

# 7414 - 78th AVENUE SE • MERCER ISLAND • WASHINGTON • 98040

## GENERAL NOTES

- ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2021 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODES, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
- ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.
- DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS. DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
- THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
- CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS.
- PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
- SHOWN ONLY ONCE. TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
- ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
- INSPECTIONS ARE TO BE PER IRC SECTION R109.
- ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE. PER IRC SEC R319; BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
- ANY DEVIATION IN CONSTRUCTION FROM APPROVED PLANS REQUIRES PRIOR REVIEW AND APPROVAL FROM THE CITY OF MERCER ISLAND, PLANNING AND BUILDING DEPARTMENT.

### TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

ROOF SNOW LOAD:	25 PSF
WIND SPEED:	98 MPH
SEISMIC DESIGN CATEGORY:	D2
WEATHERING:	MODERATE
FROST LINE DEPTH:	12 INCHES
TERMITE:	SLIGHT TO MODERATE
DECAY:	SLIGHT TO MODERATE
WINTER DESIGN TEMP:	24 DEGREES FAHRENHEIT
ICE SHIELD UNDERLAYMENT REQUIRED:	NO
FLOOD HAZARDS:	NA
AIR FREEZING INDEX:	113
MEAN ANNUAL TEMP:	53 DEGREES FAHRENHEIT
ASSUMED SOIL BEARING:	3000 PSF STATIC (PER SOLS REPORT DATED 4/17/24)

### AUTOMATIC FIRE SPRINKLER SYSTEMS

FIRE SPRINKLERS  ARE  ARE NOT REQUIRED FOR THIS PROJECT. A NFPA 72- CHAPTER 29 MONITORED FIRE ALARM SYSTEM IN COMPLIANCE WITH NFPA 72 AND COMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED. A NFPA 13D FULL COVERAGE FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 13D FULL COVERAGE AND COMI STANDARDS SHALL BE INSTALLED THROUGHOUT THE RESIDENCE. A SEPARATE FIRE PERMIT IS REQUIRED.

### SECTION M1501 EXHAUST SYSTEMS

M1501.1 OUTDOOR DISCHARGE  
THE AIR REMOVED BY EVERY MECHANICAL EXHAUST SYSTEM SHALL BE DISCHARGED TO THE OUTDOORS IN ACCORDANCE WITH SECTION M1504.3. AIR SHALL NOT BE EXHAUSTED INTO AN ATTIC, SOFFIT, RIDGE VENT OR CRAWL SPACE.

M1502 CLOTHES DRYER EXHAUST  
M1502.1 GENERAL  
CLOTHES DRYERS SHALL BE EXHAUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.2 INDEPENDENT EXHAUST SYSTEMS  
DRYER EXHAUST SYSTEMS SHALL BE INDEPENDENT OF ALL OTHER SYSTEMS AND SHALL CONVEY THE MOISTURE TO THE OUTDOORS.  
EXCEPTION: THIS SECTION SHALL NOT APPLY TO LISTED AND LABELED CONDENSING (DUCTLESS) CLOTHES DRYERS.

M1502.3 DUCT TERMINATION  
EXHAUST DUCTS SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING. EXHAUST DUCT TERMINATIONS SHALL BE IN ACCORDANCE WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THE MANUFACTURER'S INSTRUCTIONS DO NOT SPECIFY A TERMINATION LOCATION, THE EXHAUST DUCT SHALL TERMINATE NOT LESS THAN 3 FEET IN ANY DIRECTION FROM OPENINGS INTO BUILDINGS, INCLUDING OPENINGS IN VENTILATED SOFFITS. EXHAUST DUCT TERMINATIONS SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION.

M1502.4 DRYER EXHAUST DUCTS  
DRYER EXHAUST DUCTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS M1502.4.1 THROUGH M1502.4.8.

M1502.4.1 MATERIAL AND SIZE  
EXHAUST DUCTS SHALL HAVE A SMOOTH INTERIOR FINISH AND SHALL BE CONSTRUCTED OF METAL NOT LESS THAN 0.0157 INCH IN THICKNESS (NO. 28 GAGE). THE DUCT SHALL BE 4 INCHES NOMINAL IN DIAMETER.

M1502.4.2 DUCT INSTALLATION  
EXHAUST DUCTS SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 12 FEET AND SHALL BE SECURED IN PLACE. THE INSERT END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT OR FITTING IN THE DIRECTION OF AIRFLOW. EXHAUST DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SECTION M1601.4.1 AND SHALL BE MECHANICALLY FASTENED. DUCTS SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE MORE THAN 1/8 INCH INTO THE INSIDE OF THE DUCT. WHERE DRYER EXHAUST DUCTS ARE ENCLOSED IN WALL OR CEILING CAVITIES, SUCH CAVITIES SHALL ALLOW THE INSTALLATION OF THE DUCT WITHOUT DEFORMATION.

M1502.4.3 TRANSITION DUCT  
TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2159A. TRANSITION DUCTS SHALL BE NOT GREATER THAN 8 FEET IN LENGTH. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.

M1502.4.4 DRYER EXHAUST DUCT POWER VENTILATORS  
DOMESTIC DRYER EXHAUST DUCT POWER VENTILATORS SHALL CONFORM TO UL 705 FOR USE IN DRYER EXHAUST DUCT SYSTEMS. THE DRYER EXHAUST DUCT POWER VENTILATOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

M1502.4.6 DUCT LENGTH  
THE MAXIMUM ALLOWABLE EXHAUST DUCT LENGTH SHALL BE DETERMINED BY ONE OF THE METHODS SPECIFIED IN SECTIONS M1502.4.6.1 THROUGH M1502.4.6.3.

M1502.4.6.1 SPECIFIED LENGTH  
THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE 35 FEET FROM THE CONNECTION TO THE TRANSITION DUCT FROM THE DRYER TO THE OUTLET TERMINAL, WHERE FITTINGS ARE USED, THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE REDUCED IN ACCORDANCE WITH TABLE M1502.4.6.1. THE MAXIMUM LENGTH OF THE EXHAUST DUCT DOES NOT INCLUDE THE TRANSITION DUCT.

DRYER EXHAUST DUCT FITTING TYPE	EQUIVALENT LENGTH
4-INCH RADIUS MITERED 45-DEGREE ELBOW	2 FEET 6 INCHES
4-INCH RADIUS MITERED 90-DEGREE ELBOW	5 FEET
6-INCH RADIUS MITERED 45-DEGREE ELBOW	1 FOOT
6-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 9 INCHES
8-INCH RADIUS MITERED 45-DEGREE ELBOW	1 FOOT
8-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 7 INCHES
10-INCH RADIUS MITERED 45-DEGREE ELBOW	9 INCHES
10-INCH RADIUS MITERED 90-DEGREE ELBOW	1 FOOT 6 INCHES

M1503 DOMESTIC COOKING EXHAUST EQUIPMENT  
M1503.2 DOMESTIC COOKING EXHAUST  
WHERE DOMESTIC COOKING EXHAUST EQUIPMENT IS PROVIDED, IT SHALL COMPLY WITH ONE OF THE FOLLOWING:  
1. THE FAN FOR OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT NOT INTEGRAL WITH THE COOKING APPLIANCE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 507.  
2. OVERHEAD RANGE HOODS AND DOWNDRAFT EXHAUST EQUIPMENT WITH INTEGRAL FANS SHALL COMPLY WITH UL 507.  
3. DOMESTIC COOKING APPLIANCES WITH INTEGRAL DOWNDRAFT EXHAUST EQUIPMENT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH ANSI Z21.1 OR UL 859.  
4. MICROWAVE OVENS WITH INTEGRAL EXHAUST FOR INSTALLATION OVER THE COOKING SURFACE SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 923.

M1503.6 MAKEUP AIR REQUIRED  
WHERE ONE OR MORE GAS, LIQUID OR SOLID FUEL-BURNING APPLIANCE THAT IS NEITHER DIRECT-VENT NOR USES A MECHANICAL DRAFT EXHAUST SYSTEM IS LOCATED WITHIN A DWELLING UNITS AIR BARRIER, EACH EXHAUST SYSTEM CAPABLE OF EXHAUSTING IN EXCESS OF 400 CUBIC FEET PER MINUTE SHALL BE MECHANICALLY OR PASSIVELY PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH NOT FEWER THAN ONE DAMPER COMPLYING WITH SECTION M1503.6.2.  
EXCEPTION: MAKEUP AIR IS NOT REQUIRED FOR EXHAUST SYSTEMS INSTALLED FOR THE EXCLUSIVE PURPOSE OF SPACE COOLING AND INTENDED TO BE OPERATED ONLY WHEN WINDOWS OR OTHER AIR INLETS ARE OPEN.  
M1503.6.1 LOCATION  
KITCHEN EXHAUST MAKEUP AIR SHALL BE DISCHARGED INTO THE SAME ROOM IN WHICH THE EXHAUST SYSTEM IS LOCATED OR INTO ROOMS OR DUCT SYSTEMS THAT COMMUNICATE THROUGH ONE OR MORE PERMANENT OPENINGS WITH THE ROOM IN WHICH SUCH EXHAUST SYSTEM IS LOCATED. SUCH PERMANENT OPENINGS SHALL HAVE A NET CROSS-SECTIONAL AREA NOT LESS THAN THE REQUIRED AREA OF THE MAKEUP AIR SUPPLY OPENINGS.  
M1503.6.2 MAKEUP AIR DAMPERS  
WHERE MAKEUP AIR IS REQUIRED BY SECTION M1503.6, MAKEUP AIR DAMPERS SHALL COMPLY WITH THIS SECTION. EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATED DAMPERS SHALL BE LOCATED TO ALLOW ACCESS FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION OR ANY OTHER DUCTS NOT CONNECTED TO THE DAMPER BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. GRAVITY OR BAROMETRIC DAMPERS SHALL NOT BE USED IN PASSIVE MAKEUP AIR SYSTEMS EXCEPT WHERE THE DAMPERS ARE RATED TO PROVIDE THE DESIGN MAKEUP AIRFLOW AT A PRESSURE DIFFERENTIAL OF 0.01 IN. W.C. OR LESS.

M1504 EXHAUST DUCTS AND EXHAUST OPENINGS  
M1504.2 DUCT LENGTH  
THE LENGTH OF EXHAUST AND SUPPLY DUCTS USED WITH VENTILATING EQUIPMENT SHALL NOT EXCEED THE LENGTHS DETERMINED IN ACCORDANCE WITH TABLE M1504.2.  
EXCEPTION: DUCT LENGTH SHALL NOT BE LIMITED WHERE THE DUCT SYSTEM COMPLIES WITH THE MANUFACTURER'S DESIGN CRITERIA OR WHERE THE FLOW RATE OF THE INSTALLED VENTILATING EQUIPMENT IS VERIFIED BY THE INSTALLER OR APPROVED THIRD PARTY USING A FLOW HOOD, FLOW GRID OR OTHER AIRFLOW MEASURING DEVICE.

DUCT TYPE	FLEX DUCT	SMOOTH-WALL DUCT															
		MAXIMUM LENGTH <sup>F, D, E</sup> (FEET)															
FAN AIRFLOW RATING		50	80	100	125	150	200	250	300	50	80	100	125	150	200	250	300
DIAMETER <sup>B</sup> (INCHES)																	
3	X	X	X	X	X	X	X	X	X	5	X	X	X	X	X	X	X
4	56	4	X	X	X	X	X	X	X	114	31	10	X	X	X	X	X
5	NL	81	42	16	2	X	X	X	NL	152	91	51	28	4	X	X	X
6	NL	NL	158	91	55	18	1	X	NL	NL	NL	NL	168	112	53	25	9
7	NL	NL	NL	NL	161	78	40	19	NL	NL	NL	NL	NL	148	88	54	4
8 AND ABOVE	NL	NL	NL	NL	NL	189	111	69	NL	NL	NL	NL	NL	NL	198	133	

- FAN AIRFLOW RATING SHALL BE IN ACCORDANCE WITH ANSIA/MCA 210-ANSIASHRAE 91.
- FOR NONCIRCULAR DUCTS, CALCULATE THE DIAMETER AS FOUR TIMES THE CROSS-SECTIONAL AREA DIVIDED BY THE PERIMETER.
- THIS TABLE ASSUMES THAT ELBOWS ARE NOT USED. FIFTEEN FEET OF ALLOWABLE DUCT LENGTH SHALL BE DEDUCTED FOR EACH ELBOW INSTALLED IN THE DUCT RUN.
- NL = NO LIMIT ON DUCT LENGTH OF THIS SIZE.
- X = NOT ALLOWED. ANY LENGTH OF DUCT OF THIS SIZE WITH ASSUMED TURNS AND FITTINGS WILL EXCEED THE RATED PRESSURE DROP.

M1504.3 EXHAUST OPENINGS  
AIR EXHAUST OPENINGS SHALL TERMINATE AS FOLLOWS:  
1. NOT LESS THAN 3 FEET FROM PROPERTY LINES.  
2. NOT LESS THAN 3 FEET FROM GRAVITY AIR INTAKE OPENINGS, OPERABLE WINDOWS AND DOORS.  
3. NOT LESS THAN 10 FEET FROM MECHANICAL AIR INTAKE OPENINGS EXCEPT WHERE EITHER OF THE FOLLOWING APPLY:  
3.1 THE EXHAUST OPENING IS LOCATED NOT LESS THAN 3 FEET ABOVE THE AIR INTAKE OPENING.  
3.2 THE EXHAUST OPENING IS PART OF A FACTORY-BUILT INTAKE/ EXHAUST COMBINATION TERMINATION FITTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND THE EXHAUST AIR IS DRAIN FROM A LIVING SPACE.  
4. OPENINGS SHALL COMPLY WITH SECTIONS R303.5.2 AND R303.6.

### M1505 MECHANICAL VENTILATION

M1505.4 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM  
M1505.4.1 SYSTEM DESIGN  
THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE-HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY THE WHOLE-HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1504.5.3.1 WHERE APPLICABLE. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.

M1505.4.1.1 WHOLE-HOUSE SYSTEM COMPONENT REQUIREMENTS  
WHOLE-HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHOLE-HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.3.1. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN. W.C. (25 PA) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M1505.4.1.3.  
EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE-MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE-MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FEET (1219 MM) OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.

THE WHOLE-HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.  
EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM (0.0141 M3/S) WHOLE-HOUSE TRANSFER FAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET (2.3 M2) DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE-HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE-HOUSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2.

M1505.4.1.2 EXHAUST FANS  
EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE; AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE R1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

M1505.4.1.3 SUPPLY FANS  
SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE

OPENINGS IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WASHINGTON STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE; HVI 916, HVI AIRFLOW TEST PROCEDURE; AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE), WHERE OUTDOOR AIR IS PROVIDED TO EACH HABITABLE DWELLING UNIT OR SLEEPING UNIT BY SUPPLY FAN SYSTEMS, THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERV) OF AT LEAST 8.

M1505.4.1.4 BALANCED WHOLE-HOUSE VENTILATION SYSTEM  
A BALANCED WHOLE-HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10% OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10% OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST FANS IN A PACKAGED PRODUCT, SUCH AS AN ERV/HRV, SHALL MEET THE REQUIREMENTS OF HVI 920. AS APPLICABLE, INTERMITTENT DRYER EXHAUST, INTERMITTENT RANGE HOOD EXHAUST, AND INTERMITTENT TOILET ROOM EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

M1505.4.1.5 FURNACE INTEGRATED SUPPLY SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.  
EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25% OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.5 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE-HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10% OF THE WHOLE-HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

M1505.4.1.6 TESTING  
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FANS' INLET TERMINALS, OUTLET TERMINALS OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS, WHERE REQUIRED BY THE BUILDING OFFICIAL. TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.

M1505.4.1.7 CERTIFICATE  
A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED IN THE SPACE WHERE THE FURNACE IS LOCATED. A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE-HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.

M1505.4.2 SYSTEM CONTROLS  
THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT.  
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT.  
WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

TABLE M1505.4.3(1) CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS DWELLING UNIT FLOOR AREA

DWELLING UNIT FLOOR AREA	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
< 1,500	30	45	60	75	90
1,501 — 3,000	45	60	75	90	105
3,001 — 4,500	60	75	90	105	120
4,501 — 6,000	75	90	105	120	135
6,001 — 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

TABLE M1505.4.3(2) INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS<sup>B</sup>  
RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT

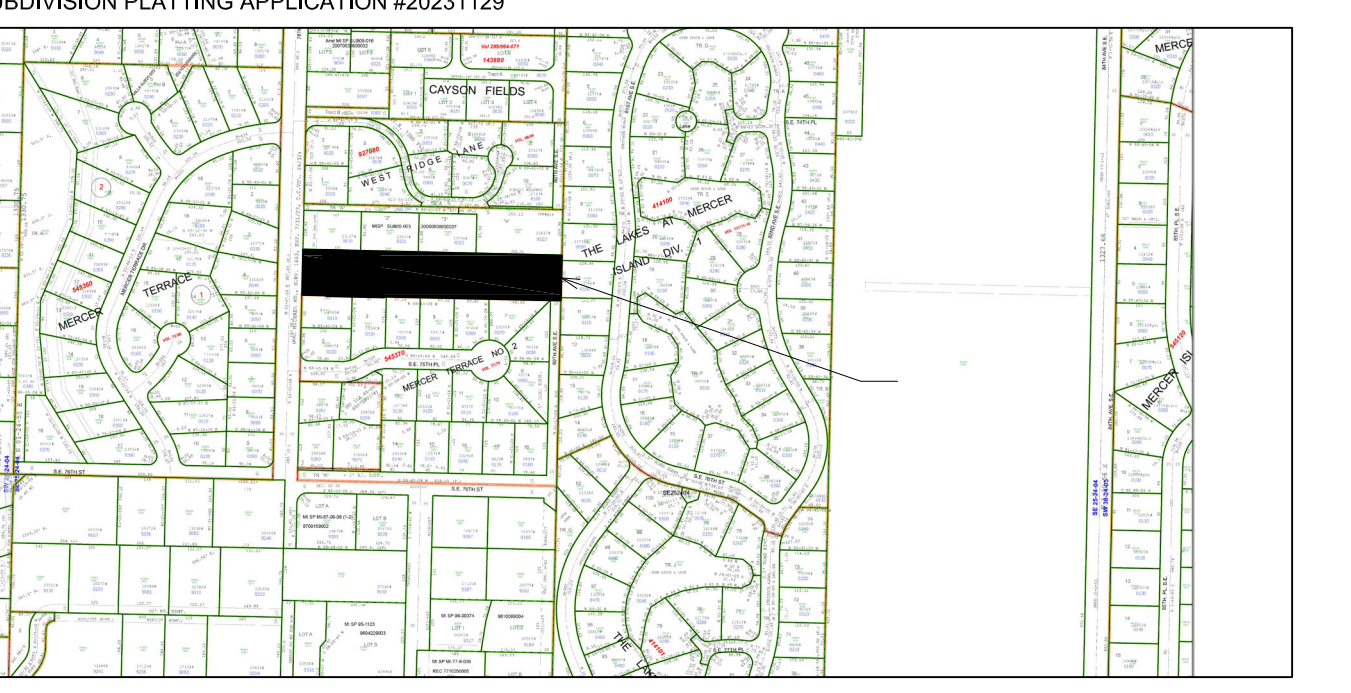
25%	33%	50%	66%	75%	100%
4	3	2	1.5	1.3	1.0

- FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.
- EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

WHOLE HOUSE VENTILATION OPTIONS (CHOOSE ONE):  
 1. WHOLE HOUSE VENTILATION USING EXHAUST FANS  
 2. WHOLE HOUSE VENTILATION INTEGRATED WITH A FORCED-AIR SYSTEM  
 3. WHOLE HOUSE VENTILATION USING A SUPPLY FAN  
 4. WHOLE-HOUSE VENTILATION USING A HEAT RECOVERY VENTILATION SYSTEM.

TABLE M1505.4.4 MIN. REQUIRED LOCAL EXHAUST RATES FOR ONE- AND TWO-FAMILY DWELLINGS  
AREA TO BE EXHAUSTED

AREA TO BE EXHAUSTED	EXHAUST RATES
KITCHENS	100 CFM INTERMITTENT OR 25 CFM CONTINUOUS
BATHROOMS-TOILET ROOMS	MECH. EXHAUST CAPACITY OF 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS



## DRAWING INDEX:

ARCHITECTURAL	
A0.1	COVER SHEET
A0.2	WSEC - BUILDING THERMAL ENVELOPE
A1.0	SITE PLAN
A2.1	FDN. & MISC. DETAILS
A2.2	ROOF & FLOOR DETAILS
A2.3	STAIR DETAILS
A3	FOUNDATION PLAN
A4	MAIN FLOOR FRAMING PLAN
A5	MAIN FLOOR PLAN
A6	UPPER FLOOR FRAMING PLAN
A7	UPPER FLOOR PLAN
A8	ROOF FRAMING PLAN
A9	EXTERIOR ELEVATIONS
A10	EXTERIOR ELEVATIONS
A11	BUILDING SECTIONS
A12	BUILDING SECTIONS
E1	MAIN FLOOR ELECTRICAL PLAN
E2	UPPER FLOOR ELECTRICAL PLAN

STRUCTURAL	
S-0.0	STRUCTURAL NOTES
LB-1	STRUCTURAL DETAILS
LB-2	STRUCTURAL DETAILS
LB-3	FOUNDATION DETAILS
SD.01	FOUNDATION DETAILS

CIVIL	
C4.01	LOT 1 GRADING AND DRAINAGE PLAN
C8.0	LOT OVERALL PLAN

### PROJECT TEAM

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## BUILDING AREA SUMMARY:

ALL NUMBERS IN SQUARE FEET			
HOUSE:		OUTDOOR:	
MAIN FLOOR	1,974	COVERED PORCH	95
UPPER FLOOR	2,651		
TOTAL	4,625	OUTDOOR:	
		COVERED PATIO	229

# BUILDING THERMAL ENVELOPE

R401 COMPLIANCE & CERTIFICATE POSTED  
THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R402 OF THE WSEC.

**R401.3 CERTIFICATE.** A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL INDICATE THE FOLLOWING:

- THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BELOW-GRADE WALL, AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES.
- FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION, WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL INDICATE THE AREA WEIGHTED AVERAGE VALUE.
- THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING.
- THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST.
- THE TYPES, SIZES AND OPERATION OF HEATING, COOLING, WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES, WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.
- WHERE ON-SITE PHOTOVOLTAIC PANEL SYSTEMS HAVE BEEN INSTALLED, THE ARRAY CAPACITY, INVERTER EFFICIENCY, PANEL TILT, ORIENTATION AND ESTIMATED ANNUAL ELECTRICAL GENERATION SHALL BE NOTED ON THE CERTIFICATE.

## ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

**R406.1 SCOPE.** THIS SECTION ESTABLISHES ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS FOR ALL NEW CONSTRUCTION COVERED BY THIS CODE, INCLUDING ADDITIONS SUBJECT TO SECTION R502 AND CHANGE OF OCCUPANCY OR USE SUBJECT TO SECTION R505 UNLESS SPECIFICALLY EXEMPTED IN SECTION R406. CREDIT FROM BOTH SECTIONS R406.2 AND R406.3 ARE REQUIRED.

**R406.2 CARBON EMISSION EQUALIZATION.** THIS SECTION ESTABLISHES A BASE EQUALIZATION BETWEEN FUELS USED TO DEFINE THE EQUIVALENT CARBON EMISSIONS OF THE OPTIONS SPECIFIED. THE PERMIT SHALL DEFINE THE BASE FUEL SELECTION TO BE USED AND THE POINTS SPECIFIED IN TABLE R406.2 SHALL BE USED TO MODIFY THE REQUIREMENTS IN SECTION R406.3. THE SUM OF CREDITS FROM TABLES R406.2 AND R406.3 SHALL MEET THE REQUIREMENTS OF SECTION R406.3.

**R406.3 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS.** EACH DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 AND TABLE 406.3 TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS. TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION SELECTED AND THE MAXIMUM TESTED BUILDING AIR LEAKAGE, AND SHOW THE QUALIFYING VENTILATION SYSTEM AND ITS CONTROL SEQUENCE OF OPERATION.

- SMALL DWELLING UNIT: 5.0 CREDITS  
DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SQUARE FEET OF FENESTRATION AREA, ADDITIONS TO EXISTING BUILDING GREATER THAN 500 SQUARE FEET OF HEATED FLOOR AREA BUT LESS THAN 1500 SQUARE FEET.
- MEDIUM DWELLING UNIT: 8.0 CREDITS  
ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1, #3 OR #4.
- LARGE DWELLING UNIT: 9.0 CREDITS  
DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.
- R-2 OCCUPANCIES: 6.5 CREDITS  
SECTION R401.1 AND RESIDENTIAL BUILDING SECTION R202 FOR GROUP R-2.
- ADDITIONS: 2.0 CREDITS  
150 SQUARE FEET TO 500 SQUARE FEET.

THE DRAWINGS INCLUDED WITH THE PERMIT APPLICATION SHALL IDENTIFY WHICH OPTIONS HAVE BEEN SELECTED AND THE POINT VALUE OF EACH OPTION, REGARDLESS OF WHETHER SEPARATE MECHANICAL, PLUMBING, ELECTRICAL, OR OTHER PERMITS ARE UTILIZED FOR THE PROJECT.

### ENERGY EQUALIZATION CREDITS, SYSTEM 2 (1.5 CREDITS)

FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE C403.3(2) AND SUPPLEMENTAL HEATING PROVIDED BY ELECTRIC RESISTANCE OR A COMBUSTION FURNACE MEETING MINIMUM STANDARDS LISTED IN TABLE C403.3(2)(b)

### EFFICIENT WATER HEATING OPTION 5.6 (2.0 CREDITS)

ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.

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.

### RENEWABLE ELECTRIC ENERGY OPTION 6.1 (4.5 CREDITS)

FOR EACH 600 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 0.5 CREDIT SHALL BE ALLOWED, UP TO 4.5 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS: FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY LABORATORY CALCULATOR PVWATTS OR ALTERNATIVE APPROVED BY THE CODE OFFICIAL. DOCUMENTATION NOTING SOLAR ACCESS SHALL BE INCLUDED ON THE PLANS. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SHOW THE PHOTOVOLTAIC EQUIPMENT TYPE, PROVIDE DOCUMENTATION OF SOLAR ACCESS, AND INCLUDE A CALCULATION OF THE MINIMUM ANNUAL ENERGY POWER PRODUCTION.

### MINIMUM ANNUAL POWER PRODUCTION OF THE RENEWABLE ELECTRIC ENERGY:

SYSTEM SIZE (kWDC)=	4.8 kW
FIRST YEAR POWER OUTPUT (kWh)=	5039 kWh
ENERGY OFFSET=	42%
SYSTEM SPECIFICATIONS=	SiL-440 QD MODULE AND FIXED ARRAY TYPE

## MOISTURE CONTROL

### R405.2.2 FOUNDATION VAPOR RETARDERS

A 6 MIL-THICK POLYETHYLENE VAPOR RETARDER SHALL BE APPLIED OVER THE POROUS LAYER WITH THE BASEMENT FLOOR CONSTRUCTED OVER THE POLYETHYLENE.

### R702.7 WALL VAPOR RETARDERS

A VAPOR RETARDER SHALL BE PROVIDED ON THE INTERIOR SIDE OF FRAME WALLS OF THE CLASS INDICATED IN TABLE R702.7(2), INCLUDING COMPLIANCE WITH TABLE R702.7(3) OR R702.7(4) WHERE APPLICABLE.

### EXCEPTIONS:

- BASEMENT WALLS.
- BELOW-GRADE PORTION OF ANY WALL.
- CONSTRUCTION WHERE ACCUMULATION, CONDENSATION OR FREEZING OF MOISTURE WILL NOT DAMAGE THE MATERIALS.
- A VAPOR RETARDER SHALL NOT BE REQUIRED IN CLIMATE ZONES 1,2 AND 3.

### TABLE R702.7(1) VAPOR RETARDER MATERIALS AND CLASSES

CLASS	ACCEPTABLE MATERIALS
I	SHEET POLYETHYLENE, NONPERFORATED ALUMINUM FOIL OR OTHER APPROVED MATERIALS WITH A PERM RATING LESS THAN OR EQUAL TO 0.1.
II	KRAFT-FACED FIBERGLASS BATTS, VAPOR RETARDER PAINT OR OTHER APPROVED MATERIAL APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR A PERM RATING GREATER THAN 0.1 AND LESS THAN OR EQUAL TO 1.0.
III	LATEX PAINT, ENAMEL PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR AS PERM RATING GREATER THAN 1.0 AND LESS THAN OR EQUAL TO 10.0.

### TABLE R702.7(2) VAPOR RETARDER OPTIONS

CLIMATE ZONE	CLASS I <sup>a</sup>	CLASS II <sup>a</sup>	CLASS III
1, 2	NOT PERMITTED	NOT PERMITTED	PERMITTED
3, 4 (EXCEPT MARINE 4)	NOT PERMITTED	PERMITTED <sup>c</sup>	PERMITTED
MARINE 4, 5, 6, 7, 8	PERMITTED <sup>b</sup>	PERMITTED <sup>c</sup>	SEE TABLE

- CLASS I AND II VAPOR RETARDERS WITH VAPOR PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B) SHALL BE ALLOWED ON THE INTERIOR SIDE OF ANY FRAME WALL IN ALL CLIMATE ZONES.
- USE OF A CLASS I VAPOR RETARDER IN FRAME WALLS WITH A CLASS I VAPOR RETARDER ON THE EXTERIOR SIDE SHALL REQUIRE AN APPROVED DESIGN.
- WHERE A CLASS II VAPOR RETARDER IS USED IN COMBINATION WITH FOAM PLASTIC INSULATING SHEATHING INSTALLED AS CONTINUOUS INSULATION ON THE EXTERIOR SIDE OF FRAME WALLS, THE CONTINUOUS INSULATION SHALL COMPLY WITH TABLE R702.7(4) AND THE CLASS II VAPOR RETARDER SHALL HAVE A PERMEANCE GREATER THAN 1 PERM WHEN MEASURED BY ASTM E96 WATER METHOD (PROCEDURE B).

### R805.1 CEILING INSTALLATION

CEILING SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS FOR INTERIOR WALL FINISHES AS PROVIDED IN SECTIONS R702.1 THROUGH R702.6.

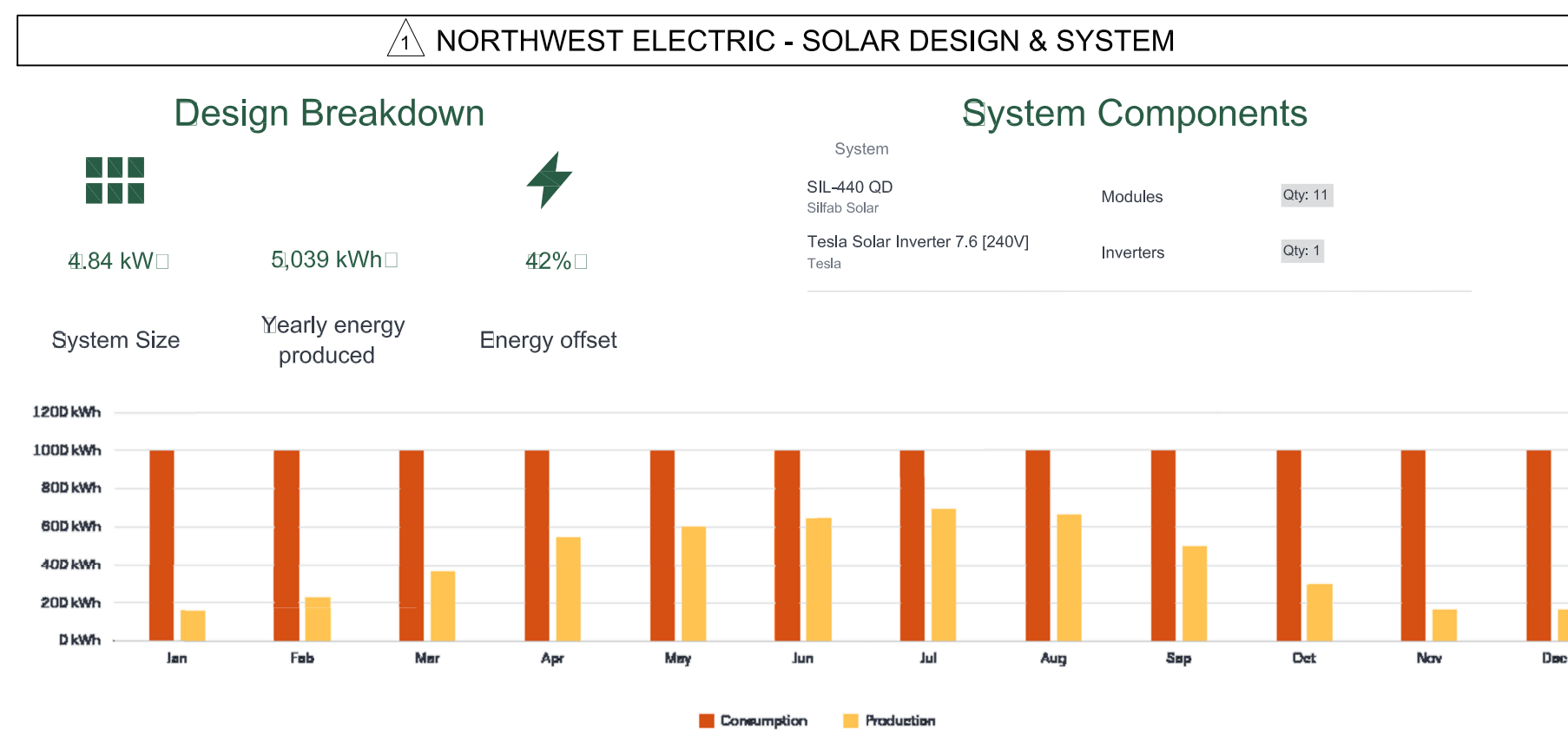
### MAXIMUM HEAT EQUIPMENT OUTPUT

WASHINGTON STATE SIMPLE HEATING SYSTEM SIZING= 69,991 BTUHR

2021 WSEC TABLE R402.1.1		* MODIFIED BY U-FACTOR COMPLIANCE	
CLIMATE ZONE 5 AND MARINE 4	DEFAULT VALUE	R VALUE	U-FACTORS
FENESTRATION U-FACTOR (b)	0.30	N/A	0.30
SKYLIGHT(b) U-FACTOR	0.50	N/A	0.50
CEILING ATTIC R-VALUE (e)	0.024	60	0.024
CEILING VAULT R-VALUE (e)	0.027	38	0.027
WOOD FRAMED WALL (g,i) R-VALUE	0.056	21 int. + 0 c.i.*	0.054*
FLOOR R-VALUE	0.029	38*	0.027*
BELOW GRADE (c,h) WALL 2' DEPTH	0.042	21 int. + t.b.	0.042
BELOW GRADE (c,h) WALL 3.5' DEPTH	0.040	21 int. + t.b.	0.040
BELOW GRADE (c,h) WALL 7' DEPTH	0.035	21 int. + t.b.	0.035
SLAB (d,f) 2' DEPTH	0.59	10, ENTIRE SLAB	0.50
SLAB (d,f) 3.5' DEPTH	0.56	10, ENTIRE SLAB	0.56
SLAB (d,f) 7' DEPTH	0.50	10, ENTIRE SLAB	0.50

- FOR SI: 1 FOOT = 304.8 MM, CI = CONTINUOUS INSULATION, INT = INTERMEDIATE FRAMING.
- R-VALUES ARE MINIMUMS, U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE COMPRESSED R-VALUE OF THE INSULATION FROM APPENDIX TABLE A101.4 SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
  - THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS.
  - \*10/15/21 +5TB\* MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL AT THE INTERIOR OF THE BASEMENT WALL. \*10/15/21 +5TB\* SHALL BE PERMITTED TO BE MET WITH R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. \*5TB\* MEANS R-5 THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.
  - R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.3.1.
  - FOR SINGLE RAFTER-OR JOIST-VAULTED CEILING, THE INSULATION MAY BE REDUCED TO R-38 IF THE FULL INSULATION DEPTH EXTENDS OVER THE TOP PLATE OF THE EXTERIOR WALL.
  - R-7.5 CONTINUOUS INSULATION INSTALLED OVER AN EXISTING SLAB IS DEEMED TO BE EQUIVALENT TO THE REQUIRED PERIMETER SLAB INSULATION WHEN APPLIED TO EXISTING SLABS COMPLYING WITH SECTION R503.1.1, IF FOAM PLASTIC IS USED, IT SHALL MEET THE REQUIREMENTS FOR THERMAL BARRIERS PROTECTING FOAM PLASTICS.
  - FOR LOG STRUCTURES DEVELOPED IN COMPLIANCE WITH STANDARD ICC 400, LOG WALLS SHALL MEET THE REQUIREMENTS FOR CLIMATE ZONE 5 OF ICC 400.
  - INT. (INTERMEDIATE FRAMING) DENOTES FRAMING AND INSULATION AS DESCRIBED IN SECTION A103.2.2 INCLUDING STANDARD FRAMING 16 INCHES ON CENTER, 78 PERCENT OF THE WALL CAVITY INSULATED AND HEADERS INSULATED WITH A MINIMUM OF R-10 INSULATION.
  - THE FIRST VALUE IS CAVITY INSULATION; THE SECOND VALUE IS CONTINUOUS INSULATION. THEREFORE, AS AN EXAMPLE, "R-13+10" MEANS R-13 CAVITY INSULATION PLUS R-10 CONTINUOUS INSULATION.
  - A MAXIMUM U-VALUE OF 0.32 SHALL APPLY TO VERTICAL FENESTRATION PRODUCTS INSTALLED IN BUILDINGS LOCATED ABOVE 4000 FEET IN ELEVATION ABOVE SEA LEVEL, OR IN WINDBORNE DEBRIS REGIONS WHERE PROTECTION OF OPENINGS IS REQUIRED UNDER SECTION R301.2.1.2 OF THE INTERNATIONAL RESIDENTIAL CODE.

2021 WSEC TABLE R406.3		
ADDITIONAL ENERGY REQUIREMENTS FOR MEDIUM DWELLING = 8.0 CREDITS REQUIRED		
ENERGY EQUALIZATION CREDIT	SYSTEM 2.0	1.5 CREDITS
ENERGY EFFICIENCY CREDIT	OPTION	CREDITS EARNED
OPTION 1 BUILDING ENVELOPE	NA	NA
OPTION 2 AIR LEAKAGE CONTROL	NA	NA
OPTION 3 HVAC EQUIPMENT	NA	NA
OPTION 4 HVAC DISTRIBUTION	NA	NA
OPTION 5 WATER HEATING	OPTION 5.6	2.0 CREDITS
OPTION 6 RENEWABLE ENERGY	OPTION 6.1	4.5 CREDITS
OPTION 7 APPLIANCE OPTION	NA	NA
TOTAL CREDITS EARNED		8.0 CREDITS



### Window, Skylight and Door Schedule

Vertical Fenestration (Windows and doors)

Component Description	U-factor	Width		Height		Area	UA
		Qt. Feet	Inch	Feet	Inch		
36100 DOOR - WOOD CLAD (Entry)	0.30	1	3	6	10	35.0	10.50
19100 FIXED - WOOD CLAD (Entry)	0.30	1	1	9	10	17.5	5.25
1920 FIXED - WOOD CLAD (Entry)	0.30	1	1	9	2	3.5	1.05
1930 FIXED - WOOD CLAD (Entry)	0.30	1	1	9	3	5.3	1.58
1976 FIXED - WOOD CLAD (Entry)	0.30	1	1	9	7	13.1	3.94
4060 FIXED - WOOD CLAD (Entry)	0.30	2	4	0	6	48.0	14.40
4070 FIXED - WOOD CLAD (Entry)	0.30	2	4	0	7	56.0	16.80
4030 FIXED - WOOD CLAD (Entry)	0.30	3	4	0	3	36.0	10.80
6030 FIXED - WOOD CLAD (Entry)	0.30	2	6	0	3	36.0	10.80
6050 FIXED - WOOD CLAD (Entry)	0.30	1	6	0	5	30.0	9.00
6080 FIXED - WOOD CLAD (Entry)	0.30	1	6	0	8	48.0	14.40
6020 FIXED - WOOD CLAD (PDR)	0.30	1	6	0	2	12.0	3.60
6020 FIXED - WOOD CLAD (Office)	0.30	2	6	0	2	24.0	7.20
6076 FIXED - WOOD CLAD (Office)	0.30	1	6	0	7	45.0	13.50
3046 CSMT - WOOD CLAD (Office)	0.30	1	3	0	4	13.5	4.05
3030 FIXED - WOOD CLAD (Office)	0.30	1	3	0	3	9.0	2.70
3046 CSMT - WOOD CLAD (Mud)	0.30	1	3	0	4	13.5	4.05
3020 FIXED - WOOD CLAD (Mud)	0.30	1	3	0	2	6.0	1.80
5076 FIXED - WOOD CLAD (Dining)	0.30	3	5	0	7	112.5	33.75
5020 FIXED - WOOD CLAD (Dining)	0.30	3	5	0	2	30.0	9.00
5076 FIXED - WOOD CLAD (Living)	0.30	1	5	0	7	37.5	11.25
5020 FIXED - WOOD CLAD (Living)	0.30	1	5	0	2	10.0	3.00
180100 S.G.D. - WOOD CLAD (Living)	0.30	1	18	0	10	180.0	54.00
2020 CSMT - WOOD CLAD (Bath 4)	0.30	1	2	0	2	4.0	1.20
3070 CSMT - WOOD CLAD (Bed 5)	0.30	2	3	0	7	42.0	12.60
2070 FIXED - WOOD CLAD (Bed 5)	0.30	1	2	0	7	14.0	4.20
2020 CSMT - WOOD CLAD (Bath 3)	0.30	1	2	0	2	4.0	1.20
6020 FIXED - WOOD CLAD (Bed 3)	0.30	2	6	0	2	24.0	7.20
6050 FIXED - WOOD CLAD (Bed 3)	0.30	1	6	0	5	30.0	9.00
6050 SLDR - WOOD CLAD (Bed 3)	0.30	1	1	9	3	5.3	1.58
3056 CSMT - WOOD CLAD (Bed 3)	0.30	1	3	0	5	16.5	4.95
3020 FIXED - WOOD CLAD (Bed 3)	0.30	1	3	0	2	6.0	1.80
4050 FIXED - WOOD CLAD (Hall)	0.30	1	4	0	5	20.0	6.00
4020 FIXED - WOOD CLAD (Bonus)	0.30	4	4	0	2	32.0	9.60
4050 FIXED - WOOD CLAD (Bonus)	0.30	1	4	0	5	20.0	6.00
8040 SLDR - WOOD CLAD (Bonus)	0.30	1	8	0	4	32.0	9.60
4050 FIXED - WOOD CLAD (Bonus)	0.30	1	4	0	5	20.0	6.00
21050 FIXED - WOOD CLAD (Bed 2)	0.30	1	12	0	5	60.0	18.00
4020 FIXED - WOOD CLAD (Bed 2)	0.30	3	4	0	2	24.0	7.20
4020 FIXED - WOOD CLAD (Bath 2)	0.30	2	6	0	7	90.0	27.00
3046 CSMT - WOOD CLAD (Laundry)	0.30	1	4	0	2	8.0	2.40
3050 SLDR - WOOD CLAD (Bath 1)	0.30	1	3	0	5	15.0	4.50
7050 CSMT - WOOD CLAD (Bath 1)	0.30	1	7	0	5	35.0	10.50
6020 FIXED - WOOD CLAD (Bed 1)	0.30	1	3	0	2	6.0	1.80
6050 FIXED - WOOD CLAD (Bed 1)	0.30	1	6	0	5	30.0	9.00
8020 FIXED - WOOD CLAD (Bed 1)	0.30	1	8	0	2	16.0	4.80
8050 SLDR - WOOD CLAD (Bed 1)	0.30	1	8	0	5	40.0	12.00
4020 FIXED - WOOD CLAD (Bed 1)	0.30	1	4	0	2	8.0	2.40
4050 FIXED - WOOD CLAD (Bed 1)	0.30	1	4	0	5	20.0	6.00
6020 FIXED - WOOD CLAD (Bed 4)	0.30	1	6	0	2	12.0	3.60
3060 CSMT - WOOD CLAD (Bed 4)	0.30	2	3	0	6	36.0	10.80
2060 FIXED - WOOD CLAD (Bed 4)	0.30	1	2	0	6	12.0	3.60

Sum of Vertical Fenestration Area and UA **1503.3**  
Vertical Fenestration Area Weighted U = UA/Area **450.96**  
**0.30**

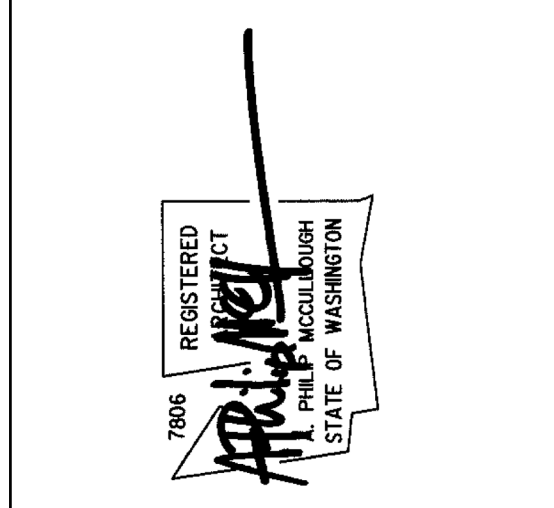
### Simple Heating System Size: Washington State

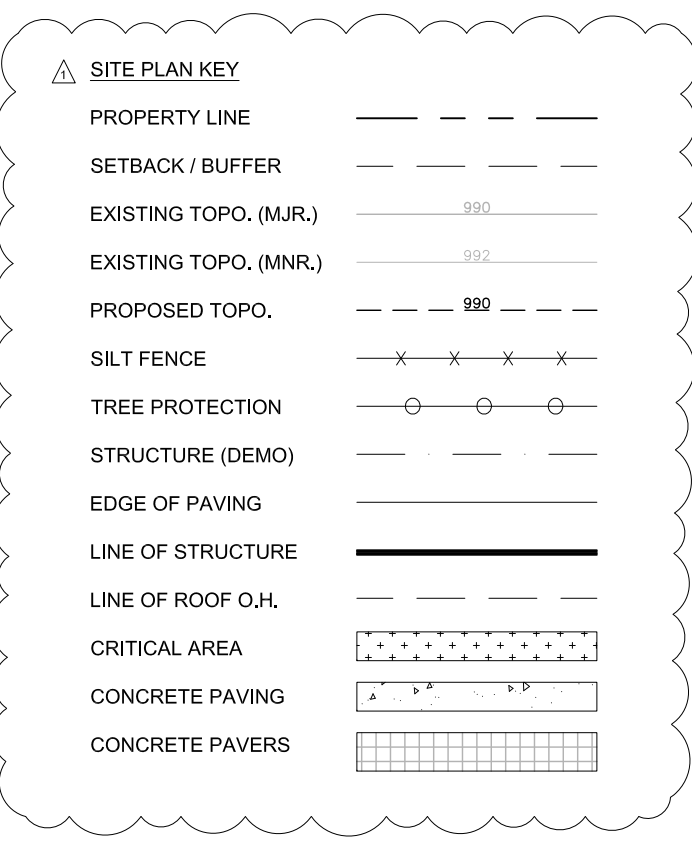
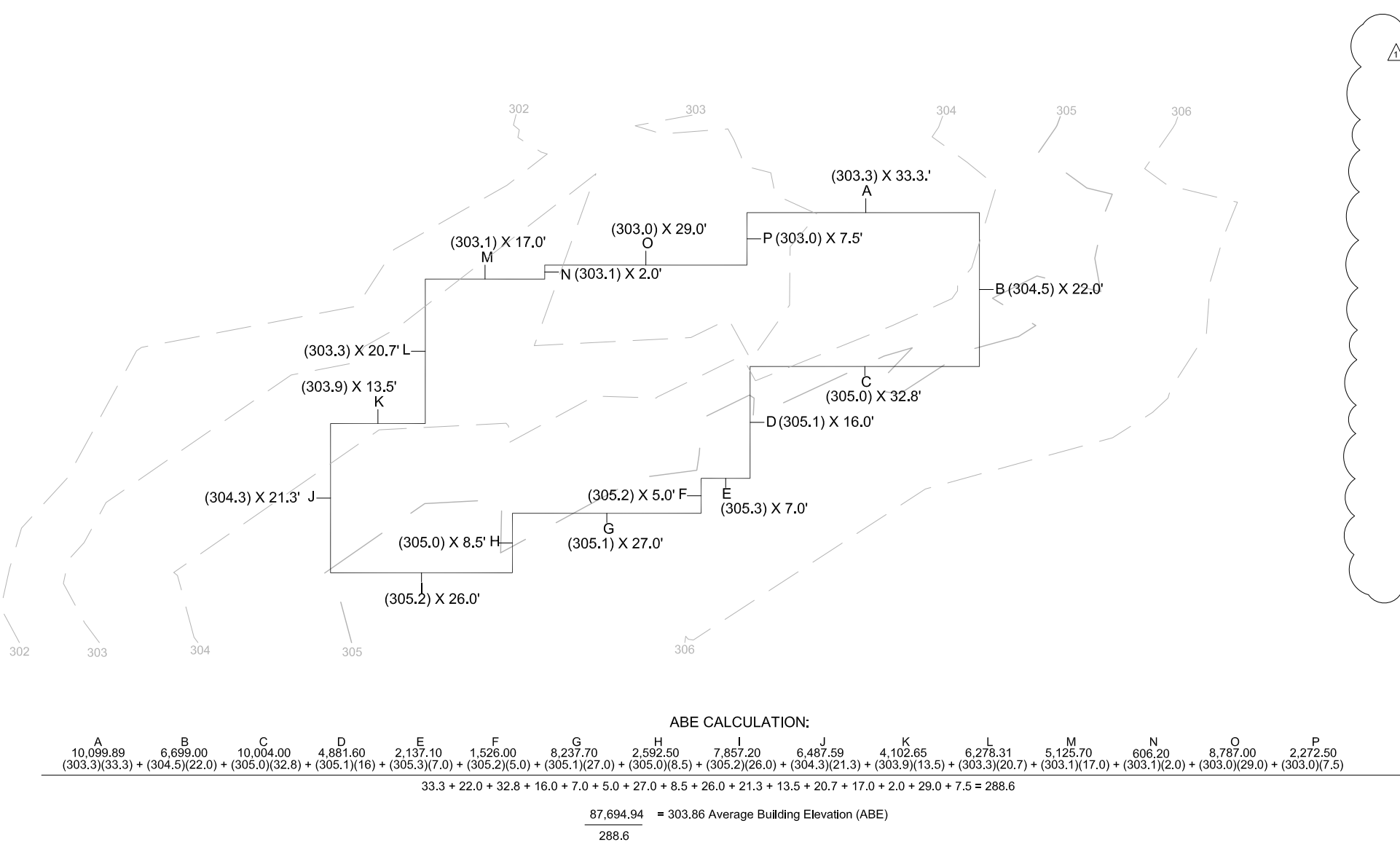
Project Information		Contact Information	
Wes Giesbrecht, Saintfield LLC P.O. Box 791, Mercer Island, WA 98040 (206) 769-9600		McCullough Architects 5601 6th Ave S, Suite 371, Seattle WA 98108 206-443-1181	
Heating System Type: <input type="radio"/> All Other Systems		Design Temperature: 25	
Design Temperature: Mercer Island		Design Temperature Difference (ΔT): 45 <small>ΔT = Indoor (70 degrees) - Outdoor Design Temp</small>	
Area of Building: Conditioned Floor Area (sq ft) <b>4,241</b>		U-Factor X Area = UA 0.300 X 1,503 = 0.450	
Average Ceiling Height: 10.0		U-Factor X Area = UA 0.50 X 0 = 0.00	
Glazing and Doors: U-0.30		U-Factor X Area = UA 0.017 X 0 = 0.00	
Skylights: R-60		U-Factor X Area = UA 0.024 X 2,928 = 70.27	
Insulation: Attic R-60		U-Factor X Area = UA 0.017 X 0 = 0.00	
Single Rafter or Joist Vaulted Ceilings: R-60		U-Factor X Area = UA 0.056 X 3,400 = 190.40	
Above Grade Walls (see Figure 1): R-21 Intermediate		U-Factor X Area = UA 0.025 X 2,928 = 73.20	
Floors: R-38		Wall U-Factor X Area = UA 0.035 X 0 = 0.00	
Below Grade Walls and Slabs (see Figure 1): Wall R21 Batt w/TB		Slab F-Factor X Length = UA 0.500 X 0 = 0.00	
Slab and Slab Depth: R-10 Fully Insulated		F-Factor X Length = UA 0.360 X 0 = 0.00	
Slab on Grade (see Figure 1): R-10 Fully Insulated		Duct Leakage Coefficient: 1.000	
Location of Ducts: Conditioned Space		Sum of UA: 784.83	
Sum of UA: 784.83		Building and Duct Heat Load: 55,929Btu / Hour	
Envelope Heat Load: 35,317Btu / Hour		Ducts in unconditioned space: sum of building heat loss x 1.10	
Sum of UA x ΔT: 20,611Btu / Hour		Ducts in conditioned space: sum of building heat loss x 1	
Air Leakage Heat Load: Volume x 0.6 x ΔT x 0.018		Maximum Heat Equipment Output: 69,911Btu / Hour	
Building Design Heat Load: 55,929Btu / Hour		Building and duct heat loss x 1.40 for forced air furnace	
Air leakage + envelope heat loss		Building and duct heat loss x 1.25 for heat pump.	

