





Geotechnical Notes: (also see geotechnical report)

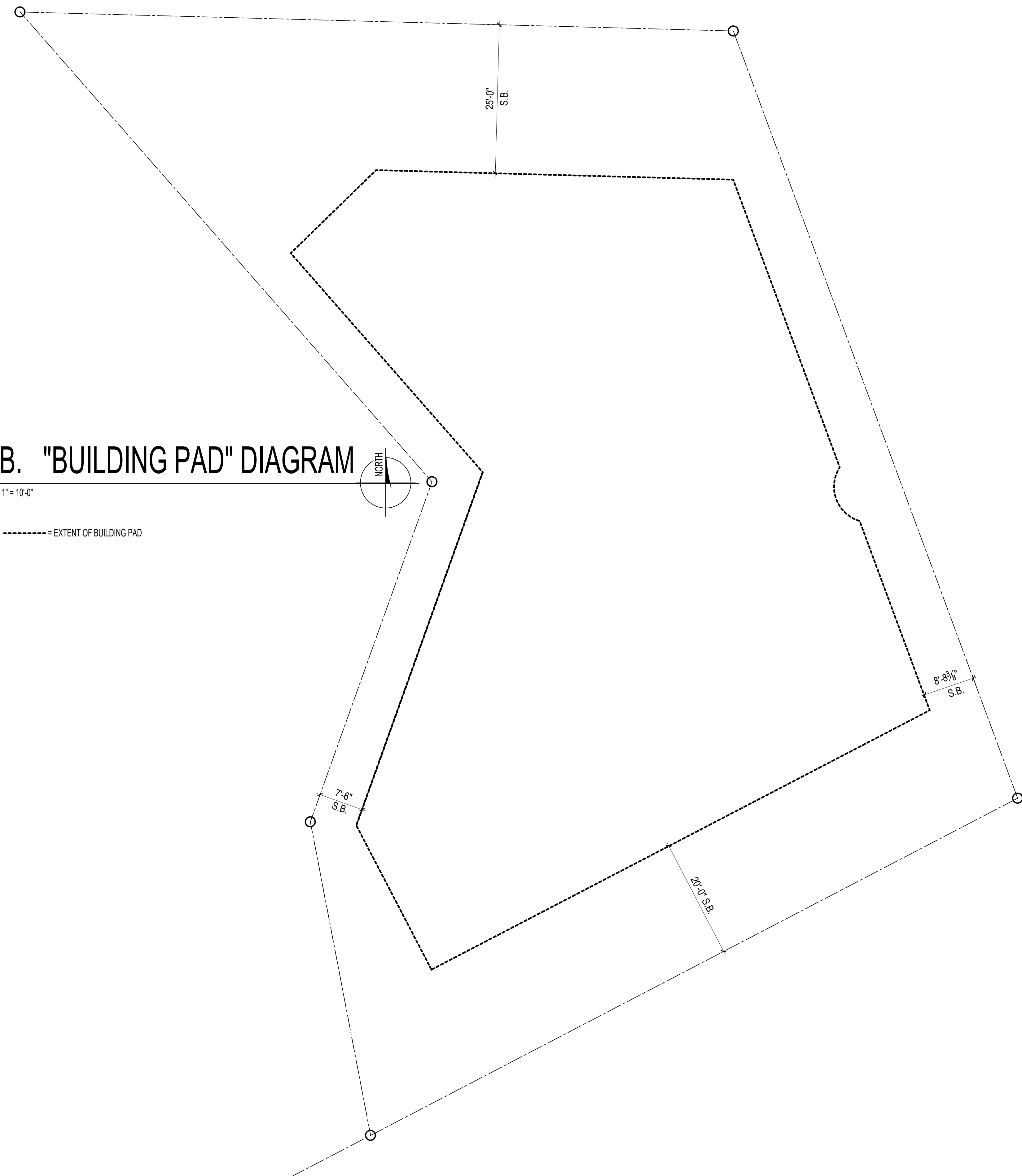
In order to improve the interlock between fills and the native temporary excavation slope, once the building is prepared for the backfill then the contractor shall excavate benches into the 1H:1V slopes having near vertical portions of slope no greater than 4-feet in height for a limited (one-day maximum) time period. The native silty soils should be removed and are not recommended for backfill. The excavated benches will allow for the contractor to place imported structural fill in thin lifts and compact in accordance with the Structural Fill section of the geotechnical report. The building excavation backfills shall consist of free draining sand and gravel having no more than 5% passing the No. 200 sieve and that these fills are compacted to meet the relative density 90% requirement. It is generally recommended that where fills are to be placed to create a sloping final condition such as at the east side of the building (max 3H:1V) then the fill slope (embankment) should be filled and compacted above the existing adjacent grade and then excavated (cut-back to grade) so as to achieve appropriate compaction at the finish ground surface. Also, for slopes of up to 3H:1V where the fills are placed in a confining condition a hoepack may be used to compact the fills. The fills placed at the south side of the house at the detention pipe area will also be graded to the 3H:1V slope inclination. Fills at this area should also be placed in level lift thicknesses and the slope should be filled above the proposed grade and then cut-back as described above. For the northeast temporary excavation and driveway east temporary excavation backfill areas we have the following concerns with regard to the backfill process:

1. The implementation of benching, fill placement and compaction may require more encroachment upon the upslope steep slope area creating a greater area of disturbance.
2. The finish grades in a portion of this area may exceed 3H:1V but are not anticipated to exceed 2.5H:1V. Therefore, we recommend that at the backfill area for the northeast temporary excavation slopes and behind the east retaining wall that fill placement consist of clean crushed rock and that benching/compaction not occur. Crushed rock fills require no compaction and will require excellent strength and drainage characteristics with regard to permanent slope stability. A maximum 1-foot thickness of topsoil may be placed at the ground surface provided that it is separated from the underlying crushed rock material with a layer of filter fabric.

## B. "BUILDING PAD" DIAGRAM

1" = 10'-0"

----- = EXTENT OF BUILDING PAD



### CONTENTS

Site Plan

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DATE

2.3.20

8.14.20

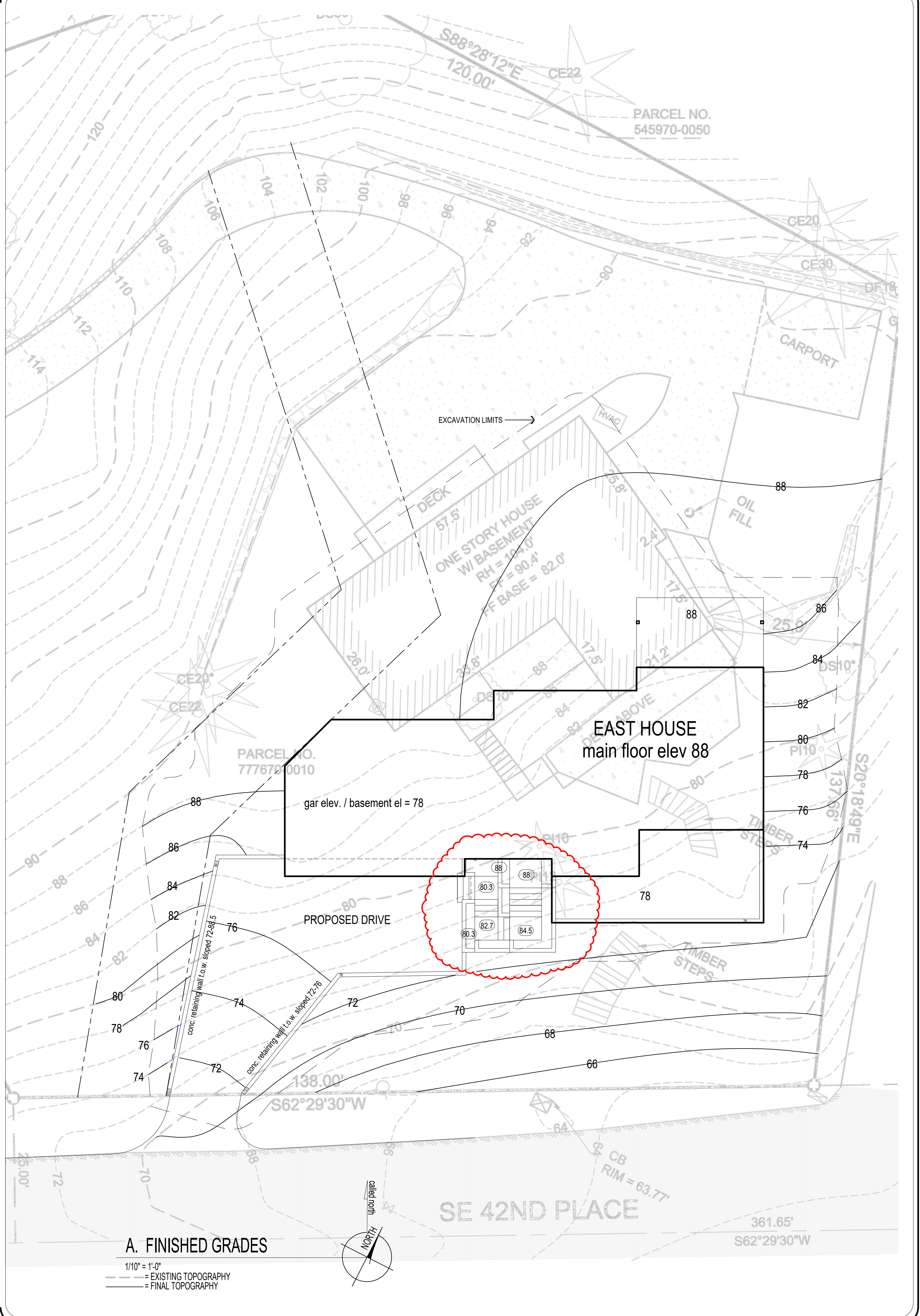
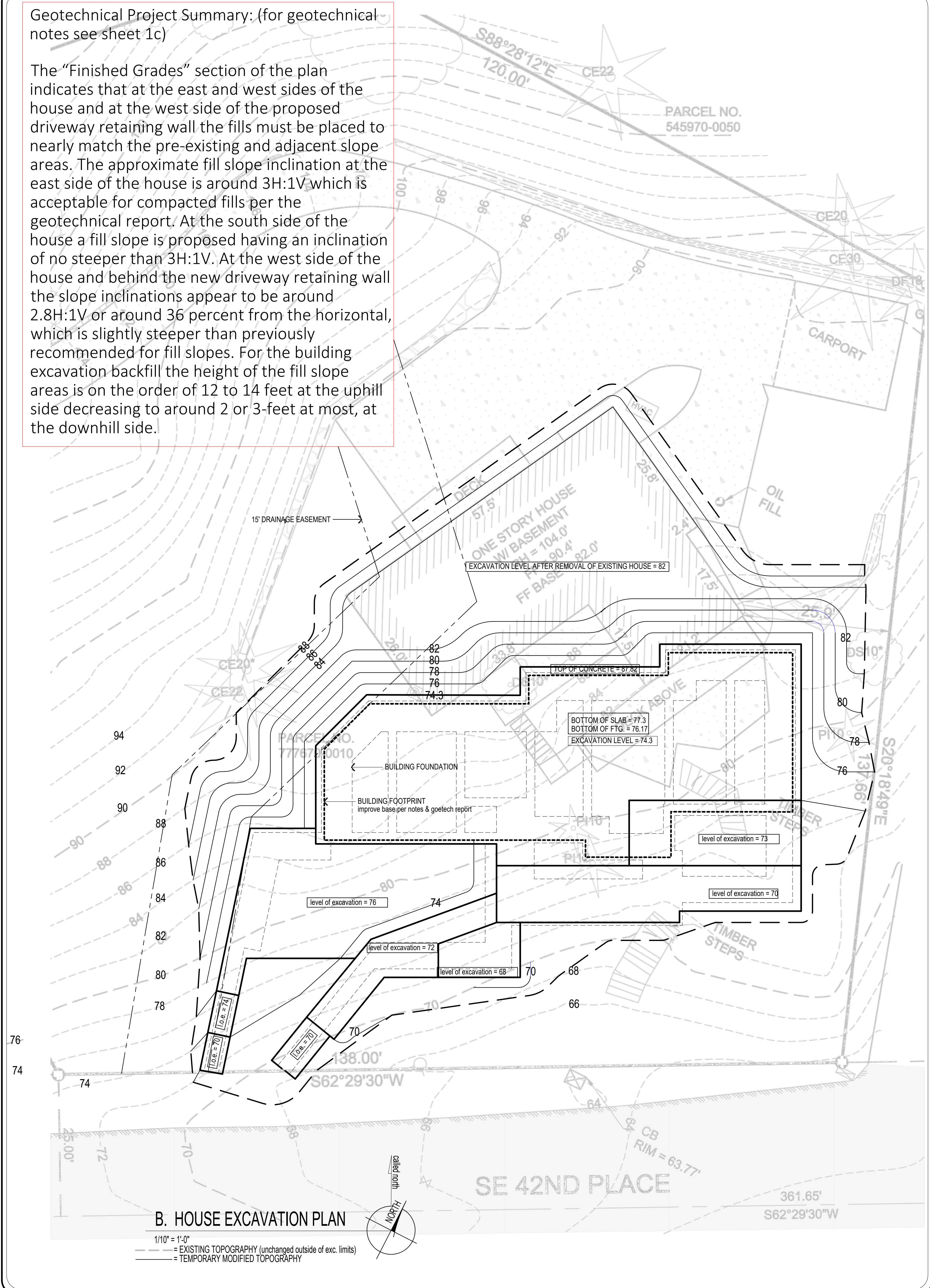
11.24.20

1.12.21



Geotechnical Project Summary: (for geotechnical notes see sheet 1c)

The "Finished Grades" section of the plan indicates that at the east and west sides of the house and at the west side of the proposed driveway retaining wall the fills must be placed to nearly match the pre-existing and adjacent slope areas. The approximate fill slope inclination at the east side of the house is around 3H:1V which is acceptable for compacted fills per the geotechnical report. At the south side of the house a fill slope is proposed having an inclination of no steeper than 3H:1V. At the west side of the house and behind the new driveway retaining wall the slope inclinations appear to be around 2.8H:1V or around 36 percent from the horizontal, which is slightly steeper than previously recommended for fill slopes. For the building excavation backfill the height of the fill slope areas is on the order of 12 to 14 feet at the uphill side decreasing to around 2 or 3-feet at most, at the downhill side.



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 Supplemental  
 Site Plans

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1C



**NOTES**

- [SD] = SMOKE DETECTOR, HARDWIRE, INTERCONNECTED w/ BATTERY BACK-UP
- [CO] = CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

DOORS ARE 3-0 x 6-8 (r.o. = 3'-2" x 6'-10") unless otherwise indicated  
 ☉ = FAN, 50 CFM UNLESS OTHERWISE INDICATED  
 FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS  
 ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

ⓔ = EGRESS WINDOWS  
 Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.  
 ALL WALLS FULL HEIGHT UNLESS OTHERWISE INDICATED  
 Ⓡ = TEMPER/SAFETY GLAZE WINDOWS  
 ALL GAS F.P. TO BE APPROVED DIRECT VENT

**Energy Code Info**

WA STATE PRESCRIPTIVE PATH FOR ALL CLIMATE ZONES

ENERGY CREDIT OPTIONS =  
 2a(.5),3b(1),4(1),5a(.5),5c(1.5) = 4.5 CREDITS  
 Vertical fenestration U = 0.30  
 Floor R-30

SEE SHEET 09 FOR ENERGY CREDIT DESCRIPTION

**PRIMARY RESIDENCE HVAC NOTES**

DUCTED HEAT PUMP (HSPF>9.0) INT. AIR HANDLER  
 INTEGRATED VENTILATION  
 6005 4 SF, 5 BEDROOMS = CONTINUOUS 90 CFM  
 SET TO OPERATE AT 180 CFM FOR 2 HOURS IN EA. 4 HR PERIOD (50%)  
 PROVIDED BY VARIABLE SPEED HIGH EFF. FAN (MAX. 35 WATTS/CFM)  
 CONTROLLED TO OPERATE AT LOW SPEED IN VENTILATION MODE ONLY.

design professional or builder shall complete and post an "Insulation Certificate for Residential Construction" within 3' of the electrical panel prior to final inspection.

A minimum of 75 percent of permanently installed lamps in lighting fixtures shall be high-efficacy lamps.

Maximum flow rates for shower heads and kitchen sink - 1.75 GPM or less. All other lavatory faucets - 1.0 GPM or less.

Air leakage shall not exceed 3 air changes/ hour and shall be tested as such. A written report of the test results, shall be signed by the testing party and provided to the building inspector, prior to call for final inspection.

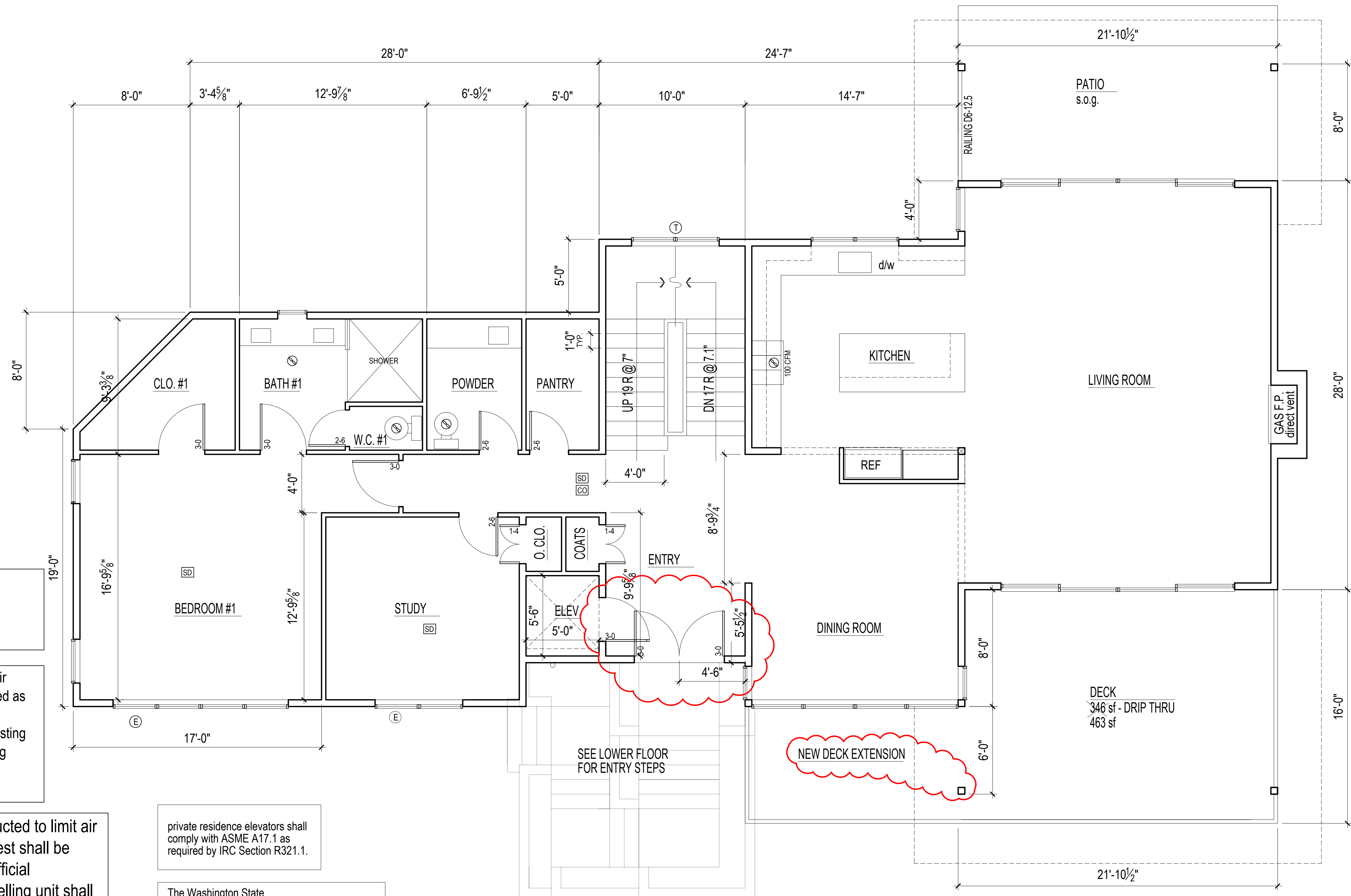
Per WSEC R402.4, The building thermal Envelope shall be constructed to limit air leakage to 3.0 air changes per hour maximum. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2). Per WSEC R403.1.1, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule. Per WSEC R403.2.2, Ducts, air handlers, and filter boxes shall be sealed. Per WSEC R404.1, A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

private residence elevators shall comply with ASME A17.1 as required by IRC Section R321.1.

The Washington State Department of Labor and Industries requires the elevator be installed by a licensed elevator contractor and yearly safety inspections are required. For more information contact L&I at (360) 902-6130 or visit their web site at [www.Lni.wa.gov/tradesclicensing/elevators](http://www.Lni.wa.gov/tradesclicensing/elevators).

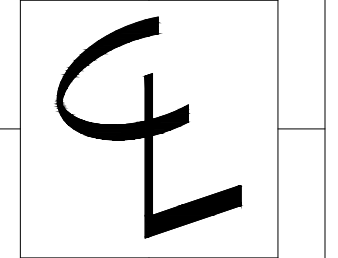
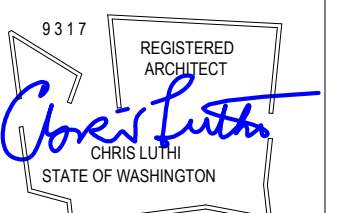
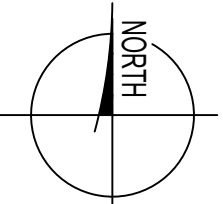
All Climate Zones		
	R-Value <sup>a</sup>	U-Factor <sup>a</sup>
Fenestration U-Factor <sup>b</sup>	n/a	0.30
Skylight U-Factor	n/a	0.50
Glazed Fenestration SHGC <sup>b,e</sup>	n/a	n/a
Ceiling <sup>k</sup>	49 <sup>l</sup>	0.026
Wood Frame Wall <sup>g,m,n</sup>	21 int	0.056
Mass Wall R-Value <sup>l</sup>	21/21 <sup>h</sup>	0.056
Floor	30 <sup>o</sup>	0.029
Below Grade Wall <sup>o,m</sup>	10/15/21 int + TB	0.042
Slab <sup>d</sup> R-Value & Depth	10, 2 ft	n/a

<sup>a</sup>Table R402.1.1 and Table R402.1.3 Footnotes included on Page 2.



**A. MAIN FLOOR PLAN**

1/4" = 1'-0"  
 LIVING = 2298 sf



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**CONTENTS**

Main Floor

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6.7.21



NOTES

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- CD = CARBON MONOXIDE DETECTOR, HARDWIRE w/ BATTERY BACK-UP

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 FAN, 50 CFM UNLESS OTHERWISE INDICATED  
 FOR SHEAR WALL INFORMATION SEE STRUCTURAL PLANS

ALL INTERIOR WALLS TO BE 2x4, EXTERIOR WALLS 2x6, EXCEPT AS INDICATED, OR EXISTING

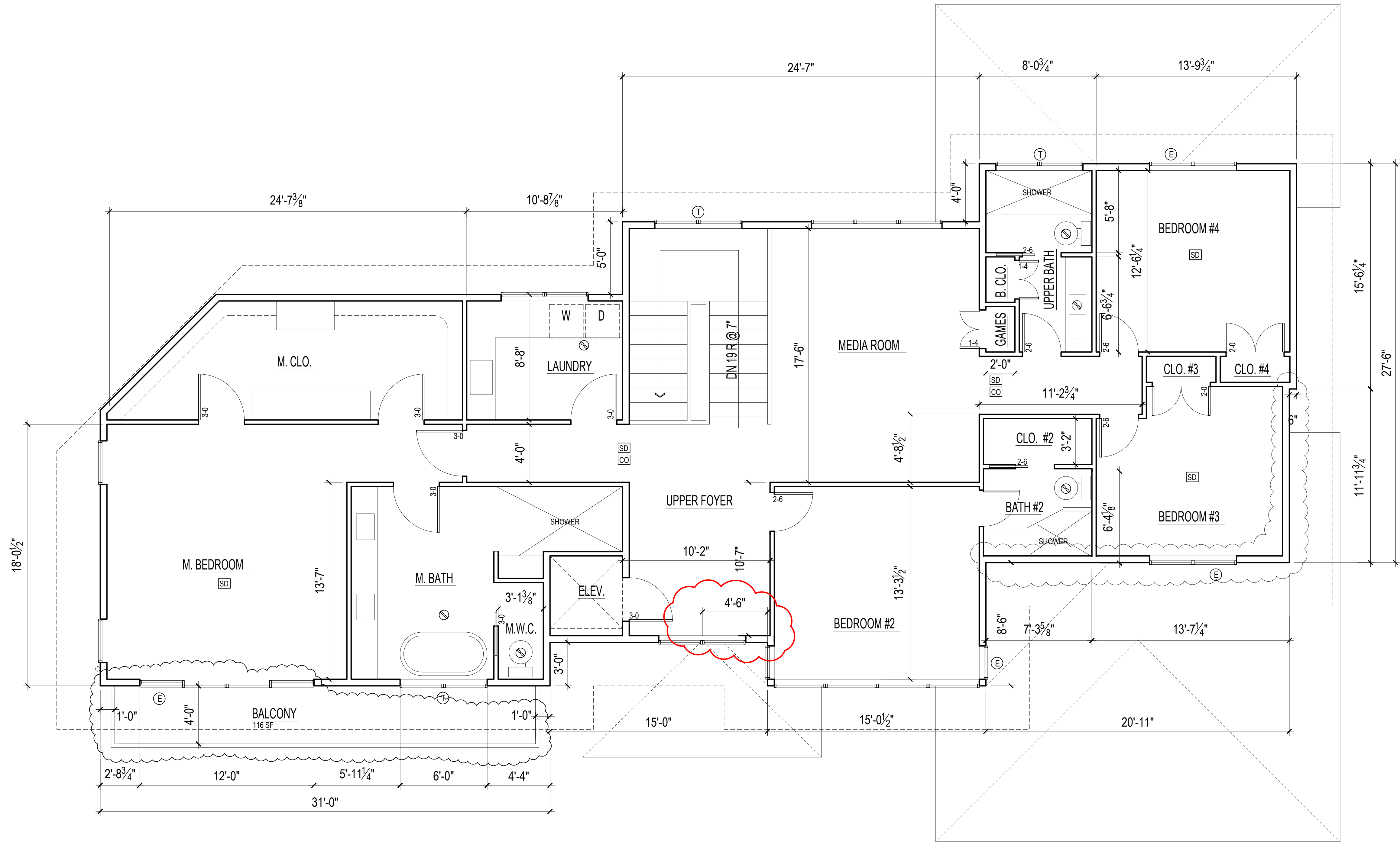
E = EGRESS WINDOWS

Contractor shall verify to Inspector all guards and railings shall be capable of resisting 200 lb load on top rail acting in any direction as required by IRC Table R301.5.

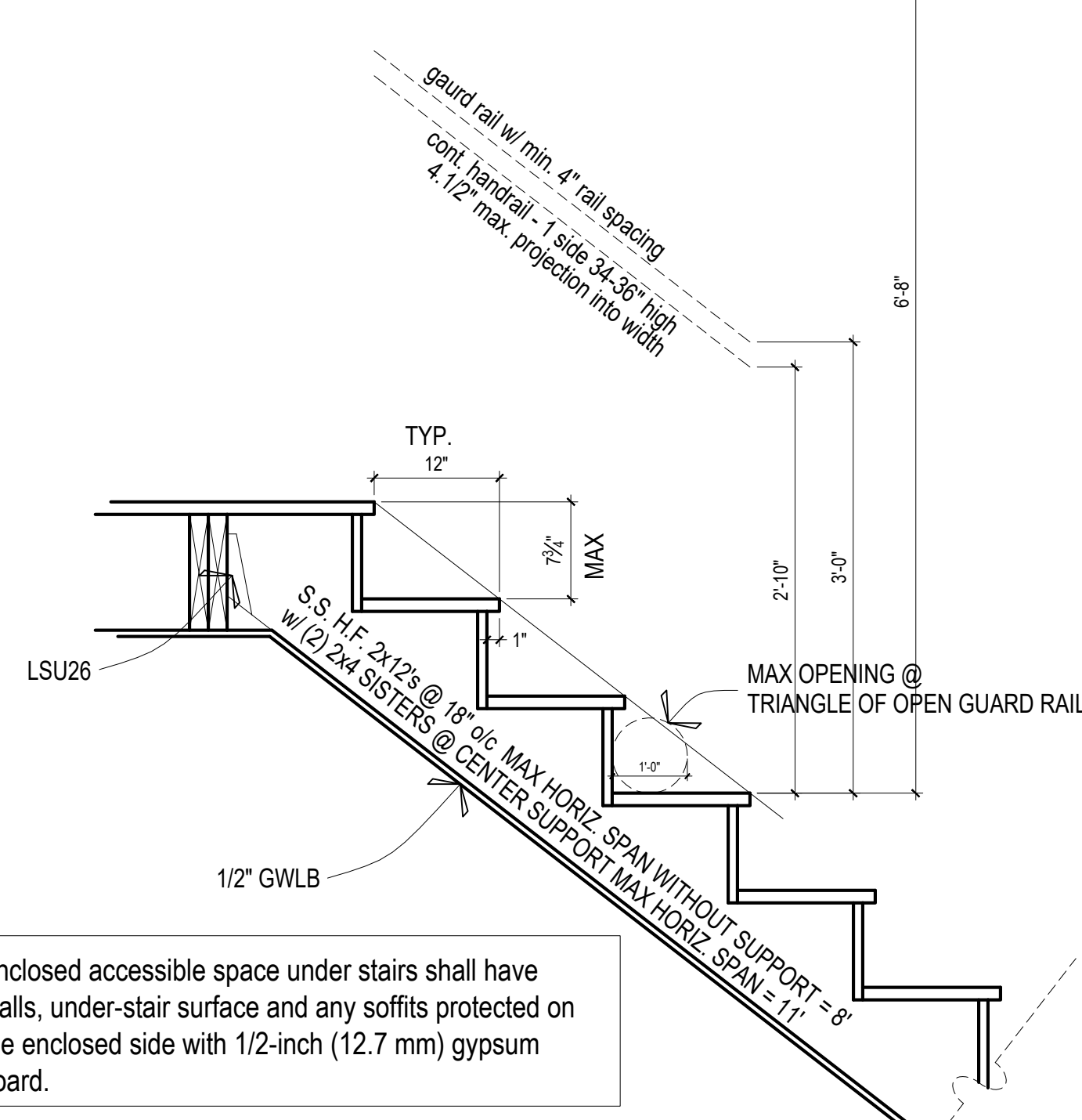
ALL WALLS FULL HEIGHT UNLESS OTHERWISE INDICATED

T = TEMPER/SAFETY GLAZE WINDOWS

ALL GAS F.P. TO BE APPROVED DIRECT VENT

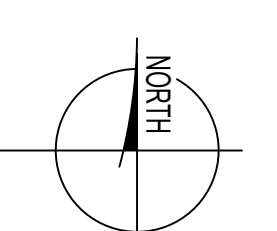


MIN. STAIRWAY WIDTH = 3'-0" CLEAR  
 STAIR RISE, RUN AND NOSING CANNOT VARY BY MORE THAN 3/8"  
 HANDRAIL TERMINATIONS MUST RETURN TO WALL



B. STAIR SECTION  
 1" = 1'-0"

A. UPPER FLOOR PLAN  
 1/4" = 1'-0"  
 LIVING = 2298 sf



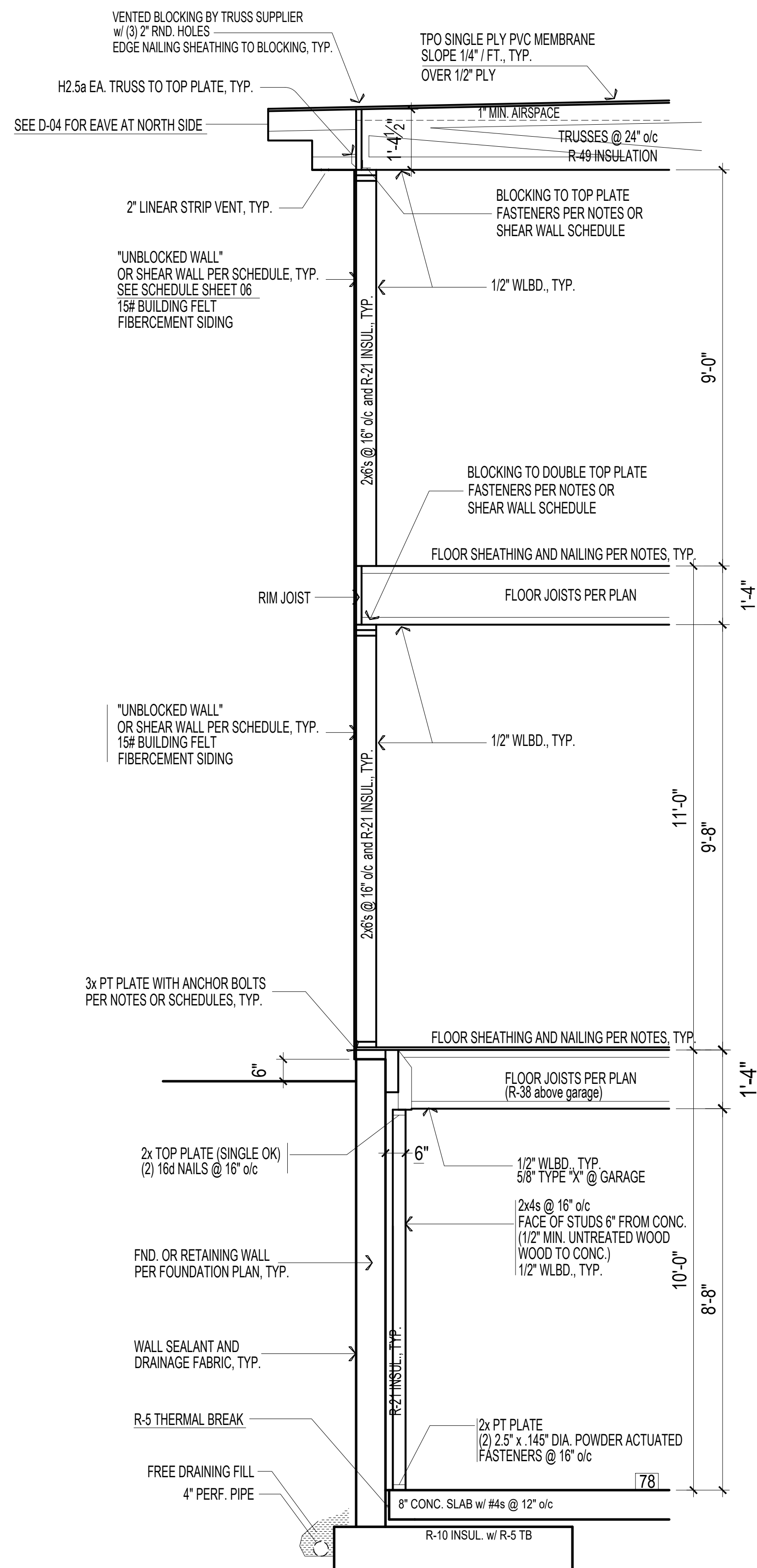
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 Upper Floor

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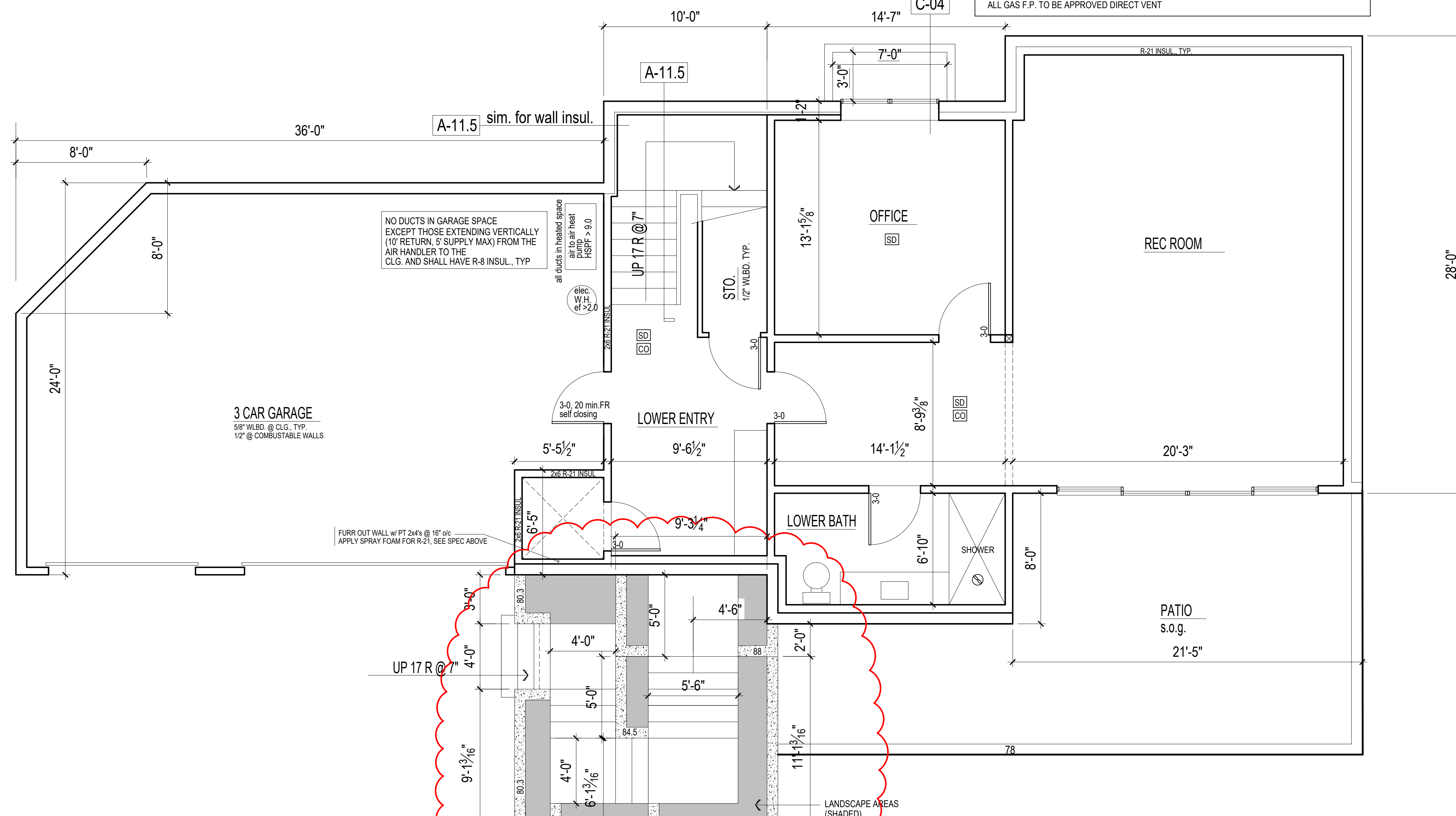




**A. TYPICAL SECTION**  
1/2" = 1'-0"

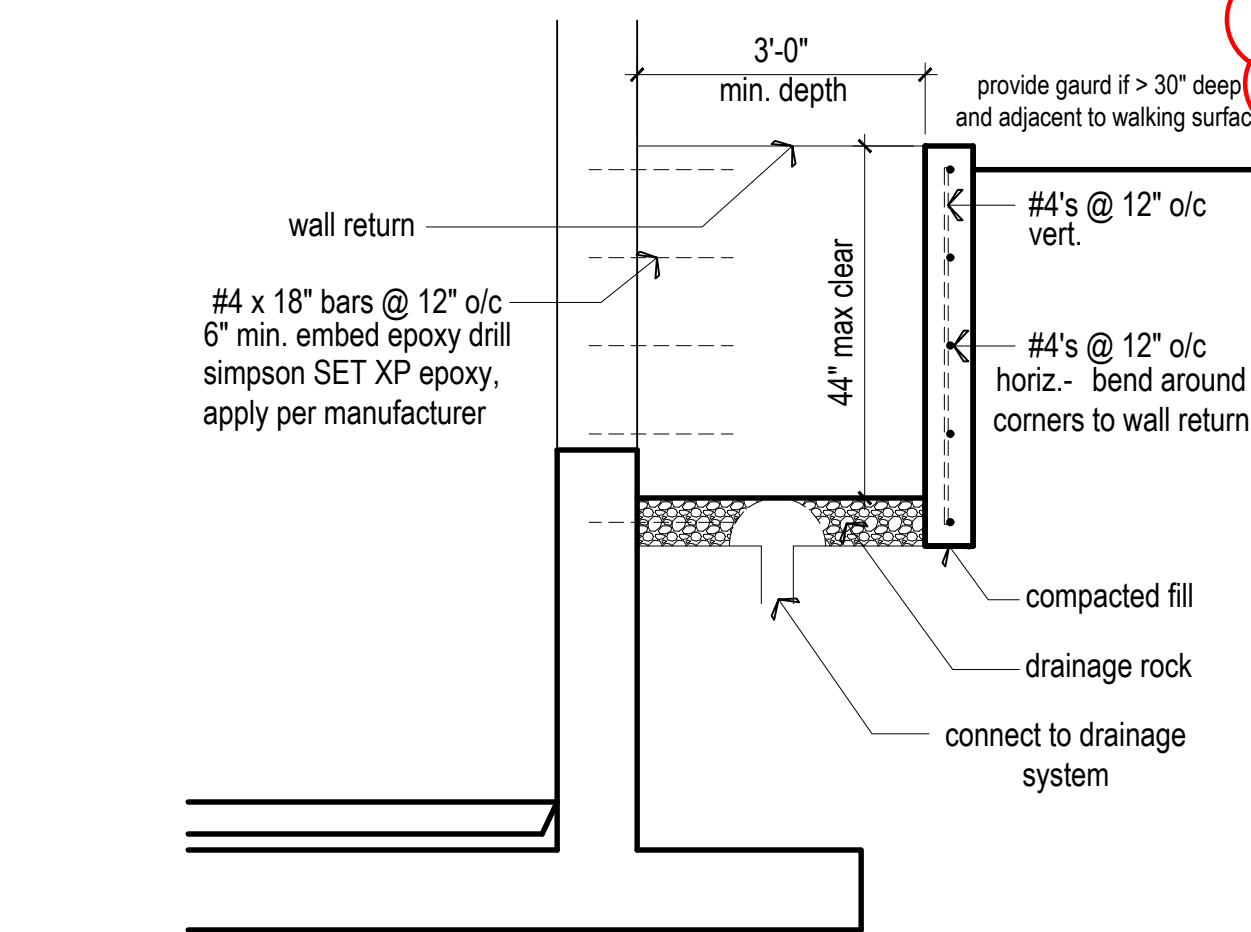
**SPRAY FOAM SPECIFICATIONS**

Spray foam product to be "Spraytite 178" as manufactured by BASF (ESR-2642), or equal.  
Spray foam insulation shall be installed per IRC 806.5.1.3. A copy of the ICC ESR report for the product used must be provided on the job site for field inspector verification. The applied spray foam must be installed by a certified installer.

