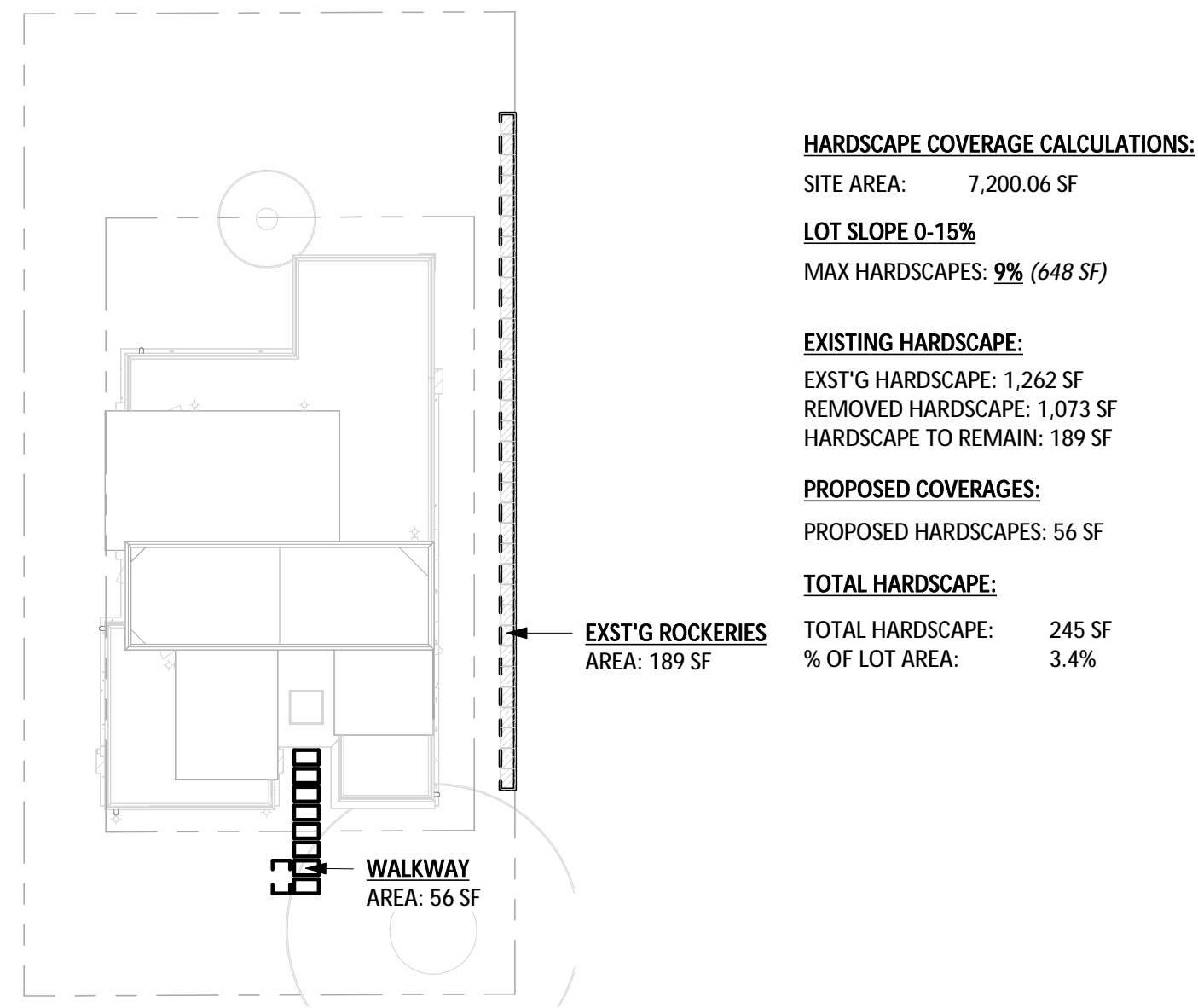


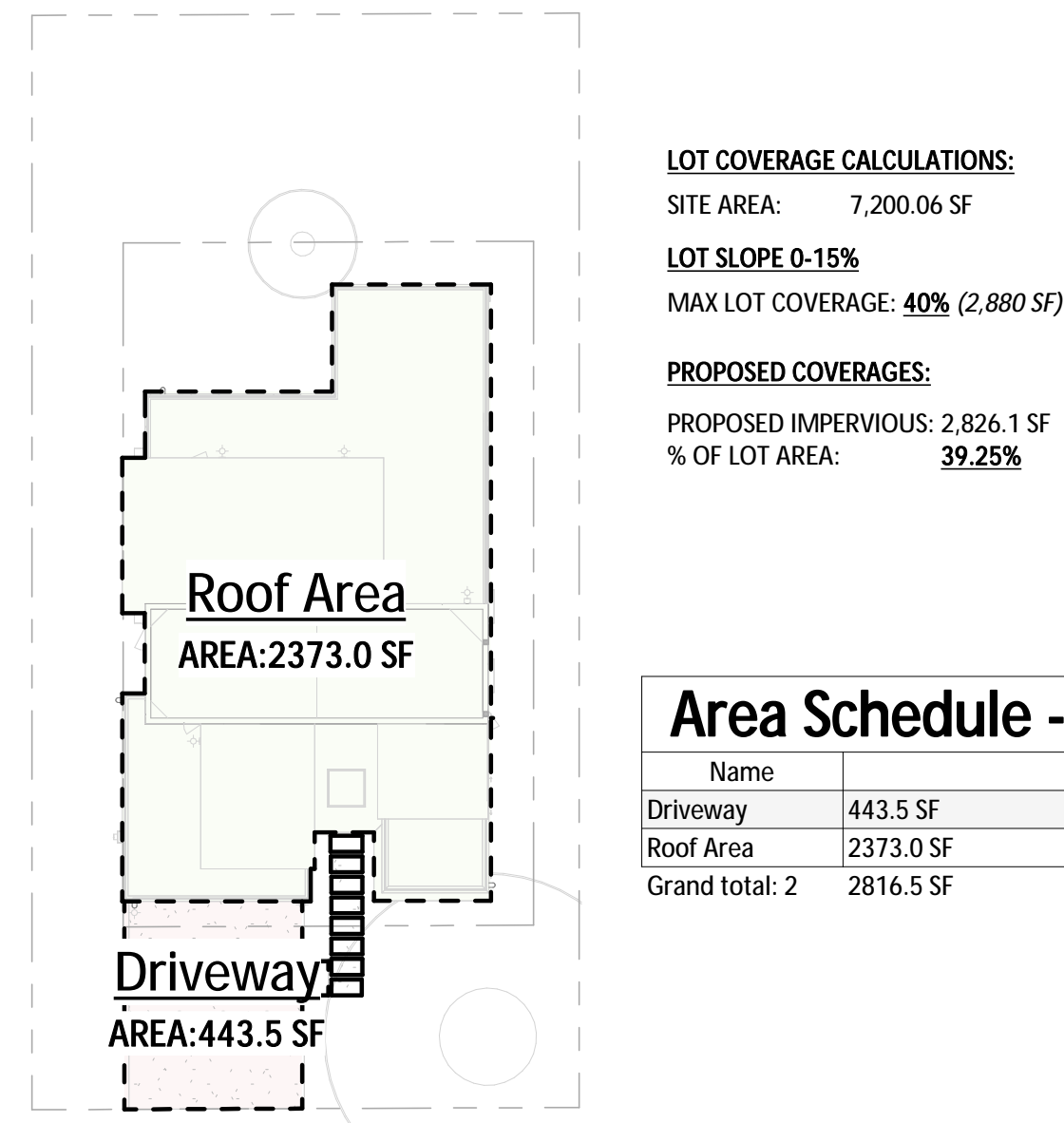


1/26/2024 11:15:56 AM Autodesk Docs://21014 Hu Residence, Mercer Island/21014 05CD, Hu Residence, Mercer Island.rvt

**3 HARDSCAPE COVERAGE CALCS**  
SCALE: 1" = 20'-0"



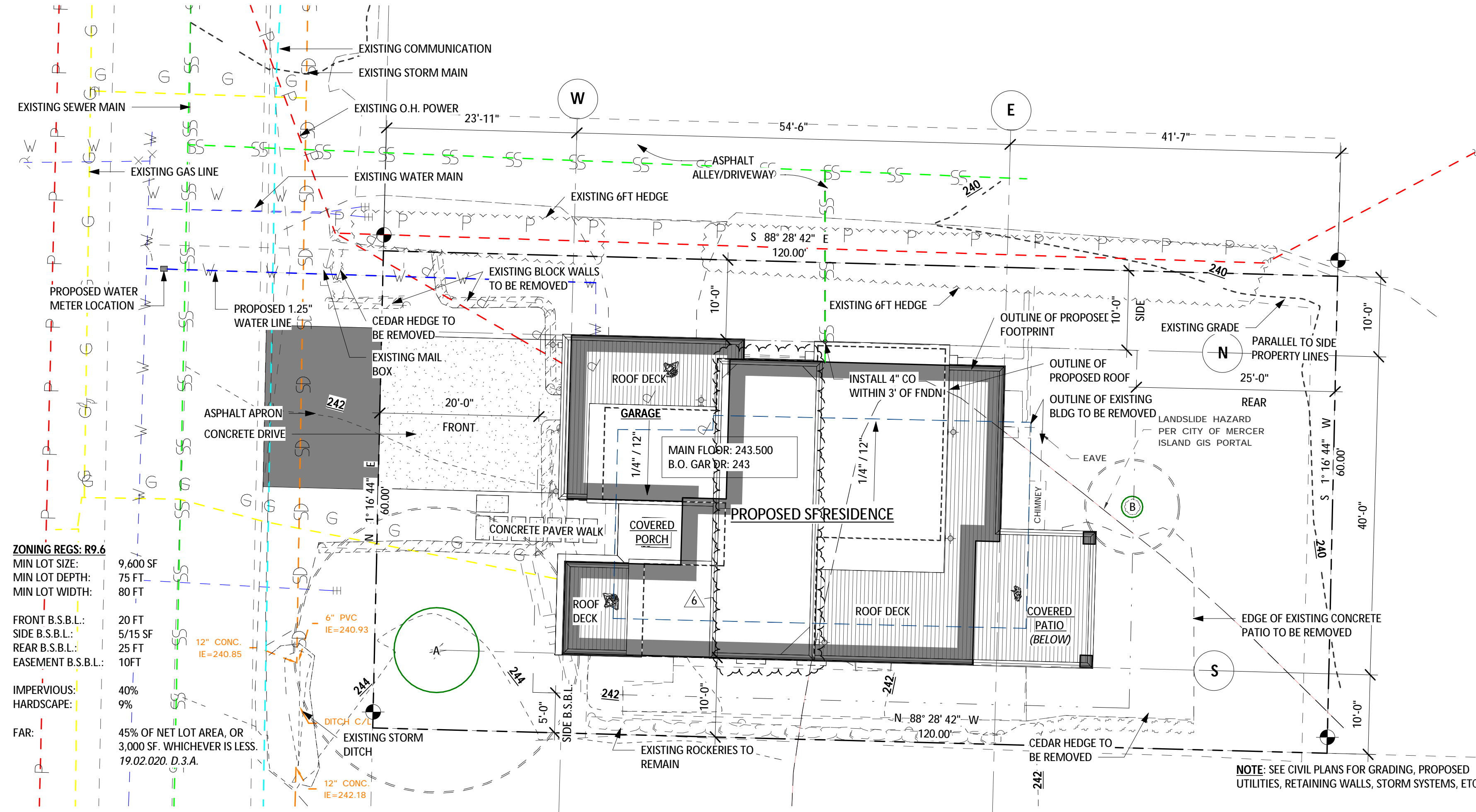
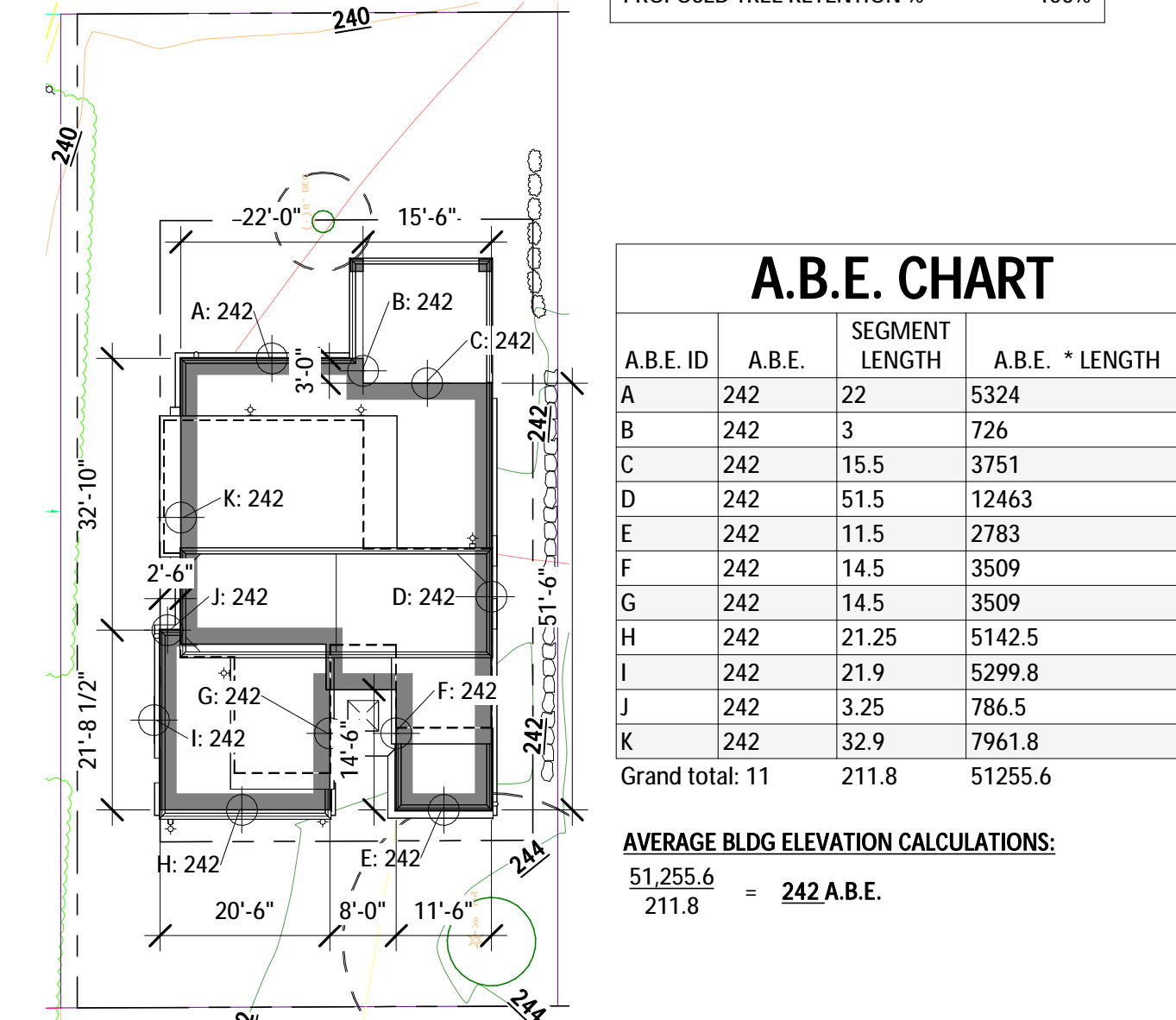
**2 LOT COVERAGE CALCS**  
SCALE: 1" = 20'-0"



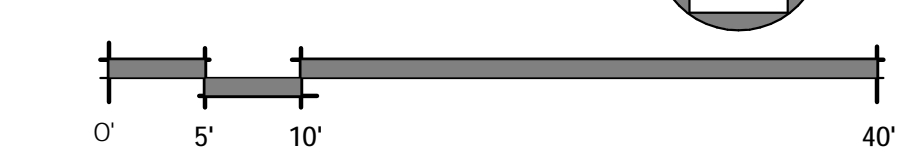
**Area Schedule - Lot Coverage**

Name	Area
Driveway	443.5 SF
Roof Area	2373.0 SF
Grand total: 2	2816.5 SF

**1 AVERAGE BLDG HT CALCULATIONS**  
SCALE: 1" = 20'-0"



SEE SHEET A002 FOR F.A.R. CALCULATIONS



**ATERA DESIGN STUDIO**  
451 DUVALL AVE NE,  
RENTON, WA 98059

**HU RESIDENCE**  
2448 72nd AVE SE, Mercer Island

PERMIT SET

**SITE PLAN & AREA/HT CALCULATIONS**

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29

**A101**

SCALE 24X36: As indicated  
\*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

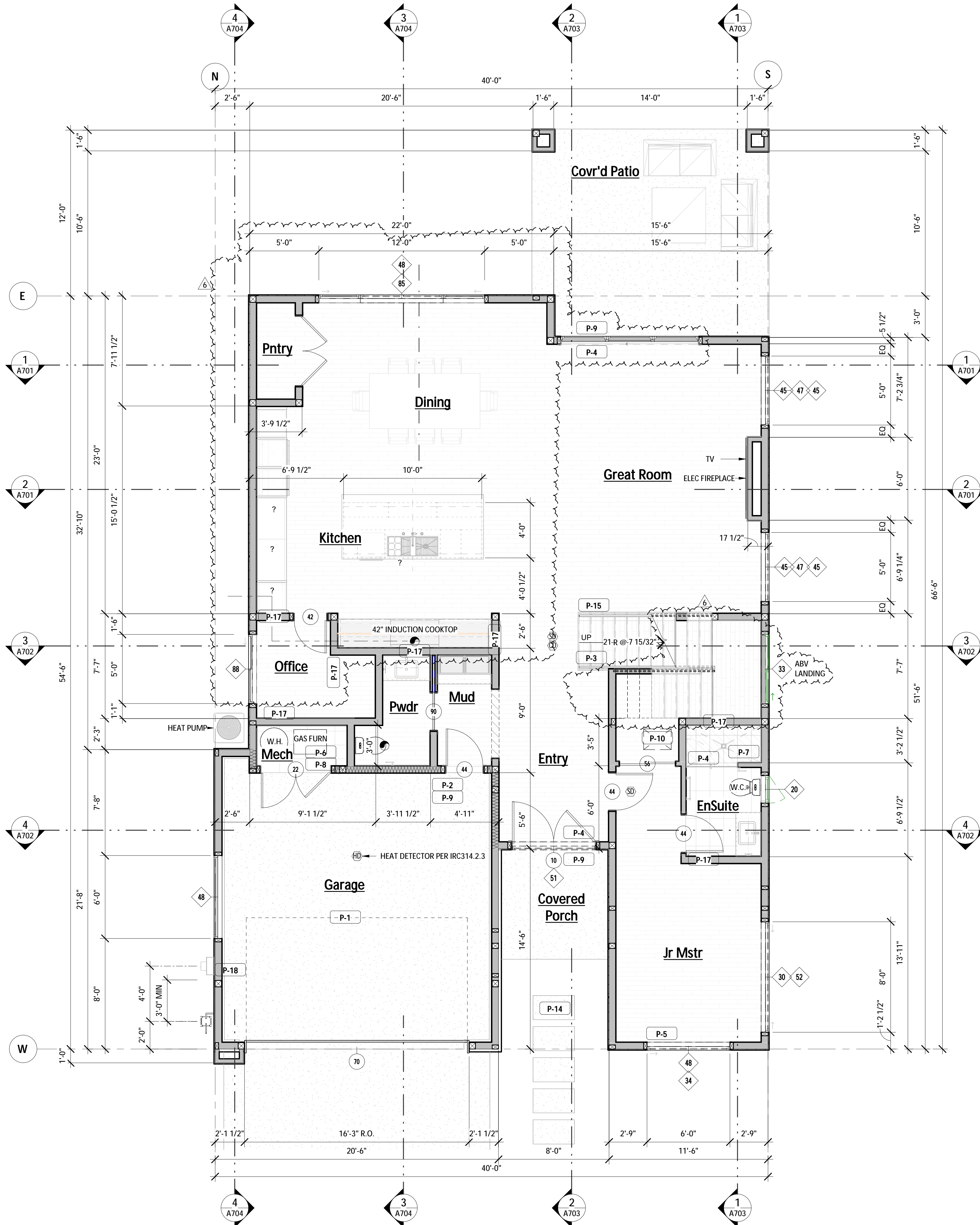
**ATERA HOMES**

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No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
2	2023/06/07	SUB5 City Comments
3	2024/01/22	SUB6 REV1, CLIENT REVISIONS

DOOR SCHEDULE						
TYPE MARK	DESCRIPTION	SIZE			CONSTRUCTION	DOOR PANEL GLAZING AREA
		WIDTH	HT	COUNT		
10	HINGED DOUBLE EXTERIOR - ENTRY	6'-0"	8'-0"	1	S.C.	0.0 SF
22	HINGED DOUBLE INTERIOR PANEL	5'-0"	8'-0"	2	S.C.	0.0 SF
30	HINGED - SINGLE - EXTERIOR - FULL LITE	3'-0"	8'-0"	1	S.C.	0.0 SF
41	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	8'-0"	1	S.C.	0.0 SF
42	HINGED - SINGLE - INTERIOR	2'-4"	8'-0"	4	S.C.	0.0 SF
43	HINGED - SINGLE - INTERIOR	2'-6"	8'-0"	2	S.C.	0.0 SF
44	HINGED - SINGLE - INTERIOR	2'-8"	8'-0"	4	S.C.	0.0 SF
60	2-PANEL SLIDING GLASS DOOR	6'-0"	8'-0"	2	VINYL	96.0 SF
61	3-PANEL SLIDING GLASS DOOR	10'-0"	7'-10"	1	VINYL	78.3 SF
182	3-PANEL SLIDING GLASS DOOR	10'-0"	8'-0"	1	VINYL	80.0 SF
70	OVERHEAD GARAGE DOOR	16'-0"	9'-0"	1		0.0 SF
56	SLIDING CLOSET - BI-PASS	4'-0"	8'-0"	1	H.C.	0.0 SF
81	SLIDING CLOSET - BI-PASS	6'-0"	8'-0"	2	H.C.	0.0 SF
90	SLIDING INTERIOR POCKET	2'-8"	8'-0"	2	S.C.	0.0 SF
Grand total: 25						254.3 SF

WINDOW SCHEDULE						
TYPE MARK	STYLE	SIZE			COUNT	IS EGRESS
		WIDTH	HT	AREA		
20	Casement	2'-0"	4'-6"	18.0 SF	2	No
22	Casement	2'-6"	6'-0"	15.0 SF	1	Yes
23	Casement	3'-0"	4'-6"	13.5 SF	1	Yes
28	Horz Sliding Dbl-Vent	8'-0"	4'-6"	108.0 SF	3	Yes
30	Horz Sliding Dbl-Vent	8'-0"	5'-0"	40.0 SF	1	Yes
85	Horz Sliding Dbl-Vent	12'-0"	6'-0"	72.0 SF	1	Yes
88	Horz Sliding Half-Vent	5'-0"	4'-0"	20.0 SF	1	Yes
33	Horz Sliding Half-Vent	5'-0"	6'-0"	60.0 SF	2	Yes
34	Horz Sliding Half-Vent	6'-0"	5'-0"	30.0 SF	1	Yes
40	Picture	2'-0"	2'-0"	8.0 SF	2	No
42	Picture	3'-0"	1'-6"	9.0 SF	2	No
43	Picture	3'-0"	5'-0"	15.0 SF	1	No
87	Picture	3'-4"	1'-6"	15.0 SF	3	No
44	Picture	4'-0"	2'-0"	8.0 SF	1	No
45	Picture	5'-0"	1'-6"	30.0 SF	4	No
47	Picture	5'-0"	6'-0"	90.0 SF	3	No
48	Picture	6'-0"	1'-6"	27.0 SF	3	No
49	Picture	6'-0"	4'-0"	24.0 SF	1	No
50	Picture	6'-0"	6'-0"	36.0 SF	1	No
51	Picture	6'-2"	1'-6"	9.3 SF	1	No
52	Picture	8'-0"	1'-6"	12.0 SF	1	No
80	Skylight	4'-0"	4'-0"	16.0 SF	1	No
Grand total: 37						675.8 SF



**GENERAL PLAN NOTES:**

- SEE SHEET **A001** FOR GENERAL CONSTRUCTION SPECIFICATIONS.
- SEE BUILDING ELEVATIONS FOR WINDOW OPERATION.
- SEE "TYPICAL BUILDING MATERIALS" LIST ON THE ELEVATION SHEET(S).
- FOR THE SYMBOLS & LEGEND SEE SHEET **A000**.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLD-DOWNS AND SHEET(S) **S201-S203** FOR SHEARWALL DETAILS/ SCHEDULE.
- SEE SHEET **A201-A301** FOR WINDOWS SCHEDULE. SEE SHEET **A201-A301** FOR DOOR SCHEDULE. SEE ELEVATIONS SHEETS FOR WINDOW OPERATION.
- WINDOW DIMENSIONS SHOWN ARE SUGGESTED NOMINAL/ROUGH OPENINGS, NET DIMENSIONS TO BE PER MANUFACTURER.

ID	DESCRIPTION
P-1	GARAGE/HOUSE OCCUPANCY SEPARATION. PER IRC R302.6 a) 1/2" GYP. AT GARAGE SIDE BETWEEN RESIDENCE AND ATTIC. b) 5/8" TYPE 'X' GYP SEPARATING HABITABLE ROOMS ABOVE. c) 1/2" GYP. AT WALLS SUPPORTING HABITABLE ROOMS ABOVE."
P-2	DOOR BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPED WITH A SELF-CLOSING DEVICE, AND BE A MIN 1 3/8" THICK SOLID WOOD DOOR OR 20 MIN. F.R. DOOR. PER IRC SECTION R302.5.1
P-3	STAIR ASSEMBLY. PER IRC SECTION R311.7" a) WIDTH 36" MIN. HEADROOM 6'-8" MIN. b) RISER 7-3/4" MAX. TREAD 10" MIN. c) TOP OF HANDRAIL AT 34" MIN. AND 38" MAX ABOVE TREAD NOSING d) HANDRAIL WIDTH 1-1/4" MIN. AND 2" MAX. e) INSTALL FIRE BLOCKING IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. f) COVER USABLE SPACE UNDER STAIR WITH 1/2" GYP."
P-4	SAFETY GLAZING PER IRC SECTION R308.4
P-5	EGRESS WINDOW PER IRC SECTION R310. PROVIDE MIN NET CLEARANCE OF 5 SF AT GRADE FLOOR OPENINGS AND 5.7 SF ABOVE. MIN SILL HEIGHT TO BE 44" A.F.F.
P-6	IGNITERS: a) FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN ABOVE TOP OF SLAB. PROVIDE (2) LAYERS OF FLOOR SHEATHING OVER FRAMING. PER IRC SECTION G2408. b) HEAT-PRODUCING EQUIPMENT AND APPLIANCES SHALL BE INSTALLED TO MAINTAIN THE REQUIRED CLEARANCES TO COMBUSTIBLE CONSTRUCTIONS AS SPECIFIED IN THE LISTING AND MANUFACTURER'S INSTRUCTIONS. PER IRC G2408.5
P-7	COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NONABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS. PER IRC SECTION R307.2. FOR GROUND FLR WASTE OPENING REQ SEE UPC NOTES ON SHT A001
P-8	HIGH EFFICIENCY GAS FURNACE. SIZE PER WSEC PRESCRIPTIVE ENERGY CODE COMPLIANCE FORMS. a) PROVIDE DUCT LEAKAGE, SEALING & TESTING PER WSEC 502 & 503. b) THERMOSTAT PER WSEC 503.8. c) SEE WSEC NOTES ON SHEET A001
P-9	7-3/4" MAX. RISER WITH 10" MIN. TREAD DEPTH. IF MORE THAN (4) RISERS. HANDRAIL REQUIRED PER IRC SECTION R311.7.7. a) PROVIDE 36"x36" MIN. LANDING AT EXTERIOR DOORS PER IRC SECTION R311.3
P-10	PROVIDE CRAWL SPACE ACCESS. MIN. 18" X 24" UNOBSTRUCTED ACCESS. PER IRC SECTION R408.4
P-14	SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS.
P-15	36" MIN. GUARDRAIL. AT STAIRS SLOPES AT 36" ABOVE STAIR NOSINGS. PER SEE IRC SECTION 312
P-17	2x6 WALL FOR PLUMBING / HVAC.
P-18	A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN 36" OF THE ELECTRICAL DISTRIBUTION PANEL. SEE SECTION M1505.4 ON SHEET A002 THE MAIN ELECTRICAL PANEL SHALL HAVE A RESERVED SPACE FOR FUTURE SOLAR ELECTRIC INSTALLATION PER IRC T103.9. A PERMANENT CERTIFICATE FOR SOLAR-READY ZONE IS TO BE POSTED PER IRC T103.10.

**AREA SCHEDULE ...**

NAME	AREA
Garage	435.0 SF
Main Floor	1538.8 SF
Upper Floor	1021.7 SF
	2995.5 SF
Cov'd Patio	246.4 SF
Cov'd Porch	61.3 SF
Roof Deck	1069.9 SF
Upper Roof Deck	464.8 SF
	1842.4 SF
	4838.0 SF

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No.	Date	Description
1	2023/01/18	SUBS City Comments
2	2024/01/22	SUBS, REV1, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET

MAIN FLOOR

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29

**A301**

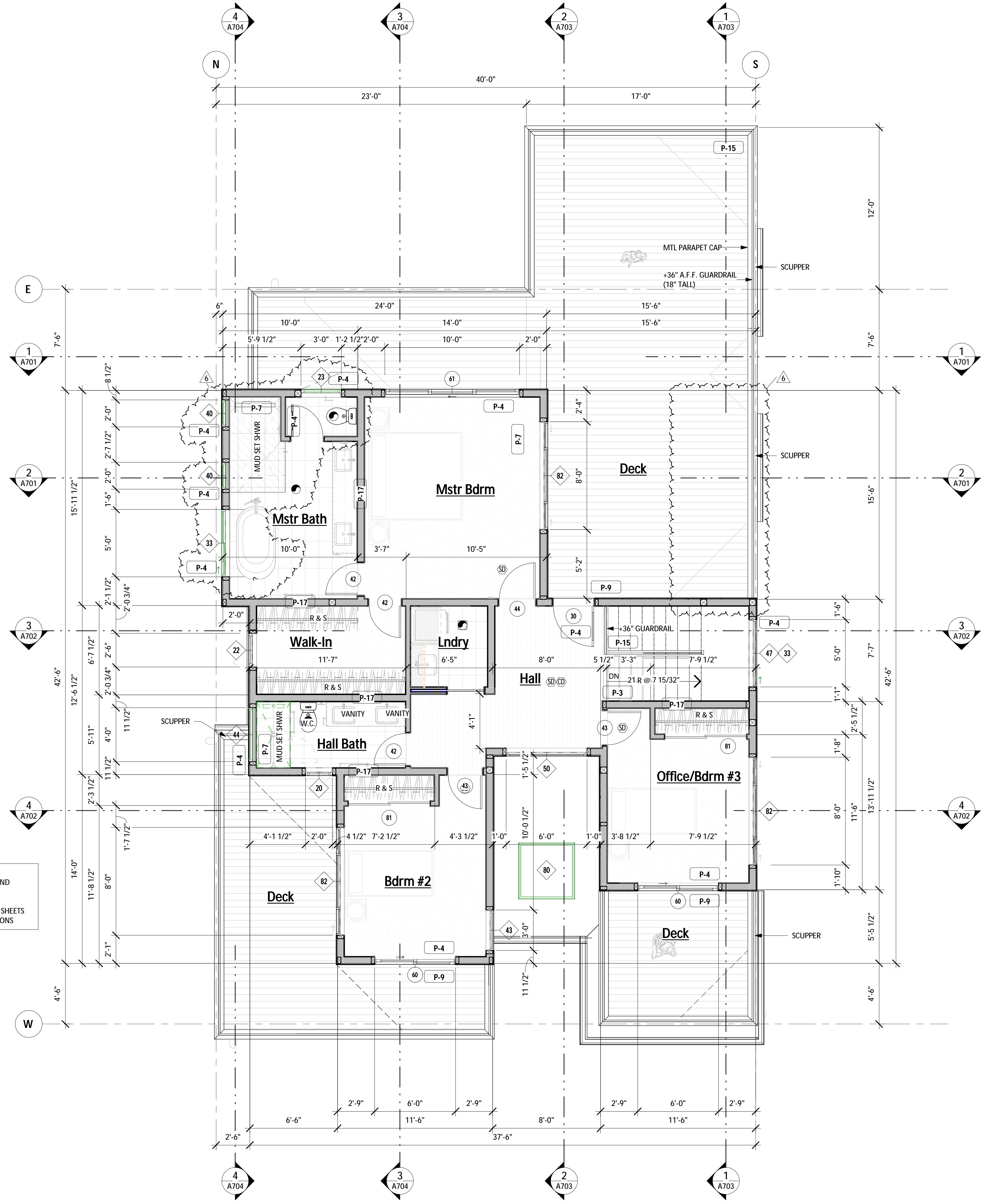
SCALE 24X36: 1/4" = 1'-0"  
 \* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



DOOR SCHEDULE						
TYPE MARK	DESCRIPTION	SIZE		COUNT	DOOR PANEL	
		WIDTH	HT		CONSTRUCTION	GLAZING AREA
10	HINGED DOUBLE EXTERIOR - ENTRY	6'-0"	8'-0"	1	S.C.	0.0 SF
22	HINGED DOUBLE INTERIOR PANEL	5'-0"	8'-0"	2	S.C.	0.0 SF
30	HINGED - SINGLE - EXTERIOR - FULL LITE	3'-0"	8'-0"	1	S.C.	0.0 SF
41	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	8'-0"	1	S.C.	0.0 SF
42	HINGED - SINGLE - INTERIOR	2'-4"	8'-0"	4	S.C.	0.0 SF
43	HINGED - SINGLE - INTERIOR	2'-6"	8'-0"	2	S.C.	0.0 SF
44	HINGED - SINGLE - INTERIOR	2'-8"	8'-0"	4	S.C.	0.0 SF
60	2-PANEL SLIDING GLASS DOOR	6'-0"	8'-0"	2	VINYL	96.0 SF
61	3-PANEL SLIDING GLASS DOOR	10'-0"	7'-10"	1	VINYL	78.3 SF
182	3-PANEL SLIDING GLASS DOOR	10'-0"	8'-0"	1	VINYL	80.0 SF
70	OVERHEAD GARAGE DOOR	16'-0"	9'-0"	1		0.0 SF
56	SLIDING CLOSET - BI-PASS	4'-0"	8'-0"	1	H.C.	0.0 SF
81	SLIDING CLOSET - BI-PASS	6'-0"	8'-0"	2	H.C.	0.0 SF
90	SLIDING INTERIOR POCKET	2'-8"	8'-0"	2	S.C.	0.0 SF
Grand total: 25						254.3 SF

WINDOW SCHEDULE						
TYPE MARK	STYLE	SIZE			COUNT	IS EGRESS
		WIDTH	HT	AREA		
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23	Casement	3'-0"	4'-6"	13.5 SF	1	Yes
82	Horz Sliding Dbl-Vent	8'-0"	4'-6"	108.0 SF	3	Yes
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47	Picture	5'-0"	6'-0"	90.0 SF	3	No
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49	Picture	6'-0"	4'-0"	24.0 SF	1	No
50	Picture	6'-0"	6'-0"	36.0 SF	1	No
51	Picture	6'-2"	1'-6"	9.3 SF	1	No
52	Picture	8'-0"	1'-6"	12.0 SF	1	No
80	Skylight	4'-0"	4'-0"	16.0 SF	1	No
Grand total: 37						675.8 SF

NOTE:  
SPECIAL INSPECTION OF THE ROOF MEMBRANE AND PEDESTAL DECKING INSTALLATION REQUIRED.  
SEE SHEETD401 FOR WATERPROOF DECKING CUT SHEETS AND DETAILS. INSTALL PER MFR RECOMMENDATIONS



**GENERAL PLAN NOTES:**

- SEE SHEET A001 FOR GENERAL CONSTRUCTION SPECIFICATIONS.
- SEE BUILDING ELEVATIONS FOR WINDOW OPERATION.
- SEE "TYPICAL BUILDING MATERIALS" LIST ON THE ELEVATION SHEET(S).
- FOR THE SYMBOLS & LEGEND SEE SHEET A000.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLDDOWNS AND SHEET(S) S201-S203. FOR SHEARWALL DETAILS/ SCHEDULE.
- SEE SHEET A201-A301 FOR WINDOWS SCHEDULE. SEE SHEET A201-A301 FOR DOOR SCHEDULE. SEE ELEVATIONS SHEETS FOR WINDOW OPERATION.
- WINDOW DIMENSIONS SHOWN ARE SUGGESTED NOMINAL/ROUGH OPENINGS, NET DIMENSIONS TO BE PER MANUFACTURER.

**KEYNOTES - FLOORPLAN**

ID	DESCRIPTION
P-1	GARAGE/HOUSE OCCUPANCY SEPARATION. PER IRC R302.6 a) 1/2" GYP. AT GARAGE SIDE BETWEEN RESIDENCE AND ATTIC. b) 5/8" TYPE 'X' GYP SEPARATING HABITABLE ROOMS ABOVE. c) 1/2" GYP. AT WALLS SUPPORTING HABITABLE ROOMS ABOVE."
P-2	DOOR BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPED WITH A SELF-CLOSING DEVICE. AND BE A MIN 1 3/8" THICK SOLID WOOD DOOR OR 20 MIN. F.R. DOOR. PER IRC SECTION R302.5.1
P-3	STAIR ASSEMBLY: PER IRC SECTION R311.7.7 a) WIDTH 36" MIN. HEADROOM 6'-8" MIN. b) RISER 7-3/4" MAX. TREAD 10" MIN. c) TOP OF HANDRAIL AT 34" MIN. AND 38" MAX ABOVE TREAD NOSING d) HANDRAIL WIDTH 1-1/4" MIN. AND 2" MAX. e) INSTALL FIRE BLOCKING IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. f) COVER USABLE SPACE UNDER STAIR WITH 1/2" GYP."
P-4	SAFETY GLAZING PER IRC SECTION R308.4
P-5	EGRESS WINDOW PER IRC SECTION R310. PROVIDE MIN NET CLEARANCE OF 5 SF AT GRADE FLOOR OPENINGS AND 5.7 SF ABOVE. MIN SILL HEIGHT TO BE 44" A.F.F.
P-6	IGNITERS: A) FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN ABOVE TOP OF SLAB, PROVIDE (2) LAYERS OF FLOOR SHEATHING OVER FRAMING. PER IRC SECTION G2408. B) HEAT-PRODUCING EQUIPMENT AND APPLIANCES SHALL BE INSTALLED TO MAINTAIN THE REQUIRED CLEARANCES TO COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN THE LISTING AND MANUFACTURER'S INSTRUCTIONS. PER IRC G2408.5
P-7	COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NONABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS. PER IRC SECTION R307.2. FOR GROUND FLR WASTE OPENING REQ SEE UPC NOTES ON SHT A001
P-8	HIGH EFFICIENCY GAS FURNACE. SIZE PER WSEC PRESCRIPTIVE ENERGY CODE COMPLIANCE FORMS. a) PROVIDE DUCT LEAKAGE, SEALING & TESTING PER WSEC 502 & 503. b) THERMOSTAT PER WSEC 503.8. c) SEE WSEC NOTES ON SHEET A001
P-9	7-3/4" MAX. RISER WITH 10" MIN. TREAD DEPTH. IF MORE THAN (4) RISERS. HANDRAIL REQUIRED PER IRC SECTION R311.7.7. a) PROVIDE 36"x36" MIN. LANDING AT EXTERIOR DOORS PER IRC SECTION R311.3
P-10	PROVIDE CRAWL SPACE ACCESS. MIN. 18" X 24" UNOBSTRUCTED ACCESS. PER IRC SECTION R408.4
P-14	SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS.
P-15	36" MIN. GUARDRAIL. AT STAIRS SLOPES AT 36" ABOVE STAIR NOSINGS. PER IRC SECTION 312
P-17	2x6 WALL FOR PLUMBING / HVAC.
P-18	A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN 36" OF THE ELECTRICAL DISTRIBUTION PANEL. SEE SECTION M1505.4 ON SHEET A002 THE MAIN ELECTRICAL PANEL SHALL HAVE A RESERVED SPACE FOR FUTURE SOLAR ELECTRIC INSTALLATION PER IRC T103.9. A PERMANENT CERTIFICATE FOR SOLAR-READY ZONE IS TO BE POSTED PER IRC T103.10.