**McCULLOUGH ARCHITECTS**  
5601 - 6th Ave South, #317  
Seattle, WA, 98108  
206.443.1181  
mccullougharchitects.com

Comment: **PLAN REVIEW 1**  
Revisions: 3/17/2026

Date: 2025.12.18  
Job No: 24-008  
Project No:  
Drawn:  
Approved:  
Owner: **SAINTFIELD2 LLC**





### HARDSCAPE

A. GROSS LOT AREA:	16,232 SF
B. NET LOT AREA:	16,232 SF
C. AREA BORROWED FROM LOT COVERAGE:	0 SF
D. ALLOWED HARDSCAPE AREA+9% OF LOT AREA + C:	9% OF LOT
E. ALLOWED HARDSCAPE AREA:	1,461 SF
F. TOTAL EXISTING HARDSCAPE AREA:	
1. UNCOVERED DECKS	0 SF
2. UNCOVERED PATIOS	0 SF
3. WALKWAYS	0 SF
4. STAIRS	0 SF
5. ROCKERS AND RETAINING WALLS	0 SF
6. OTHER	0 SF
7. TOTAL EXISTING HARDSCAPE (F1+F2+F3+F4+F5+F6)	0 SF
G. (TOTAL HARDSCAPE REMOVED):	0 SF
H. TOTAL NEW HARDSCAPE AREA:	
1. UNCOVERED DECKS	0 SF
2. UNCOVERED PATIOS	0 SF
3. WALKWAYS	114 SF
4. STAIRS	0 SF
5. ROCKERS AND RETAINING WALLS	40 SF
6. OTHER	16 SF
7. TOTAL NEW HARDSCAPE (H1+H2+H3+H4+H5+H6)	170 SF
I. TOTAL PROJECT HARDSCAPE AREA = (F7 - G) + 7	170 SF
J. TOTAL PROJECT HARDSCAPE AREA = (I/B)X100	0.010%

### LOT COV'G

LOT AREA:	16,232 SF
GROSS FLOOR AREA (INCL ROOF):	3,264 SF
VEHICULAR USE AREA:	490 SF
TOTAL LOT COVERAGE AREA:	3,754 SF
	=23.13%
ALLOWED LOT COV'G. AREA:	6,492.80 SF
ALLOWED % OF LOT AREA:	=40.00%

### GROSS FLOOR AREA

LOT AREA (NET):	16,232 SF
UPPER FLOOR AREA (LESS STAIR):	2,830 SF
MAIN FLOOR AREA (INCL GARAGE):	2,706 SF
TOTAL GROSS FLOOR AREA	5,536 SF
% OF LOT AREA:	=34.11%
ALLOWED LOT AREA:	6,492.80 SF
ALLOWED % OF LOT AREA:	=40.00%

### FIRE AREA SUMMARY

UPPER FLOOR AREA:	2,651 SF
MAIN FLOOR AREA:	1,974 SF
GARAGE FLOOR AREA:	725 SF
COVERED OUTDOOR AREA:	324 SF
TOTAL FIRE AREA:	5,674 S.F.

**PARCEL NUMBER**  
252404-9075

**LEGAL DESCRIPTION**  
LOT 1, CITY OF MERCER ISLAND SHORT PLAT SUB23-001 (SAINTFIELD2 SHORT PLAT, A PLAT COMMUNITY) RECORDED DECEMBER 3, 2025, UNDER RECORDING NUMBER 20251203900005 RECORDS OF KING COUNTY, WASHINGTON

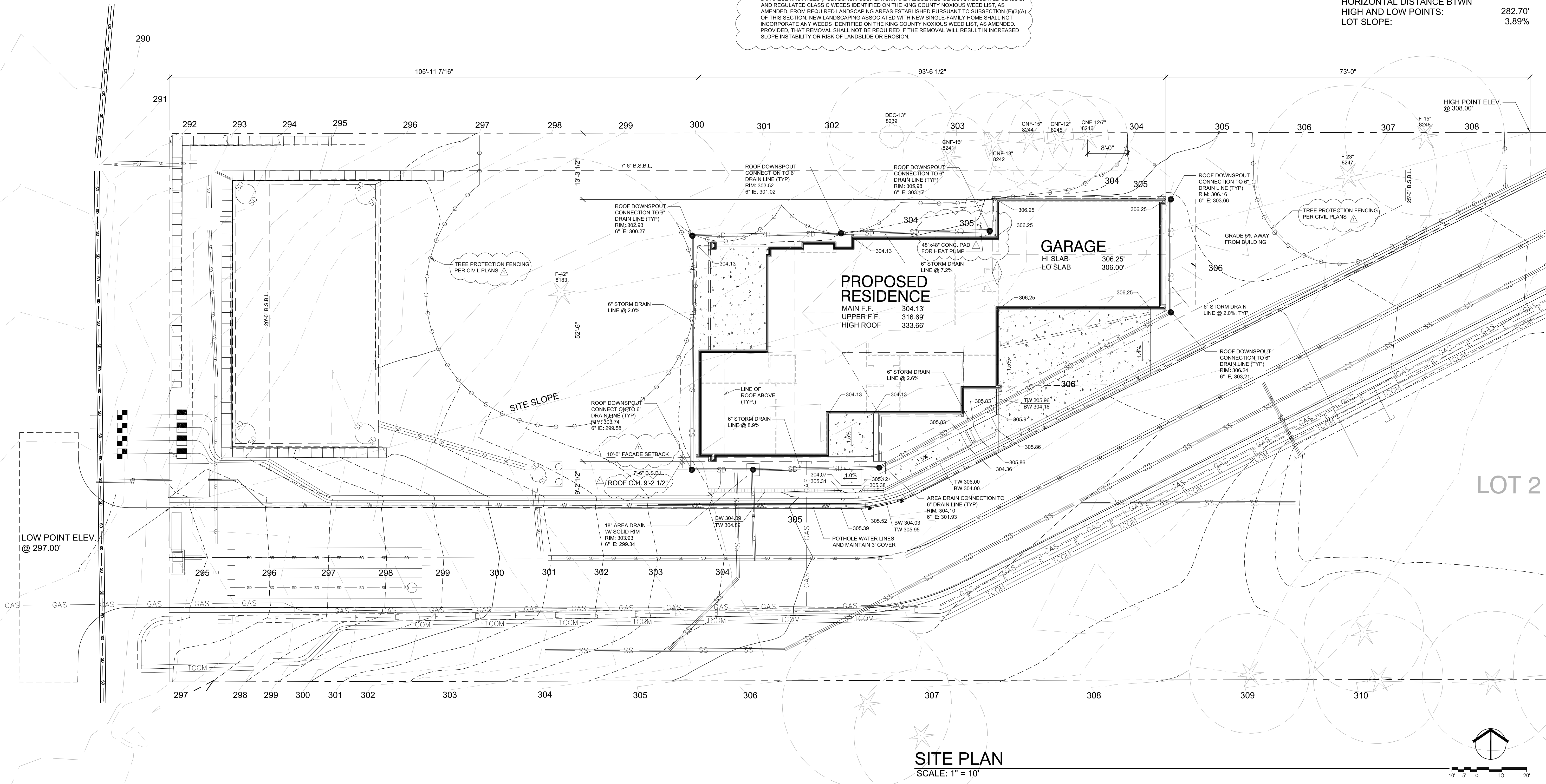
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON

**SITE ADDRESS**  
7414-78TH AVE SE  
SEARS PLAT  
LOT 1  
MERCER ISLAND, WA 98040

**ZONING**  
R-9.6

**LOT SLOPE**  
HIGHEST ELEV POINT OF LOT: 308.00  
LOWEST ELEV POINT OF LOT: 297.00  
ELEVATION DIFFERENCE: 11.00  
HORIZONTAL DISTANCE BTWN HIGH AND LOW POINTS: 282.70'  
LOT SLOPE: 3.89%

MCC 18.02.00NF(3)(4) DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS B, REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. 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.



**McCULLOUGH ARCHITECTS**  
5601 6th Ave South  
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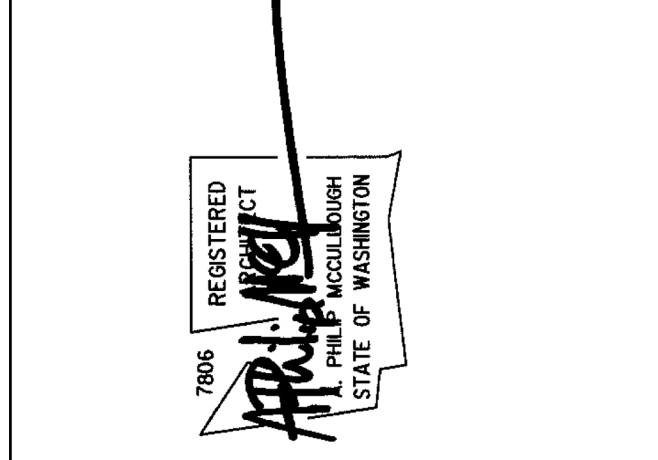
UNPUBLISHED WORK  
© McCullough Architects

Comment: PLAN REVIEW 1

Revisions: 3/17/2026

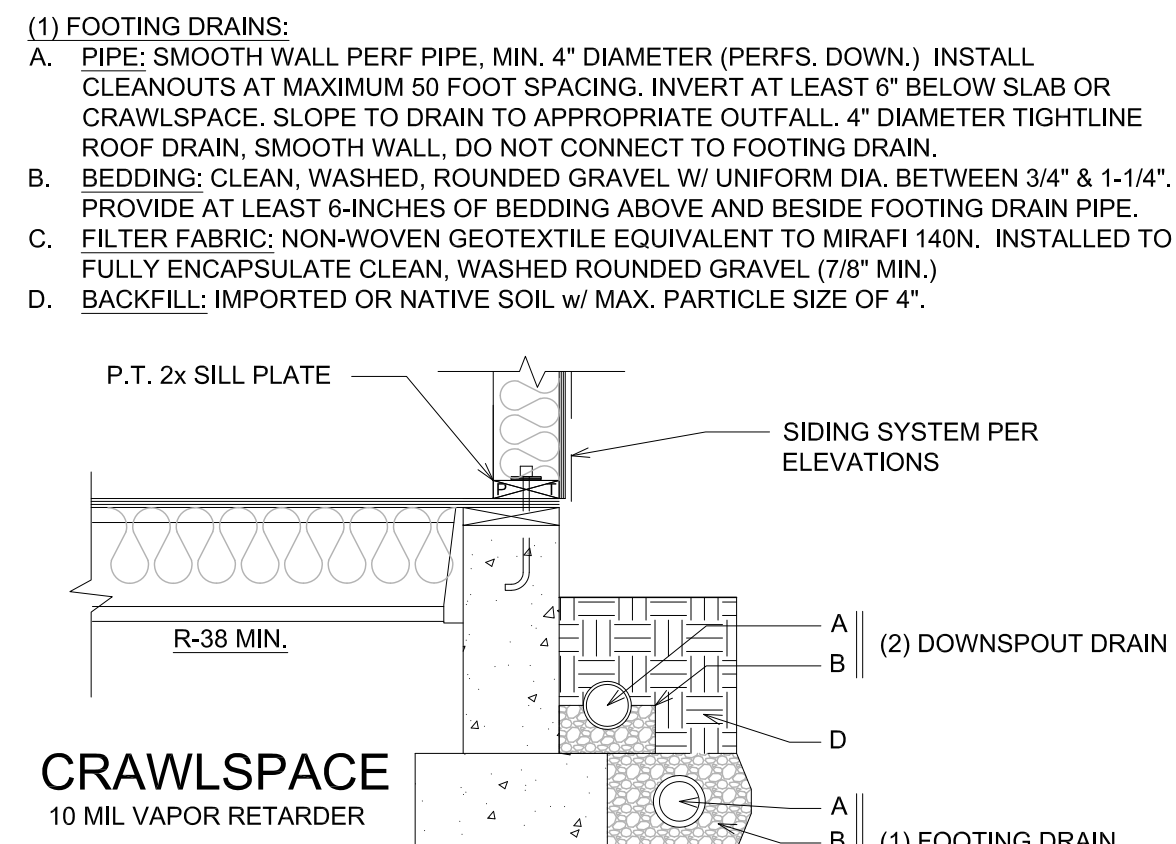
Date: 2025.12.18  
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Approved:

Owner: SAINTFIELD2 LLC

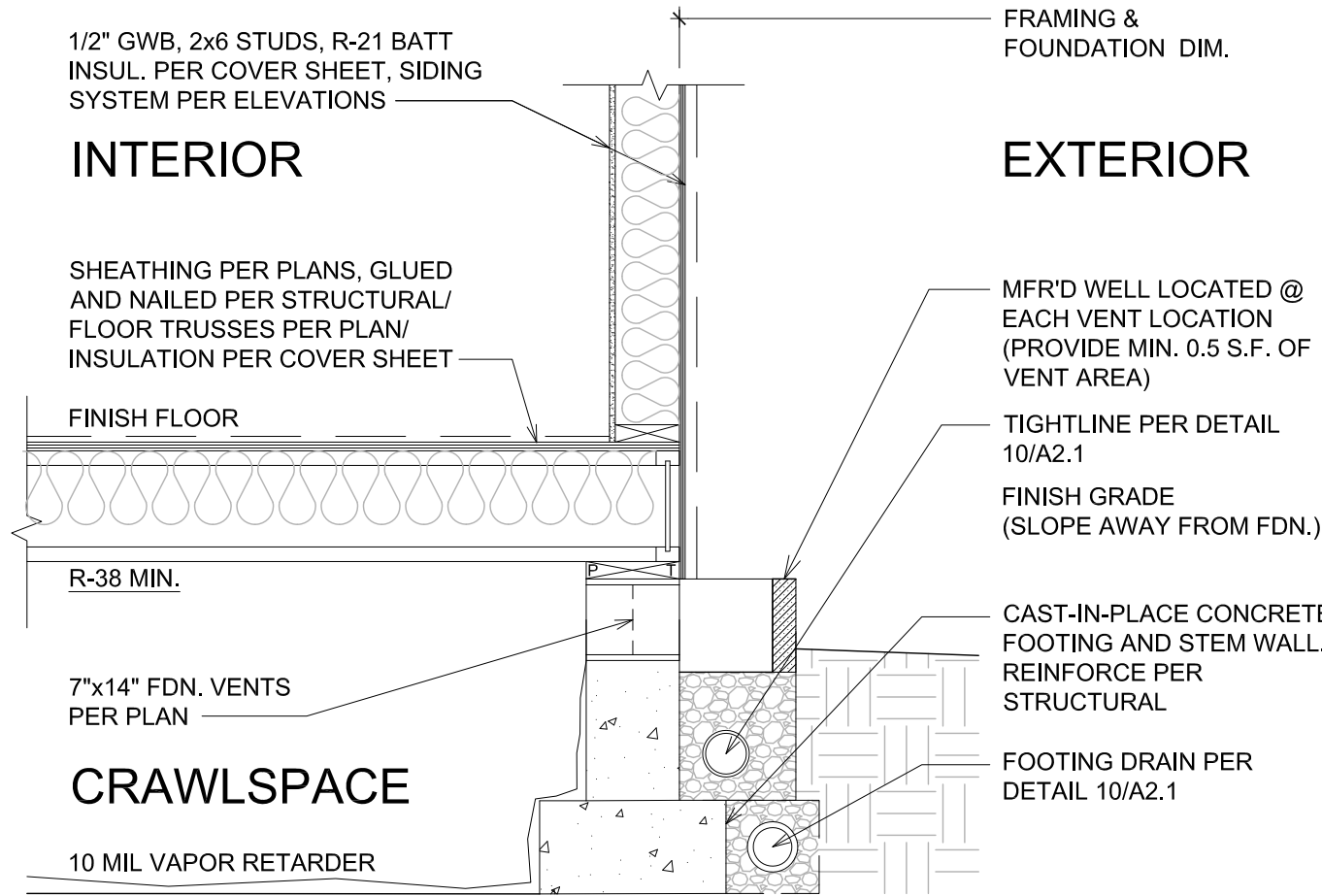


**7414 78th Ave SE**  
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Washington  
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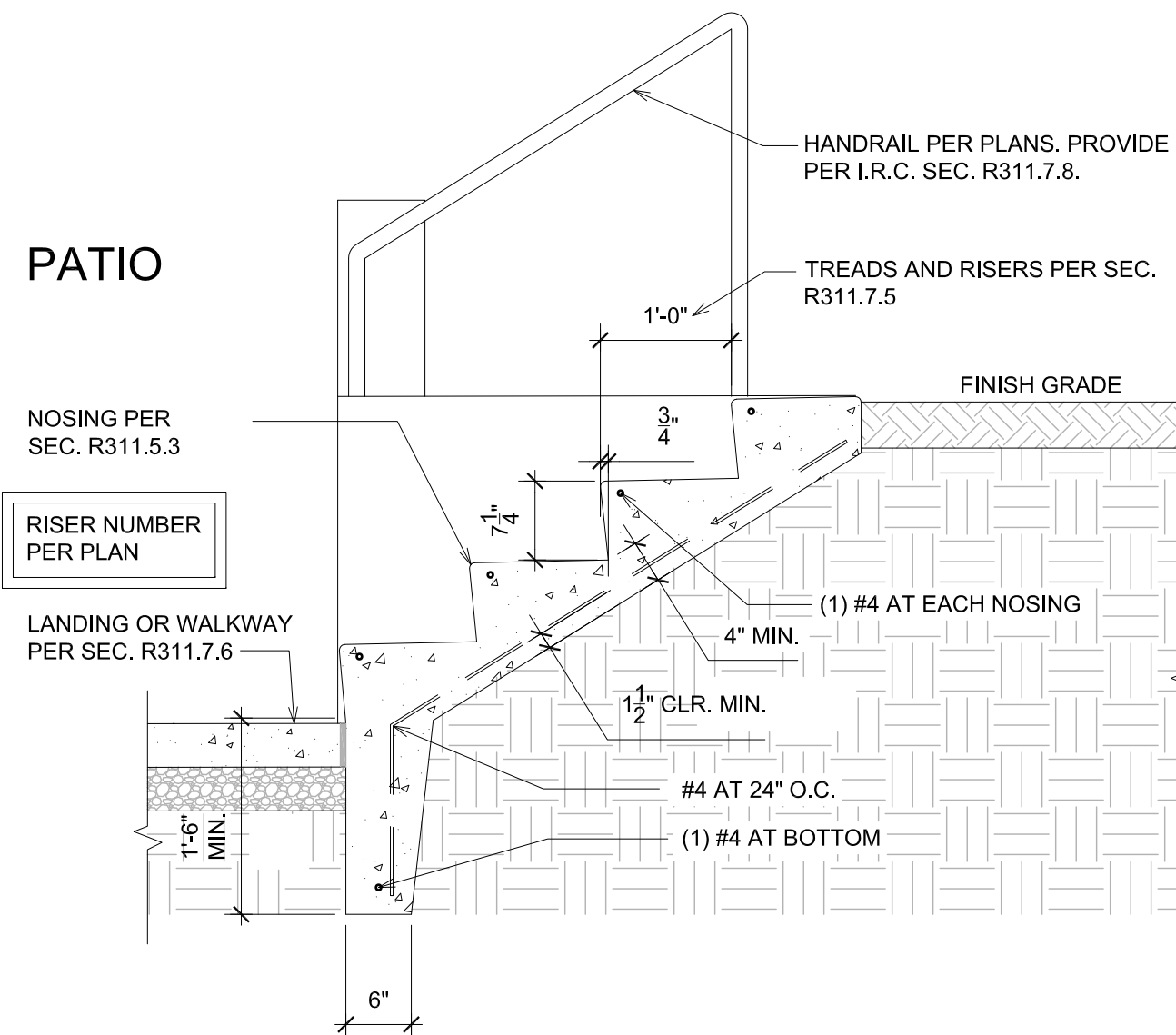
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Site Plan  
**A1**



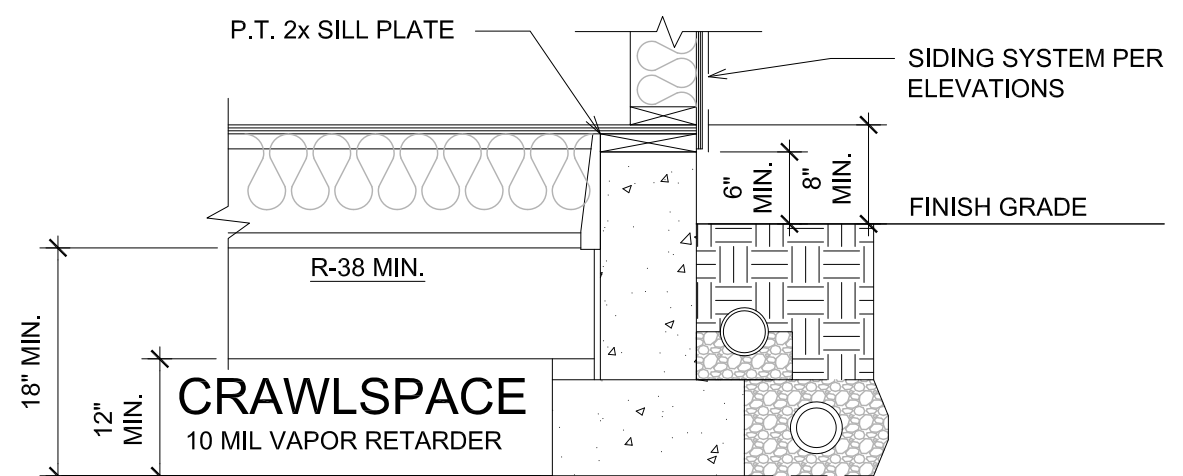
**DRAINAGE NOTES**  
SCALE: 3/4" = 1'-0"  
SLAB ON GRADE (A2.1) 8



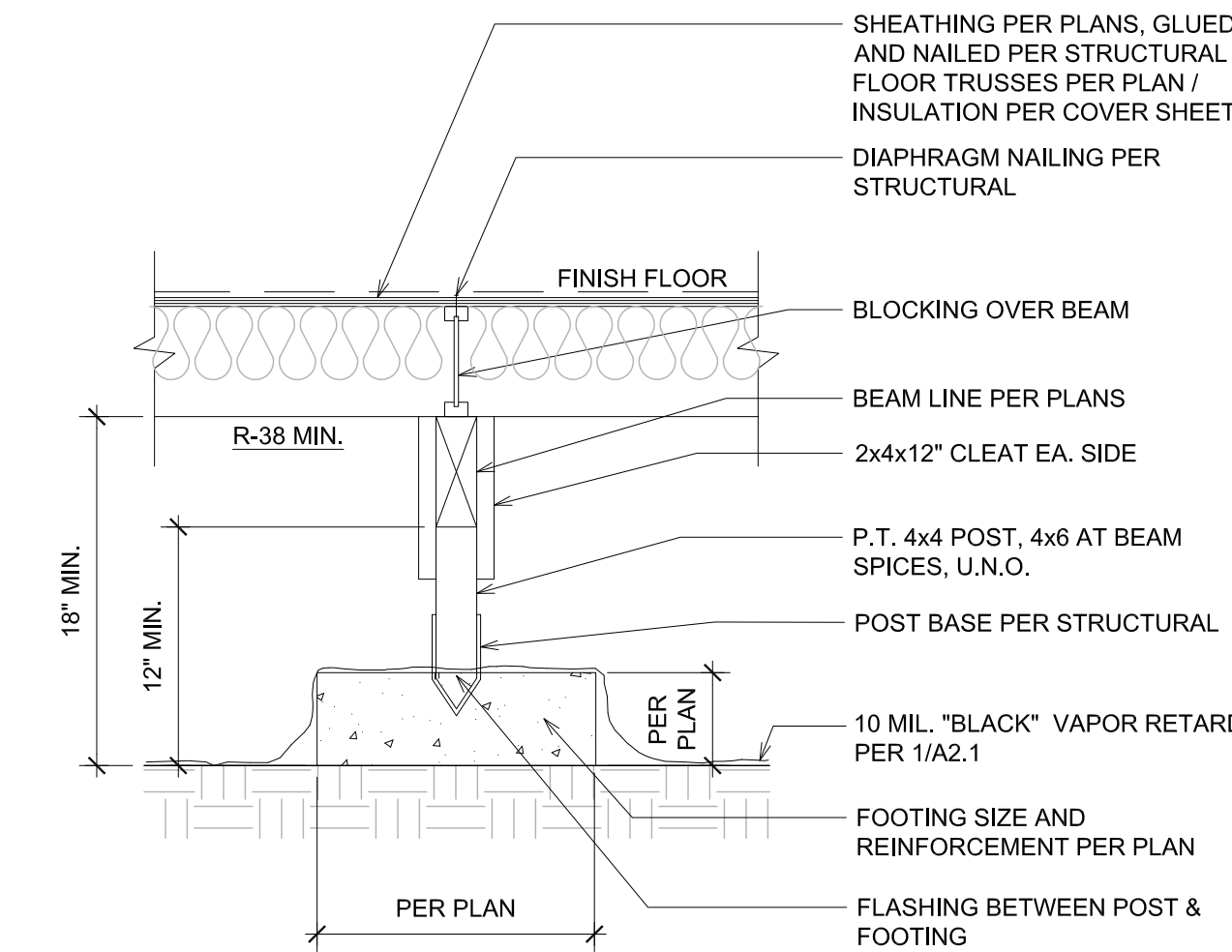
SEE DETAIL 1/A2.2 FOR TYPICAL ASSEMBLY INSULATION VALUES  
**FOUNDATION - CRAWLSPACE VENT**  
SCALE: 3/4" = 1'-0"  
CRAWLSPACE (A2.1) 7



**CONC. STEPS ON GRADE**  
SCALE: 3/4" = 1'-0"  
SLAB ON GRADE (A2.1) 6

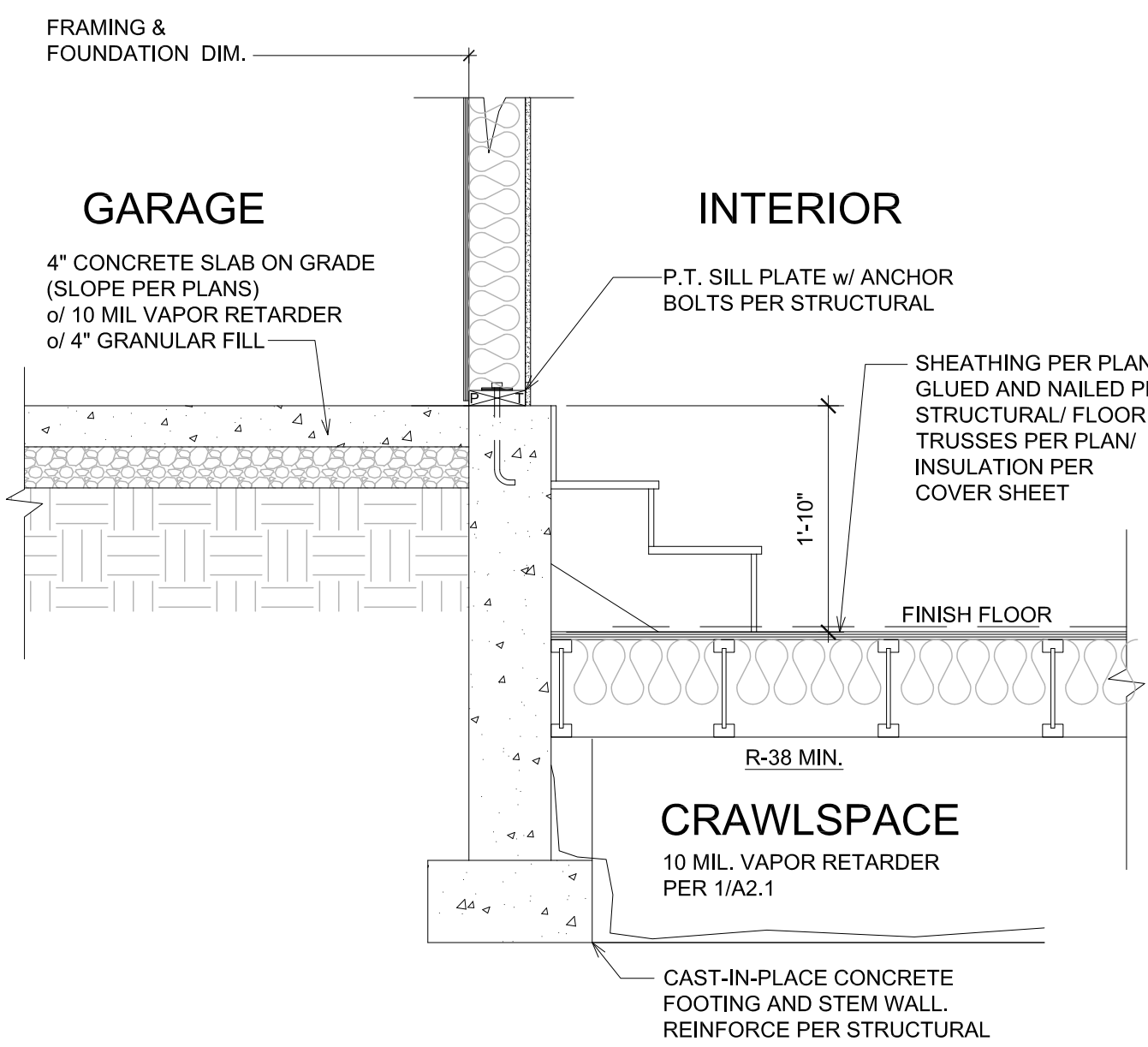


**FOUNDATION - PROTECTION OF WOOD**  
SCALE: 3/4" = 1'-0"  
SLAB ON GRADE (A2.1) 9

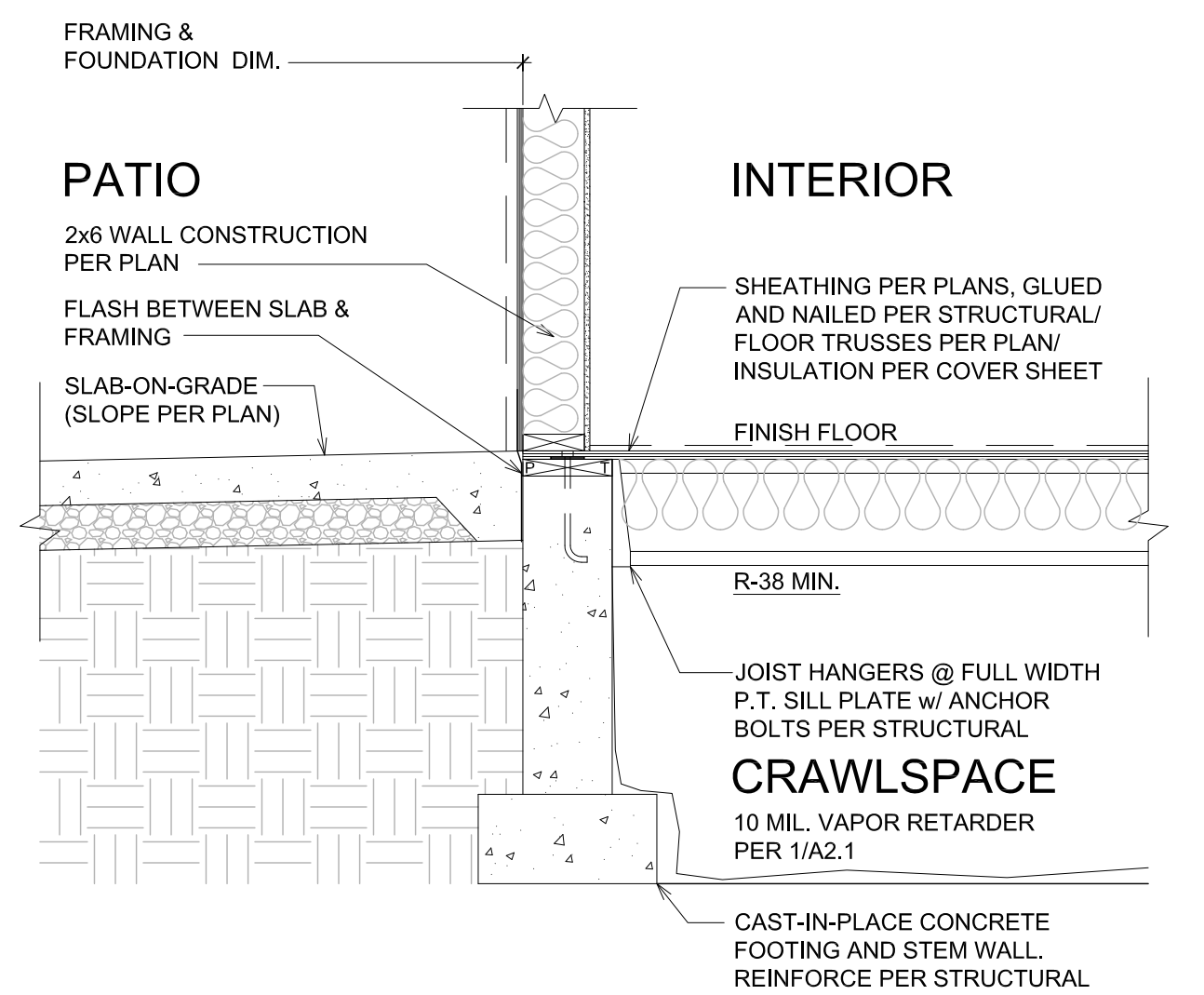


**FOUNDATION - ISOLATED PAD FOOTING**  
SCALE: 3/4" = 1'-0"  
CRAWLSPACE (A2.1) 5

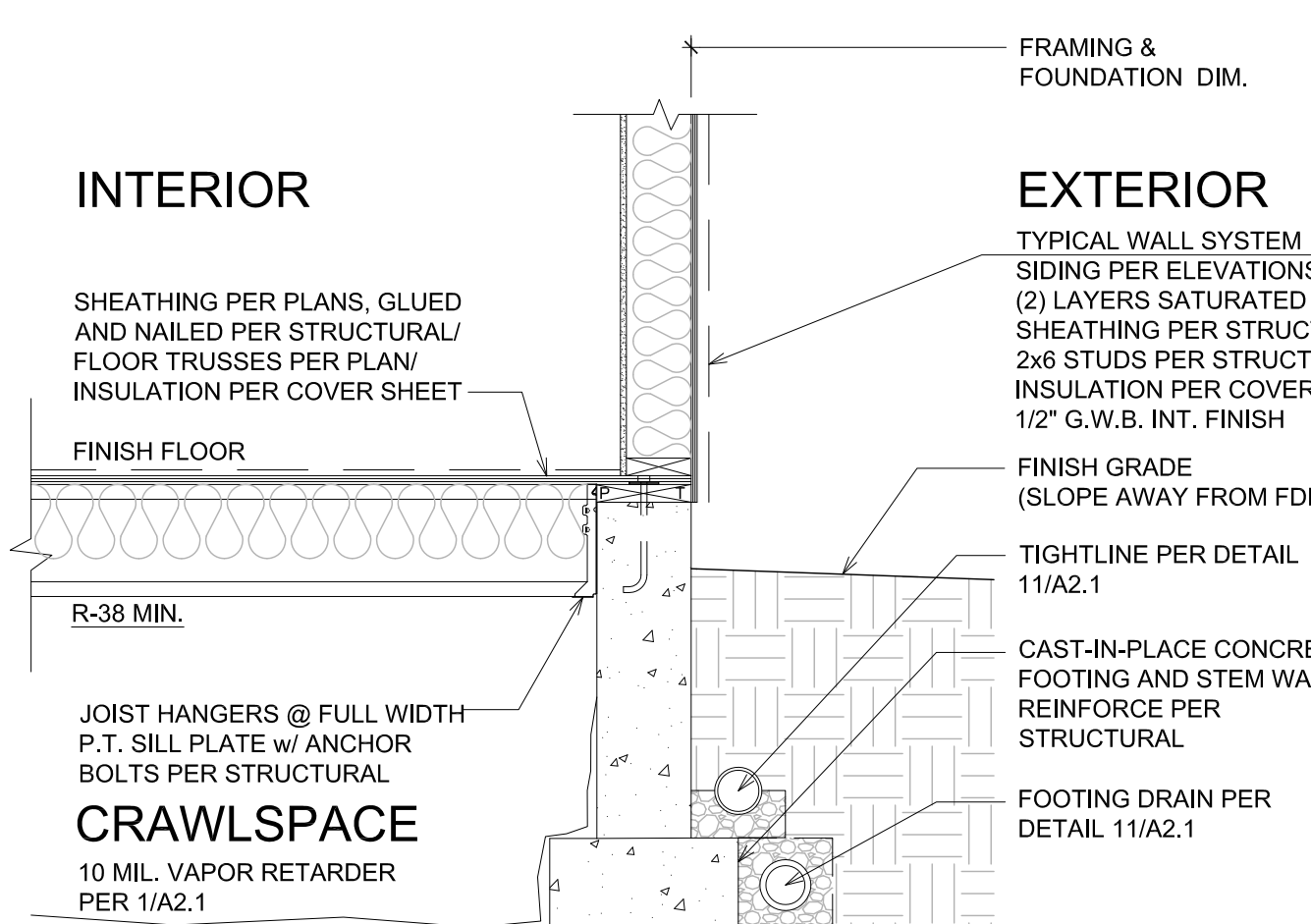
IN CRAWLSPACE APPLY A CONTINUOUS 10 MIL. "BLACK" VAPOR RETARDER. ALL JOINTS IN THE VAPOR RETARDER NEED TO BE OVERLAPPED BY SIX INCHES, AND SEALED OR TAPED. THE VAPOR RETARDER ALSO MUST EXTEND UP THE FOUNDATION WALL BY AT LEAST SIX INCHES, AND ATTACHED TO THE STEM WALL. THE VAPOR RETARDER SHOULD ALSO BE ATTACHED TO ALL PIERS AND OTHER PENETRATIONS.



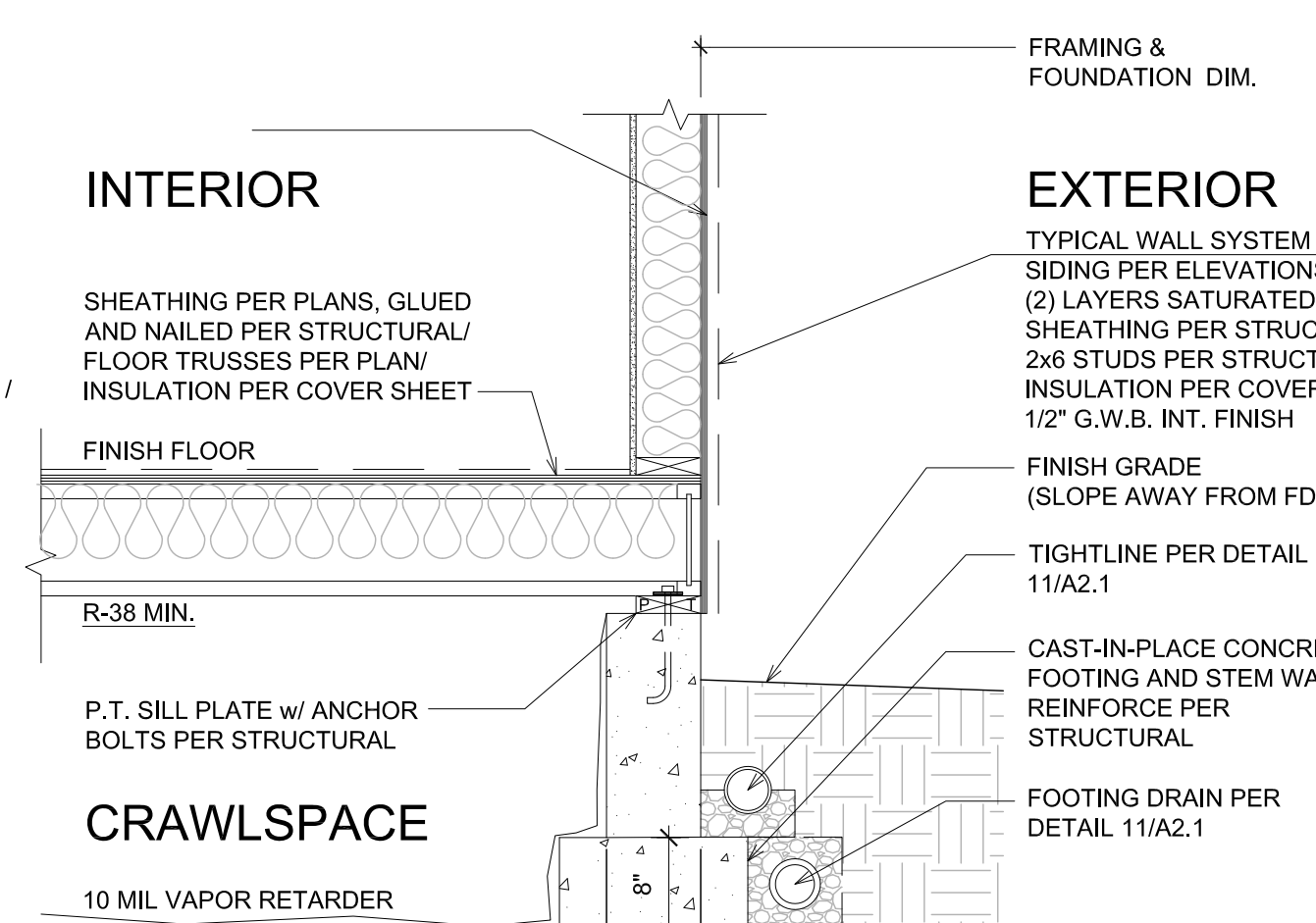
**FOUNDATION @ GARAGE - CRAWLSPACE**  
SCALE: 3/4" = 1'-0"  
SLAB ON GRADE / CRAWLSPACE (A2.1) 4



**FDN - RAISED WALL @ PATIO**  
SCALE: 3/4" = 1'-0"  
SLAB ON GRADE / CRAWLSPACE (A2.1) 3



**FDN - RAISED WALL @ CRAWLSPACE**  
SCALE: 3/4" = 1'-0"  
CRAWLSPACE (A2.1) 2



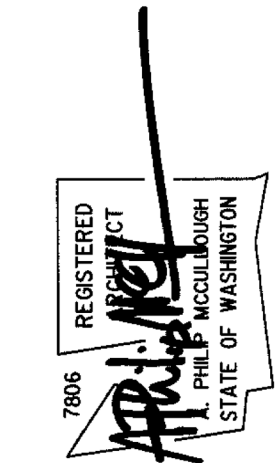
SEE DETAIL 1/A2.2 FOR TYPICAL ASSEMBLY INSULATION VALUES  
**FOUNDATION - CRAWLSPACE**  
SCALE: 3/4" = 1'-0"  
CRAWLSPACE (A2.1) 1

TYP. DIMENSIONS (U.N.O.)  
4" 8" 4"  
1'-4"

**SECTION R317 PROTECTION OF WOOD AND WOOD-BASED PRODUCTS AGAINST DECAY**  
Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1.

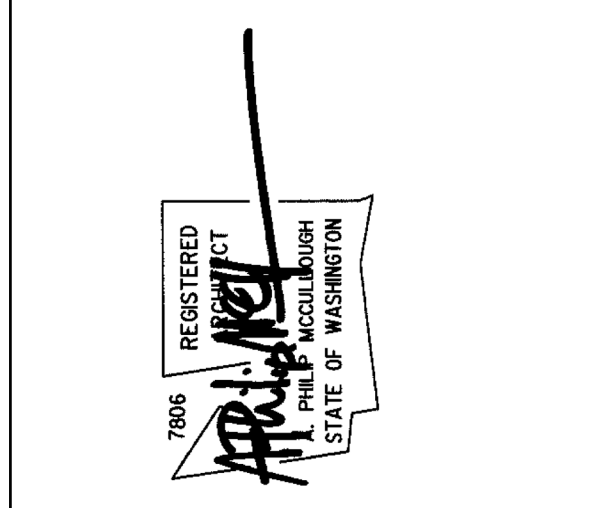
- Wood joists or the bottom of a wood structural floor where closer than 18 inches to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation.
- Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground.
- Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
- The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.
- Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches measured vertically from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.
- Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
- Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.
- Portions of wood structural members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where those members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering that would prevent moisture or water accumulation on the surface or at joints between members.
- Wood columns in contact with basement floor slabs unless supported by concrete piers or metal pedestals projecting not less than 1 inch above the concrete floor and separated from the concrete pier by an impervious moisture barrier.

