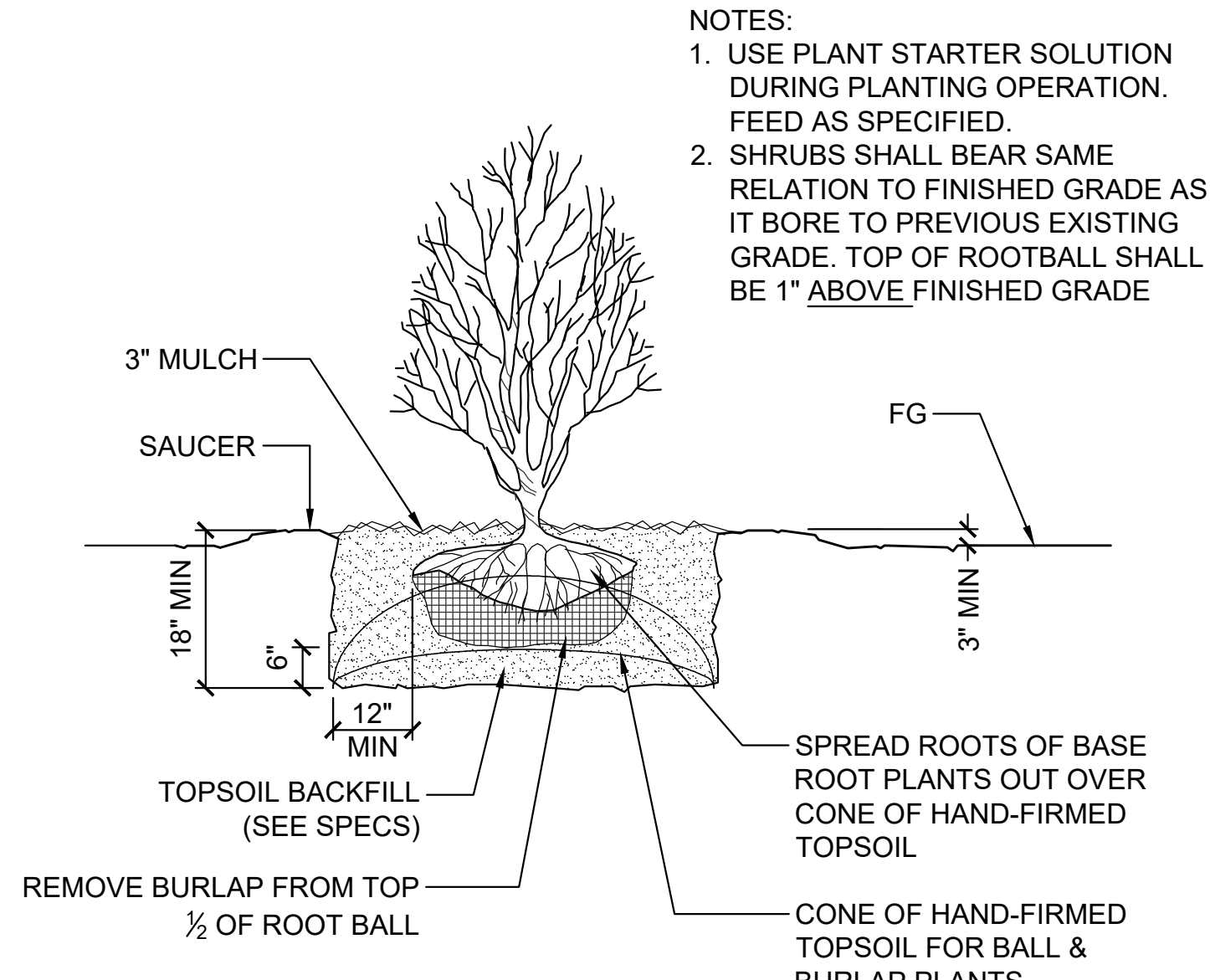




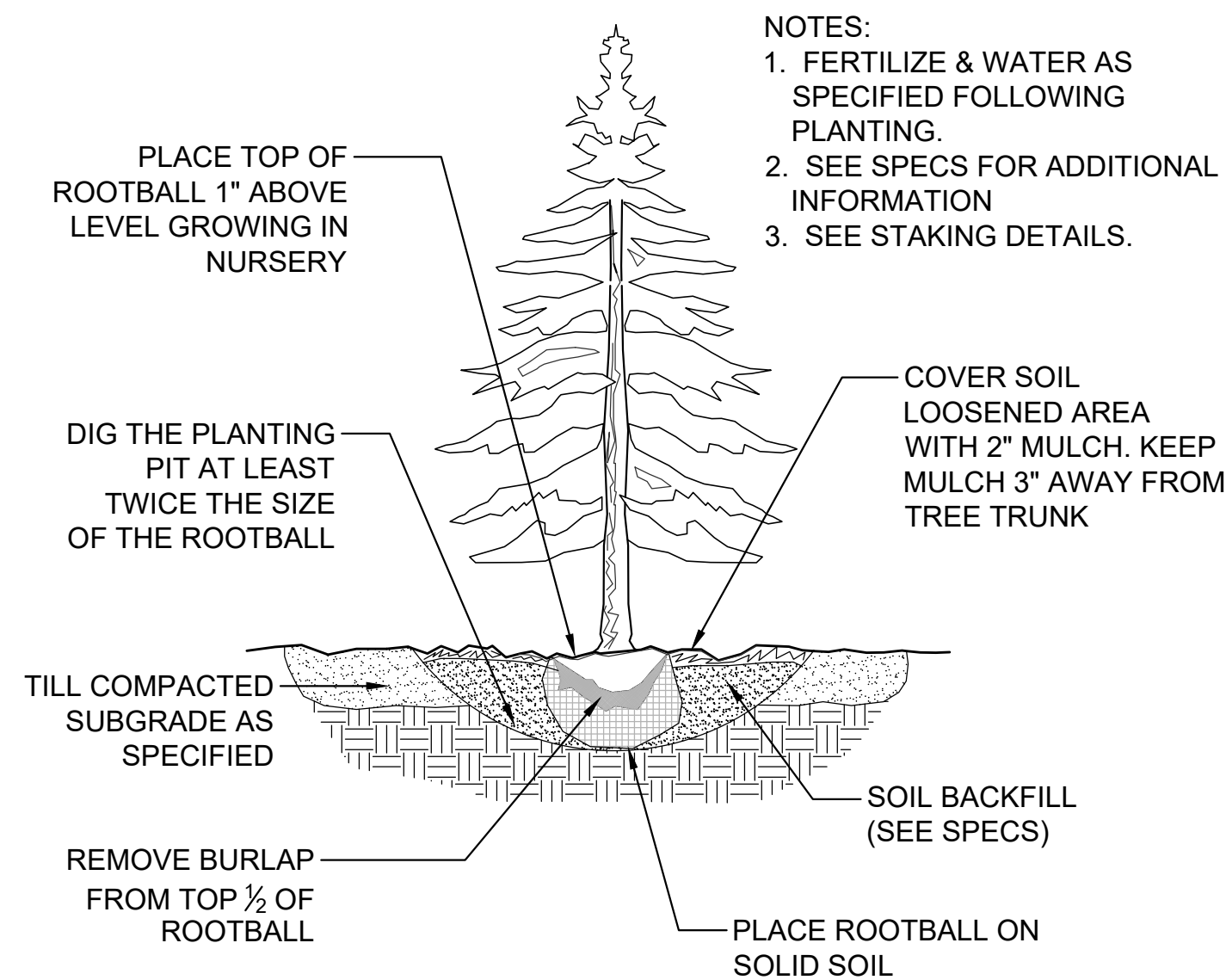
**1 DECIDUOUS TREE PLANTING DETAIL**  
SCALE: NTS



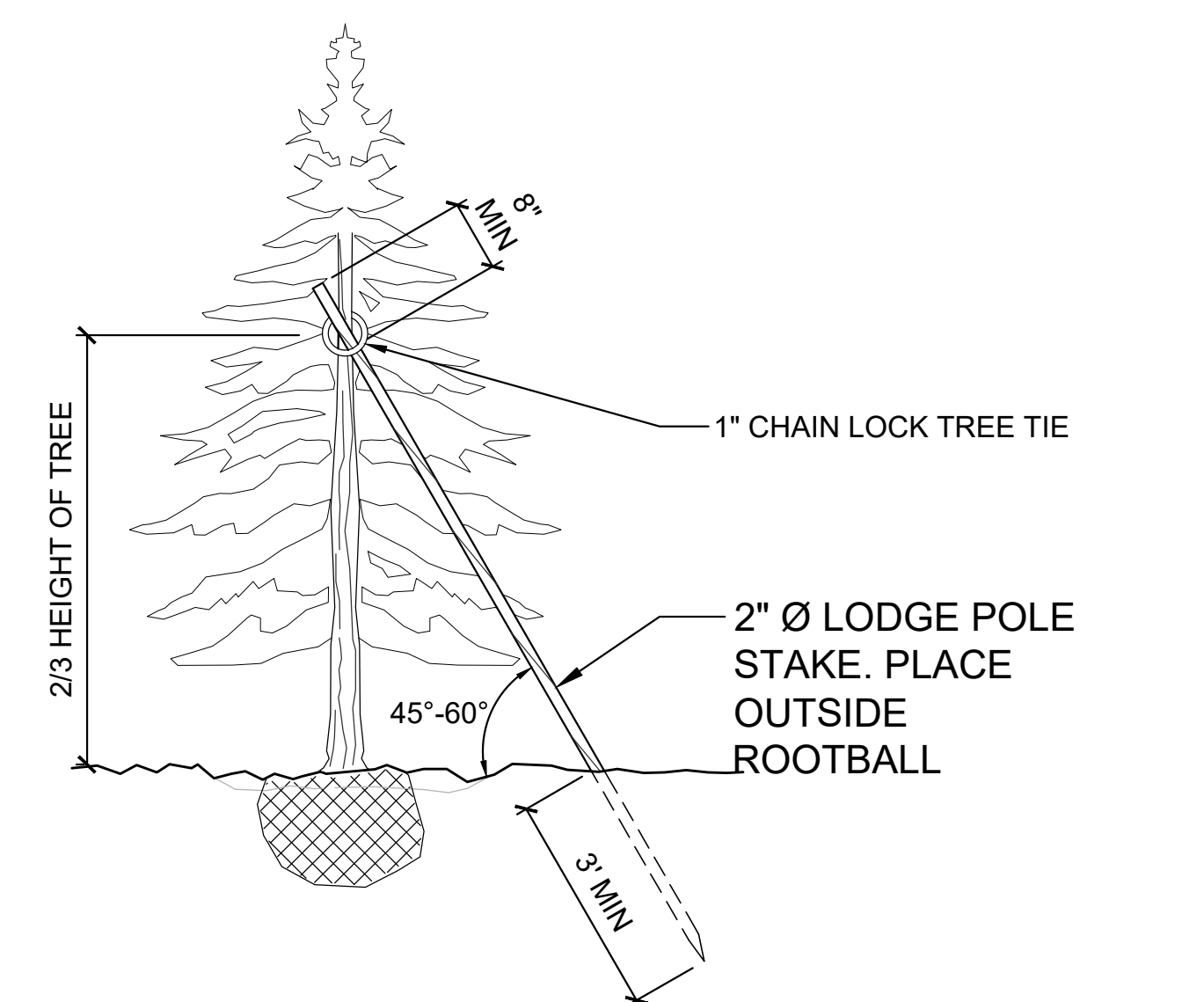
**2 DECIDUOUS TREE STAKING DETAIL**  
SCALE: NTS



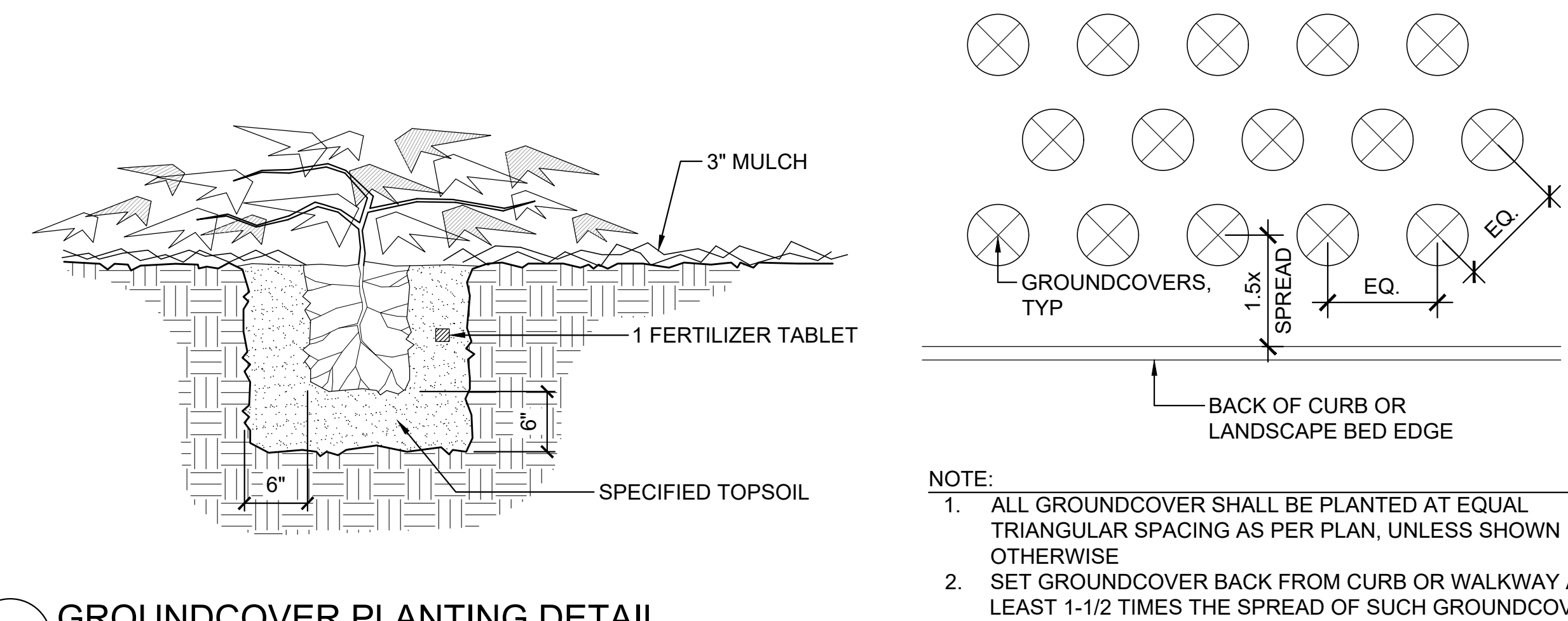
**3 SHRUB PLANTING DETAIL**  
SCALE: NTS



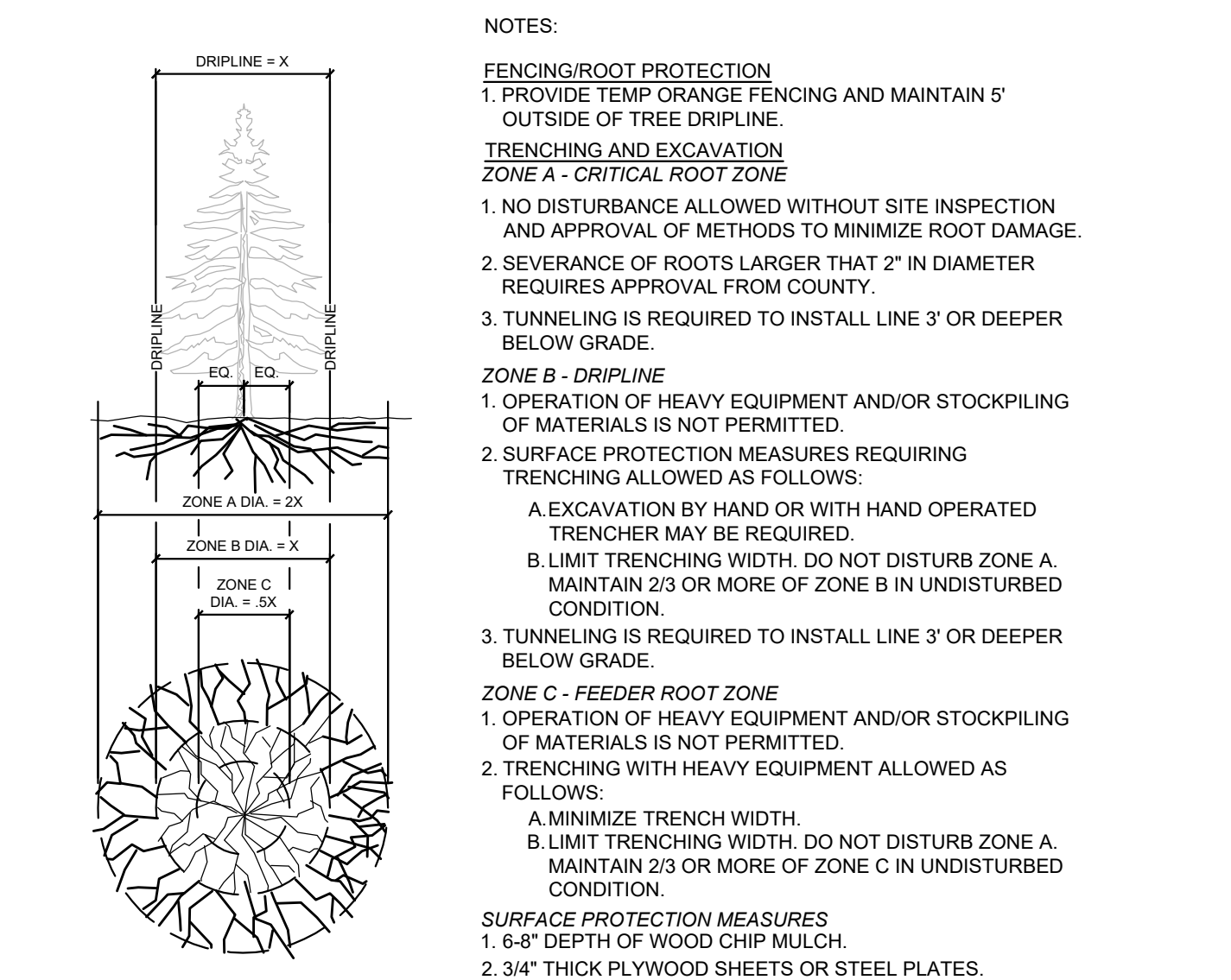
**4 CONIFER PLANTING DETAIL**  
SCALE: NTS



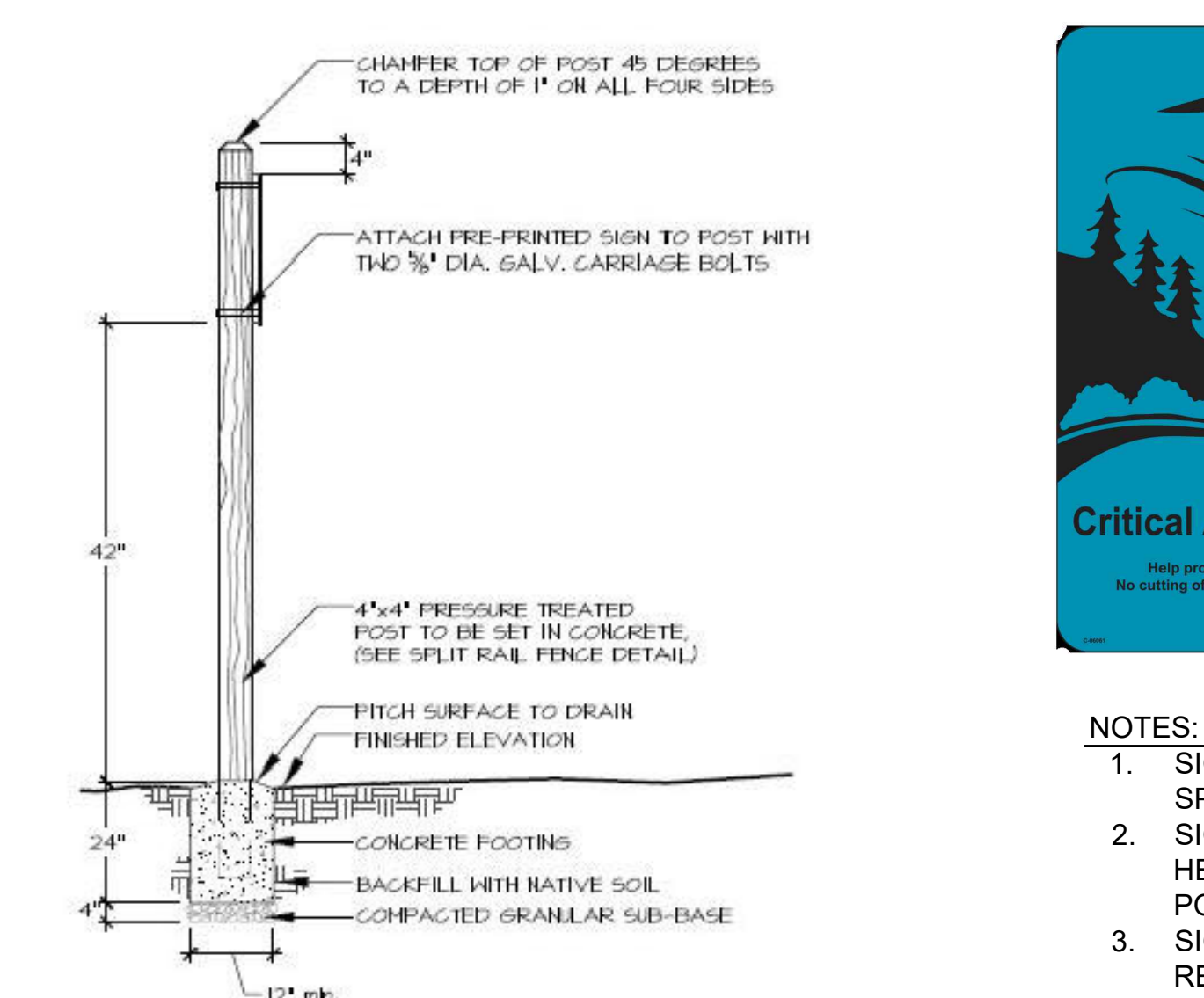
**5 CONIFER TREE STAKING**  
SCALE: NTS



**6 GROUNDCOVER PLANTING DETAIL**  
SCALE: NTS



**7 TREE PROTECTION DETAIL**  
SCALE: NTS



**8 CRITICAL AREA BUFFER SIGN**  
SCALE: NTS

**STANDARD CRITICAL AREA BOUNDARY SIGN.**  
SIGN PROVIDED BY KITSAP COUNTY MAY BE DIFFERENT

**NOTES:**

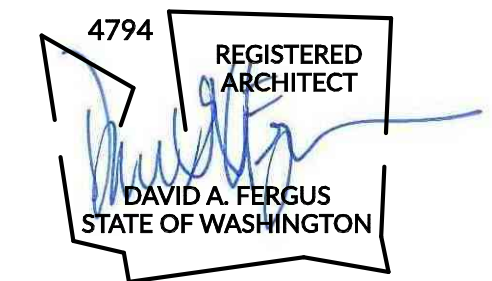
- SIGNS SHALL BE PLACED ALONG THE DESIGNATED BUFFER BOUNDARY SPACED APPROXIMATELY 50 FEET APART, VISUAL FROM SIGN TO SIGN.
- SIGNS MUST BE ATTACHED TO EXISTING TREES WITH DIAMETER BREAST HEIGHT GREATER THAN 4 INCHES. ALTERNATIVE METHODS INCLUDE 4X4 POSTS, METAL POSTS OR SPLIT RAIL FENCING.
- SIGNS PROVIDED AT ISSUANCE AND INSTALLATION OF THE SIGNS IS REQUIRED PRIOR TO FINAL INSPECTION
- SIGNS PROVIDED BY KITSAP COUNTY