**AREA SCHEDULE ...**

NAME	AREA
Garage	435.0 SF
Main Floor	1538.8 SF
Upper Floor	1021.7 SF
2995.5 SF	
Cov'd Patio	246.4 SF
Cov'd Porch	61.3 SF
Roof Deck	1069.9 SF
Upper Roof Deck	464.8 SF
1842.4 SF	
4838.0 SF	

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No. 1  
 Date 2023/12/25  
 SUBJ: City Comments  
 20230607  
 SUBJ: REV1, CLIENT REVISIONS  
 2024/01/22

ATERA DESIGN STUDIO  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

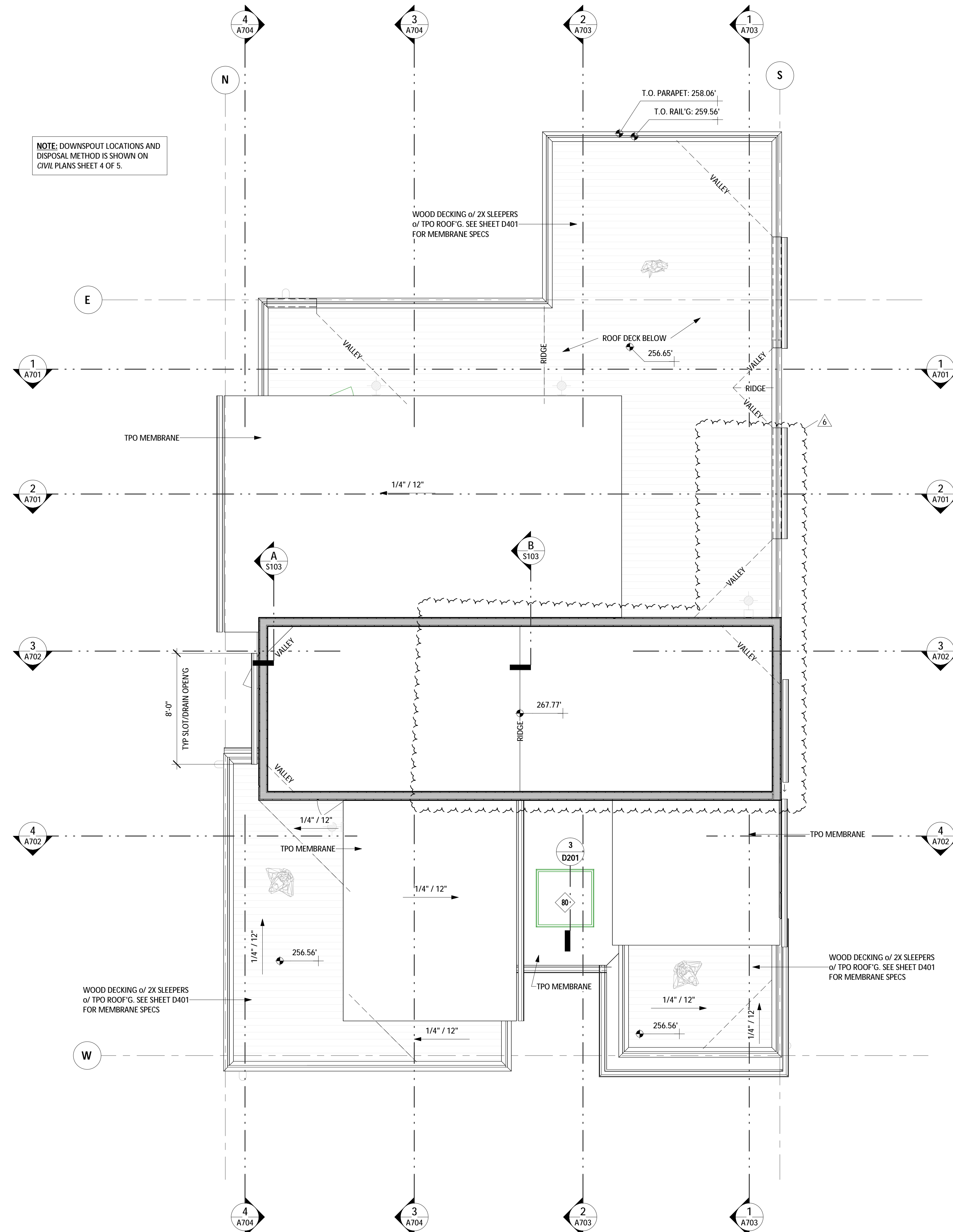
PERMIT SET  
 UPPER FLOOR

PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29

**A401**

SCALE 24X36: 1/4" = 1'-0"  
 \* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





NOTE: DOWNSPOUT LOCATIONS AND DISPOSAL METHOD IS SHOWN ON CIVIL PLANS SHEET 4 OF 5.

### GENERAL FRAMING NOTES:

- SEE SECTION R301, SHEET A001 FOR GENERAL DESIGN CRITERIA.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLDDOWNS AND SHEETS(S) **S201-S203** FOR SHEARWALL DESIGNATIONS/ SCHEDULE.
- TRUSS DESIGN BY MANUFACTURER. TRUSS DESIGN DRAWINGS SHALL BE PREPARED PER IRC SECTION R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION.
  - \* TRUSS DESIGN PER IRC SECTION R802.10.2
  - \* FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
  - \* SEE STRUCTURAL PLANS FOR DESIGN LOADS.
  - \* TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
- PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
- ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
- ROOF FRAMING SPACING, 24" o.c. U.N.O.
- SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
- FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
- INSTALL 2X FIREBLOCKING PER R302.11 AS FOLLOWS:
  - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORZ AT INTERVALS NOT EXCEEDING 10 FEET.
  - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
  - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
  - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.
- SEE SHT A003 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

### SPRAY FOAM NOTES:

- WHERE SPRAY FOAM IS NOTED ON THE PLANS, NO VENTING IS REQUIRED: PROVIDE MIN 2" CLOSED CELL SPRAY FOAM INSULATION DIRECTLY TO THE UNDERSIDE OF THE ROOF/FLOOR SHEATHING.
- PROVIDE SOLID EAVE BLOCKING, TYP
- A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR.
- THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER

### ROOF VENTING NOTES:

- (4) 2" DIA EAVE VENTS PER BLOCK= 5.024 SQ. IN. / L.F. (80% NET FREE AREA)
- ROOF JACKS - 50 SQ. IN. EACH
- INSTALL ONE LOW ROOF JACK, WITHIN 36" OF EAVE, FOR EVERY 12 LF OF EAVE WITHIN 60" OF PROPERTY LINE.
- MINIMUM NET AREA SHALL BE NOT LESS THAN 1 S.F. PER 150 S.F. OF ATTIC AREA OR 1 S.F. PER 300 S.F. OF ATTIC AREA IF NOT LESS THAN 40 PERCENT, BUT NOT MORE THAN 50 PERCENT, OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED NOT MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY.
  - A. THE BALANCE OF THE REQUIRED VENTILATION PROVIDED SHALL BE LOCATED IN THE BOTTOM ONE-THIRD OF THE ATTIC SPACE.
- AS AN ALTERNATIVE, THE NET FREE CROSS-VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OR II VAPOR BARRIER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.

### KEYNOTES - FRAMING

ID	DESCRIPTION
FR-5	TOP OF BEAM IS FLUSH w/ BOTTOM OF JOISTS w/ NO TOP PLATE. CUT ADJACENT FRAMING MEMBERS INTO BEAM FOR ADEQUATE SUPPORT.

No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
5	2023/06/07	SUB5 City Comments
9	2024/01/22	SUB9 REV1, CLIENT REVISIONS

ATERA DESIGN STUDIO  
451 DUVALL AVE NE,  
RENTON, WA 98059

**HU RESIDENCE**  
2448 72nd AVE SE, Mercer Island

PERMIT SET  
ROOF PLAN

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29

**A501**

SCALE 24X36: 1/4" = 1'-0"  
\* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

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**TYPICAL BUILDING MATERIALS:**

**ELEVATION NOTES:**

**ROOF CONSTRUCTION**

ROOFING: TPO MEMBRANE  
 BUILDING PAPER: PER MFR  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: PER PLANS  
 INSULATION: R-49 BLOWN IN (R-38 VAULTED)  
 SOFFIT: T&G WHERE NOTED  
 GWB: 5/8" GWB

**FLOOR CONSTRUCTION**

FLOORING: FINISH PER PLANS  
 SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)  
 FRAMING: PER PLANS  
 INSULATION: R-38 BATT  
 SOFFIT: HARDIA PANEL WHERE NOTED

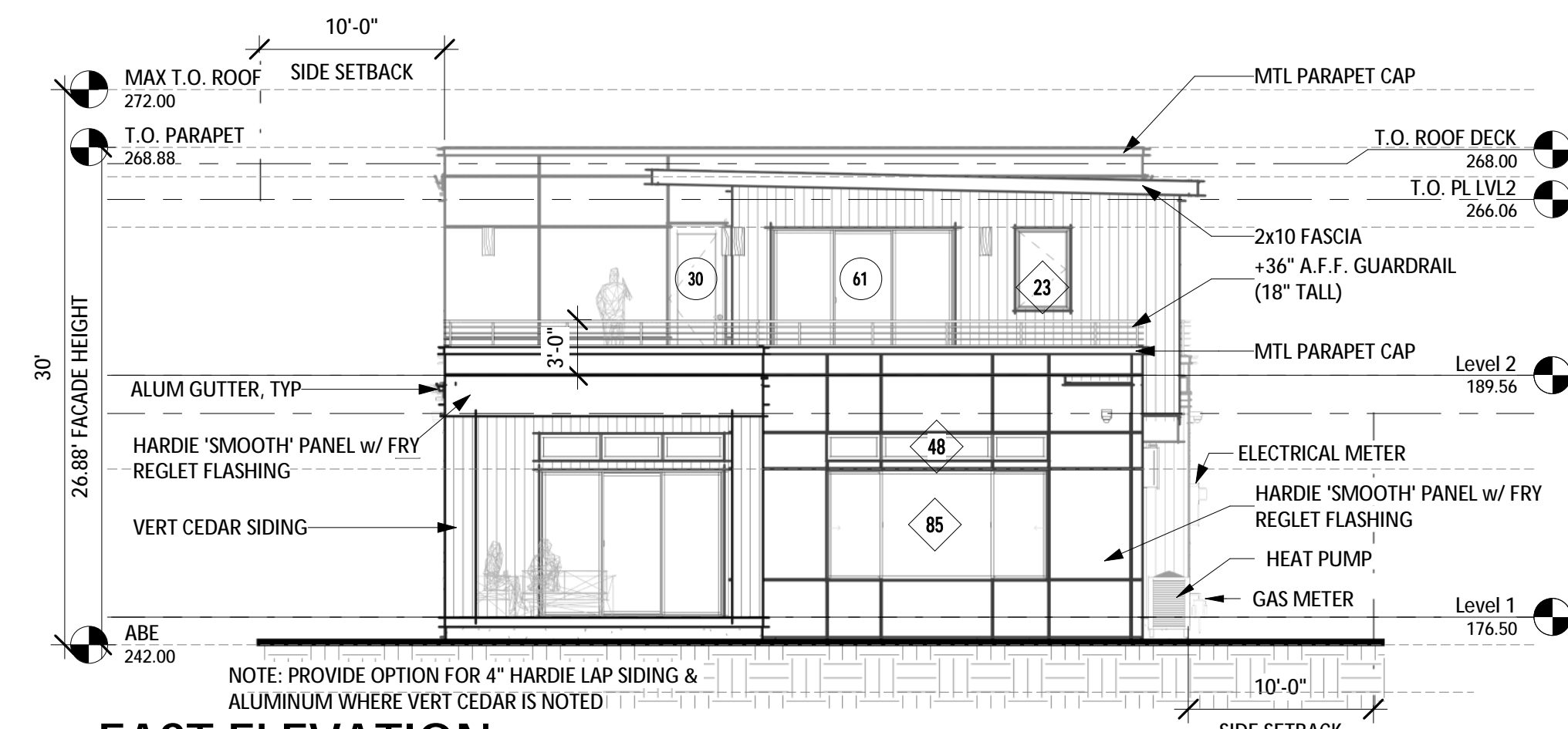
**EXTERIOR WALL CONSTRUCTION**

SIDING MATERIAL: PER ELEVATIONS  
 BUILDING PAPER: 15# BUILDING PAPER  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: 2x6 STUDS AT 16" oc U.N.O.  
 INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER  
 GWB: 1/2" GWB

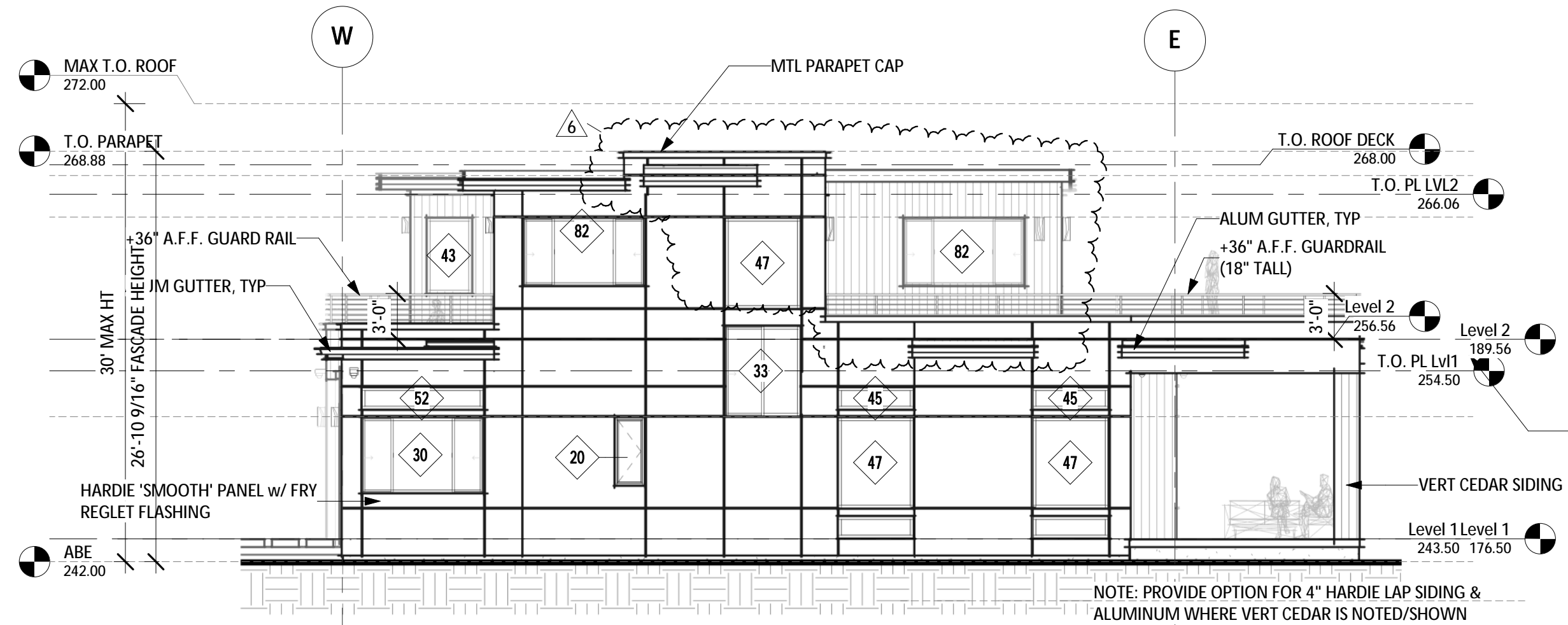
**TRIM**

WINDOW: (WITH NO BRICK MOLD) 'Z' FLASHING  
 CORNER BOARDS: INSIDE: 2x2  
 OUTSIDE: 'X' FLASHING  
 FASCIA: 2x8 (PER DETAILS) U.N.O.

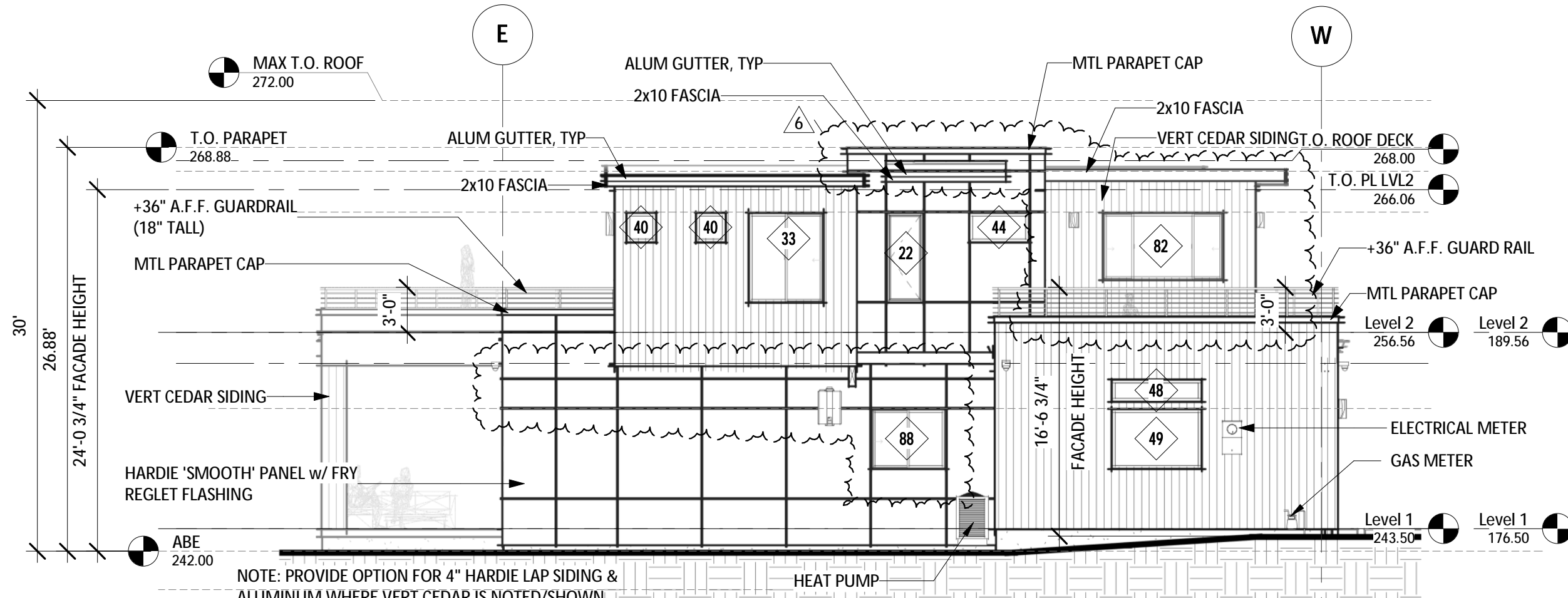
- INSTALL APPROVED CORROSION-RESISTANT FLASHING, TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS PER R708.3. SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY WITH AAMA 711. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT ALL OF THE FOLLOWING LOCATIONS:
  - EXTERIOR WINDOW AND DOOR OPENINGS. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER FOR SUBSEQUENT DRAINAGE.
  - AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
  - UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
  - CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
  - WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD-FRAME CONSTRUCTION.
  - AT WALL AND ROOF INTERSECTIONS.
  - AT BUILT-IN GUTTERS.
- PER IRC R703.12.1, ADHERED MASONRY VENEER IS REQUIRED TO HAVE THE FOLLOWING CLEARANCES:
  - 4" MINIMUM ABOVE THE EARTH
  - 2" MINIMUM ABOVE PAVED AREAS, AND
  - 1/2" MINIMUM ABOVE EXTERIOR WALKING SURFACES WHICH ARE SUPPORTED BY THE SAME FOUNDATION THAT SUPPORTS THE EXTERIOR WALL
- STONE VENEER TO BE SUPPLIED BY EL DorADO STONE OR APPROVED EQUAL. STONE VENEER MAXIMUM WEIGHT 15 psf.



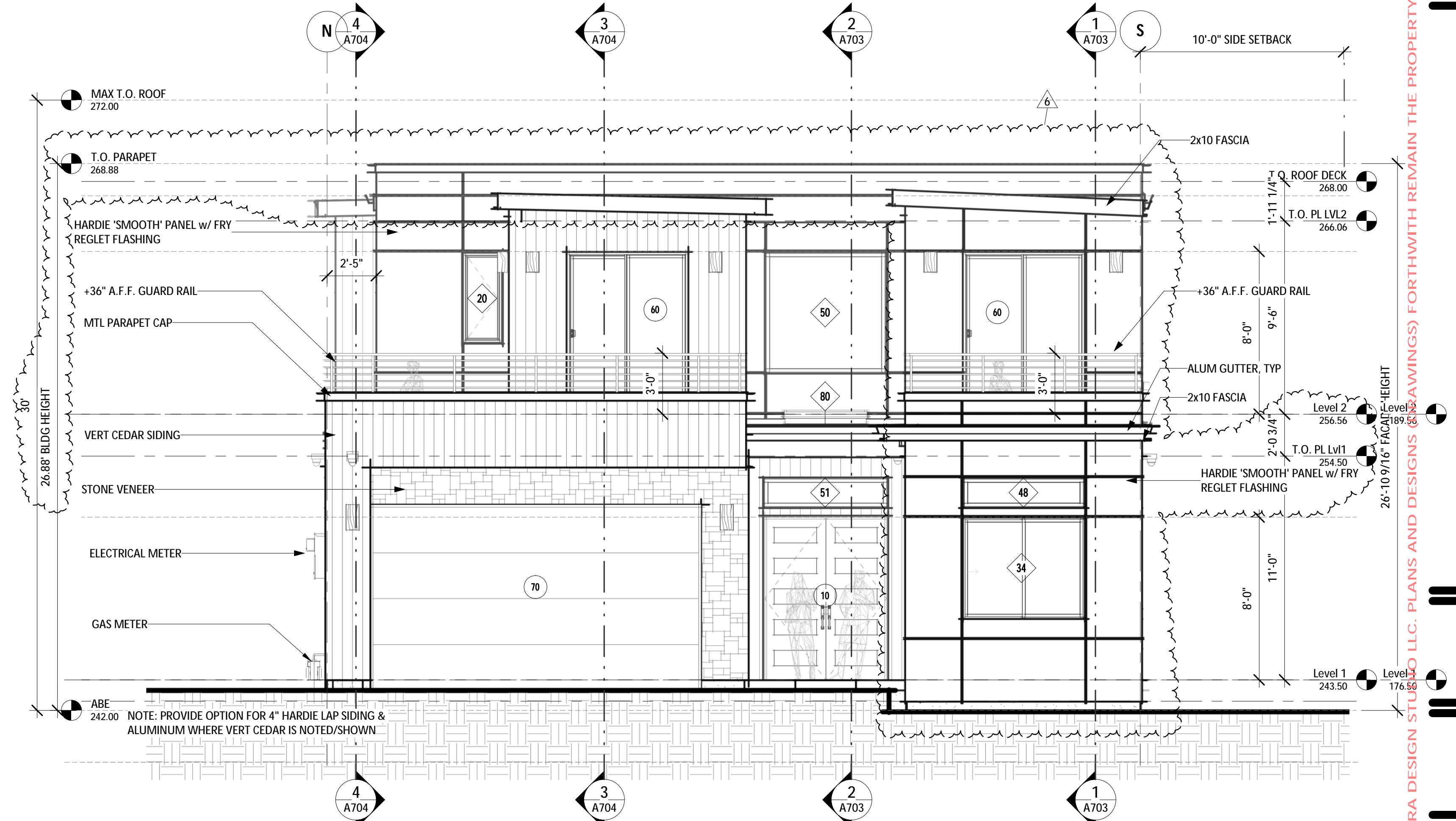
**2 EAST ELEVATION**  
 SCALE: 1/8" = 1'-0"



**4 SOUTH ELEVATION**  
 SCALE: 1/8" = 1'-0"



**3 NORTH ELEVATION**  
 SCALE: 1/8" = 1'-0"



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

No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
2	2023/01/31	SUB2 City Comment Submittal
3	2023/02/01	SUB2 City Comment Submittal
4	2023/01/22	SUB66 REV1, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET  
 ELEVATIONS

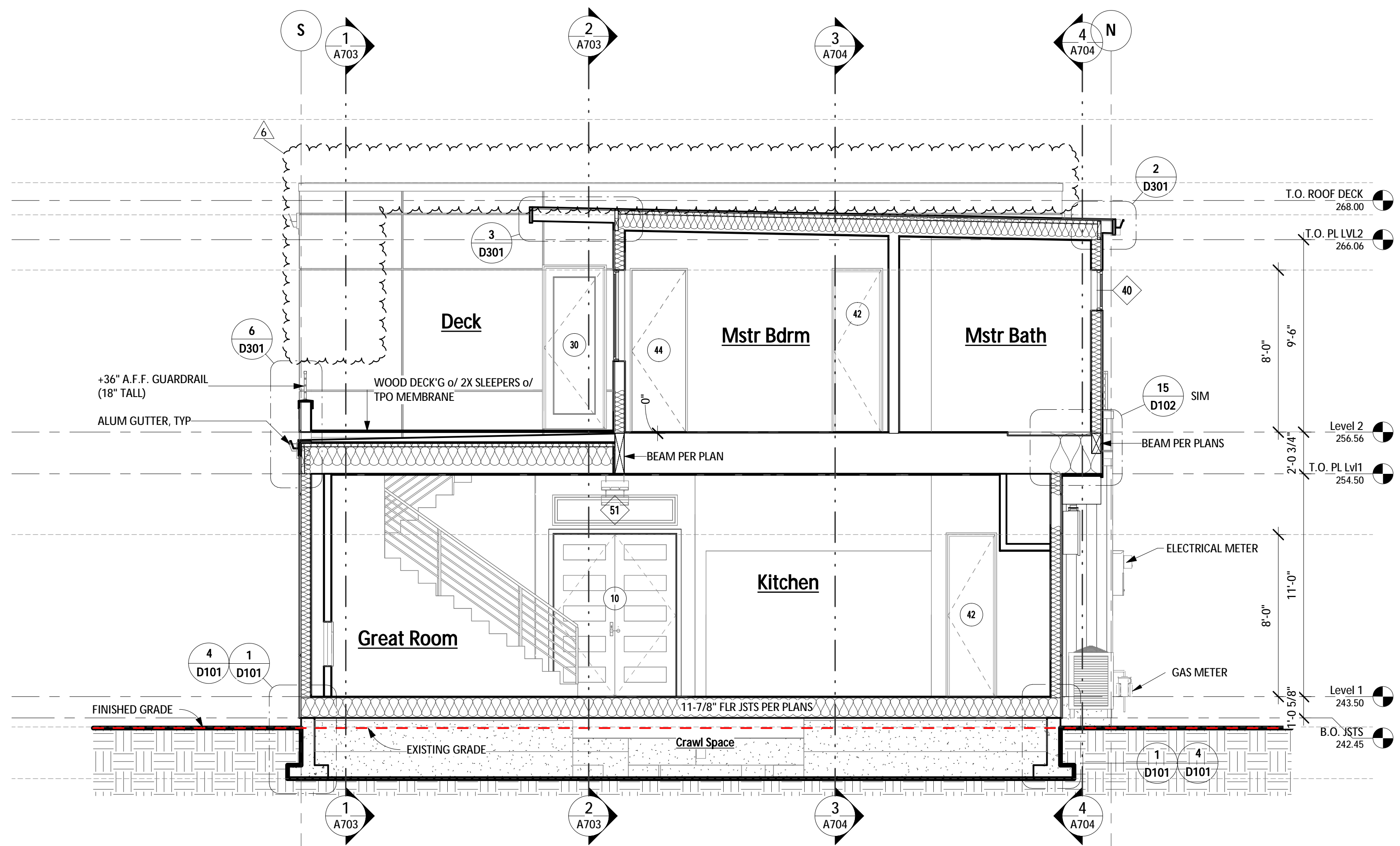
PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29

**A601**

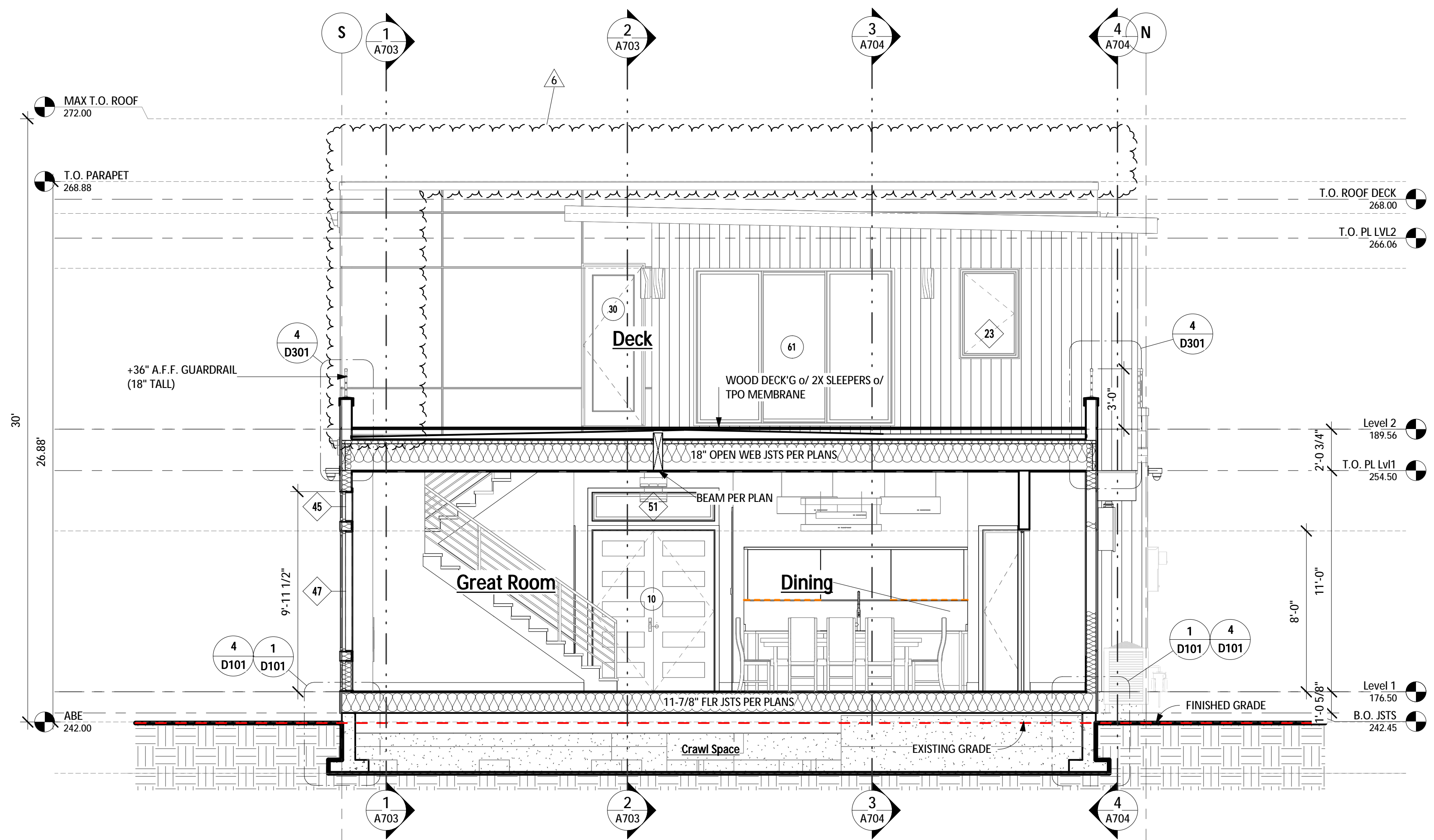
SCALE 24X36: As indicated  
 \*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



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**2** Section E/W 2  
SCALE: 1/4" = 1'-0"



**1** Section E/W 1  
SCALE: 1/4" = 1'-0"

**TYPICAL BUILDING MATERIALS:**

**ROOF CONSTRUCTION**

- ROOFING: TPO MEMBRANE
- BUILDING PAPER: PER MFR
- SHEATHING: PER SHEARWALL SCHEDULE
- FRAMING: PER PLANS
- INSULATION: R-49 BLOWN IN (R-38 VAULTED)
- SOFFIT: T&G WHERE NOTED
- GWBS: 5/8" GWB

**FLOOR CONSTRUCTION**

- FLOORING: FINISH PER PLANS
- SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
- FRAMING: PER PLANS
- INSULATION: R-38 BATT
- SOFFIT: HARDIA PANEL WHERE NOTED

**EXTERIOR WALL CONSTRUCTION**

- SIDING MATERIAL: PER ELEVATIONS
- BUILDING PAPER: 15# BUILDING PAPER
- SHEATHING: PER SHEARWALL SCHEDULE
- FRAMING: 2x6 STUDS AT 16" oc U.N.O.
- INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER
- GWBS: 1/2" GWB
- TRIM**
- WINDOW: (WITH NO BRICK MOLD) 2" FLASHING
- CORNER BOARDS: INSIDE: 2x2  
OUTSIDE: "X" FLASHING
- FASCIA: 2x8 (PER DETAILS) U.N.O.

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No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
2	2023/06/07	SUB5 City Comments
3	2024/01/22	SUB6, REV1, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET

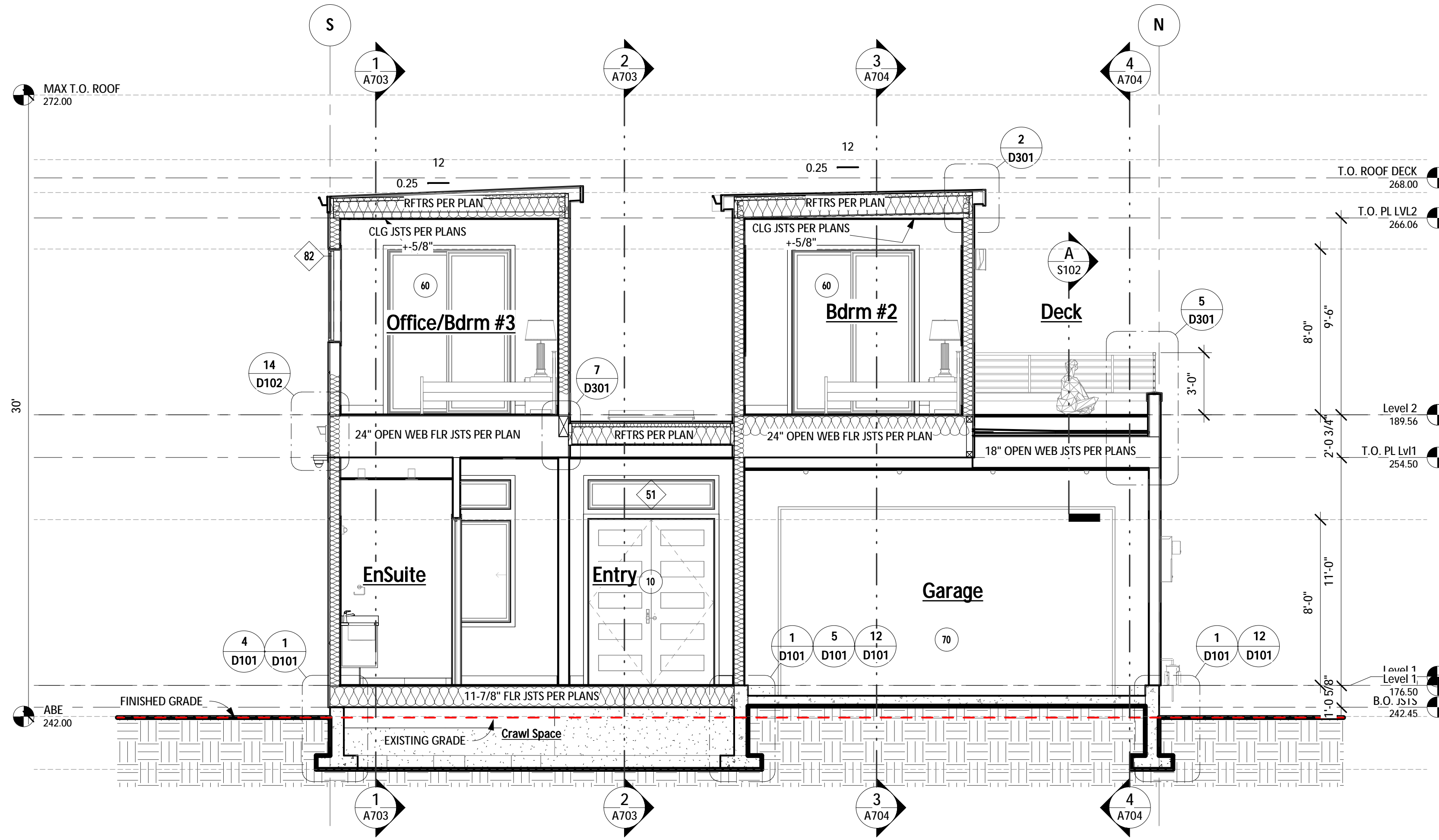
SECTIONS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29

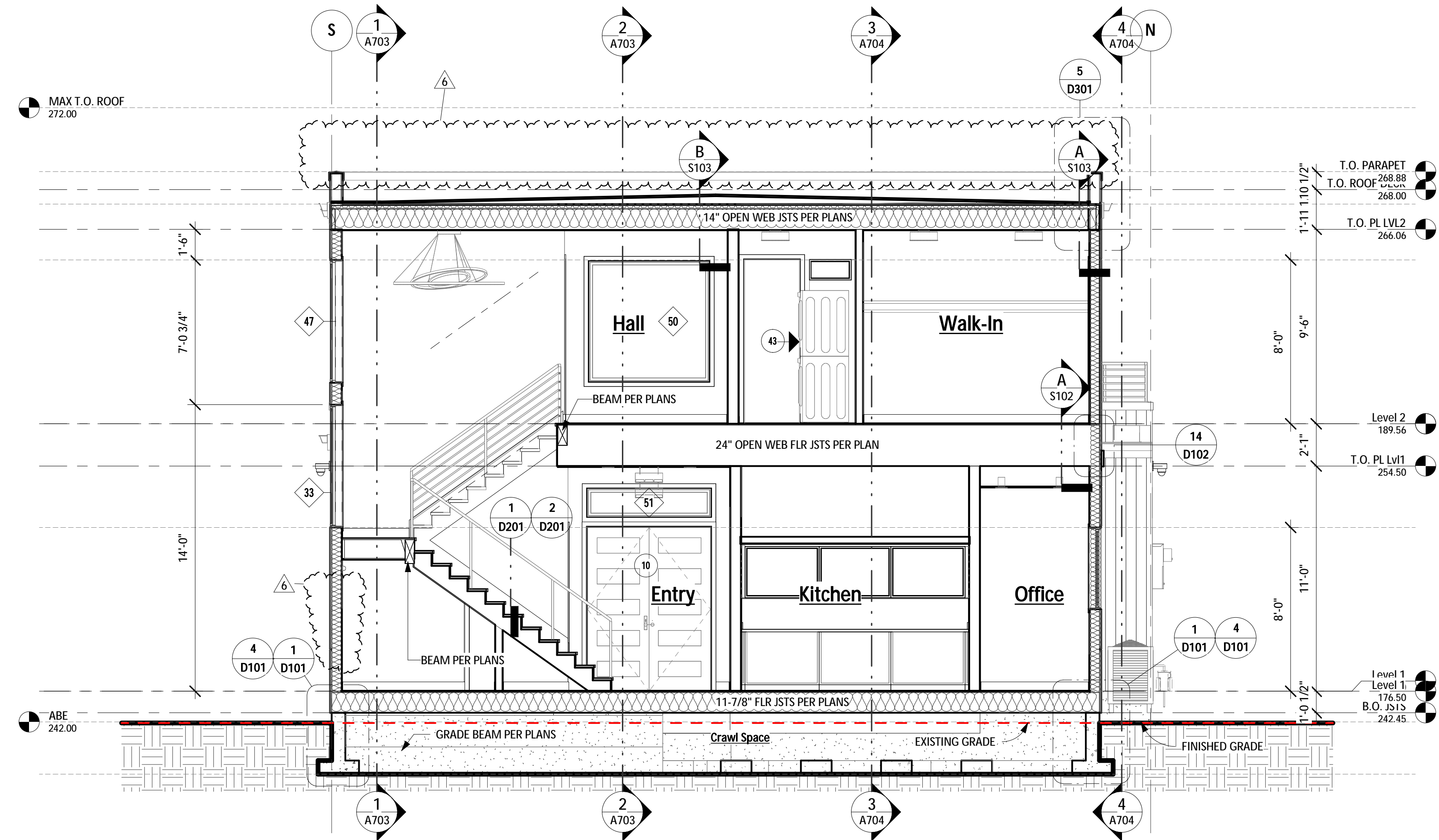
**A701**

SCALE 24X36: 1/4" = 1'-0"  
 \*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





**4** Section E/W 4  
SCALE: 1/4" = 1'-0"



**3** Section E/W 3  
SCALE: 1/4" = 1'-0"

**TYPICAL BUILDING MATERIALS:**

**ROOF CONSTRUCTION**

ROOFING: TPO MEMBRANE  
 BUILDING PAPER: PER MFR  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: PER PLANS  
 INSULATION: R-49 BLOWN IN (R-38 VAULTED)  
 SOFFIT: T&G WHERE NOTED  
 GWB: 5/8" GWB

**FLOOR CONSTRUCTION**

FLOORING: FINISH PER PLANS  
 SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)  
 FRAMING: PER PLANS  
 INSULATION: R-38 BATT  
 SOFFIT: HARDIA PANEL WHERE NOTED

**EXTERIOR WALL CONSTRUCTION**

SIDING MATERIAL: PER ELEVATIONS  
 BUILDING PAPER: 15# BUILDING PAPER  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: 2x6 STUDS AT 16" oc U.N.O.  
 INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER  
 GWB: 1/2" GWB  
**TRIM**  
 WINDOW: (WITH NO BRICK MOLD) 'Z' FLASHING  
 CORNER BOARDS: INSIDE: 2x2  
 OUTSIDE: 'X' FLASHING  
 FASCIA: 2x8 (PER DETAILS) U.N.O.

