

GENERAL NOTES

1. CODE COMPLIANCE:
ALL WORK SHALL COMPLY WITH THE 2021 WSEC, 2021 IRC, 2021 IMC, 2021 IFGC, 2021 UPC, 2021 IFBC, 2021 IPMC, 2020 IECC, 2021 IECC WITH WA STATE AMENDMENTS, 2009 ICC A117.1, AND ALL LOCAL CODES AND ORDINANCES.

2. DIMENSIONS:
DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF DISCREPANCIES. IF WORK IS STARTED PRIOR TO NOTIFICATION, THE GENERAL AND SUBCONTRACTOR PROCEED AT THEIR OWN RISK. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO FACE OF STUDS OR FACE OF CONCRETE WALLS. FACE OF STONE VENEER LESS 6" +/- OUTSIDE THE FACE OF FRAMING. INTERIOR PLAN DIMENSIONS ARE TO FACE OF STUDS UNLESS OTHERWISE NOTED. VERIFY ALL ROUGH-IN DIMENSIONS FOR WINDOWS, DOORS, PLUMBING, ELECTRICAL FIXTURES AND APPLIANCES PRIOR TO COMMITMENT OF WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OF DIMENSIONAL TOLERANCES REQUIRED.

3. DOCUMENT REVIEW/VERIFICATION:
CONSULT WITH ARCHITECT REGARDING ANY SUSPECTED ERRORS, OMISSIONS, OR CHANGES ON PLANS BEFORE PROCEEDING WITH THE WORK.

4. ROUGH OPENINGS/BACKING:
VERIFY SIZE AND LOCATION, AS WELL AS PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS, FURRING, CURBS, ANCHORS, INSERTS, EQUIPMENT BASES AND ROUGH BUCKS/BACKING FOR SURFACE-MOUNTED ITEMS.

5. FURRING:
PROVIDE FURRING AS REQUIRED TO CONCEAL MECHANICAL AND/OR ELECTRICAL EQUIPMENT IN FINISHED AREAS. FURRING NOT SHOWN ON PLANS SHALL BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION.

6. GRADES:
VERIFY ALL GRADES AND THEIR RELATIONSHIP TO THE BUILDING(S).

7. FLOOR LINES:
FLOOR LINE REFERS TO TOP OF CONCRETE SLAB OR TOP OF WOOD SUBFLOOR.

8. REPETITIVE FEATURES:
OFTEN DRAWN ONLY ONCE AND SHALL BE PROVIDED AS IF FULLY DRAWN.

9. DOORS:
DOORS NOT DIMENSIONALLY LOCATED SHALL BE 6" FROM STUD FACE TO EDGE OF DOOR, ROUGH OPENING OR CENTERED BETWEEN WALLS AS SHOWN.

10. WOOD MEMBERS IN CONTACT WITH CONCRETE, AND/OR EXPOSED TO WEATHER:
TO BE PRESSURE TREATED, TYPICAL. PROVIDE PRESSURE TREATED SILL PLATE IF FINISH GRADE IS WITHIN 8" TYPICAL.

11. FRAMING:
ALL NEW INTERIOR FRAME PARTITIONS TO BE 2X4 @ 16" O.C. & ALL NEW EXTERIOR FRAME PARTITIONS TO BE 2X6 @ 16" O.C., UNLESS OTHERWISE NOTED. VERIFY W/ STRUCTURAL DRAWINGS. EXISTING EXTERIOR WALLS ARE 2X4 STUDS @ 16" O.C. AND ARE TO REMAIN. NEW INTERMEDIATE FRAMING AT EXTERIOR WOOD WALLS REQUIRES HEADERS INSULATED WITH A MIN. R-10 INSULATION.

12. VENTILATION:
VENT ALL BATHROOM FANS, LAUNDRY FANS, RANGE HOODS AND DRYERS TO OUTSIDE ATMOSPHERE. BATHROOM/UTILITY ROOM FANS SHALL BE CAPABLE OF 5 AIR CHANGES PER HOUR AND SHALL BE VENTED DIRECTLY TO THE OUTSIDE THROUGH SMOOTH, RIGID, NON-CORROSIVE METAL, 24 GA.

DUCTWORK: FLEX DUCTING IS NOT ALLOWED. WSEC R402.4.1.2 REQUIRES THE DWELLING UNIT TO BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE NOT EXCEEDING 1.5 AIR CHANGES PER HOUR. TESTING MUST BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2. NEW CONSTRUCTION MAY BE ISOLATED FROM EXISTING STRUCTURE FOR TESTING.

13. FLUES:
FLUES TO BE LOCATED MINIMUM 2" FROM ALL COMBUSTIBLE MATERIALS.

14. DOWNSPOUTS:
LOCATE NEW DOWNSPOUTS AS SHOWN ON ROOF PLAN, FLOOR PLANS & ELEVATIONS.

15. OTHER DOCUMENTATION:
REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL AND/OR LANDSCAPE DRAWINGS FOR ADDITIONAL DRAWINGS, NOTES, SCHEDULES, AND SYMBOLS.

16. PROTECTION:
PROTECT ALL EXISTING FINISHES AND SURFACES. ANY DAMAGE WILL BE REPAIRED WITHOUT ADDITIONAL COST TO OWNER.

17. PERMITS:
SEPARATE ELECTRICAL, MECHANICAL, AND PLUMBING PERMITS ARE REQUIRED IN ADDITION TO THE BASIC BUILDING PERMIT

18. ROOFING:
PROVIDE NEW ROOFING TO MATCH EXISTING.

19. EXHAUST DUCTS:
PROVIDE BACKDRAFT DAMPERS AT ALL EXHAUST DUCTS. PROVIDE COMBUSTION AIR OPENINGS INTO FURNACE ROOM PER UMC 703.

20. APPLIANCES:
CLEARANCES OF UL LISTED APPLIANCES FROM COMBUSTIBLE MATERIALS SHALL BE AS SPECIFIED IN UL LISTING.

21. WATER FLOW:
SHOWER SHALL BE EQUIPPED WITH FLOW CONTROL DEVICE TO LIMIT WATER FLOW TO 1.8 GALLONS PER MINUTE.

22. SMOKE DETECTORS & FIRE ALARM:
SMOKE & CARBON MONOXIDE THROUGHOUT NEW CONSTRUCTION. TO BE MONITORED PER FIRE DEPARTMENT REQUIREMENTS. NFPA 72 CHAPTER 29 MONITORED FIRE ALARM SYSTEM PER CMI STANDARDS. SEPARATE PERMIT REQUIRED.

23. FIREBLOCKING:
FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAMED CONSTRUCTION PER 2021 IRC SECTION R302.11. 1) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, SPECIFICALLY VERTICALLY @ CEILING AND FLOOR LEVELS; AND HORIZONTALLY @ INTERVALS NOT EXCEEDING 10 FEET. 2) AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES. 3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT T.O. & B.O. RUN. 4) AT OPENINGS AROUND VENTS, PIPES, ETC. AT CEILING AND FLOOR LEVEL.

24. FIRE SPRINKLERS:
NFPA 13R FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 13R AND CMI STANDARD SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.

25. ADDITIONAL FIRE CODE ALTERNATES:
TBD.

ENERGY NOTES

CLIMATIC ZONE: ZONE #4C-MARINE

THERMAL STANDARDS FOR OPENINGS: UNLIMITED OPTION

CODE: 2021 W.S.E.C. & 2021 IRC, WAC 51-11R

SPACE HEAT TYPE: ELECTRIC AIR SOURCE HEAT PUMP

PER WSEC R401.3: A CERTIFICATE IS REQUIRED TO BE POSTED IN AN APPROVED LOCATION. IT MUST INCLUDE THE FOLLOWING: PREDOMINANT R-VALUES, U-VALUES OF FENESTRATION, RESULTS FROM DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING, THE EFFICIENCIES OF HEATING/COOLING/WATER HEATING EQUIPMENT AND THE CODE EDITION UNDER WHICH THE STRUCTURE WAS PERMITTED.

AIR INFILTRATION: MANUFACTURED DOORS/WINDOWS CONFORM TO SECTION R402.4.2 OF THE WASHINGTON STATE ENERGY CODE

EXTERIOR JOINTS/OPENINGS: SEAL, CAULK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, OPENINGS AT PENETRATIONS OF UTILITY SERVICES AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE.

MOISTURE CONTROL: WALLS: VAPOR RETARDER BONDED TO BATT INSULATION; INSTALL WITH STAPLES NOT MORE THAN 8 INCHES ON CENTER AND WITH A GAP BETWEEN AND OVER FRAMING NOT GREATER THAN 1/16 OF AN INCH. OR, VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE).

ATTICS/CEILINGS: VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE); INSTALL CONTINUOUSLY.

CRAWL SPACE: 10 MIL POLYETHYLENE.

VENTILATION: ATTIC WITH LOOSE FILL: N.A. BAFFLE VENT OPENINGS TO DEFLECT AIR ABOVE INSULATION SURFACE. ENCLOSED JOIST OR RAFTER SPACES: PROVIDE MINIMUM OF ONE INCH CLEAR VENTED AIR SPACE ABOVE INSULATION. TAPER OR COMPRESS INSULATION AT PERIMETER TO INSURE PROPER VENTILATION, MAINTAINING MINIMUM OF R-38.

HEATING & COOLING: ELECTRIC AIR SOURCE HEAT PUMP.

TEMP. CONTROL: FOR HEATING AND COOLING, THERMOSTAT SHALL BE CAPABLE OF BEING SET

INSULATION VALUES: PRESCRIPTIVE METHOD

WALLS:	R-21+R-5 @ R-60
FLAT ATTICS/CEILINGS:	R-49
VAULTED CEILINGS:	R-38
FLOORS (OVER UNHEATED SPACES):	R-38
SLAB-ON-GRADE:	R-10

FROM 55-85 DEGREES FAHRENHEIT AND OF OPERATING THE HEATING/COOLING SYSTEM IN SEQUENCE. THERMOSTAT TO BE AUTOMATIC DAY/NIGHT SETBACK TYPE AND 7-DAY PROGRAMMABLE.

DUCT INSULATION: THERMALLY INSULATE ALL PLENUMS, DUCTS AND ENCLOSURES IN ACCORDANCE WITH SECTION R403.3 OF THE 2021 WSEC.

a. ALL HEATING DUCTS OUTSIDE THE BUILDING THERMAL ENVELOPE SHALL BE INSULATED WITH A MIN. OF R-8. ALL SEAM JOINTS SHALL BE TAPED, SEALED AND FASTENED WITH THE MINIMUM OF FASTENERS PER WSEC.

b. DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10 WITH INSULATION DESIGNED TO BE USED BELOW GRADE.

LIGHTING: RECESSED LIGHTING FIXTURES INSTALLED IN BUILDING ENVELOPE SHALL COMPLY WITH WSEC PROVISIONS AND SHALL BE IC LISTED. ALL PERMANENTLY INSTALLED LAMPS IN INTERIOR AND EXTERIOR LIGHTING FIXTURES, EXCLUDING KITCHEN APPLIANCE LIGHTING FIXTURES, MUST BE HIGH-EFFICIENCY LAMPS, PER 2021 WSEC R404.1, AND MUST BE CONTROLLED PER 2021 WSEC R404.2.

PIPE INSULATION: ALL HOT WATER PIPES AND NON-RECIRCULATING COLD WATER PIPES LOCATED IN UNCONDITIONED SPACE SHALL BE INSULATED TO R-6 MIN. PLUMBING OR MECHANICAL CANNOT DISPLACE THE REQUIRED INSULATION.

PLUMBING FIXTURES: ALL PLUMBING FIXTURES SHALL CONFORM TO WAC 51-56-0400
ALL TOILETS 1.28 GPM MAX URINALS 1.0 GPF MAX
SHOWERHEADS <1.8 GPM KITCHEN FAUCETS <1.8 GPM
LAVATORIES <1.2 GPM

WHOLE HOUSE VENTILATION

a. WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY ERV/HRV W/ INTEGRAL FANS, PROVIDING MIN. 150 CFM RUNNING CONTINUOUSLY PER 2021 IRC TABLE M505.4.3 (1)&(2). FAN SHALL BE LESS THAN .35 WATT PER CFM AND RUN CONTINUOUSLY, AND HAVE A SONE RATING OF LESS THAN 1.0. VENTILATION SHALL BE ABLE TO OPERATE INDEPENDENTLY OF HEATING SYSTEM.

b. SYSTEM SHALL HAVE A 9" SMOOTH FRESH AIR DUCT W/ DROUVER & SCREEN CONNECTED TO THE RETURN AIR STREAM 4' UPSTREAM OF THE AIR HANDLER AND SOUND INSULATED. ALL SUPPLY AND RETURN DUCTS IN INTERIOR SPACES SHALL ALSO BE INSULATED FOR SOUND.

c. SHALL HAVE A FILTER WITH A MERV OF AT LEAST 6 INSTALLED IN AN EASILY ACCESSIBLE LOCATION.

d. FRESH AIR VENT SHALL BE LOCATED AWAY FROM SOURCES OF ODORS OR FUMES, MIN 10' FROM PLUMBING OR APPLIANCE VENTS, AWAY FROM ROOMS W/ FUEL BURNING APPLIANCES, AND OUT OF ATTICS, CRAWL SPACES, AND GARAGES.

e. AIRFLOW FOR WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY UNDERCUTTING INTERIOR DOORS 1/2" ABOVE FINISHED FLOOR, TYP.

f. WHOLE HOUSE VENTILATION SHALL BE TESTED, BALANCED AND VERIFIED AND A WRITTEN REPORT SHALL BE POSTED AND PROVIDED THE BUILDING OFFICIAL AND CERTIFICATION COMPLETED PER WSEC R403.6.2.

g. AN EXHAUST FAN WHOLE HOUSE VENTILATION IS NOT ALLOWED WITH AN ERV SYSTEM.

BEDROOMS	5
HEATED SQUARE FOOTAGE	4718 SF
CFM = 0.01(4718 SF) + 7.5(+1 BEDROOMS)	
AIRFLOW (CFM)	93 CFM MIN.

PROJECT DATA

PROJECT ADDRESS: 4115 78TH AVE SE
MERCER ISLAND, WA 98040

PROPERTY TAX ID NUMBER: 362350-0210

SCOPE OF WORK: NEW TWO-STORY SINGLE FAMILY RESIDENCE OVER BASEMENT WITH ATTACHED TWO CAR GARAGE

ZONING: R-8.6

CONSTRUCTION TYPE: TYPE V B

SEISMIC ZONE: 3

NUMBER OF STORIES: 2 STORIES OVER BASEMENT

FIRE PROTECTION: -

BUILDING HEIGHT: 30 FT ABOVE AVERAGE BUILDING ELEV. (FLAT ROOF)
35 FT ABOVE AVERAGE BUILDING ELEV. (SLOPED ROOF)

GROSS LOT AREA: 9930 SF

NET LOT AREA: 9930 SF

SETBACKS: FRONT LOT LINE = 20 FT
REAR LOT LINE = 25 FT
SIDE LOT LINES = 15 FT, = 5 FT MIN.

GROSS FLOOR AREA: LESSER OF 40.0% LOT AREA OR 8,000 SF = 3972 SF

LEGAL DESCRIPTION

ISLAND PARK REPLAT OF LOT 11 MERCER ISLAND SHORT SUBDIVISION NO. SUB0010-003 REC NUMBER 200207199000011 - SD SHORT SUBDIVISION DAF - THAT POR OF TRACT 16 REPLAT OF ISLAND PARK LY NELY OF WEST MERCER WAY LESS THE FOLG DESC TRACT BEG AT NELY COR OF SD TRACT TH S 42-09-00 E ALG NE LN TH OF A DIST OF 12.56 FT TH S 47-51-00 W 105.51 FT TO NELY LN OF WEST MERCER WAY TH NWLY ALG SD NELY LN TO NORTH LN OF SD TRACT 16 TH EAST ALG SD NORTH LN TO POB AND LESS THAT POR OF SELY 10.00 FT OF SD PREMISES IF ANY LY WITHIN COUNTY RD Plat Book: 16

BASEMENT EXCLUSION

SCALE: 1" = 20'

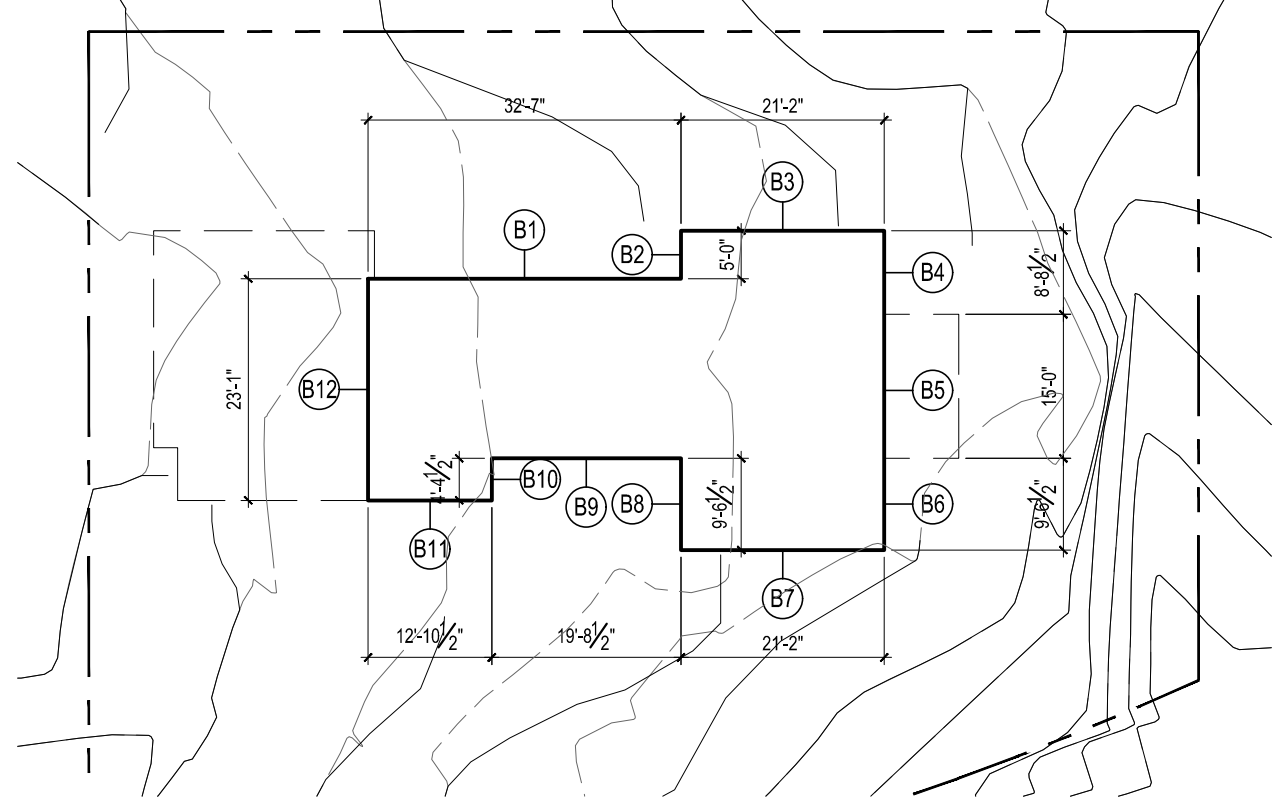
BASEMENT EXCLUSION CALCULATION			
BASEMENT AREA = 1370 SF			
	LENGTH	COVERAGE	RESULT
B1	32.58	0.99	32.2542
B2	5	0.89	4.45
B3	31.167	0.83	25.66961
B4	8.71	0.24	2.0904
B5	15	0.66	9.9
B6	9.54	0.45	4.293
B7	21.167	0.79	16.72193
B8	9.54	0.88	8.3952
B9	19.71	0.97	19.1187
B10	4.375	1	4.375
B11	12.875	1	12.875
B12	23.08	1	23.08
TOTAL	192.744		163.42204

Portion of excluded Basement Floor Area = X SF

1,370.00	X	163.42204	
		192.744	
1,370.00	X	0.85	

1164.5 SF EXCLUDED

BASEMENT AREA = 205.5 SF



THE MERCER ISLAND DEVELOPMENT CODE EXCLUDES THAT PORTION OF THE BASEMENT FLOOR AREA FROM THE GROSS FLOOR AREA WHICH IS BELOW THE EXISTING OR FINISHED GRADE, WHICHEVER IS LOWER, THAT PORTION OF THE BASEMENT WHICH WILL BE EXCLUDED IS CALCULATED AS SHOWN.

AVERAGE BUILDING ELEV.

SCALE: 1" = 20'

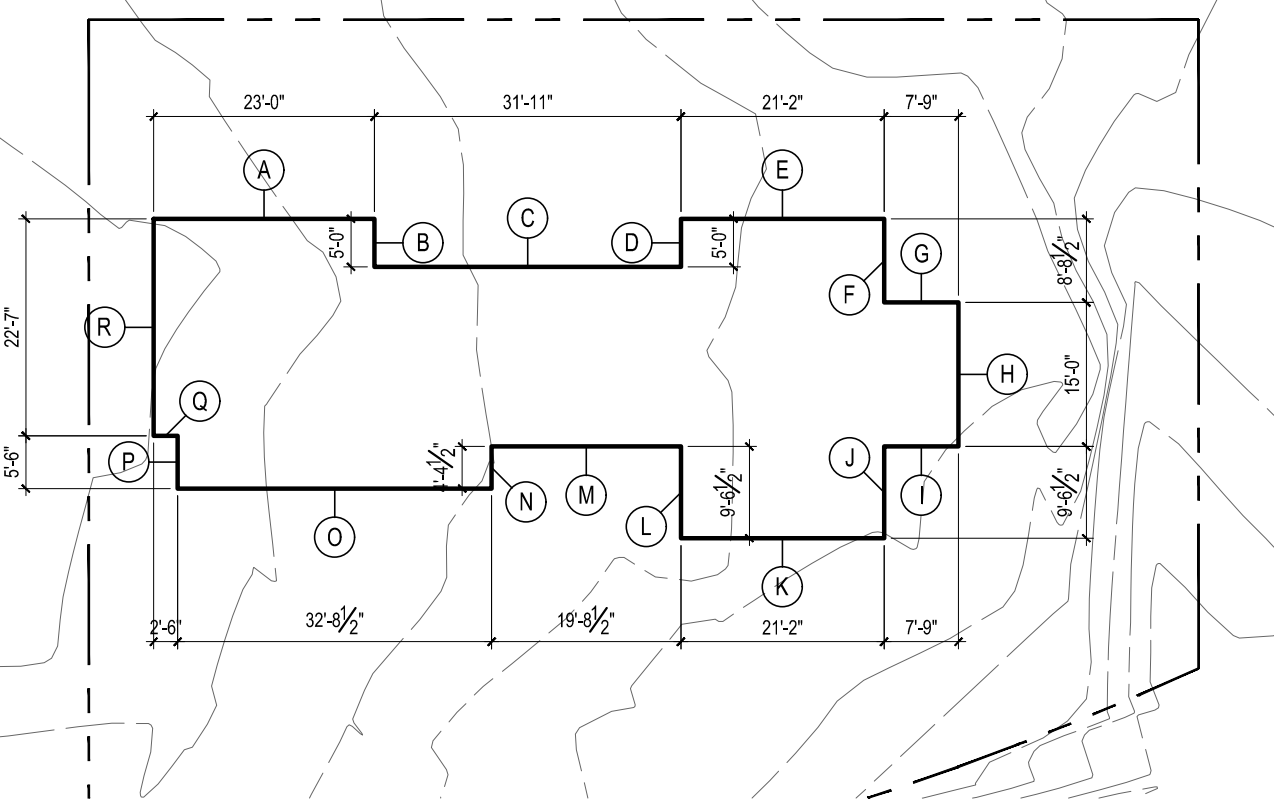
AVERAGE BUILDING ELEVATION			
	Wall Length	Elevation Pt.	Wall Length X Elev. Pt.
A	23	176.5	4059.5
B	5	175.0	875
C	32.67	173.5	5668.245
D	5	172.5	862.5
E	20.92	171.8	3593.01
F	9.46	171.0	1617.66
G	7.75	171.0	1325.25
H	15	170.5	2557.5
I	7.75	170.0	1317.5
J	8.875	170.5	1513.1875
K	20.92	171.0	3577.32
L	9.375	172.5	1617.1875
M	19.71	173.0	3409.83
N	3.625	174.0	630.75
O	33.46	175.0	5855.5
P	4.25	177.5	754.375
Q	2.5	177.5	443.75
R	23.33	178.5	4164.405
TOTAL	252.895	3121.3	43842.47

43842.47 / 252.895 = 173.37

Average Building Elevation

252.895 / 203.57 = 1.242

Building Height Limit



NET LOT AREA 9930 SF
ALLOWED MAX. % GFA COVERAGE 40.0% OR 8,000 SF
ALLOWED GROSS FLOOR AREA 3972 SF
+5% ADU ALLOWANCE MAX. 496.6 SF
TOTAL ALLOWED GROSS FLOOR AREA 4468.6 SF OR 45%
TOTAL PROPOSED GROSS FLOOR AREA: 4102.2 SF OR 41.3%

PROJECT TEAM

OWNER: RKK CONSTRUCTION INC
3656 70TH AVE SE
MERCER ISLAND, WA 98040
PHONE: 206.730.1237
CONTACT: JASON KOEHLER

ARCHITECT: STURMAN ARCHITECTS
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CONTACT: STEVE AVRIL

ARBORIST: SUPERIOR NW ENTERPRISES
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WOODVILLE, WA 98072
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CONTACT: ANTHONY MORAN

TREE PROTECTION

A TREE PROTECTION INSPECTION IS REQUIRED BEFORE START OF WORK

SHEET INDEX

A1.0 COVER SHEET - GENERAL & ENERGY NOTES, LEGAL, PROJECT DATA, SITE CALCS, SITE PLAN
A1.1 FULL SITE PLAN
A1.2 EXCAVATION, TREE REPLACEMENT PLAN
A1.3 SURVEY
A1.4

C1.0 TESC PLAN & TREE RETENTION PLAN
C1.2 TESC & CITY NOTES, TESC DETAILS
C2.0 DRAINAGE & CIVIL PLAN
C3.5 STORMWATER DETAILS
C4.0 DETENTION PROFILE & DETAILS

A2.0 LOWER FLOOR PLAN
A2.1 MAIN FLOOR PLAN
A2.2 UPPER FLOOR
A2.3 ROOF PLAN
A3.0 EXTERIOR ELEVATIONS
A3.1 EXTERIOR ELEVATIONS
A4.0 BUILDING SECTIONS
A4.1 BUILDING SECTIONS
A5.0 WALL SECTIONS
A6.0 DOOR & WINDOW SCHEDULES ARCHITECTURAL DETAILS

S1 STRUCTURAL GENERAL NOTES
S2 FOUNDATION PLAN
S3 MAIN FLOOR FRAMING PLAN
S4 UPPER FLOOR FRAMING PLAN
S5 ROOF FRAMING PLAN
S6 STRUCTURAL DETAILS
S7 STRUCTURAL DETAILS

2021 WSEC CREDITS

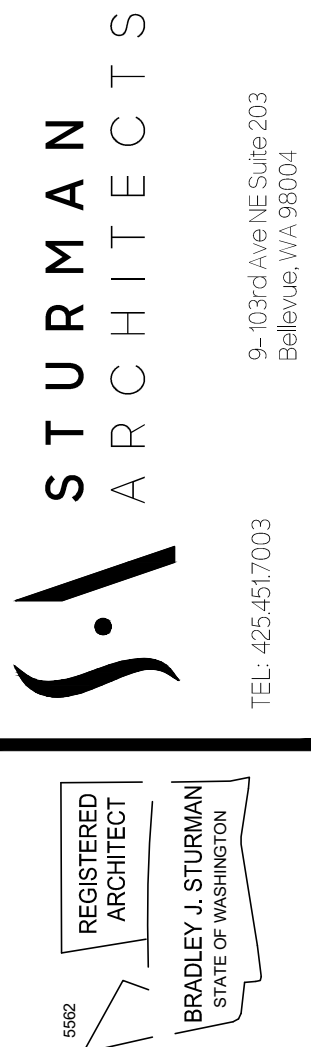
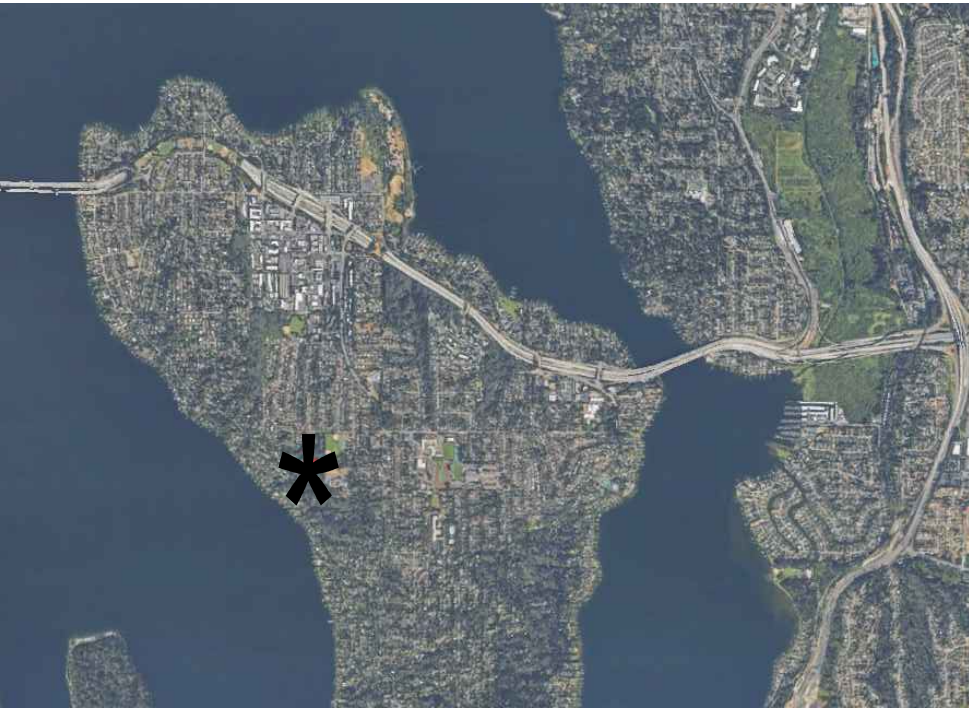
CREDITS REQUIRED:
PROJECT IS NEW CONSTRUCTION WITH A HEATED AREA OF MORE THAN 1,500 SF AND LESS THAN 5,000 SF, THEREFORE IT IS A MEDIUM DWELLING UNIT AND 8.0 CREDITS ARE REQUIRED.

ENERGY EQUALIZATION CREDITS

OPTION	CREDITS	DESCRIPTION
4	3.0	
4	3.0	-HEAT PUMP EFFICIENCY (AIR COOLED) 14.3 SEER2, HSPF2 8.5
2.2	1.5	-REDUCE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAX. AT 50 PASCALS -WHOLE HOUSE VENTILATION REQS MET W/ HEAT RECOVERY SYSTEM W/ MIN. EFFICIENCY OF 0.75, MIN. 150 CFM
3.3	0.5	-AIR SOURCE, CENTRALLY DUCTED HEAT PUMP W/ MIN. HSPF OF 9.5, HSPF2 8.1
3.11	0.5	-CONNECTED THERMOSTAT MEETING ENERGY STAR CERTIFIED SMART THERMOSTATS/EPA ENERGY STAR SPECIFICATIONS.
4.1	0.5	-HVAC EQUIP. & AND ITS DUCT SYSTEM INSTALLATION SHALL COMPLY W/ R403.3.2 ALL EQUIP. & DUCTS SHALL BE IN CONDITIONED SPACE, W/ CONTINUOUS AIR BARRIER & BUILDING THERMAL ENVELOPE.
5.6	2.0	-ELECTRIC HEAT PUMP WATER HEATER MEETING TIER 3 OF NECA
TOTAL CREDITS		8

*PLEASE NOTE: ALL APPLIANCES SHALL BE INSTALLED WITH SUPPORTING DOCUMENTATION ON SITE PRIOR TO FINAL INSPECTION.

VICINITY MAP



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RKK SPEC HOUSE PERMIT SET
4115 78TH AVE SE
MERCER ISLAND, WA 98040

SITE PLAN

REVISIONS:
PLOT DATE: 7/31/2025
DRAWN BY: KE
CHECKED BY: BJS
SHEET

A1.0

DUTY OF COOP.

RELEASE AND ACCEPTANCE OF THESE DOCUMENTS INDICATES COOPERATION AMONG THE OWNER, CONTRACTOR, AND STURMAN ARCHITECTS. ANY ERRORS, OMISSIONS, OR DISCREPANCIES DISCOVERED IN THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO STURMAN ARCHITECTS. FAILURE TO DO SO WILL RELIEVE STURMAN ARCHITECTS FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES.

ANY DEVIATION FROM THESE DOCUMENTS WITHOUT THE CONSENT OF STURMAN ARCHITECTS IS UNAUTHORIZED. FAILURE TO OBSERVE THESE PROCEDURES SHALL RELIEVE STURMAN ARCHITECTS OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING FROM SUCH ACTIONS.

NOXIOUS WEEDS

DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION 19.02.020(F)(3)(A). NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.