REVISION SCHEDULE	
	BID CHANGES 4-27-22

\_\_\_\_\_  
AHJ APPROVAL STAMP

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**STATION 45**  
**CENTRAL KITSAP FIRE & RESCUE**  
3725 TRENTON AVE.  
BREMERTON, WA 98310

[illegible]

AHJ APPROVAL STAMP

## DRAWING INDEX

SHEET #

# A00.02

## DRAWING INDEX

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ARCHITECTURAL	
A00.01	COVER SHEET
A00.02	DRAWING INDEX
A00.03	SYMBOL LEGEND, GENERAL NOTES, ABBREVIATIONS
A00.04	CODE SUMMARY
A01.01	LIFE SAFETY PLANS
A02.01	AIR BARRIER
A03.01	ASSEMBLY TYPES
A03.02	FIRESTOPPING PENETRATION & JOINT DETAILS
A03.03	FIRESTOPPING PENETRATION & JOINT DETAILS & UL LISTING
A04.01	ACCESSIBILITY GUIDELINES - INTERIOR
A04.02	ACCESSIBILITY GUIDELINES - SITE
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C2.10	SITE NOTES AND DETAILS
C2.11	SIDEWALK AND CURB RAMP DETAILS
C3.00	DEMOLITION & T.E.S.C. PLAN
C3.10	T.E.S.C. NOTES AND DETAILS
C3.11	T.E.S.C. DETAILS
C4.00	ROAD A & C PROFILE
C4.01	ROAD B AND D PROFILES & ROAD SECTIONS
C5.00	STORM AND GRADING PLAN
C5.20	STORM PROFILE
C5.21	STORM PROFILES
C5.30	STORM NOTES & DETAILS
C5.31	STORM POND SECTIONS & DETAILS
C5.32	FENCE DETAILS
C6.00	UTILITY PLAN
C6.10	WATER NOTES AND DETAILS
C7.00	SITE SURVEY
W1.00	WALL PLAN
W2.00	WALL PROFILES
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L1.02	LANDSCAPE PLAN - WEST
L1.03	PLANT SCHEDULE, NOTES & PLANT IMAGES
L1.04	LANDSCAPE DETAILS
L2.00	SITE DETAILS
L3.00	OVERALL IRRIGATION PLAN
L3.01	IRRIGATION PLAN EAST
L3.02	IRRIGATION PLAN WEST
L3.03	IRRIGATION DETAILS
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A12.01	SITE DETAILS
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A22.02	FLOOR DIMENSION PLAN - LEVEL 1 & FLOOR PLAN LEGEND
A22.03	FLOOR PLAN - LEVEL 2 & FLOOR PLAN LEGEND
A23.01	FINISH PLAN - FINISH LEGEND
A24.01	REFLECTED CEILING PLAN - LEVEL 1 & RCP LEGEND
A24.02	REFLECTED CEILING PLAN - LEVEL 2 & RCP LEGEND
A25.01	ROOF PLAN & ROOF LEGEND
A26.01	ENLARGED FLOOR PLANS & FLOOR PLAN LEGEND
A28.01	ENLARGED REFLECTED CEILING PLANS & LEGEND
A31.01	EXTERIOR ELEVATIONS
A32.01	BUILDING SECTIONS
A32.02	BUILDING SECTIONS
A33.01	WALL SECTIONS
A33.02	WALL SECTIONS
A33.03	WALL SECTIONS
A34.01	INTERIOR ELEVATIONS
A34.02	INTERIOR ELEVATIONS, INTERIOR ELEVATION NOTES, TYPICAL MOUNTING HEIGHTS
A34.03	INTERIOR ELEVATIONS
A34.04	INTERIOR ELEVATIONS
A40.01	STAIR PLANS & SECTIONS
A51.01	EXTERIOR DETAILS - VERTICAL
A51.02	EXTERIOR DETAILS - HORIZONTAL
A51.03	EXTERIOR DETAILS
A51.04	EXTERIOR DETAILS
A52.01	ROOF DETAILS
A52.02	ROOF DETAILS
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A60.03	EXTERIOR DOOR DETAILS
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A61.03	WINDOW DETAILS
A61.04	WINDOW DETAILS
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S00.03	GENERAL STRUCTURAL NOTES
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S00.05	SPECIAL INSPECTIONS TABLES
S00.06	ABBREVIATIONS & SYMBOLS
S22.01	FOUNDATION AND FIRST FLOOR FRAMING PLAN
S22.02	LEVEL 2 AND LOW ROOF FRAMING PLAN
S22.03	HIGH ROOF FRAMING PLAN
S22.04	SNOW DRIFT LOADING PLAN
S50.01	TYPICAL CONCRETE DETAILS
S50.02	TYPICAL CONCRETE DETAILS
S50.03	FOUNDATION DETAILS
S50.04	FOUNDATION DETAILS
S50.05	FOUNDATION DETAILS
S50.06	FOUNDATION DETAILS
S50.07	FOUNDATION DETAILS
S50.60	WOOD SHEAR WALL SCHEDULES AND DETAILS
S50.61	HOLDOWN SCHEDULE AND DETAILS
S50.62	TYPICAL WOOD FRAMING DETAILS
S50.63	TYPICAL WOOD FRAMING DETAILS
S50.64	TYPICAL WOOD FRAMING DETAILS
S50.65	ROOF FRAMING DETAILS
S50.66	ROOF FRAMING DETAILS
S50.67	ROOF FRAMING DETAILS
S50.68	ROOF FRAMING DETAILS
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M00.03	SCHEDULES
M00.04	SCHEDULES
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M00.06	TSPR ANALYSIS
M00.07	TSPR ANALYSIS
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M22.02	FLOOR PLAN - LEVEL 2
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M25.01	DOOR SWITCH / HVAC LOCKOUT PLAN
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M26.02	SECTIONS
M31.01	DETAILS
M31.02	DETAILS
M31.03	DETAILS
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M31.05	CONTROLS
M31.06	CONTROLS
M41.01	VRF DIAGRAM
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P22.02	FLOOR PLAN - LEVEL 2
P22.03	ROOF PLAN
P30.01	PLUMBING DETAILS
P30.02	PLUMBING DETAILS
P30.03	PLUMBING DETAILS
P30.04	PLUMBING DETAILS
P30.05	PLUMBING DETAILS
P30.06	PLUMBING RISERS
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E00.02	NOTES
E00.03	SINGLE-LINE DIAGRAM
E00.04	SCHEDULES & LOAD CALCULATIONS
E10.01	ELECTRICAL SITE PLAN
E10.02	SITE ILLUMINATION CALCULATION PLAN
E22.00	FLOOR PLAN - CRAWL SPACE POWER
E22.01A	FLOOR PLAN - LEVEL 1 POWER
E22.01B	FLOOR PLAN - LEVEL 1 MECHANICAL & PLUMBING EQPT CONNECTIONS
E22.02	FLOOR PLAN - LEVEL 2 POWER
E22.03	ROOF PLAN - POWER
E30.01	LUMINAIRE SCHEDULE
E30.02	ENERGY CODE FORMS
E30.03	LIGHTING AND RECEPTACLE CONTROLS
E32.00	FLOOR PLAN - CRAWL SPACE LIGHTING
E32.01	FLOOR PLAN - LEVEL 1 LIGHTING
E32.02	FLOOR PLAN - LEVEL 2 LIGHTING
E42.00	FLOOR PLAN - CRAWL SPACE PRELIMINARY SYSTEMS
E42.01	FLOOR PLAN - LEVEL 1 PRELIMINARY SYSTEMS
E42.02	FLOOR PLAN - LEVEL 2 PRELIMINARY SYSTEMS
E62.01	DETAILS
E62.02	DETAILS
ALERTING SYSTEM	
AS1.01	FSAS SUMMARY PAGE
AS1.02	FSAS FIRST FLOOR
AS1.03	FSAS SECOND FLOOR
AS1.04	FSAS SAMPLE GAS CONNECTION
TOTAL NUMBER OF SHEETS: 170	



STATION 45  
CENTRAL KITSAP FIRE & RESCUE  
3725 TRENTON AVE  
BREMERTON, WA 98310

PROJECT # 2020110.02

BID SET

ISSUE DATE APRIL 4, 2022

REVISION SCHEDULE

2 BID CHANGES 4/27/2022

AHJ APPROVAL STAMP

FLOOR ANNOTATION  
PLAN - LEVEL 1 &  
FLOOR PLAN LEGEND

SHEET #

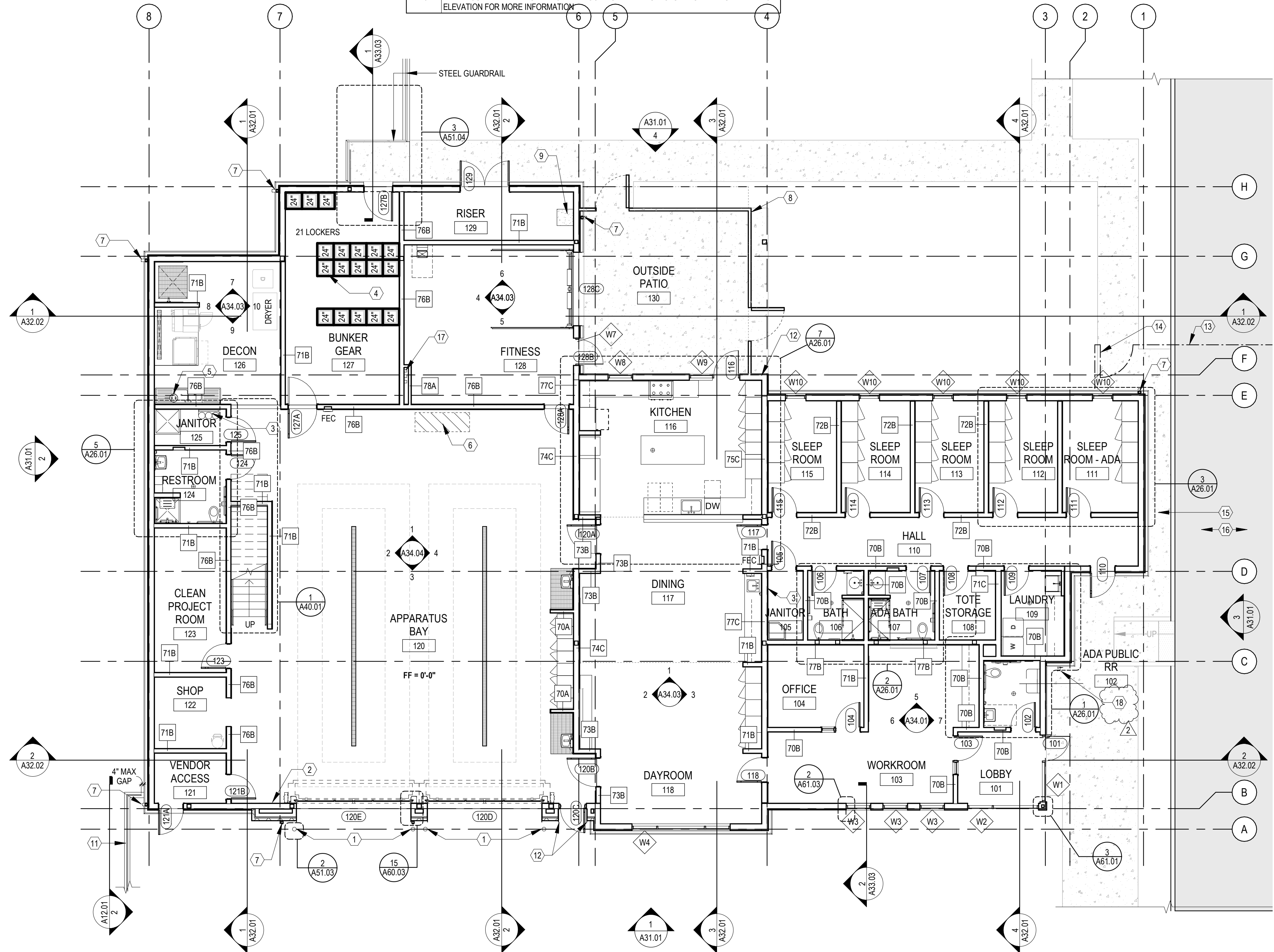
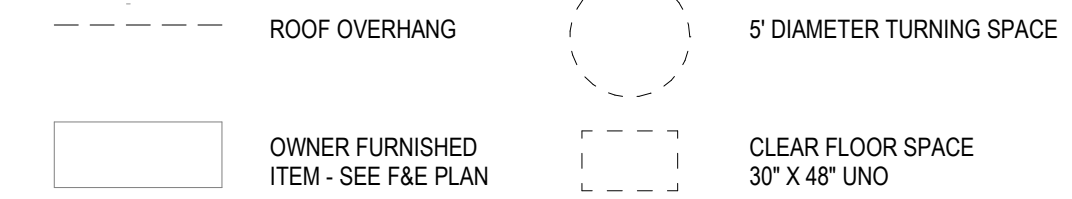
A22.01

KEY NOTES - FLOOR PLAN

#	NOTE DESCRIPTION
1	BOLLARD TO ALIGN WITH EDGE OF DOOR
2	APPARATUS BAY CONTROL PANELS
3	WALL MOUNTED MOP RACK OFFIC. CONTRACTOR TO PROVIDE BLOCKING
4	BUNKER GEAR LOCKERS CFCI
5	EMERGENCY EYE WASHING STATION
6	HOSE RACK AREA
7	DOWNSPOUT. CONNECT TO STORM DRAIN PER CIVIL
8	PATIO FENCE. REFER TO LANDSCAPE DRAWINGS FOR MORE INFORMATION
9	CONCRETE CHASE FOR ELECTRICAL FEEDERS. SEE STRUCT FOR SIZING AND DETAILS
10	ROOF DRAIN. SEE ELEVATION FOR DOWNSPOUT LOCATION
11	CONCRETE RETAINING WALL WITH PIPE GUARDRAIL ABOVE. GUARD TO RETURN TO BUILDING WALL
12	PRE-FINISHED 1/2" THK STEEL PL FRAME AROUND OPENING. SIM TO 1/A33.01
12	SEPTIC CONTROL PANEL TO BE LOCATED HERE. REFER TO ELECTRICAL DRAWINGS FOR REQUIRED SCOPE
13	AUTOMATIC LIFTING GATE. REFER TO SITE DETAILS SHEET A12.01
14	MAN GATE. REFER TO SITE DETAILS SHEET A12.01
15	SIDEWALK. REFER TO CIVIL
16	DRIVE AISLE. REFER TO CIVIL
17	CHASE FOR TELCOM CONDUITS
18	WALL MOUNTED BIKE RACK. PROVIDE BLOCKING PER MANUFACTURERS DETAILS. REFER TO ELEVATION FOR MORE INFORMATION

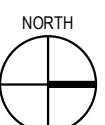
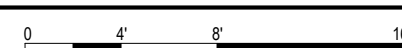
NOTES & LEGEND - FLOOR PLAN LEVEL

- DIMENSIONS ARE TO ROUGH FRAMING OR TO FACE OF EXISTING FINISHES, TYP UNO.
- DIMENSIONS INDICATED AS "MIN" OR "CLR" ARE FROM NEAREST FINISH SURFACE, INCLUDING TRIM.
- ROUGH DOOR OPENINGS ARE LOCATED 4" FROM NEAREST INTERSECTING WALL FRAMING, TYP UNO.
- 



1 FLOOR ANNOTATION PLAN - LEVEL 1

1/8" = 1'-0"