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No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
5	2023/06/07	SUB5 City Comments
9	2024/01/22	SUB9 PERM, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET

SECTIONS

PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29

**A702**

SCALE 24X36: 1/4" = 1'-0"  
 \* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





**TYPICAL BUILDING MATERIALS:**

**ROOF CONSTRUCTION**

ROOFING: TPO MEMBRANE  
 BUILDING PAPER: PER MFR  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: PER PLANS  
 INSULATION: R-49 BLOWN IN (R-38 VAULTED)  
 SOFFIT: T&G WHERE NOTED  
 GWB: 5/8" GWB

**FLOOR CONSTRUCTION**

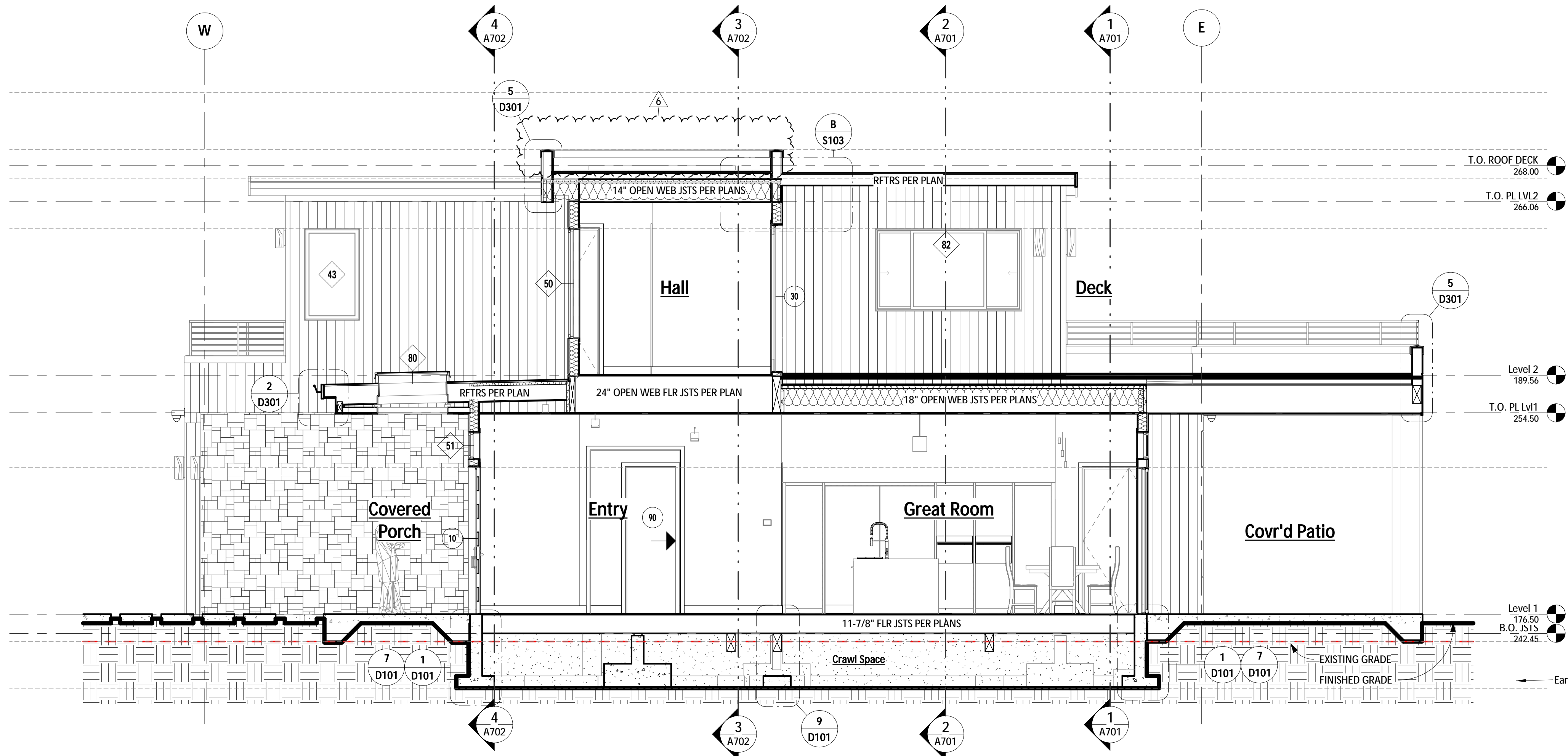
FLOORING: FINISH PER PLANS  
 SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)  
 FRAMING: PER PLANS  
 INSULATION: R-38 BATT  
 SOFFIT: HARDIA PANEL WHERE NOTED

**EXTERIOR WALL CONSTRUCTION**

SIDING MATERIAL: PER ELEVATIONS  
 BUILDING PAPER: 15# BUILDING PAPER  
 SHEATHING: PER SHEARWALL SCHEDULE  
 FRAMING: 2x6 STUDS AT 16" oc U.N.O.  
 INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER  
 GWB: 1/2" GWB

**TRIM**

WINDOW: 'Z' FLASHING  
 (WITH NO BRICK MOLD)  
 CORNER BOARDS: INSIDE: 2x2  
 OUTSIDE: 'X' FLASHING  
 FASCIA: 2x8 (PER DETAILS) U.N.O.



**2 Section N/S 2**  
 SCALE: 1/4" = 1'-0"



**1 Section N/S 1**  
 SCALE: 1/4" = 1'-0"

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No.	Date	Description
1	2023/01/25	SUB2 City Comment Submittal
2	2024/01/22	SUB1, REV1, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET

SECTIONS

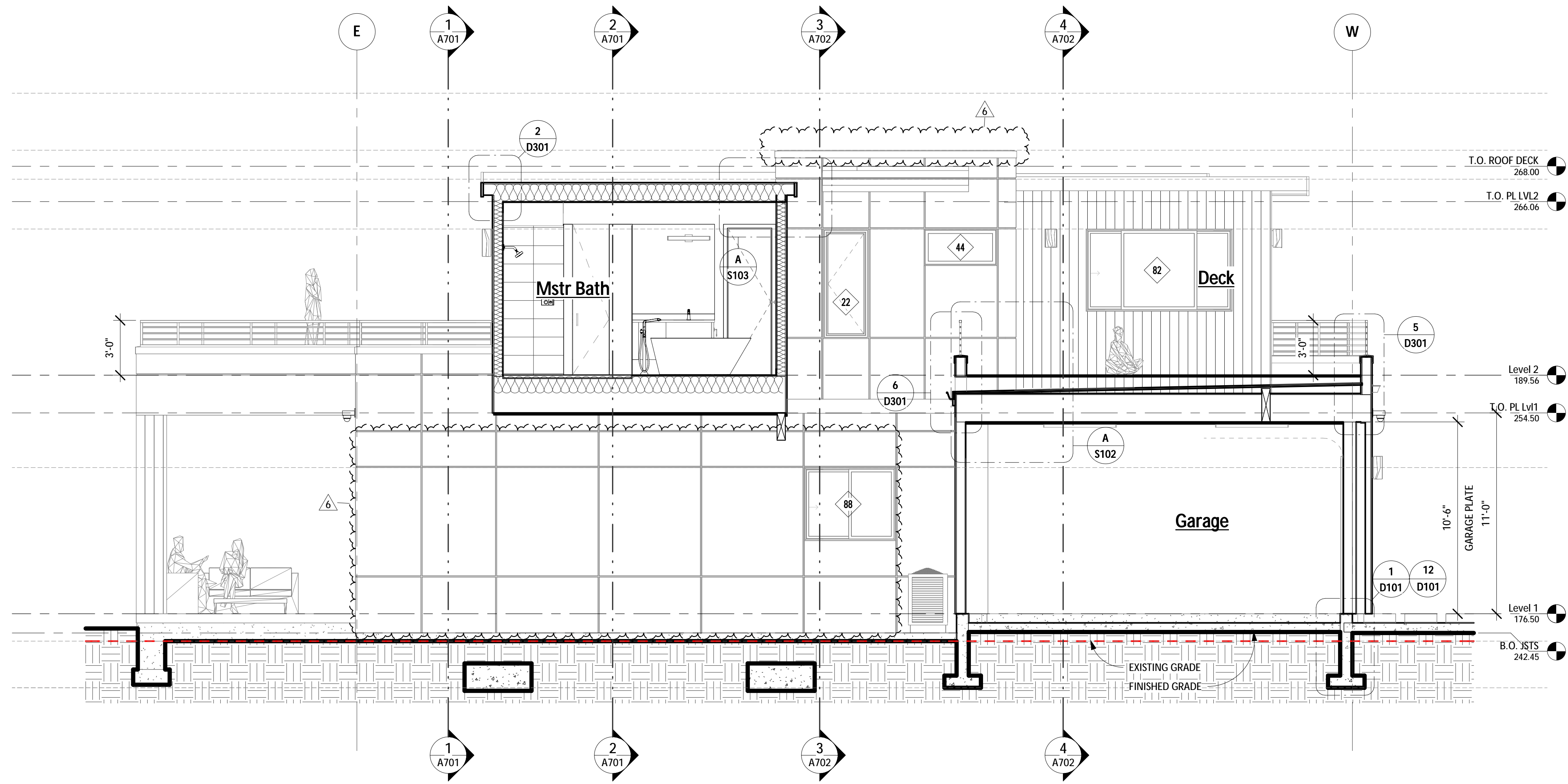
PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29

**A703**

SCALE 24X36: 1/4" = 1'-0"  
 \* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

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**4 Section N/S 4**  
SCALE: 1/4" = 1'-0"



**3 Section N/S 3**  
SCALE: 1/4" = 1'-0"

**TYPICAL BUILDING MATERIALS:**

ROOF CONSTRUCTION	
ROOFING:	TPO MEMBRANE
BUILDING PAPER:	PER MFR
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	PER PLANS
INSULATION:	R-49 BLOWN IN (R-38 VAULTED)
SOFFIT:	T&G WHERE NOTED
GWB:	5/8" GWB

FLOOR CONSTRUCTION	
FLOORING:	FINISH PER PLANS
SUBFLOOR:	3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
FRAMING:	PER PLANS
INSULATION:	R-38 BATT
SOFFIT:	HARDIA PANEL WHERE NOTED

EXTERIOR WALL CONSTRUCTION	
SIDING MATERIAL:	PER ELEVATIONS
BUILDING PAPER:	15# BUILDING PAPER
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	2x6 STUDS AT 16" oc U.N.O.
INSULATION:	R-21 BATT w/ INTEGRAL VAPOR BARRIER
GWB:	1/2" GWB

TRIM	
WINDOW:	7" FLASHING
(WITH NO BRICK MOLD)	
CORNER BOARDS:	INSIDE: 2x2
	OUTSIDE: 'X' FLASHING
FASCIA:	2x8 (PER DETAILS) U.N.O.

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No.	Date	Description
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2	2024/01/22	SUB1, REV1, CLIENT REVISIONS

**ATERA DESIGN STUDIO**  
451 DUVALL AVE NE,  
RENTON, WA 98059

**HU RESIDENCE**  
2448 72nd AVE SE, Mercer Island

PERMIT SET

SECTIONS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29

**A704**

SCALE 24X36: 1/4" = 1'-0"  
\* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



STRUCTURAL NOTES

GENERAL REQUIREMENTS

BUILDING CODE & REFERENCE STANDARDS:

THE "INTERNATIONAL BUILDING CODE" (IBC), 2018 EDITION, AS ADOPTED AND MODIFIED BY THE CITY OF CITY, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT.

SCOPE OF STRUCTURAL WORK:

STRUCTURAL DESIGN OF A NEW HOUSE.

DEFINITIONS:

THE FOLLOWING DEFINITIONS APPLY TO THESE GENERAL NOTES:

- "STRUCTURAL ENGINEER OF RECORD" (EOR) - THE STRUCTURAL ENGINEER WHO IS LEGALLY RESPONSIBLE FOR STAMPING & SIGNING THE STRUCTURAL DOCUMENTS FOR THE PROJECT.

NOTE PRIORITIES:

NOTES ON THE INDIVIDUAL DRAWINGS SHALL GOVERN OVER THESE GENERAL NOTES.

SPECIFICATIONS:

REFER TO THESE NOTES, STRUCTURAL DRAWINGS, AND ARCHITECTURAL DRAWINGS WHICH SERVE AS SPECIFICATIONS FOR THIS PROJECT.

STRUCTURAL DETAILS:

THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK.

ARCHITECTURAL DRAWINGS:

REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, CURTAIN WALLS, STAIRS, ELEVATORS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES:

THE EOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES:

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED.

THE CONTRACTOR SHALL SUBMIT PLANS SHOWING THE LOCATION, WEIGHT, SIZE AND ANCHORAGE OF ALL HANGERS SUPPORTING ALL MECHANICAL, ELECTRICAL, PLUMBING OR SPRINKLER LOADS IN EXCESS OF 50 POUNDS.

DISCREPANCIES:

IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE EOR SHALL DETERMINE WHICH SHALL GOVERN.

SITE VERIFICATION:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION.

ADJACENT UTILITIES:

THE CONTRACTOR SHALL DETERMINE THE LOCATIONS OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO EXCAVATION.

DESIGN CRITERIA

CONSTRUCTION LOADS:

LOADS ON THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS OR THE CAPACITY OF THE PARTIALLY COMPLETED CONSTRUCTION.

SNOW LOAD:

THE ROOF SNOW LOAD IS DETERMINED BY USING CHAPTER 7 OF ASCE 7-16 IN ACCORDANCE WITH IBC SECTION 1608 AND WITH THE FOLLOWING FACTORS:

MINIMUM ROOF DESIGN LOAD: 25 PSF WITHOUT DRIFT
GROUND SNOW LOAD, PG: 20 PSF
IMPORTANCE FACTOR, IS: 1.0
FLAT ROOF SNOW LOAD, PF: 25 PSF
THERMAL FACTOR, CT: 1.0

WIND DESIGN:

WIND LOAD IS DETERMINED USING CHAPTER 28 OF ASCE 7-16 IN ACCORDANCE WITH IBC SECTION 1609 WITH THE FOLLOWING FACTORS:

BASIC WIND SPEED V = 97 MPH
WIND IMPORTANCE FACTOR IW = 1.0
EXPOSURE CATEGORY = B
RISK CATEGORY = II
KZT = 1.6

SEISMIC DESIGN:

EARTHQUAKE DESIGN IS DETERMINED USING CHAPTER 12 ASCE 7-16 IN ACCORDANCE WITH IBC CHAPTER 16 WITH THE FOLLOWING FACTORS:

IMPORTANCE FACTOR IE = 1.0
RISK CATEGORY = II
SS = 1.395 G
SI = 0.486 G
SITE CLASS = D
SDS = 1.116 G
SDI = 0.590 G
SEISMIC DESIGN CATEGORY = D

WOOD STRUCTURE (SUPER-STRUCTURE):

BASIC SEISMIC FORCE RESISTING SYSTEM: A-15 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE, PER ASCE 7-10, SECTION 12.8

R = 6.5
CS = 0.722
CD = 4
W = 122K
Q = 2.5+
p = 1.3

DESIGN BASE SHEAR:

DESIGN BASE SHEAR (WIND GOVERNED): V(ULT) = 15.86 (N/S), V(ASD) = 6.4 (E/W)

DEFLECTIONS:

FLOOR TOTAL LOAD DEFLECTION LIMIT: L/360
FLOOR LIVE LOAD DEFLECTION LIMIT: L/480
ROOF TOTAL LOAD DEFLECTION LIMIT: L/240
ROOF LIVE LOAD DEFLECTION LIMIT: L/360

LIVE LOADS: (HOUSE)

ROOF (LIVE): 20 PSF
ROOF (SNOW): 25 PSF
BALCONIES AND DECKS: 1.5X OCCUPANCY SERVED
RESIDENTIAL FLOOR: 40 PSF
RESIDENTIAL GARAGE: 40 PSF
STAIRS & LANDINGS: 40 PSF OR 300LB (4"x4" SQB)
GUARD RAILS: 50 PLF

DEFERRED SUBMITTAL LOADS:

ALL PRE-ENGINEERED, PRE-FABRICATED, PRE-MANUFACTURED, OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT, AND CLADDING LOADS WHEN APPLICABLE.

ROOF DEAD LOAD: 15 PSF
ROOF SNOW LOAD: 25 PSF
FLOOR DEAD LOAD: 15 PSF
FLOOR LIVE LOAD: 40 PSF
STAIRS & LANDINGS: 40 PSF OR 300LB (4"x4" SQB)
GUARD RAILS: 50 PLF OR 200 LB POINT LOAD

SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGNER/EOR PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL STRUCTURAL ITEMS AS NOTED BELOW.

REFERENCE THE INDIVIDUAL MATERIAL SECTION FOR SPECIFIC INFORMATION TO BE INCLUDED IN THE SUBMITTAL.

- CONCRETE REINFORCING
EMBEDDED STEEL ITEMS
GLULAM BEAMS
TJ'S

ALTERNATES:

PRODUCT OR MANUFACTURER COMPONENTS SPECIFIED IN THESE DRAWINGS ARE USED AS THE BASIS OF DESIGN FOR THIS PROJECT.

SHOP DRAWING REVIEW:

REVIEW BY THE DESIGNER/EOR IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT AND THE CONTRACT DOCUMENTS.

THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES; FOR TECHNIQUES OF ASSEMBLY; AND FOR PERFORMING WORK IN A SECURE MANNER.

DEFERRED SUBMITTALS:

PER IBC SECTION 107.3.4.1, DRAWINGS, CALCULATIONS, AND PRODUCT DATA FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED-BY-OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER (SSE) WHO IS RESPONSIBLE FOR THE DESIGN AND SHALL BE SUBMITTED TO THE ARCHITECT/EOR AND THE BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION.

THE SSE SHALL SUBMIT STAMPED AND SIGNED CALCULATIONS AND SHOP DRAWINGS TO THE EOR FOR REVIEW.

DEFERRED SUBMITTALS INCLUDE THE FOLLOWING:

- HANDRAILS & GUARDRAILS
PREFABRICATED WOOD TRUSSES
PREFABRICATED METAL STAIRS
OPEN WEB WOOD JOISTS

COMPONENTS:

ACCORDANCE WITH ASCE 7-10, CHAPTER 13 AND THE PROJECT SPECIFICATIONS. NONSTRUCTURAL COMPONENTS DESIGNED BY OTHERS SHALL NOT INDUCE TORSIONAL LOADING INTO SUPPORTING STEEL STRUCTURAL MEMBERS WITHOUT ADDITIONAL BRACING.

TESTS & INSPECTIONS INSPECTIONS:

ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 110.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: CONFORM TO IBC CHAPTER 18 "SOILS AND FOUNDATIONS."

GEOTECHNICAL REPORT:

RECOMMENDATIONS CONTAINED IN: GEOTECHNICAL ENGINEERING STUDY BY: GEOTECH CONSULTANTS, INC. MEMO "FOUNDATION AND CRITICAL AREA CONSIDERATIONS, AND INFILTRATION FEASIBILITY ASSESSMENT" PROPOSED NEW RESIDENCE 2448 - 72ND AVE SE, MERCER ISLAND, WASHINGTON, DATED JANUARY 12, 2022

GEOTECHNICAL INSPECTION:

SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS SHALL BE AS REQUIRED BY SECTION 1705.6 AND TABLE 1705.6.

DESIGN SOIL VALUES:

ALLOWABLE SOIL BEARING PRESSURE
2,500 PSF DL + LL
3,332 PSF DL + LL + SEISMIC/WIND
PASSIVE PRESSURE: 250 PCF
ACTIVE PRESSURE: 35 PCF
COEFFICIENT OF FRICTION: 0.4

SLABS ON-GRADE & FOUNDATIONS:

ALL SLABS-ON-GRADE AND FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT OR AS NOTED IN THESE DOCUMENTS.

FOUNDATION STEM WALLS:

UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE MAXIMUM UNBALANCED SOIL CONDITION FOR ALL FOUNDATION STEM WALLS (DIFFERENCE IN ELEVATION BETWEEN INTERIOR AND EXTERIOR SOIL GRADES) SHALL BE 2'-6".

BACKFILLING:

BACKFILL BEHIND RETAINING AND FOUNDATION WALLS SHALL BE OF FREE-DRAINING MATERIAL PLACED IN MAXIMUM LOOSE LIFTS OF 12" OR AS DIRECTED BY THE GEOTECHNICAL REPORT.

CAST-IN-PLACE CONCRETE REFERENCE STANDARDS:

CONFORMS TO THE LATEST EDITIONS OF THE FOLLOWING: (1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".

FIELD REFERENCE:

THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES:

CONFORM TO ACI 318 CHAPTER 19 " CONCRETE: DESIGN AND DURABILITY REQUIREMENTS. "

MATERIALS:

CONFORM TO ACI 318 CHAPTERS 19 & 20.

SUBMITTALS:

PROVIDE ALL SUBMITTALS REQUIRED BY ACI 301 SEC 4.1.2. SUBMIT MIX DESIGNS FOR EACH MIX IN THE TABLE BELOW.

SPECIAL INSPECTIONS :

IN ADDITION TO THE INSPECTIONS REQUIRED BY IBC SEC 110, A SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER AS AN INDEPENDENT THIRD-PARTY INSPECTOR TO PERFORM THE SPECIAL INSPECTIONS PER IBC CH. 17.

PREFABRICATED CONSTRUCTION:

ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO THE INSPECTION REQUIREMENTS OF THE SAME MATERIAL OR CONSTRUCTION TYPE USED FOR THIS PROJECT.

Table with columns: ITEM, CI, PI, REFERENCE STANDARD, IBC REFERENCE, REMARKS. Contains sections for CONCRETE, SOILS, and WOOD. Includes inspection items like inspect reinforcement, anchors, and formwork.

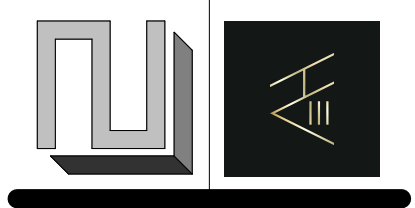
SCHEDULE NOTES:

- 1. ITEMS MARKED WITH AN 'X' REQUIRE INSPECTION BY A SPECIAL INSPECTOR APPROVED BY THE BUILDING OFFICIAL.
2. CI: CONTINUOUS INSPECTION DURING PROGRESS OF WORK BY SPECIAL INSPECTOR.
3. PI: PERIODIC INSPECTION BY SPECIAL INSPECTOR AS REQUIRED FOR CONFORMANCE OF WORK.
4. TESTING AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE OWNER, BUILDING OFFICIAL, AND CONTRACTOR.

Vertical label on the right margin: Description, Date, No.



L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072
ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, WA 98059



HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET
STRUCTURAL NOTES & DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

S001
SCALE 24X36:
\* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.

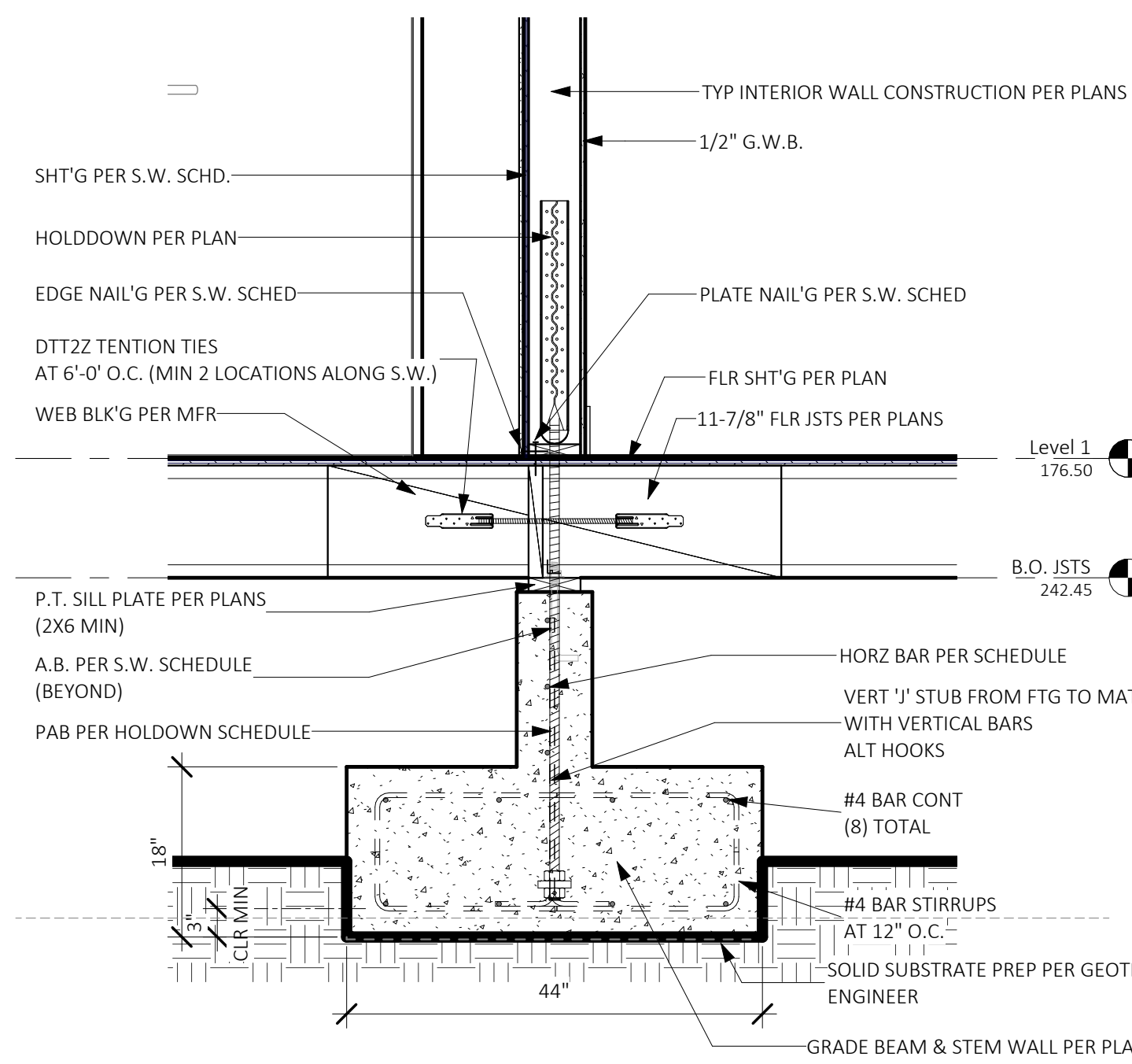


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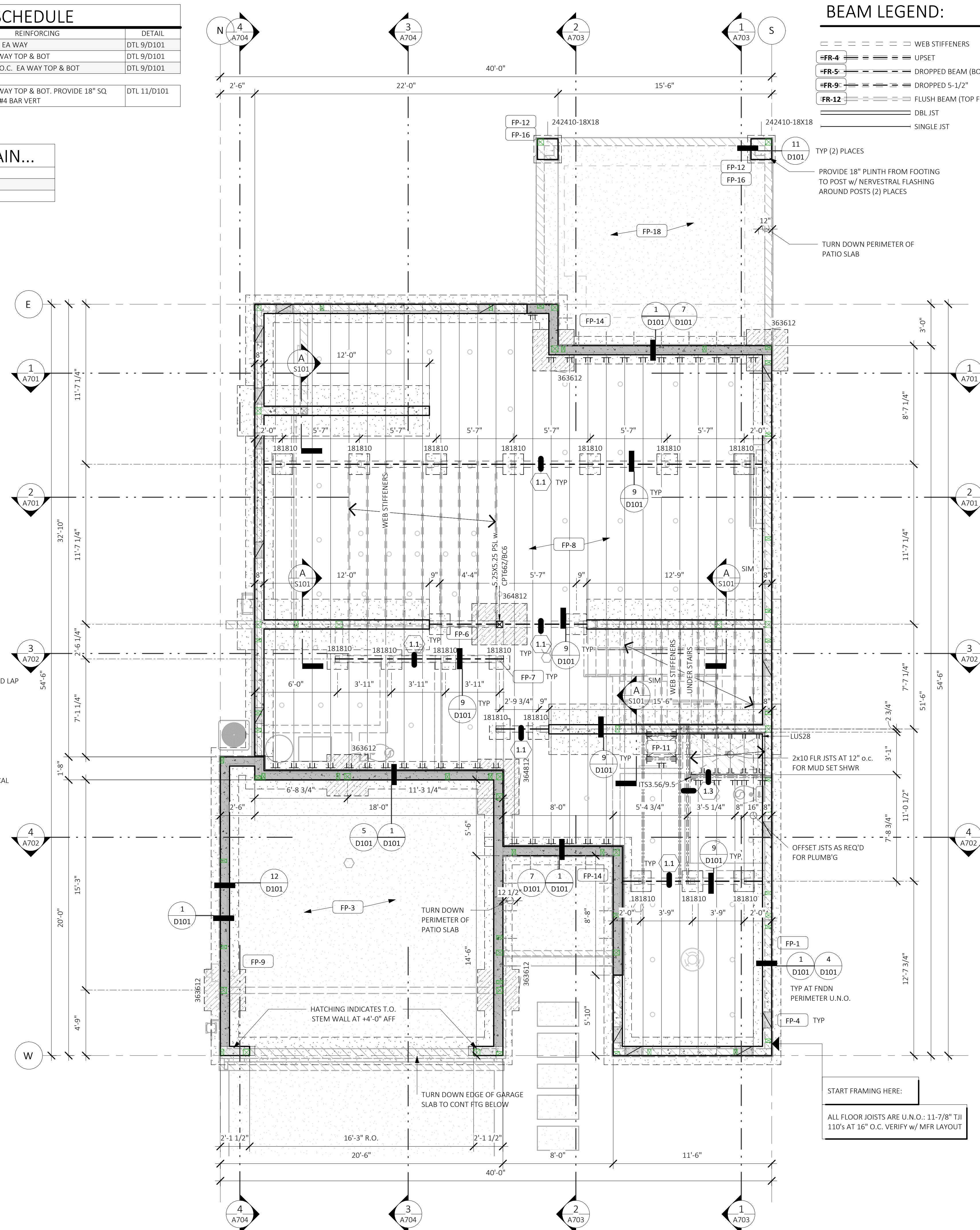


FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	DETAIL
181810	18" X 18" X 10" THK	(3) #4 BOT BAR EA WAY	DTL 9/D101
363612	36" X 36" X 12" THK	(4) #4 BAR EA WAY TOP & BOT	DTL 9/D101
364812	36" X 48" X 12" THK	#4 BAR AT 10" O.C. EA WAY TOP & BOT	DTL 9/D101
Footing-MAT-Rectangular: 25			
242410-18X18	24" X 24" X 10" THK	(3) #4 BAR EA WAY TOP & BOT. PROVIDE 18" SQ PLYNTH w/ (4) #4 BAR VERT	DTL 11/D101
Footing-MAT-Rectangular w Plynth: 2			

BEAM SCHEDULE - MAIN...	
ID	SIZE
1.1	4x8, TYP
1.3	5-1/2"x9-1/4" PSL



**A FNDN GRADE BEAM DTL**  
SCALE: 3/4" = 1'-0"



**BEAM LEGEND:**

- WEB STIFFENERS
- UPSET
- DROPPED BEAM (BOT FLUSH)
- DROPPED 5-1/2"
- FLUSH BEAM (TOP FLUSH)
- DBL JST
- SINGLE JST

**SYMBOLS & LEGEND:**

- █ POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM
- (1) 2x STUD
- (2) 2x STUD, TYP. LARGER MEMBERS AS NOTED ON PLANS
- █ SIMPSON OR OTHER APPROVED ALTERNATE HANGER. USE ALL REQUIRED FASTENERS
- # INDICATES BEAM CALCULATION WITH INDEXED NUMBER
- WALL ABOVE
- BEARING WALL BELOW
- NON BEARING WALL BELOW
- BEARING WALL ABOVE
- SHEARWALL BELOW

**GENERAL FRAMING NOTES:**

1. SEE SHEET S001 FOR GENERAL DESIGN CRITERIA.
2. SEE SHEET(S) S201-203 FOR SHEARWALL DESIGNATIONS, HOLDDOWNS, AND SHEARWALL SCHEDULE.
3. U.N.O. ALL HEADERS ARE: 4x8 DF #2 (UP TO 8' SPAN) TRIMMER STUD UP TO 6'-0" SPAN AND PROVIDE (2) TRIMMER STUDS OVER 6'-0" U.N.O.
4. TRUSS DESIGN BY MANUFACTURER. TRUSS DESIGN DRAWINGS SHALL BE PREPARED PER IRC SECTION R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION.
  - \* TRUSS DESIGN PER IRC SECTION R802.10.2
  - \* FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
  - \* SEE SHEET(S) S001 FOR DESIGN LOADS.
  - \* TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
5. PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
6. ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
7. ROOF FRAMING SPACING, 24" o.c. U.N.O.
8. SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
9. FRAMING LUMBER: FRAMING LUMBER SHALL BE MARKED IN ACCORDANCE TO W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER #16, LATEST EDITION. ALL KILN DRIED MIN. 19.
  - a) JOIST AND RAFTERS: SEE SHT S002
  - b) BEAMS AND STRINGERS: SEE SHT S002
  - c) POST AND TIMBERS: SEE SHT S002
  - d) STUDS, PLATES, AND MISC. LIGHT FRAMING: SEE SHT S002
  - e) TJI'S AND MICROLAMS: PER MANUFACTURER.
  - f) GLUE LAMINATED TIMBER: SEE SHT S002
  - g) ALL OTHER LUMBER: HEM-FIR STANDARD OR BETTER.
  - h) PLYWOOD/ORIENTED STRAND BOARD (OSB): SEE SHT S002
  - i) WALL SHEATHING: SEE SHT S002
  - j) FLOOR SHEATHING: 23/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PERP TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP. U.N.O.
  - k) ROOF SHEATHING: 15/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PERP TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP.
  - l) OTHER: AS NOTED ON DRAWINGS. SEE SHT S002
10. FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH TABLE R602.3.1(3) OF THE IRC. SEE SHEET A001
  - \* POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
11. INSTALL 2X FIRELOCKING PER R302.11 AS FOLLOWS:
  - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORIZ AT INTERVALS NOT EXCEEDING 10 FEET.
  - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORIZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
  - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
  - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
12. SEE SHT A002 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

KEYNOTES - FOUNDATION	
ID	DESCRIPTION
FP-1	CONCRETE STEM WALL 8" WIDE w/ FTG PER DETAILS.
FP-3	CONCRETE SLAB ON GRADE SHALL BE 4" THICK STEEL TROWLED FINISH w/ W1.4xW1.4 WWF ON 4" GRANULAR FILL. SLOPE TO AND PROVIDE THICKENED EDGE AT O.H. GAR DOOR. PER IRC SECTION R506
FP-4	14"x8" CRAWL SPACE VENT INSTALLED IN RIM JOIST. SEE CRAWL SPACE CALCULATIONS ON SHEET A003.
FP-6	BEAM LINE PER PLAN w/ SOLID BLK'G OVER. PROVIDE MIN 1" CLEARANCE FROM CONCRETE AT ENDS OF BEAM.
FP-7	4x4 POST - TYP. U.N.O. PROVIDE 4x6 AT BEAM SPLICES AND PROVIDE POSITIVE CONNECTION PER IRC SECTION R407.3
FP-8	6 MIL BLACK POLYETHYLENE GROUND COVER OR APPROVED EQ. OVERLAP EDGES 12" MIN AT JOINTS AND EXTEND UP FOUNDATION WALL. PER WSEC 502.1.6.7.
FP-9	ELECTRICAL SERVICE: VERIFY LOCATION WITH SITE CONDITIONS
FP-11	PROVIDE CRAWL SPACE ACCESS, MINIMUM 18" X 24" UNOBSTRUCTED ACCESS PER IRC SECTION R408.3. INSULATE AND WEATHER-STRIP PER ENERGY REQUIREMENTS (WSEC 502.1.4.4). ALLOW 18" MINIMUM SPACE UNDER WOOD JOISTS AND 12" MINIMUM SPACE UNDER WOOD GIRDERS.
FP-12	MAT FOOTING PER FTG SCHEDULE. SEE DETAILS FOR ADDITIONAL INFORMATION.
FP-14	#4 REBAR STUB-OUT AT 24" O.C. AROUND PERIMETER OF CONC. PORCH/PATIO.
FP-16	EXTEND PIER MIN. 18" BELOW SURROUNDING GRADE. PER IRC TABLE R301.2.
FP-18	CONCRETE SLAB ON GRADE SHALL BE 4" THICK STEEL BRUSHED FINISH w/ W1.4xW1.4 WWF ON 4" GRANULAR FILL. AT EXTERIOR PATIOS, SLOPE AWAY FROM BLDG 2% MIN. PER IRC SECTION R506.

Description  
Date  
No.

**L2 ENGINEERS**  
 17848 NE 198TH PLAVE  
 WOODINVILLE, WA 98072

ATERA DESIGN STUDIO  
 451 DUVALL AVE NE,  
 RENTON, WA 98059

**HU RESIDENCE**

2448 72nd AVE SE, Mercer Island

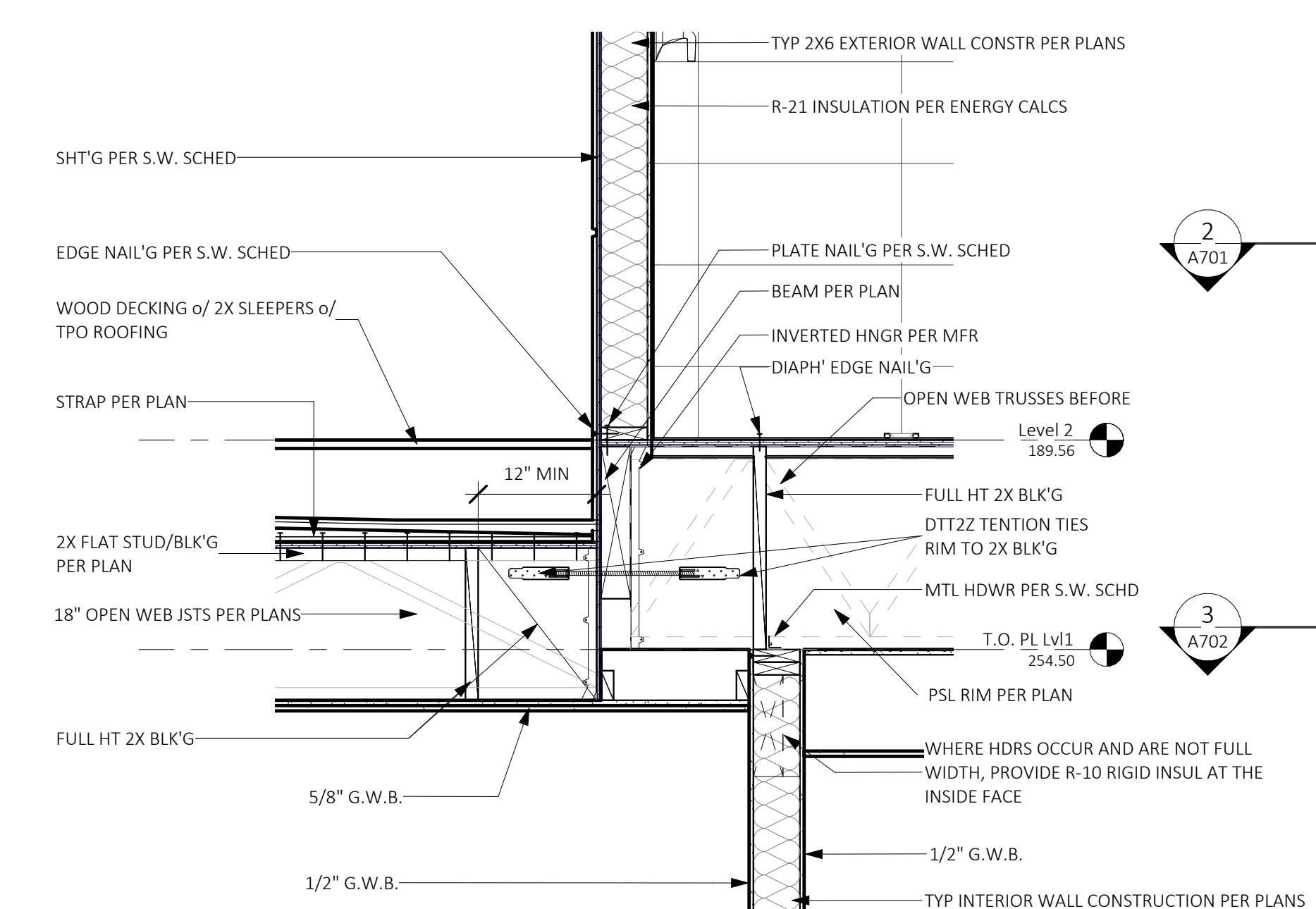
PERMIT SET

FOUNDATION/MAIN FLOOR FRAMING PLAN

PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29  
 DRAWN BY: SPM

**S101**  
 SCALE 24X36: As Indicated  
 \* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.

BEAM SCHEDULE - UPPER FRAMING		
ID	SIZE	
2.2	5-1/2" X 12" GLB	
2.3	5-1/2" X 16" GLB (3-SPAN)	
2.4	5-1/4" X 24" PSL	
2.5	5-1/2" X 16" GLB	
2.6	3-1/2" X 9" GLB	
2.7	5-1/2" X 20" GLB (3-SPAN)	
2.8	5-1/2" X 20" GLB	
2.9	6X14	
2.10	5-1/4" X 22" PSL	
2.11	5-1/2" X 12" GLB	
2.12	5-1/2" X 12" GLB (2-SPAN)	
2.13	5-1/2" X 14" GLB (2-SPAN)	
2.14	4X8	
2.15	3-1/2" X 10-1/2" GLB	
2.16	3-1/2" X 9" GLB	
2.17	5-1/2" X 12" GLB	
2.18	3-1/2" X 18" PSL RIM	
2.19	5-1/2" X 11-7/8" PSL	



**A** Cant Floor/Deck Connection  
SCALE: 3/4" = 1'-0"

**BEAM LEGEND:**

- WEB STIFFENERS
- == FR-4 == UPSET
- == FR-5 == DROPPED BEAM (BOT FLUSH)
- == FR-9 == DROPPED 5-1/2"
- == FR-12 == FLUSH BEAM (TOP FLUSH)
- DBL JST
- SINGLE JST

**SYMBOLS & LEGEND:**

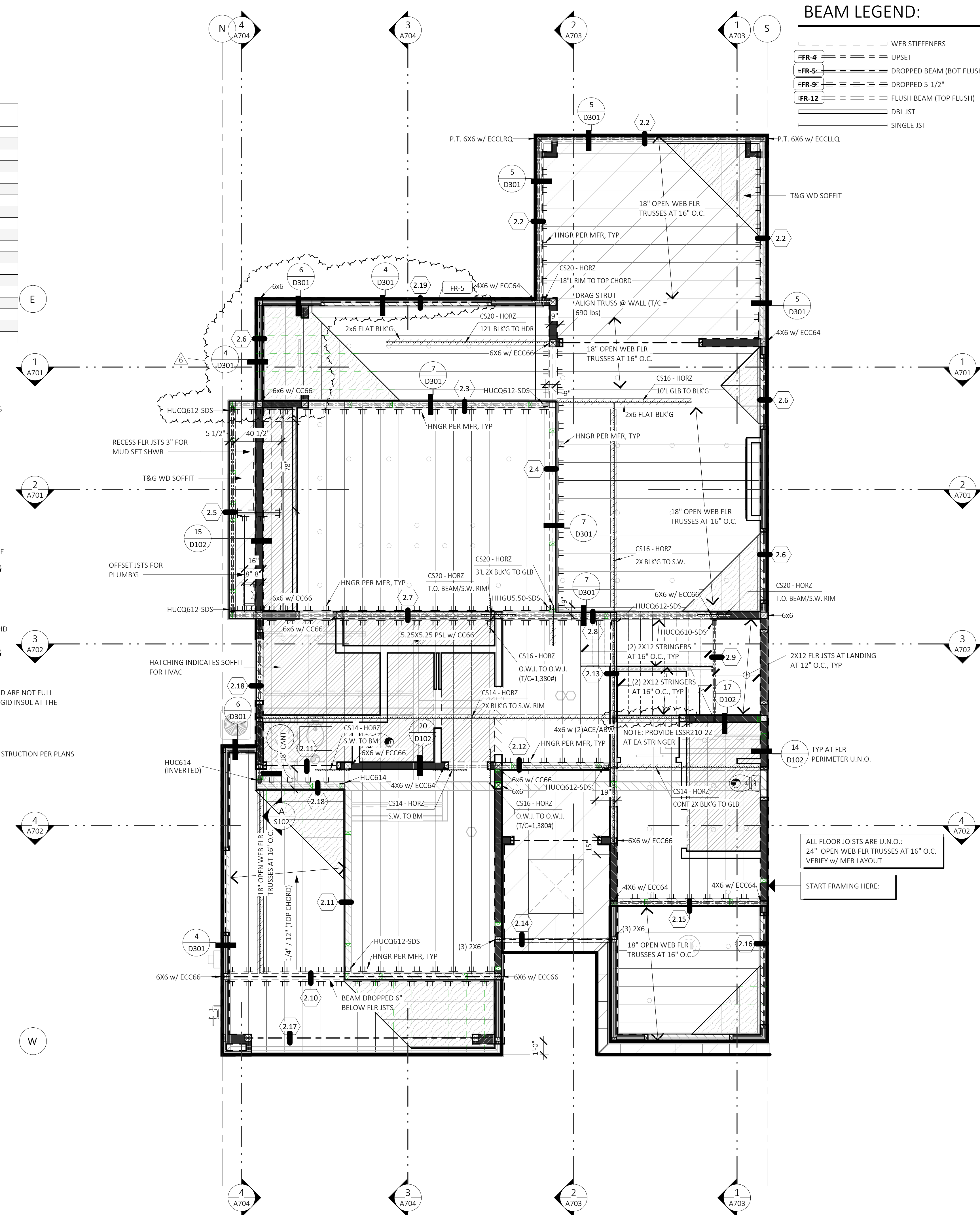
- █ POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM
- █ (1) 2x STUD
- █ (2) 2x STUD, TYP. LARGER MEMBERS AS NOTED ON PLANS
- █ SIMPSON OR OTHER APPROVED ALTERNATE HANGER. USE ALL REQUIRED FASTENERS
- █ INDICATES BEAM CALCULATION WITH INDEXED NUMBER
- █ WALL ABOVE
- █ BEARING WALL BELOW
- █ BEARING WALL ABOVE
- █ NON BEARING WALL BELOW
- █ SHEARWALL BELOW

**GENERAL FRAMING NOTES:**

- SEE SHEET S001 FOR GENERAL DESIGN CRITERIA.
- SEE SHEET(S) S201-203 FOR SHEARWALL DESIGNATIONS, HOLDDOWNS, AND SHEARWALL SCHEDULE.
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  - \* TRUSS DESIGN PER IRC SECTION R802.10.2
  - \* FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
  - \* SEE SHEET(S) S001 FOR DESIGN LOADS.
  - \* TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
- PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
- ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
- ROOF FRAMING SPACING, 24" o.c. U.N.O.
- SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
- FRAMING LUMBER: FRAMING LUMBER SHALL BE MARKED IN ACCORDANCE TO W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER #16, LATEST EDITION. ALL KILN DRIED MIN. 19.
  - a) JOIST AND RAFTERS: SEE SHT S002
  - b) BEAMS AND STRINGERS: SEE SHT S002
  - c) POST AND TIMBERS: SEE SHT S002
  - d) STUDS, PLATES, AND MISC. LIGHT FRAMING: SEE SHT S002
  - e) TJI'S AND MICROLAMS: PER MANUFACTURER
  - f) GLUE LAMINATED TIMBER: SEE SHT S002
  - g) ALL OTHER LUMBER: **HFM-FIR STANDARD OR BETTER.**
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  - i) WALL SHEATHING: SEE SHT S002
  - j) FLOOR SHEATHING: 23/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PER TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP. U.N.O.
  - k) ROOF SHEATHING: 15/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PER TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP.
  - l) OTHER: AS NOTED ON DRAWINGS, SEE SHT S002
- FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH TABLE R602.3(1) OF THE IRC. SEE SHEET A001
  - \* POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
- INSTALL 2x FIREBLOCKING PER R302.11 AS FOLLOWS:
  - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORZ AT INTERVALS NOT EXCEEDING 10 FEET.
  - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
  - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
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- SEE SHT A002 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

**KEYNOTES - FRAMING**

ID	DESCRIPTION
FR-5	TOP OF BEAM IS FLUSH w/ BOTTOM OF JOISTS w/ NO TOP PLATE. CUT ADJACENT FRAMING MEMBERS INTO BEAM FOR ADEQUATE SUPPORT.