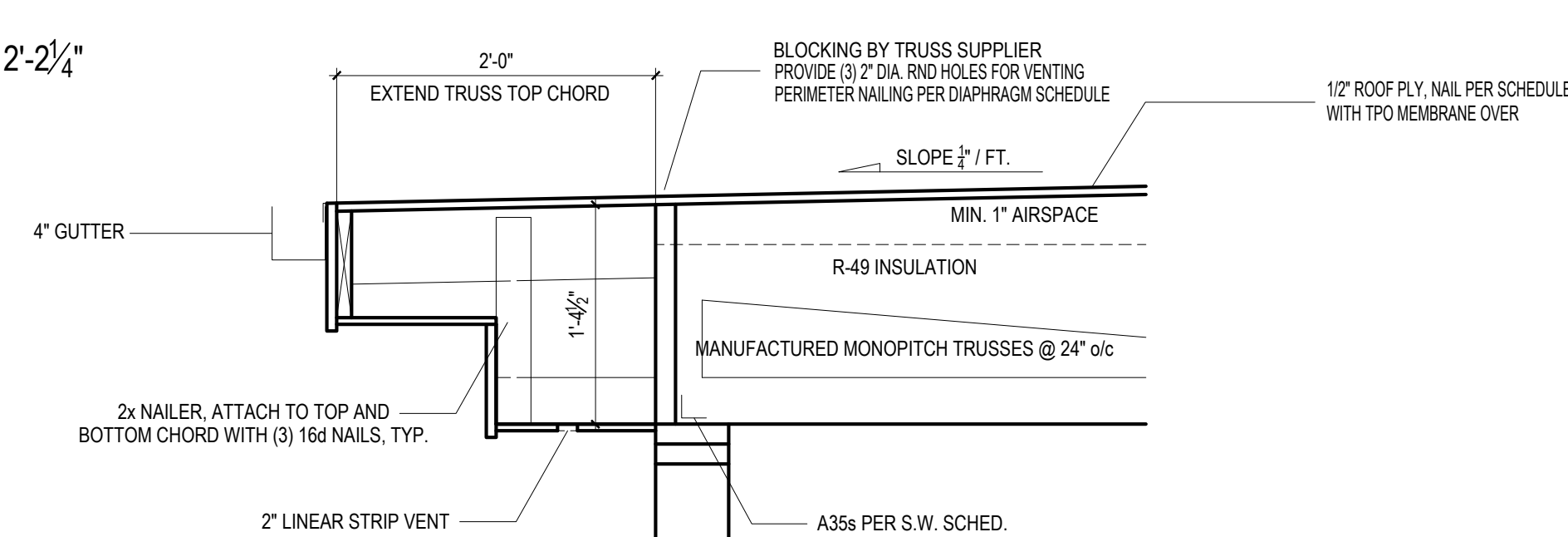


**A. LOWER FLOOR PLAN**

1/4" = 1'-0"  
GARAGE = 797 sf  
LIVING = 1409.4 sf  
TOTAL = 2206.4 sf



**C. WINDOW WELL DETAIL**  
1/2" = 1'-0"



**D. NORTH EAVE**  
1/2" = 1'-0"

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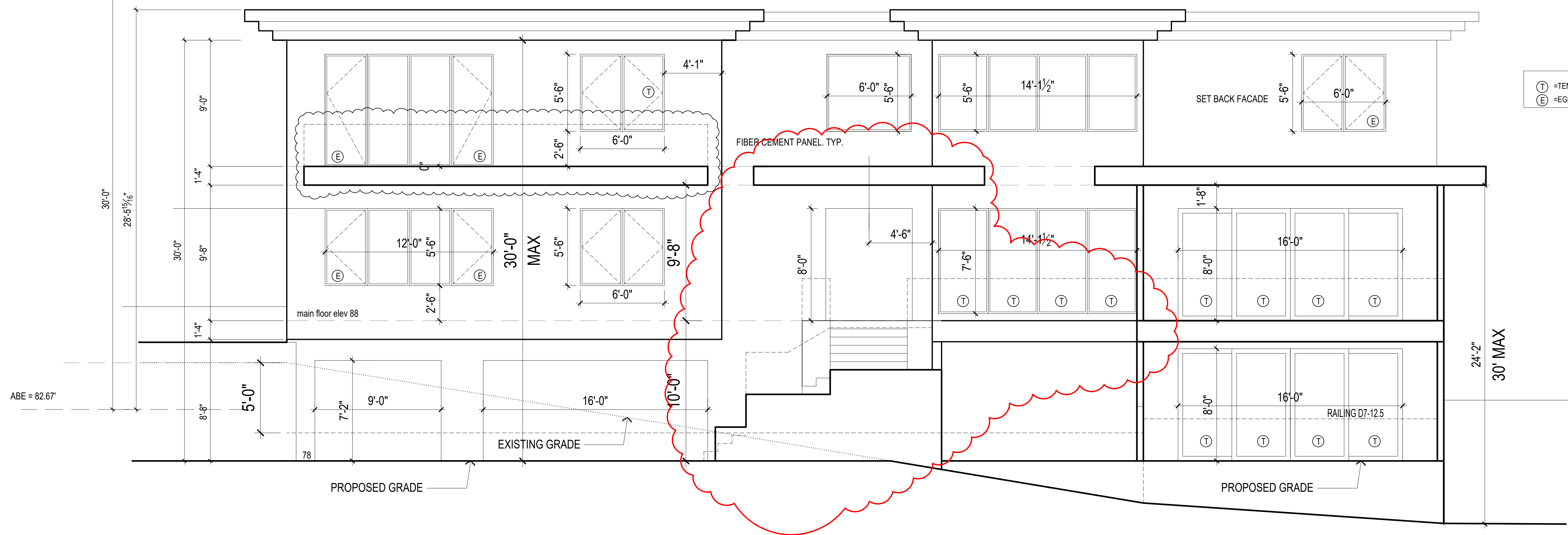
Lower Floor

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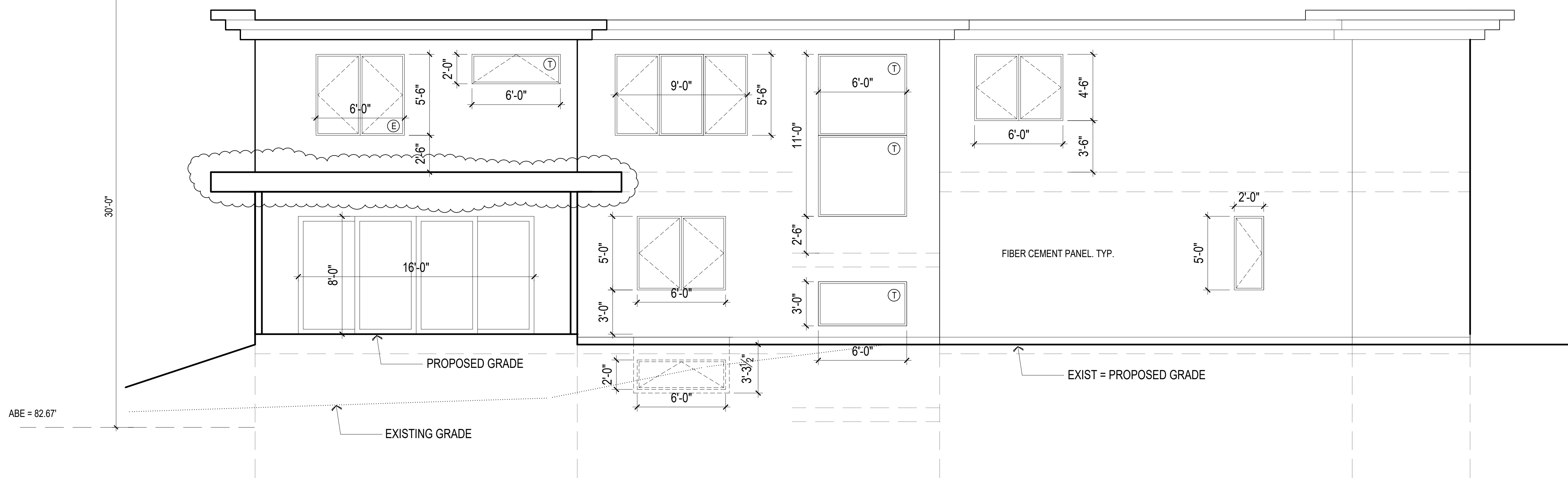


HEIGHT LIMIT = 112.67'

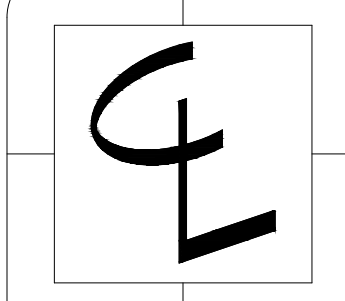
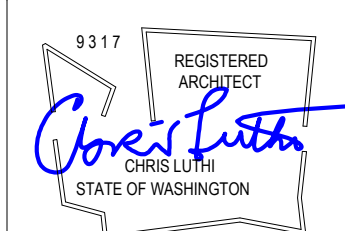


A. FRONT (SOUTH) ELEVATION  
1/4" = 1'-0"

HEIGHT LIMIT = 112.67'



B. NORTH ELEVATION  
1/4" = 1'-0"



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N & S Elevs

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05



**SHEAR WALL SCHEDULE**

(Lumber for shear walls is HF#2 or better, unless otherwise noted.)

Type	Material	Edge Nailing	Field Nailing	A.B. Size/Spacing	Plate Nailing	Plates	A35 Spacing	Shear Capacity
Unblocked Wall	15/32" WSP one side, unblocked	8d @ 6"	8d @ 12"	1/2"Ø @ 72"	(2) 16d @ 12"	2x_	24"	100 plf
SW1	15/32" WSP one side	8d @ 6"	8d @ 12"	1/2"Ø @ 48"	(2) 16d @ 9"	2x_	24"	230 plf
SW2	15/32" WSP one side	8d @ 4"	8d @ 12"	1/2"Ø @ 32"	(2) 16d @ 6"	2x_	16"	350 plf
SW3	15/32" WSP one side	10d @ 3"	10d @ 12"	5/8"Ø @ 24"	(2) 16d @ 4"	3x_	12"	550 plf
SW3X	15/32" WSP one side	10d @ 2"	10d @ 12"	5/8"Ø @ 24"	5/8"Ø x 8" Lag @ 24"	3x_	9"	710 plf
SW5	15/32" WSP two sides	8d @ 3"	8d @ 12"	5/8"Ø @ 16"	5/8"Ø x 8" Lag @ 16"	3x_	8"	910 plf

**For shear wall callouts on the Structural Framing Plans:** SW x (y') denotes a shear wall type "x" with a minimum length of "y" feet.

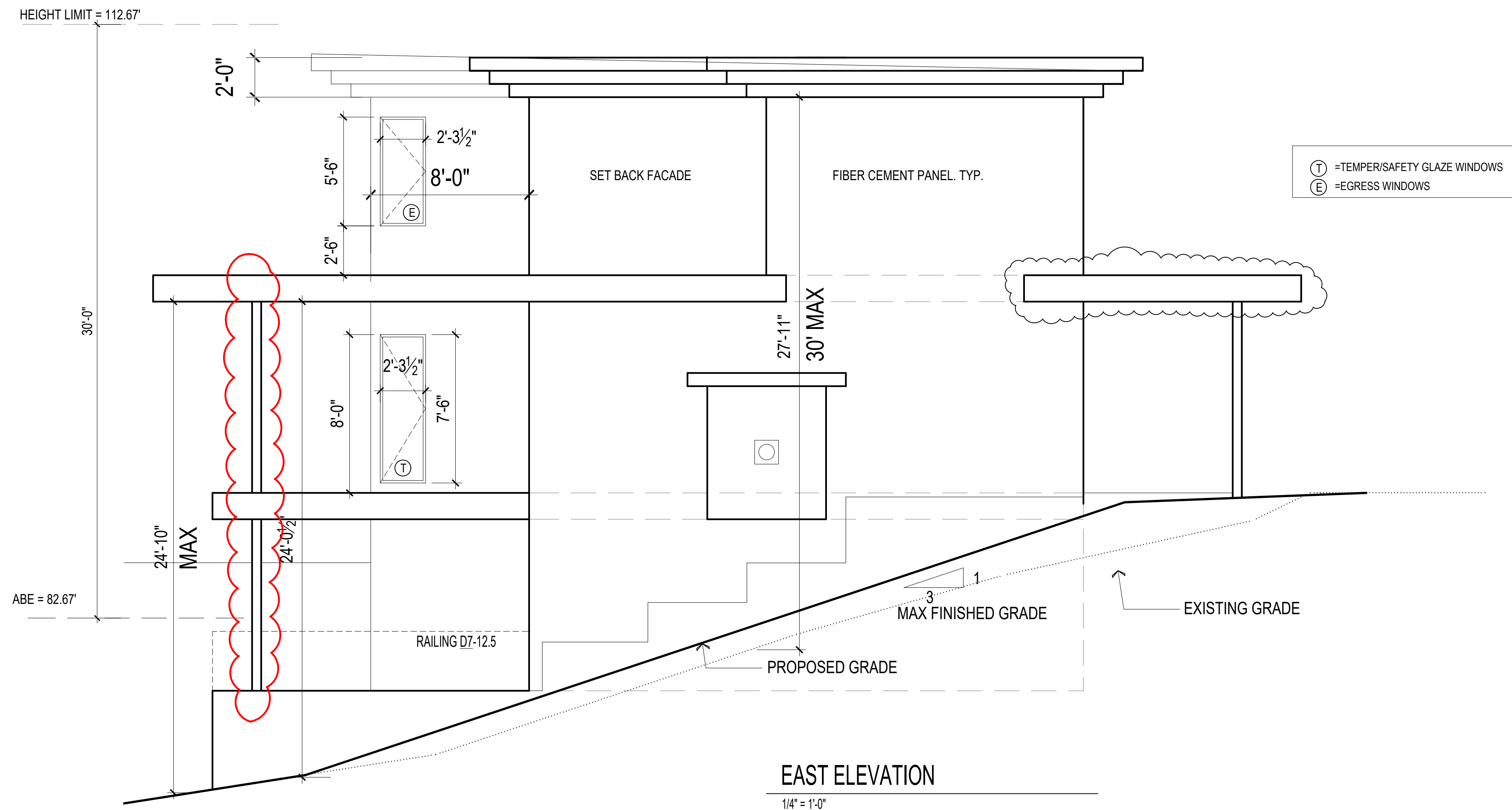
- For SW3 and greater, studs, plates, and blocking where two WSP panels abut shall have a minimum 3" nominal thickness. Double 2x\_ members may be used for studs if the members are connected by plate nailing. Note 10d nails at WSP panel edges.
- For shear walls with 2 layers of sheathing: Both layers of the sheathing may be installed on the same side of the shear wall, provided the joints between sheathing panels for the two layers are offset. End studs, studs at panel joints, and top and bottom plates must be 3x\_ or thicker lumber. Nails should be staggered evenly in rows so that no two nails are closer than 1-1/2" apart. Top and bottom plates may be 2x\_ lumber if the sheathing extends up or down past the plates to a continuous rim joist, and is nailed there.
- "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
- Provide double stud minimum at both ends of all shear walls.
- At the roof or top level of any shear wall, "A35 spacing", and all other relevant connector specifications, apply to assemblies at both the top and bottom of the shear wall. At lower levels, apply to the bottom of the wall only.
- Provide floor diaphragm edge nailing per diaphragm schedule through floor plywood into blocking, parallel joist framing, or top plates (whichever applies) of all shear walls.
- Provide 3x\_ plates, and 4x\_ rim joists, minimum, where lag screws are specified for plate nailing.
- Where shear wall edge nails are spaced closer than 3" o.c., or spaced 3" o.c. with 10d nails, foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3x\_ member.
- Where panels are applied on the same face of a wall and nail spacing is less than 6 inches o.c. on either side, panel joints shall be offset horizontally and vertically to fall on different framing members, or all framing supporting panel edges shall consist of 3 inch nominal or thicker members and the position of nails on each side shall be staggered vertically.
- Provide 4x\_ or double 2x\_ framing where A35 angles are used on both sides of one piece of wood.
- Where a shear wall terminates above the foundation level (no shear wall below), provide minimum 4x\_ blocking or double joist framing (as applicable) below the shear wall. Plate nailing per this schedule shall be nailed into this blocking at the bottom of the shear wall.
- Shear wall nails shall be placed no closer than 3/8" from a panel edge or perpendicular face of stud.
- Maximum spacing between nails shall not exceed 12".
- Shear wall nailing shall be common or galvanized box nails, unless lag screws are noted. Galvanized nails shall be hot dipped or tumbled.
- Lag screw plate connectors shall penetrate 3.5" minimum, and plates or beams receiving lag screws shall have a minimum width of 3.5".
- Where hold downs are specified, the shear wall bolt shall be located within 6 inches of the end of the shear wall, unless otherwise approved by the engineer of record. Minimum end studs shall be as specified in the most recent Simpson catalog.
- Shear wall edge nailing through shear wall sheathing shall be provided into all studs attached to a hold down.
- Cast in place anchor bolts shall have a minimum embedment of 7" into the concrete foundation.
- Plate nails shall be nailed into a solid wood rim joist.
- 2x\_ plates may be substituted for 3x\_ plates if panels are nailed with edge nailing directly to the rim joist.
- Where 3x\_ plates are used, (2) 20d common nails must be used instead of (2) 16d common nails to connect studs to the bottom plate.
- Where Roof ventilation is required over a shear wall, see roof ventilation detail.

**Diaphragm Schedule**

(Lumber for diaphragm construction is HF#2 or better, unless otherwise noted.)

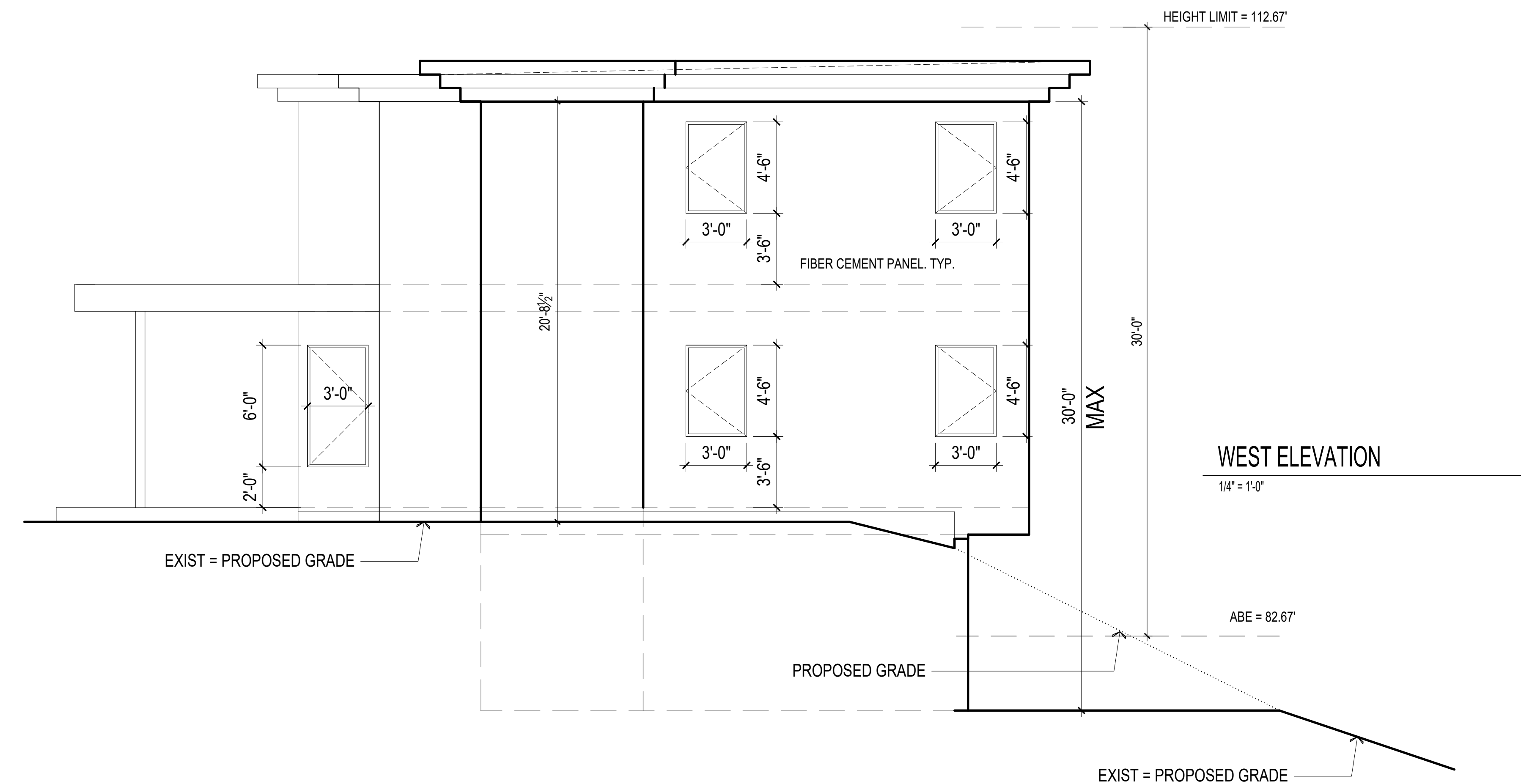
Type	Material	Edge Nailing	Field Nailing	Edge Blocking	Remarks
Roof	15/32" CDX 24/0	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard
Floor	23/32" CDX 48/24	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard

- "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
- Rim joists at exterior walls shall be continuous for tension. At rim joist splice locations, provide (2) CS16 horizontal straps, minimum 24" long, centered on the splice.
- Where roof or floor framing is cantilevered over an exterior wall below, provide solid blocking with Diaphragm edge nailing between joists.
- This is the minimum required diaphragm construction. Where otherwise noted on the plans, additional blocking or nailing may be required.



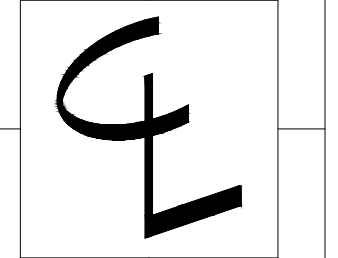
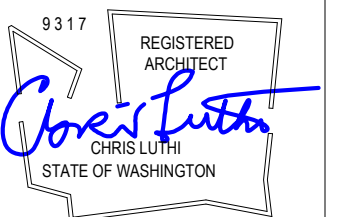
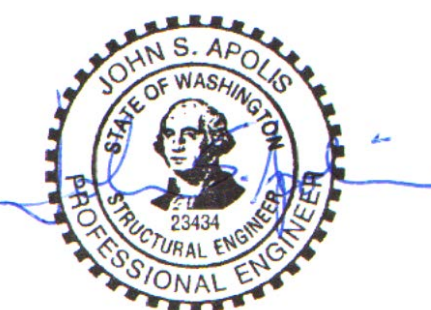
**EAST ELEVATION**

1/4" = 1'-0"



**WEST ELEVATION**

1/4" = 1'-0"



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E & W Elevs  
SW Schedule

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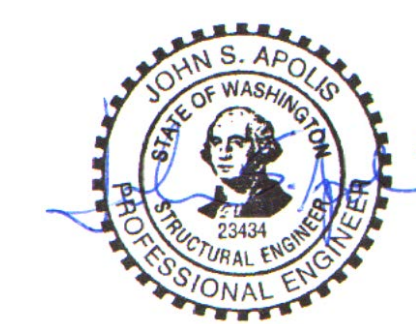
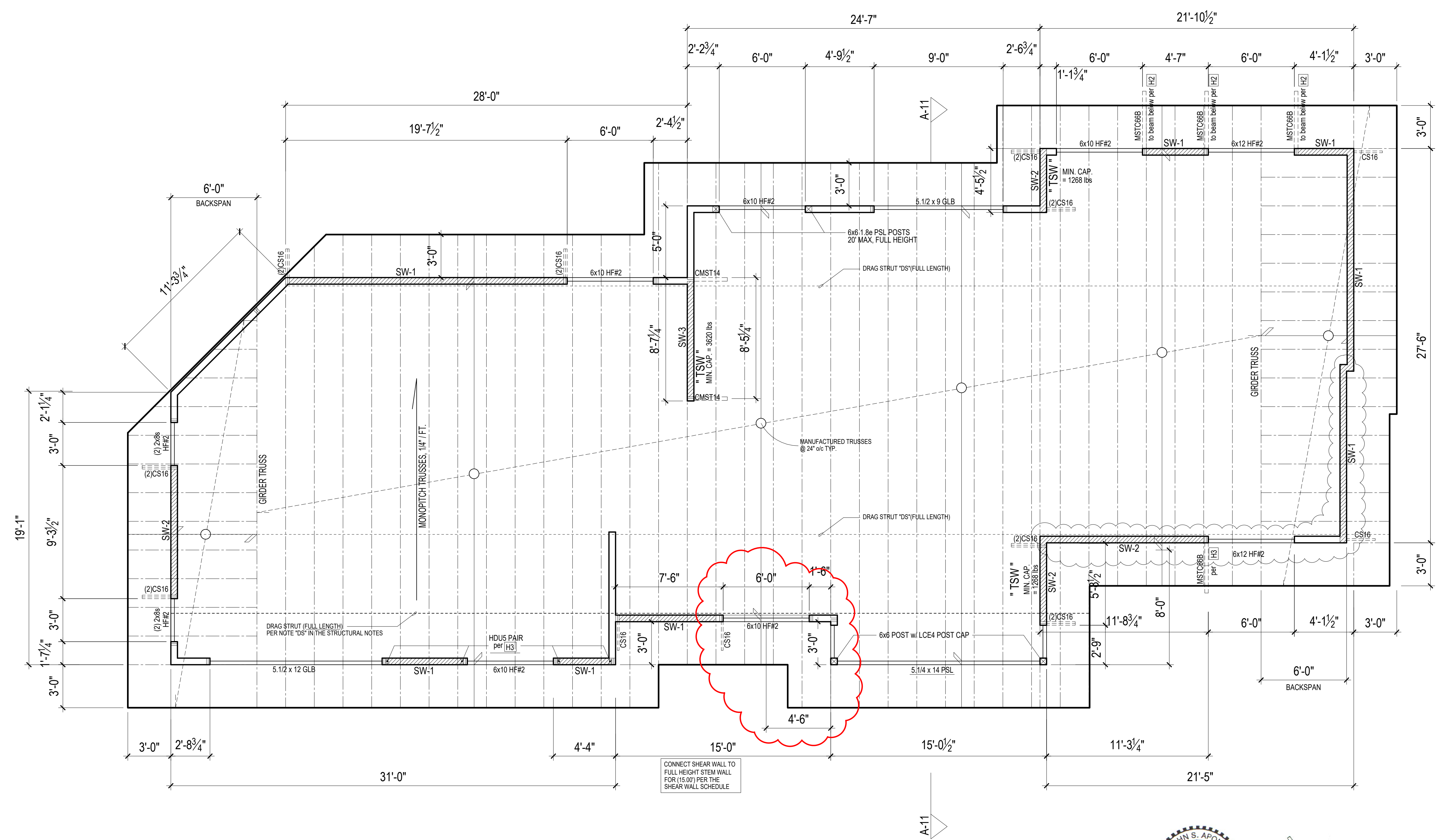
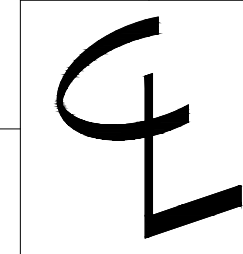
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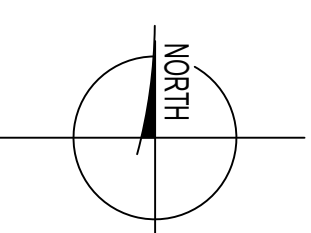
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**06**





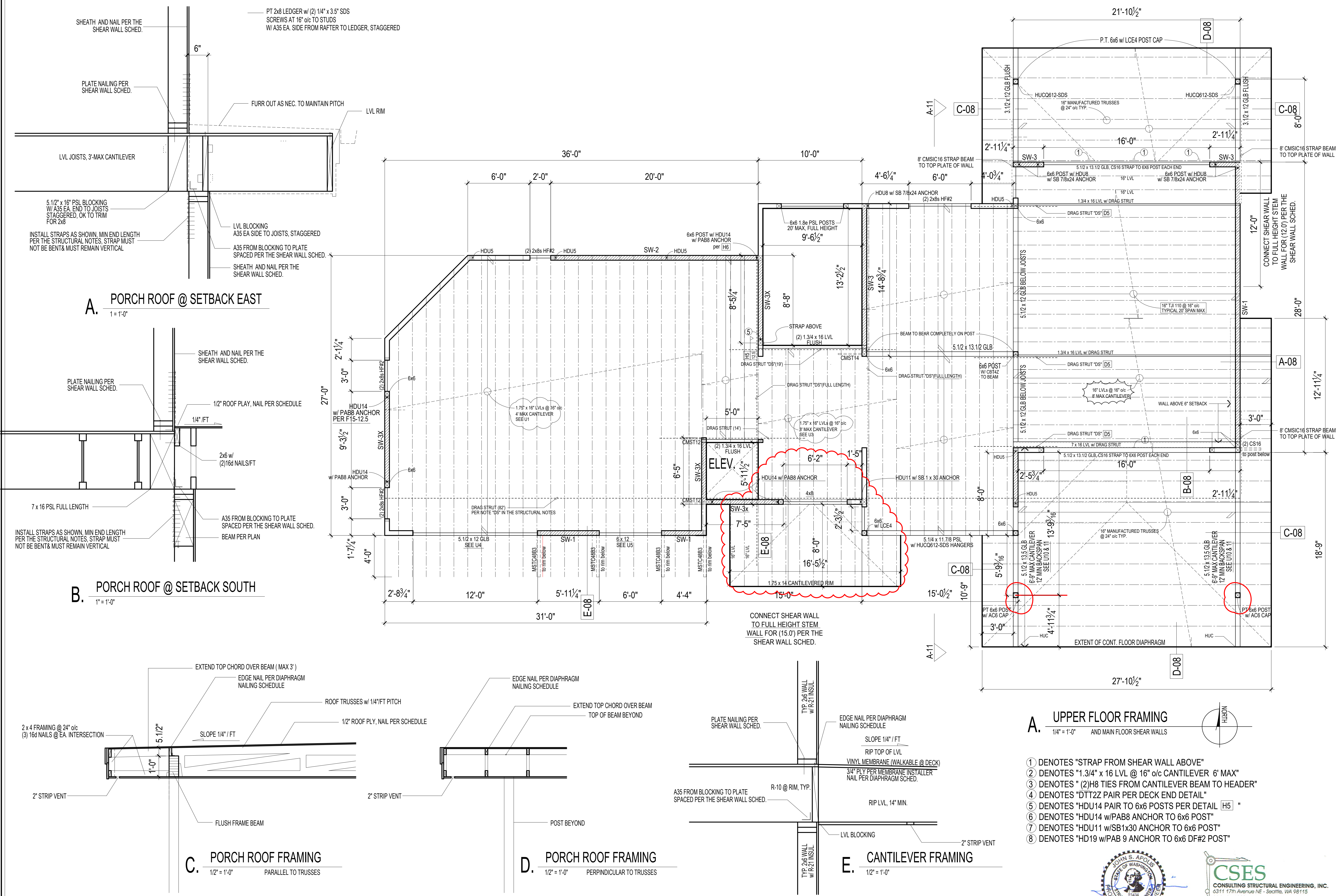
**ROOF FRAMING**  
1/4" = 1'-0" AND UPPER FLOOR SHEAR WALLS



NOTE: "TSW" DENOTES:  
ALIGN TRUSS WITH DESIGNATED SHEAR WALL, NAIL  
AND SHEATH PER NOTE "TSW" IN THE STRUCTURAL  
NOTES

NOTE: "DS" (X) DENOTES:  
HORIZONTAL CMSTC16 DRAG STRUT (X) FT  
LONG PER NOTE "DS" IN THE STRUCTURAL  
NOTES





**A. UPPER FLOOR FRAMING**  
 1/4" = 1'-0" AND MAIN FLOOR SHEAR WALLS

- ① DENOTES "STRAP FROM SHEAR WALL ABOVE"
- ② DENOTES "1.3/4" x 16 LVL @ 16" o/c CANTILEVER 6' MAX"
- ③ DENOTES "(2)H8 TIES FROM CANTILEVER BEAM TO HEADER"
- ④ DENOTES "DTT2Z PAIR PER DECK END DETAIL"
- ⑤ DENOTES "HDU14 PAIR TO 6x6 POSTS PER DETAIL H5"
- ⑥ DENOTES "HDU14 w/PAB8 ANCHOR TO 6x6 POST"
- ⑦ DENOTES "HDU11 w/SB1x30 ANCHOR TO 6x6 POST"
- ⑧ DENOTES "HD19 w/PAB 9 ANCHOR TO 6x6 DF#2 POST"





## Energy Credit Descriptions

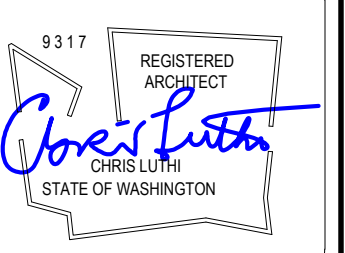
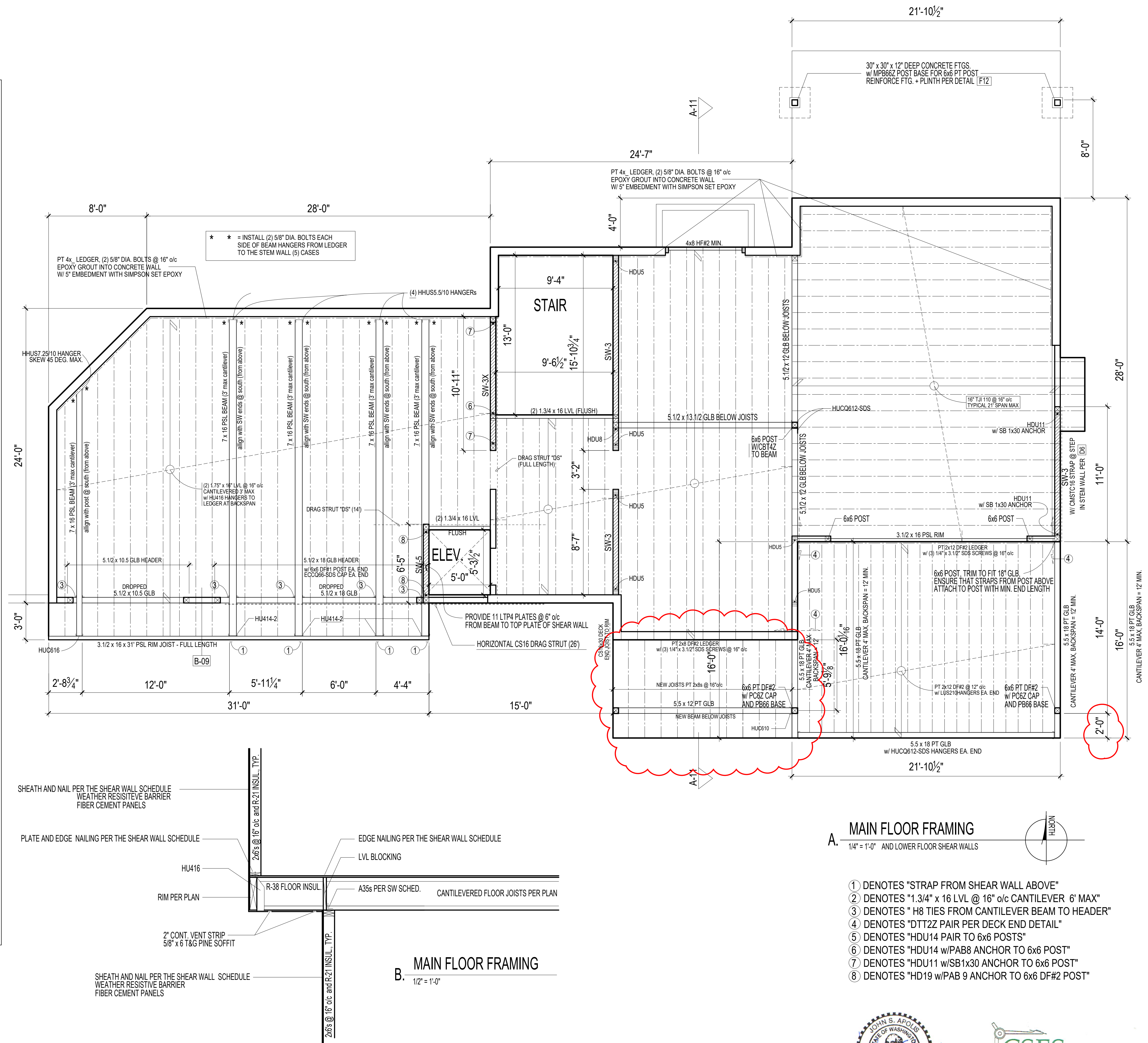
**2a - AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION**  
 Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum and  
 All whole house ventilation requirements as determined by Section M1507.3 of the International Residential Code shall be met with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode.  
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the qualifying ventilation system.