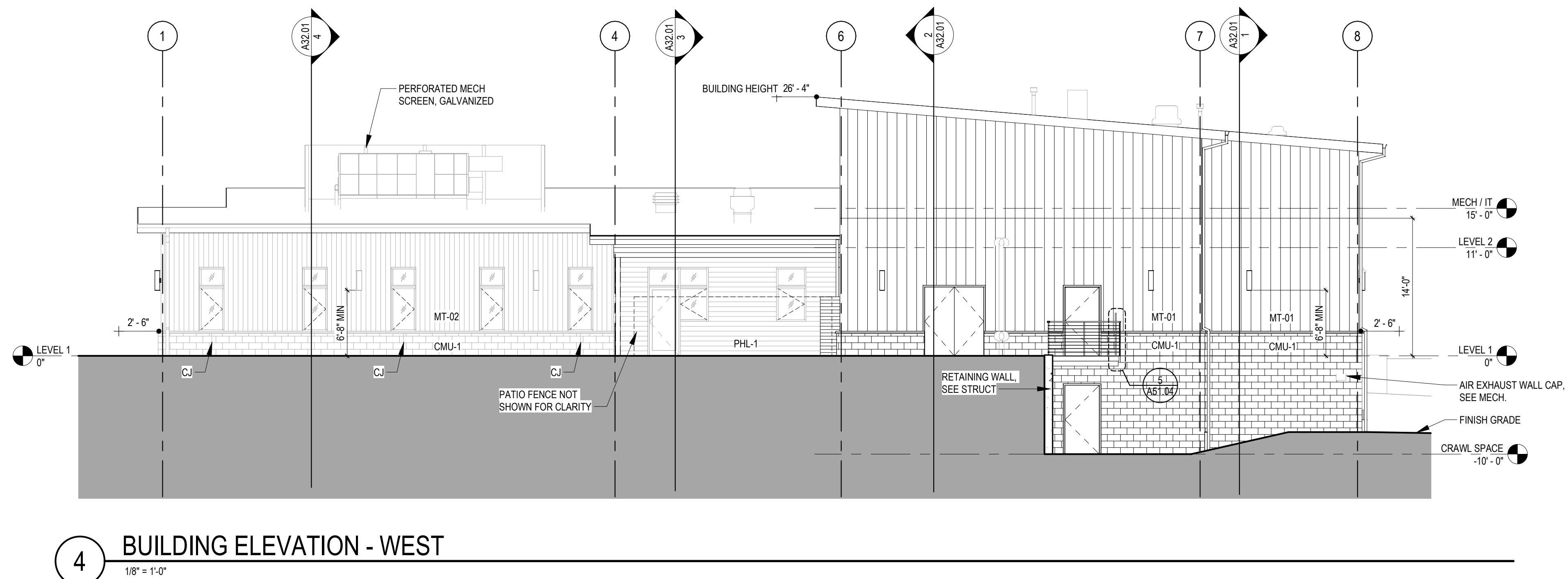
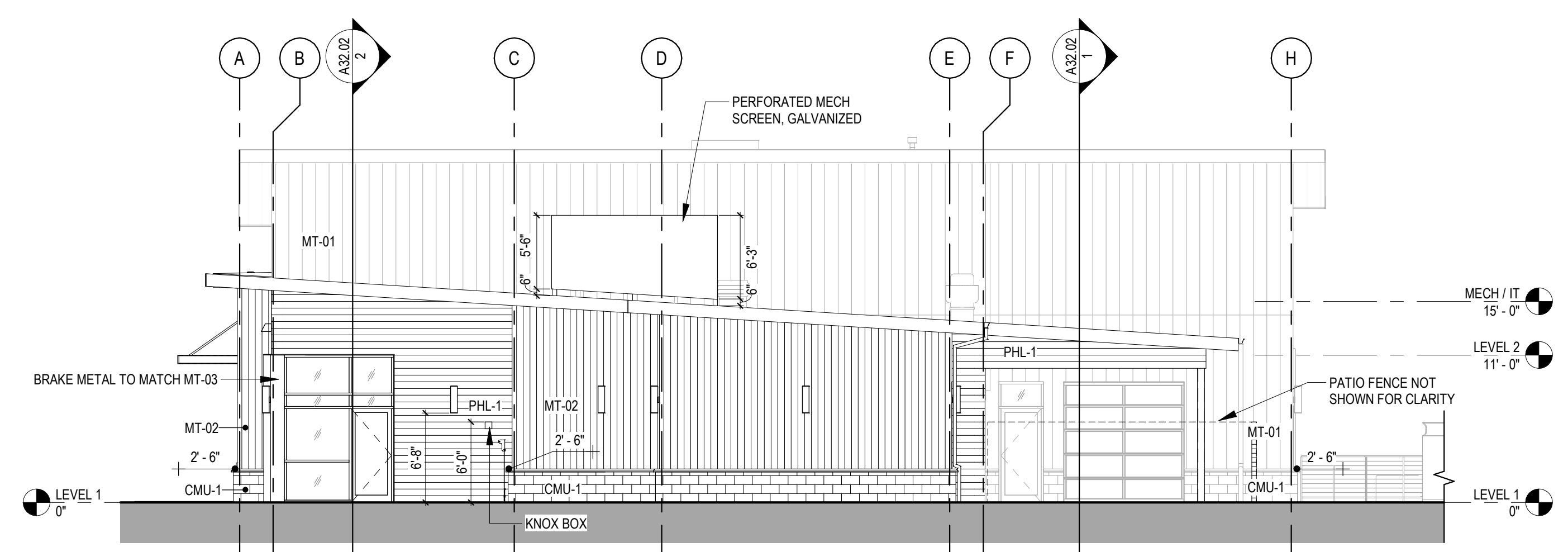
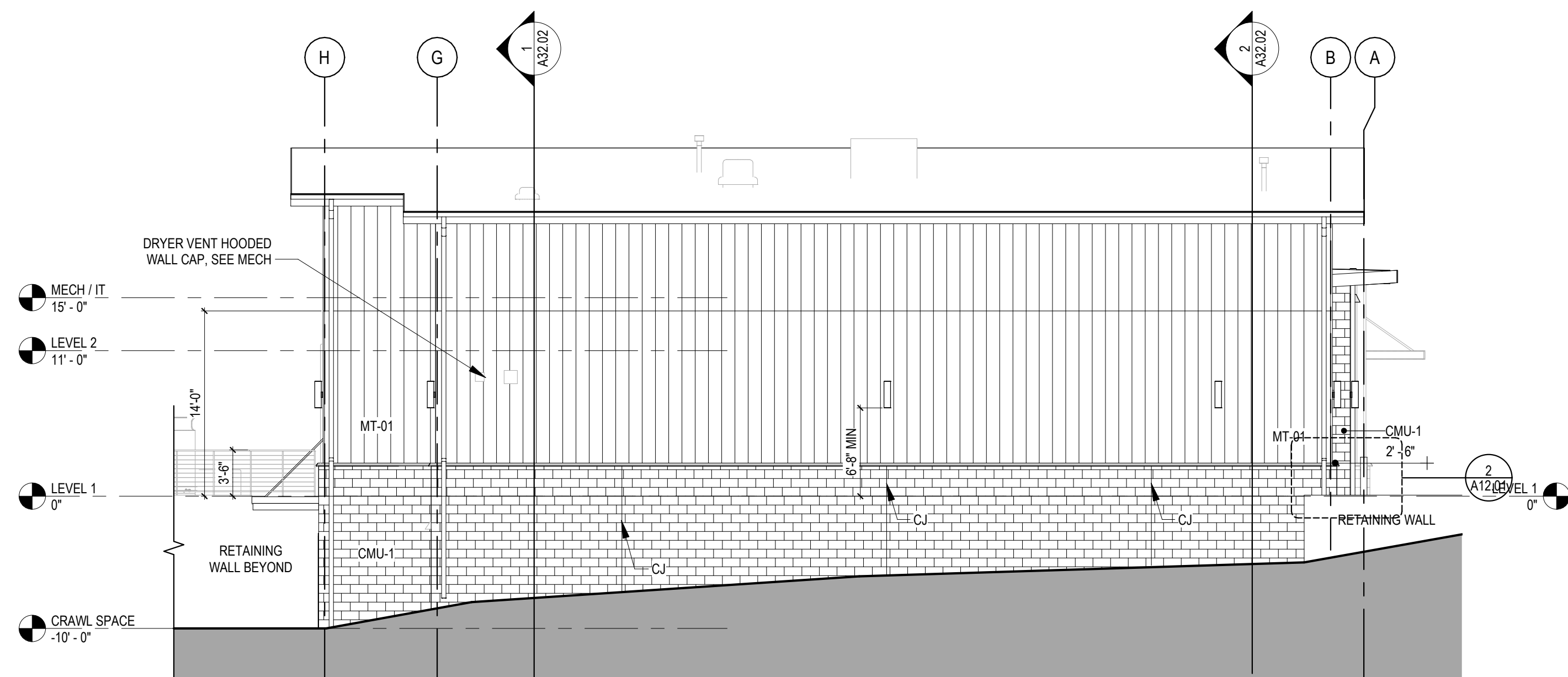
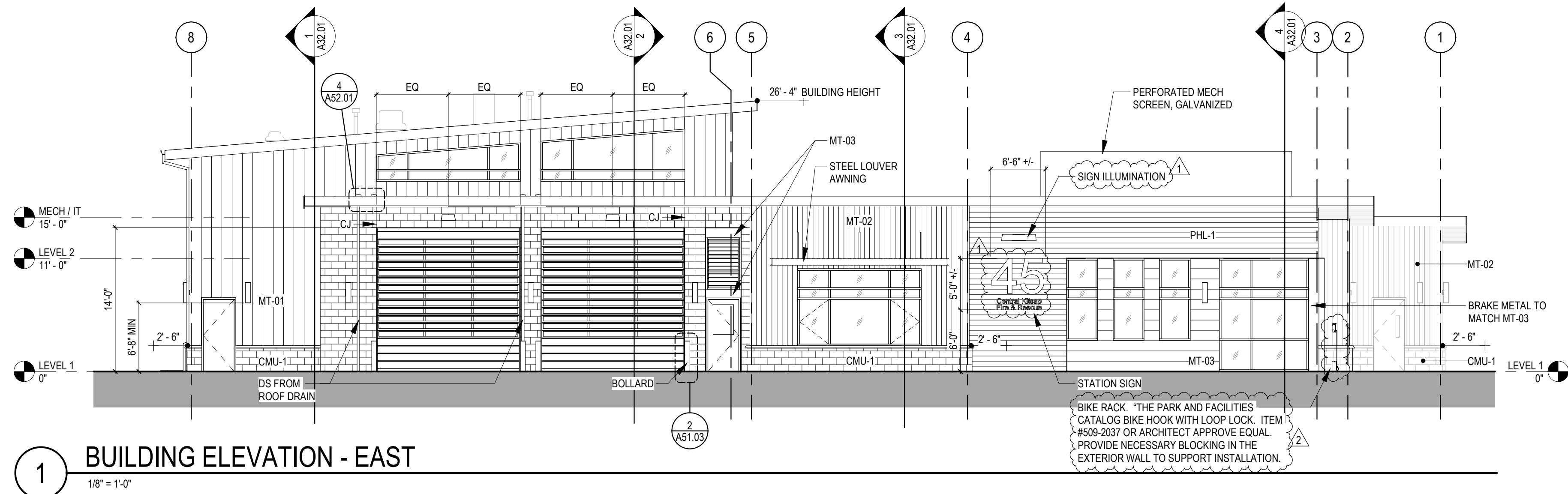
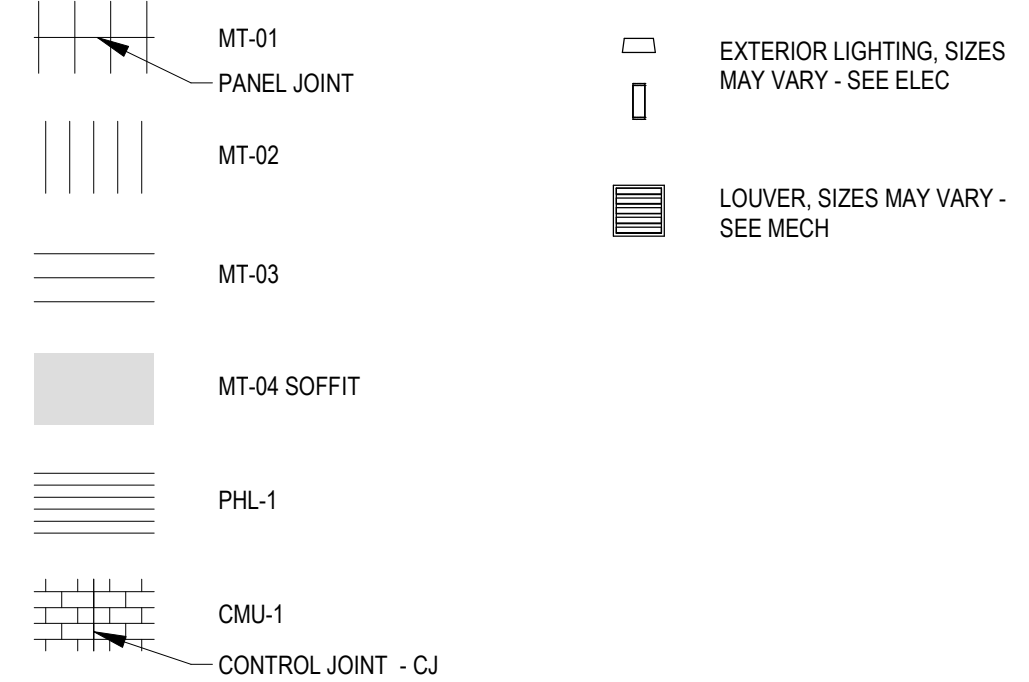




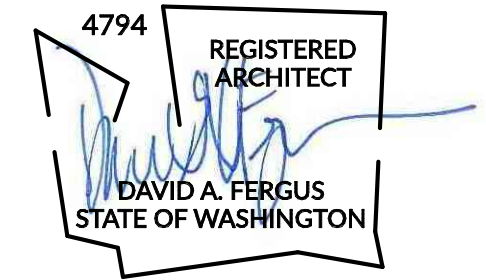
REVISION SCHEDULE		
1	PERMIT COMMENTS	2/28/2022
2	BID CHANGES	4/27/2022

## NOTES & LEGEND - EXTERIOR ELEVATIONS

- SEE REFLECTED CEILING PLANS FOR EXTERIOR LIGHTING NOT SHOWN IN ELEVATIONS.
- GRAPHIC REPRESENTATION OF EXTERIOR MATERIALS AND/OR LIGHTING MAY BE NOT TO SCALE.
- CONTROL JOINTS IN CMU TO BE CENTERED ON WALL OR TO ALIGN WITH EDGE OF WINDOW OR DOOR AS SHOWN ON ELEVATIONS.
- EXTERIOR SIGNAGE IS TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR. BLOCKING NEEDS TO BE PROVIDED IN WALL AS NEEDED.
- REFERENCE MECHANICAL FOR LOUVER LOCATIONS.



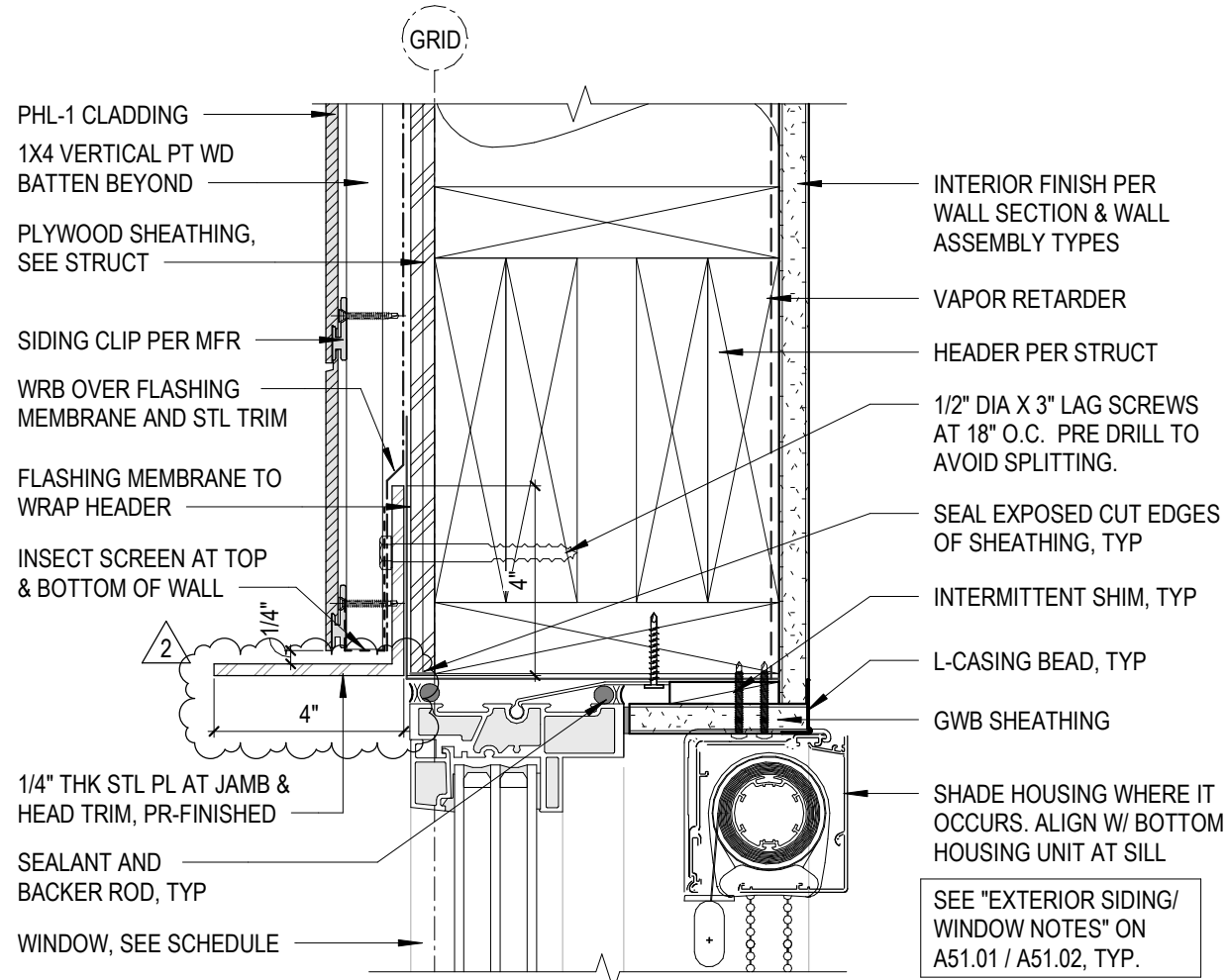




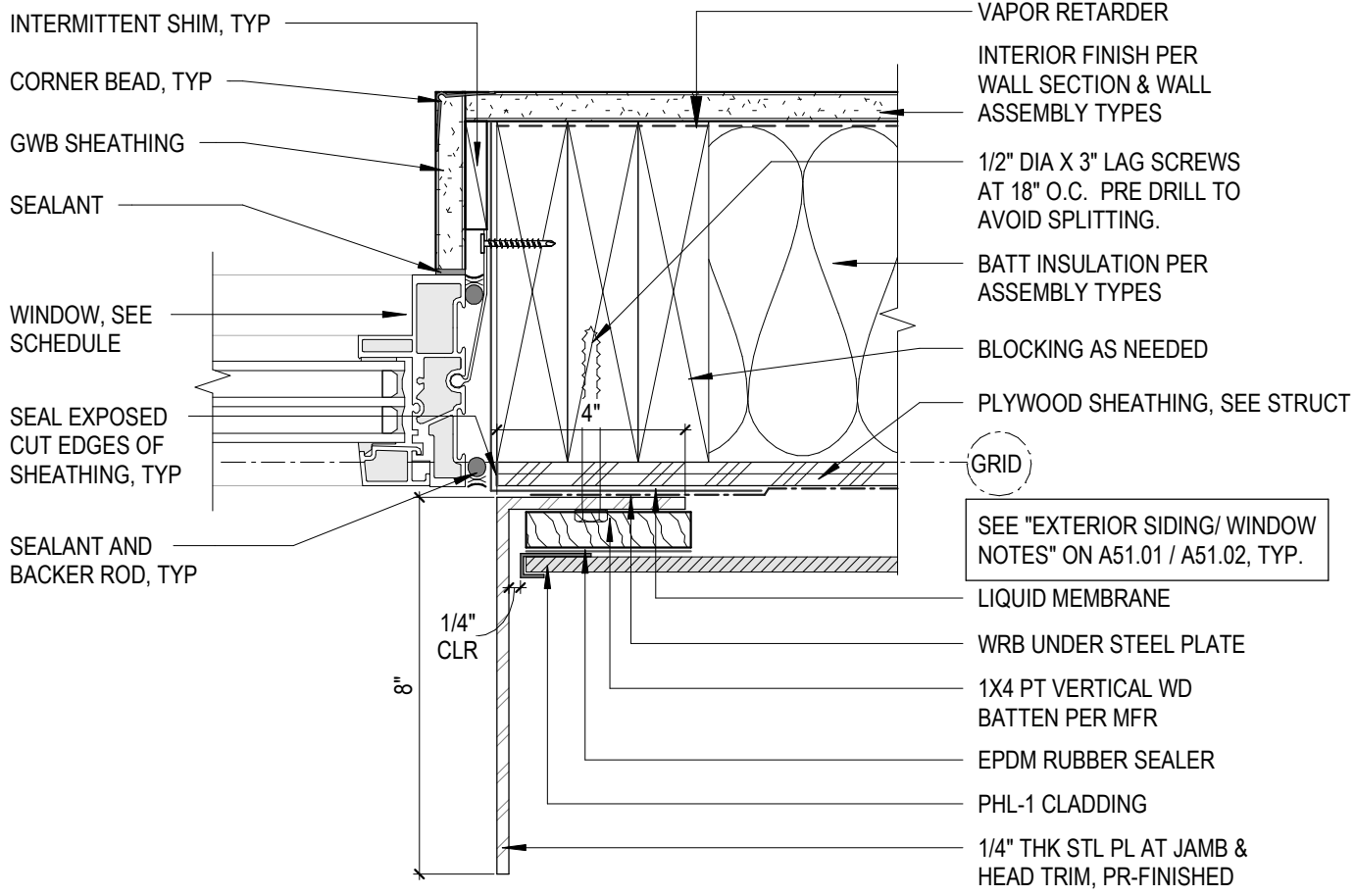
STATION 45  
CENTRAL KITSAP FIRE & RESCUE  
3725 TRENTON AVE  
BREMERTON, WA 98310

EXTERIOR SIDING / WINDOW NOTES

1. REFER DETAILS 1 / A61.04 FOR DETAILED INSTALLATION PROCEDURE OF WEATHER RESISTANT BARRIER AND FLASHING AT OPENING. **NOTE THAT EXTERIOR / WINDOW DETAILS ON THIS SHEET ONLY SHOW SIMPLIFIED FLASHING SYSTEM. VERIFY WITH ARCHITECT.**
2. THE SLOPE OF EXTERIOR AC PAVING / CONCRETE PATIO TO BE 1/8" / FT UNO. VERIFY W/ CIVIL FOR COORDINATION WITH ADJACENT GRADING.