**Description**

2023/04/18  
2023/08/07  
2024/07/22

**No.**

3  
5  
6

**Date**

01/23/2024

SEAL OF THE STATE OF WASHINGTON  
J. L. OSBORNE  
REGISTERED PROFESSIONAL ENGINEER

**L2 ENGINEERS**  
17848 NE 198TH PLAVE  
WOODINVILLE, WA 98072

**ATERA DESIGN STUDIO**  
451 DUVAL AVENUE, NE  
RENTON, WA 98059

**HU RESIDENCE**

**2448 72nd AVE SE, Mercer Island**

**PERMIT SET**

**UPPER FLOOR/MAIN ROOF FRAMING PLAN**

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

**S102**

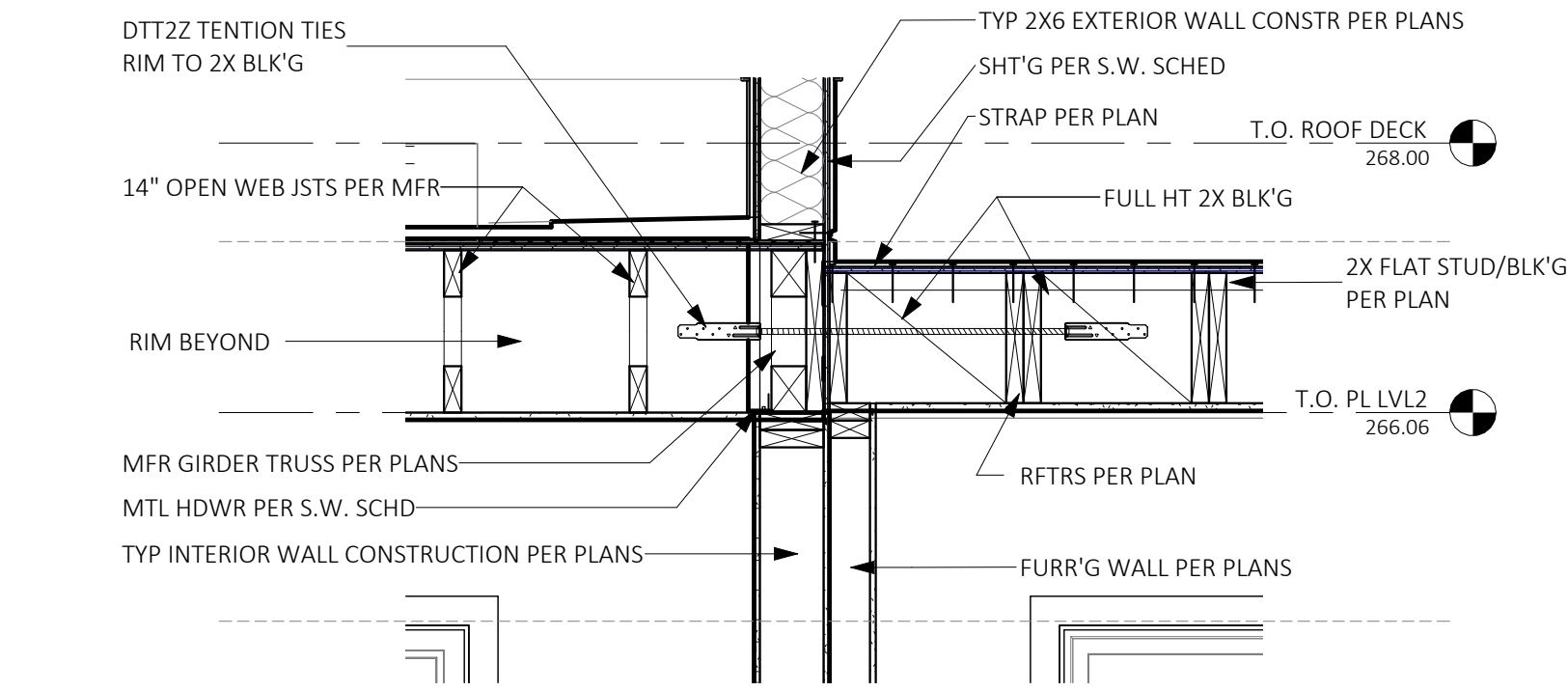
SCALE 24X36: As indicated  
\* NOTE: 11X17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.

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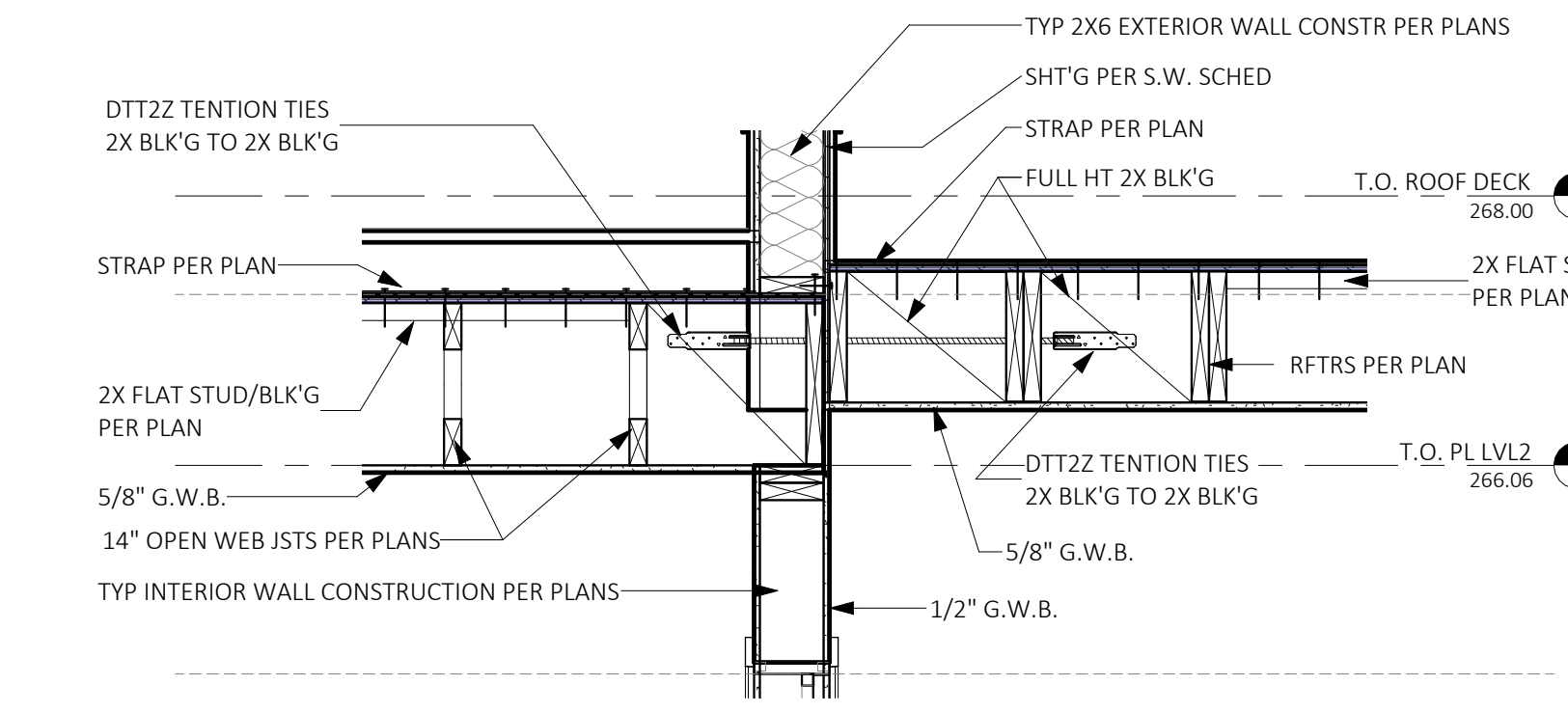


### BEAM SCHEDULE - UPPER ROOF

ID	SIZE
3.1	4X8
3.2	5-1/2" X 7-1/2" GLB



**A DTTZ AT ROOF**  
SCALE: 3/4" = 1'-0"



**B DTTZ AT ROOF**  
SCALE: 3/4" = 1'-0"

### BEAM LEGEND:

---	WEB STIFFENERS
==	UPSET
-FR-4-	DROPPED BEAM (BOT FLUSH)
-FR-5-	DROPPED 5-1/2"
-FR-9-	FLUSH BEAM (TOP FLUSH)
---	DBL JST
---	SINGLE JST

### SYMBOLS & LEGEND:

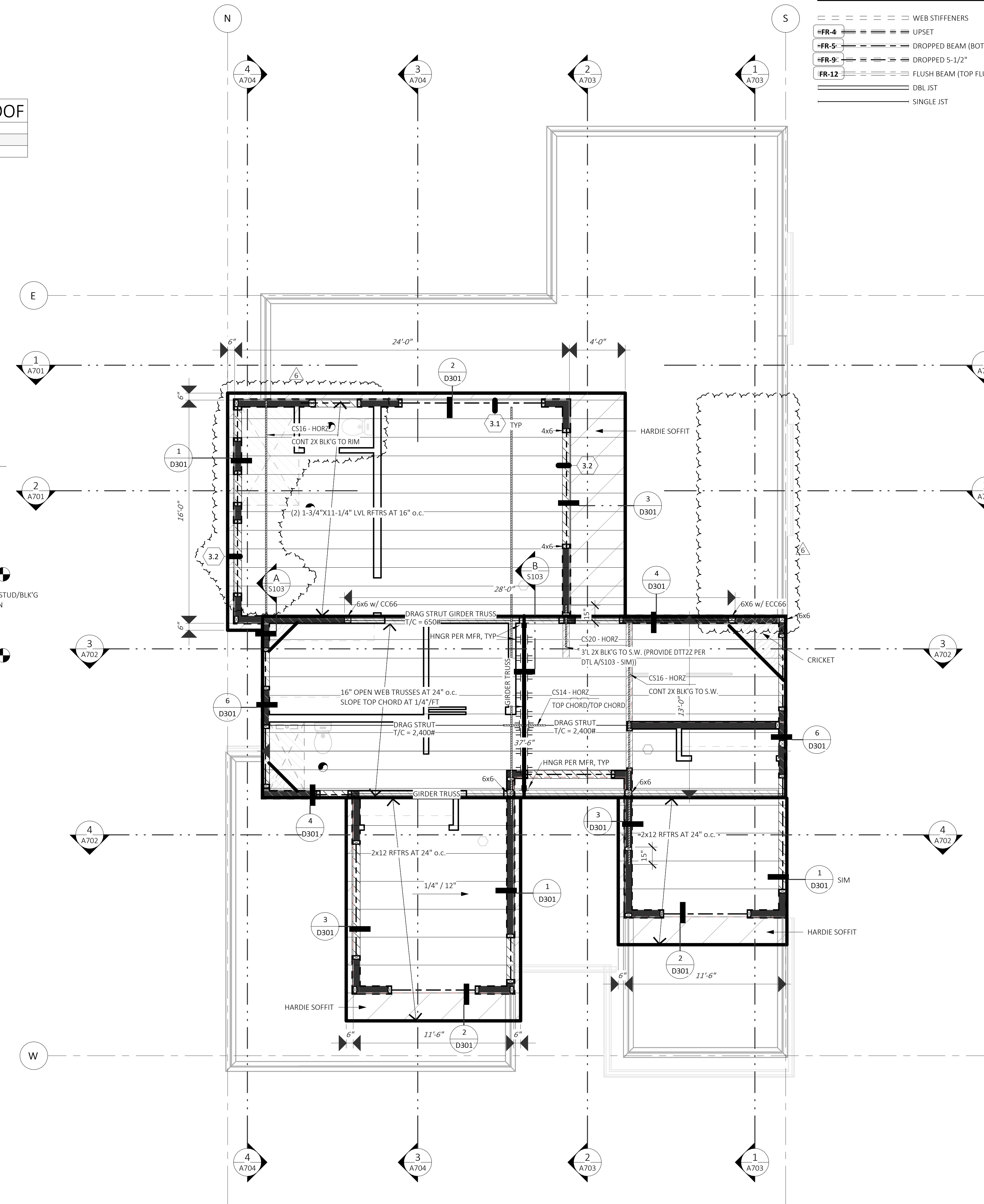
█	POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM
█	(1) 2x STUD
█	(2) 2x STUD, TYP. LARGER MEMBERS AS NOTED ON PLANS
TL	SIMPSON OR OTHER APPROVED ALTERNATE HANGER. USE ALL REQUIRED FASTENERS
#	INDICATES BEAM CALCULATION WITH INDEXED NUMBER
---	WALL ABOVE
---	NON BEARING WALL BELOW
---	BEARING WALL BELOW
---	BEARING WALL ABOVE
---	SHEARWALL BELOW

### GENERAL FRAMING NOTES:

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- PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
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  - k) ROOF SHEATHING: 15/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PERP TO FELR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP.
  - l) OTHER: AS NOTED ON DRAWINGS, SEE SHT S002
- FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH TABLE R602.3(1) OF THE IRC. SEE SHEET A001
  - \* POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
- INSTALL 2X FIREBLOCKING PER R302.11 AS FOLLOWS:
  - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORZ AT INTERVALS NOT EXCEEDING 10 FEET.
  - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
  - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
  - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.
- SEE SHT A002 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

### KEYNOTES - FRAMING

ID	DESCRIPTION
FR-5	TOP OF BEAM IS FLUSH W/ BOTTOM OF JOISTS W/ NO TOP PLATE. CUT ADJACENT FRAMING MEMBERS INTO BEAM FOR ADEQUATE SUPPORT.

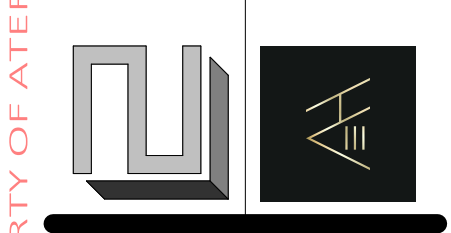


(C) ATERA DESIGN STUDIO LLC. PLANS AND DESIGNS (DRAWINGS) FORTHWITH REMAIN THE PROPERTY OF ATERA DESIGN STUDIO. REPRODUCTION WITHOUT PERMISSION IS PROHIBITED.

Description	Date	No.
Subs City Comments	2023/08/07	5
Subs, REV'T, CLIENT REVISIONS	2024/01/22	6



**L2 ENGINEERS**  
 17848 NE 198TH PLAVE  
 WOODINVILLE, WA 98072  
**ATERA DESIGN STUDIO**  
 451 DUVAL AVE NE,  
 RENTON, WA 98059



**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET  
**ROOF FRAMING PLAN**  
 PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29  
 DRAWN BY: SPM  
**S103**  
 SCALE 24X36: As indicated  
 \* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.



### Holdowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(22) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	6	Simpson Strong Tie or EQ.	4960 / --
CMSTC14-26"			(66) 16d SINKER		DTL 272/S303	2	Simpson Strong Tie or EQ.	6475 / --
(2) HDU11-SDS2.5 2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTHD8/LSTHD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	3500 / --
HDU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HDU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	9	Simpson Strong Tie or EQ.	11175 / 9610
HDU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	5	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC48B3	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC66B3Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

### WOOD FRAMED SHEARWALL SCHEDULE

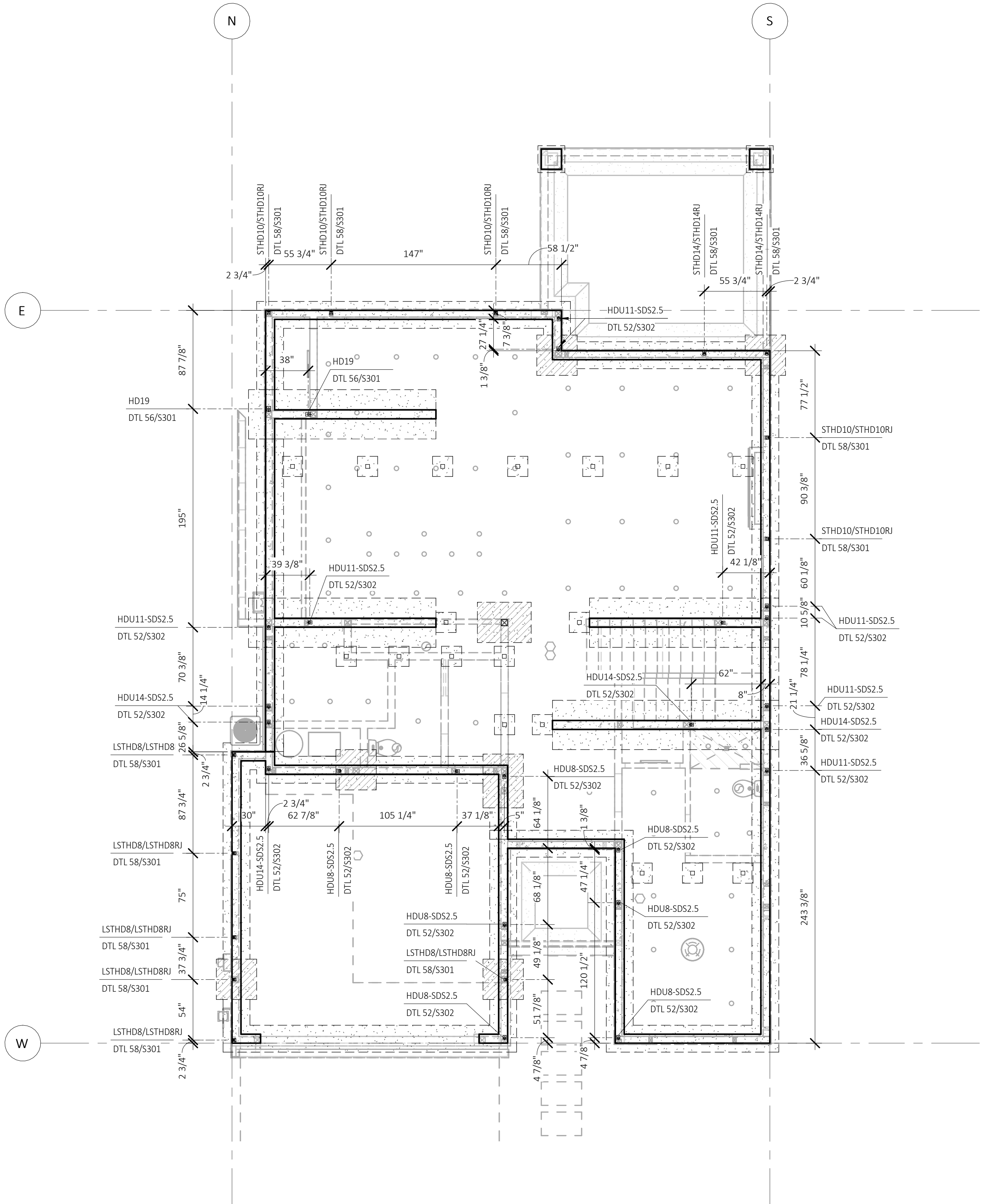
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X	5/8" DIA AT 24" O.C.	707 / 990	5/8" DIA AT 32" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X	5/8" DIA AT 16" O.C.	911 / 1274	5/8" DIA AT 16" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X	5/8" DIA AT 12" O.C.	1190 / 1469	5/8" DIA AT 12" O.C.	1190 / 1469

### SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
- ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
- FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH ABV AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- HDDN INDICATES STRUCTURAL KEYNOTE FOR HOLDDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- - - EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

### SHEAR WALL NOTES

1. ALL NAILS ARE COMMON. UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POSTS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND EDGE NAILING AT 6"OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTPS." "LTP2" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" X1 NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1 0.131" X2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6"OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
7. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229"x 3"x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2.5 WASHER REQUIREMENTS. [ALT: " 8 Øx8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE, WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
8. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
9. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16"OC MAX.
10. STAGGER EDGE NAILING.
11. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
12. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
13. WALL TYPE ACCEPTABLE WITH TRUSJOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.

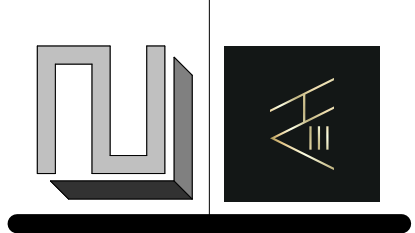


Description  
Date  
No.  
3  
2023/04/18  
SUB3 City Comments



**L2 ENGINEERS**  
17848 NE 198TH PLACE  
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO  
451 DUVAL AVE NE,  
RENTON, WA 98059



**HU RESIDENCE**  
2448 72nd AVE SE, Mercer Island

PERMIT SET

FOUNDATION  
HOLDOWNS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

**S201**

SCALE 24X36: 3/16" = 1'-0"  
\* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.





## Holdowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(2) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	6	Simpson Strong Tie or EQ.	4960 / --
CMSTC14-26"			(66) 16d SINKER		DTL 272/S303	2	Simpson Strong Tie or EQ.	6475 / --
(2) HDU11-SDS2.5 2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTD8/LSTD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	3500 / --
HDU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HDU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	9	Simpson Strong Tie or EQ.	11175 / 9610
HDU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	5	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC4883	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC6683Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

## WOOD FRAMED SHEARWALL SCHEDULE

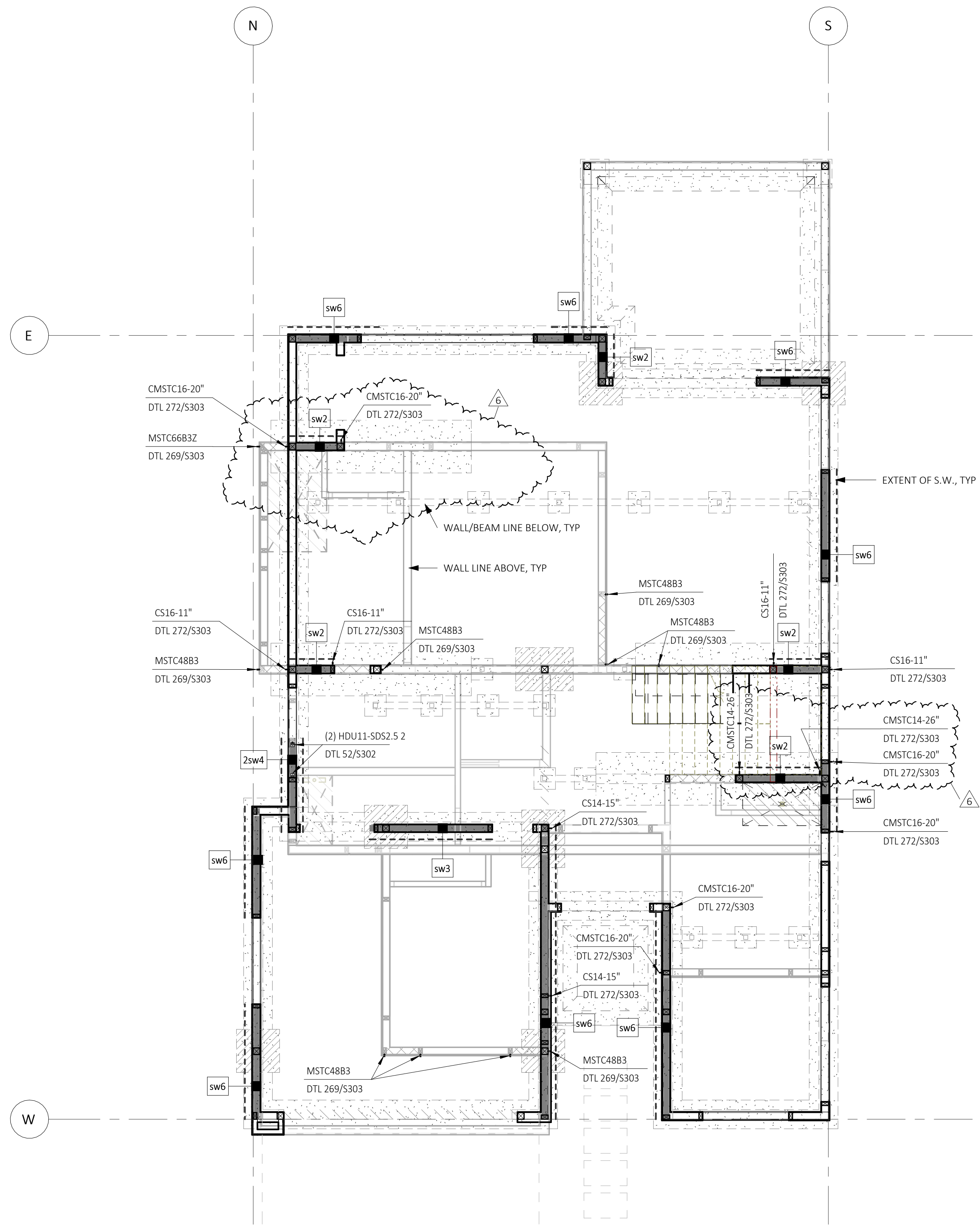
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X			5/8" DIA AT 24" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X			5/8" DIA AT 16" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X			5/8" DIA AT 12" O.C.	1190 / 1469

### SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
- ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
- FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH ABV AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- INDICATES STRUCTURAL KEYNOTE FOR HOLDDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- #/-# EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

### SHEAR WALL NOTES

1. ALL NAILS ARE COMMON. UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POSTS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12" OC WHERE STUDS ARE SPACED AT 16" OC AND EDGE NAILING AT 6" OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTP5." "LTP2" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" x1 NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1 0.131" x2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE.
7. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6" OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
8. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229" x 3" x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2 5 WASHER REQUIREMENTS. [ALT: " 8 ØX8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE. WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
9. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
10. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16" OC MAX.
11. STAGGER EDGE NAILING.
12. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
13. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
14. WALL TYPE ACCEPTABLE WITH TRUSIOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.



Description  
 Date  
 No.  
 2024/01/22  
 6  
 SUBB. REV.1, CLIENT REVISIONS



**L2 ENGINEERS**  
 17848 NE 198TH PLAVE  
 WOODINVILLE, WA 98072  
 ATERA DESIGN STUDIO  
 451 DUVALLE AVE. NE,  
 RENTON, WA 98059



## HU RESIDENCE

2448 72nd AVE SE, Mercer Island

PERMIT SET

MAIN FLOOR  
 SHEARWALLS &  
 UPPER FLOOR  
 HOLDDOWNS

PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29  
 DRAWN BY: SPM

**S202**

SCALE 24X36: 3/16" = 1'-0"  
 \* NOTE: 11X17 SETS ARE  
 REDUCED 50% SCALE  
 DRAWINGS ACCORDINGLY.



(C) ATERA DESIGN STUDIO LLC. PLANS AND DESIGNS (DRAWINGS) FORTHWITH REMAIN THE PROPERTY OF ATERA DESIGN STUDIO. REPRODUCTION WITHOUT PERMISSION IS PROHIBITED.

## Holdowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(2) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	6	Simpson Strong Tie or EQ.	4960 / --
CMSTC14-26"			(66) 16d SINKER		DTL 272/S303	2	Simpson Strong Tie or EQ.	6475 / --
(2) HDU11-SDS2.5.2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTHD8/LSTHD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	3500 / --
HU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	9	Simpson Strong Tie or EQ.	11175 / 9610
HU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	5	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC4883	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC6683Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

## WOOD FRAMED SHEARWALL SCHEDULE

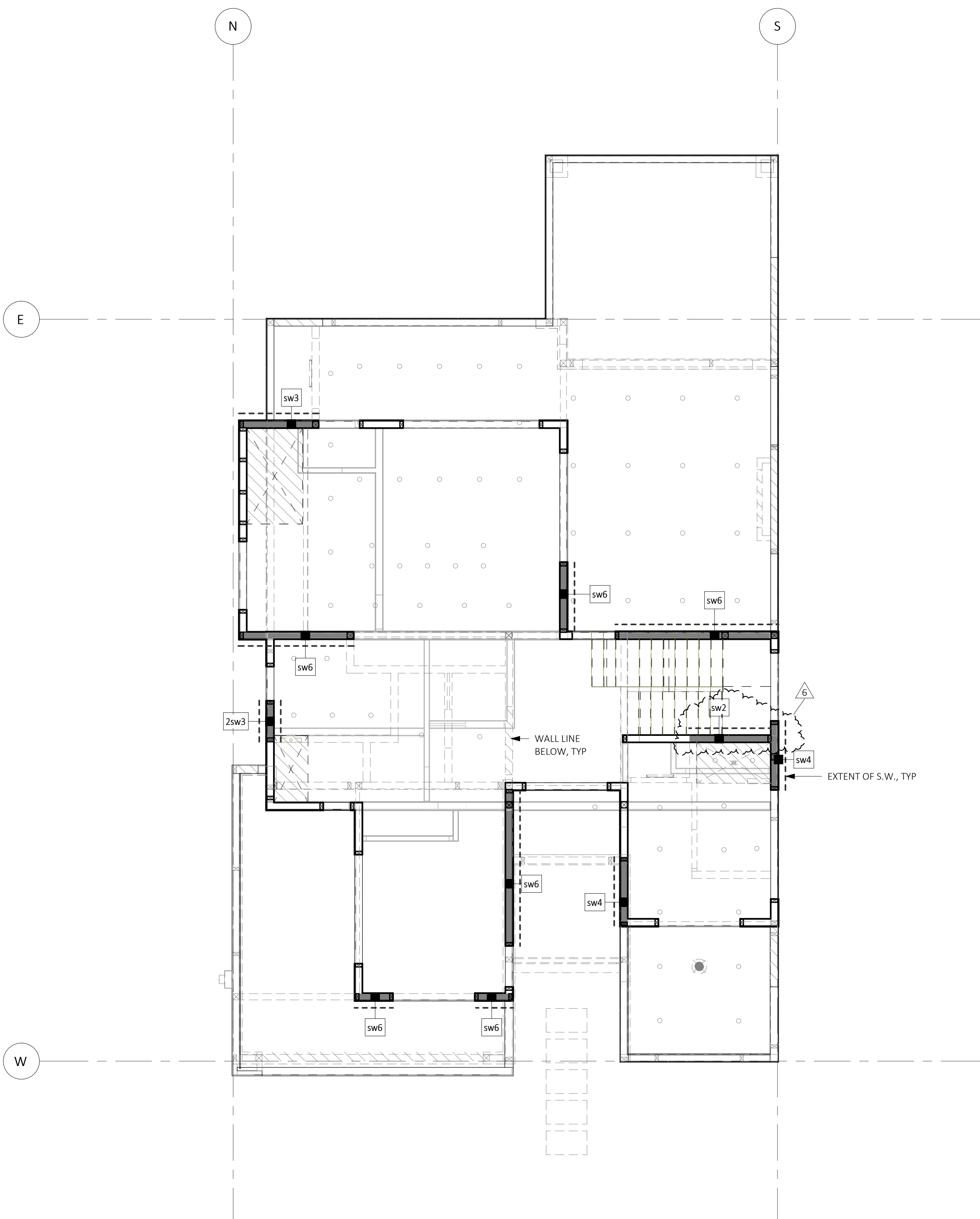
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X	5/8" DIA AT 24" O.C.	707 / 990	5/8" DIA AT 32" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X	5/8" DIA AT 16" O.C.	911 / 1274	5/8" DIA AT 24" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X	5/8" DIA AT 12" O.C.	1190 / 1469	5/8" DIA AT 16" O.C.	1190 / 1469

### SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
  - ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
  - FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH ABV AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- HHDN INDICATES STRUCTURAL KEYNOTE FOR HOLDDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- DET #/# INDICATES EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

### SHEAR WALL NOTES

1. ALL NAILS ARE COMMON, UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POSTS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND EDGE NAILING AT 6"OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTP5." "LTP5" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" x 1" NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1/2 0.131" x 2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE.
7. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6"OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
8. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229" x 3" x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2.5 WASHER REQUIREMENTS. [ALT: " 8 ØX8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE, WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
9. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
10. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16"OC MAX.
11. STAGGER EDGE NAILING.
12. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
13. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
14. WALL TYPE ACCEPTABLE WITH TRUSJOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.

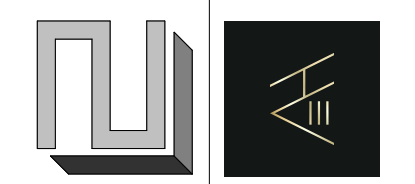


Description  
Date  
2024/01/22  
SUBB, REV1, CLIENT REVISIONS



**L2 ENGINEERS**  
17848 NE 198TH PLAVE  
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO  
451 DUVAL AVE NE,  
RENTON, WA 98059



**HU RESIDENCE**

2448 72nd AVE SE, Mercer Island

PERMIT SET

UPPER FLOOR SHEARWALLS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

**S203**

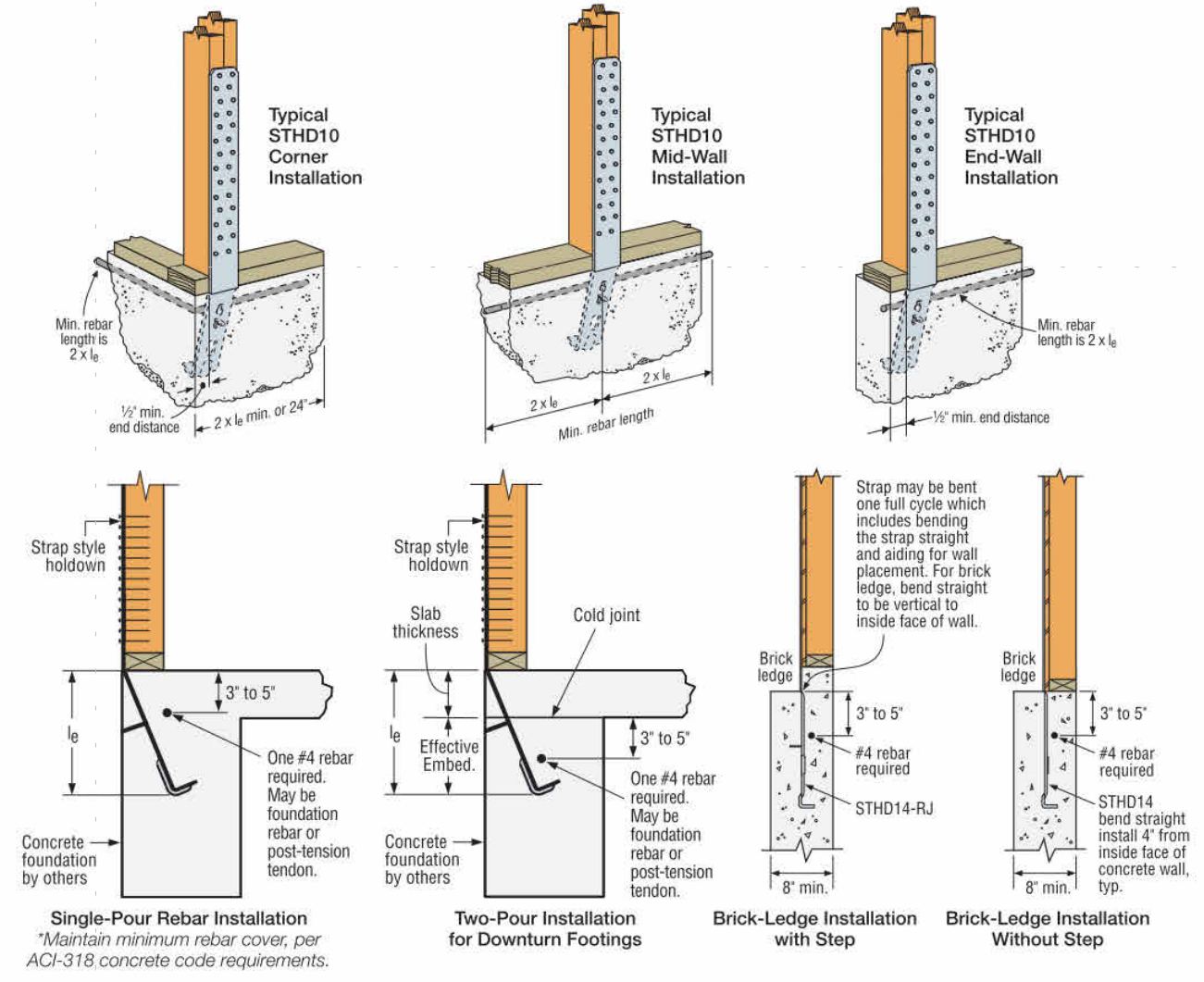
SCALE 24X36: 3/16" = 1'-0"  
\* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





LSTHD/STHD

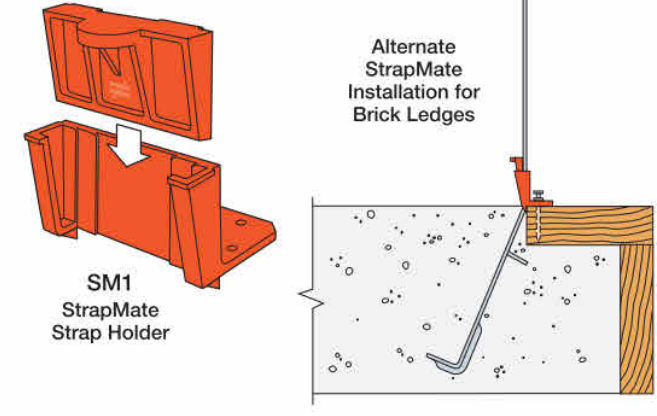
Strap-Tie Holdowns (cont.)