Revisions	3/17/2026	Comment	PLAN REVIEW 1
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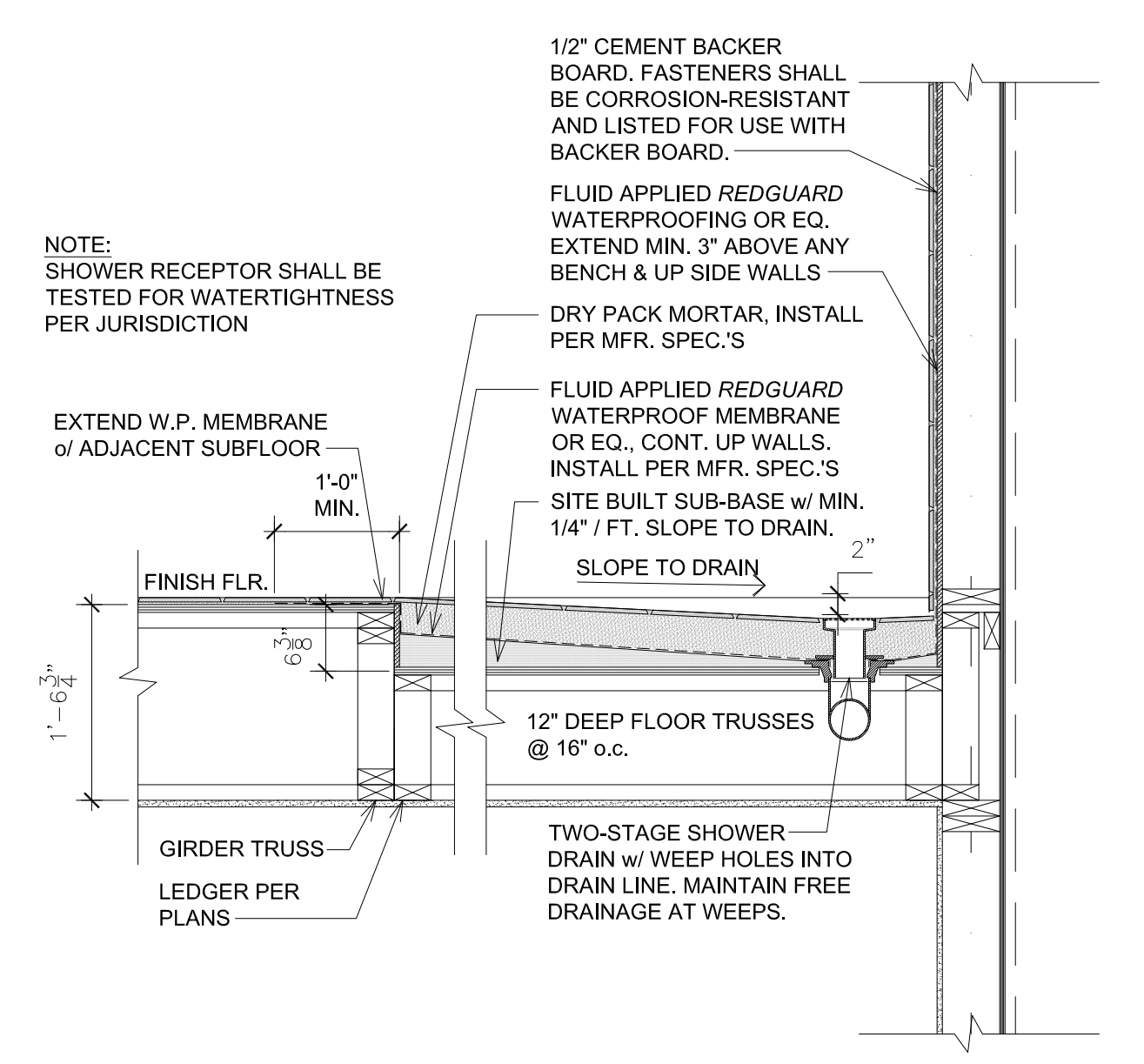
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Architectural Details  
**A2.1**



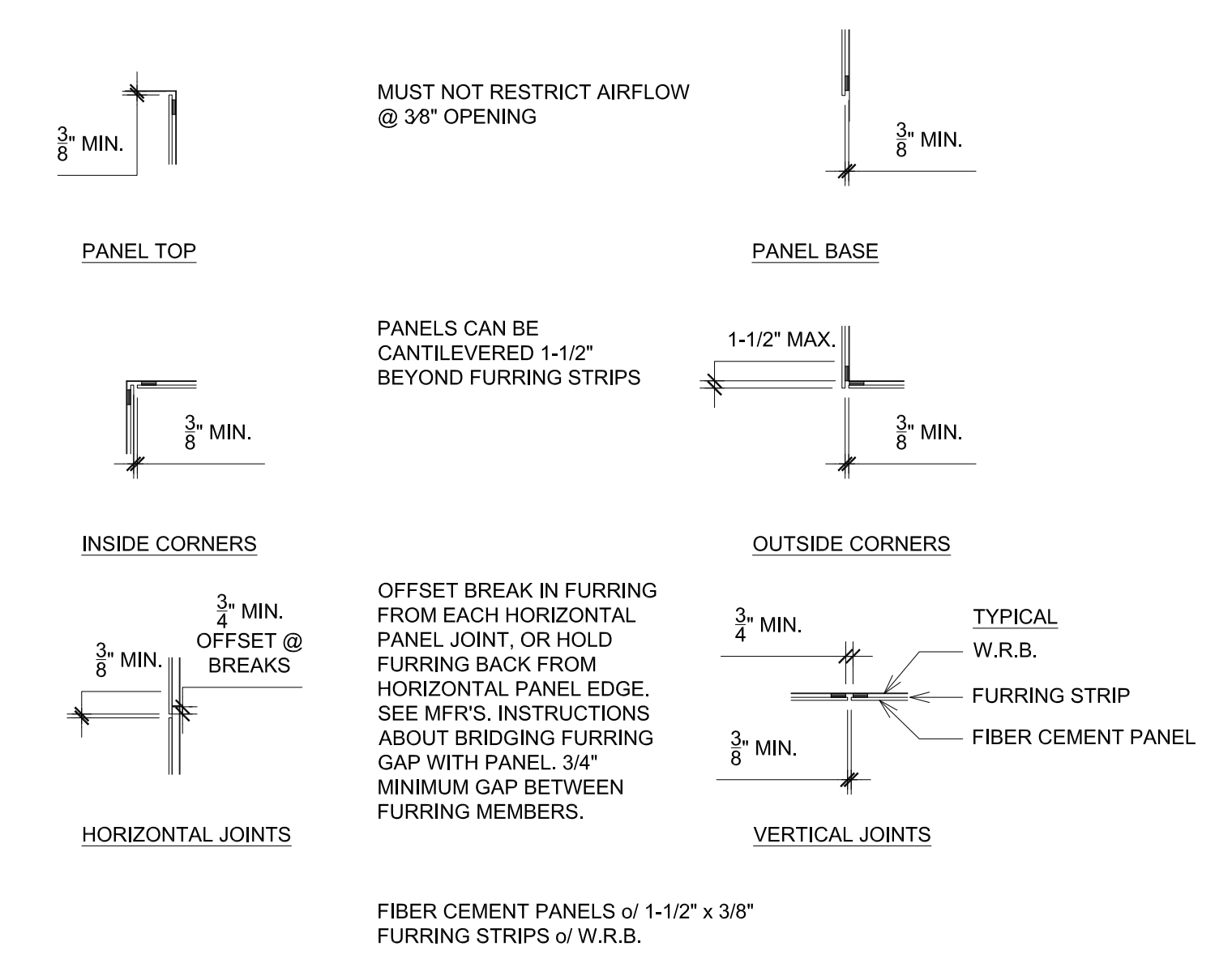
- WINDOW INSTALLATION SEQUENCE**
1. STRUCTURAL SHEATHING INSTALLED OVER FRAME WALL
  2. INSTALL FLASHING AT SILL
  3. INSTALL WINDOW PLUMBS, LEVEL AND SQUARE
  4. INSTALL FLASHING AT JAMBS
  5. INSTALL FLASHING AT HEAD
  6. AIR SEAL INT. OF WINDOW AROUND ENTIRE PERIMETER w/ SEALANT AND BACK ROD

**TYPICAL ASSEMBLY INSULATION VALUES:**

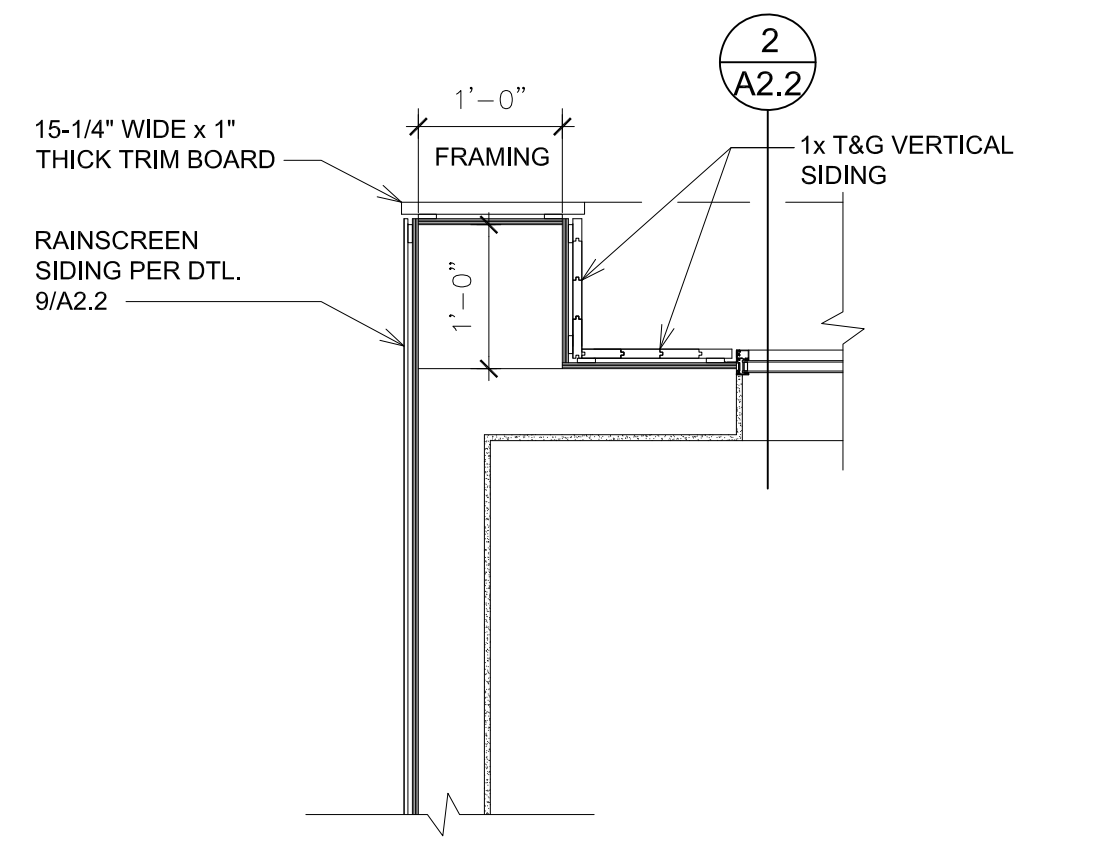
ATTIC INSULATION	R-60 BLOWN-IN
VAULTED CLG INSULATION	N.A.
FLOOR INSULATION	R-38 BATT
ABV. GRADE EXT. WALL INSUL.	R-21 BATT
BELOW GRADE EXT. WALL INSUL.	N.A.
SLAB INSULATION	R-10 (ENTIRE SLAB)



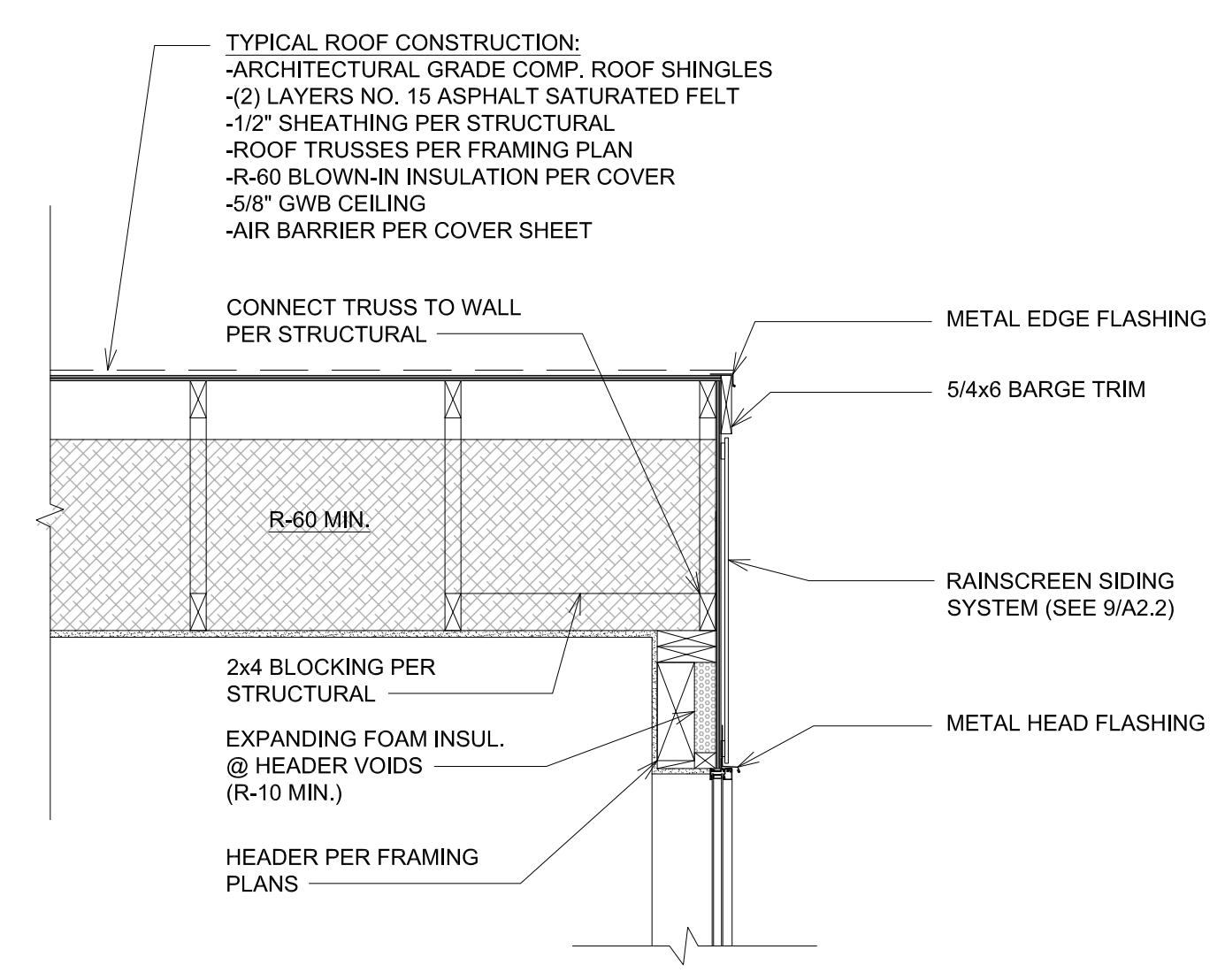
**RECESSED MUD SET SHOWER** 6  
A2.2



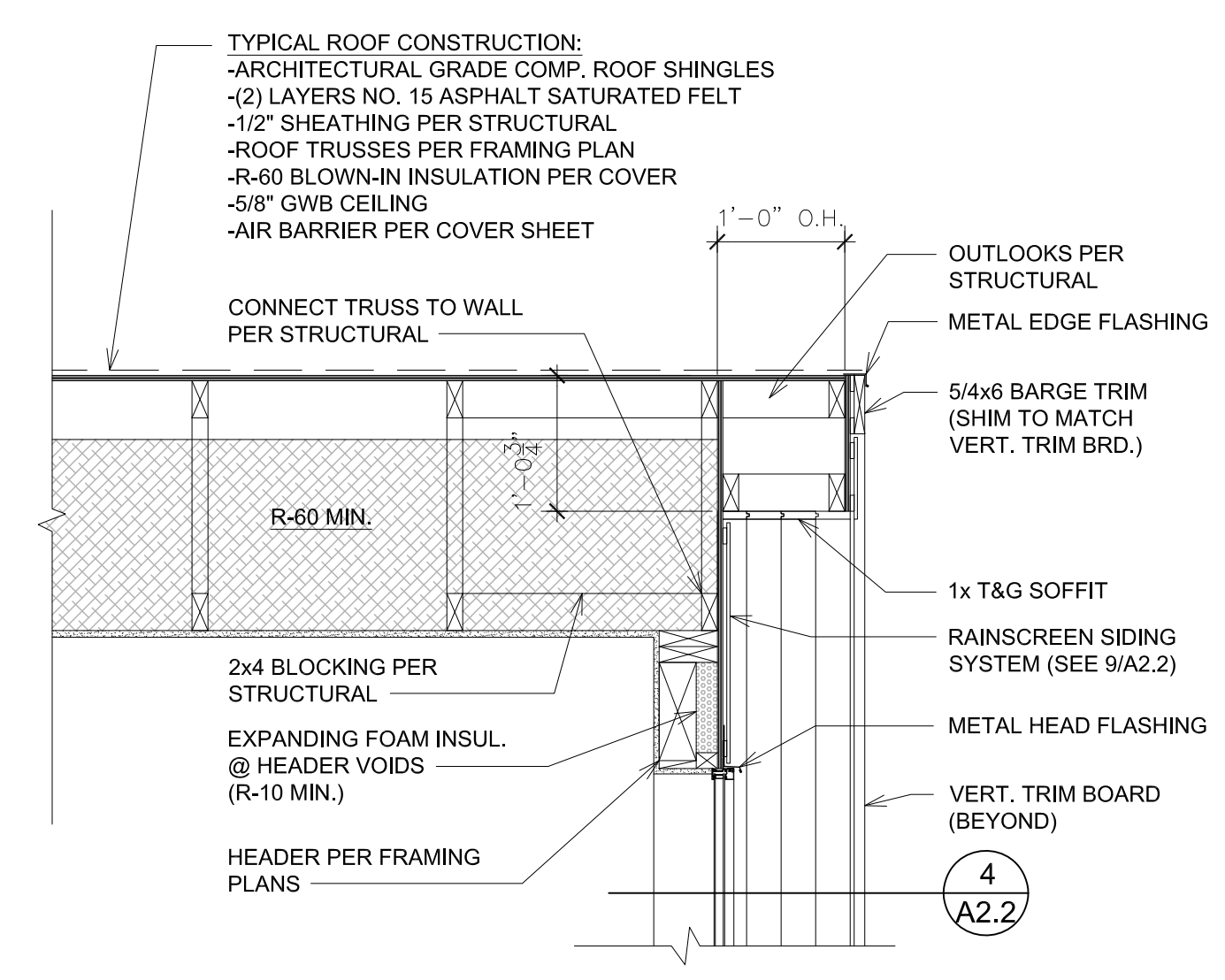
**TYPICAL - RAINSCREEN SIDING DETAILS** 5  
SCALE: 3/4" = 1'-0" A2.2



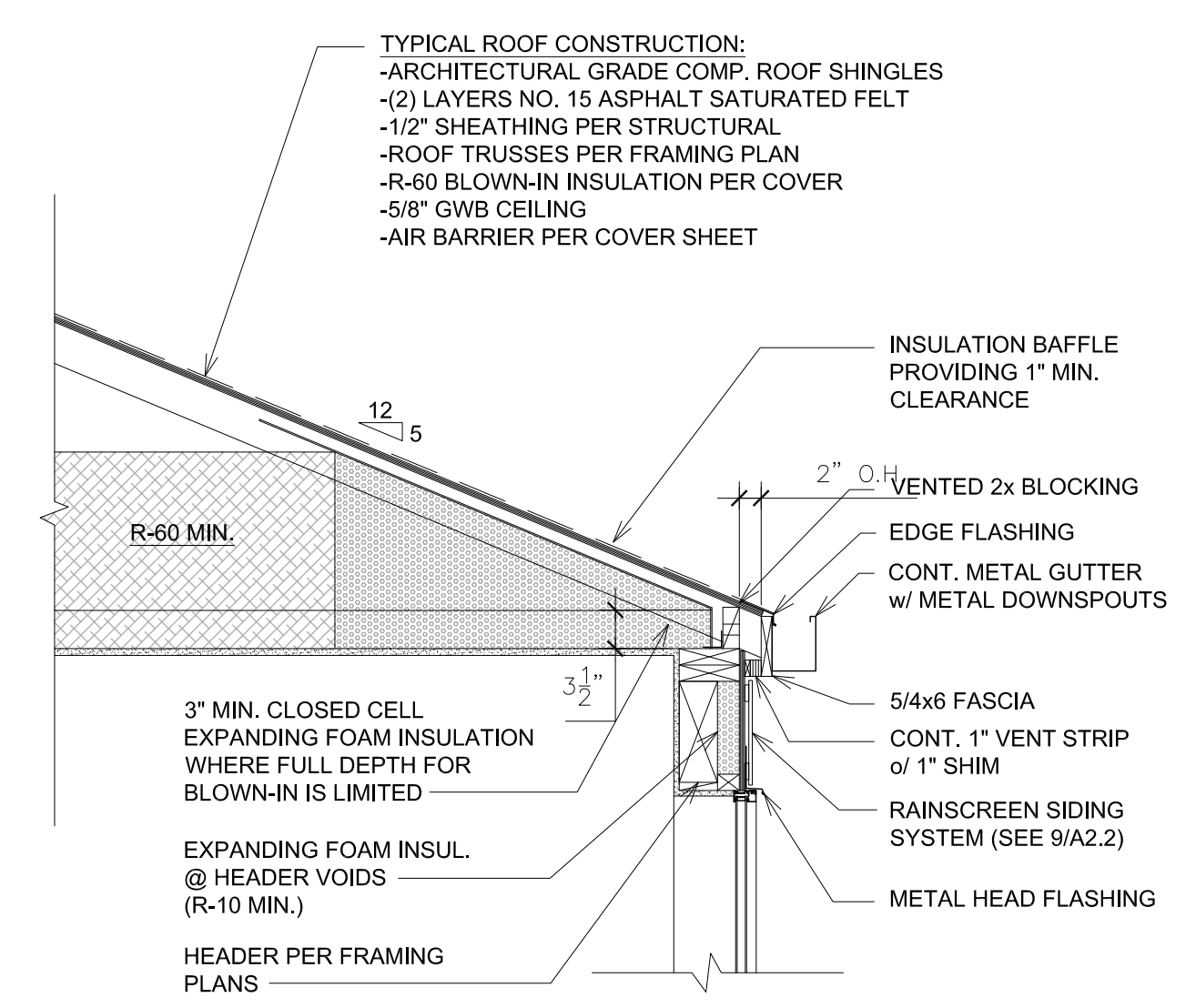
**SIDING DETAIL @ GABLE O.H.** 4  
A2.2



**TYPICAL RAKE w/ 0" O.H.** 3  
SCALE: 3/4" = 1'-0" VENTED A2.2



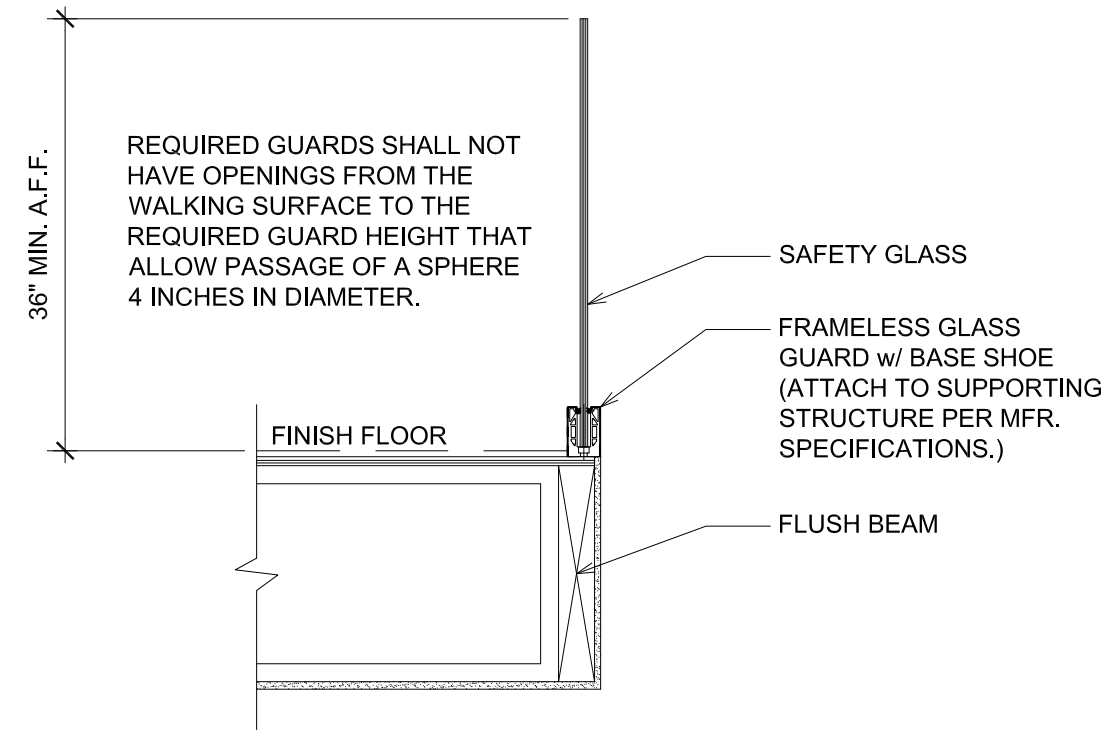
**TYPICAL RAKE w/ O.H.** 4  
SCALE: 3/4" = 1'-0" VENTED A2.2



**TYPICAL - 5:12 ROOF EAVE O.H.** 1  
SCALE: 3/4" = 1'-0" VENTED A2.2

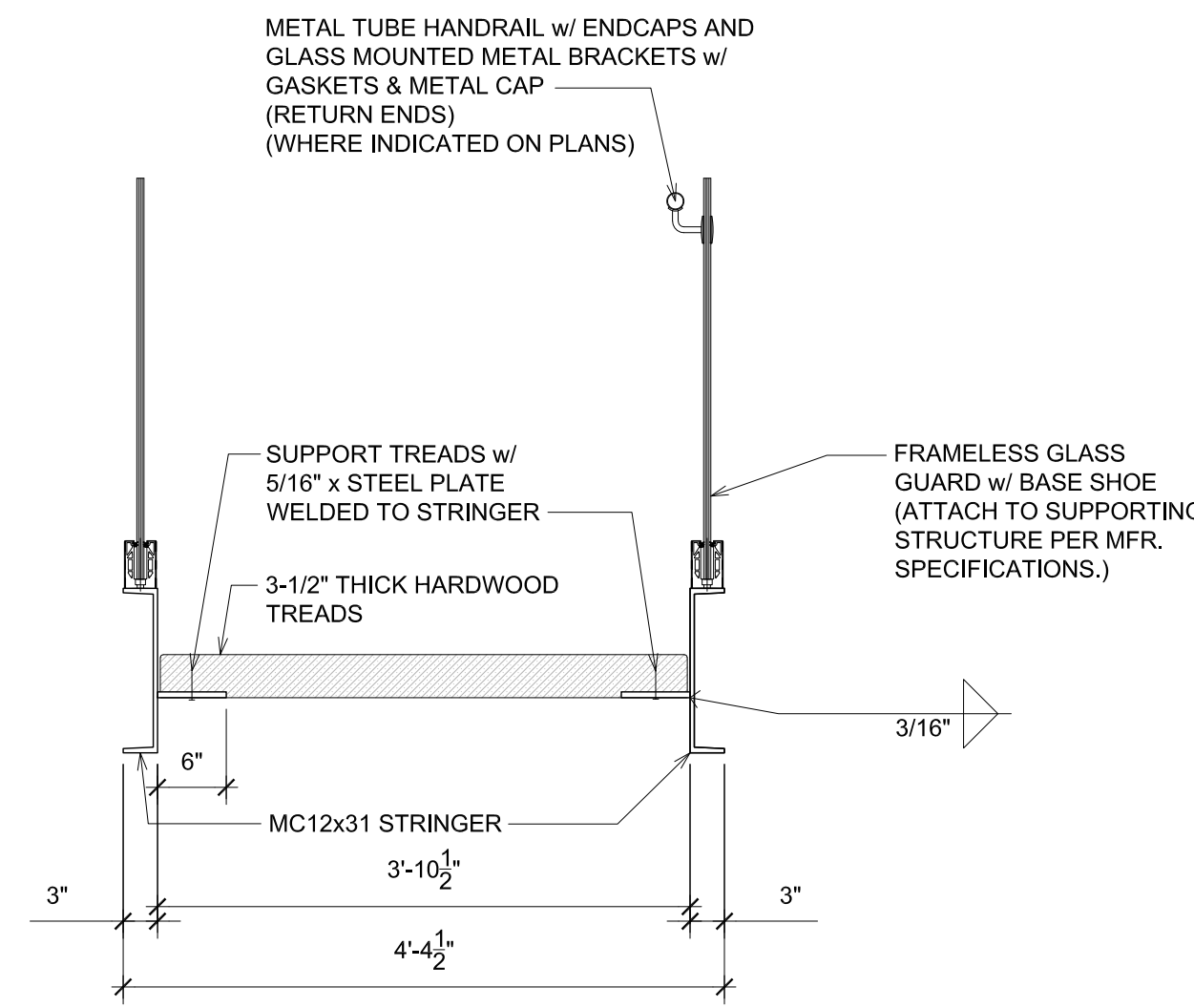
PROVIDE HANDRAILS PER I.R.C. SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LESS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT. HANDRAIL GRIPS: 1 1/4" MIN., 2" MAX. DIA., 4" MIN., 6 1/4" MAX. CIRCUM. HANDRAIL MUST BE CONTINUOUS FOR FULL LENGTH OF STAIR BUT MAY TERMINATE AT NEWEL POST OVER THE LOWEST TREAD. ENDS OF HANDRAIL SHALL RETURN TO WALL OR NEWEL POST. HANDRAIL MUST RESIST 200 LB. POINT LOAD IN ANY DIRECTION. OPEN HANDRAIL MEMBERS SPACED TO NOT ALLOW PASSAGE OF 4" DIA. SPHERE EXCEPT TRIANGULAR OPENING BETWEEN BOTTOM MEMBER AND STAIR TREAD MUST NOT ALLOW PASSAGE OF 6" DIA. SPHERE.

GUARDS R301.5 LIVE LOADS CONCENTRATED LOAD=200 LBS GLAZING USED IN HANDRAIL ASSEMBLIES AND GUARDS SHALL BE DESIGNED WITH A LOAD ADJUSTMENT FACTOR OF 4. THE LOAD ADJUSTMENT FACTOR SHALL BE APPLIED TO EACH OF THE CONCENTRATED LOADS APPLIED TO THE TOP OF THE RAIL, AND TO THE LOAD ON THE IN-FILL COMPONENTS. THESE LOADS SHALL BE DETERMINED INDEPENDENT OF ONE ANOTHER, AND LOADS ARE ASSUMED NOT TO OCCUR WITH ANY OTHER LIVE LOAD. WHERE THE TOP OF A GUARD SYSTEM IS NOT REQUIRED TO SERVE AS A HANDRAIL, THE SINGLE CONCENTRATED LOAD SHALL BE APPLIED AT ANY POINT ALONG THE TOP, IN THE VERTICAL DOWNWARD DIRECTION AND IN THE HORIZONTAL DIRECTION AWAY FROM THE WALKING SURFACE. WHERE THE TOP OF A GUARD IS ALSO SERVING AS THE HANDRAIL, A SINGLE CONCENTRATED LOAD SHALL BE APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP. CONCENTRATED LOADS SHALL NOT BE APPLIED CONCURRENTLY.



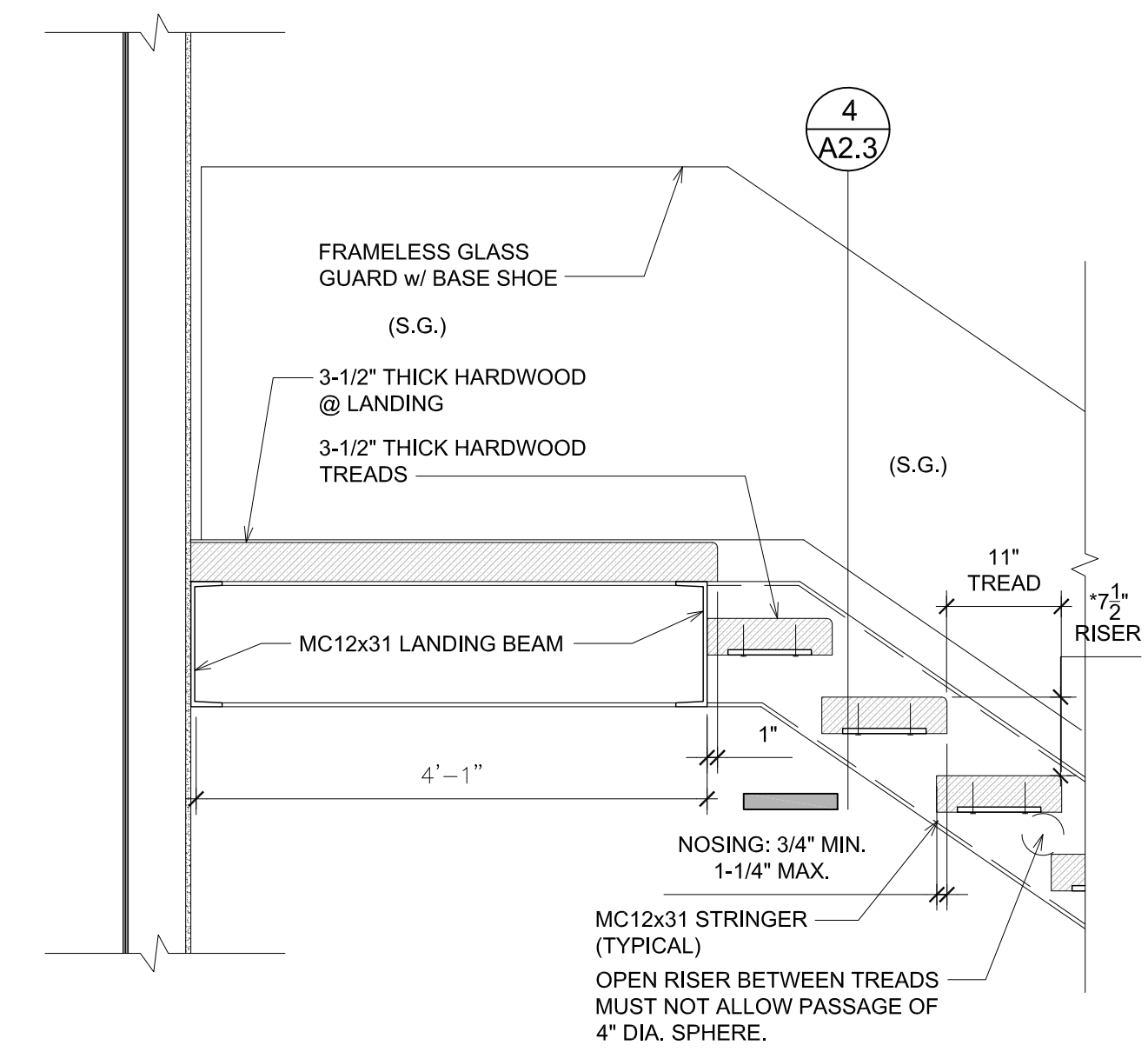
**GLASS GUARD DETAIL**  
SCALE: 3/4" = 1'-0"

5  
A2.3



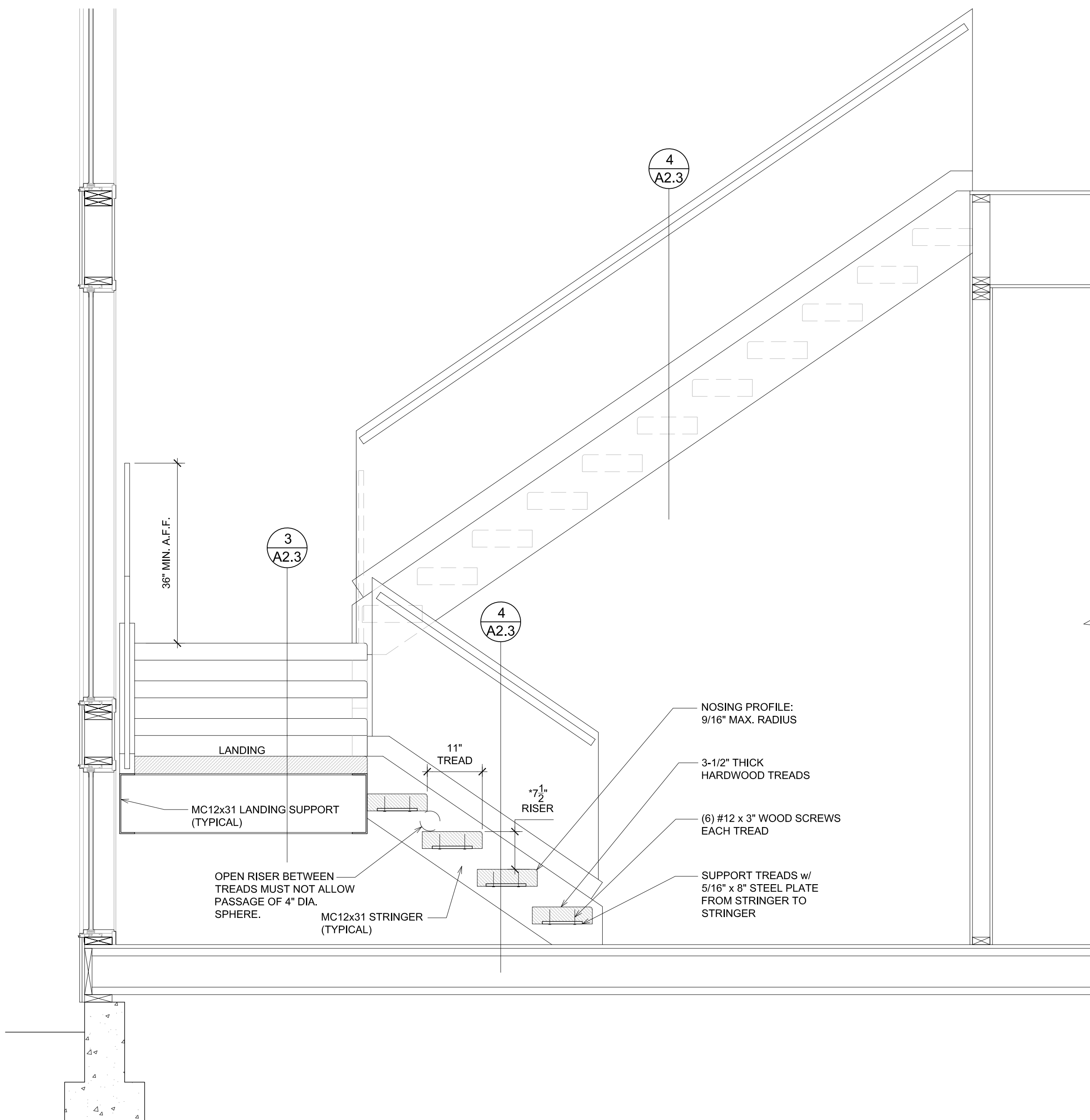
**STAIR STRINGER DETAIL**  
SCALE: 3/4" = 1'-0"

4  
A2.3



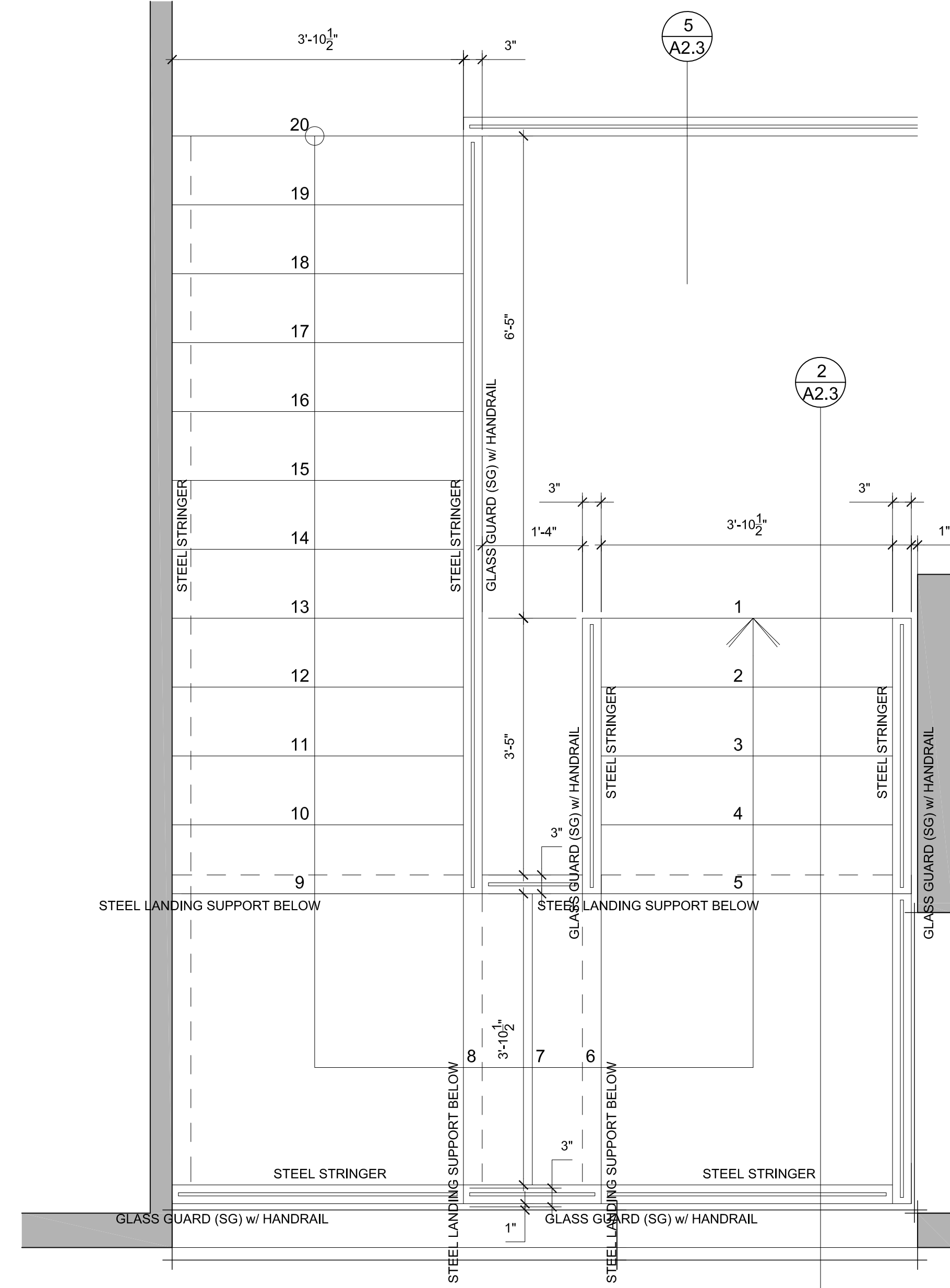
**STAIR LANDING DETAIL**  
SCALE: 1-1/2" = 1'-0"

3  
A2.3



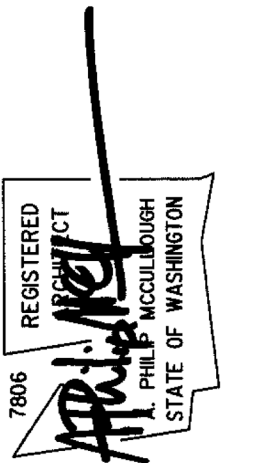
**STAIR - SECTION**  
SCALE: 3/4" = 1'-0"

2  
A2.3



**STAIR - MAIN FLOOR PLAN**  
SCALE: 3/4" = 1'-0"

1  
A2.3



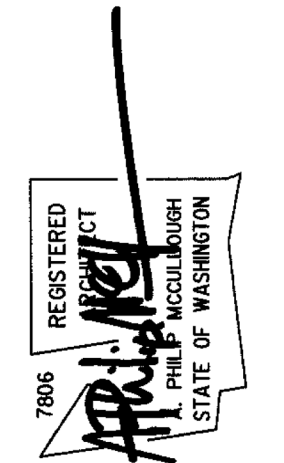
Comment  
PLAN REVIEW 1

Revisions  
3/17/2026

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24-008

Date:  
Job No:  
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Approved:

Owner  
SAINTFIELD2 LLC



**7414 78th Ave SE**

Mercer Island  
Washington  
98040

PERMIT APPLICATION  
Foundation Plan  
**A3**

- GENERAL NOTES:
- 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
  - ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
  - ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
  - SEE FNDN DETAILS FOR LOCATION & SPACING OF ANCHOR BOLTS.
  - INSTALL ALL HOLDDOWNS AND HARDWARE PRIOR TO BACKFILLING.
  - FOUNDATION DESIGN IS BASED ON AVERAGE BEARING CAPACITY OF 1500 PSF AS SPECIFIED IN GENERAL STRUCTURAL NOTES SHEET S-0.0 FOR ADDITIONAL FOUNDATION DESIGN INFORMATION.
  - PROVIDE 18"X24" MIN. CRAWLSPACE ACCESS WEATHERSTRIP AND INSULATE PER WSEC R402.2.4.

- 24 24" SQ. X 8" THICK FTG.
- 30 30" SQ. X 12" THICK FTG.
- 36 36" SQ. X 12" THICK FTG.
- 42 42" SQ. X 12" THICK FTG. w/ (4) #4 EA. WAY BOT.
- 48 48" SQ. X 12" THICK FTG. w/ (4) #4 EA. WAY BOT.
- TYPICAL POST IS DF#2 4X4, U.N.O.