GROSS FLOOR AREA

FLOOR AREA	LOWER FLOOR	MAIN FLOOR	UPPER FLOOR	GARAGE	TOTAL GFA	% GFA
FLOOR AREA	1370 SF	1495 SF	1861 SF	608 SF	5254 SF	
BASEMENT EXCLUSION	-1150.8 SF				-1150.8 SF	
STAR EXCLUSION			-81.0 SF		-81.0 SF	
12-16" CEILING			+80.0 SF		+80.0 SF	
16" CEILING				+80.0 SF	+80.0 SF	
TOTAL GFA					4102.2 SF	41.3% SF

PER 19.02.020(D)(3)(b) IF AN ACCESSORY DWELLING UNIT IS PROPOSED, THE PERCENT ALLOWED GROSS FLOOR AREA MAY BE INCREASED BY THE LESSER OF FIVE PERCENTAGE POINTS OR THE ACTUAL FLOOR AREA OF THE PROPOSED ACCESSORY DWELLING UNIT, PROVIDED:

I. THE ALLOWED GROSS FLOOR AREA OF ACCESSORY BUILDINGS THAT ARE NOT PARTIALLY OR ENTIRELY USED FOR AN ACCESSORY DWELLING UNIT SHALL NOT BE INCREASED THROUGH THE USE OF THIS PROVISION;

II. THE LOT WILL CONTAIN AN ACCESSORY DWELLING UNIT ASSOCIATED WITH THE APPLICATION FOR A NEW OR REMODELED SINGLE-FAMILY HOME; AND

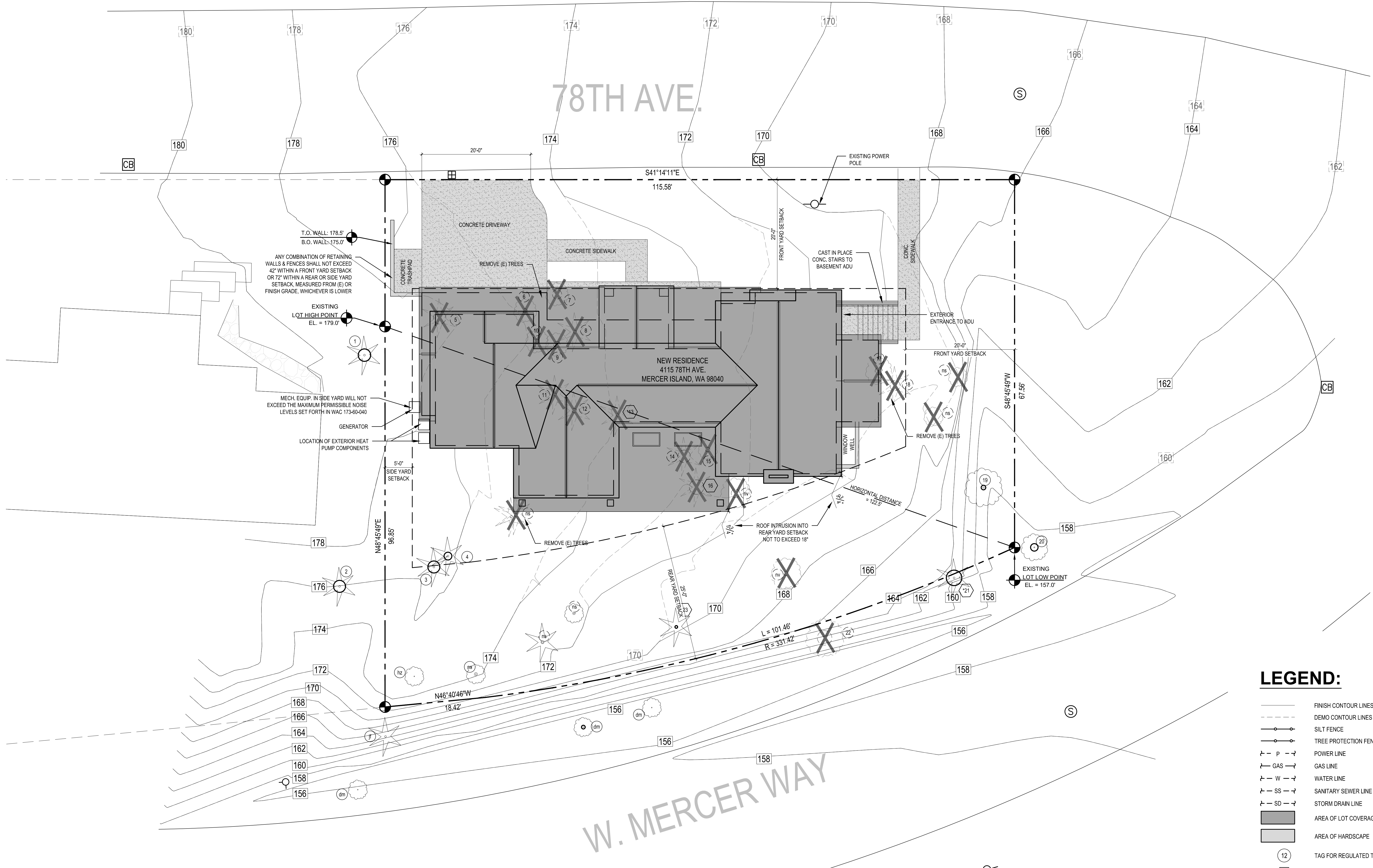
III. THE TOTAL GROSS FLOOR AREA SHALL NOT EXCEED 4,500 SQUARE FEET OR 45 PERCENT OF THE LOT AREA, WHICHEVER IS LESS.

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
PERMIT SET 07/31/2025

REVISIONS:

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PLOT DATE: 7/31/2025
 DRAWN BY: KE
 CHECKED BY: BJS
 SHEET



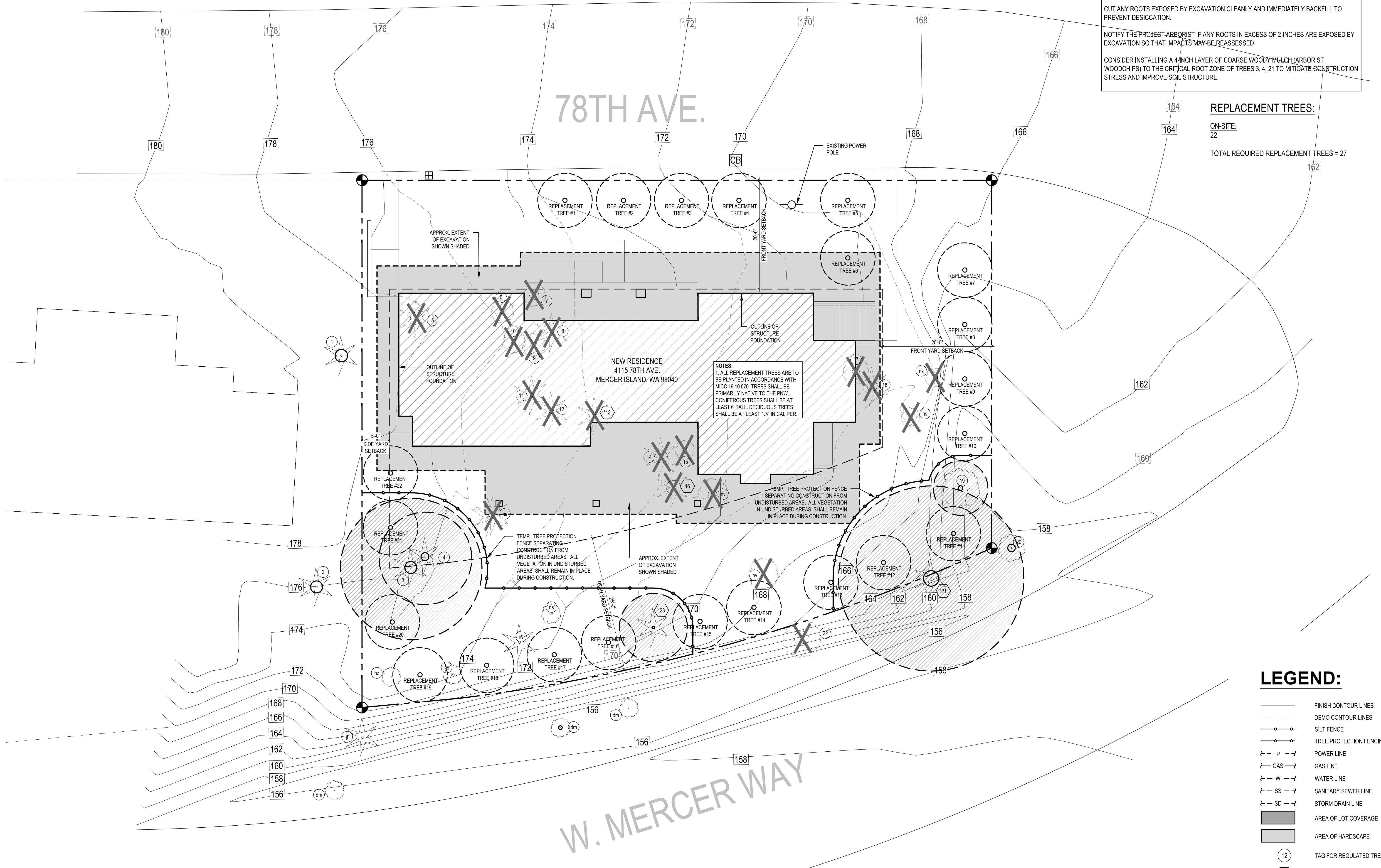
- LEGEND:**
- FINISH CONTOUR LINES
 - - - DEMO CONTOUR LINES
 - SILT FENCE
 - TREE PROTECTION FENCING
 - P — POWER LINE
 - GAS — GAS LINE
 - W — WATER LINE
 - SS — SANITARY SEWER LINE
 - SD — STORM DRAIN LINE
 - AREA OF LOT COVERAGE
 - AREA OF HARDSCAPE
 - 12 TAG FOR REGULATED TREE
 - 13 TAG FOR EXCEPTIONAL TREE

SITE PLAN
 SCALE: 1/16" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025

TREE PROTECTION RECOMMENDATIONS:
 INSTALL TREE PROTECTION FENCING CONSISTING OF 6-FOOT-TALL CHAIN-LINK FENCING AT THE PROPOSED LIMITS OF EXCAVATION.
 CUT ANY ROOTS EXPOSED BY EXCAVATION CLEANLY AND IMMEDIATELY BACKFILL TO PREVENT DESICCATION.
 NOTIFY THE PROJECT ARBORIST IF ANY ROOTS IN EXCESS OF 2-INCHES ARE EXPOSED BY EXCAVATION SO THAT IMPACTS MAY BE REASSESSED.
 CONSIDER INSTALLING A 4-INCH LAYER OF COARSE WOODY MULCH (ARBORIST WOODCHIPS) TO THE CRITICAL ROOT ZONE OF TREES 3, 4, 21 TO MITIGATE CONSTRUCTION STRESS AND IMPROVE SOIL STRUCTURE.

REPLACEMENT TREES:
 ON-SITE: 22
 TOTAL REQUIRED REPLACEMENT TREES = 27



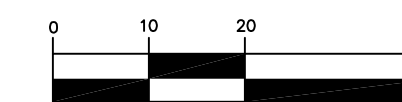
NOTES:
 1. ALL REPLACEMENT TREES ARE TO BE PLANTED IN ACCORDANCE WITH MCCC 19.10.070. TREES SHALL BE PRIMARILY NATIVE TO THE PNW. CONIFEROUS TREES SHALL BE AT LEAST 6' TALL. DECIDUOUS TREES SHALL BE AT LEAST 1.5" IN CALIPER.

- LEGEND:**
- FINISH CONTOUR LINES
 - - - DEMO CONTOUR LINES
 - SILT FENCE
 - TREE PROTECTION FENCING
 - P - POWER LINE
 - GAS - GAS LINE
 - W - WATER LINE
 - SS - SANITARY SEWER LINE
 - SD - STORM DRAIN LINE
 - AREA OF LOT COVERAGE
 - AREA OF HARDSCAPE
 - ⊙ TAG FOR REGULATED TREE
 - ⊙ TAG FOR EXCEPTIONAL TREE

EXCAVATION & REPLACEMENT TREE PLAN
 SCALE: 1/8" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.



JASON R KOEHLER
LOT SURVEY
TOPOGRAPHIC SURVEY
KING COUNTY
WASHINGTON

LOT 18
TAX LOT NO.
#283710-0012

REPLAT OF ISLAND PARK
VOL. 13 PG. 58
BLOCK 16

RIM=191.80'
SW 12" STEEL IE=177.97'
NW 12" STEEL IE=178.27'

LOT 2
TAX LOT NO.
#362350-0200

RIM=180.79'
N 6° P.V.C IE=177.98'
E 8° P.V.C IE=178.01'
W 6° P.V.C IE=178.90'
NW 4° P.V.C IE=177.72'

LOT 1
TAX LOT NO.
#362350-0210

W MERCER WAY

LEGEND:

- FOUND 1/4 CORNER, AS SHOWN
- FOUND MONUMENT, AS SHOWN
- ⊕ CALC. POS. OF PLAT/RECORD MON.
- ⊗ CALC. RECORD REBAR
- FOUND REBAR/PIPE, AS SHOWN
- FOUND CRONES REBAR (SET 05/2012)
- SET 5/8" REBAR & CAP, LS 29537
- ⊠ FOUND 2X2 WOOD LINE STAKE
- ⊕ INDICATES CENTERLINE
- ✦ INDICATES SITE BENCHMARK USED
- (C) INDICATES CALCULATED VALUE
- (P) INDICATES VALUE OF RECORD PER PLAT (52/36)
- TBM TEMPORARY SITE BENCHMARK
- R/W RIGHT OF WAY
- E/P EDGE OF PAVEMENT
- CB CATCH BASIN
- ⊕ FIRE HYDRANT
- POWER POLE
- SANITARY SEWER MANHOLE
- TREE
- ⊠ WATER METER

TREE TABLE

T#	TREE	DBH	D/L
T1	PINE	29"	17'
T2	PINE	29"	16'
T3	MAPLE	11"	9'
T4	MAPLE	9"	14'
T5	MAPLE	10"	10'
T6	MAPLE	8"	12'
T7	PINE	7"	6'
T8	PINE	8"	9'
T9	PINE	11"	13'
T10	PINE	27"	17'
T11	PINE	33"	25'
T12	BIRCH	19"	7'
T13	MAPLE	9"	20'
T14	PINE	24"	22'
T15	CEDAR	22"	19'
T16	PINE	6"	7'
T17	PINE	7"	10'
T18	MAPLE	7"	12'
T19	PINE	7"	9'
T20	BIRCH	6"	5'
T21	MAPLE	8"	12'
T22	PINE	6"	5'
T23	MAPLE	9"	21'
T24	MAPLE	24"	25'
T25	PINE	27"	18'
T26	MAPLE	14"	20'
T27	MAPLE	7"	10'
T28	MAPLE	10"	17'
T29	PINE	25"	30'
T30	MAPLE	15"	20'
T31	CONIFEROUS	-	-
T32	DECIDUOUS	-	-
T33	CONIFEROUS	-	-
T34	DECIDUOUS	-	-

VERTICAL DATUM:

THE ELEVATIONS AND CONTOURS SHOWN HEREON ARE BASED UPON WGS SURVEY DATA WAREHOUSE DESIGNATION 504, CITY OF MERCER ISLAND BENCHMARK (DATABASE ID: 47744) ELEVATION = 193.40' NAVD88.

SET AN ONSITE TEMPORARY BENCHMARK: PK NAIL IN PAVEMENT, ELEVATION = 171.01 FEET.

CONTOUR INTERVAL: 2 FOOT.

SITE ADDRESS:
4115 78TH AVE. SE, MERCER
ISLAND, WA 98040

LEGAL DESCRIPTION:
LOT 1, CITY OF MERCER ISLAND SHORT SUBDIVISION NO. SUB0010-003, AS PER SHORT PLAT RECORDED JULY 19, 2002 UNDER RECORDING NO. 2002071990001, IN KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS MAP IS BETWEEN TWO FOUND MONUMENTS, ALONG THE CENTERLINE OF SE 40TH ST., BEARING N90°00'00"E, AS SHOWN.

NOTES:

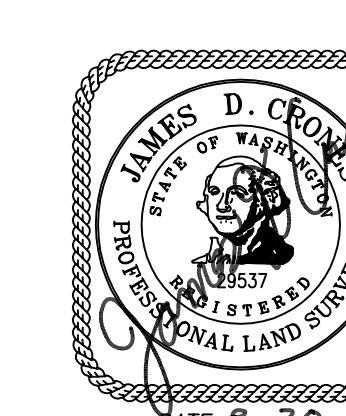
FIELD MEASUREMENTS FOR THIS SURVEY PERFORMED WITH A 2" TOPCON TOTAL STATION USING TRAVERSE METHODS THAT MEET OR EXCEED ACCURACY REQUIREMENTS CONTAINED IN WAC 332.130.090.
THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THEREFORE DOES NOT PURPORT TO SHOW ALL EASEMENTS OR RESTRICTIONS OF RECORD, IF ANY. THE BOUNDARY CORNERS AND LINES DEPICTED ON THIS MAP ARE PER RECORD TITLE INFORMATION AND REPRESENT DEED LINES ONLY. THEY DO NOT PURPORT TO SHOW OWNERSHIP LINES THAT MAY OTHERWISE BE DETERMINED BY A COURT OF LAW.
THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT NAMED HEREIN, TO BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS ORIGINALLY INTENDED. ITS USE DOES NOT EXTEND TO, AND IS NOT AUTHORIZED FOR USE BY ANY UNNAMED PERSON OR PERSONS. THIS SURVEY IS NOT TRANSFERABLE TO ANY OTHER PARTY WITHOUT THE EXPRESS PERMISSION AND RECERTIFICATION BY THIS SURVEYOR TO ANOTHER PARTY.
ALL FOUND SURVEY EVIDENCE WAS VISITED ON THE DATE OF THIS SURVEY UNLESS OTHERWISE NOTED.
COPYRIGHT BY CRONES SURVEYING, INC.

RIM=170.49'
NE 12" STEEL IE=161.84'
SE 12" STEEL IE=161.80'
W 12" STEEL IE=161.84'

SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION, AT THE REQUEST OF JASON R KOEHLER, IN JULY, 2024.

James D. Crones
DATE: 8-20-24



Revisions

Drawing Date: AUGUST 20/2024
Scale: 1" = 20'
Surveyed: JL/SL/GK/SC
Drawn: SAM
Checked: JDC
Filename: KOEHU-02A-TOPO

SHEET
1 of 1

SANITARY SEWER IMPROVEMENTS

- 1 -
- 2 - 4" SS ON PRIVATE PROPERTY. SDR 35 PVC SANITARY SEWER(SS) @ MIN 1.0 %
- 3 -
- 4 - 6" SEWER CLEANOUT PER MERCER ISLAND DETAIL S-19
- 7 - LOCATE AND VIDEO CONDITION OF EXISTING SANITARY SIDE SEWER. REPLACE LINE IF FOUND DEFECTIVE AS DETERMINED BY CITY INSPECTOR.

WATER IMPROVEMENTS

- 10 - RESIDENTIAL 1" WATER SERVICE & METER PIT. CONFIRM REQUIRED SIZE WITH BUILDING PERMIT REVIEW. INSTALL PER MERCER ISLAND DETAIL W-13, W-14, OR W-14A
- 11 - 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 PIPE KEY NOTES

- 20 - 4" STORM DRAIN (3034 PVC) @ MIN 1% GRADE. USE HDPE DUAL WALL OR EQUIVALENT WHEN PIPE COVER <24" IN PAVED AREAS.
- 21 - 4" FOUNDATION DRAIN (3034 PVC) @ MIN 1% GRADE
- 22 - 6" STORM DRAIN (3034 PVC) @ MIN 2% GRADE. USE HDPE DUAL WALL OR EQUIVALENT WHEN PIPE COVER <24" IN PAVED AREAS.
- 23 -
- 24 - 12" STORM DRAIN (SDR 35 PVC; OR HDPE N12; OR EQUAL).
- 25 -

STORM STRUCTURE KEY NOTES

- 30 - TYPE 1 CB WITH STANDARD GRATE. MAX 5' RIM TO FL DEPTH. PROVIDE RISOR WITH TURNED-DOWN ELBOW FOR IMPROVED WATER QUALITY FUNCTION.
- 31 -
- 32 -
- 33 -
- 34 -
- 35 -
- 36 - 6" WIDE NDS DURASLOPE CHANNEL DRAIN KIT OR EQUAL. CLASS B VEHICLE RATED GRATE.
- 38A -
- 37 - PRIVATE STORM CLEANOUT. PROVIDE PROTECTIVE COVER IF WARRANTED.
- 39 - SADDLE-TEE CONNECTION: ROMAC CB SEWER SADDLE (OR EQUAL)
- 40 - TYPE 40 PRIVATE CATCH BASIN OR EQUAL. PROVIDE RISOR WITH TURNED-DOWN ELBOW FOR IMPROVED WATER QUALITY FUNCTION.
- 41 - 54" ID TYPE 2 MH CONTROL STRUCTURE WITH SOLID LID. SEE ALL DETAILS AND PROFILE C4.0.
- 43 -
- 46 -
- 47 - DETENTION PIPE: DUAL WALL HDPE OR ALUMINIZED CMP @ 0.5 % GRADE. SEE PLAN FOR SIZE AND CONFIGURATION. SEE PROFILE, NOTES, AND DETAILS ON C4.0.
- 48 -

STORM BMP's

- 50 - COMPOST AMENDED SOIL TO ALL DISTURBED AREAS (SEE DETAIL SHEET C3.5). TILL 2-3" OF COMPOST INTO UPPER 8" OF SOIL. LOOSEN COMPACTED SUBSOIL, IF NEEDED BY RIPPING TO 12" DEPTH. MULCH LANDSCAPE BEDS AFTER PLANTING.
- 51 -
- 52 -
- 53 -
- 54 -
- 55 -
- 56 -
- 57 -
- 58 -

SOILS

SEE NOV. 2024 REPORT BY EARTH SOLUTIONS NW
SITE UNDERLAIN BY GLACIAL TILL
INFILTRATION IS NOT RECOMMENDED

SURVEYOR

TOPOGRAPHIC SURVEY BY:
CRONES LAND SURVEYING
23806 190th AVENUE SE
KENT, WA 98042
PHONE 425-432-5930
www.crones.com

VERTICAL DATUM

SEE SURVEY

LEGAL DESCRIPTION

SEE C1.0

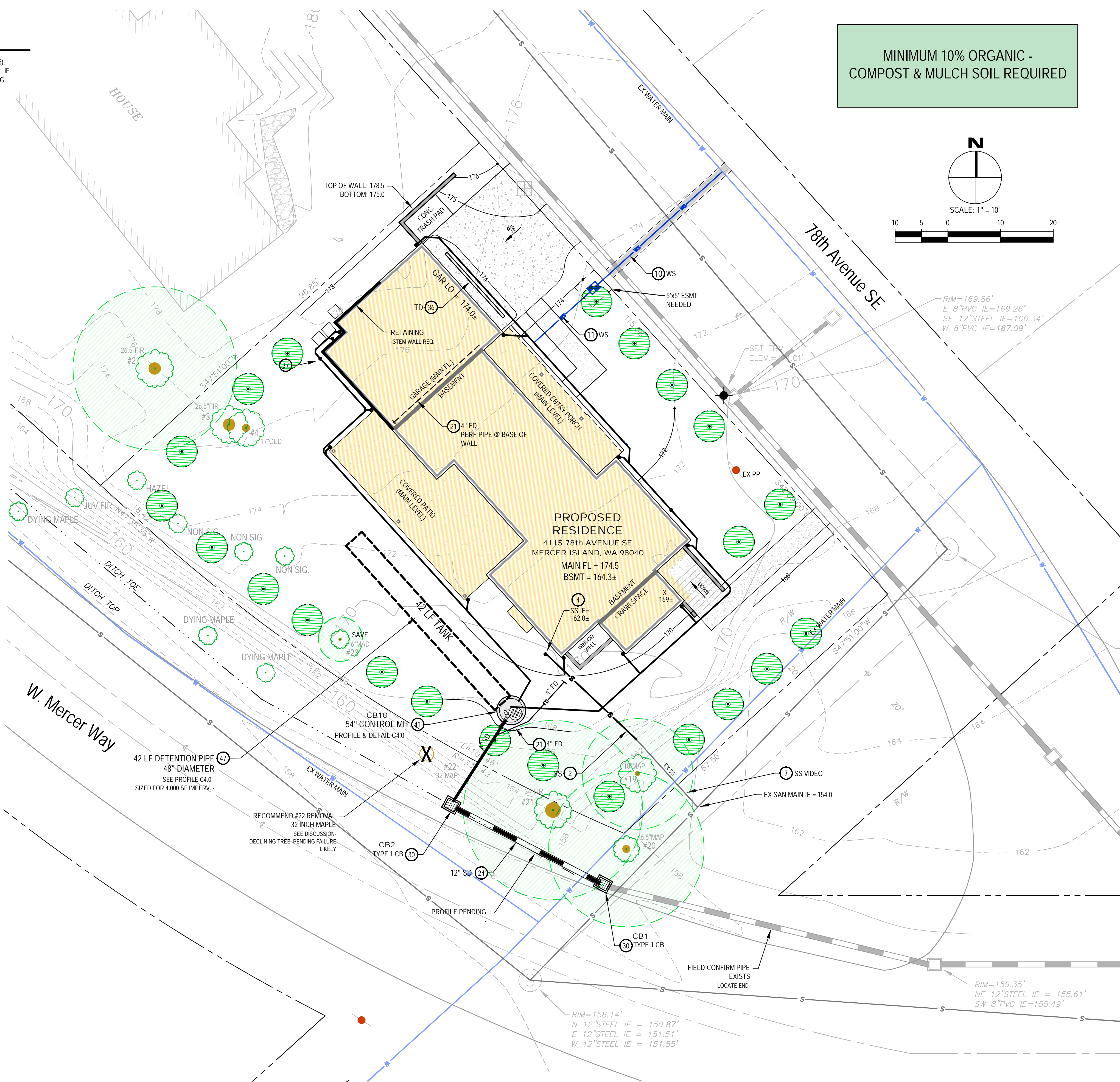
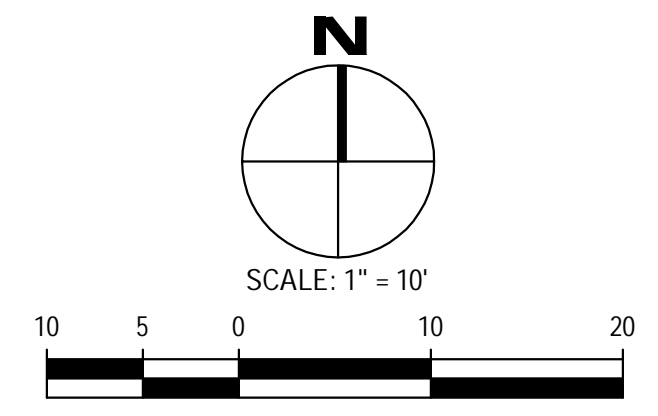
SOIL AMENDMENT REQUIRED

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

SOIL CERTIFICATION REQUIRED

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

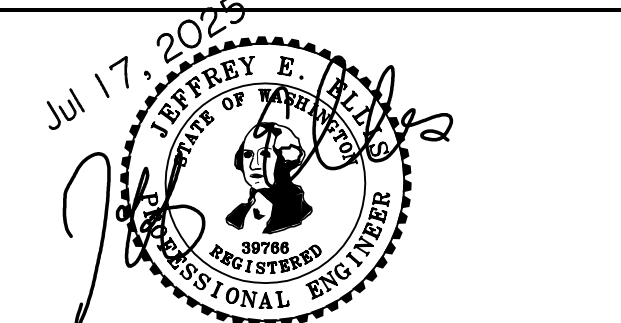
MINIMUM 10% ORGANIC -
COMPOST & MULCH SOIL REQUIRED



NO.	DATE	BY	REVISIONS

APPLICANT
JASON KOEHLER
RKK CONSTRUCTION
3056 70th AVENUE SE
MERCER ISLAND, WA 98040
206-236-2920

DATE: Jul 17, 2025
JOB#: 2117
DRAFTED: DE DESIGN: DE
DIGITAL SIGNATURE



CIVIL ENGINEERING SOLUTIONS
701 N 36TH STREET SEATTLE, WA 98103
206.930.0342 DUFFY@CESOLUTIONS.US

DRAINAGE / CIVIL PLAN
RKK HOUSE
4115 78th AVE SE, MERCER ISLAND, WA 98040

DRAWING NO:
C2.0
APN 362350-0210

MINIMUM 10% ORGANIC -
COMPOST SOIL REQUIRED

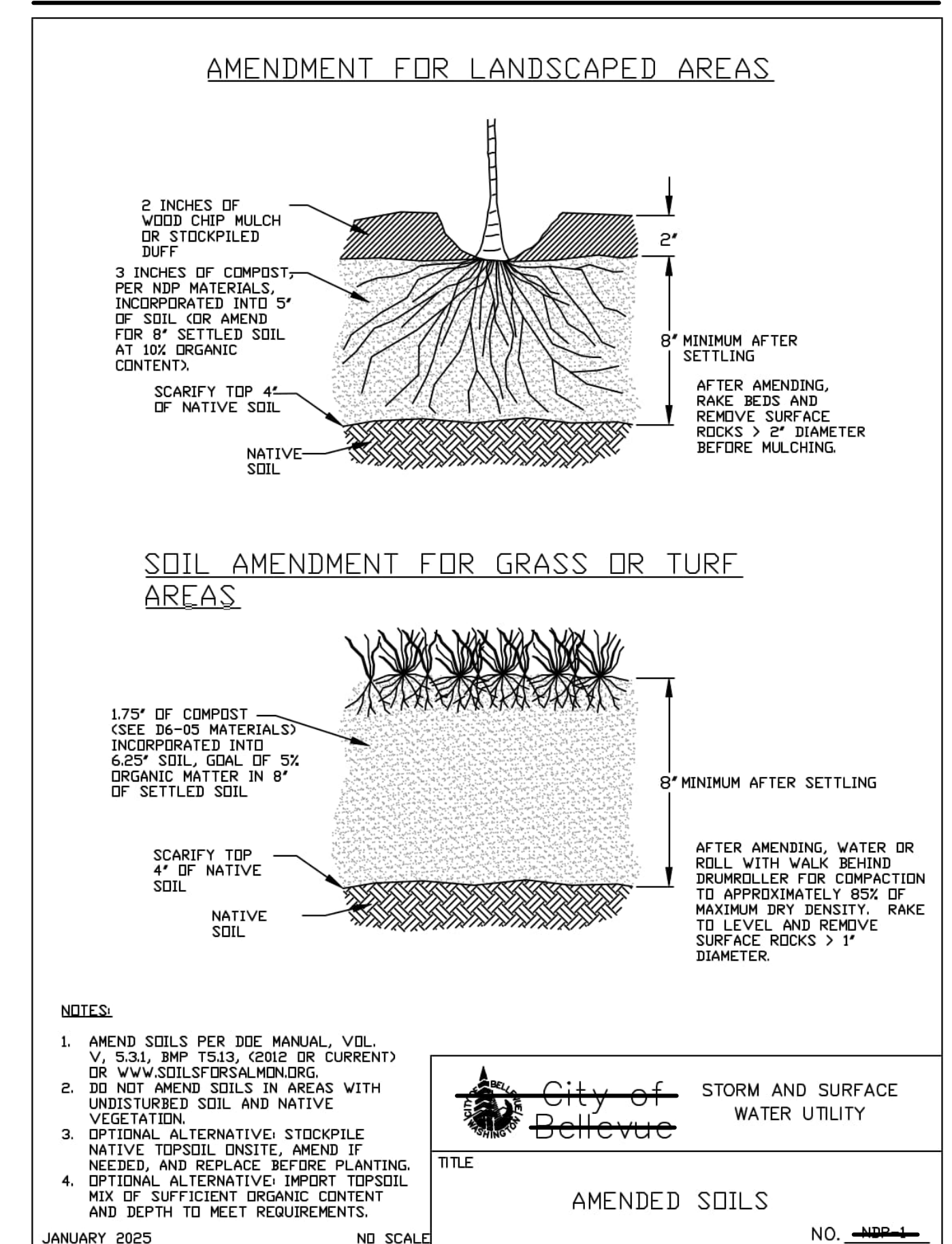
SOIL AMENDMENT REQUIRED

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

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.