StrapMate® Strap Holder

- Features: The StrapMate is reusable, Works with STHD, LSTHD, Designed to fit 3/4" plywood forms up to 14" LVL forms and larger, The strap is positioned on the front edge of the form board.

Table with 2 columns: Model No., Nails (in.)



LSTHD/STHD

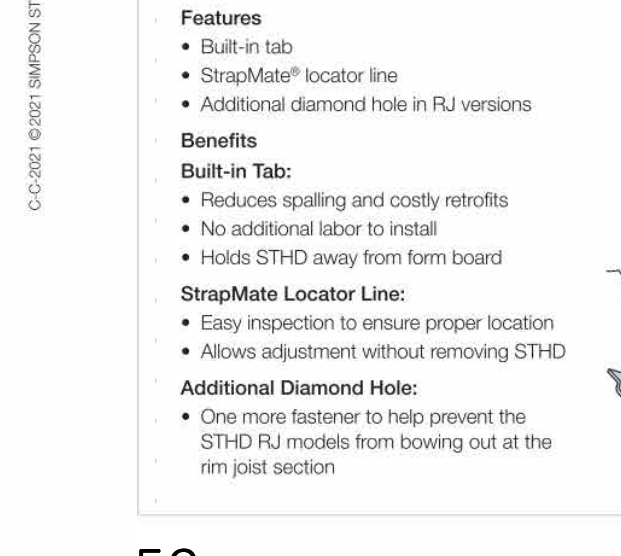
Strap-Tie Holdowns (cont.)

Tension Loads for STHD Installations

Table with columns: Min. Stemwall (in.), Standard, Rim Joist, Strap Length (in.), Lc (in.), Required Nails (n), Uncracked (Midwall, Corner, Endwall), Cracked (Midwall, Corner, Endwall), Code Ref.

- 1. Allowable loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern. 2. Concrete shall have a minimum compressive strength of Fc = 2,000 psi.

Spall Reduction System for STHD Holdown



HDB/HD

Holdowns (cont.)

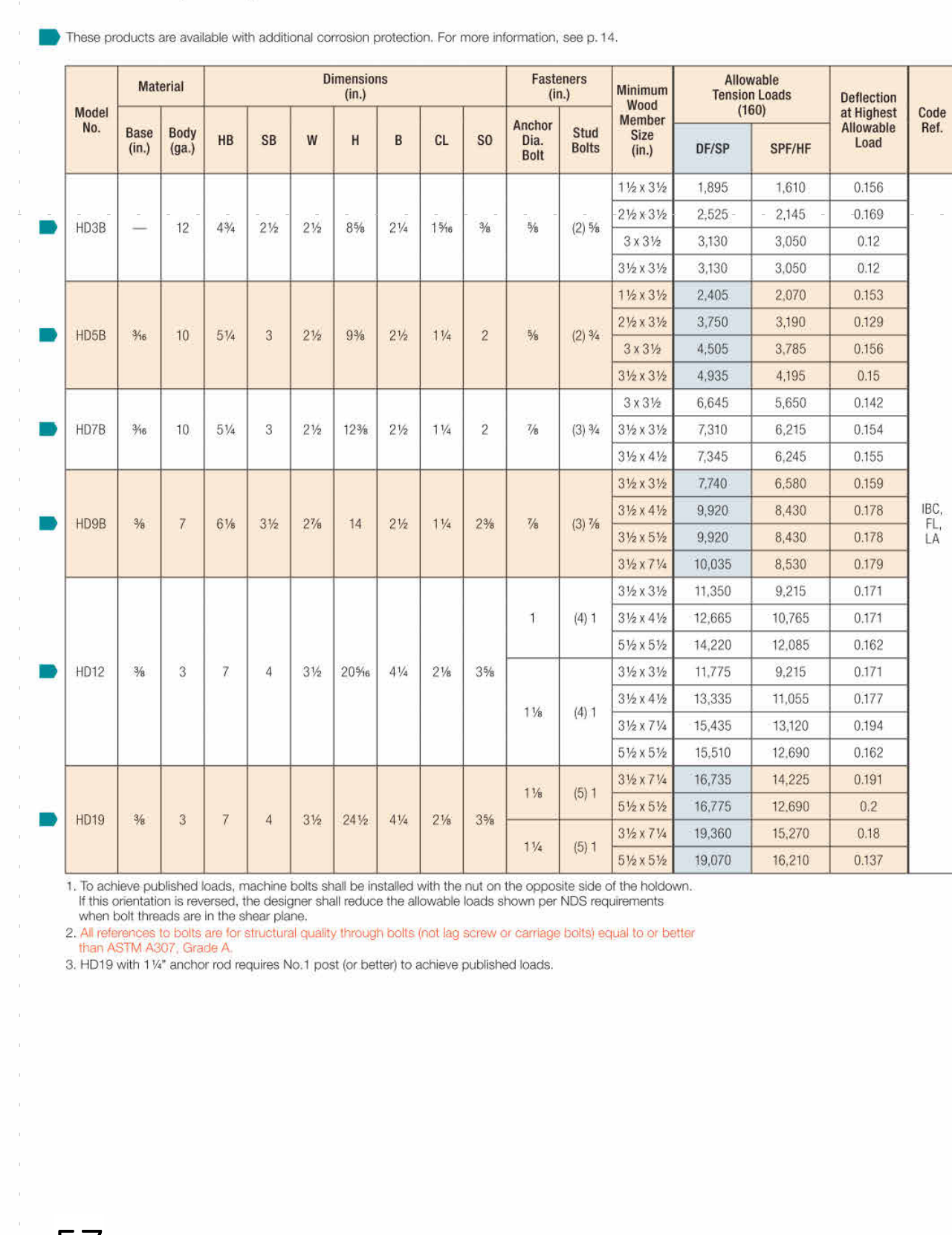
Table with columns: Model No., Material, Dimensions (in.), Fasteners (in.), Minimum Wood Member Size (in.), Allowable Tension Loads (lb), Deflection at Highest Allowable Load, Code Ref.

- 1. To achieve published loads, machine bolts shall be installed with the nut on the opposite side of the holdown. 2. All references to bolts are for structural quality through bolts (not lag screws or carriage bolts equal to or better than ASTM A307 Grade 3).



HDB/HD

Holdowns (cont.)



HDB/HD

General Information and Notes (cont.)

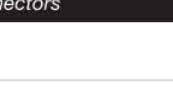
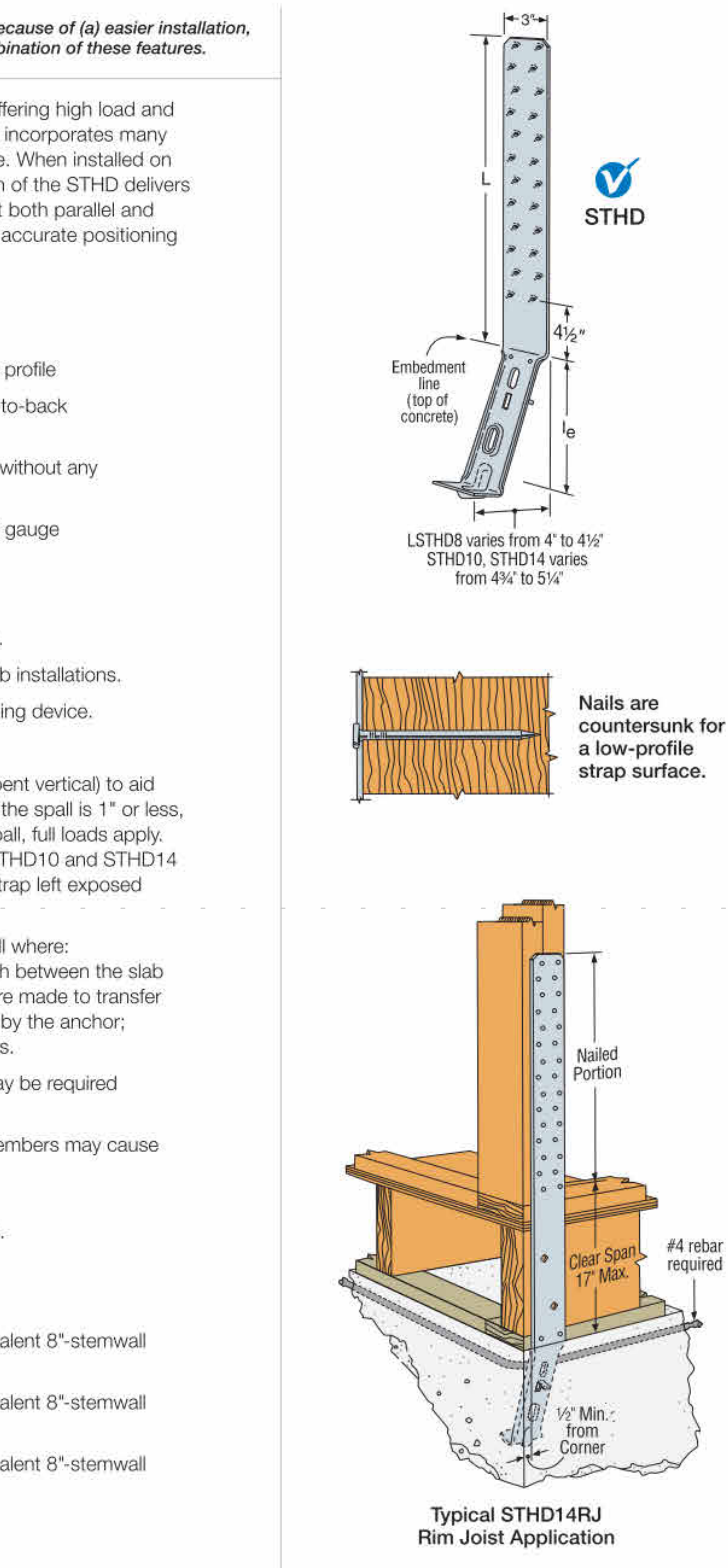
- Holdown and Tension Tie General Notes: a. Allowable loads have been increased for earthquake or wind load durations with no further increase allowed. Reduce where other loads govern.



LSTHD/STHD

Strap-Tie Holdowns

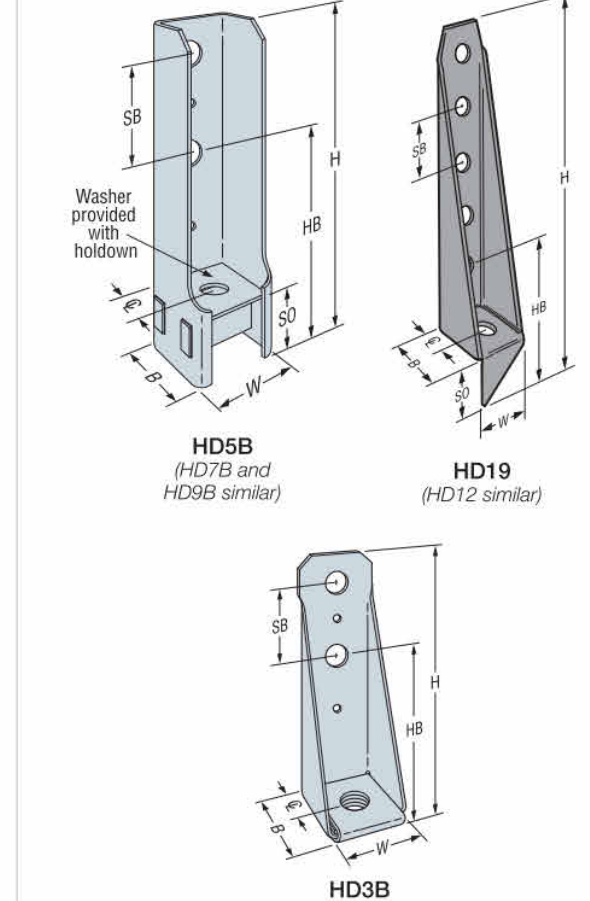
- Features: The pattern allows for nailing to the edges of double 2x's, Strap nail slots are countersunk to provide a lower nail head profile, The slots below the embedment line enable increased front-to-back concrete bond and help to reduce spalling.



HDB/HD

Holdowns

- Material: See table, Finish: HD3B-HD3B/HD7B/HD9B - Galvanized, HD - Simpson Strong-Tie gray paint, HDG available, For stainless steel options, see engineering letter L-C-SSHID at strongtie.com.



General Information and Notes

General Information and Notes section containing diagrams for Shear from diaphragm, Methods of Providing Overturning Restraint, and software tools like Post-to-Foundation Designer and Site-Built Shearwall Designer.



General Information and Notes

General Information and Notes section containing diagrams for Shear from diaphragm, Methods of Providing Overturning Restraint, and software tools like Post-to-Foundation Designer and Site-Built Shearwall Designer.



General Information and Notes (cont.)

- Holdown and Tension Tie General Notes: a. Allowable loads have been increased for earthquake or wind load durations with no further increase allowed. Reduce where other loads govern.

PERMIT SET

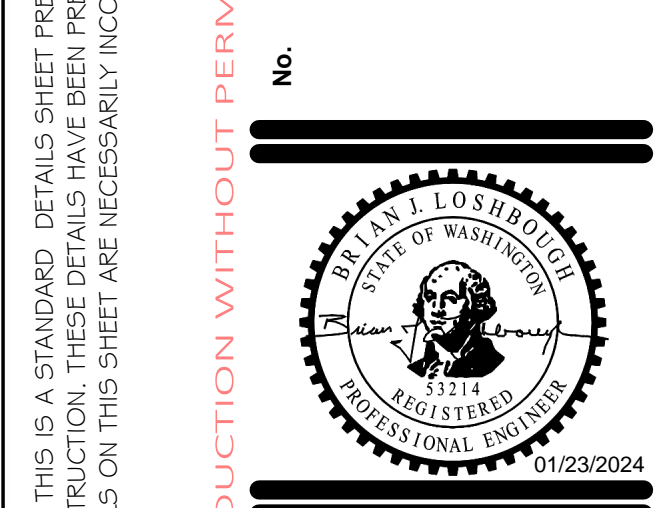
SIMPSON HOLDOWN & TENSION TIES STANDARD DTLS

PROJECT NO: 21014, ISSUE DATE: 2022/06/29, DRAWN BY: SPM

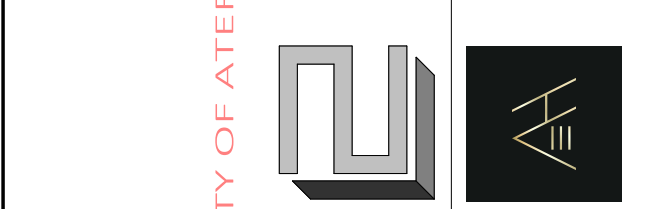
S301

SCALE 24X36, NOTE: 11X17 SETS ARE REDUCED 50% SCALE, DRAWINGS ACCORDINGLY.

NOTE: THIS IS A STANDARD DETAIL SHEET PREPARED FOR SINGLE FAMILY HOUSING TYPE V NONRATED CONSTRUCTION. THESE DETAILS HAVE BEEN PREPARED TO COVER GENERAL CONSTRUCTION CONDITIONS. NOT ALL DETAILS ON THIS SHEET ARE NECESSARILY INCORPORATED INTO THIS PROJECT. COORDINATE WITH PLANS.



L2 ENGINEERS, 17848 NE 198TH PLACE, WOODINVILLE, WA 98072, ATERA DESIGN STUDIO, 451 DUVALL AVE NE, RENTON, WA 98059



2448 72nd AVE SE, Mercer Island

HU RESIDENCE

REPRODUCTION WITHOUT PERMISSION IS PROHIBITED.

Simpson Strong-Tie® Wood Construction Connectors  
**CBTZ**

Concealed Beam Tie

CBTZ is part of the concealed structural connector line that combines structural strength with invisibility. Designed to connect horizontal beams atop a vertical post, the CBTZ continues the structural load path into the foundation through the CPZT. The simple cylindrical design allows installations with a common drill bit, eliminating challenging kerf cuts. The CBTZ is available in two models designed to connect beams and posts of a variety of sizes. It is part of a concealed connector system that includes the CPZT and C-T.

- Flattened sides assist installer while using the CBTZ as a template
- Locator tabs provide proper dimensional layout
- Required dowel pins included
- Orientation markings distinguish which end installs into the post and which end goes into the beam

- Use all specified fasteners; see General Notes
- 1/2" dowels included
- CBTZ requires a minimum 6" deep normal beam
- For step-by-step installation instructions, see technical bulletin T-C-CBTZINS or view our video on [strongtie.com](http://strongtie.com)

Codes: See p. 11 for Code Reference Key Chart

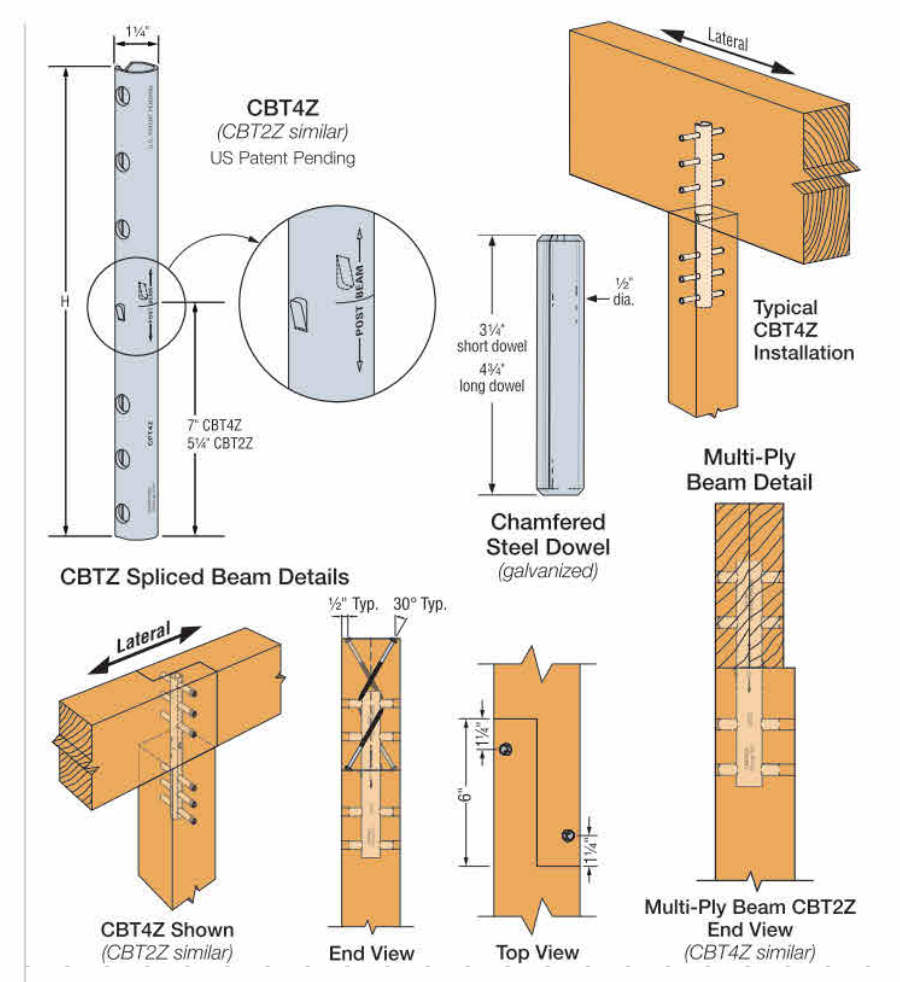


Table with columns: Model No., Post (Min), Beam (Min), Dimensions (in.), CBTZ Fasteners, Splice Fasteners, Allowable Loads (DF/SP), Spliced Beam, Code Ref.

- 1. Uplift and lateral loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
- 2. Downloads shall be reduced where limited by capacity of the post.
- 3. CPZT concealed post ties are supplied with 1/2" diameter dowel pins. Alternative 1/2" diameter hex- or square-head machine bolts may be used for loads tested.
- 4. Lag screws or carriage bolts are not permitted.
- 5. Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. Values in the tables reflect dowel or bolt installation into the wide face.

SIMPSON Strong-Tie®

Simpson Strong-Tie® Wood Construction Connectors  
**CPZT**

Concealed Post Tie

The CPZT concealed post base provides a clean, concealed look while providing a 1" standoff height above concrete. The 1" standoff reduces the potential for decay at the post end and satisfies code requirements for posts that are exposed to weather, water splash or in basements. It is part of a system of concealed connectors that includes the CBTZ and C-T.

- The CPZT is tested and load-rated for uplift, downward and lateral load.
- Simpson Strong-Tie saves installers time by providing all the necessary components to make the post connection in one box (anchors not included).
- There are two anchorage solutions available. See tables for information.
- Solutions have been calculated per ACI 318 to determine their allowable load in different concrete configurations.

- Material: See table below
- Finish: Knife plate, washers and standoff base are ZMAX™, galvanized steel. The standoff base has an additional textured, flat black powder-coat finish for aesthetic purposes. The 1/2" diameter drift dowels are mechanically galvanized in accordance with ASTM B685, Class 55. If substituting 1/2" diameter bolts, a hot-dip galvanized finish is recommended. Some available in stainless steel (see table).
- Installation: Use all specified fasteners; see General Notes
- More extensive installation instructions are available through our Literature Library app or by visiting [strongtie.com](http://strongtie.com)
- Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-braced, or non-top-supported installations

Codes: See p. 11 for Code Reference Key Chart

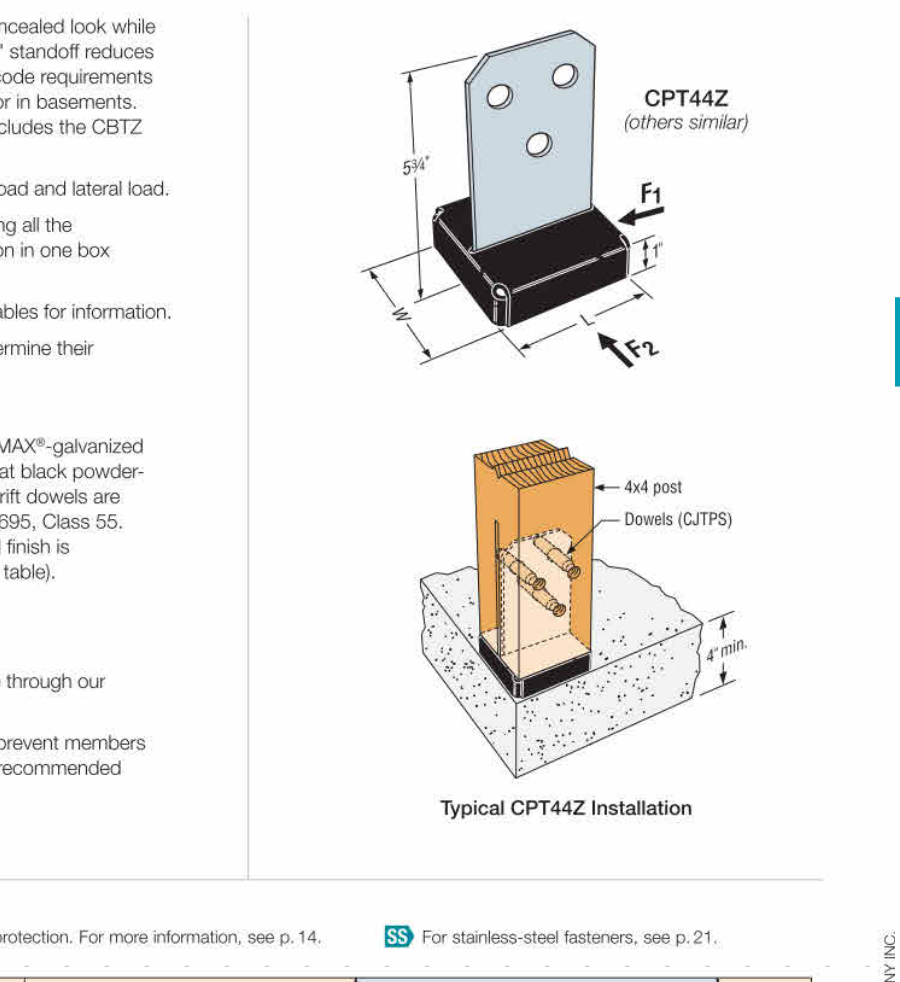


Table with columns: Model No., Nominal/Post Size, Embed (in.), Dimensions (in.), Anchor, Fasteners, Allowable Loads (DF/SP), Code Ref.

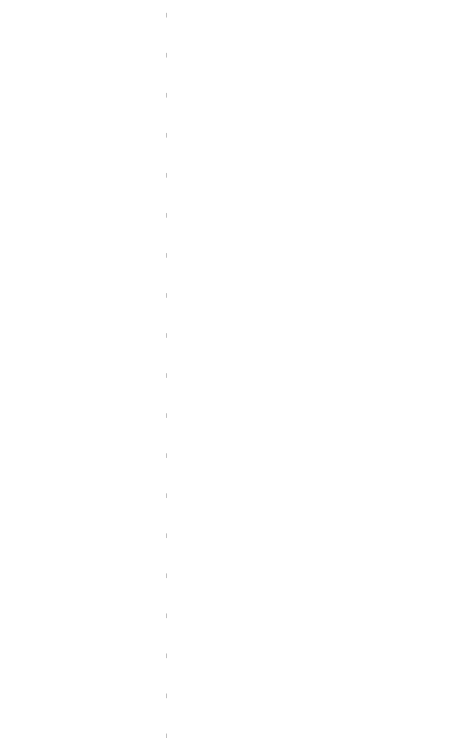
- 1. Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- 2. Downloads shall be reduced where limited by capacity of the post.
- 3. CPZT concealed post ties are supplied with 1/2" diameter dowel pins. Alternative 1/2" diameter hex- or square-head machine bolts may be used for loads tested.
- 4. Lag screws or carriage bolts are not permitted.
- 5. Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. For SCL columns, the fasteners for these products should always be installed in the wide face. See technical bulletin T-C-SCL-CM for more information.

Simpson Strong-Tie® Wood Construction Connectors  
**CPZT**

Concealed Post Tie (cont.)

Anchor Option 1 – CPZT Anchorage Using SET-3G™ Anchoring Adhesive

Table with columns: Model No., Embed (in.), Edge Distance (in.), Allowable Uplift (lb), CPZT



Codes: See p. 11 for Code Reference Key Chart

Simpson Strong-Tie® Wood Construction Connectors  
**CPZT**

Anchor Option 2 – CPZT Cast-in-Place Anchorage

Table with columns: Model No., Embed (in.), Edge Distance (in.), Anchorage, Allowable Uplift (lb), CPZT



Codes: See p. 11 for Code Reference Key Chart

Simpson Strong-Tie® Wood Construction Connectors  
**ABA/ABU/ABW**

Adjustable and Standoff Post Bases

The ABA series of retrofit adjustable post bases provide a 1" standoff for the post, are slotted for adjustability and can be installed with nails, Strong-Drive® SD Connector screws or bolts (ABU). Depending on the application needs, these adjustable standoff post bases are designed for versatility, cost-effectiveness and maximum uplift performance.

- The 1" standoff helps prevent rot at the end of the post and meets code requirements for structural posts installed in basements or exposed to weather or water splash
- Material: Varies (see table)
- Finish: ZMAX™ and some in stainless steel; see Corrosion Information, pp. 12–15
- Installation: Use all specified fasteners; see General Notes
- See our Anchoring, Fastening, Restoration and Strengthening Systems for Concrete and Masonry catalog, or visit [strongtie.com](http://strongtie.com) for retrofit anchor options, such as Titan HD®, Stainless Steel Titan HD or SET-3G™
- Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-top-supported installations (such as fences or unbraced carports)
- Place the base, cut washers or load transfer plate(s) and nuts on the anchor bolts. Make any necessary adjustments to post placement and tighten the nut securely on the anchor bolt.
- See [strongtie.com](http://strongtie.com) for information on hollow column installation.

- Use all specified fasteners; see General Notes
- More extensive installation instructions are available through our Literature Library app or by visiting [strongtie.com](http://strongtie.com)
- Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-braced, or non-top-supported installations

Codes: See p. 11 for Code Reference Key Chart

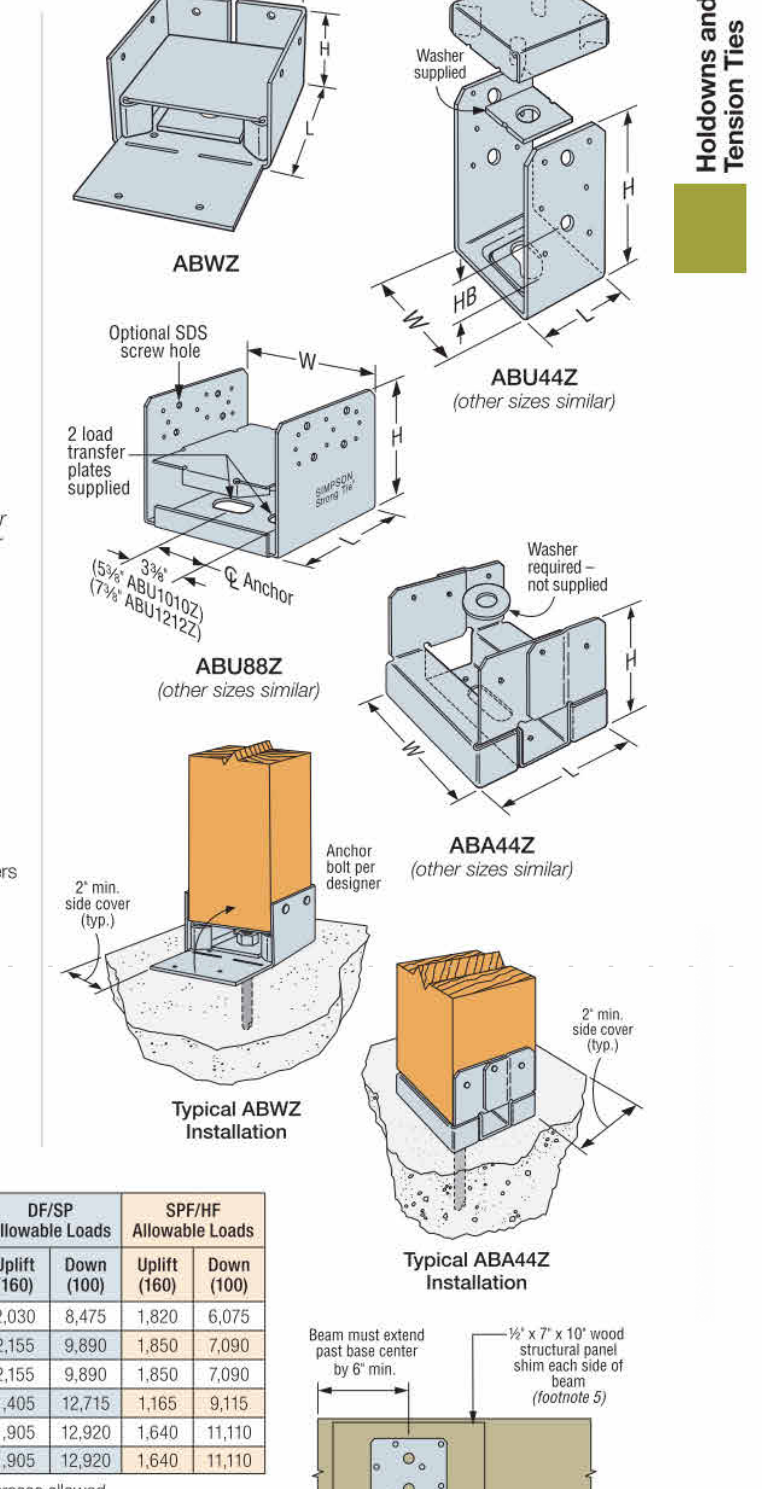


Table with columns: Model No., Nominal Beam Size, Material, Dimensions (in.), Fasteners, Allowable Loads (DF/SP), SPSHF Allowable Loads, Code Ref.

Simpson Strong-Tie® Wood Construction Connectors  
**HDU/DTT**

Holdowns

HDU holdowns are pre-deflected during the manufacturing process, virtually eliminating deflection under load due to material stretch. They use Strong-Drive® SDS Heavy-Duty Connector screws which install easily, reduce fastener slip and provide a greater net section when compared to bolts.

- The DTT tension ties are designed for lighter-duty holdown applications on single 2x posts. The DTT is installed with nails or Strong-Drive SD Connector screws and the DTT2 installs easily with the Strong-Drive SDS Heavy-Duty Connector screws (included). The DTT2 holdowns have been tested for use in designed shearwalls and prescriptive braced wall panels as well as prescriptive wood-deck applications (see p. 295 for deck applications).
- For more information on holdown options, contact Simpson Strong-Tie.

- HDU Features: Uses Strong-Drive SDS Heavy-Duty Connector screws which install easily, reduce fastener slip and provide a greater net section area of the post compared to bolts
- Strong-Drive SDS Heavy-Duty Connector screws are supplied with the holdowns to ensure proper fasteners are used
- No stud bolts to countersink at openings
- Material: See table
- Finish: HDU – galvanized; DTT1Z and DTT2Z – ZMAX™ (ABU62Z, ABU1010Z, ABU1212Z – SS optional)
- Installation: See Hold-down and Tension Tie General Notes on pp. 40–50
- The HDU requires no additional washer; the DTT requires a standard-out washer (included) be installed between the nut and the seat.
- Strong-Drive SDS Heavy-Duty Connector screws install best with a low-speed high-torque drill with a 1/4" hex-head driver.
- Fasteners and crescent washer are included with the holdowns. For replacements, order part no. SDS2512-HDU (FIT in the size needed, e.g., HDU2.)

Codes: See p. 11 for Code Reference Key Chart

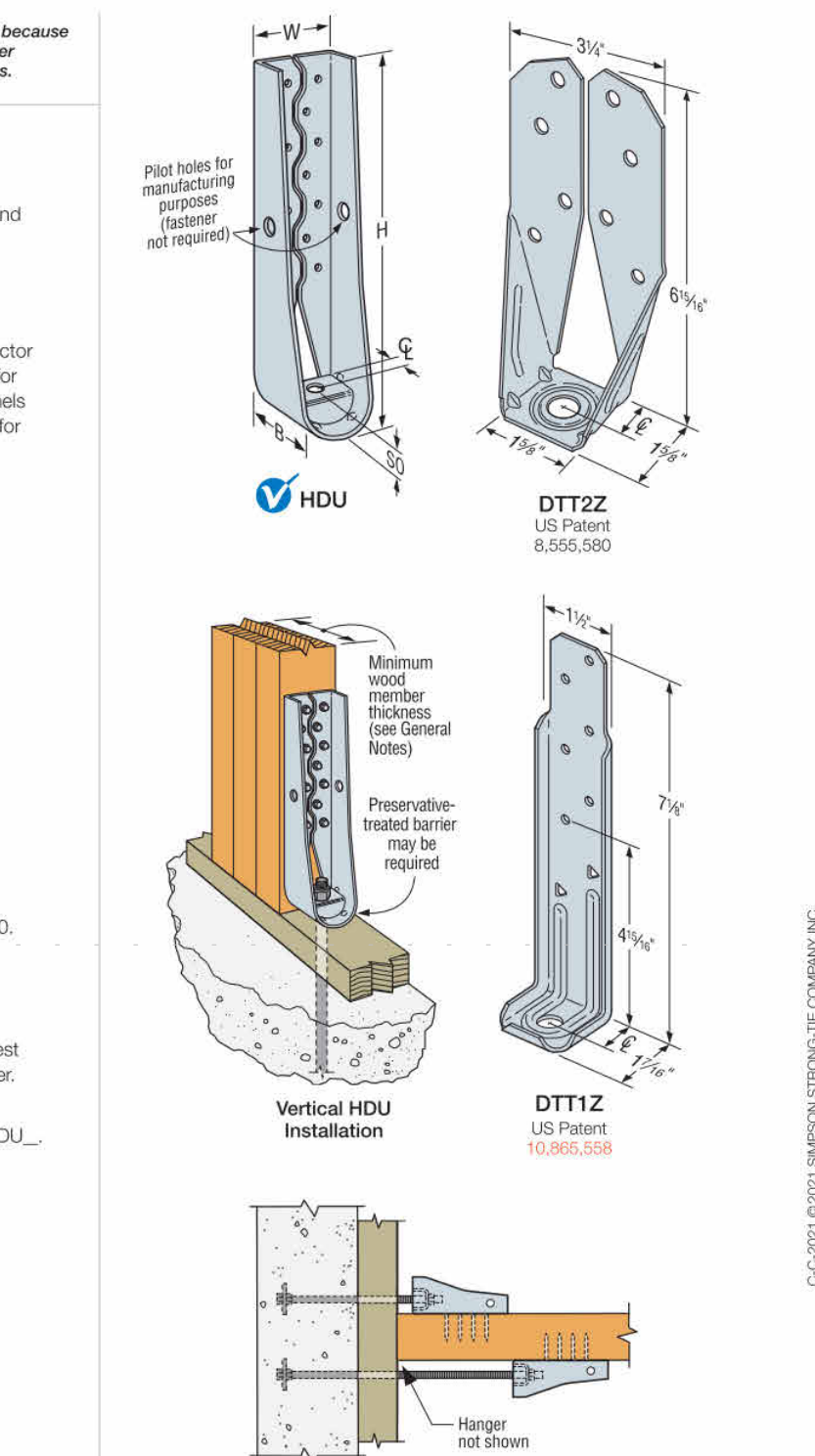


Table with columns: Model No., Ga., Dimensions (in.), Fasteners, Minimum Wood Member Size, Allowable Tension Loads (lb), Deflection at Allowable Load (in.), Code Ref.

Simpson Strong-Tie® Wood Construction Connectors  
**ABA/ABU/ABW**

Adjustable and Standoff Post Bases (cont.)

Allowable Loads – Post Installation

Table with columns: Model No., Nominal Post Size, Material, Dimensions (in.), Fasteners, Allowable Loads (DF/SP), Code Ref.

- 1. Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- 2. Downloads may not be increased for short-term loading.
- 3. Specifier is to design concrete and anchorage for uplift loads.
- 4. ABU products may be installed with other bolts or nails (not both) to achieve table loads. ABU62Z, ABUSBRZ, ABU1010Z, ABU1010RZ, and ABU1212RZ may be installed with eight 1/4" x 3" Strong-Drive SDS Heavy-Duty Connector screws (sold separately) for the same table load.
- 5. For higher downloads, pack grout solid under 1" standoff plate before installation. Base download on column or concrete, according to the code.
- 6. H-B dimension is the distance from the bottom of the post up to the first bolt hole.
- 7. Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. For SCL columns, the fasteners for these products should always be installed in the wide face. See technical bulletin T-C-SCL-CM at [strong-tie.com](http://strong-tie.com) for more information.
- 8. Downloads shall be reduced where limited by capacity of the post.
- 9. Fasteners: Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.

Codes: See p. 11 for Code Reference Key Chart

Simpson Strong-Tie® Wood Construction Connectors  
**HDU/DTT**

Holdowns (cont.)

Allowable Loads – Post Installation

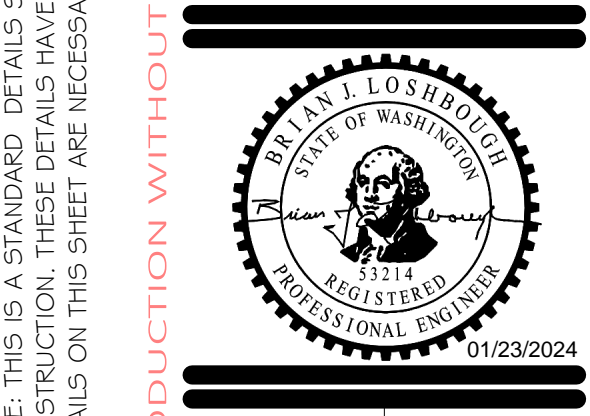
Table with columns: Model No., Ga., Dimensions (in.), Fasteners, Minimum Wood Member Size, Allowable Tension Loads (lb), Deflection at Allowable Load (in.), Code Ref.

- 1. HDU1 requires heavy-hex anchor nut to achieve tabulated loads (included with holdown).
- 2. HDU14 loads on 4x6 posts are applicable to installation on either the narrow or the wide face of the post.
- 3. Fasteners: Nail dimensions are listed diameter by length. SD and SDS screws are Simpson Strong-Tie® Strong-Drive SD Connector and SDS Heavy-Duty Connector screws. See pp. 21–22 for fastener information.

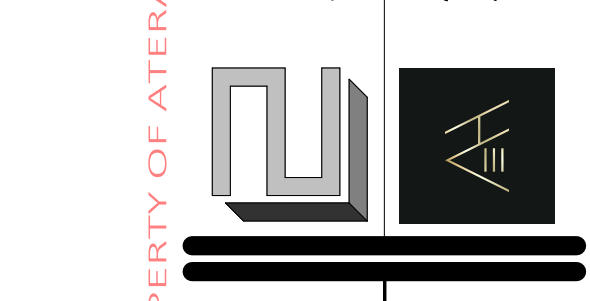
Codes: See p. 11 for Code Reference Key Chart

SIMPSON Strong-Tie®

STANDARD DETAIL SHEET



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451 DUVALL AVE. NE  
RENTON, WA 98059



HU RESIDENCE

2448 72nd AVE SE, Mercer Island

PERMIT SET

SIMPSON HOLDOWN & TENSION TIES STANDARD DTLS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

SCALE 24X36  
NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY



Simpson Strong-Tie® Wood Construction Connectors

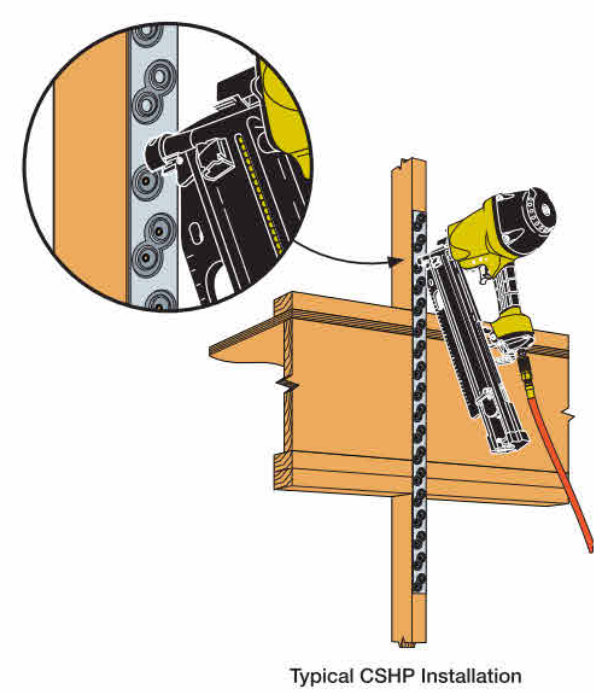
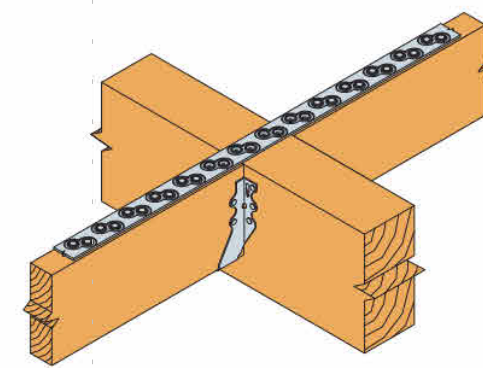


Coiled Straps (cont.)