**CRAWLSPACE VENTILATION:**  
I.B.C. Sec. R408.1

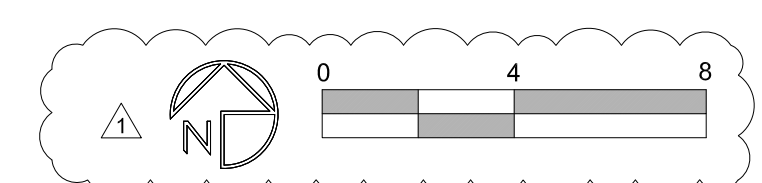
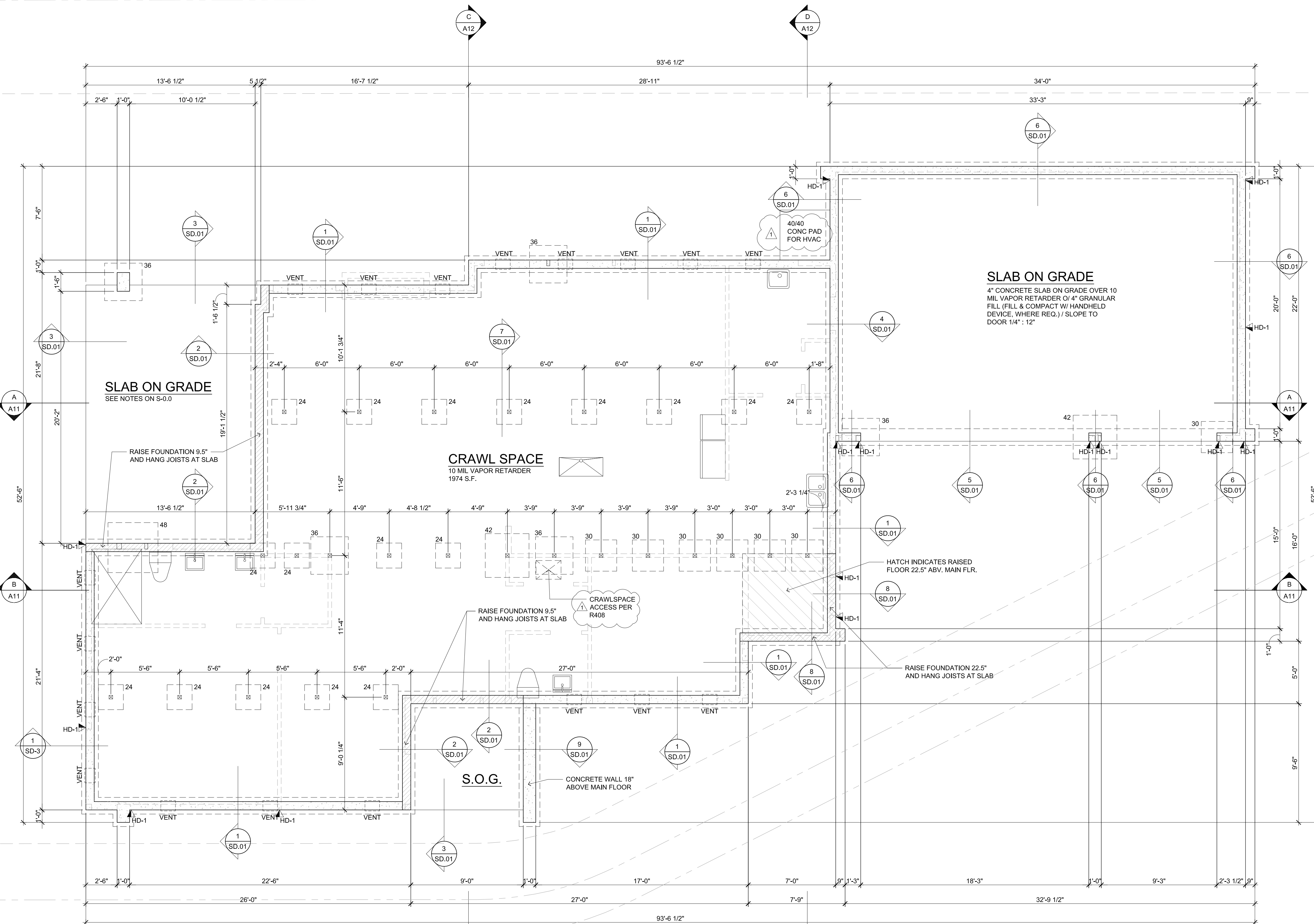
UNDER-FLOOR AREAS SHALL HAVE A NET AREA OF NOT LESS THAN 1 SQ. FT. OF VENTILATION FOR EACH 150 SQ. FT. OF UNDER-FLOOR AREA. THE UNDER FLOOR AREA = 1,974 S.F. / 150 = 13.16 S.F. OF REQUIRED VENTING AREA. USING 7"X14" SCREENED VENTS PROVIDES 0.75 S.F. OF VENTING FOR EACH VENT. 13.16 S.F. / 0.75 S.F. = 17.55. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH OPENINGS OF 1/4" IN DIMENSION. (18) 7" X 14" VENTS REQUIRED.

**PLAN NOTES:**

- BOTTOM OF ALL FOOTINGS SHALL BE 18" MINIMUM BELOW LOWEST ADJACENT GRADE, UNO.
- SLAB ON GRADE SHALL BE 4" MINIMUM THICKNESS. REINFORCE WITH 6X6 W1.4XW1.4 WWM CENTERED IN SLAB. PROVIDE VAPOR BARRIER BELOW SLAB OVER 4" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL PER SOILS ENGINEER.
- REFER TO SHEET SD.01 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
- REFER TO GENERAL STRUCTURAL NOTES SHEET S-0.0 FOR ADDITIONAL REQUIREMENTS.
- DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

**TYPICAL CRAWLSPACE NOTES:**

4x4 P.T. POST w/ 2x4 CLEATS EA. SIDE + (2) A35 CLIPS OON EA. SIDE @ BASE OF POST w/ 0.131" X 1/2" LONG REDHEAD NAILS (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 24"X24" 6" PLAIN CONC. FTG. (TYP. U.N.O.)



**FOUNDATION PLAN**

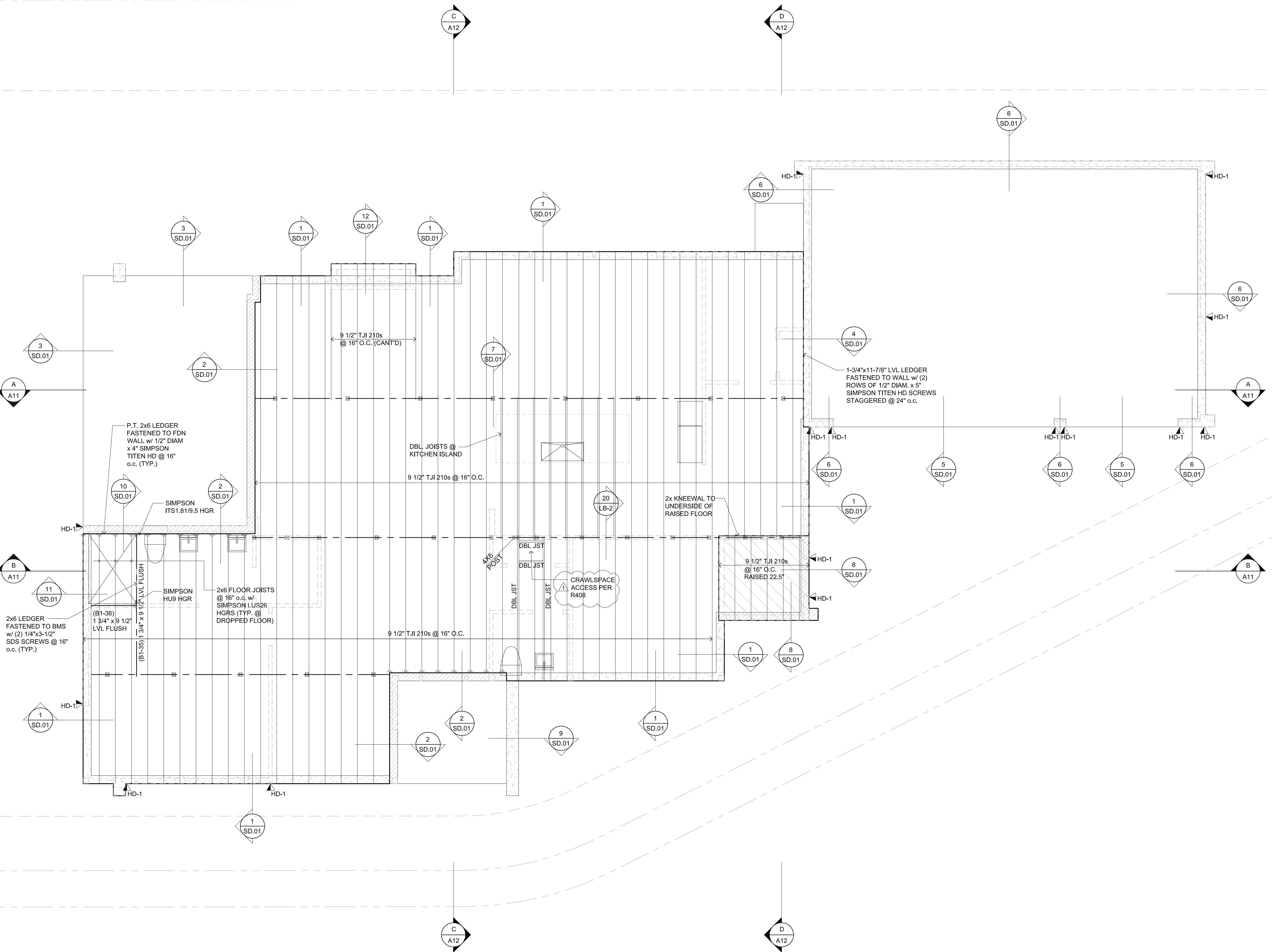
SCALE: 1/4" = 1'-0"

- GENERAL NOTES:
1. MAIN FLOOR FRAMING TO BE 9 1/2" TJI FLOOR JOISTS @ 16" O.C. WITH 23/32" OSB SUBFLOOR, GLUED AND NAILED, U.N.O. ADHESIVES SHALL CONFORM TO APA SPEC. AFG 01. PROVIDE T&G EDGES AT LONG PANEL EDGES. STAGGER SUBFLOOR END JOINTS.
  2. BEARING WALLS ARE SHADED.
  3. PROVIDE SOLID BLOCKING IN FLOOR AT ALL WALLS AND POINT LOADS FROM ABOVE.
  4. PROVIDE (3) 2 X POST @ ALL BEAMS, HEADERS & TRUSS GIRDERS, U.N.O.
  5. NAIL PLIED BEAMS TOGETHER W/ 10d @ 12" O.C. @ TOP & BOTTOM.
  6. PROVIDE 18" X 24" MIN CRAWLSPACE ACCESS. WEATHERSTIP & INSULATE PER WSEC R402.2.4.
  7. GLB TO BE 24F-V4 U.N.O.
  8. PSL TO BE 2.0E U.N.O.

- INDICATES LOC. OF POINT LOAD FROM ABOVE (TYP.)
- INDICATES LOC. OF SOLID SUPPORT (2) STUDS LAM'D W/ 16d @ 12" O.C. (2) 16d EA. END TYP. UNLESS NOTED OTHERWISE
- ┆ TYPICAL HANGER @ MAIN FLOOR SIMPSON LB

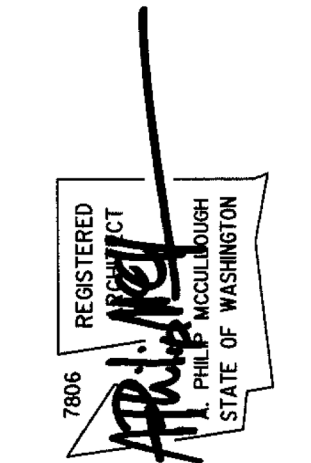
(B1-) 4x10 CONT. DROPPED GIRDER (TYP. U.N.O.)

TYPICAL CRAWLSPACE POSTS:  
 4x4 P.T. POST w/ 2x4 CLEATS EA. SIDE + (2) A35 CLIPS ON EA. SIDE @ BASE OF POST w/ 0.131" x 1 1/2" LONG REDHEAD NAILS (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 24"x24"x8" CONC. FTG. (TYP. U.N.O.)



Revisions	Comment
3/17/2026	PLAN REVIEW 1

Date: 2025.12.18  
 Job No: 24-008  
 Project No:  
 Drawn:  
 Approved:  
 Owner: SAINTFIELD2 LLC



**7414 78th Ave SE**  
 Mercer Island  
 Washington  
 98040

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

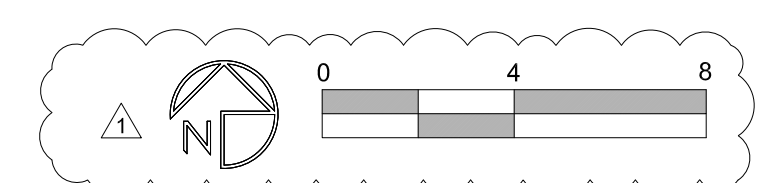
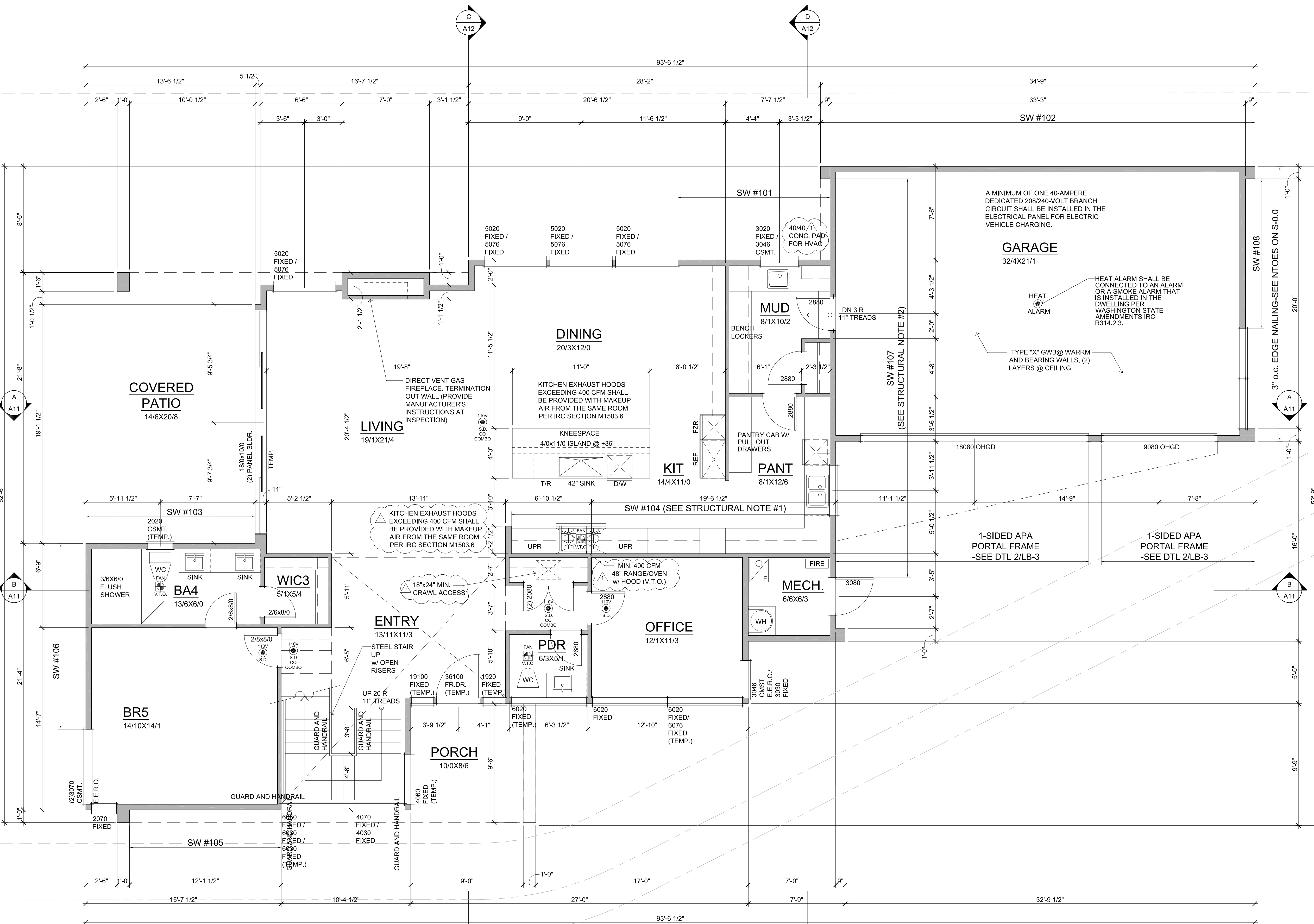
- GENERAL NOTES:**
1. PLATE HEIGHT @ MAIN FLOOR IS 11'-1", U.N.O.  
 PLATE HEIGHT @ UPPER FLOOR IS 9'-1" U.N.P.
  2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
  3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
  4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPECS TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
  5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2'8 3/4" 2'-9" W X 2'-9" H)
  6. EXTERIOR WALLS TO BE 2X6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2X4 STUDS AT 16" O.C., U.N.O.
  7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
  8. SAFETY GLAZING PER IRC SEC. R308.4.
  9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
  10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC. R302.7.
  11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
  12. HOUSE/GARAGE DOOR SHALL BE 1-3/8" THICK WOOD SOLID CORE, OR 1-3/8" THICK SOLID OR HONEYCOMB CORE STEEL DOOR, OR 20-MINUTE RATED FIRE DOOR W/ SELF CLOSING DEVICE.
  13. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS AND CEILING SEPARATING THE DWELLING FROM THE GARAGE SHALL BE MIN. 26 GAUGE GALVANIZED STEEL.
  14. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4", MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
  15. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LESS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.7.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.7.3.
  16. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
  17. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC.
  18. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER IRC SEC R1006.

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Revisions: 3/17/2026

Owner: **SAINTFIELD2 LLC**



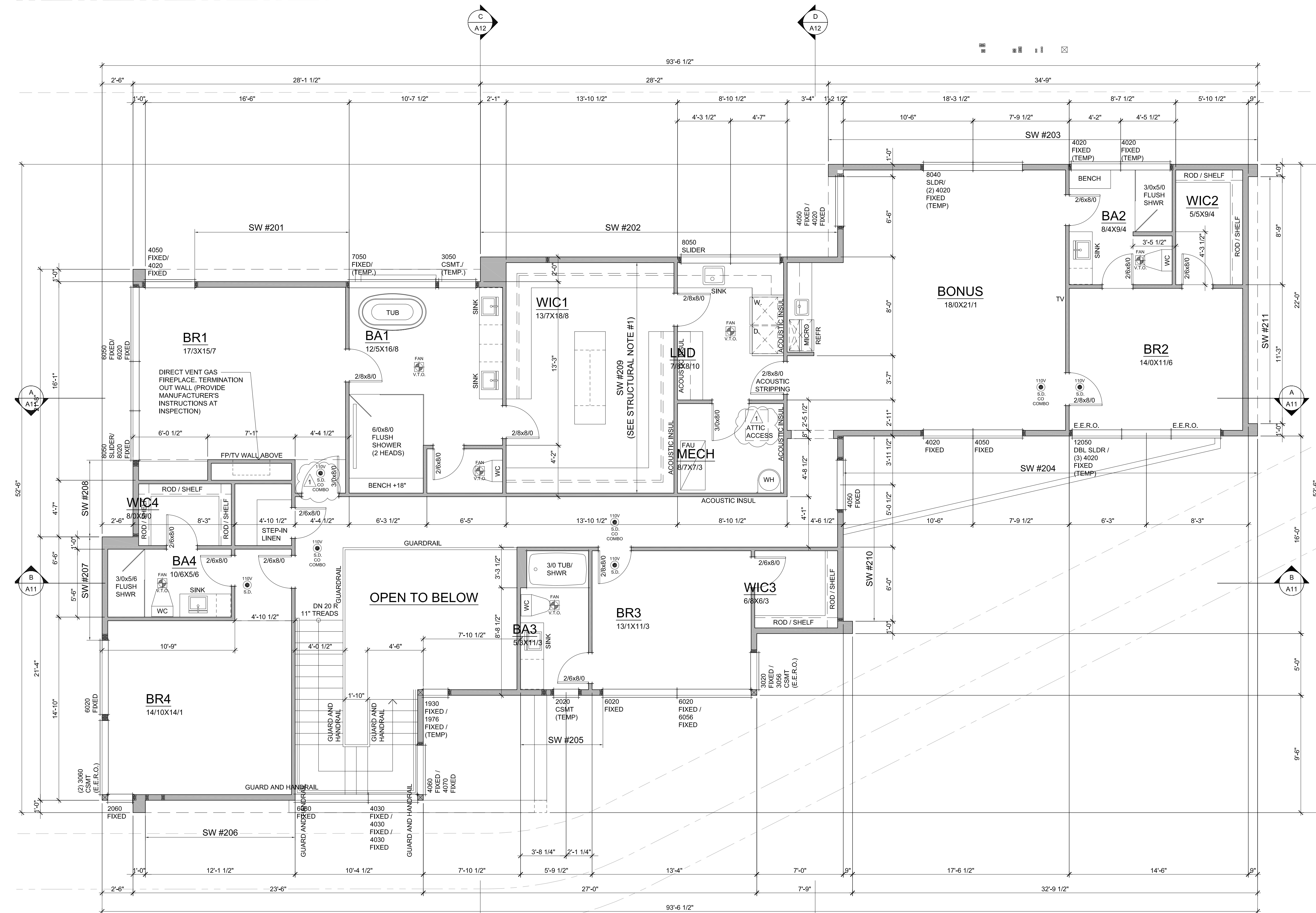
**MAIN FLOOR PLAN**

SCALE 1/4" = 1'-0" 1,974 SF  
 TOTAL = 4,647 SF

**7414 78th Ave SE**  
 Mercer Island  
 Washington  
 98040

PERMIT APPLICATION  
 Main Floor Plan  
**A5**



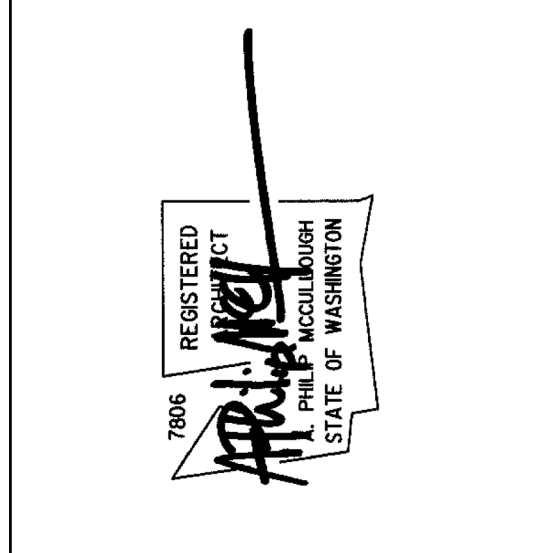


- GENERAL NOTES:**
1. PLATE HEIGHT @ MAIN FLOOR IS 11'-1", U.N.O.  
PLATE HEIGHT @ UPPER FLOOR IS 9'-1" U.N.O.
  2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
  3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
  4. WINDOW HEAD HEIGHT AT MAIN FLOOR IS 8'-0" ABOVE SUBFLOOR, U.N.O. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
  5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES  
(E.G. 2828= 2'-8" W X 2'-8" H)
  6. EXTERIOR WALLS TO BE 2X6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2X4 STUDS AT 16" O.C., U.N.O.
  7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
  8. SAFETY GLAZING PER IRC SEC. R308.4.
  9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
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  11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE. ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
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  13. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS AND CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE MIN. 26 GAUGE GALVANIZED STEEL.
  14. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4" MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD. 3/16" MAX.
  15. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LESS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.7.3. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R312.
  16. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
  17. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC.
  18. PROVIDE EXTERIOR AIR SUPPLY TO ANY FACTORY-BUILT FIREPLACE PER IRC SEC R1006.

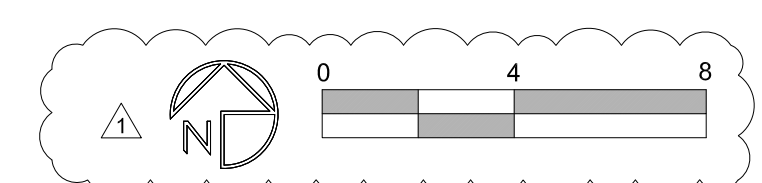
**PLAN KEY:**

- INDICATES 110V SMOKE DET. PER I.R.C. 313.4. INTERCONNECTED W/ EMERGENCY BATTERY BACKUP
- INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- INDICATES EXHAUST VENTILATION FAN PER COVER SHEET A0.1.
- INDICATES HEAT ALARM ALARM PER IRC R314.2.3

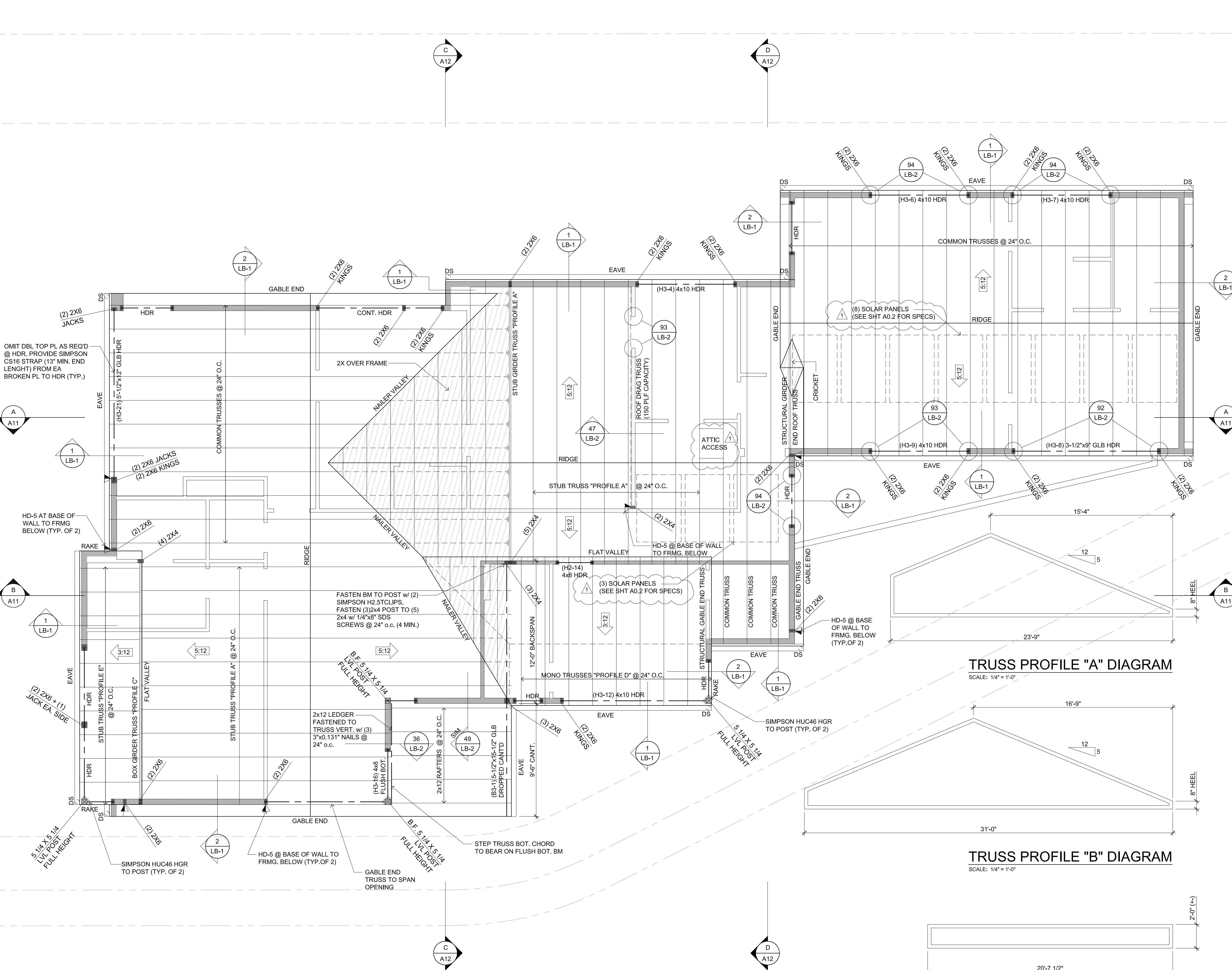
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**7414 78th Ave SE**  
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**UPPER FLOOR PLAN**  
 SCALE 1/4" = 1'-0"  
 2,652 SF



- GENERAL NOTES:
1. VENTED EAVE BLOCKING @ BEARING, U.N.O.
  2. BEARING WALLS ARE SHADED.
  3. OVER FRAME ROOF AREAS ARE SHOWN GABLE END & RAKE OVERHANG TO BE AS SHOWN. GABLE END & RAKE OVERHANG TO BE AS SHOWN.
  4. ROOF PITCH AS SHOWN.
  5. EAVE OVERHANG TO BE AS SHOWN. GABLE END & RAKE OVERHANG TO BE AS SHOWN.
  6. APPLY ROOFING IN ACCORDANCE WITH I.R.C. SEC. 905.
  7. COMPOSITION ROOF FASTENERS AS PER I.R.C. SEC. 905.2.5.
  8. PROVIDE ATTIC ACCESS WITH MIN. OF 22"X30" CLEAR. WEATHERSTRIP & INSULATE PER WSEC R402.2.4.
  9. WOOD TRUSSES SHALL BE DESIGNED PER IRC SEC. R802.10
  10. ALL TRUSSES SHALL CARRY MANUFACTURER'S STAMP. SHALL BE INSTALLED AND BRACED TO MANUFACTURER'S SPECIFICATIONS. SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION. AND WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEER'S CALCULATIONS.
  11. TRUSS MANUFACTURER TO SUPPLY ALL BLOCKING AND HANGERS REQUIRED AT MANUFACTURED TRUSSES.
  12. TRUSS LAYOUT TO BE REVIEWED AND APPROVED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION. ALL CHANGES TO BE SUBMITTED AND APPROVED BY ARCHITECT PRIOR TO FABRICATION.
  13. COLUMNS AT BEAMS, AND GIRDERS TO BE (2) 2X STUDS, U.N.O.
  14. MARKERS FOR BLOWN-IN OR SPRAYED INSULATION SHALL BE PLACED EVERY 300 S.F. AND SHALL FACE TOWARD ATTIC ACCESS PER IECC SEC 303.1.1.1
  15. PROVIDE DRAFT STOP IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY NOT TO EXCEED 1,000 SQUARE FEET INTO APPROXIMATELY EQUAL AREAS. (R302.12.)
  16. ALL TRUSS HEELS TO BE 7" UNO.
  17. (H3-4) 4x8 HEADER @ ALL EXT. OPENINGS (TYP. U.N.O.)

- STRUCTURAL PLAN NOTES:
1. PROVIDE 7/16" OSB/PLYWOOD SHTG + FASTEN PER TYP. EXT. WALL SHEATHING SPECS (SEE NOTE ON S-0.0)
  2. OMIT TOP PL AS REQ'D @ HDR & FASTEN REMAINING PLY TO HDR PER TYP. DBL TOP PL SPLICE. DO NOT SPLICE WITHIN 2' OF END OF HDR.

2021 IRC SECTION R806.1 - ROOF VENTILATION  
 THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1 / 150 OF THE AREA OF SPACE TO BE VENTILATED.  
 EXCEPTIONS: THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1 / 300 OF THE VENTED SPACE PROVIDED ONE OR MORE OF THE FOLLOWING CONDITIONS ARE MET: 1. IN CLIMATE ZONES 6,7 AND 8, A CLASS I OR II VAPOR RETARDER IS INSTALLED ON THE WARM-INWINTER SIDE OF THE CEILING. 2. AT LEAST 40% AND NOT MORE THAN 50% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NO MORE THAN 3 FEET (914mm) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE. MEASURED VERTICALLY, WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNING VENTS. WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENTILATORS, INSTALLATION MORE THAN 3 FEET (914mm) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH MESH OPENINGS OF 1/16" MIN. & 1/4" MAX. IN DIMENSION. PROVIDE CROSS VENTILATION FOR EACH SEPARATE SPACE OF ENCLOSED ATTIC OR RAFTER SPACE. PROVIDE MIN. 1" CLEARANCE BETWEEN INSULATION AND ROOF SHEATHING.

UPPER ATTIC AREA = 3105 S.F. / 300 = 10.34 S.F. REQ'D. VENT AREA  
 PROVIDE MIN. 5.17 S.F. OF CONTINUOUS RIDGE VENT (OWENS CORNING VENTURE)  
 PROVIDE MIN. 5.17 S.F. OF VENTED EAVE BLOCKING CONTINUOUS RIDGE/HIP VENT (OWENS CORNING VENTURE) = 20 S.I. PER L.F. PROVIDED 68 L.F. = 9.44 S.F. RIDGE/HIP VENT  
 EAVE VENTILATION = (3) 2" DIA. HOLES PER BAY = 9.42 S.I. = 4.71 S.I. PER LINEAR FOOT - .75% REDUCTION = 3.53 S.I. / L.F. PROVIDED 277 L.F. (MIN) = 9.06 S.F. EAVE VENTILATION

LOWER ATTIC AREA = 473 S.F. / 300 = 1.58 S.F. REQ'D. VENT AREA  
 PROVIDE MIN. .79 S.F. OF CONTINUOUS RIDGE VENT (OWENS CORNING VENTURE)  
 PROVIDE MIN. .79 S.F. OF VENTED EAVE BLOCKING CONTINUOUS RIDGE/HIP VENT (OWENS CORNING VENTURE) = 20 S.I. PER L.F. PROVIDED 10 L.F. = 1.38 S.F. RIDGE/HIP VENT  
 EAVE VENTILATION = (3) 2" DIA. HOLES PER BAY = 9.42 S.I. = 4.71 S.I. PER LINEAR FOOT - .75% REDUCTION = 3.53 S.I. / L.F. PROVIDED 64 L.F. (MIN) = 2.09 S.F. EAVE VENTILATION

TRUSS PROFILE "A" DIAGRAM  
 SCALE: 1/4" = 1'-0"

TRUSS PROFILE "B" DIAGRAM  
 SCALE: 1/4" = 1'-0"

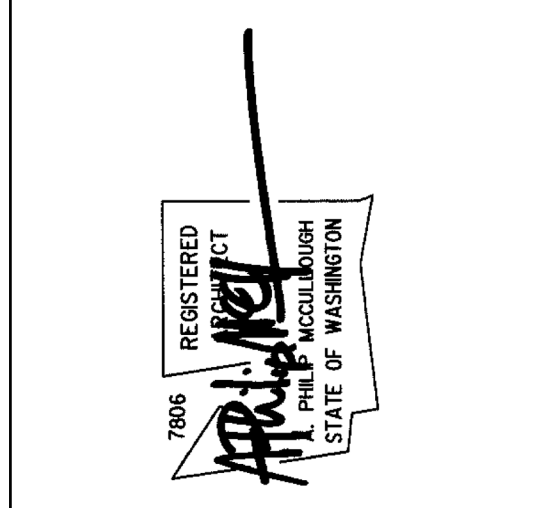
TRUSS PROFILE "D" DIAGRAM  
 SCALE: 1/4" = 1'-0"

GIRDER TRUSS PROFILE "C" DIAGRAM  
 SCALE: 1/4" = 1'-0"

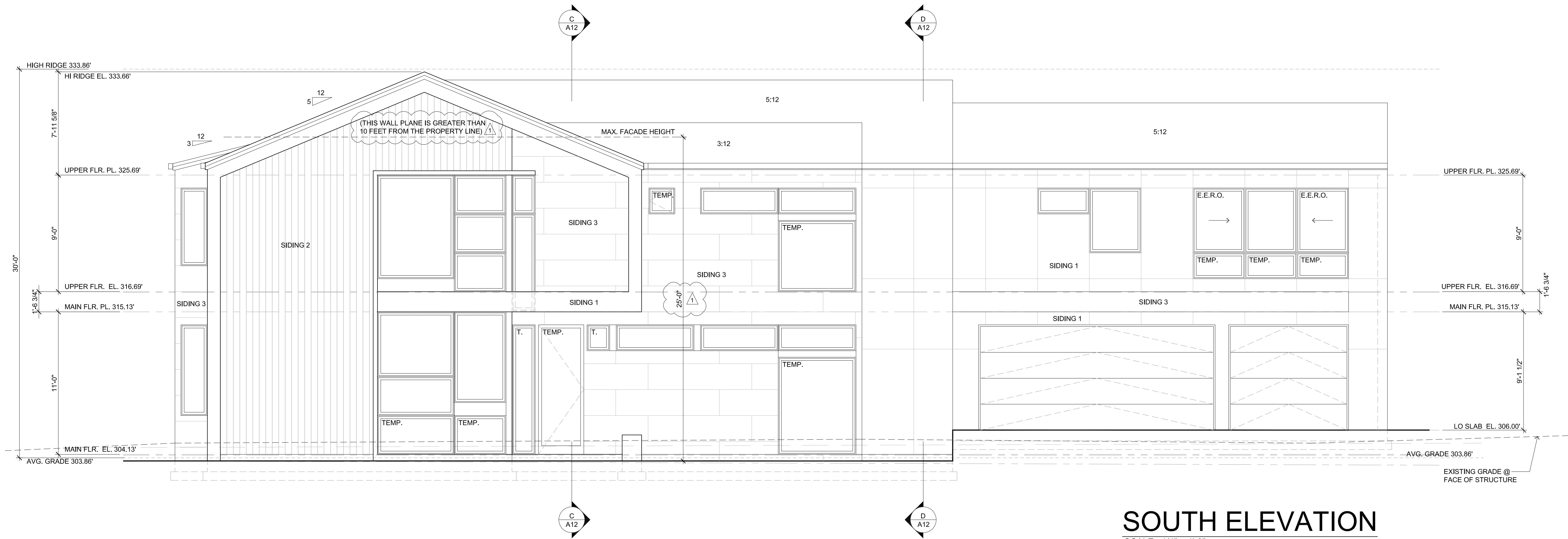
TRUSS PROFILE "E" DIAGRAM  
 SCALE: 1/4" = 1'-0"

**ROOF FRAMING PLAN**  
 SCALE: 1/4" = 1'-0"

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**7414 78th Ave SE**  
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**SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**EAST ELEVATION**  
SCALE: 1/4" = 1'-0"

**EXTERIOR ELEVATION NOTES:**

1. VERIFY SHEAR WALL NAILING AND HOLDDOWNS PER STRUCTURAL PLANS AND SCHEDULES PRIOR TO INSTALLING SIDING
2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
3. PROVIDE GALVANIZED OR ANODIZED SHEET METAL FLASHING AND COUNTERFLASHING AT ALL ROOF PENETRATIONS, CHIMNEYS, AND SKYLIGHTS PER IRC SEC. R703.4.
4. PROVIDE ROOF COVERINGS PER IRC SECTION R905.
5. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. PROVIDE EXTERIOR WALL COVERINGS PER IRC SECTION R703. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
7. A SURVEY, MEASURED TO FINISHES, WILL BE CONDUCTED TO VERIFY STRUCTURE AREA AND HEIGHT)
8. (ABE)= AVERAGE BUILDING ELEVATION

**WINDOW & DOOR NOTES:**

1. UNIT FRAMES TO BE METAL CLAD, U.N.O.
2. "U" VALUES FOR WINDOWS TO BE NFRC CERTIFIED.
3. GLAZING UNITS TO HAVE 1/2" INSULATED GLASS, U.N.O.
4. USE SAFETY GLASS WHERE REQUIRED PER IRC SEC. R308.4 (LABELED: S.G.)
5. USE OBSCURED GLASS WHERE NOTED ON THE PLANS (LABELED: O.G.)
6. WINDOWS & DOORS SHALL LIMIT INFILTRATION PER ASTM 32873.
7. SITE VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO FABRICATION.

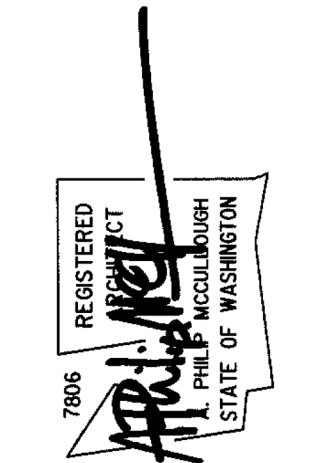
**TYPICAL EXTERIOR FINISH MATERIALS**

- TYPICAL SLOPED ROOF:**  
ARCHITECTURAL GRADE COMP. SHINGLES  
COLOR: TBD (DARK)
- GUTTERS & DOWNSPOUTS:**  
4" CONT. METAL GUTTER  
3"x4" REC. METAL DOWNSPOUT  
COLOR: TBD (DARK)
- WINDOWS & PATIO SLIDERS:**  
METAL CLAD FRAMES w/ INSUL. GLASS  
OPERATION AS INDICATED  
COLOR: TBD
- WINDOW / DOOR & TRIM:**  
METAL JAMB INFILL  
COLOR: MATCH WINDOW FRAME
- EAVE & PORCH & SOFFIT:**  
1x T&G CEDAR
- SIDING SYSTEM (1):**  
PANEL SIDING (VERTICAL)  
RAINSCREEN SYSTEM  
COLOR: TBD (LIGHT)
- SIDING SYSTEM (2):**  
CEDAR (VERT. T&G)  
RAINSCREEN SYSTEM  
COLOR: TBD (MEDIUM)
- SIDING SYSTEM (3):**  
PANEL SIDING (HORIZONTAL)  
RAINSCREEN SYSTEM  
COLOR: TBD (DARK)

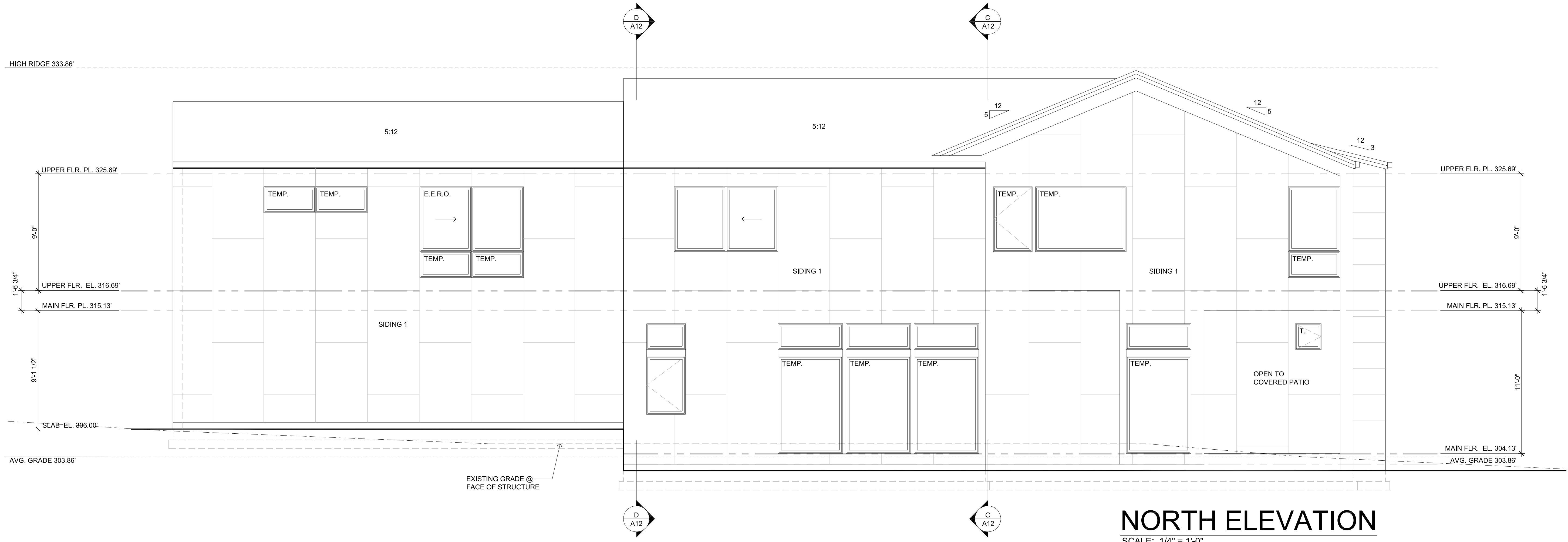
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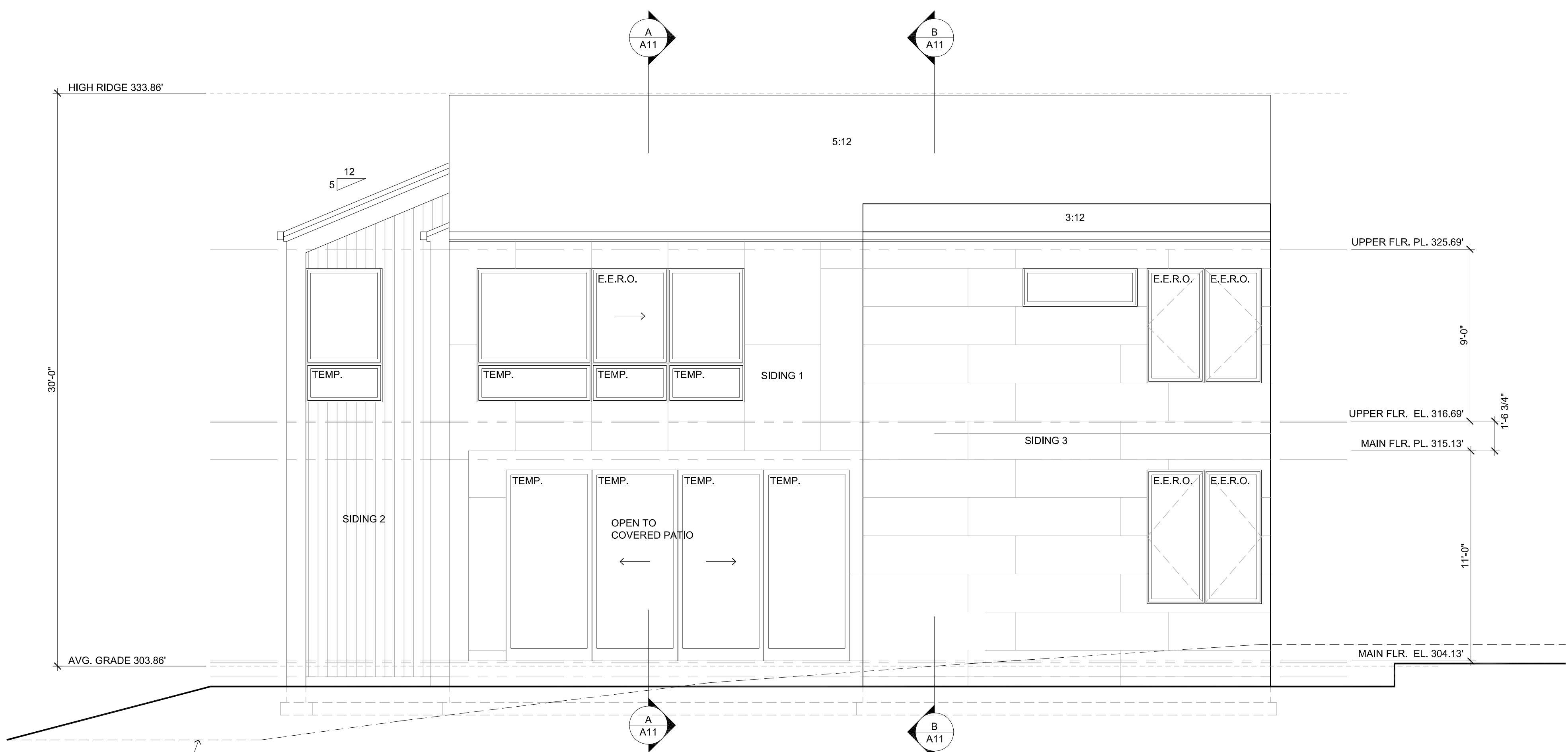
Owner  
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**7414 78th Ave SE**  
Mercer Island  
Washington  
98040



**NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

**EXTERIOR ELEVATION NOTES:**

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2. THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, AND WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
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**WINDOW & DOOR NOTES:**

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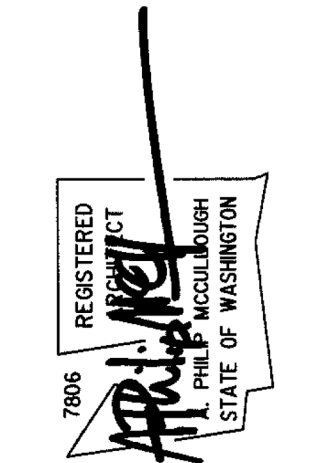
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ARCHITECTURAL GRADE COMP. SHINGLES  
COLOR: TBD (DARK)
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4" CONT. METAL GUTTER  
3"x4" REC. METAL DOWNSPOUT  
COLOR: TBD (DARK)
- WINDOWS & PATIO SLIDERS:**  
METAL CLAD FRAMES w/ INSUL. GLASS  
OPERATION AS INDICATED  
COLOR: TBD
- WINDOW / DOOR & TRIM:**  
METAL JAMB INFILL  
COLOR: MATCH WINDOW FRAME
- EAVE & PORCH & SOFFIT:**  
1x T&G CEDAR
- SIDING SYSTEM (1):**  
PANEL SIDING (VERTICAL)  
RAINSCREEN SYSTEM  
COLOR: TBD (LIGHT)
- SIDING SYSTEM (2):**  
CEDAR (VERT. T&G)  
RAINSCREEN SYSTEM  
COLOR: TBD (MEDIUM)
- SIDING SYSTEM (3):**  
PANEL SIDING (HORIZONTAL)  
RAINSCREEN SYSTEM  
COLOR: TBD (DARK)