**3b - HIGH EFFICIENCY HVAC EQUIPMENT**  
 Air-source heat pump with minimum HSPF of 9.0  
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.

**4 - HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:**  
 All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion.  
 For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located outside the conditioned space must be insulated to a minimum of R-8. Locating system components in conditioned crawl spaces is not permitted under this option.  
 Electric resistance heat and ductless heat pumps are not permitted under this option.  
 Direct combustion heating equipment with AFUE less than 80% is not permitted under this option.  
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.

**5a - EFFICIENT WATER HEATING**  
 All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less.  
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.

**5c - EFFICIENT WATER HEATING**  
 Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications for Heat Pump Water Heaters  
 To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency.



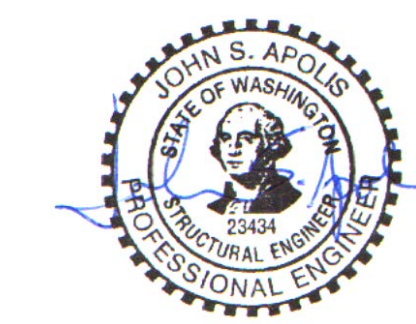
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**CONTENTS**  
 Main Floor

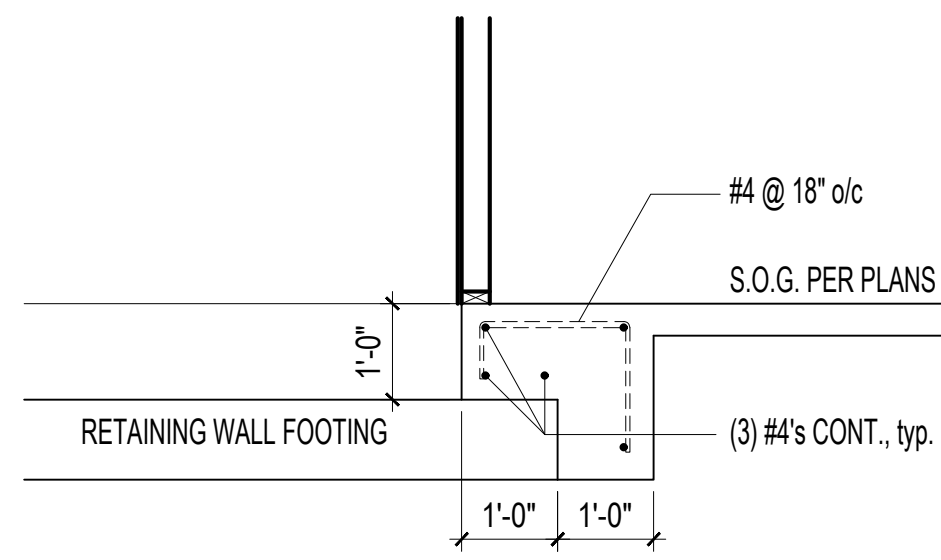
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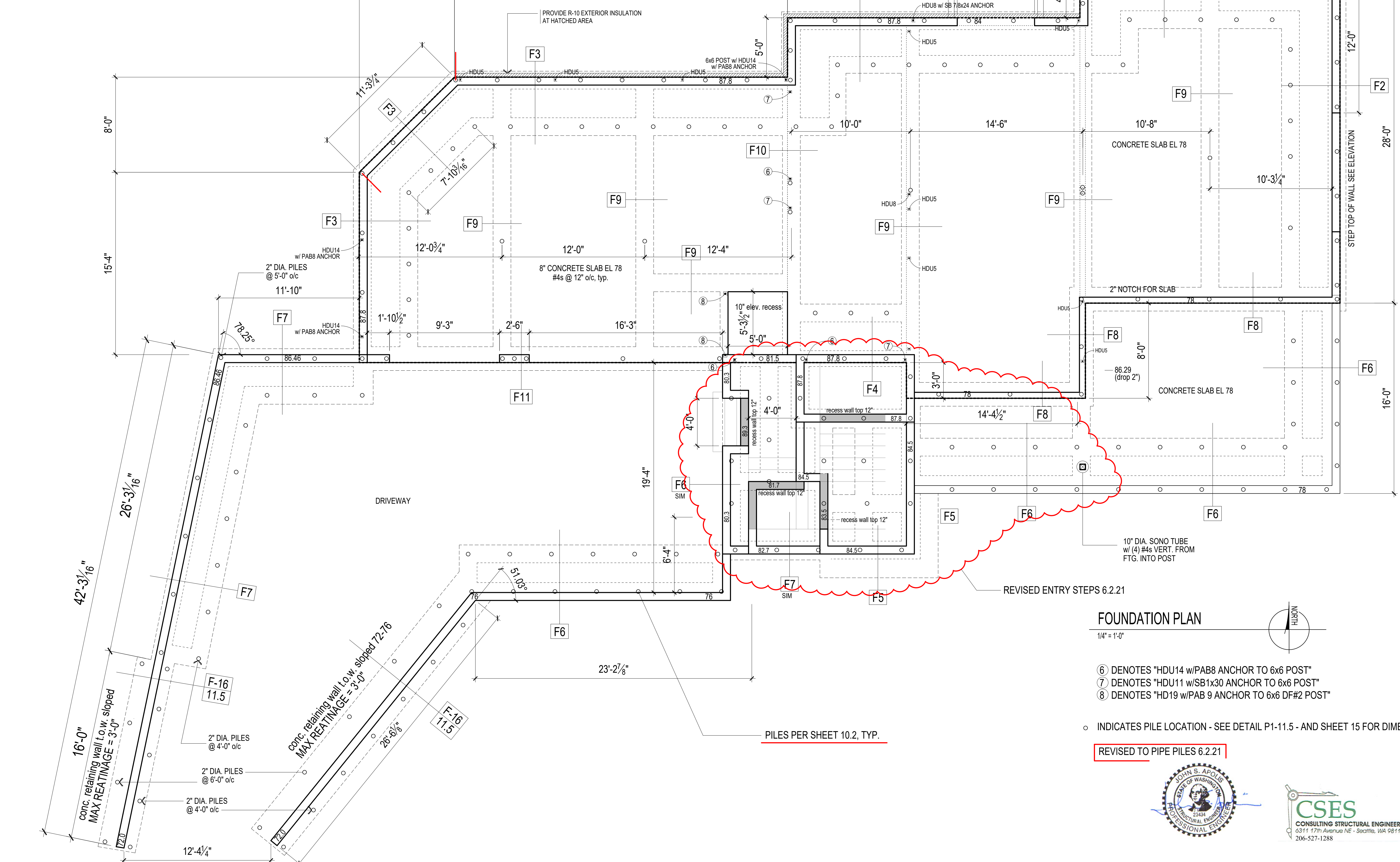
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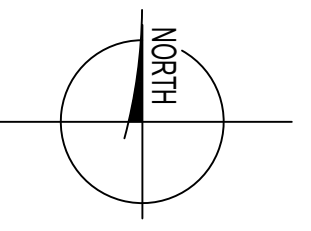
**B. SECTION AT ELEVATOR PIT**

1/2" = 1'-0"



**FOUNDATION PLAN**

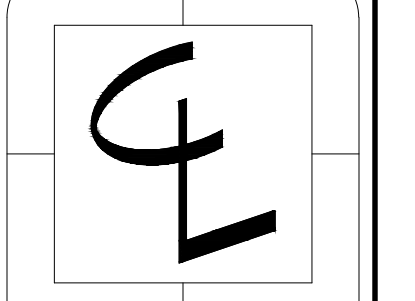
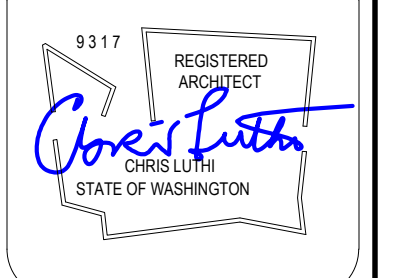
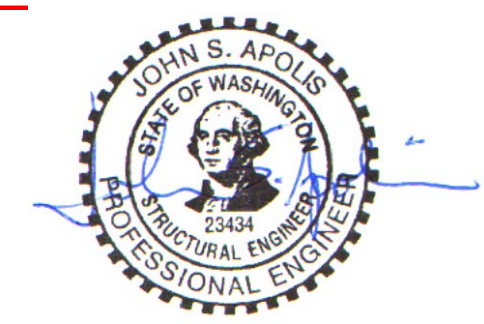
1/4" = 1'-0"



- ⑥ DENOTES "HDU14 w/PAB8 ANCHOR TO 6x6 POST"
- ⑦ DENOTES "HDU11 w/SB1x30 ANCHOR TO 6x6 POST"
- ⑧ DENOTES "HD19 w/PAB 9 ANCHOR TO 6x6 DF#2 POST"

○ INDICATES PILE LOCATION - SEE DETAIL P1-11.5 - AND SHEET 15 FOR DIMENSIONS

**REVISED TO PIPE PILES 6.2.21**



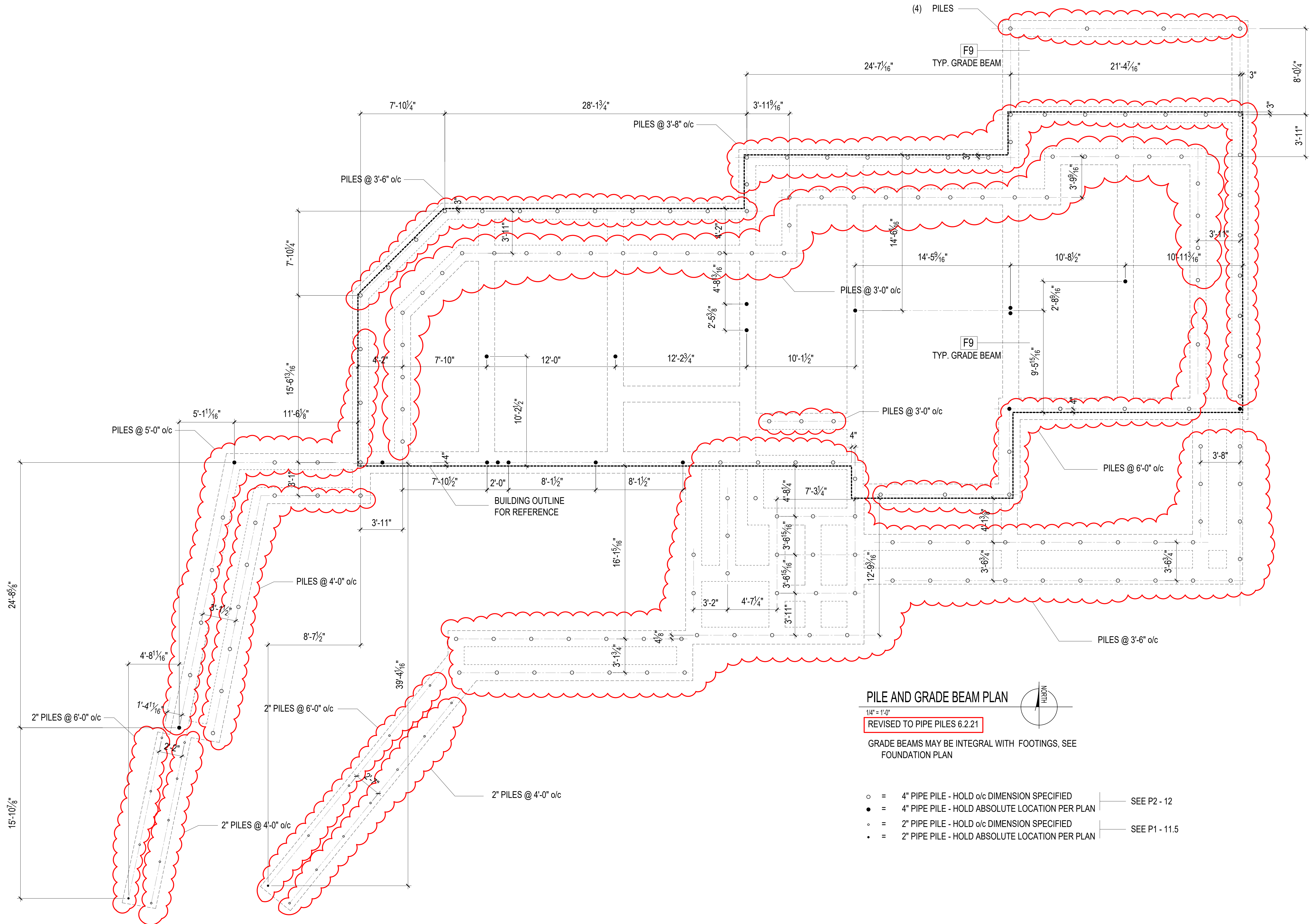
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 Foundation Plan

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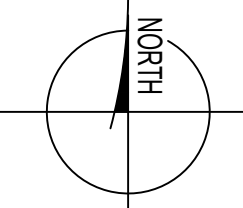


**PILE AND GRADE BEAM PLAN**

1/4" = 1'-0"

REVISED TO PIPE PILES 6.2.21

GRADE BEAMS MAY BE INTEGRAL WITH FOOTINGS, SEE FOUNDATION PLAN

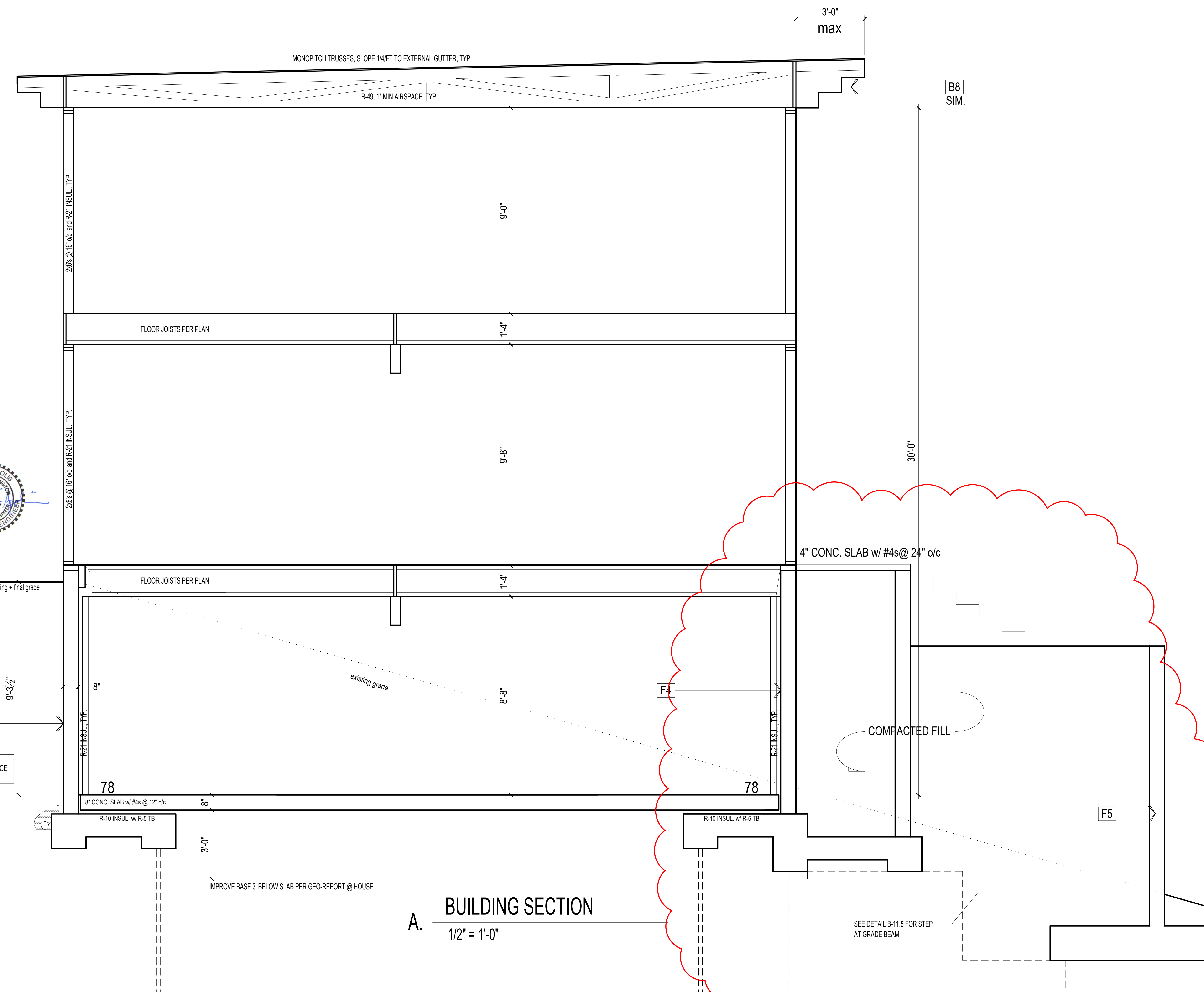


- = 4" PIPE PILE - HOLD o/c DIMENSION SPECIFIED — SEE P2 - 12
- = 4" PIPE PILE - HOLD ABSOLUTE LOCATION PER PLAN
- = 2" PIPE PILE - HOLD o/c DIMENSION SPECIFIED — SEE P1 - 11.5
- = 2" PIPE PILE - HOLD ABSOLUTE LOCATION PER PLAN

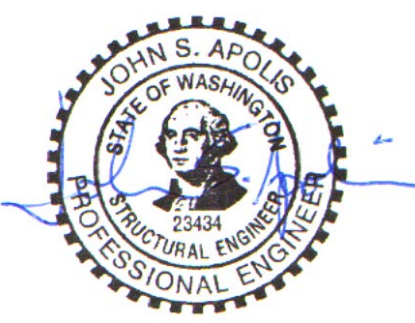


**VENTING CALC.**

2" STRIP VENT = 8sq ft / FT  
 LOW VENTING = 83' x 8sqft = 664 s.i.  
 HIGH VENTING = 102' x 8sqft = 816 s.i.  
 TOTAL VENTING = 1480 s.i.  
 REQD VENTING = 2298 x 144 / 300 = 1103 s.i.  
 1480 > 1103, therefore OK

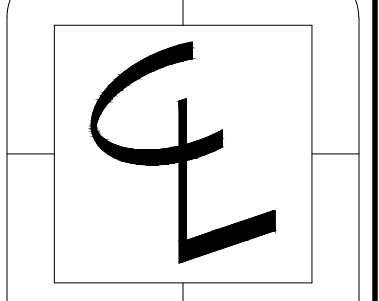
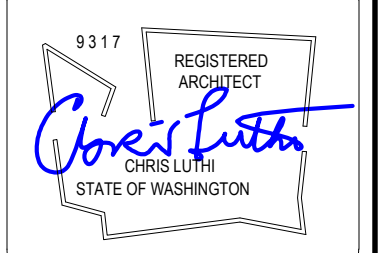