- These products are available with additional corrosion protection. For more information, see p. 14.
For stainless-steel fasteners, see p. 21.
Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348-352 for more information.

Table with columns: Model No., Total L., Ga., DF/SP Fasteners (in.), End Length (in.), SP/RFH Fasteners (in.), End Length (in.), Allowable Tension Loads (160), Code Ref.

- See pp. 266-267 for Straps and Ties General Notes.
Calculate the correction value for a reduced number of nails as follows:
Allowable Load = No. of Nails Used / Table Load x No. of Nails in Table
Example: CMST12 is a strap with 40 nails total. (Half of the nails in each member being connected)
Allowable Load = 40 Nails / (Table Load) x 40 Nails
See p. 274 for alternate nailing and lap splice information.
Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.



MST/MSTA/MSTC



Strap Ties (cont.)

- These products are available with additional corrosion protection. For more information, see p. 14.
Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348-352 for more information.

Floor to Floor Span Table

Table with columns: Model No., Clear Span (in.), Fasteners (Total), Allowable Tension Loads (DF/SP), Allowable Tension Loads (SP/RFH)

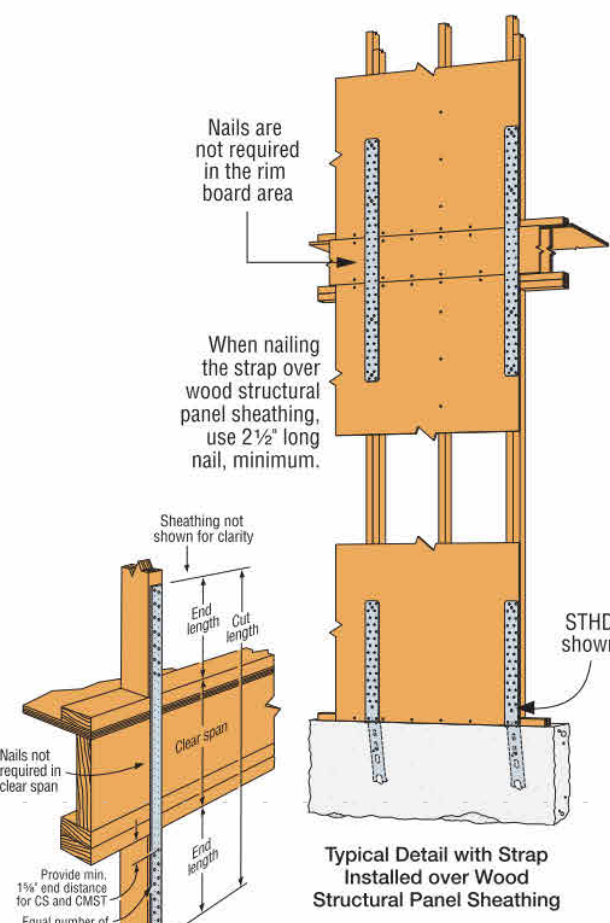


Table with columns: Model No., Ga., Dimensions (W, L), Fasteners (Total) - Nails (in.), Bolts (Dia., Qty.), Allowable Tension Loads (DF/SP), Allowable Tension Loads (SP/RFH), Code Ref.

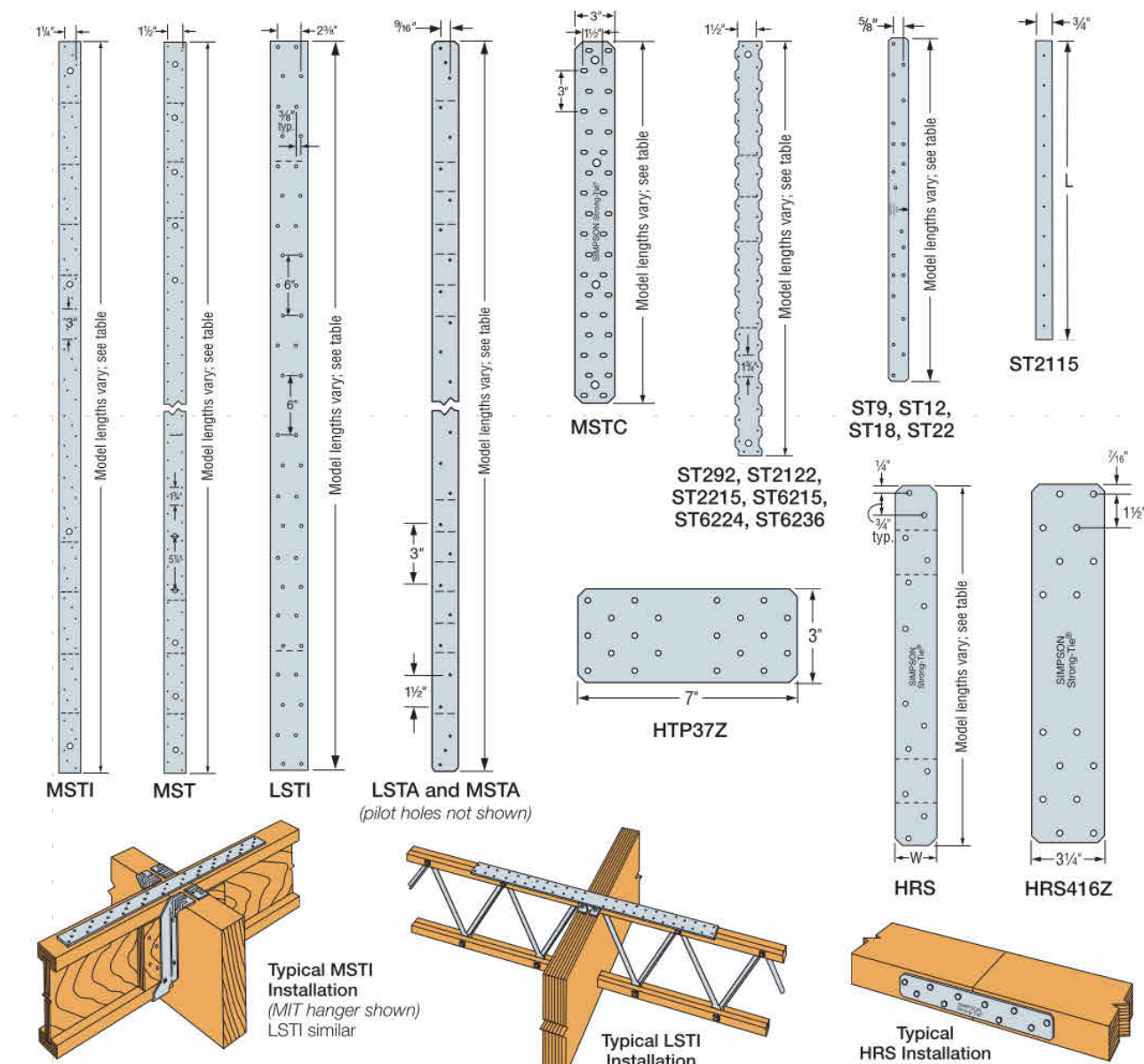
- See pp. 266-267 for Straps and Ties General Notes.
Install slots or nails as specified by designer. Slot and nail values may not be combined.
Allowable loads are based on parallel-to-grain loading and minimum member thickness: MSTC - 2" x 4".
Splitting may be a problem with installers on lumber smaller than 3" x 4"; either fill every nail hole with a 1/4" x 1/8" nail or fill every other hole with 0.162" x 3/16" nails. Reduce the allowable load based on the size and quantity of fasteners used.
Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.

HRS/ST/HTP/LSTA/LSTI/MST/MSTA/MSTC/MSTI



Strap Ties

Straps are designed to transfer tension loads in a wide variety of applications. HRS - Heavy strap designed for installation on the edge of 2x members. The HRS416Z installs with Strong-Drive® SDS Heavy-Duty Connector screws. HTP - Heavy tie plate designed for installation on the side of 2x4 or larger members. LSTA and MSTI - Designed for use on the edge of 2x members, with a nailing pattern that reduces the potential for splitting. LSTI and MSTI - Light and medium straps that are suitable where pneumatic-nailing is necessary through diaphragm decking and wood chord over-web trusses. MST - High-capacity strap that can be installed with either nails or bolts. Suitable for double 2x member connections or greater. MSTC - High-capacity strap that utilizes a staggered nail pattern to help minimize wood splitting. Nail slots have been countersunk to provide a lower nail head profile.



Straps and Ties General Notes



- These general notes are provided to ensure proper installation of Simpson Strong-Tie straps and ties.
a. The (160) loads have been increased for wind or earthquake loading, with no further increase allowed. Reduce under other loads given.
b. When installing strap over wood structural panel sheathing, use 2 1/2" long nails minimum. Reduce under other loads given.
c. SD screws are Simpson Strong-Tie® Strong-Drive® SD Connector screws. See pp. 21-22 for additional fastener information.
d. For straight straps in tension, use half of the fasteners in each member being connected to achieve the listed loads.
e. Tension loads apply for uplift when installed vertically.
f. Field-bending straps is not recommended unless otherwise noted.
g. If wood splitting is a concern, consider spacing the nails at every other location.
h. The cut length of coil strap shall be equal to twice the "end length" noted in the tables plus the clear-span dimension.
i. Straps 16 ga. and heavier can be field welded to structural steel members. The designer shall specify the weld size and length. Welding and application shall be in compliance with the current American Welding Society AWS/AISC D1.3, Structural Welding Code - Steel Deck.

Load Adjustment Factors for Optional Fasteners Used with Straight Straps

Table with columns: Connector Table Nail, Replacement Fastener, Allowable Load Adjustment Factor

- 1. Allowable load adjustment factors shown in the table are applicable to all straight straps throughout this catalog, except as noted in the footnotes below.
2. Some products have been tested specifically with alternative fasteners and have allowable load adjustment factors or reduced capacities published on the specific product page. Values published on the product page may be used in lieu of the table.
3. For straps installed over wood structural panel sheathing, use a 2 1/2" long fastener minimum.
4. This table does not apply to straps made of steel thicker than 10 ga.
5. Where noted, use 0.92 for 10 ga., 11 ga., and 12 ga. products when using SPF lumber.
6. Where noted, use 0.92 for 10 ga., 11 ga., and 12 ga. products when using SPF lumber.

CS/CMST/CMSTC/CSHP



Coiled Straps (cont.)

Lap splicing of coiled straps can be used to extend standard strap lengths for oblique continuous drag elements and diagonal chord members. The Strap Lap Splices table provides the minimum splice length (Lsp) and fasteners, within the splice length, to achieve the highest allowable capacity of the strap.

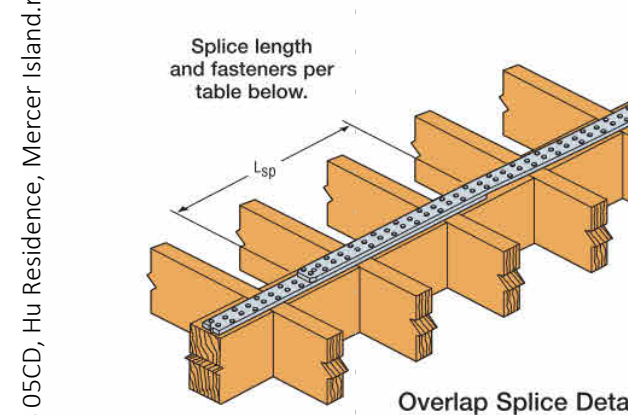


Table with columns: Model No., Ga., Minimum Fasteners per Splice, Min. Splice Length, Lsp (in.)

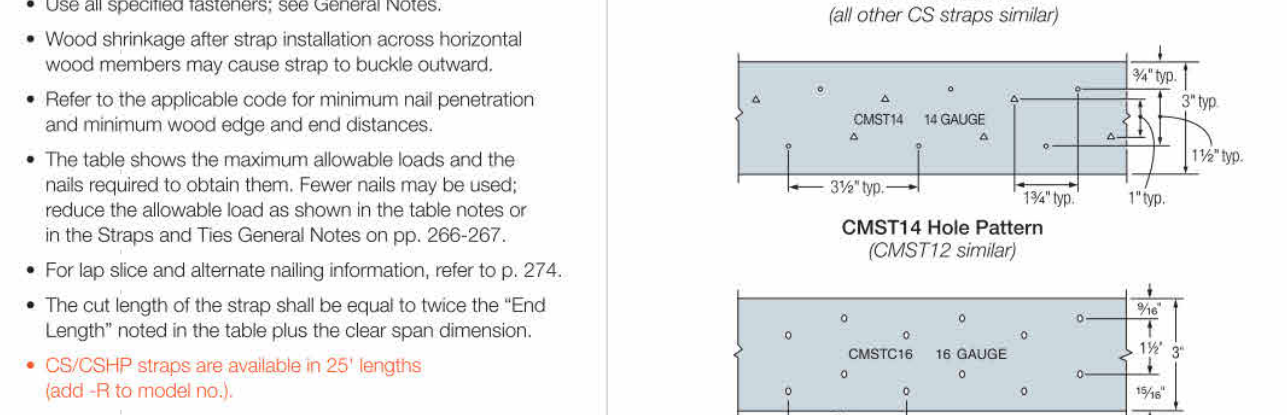
- See pp. 266-267 for Straps and Ties General Notes.
0.148" x 2 1/2" nails can be replaced by 0.148" x 3 1/8" nails. No other nail substitution is allowed for lap splices.
Refer to the applicable code for minimum edge distance and minimum end distance.
No strap modification is allowed and the splice must meet both the minimum number of fasteners and the minimum splice length.

CS/CMST/CMSTC/CSHP



Coiled Straps

Coiled straps are continuous utility straps which can be cut to length at the jobsite. The patent-pending CSHP high-performance coil strap features a raised embossment that makes it easy to install with a power framing nailer. This tested feature provides improved performance - resulting in fewer nails, shorter straps and overall lower installed cost. CMSTC provides countersunk nail slots for lower profile when installed with 0.148" x 3 1/8" sinkers.



Material: See table.
Installation:
Use all specified fasteners; see General Notes.
Wood shrinkage after strap installation across horizontal wood members may cause strap to buckle outward.
Refer to the applicable code for minimum nail penetration and minimum wood edge and end distances.
The table shows the maximum allowable loads and the nails required to obtain them. Fewer nails may be used; reduce the allowable load as shown in the table notes or in the Straps and Ties General Notes on page 266-267.
For lap splices and alternate nailing information, refer to p. 274.
The cut length of the strap shall be equal to twice the "End Length" noted in the table plus the clear span dimension.
CS/CMST/CMSTC/CSHP straps are available in 25' lengths (add -1' to model no.).
CSHP:
The colored dot must be installed facing out.
Designed to be installed with a power framing nailer using a consistent, full round-head nail.
CMST:
Use every other round hole if the wood tends to split.
Use round and triangle holes for comparable MST loads, providing wood does not tend to split.
Codes: See p. 11 for Code Reference Key Chart.



HRS/ST/HTP/LSTA/LSTI/MST/MSTA/MSTC/MSTI



Strap Ties (cont.)

- These products are available with additional corrosion protection. For more information, see p. 14.
For stainless-steel fasteners, see p. 21.
Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348-352 for more information.

Table with columns: Model No., Ga., Dimensions (W, L), Fasteners (Total) - Nails (in.), Bolts (Dia., Qty.), Allowable Tension Loads (DF/SP), Allowable Tension Loads (SP/RFH), Code Ref.

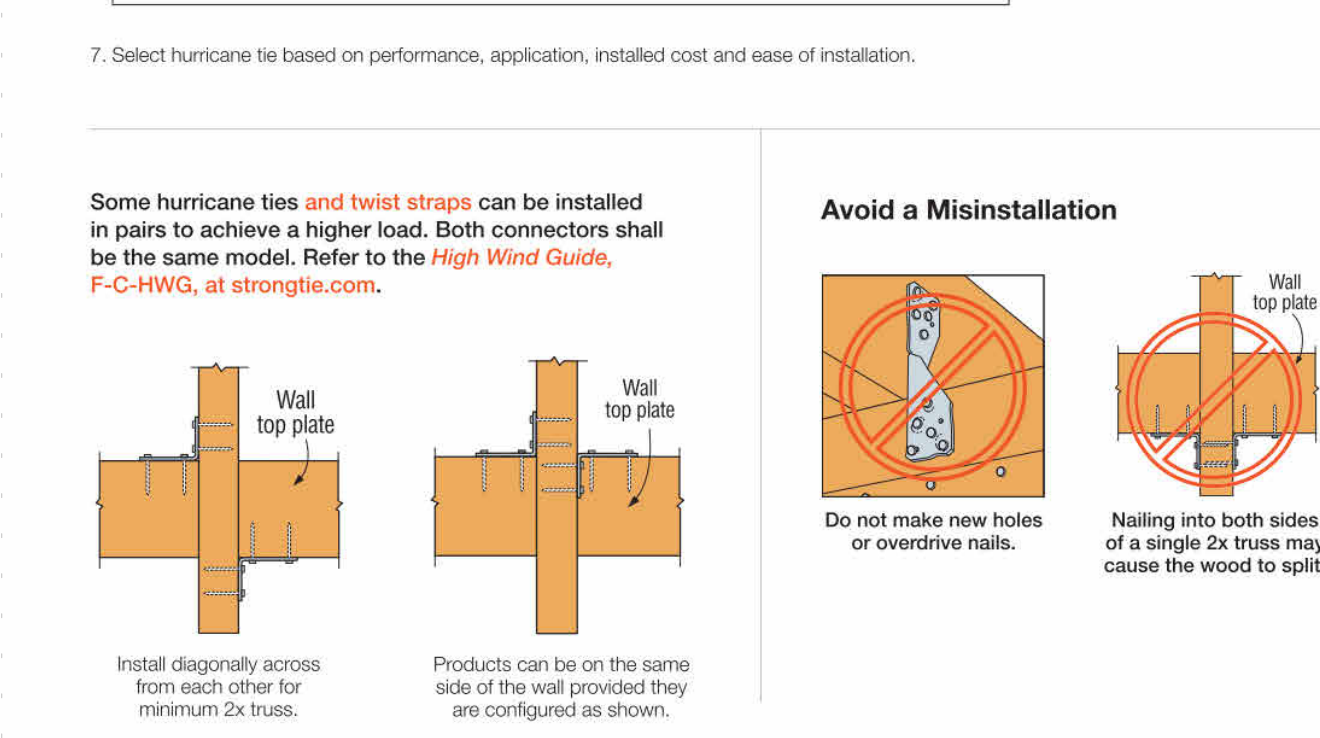
- See pp. 266-267 for Straps and Ties General Notes.
Fasteners: Nail dimensions are listed diameter by length. SDS screws are Simpson Strong-Tie® Strong-Drive SDS Heavy-Duty Connector screws. See pp. 21-22 for fastener information.

Straps and Ties General Notes



Considerations for Hurricane Tie Selection

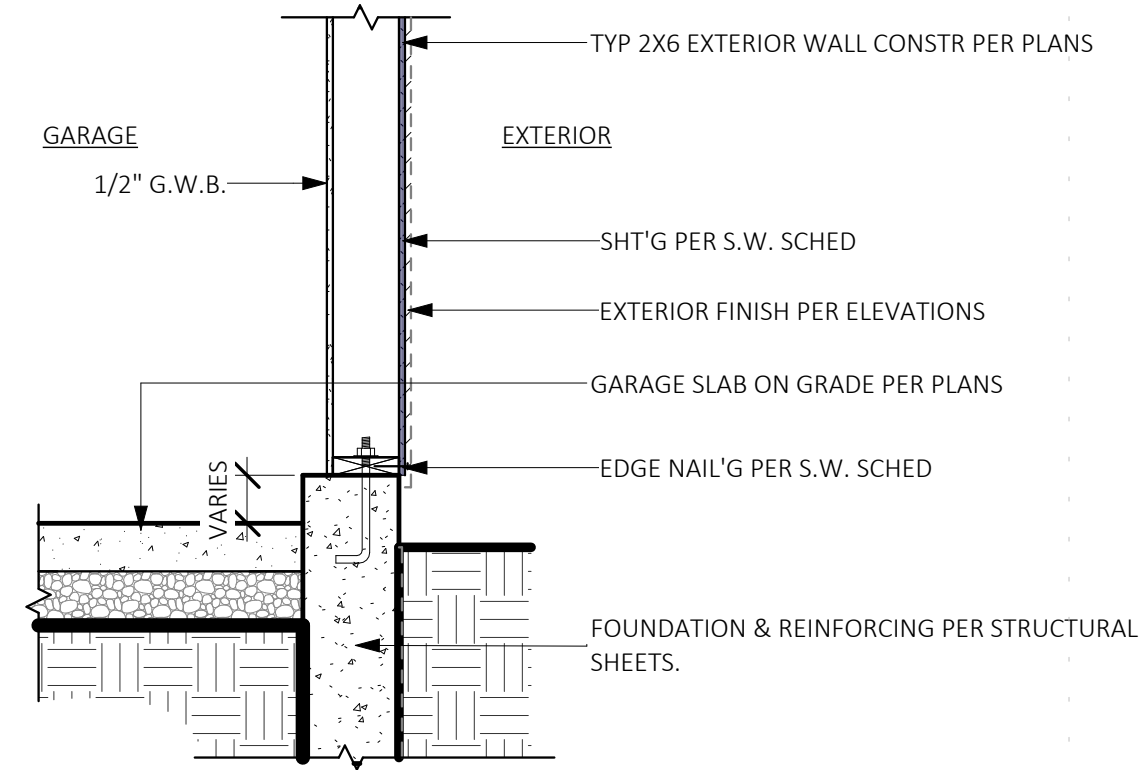
- 1. What is the uplift load?
2. What is the parallel-to-plate load?
3. What is the perpendicular-to-plate load?
4. What is the species of wood used for the rafter and the top plate? (Select the load table based on the lowest performing species of wood.)
5. Will the hurricane tie be nailed into both the top or the upper top plate only?
6. What load or loads will the hurricane tie be taking?
7. Select hurricane tie based on performance, application, installed cost and ease of installation.
Some hurricane ties and twist straps can be installed in pairs to achieve a higher load. Both connectors shall be the same model. Refer to the High Wind Guide, F-C-HWG, at strongtie.com.
Avoid a Misinstallation: Do not make new holes or override nails. Nailing into both sides of a single 2x member will cause the wood to split.
Install diagonally across from each other for minimum 2x truss. Products can be on the same side of the wall provided they are configured as shown.



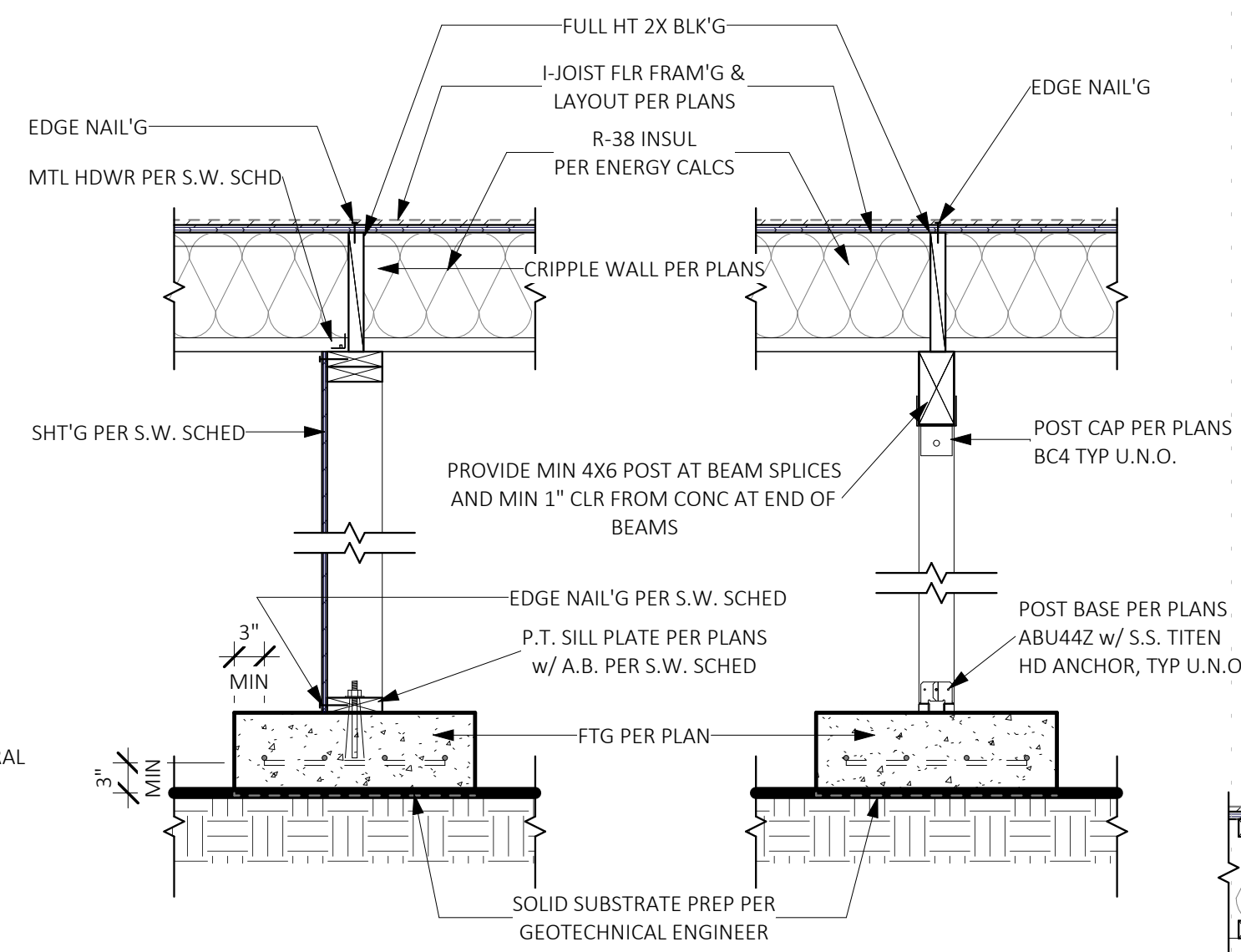
See pp. 266-267 for Straps and Ties General Notes.
Fasteners: Nail dimensions are listed diameter by length. SDS screws are Simpson Strong-Tie® Strong-Drive SDS Heavy-Duty Connector screws. See pp. 21-22 for fastener information.

STANDARD DETAIL SHEET. SIMPSON HOLDOWN & TENSION TIES STANDARD DTLs. PROJECT NO: 21014. ISSUE DATE: 2022/06/29. DRAWN BY: SPM. HURRESIDENCE, 2448 72nd AVE SE, Mercer Island, WA 98019. L2 ENGINEERS, 17848 NE 198TH PLACE, WOODINVILLE, WA 98072. ATERA DESIGN STUDIO, 451 DUVALL AVE NE, RENTON, WA 98059.

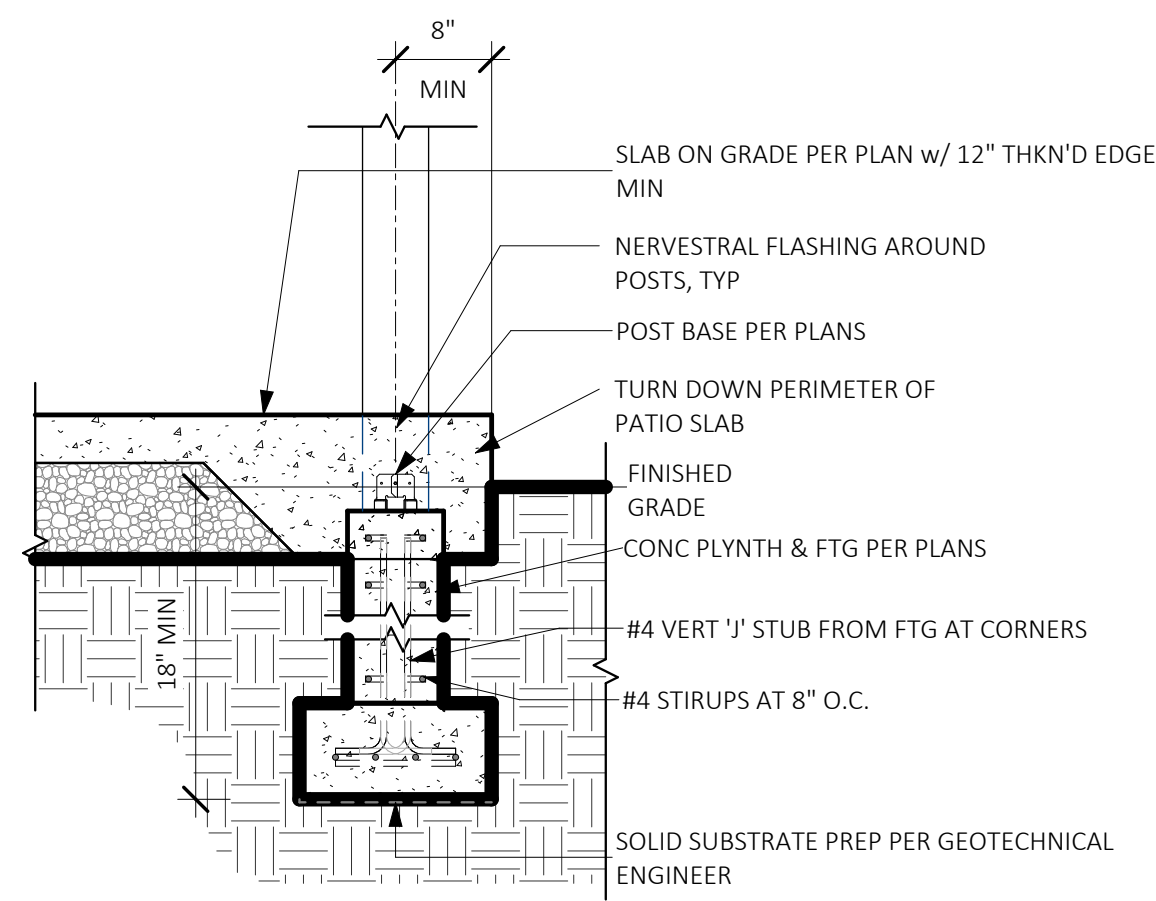
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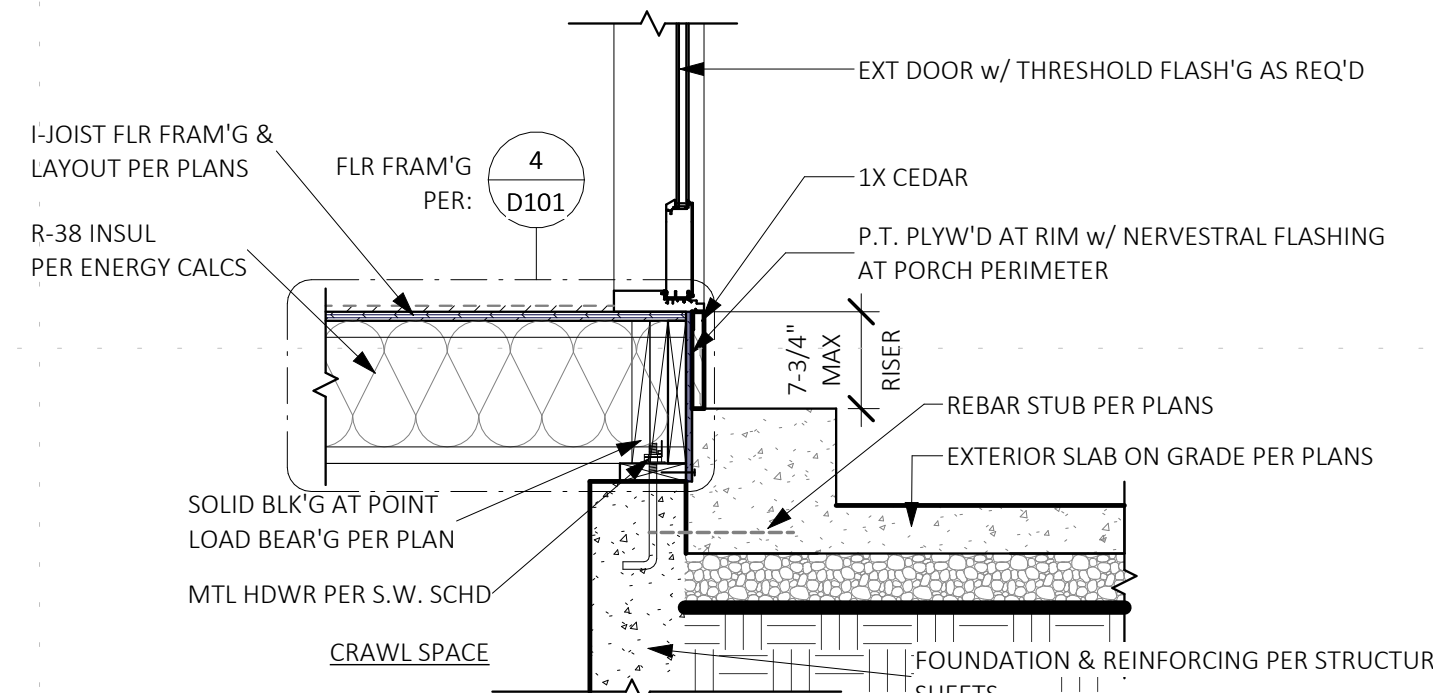
**12** SLAB AT STEM WALL  
 SCALE: 3/4" = 1'-0"



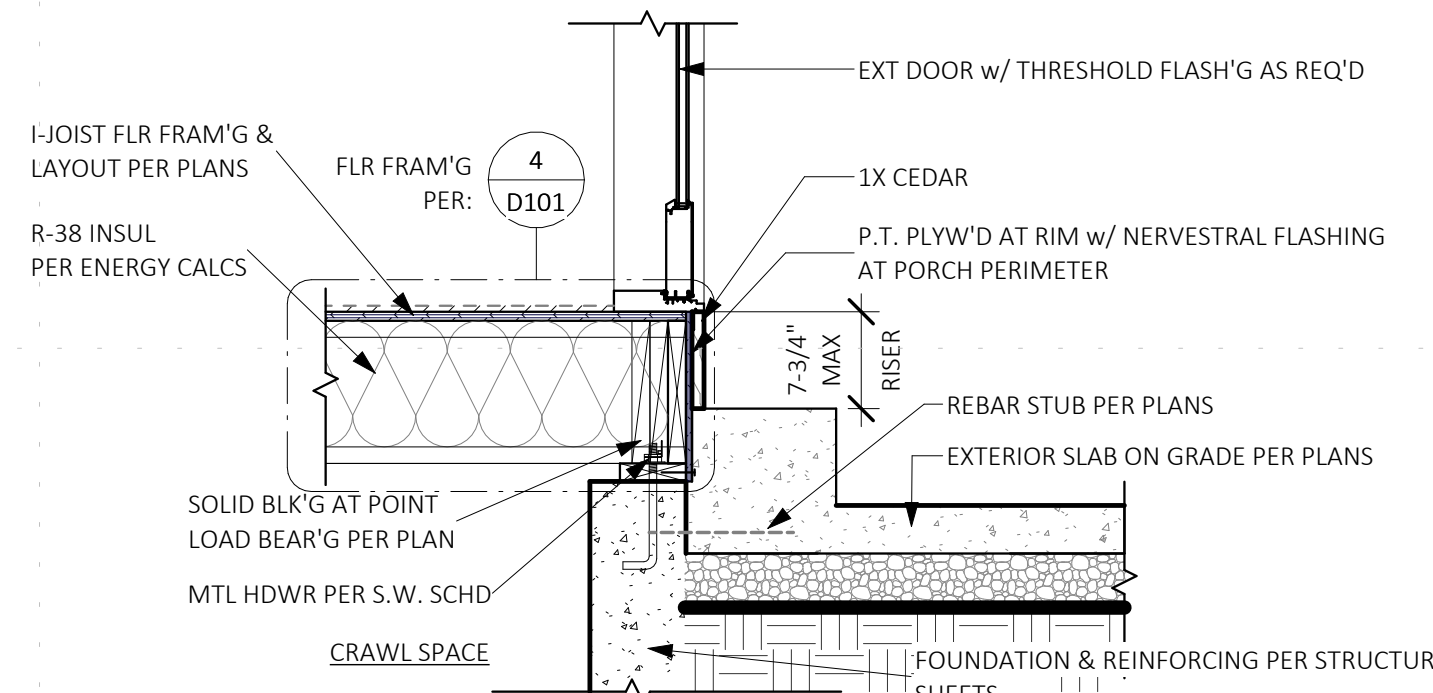
**9** FRAM'G / FNDN - JOIST OVER  
 SCALE: 3/4" = 1'-0"



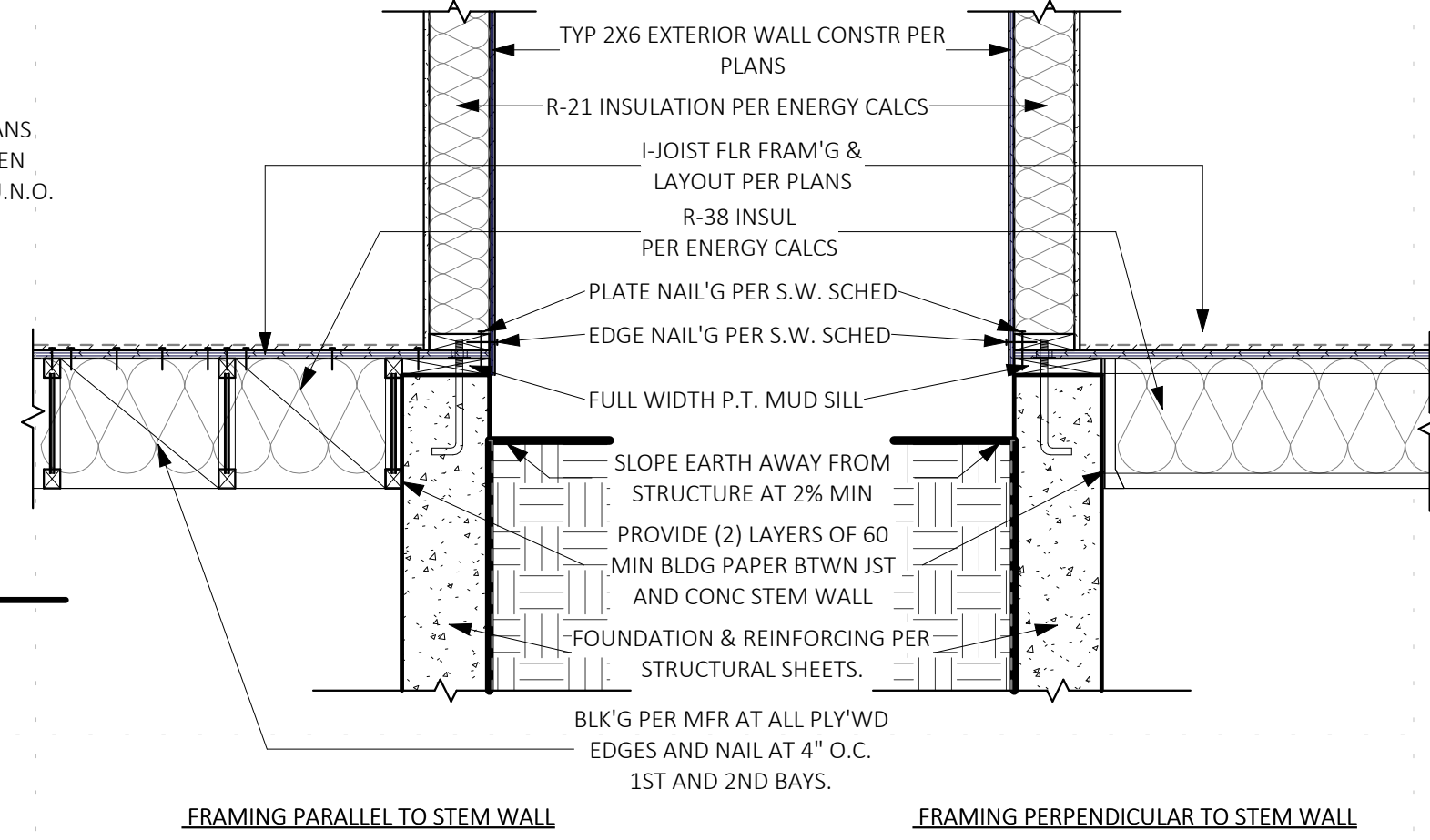
**11** FRAM'G / FNDN - JOIST OVER  
 SCALE: 3/4" = 1'-0"