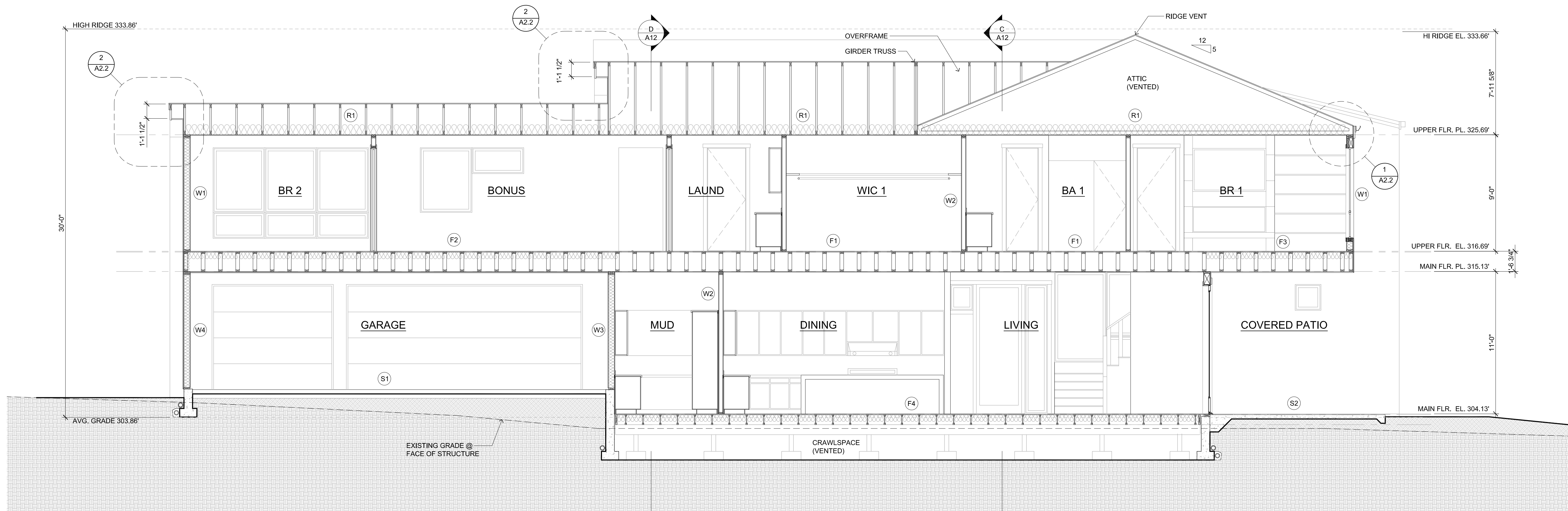
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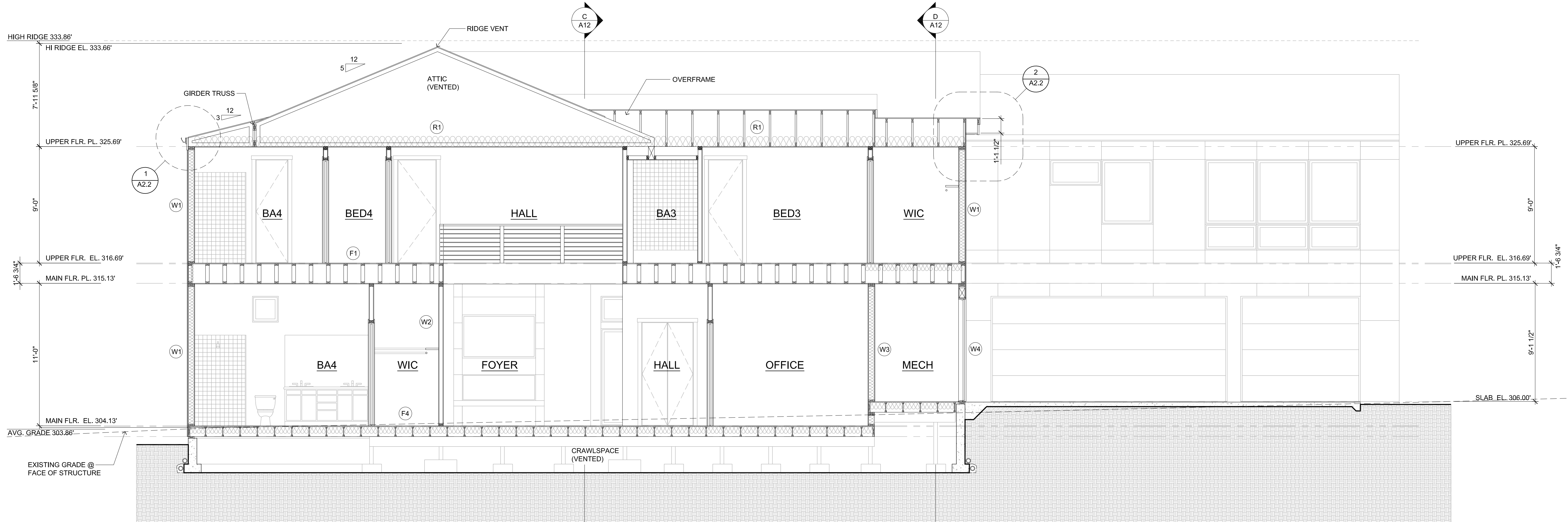
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**7414 78th Ave SE**  
Mercer Island  
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**BUILDING SECTION "A"**  
SCALE: 1/4" = 1'-0"



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

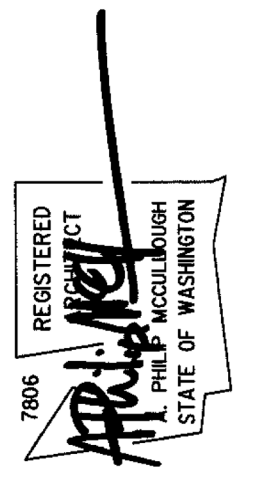
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3/17/2026  
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PLAN REVIEW 1

2025.12.18  
24-008

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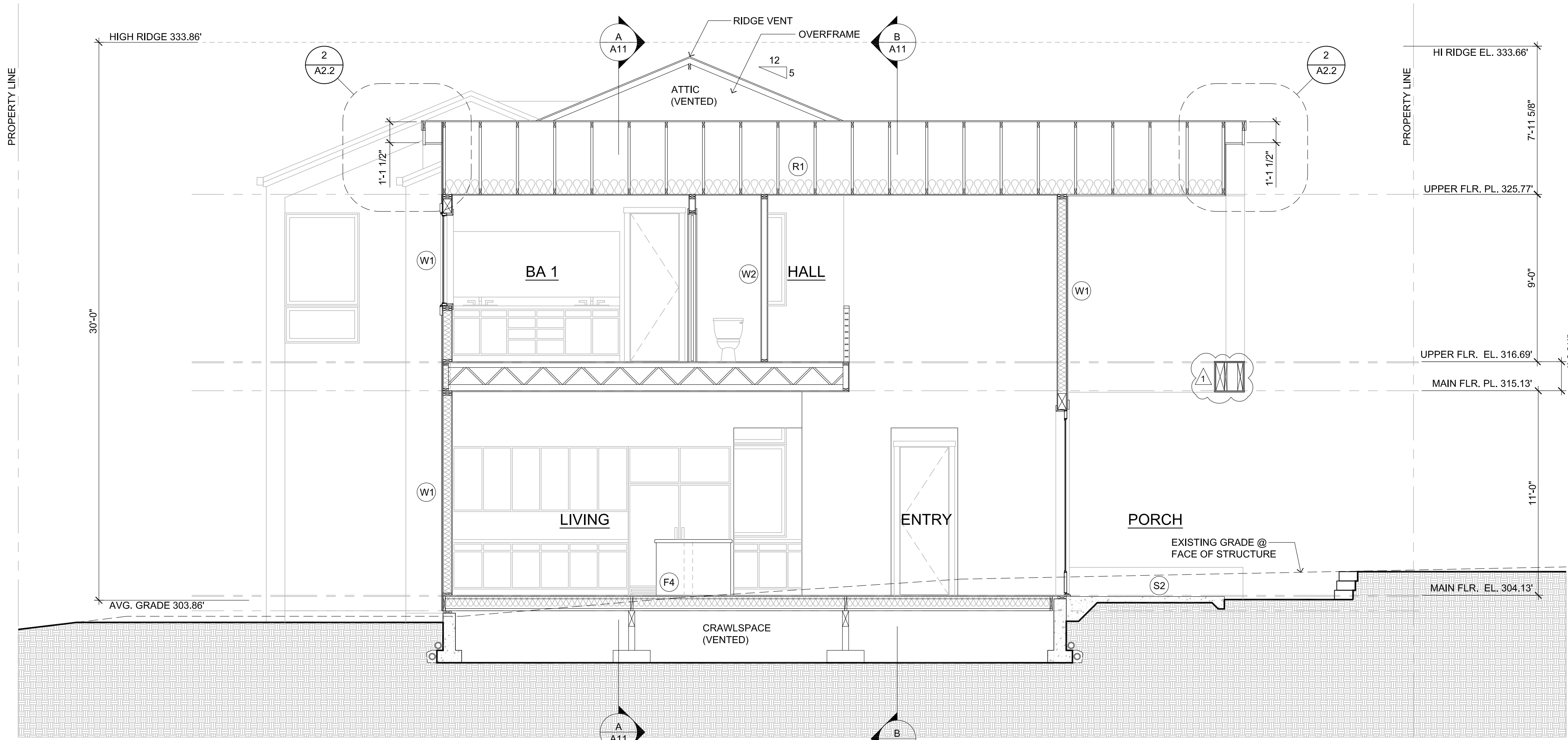
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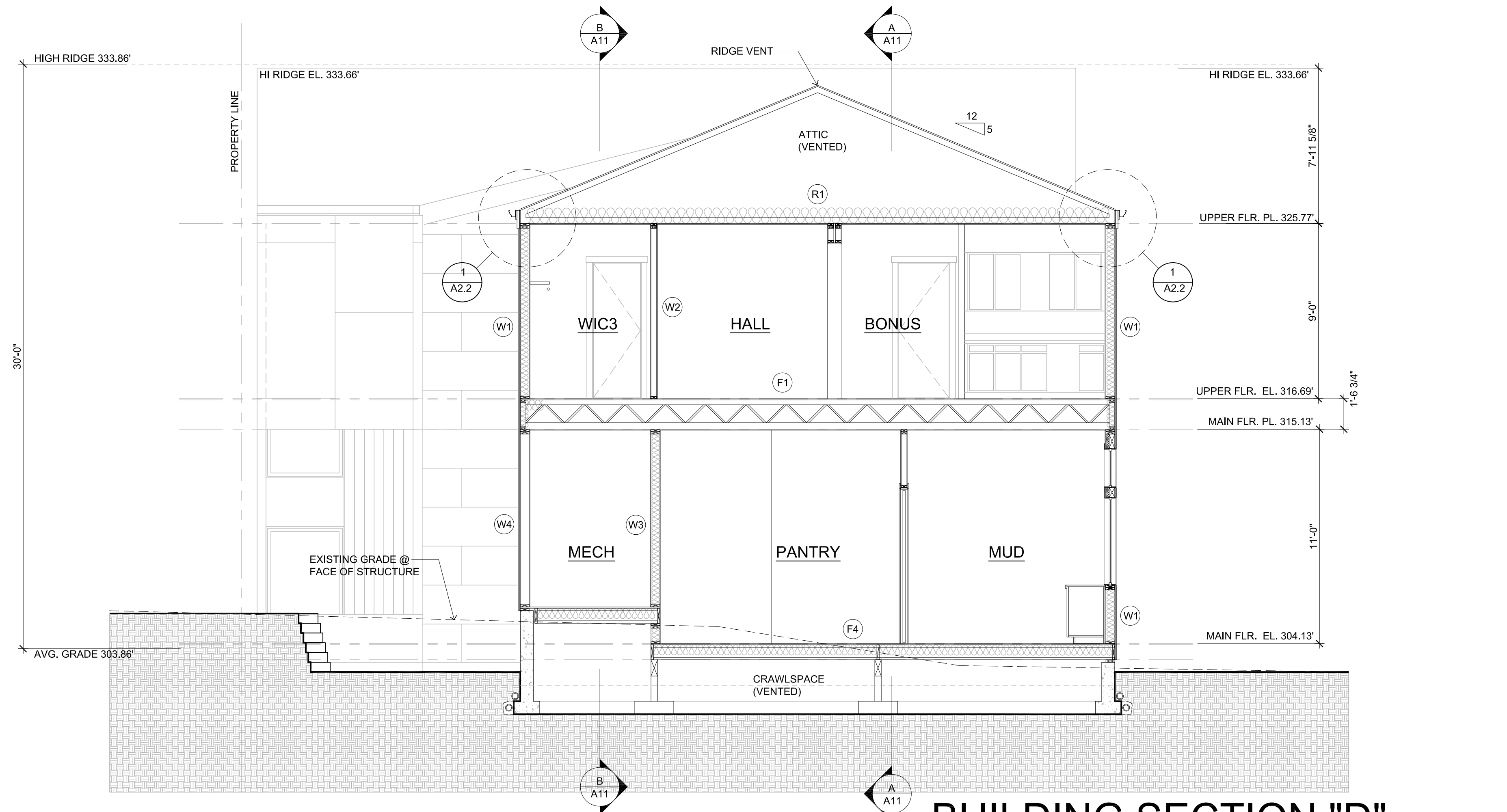
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PERMIT APPLICATION  
Building Sections  
**A11**

- (W1) TYPICAL ABOVE GRADE EXTERIOR WALL:  
-SIDING SYSTEM PER ELEVATIONS  
-NO. 15 ASPHALT SATURATED FELT (WRB)  
-1/2" SHEATHING PER STRUCTURAL  
-2x6 STUDS PER STRUCTURAL  
-R-21 BATT INSULATION PER COVER SHEET  
-1/2" G.W.B. INTERIOR FINISH  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (W2) TYPICAL INTERIOR WALL:  
-1/2" G.W.B. INTERIOR FINISH  
-2x4 STUDS PER STRUCTURAL (2x6 WHERE NOTED ON PLANS)  
-1/2" G.W.B. INTERIOR FINISH
- (W3) TYPICAL HOUSE/GARAGE WALL:  
-1/2" G.W.B. INTERIOR FINISH  
-2x6 STUDS PER STRUCTURAL  
-R-21 BATT INSULATION PER COVER SHEET  
-1/2" SHEATHING PER STRUCTURAL  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (W4) TYPICAL GARAGE EXTERIOR WALL:  
-SIDING SYSTEM PER ELEVATIONS  
-NO. 15 ASPHALT SATURATED FELT (WRB)  
-2x6 STUDS PER STRUCTURAL  
-1/2" G.W.B. INTERIOR FINISH  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (F1) TYPICAL FLOOR of HEATED SPACE:  
-FINISH FLOOR PER PLAN  
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)  
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN  
-5/8" G.W.B. CEILING
- (F2) TYPICAL FLOOR of GARAGE:  
-FINISH FLOOR PER PLAN  
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)  
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN  
-R-30 BATT INSULATION PER COVER  
-5/8" G.W.B. CEILING (TYPE "X" WHERE INDICATED)  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (F3) TYPICAL FLOOR of EXTERIOR SPACE:  
-FINISH FLOOR PER PLAN  
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)  
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN  
-R-30 BATT INSULATION PER COVER  
-VENTED SOFFIT PANEL  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (F4) TYPICAL FLOOR of CRAWLSPACE:  
-FINISH FLOOR PER PLAN  
-3/4" T&G SHEATHING PER STRUCTURAL (GLUE & NAIL TO JOISTS)  
-FLOOR JOISTS OR TRUSSES PER FRAMING PLAN  
-R-30 BATT INSULATION PER COVER
- (R1) TYPICAL ROOF CONSTRUCTION of HEATED (VENTED):  
-ARCHITECTURAL GRADE COMPOSITION ROOF SHINGLES  
-(SLOPE TO GUTTER)  
-1/2" SHEATHING PER STRUCTURAL  
-ROOF TRUSSES PER FRAMING PLAN  
-R-40 BATT INSULATION PER COVER  
-5/8" G.W.B. CEILING  
-AIR BARRIER PER COVER SHEET: MOISTURE CONTROL
- (S1) GARAGE SLAB-ON-GRADE (GARAGE):  
-4" CAST-IN-PLACE CONCRETE (SLOPE PER PLAN)  
-10 MIL VAPOR RETARDER  
-4" GRANULAR FILL
- (S2) PATIO SLAB-ON-GRADE:  
-4" CAST-IN-PLACE CONCRETE (SLOPE PER PLAN)  
-4" GRANULAR FILL



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



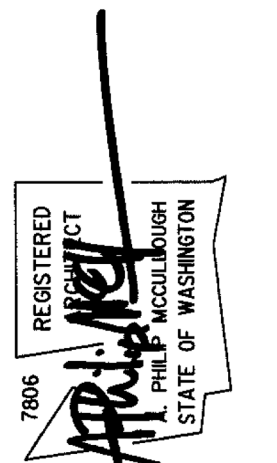
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SCALE: 1/4" = 1'-0"

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**GARAGE SLAB**  
4" CONC. SLAB ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

**PORCH SLAB**  
4" CONC. SLAB ON GRADE ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

**GENERAL STRUCTURAL NOTES**

**FOUNDATION**

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL BUILDING CODE
- DESIGN LOADS: SOIL 1500 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, UNO:
  - $f_c = 3000$  psi \* ..... FOUNDATION WALLS
  - 3000 psi \* ..... FOOTINGS
  - 2500 psi \* ..... INTERIOR SLABS ON GRADE
  - 3500 psi \* ..... GARAGE & EXT. SLABS ON GRADE
  - $f_y = 60000$  psi
- \* ALL CONCRETE HAS BEEN DESIGNED FOR 2500 PSI, ANYTHING GREATER THAN THIS SPECIFICATION IS FOR WEATHERINGS ONLY.
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL PRESSURE OF 55 PCF AT-REST, 35 PCF ACTIVE & 8% SEISMIC SURCHARGE.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN, BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH 3/4" DIA. ANCHOR BOLTS W/ MIN. 3"x3"x 1/4" PLATE WASHERS. EDGE OF WASHER TO BE LOCATED WITHIN 1/2" OF EXTERIOR EDGE OF SILL PLATE) PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, UNO. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

**LOADING AND DESIGN PARAMETERS**

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):

- ROOF TRUSS TOP CHORD: 10
- ROOF TRUSS BOT. CHORD: 7
- FLOOR (TRUSSES): 15
- FLOOR (JOISTS): 10
- TILE FLOORS: 10

LIVE LOAD (PSF):

- ROOF: 20
- RESIDENTIAL LIVING AREAS: 40
- RESIDENTIAL SLEEPING AREAS: 30
- GARAGE: 50

SNOW LOAD:

- GROUND SNOW LOAD (Ps) (PSF): 25
- FLAT ROOF SNOW LOAD (Ps) (PSF): 15
- SNOW EXPOSURE FACTOR (Ce): 1.1
- SNOW LOAD IMPORTANCE FACTOR (I): 1.0
- THERMAL FACTOR (Ct): 1.2

LATERAL DESIGN LOADS:

- WIND LOAD (IBC 1609):
- SPEED (Va) (MPH): 100
- WIND RISK CATEGORY (W): II
- IMPORTANCE FACTOR (Iw): 1.0
- EXPOSURE CATEGORY: B
- INTERNAL PRESSURE COEFF. (GCp): 50.1B
- TOPOGRAPHIC FACTOR (Kzt): 1.0

SEISMIC LOAD (IBC 1601):

- SEISMIC RISK CATEGORY: II
- SEISMIC IMPORTANCE FACTOR (Iw): 1.0
- MAPPED SPECTRAL RESPONSE: Ss = 1.4TI
- Site Class: Ss = 0.50B
- SPECTRAL RESPONSE COEFF.: See IUTT
- SEISMIC DESIGN CATEGORY: Ss = 0.60T
- BASIC SEISMIC-FORCE-RESISTING SYS: LIGHT FRAMED WALLS
- W/ ROOF STRUCTURAL PANELS
- ULTIMATE BASE SHEAR: TRANS: 2k LONG: 21k
- SEISMIC RESPONSE COEFF. (Ca): TRANS: 0.181 LONG: 0.181
- RESPONSE MODIFICATION FACTOR (R): TRANS: 6.5 LONG: 6.5
- ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

**LATERAL BRACING NOTES**

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM: 100 MPH WIND SPEED, EXP. B (ASCE 7-16 WIND MAP, PER IRC R301.2.1.1) RISK CAT. 2 & SEISMIC CAT. D2.

**100 MPH WIND IN 2021 IRC MAP**

ENGINEERED DESIGN WAS COMPLETED PER 2021 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2021 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

**STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS**  
(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 3/8" OSB OR 1/2" PLYWOOD: FASTEN SHEATHING W/ 2 1/2"x0.131" NAILS @ 6" O.C. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION UNO. ON PLANS.

**3" O.C. EDGE NAILING**  
(WHERE NOTED ON PLANS)

- 3/8" OSB OR 1/2" PLYWOOD: ONLY AT LOCATIONS INDICATED ON PLANS - SHEATH WALL SHOWN WITH 3/8" OSB, FASTEN SHEATHING W/ 2 1/2"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.
- \*\*SPECIAL INSPECTION REQUIRED AT WALLS WITH 3" ON CENTER EDGE NAILING SPECIFICATIONS\*\*

- NOTES:**
- LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" O.C.
  - ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER W/ 3"x0.131" NAILS @ 8" O.C. USE (0235"x0.131" NAILS AT EACH LAP SPlice, (6) EACH SIDE OF JOINT (TYP. UNO)
  - ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
  - ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

**LEGEND**

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B/W/A), OR SHEARWALL ABOVE (S/W/A)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL W/ 3" O.C. EDGE NAILING
- AREA OF OVERFRAMING
- J/L METAL HANGER
- INDICATES POST ABOVE (P.A). PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN.

**GENERAL STRUCTURAL NOTES**

**DESIGN PARAMETERS**

- DESIGN IS BASED ON 2021 INTERNATIONAL RESIDENTIAL CODE & 2021 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION - LATEST EDITION.

**GENERAL FRAMING**

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, UNO.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, UNO.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x "STUD" GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THAN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. I.F. WALLS SHALL BE 2x6 HEM FIR (HF) #2 GRADE LUMBER, OR BETTER, UNO.
- ALL SHEATHING AND LEDGERS ARE TO BE DIRECTLY APPLIED AND FASTENED TO FRAMING. DO NOT PROVIDE CONTINUOUS INSULATION BETWEEN FRAMING AND SHEATHING/LEDGERS
- ALL HEADERS SHALL BE SUPPORTED BY 1/2x JACK STUD # 1 (12x KING STUD, MINIMUM) - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, UNO.
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, UNO. & SOLID WOOD COLLARS SHALL BE SPRUCE PINE FIR (SPF) #2 GRADE LUMBER, OR BETTER, UNO.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (IF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUG FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS, NOT TYPICAL FRAMING SILE NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, W/ (4) 3"x0.131" TOENAILS (MIN), TYP. UNO.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTIGUOUS TO FOUNDATION/BEARING; BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - L5L MEMBERS - Fb=2325 Psl; Fv=310 Psl; E=1.55x10<sup>6</sup> Psl
  - LVL MEMBERS - Fb=2600 Psl; Fv=285 Psl; E=2.0x10<sup>6</sup> Psl
  - GLB MEMBERS - Fb=2400 Psl; Fv=1850 Psl; Fv=265 Psl; E=1.8x10<sup>6</sup> Psl; DF=DF; 24F-V4 (UNO)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 Psl; Fc11=2500 Psl; E=1.8x10<sup>6</sup> Psl
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- TRUSS SHOP DRWS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROPOSED CONSTRUCTION SHALL BE SUBMITTED TO BUILDING DESIGNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY IN ACCORDANCE WITH TP4 2.3.2.3 & 2.3.4.5.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. UNO.
- BUILDER RESPONSIBLE TO DETERMINE CORROSION-RESISTANCE REQUIREMENTS AND COMPATIBILITY OF HARDWARE, FASTENERS AND CONNECTORS FOR ENVIRONMENTAL EXPOSURE AND IN CONTACT W/ PRESERVATIVE-TREATED WOOD OR ACTUAL FINAL CONDITIONS AND SOURCED MATERIALS. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORD. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, NOT LESS THAN ASTM A653 & ASTM A153, TYPE G605 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.

**FLOOR FRAMING**

- JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, UNO. (EXCLUDES STONE/MARBLE OR NET BED CONSTRUCTED FLOORS - CONTACT MKK FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (UNO. ON PLANS): SINGLE PLY: SIMPSON LUS210 DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED "STUD-1 FLOOR" 24" O.C. EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS & GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 1/2" x 0.131" NAILS @ 6" O.C. @ PANEL EDGES & @ 12" O.C. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE, UNO.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS W/ 1/2" LONG NAILS.

**ROOF FRAMING**

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (4) 3"x0.131" TOENAILS (MIN) & (1) SIMPSON H25T CLIP. PROVIDE (2) H25T CLIPS AT 2-PLY GIRDER TRUSSES, (3) H25T CLIPS AT 3-PLY GIRDER TRUSSES & ROOF BEAMS - AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) SIMPSON H25T CLIP. PROVIDE (2) SIMPSON H25T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS W/ 2 1/2" x 0.131" NAILS @ 6" O.C. @ PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER NTCA & TP15 BC51 I-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW W/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" O.C. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

**HOLD-DOWN SCHEDULE**

SYMBOL	SPECIFICATION
HD-1	SIMPSON 5THD14 (R/L) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (4" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM UNO.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM UNO.)

**MEANS & METHODS NOTES**

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN DETAIL AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GYRS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

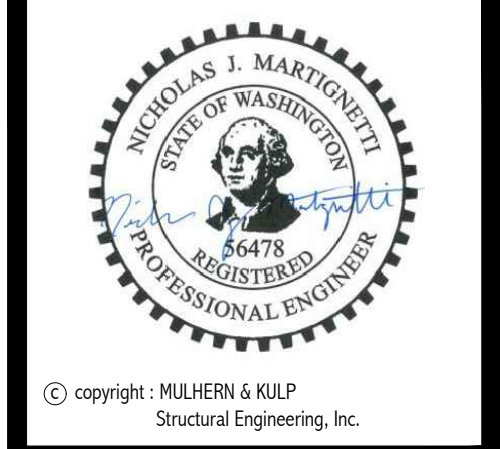
STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

**ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER**

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO MKK FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

- ROOF TRUSSES: 1/4" DEAD LOAD
- FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS: 1/8" DEAD LOAD
- FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS: LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)



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**MULHERN+KULP**  
RESIDENTIAL STRUCTURAL ENGINEERING

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project mgr: NJM  
drawn by: MPM  
issue date: 11-17-25

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date:	initial:
03/16/2026	RID

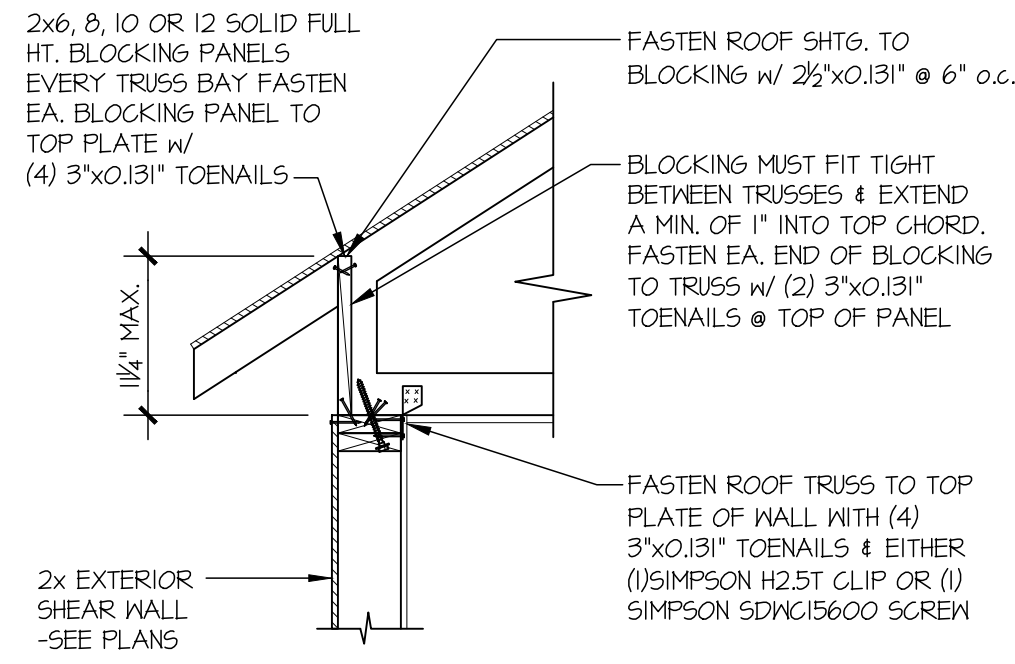
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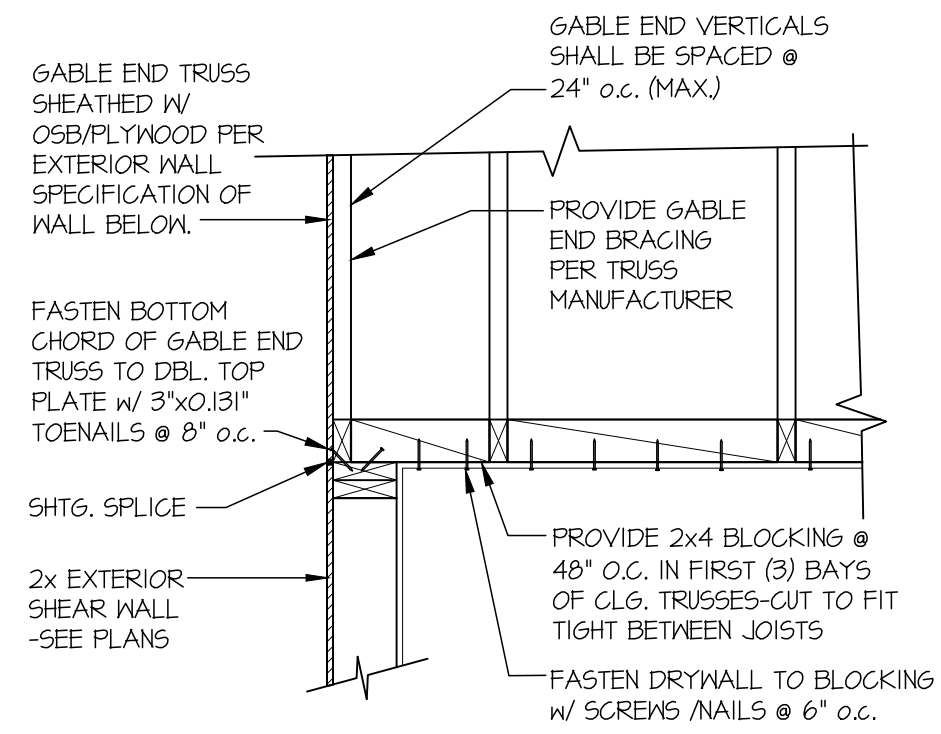
**STRUCTURAL NOTES**

**SEARS PLAT - LOT 1**  
**7414 78TH AVE SE**  
**MERCER ISLAND, WA**

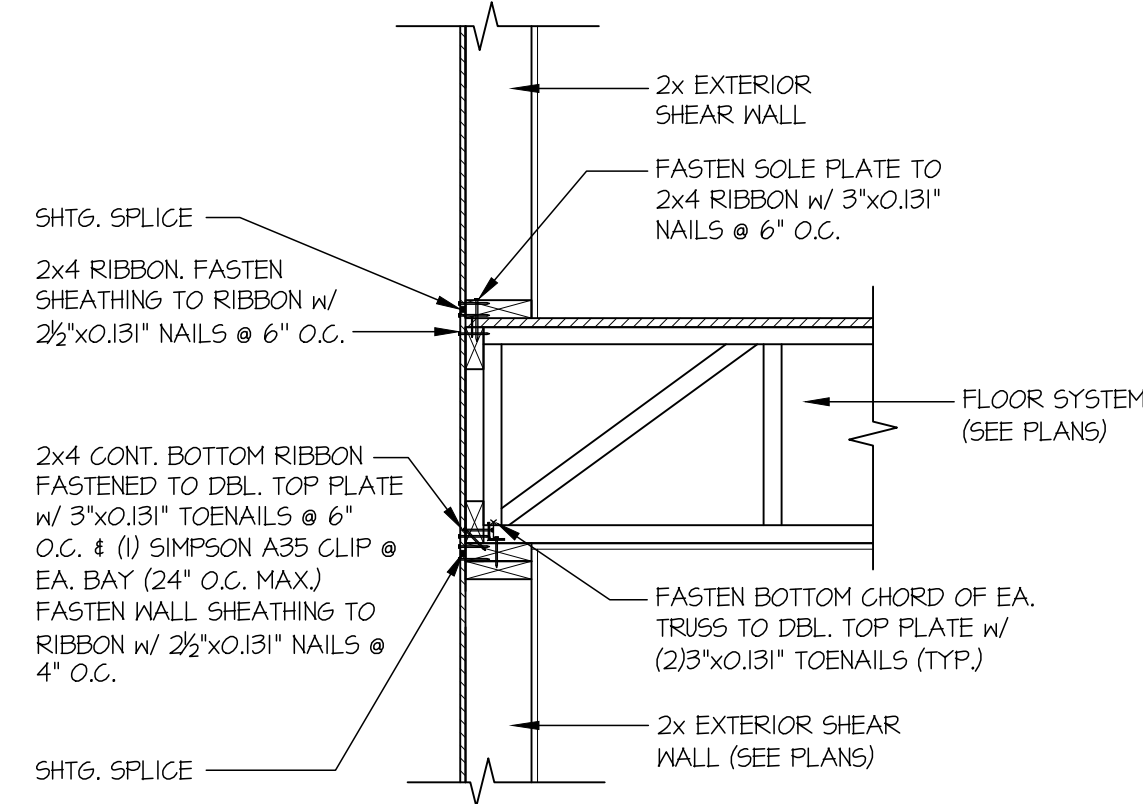
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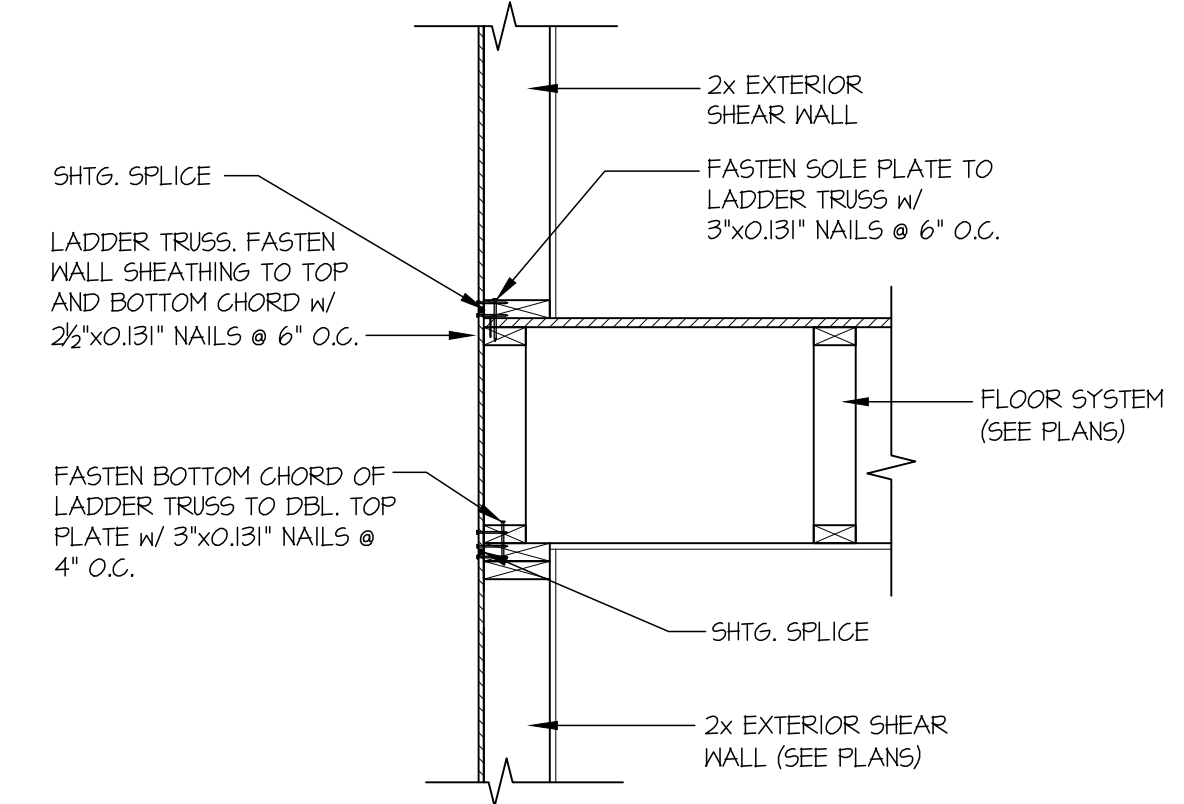
1 SECTION  
SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 1/2" MAX



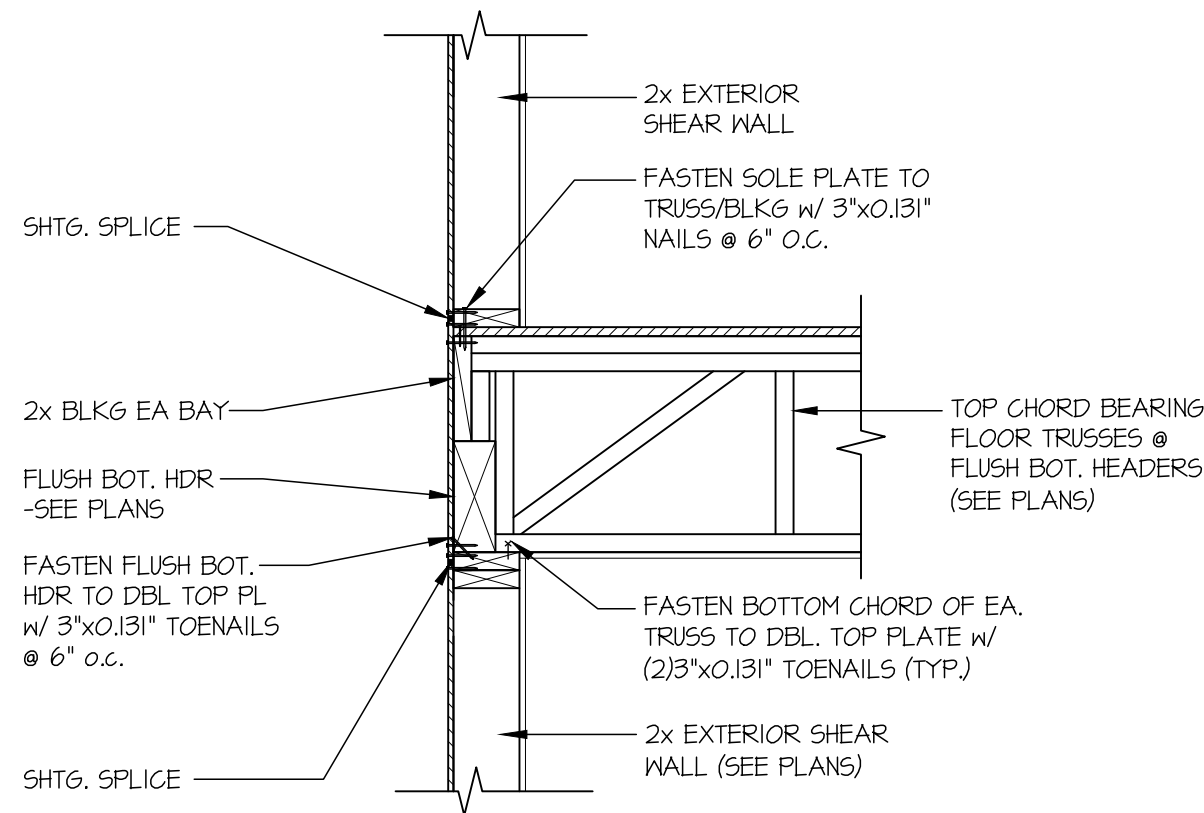
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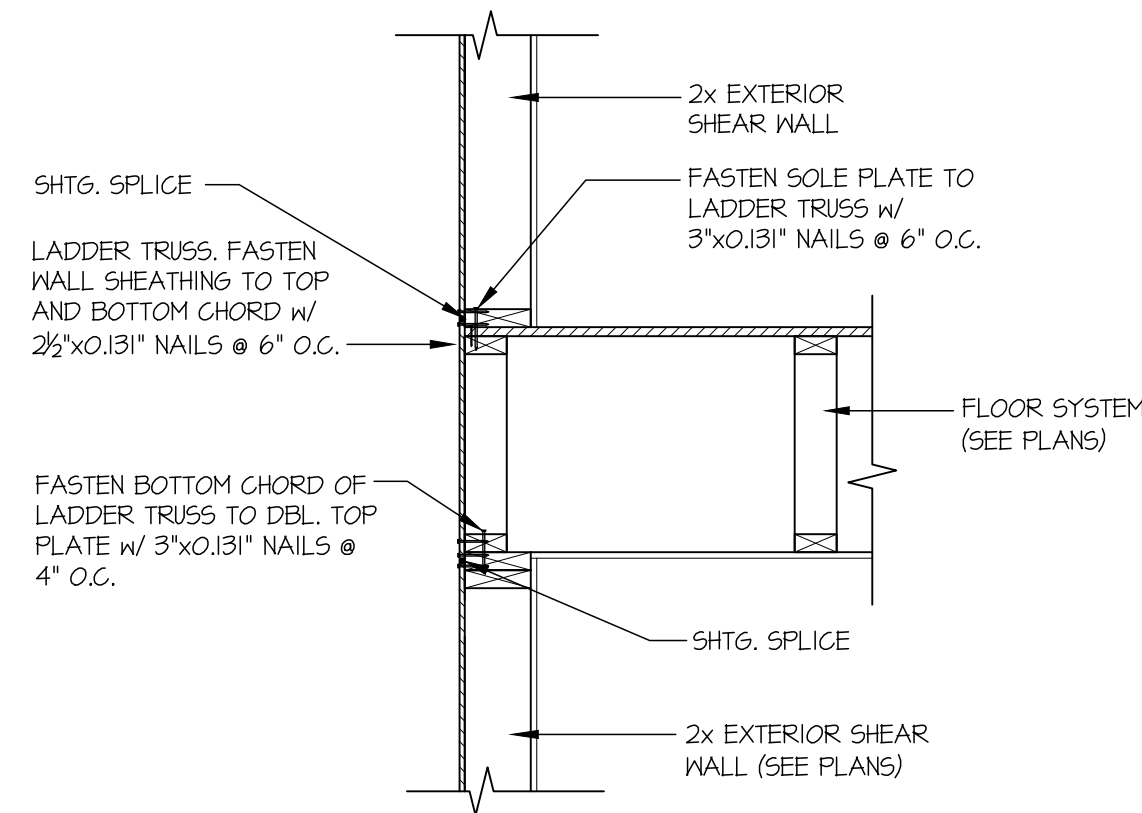
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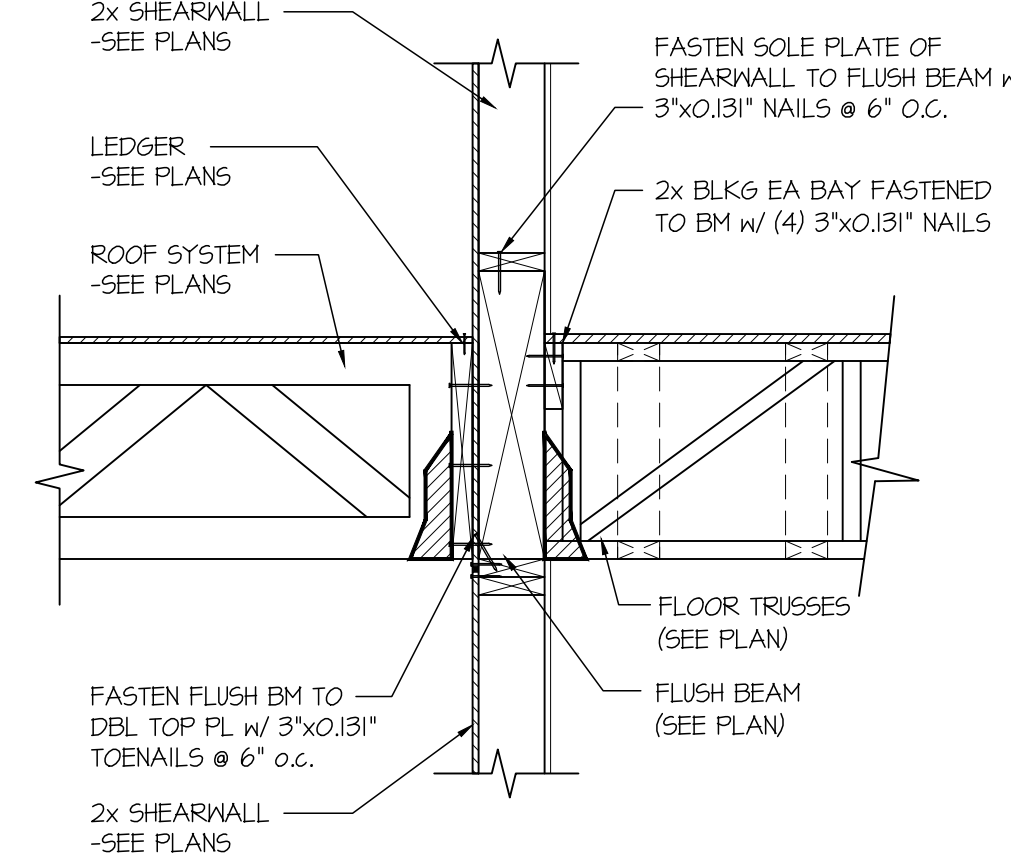
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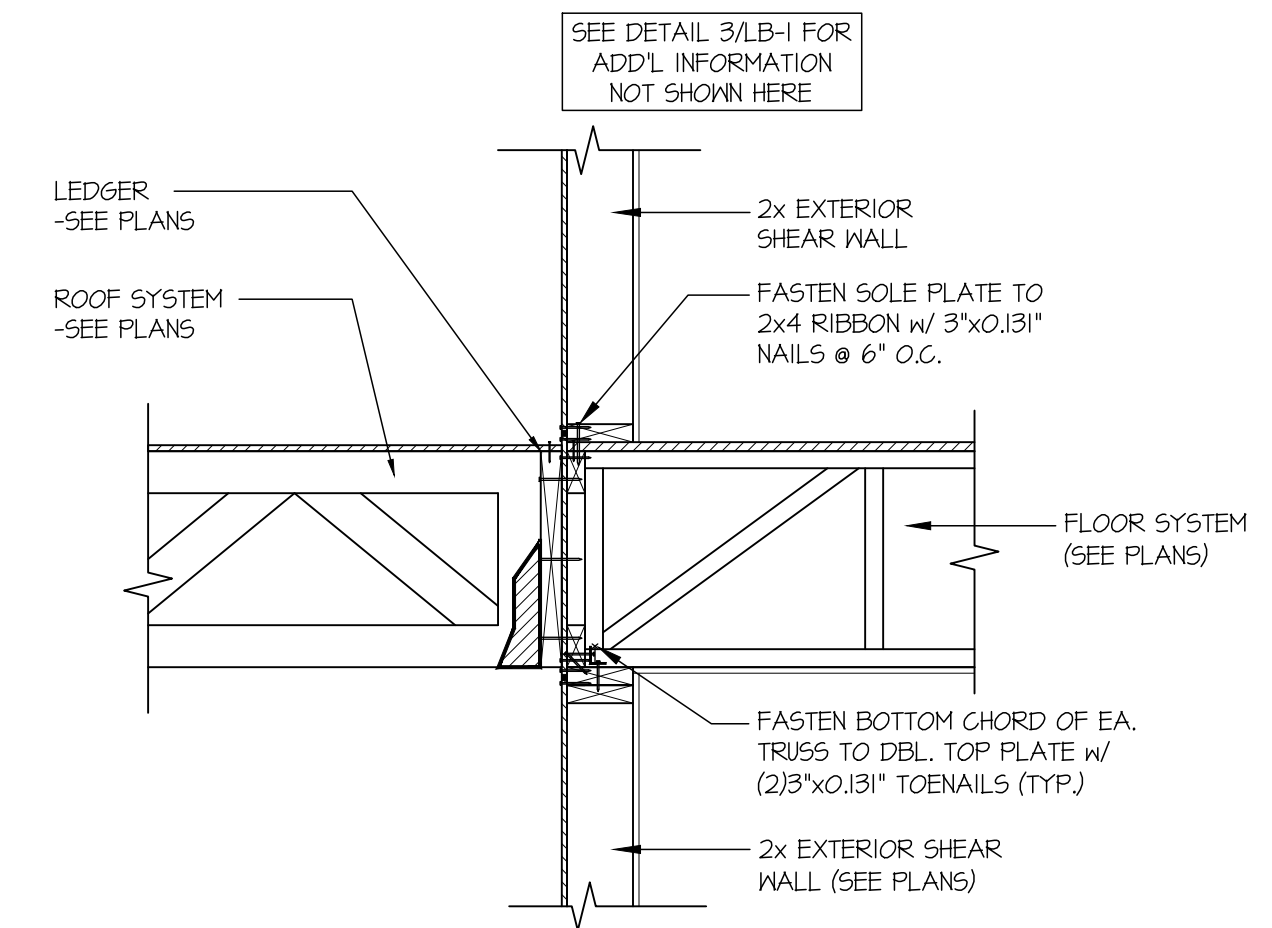
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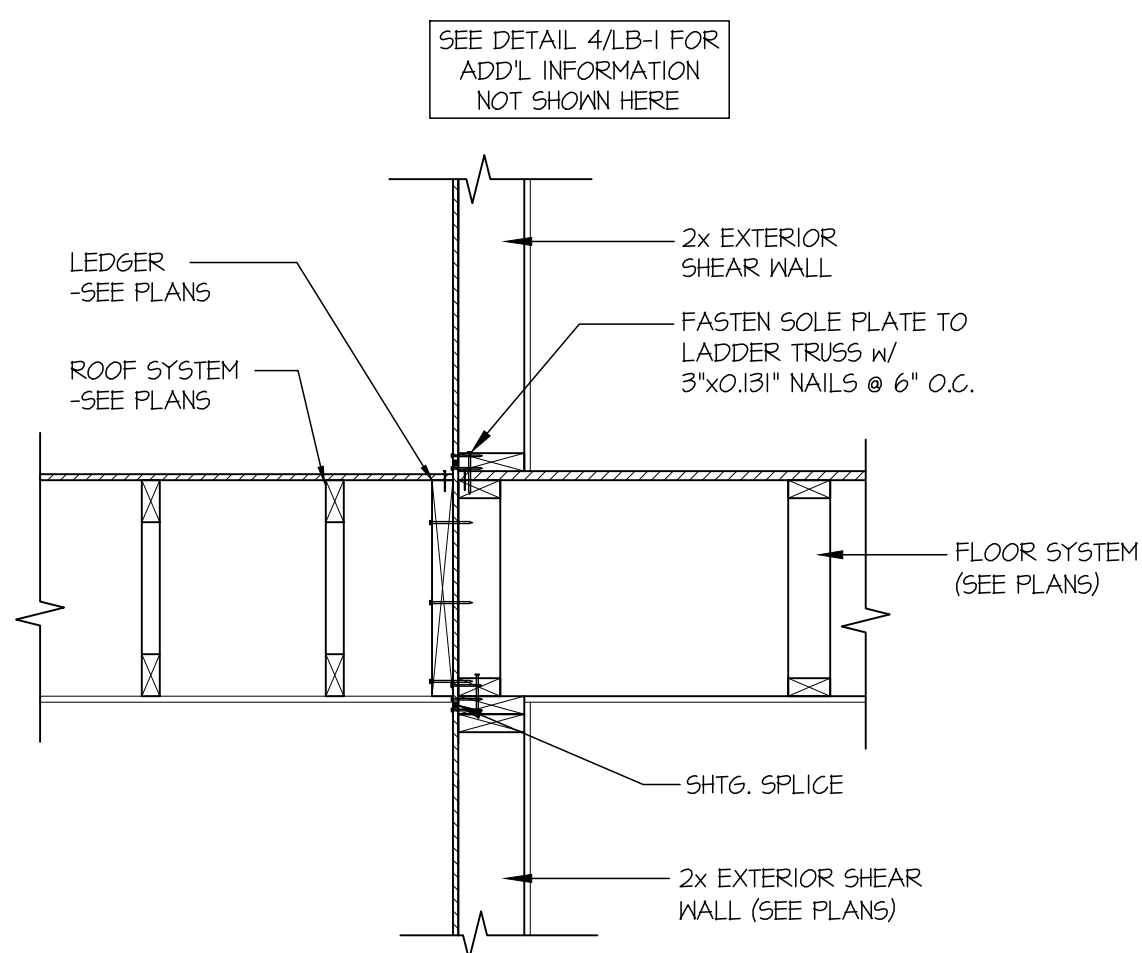
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SCALE: 3/4"=1'-0" PARALLEL FRAMING