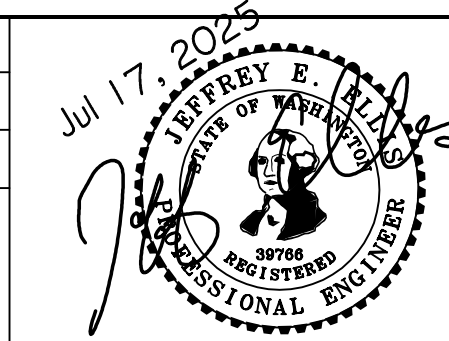
COMPOST AMENDED SOIL SPEC



NO.	DATE	BY	REVISIONS

APPLICANT
 JASON KOEHLER
 RKK CONSTRUCTION
 3056 70th AVENUE SE
 MERCER ISLAND, WA 98040
 206-236-2920

DATE: Jul 17, 2025
 JOB# 2117
 DRAFTED: SS DESIGN: SS
 DIGITAL SIGNATURE



CIVIL ENGINEERING SOLUTIONS
 701 N 36TH STREET SEATTLE, WA 98103
 206.930.0342 DUFFY@CESOLUTIONS.WA

STORMWATER BMP DETAILS
 RKK HOUSE
 4115 78th AVE SE, MERCER ISLAND, WA 98040

DRAWING NO:
C3.5
 APN 362350-0210

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) ⁽¹⁾		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
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	1.6
	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"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf ⁽²⁾	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
8,501 to 9,000 sf	36"	NA ⁽³⁾	164	0.5	0.5	NA ⁽³⁾	2.2	NA ⁽³⁾	1.9
	48"	NA ⁽³⁾	89	0.5	0.5	NA ⁽³⁾	2.9	NA ⁽³⁾	1.9
	60"	NA ⁽³⁾	55	0.5	0.5	NA ⁽³⁾	3.6	NA ⁽³⁾	1.7
9,001 to 9,500 sf ⁽²⁾	36"	NA ⁽³⁾	174	0.5	0.5	NA ⁽³⁾	2.2	NA ⁽³⁾	2.1
	48"	NA ⁽³⁾	94	0.5	0.5	NA ⁽³⁾	2.9	NA ⁽³⁾	2.0
	60"	NA ⁽³⁾	58	0.5	0.5	NA ⁽³⁾	3.7	NA ⁽³⁾	1.7

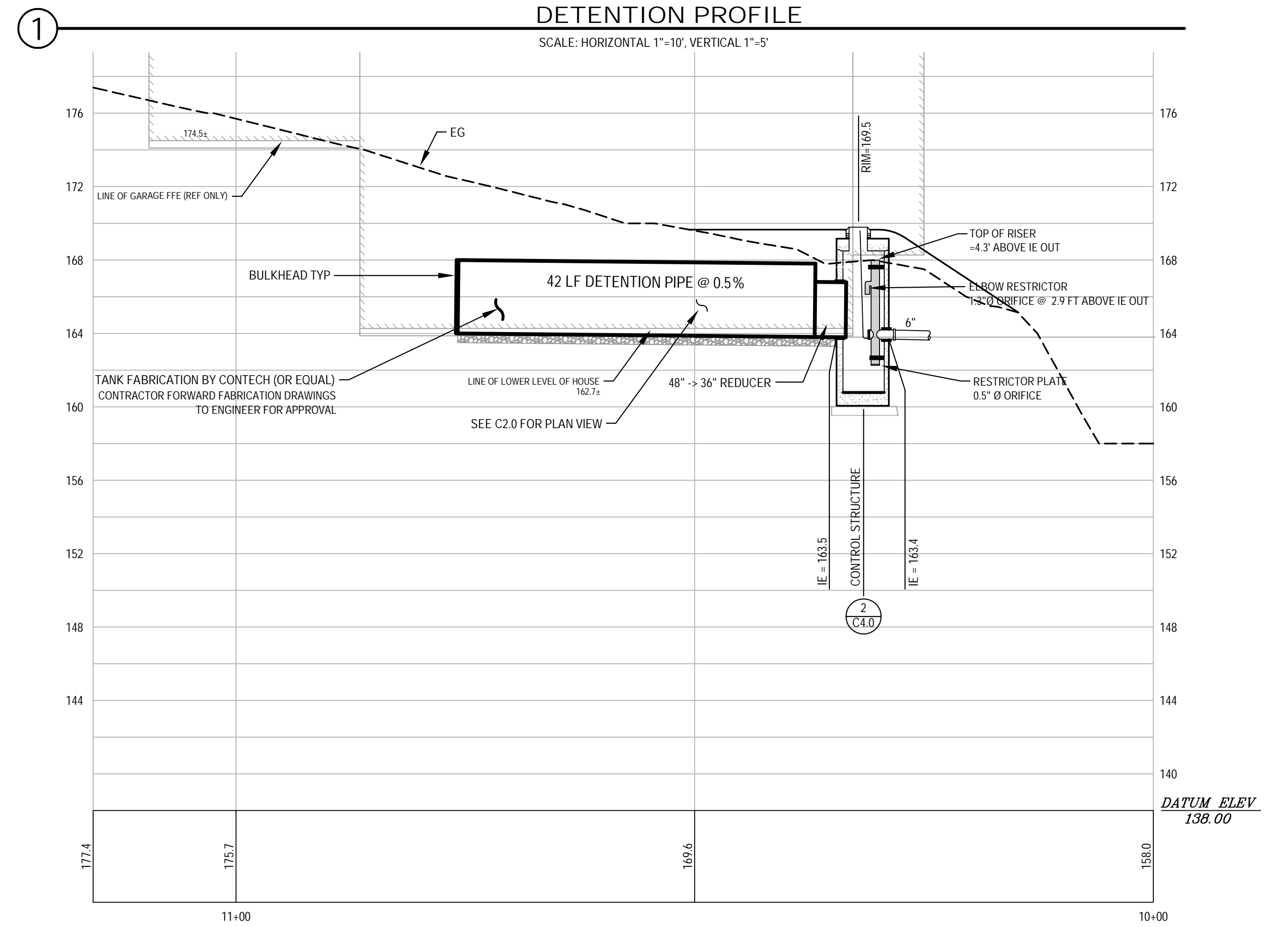
Notes:

- 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.
- ⁽¹⁾ On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)
- ⁽²⁾ On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)
- ⁽³⁾ Minimum orifice diameter = 0.5 inches

Basis of Sizing Assumptions:

- Sized per MR#5 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%

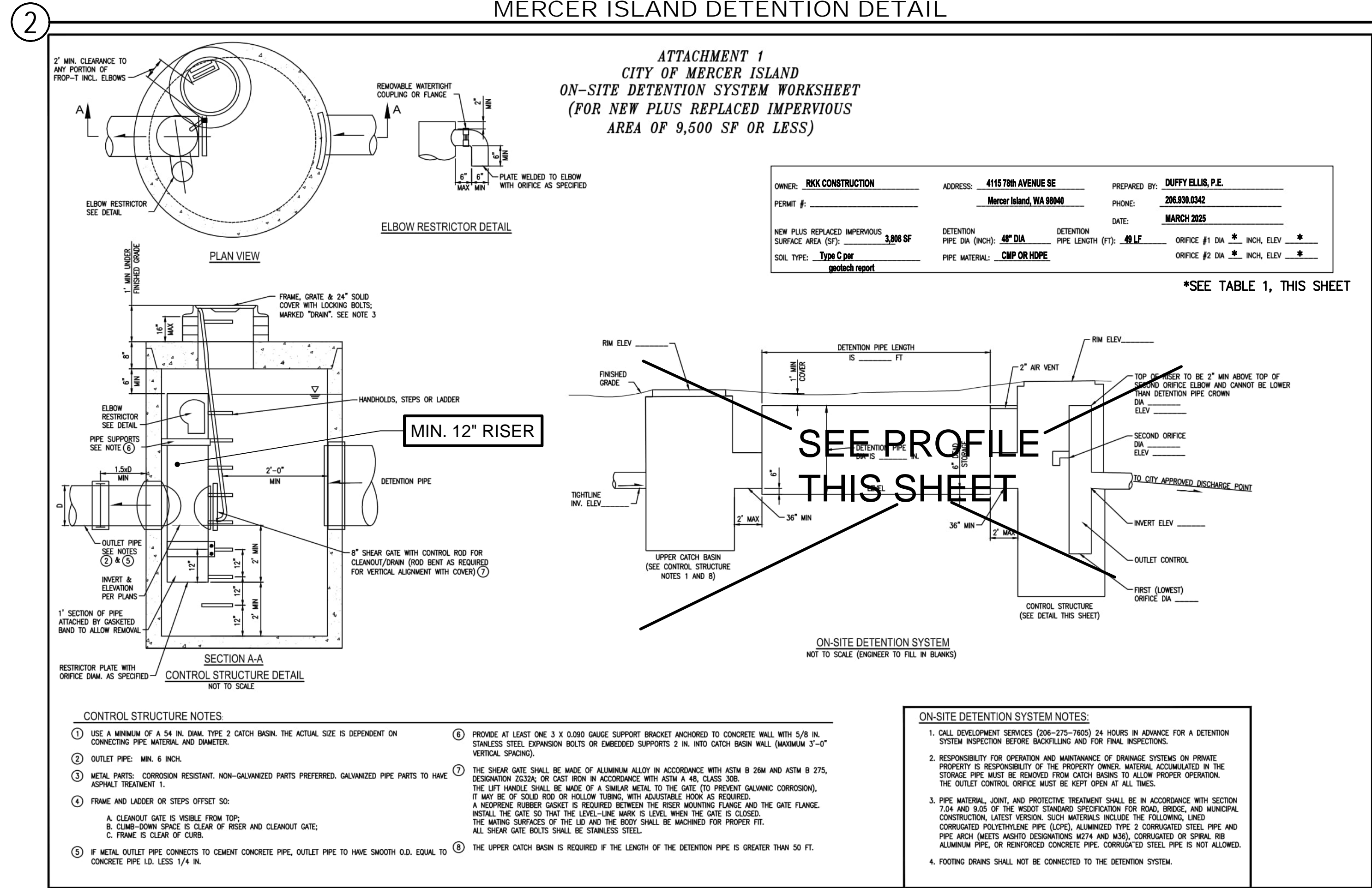
in = inch
ft = feet
sf = square feet



IMPERVIOUS TABLE - STORMWATER

Impervious Area Spreadsheet - Stormwater Version
RKK SFR Project - 4115 78th Avenue SE, Mercer Island, WA 98040

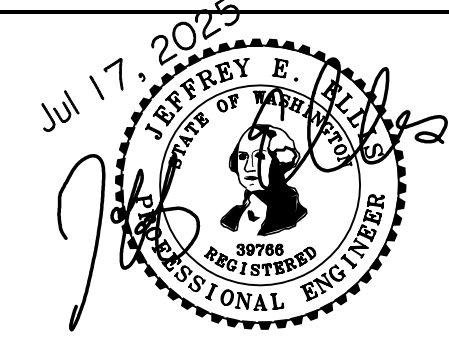
Category	Area (sf)	Area (acres)
Gross Site Area	9,930	0.228
Existing Impervious Area		
roof	0	
garage	0	
driveway	0	
Best of the rest	0	
total existing =	0	
Proposed Impervious Area		
Roof	3,035	
driveway	433	
front walkway to driveway	109	
front walkway/stairs to street	181	
front trash can area	40	
side yard equipment pads, exposed	9	
total on-site (new + replaced) proposed =	3,808	
Result Previous	6,122	
total on-site new =	3,808	
total new + replaced impervious =	3,808	
total existing to remain =	0	
total proposed lawn/landscape =	6,122	



NO.	DATE	BY	REVISIONS

APPLICANT
JASON KOEHLER
RKK CONSTRUCTION
3056 70th AVENUE SE
MERCER ISLAND, WA 98040
206-236-2920

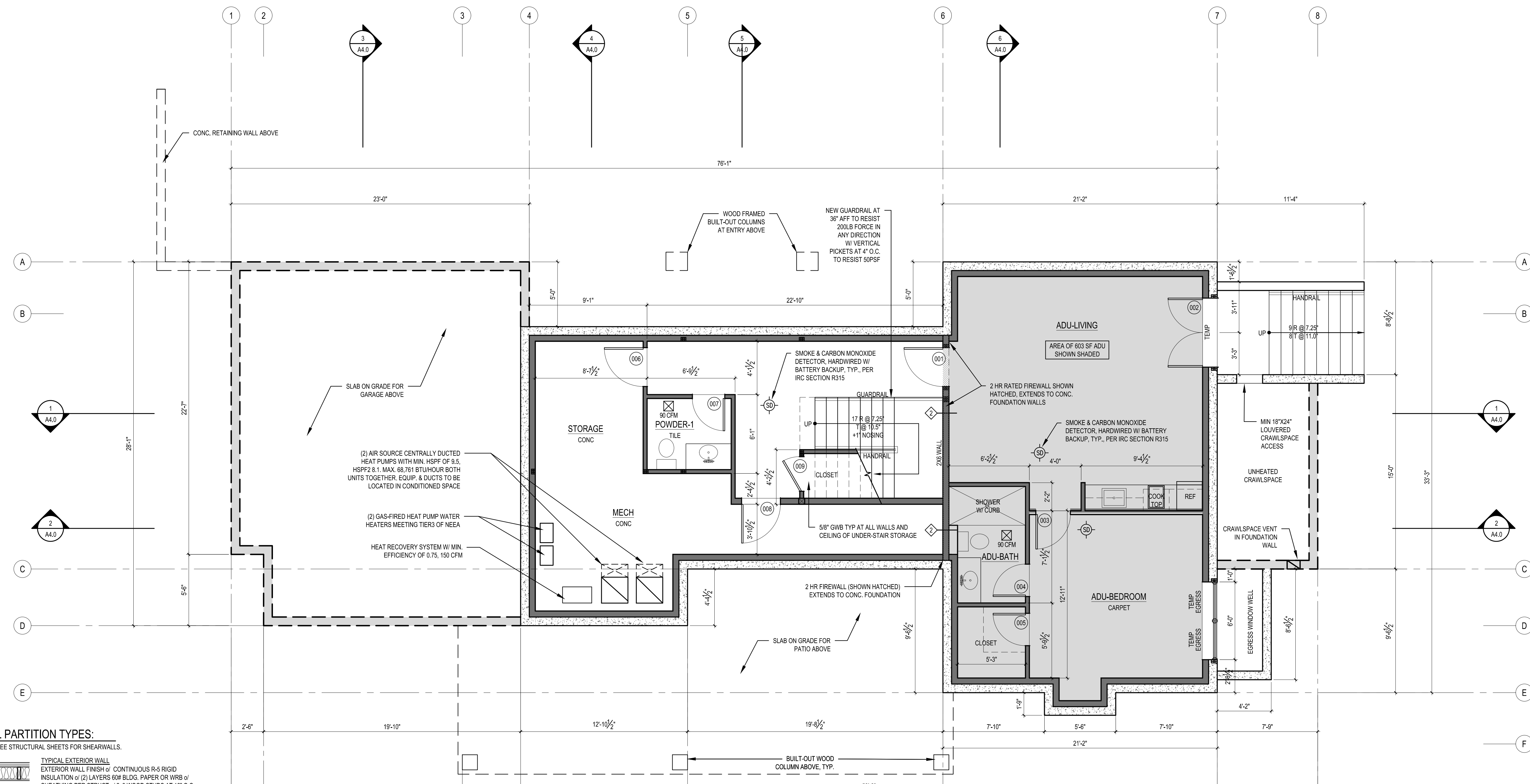
DATE: Jul 17, 2025
JOB# 2117
DRAFTED: SS DESIGN: SS
DIGITAL SIGNATURE



CIVIL ENGINEERING SOLUTIONS
701 N 36TH STREET
206.930.0342
SEATTLE, WA 98103
DUFFY@CESOLUTIONS.US

DETENTION PROFILE AND DETAIL
RKK HOUSE
4115 78th AVE SE, MERCER ISLAND, WA 98040

DRAWING NO:
C4.0
APN 362350-0210

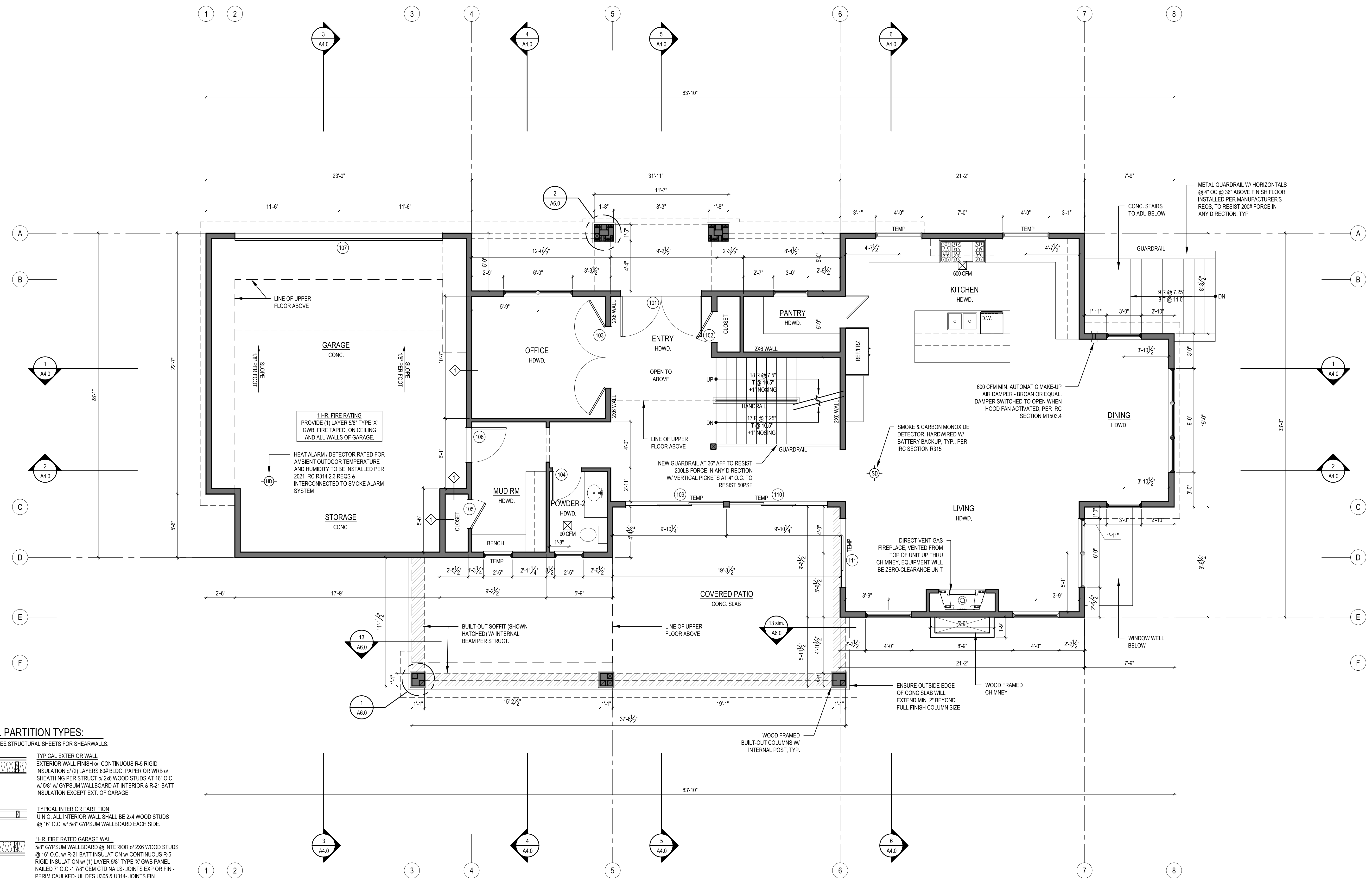


- WALL PARTITION TYPES:**
 N.T.S. (SEE STRUCTURAL SHEETS FOR SHEARWALLS.)
- TYPICAL EXTERIOR WALL**
 EXTERIOR WALL FINISH OF CONTINUOUS R-5 RIGID INSULATION OR (2) LAYERS 60# BLDG. PAPER OR WRB OF SHEATHING PER STRUCT OR 2x6 WOOD STUDS AT 16" O.C. W/ 5/8" W/ GYPSUM WALLBOARD AT INTERIOR & R-21 BATT INSULATION EXCEPT EXT. OF GARAGE.
 - TYPICAL INTERIOR PARTITION**
 U.N.O. ALL INTERIOR WALL SHALL BE 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GYPSUM WALLBOARD EACH SIDE.
 - 1HR. FIRE RATED GARAGE WALL**
 5/8" GYPSUM WALLBOARD @ INTERIOR OF 2x6 WOOD STUDS @ 16" O.C. W/ R-21 BATT INSULATION W/ CONTINUOUS R-5 RIGID INSULATION W/ (1) LAYER 5/8" TYPE X GWB PANEL NAILED 7" O.C. 1-7/8" CEM CTD NAILS- JOINTS EXP OR FIN - PERM CAULKED- UL DES U305 & U314- JOINTS FIN
 - 2HR. FIRE RATED INTERIOR WALL**
 2x6 WOOD STUDS @ MAX 24" O.C. W/ DOUBLE TOP PLATES, SINGLE SILL PLATE, INTERIOR & EXTERIOR SIDE COVERED W/ (2) LAYERS OF 5/8" TYPE X GYPSUM WALLBOARD, 4" WIDE, APPLIED HORIZ. W/ VERTICAL JOINTS OVER STUDS. BASE LAYER FASTENED W/ 2-1/4" TYPE S DRYWALL SCREWS, SPACED 24" O.C. & FACE LAYER FASTENED W/ TYPE S DRYWALL SCREWS, SPACED 8" O.C. WALLBOARD JOINTS COVERED W/ PAPER TAPE & JOINT COMPOUND. FASTENER HEADS COVERED W/ JOINT COMPOUND. CAVITY FILLED W/ 5.5" MINERAL WOOL INSULATION, 2021 IBC 721.1(2) ITEM 15.1.16.
 - TYPICAL BASEMENT WALL**
 DRAINAGE MAT OR WATERPROOFING ON CONC. WALL W/ 2x4 P.T. WOOD STUDS SPACED 2" OFF CONC. WALL @ 16" O.C. W/ 1/2" GYPSUM WALLBOARD AT INTERIOR. PROVIDE R-21 BATT INSULATION.

- CRAWLSPACE VENTING:**
 (AREA) 97 SF / 300 = .32 SF VENTING REQ'D.
 .32 SF X 144 = 46.08 SQ. IN.
 68 SQ. IN. STND. VENT.
 34.56 / 68 = .88 VENTS REQ.
 2 VENTS WILL BE PROVIDED TO ALLOW FOR CROSS-VENTILATION
- USE APPROVED CLASS I VAPOR RETARDER PER IBC R408.2. EXCEPTION.**
- *FLOOR PLAN NOTES***
1. THERE IS ONLY TO BE (1) AADU PERMITTED.
 2. THE AREA OF THE AADU (SHOWN SHADED) = 603 SF.
 3. ONE OFF-STREET PARKING SPOT WILL BE ALLOTTED FOR AADU USE.
 4. A SEPARATE LOCKING EXTERIOR ACCESS TO AADU, SEPARATE FROM ENTRY TO MAIN RESIDENCE, WILL BE PROVIDED.
 5. FIRE ALARMS IN AADU WILL BE INTERCONNECTED WITH THOSE OF THE MAIN RESIDENCE.
 6. AADU TO HAVE SEPARATE ZONE ON HVAC, WITH INDEPENDENT CONTROL OVER ITS OPERATION IN ITS ZONE.
 7. PROVIDE A PROGRAMMABLE THERMOSTATE FOR THE HVAC SYSTEM WITHIN EACH DWELLING UNIT.

1 LOWER FLOOR PLAN
 SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36" IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025



- WALL PARTITION TYPES:**
 N.T.S. (SEE STRUCTURAL SHEETS FOR SHEAR WALLS.)
- TYPICAL EXTERIOR WALL**
 EXTERIOR WALL FINISH OF CONTINUOUS R-5 RIGID INSULATION w/ (2) LAYERS 5/8" BLDG. PAPER OR WRB or SHEATHING PER STRUCT or 2x6 WOOD STUDS AT 16" O.C. w/ 5/8" w/ GYPSUM WALLBOARD AT INTERIOR & R-21 BATT INSULATION EXCEPT EXT. OF GARAGE
 - TYPICAL INTERIOR PARTITION**
 U.N.O. ALL INTERIOR WALL SHALL BE 2x4 WOOD STUDS @ 16" O.C. w/ 5/8" GYPSUM WALLBOARD EACH SIDE.
 - 1HR. FIRE RATED GARAGE WALL**
 5/8" GYPSUM WALLBOARD @ INTERIOR or 2x6 WOOD STUDS @ 16" O.C. w/ R-21 BATT INSULATION w/ CONTINUOUS R-5 RIGID INSULATION w/ (1) LAYER 5/8" TYPE 'X' GYB PANEL NAILED 7" O.C.-1 7/8" CEM CTD NAILS-JOINTS EXP OR FIN-PERIM CAULKED-UL DES U305 & U314-JOINTS FIN
 - TYPICAL BASEMENT WALL**
 DRAINAGE MAT or WATERPROOFING ON CONC. WALL w/ 2x4 P.T. WOOD STUDS SPACED 2' OFF CONC. WALL @ 16" O.C. w/ 1/2" GYPSUM WALLBOARD AT INTERIOR. PROVIDE R-21 BATT INSULATION.

1 MAIN FLOOR PLAN
 SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36". IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025

REVISIONS:	
PLOT DATE:	7/31/2025
DRAWN BY:	KE
CHECKED BY:	BJS
SHEET	

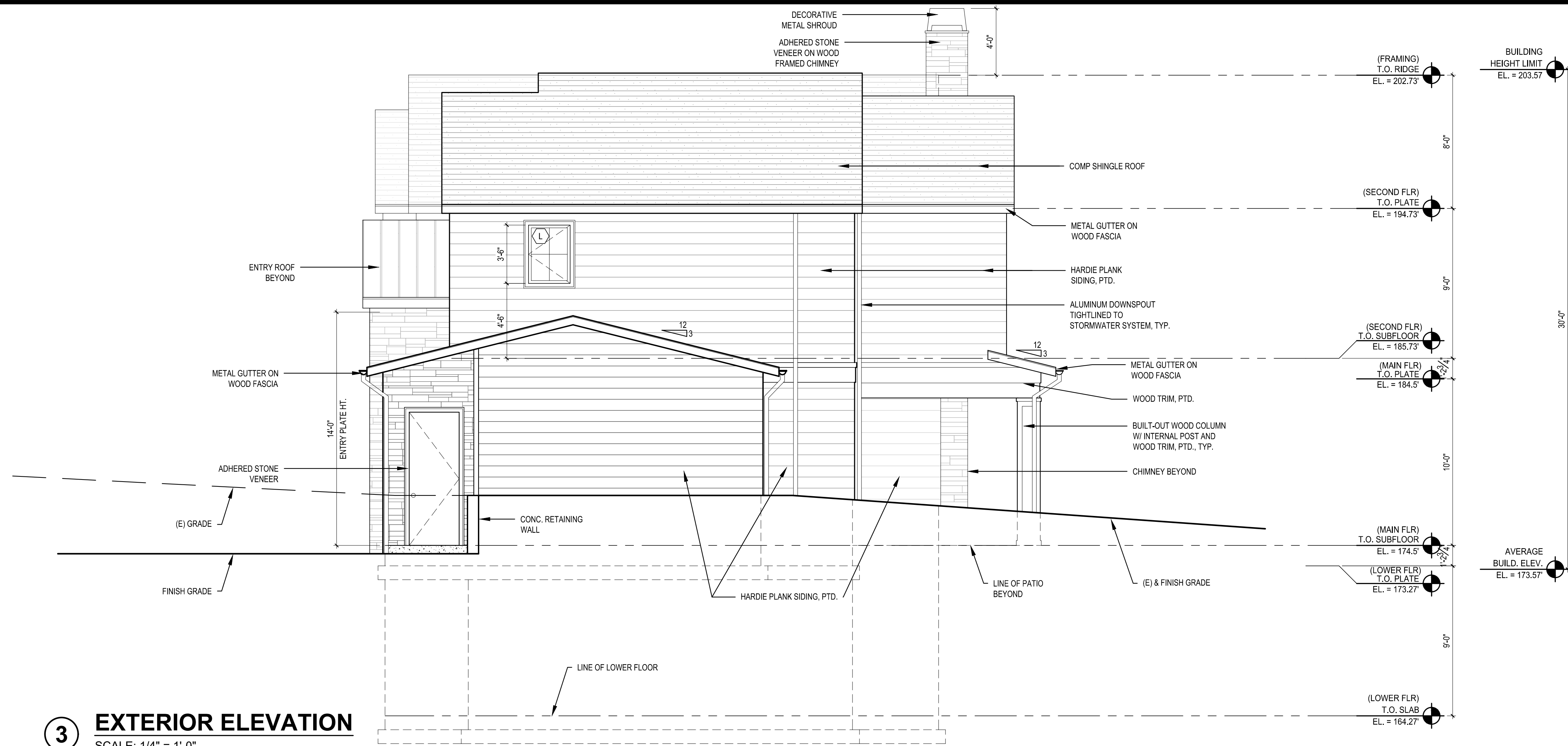


- WALL PARTITION TYPES:**
 N.T.S. (SEE STRUCTURAL SHEETS FOR SHEARWALLS.)
- TYPICAL EXTERIOR WALL**
 EXTERIOR WALL FINISH OF CONTINUOUS R-5 RIGID INSULATION w/ (2) LAYERS 5/8" BLDG. PAPER OR WRB w/ SHEATHING PER STRUCT w/ 2x6 WOOD STUDS AT 16" O.C. w/ 5/8" w/ GYPSUM WALLBOARD AT INTERIOR & R-21 BATT INSULATION EXCEPT EXT. OF GARAGE
 - TYPICAL INTERIOR PARTITION**
 U.N.O. ALL INTERIOR WALL SHALL BE 2x4 WOOD STUDS @ 16" O.C. w/ 5/8" GYPSUM WALLBOARD EACH SIDE.
 - 1HR. FIRE RATED GARAGE WALL**
 5/8" GYPSUM WALLBOARD @ INTERIOR w/ 2x6 WOOD STUDS @ 16" O.C. w/ R-21 BATT INSULATION w/ CONTINUOUS R-5 RIGID INSULATION w/ (1) LAYER 5/8" TYPE 'X' GIBB PANEL NAILED 7" O.C. - 1.78" CEM CTD NAILS - JOINTS EXP OR FIN - PERIM CAULKED - UL DES U305 & U314 - JOINTS FIN
 - TYPICAL BASEMENT WALL**
 DRAINAGE MAT w/ WATERPROOFING ON CONC. WALL w/ 2x4 P.T. WOOD STUDS SPACED 2' OFF CONC. WALL @ 16" O.C. w/ 1/2" GYPSUM WALLBOARD AT INTERIOR. PROVIDE R-21 BATT INSULATION.