3 HEAD DETAIL - PHENOLIC W/ STEEL TRIM  
3" = 1'-0"



2 JAMB DETAIL - PHENILIC W/ STEEL TRIM  
3" = 1'-0"

PROJECT #	2020110.02
BID SET	
ISSUE DATE	APRIL 4, 2022
REVISION SCHEDULE	
2	BID CHANGES 4/27/2022

AHJ APPROVAL STAMP

WINDOW DETAILS



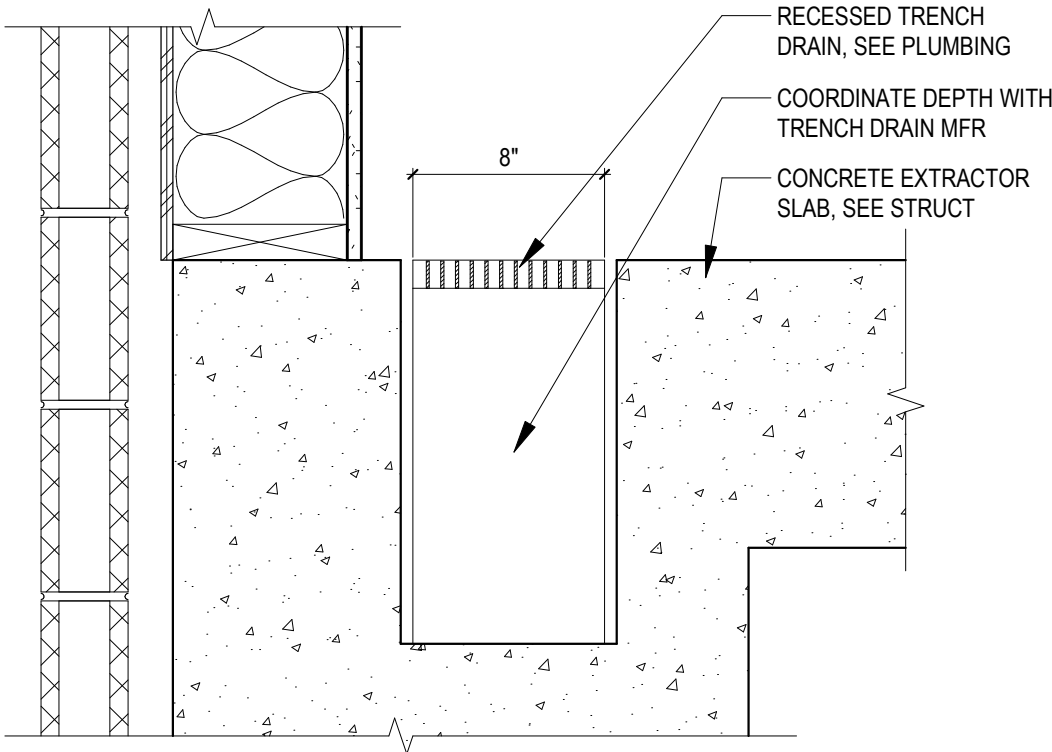
PROJECT #	2020110.02
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REVISION SCHEDULE	
2	BID CHANGES 4/27/2022



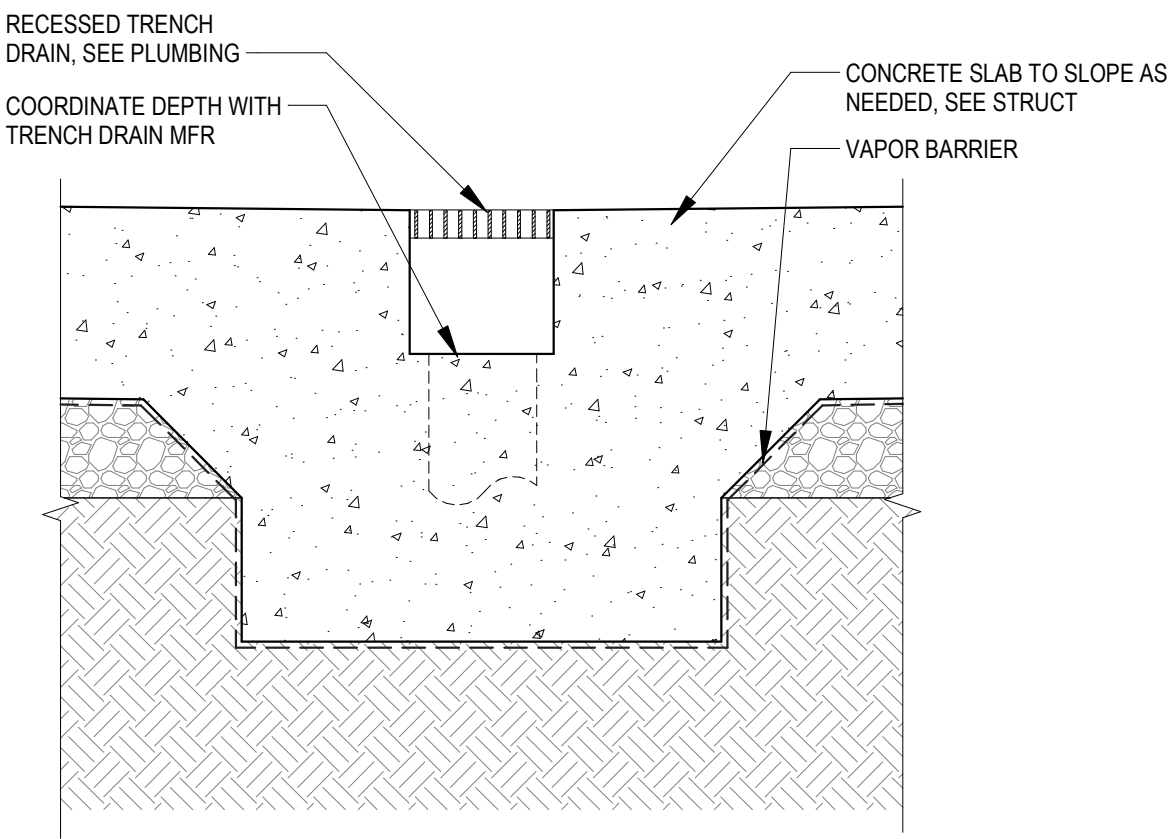
INTERIOR DETAILS

SHEET #

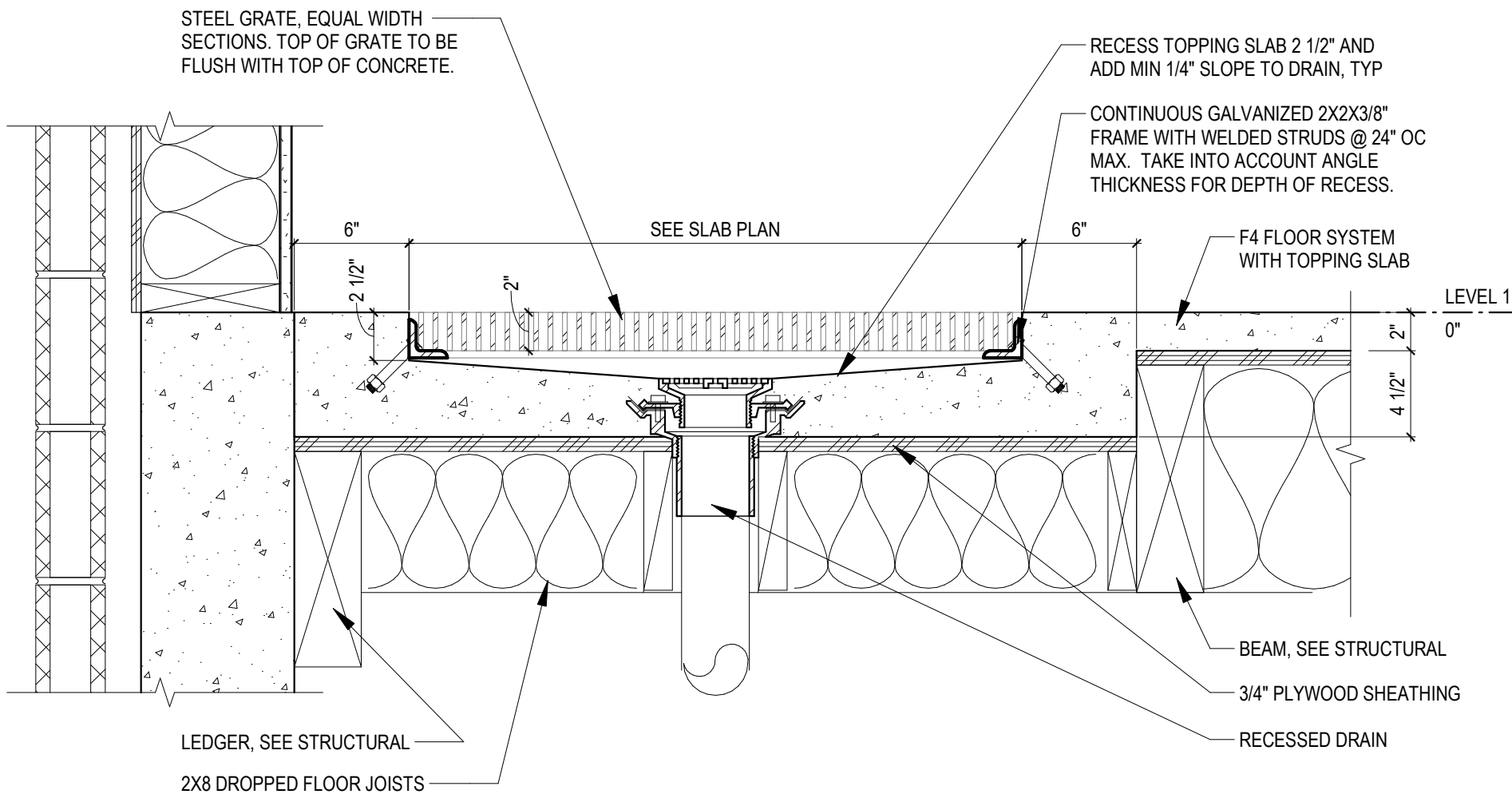
**A71.01**



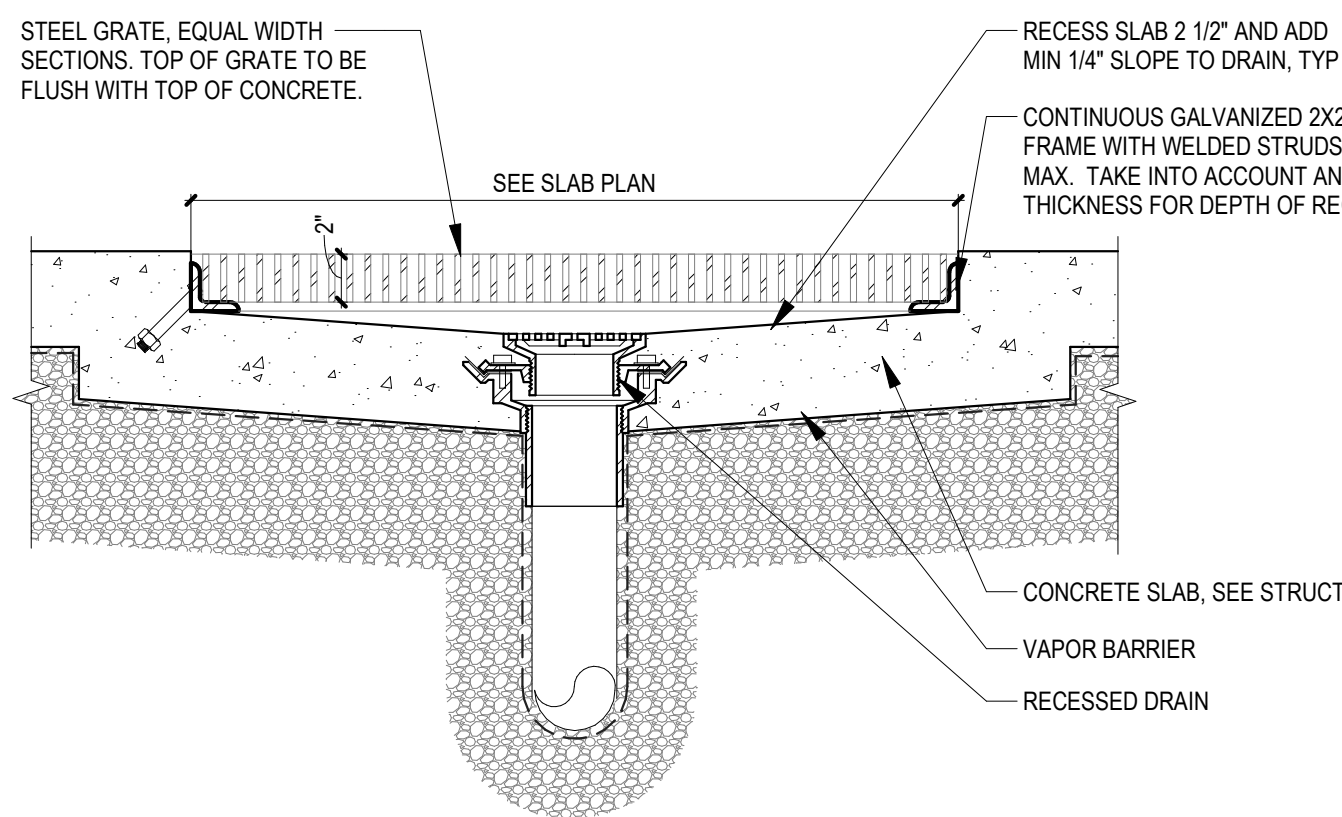
**16** TRENCH DRAIN EXTRACTOR PAD  
1 1/2" = 1'-0"



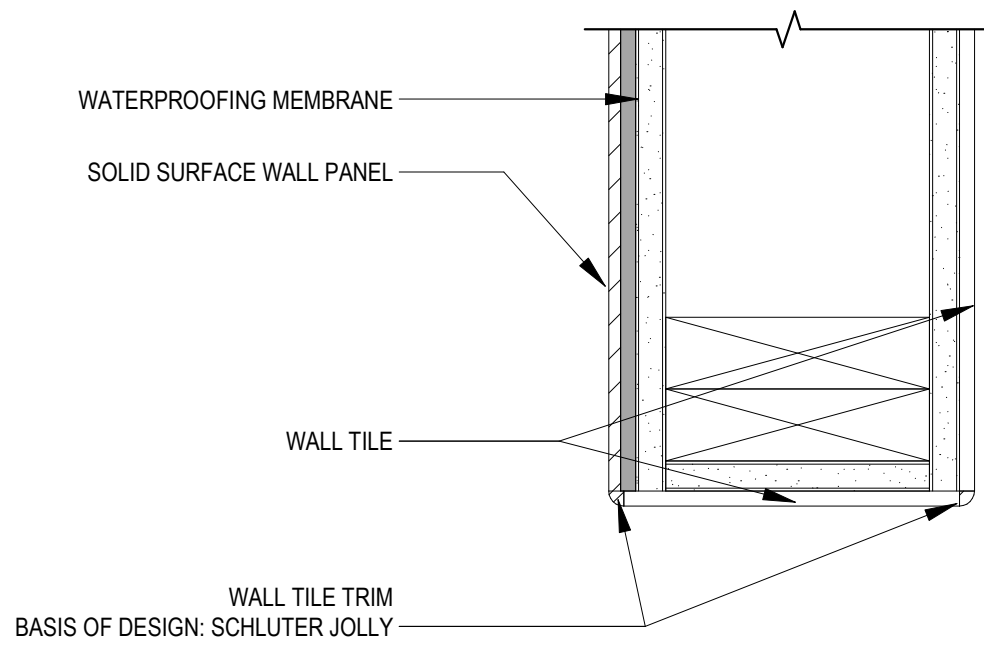
**15** TRENCH DRAIN APP BAY  
1 1/2" = 1'-0"



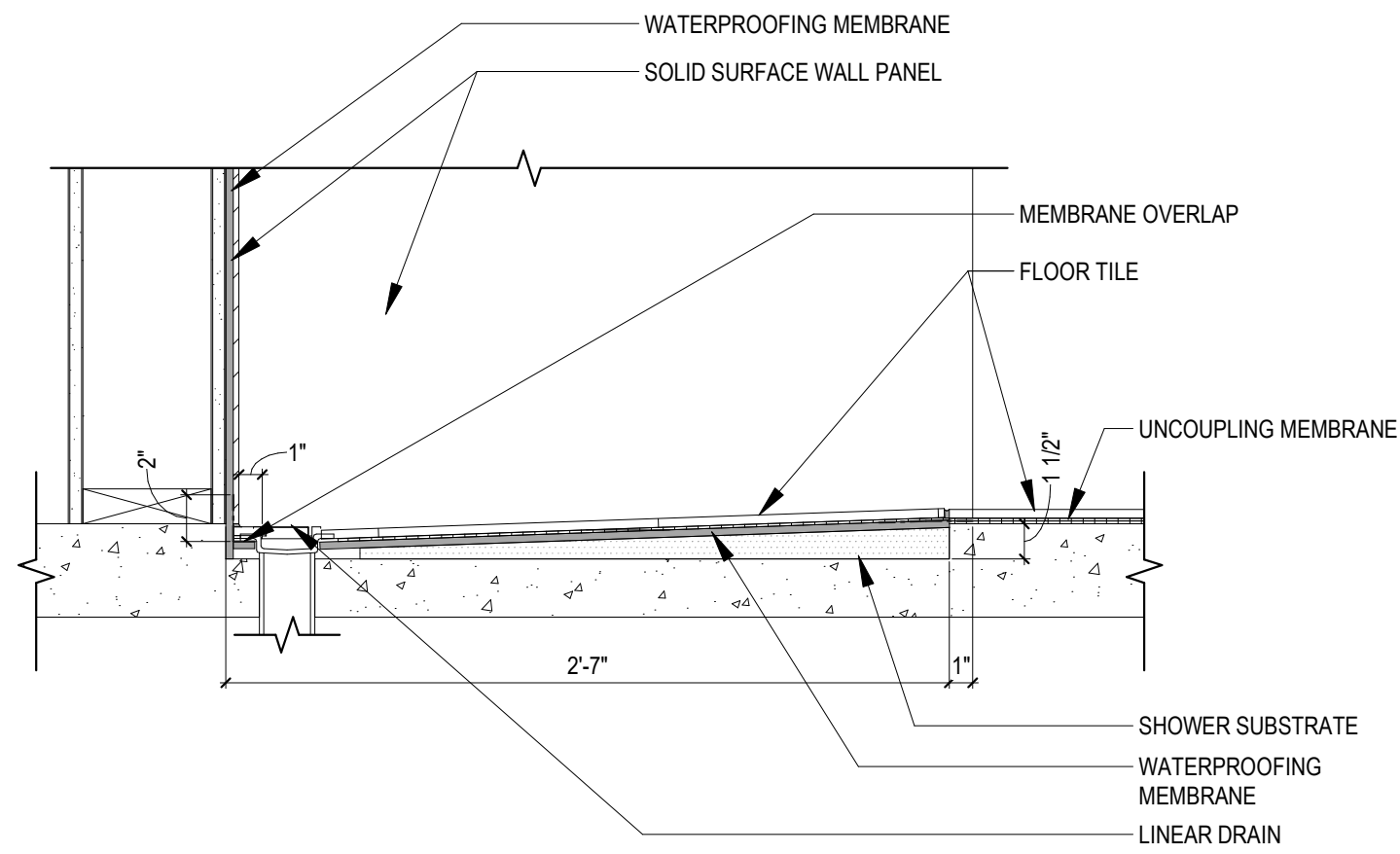
**14** RECESSED SLAB - METAL GRATE AT F3  
1 1/2" = 1'-0"



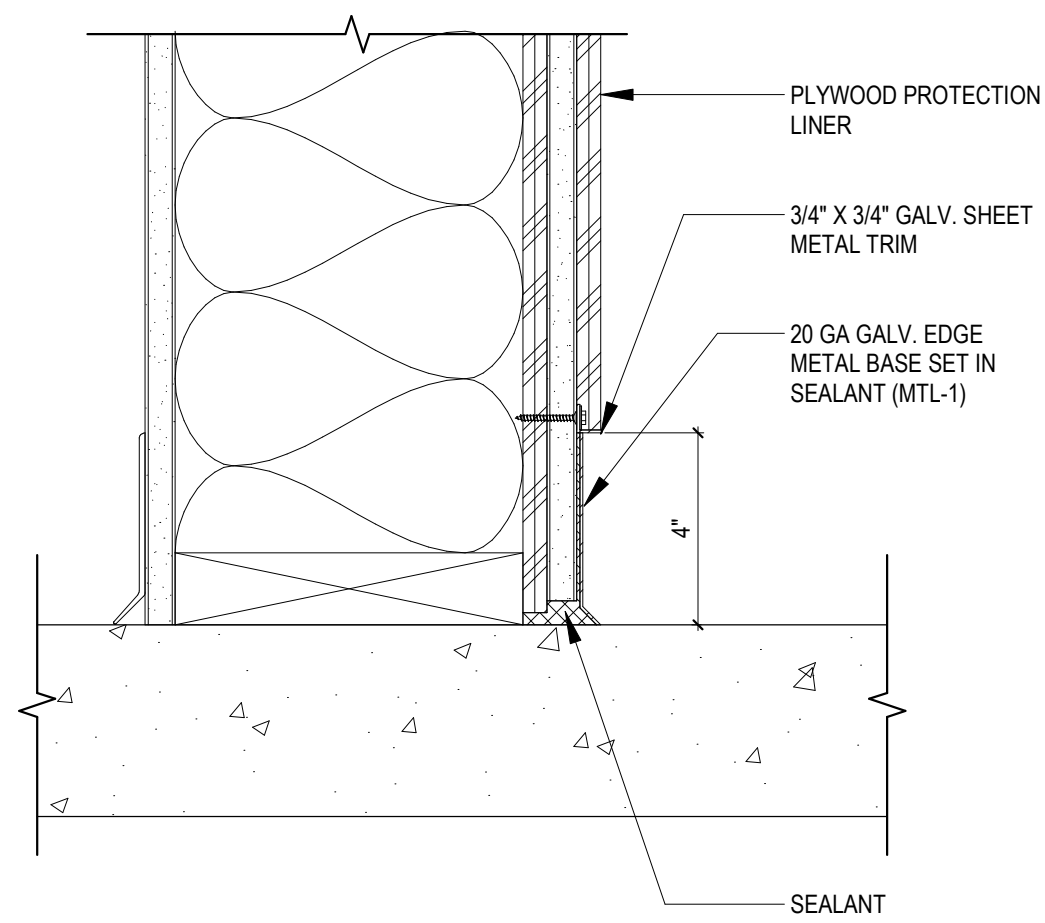
**13** RECESSED SLAB - METAL GRATE  
1 1/2" = 1'-0"