**A. BUILDING SECTION**  
 1/2" = 1'-0"



FOOTING AND WALL DRAINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT

SEE DETAIL B-11.5 FOR STEP AT GRADE BEAM



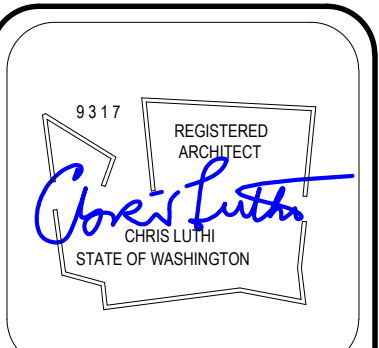
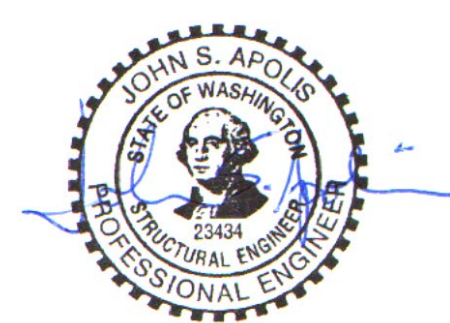
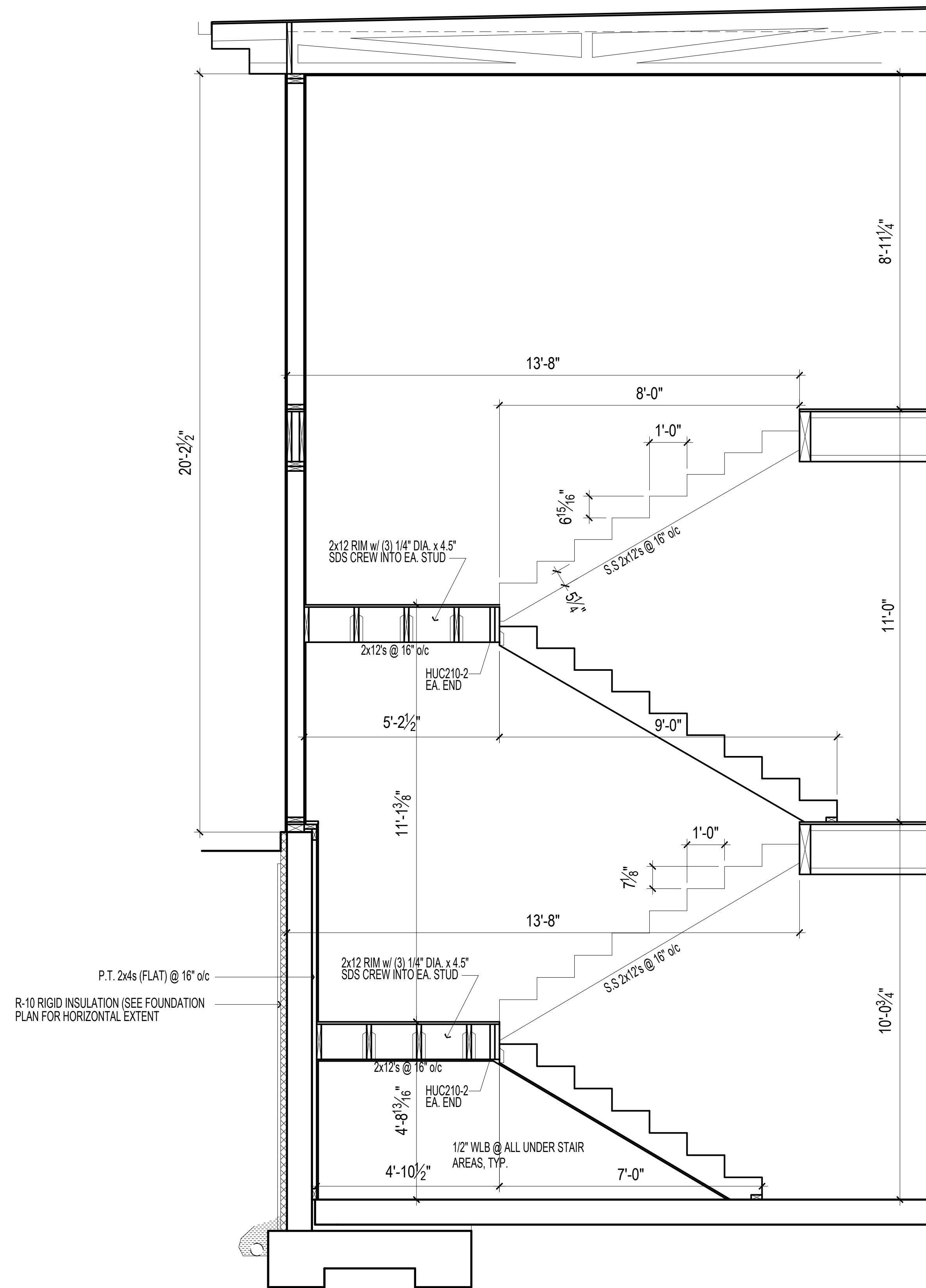
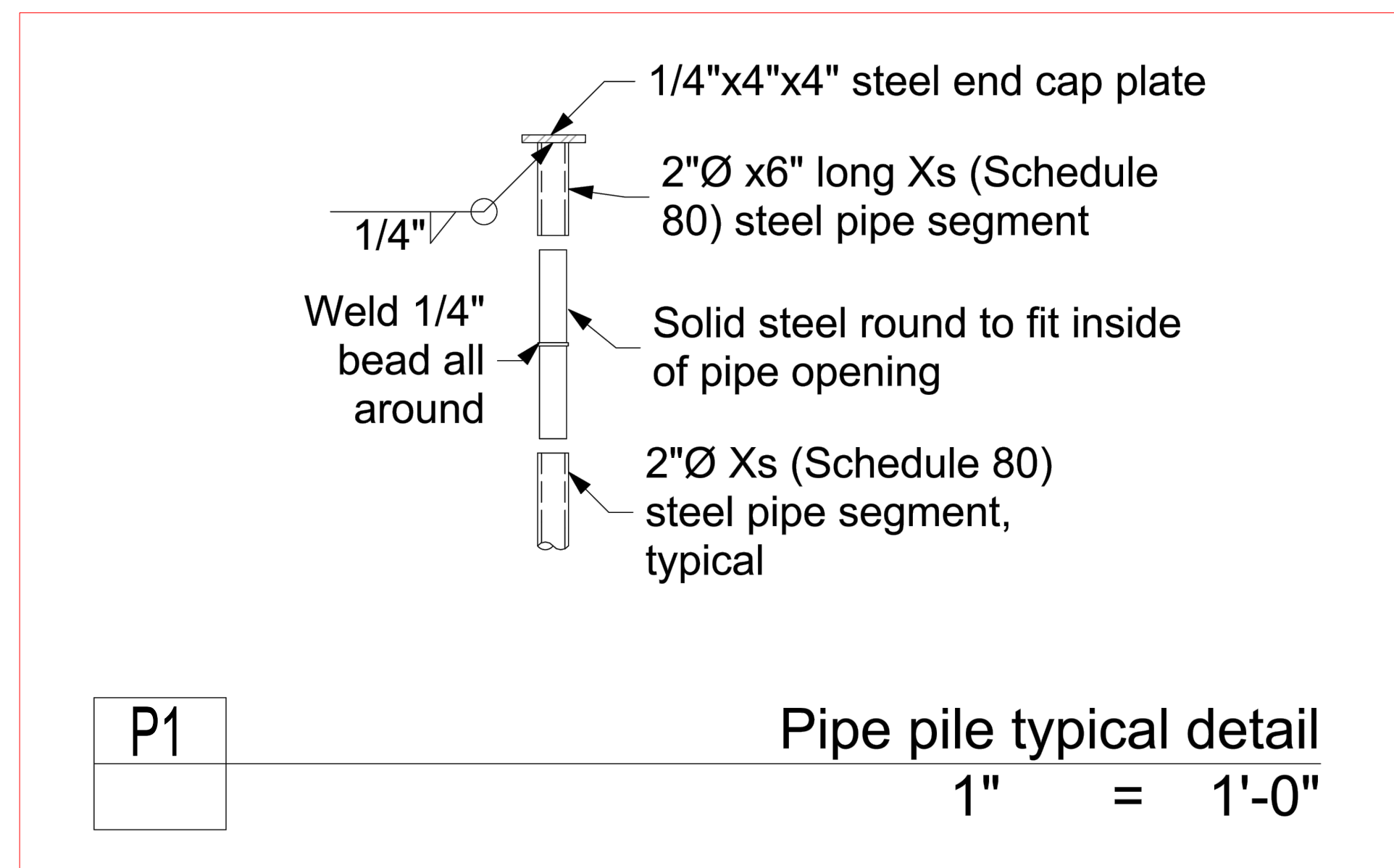
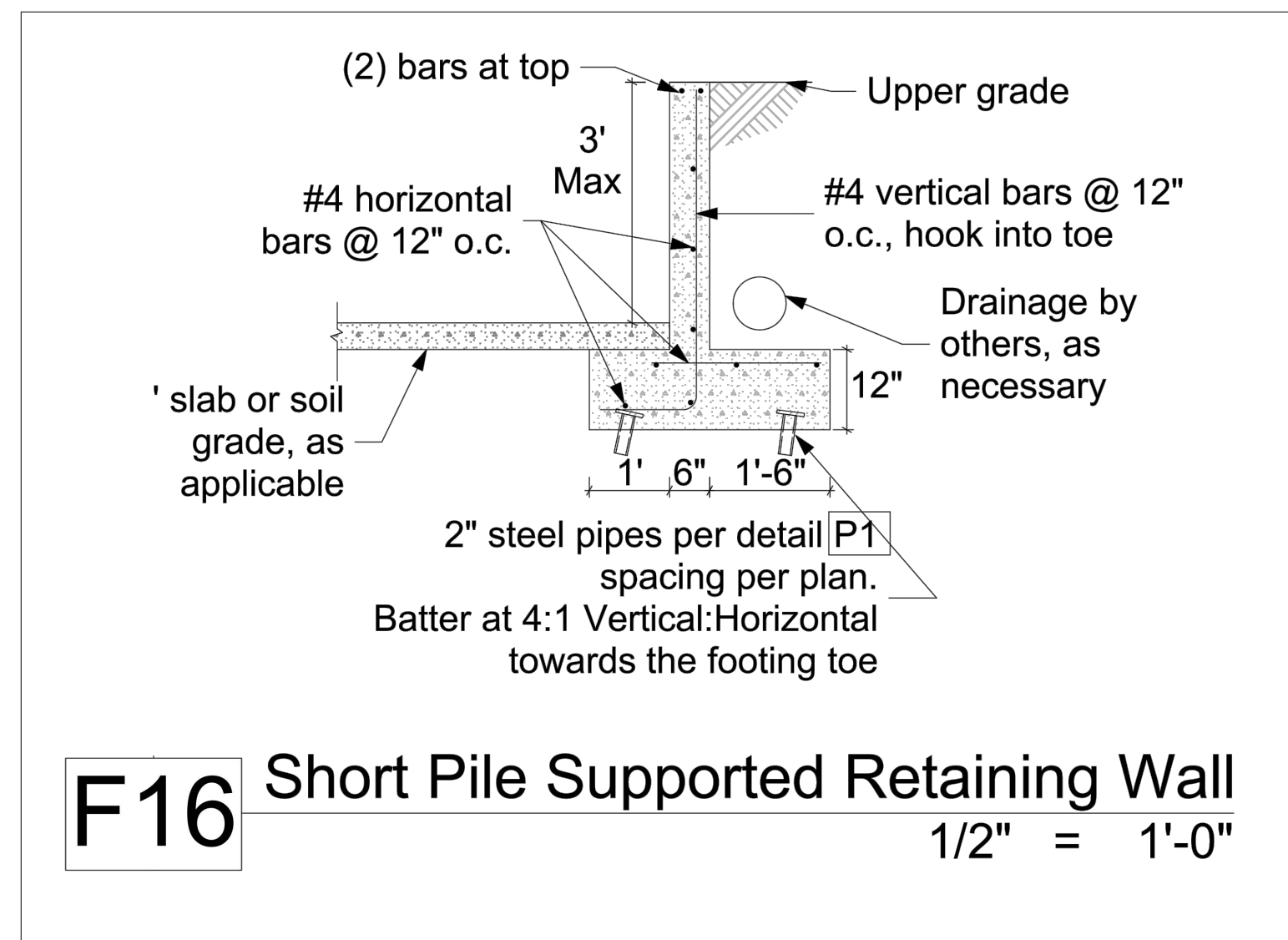
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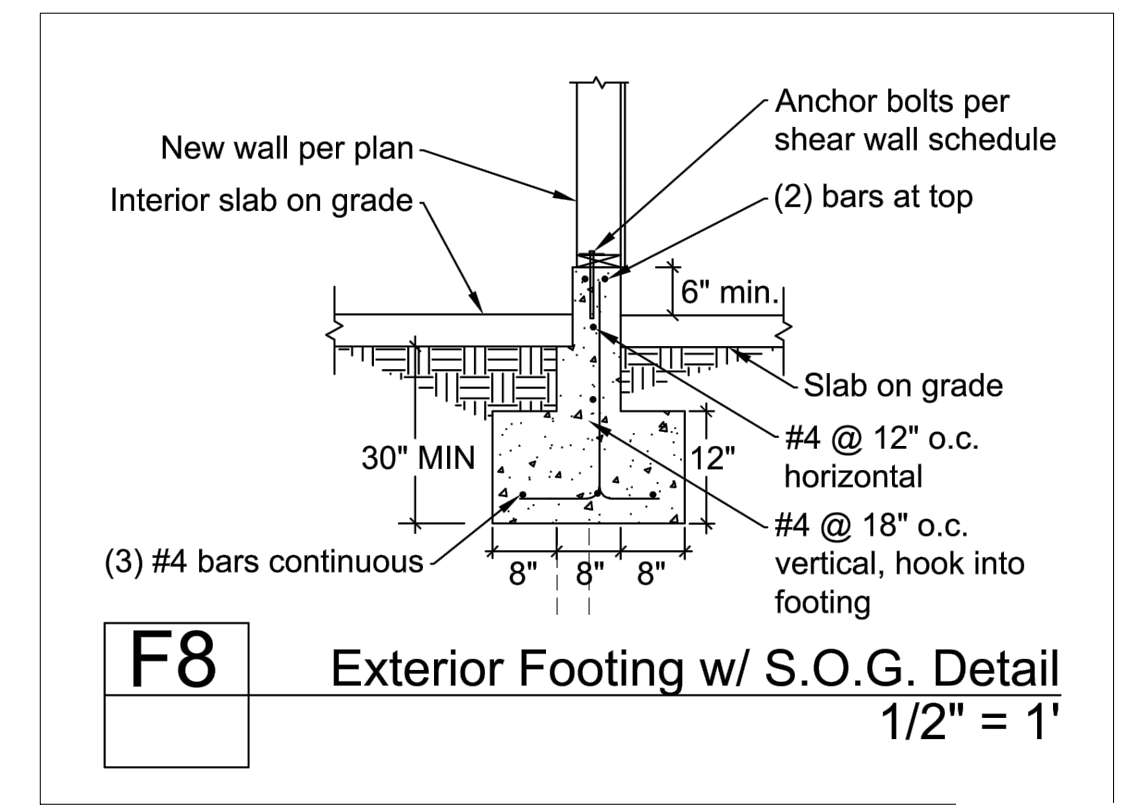
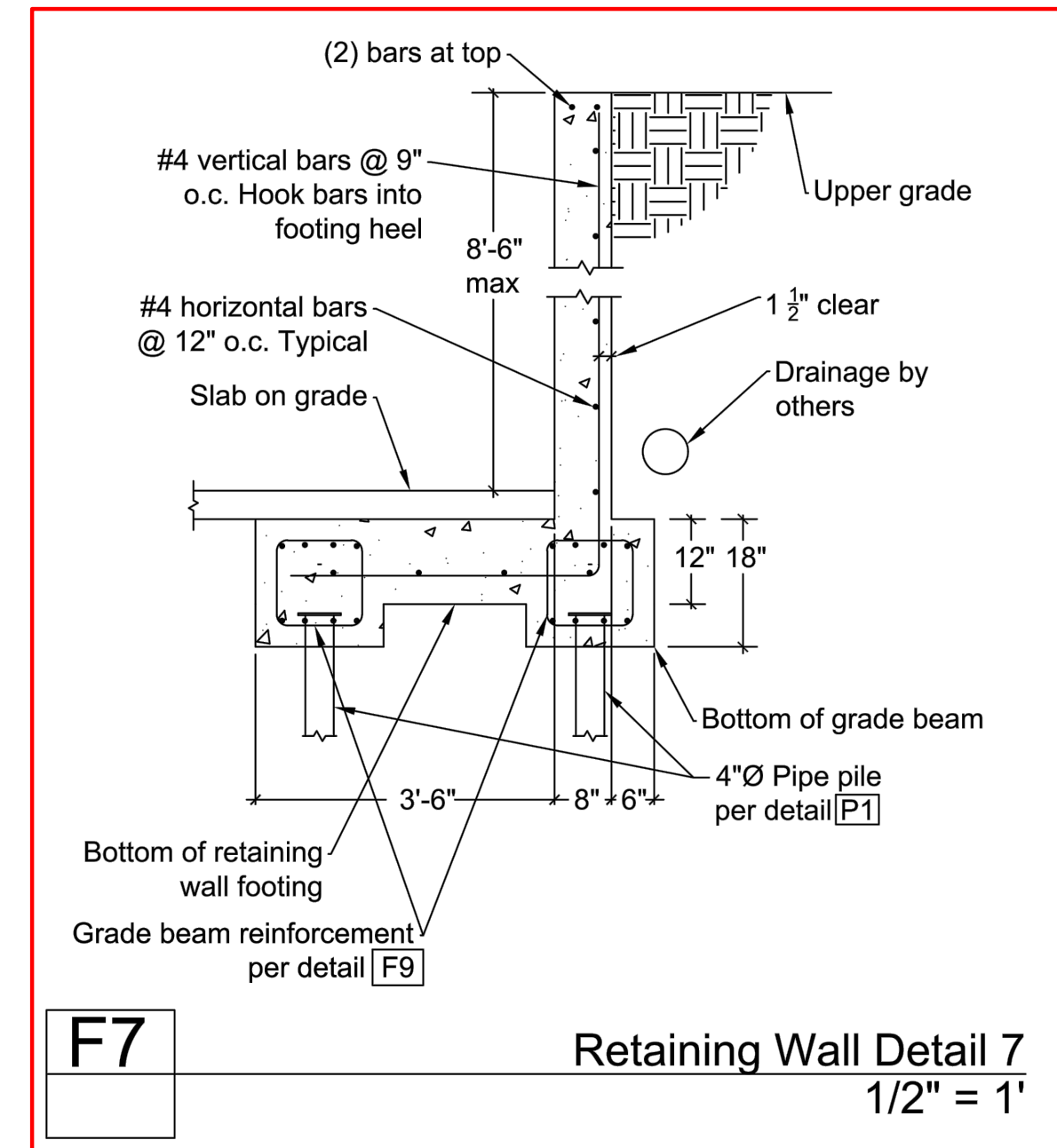
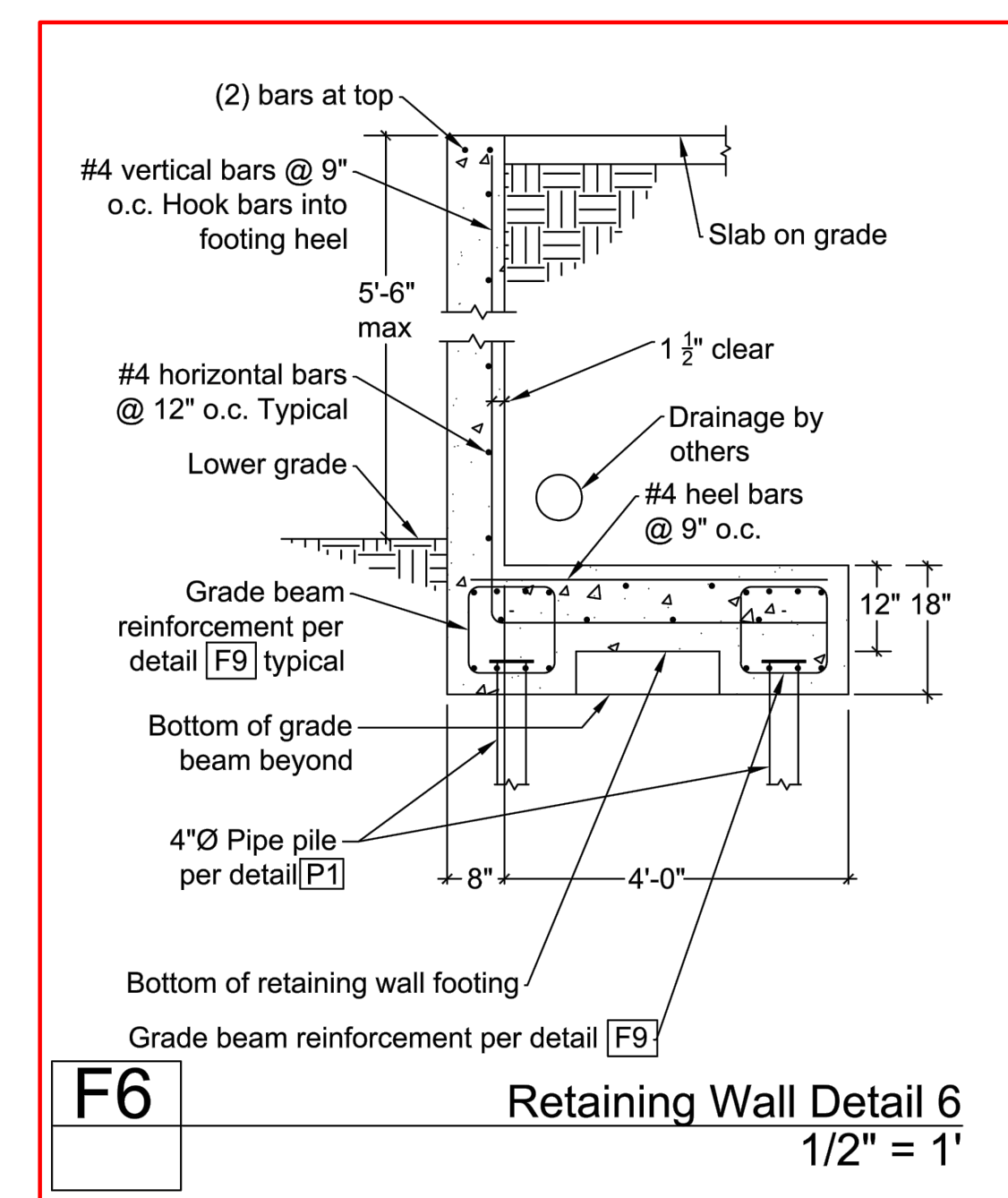
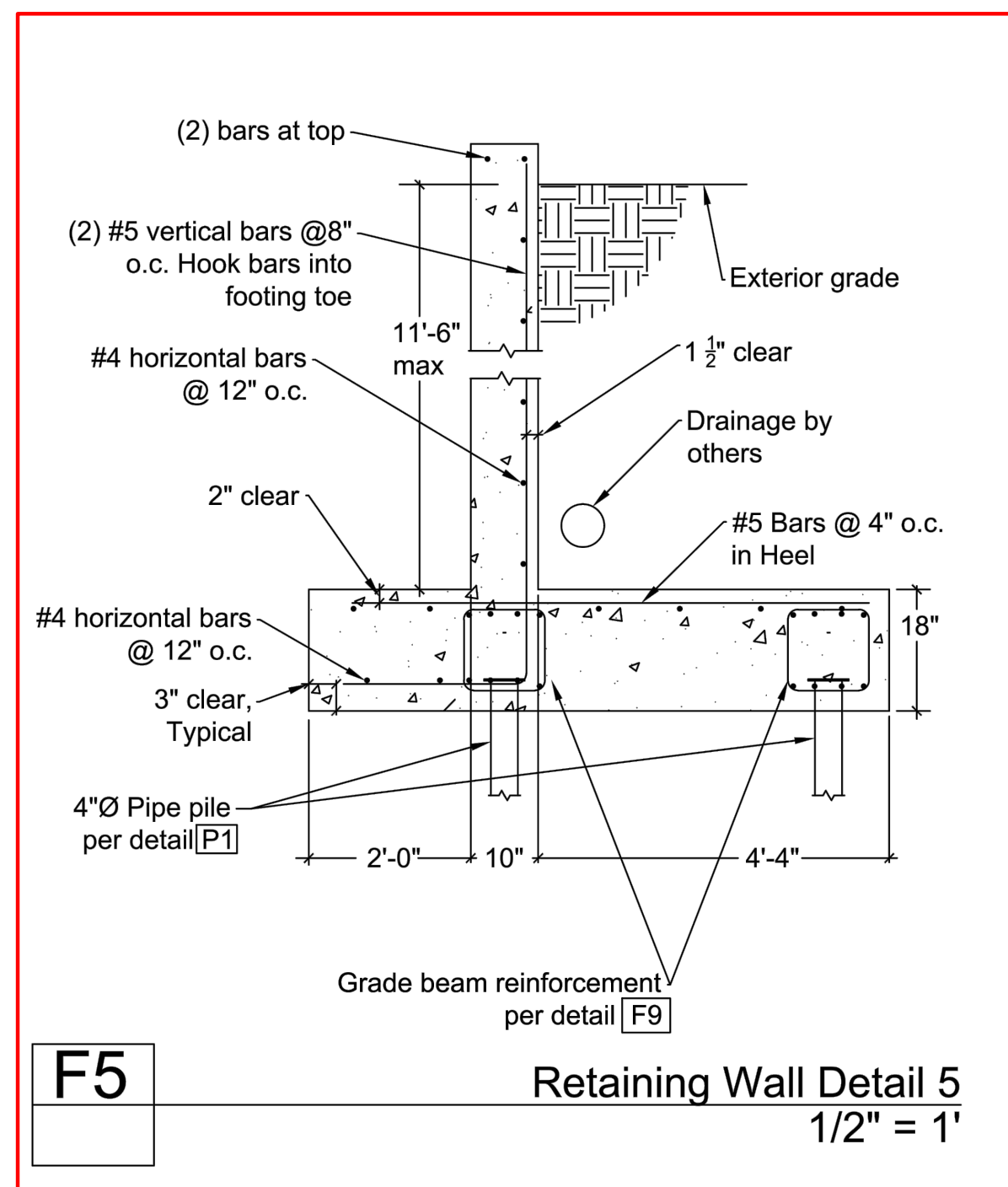
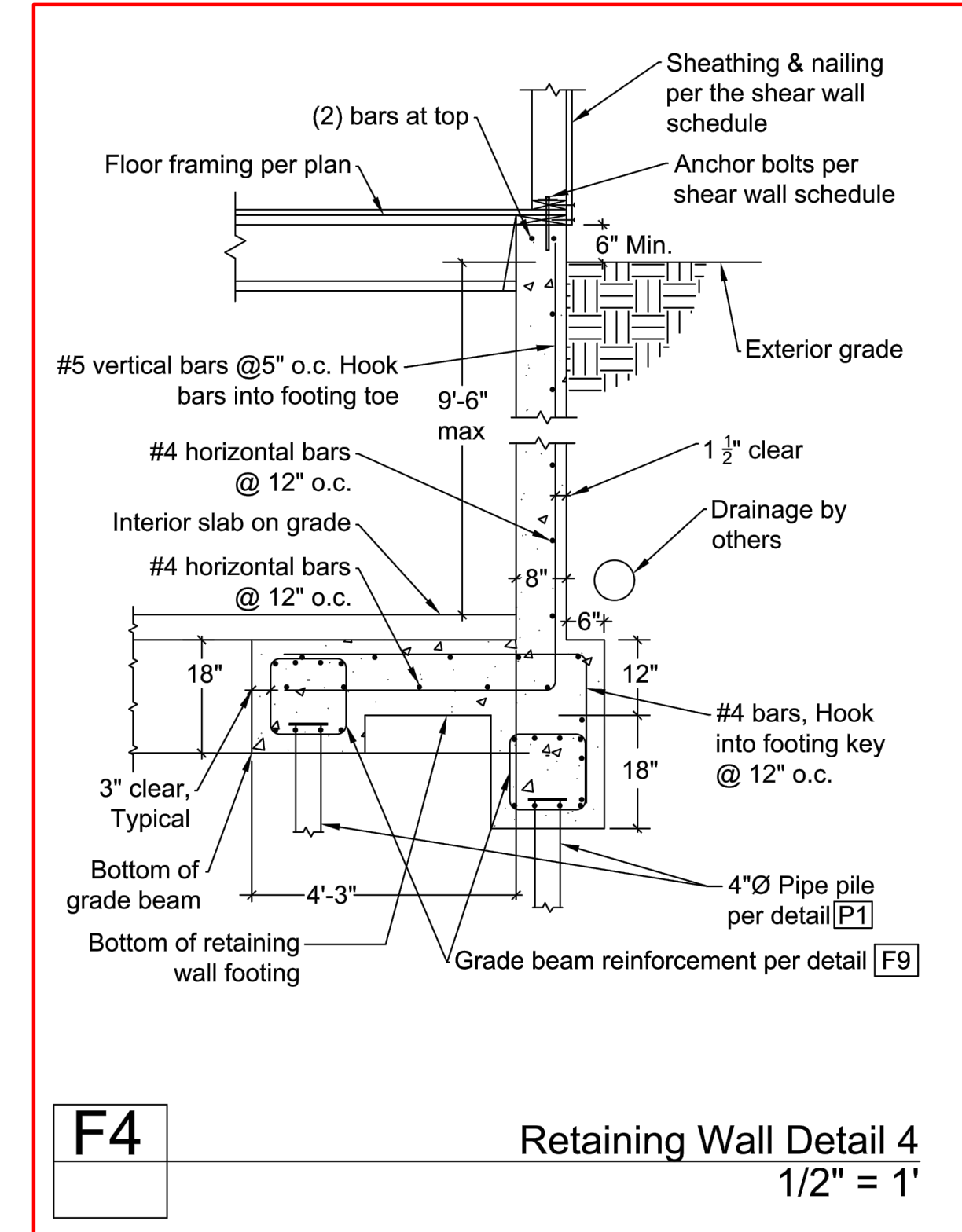
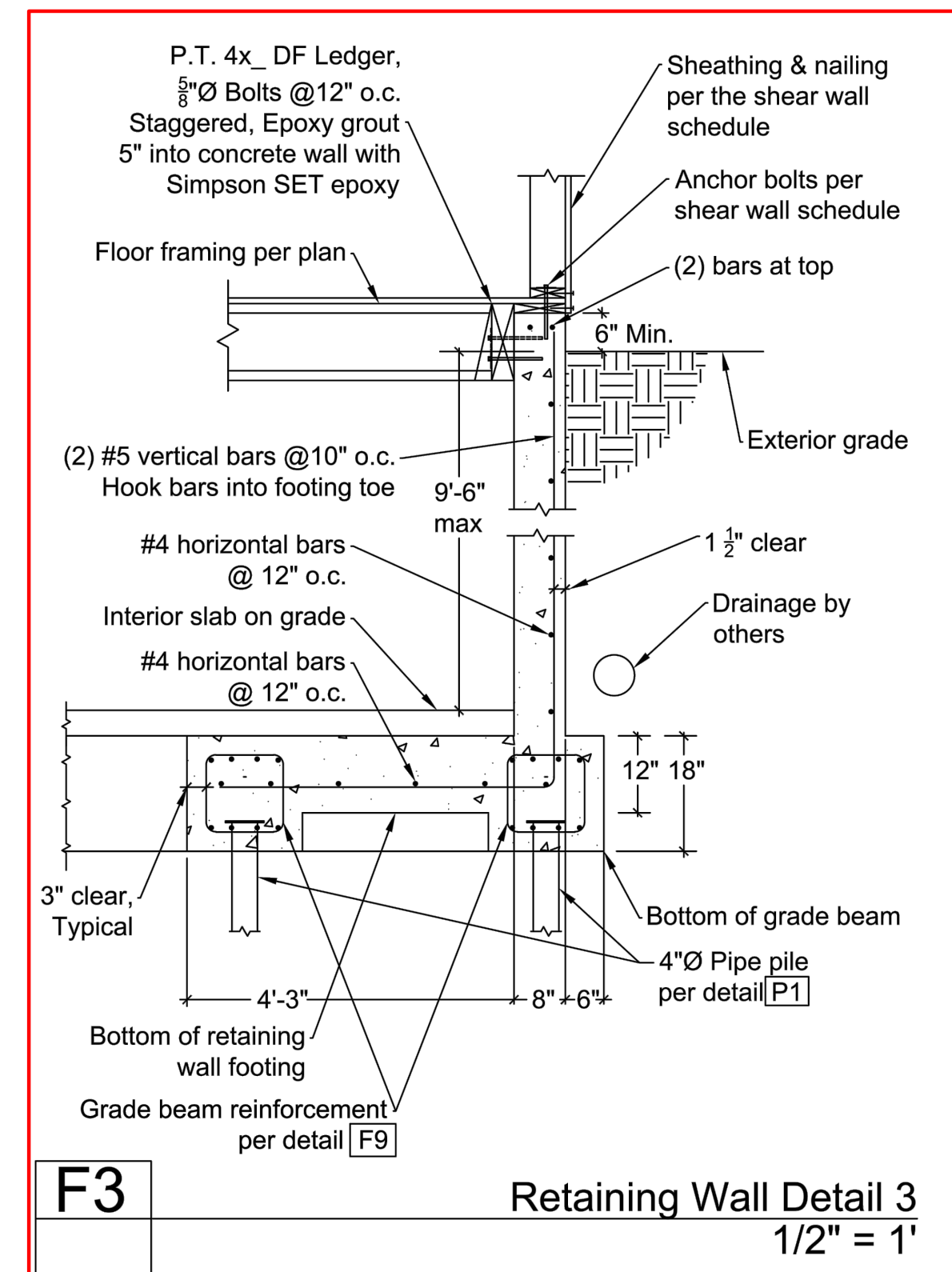
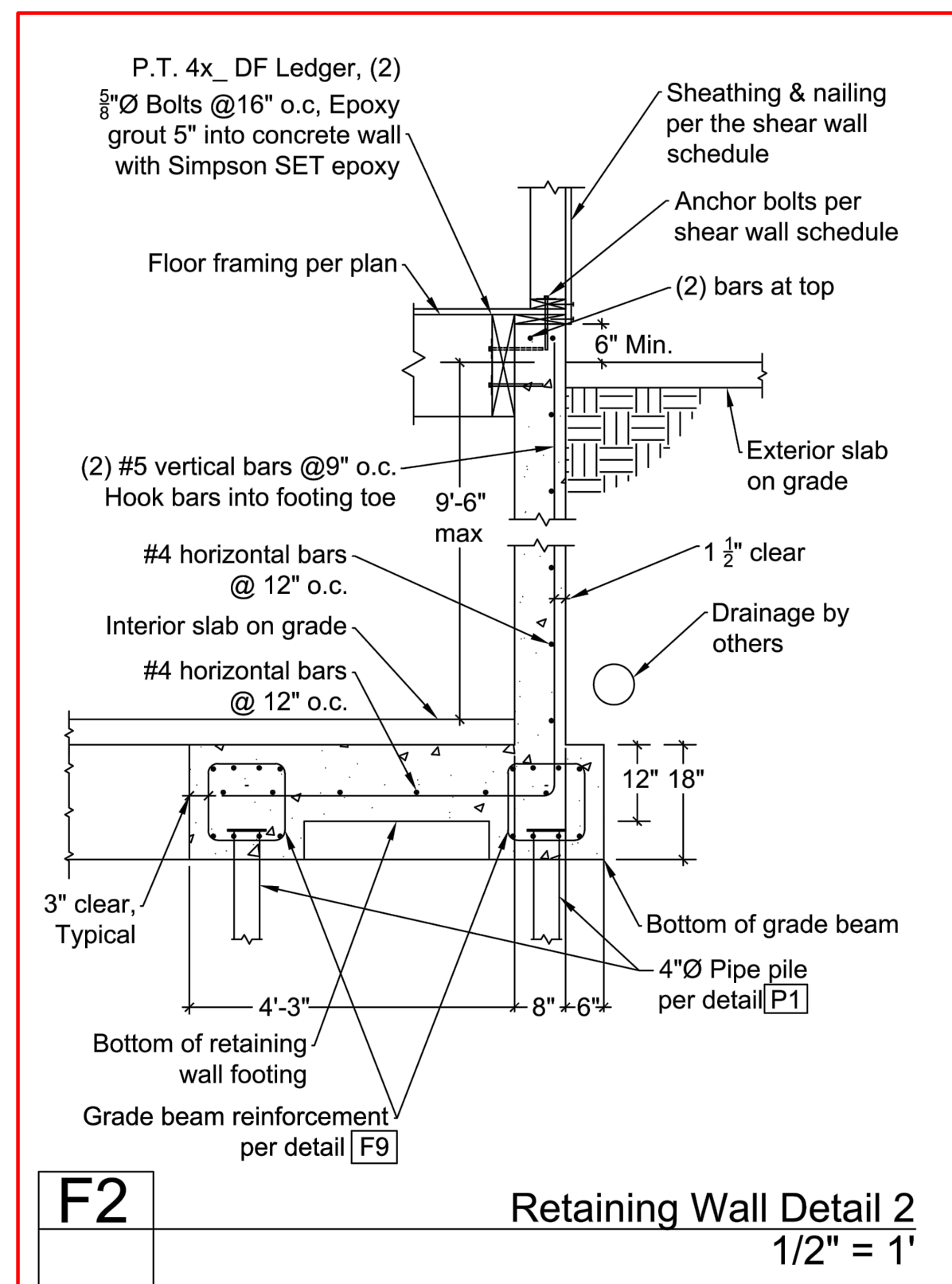
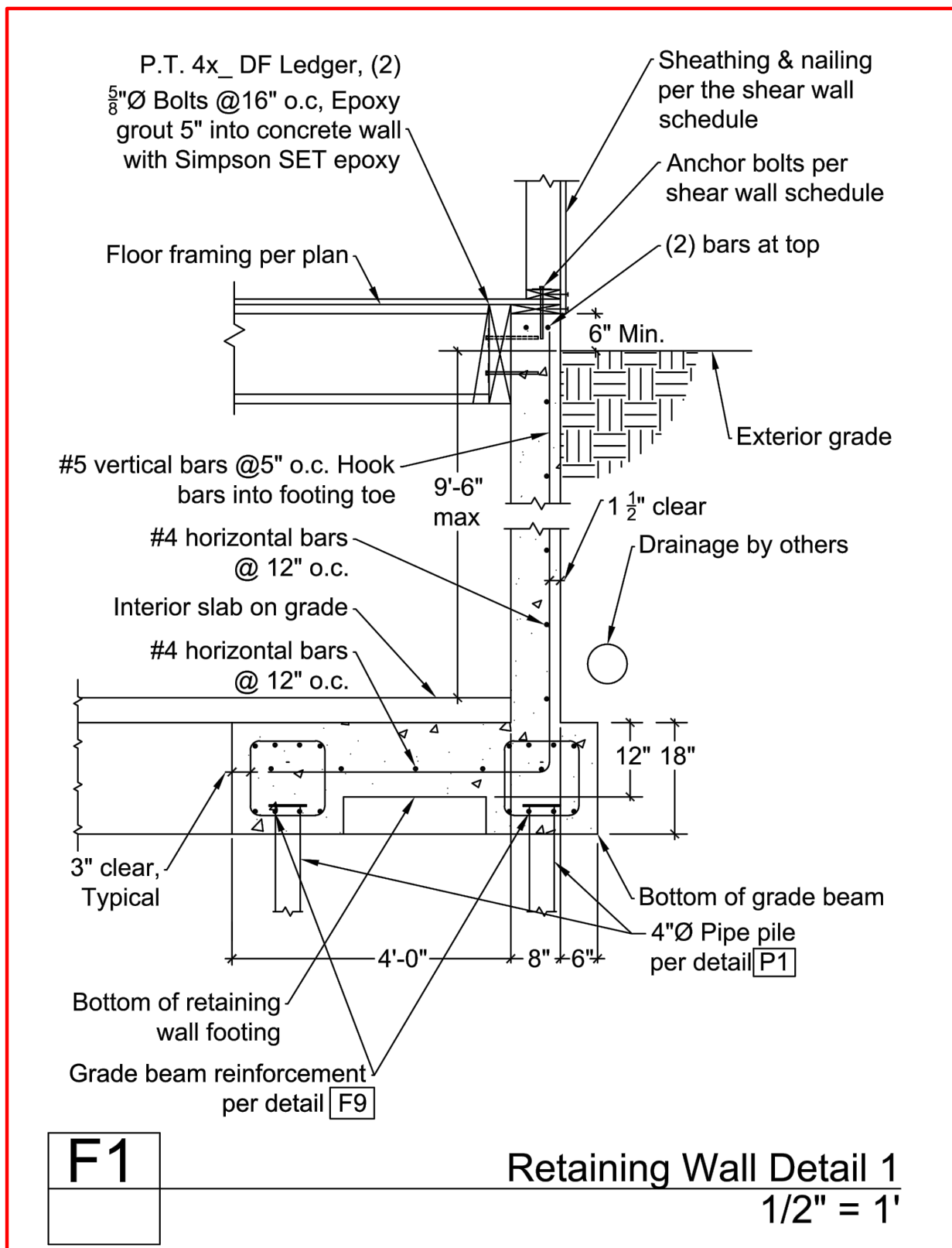
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**11.5**

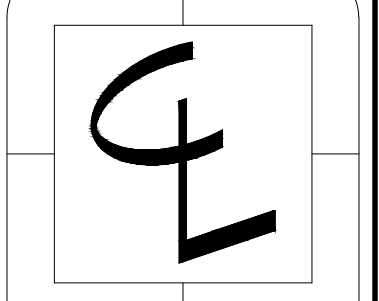
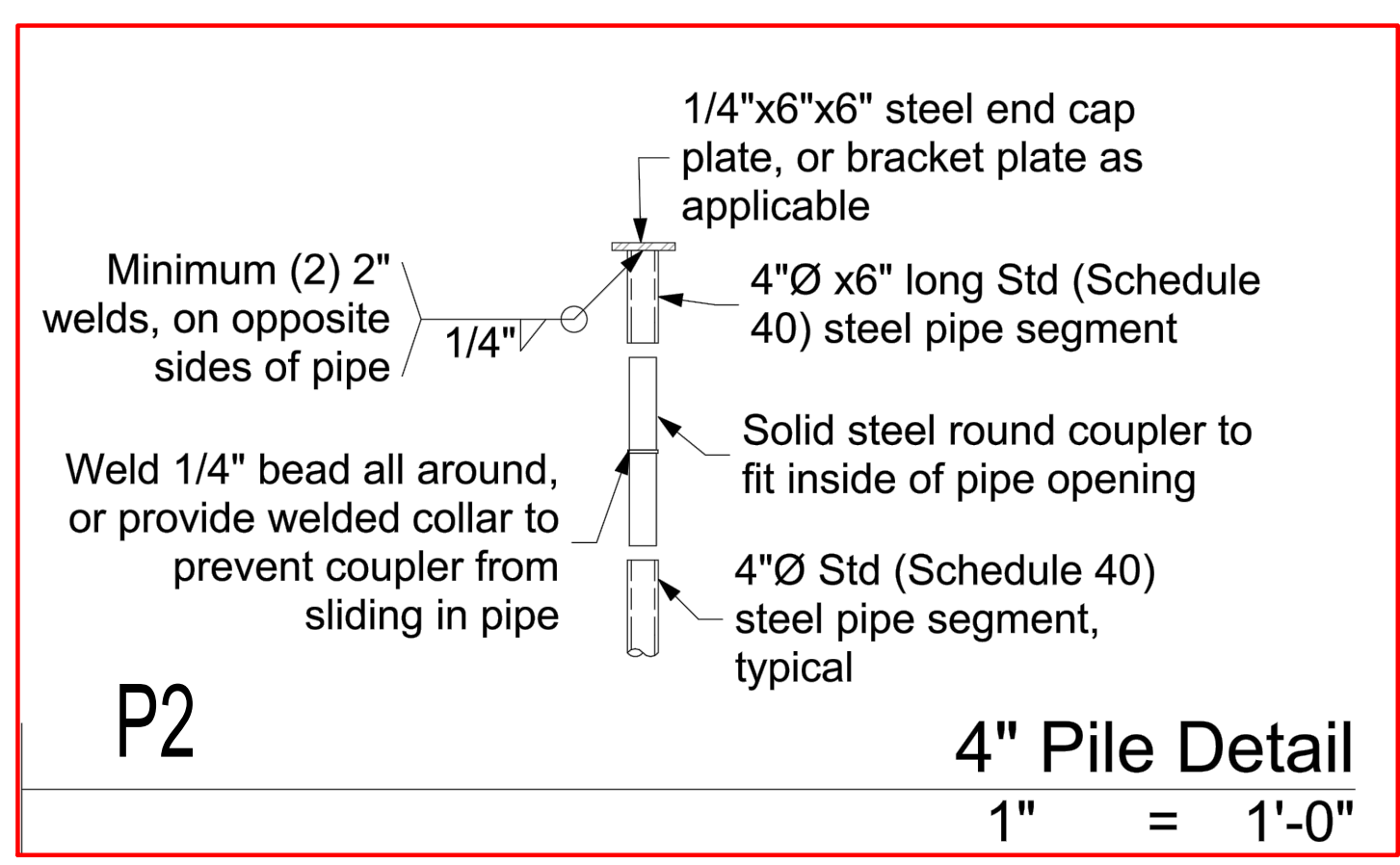
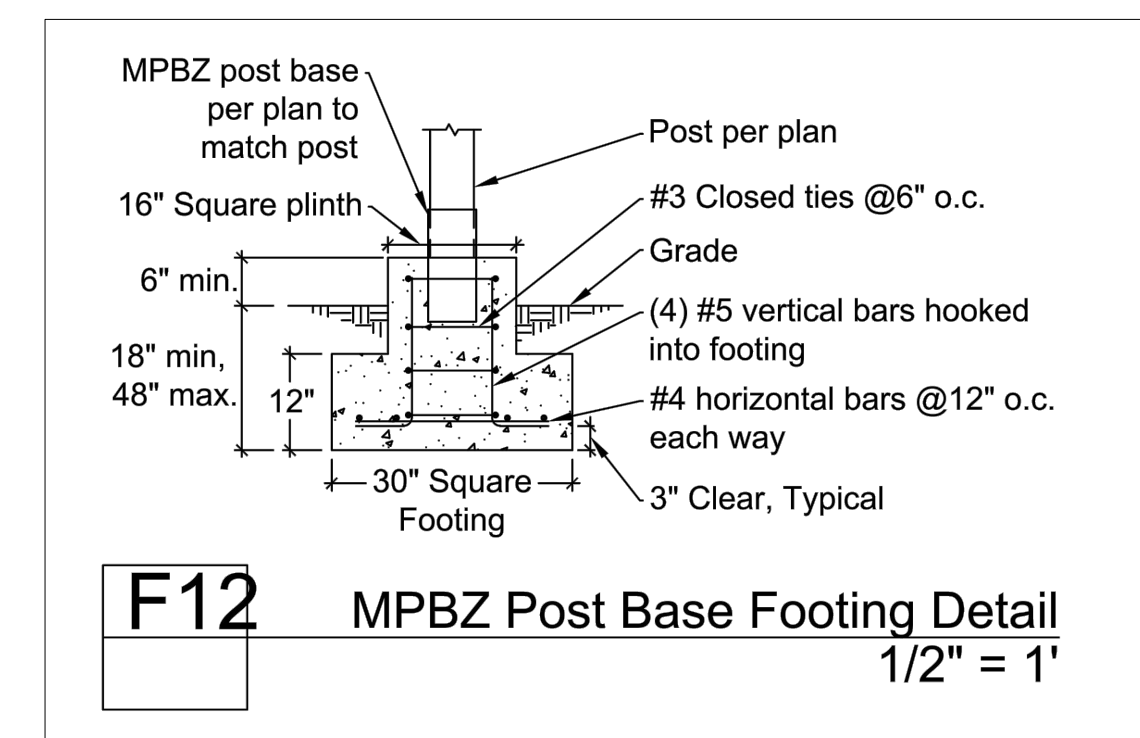
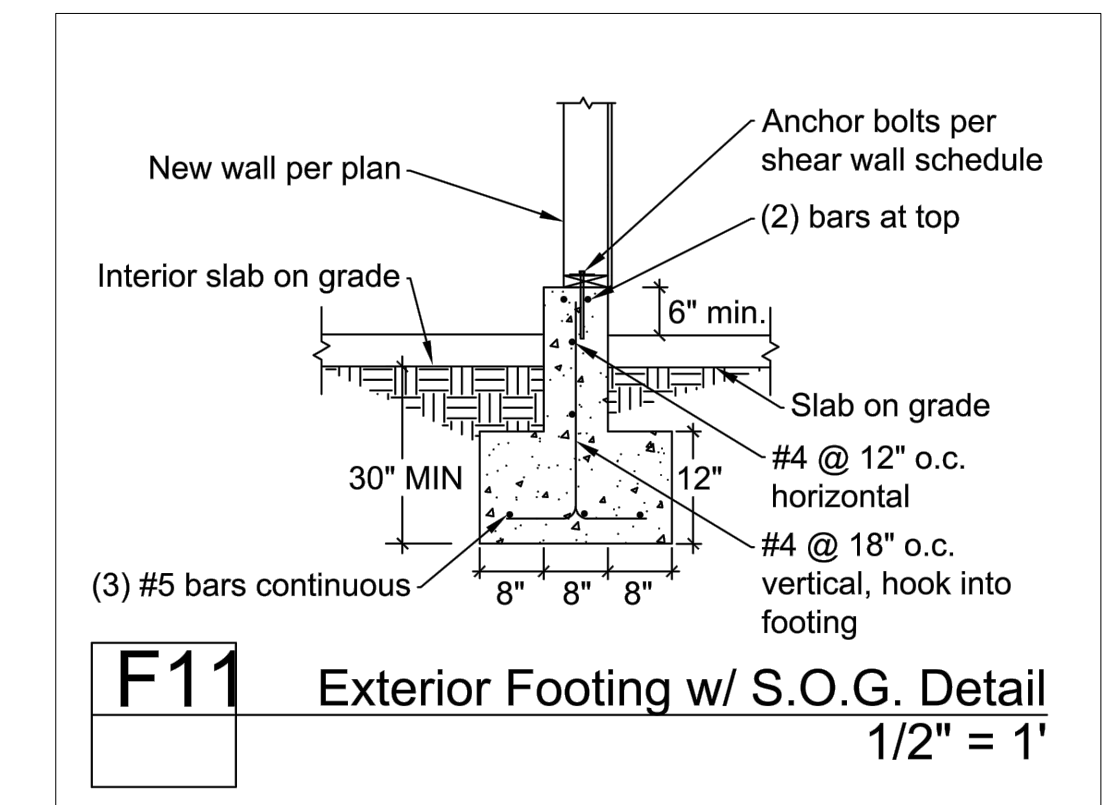
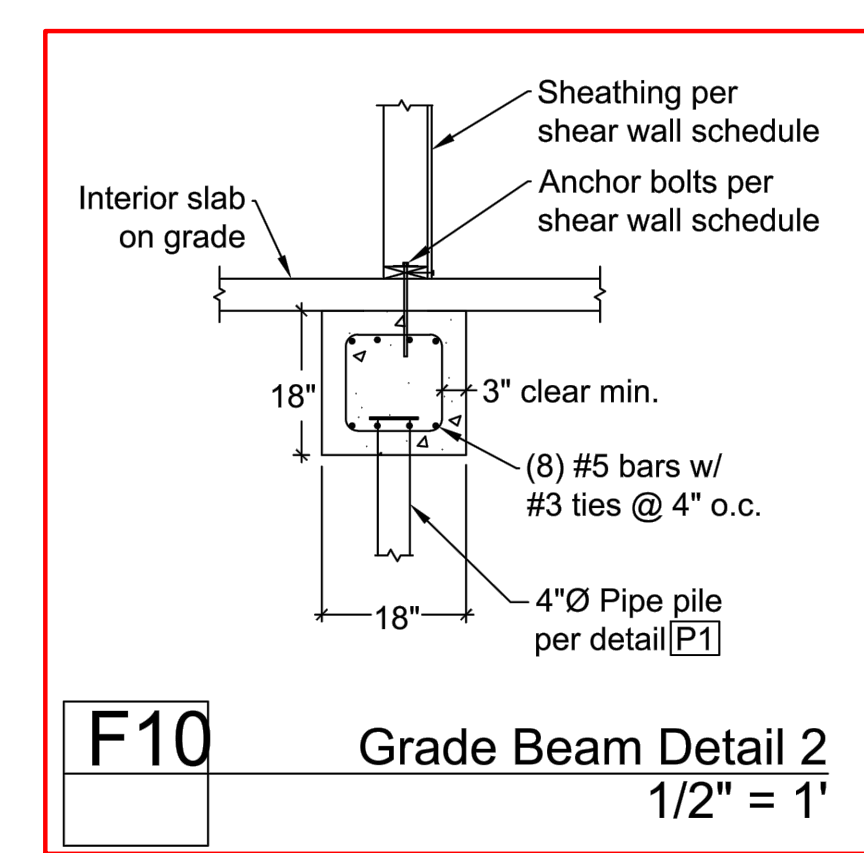
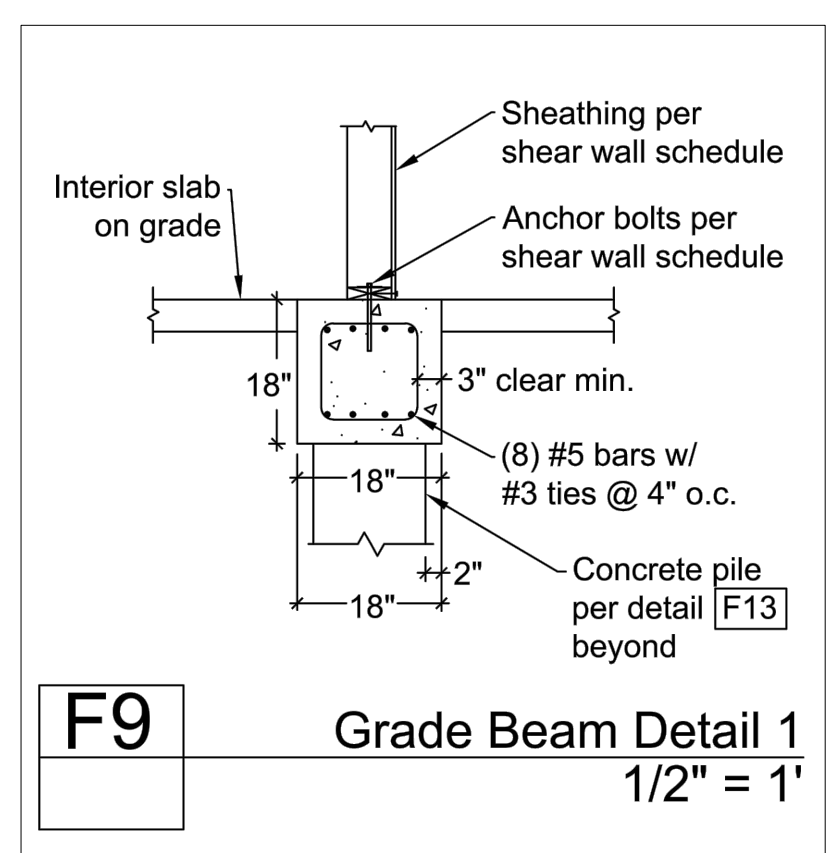