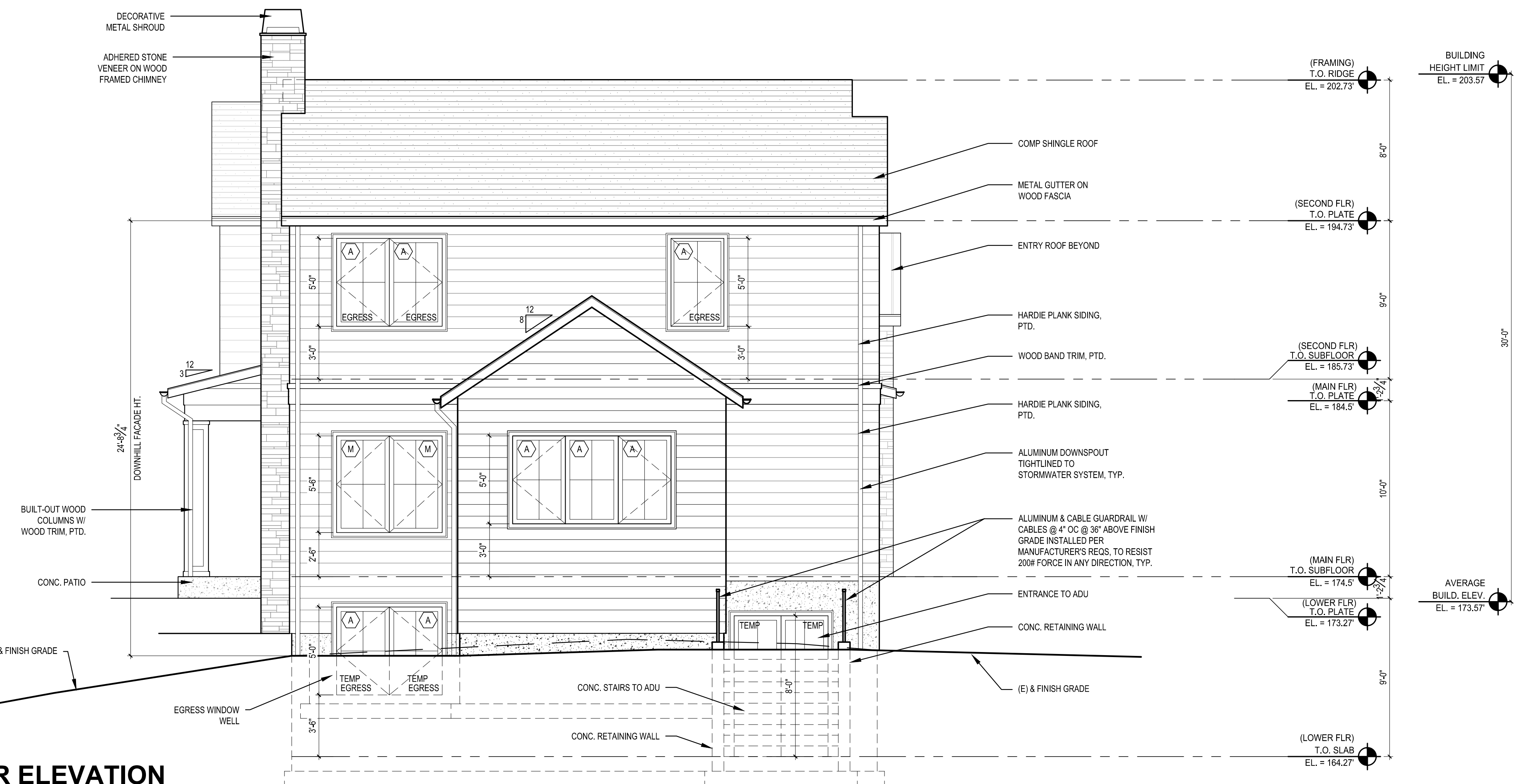
- POCHE LEGEND:**
- AREA OF ROOF BELOW
 - AREA OF CEILING TALLER THAN 16'

1 UPPER FLOOR PLAN
 SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36" IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025

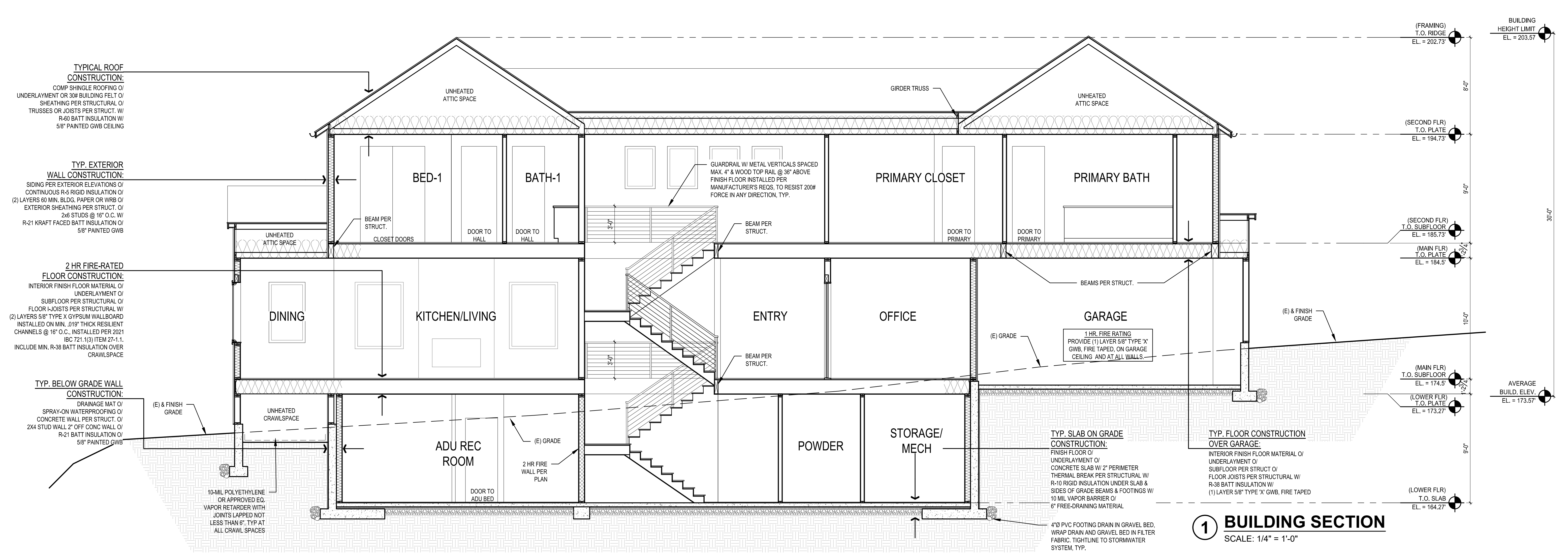


3 EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

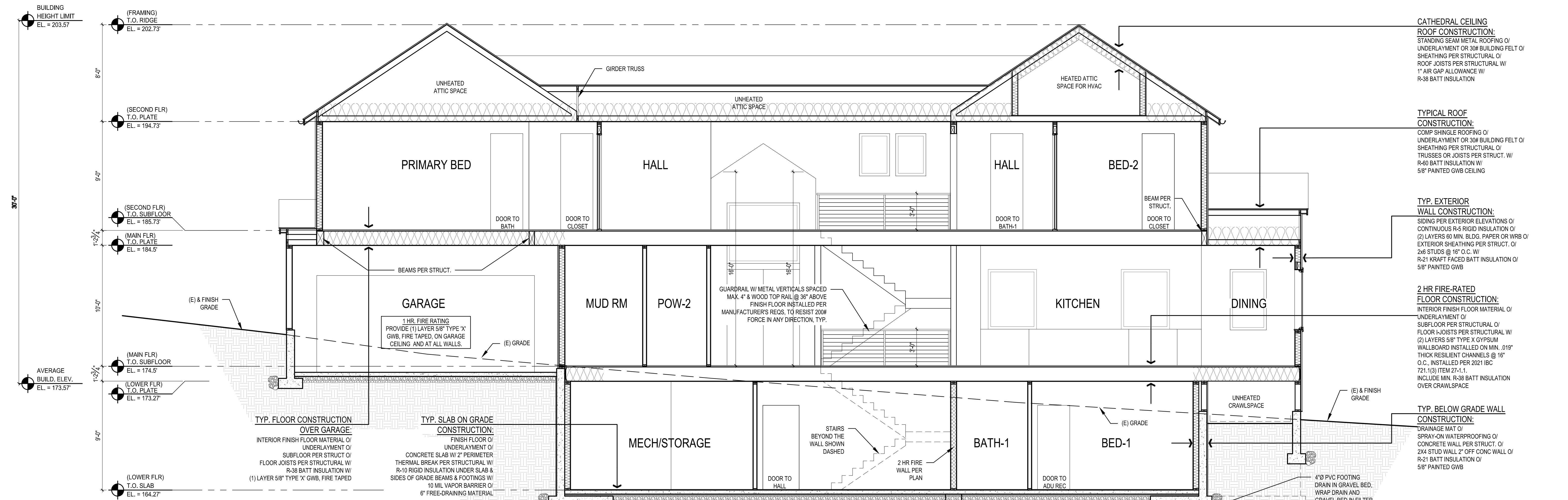


4 EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

REVISIONS:	
PLOT DATE:	7/31/2025
DRAWN BY:	KE
CHECKED BY:	BJS
SHEET	



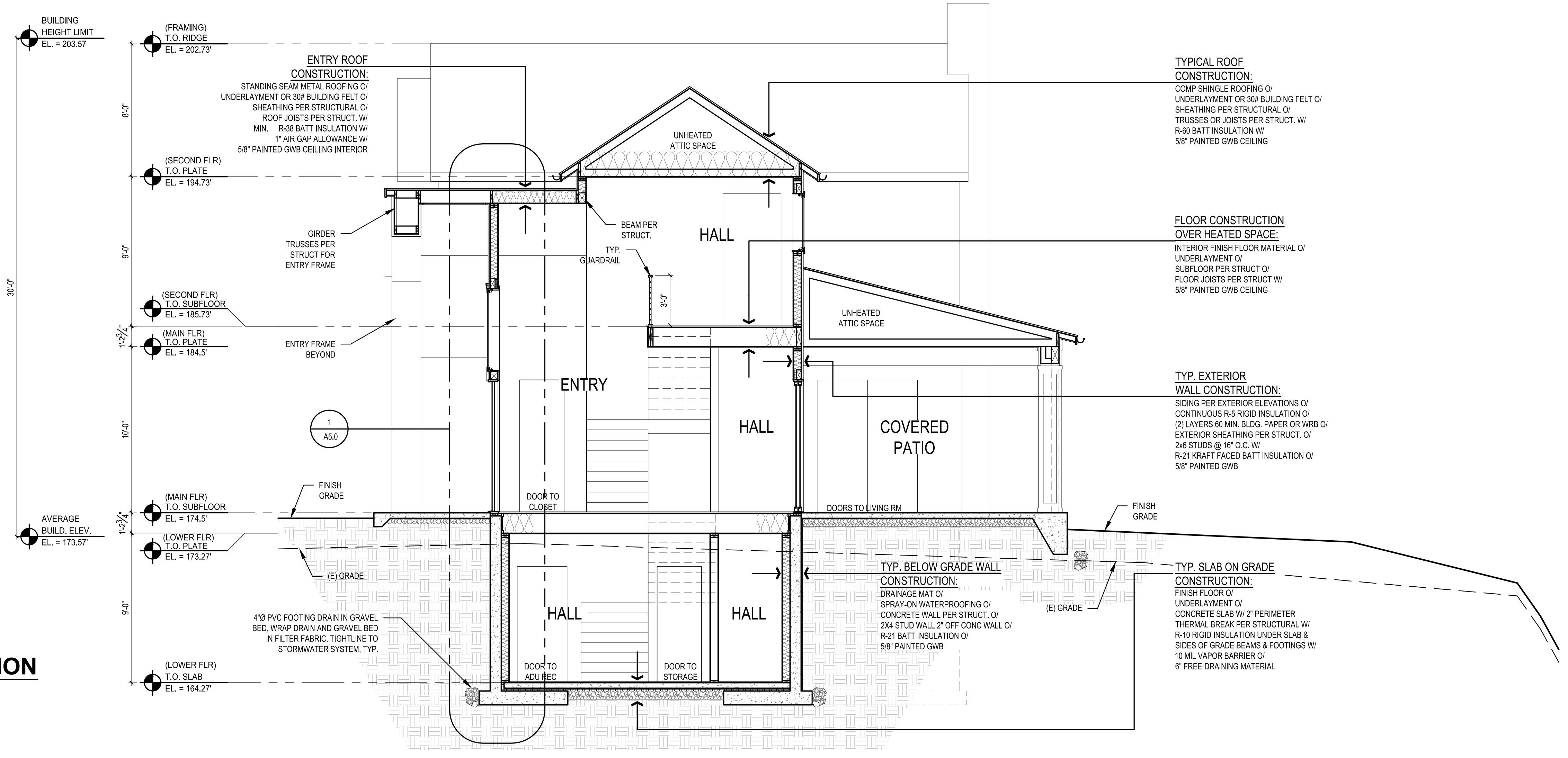
1 BUILDING SECTION
 SCALE: 1/4" = 1'-0"



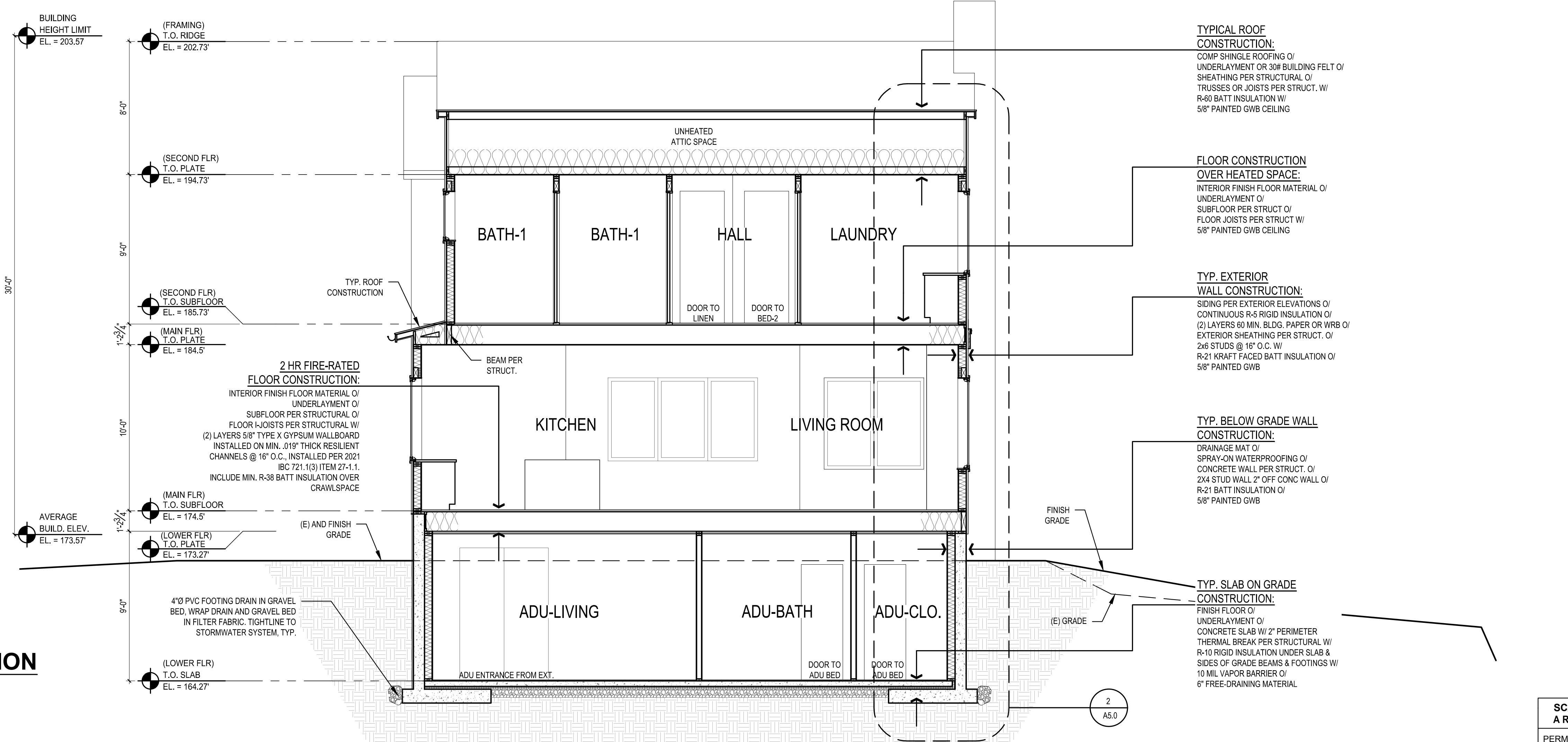
2 BUILDING SECTION
 SCALE: 1/4" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36" IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025

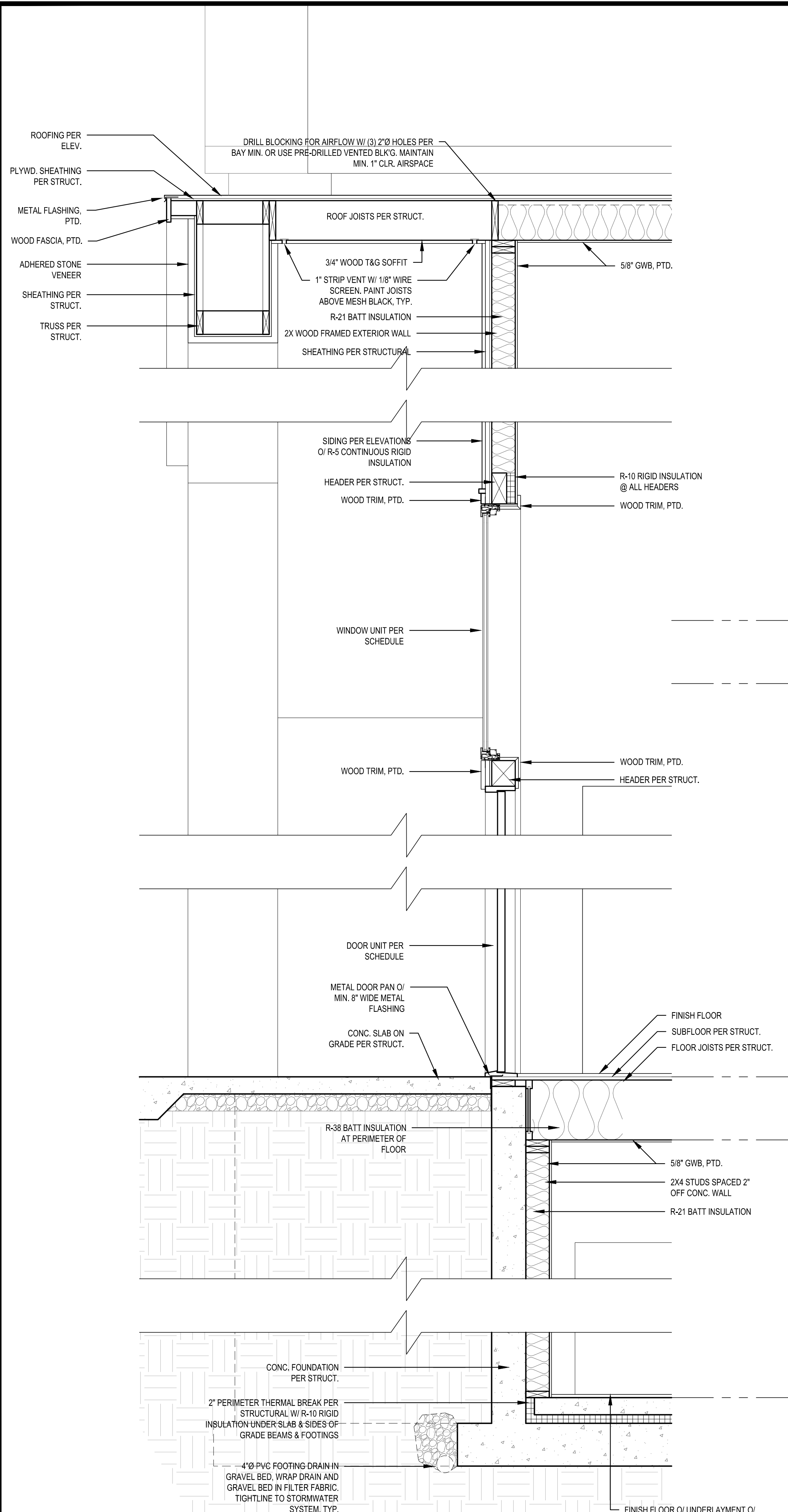
5 BUILDING SECTION
 SCALE: 1/4" = 1'-0"



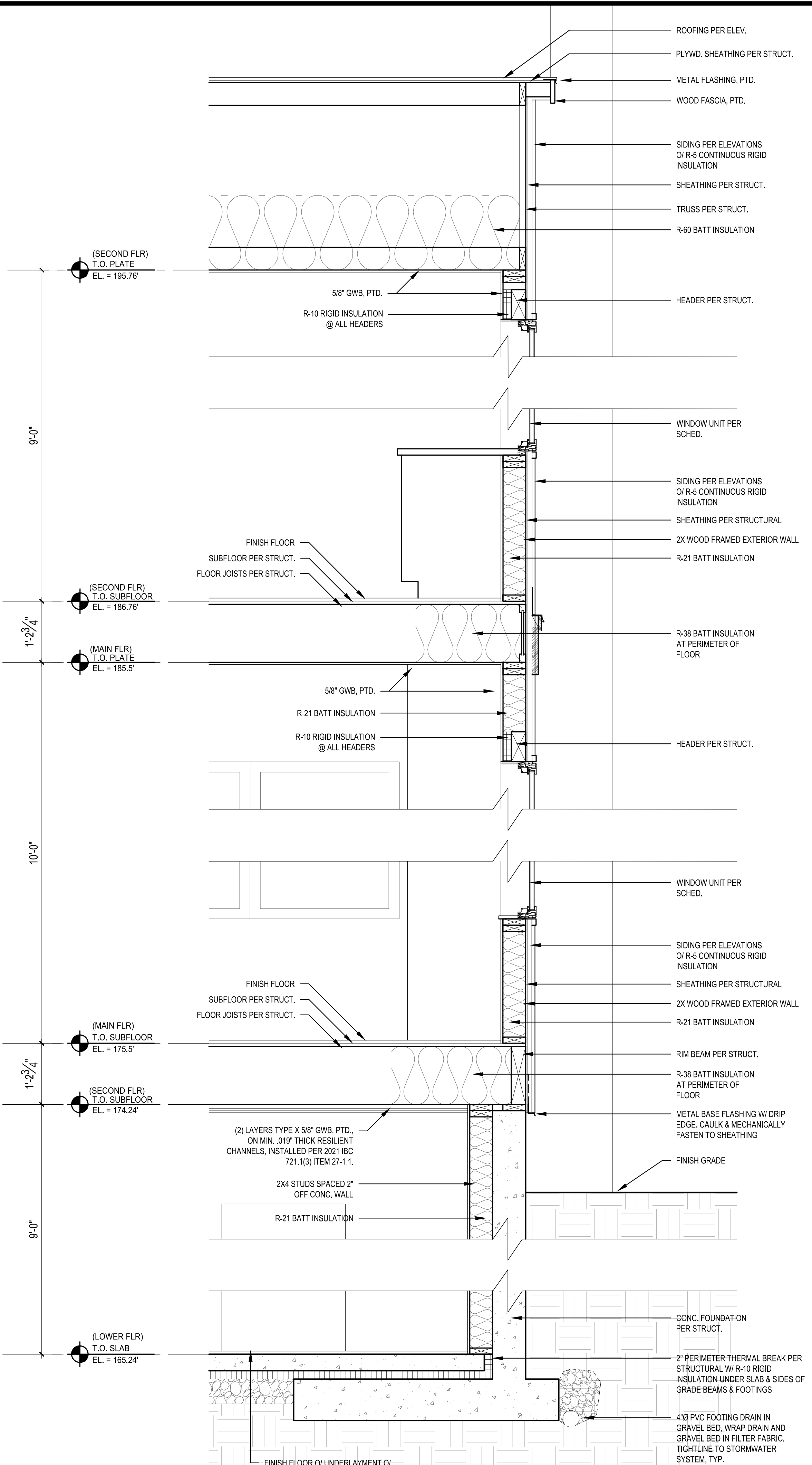
6 BUILDING SECTION
 SCALE: 1/4" = 1'-0"



SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS
 A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
 PERMIT SET 07/31/2025



1 WALL SECTION
 SCALE: 3/4" = 1'-0"



2 WALL SECTION
 SCALE: 3/4" = 1'-0"

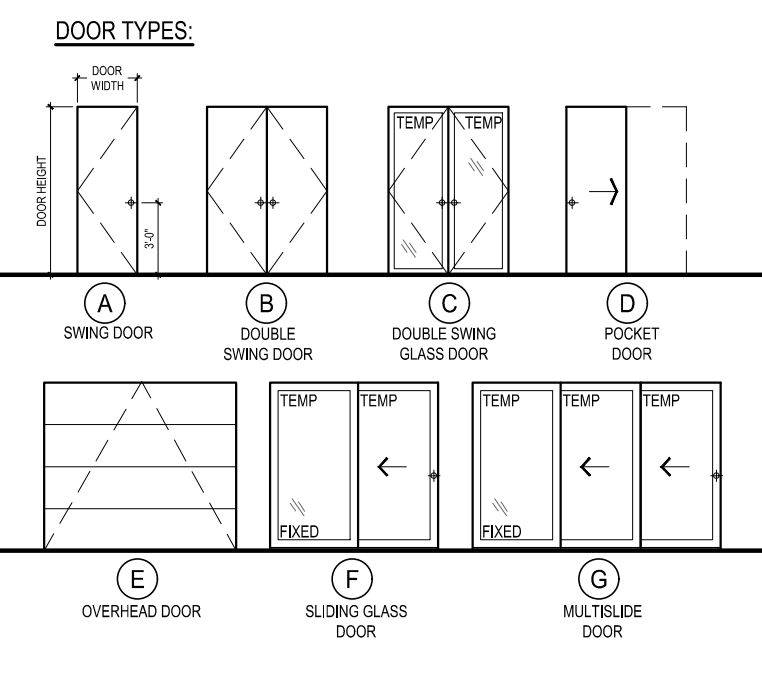
WINDOW SCHEDULE RKK78

TAG.	DESCRIPTION	R.O. SIZE		TEMP	QTY.	AREA (SF)	U-VAL (MIN.)	GLAZING	REMARKS & NOTES
		WIDTH	HEIGHT						
A	CASEMENT	3'-0"	5'-0"	Y	15		0.28	LOW E / CLEAR	SOME TEMP
B	SLIDER	7'-0"	5'-0"		1		0.28	LOW E / CLEAR	EGRESS
C	FIXED	2'-0"	3'-0"	Y	1		0.28	LOW E / CLEAR	TEMP GLASS, OBSCURED (VERIFY)
D	FIXED	2'-6"	3'-6"		8		0.28	LOW E / CLEAR	
E	SLIDER	8'-0"	5'-0"	Y	1		0.28	LOW E / CLEAR	TEMP GLASS, EGRESS
F	FIXED	4'-0"	5'-0"	Y	4		0.28	LOW E / CLEAR	TEMP GLASS
G	FIXED	7'-0"	5'-0"		1		0.28	LOW E / CLEAR	TRANSOM
H	CASEMENT	3'-0"	6'-0"		2		0.28	LOW E / CLEAR	EGRESS
I	FIXED	5'-0"	6'-0"		1		0.28	LOW E / CLEAR	
J	CASEMENT	2'-6"	4'-0"		2		0.28	LOW E / CLEAR	
K	FIXED	4'-0"	5'-6"		2		0.28	LOW E / CLEAR	
L	CASEMENT	2'-6"	3'-6"		1		0.28	LOW E / CLEAR	
M	CASEMENT	3'-0"	5'-6"		2		0.28	LOW E / CLEAR	

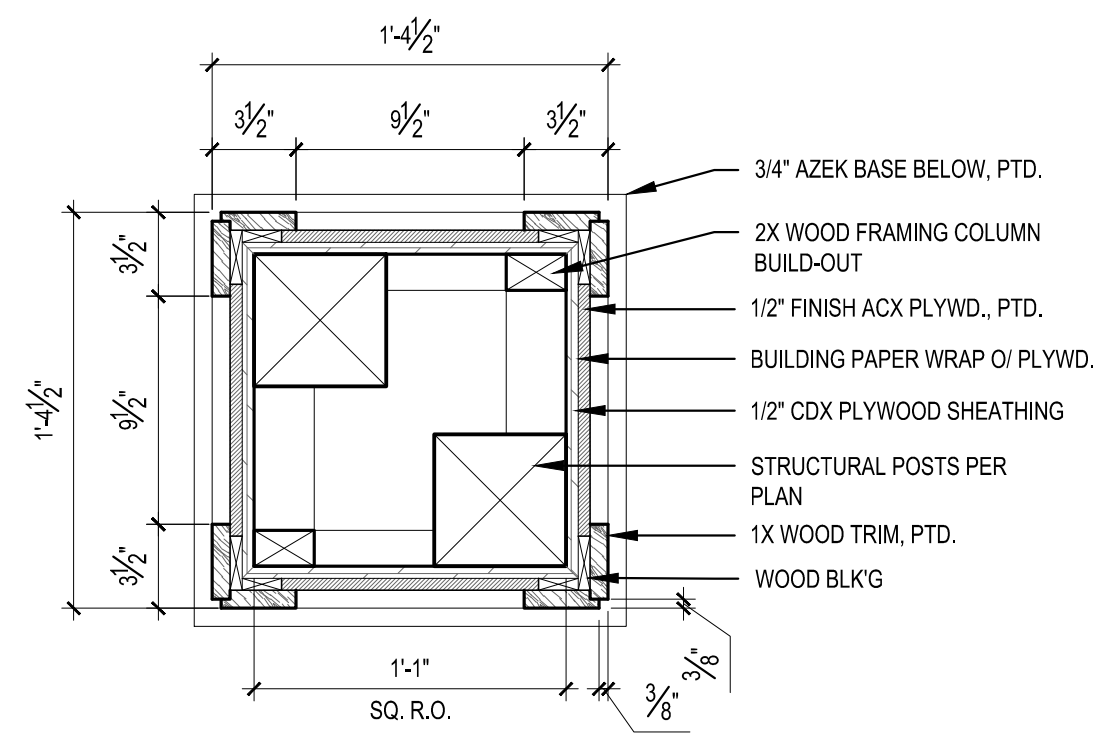
DOOR SCHEDULE RKK78

DOOR NO.	LOCATION	SIZE WIDTH	SIZE HEIGHT	DOOR TYPE	TEMP. GLASS	DOOR THK.	U-VAL (MIN.)	REMARKS
LOWER FLOOR								
001	ADU LIVING	3'-0"	7'-0"	A		1-3/4"		20 MIN FIRE-RATED, SELF-CLOSING
002	ADU LIVING	PR 2'-8"	8'-0"	B	Y	1-3/4"	0.28	TEMP GLASS
003	ADU BEDROOM	2'-8"	7'-0"	A		1-3/4"		
004	ADU BATH	2'-6"	7'-0"	A		1-3/4"		
005	ADU CLOSET	2'-6"	7'-0"	A		1-3/4"		
006	STORAGE	3'-0"	7'-0"	A		1-3/4"		
007	POWDER-1	2'-6"	7'-0"	A		1-3/4"		
008	MECH.	3'-0"	7'-0"	A		1-3/4"		
009	UNDER-STAIR STORAGE	2'-8"	7'-0"	A		1-3/4"		
MAIN FLOOR								
101	ENTRY	PR 3'-6"	8'-0"	B	Y	1-3/4"	0.28	TEMP GLASS
102	ENTRY CLOSET	2'-8"	8'-0"	A		1-3/4"		
103	OFFICE	PR 2'-8"	8'-0"	C	Y	1-3/4"	0.28	TEMP GLASS
104	POWDER-2	2'-6"	8'-0"	A		1-3/4"		
105	MUD RM CLOSET	2'-6"	8'-0"	A		1-3/4"		
106	MUD RM	3'-0"	8'-0"	A		1-3/4"		20 MIN FIRE-RATED, SELF-CLOSING
107	GARAGE	18'-0"	8'-0"	E		1-3/4"		
108								not used
109	ENTRY HALL	8'-6"	8'-0"	G	Y	1-3/4"	0.28	TEMP GLASS
110	ENTRY HALL	8'-6"	8'-0"	G	Y	1-3/4"	0.28	TEMP GLASS
111	LIVING ROOM	6'-0"	8'-0"	F	Y	1-3/4"	0.28	TEMP GLASS
UPPER FLOOR								
201	BATH-1	2'-8"	8'-0"	A		1-3/4"		
202	BATH-1	2'-8"	8'-0"	A		1-3/4"		
203	BED-1	2'-8"	8'-0"	A		1-3/4"		
204	BED-1 CLOSET	PR 2'-8"	8'-0"	B		1-3/4"		
205	HALL LINEN	2'-8"	8'-0"	A		1-3/4"		
206	BED-2	2'-8"	8'-0"	A		1-3/4"		
207	BED-2 CLOSET	2'-8"	8'-0"	D		1-3/4"		
208	LAUNDRY	3'-0"	8'-0"	A		1-3/4"		
209	BED-3	2'-8"	8'-0"	A		1-3/4"		
210	BATH-2	2'-6"	8'-0"	A		1-3/4"		
211	BED-3 CLOSET	2'-6"	8'-0"	A		1-3/4"		
212	PRIMARY BED	3'-0"	8'-0"	A		1-3/4"		
213	PRIMARY CLOSET	2'-8"	8'-0"	D		1-3/4"		
214	PRIMARY BATH	2'-8"	8'-0"	A		1-3/4"		
215	PRIMARY BATH	2'-4"	8'-0"	A		1-3/4"		

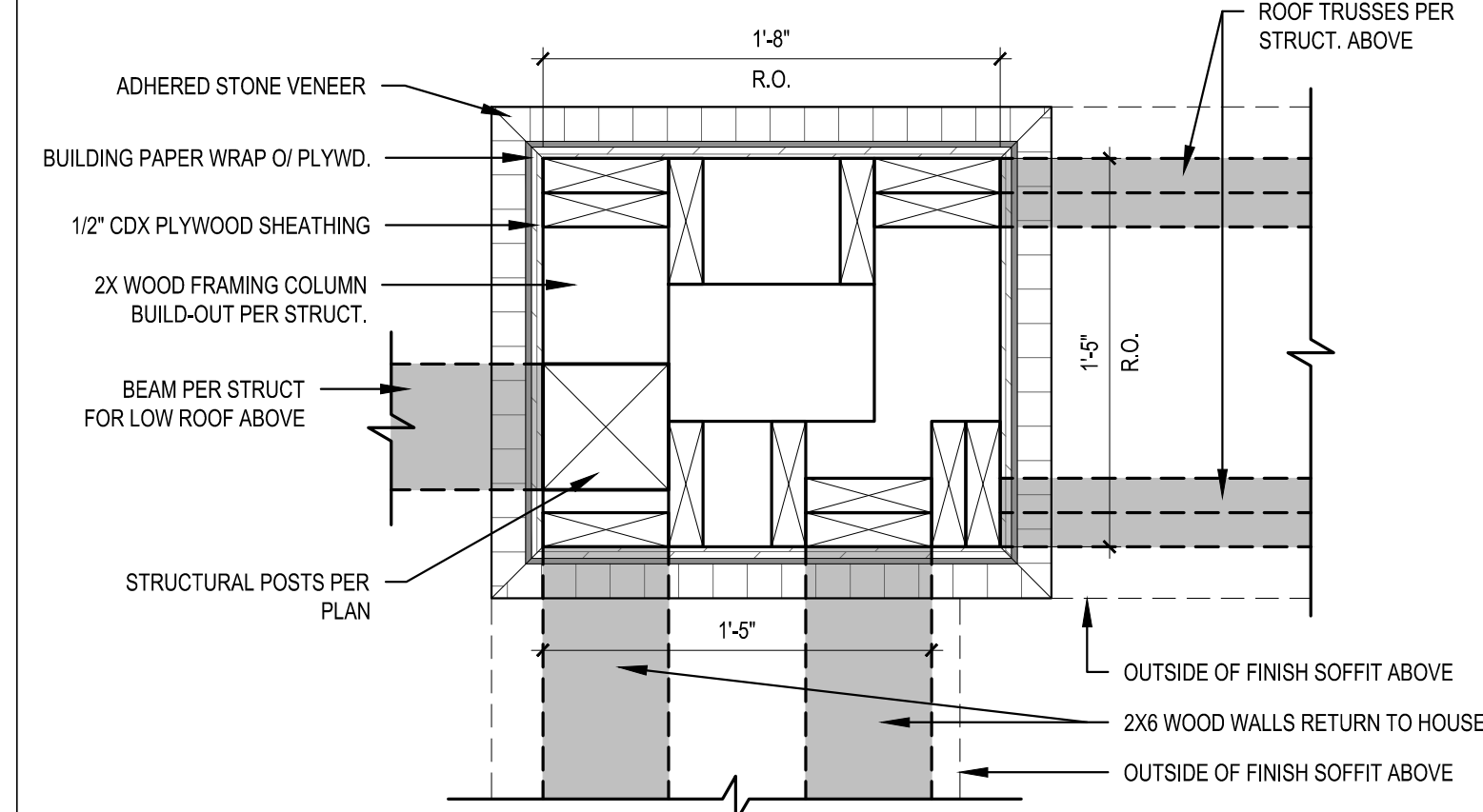
- WINDOW & DOOR SCHEDULE NOTES:**
- CONTRACTOR TO VERIFY ALL GLAZING SIZING, AND DOOR DIMENSIONS IN FIELD PRIOR TO ROUGH FRAMING & ORDERING OF GLAZING/WINDOW/DOOR MATERIALS. REVIEW SIZES AND ANY DISCREPANCIES W/ ARCHITECT.
 - ALL GLAZING TO BE "LOW E", INSULATED GLASS UNLESS NOTED OTHERWISE.
 - ALL OPERABLE WINDOWS TO HAVE SCREENS.
 - GLAZING INDOORS AND/OR WITHIN 24" OF A DOOR TO BE TEMPERED. SEE EXTERIOR ELEVATION FOR TEMP. GLASS LOCATION & EGRESS WINDOWS.
 - 2021 WSEC & VIAQ RESIDENTIAL PRESCRIPTIVE OPTION 3 ADOPTED. GLAZING AREA INDICATED UNLIMITED. SEE ENERGY NOTE AT A1.0 SHEET FOR DETAILS.
 - ALL SKYLIGHTS SHALL BE FULLY TEMPERED OVER LAMINATED GLASS