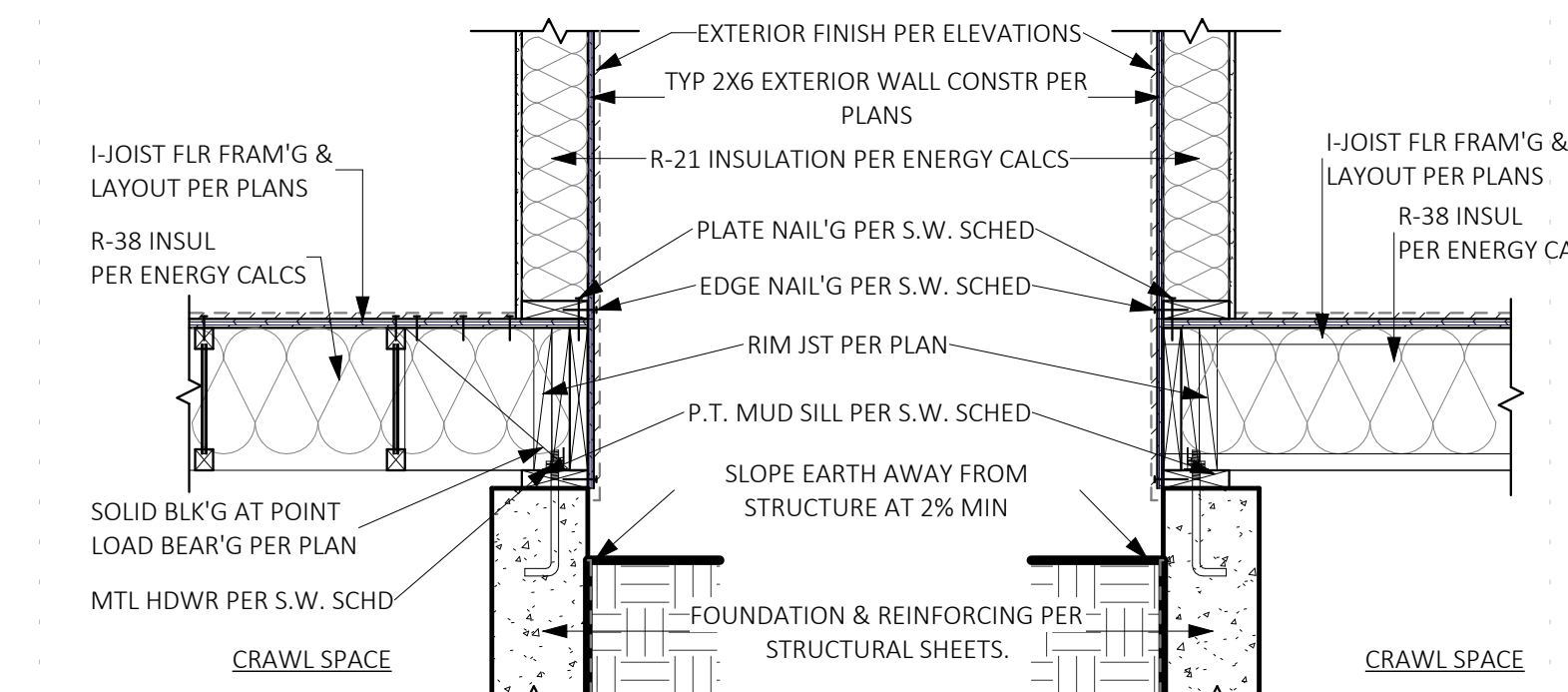
**7** FRAM'G / FNDN - DROPPED JOISTS  
 SCALE: 3/4" = 1'-0"



**4** FRAM'G / FNDN - JOIST OVER  
 SCALE: 3/4" = 1'-0"

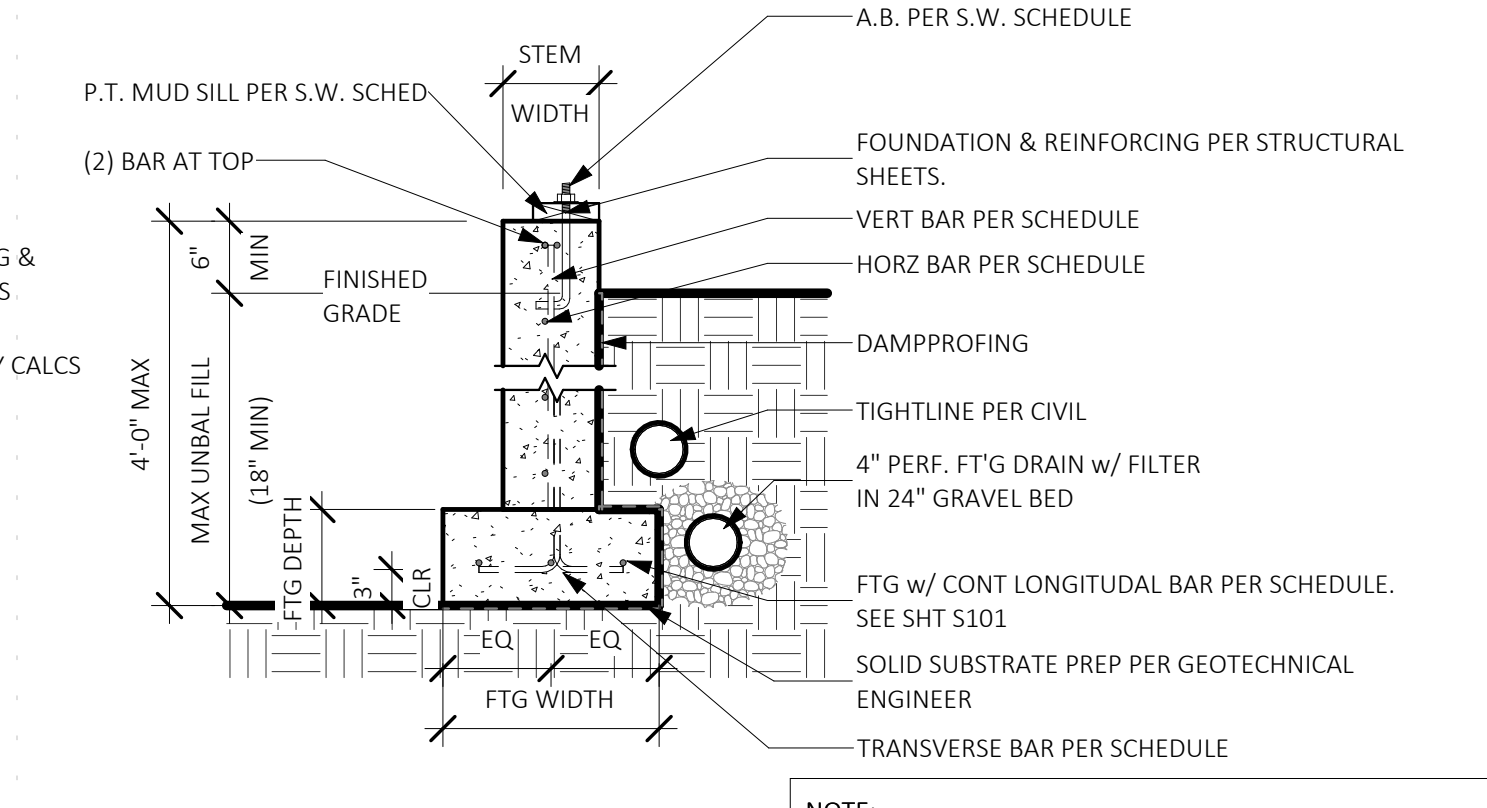


**5** FRAM'G / FNDN - DROPPED JOISTS  
 SCALE: 3/4" = 1'-0"



**4** FRAM'G / FNDN - JOIST OVER  
 SCALE: 3/4" = 1'-0"

FNDN SCHEDULE - TYP									
MAX UNBAL FILL	FOOTING				STEM WALL				
	DEPTH	WIDT H	TOE	HEEL	LONGITUDAL BAR	TRANSVERSE BAR	WIDTH	HORIZONTAL REINFORCING	VERTICAL REINFORCING
2'-6"	8"	1'-6"	5"	5"	(3) #4 BAR CONT BOT	#4 AT 8" O.C.	8"	#4 HORZ BAR CENTERED AT 12" O.C.	#4 VERT BAR CENTERED AT 12" O.C.
4'-0"	11"	2'-8"	8"	1'-4"	(2) #4 BAR CONT TOP & BOT	PER DETAILS	8"	#4 HORZ BAR CENTERED AT 12" O.C.	#4 VERT BAR CENTERED AT 12" O.C.



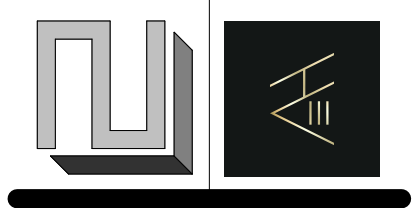
**1** FOUNDATION DETAIL - TYP  
 SCALE: 3/4" = 1'-0"

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 STATE OF WASHINGTON  
 PROFESSIONAL ENGINEER  
 01/23/2024

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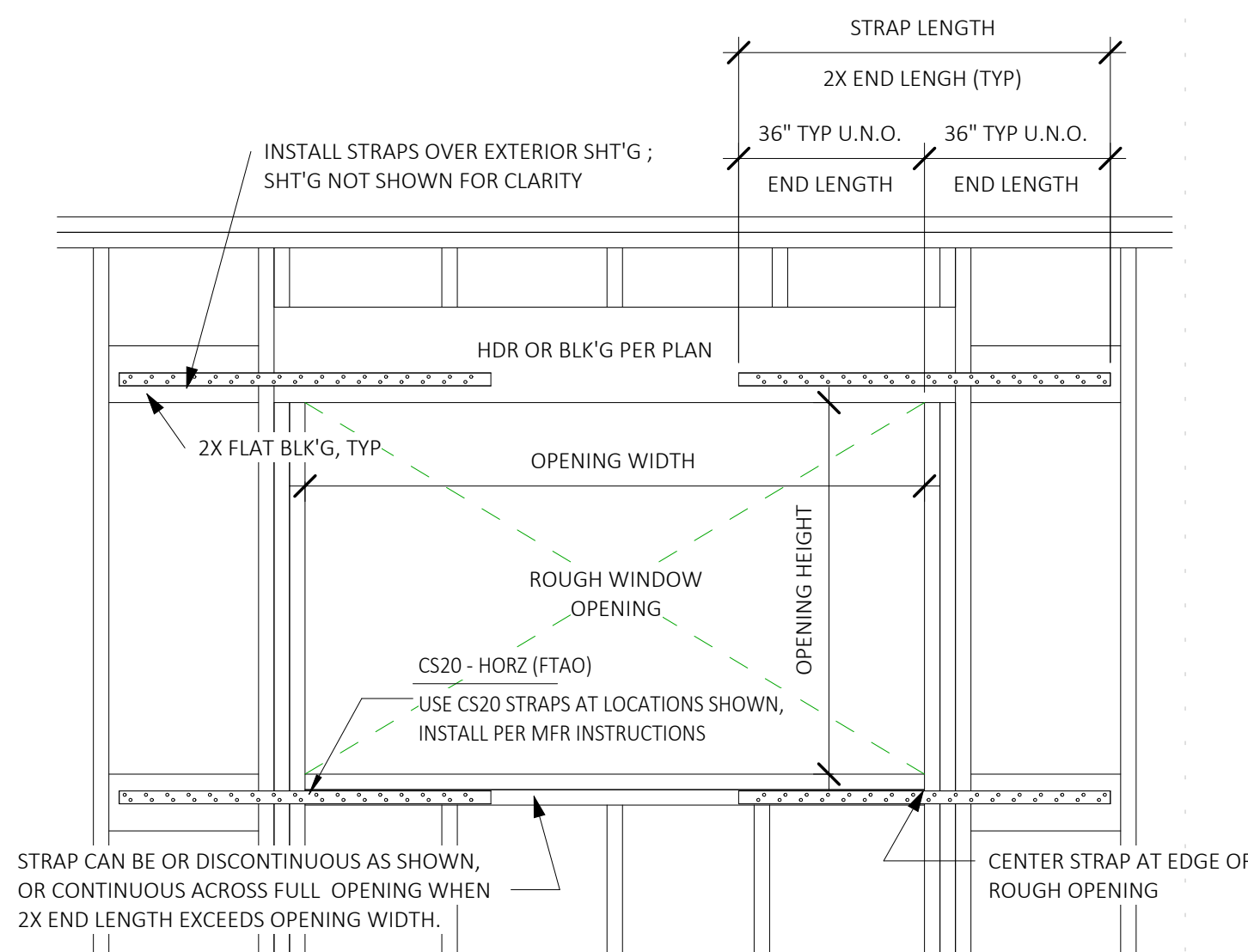
PERMIT SET  
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 PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29  
 DRAWN BY: SPM  
**D101**  
 SCALE 24X36: 3/4" = 1'-0"  
 \* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



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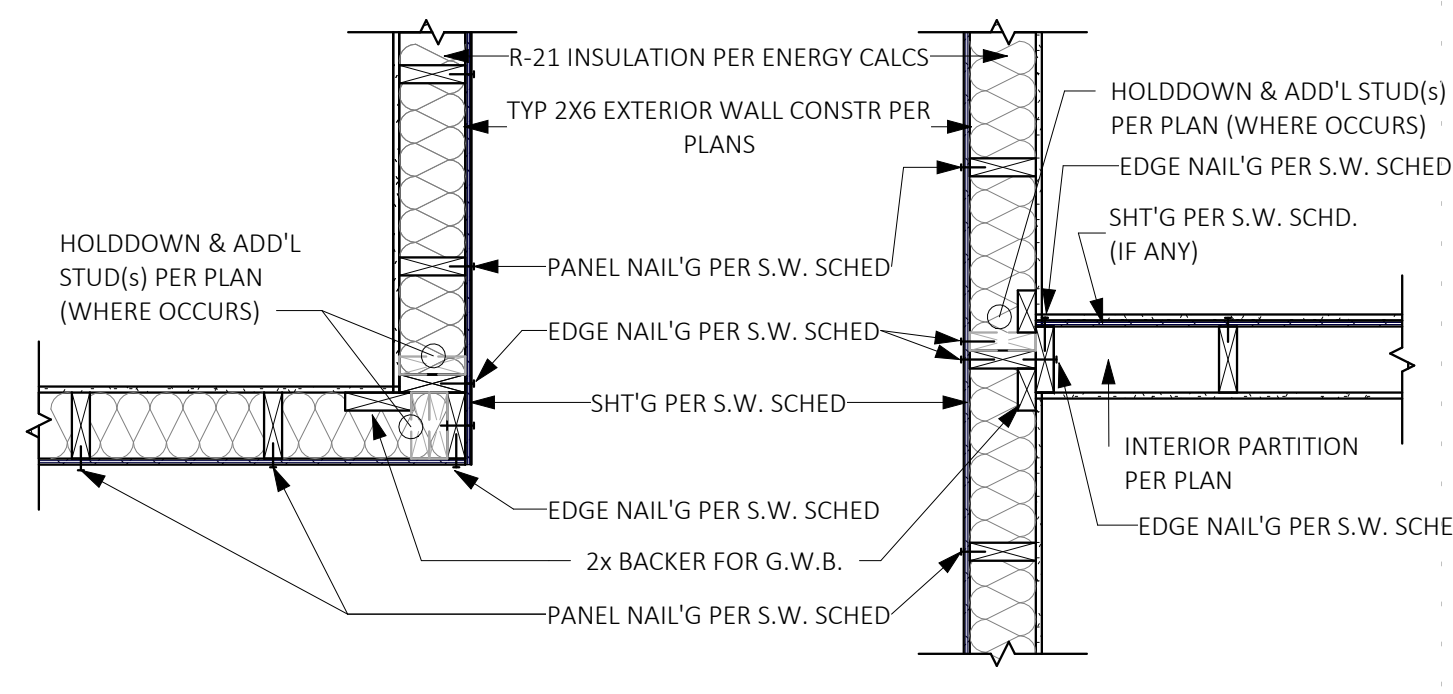
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**FORCE TRANSFER AT OPENING**  
SCALE: 3/4" = 1'-0"



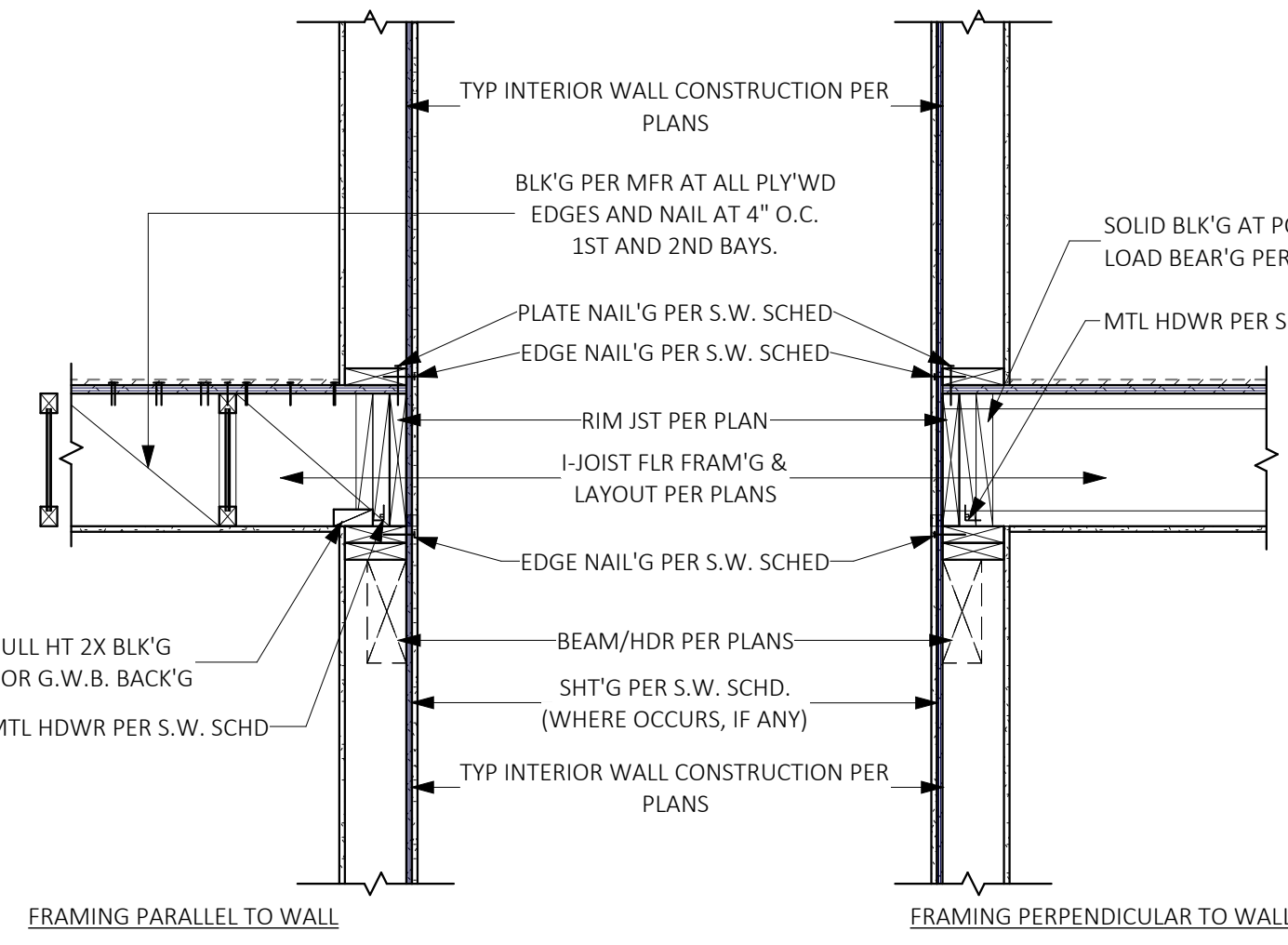
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**INT/EXT WALL FRAMING DETAIL**  
SCALE: 3/4" = 1'-0"



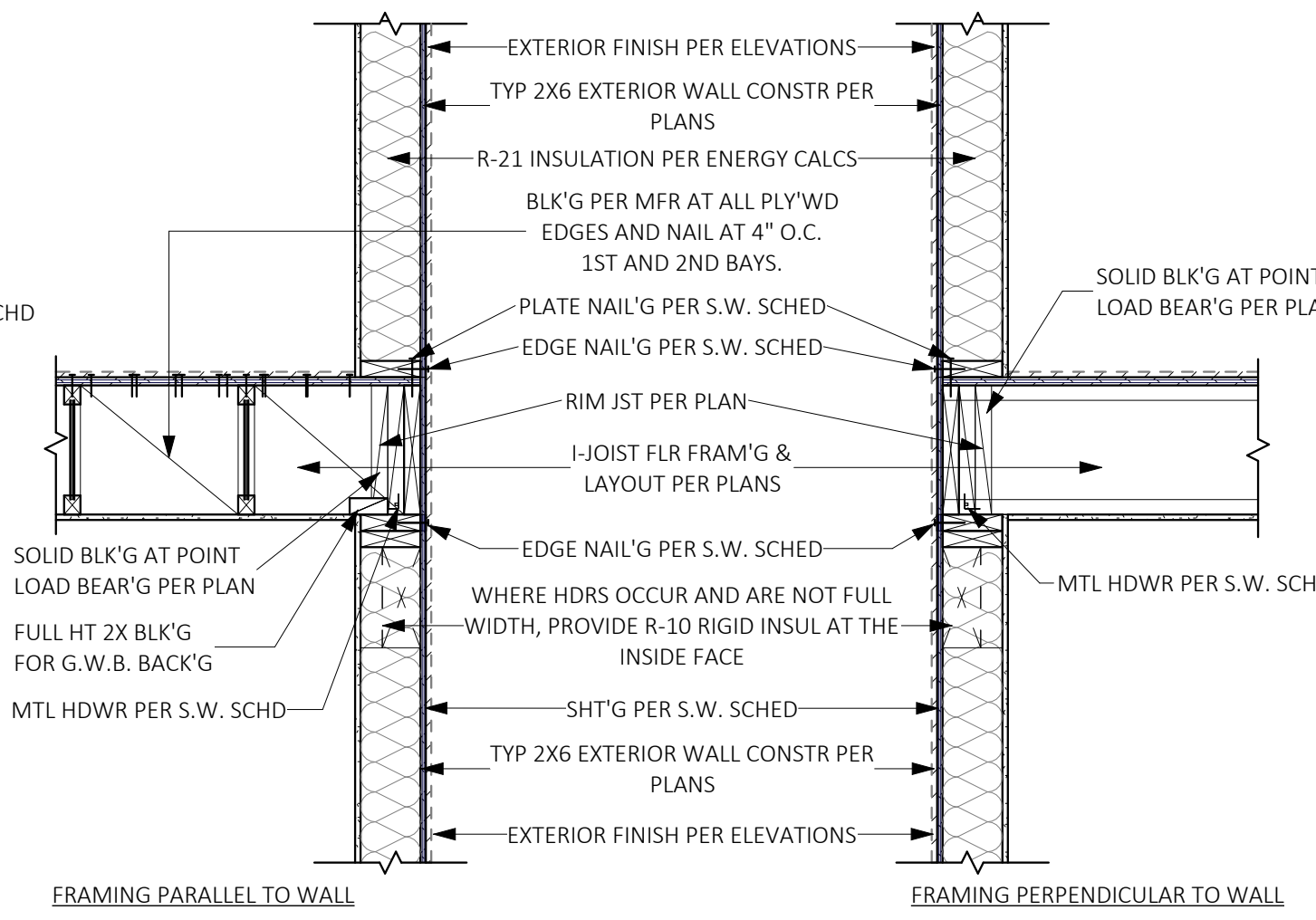
17

**INTERIOR WALL/FLOOR JOISTS - STACKED**  
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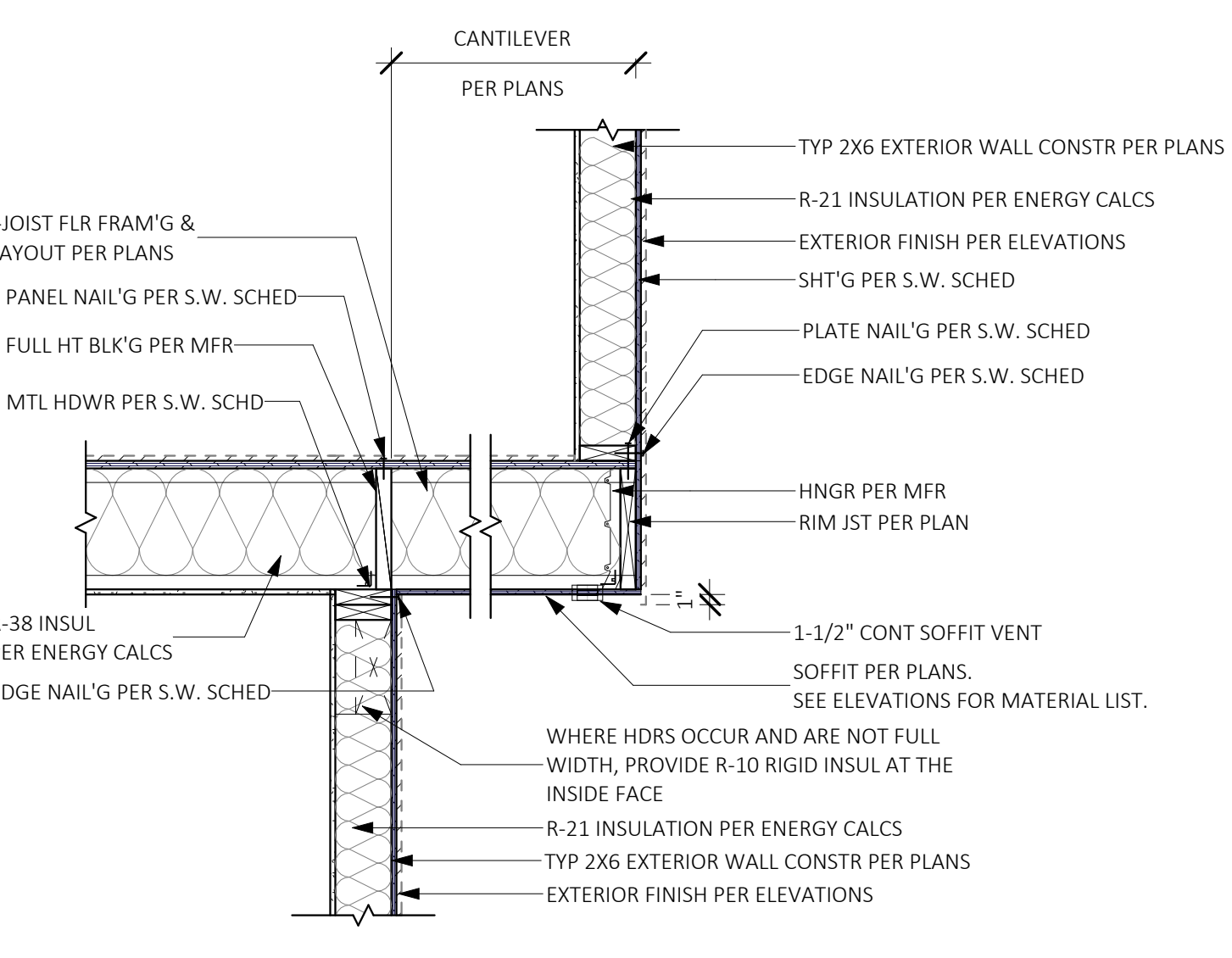
14

**EXTERIOR WALL TO FLOOR JOISTS**  
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15

**CANTILEVERED FRM'G AT EXT WALL**  
SCALE: 3/4" = 1'-0"

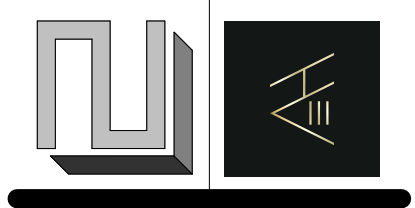


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**HU RESIDENCE**  
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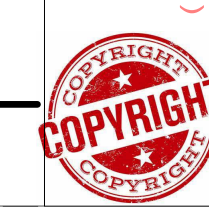
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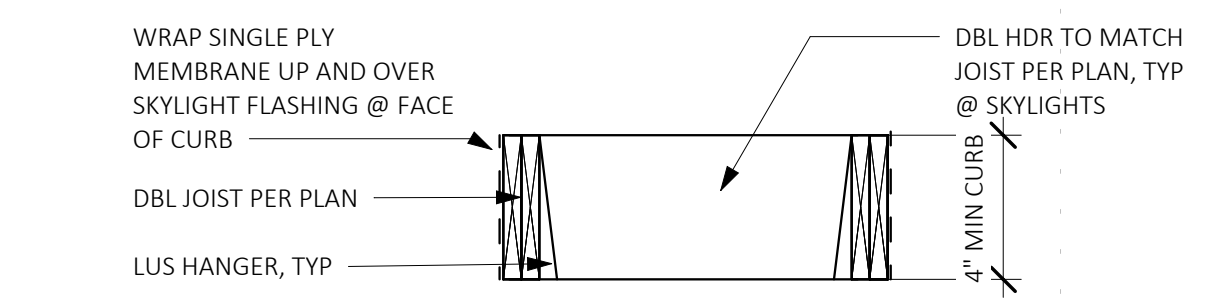
FRAMING DETAILS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

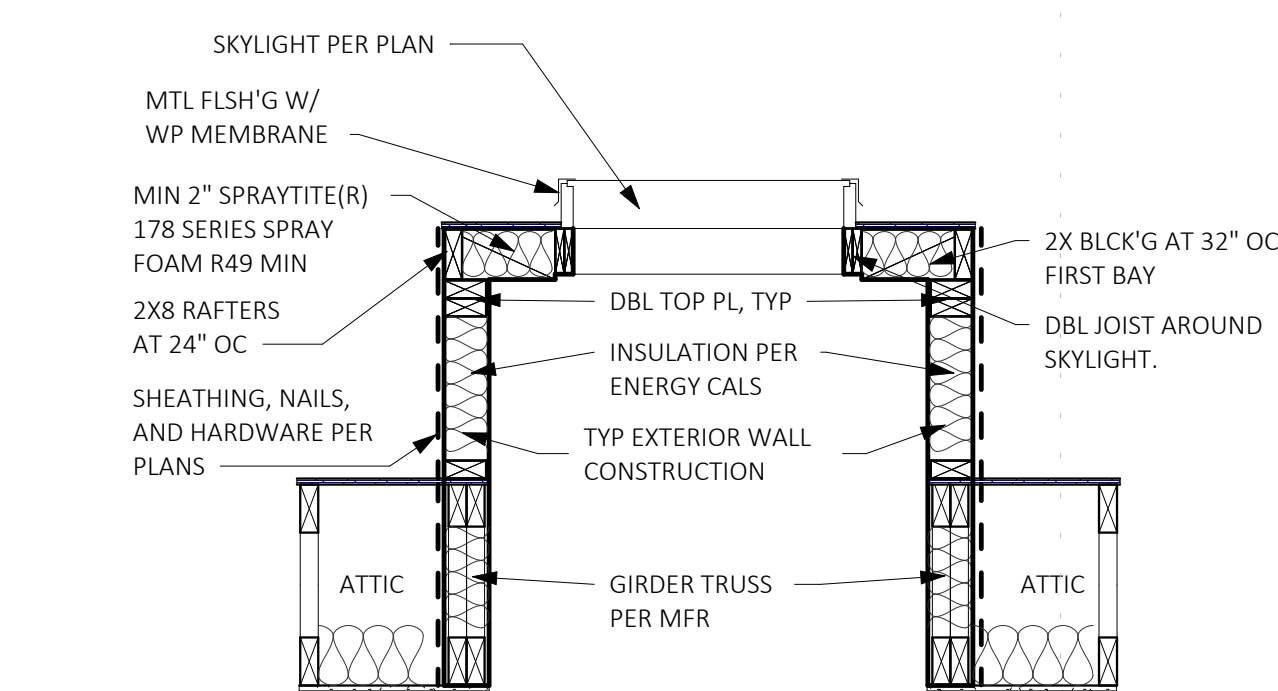
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SCALE 24X36: 3/4" = 1'-0"  
\* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

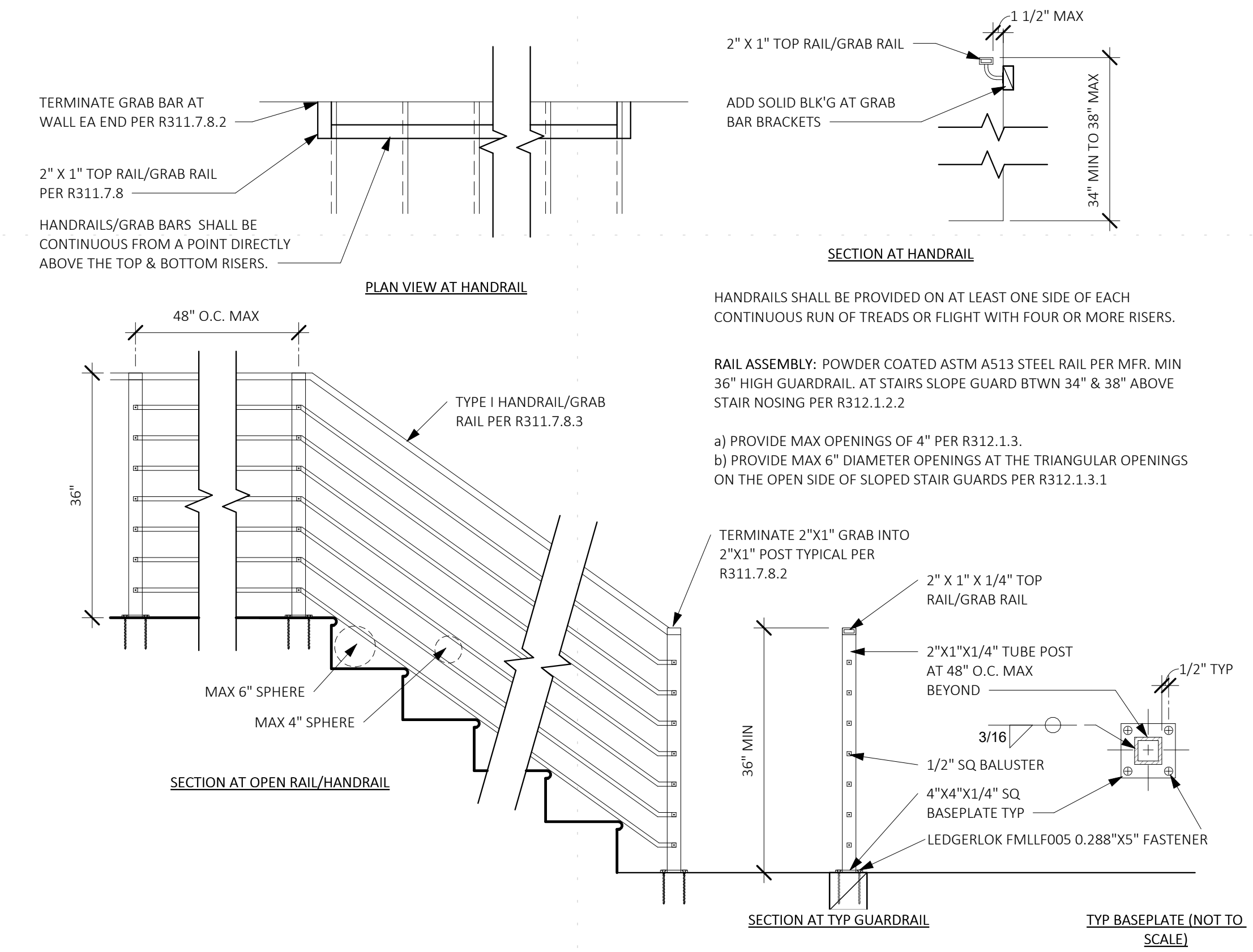




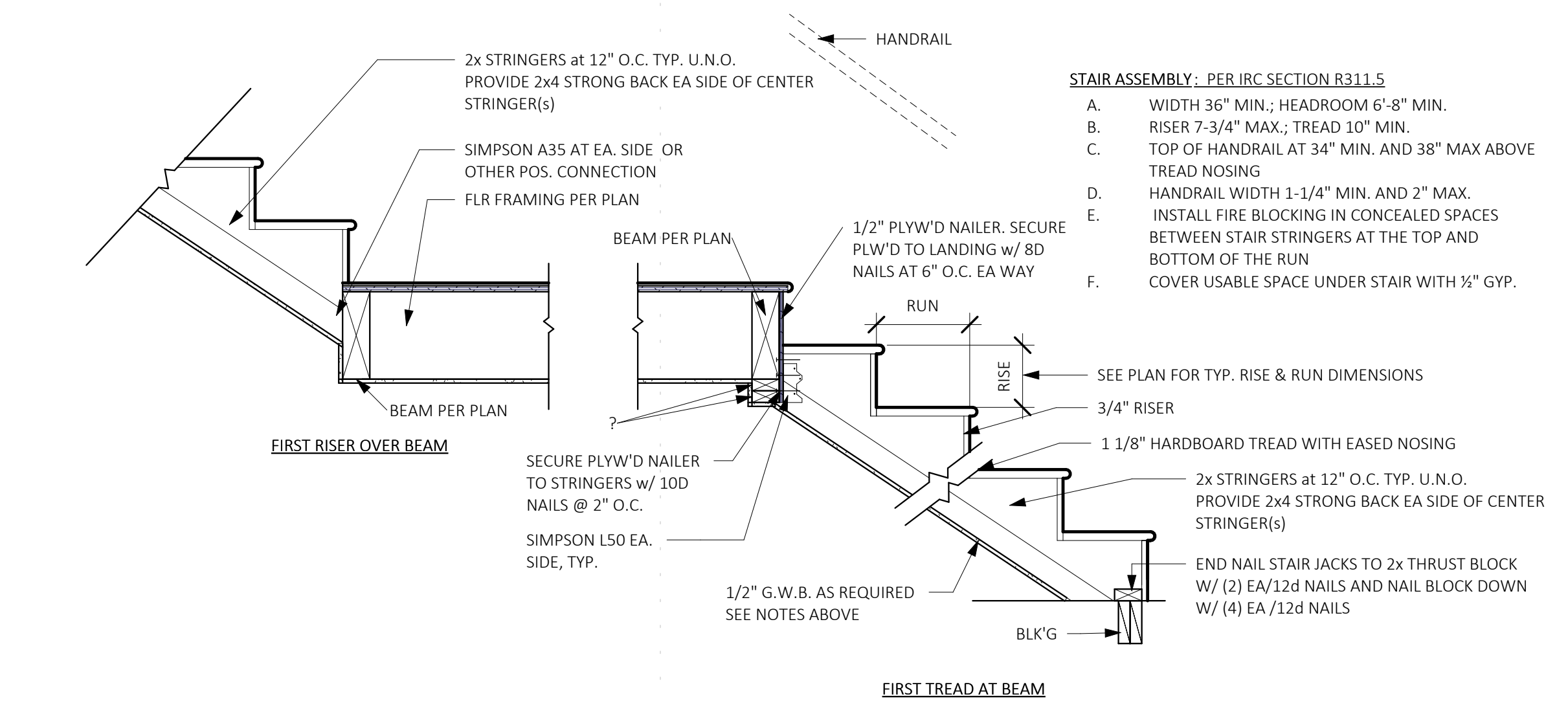
**4** ROOF - SKYLIGHT CURB  
 SCALE: 3/4" = 1'-0"



