# 6515 SE 30th St. MECER ISLAND, WA - XXXXXX

## FLOOR PLAN GENERAL NOTES

#### GENERAL

- A. ALL ANGLED WALLS (OTHER THAN 90°) SHALL BE CONSTRUCTED AS NOTED BY ANGLE (DEGREES) CALLOUT OR CONFIGURED AS DIMENSIONED. (UNO.)
- B. ALL DIMENSIONS AT WALLS ARE TO THE FACE OF FRAMING STUDS.
- C. ALL EXTERIOR WALLS ENCLOSING CONDITIONED SPACE SHALL BE ADVANCED FRAMING w/2x6 STUDS at 16" OC. and INTERIOR WALLS TO BE 2x4 STUDS at 16" OC. per IRC. R602.3.2 (UNO.)
- D. ALL DIMENSIONS AT WINDOWS ARE TO THE CENTERLINE
- E. WINDOW SIZES NOTED ON PLANS ARE NOMINAL SO CONTRACTOR MUST VERIEY EXACT ROUGH OPENINGS PRIOR TO FRAMING. WINDOW and DOOR HEAD HEIGHTS SHOULD BE COORDINATED SO THAT ALL WINDOW and DOOR TRIMS ALIGN.
- F. PROVIDE WEATHER PROTECTION SYSTEM W/WATER-RESISTIVE BARRIERS IN COMBINATION w/FLASHINGS at EXT. WALLS, OPENINGS, PROJECTIONS, PENETRATIONS and INTERSECTIONS TO LOCK OUT ALL MOISTURE per IRC. R703.1-703.4
- G. TILE INSTALLATION SHALL COMPLY W/APPLICABLE SECTIONS OF THE TILE COUNCIL OF AMERICA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION" and ITS REFERENCED STANDARDS including IRC. R702.4.1
- H. ALL COUNTERS, TUB DECKS & WALLS AT TUBS & SHOWERS SHALL HAVE SMOOTH, HARD. NON-ABSORBENT SURFACE O/CEMENTITIOUS BACKER BOARD and MOISTURE RESISTANT UNDERLAYMENT per IRC. R702.4.2 UNDERLAYMENT AT TUB & SHOWER WALLS SHALL BE TO A HEIGHT OF +72" MIN. ABOVE DRAIN INLET per IRC. R307.2
- I. ALL SHOWERS TO COMPLY W/IRC. P2708.1 through P2708.5 ALL SHOWER RECEPTORS TO COMPLY w/IRC. P2709.1 through P2709.4
- J. CALCULATIONS and DETAILS FOR MOUNTING HEIGHTS & CONNECTION OF METAL GUARDRAILS (IF USED) SHALL BE PROVIDED FOR REVIEW and APPROVAL BY RAILING FABRICATOR PRIOR TO INSTALLATION FOR COMPLIANCE W/IRC R311 & R312
- K ALL REQUIREMENTS FOR BUILDING ENVELOPE TO COMPLY WITH THE 2015 WASHINGTON STATE ENERGY CODE (WSEC) SEE REQ'D ENERGY CREDITS ON THIS SHEET ALONG W/SHEETS All & Al2 FOR PRESCRIPTIVE REQUIREMENTS and COMPLIANCE NOTES FOR SINGLE FAMILY RESIDENTIAL IN CLIMATE ZONE 5 and MARINE 4.
- L. WSEC COMPLIANCE CERTIFICATE REQUIRED WITHIN 3' OF ELECTRICAL PANEL.
- M. EXHAUST FANS LARGER THAN 50cfm. MAY BE CONNECTED TO 4" SMOOTH WALL VENT PIPE IF RUNS DO NOT EXCEED 20' IN LENGTH, THE MINIMUM SIZE OF FLEX DUCT IS 5" DIAMETER WITH MAXIMUM RUN OF 15'.
- N. COMBUSTION AIR REQUIRED FOR ALL FUEL BURNING APPLIANCES. ALL INGITION SOURCES TO BE min. 18" ABV. GARAGE FLOOR per IRC. MI307.3
- O. PROVIDE FIREBLOCKING TO CUT OFF DRAFT OPENINGS AT LOCATIONS W/MATERIALS per IRC. R302.II PROVIDE DRAFTSTOPPING AT FLOOR/CEILING ASSEMBLIES per IRC. R302.12
- P. ALL WASTE PLUMBING DROPS TO BE ON INTERIOR WALLS or FURRED OUT EXTERIOR WALLS.
- Q. PROVIDE ACOUSTICAL PIPE WRAP AT ALL UPPER LEVEL WASTE LINES
- R. ALL OPENINGS MADE IN WALLS, FLOORS or CEILINGS FOR THE PASSAGE OF PIPES, STRAINER PLATES ON DRAIN INLETS, TUB WASTE OPENINGS TO CRAWLSPACE and METER BOXES TO COMPLY w/THE CODE REQUIREMENTS OF THE GOVERNING UPC.
- S. ENTRY STEPS SHALL HAVE SUFFICIENT GRADE BUILT UP AROUND THEM SO THE NUMBER OF STAIR RISERS DOES NOT EXCEED 3, W/MAX. RISER HEIGHT OF  $7\frac{3}{4}$ " -NOT REQUIRING A HANDRAIL per IRC. R311.7.8
- T. ALL EXTERIOR HOSE BIBS TO HAVE NON-REMOVABLE VACUUM BREAKERS, MUST BE FROSTPROOF and BE CAULKED and SECURED AT EXT. WALLS.
- U. INTERIOR CEILING HEIGHTS ARE AS FOLLOWS; MAIN FLOOR IO'-O" (U.N.O.)

#### UPPER FLOOR 9'-1 1/8" (U.N.O.)

#### SAFETY GLAZING

SAFETY GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS REQUIRED BY THIS SECTION SHALL HAVE MFGR'S DESIGNATION w/TYPE, THICKNESS and SAFETY GLAZING STANDARD with WHICH IT COMPLIES MARKED BY PERMANENT MEANS THAT CANNOT BE REMOVED WITHOUT DESTROYING GLASS per IRC. R308.1

IRC. R308.4 REQUIRES THAT SAFETY GLAZING TO BE INSTALLED IN ALL HARARDOUS LOCATIONS per DEFINED REQUIREMENTS and EXCEPTIONS SPECIFIED IN IRC. R308.4.1 through R308.4.7

- I. GLAZING IN DOORS.
- 2. GLAZING ADJACENT TO DOORS. 3. GLAZING IN WINDOWS MEETING ALL (4) CONDITIONS
- LISTED.
- 4. GLAZING IN GUARDS and RAILINGS
- 5. GLAZING IN and NEAR WET SURFACES. 6. GLAZING ADJACENT TO STAIRS and RAMPS
- 7. GLAZING ADJACENT TO THE BOTTOM STAIR LANDING.