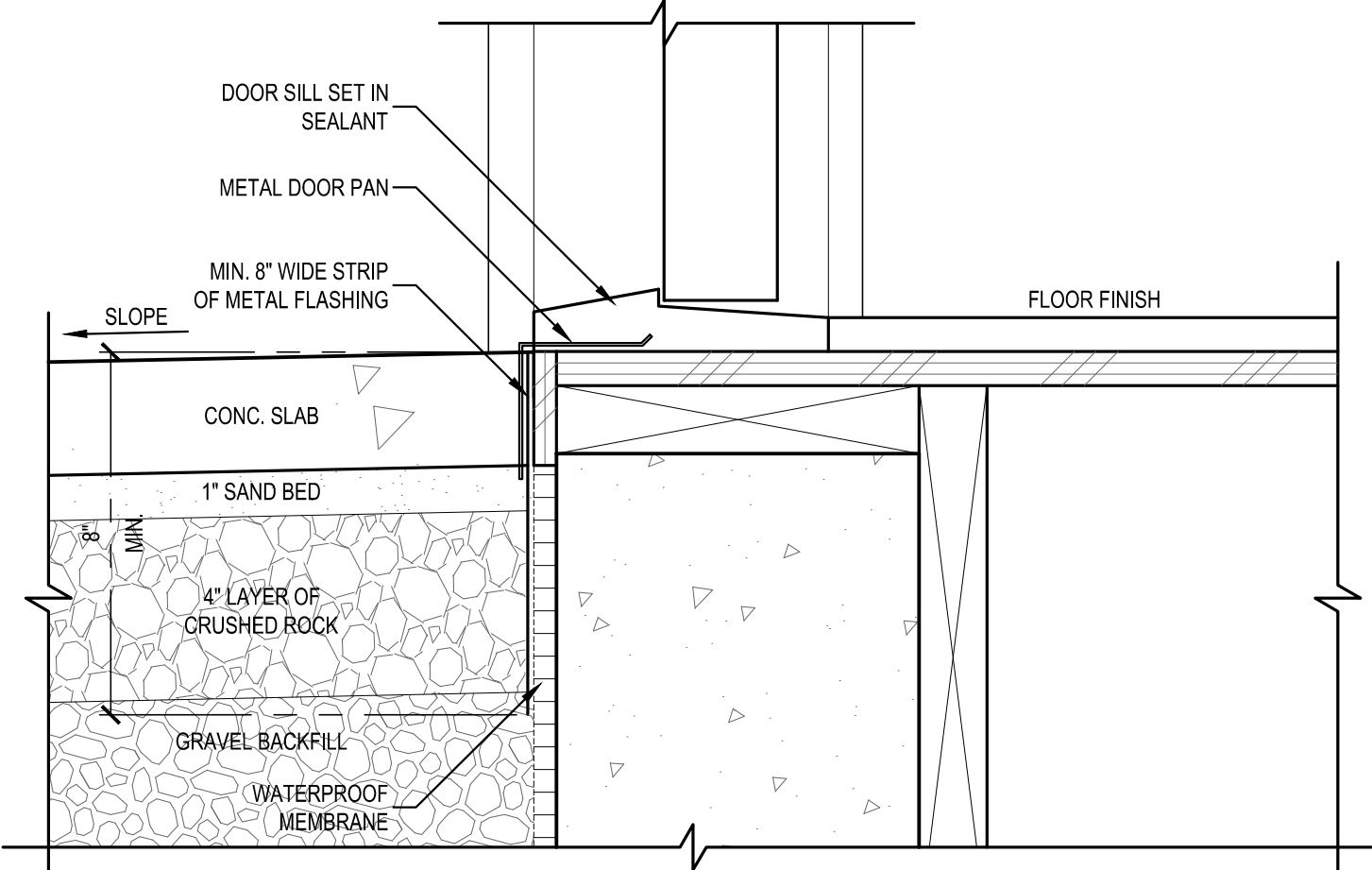
SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
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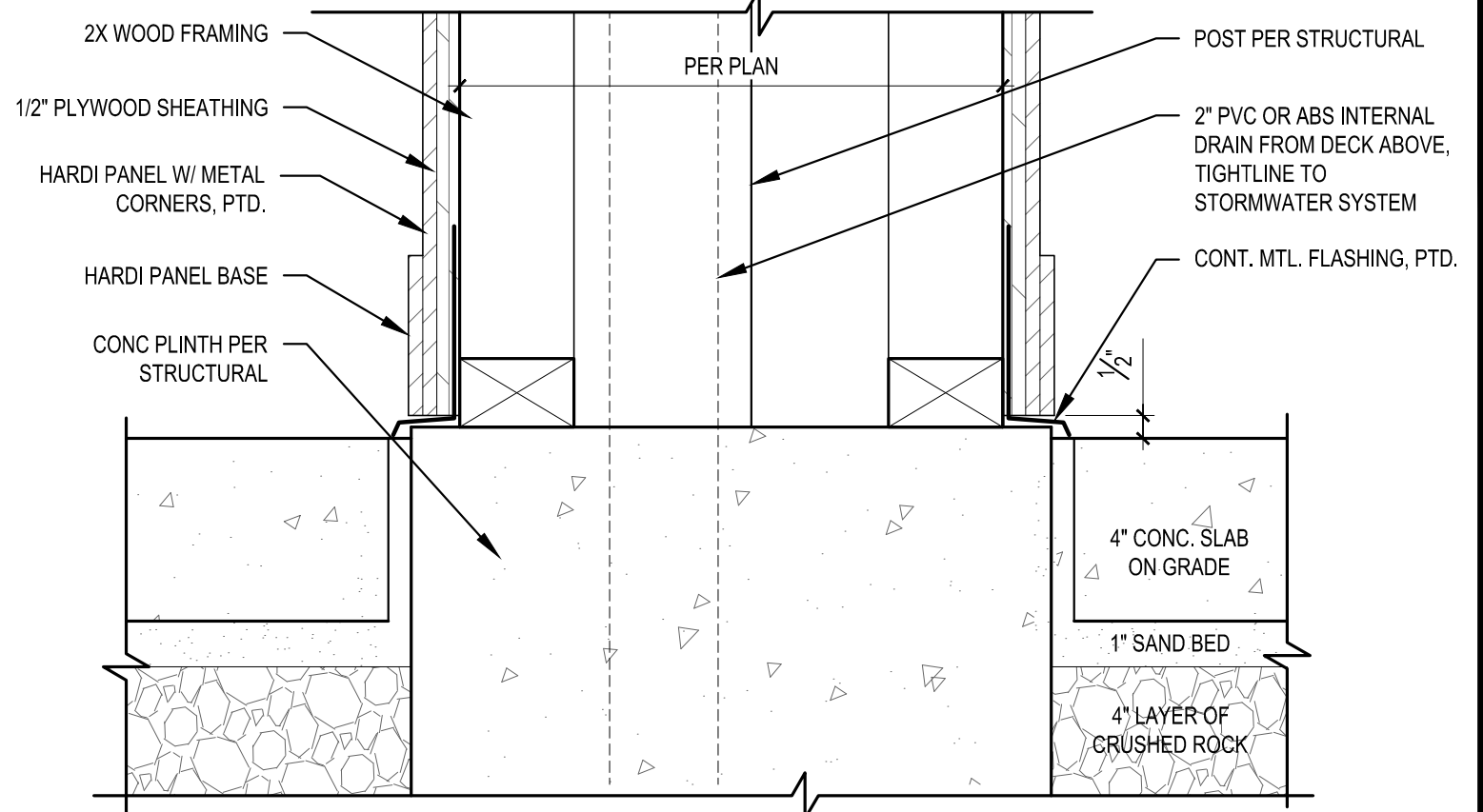
1 REAR COLUMN PLAN DETAIL
SCALE: 1 1/2" = 1'-0"



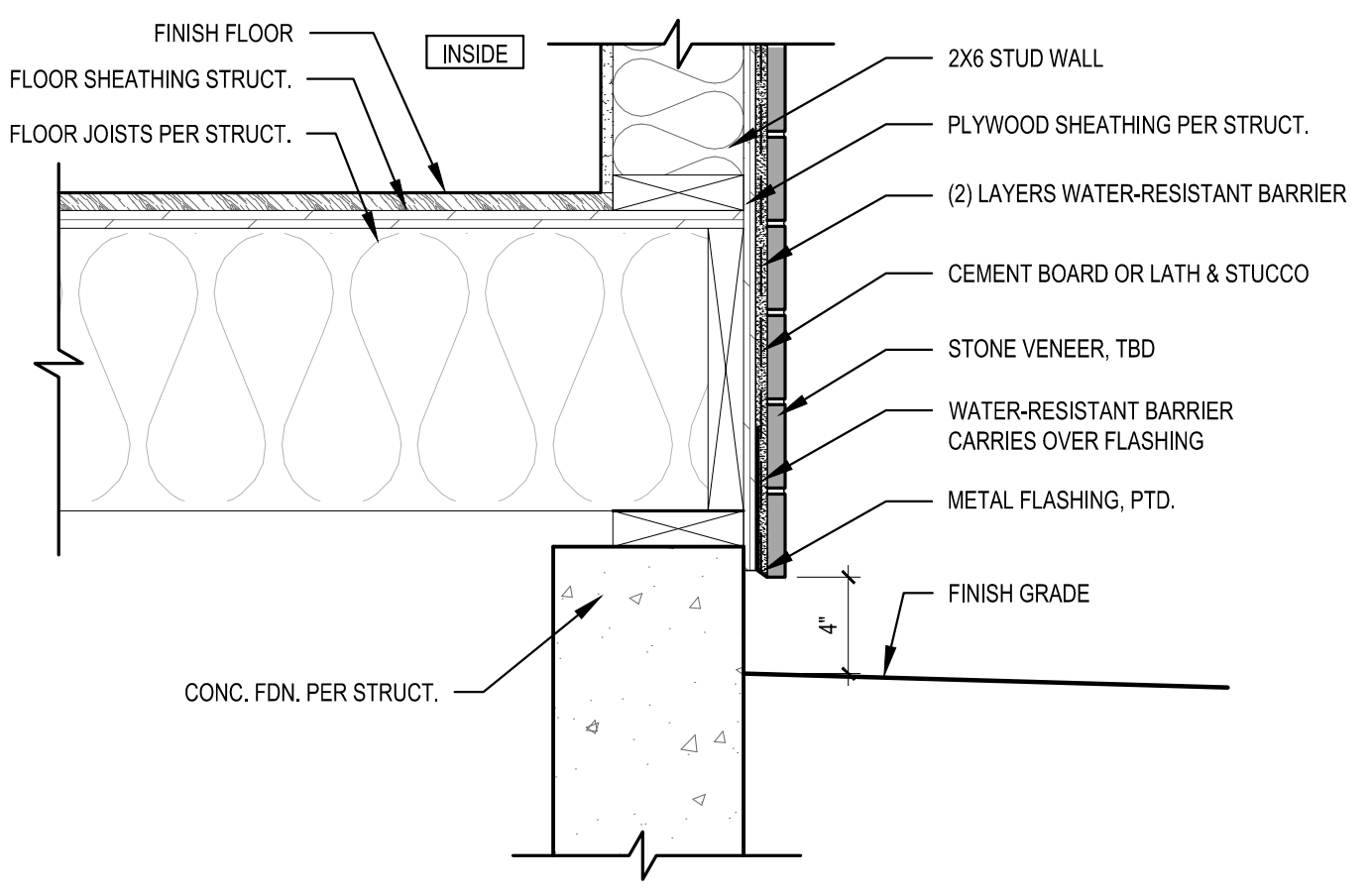
2 ENTRY COLUMN PLAN DETAIL
SCALE: 1 1/2" = 1'-0" MIRRORED ACROSS ENTRY



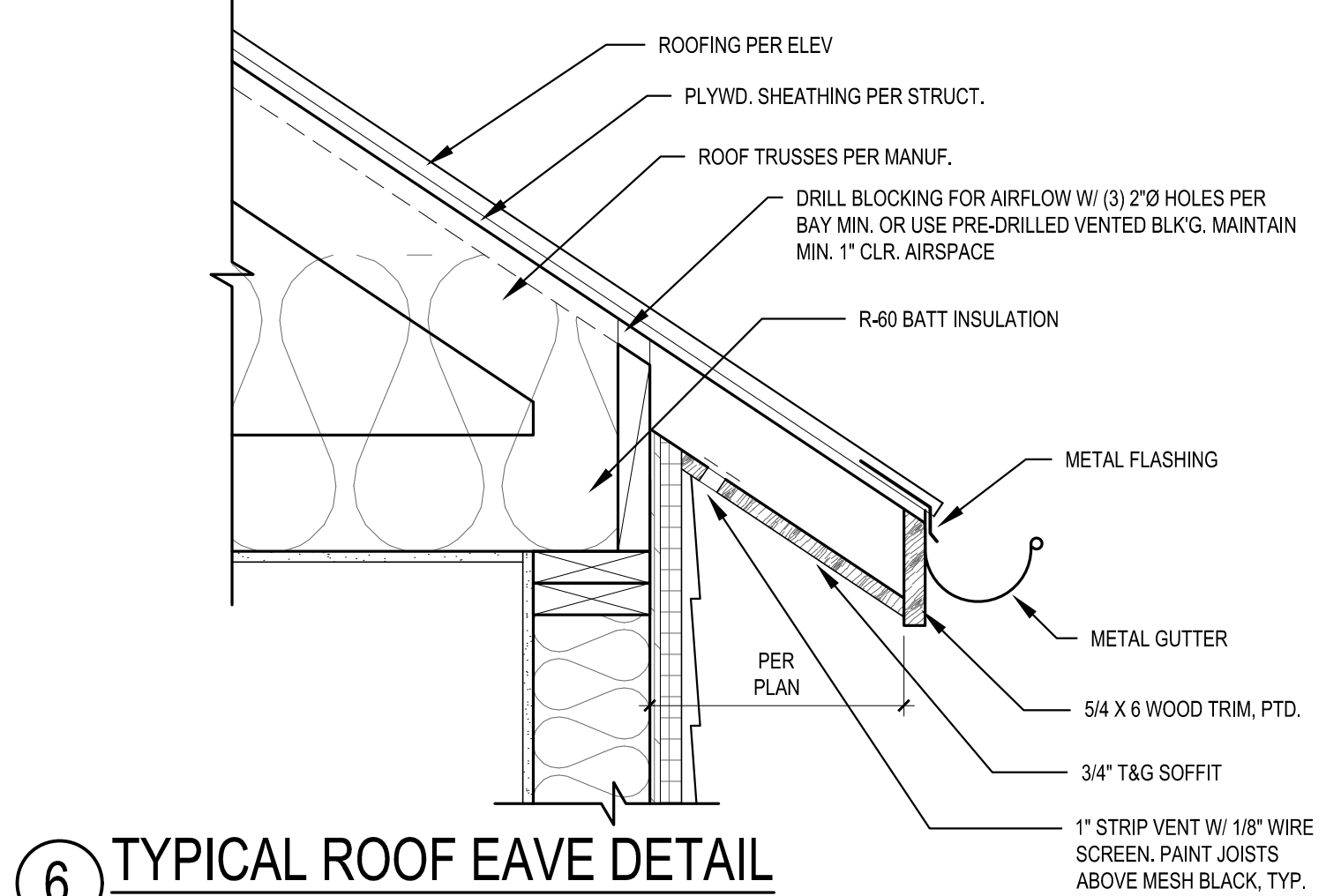
3 FLASHING @ FLUSH THRESHOLD DETAIL
SCALE: 3" = 1'-0"



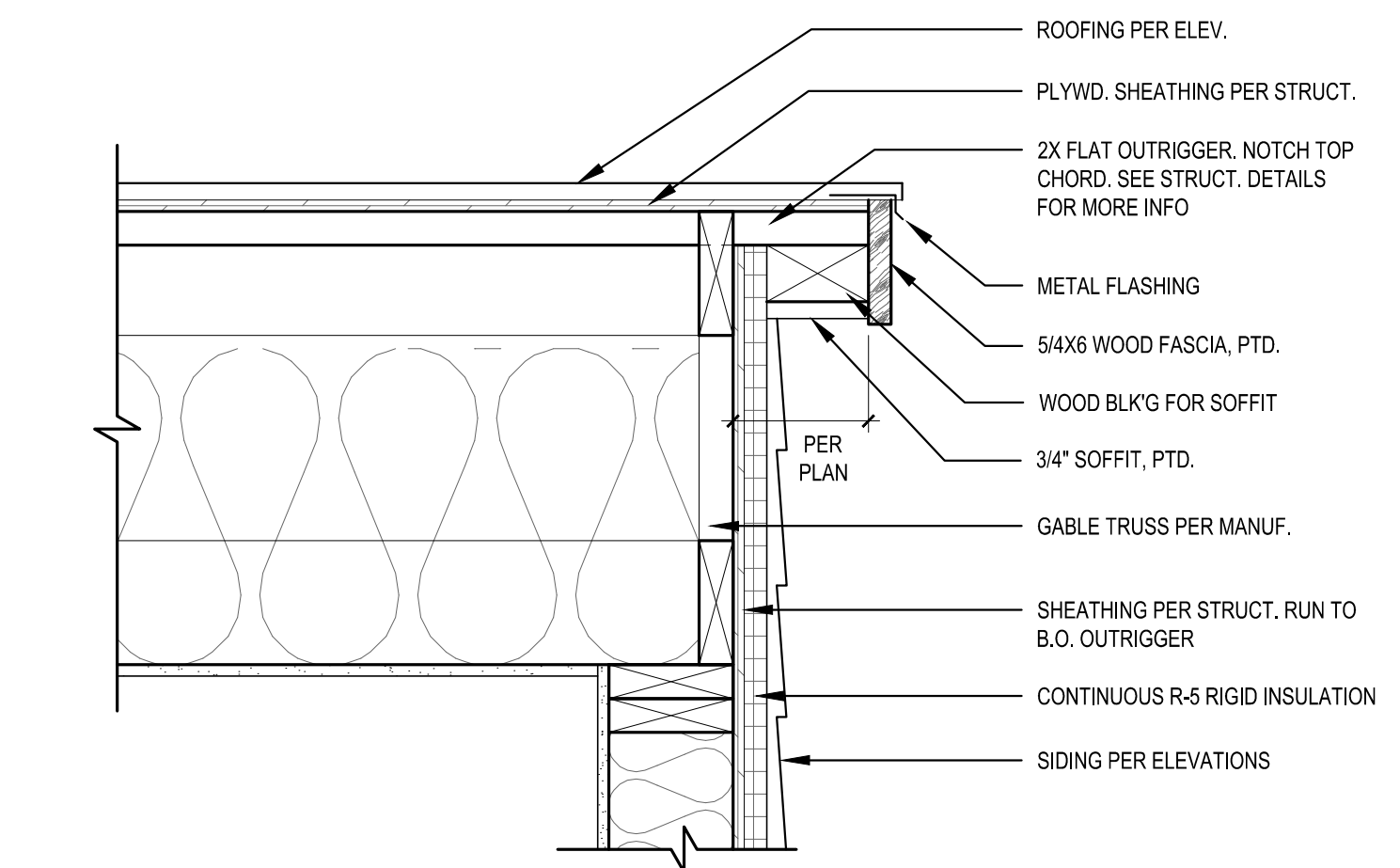
4 CONC. PLINTH COLMN BASE DETAIL
SCALE: 3" = 1'-0"



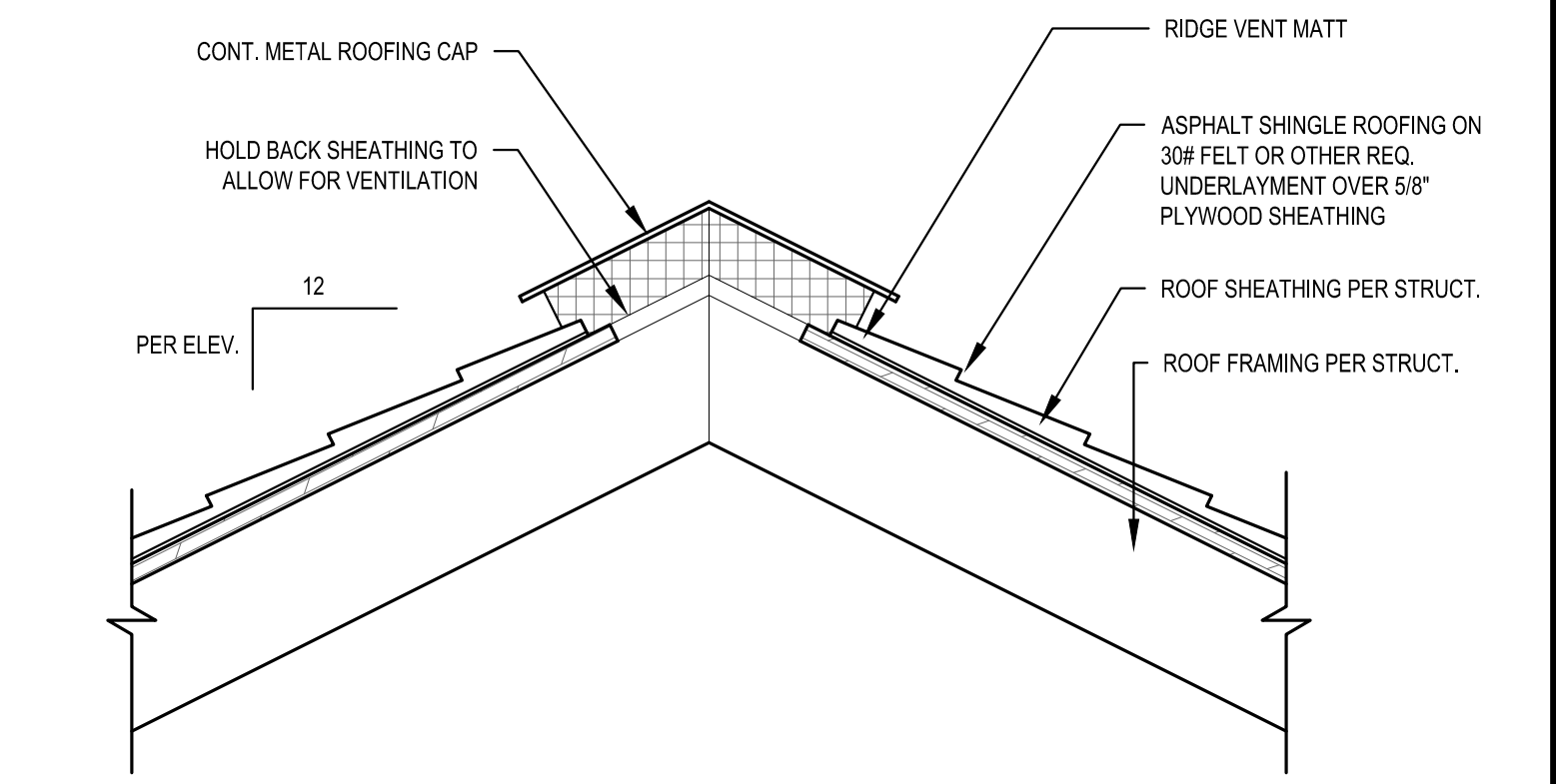
5 TYP. STONE VENEER AT STUD WALL
SCALE: 1 1/2" = 1'-0"



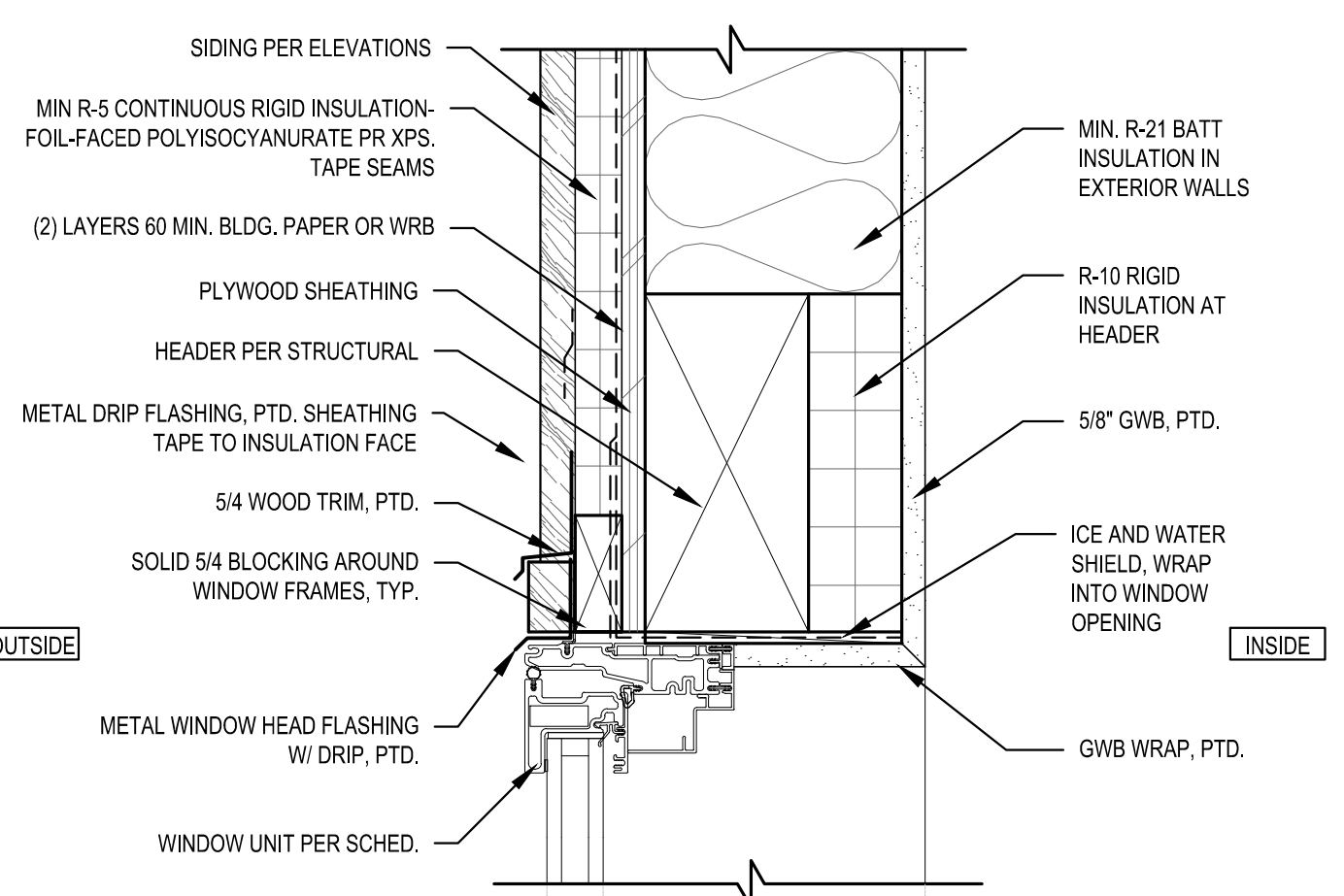
6 TYPICAL ROOF EAVE DETAIL
SCALE: 1 1/2" = 1'-0"



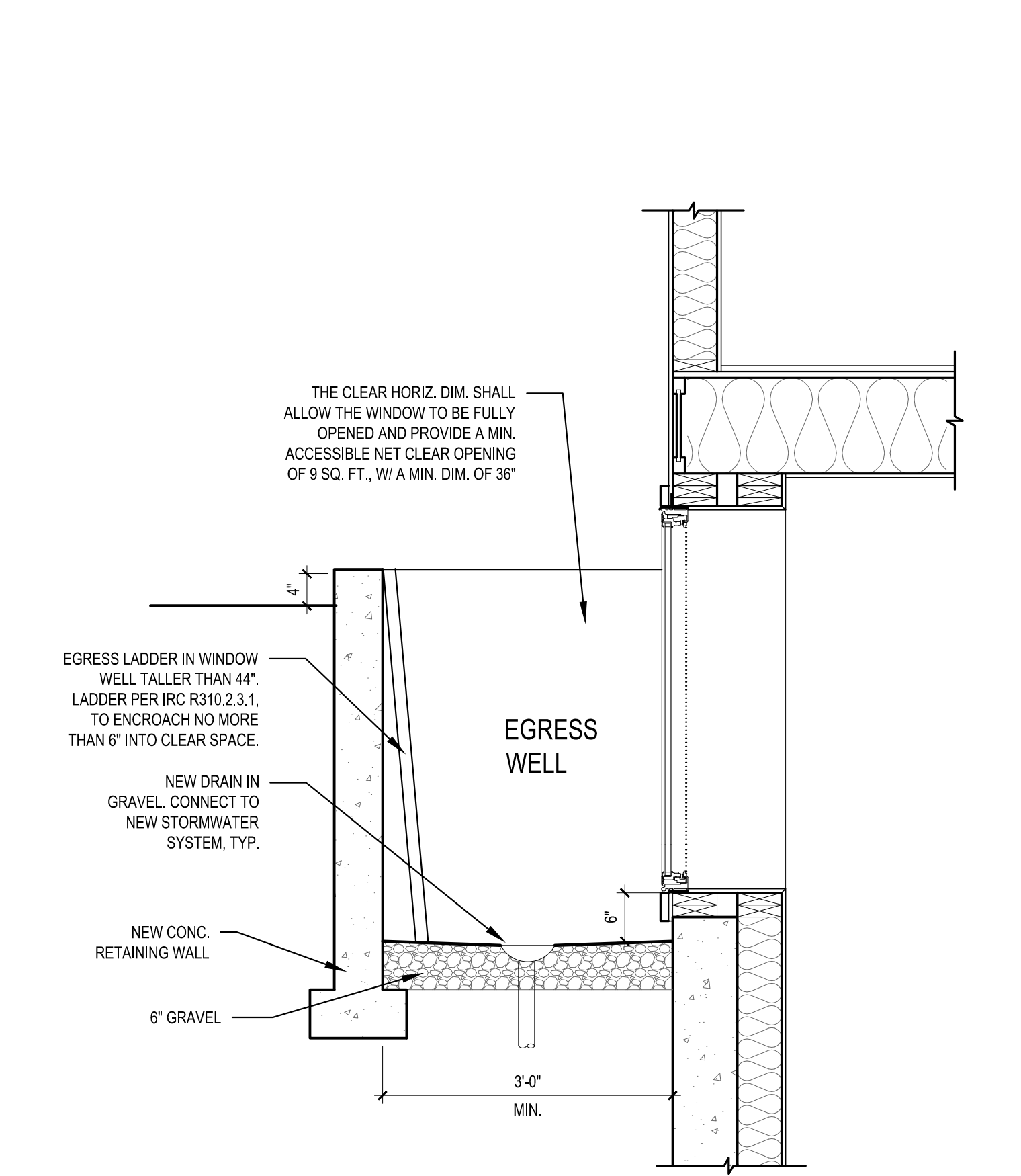
7 TYPICAL ROOF RAKE DETAIL
SCALE: 1 1/2" = 1'-0"