**3** ROOF - SKYLIGHT  
 SCALE: 3/4" = 1'-0"



**2** TYP RAILING/GRAB BAR DETAIL  
 SCALE: 3/4" = 1'-0"



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

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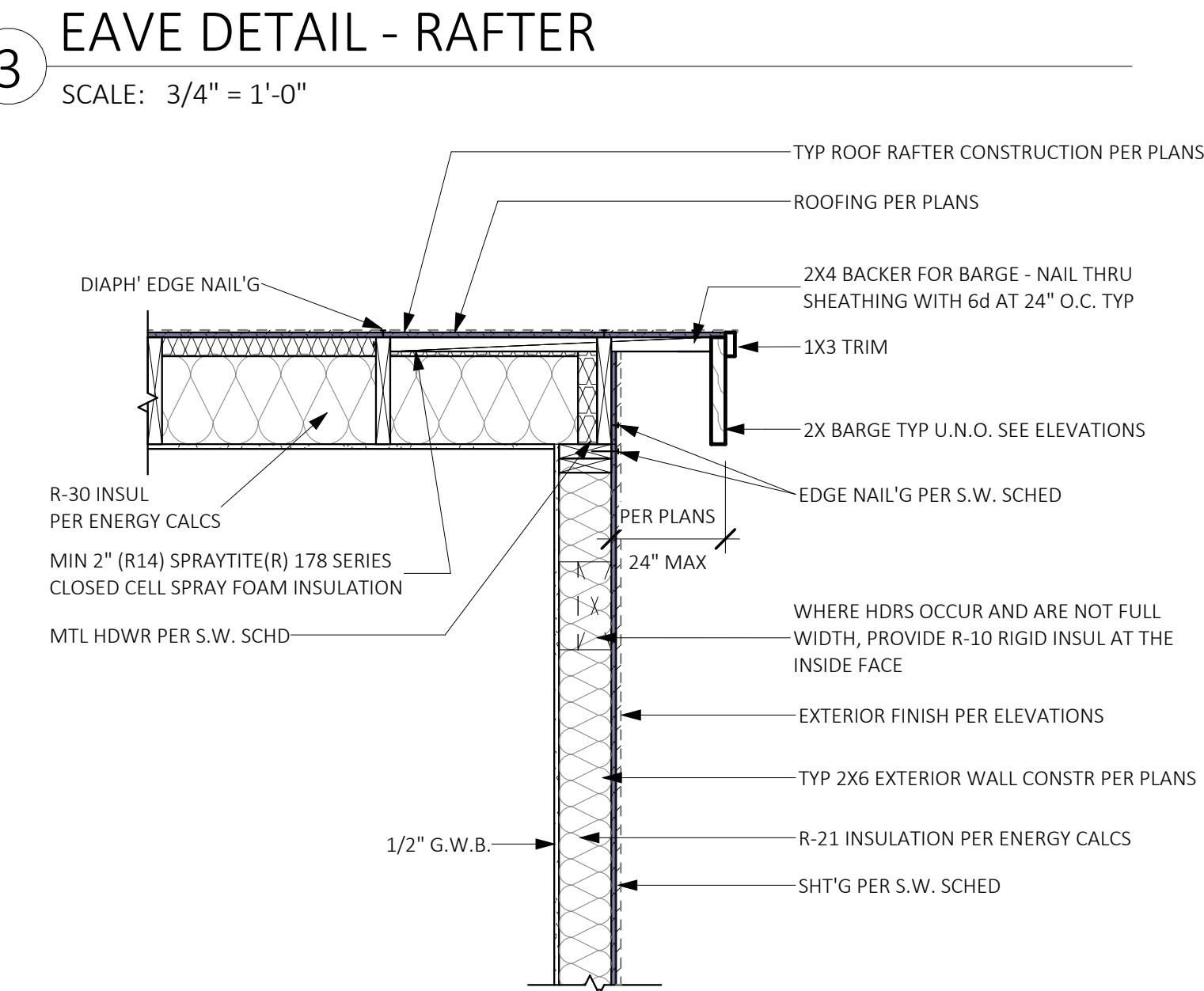
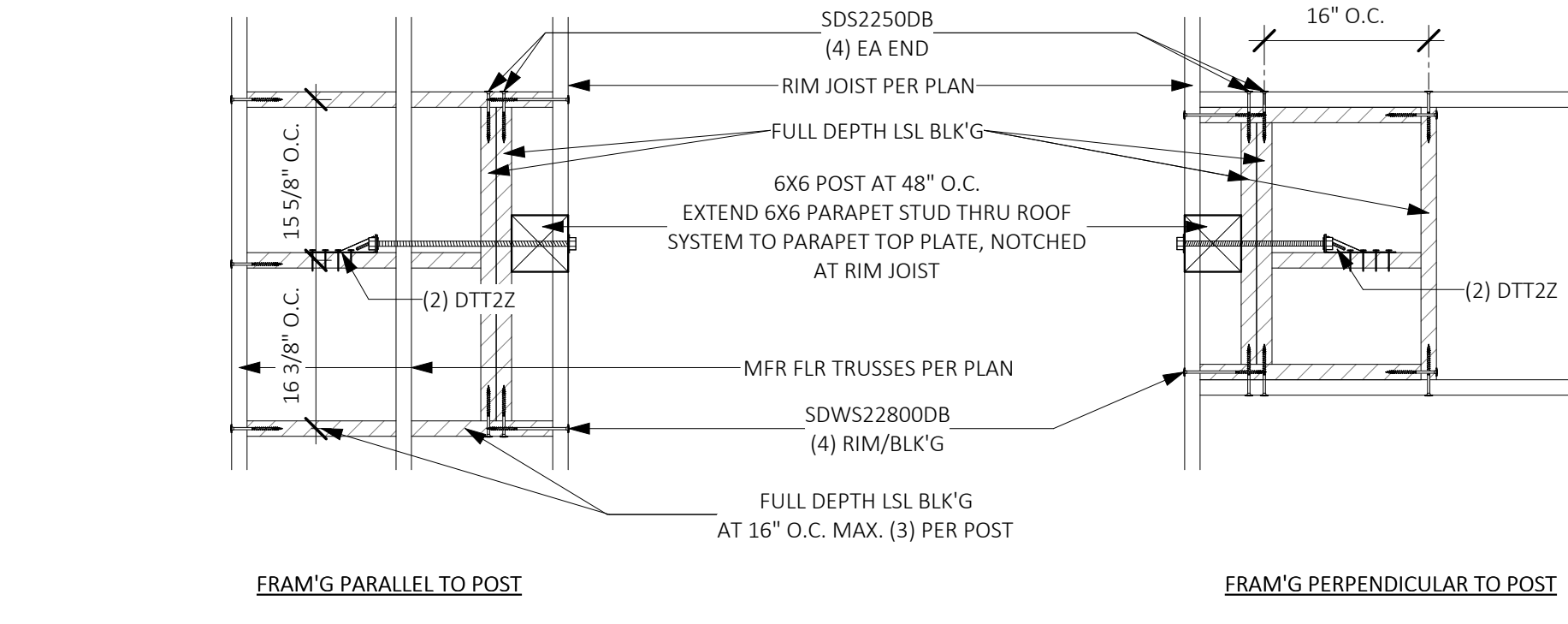
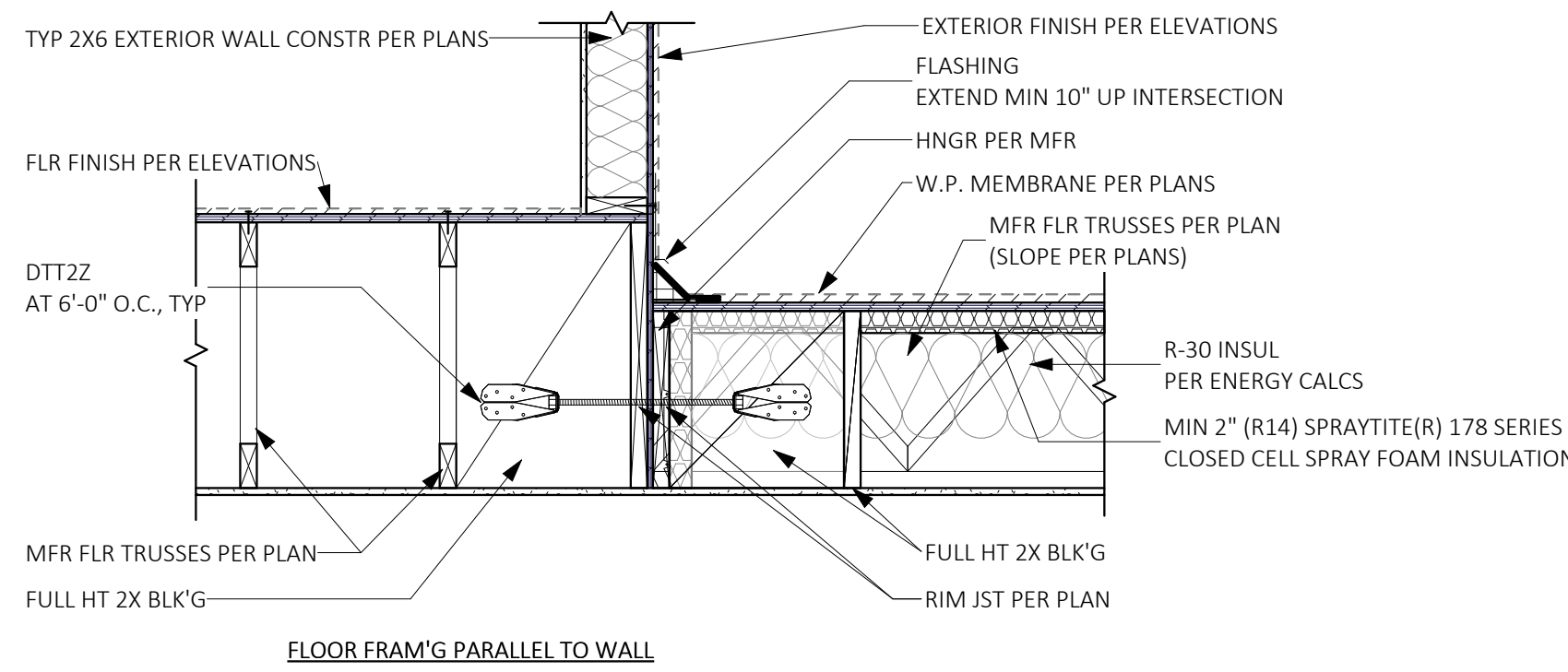
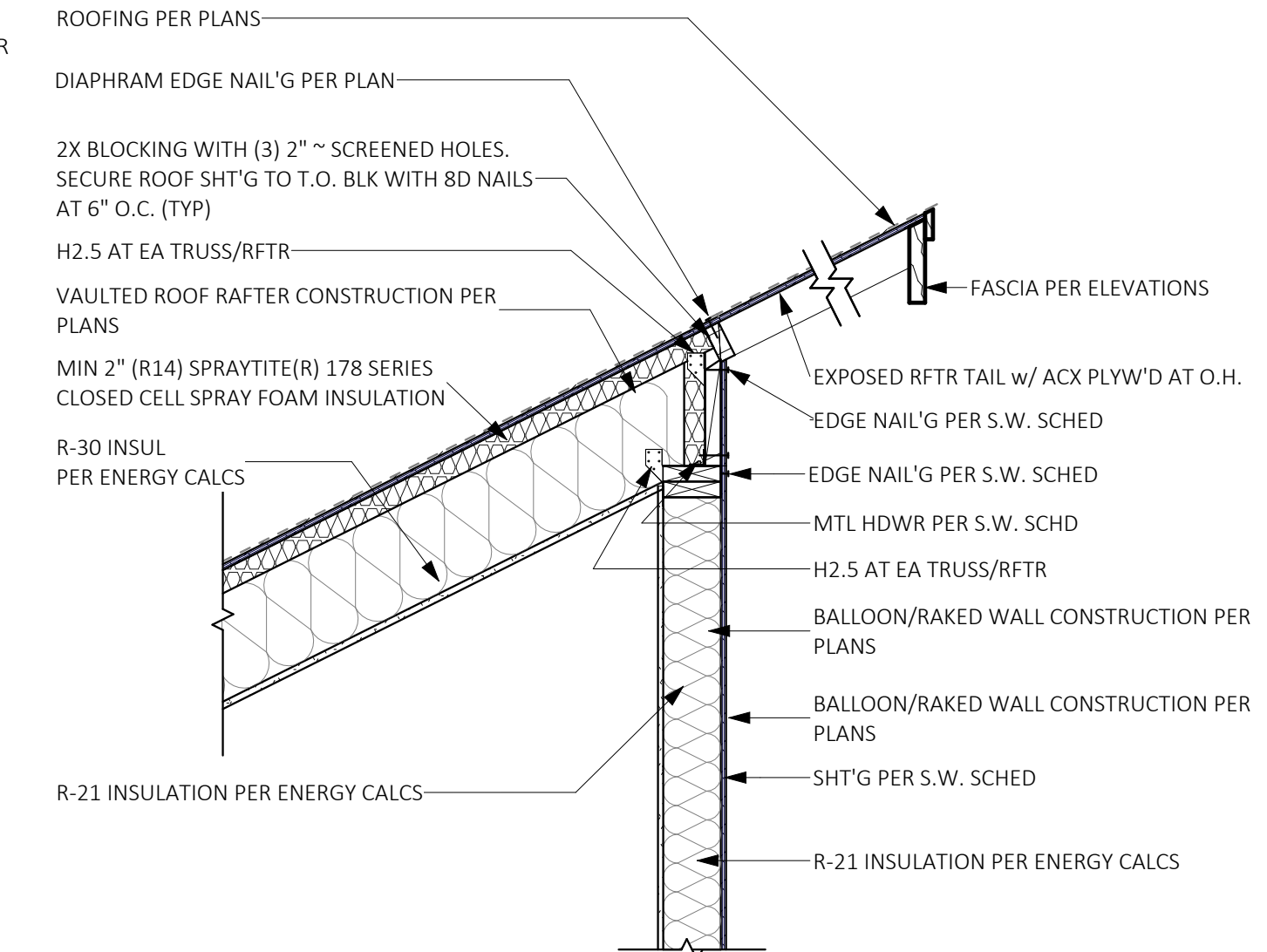
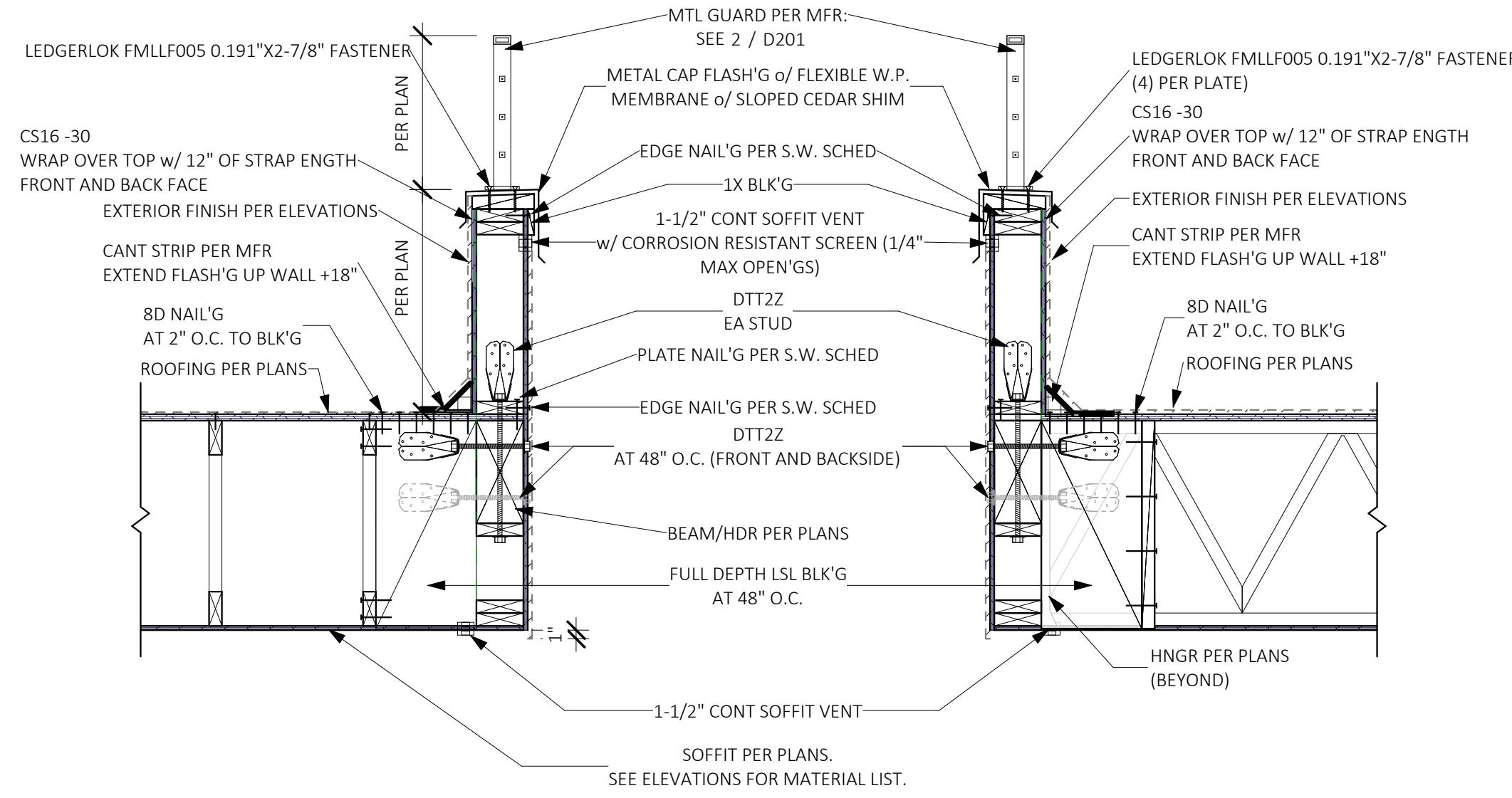
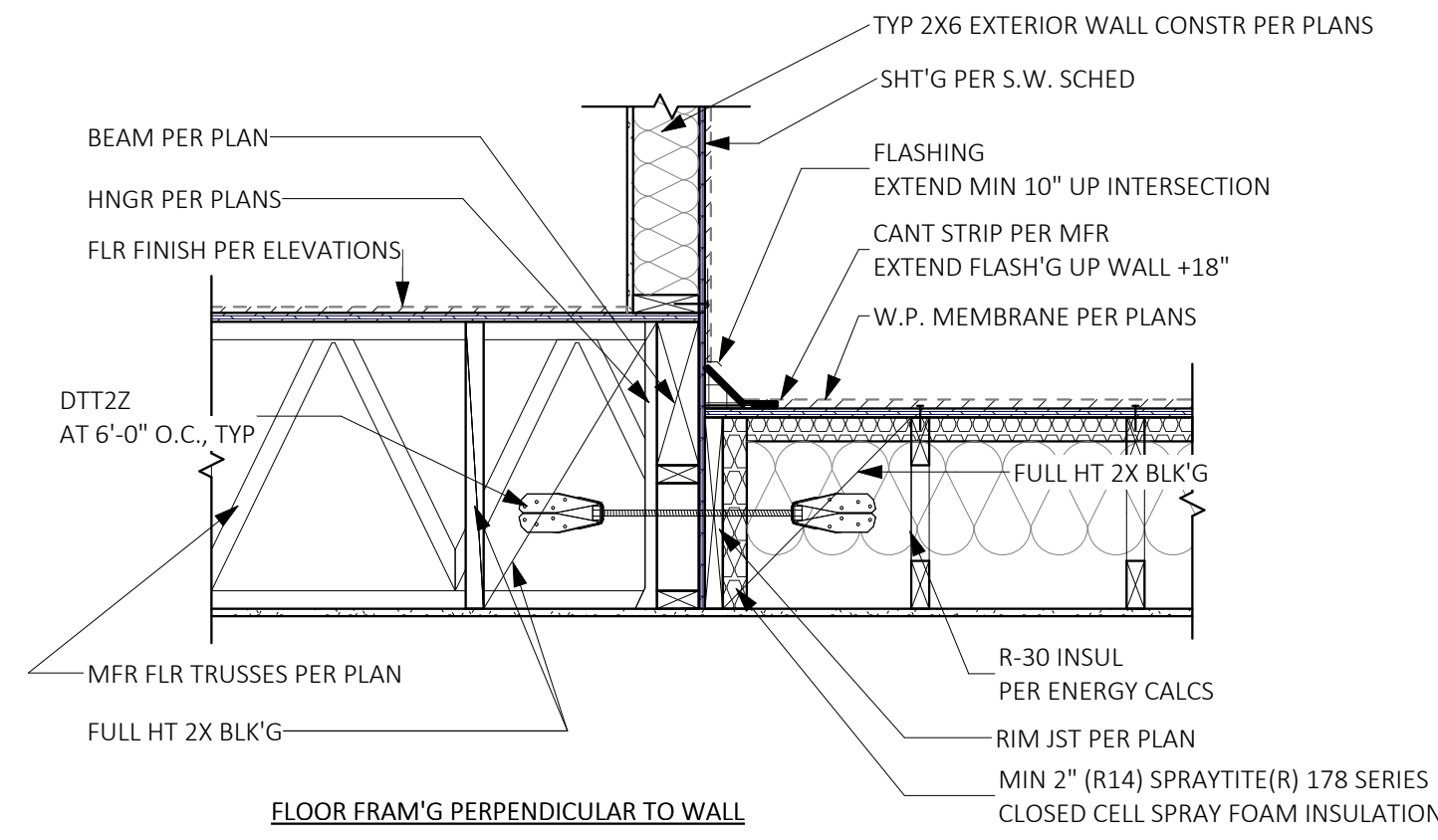
**BRUCE J. LOSHOLZER**  
 STATE OF WASHINGTON  
 REGISTERED PROFESSIONAL ENGINEER  
 01/23/2024

No. 1  
 Date 2023/01/25  
 Description SUB22 City Comment Submittal

**HU RESIDENCE**  
 2448 72nd AVE SE, Mercer Island

PERMIT SET  
 STAIR & RAILING DETAILS  
 PROJECT NO: 21014  
 ISSUE DATE: 2022/06/29  
 DRAWN BY: SPM  
**D201**  
 SCALE 24X36: 3/4" = 1'-0"

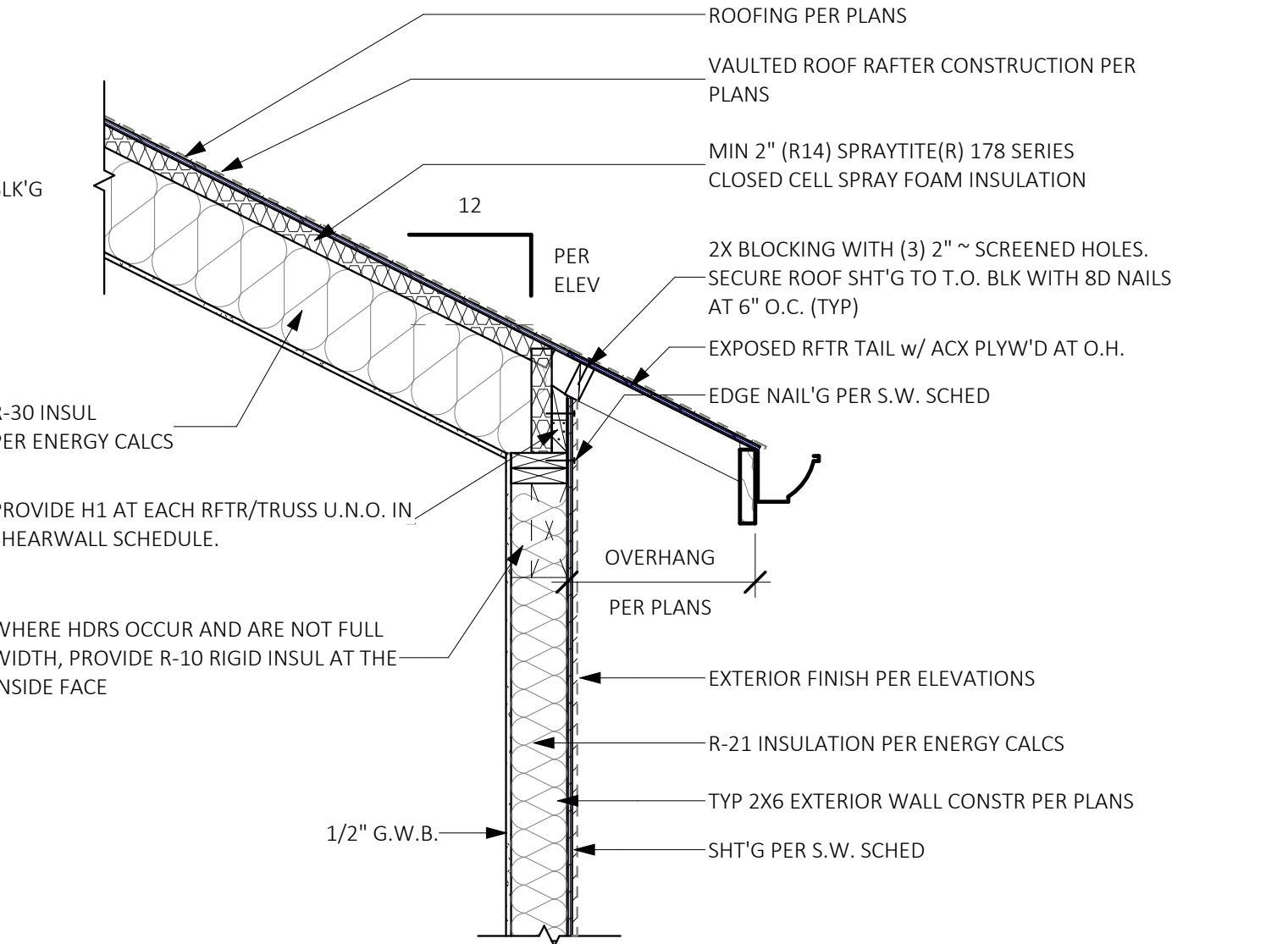
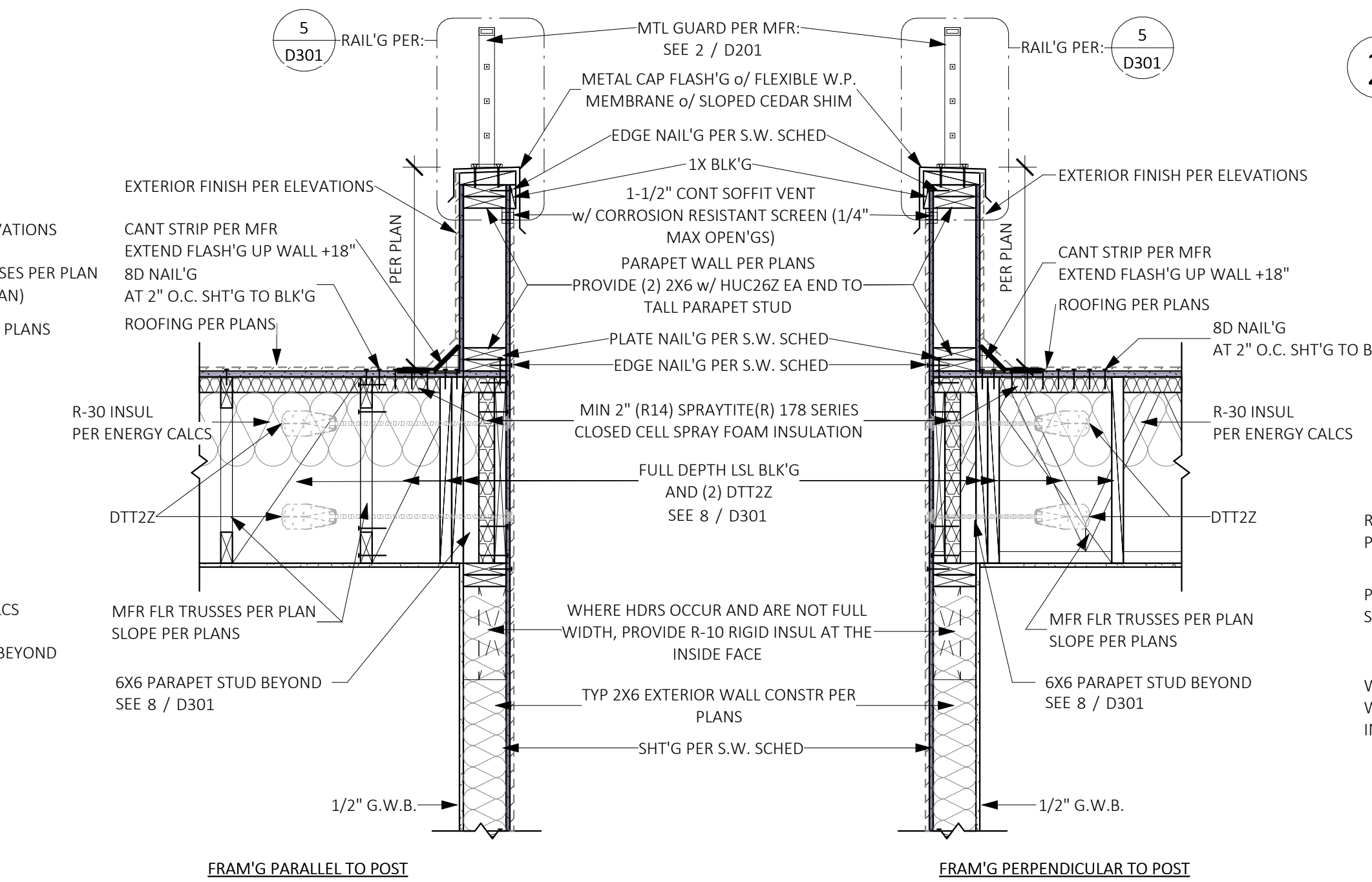
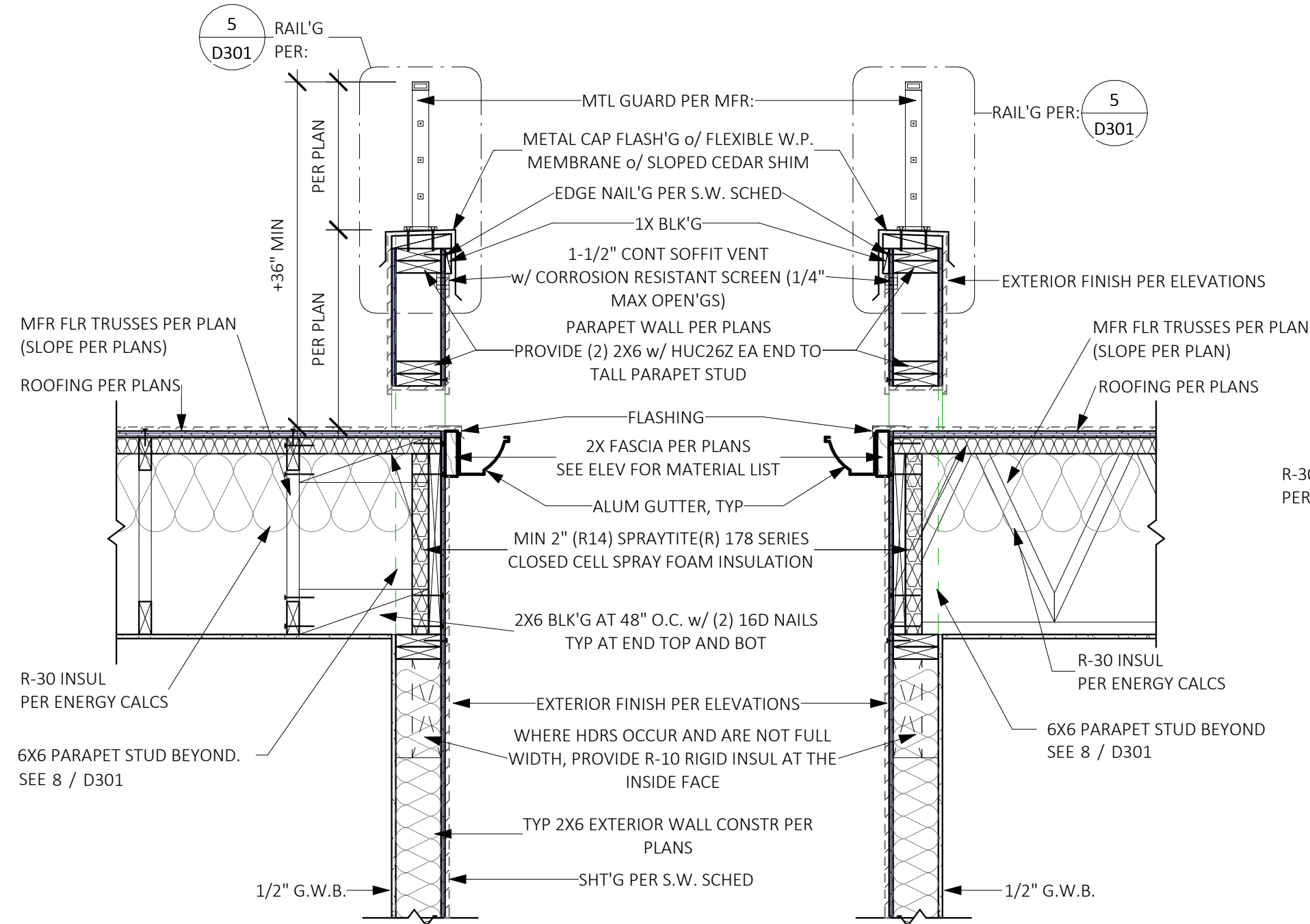




7 BALCONY/WALL CONNECTION  
SCALE: 3/4" = 1'-0"

8 PLAN VIEW AT PARAPET STUD  
SCALE: 3/4" = 1'-0"

2 GABLE END DETAIL- VAULT'D RFR  
SCALE: 3/4" = 1'-0"



6 PARAPET DETAIL w/ GUTTER  
SCALE: 3/4" = 1'-0"

4 PARAPET DETAIL  
SCALE: 3/4" = 1'-0"

1 EAVE DETAIL - VAULTED RAFTER  
SCALE: 3/4" = 1'-0"

NOTE: THIS IS A STANDARD DETAIL SHEET PREPARED FOR SINGLE FAMILY HOUSING TYPE V NONRATED CONSTRUCTION. THESE DETAILS HAVE BEEN PREPARED TO COVER GENERAL CONSTRUCTION CONDITIONS. NOT ALL DETAILS ON THIS SHEET ARE NECESSARILY INCORPORATED INTO THIS PROJECT. COORDINATE WITH PLANS.

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STANDARD DETAIL SHEET

ROOF DETAILS

PROJECT NO: 21014  
ISSUE DATE: 2022/06/29  
DRAWN BY: SPM

**D301**

SCALE 24X36: 3/4" = 1'-0"  
\* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

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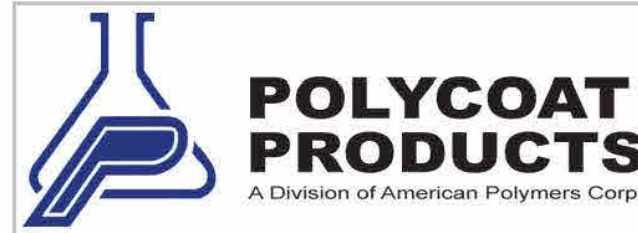
PERMIT SET

DESCRIPTION

DATE

NO.

1/23/2024



POLYCOAT-AQUASEAL® 5000 Single Component, Bitumen Modified Waterproofing Membrane System

Technical Data Sheet

System Description:

Polycoat-Aquaseal® 5000 is a single component, liquid applied, bitumen modified, coal tar free, moisture cured polyurethane waterproofing membrane. It is available in three application versions: Horizontal (H), Vertical (V), and Water Catalyzing (WC) - available only in horizontal. Polycoat-Aquaseal® 5000 is in complete compliance with SCAQMD air quality standards, and has VOC levels equal to or less than 100 grams per liter.

- FEATURES: Economical, Labor Saving, Meets the Criteria of ASTM C-836 and E-96, User Friendly, Resistant to Bacteria

- TYPICAL USES: Bridges, Planters, Shower Pans, Tunnels, Basements, Water Storage Tanks

Approved City of Los Angeles RR# 25935

Color: Black

Packaging: 5 gallon (18.9 liter) pail, 55 gallon drum, net fill 50 gallons (189 liters)

Mixing For Polycoat-Aquaseal® 5000H / 5000V

Before application, Polycoat-Aquaseal® 5000 should be thoroughly mixed using a mechanical mixer at slow speed to ensure a homogeneous material. Take care not to allow entrapment of air into the material.

Mixing For Polycoat-Aquaseal® 5000WC-H:

Before application, mix Polycoat-Aquaseal® 5000WC using a mechanical mixer at slow speed. Mix Polycoat-Aquaseal® 5000WC with water (water must be added) at a ratio of one quart of water to five gallons of Polycoat-Aquaseal® 5000WC. This will yield 5 1/4 gallons of membrane. The mixing ratio is 20 parts Polycoat-Aquaseal® 5000WC membrane to 1 part of water (20:1). Use care not to allow the entrapment of air into the mixture.

Polycoat-Aquaseal® 5000 (100 VOC) Properties:

Table with 5 columns: Based on Drawn Down Film, 5000H Horizontal, 5000V Vertical, 5000WC-H Water Catalyzed, Green Concrete. Rows include Hardness, Tear Resistance, Tensile Strength, etc.

POLYCOAT - AQUASEAL® 5000 SYSTEM

Joints, Cracks and Flashing:

Apply a stripe coat of Polycoat-Aquaseal® 5000 over all cracks up to 1/16" in width. All cracks over 1/16" in width must be caulked with a polyurethane sealant.

All metal flashings must be primed with manufacturer's recommended primer.

Application:

Polycoat-Aquaseal® 5000 may be applied with a brush, squeegee, trowel, roller or airless sprayer. Over smooth surfaces, such as poured-in-place concrete, apply Polycoat-Aquaseal® 5000 evenly in two 30 mil coats.

Polycoat-Aquaseal® 5000WC-H (Water Catalyzed) can be applied at any thickness.

Curing:

At 75°F (24°C) and 50% relative humidity, allow each coat of Polycoat-Aquaseal® 5000 Vertical, Horizontal and Green Concrete to cure 16 hours minimum.

Cure time will vary depending on temperature and humidity. If more than 48 hours pass between coats the surface must be re-primed.

For Polycoat-Aquaseal® 5000 WC applications, at 75°F (24°C) and 50% relative humidity, allow coating to cure a minimum of 2-4 hours before proceeding to subsequent coats. Cure time will vary depending on temperature and humidity. If more than 48 hours pass between coats the surface must be re-primed.

Polycoat-Aquaseal® 5000 is very sensitive to heat and moisture. Higher temperatures and/or high humidity will accelerate the cure time. Use caution in thickness of application. Limit single coat thickness to 30-40 wet mils.

Equipment Cleanup:

Equipment should be cleaned with an environmentally safe solvent, as permitted under local regulations, immediately after use.

Storage:

Polycoat-Aquaseal® 5000 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

Limitations:

Surfaces must be dry, clean and free of foreign matter.

Not UV stable.

Cannot withstand direct wear or abrasion.

Containers that have been opened must be used as soon as possible.

Do not dilute under any circumstance.

The following conditions must not be coated with Polycoat Products deck coating systems or products: on grade slabs, split slabs with a between slab membrane, sandwich slabs with insulation, and slabs over unvented metal pan.

Warning:

This product contains Aromatic Hydrocarbons, Isocyanates and Solvent.

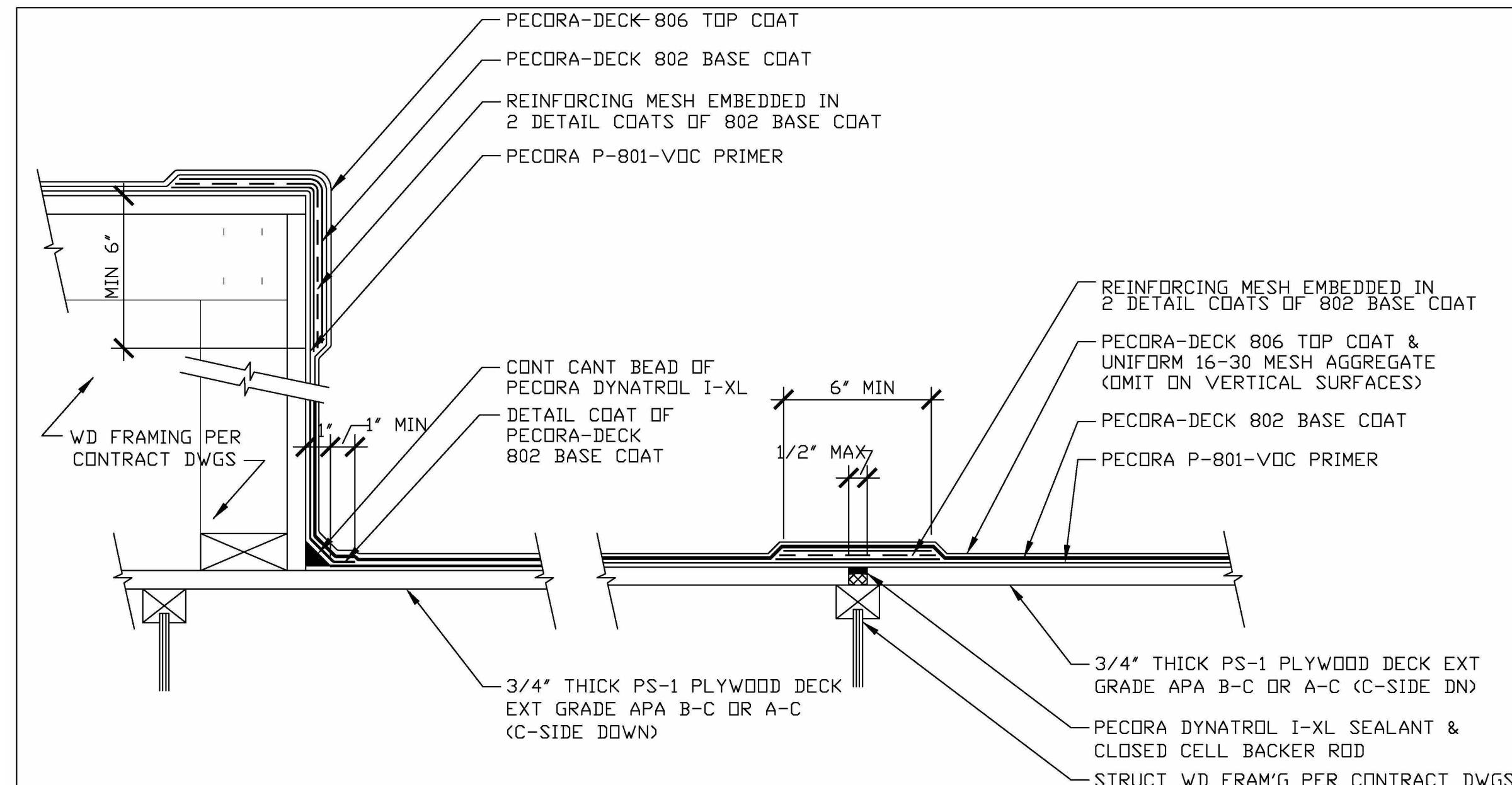
Limited Warranty:

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local Polycoat Products representative or visit our website for current technical data and instructions.

Polycoat Products warrants its products to be free of manufacturing defects and that they will meet Polycoat Products current published physical properties. Polycoat Products warrants that its products, when properly installed by a state licensed waterproofing contractor according to Polycoat Products guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by Polycoat Products of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Polycoat Products shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Polycoat Products shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Polycoat Products reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

Disclaimer:

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Polycoat Products makes no claim that these tests or any other tests, accurately represent all environments.



- NOTES: 1. WHERE PECDRA 800 WATERPROOF MEMBRANE IS NOTED ON CONTRACT DWGS., PROVIDE PECDRA-DECK 8313 PLYWOOD DECK PEDESTRIAN DECK COATING SYSTEM AS DETAILED. 2. THE FOLLOWING REINFORCING MESH PRODUCTS ARE ACCEPTABLE TO PECORA CORP. FOR PLYWOOD JOINT & CORNER REINFORCEMENT: TIETEX T-272 BY TIETEX INTERNATIONAL PERMAGLAS MESH PG-242 BT SAINT GGBAIN WEB SEAL TAPE BY ETRNABOND 3. PECORA CORP IS NOT A LICENSED DESIGN PROFESSIONAL IN THE STATE OF WASHINGTON AND IS THEREFORE NOT RESPONSIBLE FOR THE ROOF DECK DESIGN, INCLUDING STRUCTURAL FRAMING & SHEATHING.

PECORA CORPORATION logo and project information: BERINGER RESIDENCE, 7916 E MERCER WAY, MERCER ISLAND, WA. WALKING DECK COATING DETAILS. PECDRA-DECK 8313, PLYWOOD DECK. NO SCALE. MAY 3, 2019. DRAWING NO: 050319.01

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ATERA DESIGN STUDIO logo and address: 451 DUVALL AVE NE, RENTON, WA 98059. Includes a table with No., Date, and Description columns.

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PERMIT SET, SPECIALTY DETAILS, PROJECT NO: 21014, ISSUE DATE: 2022/06/29, SCALE 24X36, D401, \*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