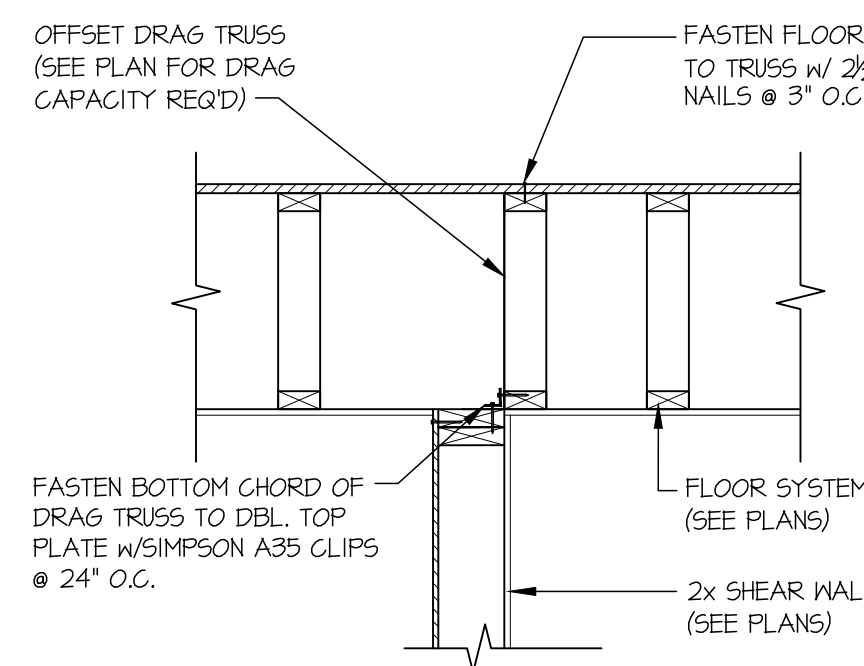
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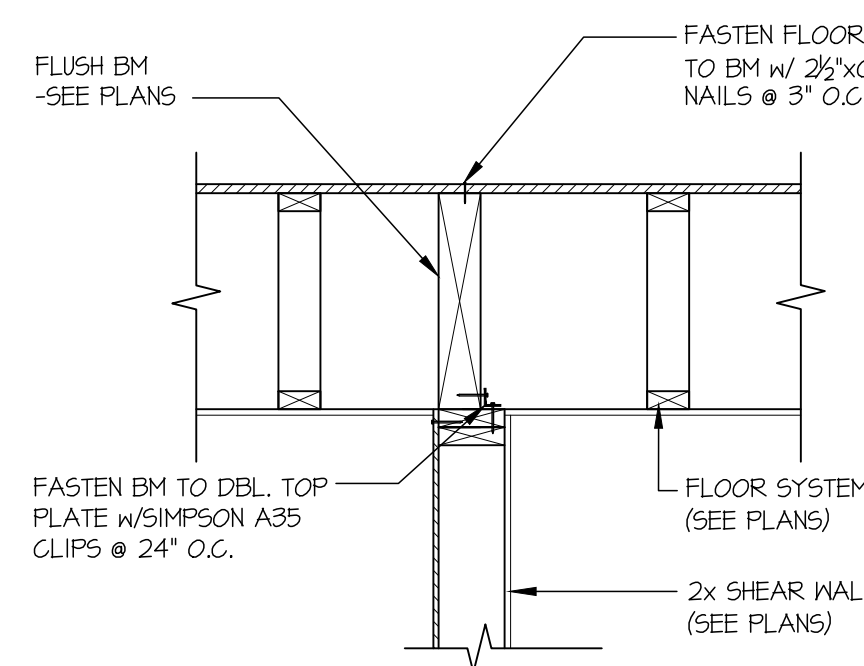
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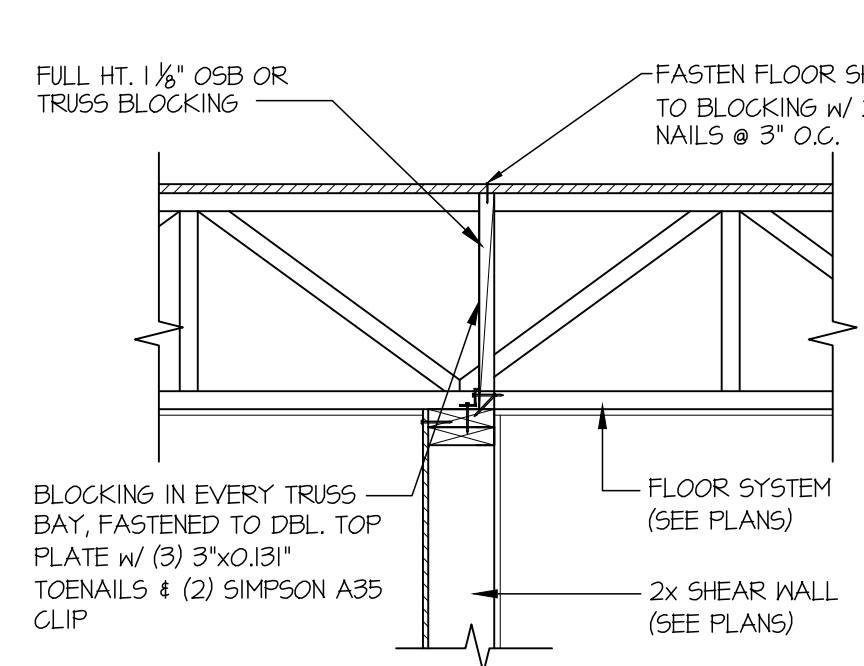
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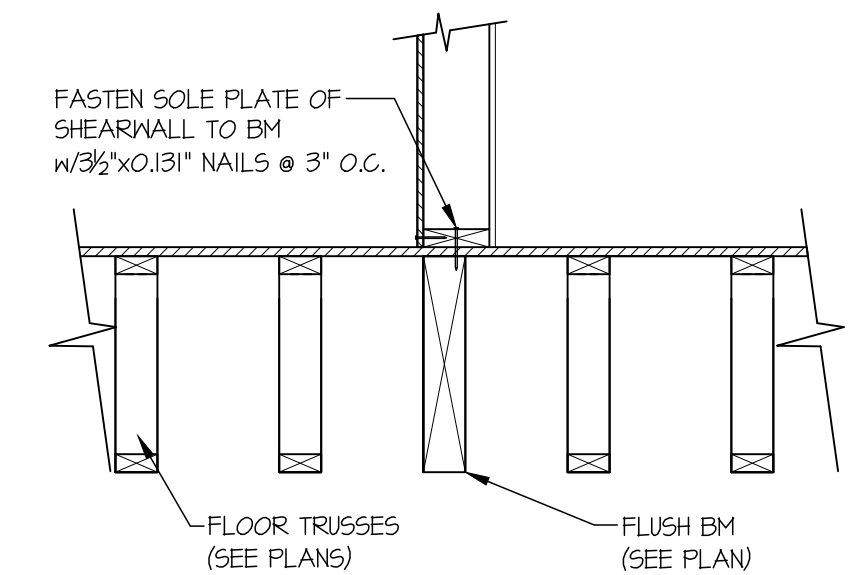
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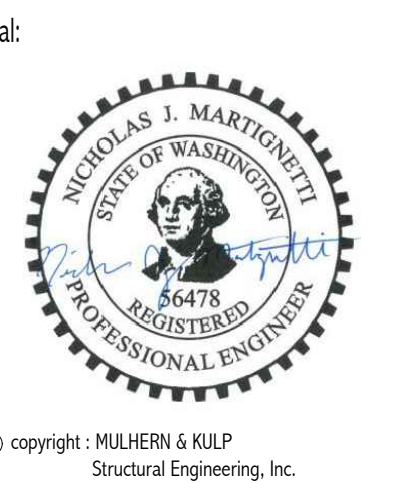
13 SECTION  
SCALE: 3/4"=1'-0"



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



19 SECTION  
SCALE: 3/4"=1'-0" PARALLEL FRAMING



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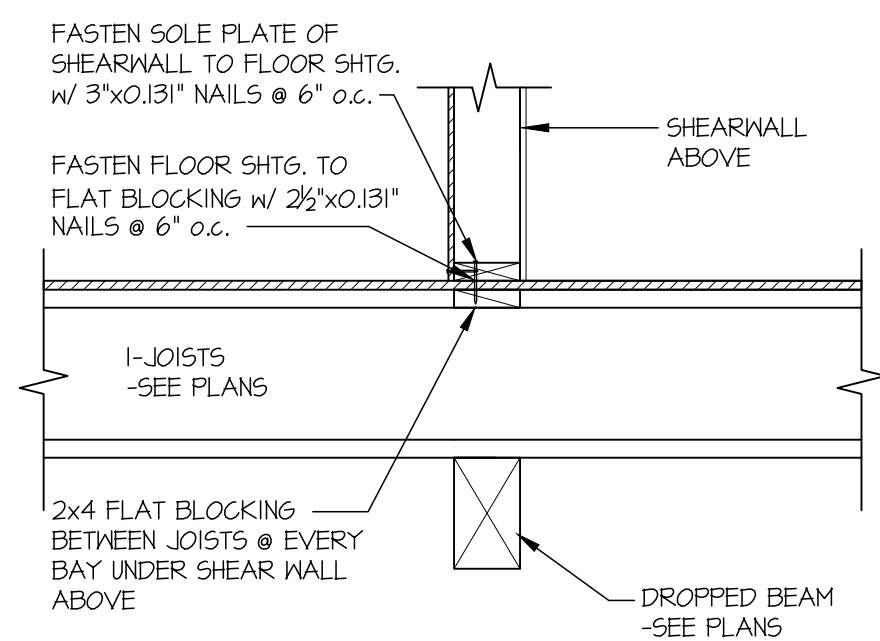
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244-25018  
project mgr: NJM  
drawn by: MPM  
issue date: 11-17-25

REVISIONS:  
date: 03/16/2026 initial: RID  
PLAN REVISIONS

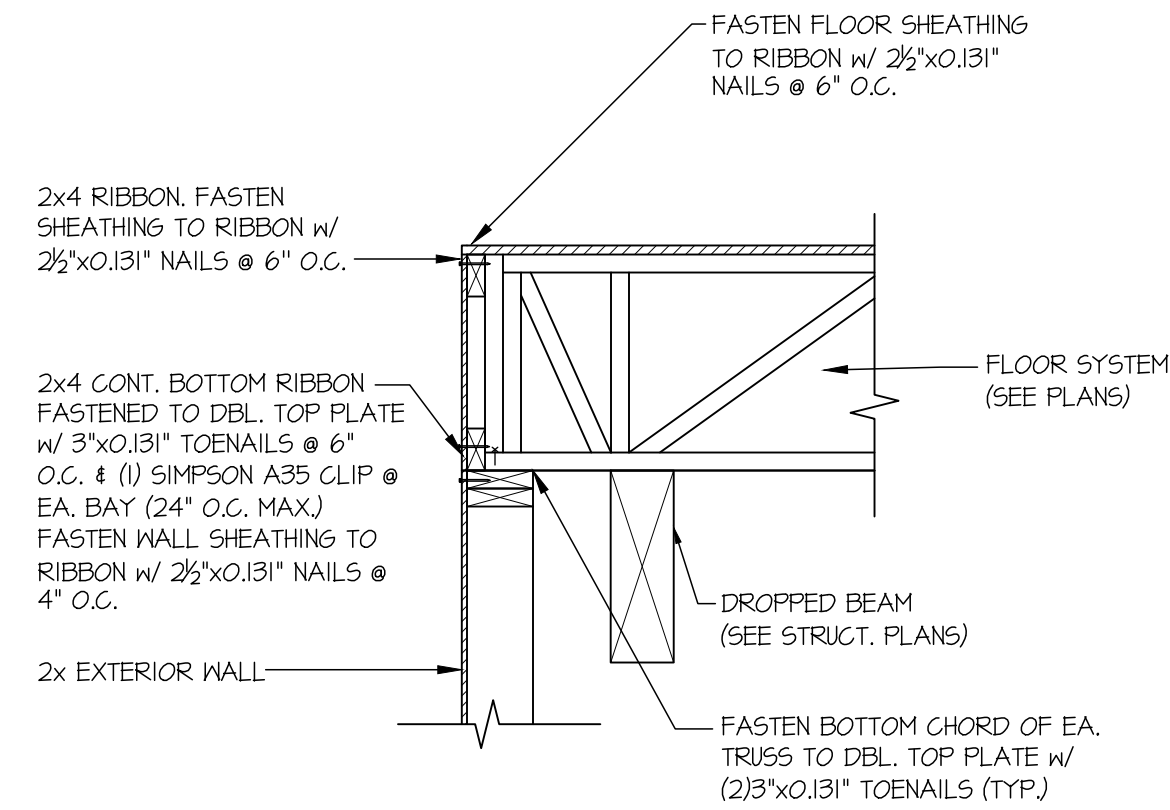
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mccullougharchitects.com

STRUCTURAL DETAILS  
SEARS PLAT - LOT 1  
7414 78TH AVE SE  
MERCER ISLAND, WA

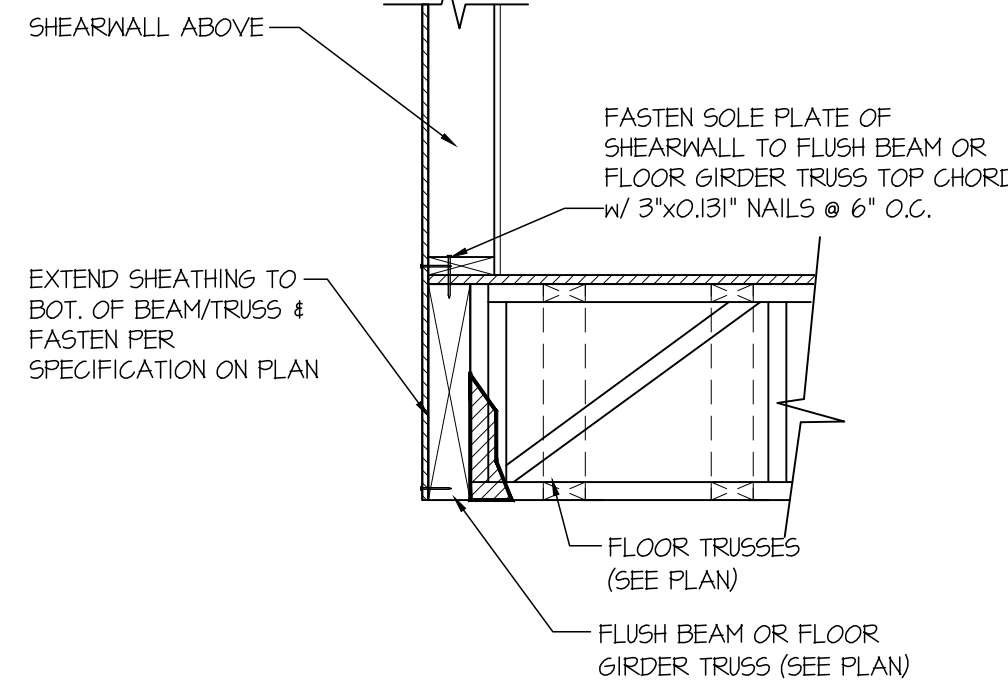
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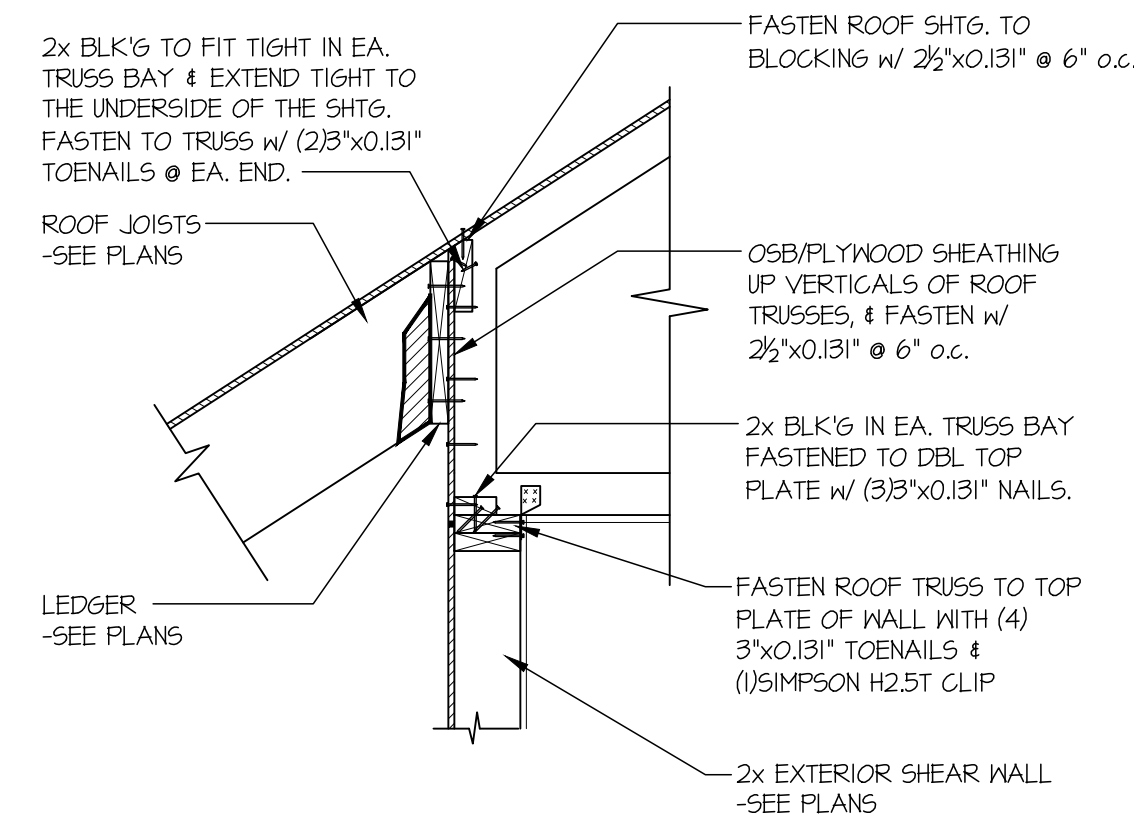
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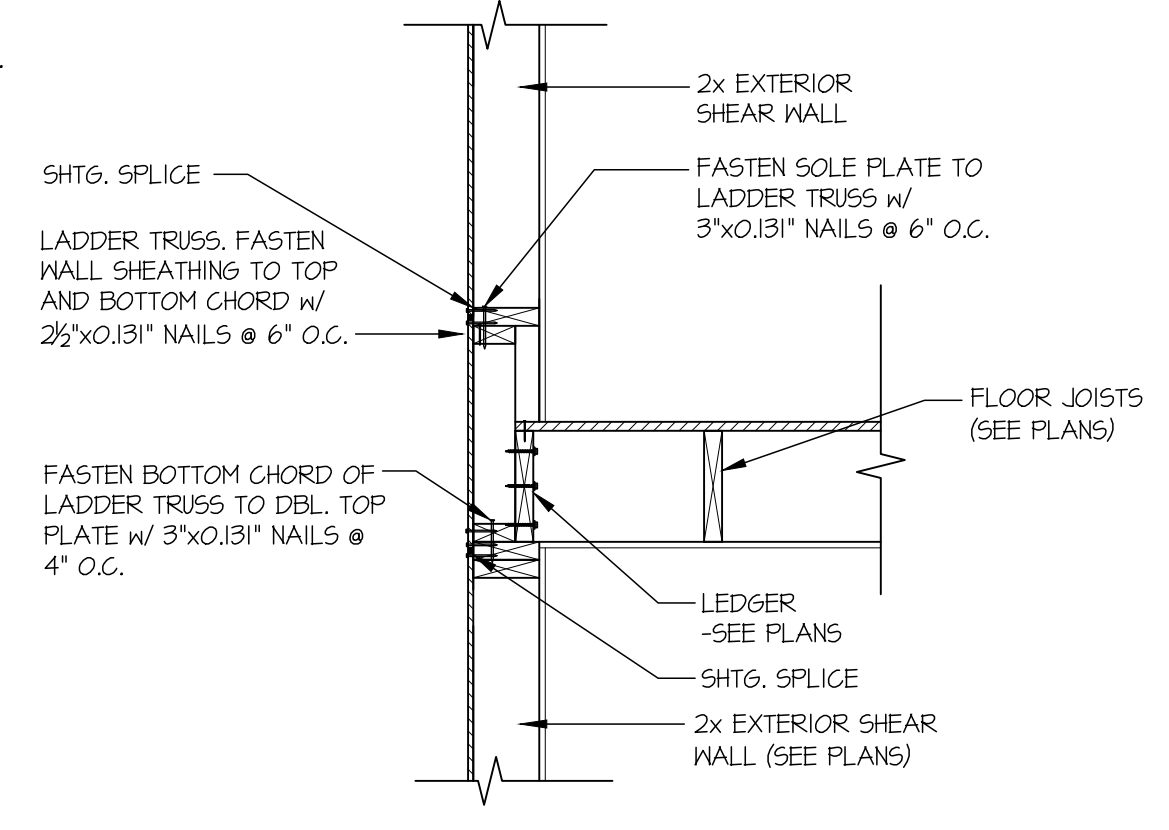
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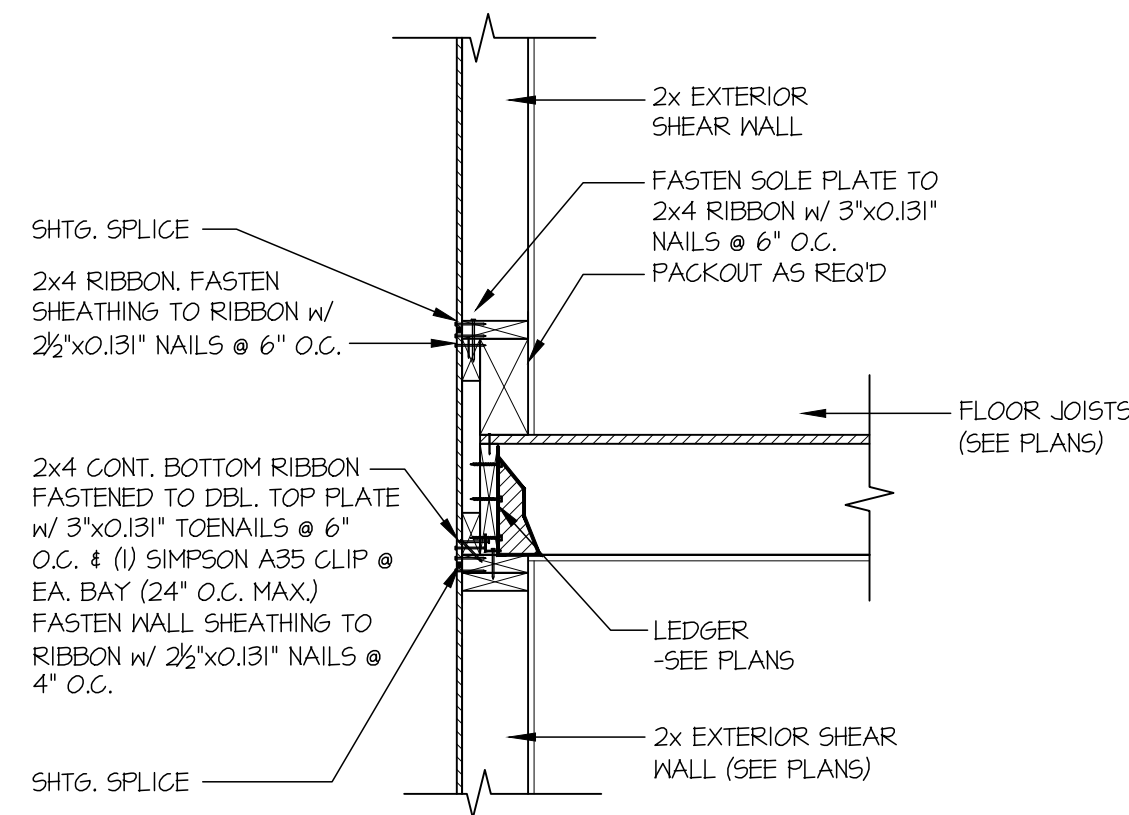
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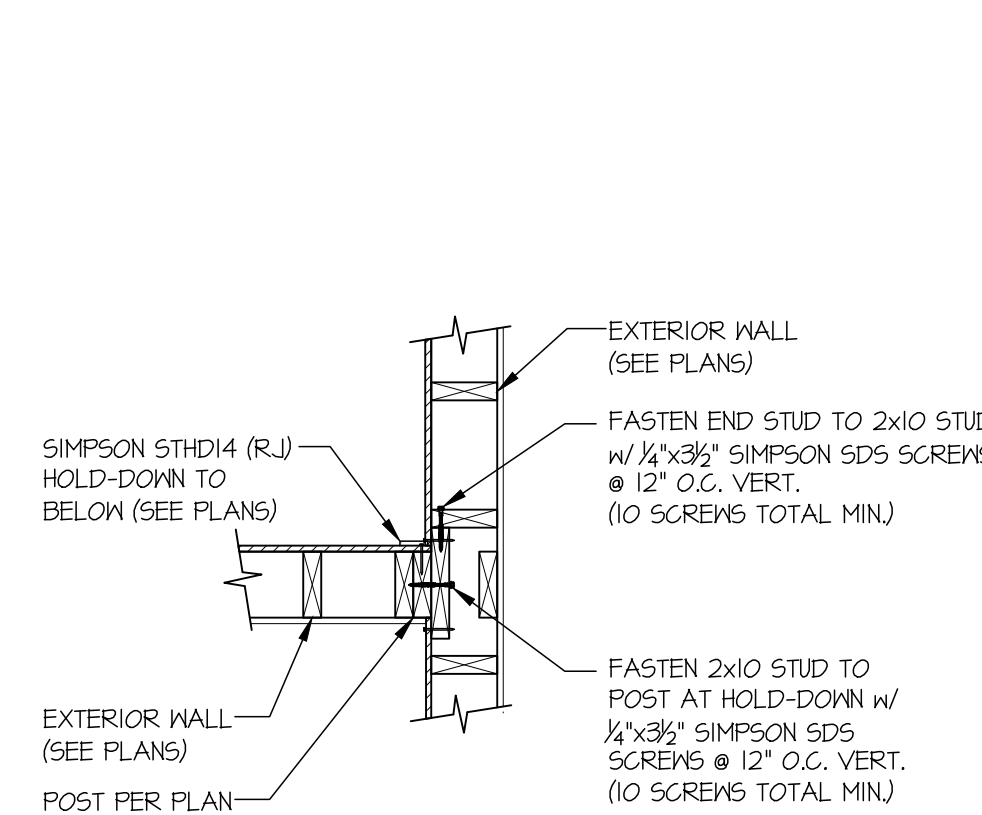
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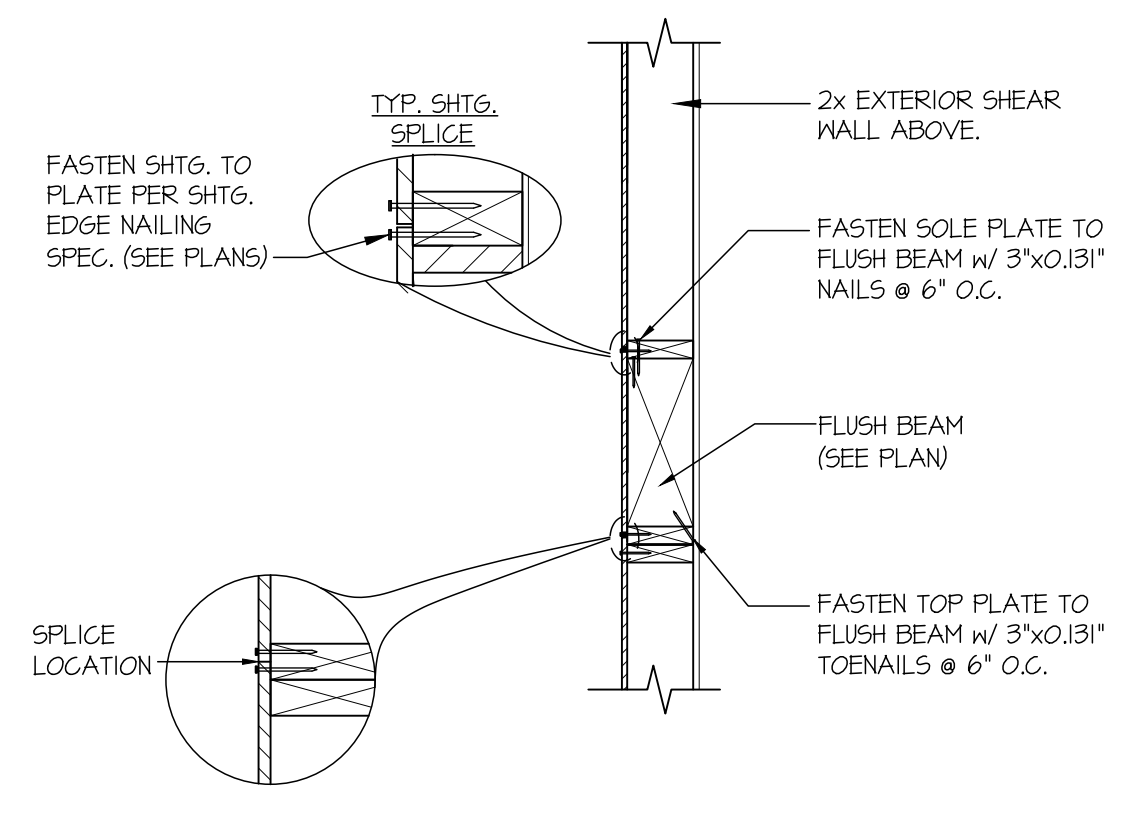
**37 SECTION**  
SCALE: 3/4"=1'-0" PARALLEL FRAMING



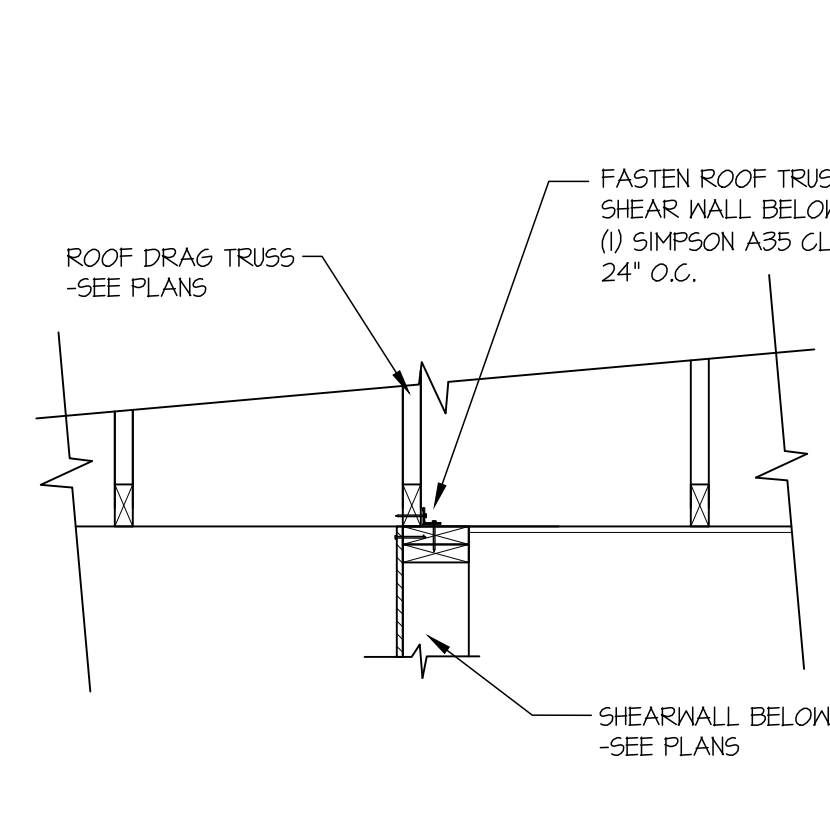
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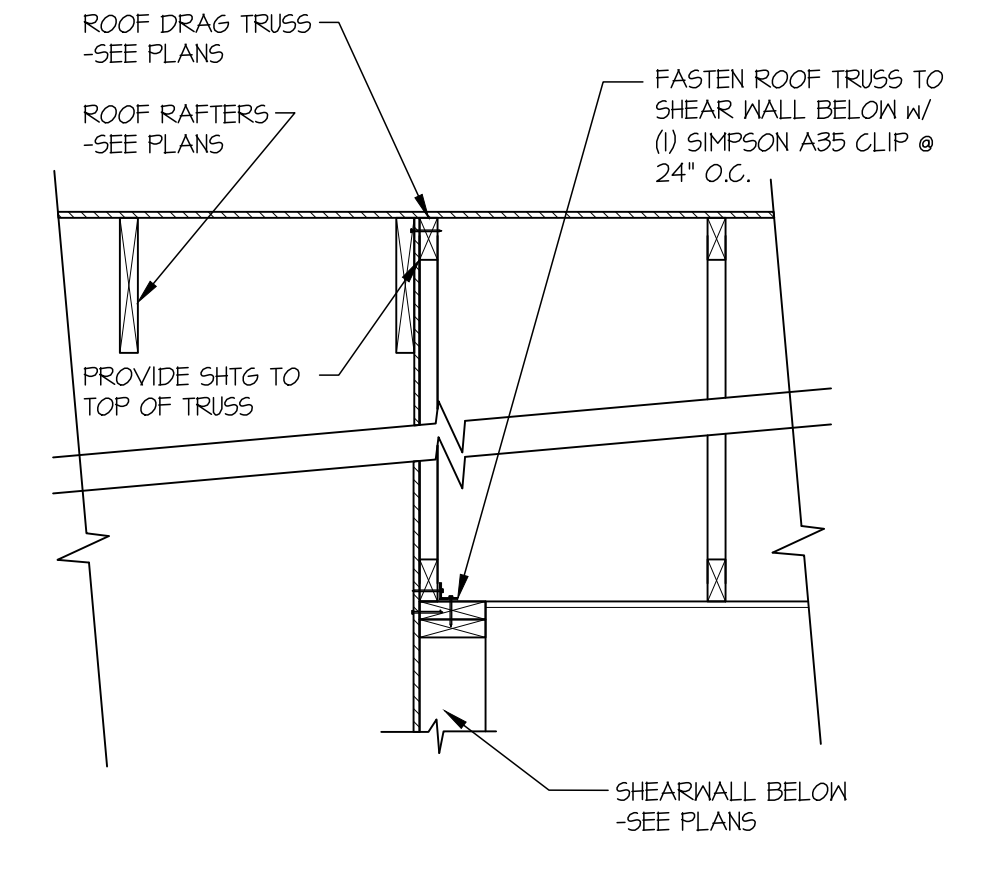
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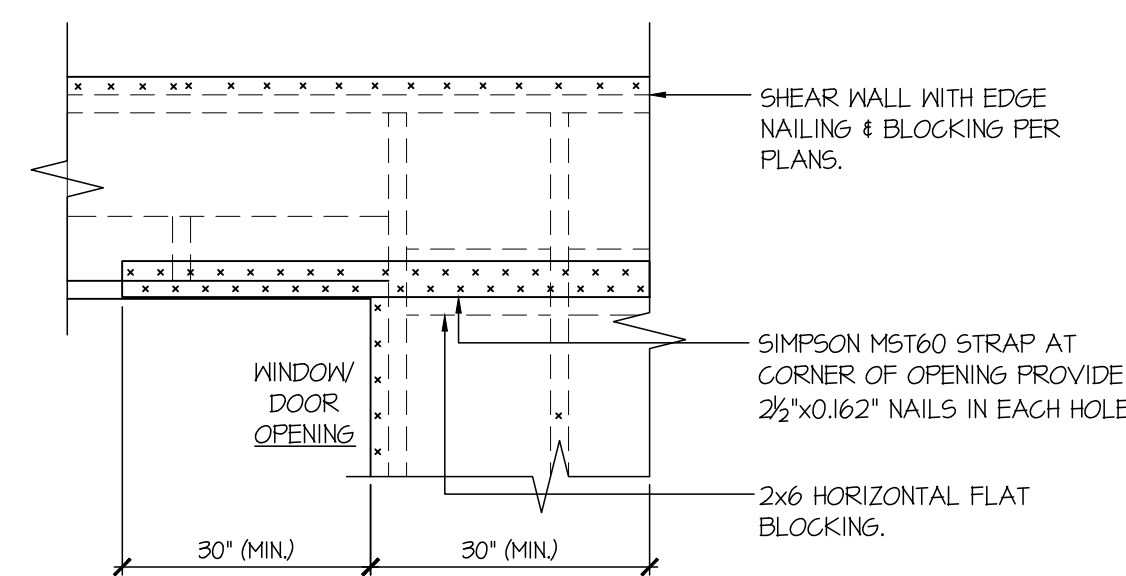
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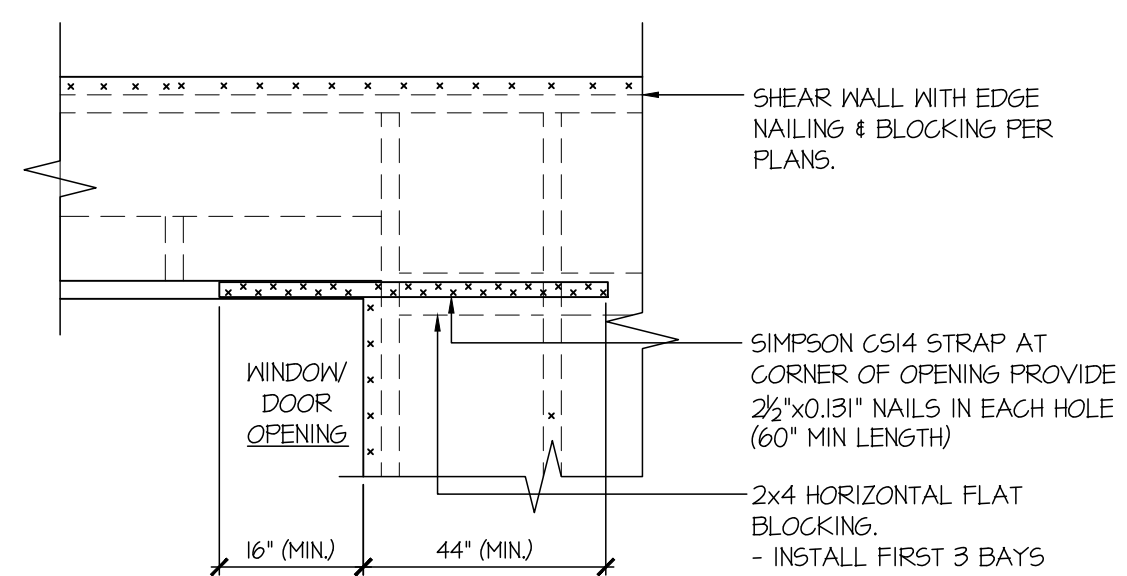
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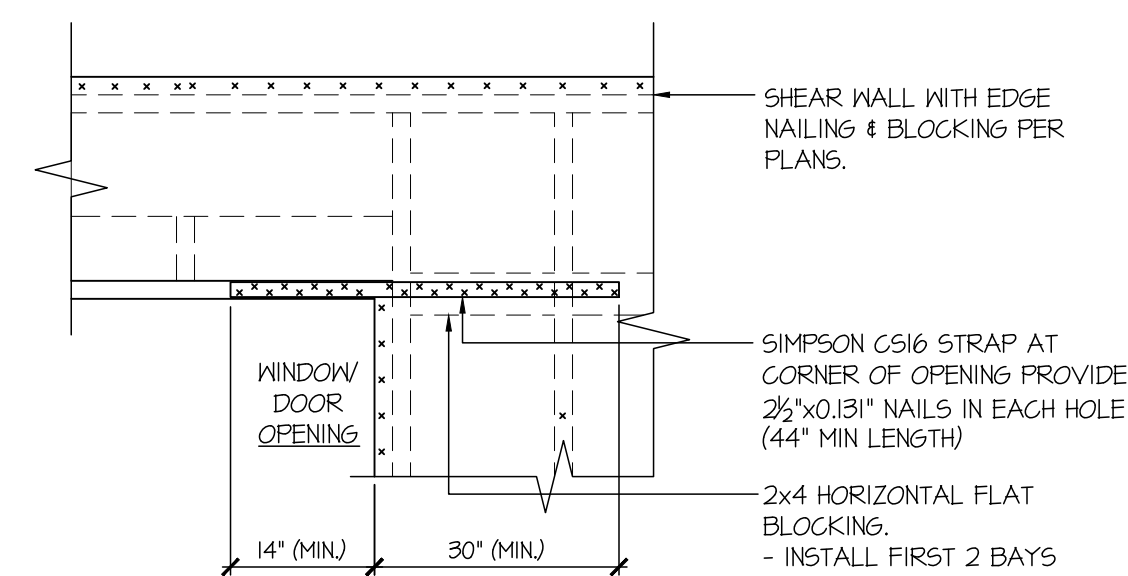
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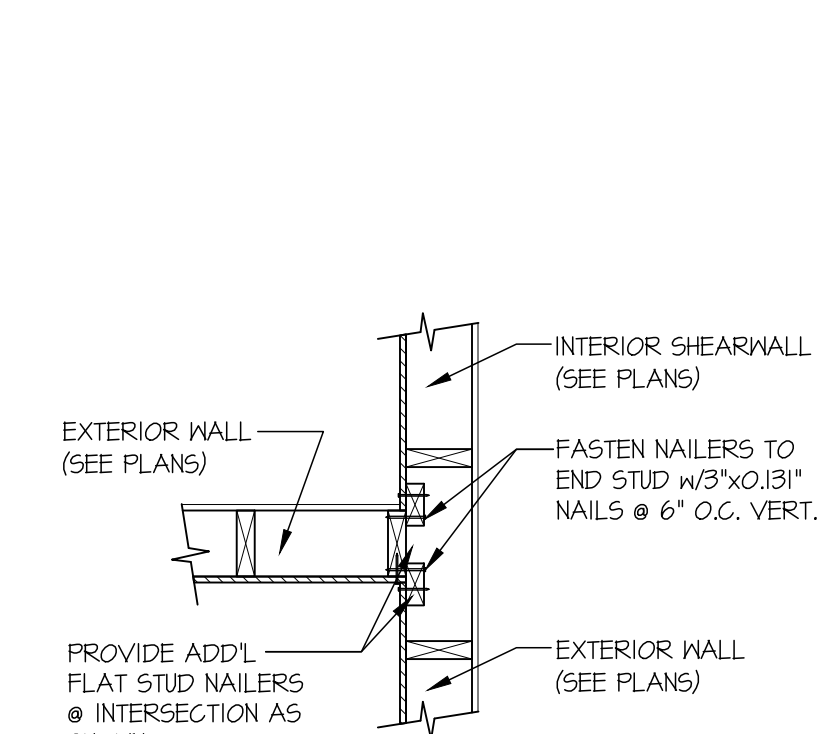
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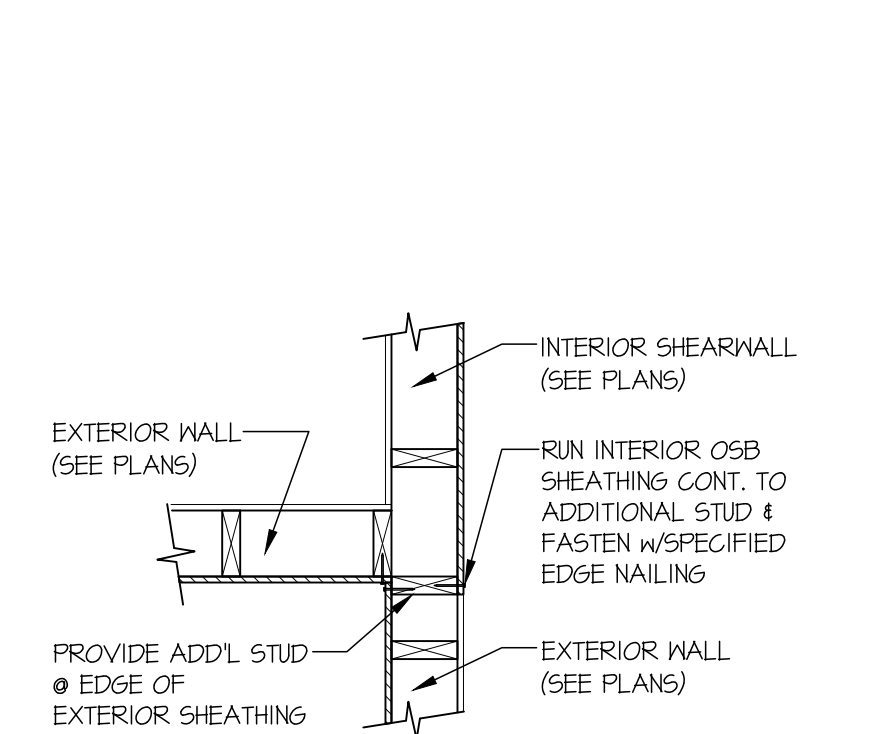
**93 SECTION**  
SCALE: NTS