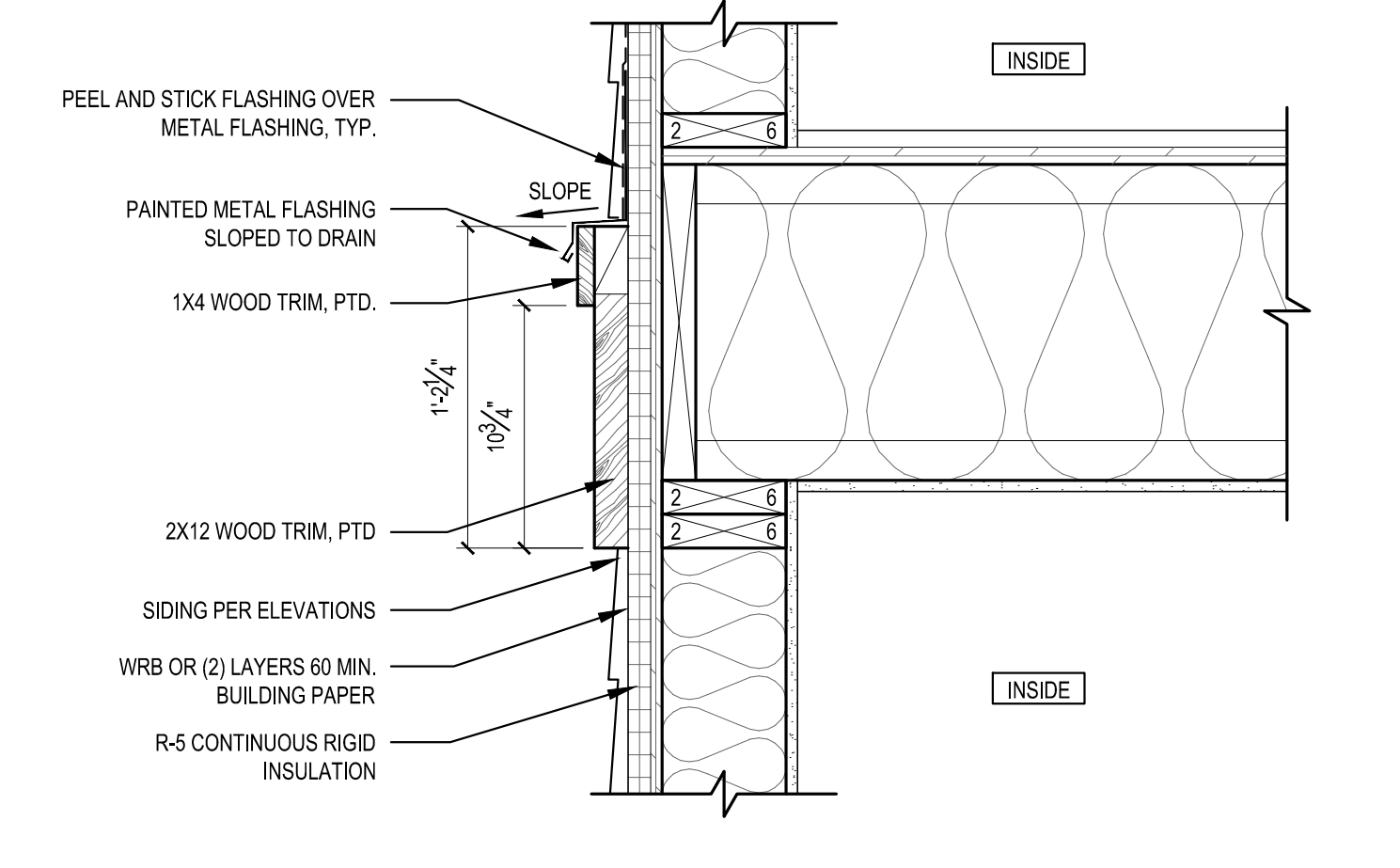
8 TYP. ROOF RIDGE VENT DETAIL
SCALE: 1 1/2" = 1'-0"



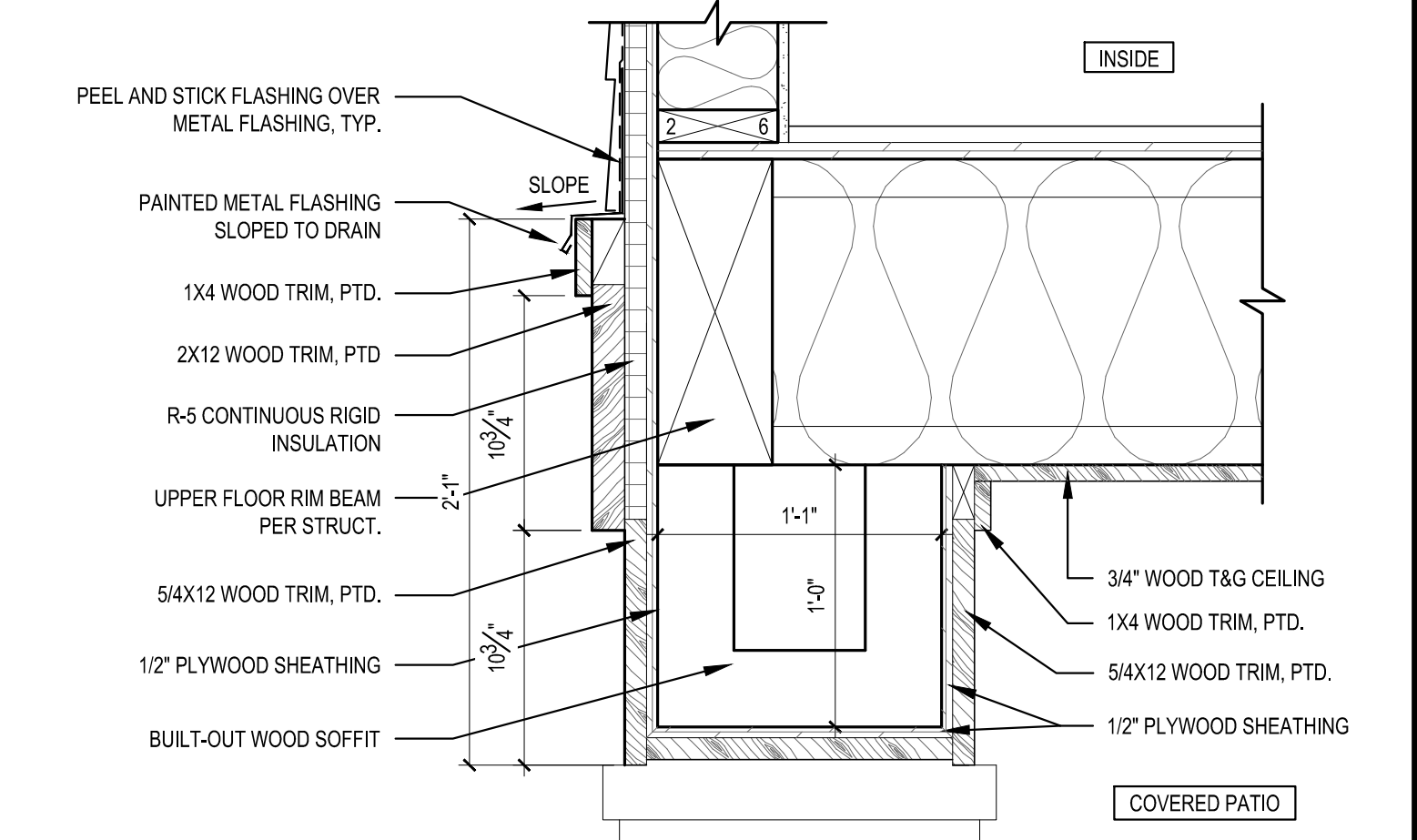
9 TYPICAL WINDOW HEAD DETAIL
SCALE: 3" = 1'-0" SIM. AT WINDOW JAMB



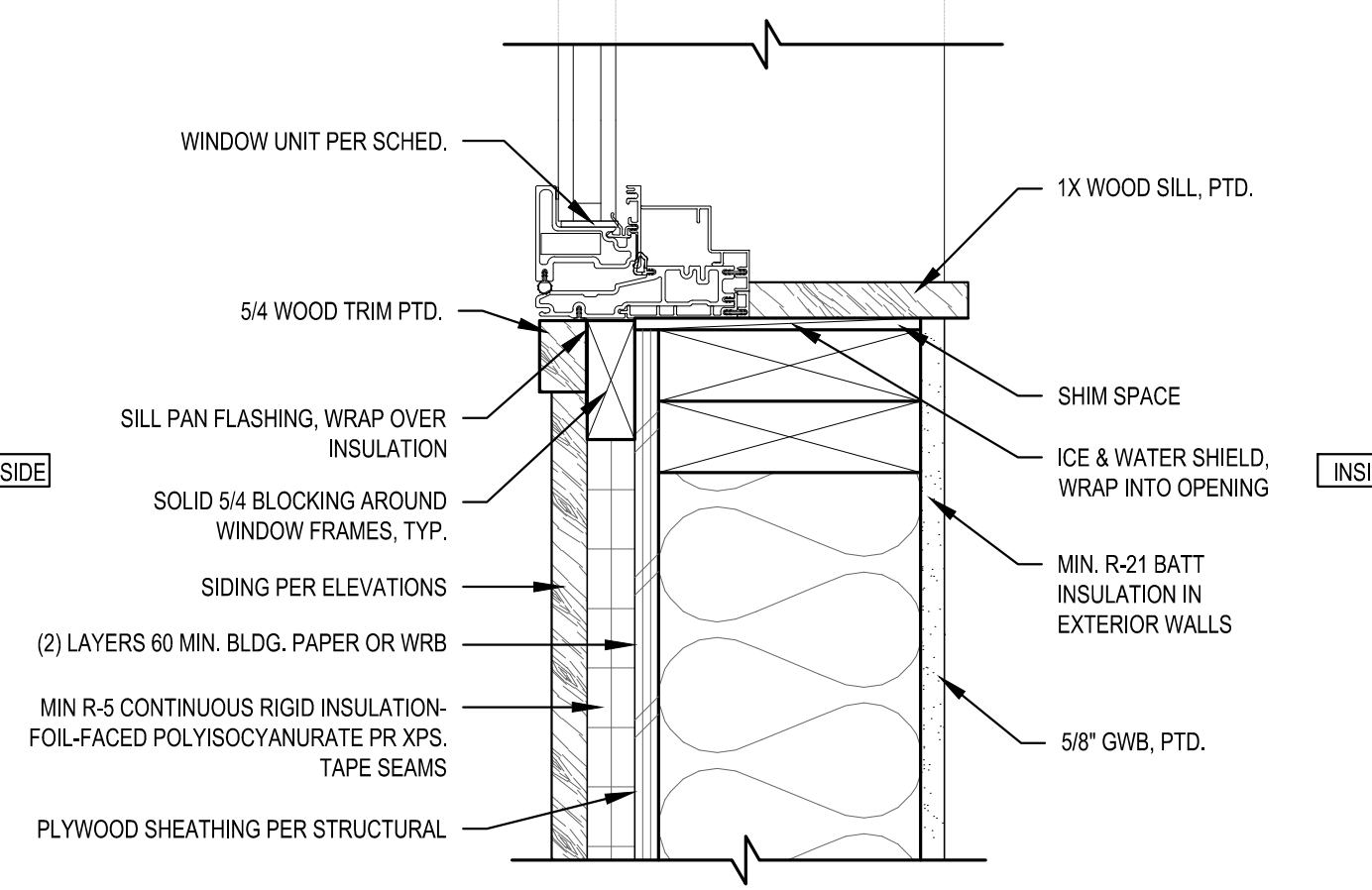
11 TYPICAL EGRESS WELL DETAIL
SCALE: 1 1/2" = 1'-0"



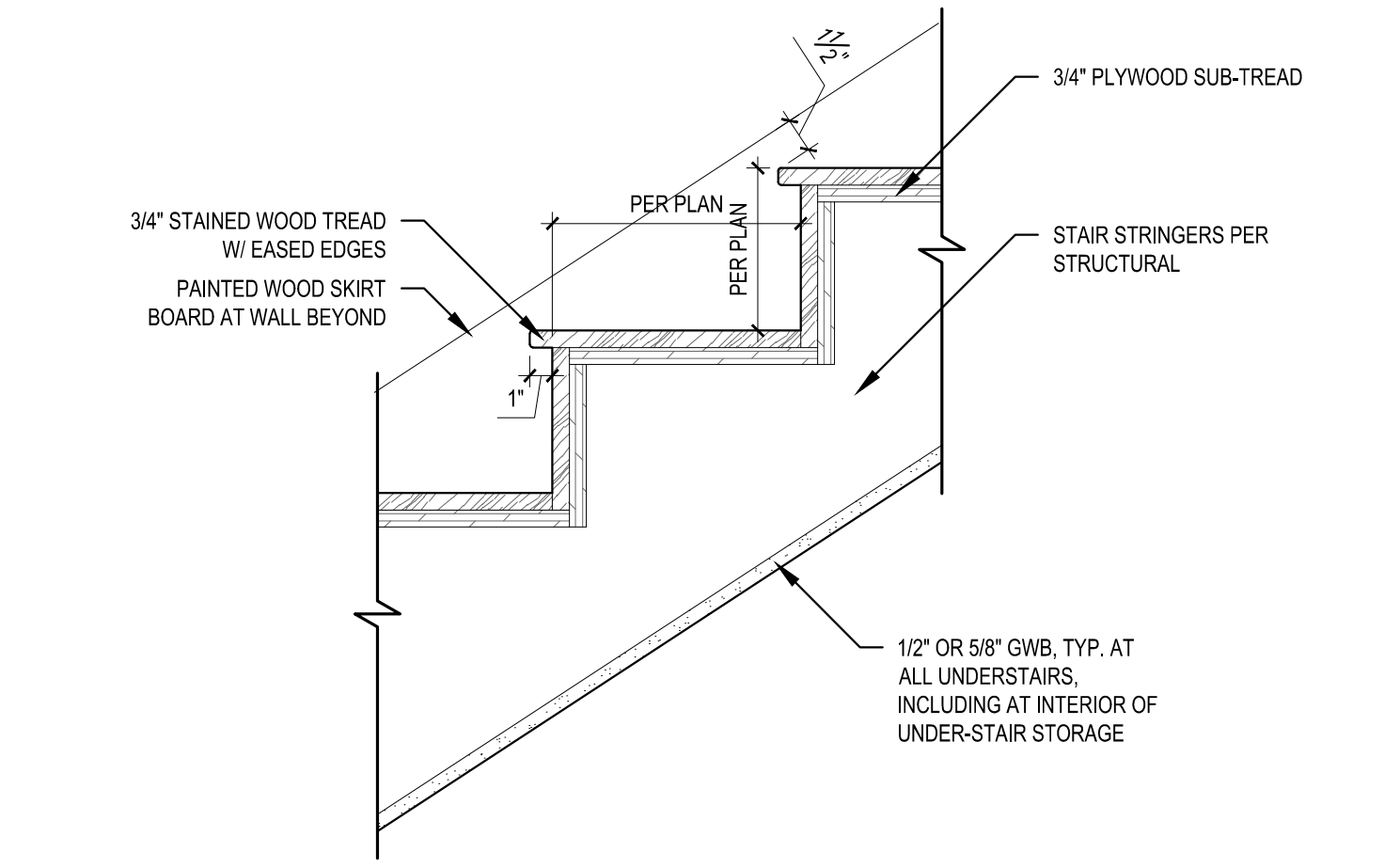
12 TYPICAL BAND TRIM DETAIL
SCALE: 1 1/2" = 1'-0"



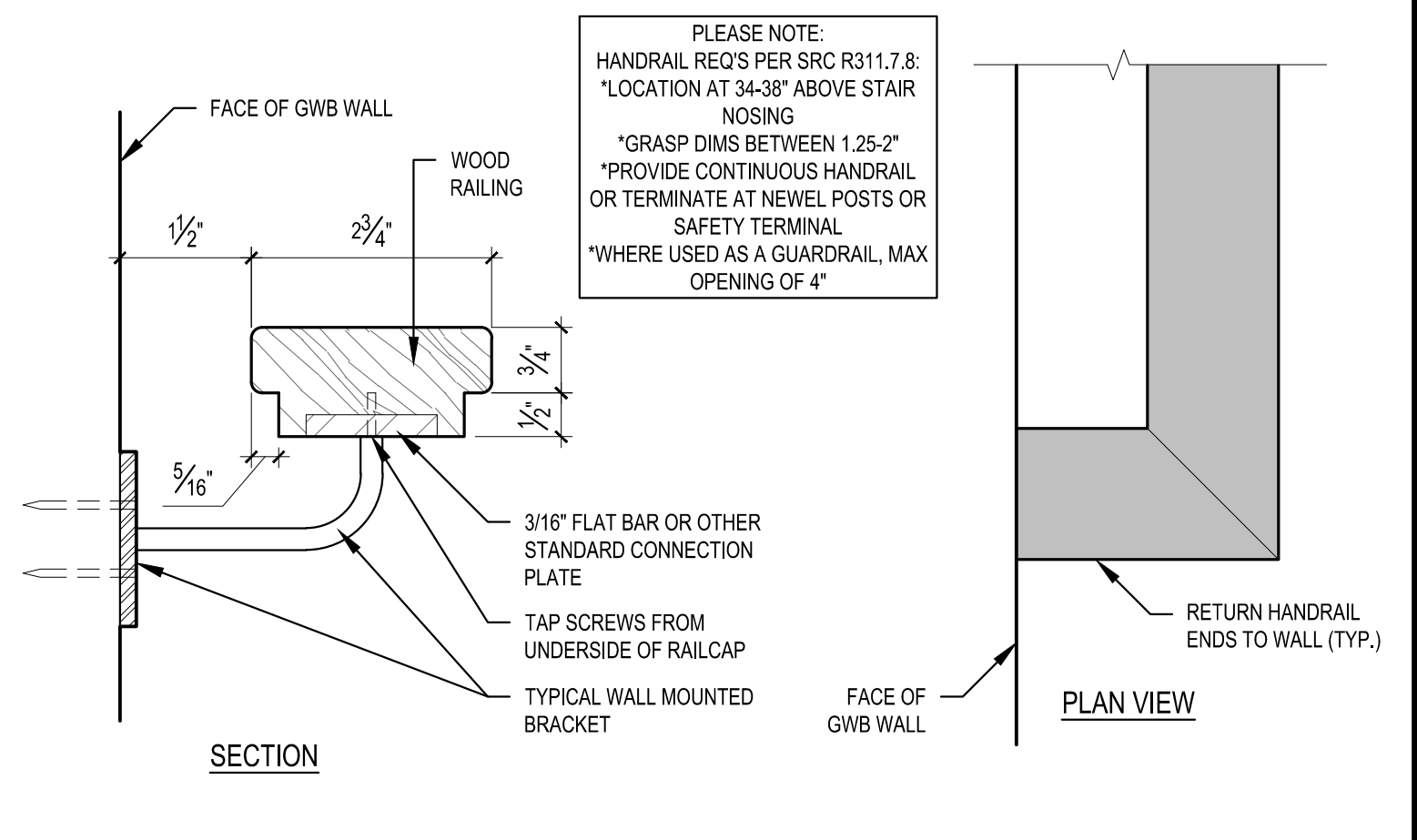
13 BAND TRIM @ SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



10 TYPICAL WINDOW SILL DETAIL
SCALE: 3" = 1'-0"



14 TYPICAL CLOSED STAIR RISER DETAIL
SCALE: 1 1/2" = 1'-0"



15 HANDRAIL DETAIL
SCALE: 3" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY
PERMIT SET 9/18/2022

BUILDING CODE: 2021 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), AND BY REFERENCE, THE 2021 INTERNATIONAL RESIDENTIAL CODE (IRC) AS AMENDED BY LOCAL JURISDICTION.
ROOF LIVE LOAD = 25 PSF SNOW (GROUND SNOW = 30 PSF)
ROOF DEAD LOAD = 15 PSF
FLOOR LIVE LOAD = 40 PSF (30 PSF AT SLEEPING AREAS)
FLOOR DEAD LOAD = 15 PSF
BALCONIES & DECKS = 60 PSF (LIVE LOAD) + 10 PSF (DEAD LOAD)
WIND SPEED, NOMINAL 3 SEC GUST = 100 MPH FOR RISK CATEGORY II, EXPOSURE 'C', Kzt=1.61
SOIL SITE CLASS "D" - SEISMIC CATEGORY D1-D3 Ss=1.42, Sa=0.25
OCCUPANCY GROUP: R-3 **CONSTRUCTION TYPE:** V-B

CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS OF PROJECT AND REPORT ANY OMISSIONS / DISCREPANCIES TO ARCHITECT AND/OR ENGINEER OF RECORD FOR RESOLUTION PRIOR TO COMMENCING WORK. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS. ARCHITECT AND/OR ENGINEER OF RECORD ARE NOT RESPONSIBLE FOR DISCREPANT CONDITIONS RESULTING FROM UNAUTHORIZED WORK PERFORMED BY THE CONTRACTOR.

DEFERRED SUBMITTAL ITEMS

THE FOLLOWING IS A LIST OF ITEMS THAT ARE NOT INCLUDED IN THIS PLAN AND SHOULD BE PROVIDED BY THE BUILDER AT TIME OF APPLICATION FOR PERMIT OR AS A DEFERRED SUBMITTAL ITEM:
 - ALTERNATIVE 1-JOIST/BEAM MANUFACTURER PLANS.
 - MANUFACTURED TRUSS DESIGNS AND LAYOUTS

GENERAL

FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING OF 1500 PSF. EXTERIOR FOOTINGS SHALL BE 4" MINIMUM BELOW FINISHED GRADE. ALL FOOTINGS TO BEAR ON FIRM UNDISTURBED EARTH BELOW ORGANIC SURFACE SOILS. BACKFILL TO BE THOROUGHLY COMPACTED.
 BOLT HEADS AND NUTS BEARING AGAINST WOOD TO BE PROVIDED WITH 0.229"x3"x3" PLATE WASHERS. WOOD BEARING ON OR INSTALLED WITHIN 1" OF MASONRY OR CONCRETE TO BE PRESSURE TREATED WITH AN APPROVED PRESERVATIVE.
 FOUNDATION SILL BOLTS (MIN 1" EMBED) TO BE 5/8" DIAMETER AT 6'-0" O.C. (4'-0" AT BUILDINGS OVER 2 STORES) UNO. METAL FRAMING CONNECTORS TO BE SIMPSON STRONG-TIE OR USP STEEL CONNECTORS.

CONCRETE

MINIMUM COMPRESSIVE STRENGTH OF CONCRETE:

TYPE OR LOCATION OF CONCRETE CONSTRUCTION	MINIMUM COMPRESSIVE STRENGTH (FC) AT 28 DAYS
BASEMENT WALLS, FOUNDATION FOOTINGS, BASEMENT SLABS, & INTERIOR SLABS ON GRADE (EXCEPT GARAGE) NOT EXPOSED TO THE WEATHER	2500 psi
BASEMENT WALLS, FOUNDATION WALLS, EXTERIOR WALLS, PORCHES, STEPS, GARAGE & CARPORT SLABS, & OTHER CONCRETE WORK EXPOSED TO THE WEATHER	3000 psi (6% air entrained w/ 1%)

CONCRETE MIXTURE SHALL CONTAIN AT LEAST OF 5 1/2 SACKS OF CEMENT PER CUBIC YARD CONCRETE. "BATCH TICKET" SHALL BE AVAILABLE ON SITE FOR REVIEW BY BUILDING OFFICIAL. VERTICAL REINFORCING STEEL TO COMPLY WITH ASTM A615 GRADE 40 (GRADE 60 AT WALLS RETAINING MORE THAN 4 FT OF SOIL).

CARPENTRY

GENERAL

ALL NAILING TO COMPLY WITH REQUIREMENTS OF IRC TABLE R602.3(1) AND/OR IBC TABLE 2304.10. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED. FIELD CUT ENDS, NOTCHES, AND DRILLED HOLES OF PRESSURE TREATED LUMBER SHALL BE RETREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4. PER IRC 319.3, FASTENERS FOR PRESSURE PRESERVATIVE AND FIRE RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER.
 6" MIN. CLEARANCE BETWEEN WOOD AND EARTH.
 12" MIN. CLEARANCE BETWEEN FLOOR BEAMS AND EARTH.
 18" MIN. CLEARANCE BETWEEN FLOOR JOIST AND EARTH.

FASTENER DIMENSIONS

ALL NAILS SPECIFIED ON THIS PLAN SHALL BE OF THE DIAMETER AND LENGTH LISTED BELOW OR AS PER APPENDIX L OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS):
 8d COMMON (0.131" DIA, 2-1/2" LENGTH), 8d BOX (0.113" DIA, 2-1/2" LONG), 10d COMMON (0.148" DIA, 3" LONG), 10d BOX (0.128" DIA, 3" LENGTH), 16d COMMON (0.162" DIA, 3-1/2" LONG), 16d SINKER (0.148" DIA, 3-1/4" LONG), 5d COOLER (0.086" DIA, 1-5/8" LONG), 6d COOLER (0.092" DIA, 1-7/8" LONG)

LUMBER GRADES

FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN PRODUCTS ASSOCIATION OR THE WEST COST LUMBER INSPECTION BUREAU. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE THE FOLLOWING UNADJUSTED MINIMUM DESIGN PROPERTIES, UNLESS NOTED OTHERWISE.

JOISTS:	WOOD TYPE:
2X4 TO 2X8	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
2X10 OR LARGER	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
BEAM:	
4X	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
6X OR LARGER	DF-L #1 - Fb+1350 psi, Fv+170 psi, Fc+925 psi, E=16,000,000 psi
STUDS:	
2X4 & 2X6	DF STUD - Fb+700 psi, Fv+180 psi, Fc+850 psi, E=14,000,000 psi
2X8 OR LARGER	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
POSTS:	
4X4	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
4X6	DF-L #2 - Fb+900 psi, Fv+180 psi, Fc+1350 psi, E=16,000,000 psi
6X6 OR LARGER	DF-L #1 - Fb+1200 psi, Fv+170 psi, Fc+1000 psi, E=16,000,000 psi

GLUED-LAMINATED BEAM (GLB)

SHALL BE 24F-V4 FOR SINGLE SPANS & 24F-V8 FOR CONTINUOUS OR CANTILEVER SPANS WITH THE FOLLOWING MINIMUM PROPERTIES:
 Fb = 2,400 PSI, Fv = 165 PSI, Fc = 650 PSI (PERPENDICULAR), E = 1,800,000 PSI.

ENGINEERED WOOD BEAMS AND I-JOIST

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SPECIFICATIONS FOR APPROVAL BY BUILDING OFFICIAL. DESIGN, FABRICATION AND ERECTION IN ACCORDANCE WITH THE LATEST ICC EVALUATION REPORT.

BEAMS DESIGNATED AS "L9L" SHALL HAVE THE MINIMUM PROPERTIES:
 Fb = 2,325 PSI, Fv = 310 PSI, Fc = 800 PSI (PERPENDICULAR), E = 1,550,000 PSI.

BEAMS DESIGNATED AS "LVL" SHALL HAVE THE MINIMUM PROPERTIES:
 Fb = 2,600 PSI, Fv = 285 PSI, Fc = 750 PSI (PERPENDICULAR), E = 1,900,000 PSI.

BEAMS DESIGNATED AS "PSL" SHALL HAVE THE MINIMUM PROPERTIES:
 Fb = 2,300 PSI, Fv = 230 PSI, Fc = 750 PSI (PERPENDICULAR), E = 2,000,000 PSI.

CALCULATIONS SHALL INCLUDE DEFLECTION AND CAMBER REQUIREMENTS. DEFLECTION SHALL BE LIMITED AS FOLLOWS:
 FLOOR LIVE LOAD MAXIMUM = L/480, FLOOR TOTAL LOAD MAXIMUM = L/240.

PREFABRICATED WOOD TRUSSES:

PRE-FABRICATED WOOD TRUSSES SHALL BE DESIGNED TO SUPPORT SELF WEIGHT PLUS LIVE LOADS & IMPOSED DEAD LOADS AS STATED IN THE GENERAL NOTES. TRUSSES SHALL BE DESIGNED & STAMPED BY A REGISTERED DESIGN PROFESSIONAL AND FABRICATED ONLY FROM THOSE DESIGNS. NON-BEARING WALLS SHALL BE HELD AWAY FROM THE TRUSS BOTTOM CHORD W/ AN APPROVED FASTENER (SUCH AS SIMPSON STC) TO ENSURE THAT THE TRUSS BOTTOM CHORD DOES NOT BEAR ON THE WALL. ALL PERMANENT TRUSS MEMBER BRACING SHALL BE INSTALLED PER THE TRUSS DESIGN DRAWINGS.

ROOF/WALL FLOOR SHEATHING:

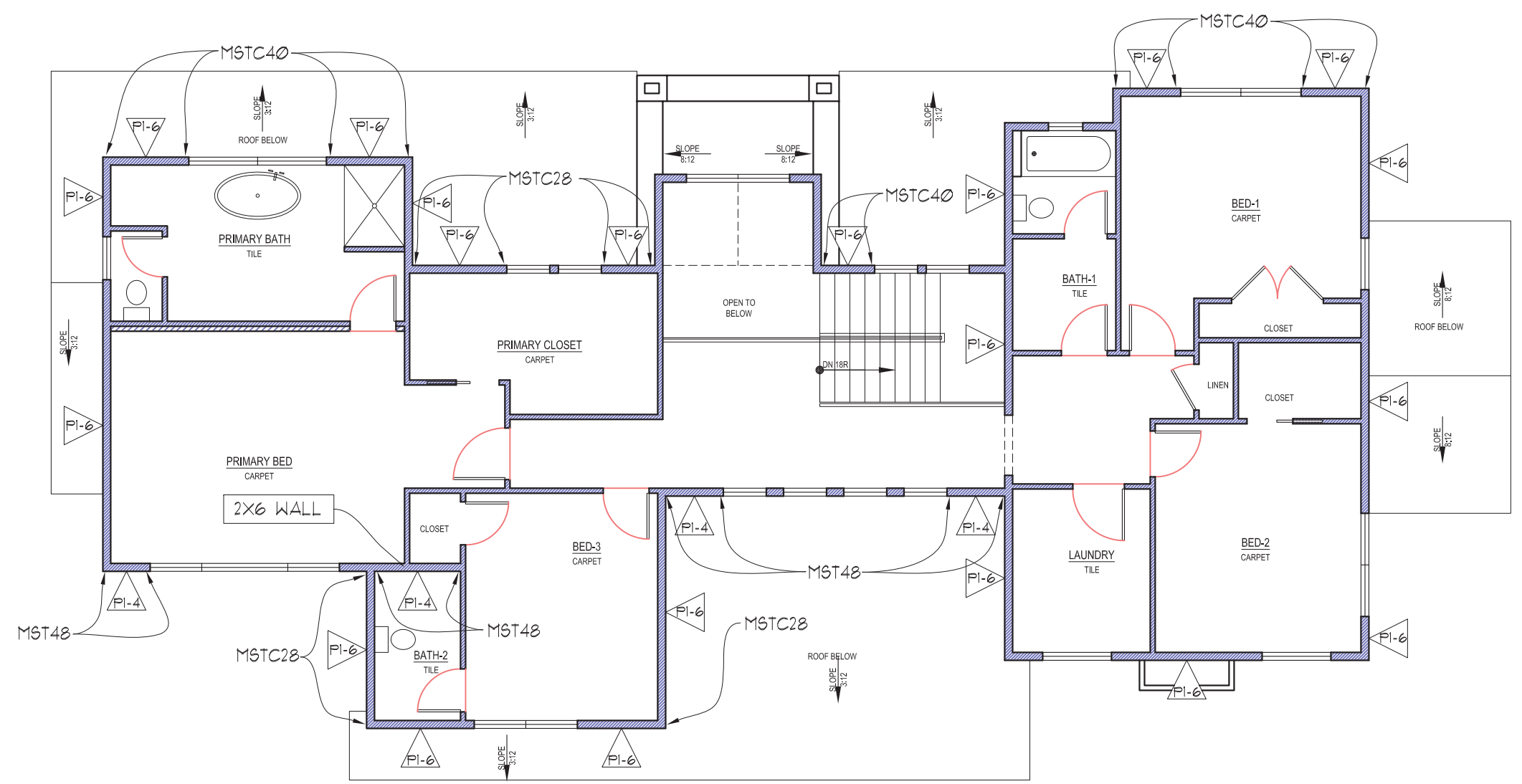
ROOF SHEATHING SHALL BE MINIMUM 3/8" SHEATHING W/ 3/4" SPAN INDEX UNO. WALL SHEATHING, INCLUDING GABLES, SHALL BE 3/8" SHEATHING W/ 3/4" SPAN INDEX MINIMUM UNO. FLOOR SHEATHING SHALL BE MINIMUM 3/8" T&G SHEATHING W/ 40% SPAN INDEX MINIMUM UNO. MINIMUM NAILING SHALL BE 8d COMMON NAILS @ 6" O.C. @ PANEL EDGES & 12" O.C. IN PANEL FIELD UNO ON SHEAR WALL SCHEDULE. ROOF AND FLOOR SHEATHING SHALL BE LAID OUT W/ LONG DIMENSION PERPENDICULAR TO FRAMING MEMBERS W/ END LAP'S STAGGERED. WALL SHEATHING, INCLUDING GABLES, SHALL BE FULLY BLOCKED & EDGE NAILED AT ALL UNSUPPORTED SHEATHING PANEL EDGES.