ALARMS SHALL BE PERMITTED IN LIEU OF SEPARATE SKYLIGHTS and SLOPED GLAZING SHALL COMPLY with # Pound OR Number ELEC Electrical MC Medicine Cabinet SLB Slab THE MATERIALS and REQUIREMENTS OF IRC. R308.6.1 ALARMS per R314.5 and R315..4 And ELEV Elevation MDO Medium Density SPECSpecification through R308.6.9 @ At EQ Equal Overlay Square FIRE PROTECTION MECH Mechanical SQ IN Square inches A/C Air Conditione EW Each Way EGRESS WINDOWS MED Medium SQFTSquare feet AB Anchor Bolt EXC Excavate MEMB Membrane ABV Above EXH Exhaust STC Sound Transmission WINDOWS PROVIDING EMERGENCY ESCAPE and RESCUE EXIST Existing MFR Manufacturer Coefficient AD Area Drain OPENING REQUIRED AT BASEMENTS, HABITABLE ATTICS EXT Exterior STD Standard ADDLAdditional MIN Minimum and ALL SLEEPING ROOMS and SHALL OPEN DIRECTLY FBD Fiberboard MIR Mirror STL Steel ADH Adhesive INTO A PUBLIC WAY OR YARD TO SAME per IRC. R310.1 FCB Fiber Cement Board MISC Miscellaneous STR Structural ADJ Adjustable FCO Floor clean out MLB Micro Laminate Beam STRUCT Structure or • WINDOW CANNOT REQUIRE KEYS, TOOLS or SPECIAL AFF Above Finish Floor AGG Aggregate FD Floor drain MMB Membrane Structural KNOWLEDGE TO OPEN per IRC. 310.1.1 FIN Finish MTL Metal SY Square yard ALT Alternate • MUST HAVE AN OPENING AREA OF NOT LESS THAN 5.7 FIXT Fixture MWK Millwork Tread ALUM Aluminum FLOR Fluorescent NIC Not in Contract T&G Tongue and Groove Sq.Ft. with 20" min. WIDTH and 24" min. HEIGHT per IRC. ANC Anchor NO # FLR Floor TEL Telephone APX Approximate 312.2.1 NO Number TEMP Tempered FLSH Flashina ASPH Asphalt • MUST HAVE A SILL HEIGHT OF NOT MORE THAN 44" AUTO FND Foundatio NOM Nominal TK Tiaht Knot Automatic AVR Average ABV. FLOOR per IRC. R310.2.2 FO Face Of NTS Not to Scale TME To Match Existing AWG American Wire Gauge FOC Face of Concrete Non-Operable WindowTO Top Of GUARDS MUST BE PROVIDED AS WINDOW FALL TOB Top of Beam FOM Face of Masonry AWN Awnina PROTECTION AT LOW WINDOWS LOCATED GREATER FOS Face of Studs OBS Obscure TOC Top of curb/ Top of B/O By Others THAN 72" ABV. FINISHED GRADE per IRC. R312.2 OC On Center FOW Face of Wall Concrete BD Board FPL Fireplace OD Outside Diameter TOF Top of footing BLDGBuilding STAIRS and HANDRAILS OH Overhang TOJ Top of joist BLKGBlocking FRM Frame(ing) OP Opaque TOW Top of wall STAIRWAYS PROVIDING EGRESS FROM HABITABLE **FRPF** Fireproof BLW Below OPG Opening TP Toilet Paper Hanger FT Foot LEVELS NOT PROVIDED W/EGRESS DOOR per IRC. R311.2 BM Beam OPNG Opening or TYP Typical BOF Bottom of FTG Footina SHALL MEET THE REQUIREMENTS and EXCEPTIONS OF FUR Furred Rouah Openina UNO Unless Noted BOT Bottom IRC. R311.7.1 through R311.7.9 INCLUDING: GA Gauge OSB Orientated Strand BOW Bottom of wall Otherwise • SHALL PROVIDE A MIN. CLEAR WIDTH OF 36" ABOVE GALVGalvanized Board VB Vapor barrier BR Bedroom PBD Particle Board VERT Vertical GFCI Ground Fault Circuit HANDRAIL W/MAX. HANDRAIL PROJECTION INTO BSMTBasement PBF Prefabricated VIF Verify in field BTW Between Interrupt STAIRWAY OF  $4\frac{1}{2}$ " ON EITHER SIDE per R311.7.1 PERFPerforate(d) GFI Ground Fault BYND Beyond W/ With • SHALL PROVIDE A MIN. HEADROOM OF 6'-8" Interrupt Property Line CAB Cabinet W/O Without PLAM Plastic Laminate WC Toilet (water closet) MEASURED VERTICALLY FROM THE NOSE OF TREADS CAS Casement GL Glass GLB Glue Laminated BeamPLT Plate CB Catch Basin or LANDINGS per R311.7.2 WD Wood GLBK Glass Block PLYWD Plywood Ventilating WDW Window SHALL NOT HAVE A VERTICAL RISE GREATER THAN GWB Gypsum Wall Board PNT Paint or Painted CC Center to Center WH Water Heater PSF Pounds Per Square WIC Walk-In Closet 147" BTWN. FLOOR LEVELS or LANDINGS per R311.7.3 CIP cast-in-place GYP Gypsum HB Hose Bib CJ Control Joint Foot WP Water Proofing SHALL MEET THE WALKLINE REQUIREMENTS AT WINDER PSI Pounds Per Square WP Weatherproof CL Centerline HC Hollow Core TREADS per R311.7.4 HDR Header CLG Ceiling WR Weather Resistant HDWR Hardware Pressure Treated CLR Clear • SHALL HAVE A MAX. RISER HEIGHT OF  $7\frac{3}{4}$ " and HAVE A WRB Weather Resistive PVC Polyvinyl Chloride HT Height CMU Concrete Masonry MIN. TREAD DEPTH OF IO" THE GREATEST DIMENSION Barrie HVAC Heat-Vent-Air PVMTPavement WWF Welded Wire Fabric OF ANY RISER OR TREAD MUST NOT EXCEED THE Conditioning Riser CO Clean Out X Operable Window SMALLEST DIMENSION BY MORE THAN &. TREADS HW Hot water R&S Rod and Shelf COL Column Section LESS THAN II" SHALL MEET NOSING REQUIREMENTS. ID Inside Diameter Reinforced Concrete CONC Concrete CONTContinuous Rod ILO In Lieu Of THE OPENINGS AT OPEN RISERS SHALL NOT PERMIT RD Roof Drain THE PASSAGE OF A 4"\$ SPHERE per R311.5.1 through CRPTCarpet IN Inch RDL Roof drain leader CT Ceramic Tile INCL Include R311.5.4 CTYDCourtyard INS Insulate(tion) REBAR Reinforcing Bar • LANDINGS AT TOP and BOTTOM OF STAIRS SHALL CU FT Cubic Feet RFFRRef INSUL Insulation MEET THE REQUIREMENTS OF R311.7.6 CU YD Cubic Yard REG Register INT Interior RENFReinforcec DBL Double J-Box Junction box • THE WALKING SURFACE OF TREADS and LANDINGS REQ Required DEMO Demolish or JNT Joint SHALL NOT BE SLOPED MORE THAN 2% PER R311.7.7 JST Joist REQDRequired Demolitior **REV** Revision DH Double Hung KD Kiln Dried HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE RFG Roofing DIA Diameter KIT Kitchen SIDE OF EACH CONTINUOUS RUN OF TREADS w/(4) or RM Room DIM Dimension LAM Laminate(d) MORE RISERS. THE TOP OF HANDRAIL SHALL BE ) Rouah O ROW Right of way 34-38" ABV. LINE CONNECTING NOSINGS, HAVE MIN.  $I_2^{\downarrow}$ DP Damp proofing LB Pound SPACE BETWN. RAIL and WALL, HANDRAIL MUST RUN DR Door SA Supply Air Lineal Feet CONTINUOUS FOR FULL LENGTH OF EACH FLIGHT and DRWR Drawer SCH Schedule LL Live Load SCN Screen DS Downspout MEET APPROVED GRIP-SIZE per IRC. R311.7.8 Liaht Smoke detector DT Drain Tile LTG Lighting • SHALL BE PROVIDED W/ILLUMINATION per IRC. R303.7 SECT Section DW Dishwasher LVL Laminated Veneer at INTERIOR STAIRWAYS and R303.8 at EXTERIOR SGD Sliding Glass Door DWG Drawing Lumber STAIRWAYS. EA Each SH Shelf LVR Louver EF Exhaust fan SHTHSheathing MAS Masonry GUARDS EJ Expansion Joint SIM Similar MAX Maximum SIM Similar EL Elevation MBR Member GUARDS SHALL BE PROVIDED IN ACCORDANCE w/REQUIREMENTS and EXCEPTIONS OF IRC. R312.1 through R312.2 INCLUDING: ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS and LANDINGS LOCATED 30" or GREATER ABOVE ADJACENT FLOOR LEVEL per IRC. 312.1.1 OPENINGS MUST PREVENT THE PASSAGE OF A 4" PROJECT TEAM BUILDING CODES SPHERE or 43" AT OPEN SIDES OF STAIRS or 6" AT TRIANGLE OF TREAD, RISER & BOTTOM RAIL per R312.1.3 FOR THIS SET GUARDS MUST BE PROVIDED AS WINDOW FALL PROTECTION AT LOW WINDOWS LOCATED GREATER THAN 72" ABV. FINISHED GRADE per IRC. R312.2 ARCHITECTURAL DESIGN -CITY OF MERCER ISLAND CODES AT THE GUARDS and HANDRAILS MUST RESIST A SINGLE JAYMARCH HOMES CONCENTRATED LOAD OF 2001bs. IN ANY DIRECTION DATE OF THIS DRAWING SET: ALONG THE TOP and GUARD INFILL MUST RESIST A 501b. LOAD APPLIED HORIZ. OVER I Sq.Ft. per IRC. TABLE R301.5 ARCHITECTURAL DRAFTING 2018 INTERNATIONAL BUILDING CODE (IBC) JAYMARC HOMES - 425.226.9100 - JAYMARCHOMES.COM \_ALARMS\_ 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) RYAN REDMAN - RYAN@JAYMARCHOMES.COM SMOKE ALARMS and CARBON MONOXIDE ALARMS 2018 WASHINGTON STATE ENERGY CODES REQUIRED IN ALL NEW DWELLINGS SHALL MEET 2009 ICC A117.1, BARRIER-FREE STANDARD REQUIREMENTS and EXCEPTIONS OF NFPA 72, IRC. R314 M&K ENGINEERING and R315. 2018 INTERNATIONAL FIRE CODE (IFC) MULHERN & KULP - 215.646.8001 - MULHERNKULP.COM SMOKE ALARMS TO BE LISTED and INSTALLED IN 2018 NATIONAL ELECTRIC CODE (NEC) RICHARD ZABEL - RZABEL@MULHERNKULP.COM ACCORDANCE W/IRC. R314.1.1 and CARBON MONOXIDE 2018 UNIFORM PLUMBING CODE (UPC) ALARMS IN ACCORDANCE W/IRC. 315.1.1 2018 INTERNATIONAL MECHANICAL CODE (IMC) SQUARE FOOTAGE SMOKE ALARMS SHALL BE INSTALLED IN FOLLOWING LOCATIONS per R314.3 : 2015 INTERNATIONAL FUEL GAS CODE (IFGC) I. IN EACH SLEEPING ROOM. 2015 POOL AND SPA CODE SUMMARY 2. OUTSIDE EACH SEPARTE SLEEPING AREA. 3. ON EACH STORY OF THE DWELLING. 4. NOT LESS THAN 3' FROM A BATHROOM w/TUB or SHOWER. 5. NOT NEAR COOKING APPLIANCES per R314.3.1 SMOKE ALARMS SHALL BE INTERCONNECTED per R314.4 CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS per R315.3 : I. ON EACH STORY OF THE DWELLING 2. ADJACENT TO EACH SEPARATE SLEEPING AREA. 3. WITHIN BEDROOMS WHERE A FUEL BURNING FIREPLACE IS LOCATED IN THE ROOM or ITS ATTACHED BATH. ALL ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM BUILDING WIRING W/BATTERY BACKUP per R314.6 and R315.5 COMBINATION SMOKE and CARBON MONOXIDE LOCAL JURISDICTION REQUIRES DWELLING UNIT FIRE SHEE COVERSPRINKLER SYSTEM PER IRC APPENDIX R LOCAL JURISDICTION DOES NOT REQUIRE DWELLING |/4" = |'-0" See Sheet "CODES" for additional Zoning required Area Calculations