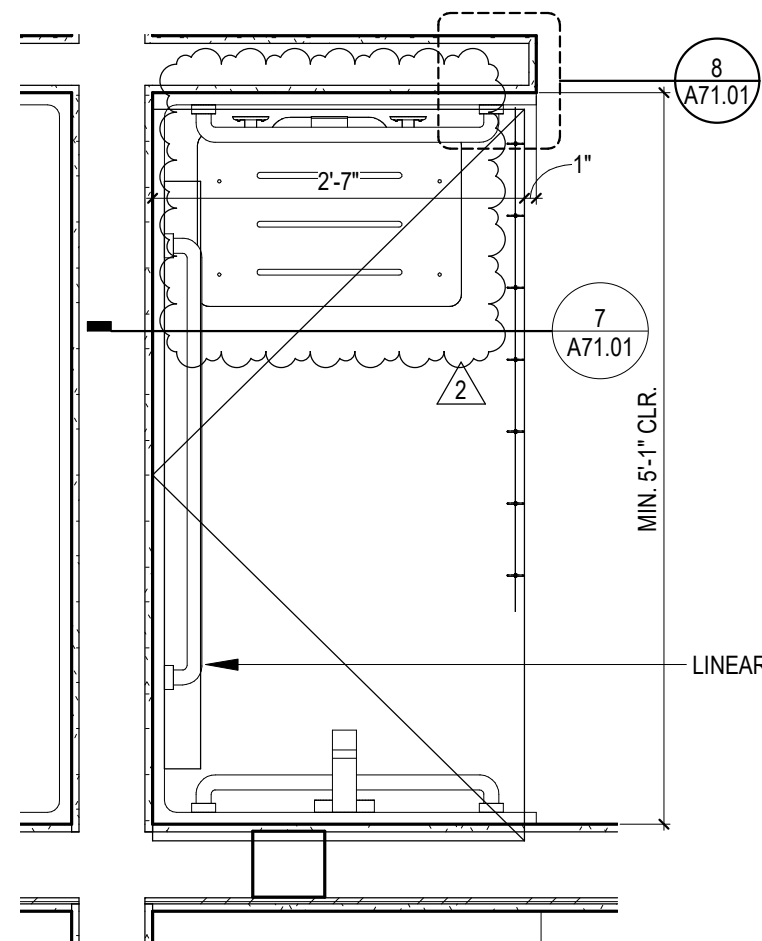
**8** WALL TILE TRANSITION  
3" = 1'-0"



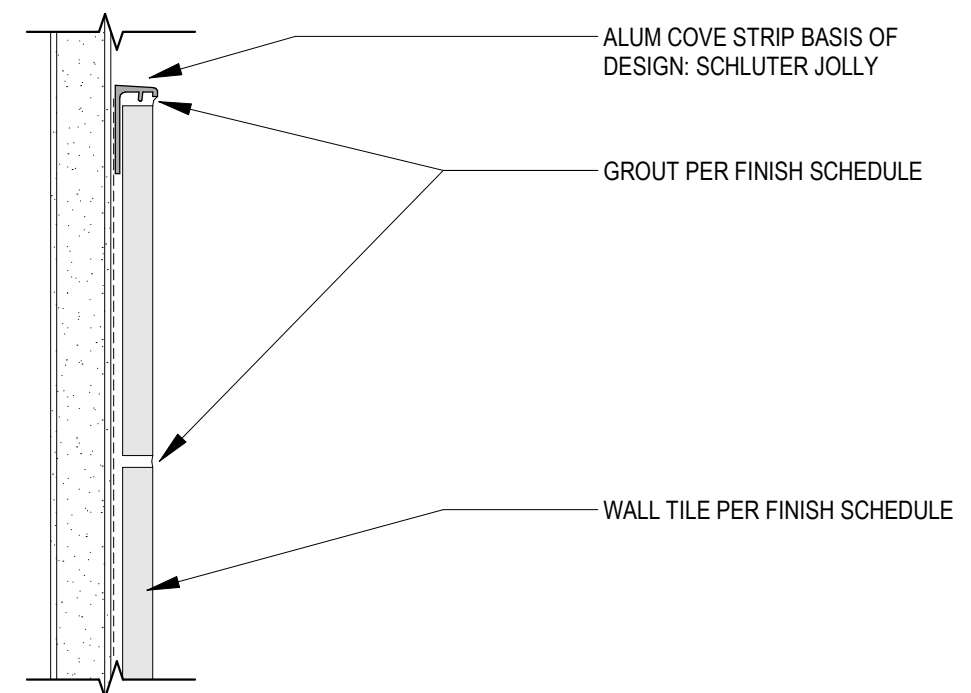
**7** SHOWER DRAIN  
1 1/2" = 1'-0"



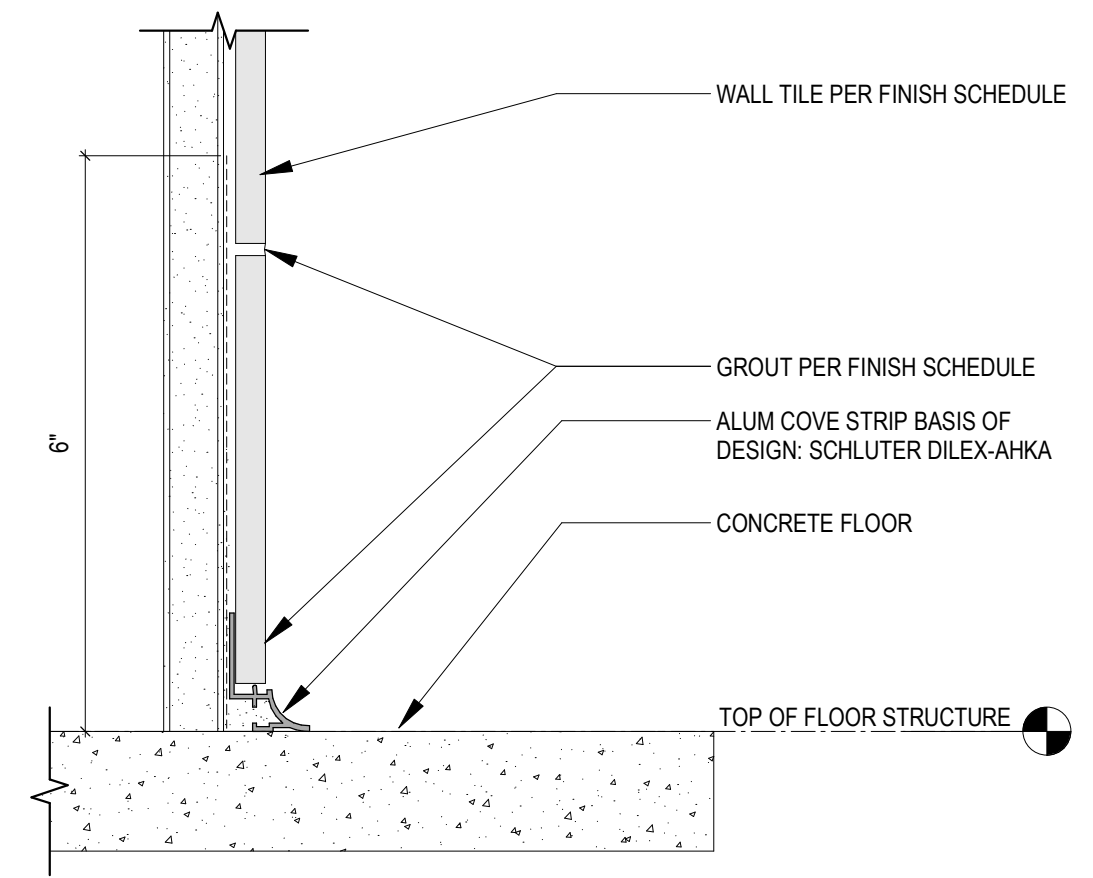
**6** METAL BASE  
3" = 1'-0"



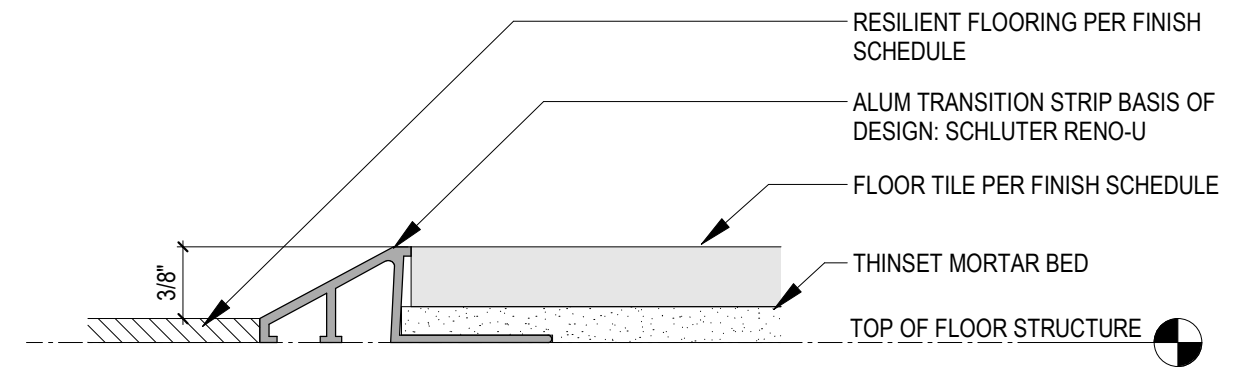
**5** ENLARGED SHOWER PLAN  
3/4" = 1'-0"



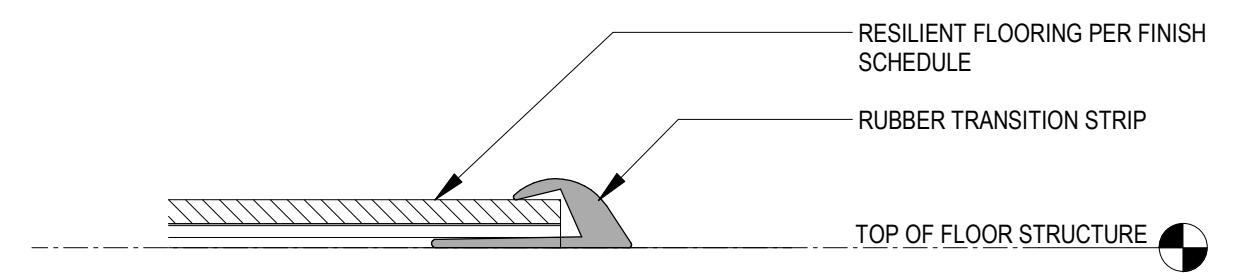
**4** TILE TOP TRIM  
6" = 1'-0"



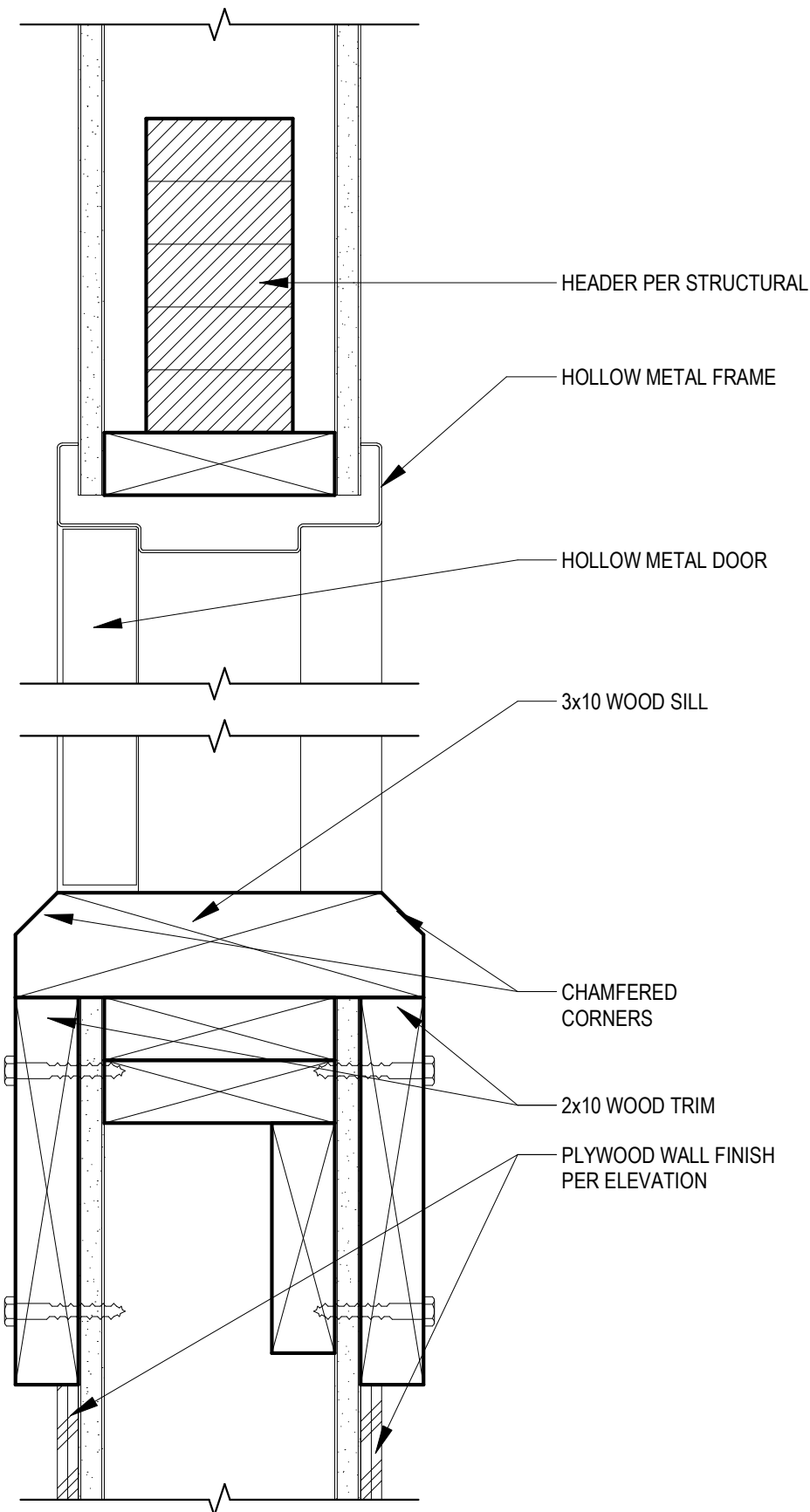
**3** TILE COVE BASE  
6" = 1'-0"



**2** RESILIENT TO TILE  
12" = 1'-0"



**1** RESILIENT TO FLOOR STRUCTURE  
12" = 1'-0"



**9** TRAINING DOOR SILL  
3" = 1'-0"



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GENERAL STRUCTURAL NOTES

GENERAL

DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. TYPICAL DETAILS AND NOTES SHOWN ON THESE DRAWINGS ARE PART OF THE CONSTRUCTION CONTRACT AND SHALL BE PROVIDED BY THE CONTRACTOR. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS AND NOTES. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, REFERENCE STANDARDS, OR GOVERNING CODE, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF DISCREPANCIES AND OBTAIN DIRECTION PRIOR TO PROCEEDING. NOTES ON INDIVIDUAL STRUCTURAL DRAWINGS SHALL TAKE PRIORITY OVER GENERAL STRUCTURAL NOTES. DIMENSIONS NOTED IN THE DRAWINGS SHALL BE FOLLOWED. DO NOT SCALE DRAWINGS.

SPECIFICATIONS: REFER TO SPECIFICATIONS FOR INFORMATION IN ADDITION TO THESE NOTES AND DRAWINGS.

ARCHITECTURAL: REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS, SLOPES, DEPRESSIONS, NON-BEARING WALLS, FASCIA, ELEVATORS, STAIRS, CURBS, DRAINS, RAILINGS, WATERPROOFING, FINISHES, ETC.

CONTRACTOR-INITIATED CHANGES: SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT FOR APPROVAL AT LEAST 10 WORKING DAYS PRIOR TO FABRICATION AND CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS OR SUBMITTALS ONLY WILL NOT SATISFY THIS REQUIREMENT.

CONTRACTOR RESPONSIBILITIES: DRAWINGS REPRESENT DESIGN OF STRUCTURE IN COMPLETED FORM. CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS, SEQUENCES, AND SAFETY PRECAUTIONS REQUIRED TO PERFORM WORK.

CONTRACTOR SHALL DESIGN AND PROVIDE TEMPORARY SHORING AND BRACING OF ALL STRUCTURAL MEMBERS, EXISTING CONSTRUCTION, AND SOIL EXCAVATION AS REQUIRED. SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS, AND MATERIALS HAVE ACHIEVED DESIGN STRENGTH.

STRUCTURAL OBSERVATION SHALL BE PERFORMED PER IBC SECTION 1704.6

SPECIAL INSPECTION PER IBC SECTION 1704, SHALL BE PERFORMED BY AN AGENCY APPROVED BY THE BUILDING OFFICIAL AND AS OUTLINED IN THE STRUCTURAL INSPECTION SCHEDULE.

CODES

BUILDING CODE: ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS AND THE INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION ,AS AMENDED BY THE STATE OF WASHINGTON.

RISK CATEGORY: IV (IBC TABLE 1604.5)

STANDARDS: REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION REFERENCED IN THE 2018 IBC, UNLESS NOTED IN THESE DOCUMENTS OR DESIGNATED BY THE GOVERNING CODE.

DESIGN CRITERIA

FLOOR DESIGN DATA:

IN ADDITION TO THE SELF WEIGHT, THE FOLLOWING LOADS ARE USED FOR DESIGN:

	UNIFORM LIVE LOAD (PSF)	CONCENTRATED LIVE LOAD (LBS)	SUPERIMPOSED DEAD LOAD (PSF)	REDUCIBLE (SEE NOTE)
CORRIDORS (UNO)	100	-		YES
APPARATUS BAY	250	40 KIP OUTRIGGER		
OFFICES	50	2,000		YES
SLEEP/DORM ROOMS	40	-		YES
PUBLIC ROOMS	100	-		NO
PUBLIC CORRIDORS	100	-		YES
STAIRS	100	300		YES
MEZZANINE AREA, LIGHT STORAGE	125	-		NO

WHERE APPLICABLE, LIVE LOADS HAVE BEEN REDUCED PER IBC SECTION 1607.11.2

SNOW DESIGN DATA:

GROUND SNOW LOAD	P <sub>s</sub> = 25 PSF (ASCE 7 SECTION 7.2)
FLAT-ROOF SNOW LOAD	P <sub>f</sub> = 21 PSF (ASCE 7 SECTION 7.3); 30 PSF MIN UNIFORM SNOW LOAD IN ACCORDANCE WITH SEAW WHITE PAPER 8-2010
ROOF SLOPE FACTOR	C <sub>s</sub> = 1.0 (ASCE 7 SECTION 7.4)
SNOW EXPOSURE FACTOR	C <sub>e</sub> = 1.0 (ASCE 7 TABLE 7.3-1)
SNOW LOAD IMPORTANCE FACTOR	I <sub>s</sub> = 1.2 (ASCE 7 TABLE 1.5-2)
THERMAL FACTOR	C <sub>t</sub> = 1.0 (ASCE 7 TABLE 7.3-2)
SURCHARGE DRIFT	P <sub>d</sub> , SEE SHEET S22.04 (ASCE 7 SECTION 7.7)
WIDTH OF SNOW DRIFT	w <sub>s</sub> , SEE SHEET S22.04 (ASCE 7 SECTION 7.7)

WIND DESIGN DATA:

WIND BASE SHEAR	V <sub>w</sub> (N-S) = 31 KIPS (STRENGTH) V <sub>w</sub> (E-W) = 34 KIPS (STRENGTH)
ANALYTICAL PROCEDURE	ENVELOPE PROCEDURE, ASCE 7 CHAPTER 28
TYPE OF STRUCTURE	RIGID (ASCE 7 SECTION 26.2)
BASIC WIND SPEED	V = 110 MPH, ULTIMATE 3 SECOND GUST (ASCE 7 FIG 26.5-1A - 26.5-1D) V <sub>ASD</sub> = 86 MPH, NOMINAL 3 SECOND GUST (IBC EQUATION 16-33)
EXPOSURE CATEGORY	B (ASCE 7 SECTION 26.7.3)
INTERNAL PRESSURE COEFFICIENT	0.18 (ASCE 7 TABLE 26.13-1)
ENCLOSURE CLASSIFICATION	ENCLOSED (ASCE 7 SECTION 26.2)
DIRECTIONALITY FACTOR	K <sub>d</sub> = 0.85 : MWFRS (ASCE 7 TABLE 26.6-1)
TOPOGRAPHIC FACTOR	K <sub>zt</sub> = 1.0 (ASCE 7 SECTION 26.8)
GUST EFFECT FACTOR	G = 0.85 (ASCE 7 SECTION 26.11.1)
COMPONENTS & CLADDING DESIGN PRESSURES (STRENGTH LEVEL)	WALLS: 32 PSF : ROOF: 50 PSF (ASCE 7 SECTION 30.3.2) WIND PRESSURES ARE BASED ON 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS AND ROOF EDGES (EXCLUDING CORNER ZONES). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

EARTHQUAKE DESIGN DATA:

SEISMIC-FORCE-RESISTING SYSTEM:	WOOD STRUCTURAL PANEL SHEAR WALLS
ANALYTICAL PROCEDURE:	EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC BASE SHEAR: (ASCE 7 SECTION 12.8.1)	V <sub>e</sub> = 65 KIPS (STRENGTH)
SEISMIC RESPONSE COEFFICIENT: (ASCE 7 SECTION 12.8.1.1)	C <sub>s</sub> = 0.24
SEISMIC IMPORTANCE FACTOR I <sub>e</sub>	1.5 (ASCE 7 TABLE 1.5-2)
SITE CLASS	D (ASCE 7 SECTION 11.4)
S <sub>s</sub> = 1.576 (ASCE 7 SECTION 11.4.1) S <sub>1</sub> = 0.554 (ASCE 7 SECTION 11.4.1) S <sub>0S</sub> = 1.05 (ASCE 7 SECTION 11.4.4) S <sub>01</sub> = 0.55 (ASCE 7 SECTION 11.4.4)	
SEISMIC DESIGN CATEGORY	D (ASCE 7 SECTION 11.6)
RESPONSE MODIFICATION COEFFICIENT	R = 6.5 (ASCE 7 TABLE 12.2-1)
SYSTEM OVERSTRENGTH FACTOR	Ω <sub>0</sub> = 2.5 (ASCE 7 TABLE 12.2-1)
DEFLECTION AMPLIFICATION FACTOR	C <sub>d</sub> = 4.0 (ASCE 7 TABLE 12.2-1)

GEOTECHNICAL

SOIL BEARING SURFACES AND FILL SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND INSPECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER OR AN APPROVED TESTING AGENCY.