**94 SECTION**  
SCALE: NTS



**95 SECTION**  
SCALE: 3/4"=1'-0" SHTG. ON SAME FACE



**99 SECTION**  
SCALE: 3/4"=1'-0" SHTG. OPPOSITE FACES

• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS

• DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.  
• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS  
• IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

• DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.  
• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS  
• IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

PROVIDE ADD'L FLAT STUD NAILERS @ INTERSECTION AS SHOWN

seal:



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M&K project number:

244-25018

project mgr:

NJM

drawn by:

MPM

issue date:

11-17-25

REVISIONS:

date:

initial:

03/16/2026

RID

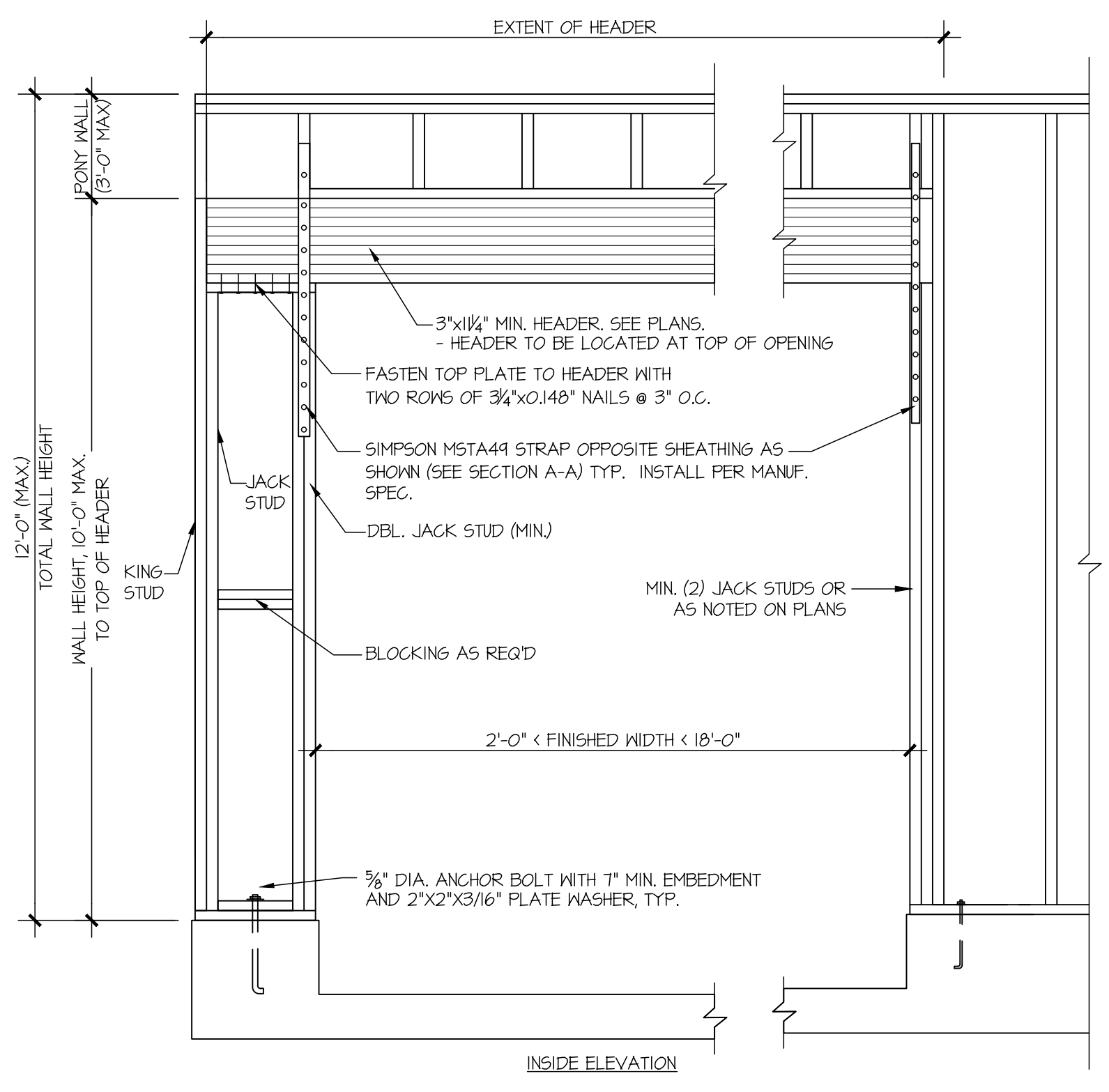
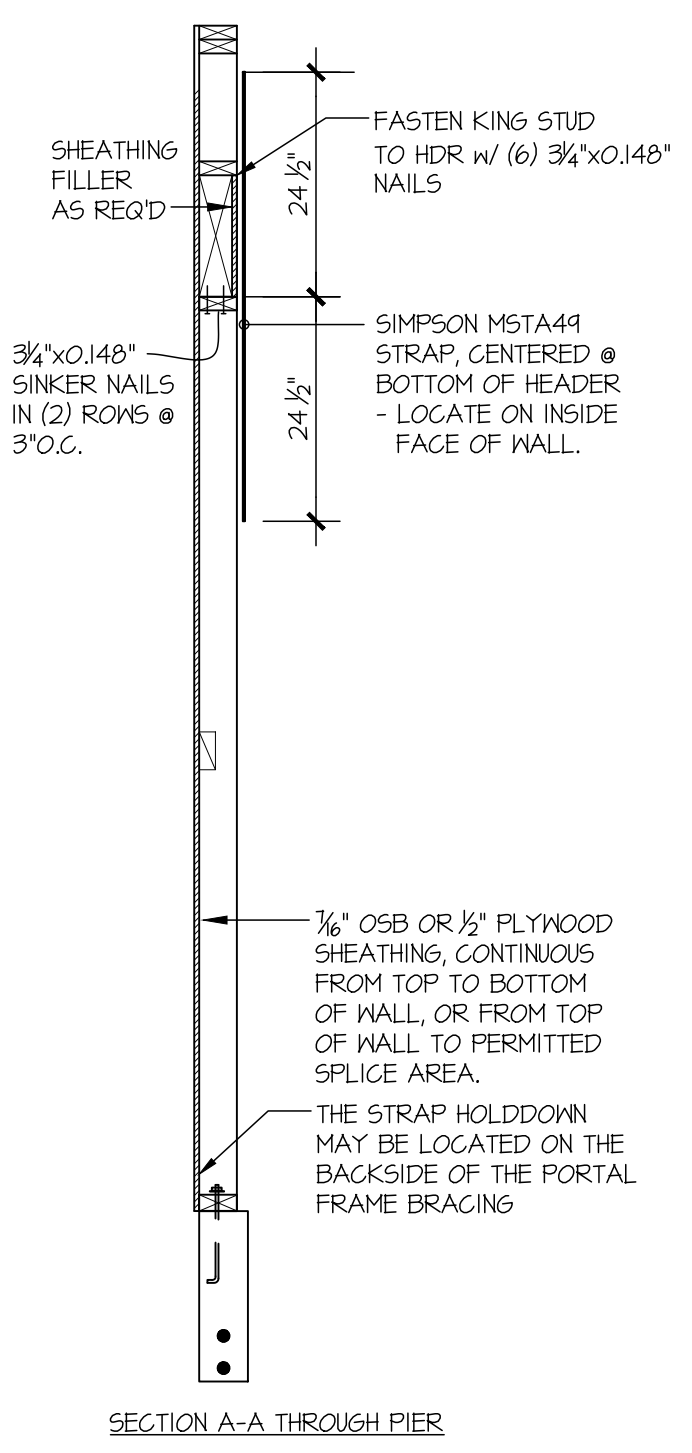
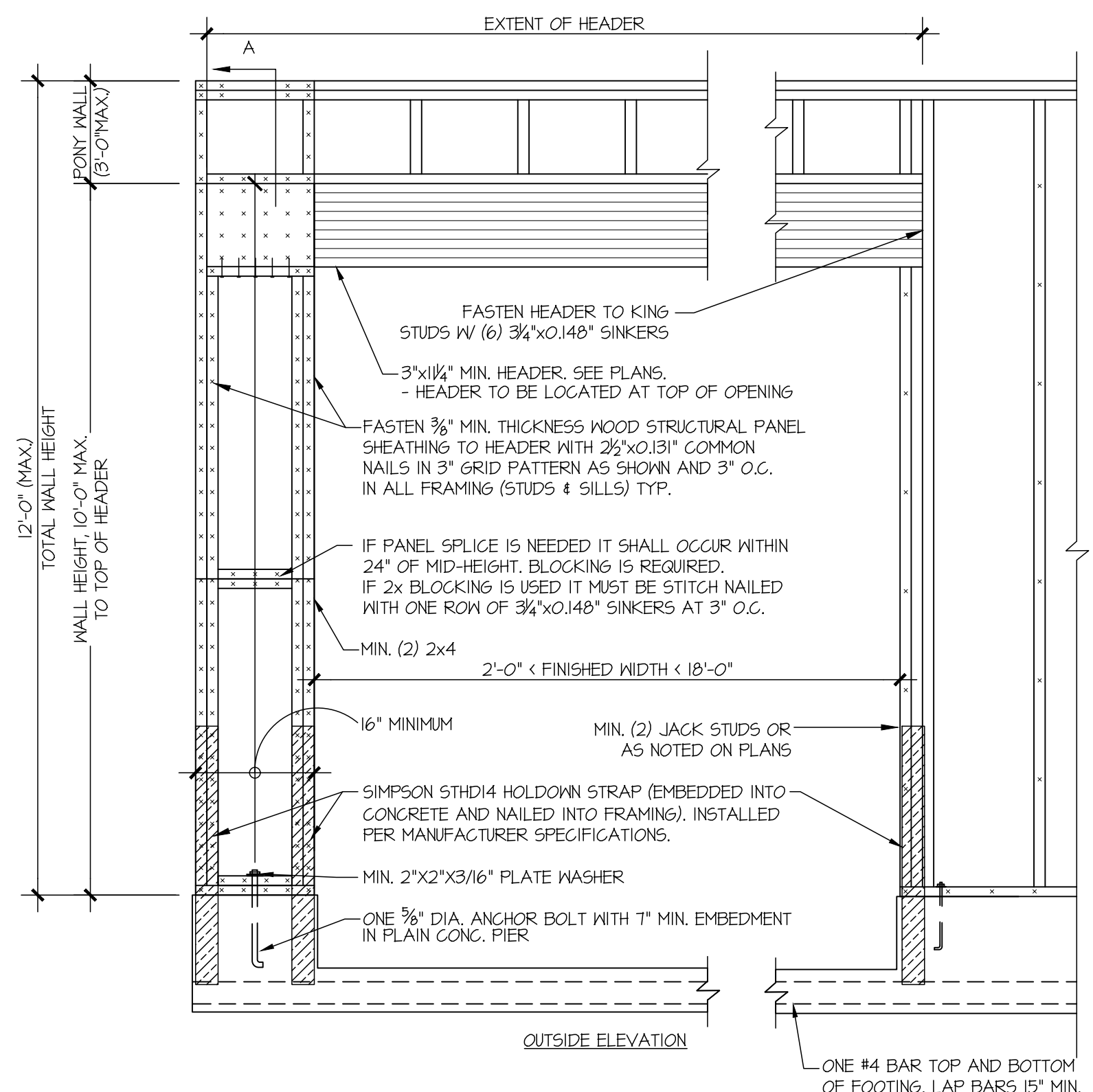
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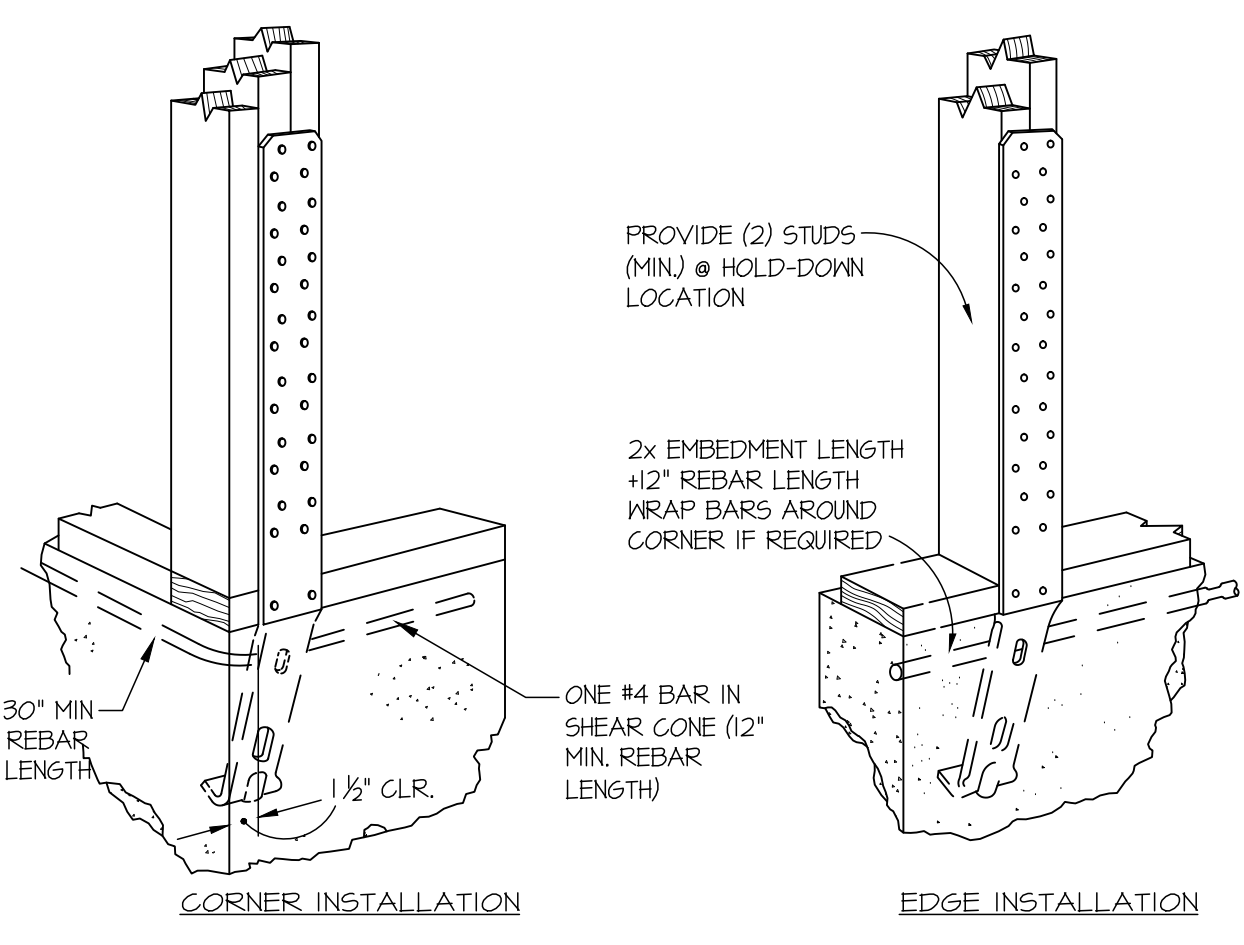
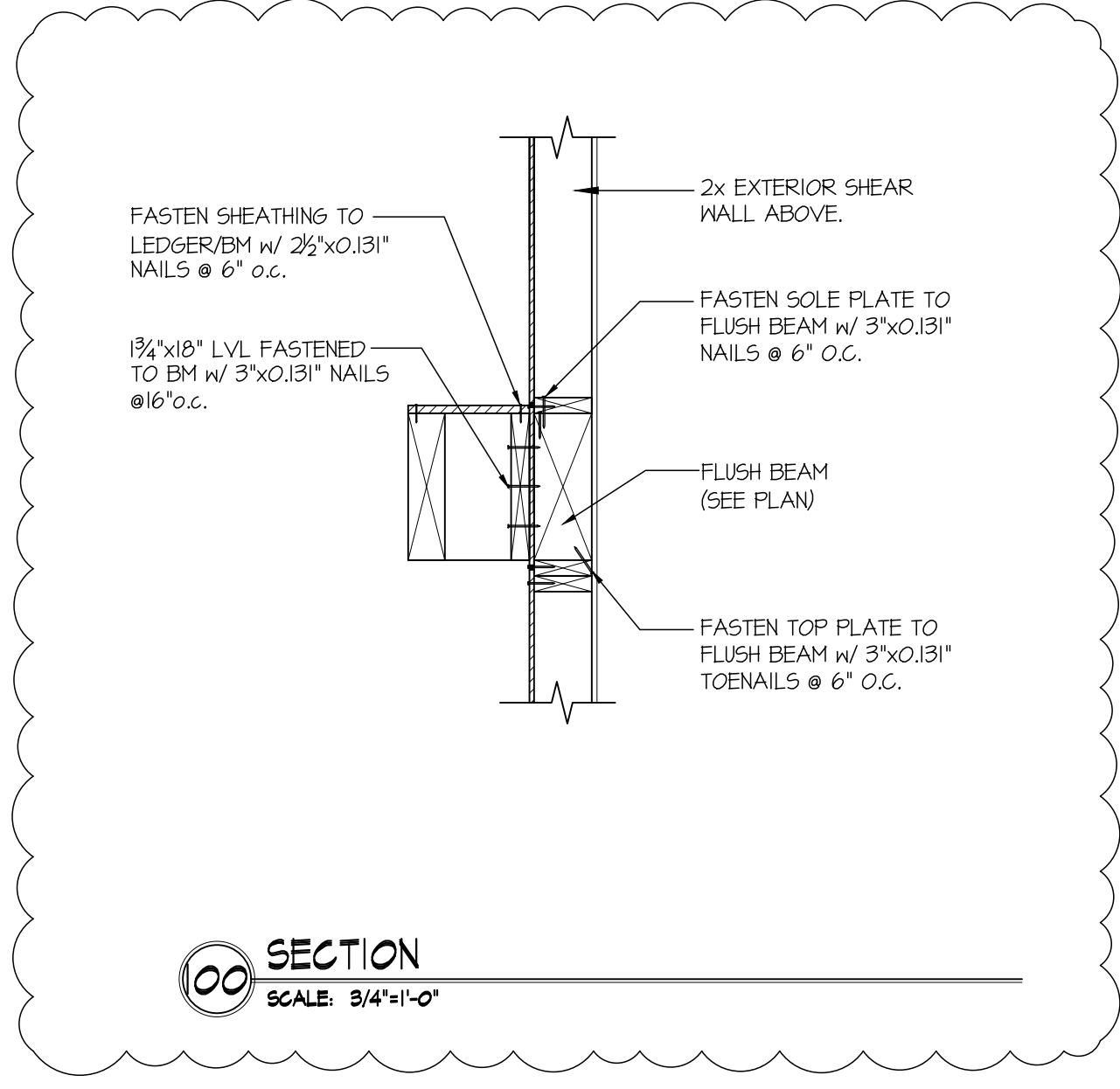
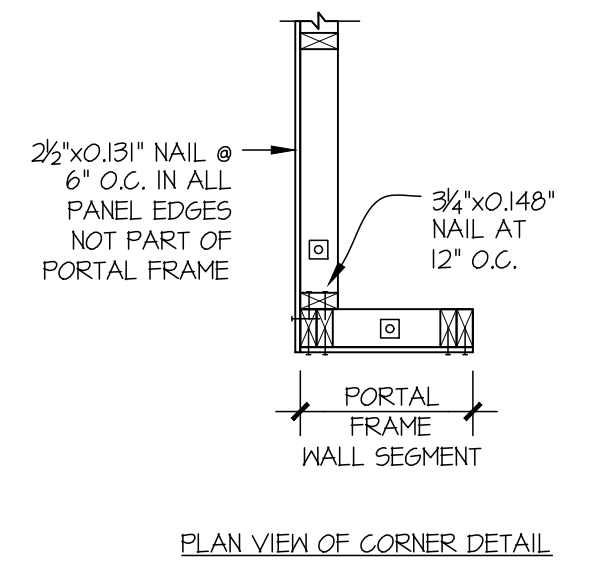
STRUCTURAL DETAILS  
SEARS PLAT - LOT 1  
7414 78TH AVE SE  
MERCER ISLAND, WA

sheet:

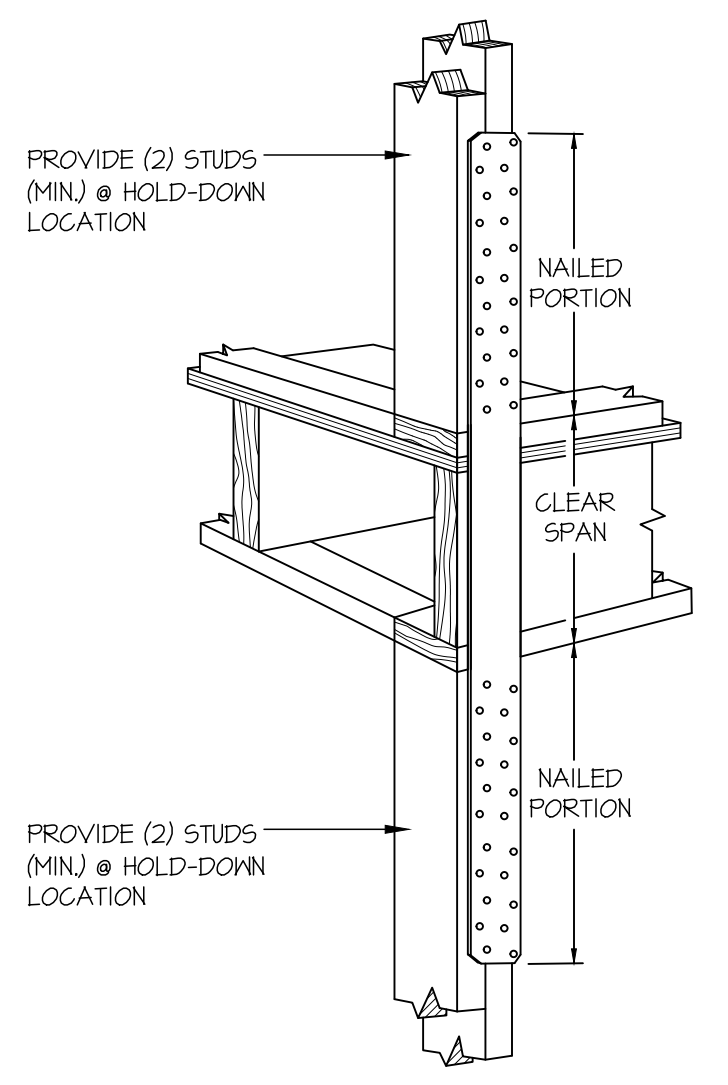
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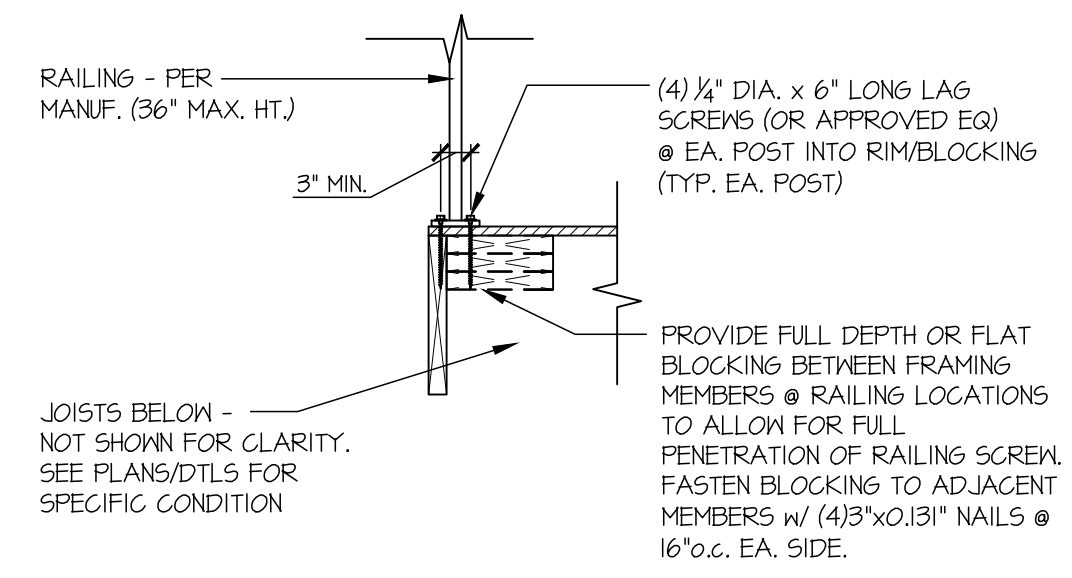
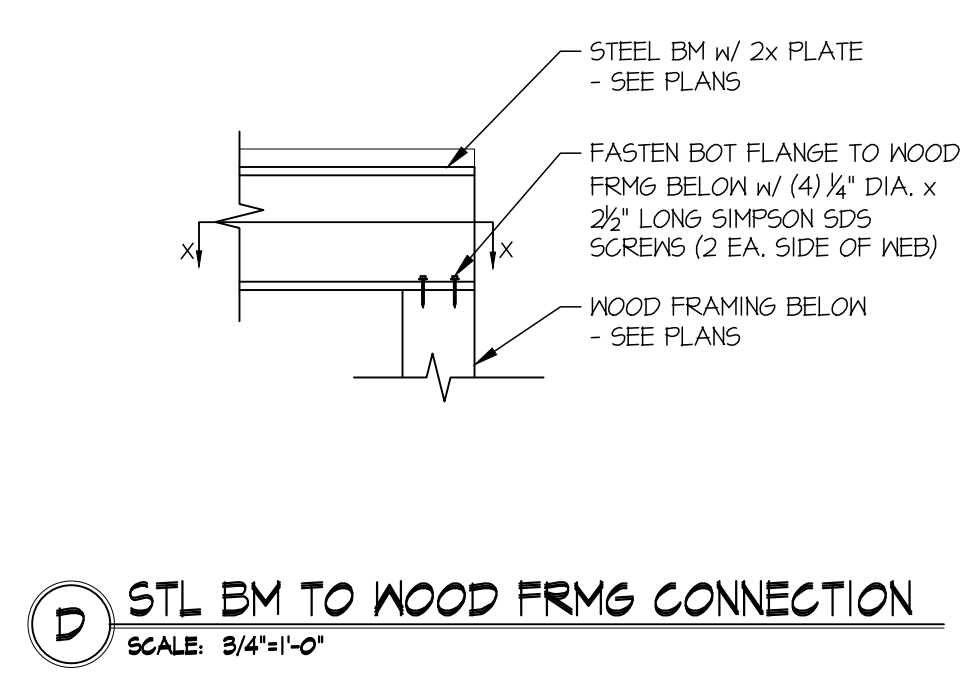
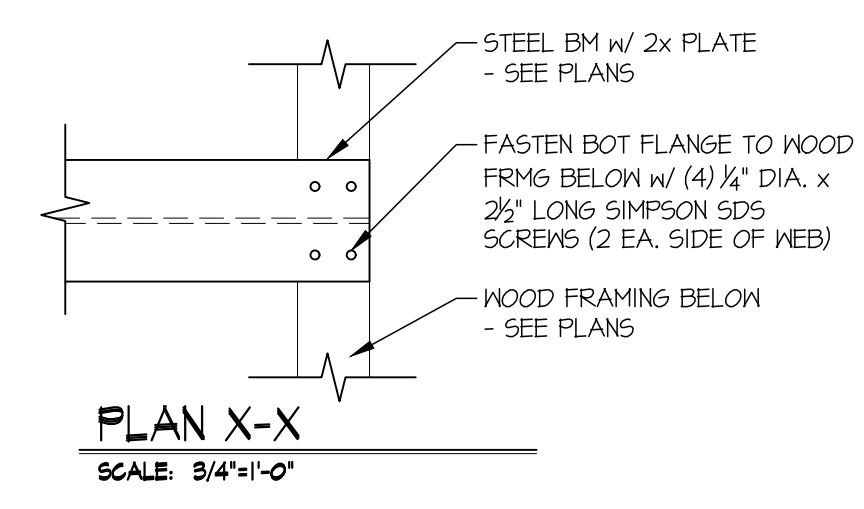
NOTE: ALL SHEATHABLE AREAS OF EXTERIOR WALL SHALL BE FULLY SHEATHED WITH 1/2\"/>