ABBREVIATIONS

UNIT FIRE SPRINKLER SYSTEM PER IRC APPENDIX R

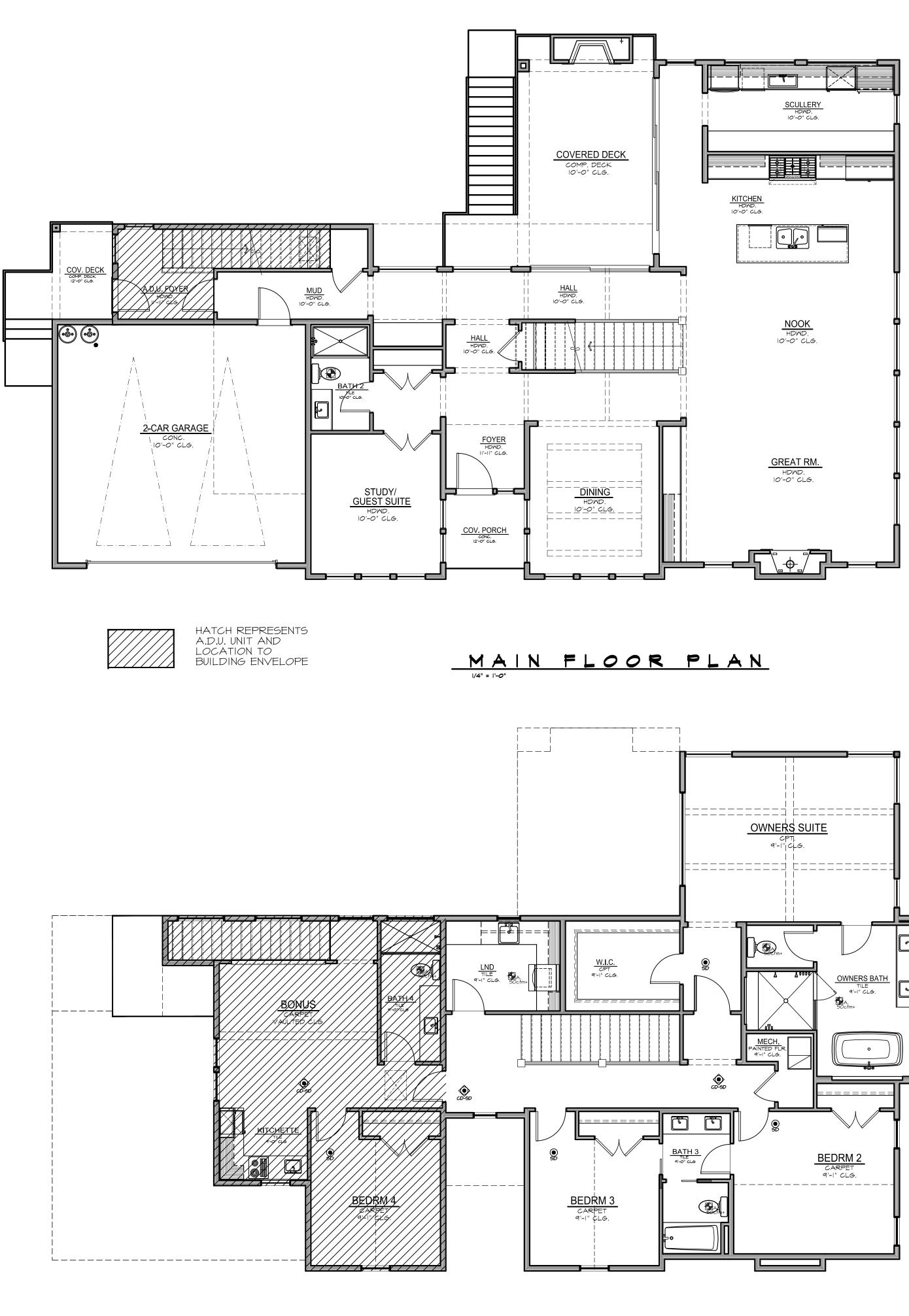
| GENERAL INFORMATION<br>APPLIES FULL SET |
|---|
|   |