GEOTECHNICAL REPORT REFERENCE: COBALT GEOSCIENCES, REPORT TITLED GEOTECHNICAL INVESTIGATION PROPOSED FIRE STATION 45, DATED AUGUST 13, 2018 AND SUPPLEMENTAL LETTER RE: WALL DESIGN PARAMETERS, DATED APRIL 25, 2022.

FOOTINGS SHALL BE FOUNDED AT LEAST 18" BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION / PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. FOOTING DEPTHS AND ELEVATIONS SHOWN ON DRAWINGS ARE MINIMUM AND FOR GUIDANCE ONLY. CONTRACTOR SHALL ESTABLISH ACTUAL ELEVATIONS IN FIELD. BACKFILL BEHIND ALL WALLS AND PROVIDE FOR SUBSURFACE DRAINAGE AS RECOMMENDED IN THE GEOTECHNICAL REPORT.

SOIL PROFILE TYPE	SITE CLASS "D"
ALLOWABLE VERTICAL DESIGN PRESSURE	4,000 PSF
<u>LATERAL EARTH PRESSURE, LEVEL BACKFILL:</u>	
UNRESTRAINED (ACTIVE)	35 PCF
RESTRAINED (AT-REST)	55 PCF
SEISMIC SURCHARGE, ACTIVE	7H PSF (UNIFORM, H = RETAINED HEIGHT)
SEISMIC SURCHARGE, AT-REST	22H PSF (UNIFORM, H = RETAINED HEIGHT)
VERTICAL SURCHARGE COEFFICIENT, ACTIVE	0.3
VERTICAL SURCHARGE COEFFICIENT, AT-REST	0.5
ALLOWABLE PASSIVE PRESSURE	275 PCF, FS = 1.5 (NEGLECT UPPER 2 FT)
ALLOWABLE FRICTION COEFFICIENT	0.4, FS = 1.5

SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION OF THESE ITEMS:

STRUCTURAL STEEL	GLUED-LAMINATED MEMBERS
CONCRETE MIX DESIGN	EMBEDDED ITEMS IN CONCRETE
CONCRETE REINFORCING	MASONRY REINFORCING
WOOD I-JOISTS	
OPEN-WEB WOOD TRUSSES	

CONTRACTOR SHALL REVIEW AND STAMP SUBMITTALS PRIOR TO SUBMISSION. DIMENSIONS AND QUANTITIES ARE CONTRACTOR'S RESPONSIBILITY AND WILL NOT BE REVIEWED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS PLACED PRIOR TO RECEIPT OF REVIEWED SHOP DRAWINGS. CONTRACTOR SHALL ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW.

SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

DEFERRED SUBMITTALS: DRAWINGS AND CALCULATIONS FOR BIDDER-DESIGNED COMPONENTS, SEALED BY THE WASHINGTON STATE REGISTERED PROFESSIONAL STRUCTURAL ENGINEER RESPONSIBLE FOR THE DESIGN, SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. DEFERRED SUBMITTALS INCLUDE:

DESIGN-BUILD STEEL AWNINGS  
ENGINEERED WOOD I-JOISTS  
PRE-FABRICATED OPEN-WOOD TRUSSES  
SEISMIC BRACING AND ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES

SUBMITTALS OF BIDDER-DESIGNED COMPONENTS SHALL INCLUDE LOCATIONS, MAGNITUDES, AND DIRECTIONS OF ALL FORCES TRANSFERRED TO THE STRUCTURE. CALCULATIONS SUBMITTED FOR BIDDER-DESIGNED COMPONENTS ARE FOR INFORMATION ONLY AND WILL NOT BE REVIEWED.

SEISMIC BRACING AND ANCHORAGE OF MECHANICAL UNITS AND OTHER MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES SHALL BE DESIGNED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON. THE MECHANICAL AND ELECTRICAL CONTRACTORS MUST RETAIN THE SERVICES OF A STRUCTURAL ENGINEER AND SHALL BE RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF SEISMIC BRACING AND ANCHORAGE OF THEIR SYSTEMS.

CONCRETE:

REFERENCE STANDARDS: CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF THE FOLLOWING DOCUMENTS, EXCEPT AS MODIFIED BELOW:

ACI 301	"SPECIFICATIONS FOR STRUCTURAL CONCRETE"
ACI 318	"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
ACI 304	"GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE"
ACI 311	"GUIDE FOR CONCRETE INSPECTION"
ACI SP-15*	"FIELD REFERENCE MANUAL"

\*A COPY SHALL BE KEPT IN THE CONTRACTOR'S FIELD OFFICE AT ALL TIMES.

MATERIALS:

CEMENT	ASTM C150, C595
*AGGREGATES	ASTM C33
ADMIXTURES	ASTM C260, C494, C1017
*FLY ASH	ASTM C618, CLASS F OR C

\*AGGREGATES THAT EXHIBIT DELETERIOUS ACTIVITY WHEN EVALUATED IN ACCORDANCE WITH ASTM C33 APPENDIX XI SHALL NOT BE USED. THE 'SAND EQUIVALENT' FOR FINE AGGREGATE SHALL NOT BE LESS THAN 75.\*  
\*MAXIMUM LOSS ON IGNITION SHALL BE 1%.

CONCRETE MIXES SHALL BE PROPORTIONED TO ACHIEVE A WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO USE. COMPLY WITH IBC SECTION 1904. MIXES SHALL MEET OR EXCEED THE FOLLOWING CRITERIA:

TYPE OF CONSTRUCTION	SPECIFIED COMPRESSIVE STRENGTH (f'c) AT 28 DAYS, UNO	MAXIMUM WATER/CEMENT RATIO	EXPOSURE CLASS (ACI 318-14 TABLES 19.3.1.1 AND 19.3.2.1)
CONCRETE EXPOSED TO WEATHER (STEM WALLS)	4,500 PSI	0.45	F2, S0, W0, C1
CONCRETE EXPOSED TO SALT AND/OR DE-ICING CHEMICALS	5,000 PSI	0.40	F3, S0, W0, C2
BELOW-GRADE CONCRETE (FOOTINGS)	3,500 PSI	0.55	F1, S0, W0, C1
MISCELLANEOUS EXTERIOR CONCRETE (EXTERIOR SLABS AND SITE WALLS)	4,500 PSI	0.45	F2, S0, W0, C1
INTERIOR SLABS-ON-GRADE	4,000 PSI	0.40* *	F0, S0, W0, C1

\* \*WATER-CEMENTITIOUS MATERIAL RATIO FOR INTERIOR SLABS SHALL BE 0.40 UNLESS OTHERWISE NOTED.

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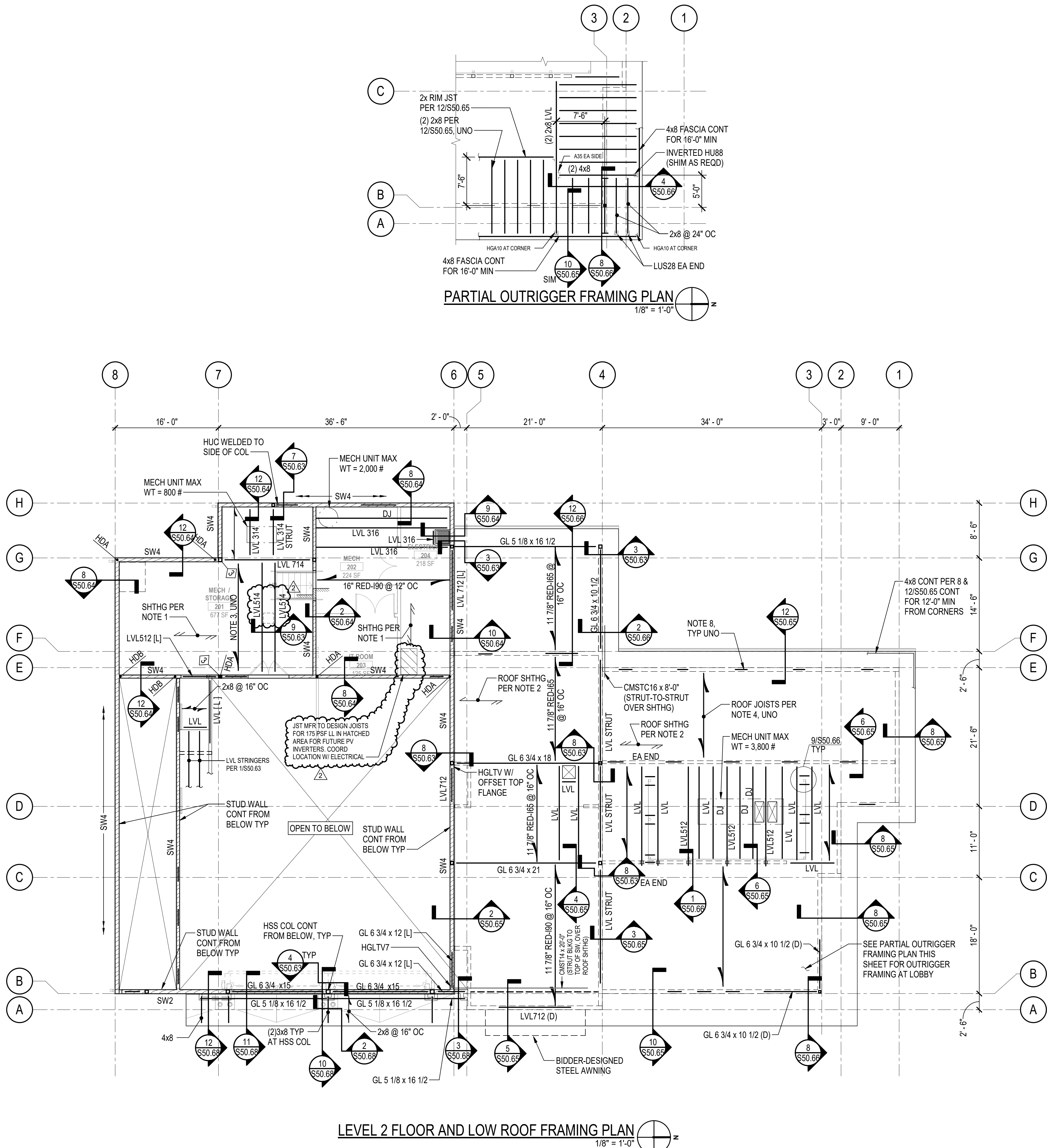
STATION 45  
CENTRAL KITSAP FIRE & RESCUE  
3725 TRENTON AVE  
BREMERTON, WA 98310

PROJECT #		262021.048
BID SET		
ISSUE DATE		APRIL 4, 2022
REVISION SCHEDULE		
2	BID CHANGES	4/27/2022



GENERAL  
STRUCTURAL NOTES





PLAN NOTES:

- LEVEL 2 FLOOR SHEATHING SHALL BE 3/4" T&G PLYWOOD SHEATHING (PANEL SPAN RATING 48/24). PROVIDE 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING AT ALL PANEL EDGES, DIAPHRAGM BOUNDARIES, STRUTS, BLOCKING, AND SHEAR WALLS BELOW WITH 10d @ 4" OC. NAIL SHEATHING TO ALL INTERMEDIATE FRAMING WITH 10d @ 12" OC. GLUE SHEATHING AT ALL SUPPORTS WITH ADHESIVE CONFORMING TO A.P.A. SPECIFICATION AFG-01.
- LOW ROOF SHEATHING SHALL BE 5/8" PLYWOOD SHEATHING (PANEL SPAN RATING 40/20). PROVIDE 2x FLAT BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING AT ALL PANEL EDGES, DIAPHRAGM BOUNDARIES, AND EXTERIOR SHEAR WALLS BELOW WITH 10d @ 6" OC. NAIL SHEATHING AT ALL STRUTS, BLOCKING, STRUT BLOCKING AND INTERIOR SHEAR WALLS BELOW WITH 10d @ 3" OC STAGGERED. NAIL SHEATHING TO ALL INTERMEDIATE FRAMING WITH 10d @ 12" OC.
- FLOOR JOISTS SHALL BE 14" RED-190 @ 16" OC, UNLESS NOTED OTHERWISE.
- LOW ROOF JOISTS SHALL BE 11 7/8" RED-165 @ 24" OC, UNLESS NOTED OTHERWISE.
- EXTERIOR STUD WALL SHALL BE 2x8 @ 16" OC, UNLESS NOTED OTHERWISE. INTERIOR STUD WALLS SHALL BE 2x STUDS @ 16" OC, UNO. SEE ARCHITECTURAL DRAWINGS FOR WALL TYPES. SEE 12/S50.60 FOR SPECIAL STUD REQUIREMENTS AT HEAVILY NAILED SHEAR WALL PANEL EDGES. SEE DETAILS ON S50.62 FOR TYPICAL WALL FRAMING DETAILS AND ALLOWABLE PENETRATIONS THROUGH WALL STUDS AND PLATES.
- POSTS OR JAMB STUDS SUPPORTING BEAM OR HEADERS ABOVE SHALL BE (2) STUDS, UNLESS NOTED OTHERWISE.
- BEAMS SHALL BE FLUSH FRAMED UNLESS NOTED (D) FOR DROPPED.
- FRAME OPENINGS IN STRUCTURAL WALLS PER 2/S50.62, UNLESS NOTED OTHERWISE. HEADERS IN EXTERIOR WALLS SHALL BE (4) 2x8 AND DROPPED BELOW STUD WALL TOP PLATE PER 2/S50.62, UNLESS NOTED OTHERWISE. HEADERS IN INTERIOR WALLS SHALL BE (3)2x8 AND DROPPED BELOW STUD WALL TOP PLATE, UNLESS NOTED OTHERWISE.
- PROVIDE "HU" HANGERS AT ALL FLUSH WOOD BEAM-TO-WOOD BEAM CONNECTIONS AND ALL FLUSH SKEWED FRAMING CONNECTIONS UNLESS NOTED OTHERWISE. PROVIDE "HUC" HANGERS AT ALL WOOD BEAM-TO-POST CONNECTIONS, UNLESS NOTED OTHERWISE. "HU" AND "HUC" HANGERS SHALL BE SIZED TO MATCH NOMINAL DEPTH OF SUPPORTED MEMBERS, UNLESS NOTED OTHERWISE.
- SHEAR WALL CORNERS AND INTERSECTIONS SHALL BE FRAMED AND NAILED PER 3/S50.60, UNLESS NOTED OTHERWISE.
- STRUCTURAL DRAWINGS DO NOT SHOW ALL LOCATIONS OF MECHANICAL UNITS, PIPING, OR OTHER EQUIPMENT (REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND FIRE PROTECTION DRAWINGS). THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE FINAL WEIGHTS AND LOCATIONS OF THE UNITS AND PIPE RUNS (INCLUDING SPECIFIC SUPPORT LOADS AND SUPPORT CONFIGURATION) WITH THE WOOD JOIST MANUFACTURER, MECHANICAL / ELECTRICAL / PLUMBING / FIRE PROTECTION CONTRACTORS AND STRUCTURAL ENGINEER PRIOR TO JOIST FABRICATION. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

LEGEND

- WOOD POST OR COLUMN THIS LEVEL, SEE NOTE 6
- SHEAR WALL THIS LEVEL PER SCHEDULE 12/S50.60, SEE NOTES 5, 8, & 10
- HOLDOWN PER SCHEDULE 12/S50.61
- STRUCTURAL WOOD WALL THIS LEVEL, SEE NOTES 5, 8, AND 10
- WALL BELOW THIS LEVEL
- MULTI-STUD POST WITH "X" STUDS
- SPAN DIRECTION OF FRAMING MEMBERS
- LVL LVL 3 1/2 x 11 7/8
- LVL 314 LVL 3 1/2 x 14
- LVL 316 LVL 3 1/2 x 16
- LVL 512 LVL 5 1/4 x 11 7/8
- LVL 514 LVL 5 1/4 x 14
- LVL 712 LVL 7 x 11 7/8
- LVL 714 LVL 7 x 14
- DJ DOUBLE JOIST
- STEP IN FRAMING ELEVATION
- STRUT FRAMING MEMBER NAILED AS STRUT, SEE PLAN NOTES 1 AND 2
- (D) DROPPED BEAM
- [H]; [M]; [L] RELATIVE LOCATION OF MEMBER OR DETAIL CUT  
[H]: HIGH; [M]: MIDDLE; [L]: LOW



**STATION 45**  
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**LEVEL 2 AND LOW ROOF FRAMING PLAN**







SPAN	LEDGER
UP TO 4'-0"	L4x4x1/4
4'-0" < L ≤ 7'-0"	L6x4x3/8 (LLV)
7'-0" < L ≤ 12'-6"	L8x4x1/2 (LLV)

LEDGER BEARS ON BRICK JAMB, INDEPENDENT OF WALL.



## MASONRY VENEER ANGLE LINTEL $\frac{3}{4}" = 1'-0"$ 2



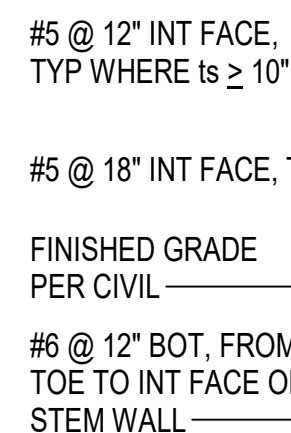
- TYPICAL EMBED PLATE CONN TO F.O. CONC WALL  $\frac{3}{4}" = 1'-0"$  **4**



PLAN VIEW AT CONTROL JOINT <sup>NTS</sup> **5**



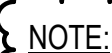
## FRAMING DETAIL AT BUNKER GEAR 6



SCHEDULE						
WALL HEIGHT "H"	t <sub>s</sub>	MINIMUM B1	MINIMUM B2	t <sub>r</sub>	STEM REINF	
					VERT	TOP
UP TO 5'-0"	8"	1'-0"	2'-0"	1'-0"	#4 @ 12"	#5 @ 12"
7'-0"	8"	1'-6"	3'-0"	1'-0"	#5 @ 12"	#5 @ 12"
9'-0"	8"	2'-4"	4'-0"	1'-6"	#6 @ 12"	#5 @ 12"
11'-0"	10"	2'-8"	4'-6"	1'-6"	#7 @ 8"	#6 @ 10"

## NOTES

- ## TYPICAL CANTILEVERED CONCRETE RETAINING WALL NTS 10



- FOUNDATION DETAIL 11  
3/4" = 1'-0"



FOUNDATION DETAIL AT EXTRACTOR  $\frac{3}{4}" = 1'-0"$  12

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**STATION 45**  
**CENTRAL KITSAP FIRE & RESCUE**  
3725 TRENTON AVE  
BREMERTON, WA 98310

[illegible]

AHJ APPROVAL STAMP

## FOUNDATION DETAILS

SHEET #

**\$50.07**





Cobalt Geosciences, LLC  
P.O. Box 82243  
Kenmore, Washington 98028

April 25, 2022

Rice Fergus Miller Architecture  
Jason Ritter-Lopatowski  
[jritter@rfmarch.com](mailto:jritter@rfmarch.com)  
cc. Brian Matsumoto

**RE: Wall Design Parameters**

Fire Station 45  
3725 Trenton Avenue NE  
Bremerton, Washington

In accordance with your authorization, Cobalt Geosciences, LLC has prepared this letter to present wall design parameters for use in new concrete retaining wall design by a structural engineer.

**Seismic Parameters**

The overall subsurface profile corresponds to a Site Class *D* as defined by Table 1613.5.2 of the International Building Code (IBC). A Site Class *D* applies to an overall profile consisting of stiff/medium dense soils within the upper 100 feet.

We referenced the U.S. Geological Survey (USGS) Earthquake Hazards Program Website to obtain values for  $S_s$ ,  $S_I$ ,  $F_a$ , and  $F_v$ . The USGS website includes the most updated published data on seismic conditions. The following tables provide seismic parameters from the USGS web site with referenced parameters from ASCE 7-16. These values are for a risk category IV.