STAIR FRAMING:

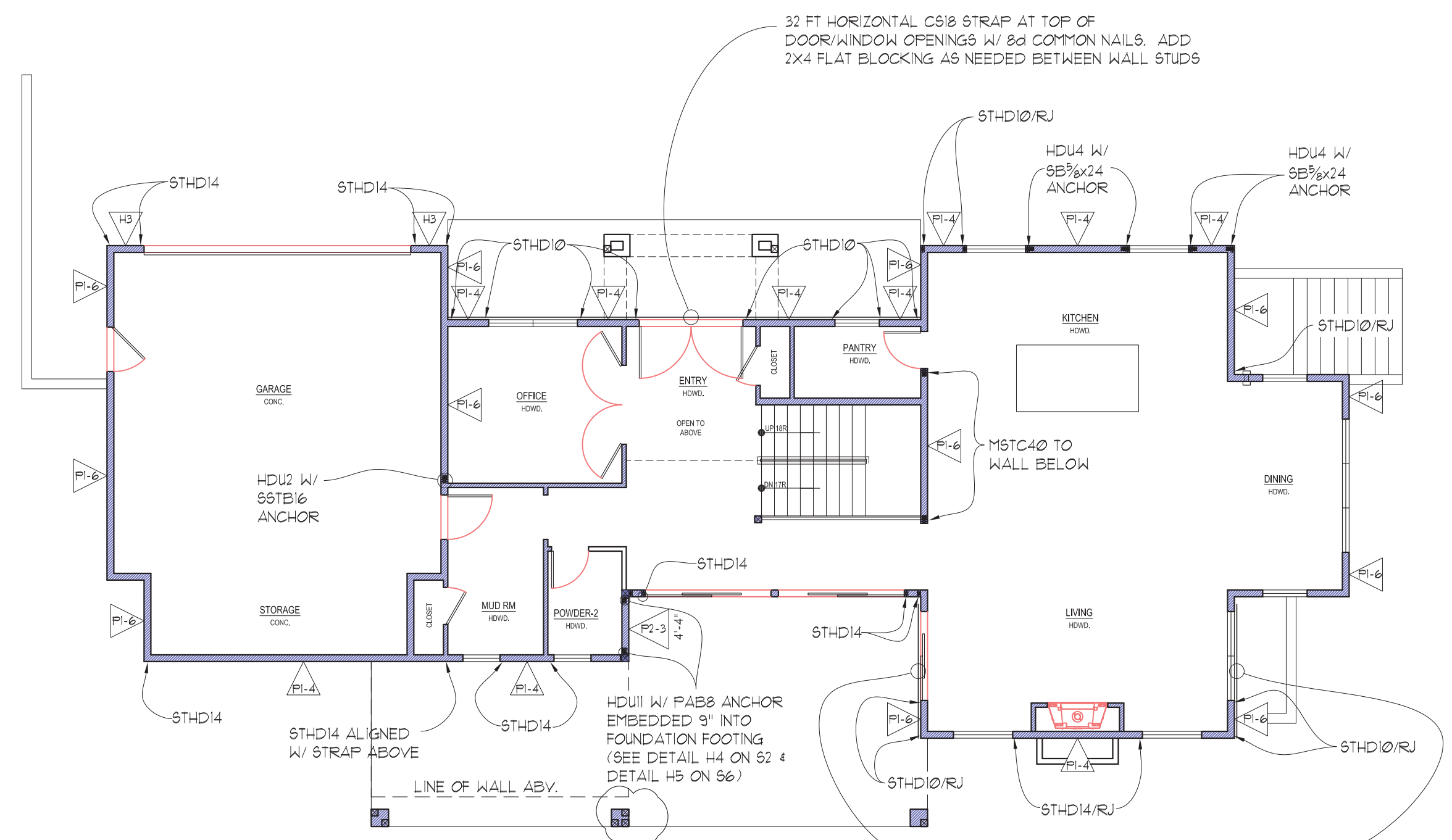
UNLESS NOTED OTHERWISE SPECIFIED, TYPICAL STAIR FRAMING SHALL CONSIST OF 2X12 STAIR STRINGERS SPACED AT NO MORE THAN 18" O.C. AND REINFORCED W/ 2X6 SCABS ATTACHED W/ 10d COMMON NAILS STAGGERED AT 8" O.C. STRINGERS SHALL BE SUPPORTED AT UPPER END BY BEARING ON TOP PLATE OF WALL OR APPROVED CONSOLE OR TO FLOOR BEAM SUCH AS SIMPSON LRU OR LSC. LANDINGS SHALL CONSIST OF CONVENTIONAL PLATFORM FRAMING W/ MINIMUM 2X6 JOISTS @ 16" O.C.

SHEAR WALL SCHEDULE									
WALL MARK	SHEATHING (MINIMUM)	EDGE NAILING	FIELD NAILING	FRAMING # ADJOINING PANEL EDGES	SOLE/BASE PLATE FASTENING (STAGGER)	MINIMUM RIM BOARD OR BLOCKING WIDTH BELOW WALL	SILL PLATE	ANCHOR BOLT DIA. & SPACING	
PI-6	3/8" SHEATHING ONE SIDE	8d (0.131"x2.5") AT 6" O.C.	12" O.C.	2X	(1) ROW 16d SINKER (0.148"x3 1/4") @ 8" O.C.	125" LSL (13E) UNLESS NOTED OTHERWISE	2X	5/8" DIA. @ 12" O.C.	
PI-4	3/8" SHEATHING ONE SIDE	8d (0.131"x2.5") AT 4" O.C.	12" O.C.	2X	(1) ROW 16d SINKER (0.148"x3 1/4") @ 4" O.C.	125" LSL (13E) UNLESS NOTED OTHERWISE	2X	5/8" DIA. @ 48" O.C.	
PI-3	3/8" SHEATHING BOTH SIDES	8d (0.131"x2.5") AT 3" O.C.	12" O.C.	3X OR GREATER	(2) ROWS 1/2"x5" SDB SCREWS @ 6" O.C. (OFFSET ROWS 15")	35" LSL (15E) UNLESS NOTED OTHERWISE	3 X 6	5/8" DIA. @ 16" O.C.	
H3	3/8" SHEATHING ONE SIDE	SEE DETAIL H3 ON SHEET 52 FOR FRAMING CONFIGURATION & SPECIFICATION OF NAILING, STRAPS, & HOLDOWNS (REFER TO APA TECHNICAL TOPIC TT-100, "A PORTAL FRAME W/ HOLDOWNS FOR ENGINEERED APPLICATIONS")							

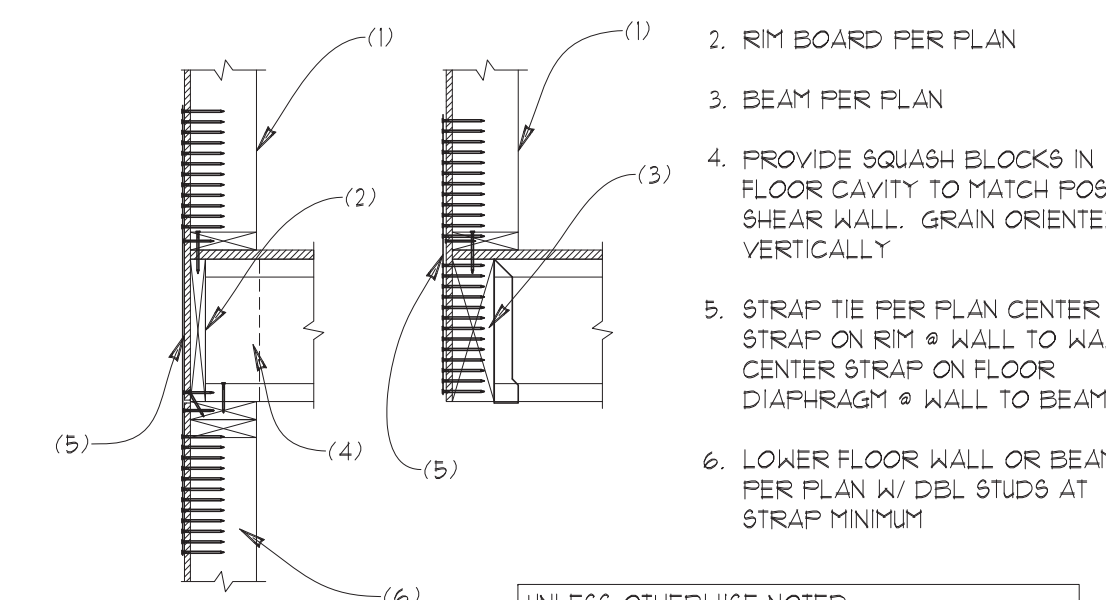
- FRAMING SHALL BE 2X DOUG-FIR @ 16" O.C. MAX UNLESS NOTED OTHERWISE IN SCHEDULE.
- SHEATHING PANELS MAY BE LAYED VERTICAL OR HORIZONTAL. BLOCK ALL ADJOINING HORIZONTAL EDGES W/ 2x OR 3x BLOCKING PER SCHEDULE.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEARWALLS SHALL RECEIVE APA RATED SHEATHING OR ALL VENEER PLYWOOD SIDING OF EQUIVALENT THICKNESS AT POINT OF FASTENING ON PANEL EDGES, FULLY BLOCKED WITH MINIMUM NAILING OF 8d (0.131"x2.5") @ 6" O.C. EDGE @ 12" O.C. FIELD.
- NAILING APPLIES TO ALL STUDS, TOP PLATES, SOLE PLATES, SILL PLATES, & BLOCKING. PANEL EDGE AND SILL/SOLE PLATE NAILING SHALL BE STAGGERED.
- ANCHOR BOLT SPACING IS 6'-0" O.C. (4'-0" AT BUILDINGS OVER 2 STORES) UNLESS NOTED OTHERWISE IN SCHEDULE. MINIMUM OF 2 ANCHOR BOLTS PER PIECE OF FOUNDATION PLATE. ANCHOR BOLTS SPACED NO GREATER THAN 12" AND NO LESS THAN 1 TIMES THE ANCHOR BOLT DIAMETER AT ENDS & SPLICES. PROVIDE 0.229"x3"x3" WASHERS AT ANCHOR BOLTS. PLATE WASHERS SHALL EXTEND TO WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE ON WALLS W/ EDGE NAILING AT 4" O.C. OR TIGHTER. DIAGONALLY SLOTTED WASHERS MAY BE USED W/ A STANDARD CUT WASHER PROVIDED BETWEEN PLATE WASHER & NUT. DO NOT RECESS BOLTS.
- ALL NAILS FOR SHEAR WALLS SHALL BE COMMON OR GALVANIZED BOX NAILS (UNO). ALL SPECIFIED NAILS SHALL HAVE THE FOLLOWING DIMENSIONS: 8d (0.131" DIA x 2.5" LONG), 10d (0.148" DIA x 3" LONG), 16d COMMON (0.162" DIA x 3.5" LONG), 16d SINKER (0.148" DIA x 3.25" LONG).
- IN LIEU OF 3X STUDS OR BLOCKING AT ADJOINING PANEL EDGES, 2-2X6'S FACE NAILED W/ 10d COMMON NAILS (0.148" DIA x 3" LONG) STAGGERED AT THE SAME SPACING AS PANEL EDGE NAILING MAY BE SUBSTITUTED. SHEATHING EDGES SHALL BE CENTERED BETWEEN THE 2-2X6 MEMBERS (SHALL NOT APPLY TO WALLS SHEATHED ON BOTH SIDES UNLESS ADJOINING PANEL EDGES ARE STAGGERED ON OPPOSITE FACES).
- HOLDOWNS AND STRAPS OF EQUIVALENT CAPACITY (W/ CURRENT ICC EVALUATION REPORT OR SIMILAR) MAY ONLY BE SUBSTITUTED FOR THOSE SPECIFIED ON PLAN WITH PRIOR APPROVAL OF BUILDING OFFICIAL OR ENGINEER OF RECORD.
- BLOCKING IN FLOOR JOIST CAVITY IS REQUIRED AT ENDS OF SHEAR WALLS WHERE FULL BEARING IS NOT PROVIDED BY THE FRAMING BELOW. BLOCKING SHALL HAVE WOOD GRAIN ORIENTED VERTICALLY UNLESS NOTED OTHERWISE.
- SIMPSON MASAP MID/SILL ANCHORS, MAY BE SUBSTITUTED (1) FOR (1) AT 2X SILL PLATES FOR THE 3/8" DIA. SILL PLATE ANCHOR BOLTS SPECIFIED.



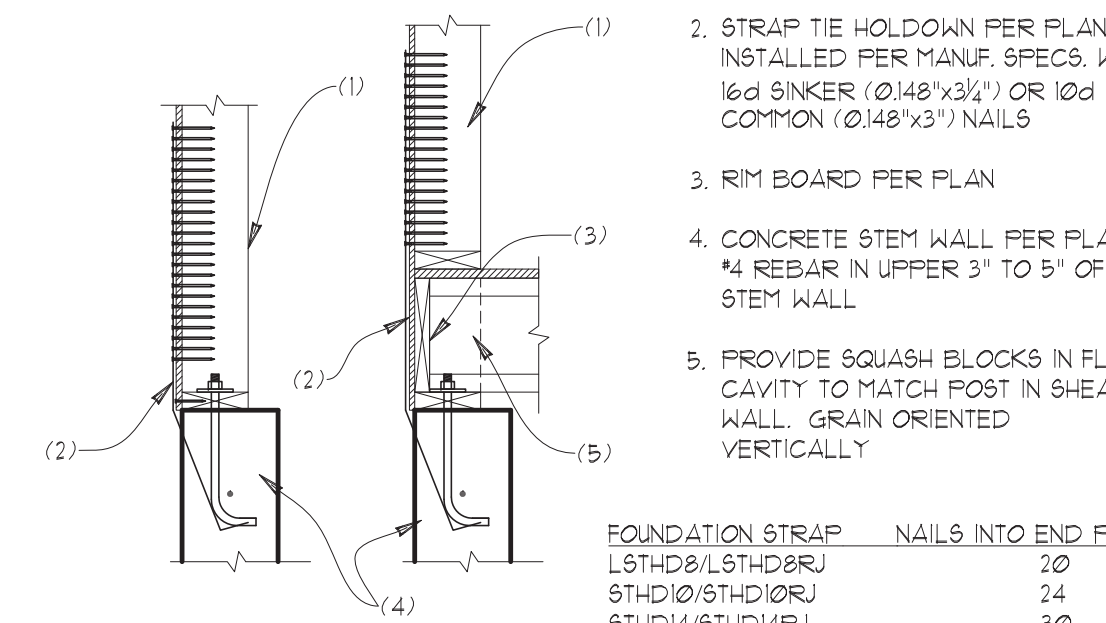
UPPER FLOOR SHEAR WALL KEY PLAN
SCALE: 1/8"=1'-0"



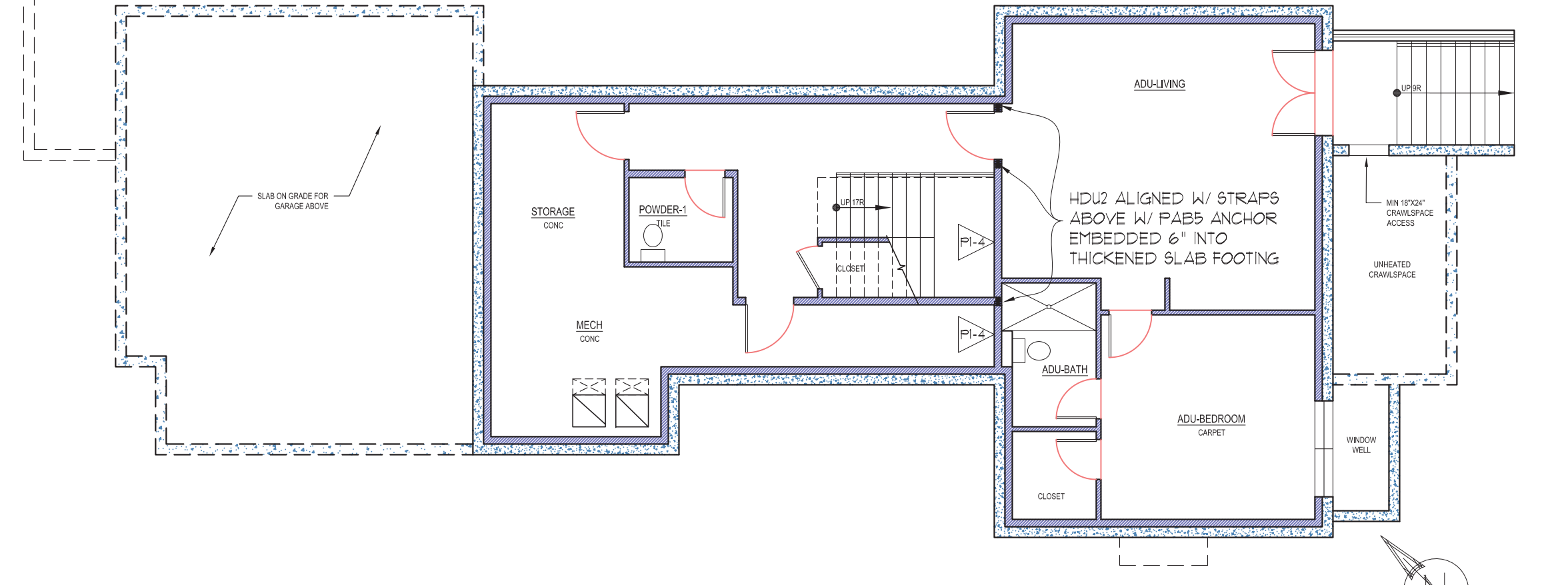
MAIN FLOOR SHEAR WALL KEY PLAN
SCALE: 1/8"=1'-0"



H1 TYPICAL STRAP TIE @ UPPER FLOORS
SCALE: 3/4"=1'



H2 TYPICAL STRAP TIE HOLDOWN
SCALE: 3/4"=1'

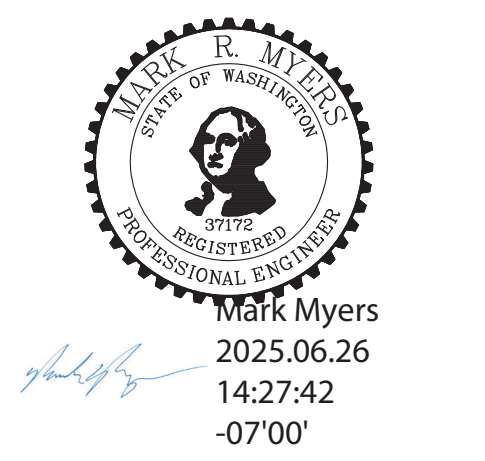


LOWER FLOOR SHEAR WALL KEY PLAN
SCALE: 1/8"=1'-0"

STRUCTURAL PLANS

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MERCER ISLAND, WA

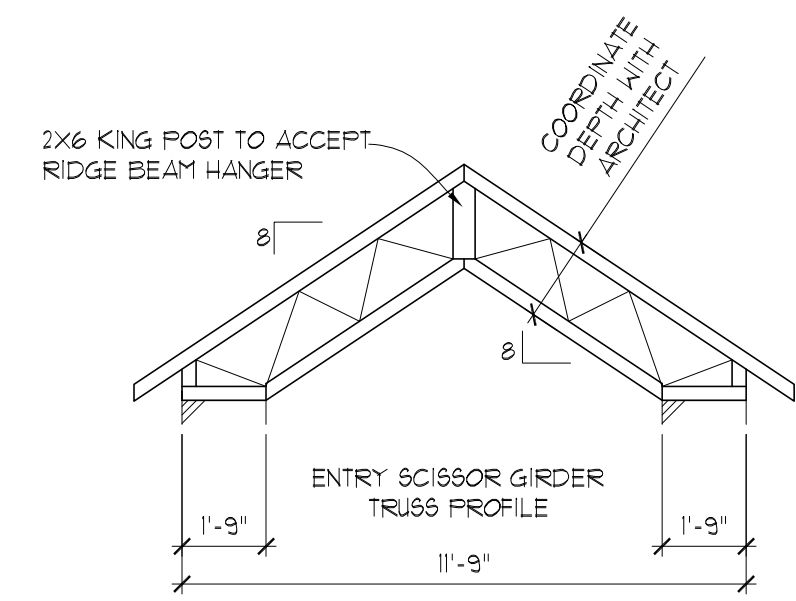
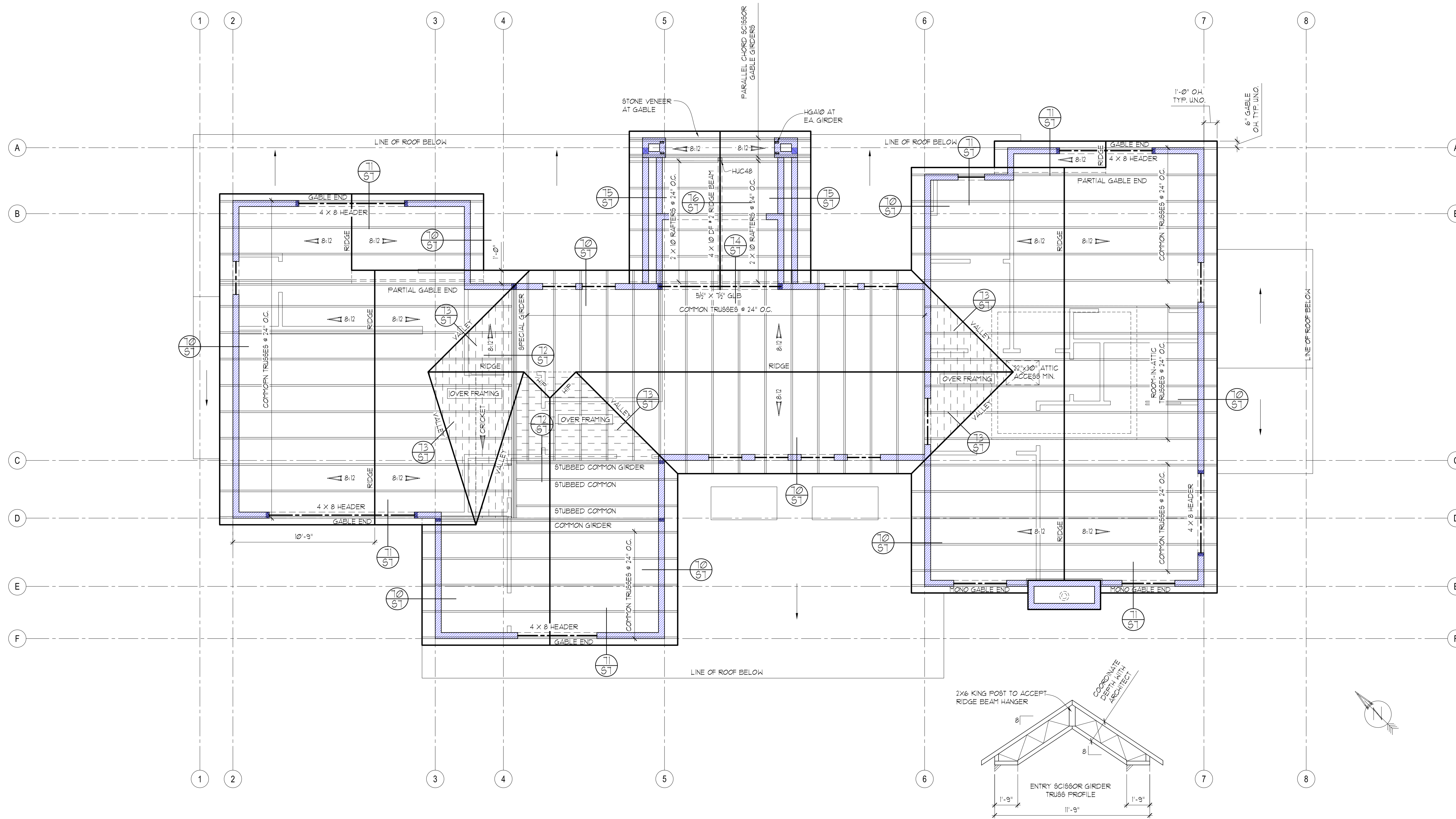
Myers Engineering, LLC
3206 50th Street Court, Ste. 210-B
Gig Harbor, WA 98335
PH: 253-858-3248
Email: myengineer@centurytel.net



BUILDING DEPT. APPROVAL STAMPS:

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DATE: 4-3-2025		
INITI: MM		
PROJECT #: 2601		

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ROOF FRAMING PLAN

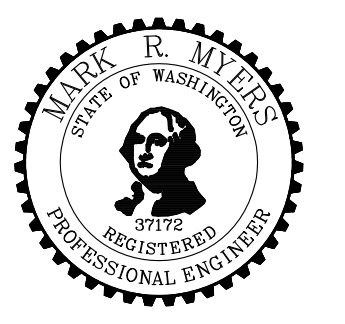
SCALE : 1/4" = 1'-0"

- PROVIDE VENTED BLOCKING AT REQUIRED TRUSS/RAFTER BAYS
- ALL MANUFACTURED TRUSSES:
 - SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION
 - SHALL NOT BE FIELD ALTERED WITHOUT ENGINEER'S APPROVAL
 - SHALL BE INSTALLED AND BRACED TO MANUFACTURER'S SPECIFICATION
 - SHALL CARRY MANUFACTURER'S STAMP ON EACH TRUSS
- ALL BEAMS AND HEADERS AT THIS LEVEL TO BE 4X10 DF #2 AT BEARING WALLS, U.N.O., 6'-0" MAX. SPAN
- HEADERS 8FT OR LONGER SHALL BE PROVIDED W/ (2) TRIMMER (JACK) STUDS AT EACH END U.N.O.
- PROVIDE SOLID FRAMING EQUAL TO THE WIDTH OF THE MEMBER BEING SUPPORTED (U.N.O.)
- PROVIDE SUPPLEMENTAL BLOCKING IN FLOOR CAVITY BELOW SUPPORT POSTS FOR GIRDERS, BEAMS, AND END POSTS FOR SHEAR WALLS TO MATCH FULL WIDTH OF POSTS IN WALL ABV. W/ GRAIN ORIENTED VERTICALLY AND PROVIDE MATCHING POSTS IN WALL BELOW UNLESS LARGER POSTS ARE SPECIFIED ON PLAN