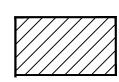
### SHEET INDEX

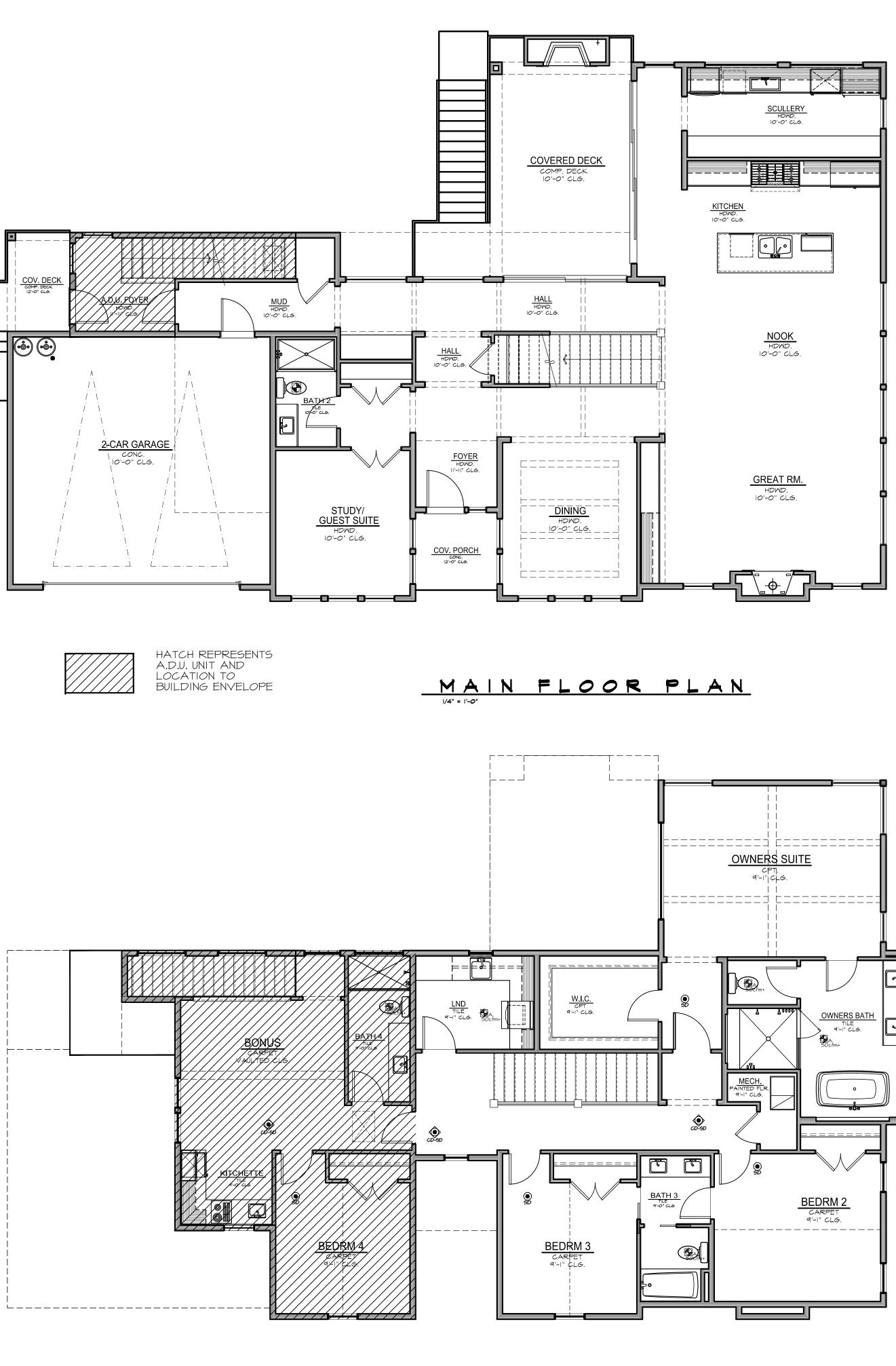
| SHEET # | DESCRIPTION                        |
|---------|------------------------------------|
| A1      | COVERSHEET                         |
| A1.1    | GENERAL FLOOR PLAN INFORMATION     |
| A2      | SITE PLAN                          |
| A3      | FOUNDATION PLAN                    |
| A4      | MAIN FLOOR FRAMING PLAN            |
| A5      | MAIN FLOOR PLAN                    |
| A6      | UPPER FLOOR FRAMING PLAN           |
| A7      | UPPER FLOOR PLAN                   |
| A8      | ROOF FRAMING PLAN                  |
| A9      | ROOF PLAN                          |
| A10     | EXTERIOR ELEVATIONS                |
| A11     | EXTERIOR ELEVATIONS                |
| A12     | BUILDING SECTIONS                  |
| S0.0    | LATERAL - STRUCTURAL GENERAL NOTES |
| LB-1    | LATERAL - DETAILS                  |
| LB-2    | LATERAL - DETAILS                  |
| SD.01   | FOUNDATION DETAILS                 |
| D1      | WATER INTRUSION DETAILS            |
| E1      | MAIN FLOOR ELECTRICAL LAYOUT       |
| E2      | UPPER FLOOR ELECTRICAL LAYOUT      |
| EN1     | 2018 ENERGY CODE CALCULATIONS      |
|         |                                    |
|         |                                    |
|         |                                    |

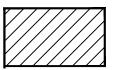
| MAIN FLOOR AREA + GARAGE 1805 +448 =  | 2,253              | S.F.            |
|---|--------------------|-----------------|
| JPPER FLOOR AREA - MINUS A.D.U.   | 1,903              | S.F.            |
| TOTAL AREA<br>LESS 2 STAIRWELLS   | 4,156<br>-107      | S.F.            |
| NET FL <i>OO</i> R AREA   | 4049               | S.F             |
| MAX. FLOOR AREA 3600 + 450 A.D.U.   | 4050               | S.F.            |
| OVERALL WIDTH<br>OVERALL DEPTH  | -<br> -<br> -1     | '-11 ½"<br>1/2" |
| Updated : 03/09/2018  |                    |                 |
| 1ethod for Calculating Square Footage - ANSI Z765-2013 <u>ex</u><br>above-grade or below-grade' areas <u>and</u> each level is meas<br>the exterior finished surface. | ured to the outsid |                 |

|                         | JAA<br>AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  |
|-------------------------|--|
|                         |  |
| escription              | Plan name:<br>marketing name:<br>plan number:<br>mark sys. number:<br>Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC;<br>All rights reserved.<br>04.15.21<br>Submittal Date<br><u>Sheet Title/Description</u><br><u>AYMARC HOMES<br/>Design Firm</u><br>R.R.<br><u>Drawn by:</u><br>R.R./ S.K.<br><u>Checked by:</u> |
| Sheet Title/Description | A1<br>of: .  |