**Seismic Design Parameters (ASCE 7-16)**

Site Class	Spectral Acceleration at 0.2 sec. (g)	Spectral Acceleration at 1.0 sec. (g)	Site Coefficients		Design Spectral Response Parameters		Design PGA
			$F_a$	$F_v$	$S_{DS}$	$S_{D1}$	
D	1.576	0.554	1.0	Null	1.051	Null	0.673

Additional seismic considerations include liquefaction potential and amplification of ground motions by soft/loose soil deposits. The liquefaction potential is highest for loose sand with a high groundwater table. The site has a low likelihood of liquefaction. For items listed as "Null" see Section 11.4.8 of the ASCE. The structural engineer will likely need to interpret values for those listed as Null.

**Concrete Retaining Walls**

The following table, titled **Wall Design Criteria**, presents the recommended soil related design parameters for retaining walls with a level backslope. Contact Cobalt if an alternate retaining wall system is used.



<b>Wall Design Criteria</b>	
"At-rest" Conditions (Lateral Earth Pressure – EFD <sup>+</sup> )	55 pcf (Equivalent Fluid Density)
"Active" Conditions (Lateral Earth Pressure – EFD <sup>+</sup> )	35 pcf (Equivalent Fluid Density)
Seismic Increase for "At-rest" Conditions (Lateral Earth Pressure)	21H* (Uniform Distribution) 1 in 2,500 year event
Seismic Increase for "At-rest" Conditions (Lateral Earth Pressure)	14H* (Uniform Distribution) 1 in 500 year event
Seismic Increase for "Active" Conditions (Lateral Earth Pressure)	7H* (Uniform Distribution)
Passive Earth Pressure on Low Side of Wall (Allowable, includes F.S. = 1.5)	Neglect upper 2 feet, then 275 pcf EFD <sup>+</sup>
Soil-Footing Coefficient of Sliding Friction (Allowable; includes F.S. = 1.5)	0.40

\*H is the height of the wall; Increase based on one in 500 year seismic event (10 percent probability of being exceeded in 50 years),

<sup>+</sup>EFD – Equivalent Fluid Density

The stated lateral earth pressures do not include the effects of hydrostatic pressure generated by water accumulation behind the retaining walls or surcharges such as slopes, buildings, or heavy loads. Uniform horizontal lateral active and at-rest pressures on the retaining walls from vertical surcharges behind the wall may be calculated using active and at-rest lateral earth pressure coefficients of 0.3 and 0.5, respectively. A soil unit weight of 125 pcf may be used to calculate vertical earth surcharges. Lower values are anticipated if geofoam is utilized. For sloping backfill, a surcharge of 0.75 pcf per degree of slope should be included.

To reduce the potential for the buildup of water pressure against the walls, continuous footing drains (with cleanouts) should be provided at the bases of the walls. The footing drains should consist of a minimum 4-inch diameter perforated pipe, sloped to drain, with perforations placed down and enveloped by a minimum 6 inches of pea gravel in all directions.

The backfill adjacent to and extending a lateral distance behind the walls at least 12 inches should consist of free-draining granular material. All free draining backfill should contain less than 3 percent fines (passing the U.S. Standard No. 200 Sieve) based upon the fraction passing the U.S. Standard No. 4 Sieve with at least 30 percent of the material being retained on the U.S. Standard No. 4 Sieve. The primary purpose of the free-draining material is the reduction of hydrostatic pressure. Some potential for the moisture to contact the back face of the wall may exist, even with treatment, which may require that more extensive waterproofing be specified for walls, which require interior moisture sensitive finishes.

We recommend that the backfill be compacted to at least 90 percent of the maximum dry density based on ASTM Test Method D1557. In place density tests should be performed to verify adequate compaction. Soil compactors place transient surcharges on the backfill. Consequently, only light hand operated equipment is recommended within 3 feet of walls so that excessive stress is not imposed on the walls.



## Closure

The information presented herein is based upon professional interpretation utilizing standard practices and a degree of conservatism deemed proper for this project. We emphasize that this report is valid for this project as outlined above and for the current site conditions and should not be used for any other site.

Sincerely,

**Cobalt Geosciences, LLC**



4/25/2022  
Phil Haberman, PE, LG, LEG  
Principal



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P30.02 PLUMBING DETAILS  
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TOTAL NUMBER OF SHEETS: 168

**END OF SECTION 00 01 15**



## SECTION 03 35 36 - POLISHED CONCRETE FINISHING

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A . Polished concrete finish on new cast-in-place concrete work.

#### 1.2 RELATED REQUIREMENTS

- A . 03 30 00 - Cast-in-Place Concrete.
- B . 03 35 13 - Concrete Floor and Architectural CIP Finishing; for additional concrete finishes.

#### 1.3 ADMINISTRATIVE REQUIREMENTS

- A . Preinstallation Meeting: Convene one week before starting work of this section in accordance with Section 01 30 00 - Project Coordination.
  - 1. Review preparation and installation procedures, and coordinating and scheduling required with related work.

#### 1.4 SUBMITTALS

- A . Qualification Data: For installer.
- B . Samples: Submit two, 12 inch square samples, illustrating aggregate size, color and the extremes of color range.

#### 1.5 QUALITY ASSURANCE

- A . Installer's Qualifications:
  - 1. Certified Polished Concrete installer.
  - 2. Certified PCI or CSDA installer.
- B . Perform Work in accordance with ACI 301 and ACI 303R.
  - 1. Maintain one copy of each document on project site.

#### ~~1.61.1~~ MOCKUP

- ~~A . Visual and Constructability Mockup:~~
  - ~~1. Construct and participate as specified in Section 014339 - Mockups.~~

#### ~~1.71.6~~ DELIVERY, STORAGE, AND HANDLING

- A . Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B . Storage:
  - 1. Store materials in clean, dry area indoors in accordance with manufacturer's instructions.



2. Keep materials from freezing.
- C. Handling: Protect materials during handling and application to prevent contamination or damage.

## **PART 2 - PRODUCTS**

### **2.1 DESCRIPTION**

- A. Polished Concrete Floor: Dry or wet grinding and polishing with various size grit metal-bonded and resin-bonded diamonds and application of concrete densifier by a IPCI certified polished concrete installer.

### **2.2 PERFORMANCE AND DESIGN CRITERIA**

- A. Wet Dynamic Coefficient of Friction (DCOF): Not less than 0.42 as tested in accordance with ANSI/NFSI B101.3 Wet DCOF of Common Hard-Surface Floor Materials.
- B. Finished floor surface to have a minimum hardness rating of 6.5 Mohs (Hardness Pencil Test) in accordance with ASTM D3363.

### **2.3 MATERIALS**

- A. Concrete Densifier / Sealer:
  1. Prosoco Consolideck LS.
  2. Vexcon Certi-Shine Clear FSR Diamond Polished.
  3. Lythic Densifier / Lythic SPD Protector.
  4. Substitutions: See Section 01 60 00 - Product Requirements.

### **2.4 CONCRETE MIX**

- A. Concrete mix design is specified in Section 033000.

### **2.5 EQUIPMENT TO BE USED FOR INSTALLATION**

- A. Floor Grinder: Type: Multi-orbital, planetary-action, opposing-rotational, diamond-headed floor grinder.
- B. Vacuum System: Ruwac / Ermator (or equivalent) model as determined by installer to perform required dust extraction during grinding and polishing of concrete floor. Diamond Tooling for Initial Grinding, and Preparing Floor for Polishing:
  1. 60-grit metal-bonded diamonds (or equivalent).
- C. Diamond Tooling for Polishing Concrete:
  1. 800-grit resin-bonded diamonds (or equivalent).

### **2.6 ACCESSORIES**

- A. All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.



### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A . Examine floor to receive polished concrete floor finish.
- B . Notify Architect of conditions that would adversely affect installation or subsequent use.
- C . Verify the Following for Concrete Floors:
  - 1. Floor Finish:
    - a. Slabs and flatwork shall be placed and finished monolithically.
    - b. Strike off and screed slabs to true, plane surfaces at required elevations.
    - c. Thoroughly compact concrete with vibrators, floats, and tampers to force coarse aggregate below the surface.
    - d. Power trowel with no hand finishing.
    - e. Surface should not be burned or burnished due to excessive troweling.
    - f. Imprints are not acceptable.
  - 2. Floor and Joints:
    - a. Free of debris and excessive dirt, dust, clay, and mud.
    - b. Dry.
  - 3. Floor Surface Profile:
    - a. Floor Flatness Number (FF): 55.
  - 4. Concrete Curing: Minimum 8 days water cured or dissipating curing compound applied.
  - 5. Concrete Adjacent to Floor Penetrations: Troweled flat and level with surrounding concrete.
  - 6. Concrete Adjacent to Drains, clean-outs, etc: Finish level to the top of the structure.

#### **3.2 PREPARATION**

- A . Protection: Protect surrounding areas and adjacent surfaces from the following:
  - 1. Minimal accumulation of dust from grinding and polishing.
  - 2. Contact with overspray of concrete densifier.
- B . Surface Preparation: Prepare surfaces in accordance with installer's instructions.
- C . Clean Surfaces: Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint, coatings, and other surface contaminants which could adversely affect installation of polished concrete floor system.

#### **3.3 INSTALLATION**

- A . Install polished concrete floor system in accordance with installer's instructions at locations indicated on the Drawings.



B. Polished Concrete Floor System:

1. Preparation Step:
  - a. For exposure of standard aggregate: Open-up concrete to accept concrete densifier by grinding with 60-grit metal-bonded diamonds.
2. Apply concrete densifier to deeply saturate floor.
3. Remove residue of concrete densifier dried on floor surface by grinding with 80-grit metal-bonded diamonds.
4. Floor Closure Polishing:
  - a. Remove 80-grit metal-bonded diamond scratches by grinding with 100-grit hybrid diamonds.
  - b. Remove 100-grit resin-bonded diamond scratches by grinding with 200-grit hybrid diamonds.
  - c. Remove 200-grit resin-bonded diamond scratches by grinding with 400-grit resin-bonded diamonds.
  - d. Remove 400-grit resin-bonded diamond scratches by grinding with 800-grit resin-bonded diamonds.
  - e. Apply protective sealer.
  - f. High speed burnish protective sealer with diamond impregnated pad.

3.4 TESTING

- A. Test each concrete surface in accordance with ANSI/NFSI B101.3 to confirm compliance with performance criteria.

3.5 FIELD QUALITY CONTROL

- A. Inspect completed polished concrete floor system with Owner, Contractor, Architect, and Installer.
- B. Review procedures with Architect to correct unacceptable areas of completed polished concrete floor system.

3.6 PROTECTION

- A. Protect completed polished concrete floor system from damage until Substantial Completion.
1. Do not allow vehicle and pedestrian traffic on unprotected floor.
  2. Do not allow construction materials, equipment, and tools on unprotected floor.
- B. Immediately remove mortar splatter, spilled liquids, oil, grease, paint, coatings, and other surface contaminants which could adversely affect completed polished concrete floor system.
- C. Repair damaged areas of completed polished concrete floor system to satisfaction of Architect.



3.7 SCHEDULE

A . **(CONC-1)** Polished Concrete:

1. Class B.
2. Finish: Fine aggregate - salt and pepper.

B . **(CONC-2)** Sealed Concrete: See Section 03 35 13 Concrete Floor and Architectural CIP.

END OF SECTION



## SECTION 05 05 13 - SHOP-APPLIED COATINGS FOR METAL

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A . Heat-cured spray and powder coated fluoropolymer coating systems on metal substrates.
- B . Anodized aluminum coatings on metal substrates.

#### 1.2 RELATED REQUIREMENTS

- A . 05 50 00 - Metal Fabrications: for components receiving finishes specified in this section.
- B . 07 42 13 - Metal Wall Panels: for components receiving finishes specified in this section.
- C . 07 62 00 - Sheet Metal Flashing and Trim: for components receiving finishes specified in this section.

~~D . 08 91 00 - Louvers: for components receiving finishes specified in this section.~~

~~E . D .~~ Division 23 for mechanical louvers.

#### 1.3 SUBMITTALS

- A . Product Data: For each type of coating product specified.
- B . Samples for Verification: For each color and substrate.
- C . Certificate for Applicator's Qualifications: Submit certification from the manufacturer stating that the applicator is an approved applicator of the material for work of this Section.
- D . Samples: Submit samples of each specified finish for verification.
- E . Coating Touch-Up Procedures: Submit coating manufacturer's recommended touch-up procedures and instructions.
- F . Certificate: Submit certification from the coating manufacturer stating that the resin used is fluorosurfactant free.
- G . Warranty Draft: Submit draft of warranty with required inclusions for review. Submit draft warranty with product data.
- H . Contract Closeout Submittal: Submit warranty at time of Project Closeout.

#### 1.4 QUALITY ASSURANCE

- A . Applicator Qualifications: Coating manufacturer's approved applicator equipped and trained for application of coatings, and approved to provide warranty specified.



1.5 DELIVERY, STORAGE & HANDLING

- A. Deliver, unload, and store coated items so that they remain free of damage and deformation. Package and protect items during shipping and handling. Protect stored items from water. Keep coated items out of contact with materials that may adversely affect the coating.

1.6 COORDINATION

- A. Coordinate substrates and shop-applied coating systems. Where items are indicated to match coatings selected for other items, adjust formulations as required to achieve match.

1.7 WARRANTY

- A. Fluoropolymer Coatings: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which coatings do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.
  - 1. Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  - 2. Warranty Period: 20 years from date of Substantial Completion.

**PART 2 - PRODUCTS**

2.1 DESCRIPTION

- A. Heat-cured fluoropolymer coating systems on metal substrates including curtain walls, metal panels, louvers, and flashing and trim.

2.2 FLUOROPOLYMER COATINGS

- A. Basis of Design: The design is based on products manufactured by PPG Industries, Inc. Subject to compliance with requirements, manufacturers offering comparable products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Akzo Coatings, Inc.
  - 2. Valspar Corp.
- B. Fluoropolymer Coatings: Factory applied, multicoat, thermo-cured Polyvinylidene Fluoride (PVDF) coating, composed of a primer specially formulated for aluminum and fluorocarbon topcoats as follows:
  - 1. PVDF Fluorosurfactant Free Resin Content: 70 percent unless indicated otherwise.
- C. Fluoropolymer Aluminum Extrusion Coatings, AAMA 2605: Minimum 70 percent PVDF resin, by weight, in color coat .
  - 1. Product: PPG Industries, Inc., Duranar.
  - 2. Pencil Hardness, ASTM D3363: F, minimum.
  - 3. Dry Film Thickness, ASTM D7091: 0.20 mil primer coat plus 1.0 mil color coat and 0.4 mil clear topcoat, 1.6 mil total, minimum thickness.



4. Locations: Exposed aluminum extrusions, unless indicated otherwise.
- D. Fluoropolymer Aluminum Sheet Coil Coatings, AAMA 2605: 70 percent PVDF resin, by weight, in color coat.
1. Product: PPG Industries, Inc., Duranar.
  2. Pencil Hardness, ASTM D3363: F minimum.
  3. Salt Spray Resistance, ASTM B117: 1,000 hours minimum.
  4. Humidity Resistance, ASTM D2247: 1,000 hours minimum.
  5. Dry Film Thickness, ASTM D7091: 0.15 mil primer coat plus 0.70 mil color coat, 0.85 mil total, minimum thickness.
  6. Dry Film Thickness, ASTM D7091: 0.15 mil primer coat plus 0.70 mil color coat and 0.45 mil clear topcoat, 1.25 mil total, minimum thickness.
  7. Dry Film Thickness, ASTM D7091: 0.80 mil primer coat plus 0.80 mil color coat, 1.60 mil total, minimum thickness.
  8. Dry Film Thickness, ASTM D7091: 0.80 mil primer coat plus 0.80 mil color coat and 0.80 clear topcoat, 2.40 mil total, minimum thickness.
- E. Fluoropolymer Steel Sheet Coil Coatings, AAMA 621: Minimum 70 percent PVDF resin, by weight, in color coat.
1. Product: PPG Industries, Inc., Duranar.
  2. Pencil Hardness, ASTM D3363: F minimum.
  3. Salt Spray Resistance, ASTM B117: 1,000 hours minimum.
  4. Humidity Resistance, ASTM D2247: 1,000 hours minimum.
  5. Dry Film Thickness, ASTM D7091: 0.15 mil primer coat plus 0.70 mil color coat, 0.85 mil total, minimum thickness.
  6. Dry Film Thickness, ASTM D7091: 0.15 mil primer coat plus 0.70 mil color coat and 0.45 mil clear topcoat, 1.25 mil total, minimum thickness.
  7. Dry Film Thickness, ASTM D7091: 0.80 mil primer coat plus 0.80 mil color coat, 1.60 mil total, minimum thickness.
  8. Dry Film Thickness, ASTM D7091: 0.80 mil primer coat plus 0.80 mil color coat and 0.80 clear topcoat, 2.40 mil total, minimum thickness.
- F. Touch-Up Material: Fluoropolymer air-dried system which is recommended and approved by fluoropolymer finish coating manufacturer.

## 2.3 ANODIZED COATINGS

- A. Clear or Color Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.7 mil or thicker.
- B. Clear or Color Anodic Finish: AAMA 611, AA-M12C22A41, Class II, 0.4 mil or thicker.
- C. Alloys: All aluminum should be Aluminum Association alloys as recommended by manufacturers for the use intended and required to produce the specified finish.
1. Aluminum Sheet: ASTM B209, 5005-H14 Aluminum Alloy, 0.050 inch minimum thickness.



D . Anodized Finishing:

1. All exposed surfaces should receive an architectural anodized finish in conformance with Aluminum Association Standard SSA-46 or AAMA 611 standard.
  - a. Processing should be sulfuric acid or equivalent anodizing with electrolytic or immersion deposited inorganic pigmentation in the coating.
2. Exposed Surfaces shall be free of scratches and other serious blemishes.
3. Extrusions shall be given a caustic etch followed by an anodic oxide treatment and then sealed with an organic coating applied with an electrodeposition process.
4. The anodized coating shall comply with all of the requirements of AAMA 612--02: Voluntary Specifications, Performance Requirements and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum. Testing shall demonstrate the ability of the finish to resist damage from mortar, salt spray, and chemicals commonly found on construction sites, and to resist the loss of color and gloss.

2.4 ACCESSORIES

- A . All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.

**PART 3 - EXECUTION**

3.1 EXAMINATION

- A . Verify existing conditions meet the manufacturer's requirements before starting work.

3.2 FLUOROPOLYMER COATINGS PREPARATION

- A . Pretreatment: Mechanically clean and chemically pretreat fabricated items in accordance with coating manufacturer's requirements and AAMA requirements for finish indicated.

3.3 FLUOROPOLYMER COATINGS APPLICATION

- A . Apply primer and finish coats in accordance with coating manufacturer's requirements for finish indicated.
- B . Thermally cure (bake) coating immediately following application.
- C . Process coil coating in one production lot to aid in eliminating color variations due to use of metallic coating.
- D . Surface Appearance: Cured coating must be visibly free from flowlines, streaks, blisters and other surface imperfections on exposed surfaces.
  1. Surfaces shall have no signs of mill finish aluminum or galvanized material showing.
  2. No "rack" or "gripper" marks caused by the finishing process on exposed aluminum surfaces will be permitted.



3.4 FLUOROPOLYMER COATINGS REPAIR AND TOUCH-UP

A . Repair with coating manufacturer's recommended products or system.

END OF SECTION



## **SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES**

### **PART 1 - GENERAL**

#### **1.1 SECTION INCLUDES**

- A . Fire rated steel doors.
- B . Interior smoke and draft control doors.
- C . Fire rated steel frames.
- D . Exterior steel frames.

#### **1.2 RELATED REQUIREMENTS**

- A . 09 90 00 - Painting and Coating: For field painting.

#### **1.3 SUBMITTALS**

- A . Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes. Include U-value data for thermally broken doors and frames.
- B . Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.
- C . Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.
- D . Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- E . Maintenance Data: For user's operation and maintenance of system including:
  - 1. Methods for maintaining system's materials and finishes
  - 2. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.

#### **1.4 QUALITY ASSURANCE**

- A . Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A . As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.



## **PART 2 - PRODUCTS**

### **2.1 DESCRIPTION**

- A . Hollow metal frames for hollow metal doors, wood doors and glazing. Hollow metal doors for fire rated, non-fire rated, and insulated openings.

### **2.2 PERFORMANCE AND DESIGN CRITERIA**

- A . Accessibility Requirements: For doors required to be accessible, comply with applicable provisions in the Accessible and Usable Building Facilities ICC A117.1 and 2010 ADA Standards for Accessible Design – Department of Justice.
- B . Comply with ANSI A250.8 in general and for grade and style specified.
- C . NAAMM HMMA doors of equivalent or better construction are allowed.

### **2.3 MANUFACTURERS**

- A . Specification is based on Doors and Frames by one of the following:
  - 1. Assa Abloy.
  - 2. Ceco.
  - 3. Curries.
  - 4. Fleming.
  - 5. Steelcraft.

### **2.4 MATERIALS**

- A . Fire rated steel doors.
  - 1. Performance Criteria:
    - a. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C ("positive pressure").
      - 1) Provide units listed and labeled by UL.
      - 2) Attach fire rating label to each fire rated unit.
    - b. Grade: ANSI A250.8 Level 3, physical performance Level C, Model 2, seamless.
    - c. Thickness: 1-3/4 inches.
    - d. Exterior Doors, Fire Rated:
      - 1) Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M with manufacturer's standard coating thickness.
      - 2) Insulating Value: U-value of 0.29, when tested in accordance with ASTM C1363.
  - 2. Features:
    - a. Door Top and Closures: Steel, Flush with top of faces and edges.
    - b. Door Edge Profile: Beveled on both edges.
    - c. Face Texture: Smooth.