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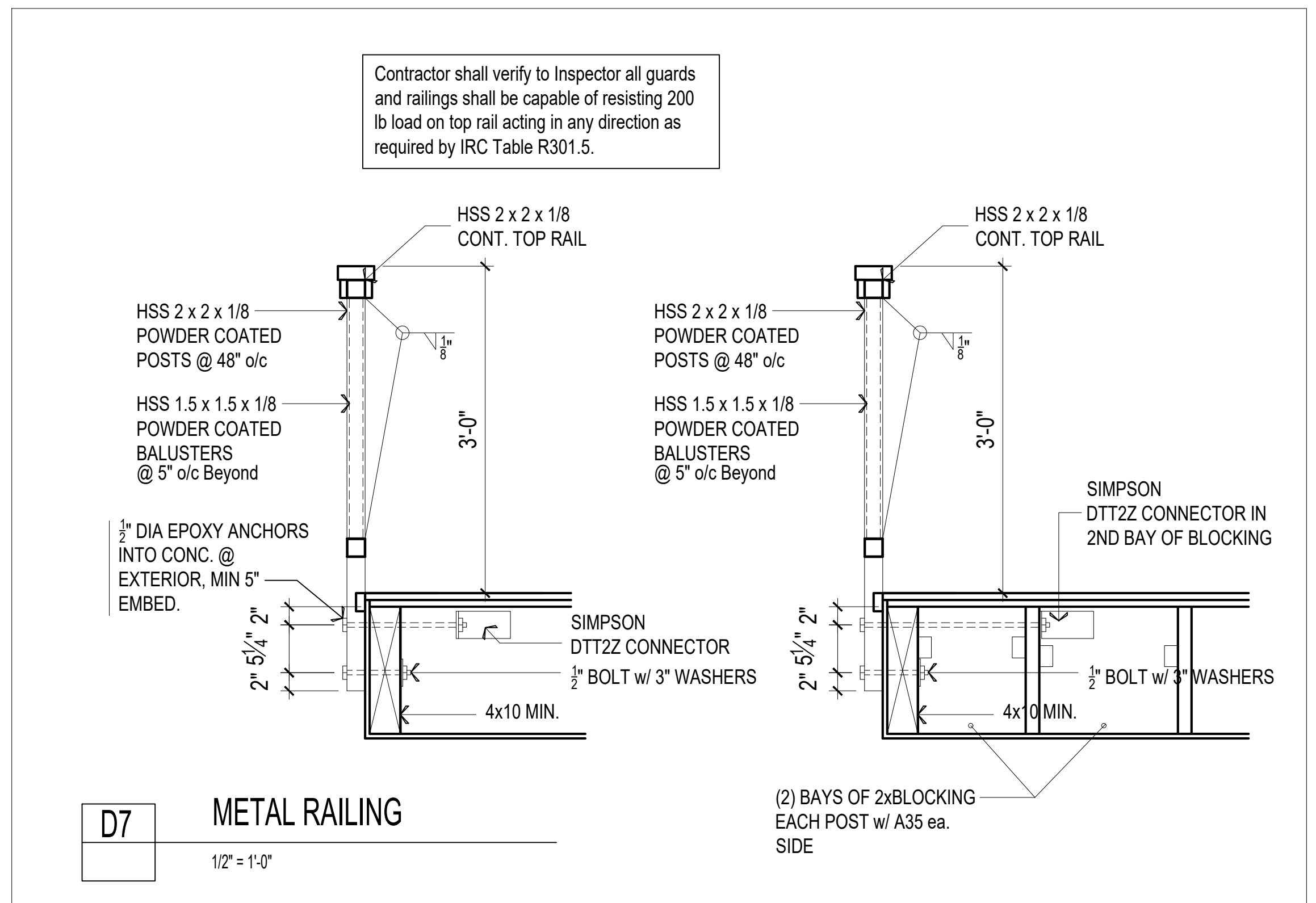
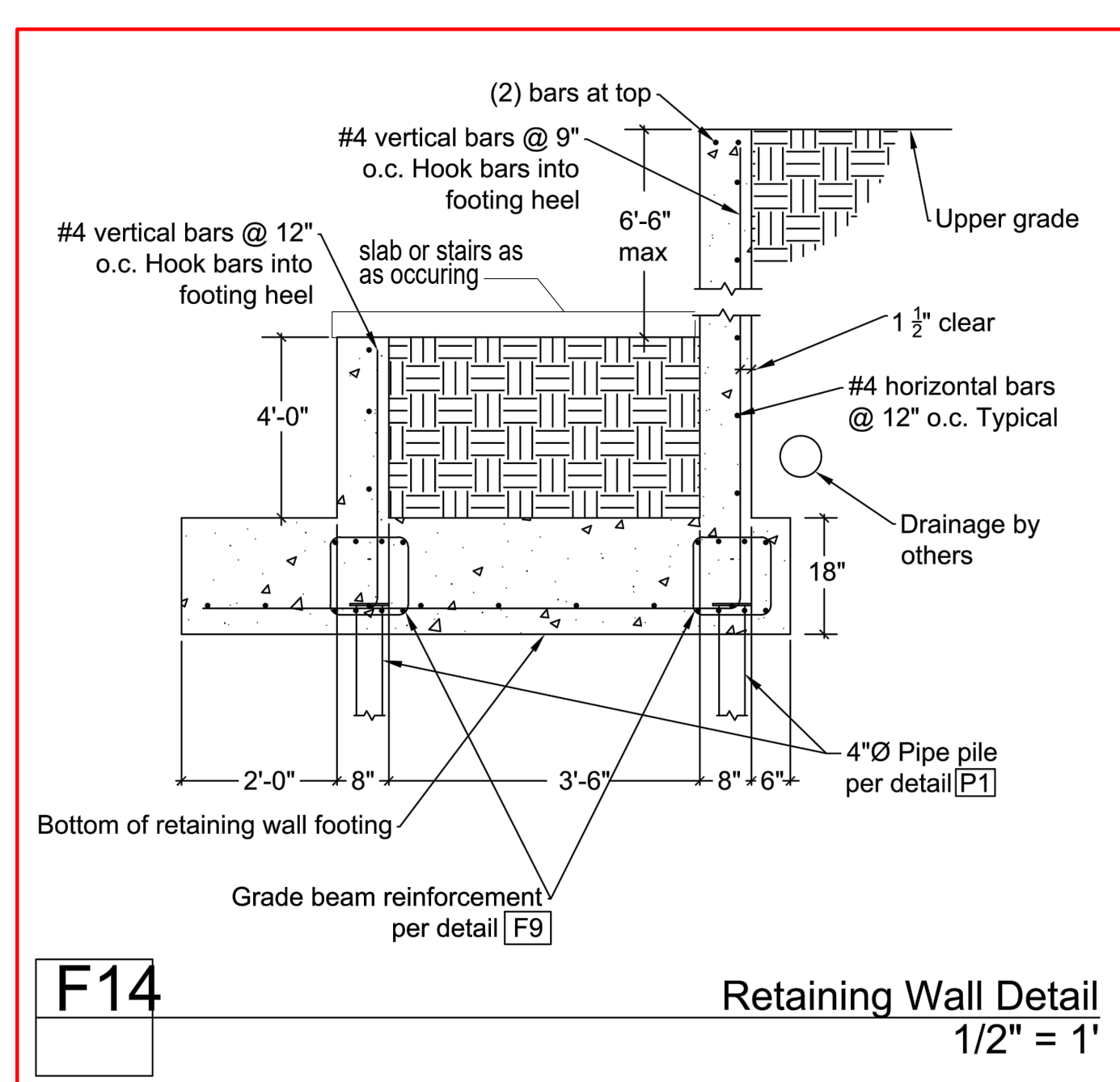
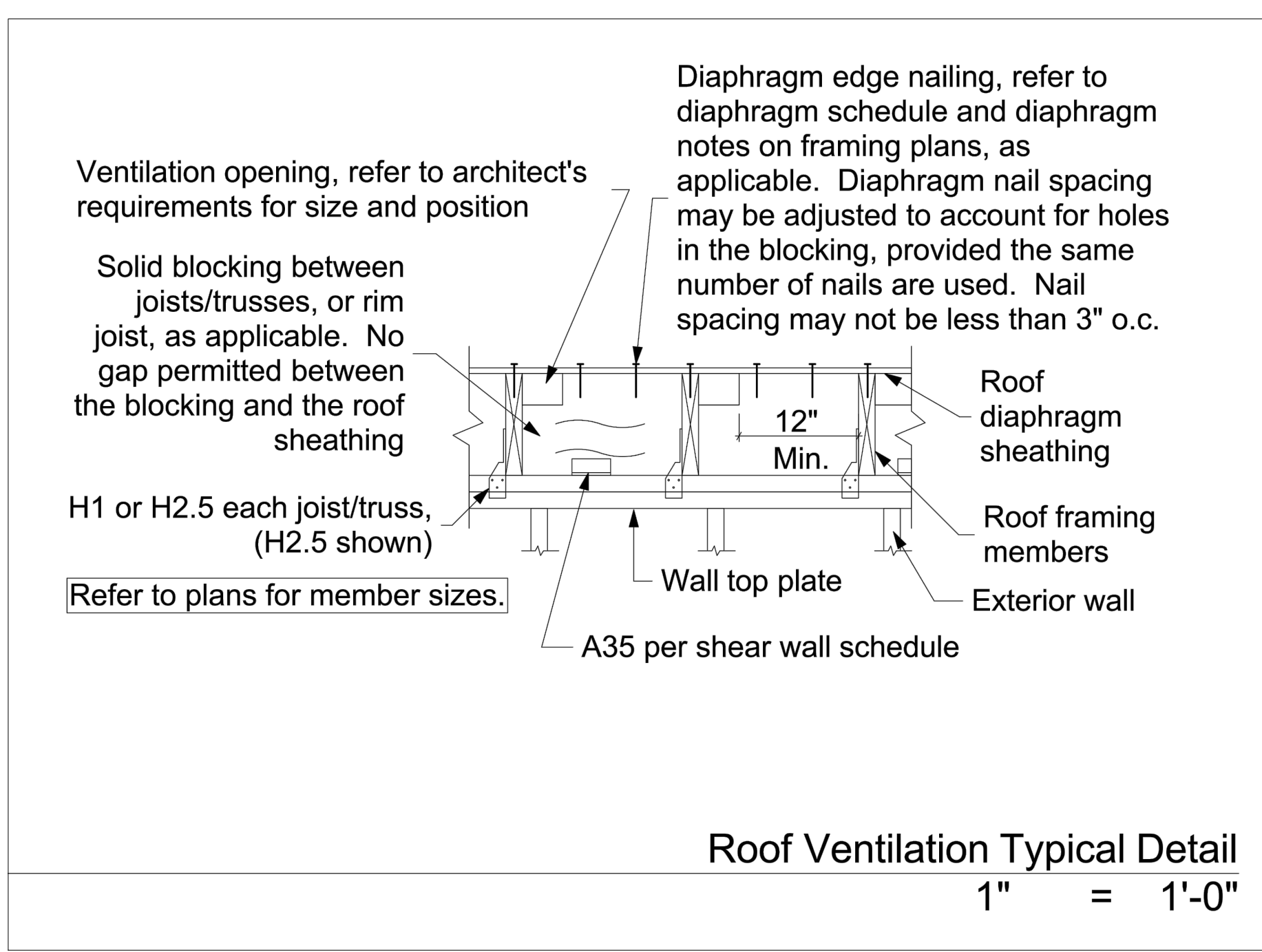
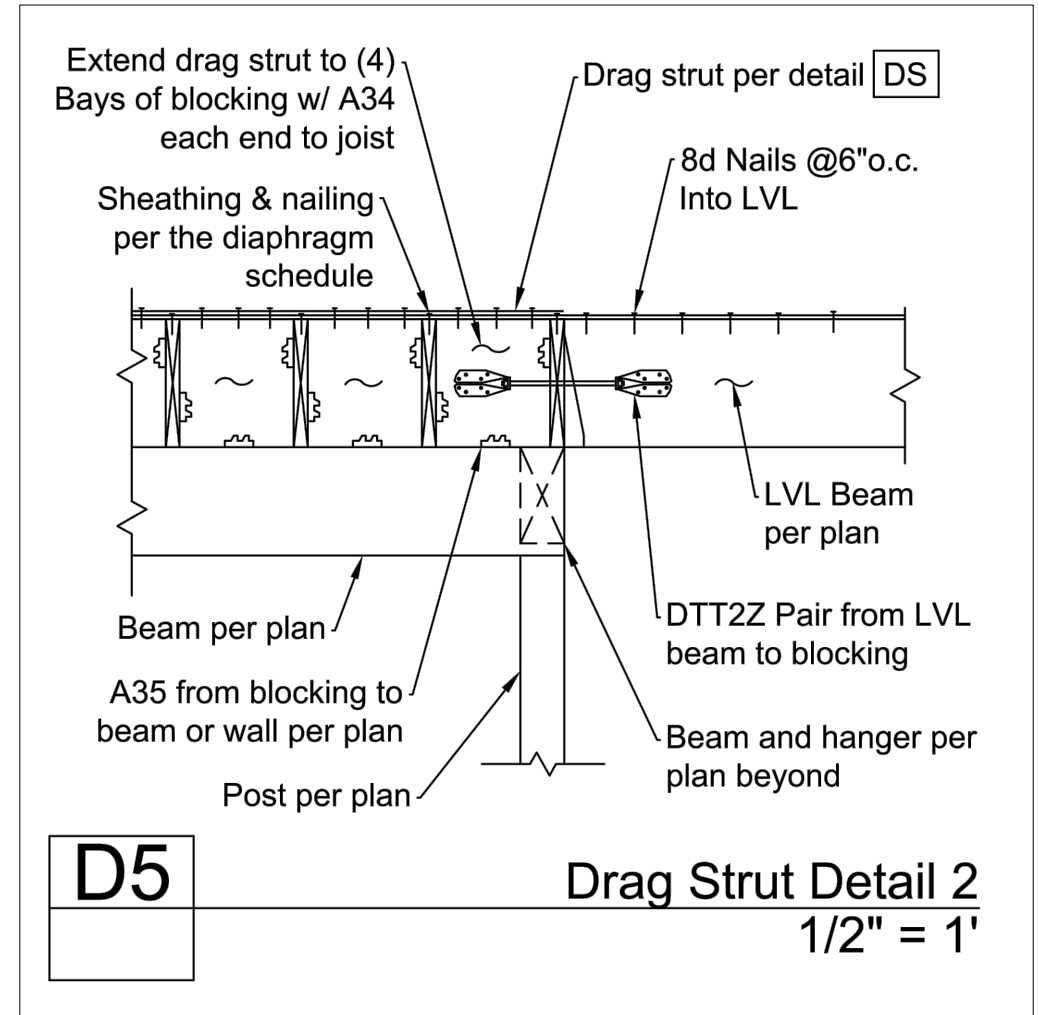
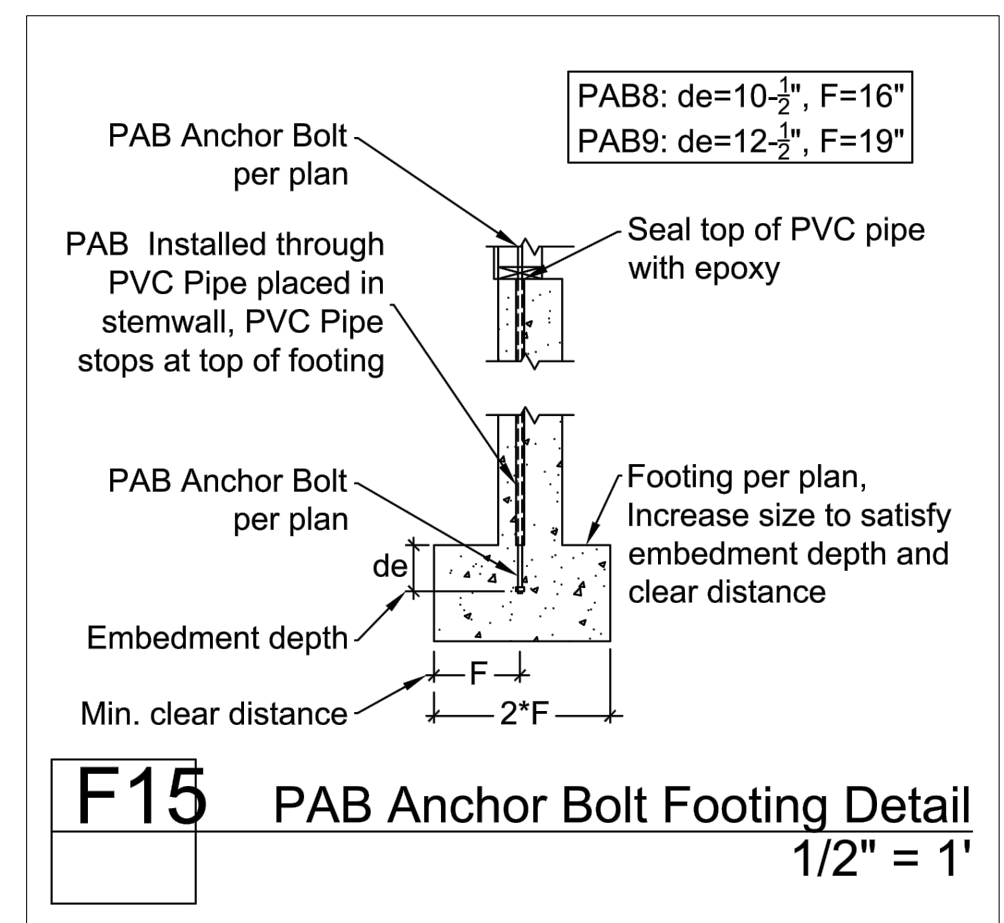
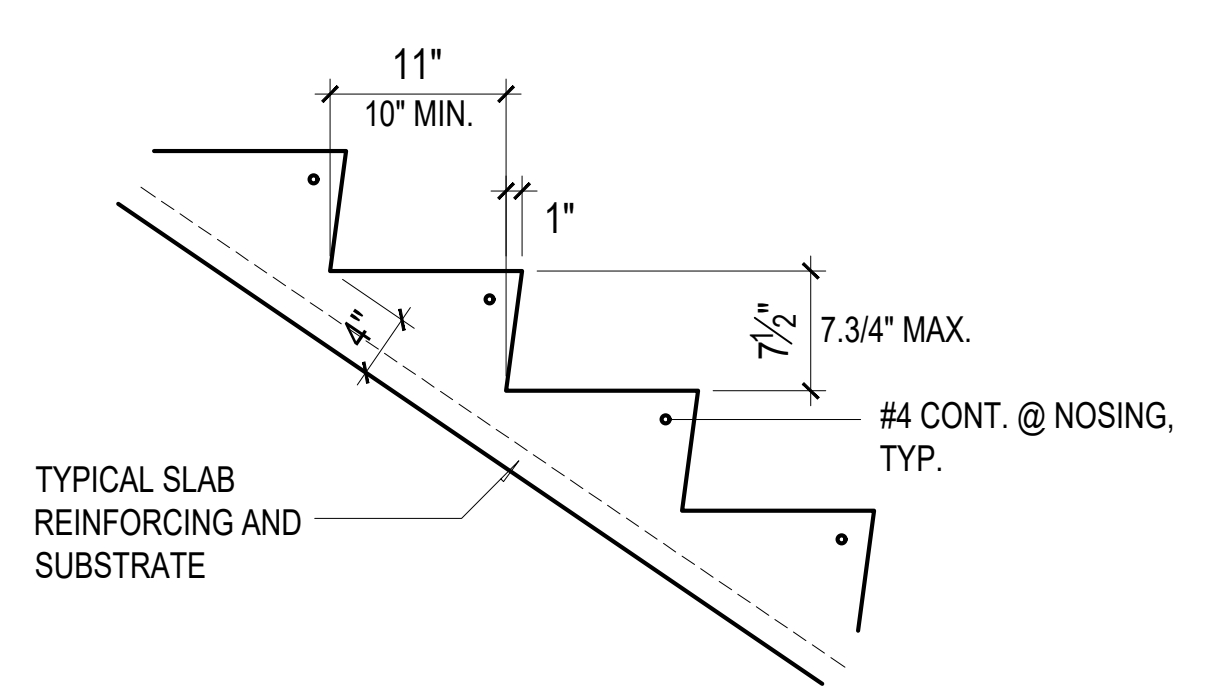
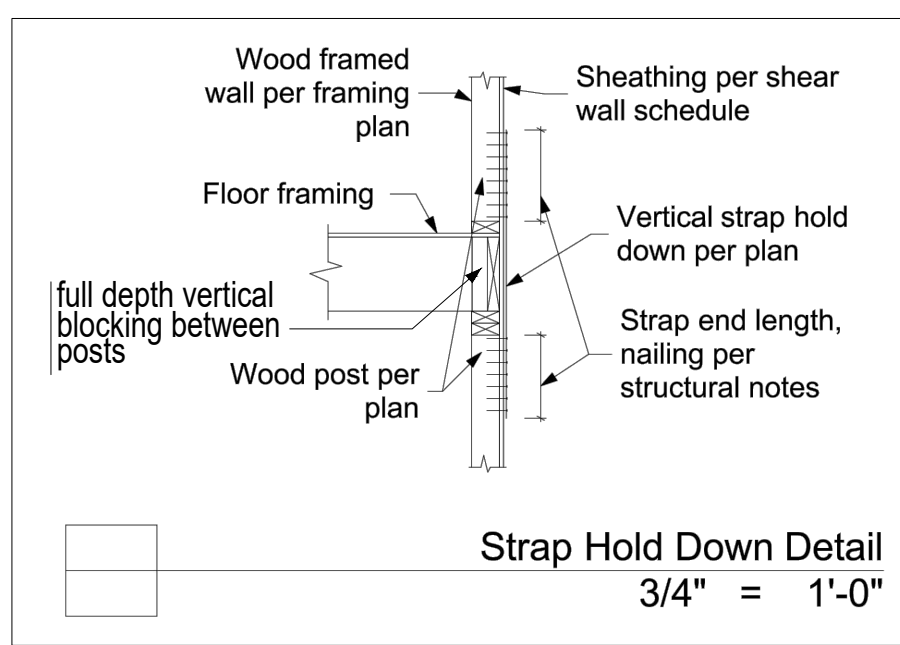
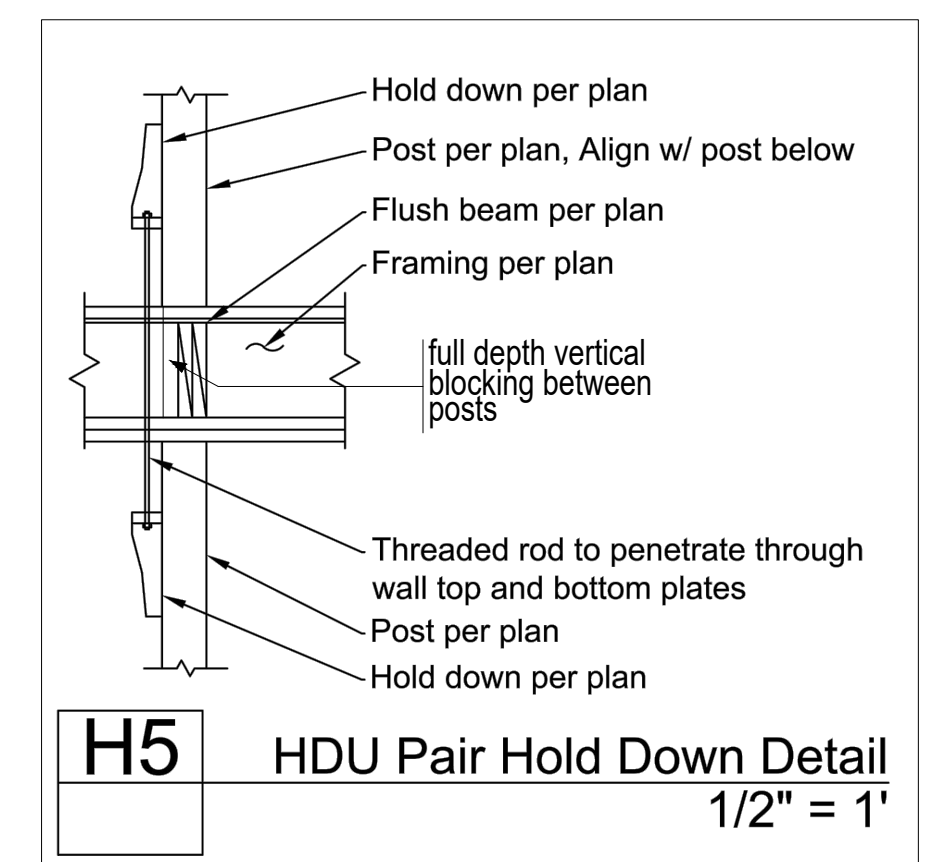
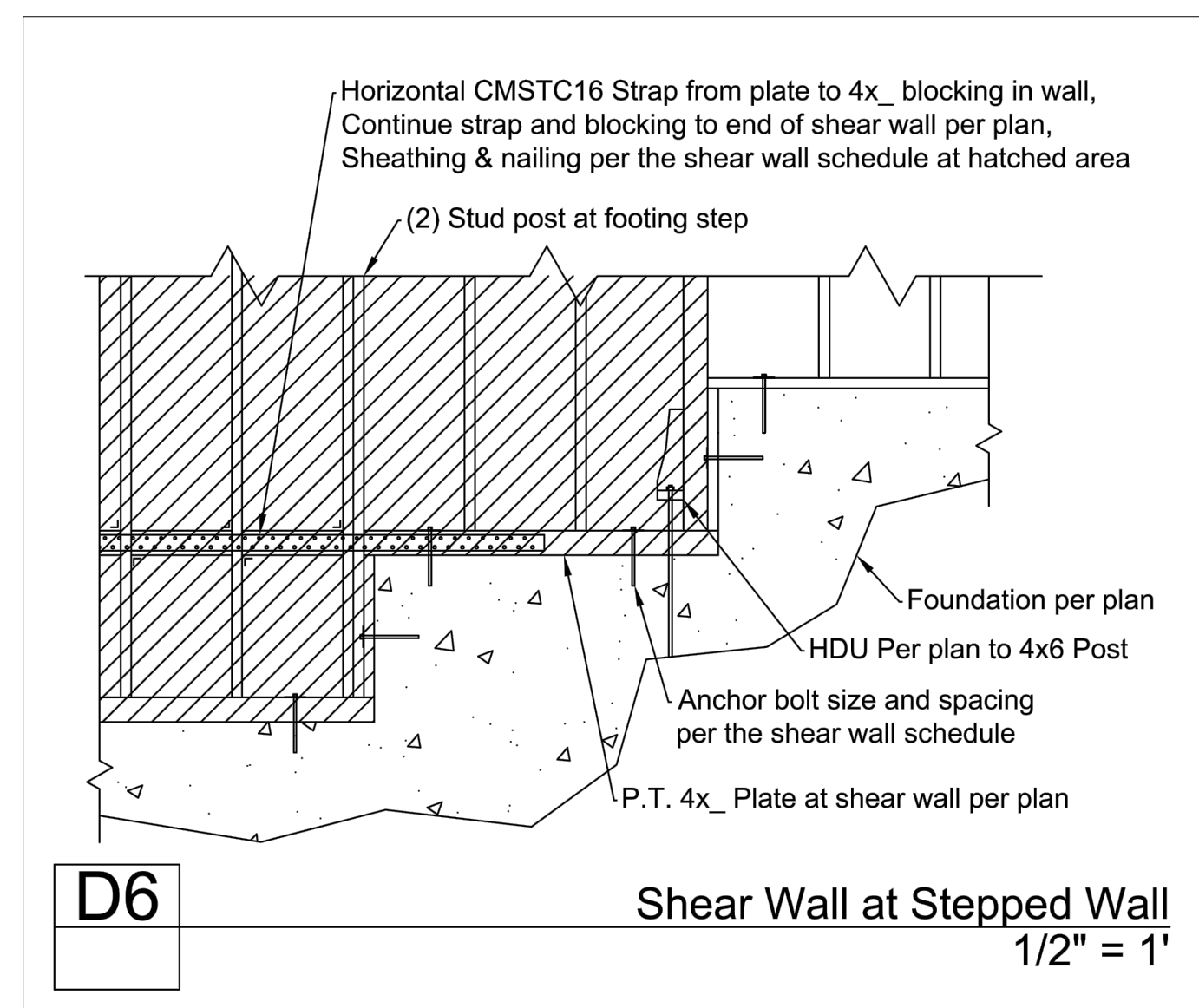
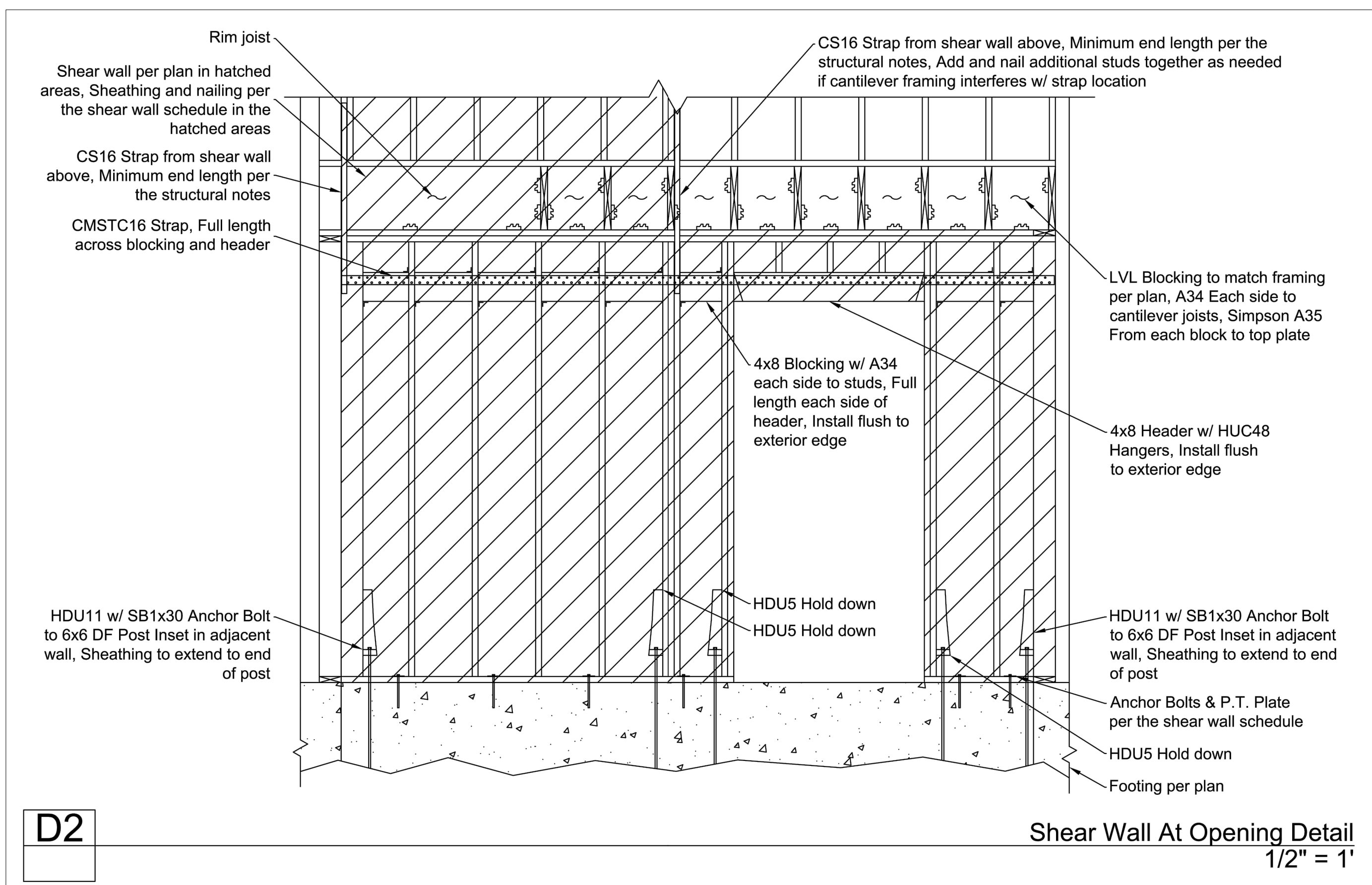
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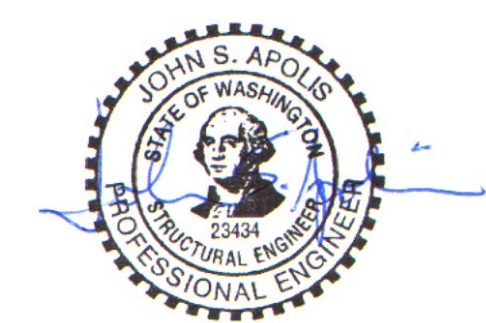
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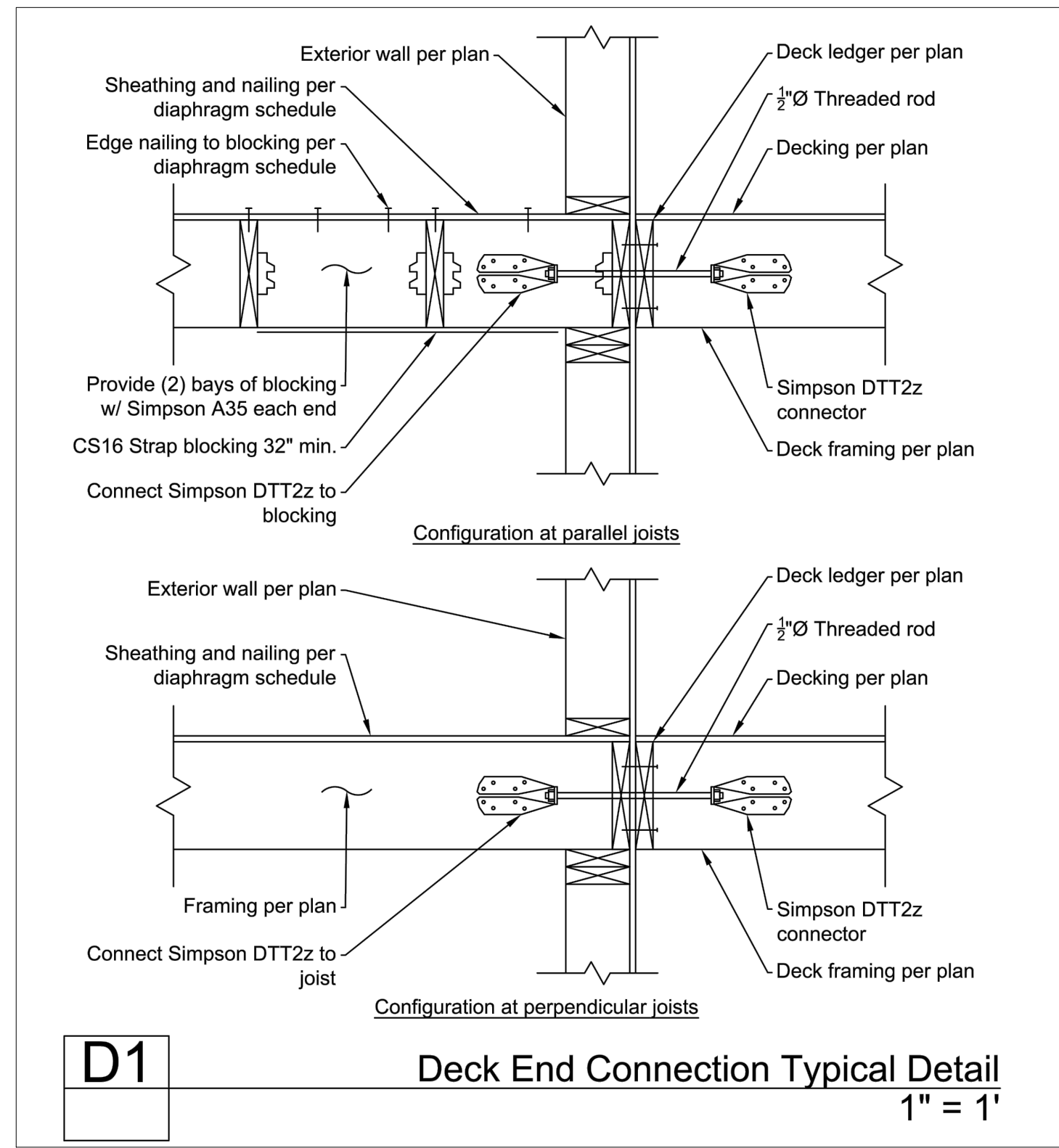
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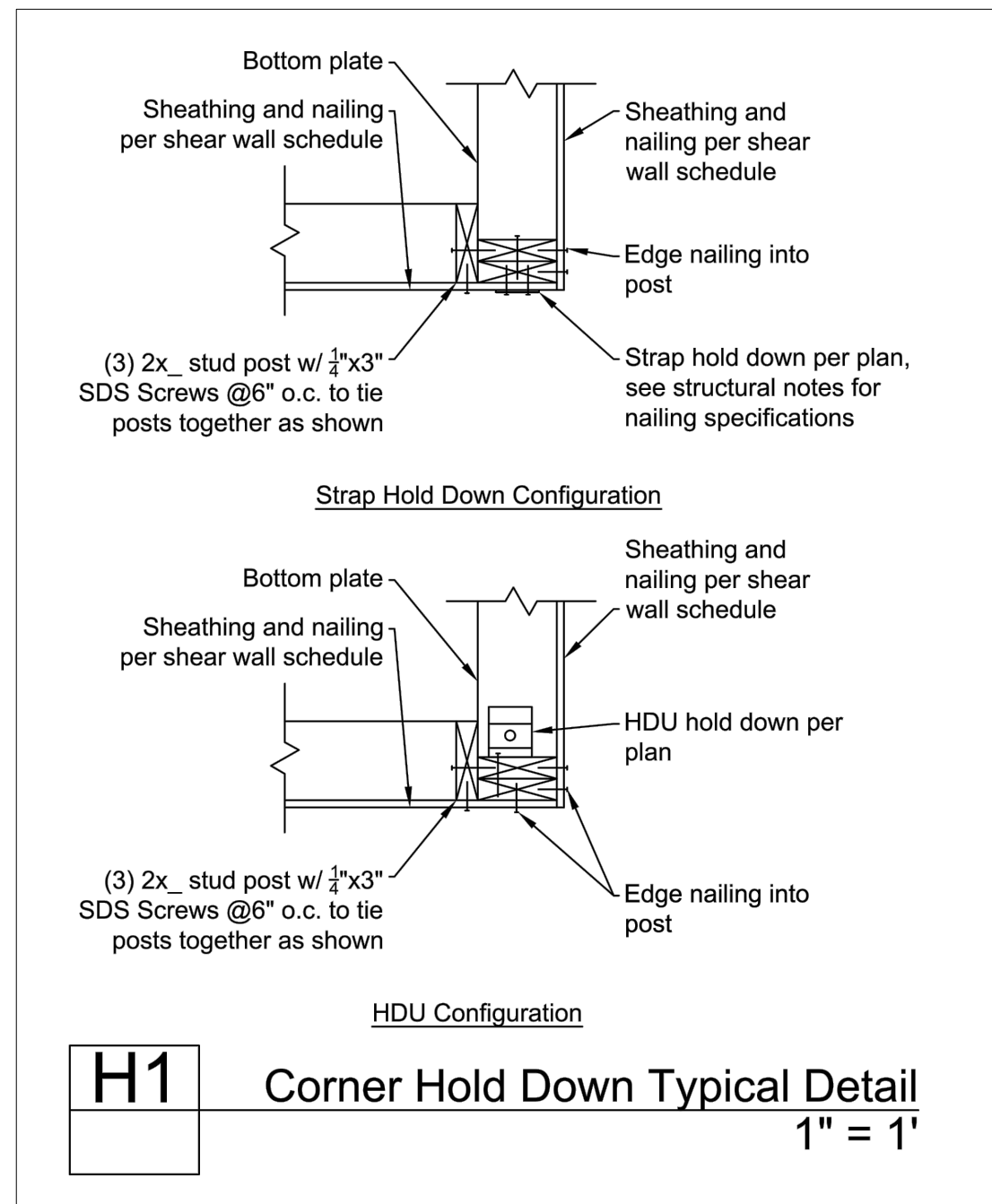
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**12.5**