HATCH REPRESENTS A.D.U. UNIT AND LOCATION TO BUILDING ENVELOPE

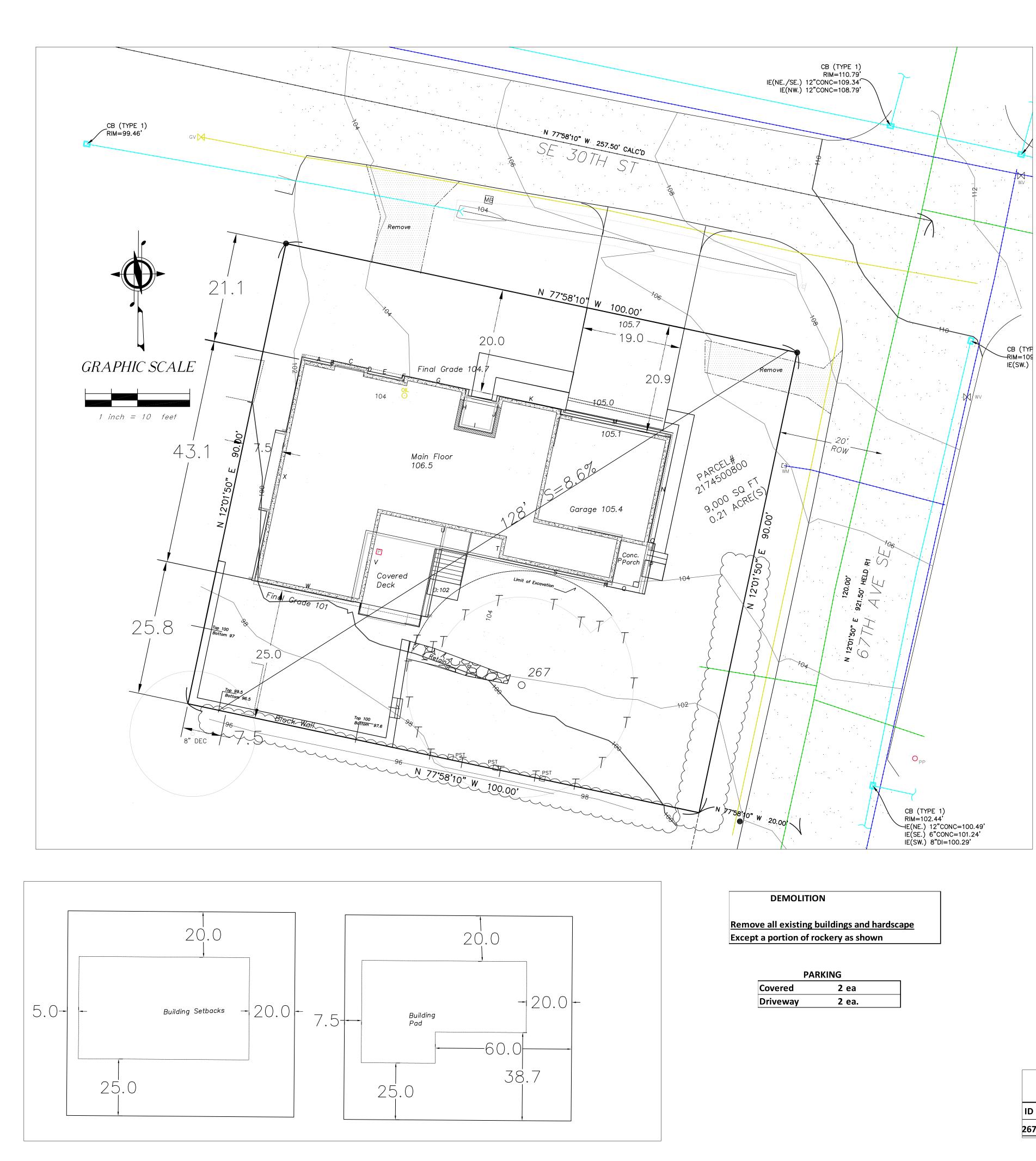
# A.D.U. DETAILS

MAIN FLOOR - A.D.U. FOYER = 111 UPPER FLOOR - A.D.U. = 557 MINUS STAIRS @ A.D.U. = 53

TOTAL A.D.U. AREA =

UPPER FLOOR PLAN

| LS<br>111 SQ. FT.<br>557 SQ. FT.<br>53 SQ. FT.<br>615 SQ. FT. | JAANAARAARAARAARAARAARAARAARAARAARAARAARA  |
|---|--|
|   |  |
| eet Title/Description   | Plan name: -<br>marketing name: -<br>plan number: -<br>mark sys. number: -<br>mark sys. number: -<br>Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC:<br>04.15.21<br>Submittal Date |



| SE 30th      |              |        |          |
|--------------|--------------|--------|----------|
| Height Table |              |        |          |
| Wall         | Midpoint     |        |          |
| Segment      | Elevation    | Length | Product  |
| Α            | 102.2        | 6      | 613.2    |
| В            | 103.4        | 1      | 103.4    |
| С            | 103.8        | 7      | 726.6    |
| D            | 103.8        | 1      | 103.8    |
| E            | 104          | 7      | 728.0    |
| F            | 104          | 1      | 104.0    |
| G            | 104.1        | 12     | 1,249.2  |
| Н            | 104.4        | 7      | 730.8    |
| I            | 104.8        | 6.5    | 681.2    |
| J            | 105          | 7      | 735.0    |
| К            | 104.3        | 12     | 1,251.6  |
| L            | 104.4        | 1      | 104.4    |
| Μ            | 104.4        | 21.5   | 2,244.6  |
| Ν            | 104.2        | 21     | 2,188.2  |
| 0            | 104.2        | 1      | 104.2    |
| Р            | 104.2        | 10     | 1,042.0  |
| Q            | 103.7        | 7      | 725.9    |
| R            | 103.7        | 1      | 103.7    |
| S            | 103.7        | 21.5   | 2,229.6  |
| Т            | 105.2        | 3.5    | 368.2    |
| U            | 105.1        | 24     | 2,522.4  |
| V            | 103.5        | 17.5   | 1,811.3  |
| W            | 100.3        | 21     | 2,106.3  |
| Х            | 101          | 44     | 4,444.0  |
|              | Sub Totals   | 261.5  | 27,021.5 |
|              | ABE          |        | 103.3    |
|              | Max Height   | :      | 30.0     |
| N            | lax Elevatio | n      | 133.3    |

|          | Lot Area                 | 9,000   |
|----------|--------------------------|---------|
|          | Allowed                  | 40%     |
|          | Allowed sf               | 3,600   |
| New      |                          |         |
| Γ        | Main Structure Roof Area | 2,739   |
|          | Driveway                 | 373     |
|          | Cov'd Patio or Deck -    |         |
|          | Included above           | -       |
|          | New sf                   | 3,112   |
| Existing |                          | -       |
|          | Existing                 | 2,073   |
|          | Existing Removed         | (2,073) |
|          | Net Existing             | -       |
| Total    |                          |         |
| •        | Total New and Existing   | 3,112   |
|          | %                        | 34.6%   |

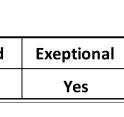
| Gross Floor Area          |       |  |
|---------------------------|-------|--|
| Main Floor Inc. Garage    | 2,253 |  |
| Second Floor              | 1,903 |  |
| Less Two Stairs           | (107  |  |
| Total                     | 4,049 |  |
| Max Allowed: 40% + 5% ADU | 4,050 |  |
| Proposed 44.99%           |       |  |

| Tree Table |                   |      |      |       |
|------------|-------------------|------|------|-------|
| ID         | Species           | DSHS | Drip | Saved |
| 267        | Western Red Cedar | 36.4 | N-20 | Yes   |

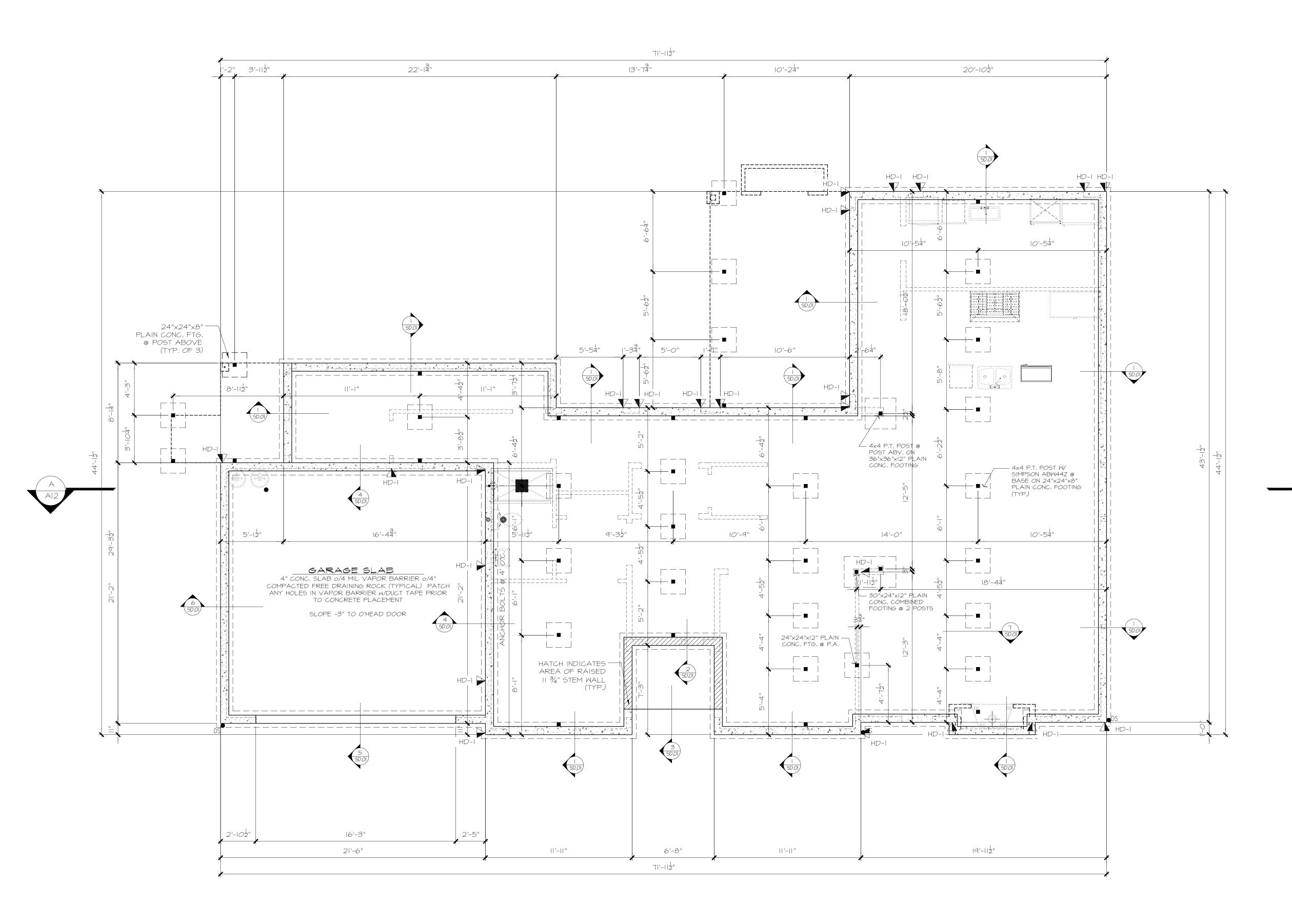
| DEMOLIT             | ION                       |
|---------------------|---------------------------|
| Remove all existing | g buildings and hardscape |
| Except a portion of | rockery as shown          |
|                     | -                         |
| <u></u>             |                           |
|                     | ARKING                    |
|                     | ARKING<br>2 ea            |