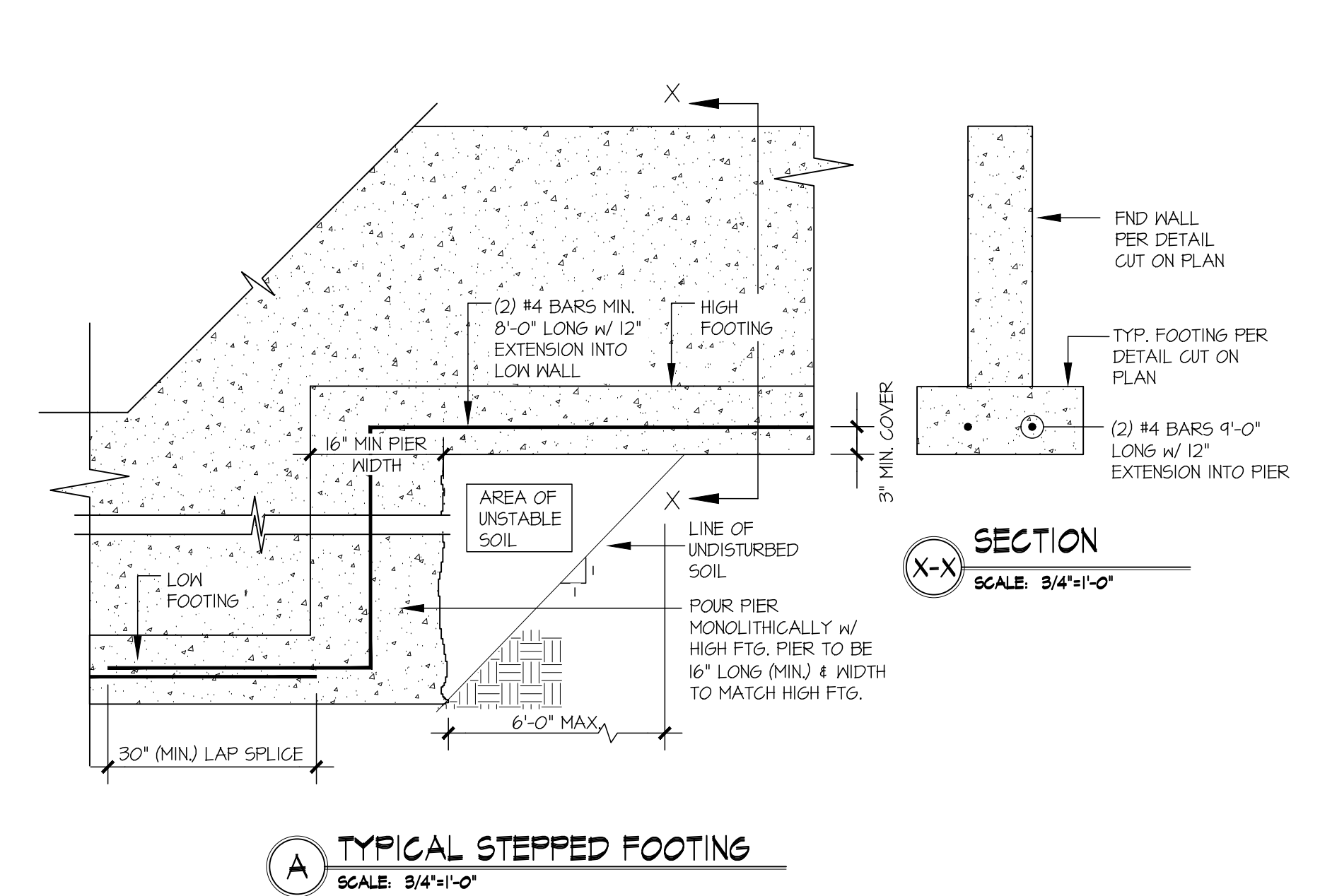
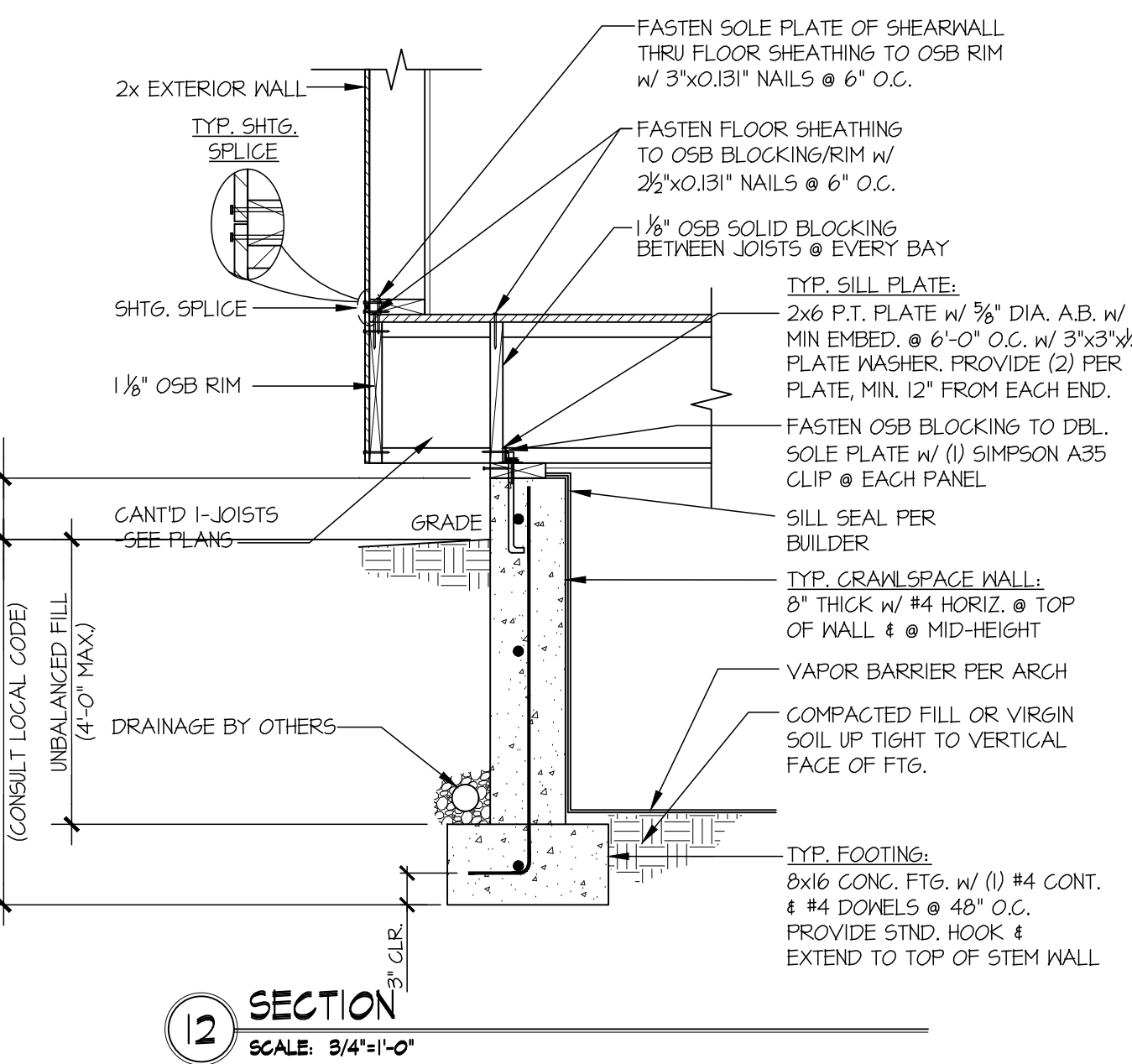
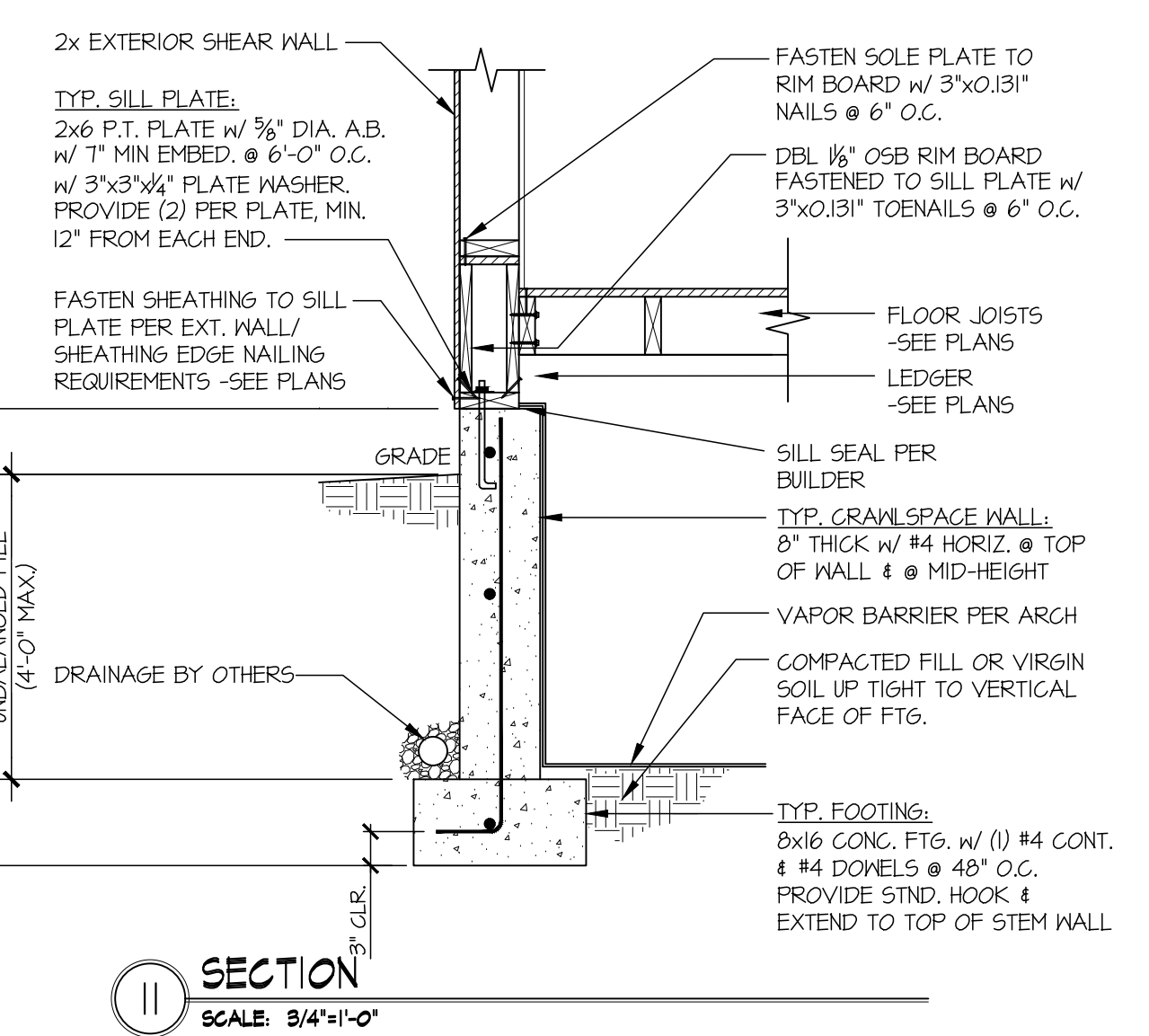
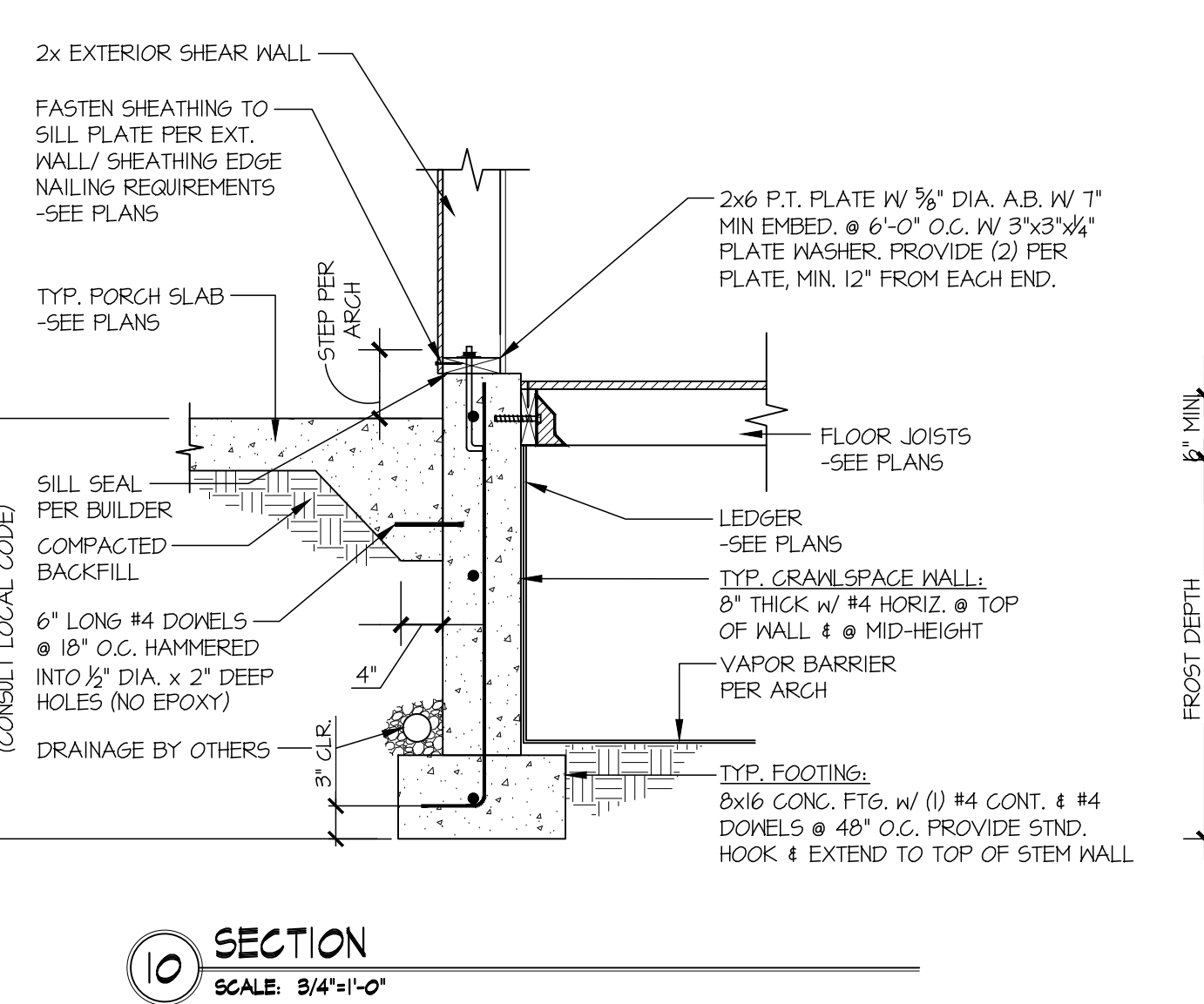
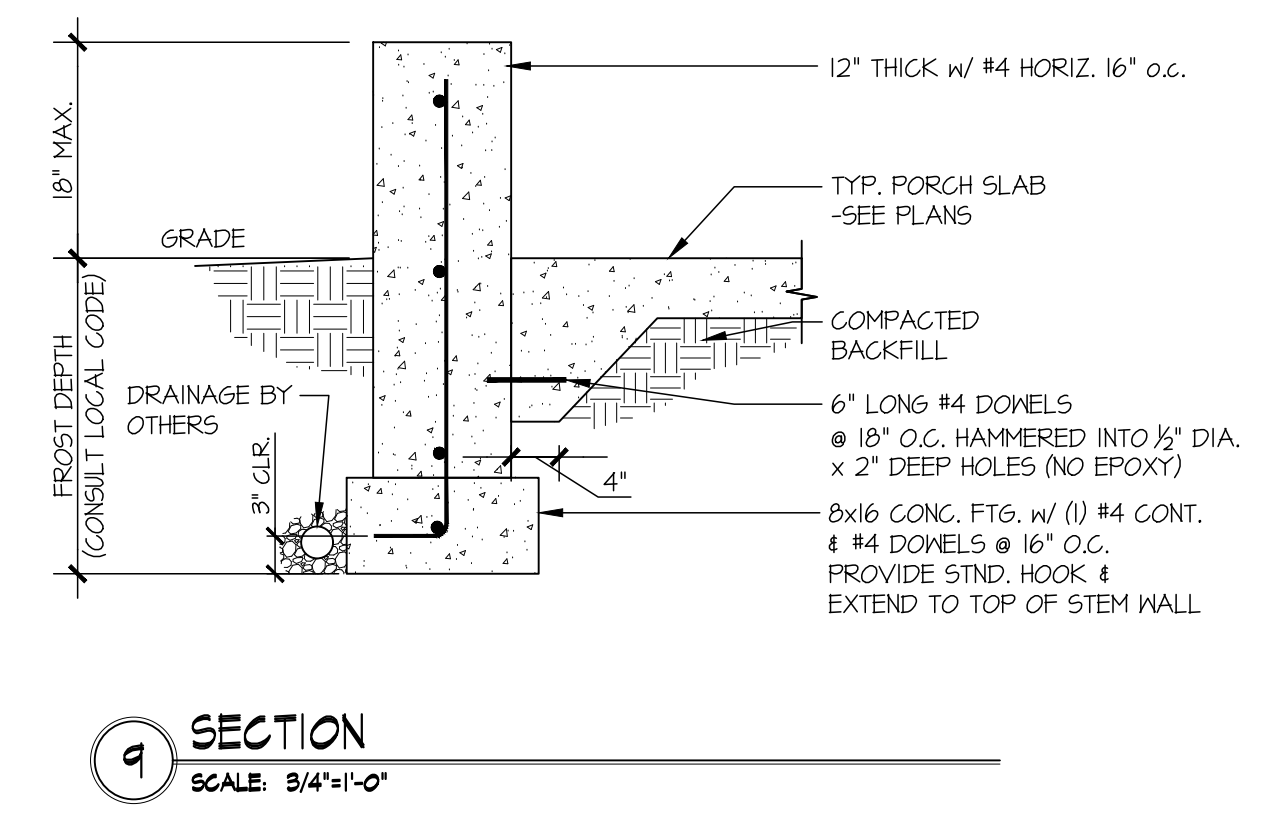
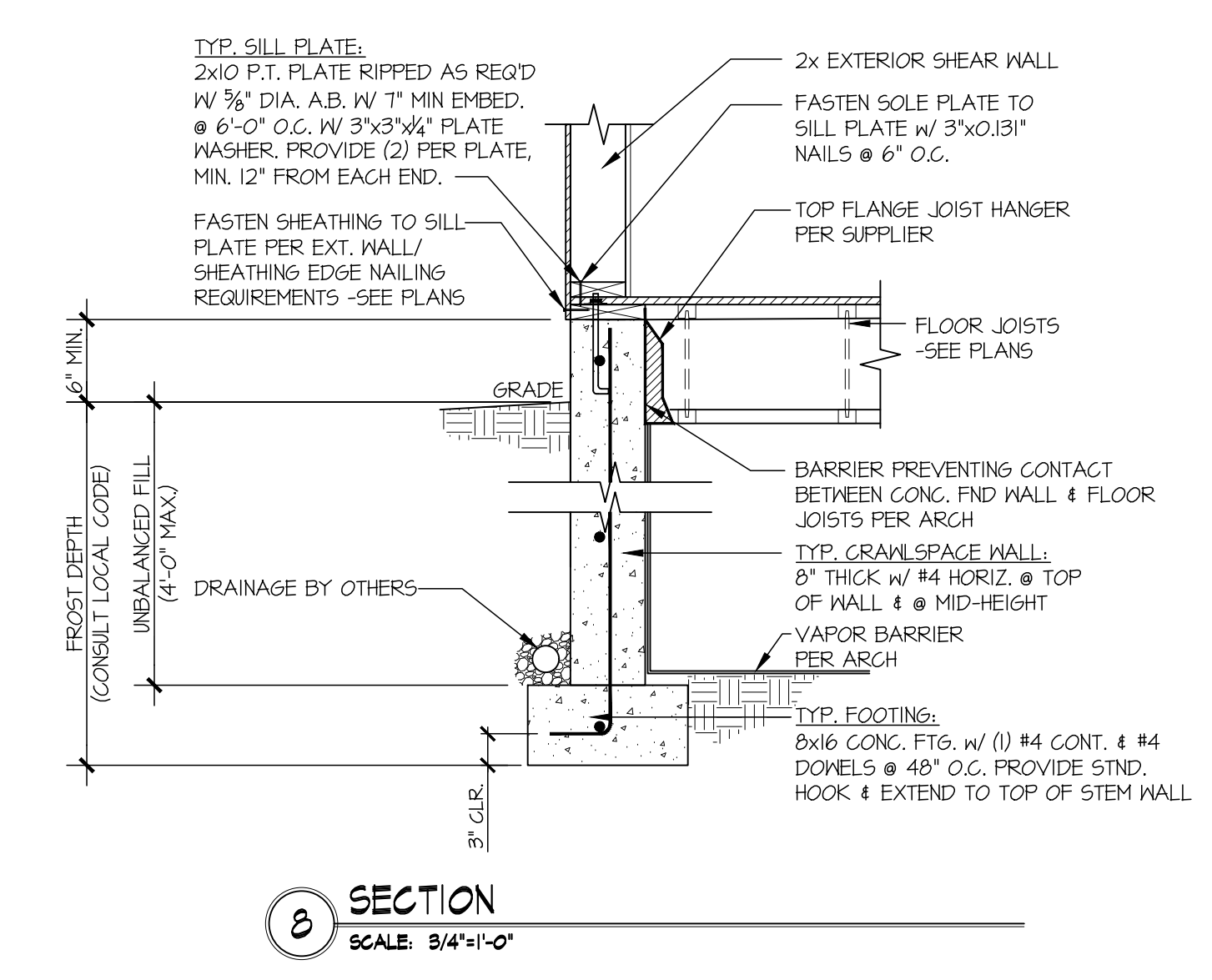
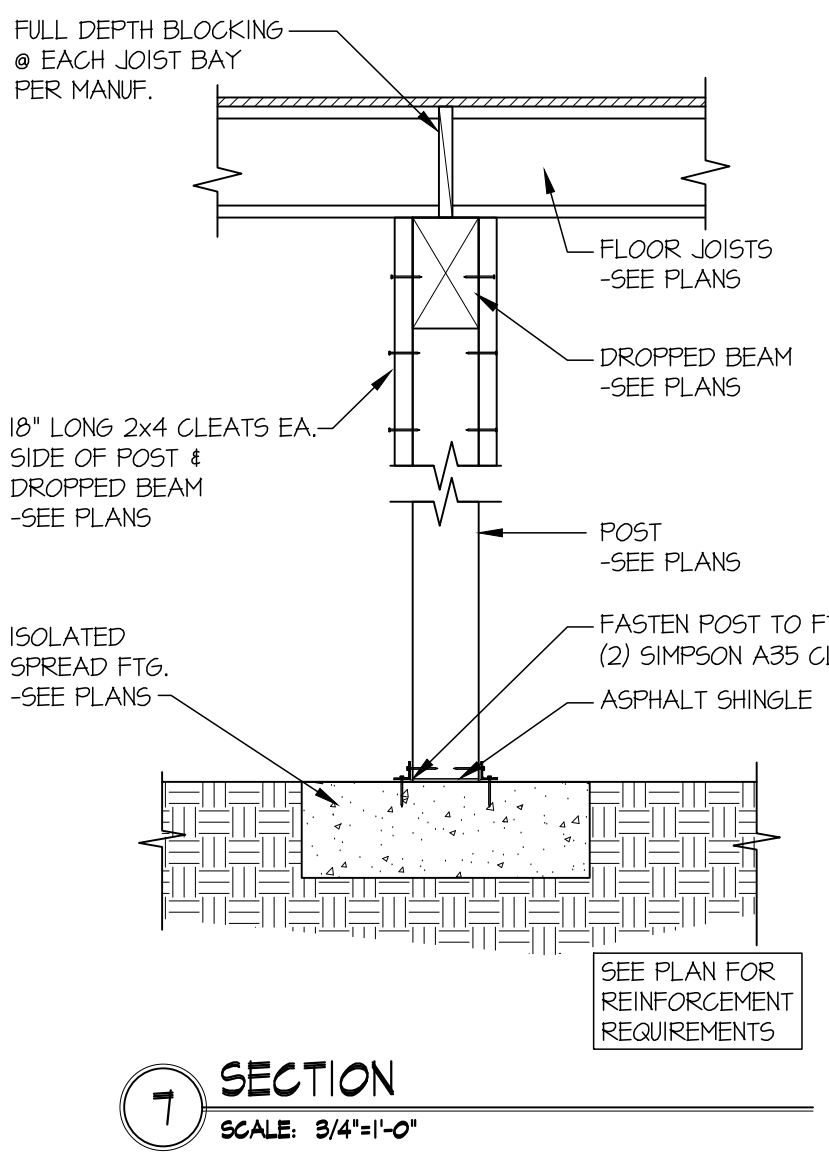
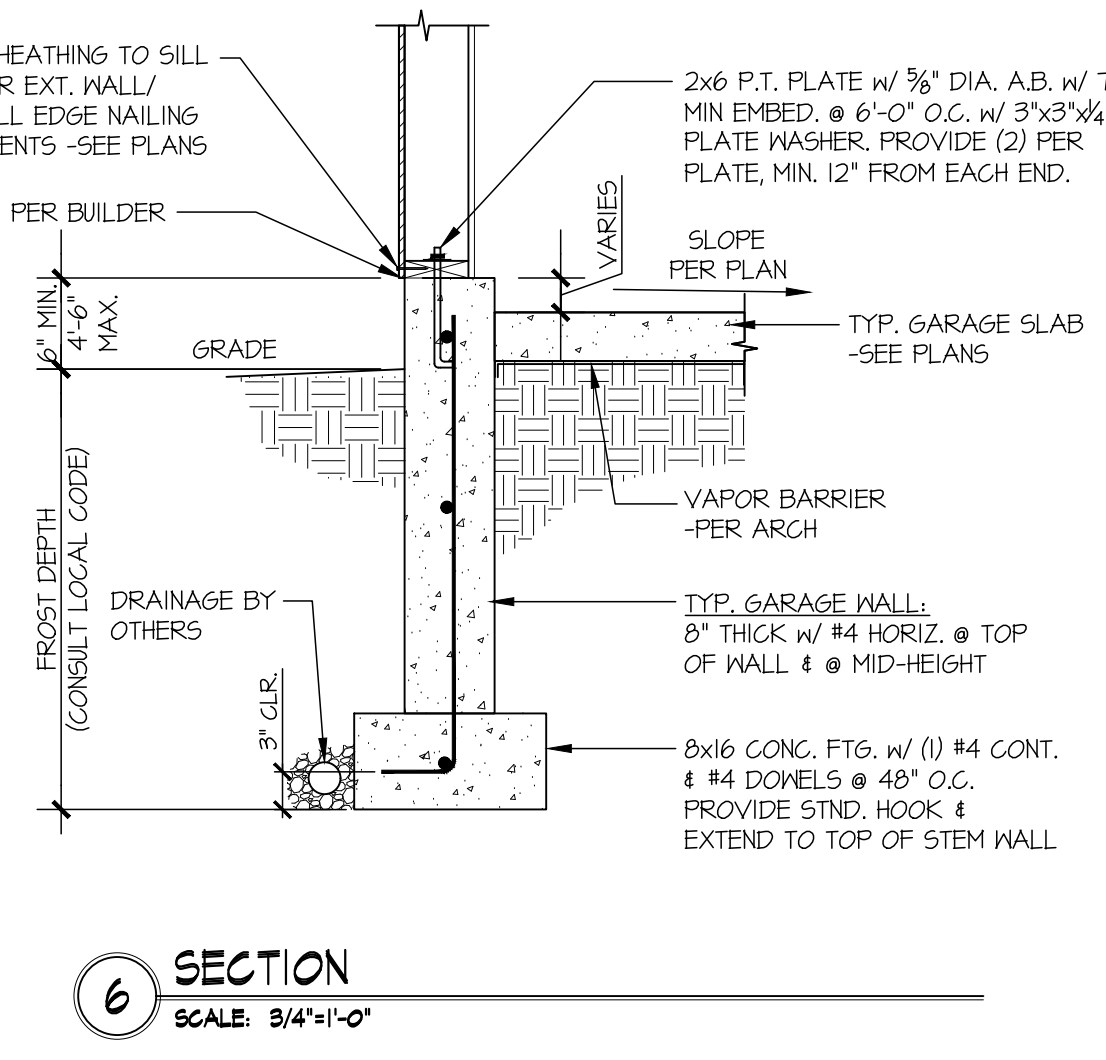
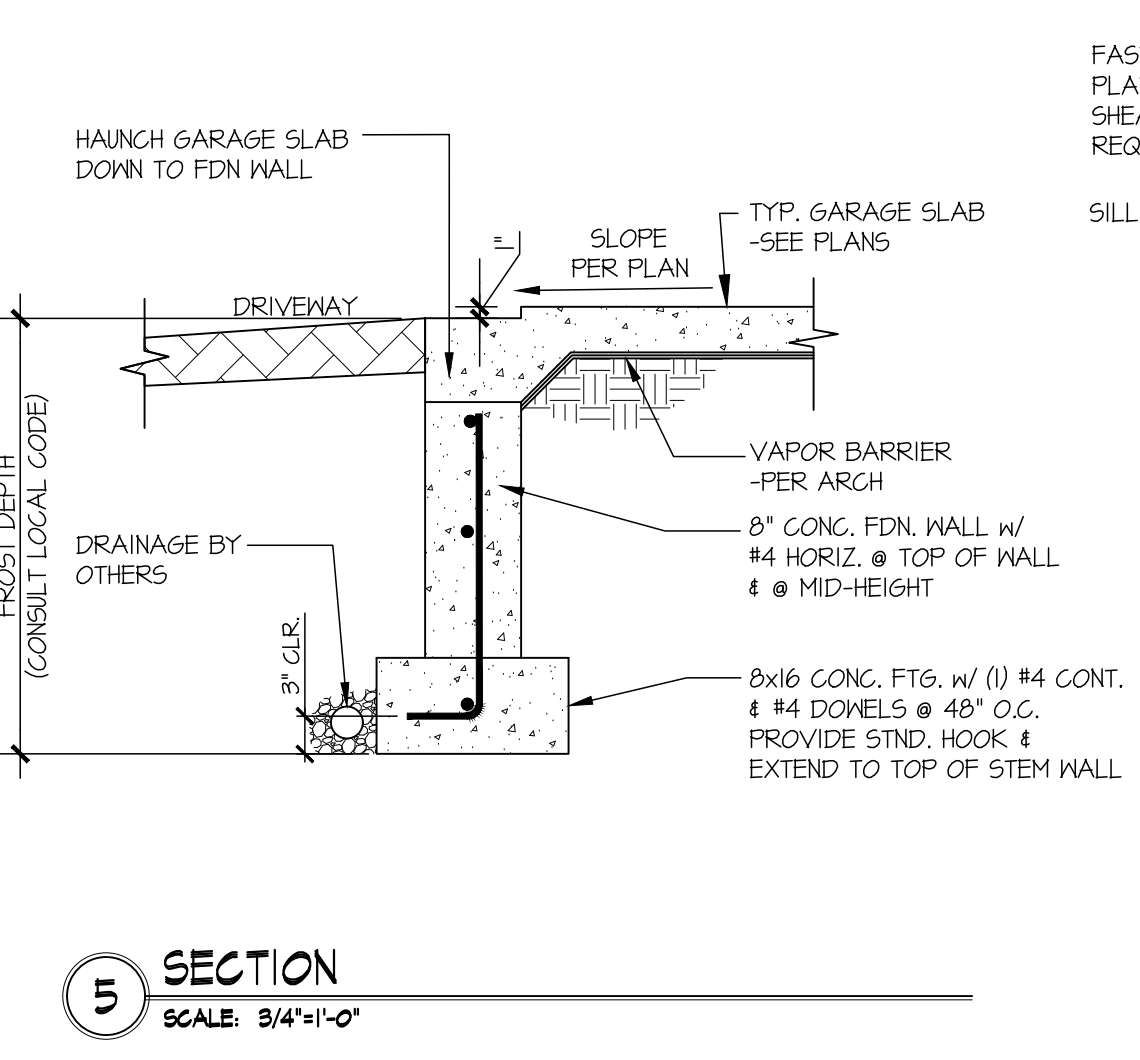
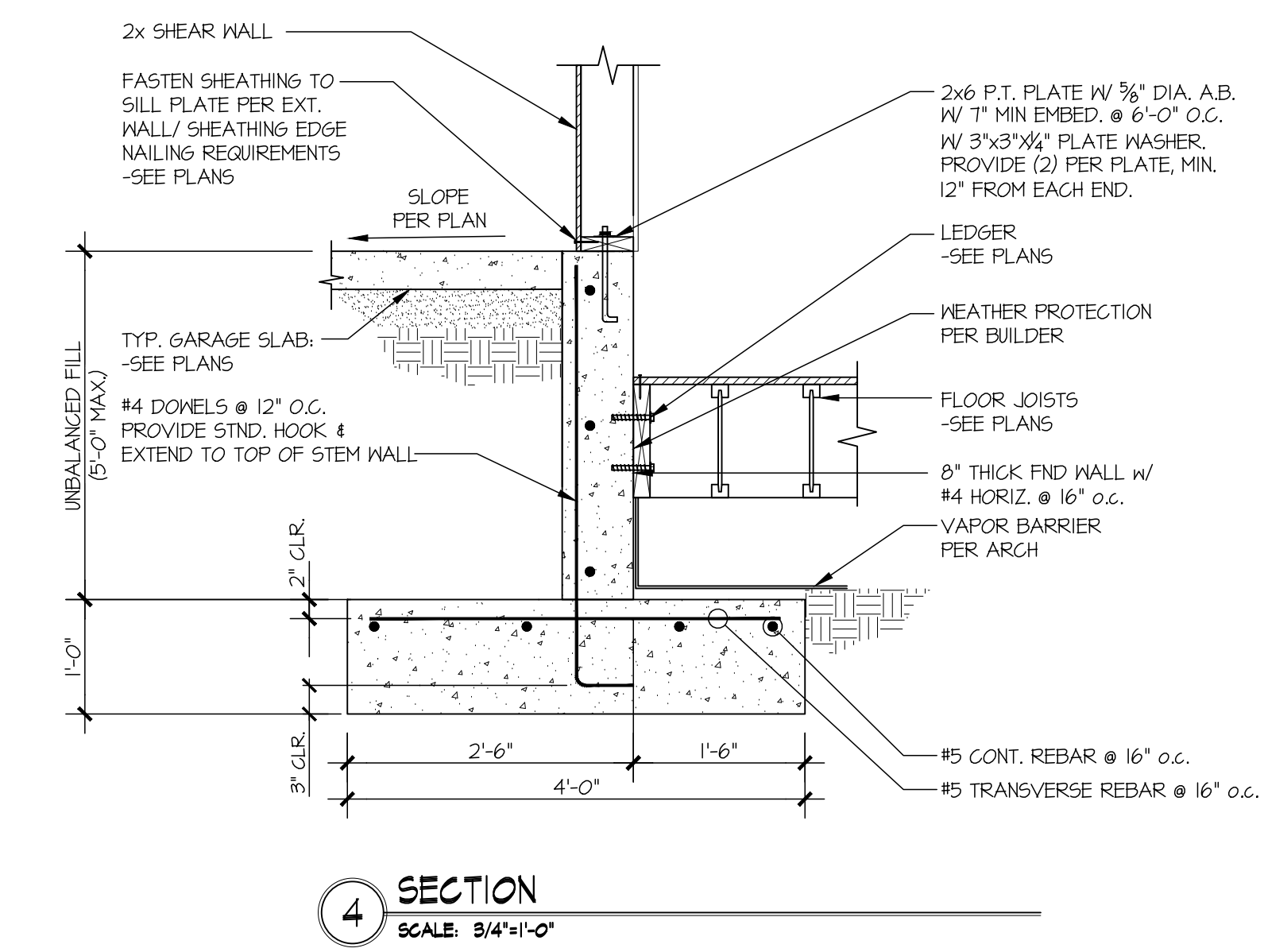
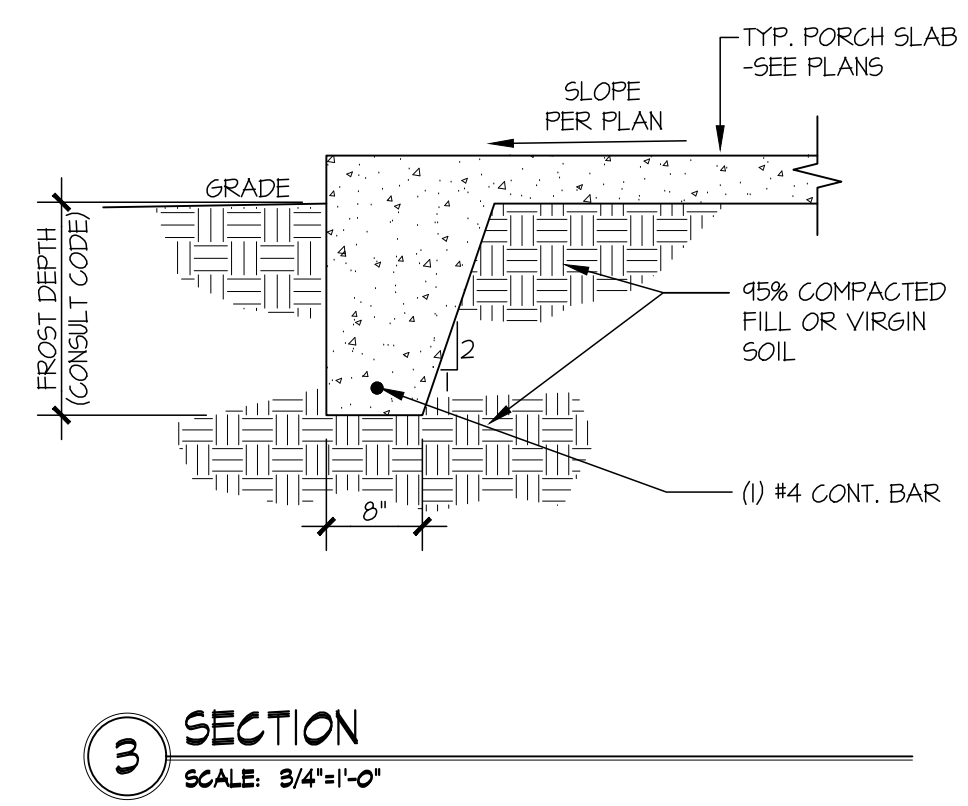
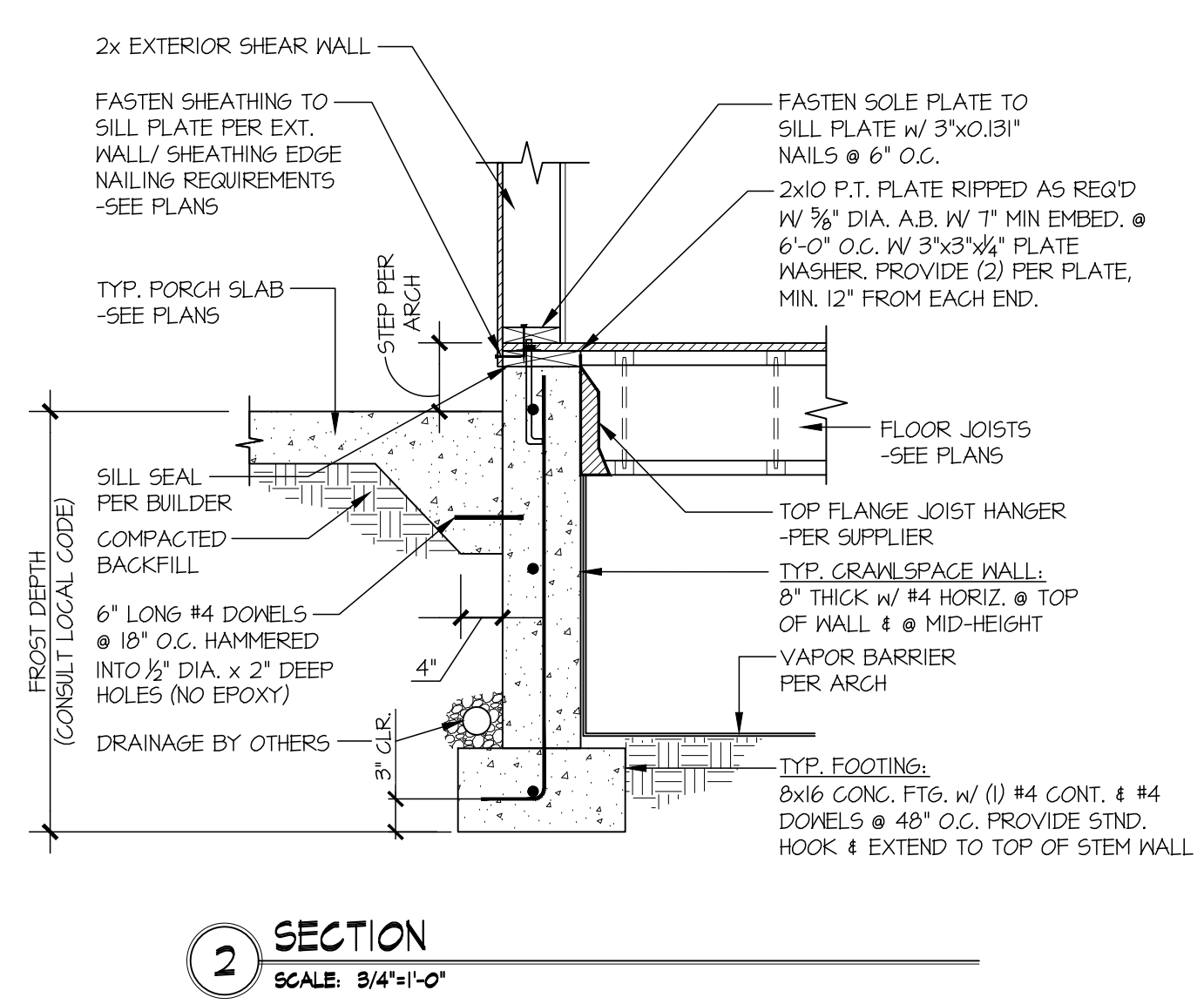
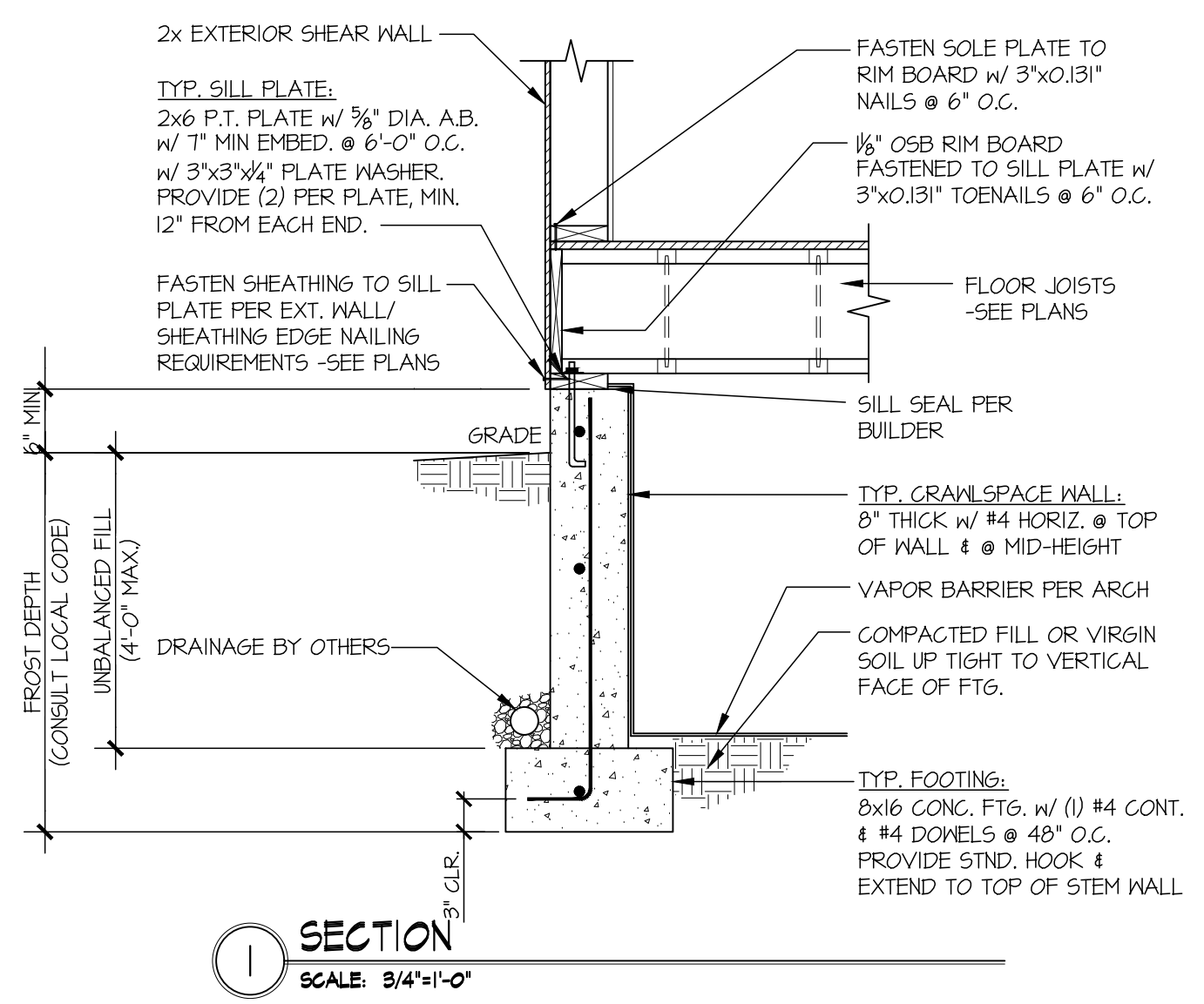
**A TYPICAL HOLD-DOWN INSTALLATION**  
 NOT TO SCALE  
 SIMPSON 5THD HD @ FOUNDATION



**C TYPICAL HOLD-DOWN INSTALLATION**  
 NOT TO SCALE  
 SIMPSON STRAP HD @ FLOOR FRAMING



**E TYP. RAILING CONNECTION**  
 SCALE: 3/4\"/>



seal:

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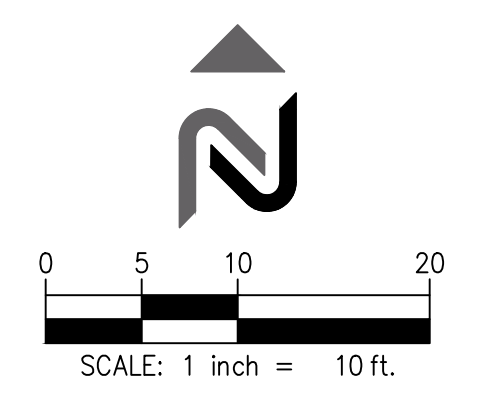
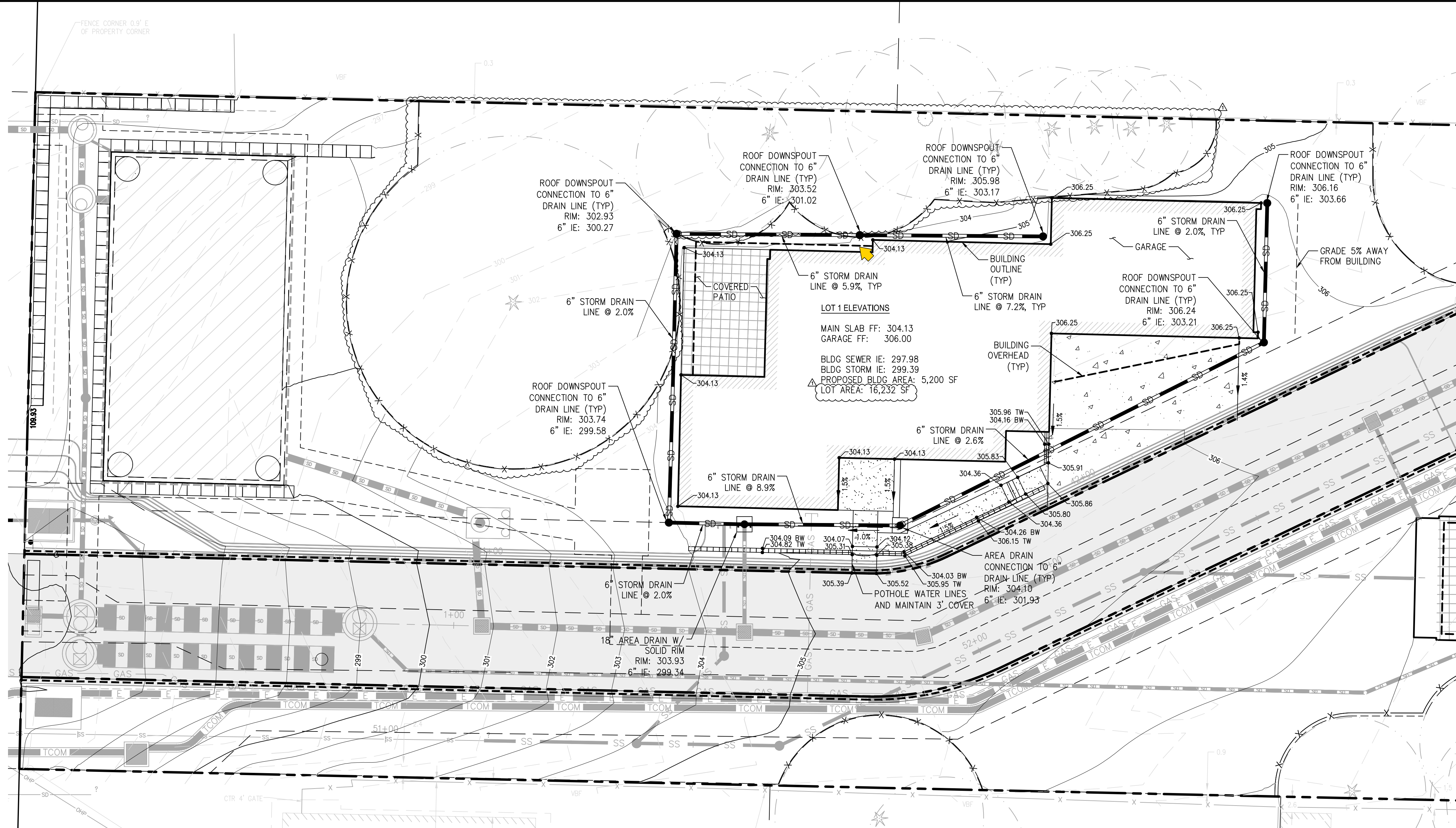
REVISIONS:

date:	initial:
03/16/2026	RID
PLAN REVISION COMMENTS	

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FOUNDATION DETAILS  
**SEARS PLAT - LOT 1**  
**7414 78TH AVE SE**  
**MERCER ISLAND, WA**

sheet:  
**SD.01**



**LEGEND**

- PROPERTY LINE
- BUILDING LINE
- 401 MINOR CONTOUR
- 400 MAJOR CONTOUR
- RIDGE --- RIDGE LINE
- xxx.xx SPOT ELEVATION
- X.X% SLOPE ARROWS
- ROCKERY
- CIP CONCRETE WALL
- ASPHALT
- CONCRETE DRIVEWAY
- LANDSCAPE
- FD --- 4" PERF PVC FOUNDATION DRAIN LINE
- 6" PVC ROOF STORM DRAIN LINE
- FD FOUNDATION DRAIN
- STORM CLEANOUT
- NYOPLAST DRAIN PER DETAIL 1 THIS SHEET

LOT INFORMATION				
LOT COVERAGE CALCULATIONS				
LOT#	LOT AREA (SF)	GROSS MAX LOT COVERAGE ALLOWED (% / SF)	GROSS MAX LOT COVERAGE PROVIDED (% / SF)	
1	16,232	40%	6,502	32%, 5,200

**GEOTECHNICAL SPECIAL INSPECTIONS**

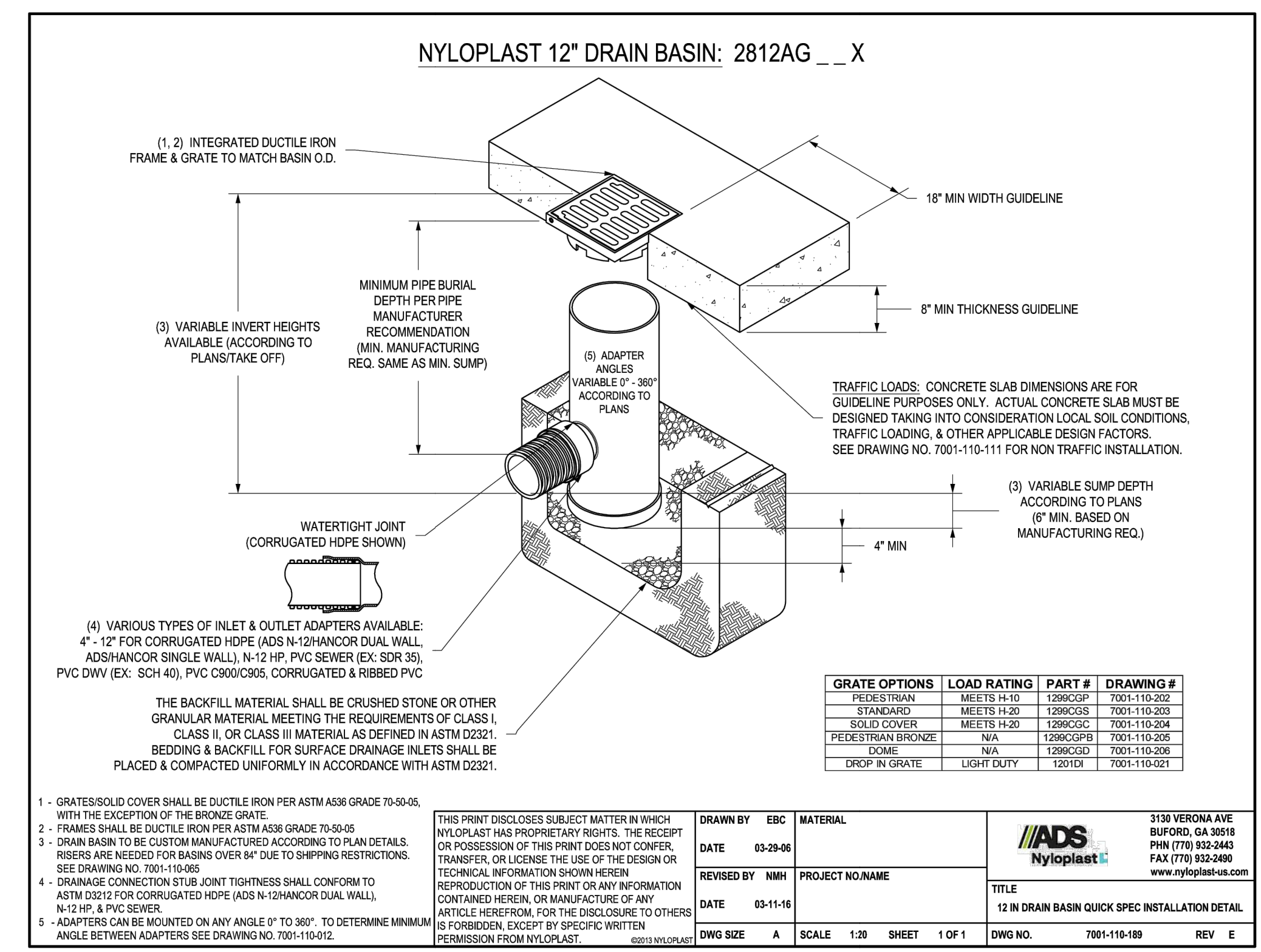
- MONITORING OF EROSION CONTROL.
- OBSERVATION AND MONITORING OF EXCAVATION.
- SUBSURFACE DRAINAGE INSTALLATION.

**GRADING NOTES (NAVIX)**

- THE SPOT ELEVATIONS INDICATED ON THIS PLAN REPRESENT THE DESIGN TOP OF PAVEMENT OR SURFACE, UNLESS OTHERWISE NOTED.
- CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY.
- CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH LOCAL SPECIFICATION.
- ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND PAVED AREAS AND SHALL GRADE ALL AREAS TO PRECLUDE PONDING OF WATER.
- ALL POLLUTANTS OTHER THAN SEDIMENT ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- PROPERTIES AND WATERWAYS DOWNSTREAM OF THE SITE SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM PROJECT SITE.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- CONTRACTOR TO REMOVE UNSUITABLE SOILS LOCATED WITHIN THE BUILDINGS FOOTING AREA.
- FOR BOUNDARY AND TOPOGRAPHIC INFORMATION REFER TO PROJECT SURVEY AND FINAL ENGINEERING PLANS.
- ALL GRADING, SITE PREPARATION, AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEERING REPORT, PREPARED BY TERRA ASSOCIATES, INC, DATE SEPTEMBER 5, 2024.
- ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT AND COMPACTION.
- IF NEW FILL IS PLACED OVER EXISTING SLOPES OF 20% OR GREATER, THE STRUCTURAL FILL SHOULD BE KEYED AND BENCHED INTO COMPETENT NATIVE SLOPE SOILS. SEE FIGURE 4 ON SHEET C-2.6.
- ALL EXISTING TREES THAT CAN FEASIBLY BE RETAINED WILL BE PRESERVED. CONTRACTOR WILL WORK WITH CITY ARBORIST AND OTHER STAFF TO MAXIMIZE TREE RETENTION.
- THE TOTAL IMPERVIOUS SURFACE ON LOT WILL NOT EXCEED THE NET MAXIMUM LOT COVERAGE AREA.

**POST CONSTRUCTION SOIL MANAGEMENT (NAVIX)**

- THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.
- POST CONSTRUCTION SOIL AMENDMENT IS REQUIRED ON ALL AREAS NOT COVERED BY HARD SURFACE WHERE SOIL IS DISTURBED DURING CONSTRUCTION.
- SOIL AMENDMENT MUST PASS A 12 INCH MINIMUM PROBE TEST.
- IMPORT TOPSOIL, IF USED, MUST MEET THE REQUIREMENTS OF THE 2012 DEPARTMENT OF ECOLOGY STORMWATER, VOLUME 5.
- A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
- MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
- THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BMP T7.30: BIORETENTION, WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.



**NYLOPLAST DRAIN BASIN**  
N.T.S.



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t: 425.453.9501 | f: 425-453-8208  
www.navixeng.com

CLIENT/OWNER

SAINTFIELD2 LLC

PROJECT NAME

SEARS

NAVIX PROJECT NUMBER: 50-215-004  
PROJECT ADDRESS

7414 78TH AVE SE  
MERCER ISLAND, WA 98040

STAMP



REVISIONS

REV	ISSUED FOR:	DATE
	LOT 1 BP RESUBMITTAL	12/02/26
Δ	LOT 1 BP RESUBMITTAL	3/17/26



SECTION, TOWNSHIP, RANGE:  
SECTION 25, TOWNSHIP 24 NORTH,  
RANGE 4 EAST, W.M.

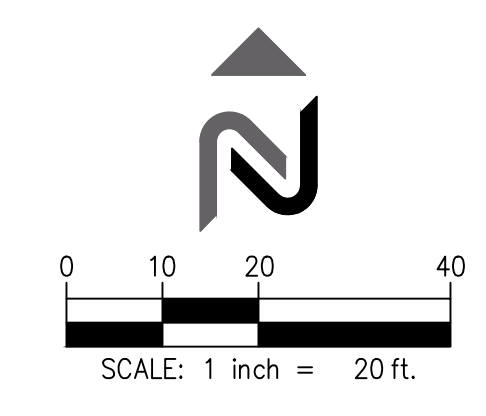
PROJECT TEAM  
REVIEWED BY: J. TAFLYN  
DESIGNED BY: B. MCMURTRY

SHEET NAME

**LOT 1 GRADING AND DRAINAGE PLAN**

SHEET NUMBER

C4.1



CLIENT/OWNER

SAINTFIELD2 LLC

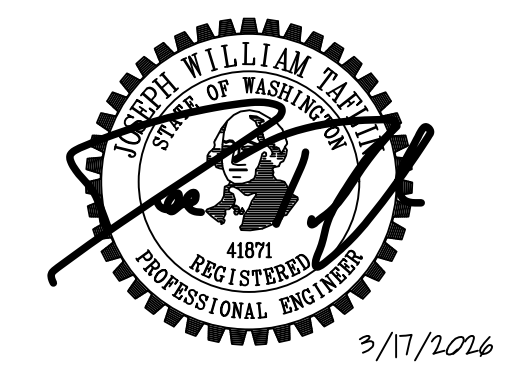
PROJECT NAME

SEARS

NAVIX PROJECT NUMBER: 50-215-004  
PROJECT ADDRESS

7414 78TH AVE SE  
MERCER ISLAND, WA 98040

STAMP



REVISIONS

REV	ISSUED FOR:	DATE
△	LOT 1 BP RESUBMITTAL	12/02/26
△	LOT 1 BP RESUBMITTAL	3/17/26



SECTION, TOWNSHIP, RANGE:  
SECTION 25, TOWNSHIP 24 NORTH,  
RANGE 4 EAST, W.M.

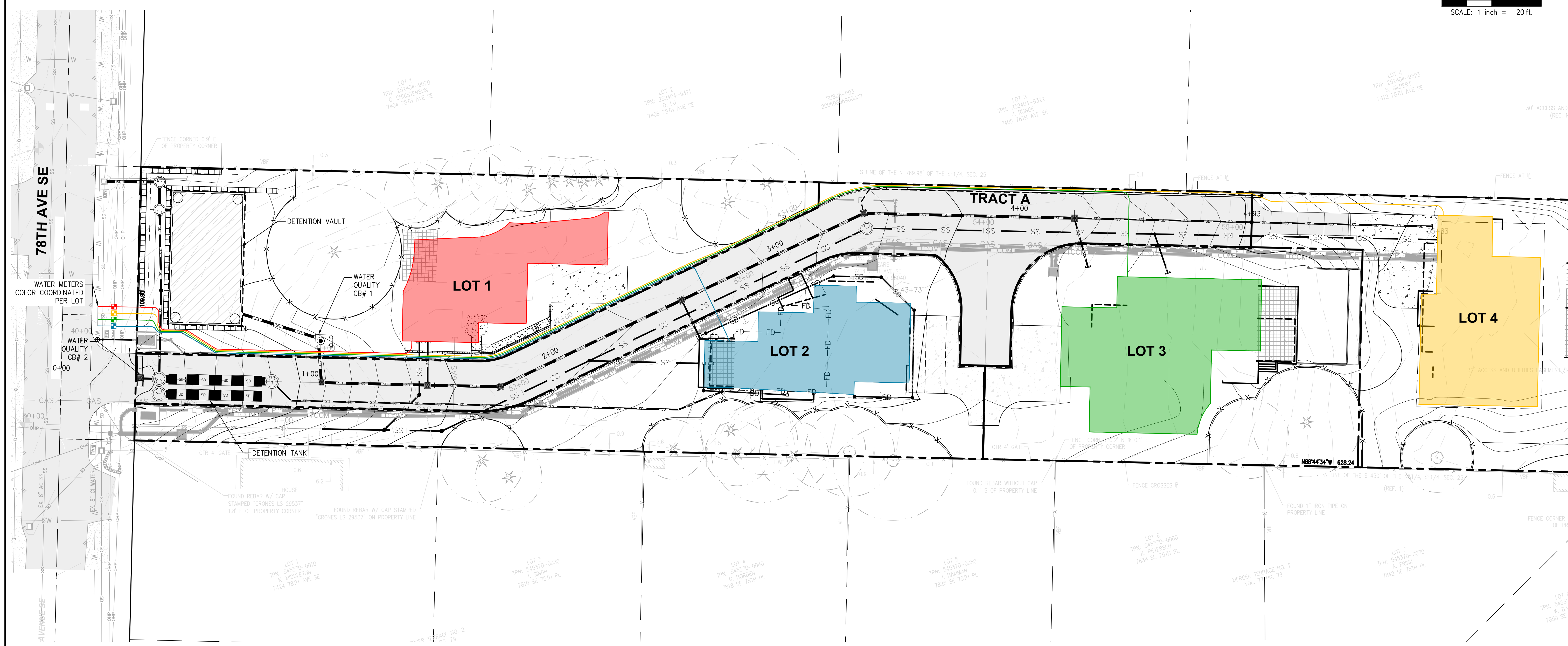
PROJECT TEAM  
REVIEWED BY: J. TAFLIN  
DESIGNED BY: B. MCMURTRY

SHEET NAME

**LOT OVERALL PLAN**

SHEET NUMBER

**C8.0**



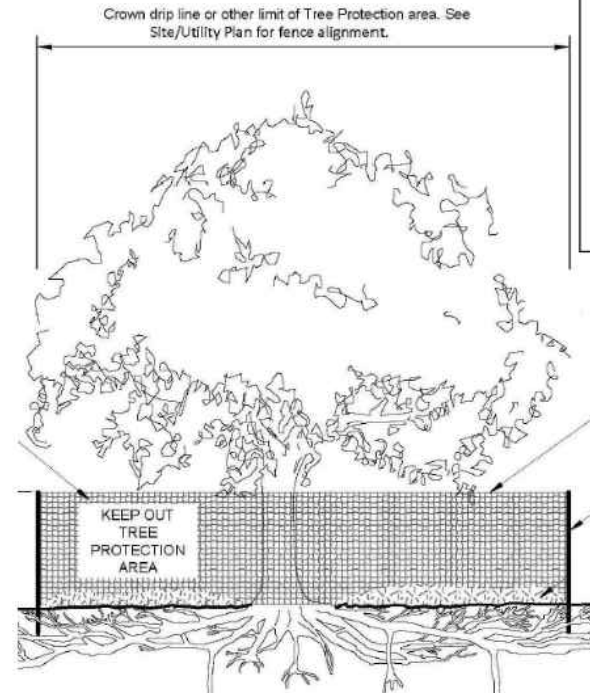
**TREE PROTECTION AREA (TPZ)**

**KEEP OUT!**

**DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA**

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
  2. RE Inspection Fees/financial penalties
  3. Arborist reports recommending mitigation
- Notes
1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
  2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
  3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
  4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, [john.kennedy@mercergov.org](mailto:john.kennedy@mercergov.org).
  5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



- Tree protection fence: 6" chain link fence, solidly anchored into the ground, or if authorized high-density polyethylene fencing with 3.5" x 1.5" openings; color orange. Steel posts installed at 8' o.c.
- 2" x 6" steel posts or approved equal
- Maintain existing grade with the tree protection fence unless otherwise indication on the plans

Any Work in the protected area must be with the permission of the City Arborist [john.kennedy@mercergov.org](mailto:john.kennedy@mercergov.org)

**TREE PROTECTION DETAIL**

1

**TREE PROTECTION NOTES**

1. EXISTING TREES TO REMAIN SHALL NOT BE DISTURBED DURING DEMOLITION OF EXISTING STRUCTURES OR CONSTRUCTION OF PROPOSED FEATURES. THIS INCLUDES DAMAGES TO TREE TRUNK, ROOTS, AND LIMBS. IF TREE LIMBS RESTRICT VERTICAL LIMITS OF DEMOLITION MACHINERY, A CERTIFIED ARBORIST MAY LIFT CANOPY BY PRUNING LIMBS UP TRUNK.

**LEGEND:**

- — — — — LIMIT OF DISTURBANCE
- X-X- TREE PROTECTION FENCE
- SS — — — — — SANITARY PIPE
- SS — — — — — 6" PVC SANITARY LOT STUB
- SD — — — — — STORM DRAIN PIPE
- SD — — — — — 6" PVC STORM LOT STUB
- — — — — ZURN Z886 TRENCH DRAIN OR APPROVED EQUAL, WITH SLOTTED HEEL-PROOF GRATE
- - - - - 4" FOUNDATION DRAINAGE
- CLEANOUT
- CATCH BASIN, TYPE 1
- ⊗ MH/CATCH BASIN, TYPE 2
- ○ WATER QUALITY VAULT
- WATER QUALITY CATCH BASIN
- ▨ STORM DRAINAGE VAULT