STRUCTURAL PLANS

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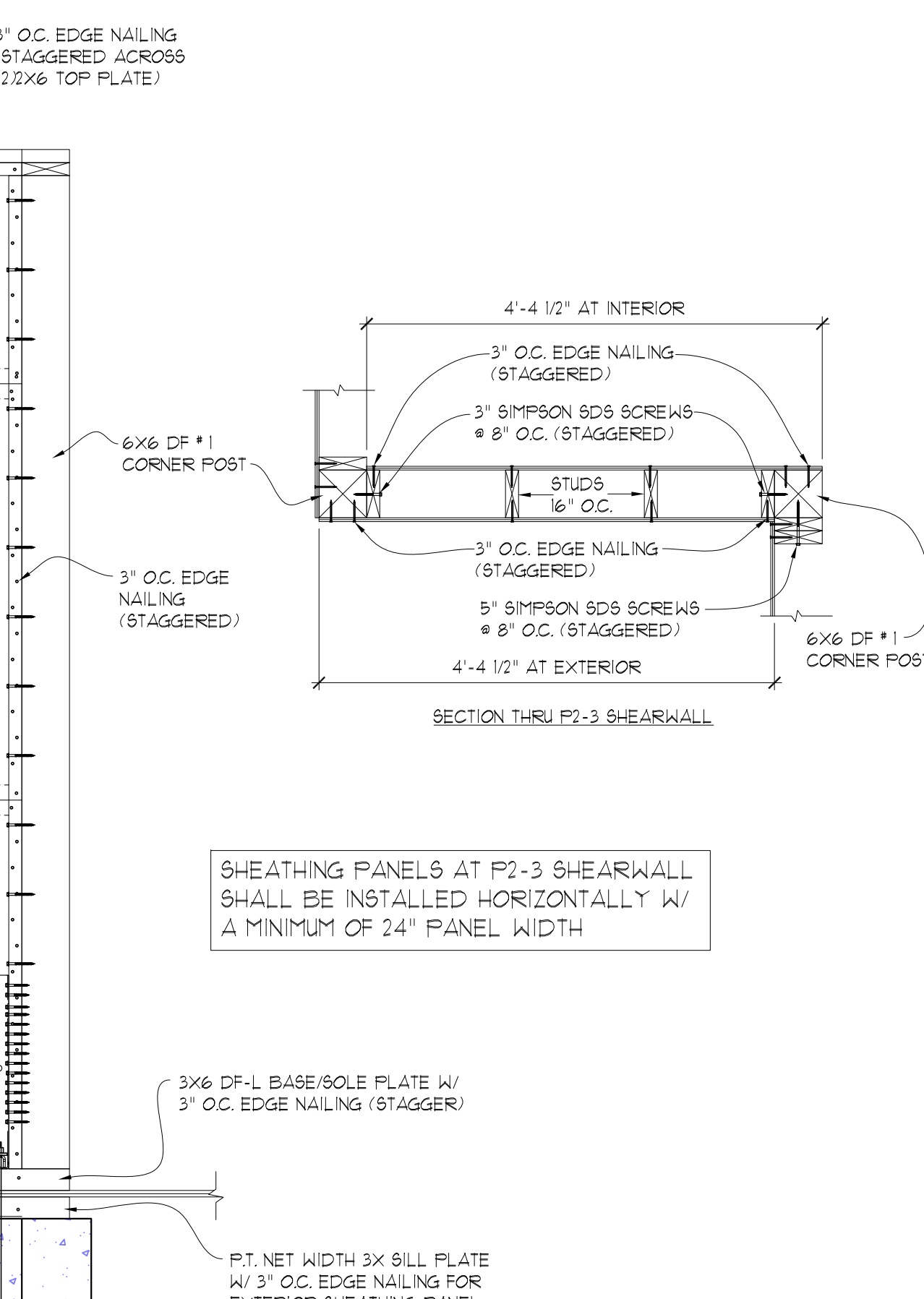
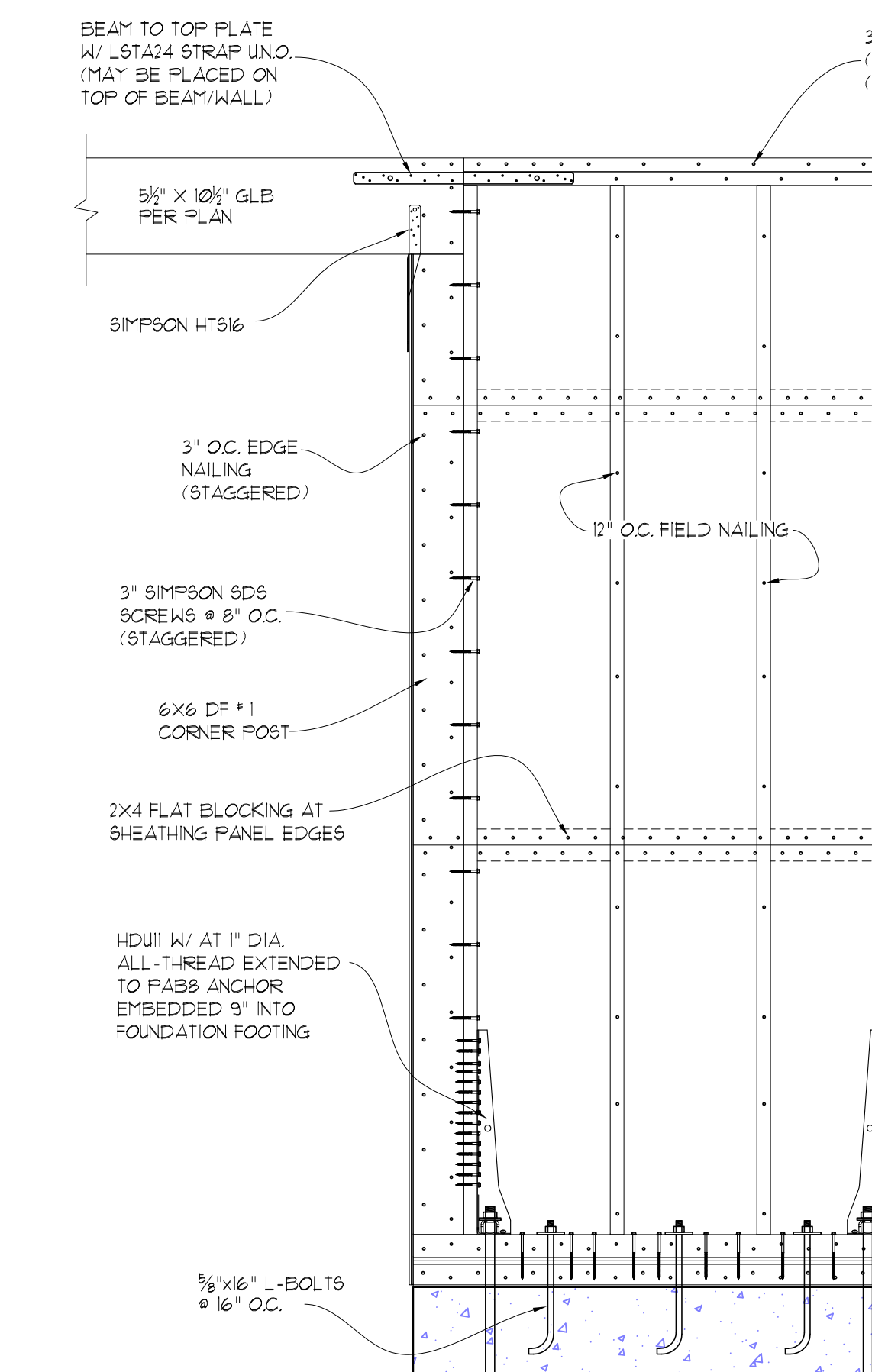
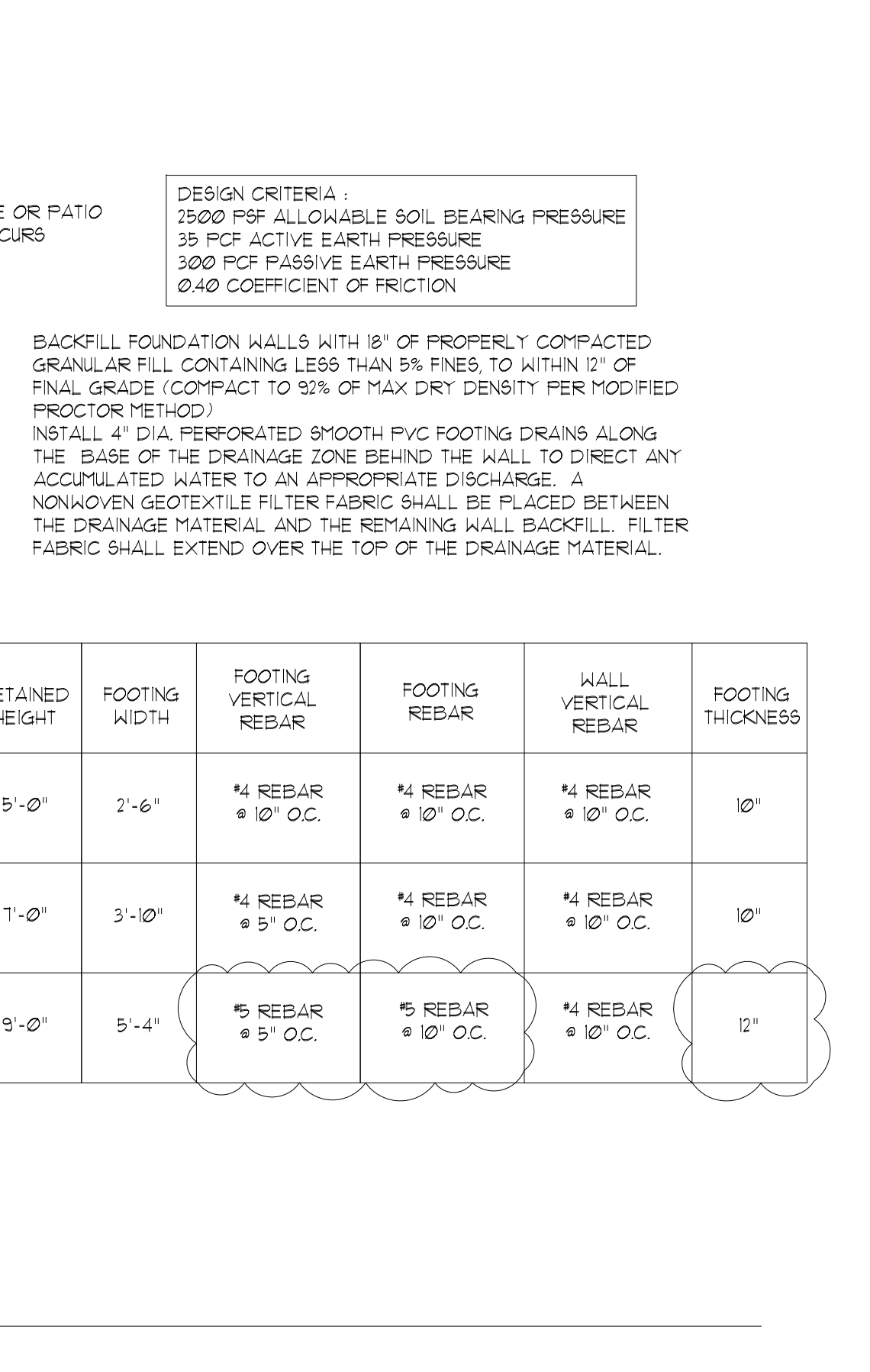
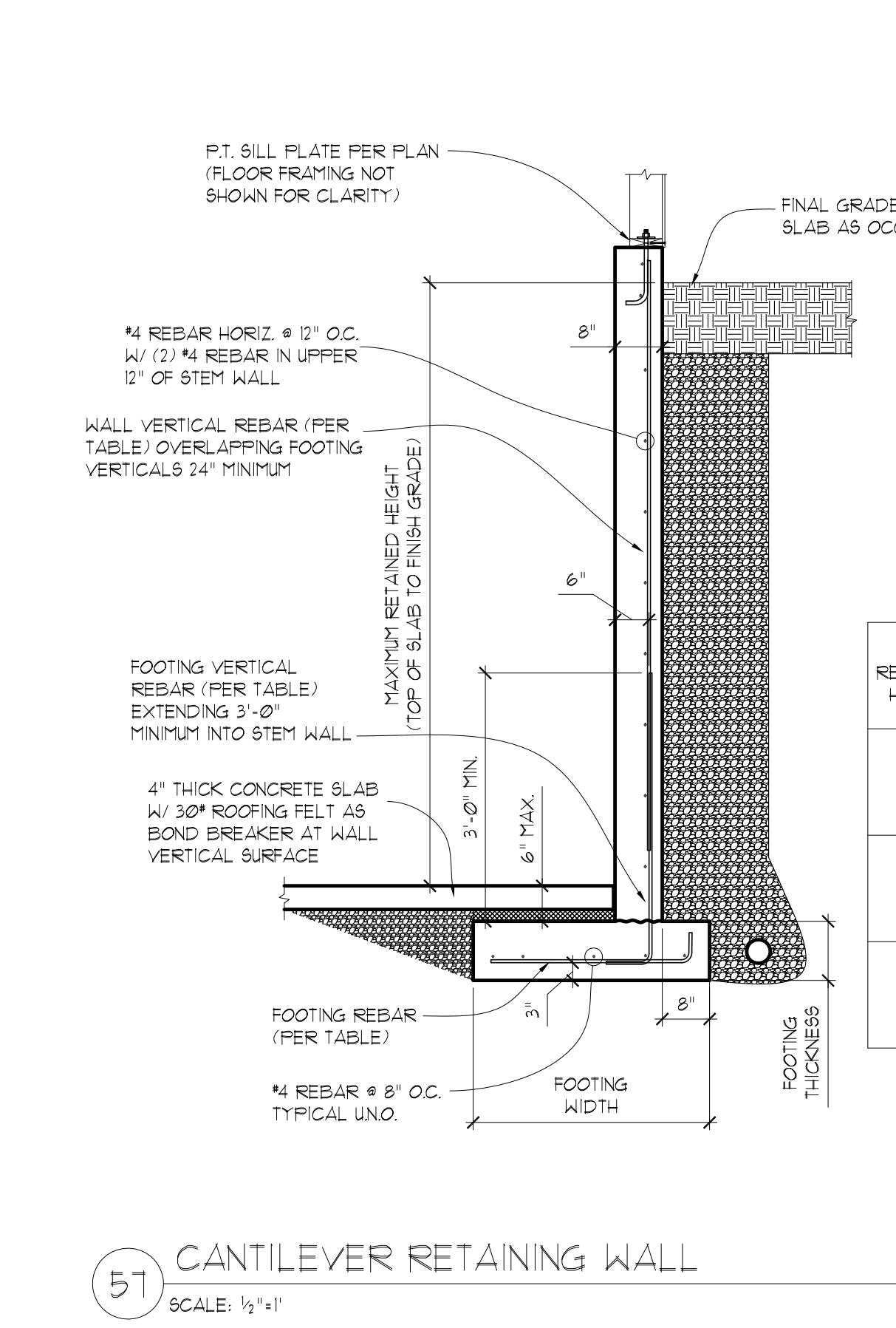
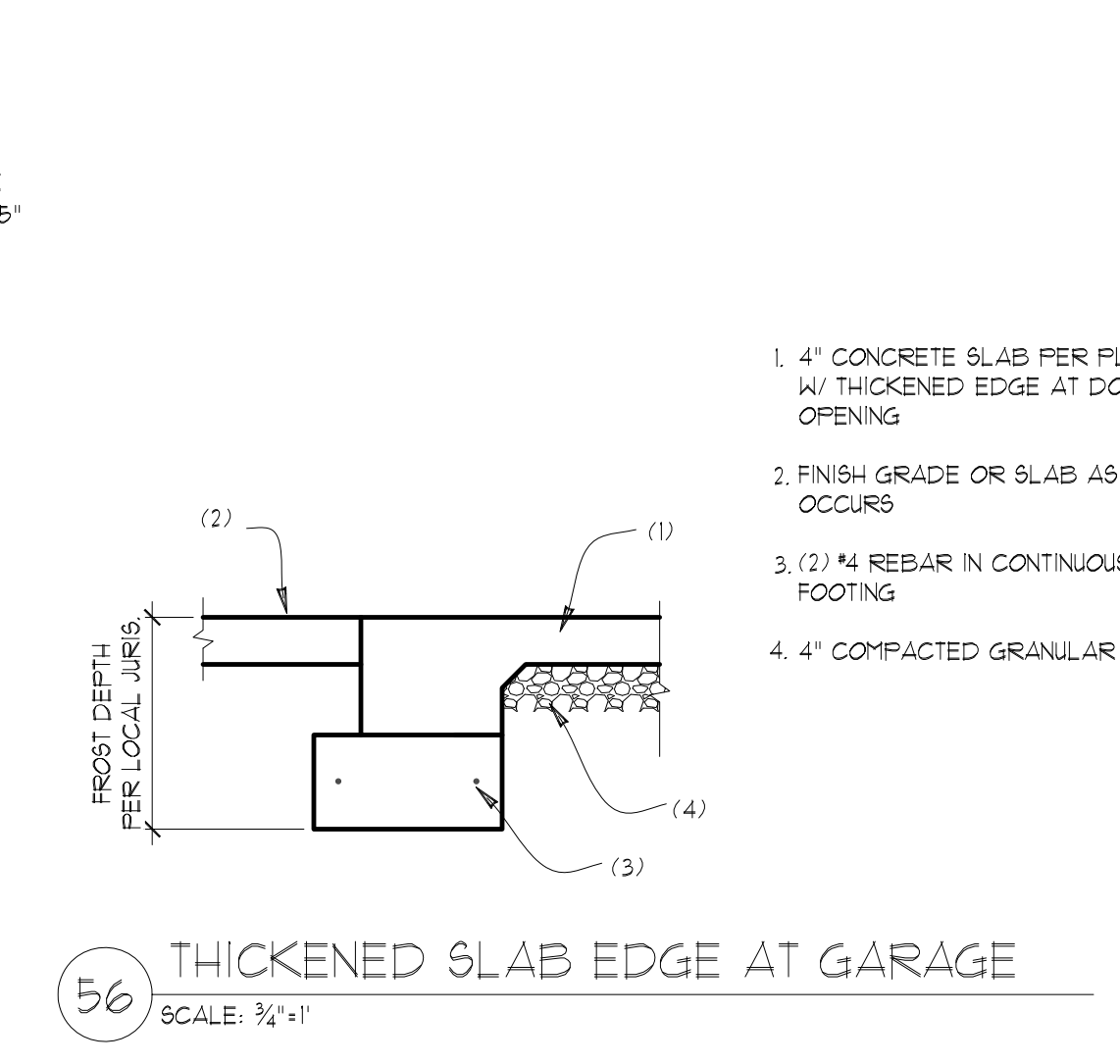
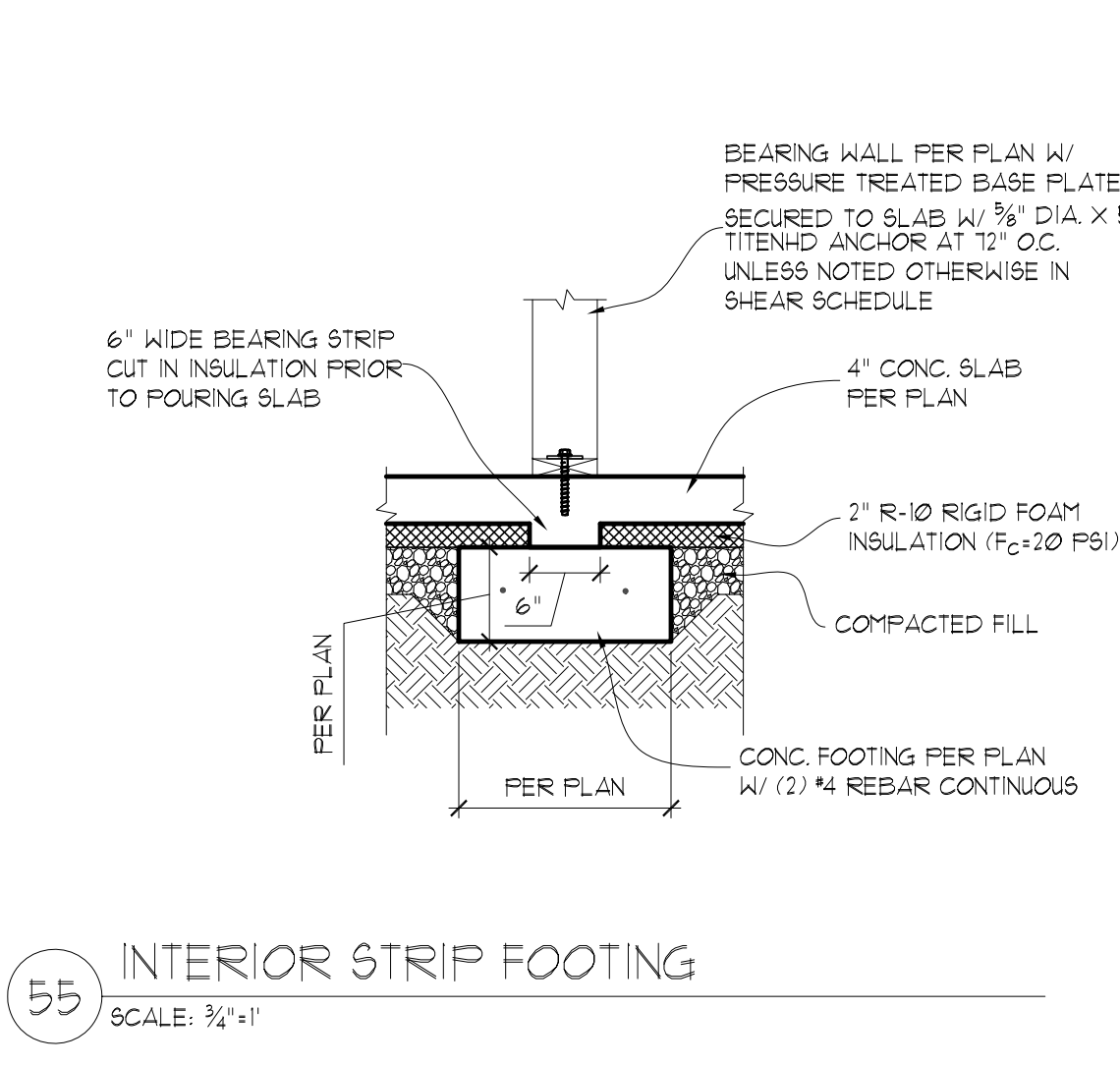
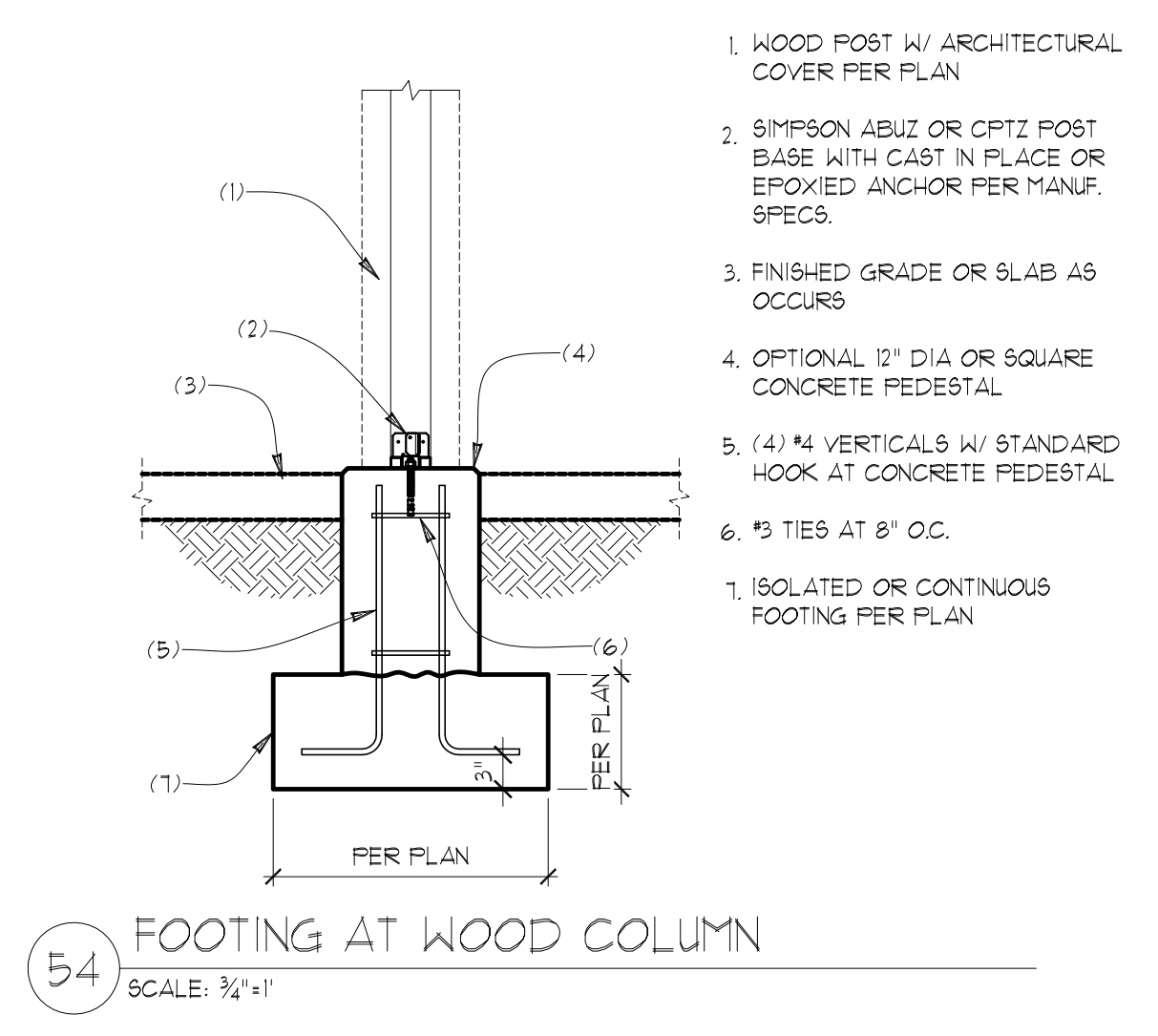
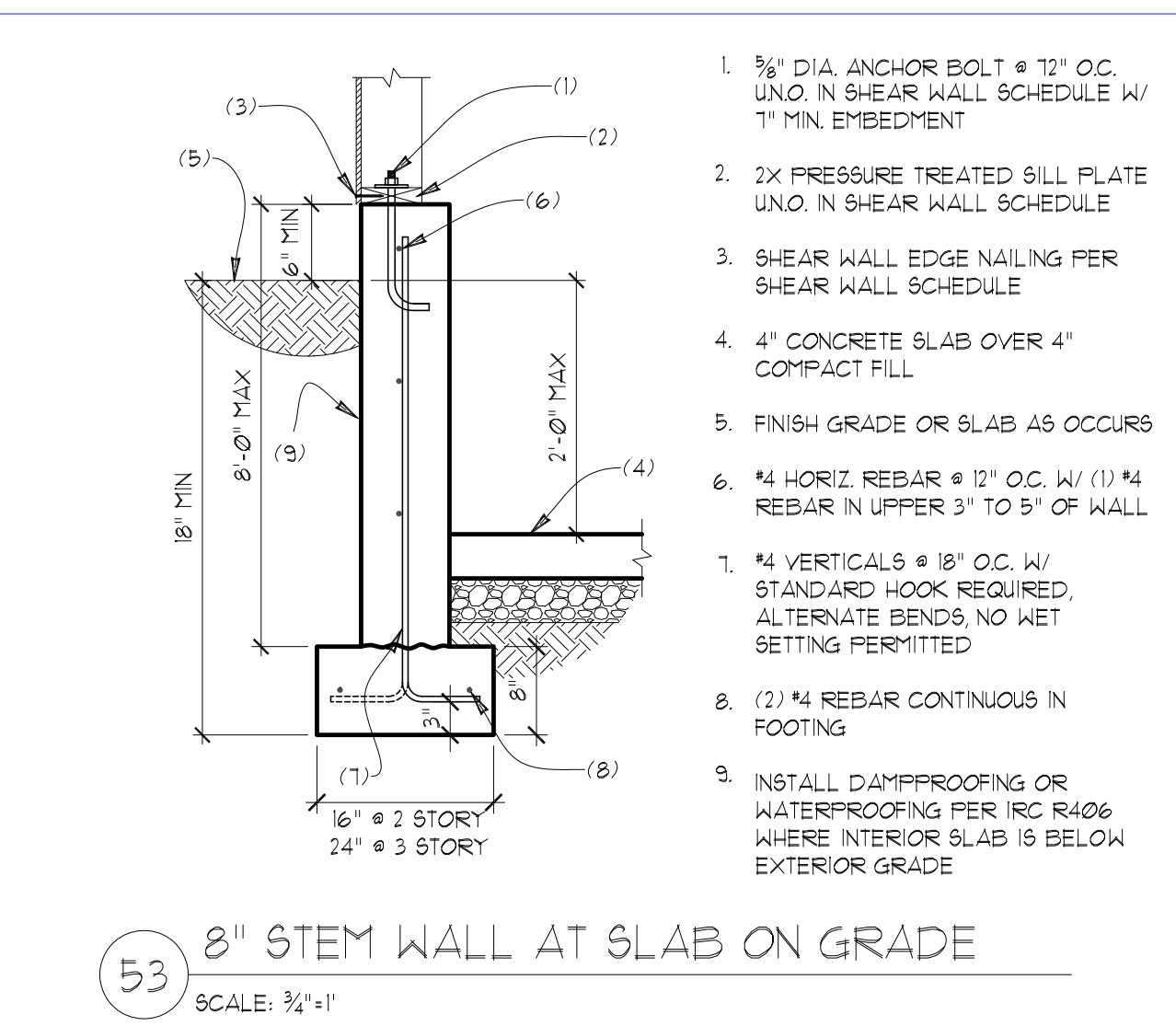
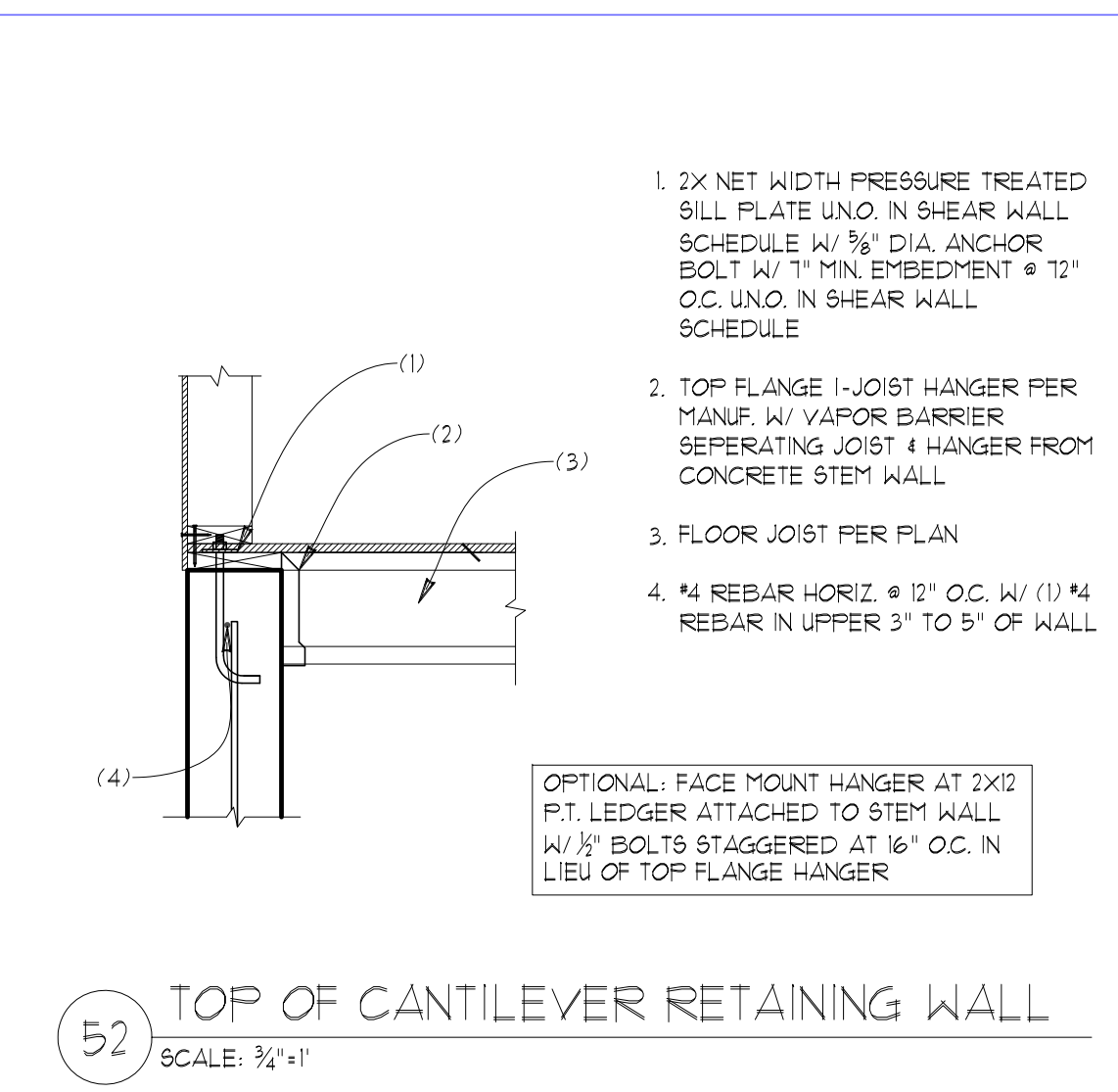
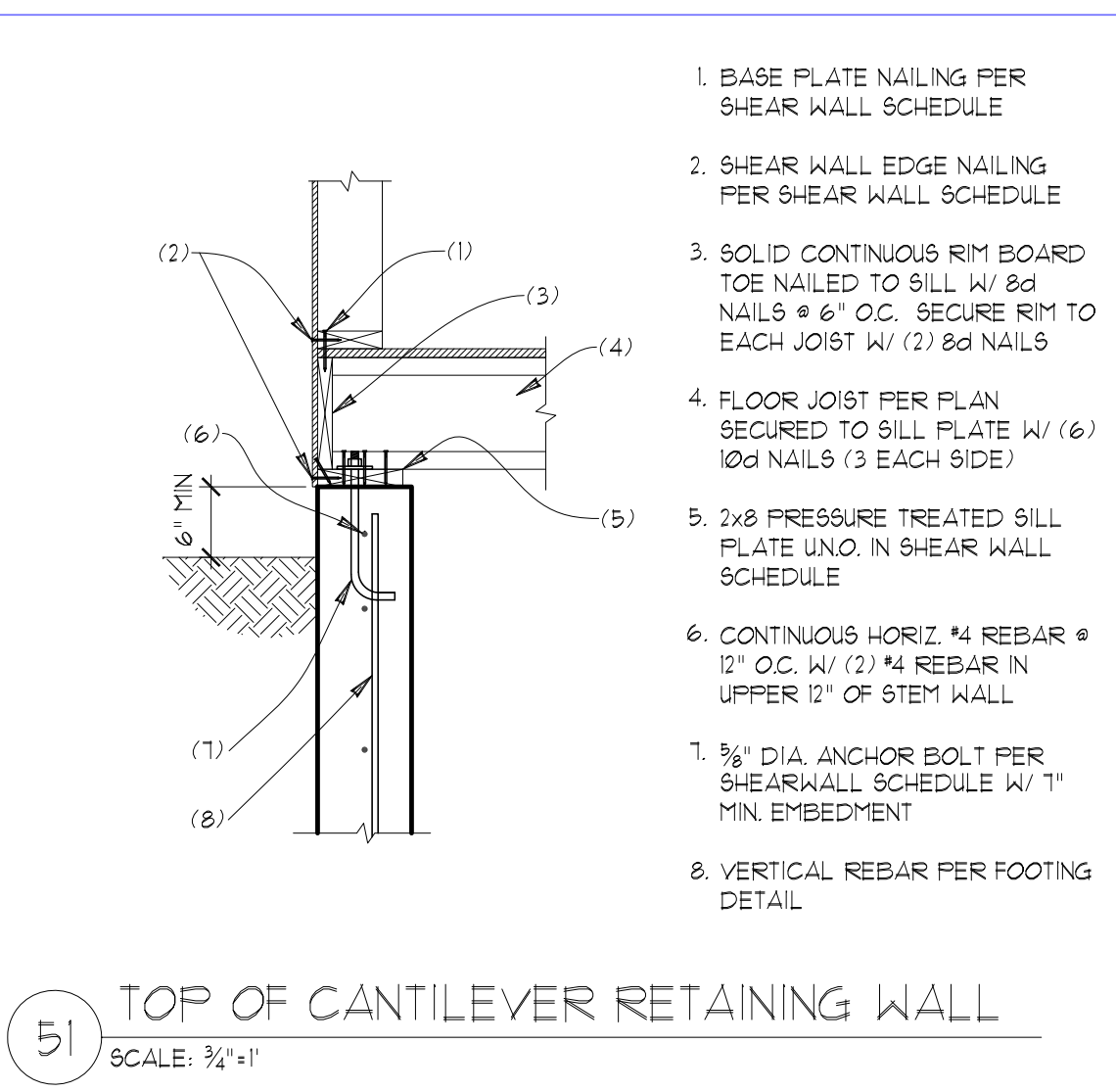
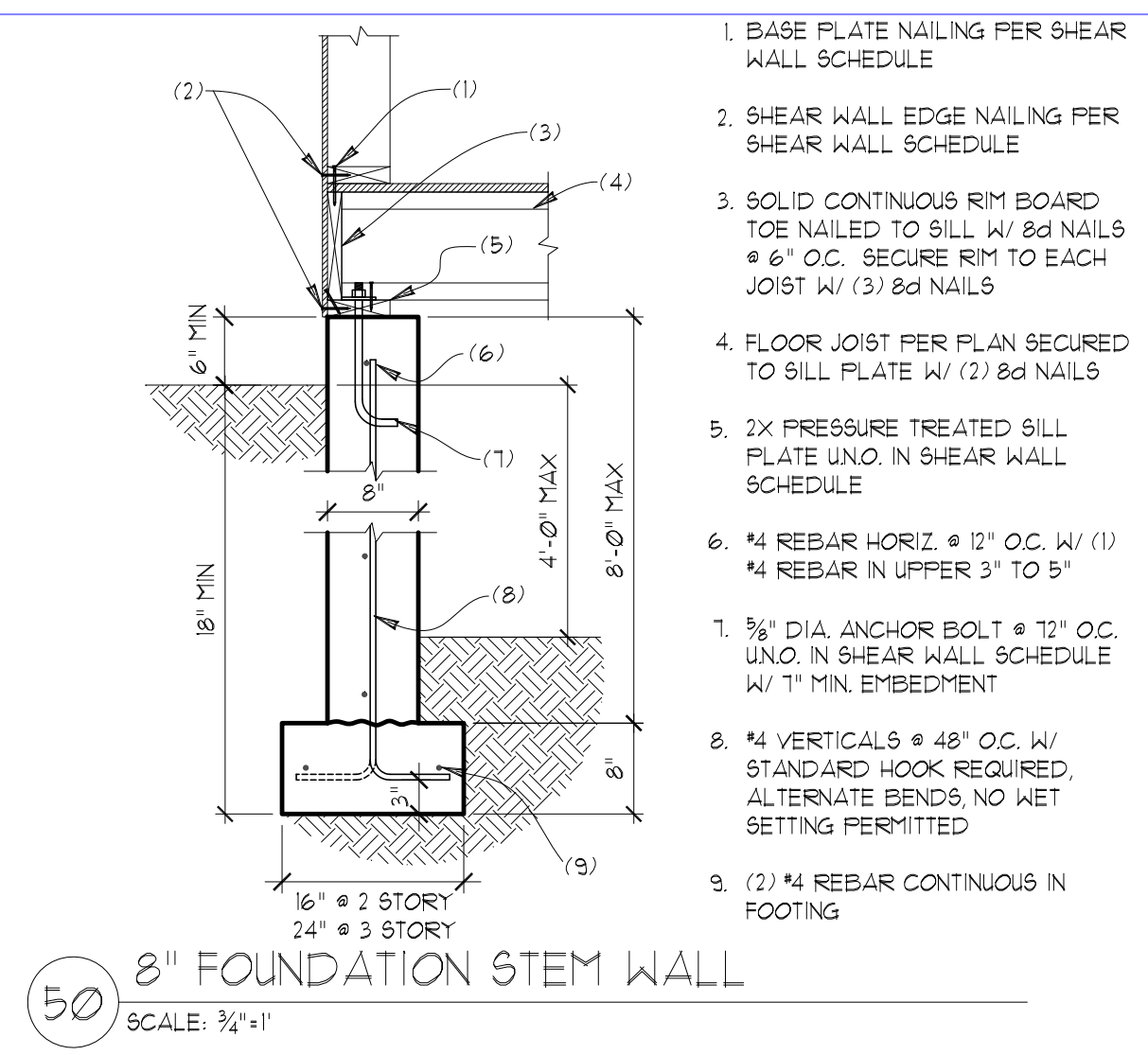
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DATE:
4-3-2015

INIT:
MM

PROJECT #:
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STRUCTURAL PLANS

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