| Lot Slope Calculat                            |                 |             |
|---|-----------------|-------------|
| High Point                                    | 107.5           | ft          |
| Low Point                                     | 96.5            | ft          |
| Elevation Difference                          | 11              | ft          |
| Distance                                      | 128             | ft          |
| Slope%  | 8.60%           |             |
| GENERAL INFORMA                               | TION            |             |
| PROPERTY OWNER                                |                 |             |
| Jaymarc Emerald, LLC                          |                 |             |
| STREET ADDRESS                                |                 |             |
| 6515 SE 30th St                               |                 |             |
| PARCEL #                                      |                 |             |
| 2174500800                                    |                 |             |
| LEGAL DESCRIPTION                             |                 |             |
| Lots 31, 32 and 33, Block 5, Ea<br>22 and 23. | ist Seattle, Vo | olume 3, Pl |
| <u>ZONE: R-8.4</u>                            |                 |             |
| <u>SETBACKS:</u>                              |                 |             |
| Front Yard - 20'                              |                 |             |
| Rear Yard - 25'                               |                 |             |
| Sides Yard on Street Side - 20                | )'              |             |
| Remaining side yard 5'                        |                 |             |
| HEIGHT LIMIT; 30' above ABE                   | to roof peak    |             |
| MAXIMUM LOT COVERAGE: 4                       | 0%              |             |
| MAXIMUM HARDSCAPE: 9%                         |                 |             |
| MAXIIUM FAR: 40%                              |                 |             |
| PARKING SPACES PROVIDED:                      | 2 GARAGE 2 [    | DRIVEWAY    |
| NO CRITICAL AREAS IMPACET                     | ED              |             |
| NO ONSITE EASEMENTS                           |                 |             |

| Hardscap                 | е     |      |
|--------------------------|-------|------|
|                          |       |      |
| EXISTING                 |       |      |
| Uncovered Patio          |       | 373  |
| Walkways                 |       | 99   |
| Stairs                   |       | 70   |
| Rockery/Retaining W      | /alls | 200  |
| Total Existing 7         |       | 742  |
| Existing Removed 68      |       |      |
| Net Existing Retained 53 |       |      |
| NEW                      |       | -    |
| Walkways                 |       | 181  |
| Stairs                   |       | 36   |
| Retaining Walls          |       | 127  |
| Total New                |       | 344  |
| Total New and Existing   |       | 397  |
| Total Hardscape 4.       |       | 4.4% |



| JayMarc Homes, LLC<br>7525 SE 24th St, #487<br>Mercer Island, WA 98040<br>425 281 2706 |
|--|
| 515 SE Joth Street   |
| C (0)<br>Drawn by<br>Gary Upper<br>5-10-21<br>425-281-2706                             |
| A2   |



# FOUNDATION PLAN

| <br>YMBOL       NOTES: CATION         HD-I       SIMPSON STHDI4 (RJ)         HD-DOWN       SIMPSON CSI6         HD-5       STRAP TIE (I4" END         LENGTH)       SIMPSON MSTC40         HD-6       STRAP TIE (I2" END                      | <b>JAYMARC</b><br>H O M E S<br>7525 SE 24th St., 487<br>Mercer Island, WA<br>98040<br>425.266.9100 |
|---|--|
| LENGTH)<br>SIMPSON MSTC66<br>HD-7 STRAP TIE (24" END<br>LENGTH)   |  |
| <ul> <li>LEGEND</li> <li></li></ul>   | Issue Issue Date By  |
| 4x10 DROPPED CONT.<br>BEAM (TYP. U.N.O.) w/ 4x4<br>P.T. Posts on 24"x24"x8"<br>PLAIN CONC FTG. (U.N.O.)   |  |
| TYP. CRAWLSPACE POSTS:<br>4x4 P.T. POST W/2x4 CLEATS EA. SIDE +<br>SIMPSON ABW44Z BASE @ BASE OF POST<br>W/0.131"x1-1/2" LONG REDHEAD NAILS<br>(4'-O" MAX. POST HEIGHT) ON ASPHALT<br>SHINGLE ON 24"x24"x8" PLAIN CONC. FTG.<br>(TYP. U.N.O.) | E 30th St.<br>Island, WA.  |
| REFER TO S-O FOR TYPICAL<br>STRUCTURAL NOTES &<br>SCHEDULES   | 6515 SI<br>Mercer I  |
|   | plan name:<br>marketing name:<br>plan number:  |
|   | marketing name:  |

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then the current standards and requirements of each respectively shall govern.

The drawings in this set are instruments of service and shall remain the property of JayMarc Homes, LLC.