- d. Glazed Lights: Sizes and configurations as indicated on drawings. Provide secure glazing stops on secure side of door.
  - 1) Glazing: In accordance with ICC (IBC)-2012 716 Tables.
- e. Color: To be selected from manufacturer's full range.
- f. Finish: Factory primed for field finishing.

**B . Interior Smoke and Draft Control Doors**

- 1. (Indicated as "S" on Drawings): Same construction as fire rated doors with indicated fire rating, plus:
- 2. Maximum Air Leakage: 3.0 cfm per sq ft of door opening at 0.10 inch w.g. pressure, when tested in accordance with UL 1784 at both ambient and elevated temperatures.
- 3. Gasketing: No added gasketing or seals allowed.
- 4. Label: UL "S" label.

**C . Fire Rated Frames:**

- 1. Performance Criteria:
  - a. Comply with the requirements of grade specified for corresponding door.
  - b. Fire Rating: Same as door, labeled, tested in accordance with UL 10C ("positive pressure").
  - c. Frames for Wood Doors: Comply with frame requirements specified in ANSI A250.8 for Level 2.
  - d. Frames for Glass: Comply with frame requirements specified in ANSI A250.8 for Level 1, 18 gage.
- 2. Features:
  - a. Assembly: Fully welded.
  - b. Finish: Factory primed, for field finishing.

**D . Exterior Frames:**

- 1. Performance Criteria:
  - a. Comply with the requirements of grade specified for corresponding door.
  - b. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
  - c. Provide with true thermal break.
  - d. Insulated Frame: Material as recommended by door manufacturer.
- 2. Features:
  - a. Assembly: Fully welded.
  - b. Finish: Factory primed, for field finishing.

**2.5 ACCESSORIES**

- A . All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.



B. Glazing: As specified in Section 08 80 00 - Glazing, factory installed.

C. Louvers: Comply with SDI 111, with blades or baffles formed of 0.020 inch thick, cold-rolled steel sheet set into 0.032 inch thick steel frame.

1. Finish to match door.

2. Locations as indicated.

~~B-3.~~ Provide Fire-Rated Automatic louvers if required to maintain fire rating of door.

~~C-D.~~ Mineral Fiber Insulation: For filling frame cavities.

## 2.6 FINISHING

A. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.

B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

C. Field Finish: In accordance with Section 09 90 00 - Painting and Coating.

## **PART 3 - EXECUTION**

### 3.1 EXAMINATION

A. Verify existing conditions meet the manufacturer's requirements before starting work.

### 3.2 PREPARATION

A. Prepare surfaces to receive work in accordance with manufacturer's instructions.

B. Coat inside of frames to be installed in masonry, with bituminous coating, prior to installation.

C. Coat inside of other frames with bituminous coating to a thickness of 1/16 inch.

### 3.3 INSTALLATION

A. General: Install all materials in accordance with manufacturer's instructions based on conditions present.

B. Install in accordance with the requirements of the specified door grade standard and NAAMM HMMA 840.

C. Install fire rated units in accordance with NFPA 80.

D. Seal seam at top closures after finish is applied to create a smooth surface without groove or pits.

1. Seal with sealant Per Section 07 90 05 - Joint Sealers.

E. Pack all frames with insulation.

F. Coordinate installation of hardware.

G. Coordinate installation of electrical connections to electrical hardware items.

H. Touch up damaged factory finishes.



3.4 TOLERANCES

- A . Clearances Between Door and Frame: As specified in ANSI A250.8.
- B . Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.

3.5 ADJUSTING

- A . Adjust and lubricate hardware for proper operation.
- B . Adjust for smooth and balanced door movement in accordance with manufacturer's instructions.

3.6 PROTECTION

- A . Protect installed work as required by the manufacturer to maintain product performance, design criteria, and warranty.

3.7 SCHEDULE

- A . Refer to door schedule on drawings.

END OF SECTION



## **SECTION 32 31 14 - VERTICAL PIVOT GATES**

### **PART 1 - GENERAL**

#### **1.1 SECTION INCLUDES**

- A . Vertical pivot gates.
- B . Automatic gate operators, including controls.
- C . Accessories.

#### **1.2 RELATED REQUIREMENTS**

- A . Section 03 30 00 - Cast-in-Place Concrete: Concrete anchorage for posts.
- B . Section 08 71 00 - Door Hardware: Gate hardware.

#### **1.3 SUBMITTALS**

- A . Product Data: Provide data on fabric, posts, accessories, fittings and hardware.
- B . Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.
- C . Shop Drawings: For gates, Include plans, elevations, sections, details, and attachments to other work.
  - 1. Include diagrams for power, signal, and control wiring.
- D . Samples: For each fence material and for each color specified.
  - 1. Provide Samples 12 inches square for bar grating.
- E . Manufacturer's Installation Instructions: Indicate installation requirements, post foundation anchor bolt templates, and locking mechanisms.

#### **1.4 CLOSEOUT SUBMITTALS**

- A . Maintenance Data: For gate operators to include in maintenance manuals.

#### **1.5 QUALITY ASSURANCE**

- A . Installer Qualifications: Fabricator of products.

#### **1.6 WARRANTY**

- A . Correct defective Work within a five year period after Date of Substantial Completion.



## **PART 2 - PRODUCTS**

### **2.1 PERFORMANCE REQUIREMENTS**

- A . Lightning-Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

### **2.2 MATERIALS**

- A . All piping for gate shall be Schedule 40 hot-dipped galvanized steel or approved equal for size, finish, material composition, strength, appearance, performance and ease of maintainability.
- B . Galvanizing shall be in accordance with ASTM F 688-88.
- C . All materials except nuts and bolts shall have the PVC coating extruded and adhered to the galvanized steel core wire per ASTM F 668-88, Class 2a. Black. Fabric shall have .015 to .025 inch PVC coating extruded and adhered to the core. All other materials shall be 10 to 15 mils PVC coating.
- D . All fencing and gate post, rails and fasteners are to be fabricator painted and powder coated. Color to be Black. Submit color for architect's approval.

### **2.3 VERTICAL PIVOT GATES**

- A . Gate Configuration: Single leaf.
  - 1. Type: Vertical Pivot.
- B . Gate Frame Height: As indicated on drawings.
- C . Gate Opening Width: As indicated on drawings.
- D . Automated vehicular gates shall comply with ASTM F 2200, Class II.
- E . Galvanized-Steel Frames and Bracing: Fabricate members from square tubing.
  - 1. Vertical Pivot Gate constructed in accordance with ASTM 1184 Type II Class 2 and in compliance with UL-325, and ASTM 2200, height per drawings, with all posts, rails, and fittings painted black.
- F . Additional Rails: Provide as indicated, complying with requirements for fence rails.
- G . Infill: Comply with requirements for adjacent fence.
- H . Picket Size, Configuration, and Spacing: Comply with requirements for adjacent fence.
  - 1. Finish as specified for gates.
- I . Hardware: Coordinate with Owner and Owner's access control specialist.
- J . Galvanizing: For items other than hardware that are indicated to be galvanized, hot-dip galvanize to comply with ASTM A 123/A 123M. For hardware items, hot-dip galvanize to comply with ASTM A 153/A 153M.
- K . Aluminum Finish: Baked enamel or powder coating.



- L . Color: Black. Submit samples for Architects approval.
- M . Welding: All field welds shall be fully filled, ground flush, and smooth, and cold galvanized by brushing on black colored paint to match color coated fencing (two coats required).

## 2.4 GATE OPERATORS

- A . Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. AutoGate.
  - 2. Tilt A Way.
  - 3. Substitutions for products by manufacturers other than those listed: See Section 01 60 00 - Product Requirements.
- B . Provide factory-assembled automatic operating system designed for gate size, type, weight, and operation frequency. Provide operation control system with characteristics suitable for Project conditions, with remote-control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements with building electrical system.
  - 1. Provide operator design allowing motor to be removed without disturbing limit-switch adjustment and without affecting auxiliary emergency operator.
  - 2. Provide UL approved operator.
  - 3. Provide electronic components with built-in troubleshooting diagnostic feature.
  - 4. Provide unit designed and wired for both right-hand/left-hand opening, permitting universal installation.
- C . Comply with NFPA 70.
- D . UL Standard: Manufacturer and label gate operators to comply with UL 325.
- E . Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for automatic gate operators on gates that must provide emergency access.
- F . Motor Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, within installed environment, with indicated operating sequence, and without exceeding nameplate rating or considering service factor. Comply with NEMA MG 1 and the following:
  - 1. Voltage: 208 V.
  - 2. Horsepower: 1/2.
  - 3. Enclosure: Manufacturer's standard.
  - 4. Duty: Continuous duty at ambient temperature of 105 deg F and at altitude of 3300 feet above sea level.
  - 5. Service Factor: 1.15 for open drip proof motors; 1.0 for totally enclosed motors.
  - 6. Phase: Three.
- G . Drive release: Must instantly release tension on both drive wheels, and disengage them from contact with drive rail in a single motion, for manual operation.
- H . Safety devices: Provide photocell beams to reverse or stop gate movement when beam is broken.



- I. Safety devices: Provide photocell beams to reverse or stop gate movement when beam is broken.
- J. Time Delay System: Capable of delaying closure of gate from 3 to 90 seconds. Type compatible with gate operator and accessory components.
- K. Magnetic Vehicle detectors: In-ground type designed to detect the presence of approaching vehicles and electronically signal gate operator to open or hold gate. Detectors to be compatible with gate operators and accessory components.
- L. Gate Operators and Accessories: Coordinate gate operation with Owner and Owner's access control specialist.

## 2.5 MISCELLANEOUS MATERIALS

- A. Gate Access control Stand (pad mount):
  - 1. Dual Height Pedestal: 3" x 3", 11 gauge tube wall thickness.
    - a. Armature mounting arm heights: 42" and 72".
    - b. Finish: Black wrinkle powder coat.
- B. Faceplate for mounting access control equipment: 4 3/4" x 4 3/4" x 1/4" slotted face plate:
  - 1. Material: A36 steel.
  - 2. Finish: Black wrinkle powder coat.
- C. Base: 8" x 8"
  - 1. Material: Manufacturers standard base and cover.
  - 2. Finish: Black wrinkle powder coat.
- D. Mounting Hardware: Manufacture's standard carriage bolts and nuts.
- E. Manufacturer: Goose Neck Stands.
  - 1. Model #: 72-DSP-3-12-12.

## **PART 3 - EXECUTION**

### 3.1 EXAMINATION

- A. Verification of Conditions: Verify that areas are clear of obstructions or debris.

### 3.2 PREPARATION

- A. Removal: Obstructions or debris.

### 3.3 INSTALLATION

- A. Install framework, accessories and gates in accordance with ASTM F567.
- B. Place fabric on outside of posts and rails.
- C. Brace each gate and corner post to adjacent line post with horizontal center brace rail. Install brace rail one bay from end and gate posts.

## VERTICAL PIVOT GATES



- D . Provide top rail through line post tops and splice with 6 inch long rail sleeves.
- E . Do not attach the hinged side of gate to building wall; provide gate posts.
- F . Install hardware and gate with fabric to match fence.
- G . Perform one random field inspections confirming proper installation.

### 3.4 TOLERANCES

- A . Maximum Variation From Plumb: 1/4 inch.
- B . Maximum Offset From True Position: 1 inch.
- C . Do not infringe on adjacent property lines.

### 3.5 FIELD QUALITY CONTROL

- A . See Section 01 40 00 - Quality Requirements, for additional requirements.
- B . Layout: Verify that fence installation markings are accurate to design, paying attention to gate locations, underground utilities, and property lines.
- C . Post Settings: Randomly inspect three locations against design for:
  - 1. Hole diameter.
  - 2. Hole depth.
  - 3. Hole spacing.
- D . Gates: Inspect for level, plumb, and alignment.

### 3.6 CLEANING

- A . Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.
- B . Clean fence with mild household detergent and clean water rinse well.

END OF SECTION



# Bike Hook with Loop Lock 509-2037



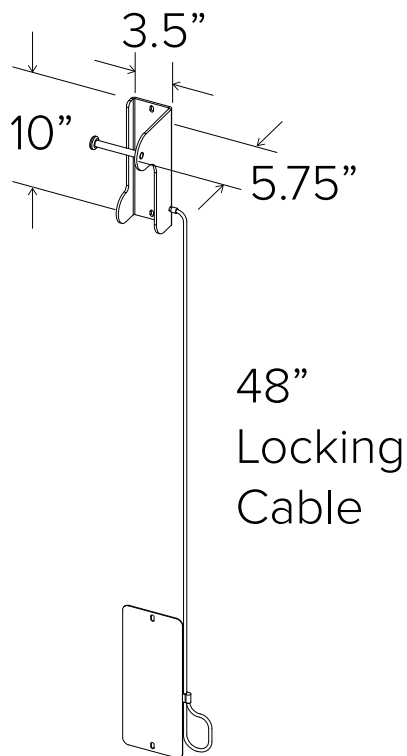
## Hang it Up

The Bike Hook with Loop Lock provides a simple, space-efficient way to store and lock your bike. It includes all necessary hardware for mounting to the wall and an integrated 4 foot security cable to help keep your bike secure. This bike storage option is recommended for home use.



# Bike Hook with Loop Lock

## Submittal Sheet



**CAPACITY** 1 Bike

**MATERIALS** Main Body: 3/16" steel plate  
Security Cable: 3/16" vinyl coated cable  
Optional Wall Guard: 14g aluminum plate

**FINISHES**

☐ **Powder Coat**  
A black powder coat finish is our standard option. A galvanized, stainless and thermoplastic coating are also available as alternate options.  
Our powder coat finish assures a high level of adhesion and durability by following these steps:  
1. Sandblast  
2. Epoxy primer electrostatically applied  
3. Final thick TGIC polyester powder coat

☐ **Galvanized**  
An after fabrication hot dipped galvanized finish.

☐ **Stainless**  
Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

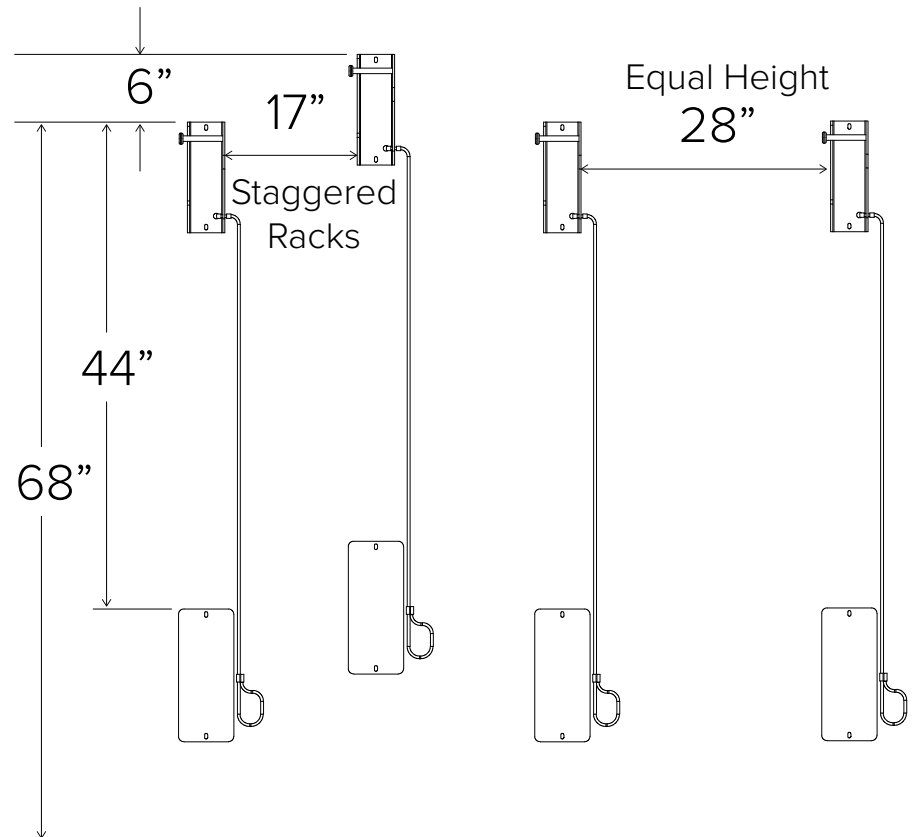
**MOUNT OPTIONS**

☐ **Wall**  
Concrete wall mounted use 3/8" drop-in anchors with tamperproof screws. Wood and drywall mounted use 1/4" lag screws. Concrete block uses drive-in anchors.



# Bike Hook with Loop Lock Setbacks

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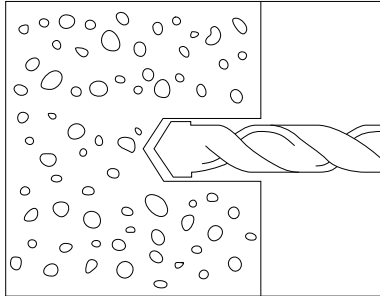
## Bike Hook with Loop Lock

# Installation Instructions – Wall Mount

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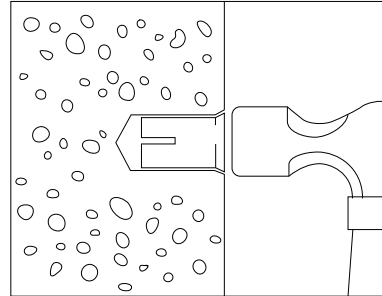
### CONCRETE WALL INSTALLATION

1



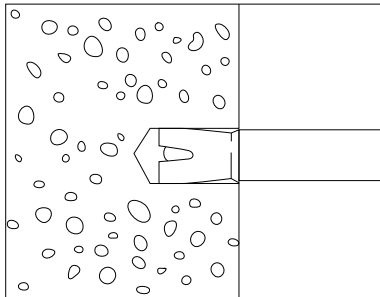
Drill a hole in the base material using a 3/8" diameter masonry bit. Drill the hole to 1" depth. Blow the hole clean using compressed air.

2



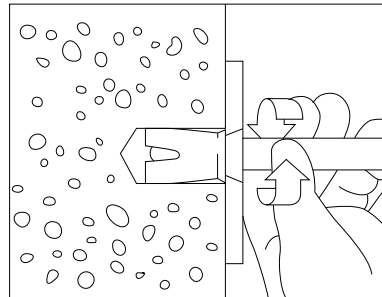
Insert Drop-In anchor into hole. Tap with hammer until flush against surface.

3



Using the Drop-In setting tool, drive expander plug towards the bottom of the anchor until shoulder of setting tool makes contact with the top of the anchor.

4



Place rack and screw anchor into wall.

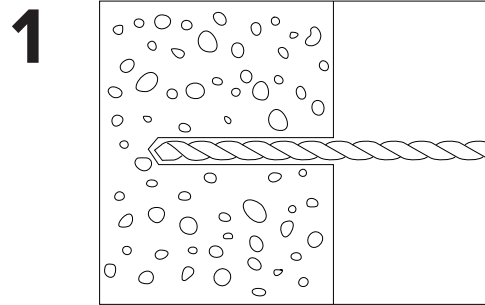


## Bike Hook with Loop Lock

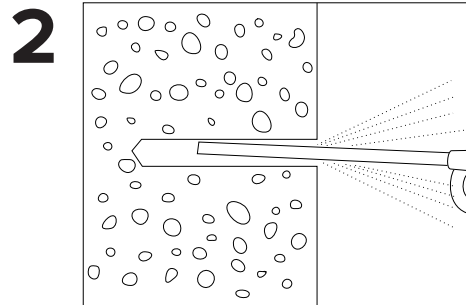
# Installation Instructions – Wall Mount

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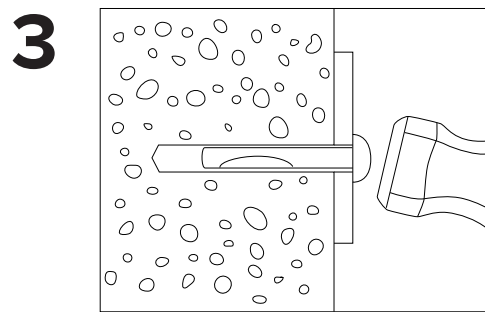
### CONCRETE BLOCK INSTALLATION



Drill a hole in the base material using a 1/4" diameter masonry bit.

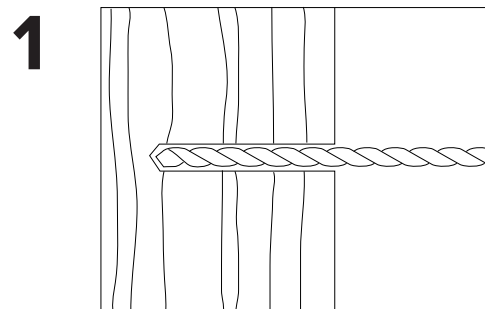


Blow the hole clean using compressed air.

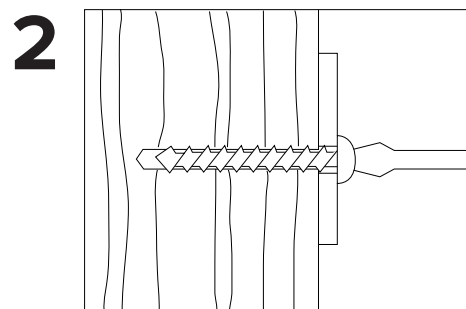


Tap in concrete anchor.

### WOOD STUD INSTALLATION



Drill small pilot holes into wood studs. Drywall alone is not sufficiently strong to support loaded rack.



Place rack and use provided wood screws to secure to wall.