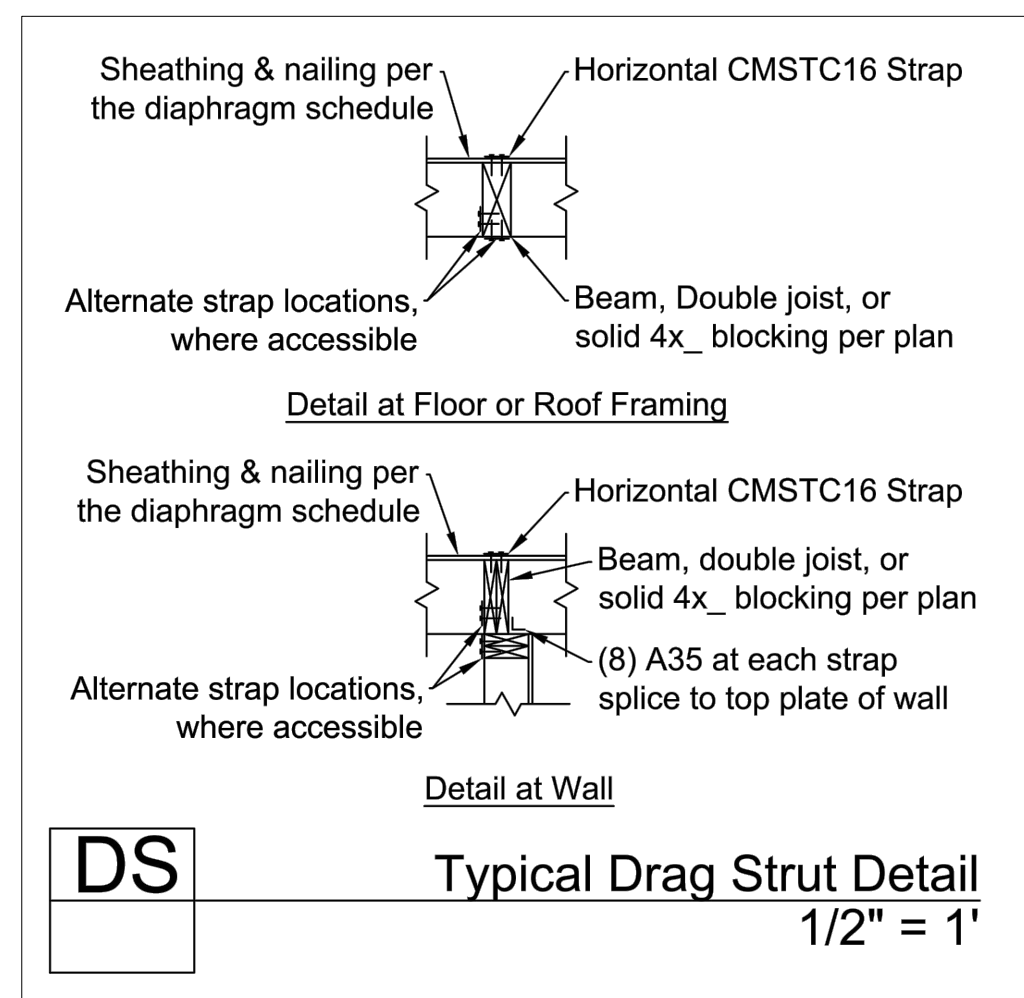




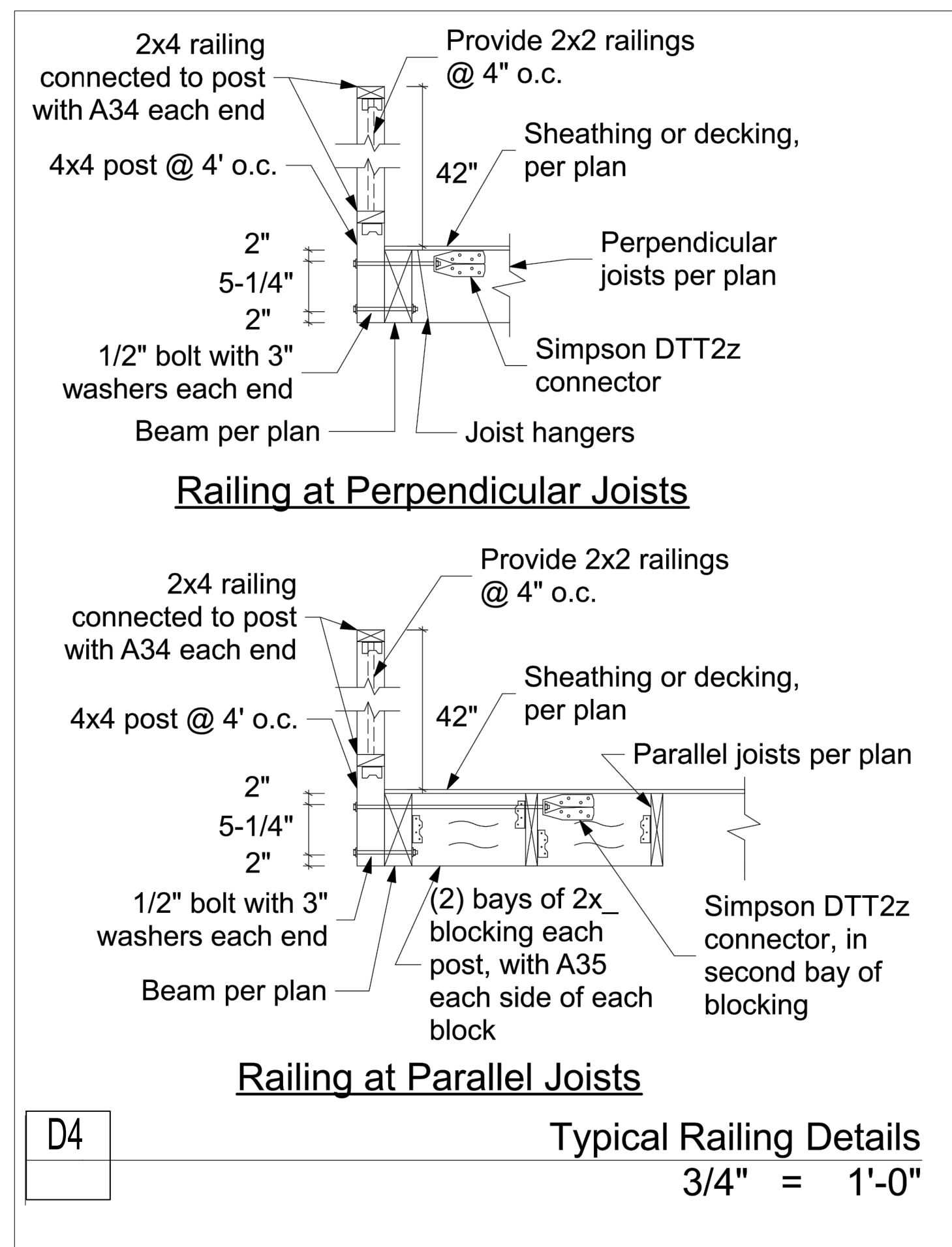
**D1** Deck End Connection Typical Detail  
1" = 1"



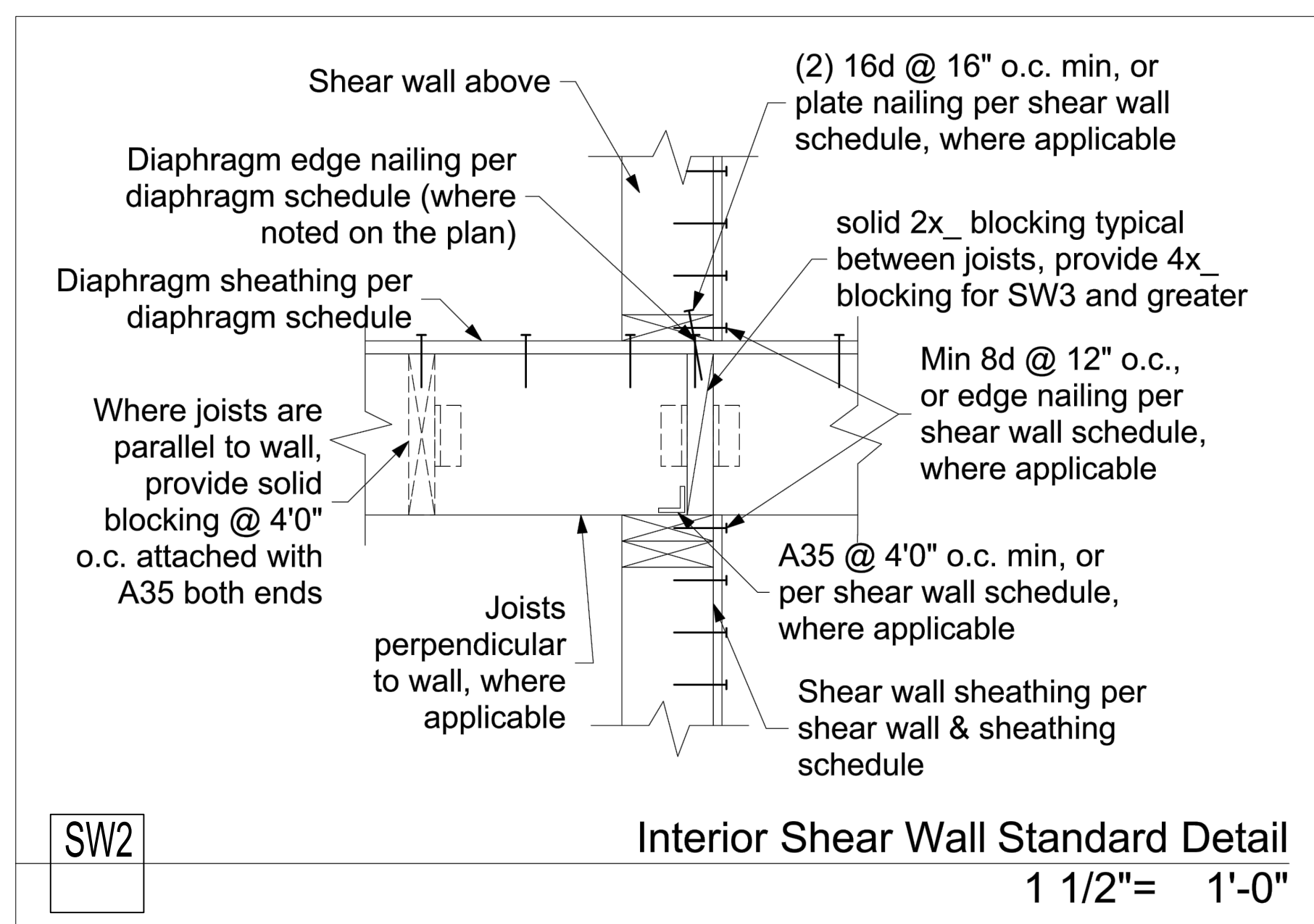
**H1** Corner Hold Down Typical Detail  
1" = 1"



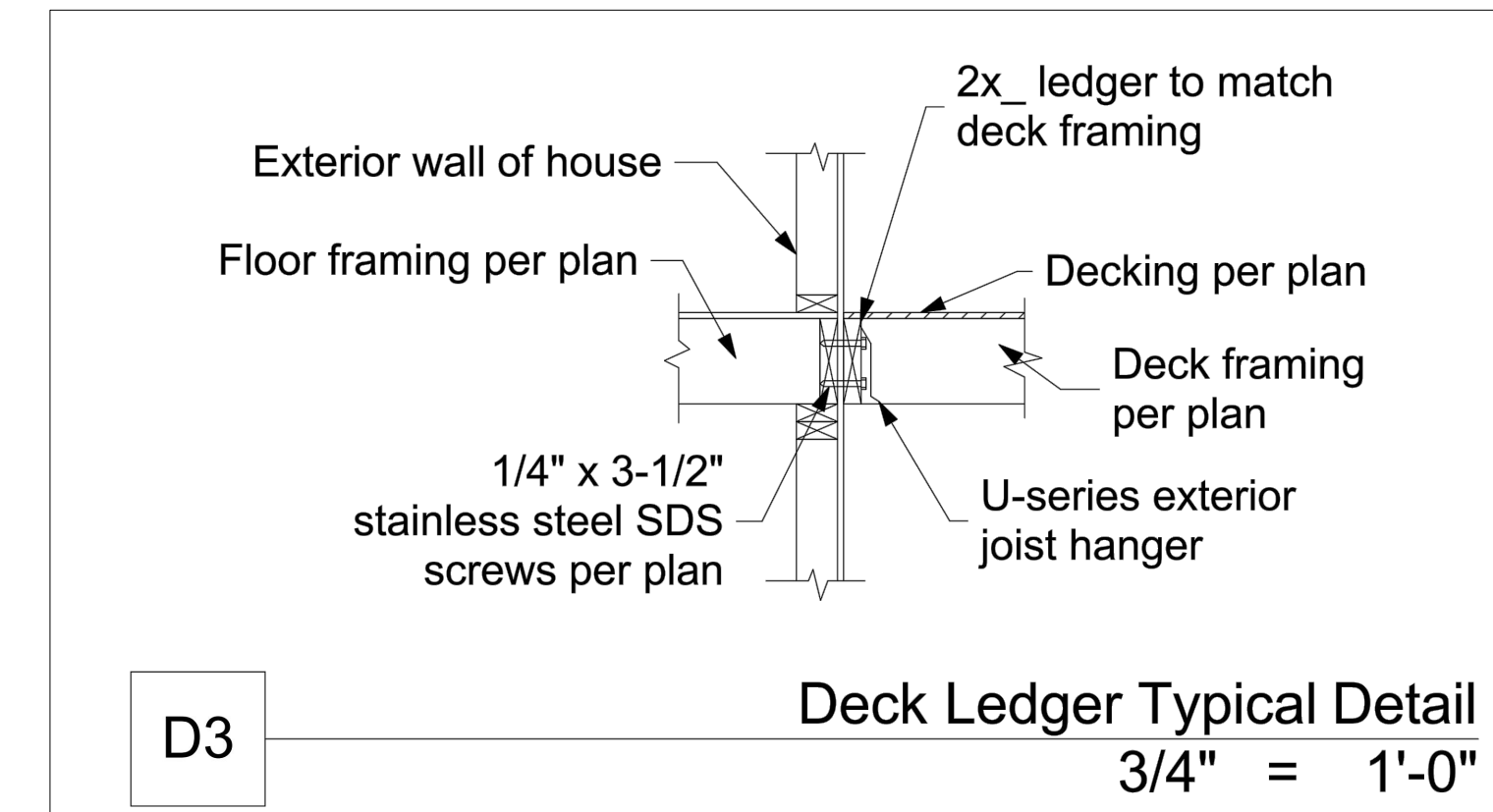
**DS** Typical Drag Strut Detail  
1/2" = 1"



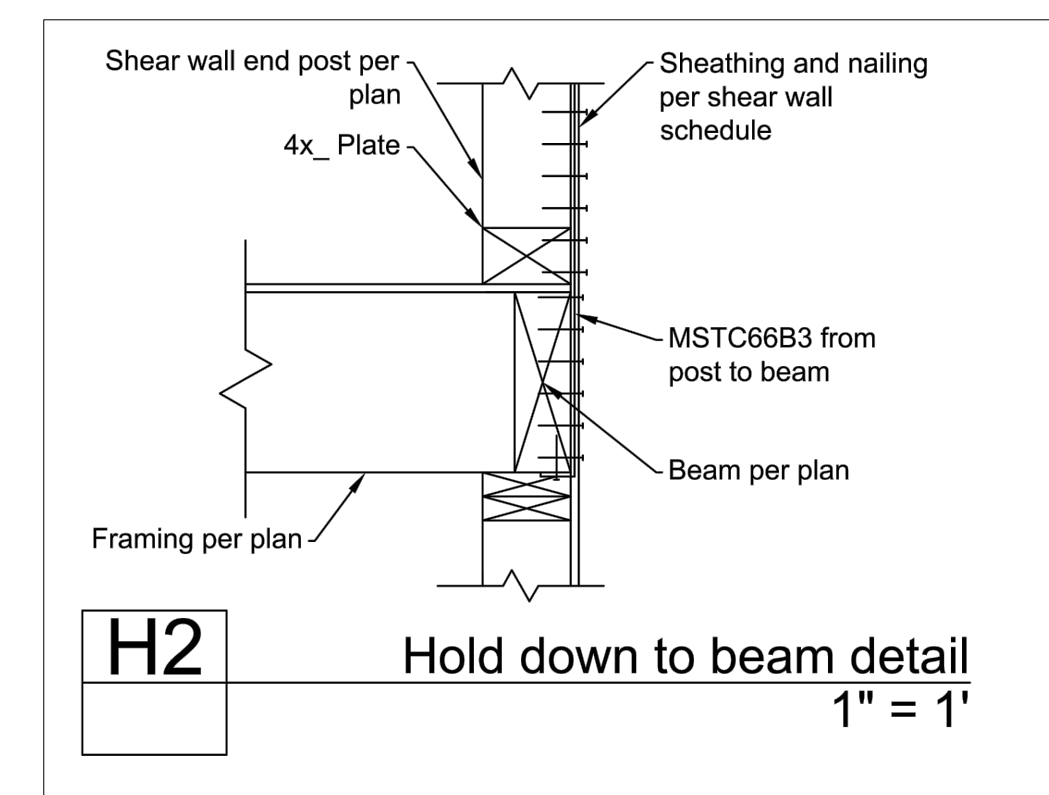
**D4** Typical Railing Details  
3/4" = 1'-0"



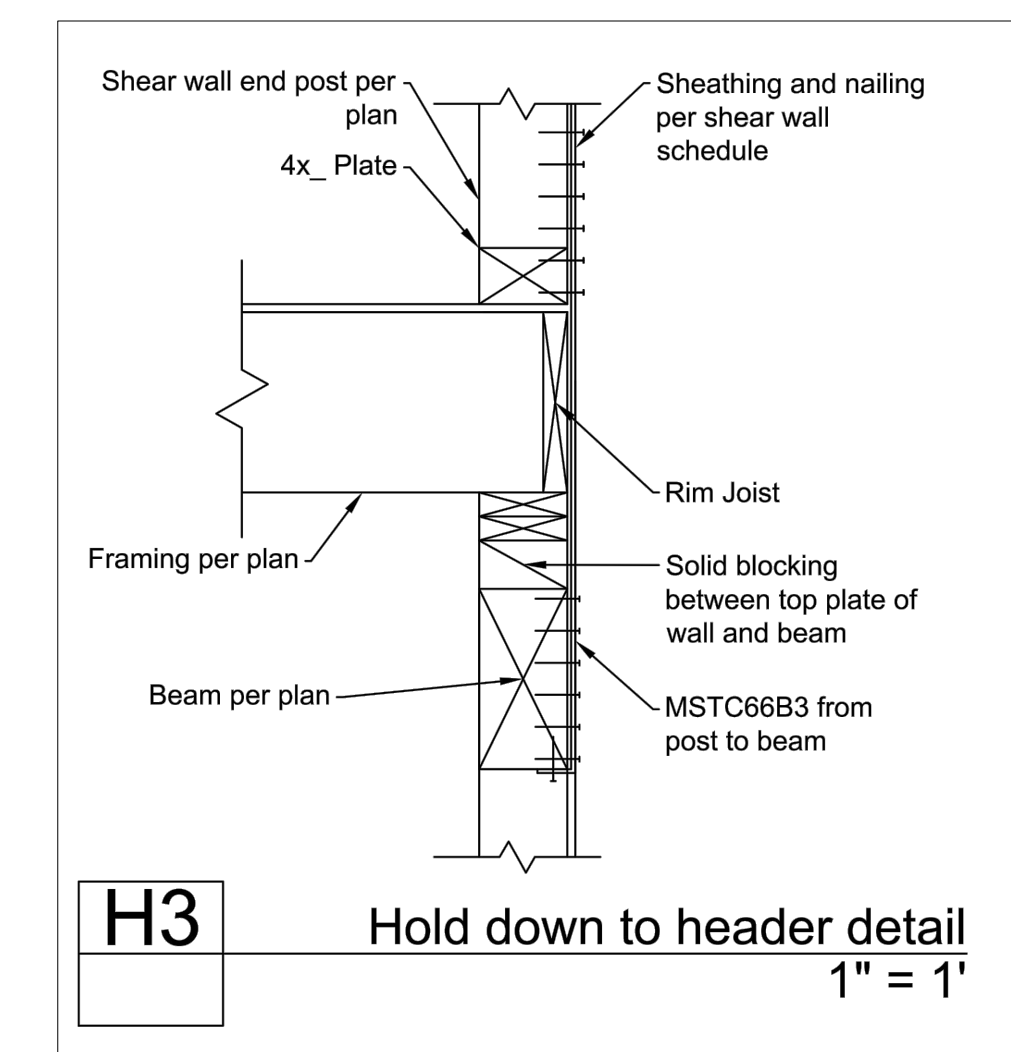
**SW2** Interior Shear Wall Standard Detail  
1 1/2" = 1'-0"



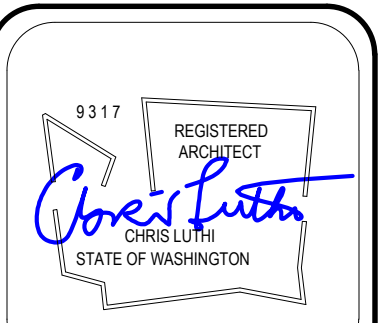
**D3** Deck Ledger Typical Detail  
3/4" = 1'-0"



**H2** Hold down to beam detail  
1" = 1"



**H3** Hold down to header detail  
1" = 1"



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**CONTENTS**

Main Floor

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## Structural Notes:

### Applicable Codes and Standards:

2015 International Building Code (IBC) and other applicable local building codes.  
ASCE/SEI 7-10 - "Minimum Design Loads for Buildings and Other Structures"  
2015 NDS for wood structures.

American Wood Preservers Bureau - AWPB Standards for Pressure Treated Material.  
American Concrete Institute - ACI 315, ACI 318, ACI 301, ACI 307.

Structural design shall be in accordance with the latest edition of above codes and standards. Contractor shall comply with the latest edition of all applicable codes and standards.

### Design Loads:

Live load: roof 25 psf (snow)  
solar panels 4 psf dead load  
floors 40 psf floor live load  
decks 60 psf floor live load  
Wind load: Basic wind speed 110 mph, exposure C, KzT=1.0  
Building Category: Enclosed, Wind Important Factor Iw = 1.0  
Refer to calculation page L1 for design wind forces.  
Internal pressure 5 psf, Components and cladding design per 1609.6.4.4.1

Seismic loading per IBC Sections 1603 and 1613, Site Class D.

The basic structural type is a bearing wall system with light framed walls with shear panels. Rw = 6.5 (wood structural panels), soil type D.  
Seismic importance factor 1.0, Seismic Use Group I  
Design and Analysis by Simplified Design Procedure  
Peak Ground Accelerations (PGA) based on USGS Hazards Program, by lat/long.  
PGA 1 sec = .53R PGA 2 sec = 1.40I  
Seismic base shear = 0.144 \* Dead Load

### Foundations:

Soil parameters per Geotech reports provided by GEO Group Northwest, Inc. dated July 13<sup>th</sup>, 2018, Dec. 27<sup>th</sup>, 2018, August 16<sup>th</sup>, 2019, Oct. 18<sup>th</sup>, 2019, Nov. 4<sup>th</sup> 2019, June 9<sup>th</sup> 2020, and May 21, 2021.  
Updated Pile calculations were provided on September 24, 2020. Steel pin pile specifications were provided on Nov. 13<sup>th</sup>, 2020 and May 21, 2021.

All soil conditions are to be field verified during construction. Structural fill shall be placed in 10-inch maximum horizontal lifts (loose thickness) and compacted to 95 percent of maximum dry density in accordance with ASTM D-1557. Imported structural fill shall be granular material containing no more than 5 percent fines, passing no. 200 sieve. Structural fill in place shall be tested by a licensed soil engineer or approved by the building inspector.

Drainage behind the concrete walls shall be provided conforming to the construction details.

### Steel Pipe Piles:

Steel pipe piles shall be installed per the geotechnical report, by GEO Group Northwest.  
The design strength for 2" piles is 6,000 lbs.  
The design strength for 4" piles is 20,000 lbs.

The Structural Steel pipe shall conform to ASTM A53, Fy = 35 ksi. Galvanized 2" diameter schedule 80 pipe may be used for 2" piles, and 4" diameter schedule 40 pipe may be used for 4" piles.  
The 2" piles shall be driven to refusal, defined as less than 1" of movement in 60 seconds of driving with a 90 lbs jackhammer plus operator weight.  
The 4" piles shall be driven to refusal, defined as less than 1" of movement in 16 seconds of driving with a 850 lbs hammer.  
The steel pipe pile refusal shall be witnessed by the geotechnical engineer of record or the structural engineer of record.

### Cast in Place Concrete:

Concrete shall attain a minimum compressive strength of 3,000 psi at 28 days (5-1/2 sack mix). An alternate mix provided by the concrete supplier and pre-approved by the building department is acceptable. Reinforcing steel shall conform to ASTM A-615, Grade 60 (Fy=60,000 psi) for all bars.  
Provide all wall and footing horizontal bars with 2'-0" x 2'-0" corner bars of the same size at all corners and wall intersections. Minimum lap splice 48 bar diameters.

Concrete protection for reinforcement shall be:

Concrete exposed to earth or weather 1.5" (#5 & smaller) 2" (#6 & larger)  
Concrete cast against earth 3"  
Slabs 0.75"

### Bolts:

Anchor bolts shall conform to F1554. All other bolts shall conform to ASTM A307.  
Minimum anchor bolt size and spacing shall be 1/2" diameter bolts @ 6" o.c. Shear wall anchor bolts per the shear wall schedule.  
For cast-in-place anchors, provide 7" minimum embedment into the new concrete foundation.  
Provide 3"x3" square x 0.229" thick bolt washers where anchor bolts connect the sill plate to the concrete foundation.

### Wood Framing Specifications:

All sill plates and other wood framing which is in contact with concrete or masonry must be preservative-treated in accordance with AWPA U1 and M4 standards. For anchor bolts connecting wood sill plates to concrete or masonry, provide galvanized steel washers and nuts on top of the sill, minimum washer size 3" x 3" x 1/4" thick.

Where toenails are used for stud wall construction, a minimum of (2) toenails at top and bottom of each stud shall be provided. Toenails shall be 16d nails driven at approximately a 45 degree angle, with a minimum of 1-1/2" of the nail shank shall be embedded in both the stud and the plate. End nails driven through the plate and into the stud end grain are not permitted. Simpson A34 clips at top and bottom of each stud are permitted where correct toenailing is not provided.

Wherever joists bear on a wall or beam, either a continuous rim joist or solid wood blocking must be provided. Blocking shall be connected to the joists with A35 angles at each end. Individual blocks may be omitted to allow for ducting or other openings. Consult with the engineer of record if more than 25% of the blocking is omitted.

Where LVLs are specified with a thickness greater than 1-3/4", the beam may be built up out of multiple 1-3/4" LVL beams connected per truss-joist TJ-9000 specifier's guide.

Unless noted otherwise, the following grades and species shall be used for structural lumber:

2x joists	Hem-Fir #2
2x, 3x, and 4x studs	DFL standard for plywood or WSP shear walls Hem-Fir standard for other walls
4x and 6x beams	DF-L #2
Microlam LVL lumber	LVL 1.9E, Fb = 2600 psi, Fv = 285 psi (minimums)
Parallam lumber	2.0 WS, Fb = 2900 psi, Fv = 290 psi (minimums)
Glulam lumber	24F-V4 for simple span beams, 24F-V8 for cantilever beams

All framing connections shall be per Table 2304.9.1 of the IBC, unless otherwise noted.

### Preservative-Treated Wood and Fasteners:

All wood in contact with concrete or masonry shall be preservative-treated, in accordance with AWPA U1 and M4 standards.

All fasteners installed in preservative-treated wood shall be hotdipped zinc-coated galvanized with a minimum coating weight complying with ASTM A 153.

Fasteners other than nails and timber rivets are permitted to be mechanically deposited zinc-coated with coating weights complying with ASTM B 695, Class 55 minimum. Plain carbon steel fasteners in wood preservative-treated with SBX/DOT or zinc borate are not required to be galvanized.

### Plywood Thickness, Grade, and Nailing:

Install plywood sheets with face grain perpendicular to framing. Stagger joints in adjacent sheets. If not otherwise noted, use nailing schedule, Table 2304.6.1 of the IBC.

### Manufactured Trusses:

Manufactured trusses specified on the plans are prefabricated products manufactured by a truss manufacturer. The contractor shall submit shop drawings and stamped structural design calculations for review. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Truss design and shop drawings shall include location and weight of all equipment being supported by these trusses.

The truss live loading shall be per IRC Section 301.5 and Table 301.5, especially noting footnotes b and g.

The truss design shall be per IRC Sections 502.11.1 and 802.10.2, especially indicating the truss design and manufacturing shall be per ANSI/TPI 1.

The truss temporary and permanent bracing shall be per IRC Sections 502.11.2 and 802.10.3 as well as the Truss Plate Institute's Building Component Safety Information.

Truss alterations shall not occur unless the approval of a design professional as indicated in IRC Sections 502.11.3 and 802.10.4.

### Manufactured Joists:

"TJI" Joists specified on the plans are prefabricated products manufactured by the Weyerhaeuser Corporation. The contractor shall submit shop drawings and stamped structural design calculations for review. Joist design and shop drawings shall include location and weight of all equipment being supported by these joists. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Other suppliers may be used, upon approval by the engineer of record.

### Wall Stud Schedule:

(For double or triple studs, spike studs together with 16d nails at 18" o.c.)

Studs up to 9' tall	(1) 2x4 @ 16" o.c.
Studs up to 11' tall	(2) 2x4 @ 16" o.c.
Studs up to 14' tall	(1) 2x6 @ 16" o.c.
Studs up to 17' tall	(2) 2x6 @ 16" o.c.
Studs up to 20' tall	(3) 2x6 @ 16" o.c.

### Metal Framing Connectors:

Unless otherwise noted: Metal framing connectors shall be manufactured by the Simpson company, or approved equal. Unless noted otherwise, use U-series joist hangers to match joist size (e.g., U210 for 2x10 joist). Provide H1 or H2.5 hurricane ties, or other connectors with similar capacity, at every roof joist or truss, and H6 or H7 at ends of roof beams and girder trusses. Where supported by wood posts, wood beams shall be connected to the tops of the posts using Simpson AC, PCZ or EPCZ post caps, and to the bottoms of the posts bearing on wood framing using Simpson AC connectors. Where supported by perpendicular beams, wood beams shall be connected by IJU-series face mount beam hangers. Provide Simpson AB or PB post bases to connect posts to concrete foundations. Unless otherwise specified, the maximum number of nails or screws should always be installed on any connector.

### Bearing Walls:

All walls supported by continuous concrete footings shall be connected to the foundation per 2015 SRC section 403.1.6. 1/2" diameter anchor bolts shall be provided at 4' o.c., or two per wall segment, minimum. Anchor bolts shall penetrate 7" into the concrete foundation.

### Note "TSW" (Truss Connection to Shear Wall)

One typical roof truss shall be located directly over the indicated shear wall, and that the bottom chord of that roof truss shall be connected to the top plate of the shear wall below with Simpson A35 connectors per the shear wall schedule.

Additionally, the truss top chord shall receive roof diaphragm edge nailing from the roof sheathing. Both ends of the indicated trusses shall be connected to a double stud in the shear wall below, using a Simpson H6 or H7 connector. Provide two rows of shear wall edge nailing through the shear wall plywood sheathing into the double studs.

Truss spacing may need to be adjusted, or additional trusses provided, to assure that a truss is located over each indicated shear wall.

### Drag Strut Note "DS"

Provide a continuous horizontal connection between the indicated beams, walls, and blocking, using the following method.

A horizontal Simpson CMSTC16 strap shall be provided to create this connection. The strap shall extend minimum 3' onto any beam or wall being connected, and shall be continuous over any blocking between joists for the extent of the drag strut. The strap must be nailed using 16d sinkers, with a nailing pattern per Simpson specifications.

The strap may be installed either on top of the plywood floor diaphragm, or connecting a beam or joist, as applicable and feasible.

Beams or joists may be connected to a wall top plate by (8) A35s.

Where no joists occur below the strap, provide 3-1/2" wide by 3-1/2" deep (minimum) solid wood blocking in the floor or roof framing, below the strap, for nailing. The blocking should be attached to the perpendicular joists with Simpson A34 framing anchors at both ends of each block.