Sheet Title/Description

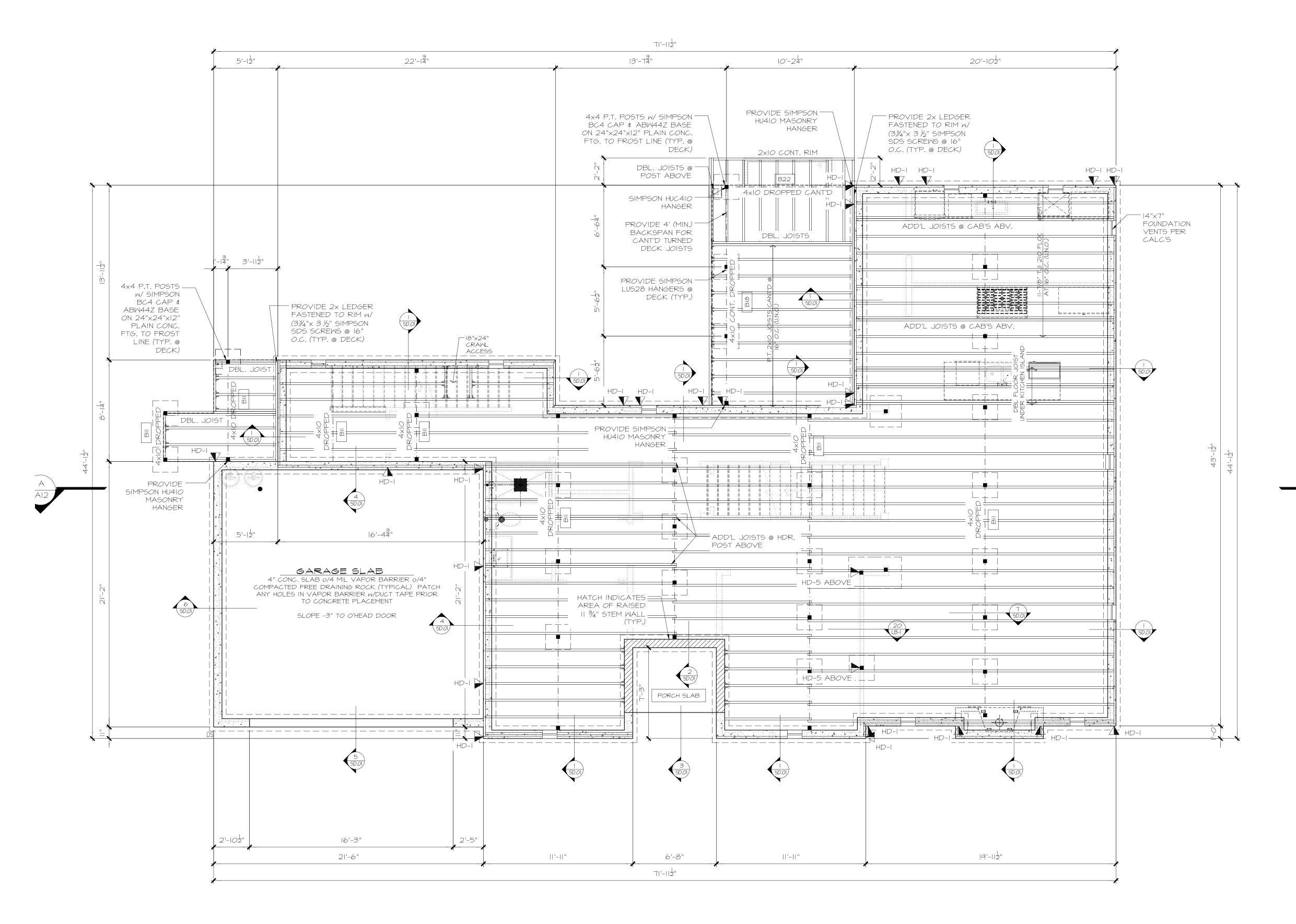
JAYMARC HOMES Design Firm

R.R. Drawn by:

R.R./ S.K. Checked by:

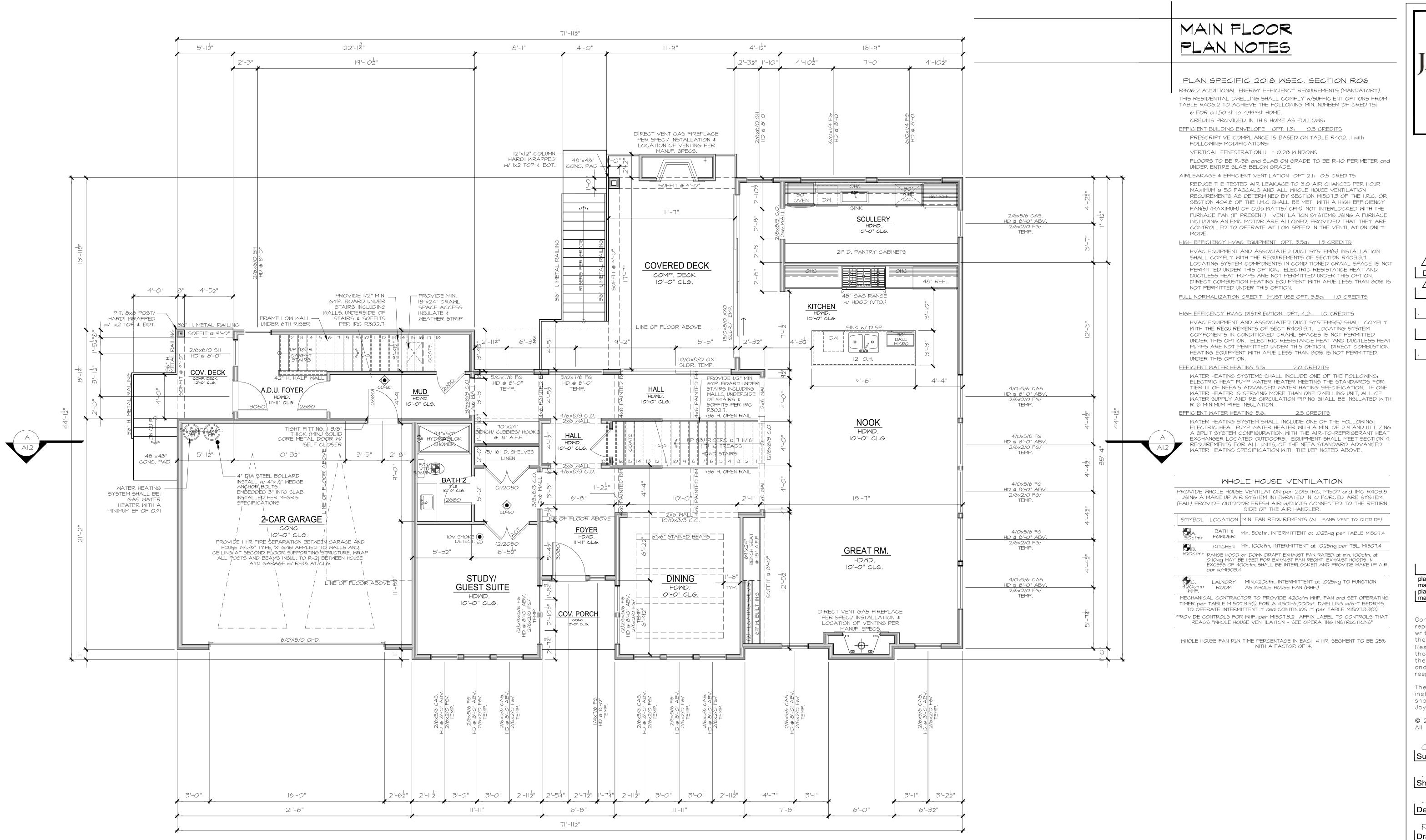
Primary Scale

of: .



# MAIN FLOOR FRAMING PLAN

|                        | HOLD-DOWN SCHEDULE   |   |
|------------------------|--|---|
|                        | SYMBOL SPECIFICATION   | JAYMAR<br>H O M E S   |
|                        | HD-I SIMPSON STHDI4 (RJ)<br>HOLD-DOWN<br>SIMPSON CSI6  | 7525 SE 24th St., 4<br>Mercer Island, WA  |
|                        | HD-5 STRAP TIE (14" END<br>LENGTH)   | 98040<br>425.266.9100   |
|                        | SIMPSON MSTC40<br>HD-6 STRAP TIE (12" END<br>LENGTH)   |   |
|                        | SIMPSON MSTC66<br>HD-7 STRAP TIE (24" END<br>LENGTH)   |   |
|                        |  |   |
|                        | JL METAL HANGER<br>X INDICATES POST ABOVE. PROVIDE SOLID<br>BLOCKING UNDER POST OR JAMB ABOVE.<br>INDICATES HOLDOWN.   |   |
|                        |  |   |
|                        |  |   |
|                        | REFER TO S-O FOR TYPICAL   | , i   |
|                        | STRUCTURAL NOTES &<br>SCHEDULES  | 30th St.<br>land, W.  |
| A<br>Al2               | 4x10 DROPPED   | SE 30t<br>r Island  |
| $\checkmark$           | CONT. BEAM (TYP. U.N.O.)<br>BIO & B20  |   |
|                        |  | 6515<br>Jercei  |
|                        |  | N S S S S S S S S S S S S S S S S S S S   |
| FOUNE<br>Crawlspace Ar | DATION VENTILATION<br>ea: 1800 s.f.  |   |
| Ventilation Red        | quired: 1800 s.f. / 300 = 864 s.i. Req'd<br>14" x 7" Foundation Vents<br>98 s.i 25% reduct.,1/4"mesh = 73.5 s.i.   |   |
| Vents Require          | d = 864 s.i. / Vent Area = 11.76 s.i.<br>12 14" x 7" Vents, Area = 882 s.i.  | plan name:<br>marketing name:<br>plan number:   |
| Use:<br>* FOUNDATION   | 12       14" x 7"       Foundation Vents         VENTS SHALL NOT INTERFERE WITH DIRECT LOAD PATH OF COLUMNS         L BLACK POLYETHYLENE VAPOR RETARDER GROUND COVER | mark sys. number:   |
| * LOCATE ONE           | VENT WITHIN 3 FEET OF EACH CORNER OF THE BUILDING, EXCEPT ONE SIDE<br>DING SHALL BE PERMITTED TO HAVE NO VENTS.  | Conditions not specifically<br>represented graphically of<br>writing or which conflict<br>the current International |
|                        |  | Residential Code (IRC.) o<br>those of the local munic<br>then the current standar                                   |
|                        |  | and requirements of each<br>respectively shall govern.  |
|                        |  | The drawings in this set<br>instruments of service ar<br>shall remain the property<br>JayMarc Homes, LLC.           |
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|                        |  | Sheet Title/Description   |
|                        |  | JAYMARC HOME  |
|                        |  | R.R.<br>Drawn by:   |
|                        |  | R.R./ S.K.  |
|                        |  | Checked by:   |
|                        |  | Primary Scale   |
|                        |  |   |
|                        |  | Primary Scale   |