Refer to the latest edition of the Simpson Catalog for required nailing and other requirements.

Refer to the Drag Strut Typical Detail provided with these plans.

### Hold Down Notes

Convention for showing shear walls and hold downs: Shear walls are shown on the framing plan for the floor above. (For example, first floor shear walls will be shown on the second floor framing plan, and the shear walls for the topmost floor will be shown on the roof framing plan.) Hold downs are located at the bottom of that shear wall, and connect the end of the shear wall to wall framing or a structural beam located in the floor below the shear wall. Contact the engineer of record for clarification if needed.

Hold downs for each floor must be continuously connected to hold downs on the floor below (or to other intermediate wood framing where so indicated), until they are finally connected to the concrete foundation.

Hold downs shall be installed so as to be as far apart as is reasonable. Hold downs may be located on either the near side or the far side of the post or double stud to which they are attached. In no case shall a hold down bolt be located farther than 6" from the end of the shear wall, except with prior written approval of the engineer. Refer to the latest edition of the Simpson Catalog for details.

Where multiple studs are called out at a hold down, nail studs together with (2) 16d nails at 8" o.c. or 1/4" x 3" Simpson SDS Screws at 12" o.c.

### Strap Hold Downs:

Provide a vertically oriented strap hold down consisting of one or two of the Simpson vertical strap ties listed below, connecting the end stud or post of the shear wall indicated to new or existing studs in the wall framing below, or to a wood beam supporting the shear wall, where applicable. Straps shall be installed so that the minimum end length is provided to both connected posts or studs. Where a strap is connected to a below below, the strap shall be wrapped around the beam until the minimum end length is reached.

CS16 denotes a Simpson CS16 strap, with a minim end length of 14", and (13) 8d nails each end.

CMSTC16 denotes a Simpson CMSTC16 strap, with a minim end length of 25", and (29) 16d sinker nails each end.

CMST14 denotes a Simpson CMST14 strap, with a minim end length of 44", and (38) 10d nails each end.

CMST12 denotes a Simpson CMST12 strap, with a minim end length of 44", and (49) 10d nails each end.

### Rod Hold Downs:

HDUx denotes a Simpson HDU(2,4,5,8,or 11)-SDS2.5 hold down.

For hold downs at new concrete foundations, provide the following bolts.

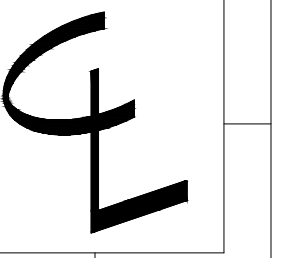
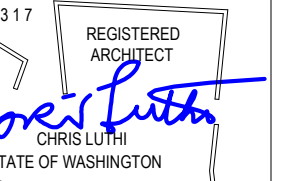
For HDU2.4.5: Simpson SB5/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 5/8" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

For HDU8: Simpson SB7/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 7/8" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

For HDU11: Simpson SB1x30 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 1" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

For HDU14: Simpson PAB8 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature. The PAB threaded rod may be extended using an ASTM A194-2H coupler connecting to a 1" diameter ASTM A449 threaded rod.

The PAB anchor shall be continuous through the foundation stem wall, into the footing. Footings containing an anchor bolt shall be a minimum of 16" wide by 12" deep. The embedment depth shall be as shown in the Hold Down Bolt Embedment Table.



CENTERLINE  
DESIGN  
4737 37th AVE SW  
SEATTLE  
206.932.8706

www.Centerline-Design.com

EAST HOUSE  
4270 E. Mercer Way Short Plat Mercer Island WA

### CONTENTS

Structural Notes

### DRAWN BY

CRL

### DATE

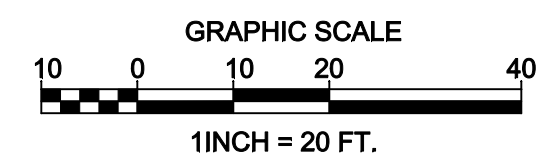
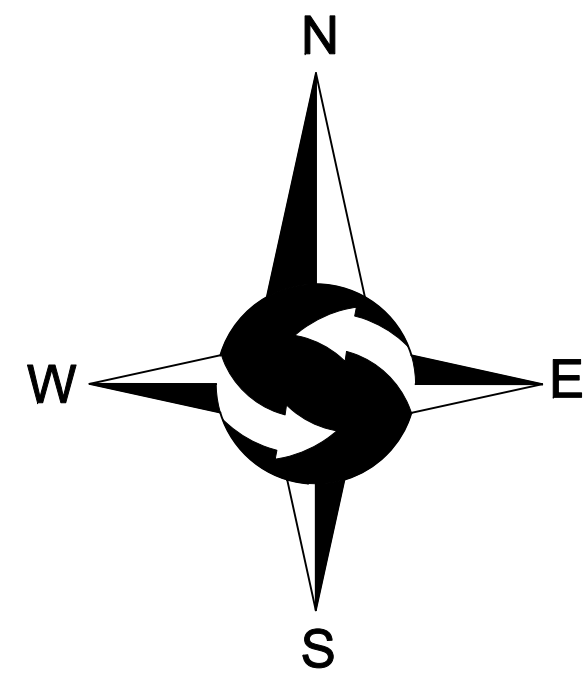
2.3.20

8.14.20

11.24.20

6.7.21





**LEGEND**

- FOUND MONUMENT AS DESCRIBED
- FOUND REBAR AS DESCRIBED
- TACK IN LEAD FOUND
- SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP
- ⊠ POWER METER
- ⊘ UTILITY POLE
- ⊠ GAS METER
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- ⊠ WATER VALVE
- ⊠ FIRE HYDRANT
- ⊠ WATER METER
- SS — APPROXIMATE LOCATION SANITARY SEWER LINE
- SD — APPROXIMATE LOCATION STORM DRAIN LINE
- OHP — OVERHEAD POWER
- OHU — OVERHEAD UTILITIES
- X — CHAINLINK FENCE
- □ — WOOD FENCE
- ▨ CONCRETE WALL
- ⊠ ROCKERY
- ▨ ASPHALT SURFACE
- ▨ CONCRETE SURFACE
- ▨ SLOPE > 40%
- CE CEDAR
- DS DECIDUOUS
- SP SPRUCE
- BI BIRCH
- PI PINE
- \* INDICATES MULTI-TRUNK

**LEGAL DESCRIPTION**

LOT 2, SHORERIDGE ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 49 OF PLATS, PAGE 2, RECORDS OF KING COUNTY, WASHINGTON;  
SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

**BASIS OF BEARINGS**

THE PLAT OF SHORERIDGE ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 49 OF PLATS, PAGE 2, RECORDS OF KING COUNTY, WASHINGTON.

**PROJECT INFORMATION**

**SURVEYOR:** SITE SURVEYING, INC.  
21923 NE 11TH ST  
SAMMAMISH, WA 98074  
PHONE: 425.298.4412

**PROPERTY OWNER:** MILLAD V LLC  
4270 E MERCER WAY  
MERCER ISLAND, WA 98040

**TAX PARCEL NUMBER:** 777870-0010

**PROJECT ADDRESS:** 4270 E MERCER WAY  
MERCER ISLAND, WA 98040

**ZONING:** R-15

**JURISDICTION:** CITY OF MERCER ISLAND

**PARCEL ACREAGE:** 32,779 S.F. (± 0.753 ACRES)  
AS SURVEYED

**GENERAL NOTES**

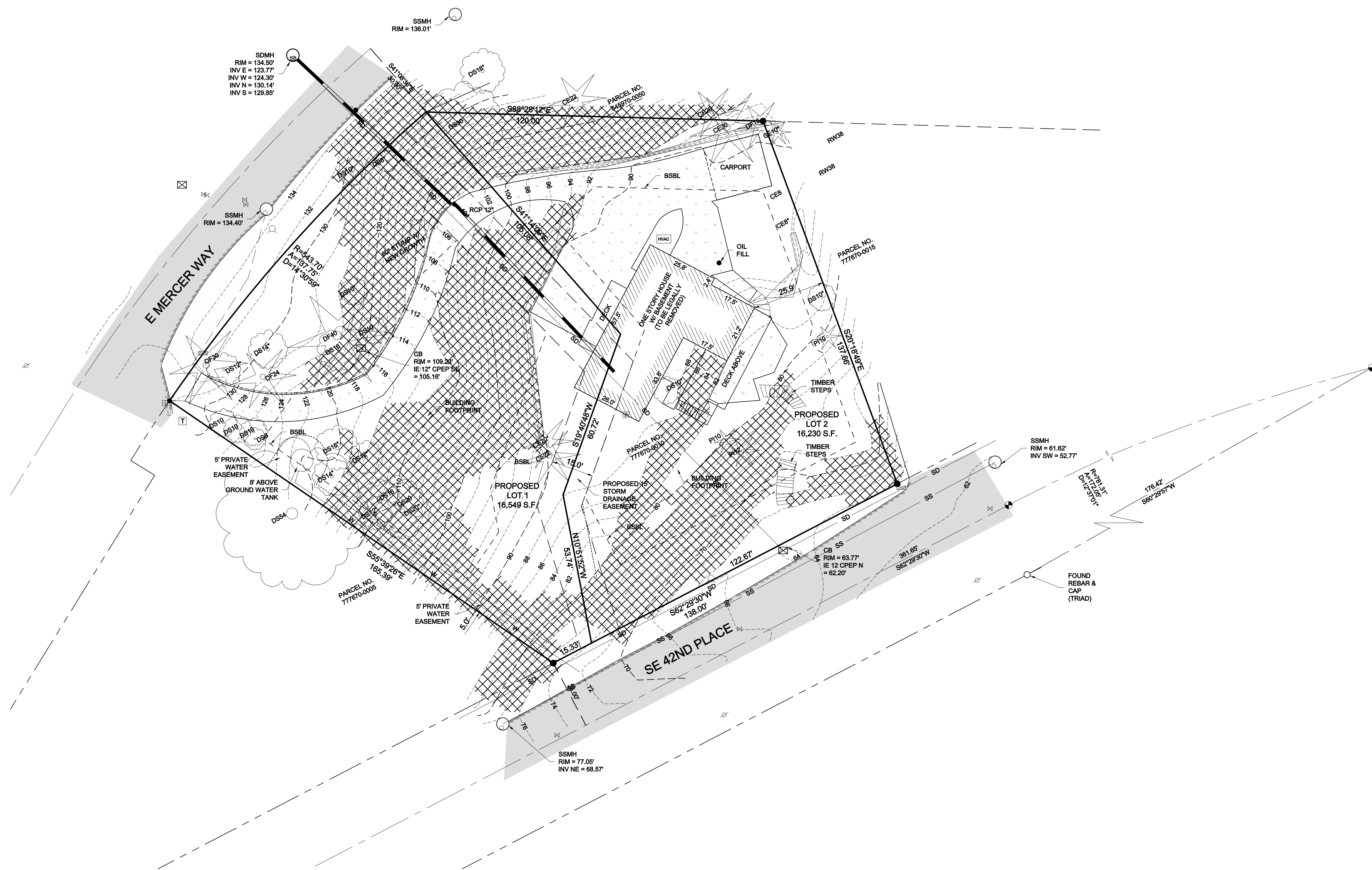
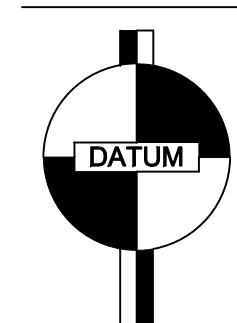
1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND NIKON NIVO S.C TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN APRIL 2018 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

**VERTICAL DATUM & CONTOUR INTERVAL**

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY WCCS SURVEY CONTROL DATABASE.

POINT ID NO. CASC57  
MONUMENT IN CASE AT THE END OF THE CUL-DE-SAC OF 42ND PLACE SE, MERCER ISLAND.  
ELEVATION: 52.72 FEET (NAVD 88).

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.



VICINITY MAP  
NTS

SE 1/4, NE 1/4, SEC 18, TWP 24N, RNG 5E, W.M.



DATE	REVISION	DRN

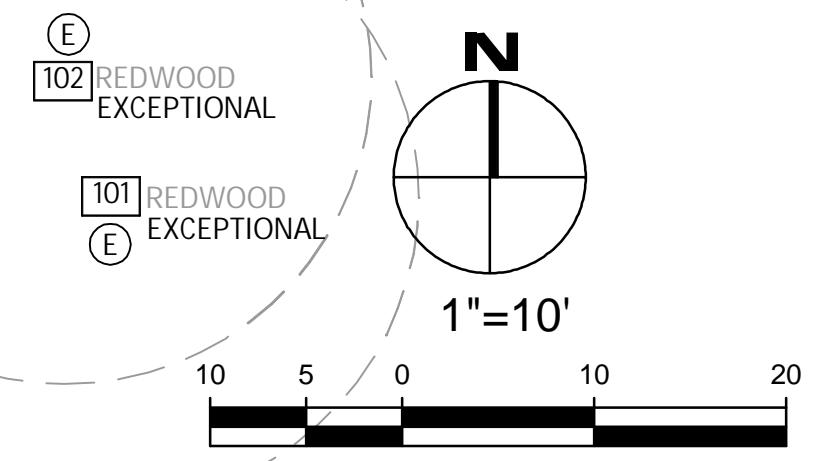
**PRELIMINARY SHORT PLAT**

MILLAD V LLC  
4270 E MERCER WAY  
MERCER ISLAND, WA 98040

PROJECT NO. 18-142  
DRAWN BY: EFJ  
CHECKED BY: TNW  
DATE: 4/16/2020  
SHEET 1 OF 1



E MERCER WAY



PARCEL NO. 777670-0015

DEMO REQ. -SEPARATE PERMIT

CAUTION-TREE ROOTS  
 [A] SEE CLEARING NOTE  
 [B] SEE DRIPLINE NOTE

TREE 9 PORTUGAL LAUREL 6' LOD

TREE 8 SCOTS PINE 6' LOD

TREE LOD RADIUS -PER REPORT

SS VIDEO INSPECTION REQ.

RIM = 6  
 INV SW = 5

SE 42nd PLACE

MAX TEMP SLOPES  
 1:1 TEMP SLOPE (NO SEEPAGE)  
 2:1 TEMP SLOPE (WITH SEEPAGE)

PERMIT 2001-188

MAX TEMP SLOPES  
 1:1 TEMP SLOPE (NO SEEPAGE)  
 2:1 TEMP SLOPE (WITH SEEPAGE)

**A] CLEARING LIMIT NOTE**

ALL SELECTIVE CLEARING, TRENCHING AND OTHER WORK WITHIN THE DRIPLINES OF SIGNIFICANT TREES SHALL BE BY LOW IMPACT/HAND METHODS ONLY AND WORK SHALL BE ADJUSTED AS POSSIBLE TO MINIMIZE ANY DISTURBANCE TO THE SIGNIFICANT AND RETAINED TREES AND PROTECTED UNDERSTORY. CONSTRUCTION MATERIALS AND VEHICLES SHALL NOT BE STORED OUTSIDE THE CLEARING LIMITS.

**B] TREE DRIPLINE NOTE**

WORK WITHIN THE DRIPLINE OF TREES TO BE SAVED MUST BE UNDER THE DIRECTION OF A CERTIFIED ARBORIST (TYP.) SEE ALSO CLEARING LIMIT NOTE ON THIS SHEET.

**EROSION CONTROL LEGEND**

- |   |      |
|---|------|
| LIMITS OF DISTURBANCE                                     |      |
| FILTER FABRIC FENCE (SILT FENCE)                          | (SF) |
| STABILIZED CONSTRUCTION ENTRANCE                          | (CE) |
| CATCH BASIN INLET PROTECTION                              | (IP) |
| INTERCEPTOR SWALE<br>SEE COR DWG 504.                     | (IS) |
| TYPE A TEMPORARY SWALE                                    | (TS) |
| TREE PROTECTION FENCING                                   | (TP) |
| STOCKPILE   | (ST) |
| STRAW WATTLES   | (SW) |
| PLASTIC COVERING  | (PC) |
| COMPOST SOCK  | (CS) |
| USE AS NEEDED   |      |
| COVER EXPOSED AREAS WITHIN MERCER ISLAND TIME LIMIT       |      |
| SEDIMENT CONTROL OPTION RECOMMENDED IN LIEU OF SILT FENCE |      |

**EROSION CONTROL NOTES**  
SHEET C1.2

**EROSION CONTROL DETAILS**  
SHEET C1.2

**SOIL AMENDMENT REQUIRED**

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

**SOIL INSPECTION REQUIRED BY ENGINEER**

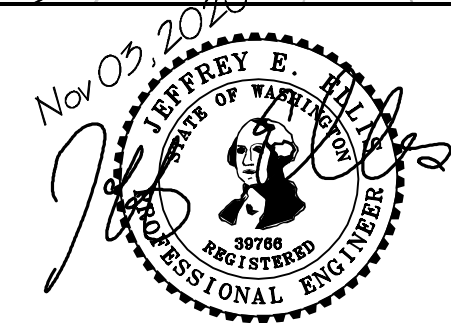
A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

NO.	DATE	BY	REVISIONS

APPLICANT:  
MILLAD HOMES, LLC



DATE: Nov 03, 2020  
 JOB# 1785  
 DRAFTED: SS DESIGN: SS  
 DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**

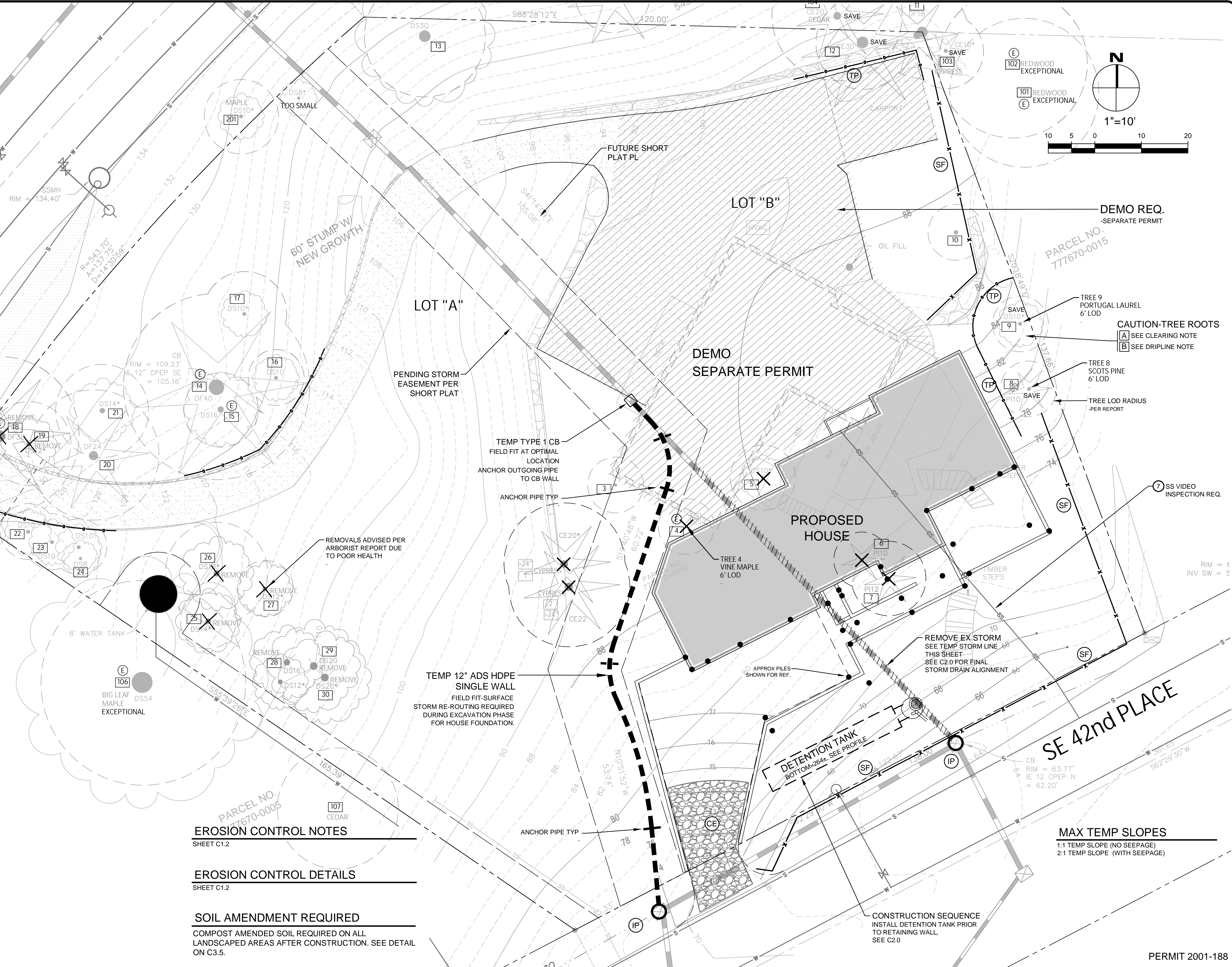
102 NW CANAL STREET SEATTLE, WA 98107  
 PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

**EROSION CONTROL PLAN**

EAST RESIDENCE  
 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:  
**C1.0**

APN 777670-0010





SILT FENCE DETAIL DOE

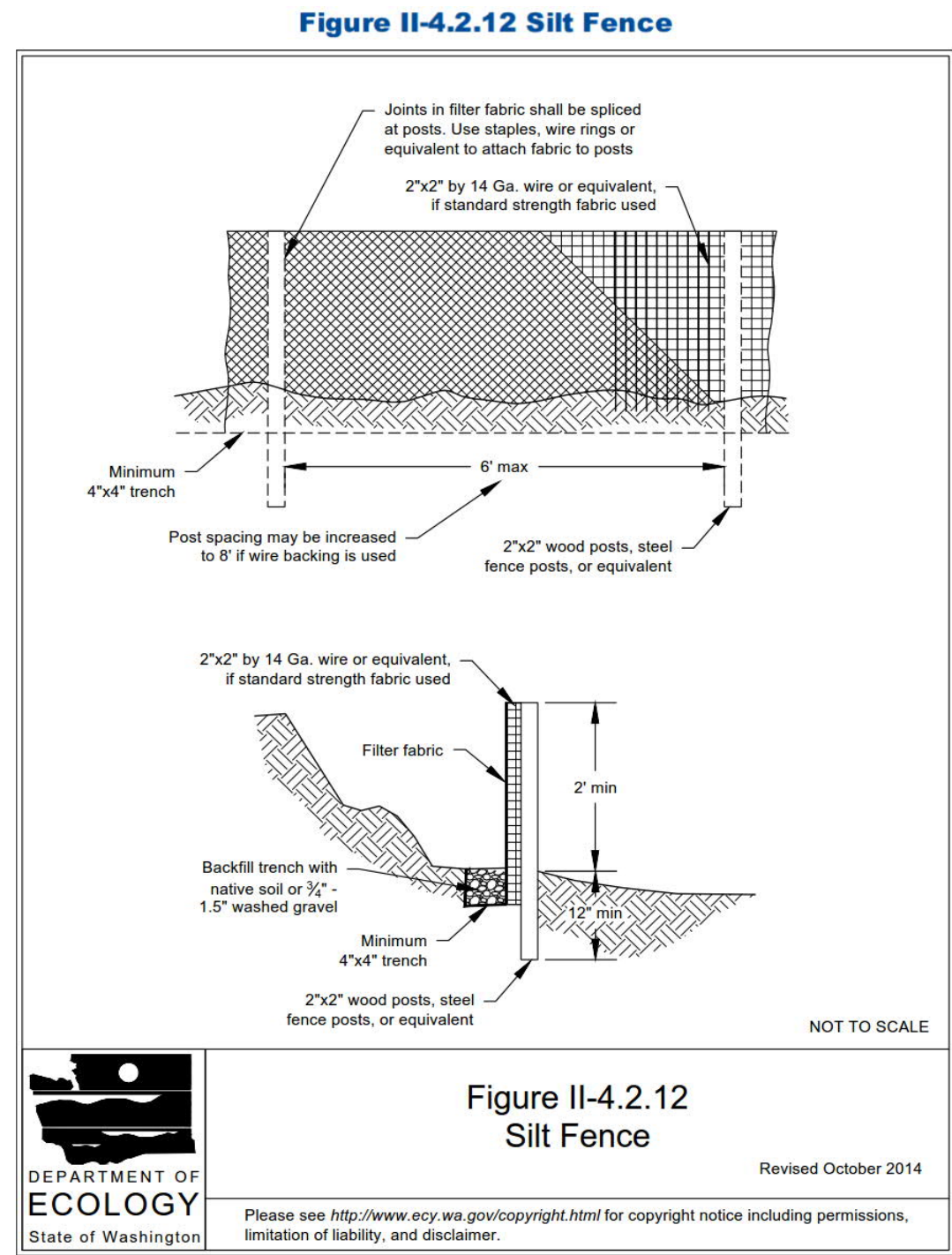


Figure II-4.2.12 Silt Fence  
 Revised October 2014  
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CONSTRUCTION ENTRANCE DOE

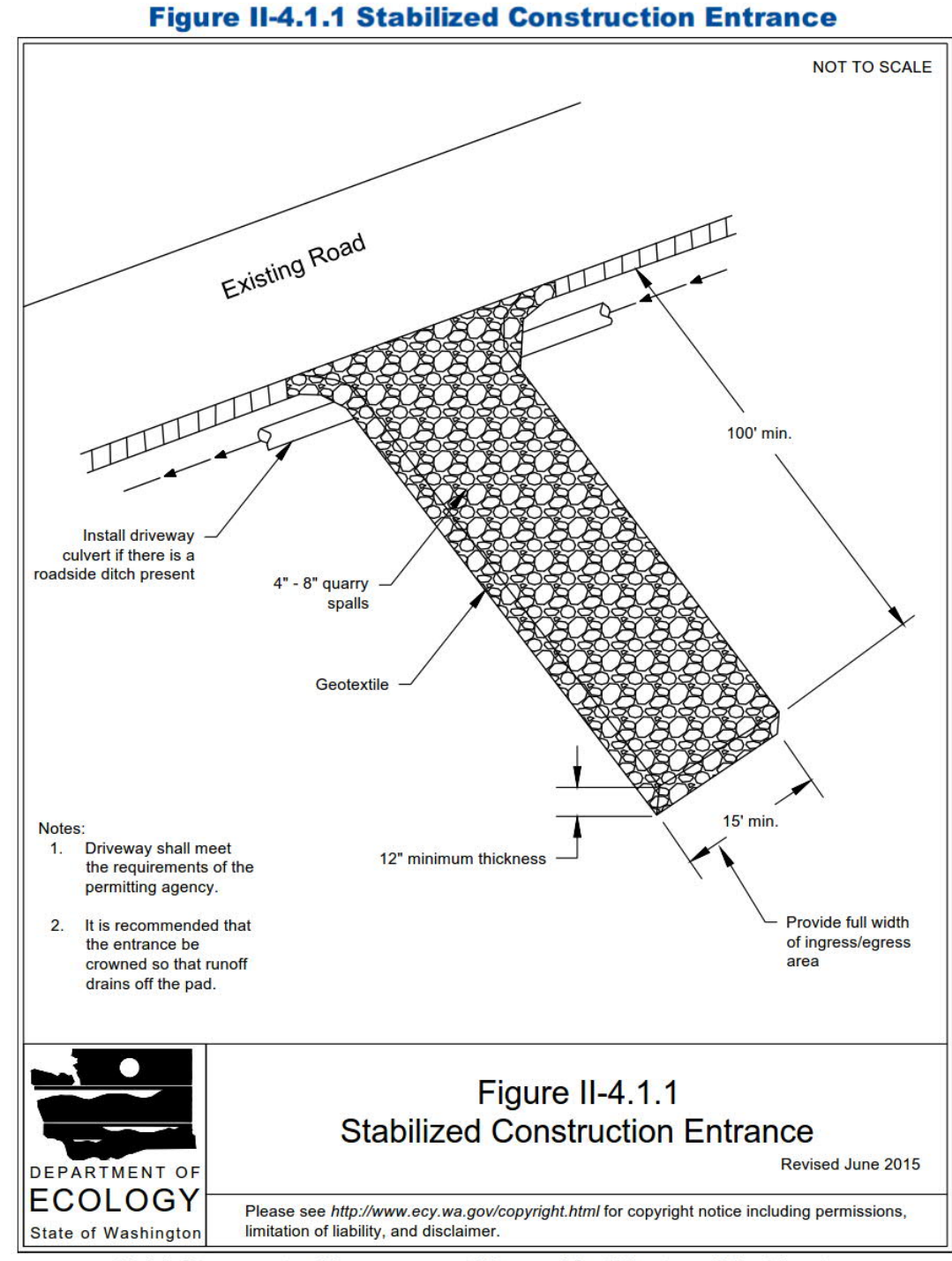


Figure II-4.1.1 Stabilized Construction Entrance  
 Revised June 2015  
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NO.	DATE	BY	REVISIONS

RECOMMENDED CONSTRUCTION SEQUENCE

- A DETAILED CONSTRUCTION SEQUENCE IS NEEDED TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED AT THE APPROPRIATE TIMES. A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED BELOW:
- HOLD AN ONSITE PRE-CONSTRUCTION MEETING.
  - POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).
  - FLAG OR FENCE CLEARING LIMITS.
  - INSTALL CATCH BASIN PROTECTION, IF REQUIRED.
  - GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
  - INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
  - CONSTRUCT SEDIMENT PONDS AND TRAPS.
  - GRADE AND STABILIZE CONSTRUCTION ROADS.
  - CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
  - RELOCATE SURFACE SURFACE WATER CONTROLS OR TESC MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH CITY OF MERCER ISLAND TESC REQUIREMENTS.
  - COVER ALL AREAS THAT WILL BE UN-WORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPT 30) OR TWO DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
  - STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
  - SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
  - UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPs IF APPROPRIATE.

TREE INVENTORY TABLE FROM ARBORIST

Proposed Action	Tree No.	DBH	QMD	Category	>24" DBH	Visible Tree	Species	Diameter	Health	Structure	Comments on Condition	Tree Type	LOD Radius
RETAIN	1	12, 24"	26"	Large	Yes		Lawson cypress	16'	1	2	Asymmetric	E	13'
RETAIN	2	25"	25"	Large	Yes		Lawson cypress	15'	1	2	Asymmetric	E	13'
RETAIN	3	5, 6"	7"	Small			Vine maple	8'	1	2	Growth obstruction, asymmetric	D	6'
RETAIN	4	4.5, 4.5, 5"	8"	Exceptional			Vine maple	8'	1	2	asymmetric	D	6'
RETAIN	5	6, 7, 7, 7"	13"	Significant			Japanese maple	14'	1	2	Growth obstruction D	7'	
RETAIN	6	12"	12"	Significant			Colorado blue spruce	11'	1	1		E	6'
RETAIN	7	17"	17"	Significant			Colorado blue spruce	12'	1	2	Asymmetric	E	8'
RETAIN	8	10"	10"	Significant			Scots pine	12'	1	1		C	6'
RETAIN	9	9, 10"	13"	Significant			Portugal laurel	11'	1	2	Double leader	BE	6'
RETAIN	10	8, 8, 8"	13"	Significant			Thread cypress	12'	1	2	Multiple leader	C	6'
RETAIN	11	20"	20"	Dead	NO		Douglas-fir	0'	3	3	Dead, topped at 40 feet	E	10'
RETAIN	12	21"	21"	Significant			Western red-cedar	16'	1	2	shoulder	C	10'
RETAIN	13	26"	26"	Large	Yes	NO	Bigleaf maple	20'	3	3	ivy, Kretschmaria, decay	D	13'
RETAIN	14	42"	42"	Exceptional	Yes		Douglas-fir	20'	1	1		E	20'
RETAIN	15	15"	15"	Exceptional			Pacific madrone	12'	2	2	Lean, diseased, asymmetric canopy, ivy	BE	8'
RETAIN	16	9"	9"	Hazardous	NO		Pacific madrone	8'	3	3	Lean, diseased, minuscule canopy, ivy	BE	6'
RETAIN	17	6, 8, 8, 10"	18"	Significant			Bigleaf maple	20'	1	2	Stumpsprout	D	9'
Remove	18	34"	34"	Exceptional	Yes		Douglas-fir	20'	1	2	Previously topped, hazard	E	17'

Proposed Action	Tree No.	DBH	QMD	Category	>24" DBH	Visible Tree	Species	Diameter	Health	Structure	Comments on Condition	Tree Type	LOD Radius
Remove	19	13, 14"	19"	Significant			Bigleaf maple	18'	2	2	beam over street	D	9'
RETAIN	20	29"	29"	Large	Yes		Douglas-fir	20'	1	2	Suppressed, asymmetric, double leader	E	14'
RETAIN	21	9, 11, 16"	21"	Significant			Bigleaf maple	20'	1	2	Sweep in trunk	D	10'
RETAIN	22	12"	12"	Significant			European birch	16'	1	2	Lean west toward street,	D	6'
RETAIN	23	12"	12"	Significant			Bigleaf maple	16'	1	2	Multiple leader	D	6'
RETAIN	24	13"	13"	Significant			Bigleaf maple	16'	1	2	Lean west toward street,	D	6'
Remove	25	10, 10, 13"	19"	Significant	NO		Bigleaf maple	16'	2	3	Slender	D	6'
Remove	26	16, 17"	23"	Significant	NO		Bigleaf maple	16'	2	3	Suppressed, stumpsprout	D	9'
Remove	27	10, 10"	14"	Significant	NO		Bigleaf maple	20'	2	3	Decline, chlorotic, slender, stumpsprout	D	11'
Remove	28	9, 14, 15"	22"	Significant	NO		Bigleaf maple	6'	3	3	Suppressed, asymmetric, stumpsprout, decay	D	6'
Remove	29	19"	19"	Significant	NO		Bigleaf maple	20'	1	3	Suppressed, asymmetric, over-extended branches	D	9'
Remove	30	13, 19, 35"	41"	Hazardous	NO		Bigleaf maple	25'	1	3	Crack, decay	D	20'
RETAIN	31	60"	60"	Hazardous	NO		Bigleaf maple	20'	3	3	Topped at 8 feet, multiple water sprout, Kretschmaria	D	16'
OFFSITE	101	38"	38"	Exceptional	Yes		Giant redwood	18'			Topped at 40 feet	E	16'
OFFSITE	102	38"	38"	Exceptional	Yes		Giant redwood	18'			Topped at 40 feet	E	16'
OFFSITE	103	9, 13"	15"	Significant			Lawson cypress					E	8'
OFFSITE	104	12, 18, 20"	29"	Large	Yes		Western red-cedar	16'			Multiple leader	C	14'

Proposed Action	Tree No.	DBH	QMD	Category	>24" DBH	Visible Tree	Species	Diameter	Health	Structure	Comments on Condition	Tree Type	LOD Radius
OFFSITE	105	15"	15"	Significant			Western red-cedar	16'				C	8'
OFFSITE	106	54"	54"	Exceptional	Yes		Bigleaf maple	40'			Double leader, chlorotic, declining foliage, ivy	D	27'
OFFSITE	107	26"	26"	Large	Yes		Western red-cedar	18'				C	13'
ROW	201	11, 11"	15"	Significant			Bigleaf maple	20'	1	2	Double leader	D	8'

EROSION CONTROL NOTES

- D.8.2 STANDARD ESC PLAN NOTES  
 THE STANDARD ESC PLAN NOTES MUST BE INCLUDED ON ALL ESC PLANS. AT THE APPLICANT'S DISCRETION, NOTES THAT IN NO WAY APPLY TO THE PROJECT MAY BE OMITTED; HOWEVER, THE REMAINING NOTES MUST NOT BE RENUMBERED. FOR EXAMPLE, IF ESC NOTE #3 WERE OMITTED, THE REMAINING NOTES SHOULD BE NUMBERED 1, 2, 4, 5, 6, ETC.
- APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
  - THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADE OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
  - THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
  - STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.
  - THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
  - THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.) AS DIRECTED BY CITY OF MERCER ISLAND.
  - THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.
  - ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
  - ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
  - THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DURING THE WET SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.
  - AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
  - ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
  - COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL.
  - PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON.

CITY NOTES

- ANY CHANGES TO THE APPROVED PLANS REQUIRES CITY APPROVAL THROUGH A REVISION.
- APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
- CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.
- CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITIES.
- AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1.800.424.5555
- DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED
- EROSION CONTROL: ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:
- PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.
- CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.
- PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
- ALL EXPOSED SOILS SHALL REMAIN DENUED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.
- INSTALLATION OF CONCRETE DRIVEWAYS, TREES, SHRUBS, IRRIGATION, BOULDERS, BERMS, WALLS, GATES, AND OTHER IMPROVEMENTS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL, AND AN ENCROACHMENT AGREEMENT AND RIGHT OF WAY PERMIT FROM THE SENIOR DEVELOPMENT ENGINEER.
- OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN A RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED OUT ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.
- POT HOLLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
- REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
- ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
- SILENT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.
- WORK IN PUBLIC RIGHT OF WAY REQUIRES A RIGHT-OF-WAY USE PERMIT.
- REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
- THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.
- NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.
- POT HOLLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO ANY GRADING ACTIVITIES OVER THE PUBLIC MAINS.
- THE LIMITS AND EXTENDS OF THE PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE DETERMINED BY THE CITY ENGINEER PRIOR TO FINALIZE THE PROJECT.

DENUDED AREAS REQUIREMENTS

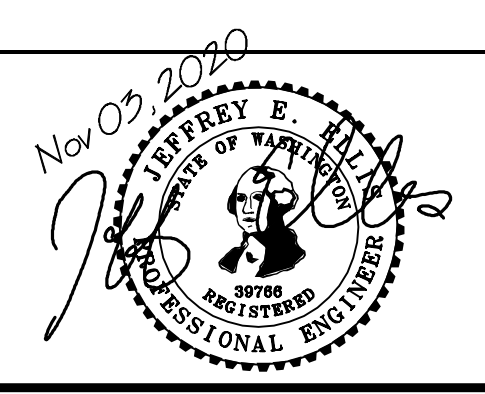
APRIL 1 TO SEPT 30  
 ALL DENUDED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF CONSTRUCTION. PLEASE READ ALL CITY TESC NOTES ON SHEET C1.2.

OCT 1 TO MARCH 31  
 ALL DENUDED AREAS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING. IF AN EROSION PROBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION CONTROL WILL BE REQUIRED.

APPLICANT: MILLAD HOMES, LLC



DATE: Nov 03, 2020  
 JOB#: 1785  
 DRAFTED: SS DESIGN: DE  
 DIGITAL SIGNATURE



CIVIL ENGINEERING SOLUTIONS  
 102 NW CANAL STREET SEATTLE, WA 98107  
 PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

TESC & CITY NOTES  
 TESC DETAILS  
 EAST RESIDENCE  
 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

PERMIT 2001-188  
 DRAWING NO: C1.2  
 APN 777670-0010



**SANITARY SEWER IMPROVEMENTS**

- 1 -
- 2 - 6" SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %.
- 3 -
- 4 -
- 7 -

**WATER IMPROVEMENTS**

- 10 - NEW SF RESIDENTIAL WATER SERVICE & METER PIT. CONFIRM REQUIRED SIZE WITH BUILDING PERMIT REVIEW. INSTALL PER MERCER ISLAND DETAIL W-13, W-14, OR W-14A DEPENDING ON SIZE REQUIREMENT.
- 11 - MIN 1.5" 250 PSI PRIVATE HDPE WATER (ASTM D2239) FROM METER TO HOUSE. RECOMMENDED DEPTH=36". COORDINATE HOUSE ENTRY WITH BUILDER/OWNER.
- 12 -
- 14 -

**STORM DRAIN**

- 20 - 4" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE
- 21 - 4" FOUNDATION DRAIN (3034 PVC) @ MIN 1 % GRADE
- 22 - 6" STORM DRAIN (3034 PVC) @ MIN 2 % GRADE
- 23 - 8" STORM DRAIN. (SDR 35 PVC OR EQUAL). SEE PROFILE FOR GRADE
- 24 - 12" STORM DRAIN (HDPE N12 OR EQUAL). SEE PROFILE SHEET.
- 25 -
- 26 -
- 28 -
- 29 -

**STORM DRAIN STRUCTURES**

- 30 - TYPE 1 CB WITH STANDARD GRATE. SEE PLANS WHERE BEEHIVE GRATE ARE CALLED OUT. MAX 5' RIM TO FL DEPTH.
- 31 - TYPE 1 CB WITH VANED LID. MAX 5' RIM TO FL DEPTH.
- 32 - TYPE 1 CB WITH ROUND SOLID LID
- 33 -
- 34 -
- 35 -
- 36 - NDS DURASLOPE CHANNEL DRAIN OR EQUAL. MINIMUM 6" CHANNEL. CLASS B VEHICLE RATED GRATE.
- 39 -
- 40 -
- 41 - 54" ID TYPE 2 MH CONTROL STRUCTURE WITH SOLID LID. SEE ALL DETAILS AND PROFILE C4.0.
- 43 -
- 46 -
- 47 - DETENTION PIPE: ALUMINIZED CMP @ 0.5 % GRADE. SEE PLAN FOR SIZE AND CONFIGURATION. SEE PROFILE, NOTES, AND DETAILS ON C4.0.
- 48 -

**STORM BMP's**

COMPOSTED AMENDED SOIL IS REQUIRED FOR DISTURBED AREAS. SEE DETAIL ON C3.5.  
 STORM BMP'S ARE NOT PROPOSED FOR PROJECT. SEE STORM REPORT.  
 DETENTION IS PROPOSED PER THIS BUILDING PERMIT.

**SURVEYOR**

TOPOGRAPHIC SURVEY BY:  
 SITE SURVEYING, INC.  
 21923 NE 11th STREET  
 SAMMAMISH, WA 98074  
 PHONE 425.298.4412

**VERTICAL DATUM**

NAVD 88 PER SURVEY

**LEGAL DESCRIPTION**

PENDING

**SOILS**

SITE IS IN AN AREA MAPPED "INFILTRATING LID FACILITIES ARE NOT PERMITTED" ON THE "LOW IMPACT DEVELOPMENT INFILTRATION FEASIBILITY ON MERCER ISLAND" MAP. INFILTRATION IS NOT PROPOSED.

**SOIL AMENDMENT REQUIRED**

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

**SOIL INSPECTION REQUIRED**

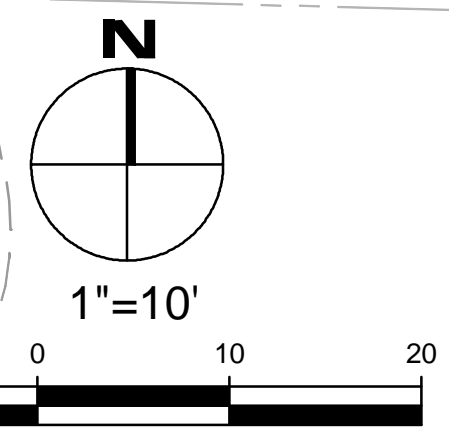
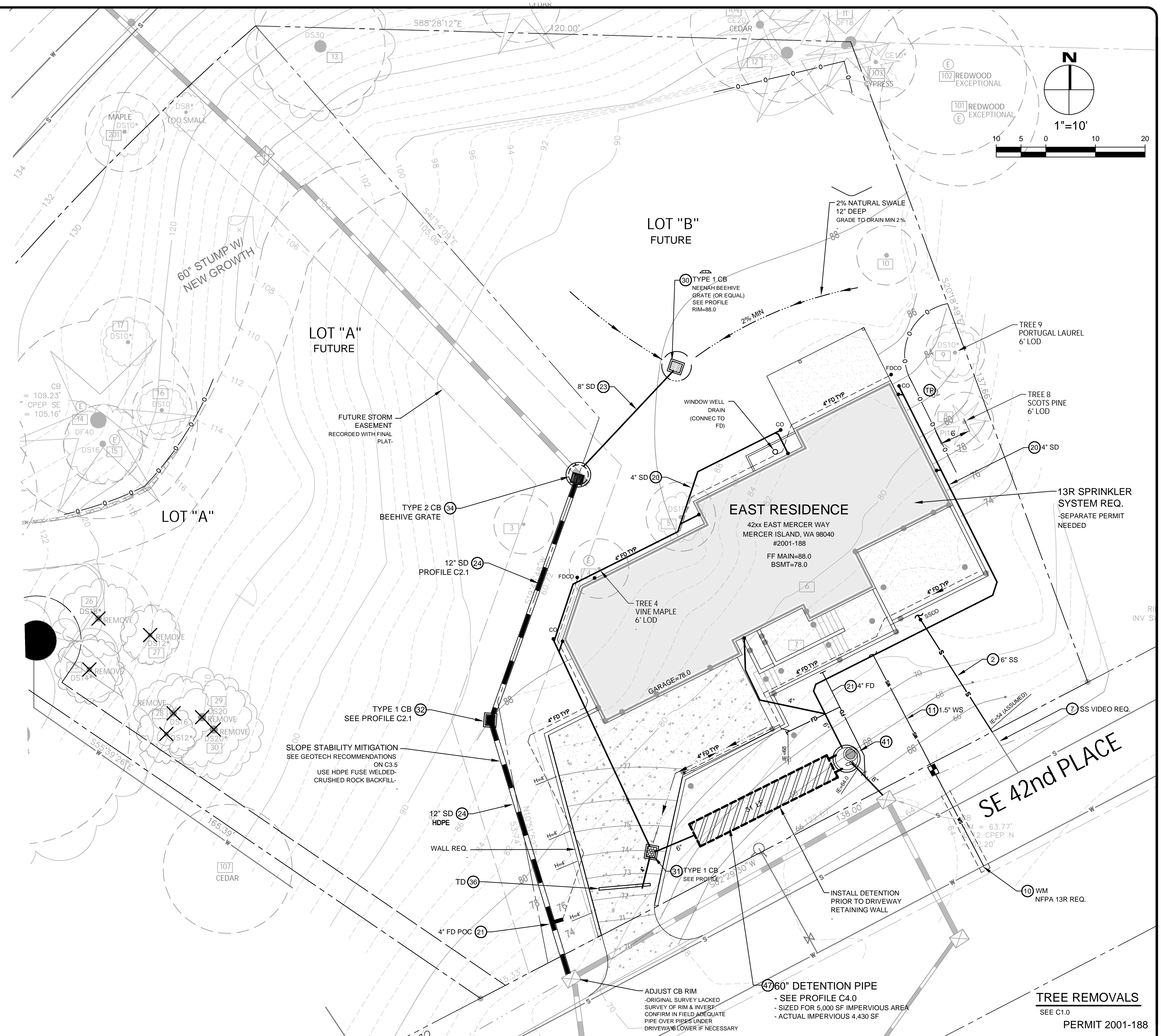
A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

**TREE PLANTING**

SEE C4.0

**TREE REMOVALS**

SEE C1.0

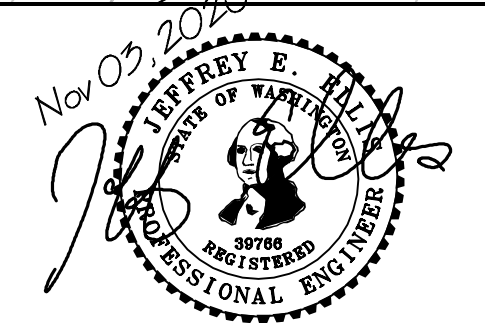


NO.	DATE	BY	REVISIONS

APPLICANT:  
 MILLAD HOMES, LLC



DATE: Nov 03, 2020  
 JOB#: 1785  
 DRAFTED: DE DESIGN: DE  
 DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**

102 NW CANAL STREET SEATTLE, WA 98107  
 PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

**DRAINAGE/CIVIL/TREE PLAN**

**EAST RESIDENCE**  
 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:

**C2.0**

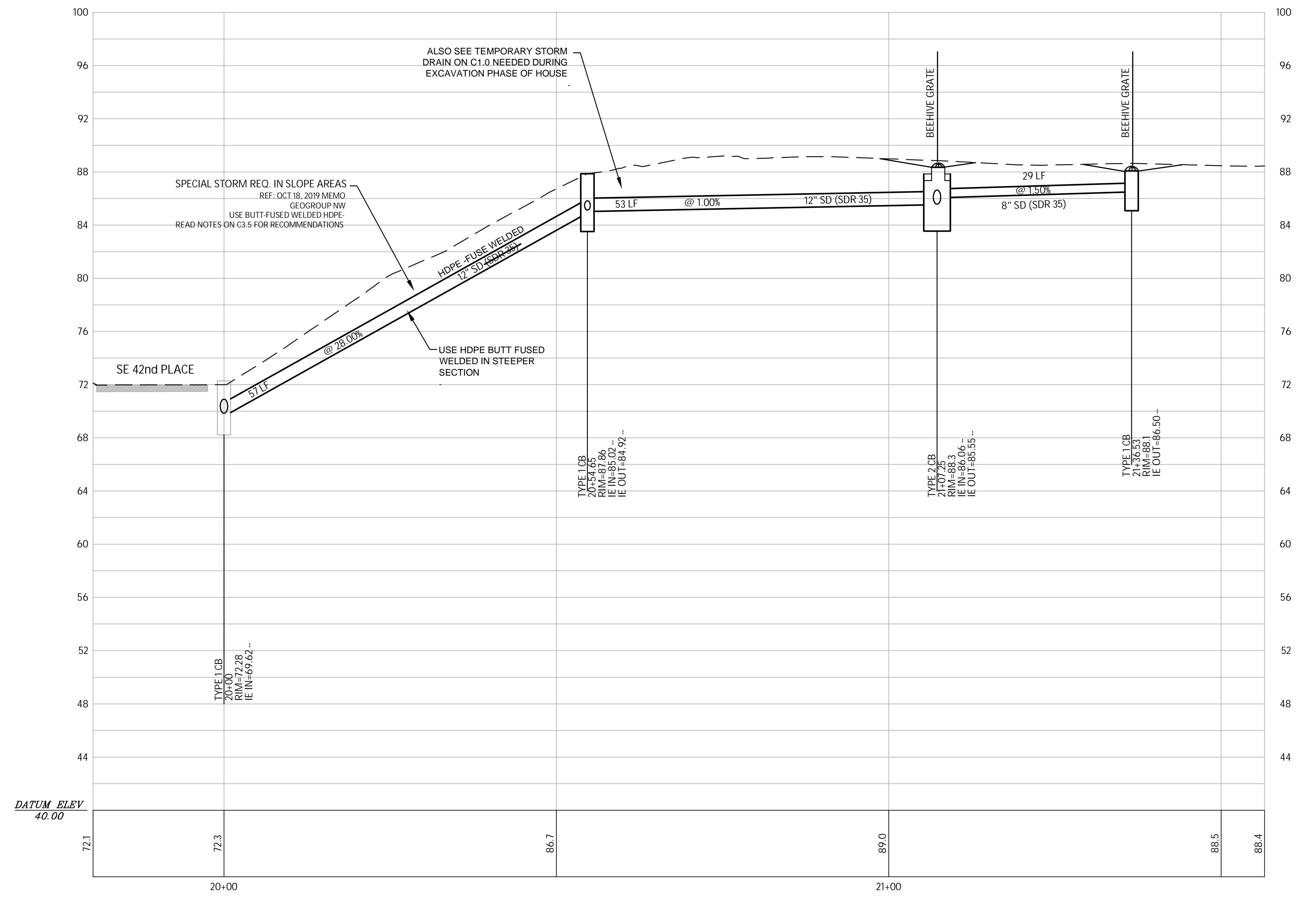
APN 777670-0010

**TREE REMOVALS**

SEE C1.0 PERMIT 2001-188



## PUBLIC STORM PROFILE



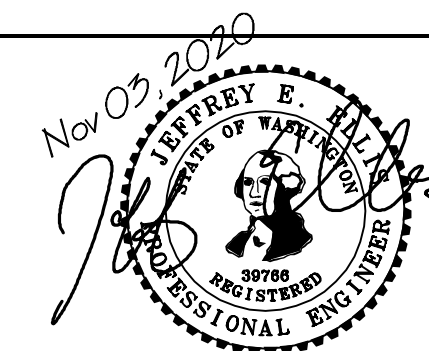
**TREE REMOVALS**  
SEE C1.0

NO.	DATE	BY	REVISIONS

APPLICANT:  
MILLAD HOMES, LLC



DATE: Nov 03, 2020  
JOB# 1785  
DRAFTED: DE DESIGN: DE  
DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**

102 NW CANAL STREET SEATTLE, WA 98107  
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

### STORM PROFILE

EAST RESIDENCE  
42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

PERMIT 2001-188

DRAWING NO:

**C2.1**

APN 777670-0010



### STORM DRAIN INSTALLATION SPECIAL REQUIREMENTS

REF: OCTOBER 18, 2019 MEMORANDUM FROM GEO Group NW

#### Conclusions and Recommendations – New Stormwater Piping

Significant portions of the existing and proposed stormwater piping are located at steep slope areas. We recommend that where piping is removed that temporary shoring is installed as necessary for safety and to mitigate trench collapse risks. From our point of view it is not necessary to remove the existing underground piping at all steep slope areas provided that the upstream end of the existing piping is disconnected from the working drainage system and capped. The downstream section of piping may then be abandoned in place. Of course, where existing piping intercepts the new development then the pipe must be removed.

For the installation of new stormwater piping through the steep slope areas we recommend that the pipe consist of heat-welded HDPE pipe and that the pipe is anchored at the top of each section which traverses steep slopes. There are various methods for anchoring piping such as anchoring to catchbasin structures and/or constructing concrete anchor blocks which surround the pipe and derive resistance to movement by pouring neat against the existing firm soils or compacted structural fills. The designer may assume passive earth pressure of 350 pcf (equivalent fluid weight) and a coefficient of friction = 0.35 for compacted structural fill and undisturbed native site soils ("neat" pour) in contact with the pipe anchor system. We recommend that individual anchors are installed to restrain sloping pipe sections having a fall of not greater than 30-feet. Fills placed at the stormwater piping trenches located at slope areas which are steeper than 25 percent shall consist of clean crushed rock. At less steep trench areas we recommend that fills are compacted in accordance with the recommendations for structural fill noted in the geotechnical report. It is recommended that all piping is properly bedded for the selected pipe type and diameter based upon WSDOT or Mercer Island standard specifications.

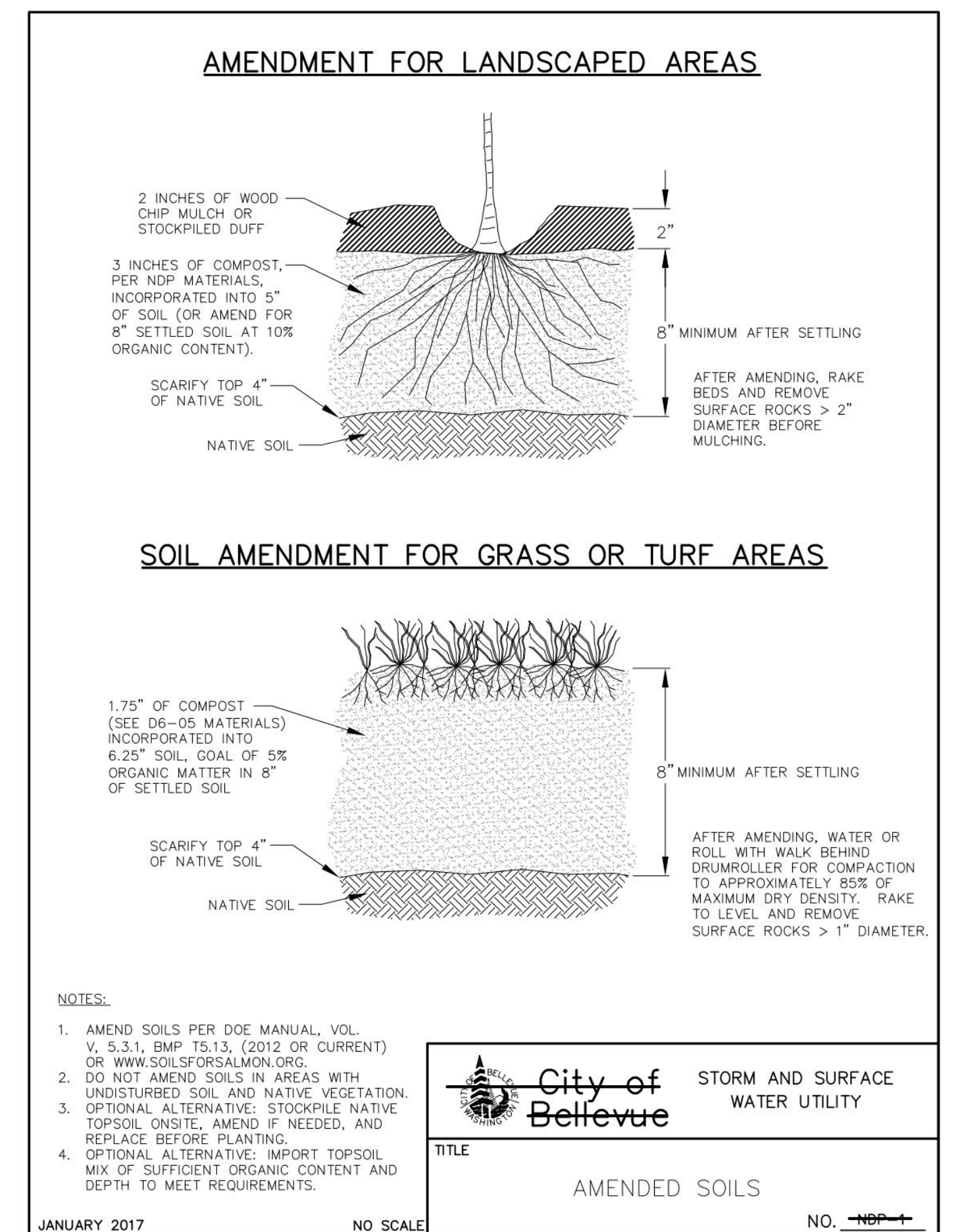
### SOIL AMENDMENT REQUIRED

COMPOST AMENDED SOIL REQUIRED ON ALL LANDSCAPED AREAS AFTER CONSTRUCTION. SEE DETAIL ON C3.5.

### SOIL INSPECTION REQUIRED BY ENGINEER

A POST CONSTRUCTION INSPECTION & CERTIFICATION OF AMENDED SOILS IS REQUIRED BY A LICENSED CIVIL ENGINEER. THIS IS REQUIRED BEFORE FINAL SIGN-OFF BY CITY.

### COMPOST AMENDED SOIL SPEC

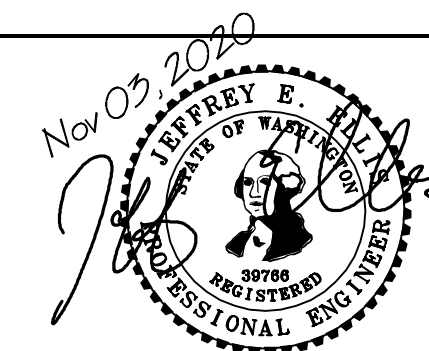


NO.	DATE	BY	REVISIONS

APPLICANT:  
MILLAD HOMES, LLC



DATE: Nov 03, 2020  
JOB# 1785  
DRAFTED: SS DESIGN: SS  
DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**

102 NW CANAL STREET SEATTLE, WA 98107  
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

**STORMWATER BMP DETAILS**  
EAST RESIDENCE  
42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

PERMIT 2001-188

DRAWING NO:  
**C3.5**

APN 777670-0010



# MERCER ISLAND DETENTION "TABLE 1"

**Table 1**  
ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in) <sup>(1)</sup>		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
		36"	48"	60"	36"	48"	60"	36"	48"
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.8
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,001 to 8,500 sf <sup>(1)</sup>	36"	NA <sup>(1)</sup>	164	0.5	0.5	NA <sup>(1)</sup>	2.2	NA <sup>(1)</sup>	1.9
	48"	NA <sup>(1)</sup>	89	0.5	0.5	NA <sup>(1)</sup>	2.9	NA <sup>(1)</sup>	1.9
	60"	NA <sup>(1)</sup>	55	0.5	0.5	NA <sup>(1)</sup>	3.6	NA <sup>(1)</sup>	1.7
8,501 to 9,000 sf	36"	NA <sup>(1)</sup>	174	0.5	0.5	NA <sup>(1)</sup>	2.2	NA <sup>(1)</sup>	2.1
	48"	NA <sup>(1)</sup>	94	0.5	0.5	NA <sup>(1)</sup>	2.9	NA <sup>(1)</sup>	2.0
	60"	NA <sup>(1)</sup>	58	0.5	0.5	NA <sup>(1)</sup>	3.7	NA <sup>(1)</sup>	1.7
9,001 to 9,500 sf <sup>(2)</sup>	36"	NA <sup>(1)</sup>	174	0.5	0.5	NA <sup>(1)</sup>	2.2	NA <sup>(1)</sup>	2.1
	48"	NA <sup>(1)</sup>	94	0.5	0.5	NA <sup>(1)</sup>	2.9	NA <sup>(1)</sup>	2.0
	60"	NA <sup>(1)</sup>	58	0.5	0.5	NA <sup>(1)</sup>	3.7	NA <sup>(1)</sup>	1.7

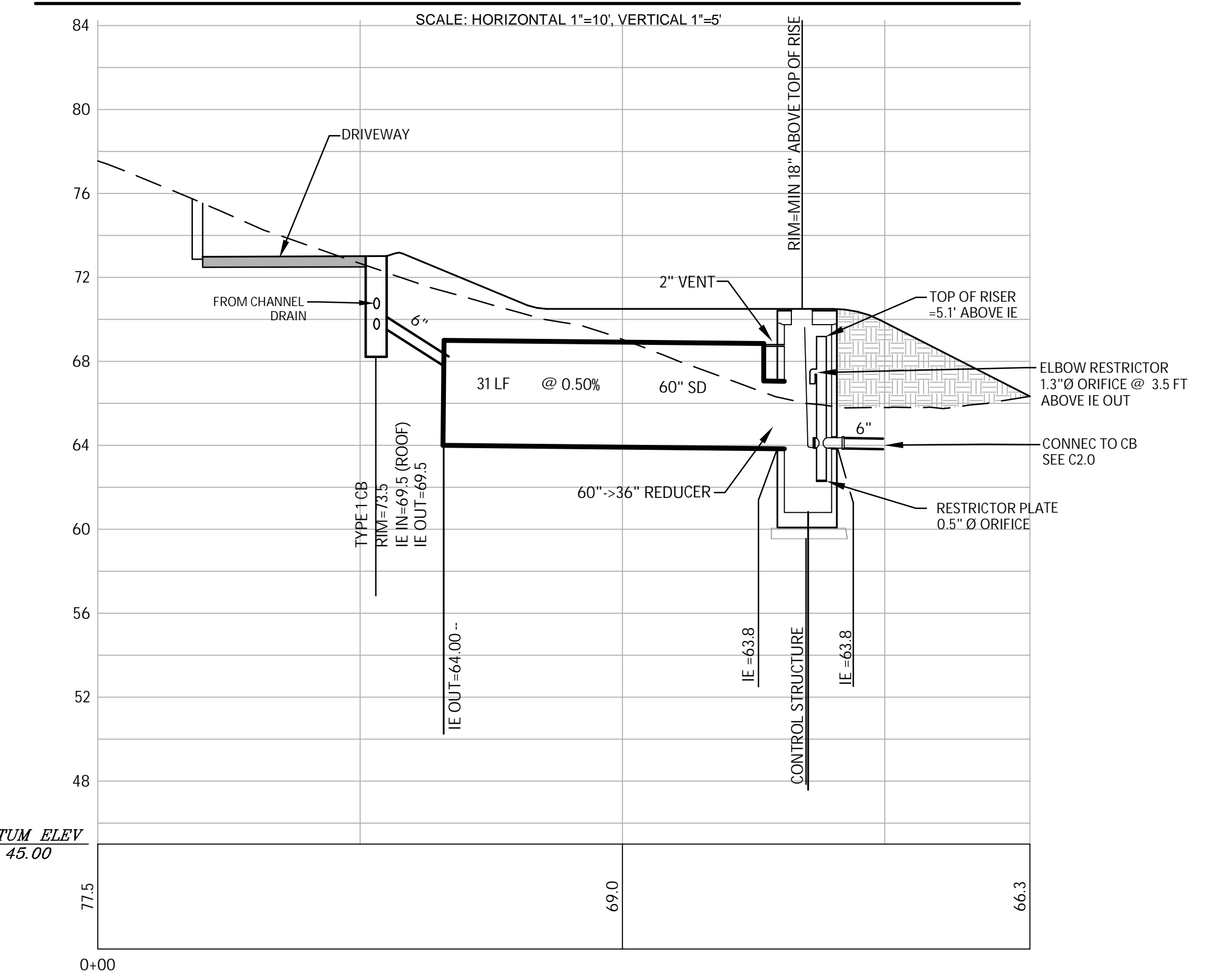
**Notes:**  
 • Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (>15%) slopes.  
 • Soil type to be determined by geotechnical analysis or soil map.  
 • Sizing includes a Volume Correction Factor of 120%.  
 • Upper bound contributing area used for sizing.  
<sup>(1)</sup> On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)  
<sup>(2)</sup> On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)  
<sup>(3)</sup> Minimum orifice diameter = 0.5 inches  
 in = inches  
 ft = feet  
 sf = square feet

**Basis of Sizing Assumptions:**  
 Sized per MRRS in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)  
 SBUH, Type 1A, 24-hour hydrograph  
 2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in  
 Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)  
 Developed = impervious (CN = 98)  
 0.5 foot of sediment storage in detention pipe  
 Overland slope = 5%

## IMPERVIOUS TABLE

Impervious Area Spreadsheet		
East Residence - 42xx East Mercer Way, Mercer Island, WA 98040 - CES #1766-E		
Gross Site area	16,230 sf	
	0.373 acres	
Existing Impervious Area to be demolished		
Ex roof, on-site	2,019 sf	
Ex Driveway, on-site, exposed	2,689 sf	
<b>total existing, to be demolished =</b>	<b>4,708 sf</b>	
Proposed Impervious Area (on-site) (new + replaced)		
Roof	3,613 sf	
Exposed driveway, exposed, on-site	1,014 sf	
Exposed entry steps	173 sf	
Exposed back porch	22 sf	
<b>total on-site (new + replaced) proposed =</b>	<b>4,822 sf</b>	
<b>total replaced impervious =</b>	<b>4,708 sf</b>	
<b>total new impervious =</b>	<b>113 sf</b>	
<b>total new + replaced impervious =</b>	<b>4,822 sf</b>	
<b>total proposed lawn/landscape =</b>	<b>11,408 sf</b>	
Proposed Impervious Area into detention pipe		
Roof	3,613 sf	
Exposed driveway, exposed, on-site	666 sf	
Exposed entry steps	151 sf	
<b>Impervious area into detention pipe =</b>	<b>4,430 sf</b>	

## DETENTION PROFILE



## MERCER ISLAND DETENTION DETAIL

**ATTACHMENT 1**  
**CITY OF MERCER ISLAND**  
**ON-SITE DETENTION SYSTEM WORKSHEET**  
**(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)**

OWNER: MILLAD ADDRESS: 42xx EAST MERCER WAY PREPARED BY: DUFFY ELLIS, P.E.  
 PERMIT # \_\_\_\_\_ MERCER ISLAND, WA 98040 PHONE: 206.930.0342  
 NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 4,430 DETENTION PIPE LENGTH (FT): 31 LF ORIFICE #1 DIA \* INCH, ELEV \* \*  
 SOIL TYPE: Type C per Geologic Map of Mercer Island PIPE MATERIAL: CMP OR HDPE ORIFICE #2 DIA \* INCH, ELEV \* \*  
 \*SEE TABLE 1, THIS SHEET

**CONTROL STRUCTURE NOTES:**

- USE A MINIMUM OF A 54 IN. DIA. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON DETENTION PIPE MATERIAL AND DIAMETER.
- OUTLET PIPE: MIN. 6 INCH.
- METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREPARED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT.
- FRAME AND LADDER OR STEPS OFFSET SO:  
 A. CLEANOUT GATE IS VISIBLE FROM TOP;  
 B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;  
 C. FRAME IS CLEAR OF CURB.
- IF METAL OUTLET PIPE CONNECTS TO CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
- PROVIDE AT LEAST ONE 3 X 0.000 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
- THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 208 AND ASTM B 275. DESIGNATION 2023A OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LEFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE TO PREVENT GALVANIC CORROSION. IT MAY BE OF SOLID ROD OR HOLLOW TUBING WITH ADJUSTABLE BUSH AS REQUIRED. A HIGH-TENSURE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LEAD AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
- THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

**ON-SITE DETENTION SYSTEM NOTES:**

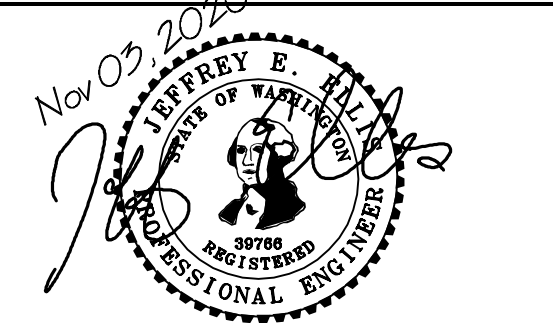
- CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
- RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE AREA MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
- PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 8.03 OF THE WISDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING: LINED CORRUGATED POLYETHYLENE PIPE (COP); ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE HITCH (METS); HDPE DISCONNECTS (MCM AND MCM); CORRUGATED OR SPRINKER ALUMINUM PIPE OR REINFORCED CONCRETE PIPE; CORRUGATED STEEL PIPE IS NOT ALLOWED.
- FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

NO.	DATE	BY	REVISIONS

APPLICANT: MILLAD HOMES, LLC

**811**  
 Know what's below.  
 Call before you dig.

DATE: Nov 03, 2020  
 JOB# 1785  
 DRAFTED: SS DESIGN: SS  
 DIGITAL SIGNATURE



**CIVIL ENGINEERING SOLUTIONS**

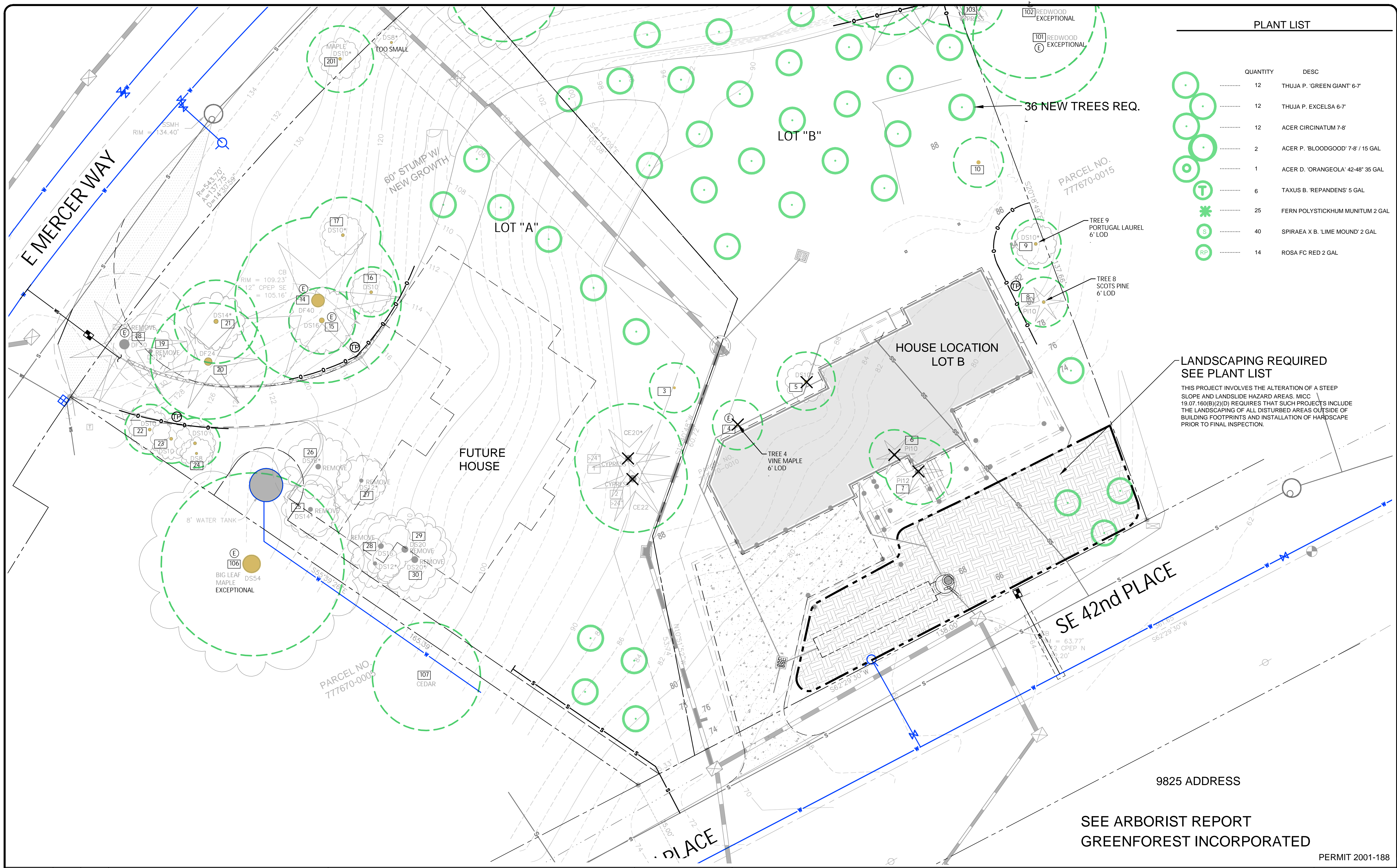
102 NW CANAL STREET SEATTLE, WA 98107  
 PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

**DETENTION PROFILE AND DETAIL**

EAST RESIDENCE  
 42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO: **C4.0**  
 APN 777670-0010





**PLANT LIST**

QUANTITY	DESC
12	THUJA P. 'GREEN GIANT' 6-7'
12	THUJA P. EXCELSA 6-7'
12	ACER CIRCINATUM 7-8'
2	ACER P. 'BLOODGOOD' 7-8' / 15 GAL
1	ACER D. 'ORANGEOLA' 42-48" 35 GAL
6	TAXUS B. 'REPANDENS' 5 GAL
25	FERN POLYSTICKHUM MUNITUM 2 GAL
40	SPIRAEA X B. 'LIME MOUND' 2 GAL
14	ROSA FC RED 2 GAL

**LANDSCAPING REQUIRED  
SEE PLANT LIST**

THIS PROJECT INVOLVES THE ALTERATION OF A STEEP SLOPE AND LANDSLIDE HAZARD AREAS. MICC 19.07.160(B)(2)(D) REQUIRES THAT SUCH PROJECTS INCLUDE THE LANDSCAPING OF ALL DISTURBED AREAS OUTSIDE OF BUILDING FOOTPRINTS AND INSTALLATION OF HARDSCAPE PRIOR TO FINAL INSPECTION.

SEE ARBORIST REPORT  
GREENFOREST INCORPORATED

PERMIT 2001-188

NO.	DATE	BY	REVISIONS

APPLICANT:  
MILLAD HOMES, LLC



DATE: Jan 12, 2021  
JOB#: 1785  
DRAFTED: DE DESIGN: DE  
DIGITAL SIGNATURE



102 NW CANAL STREET SEATTLE, WA 98107  
PHONE: 206.930.0342 DUFFY@CESOLUTIONS.US

**SLOPE LANDSCAPE PLAN**

EAST RESIDENCE  
42xx EAST MERCER WAY, MERCER ISLAND, WA 98040

DRAWING NO:

**C5.0**

APN 777670-0010