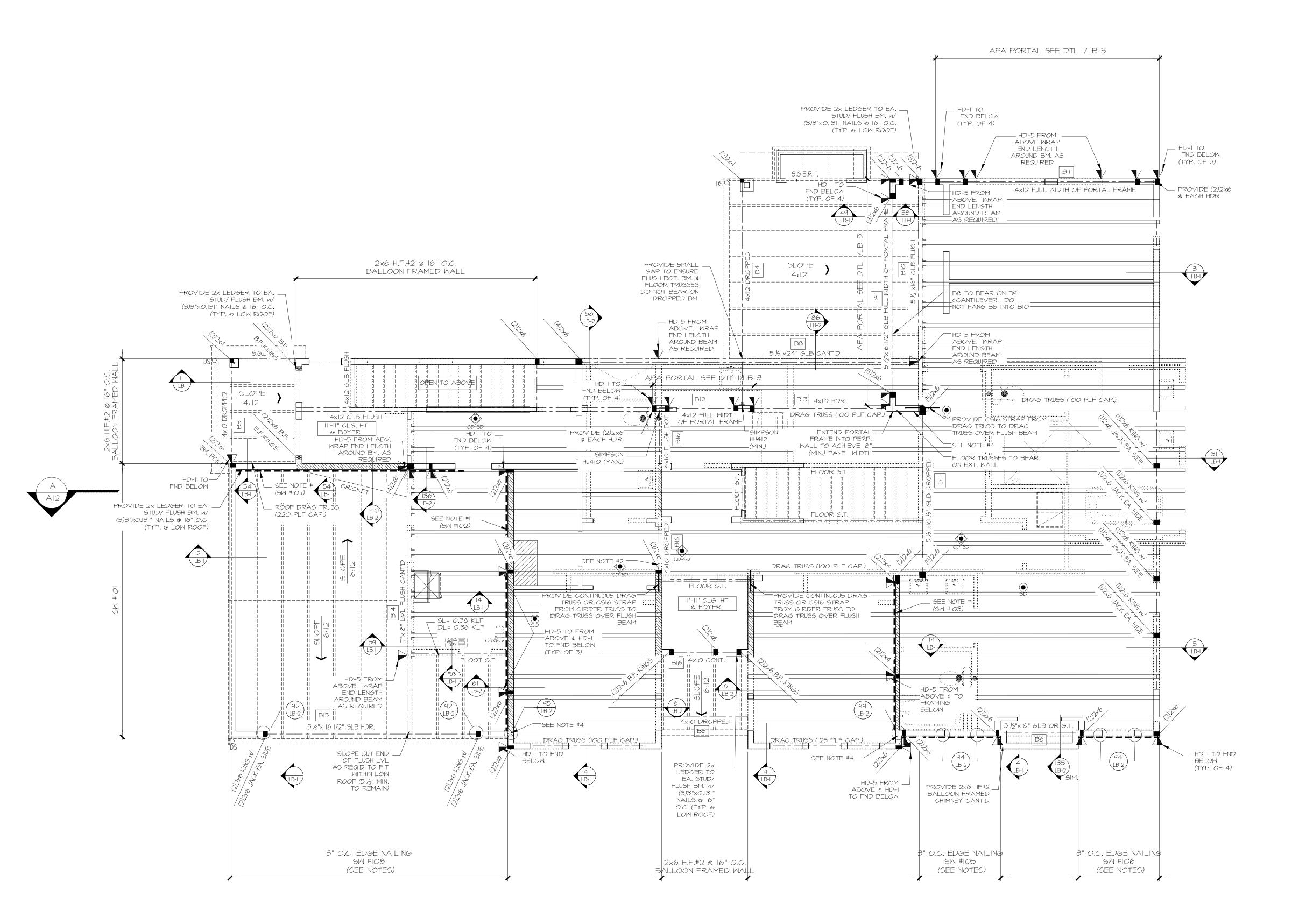


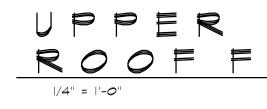
|/4" = |'-0"

MAIN FLOOR PLAN

| SQUARE FOOTAGE SUN                                     | 1MARY                    |
|--|--------------------------|
| MAIN FLOOR AREA + GARAGE 1805 +448 =                   | 2,253 S.F.<br>1,903 S.F. |
| TOTAL AREA<br>LESS 2 STAIRWELLS                        | 4,156 S.F.<br>-107       |
| NET FLOOR AREA   | 4049 S.F                 |
| MAX. FLOOR AREA 3600 + 450 A.D.U.                      | 4050 S.F.                |
| OVERALL WIDTH<br>OVERALL DEPTH<br>Updated : 03/09/2018 | 7 '-   ½"<br>44' -1_1/2" |

| _                       | <b>TAXABLE S</b><br><b>TS25 SE 24th St., 487</b><br>Mercer Island, WA<br>98040<br>425.266.9100  |
|-------------------------|---|
|                         | A Issue Issue Date By     Description     A |
| escription              | plan name:       -         marketing name:       -         plan number:       -         mark sys. number:       -         Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.         The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC;<br>All rights reserved.         O4.15.21         Submittal Date         Sheet Title/Description         JAYMARC HOMES         Design Firm         R.R.         Drawn by:         R.R./ S.K.         Checked by:  |
| Sheet Title/Description | A5<br>of: .   |





## UPPER FLOOR & LOWER ROOF FRAMING PLAN

| HC     | HOLD-DOWN SCHEDULE                              |  |  |
|--------|---|--|--|
| SYMBOL | SPECIFICATION                                   |  |  |
| HD-I   | SIMPSON STHDI4 (RJ)<br>HOLD-DOWN                |  |  |
| HD-5   | SIMPSON CSI6<br>STRAP TIE (14" END<br>LENGTH)   |  |  |
| HD-6   | SIMPSON MSTC40<br>STRAP TIE (I2" END<br>LENGTH) |  |  |
| HD-7   | SIMPSON MSTC66<br>STRAP TIE (24" END<br>LENGTH) |  |  |

#### LEGEND

- WITTERIOR BEARING WALL
- 🚃 = 🚃 BEAM / HEADER
- \_\_\_\_\_ 18" FLOOR TRUSS @ 24" O.C. (U.N.O.)
- ■ ■ INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING JL METAL HANGER
- \* INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.

### REFER TO S-O FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

4xIO HDR @ ALL EXT. B5 WINDOWS/DOORS (TYP. U.N.O.)

<u>NOTE #1:</u> PROVIDE 1/6" OSB/PLYWOOD SHTG. + FASTEN PER TYP. WALL SHTG. SPECS. (SEE NOTES)

### <u>NOTE #2:</u>

PROVIDE SIMPSON CSI6 STRAP FROM TOP OF FLUSH BEAM/ BLOCKING (13" END LENGTH TO TOP OF BLKG. PROVIDE BLKG BETWEEN TRUSSES FOR STRAP FASTENING AS SHOWN (3' BAY MIN.) FASTEN FLOOR SHTG. TO BLOCKING W/ 3"x OI3I." NAILS @ 6" O.C. @ SHTH. EDGES.

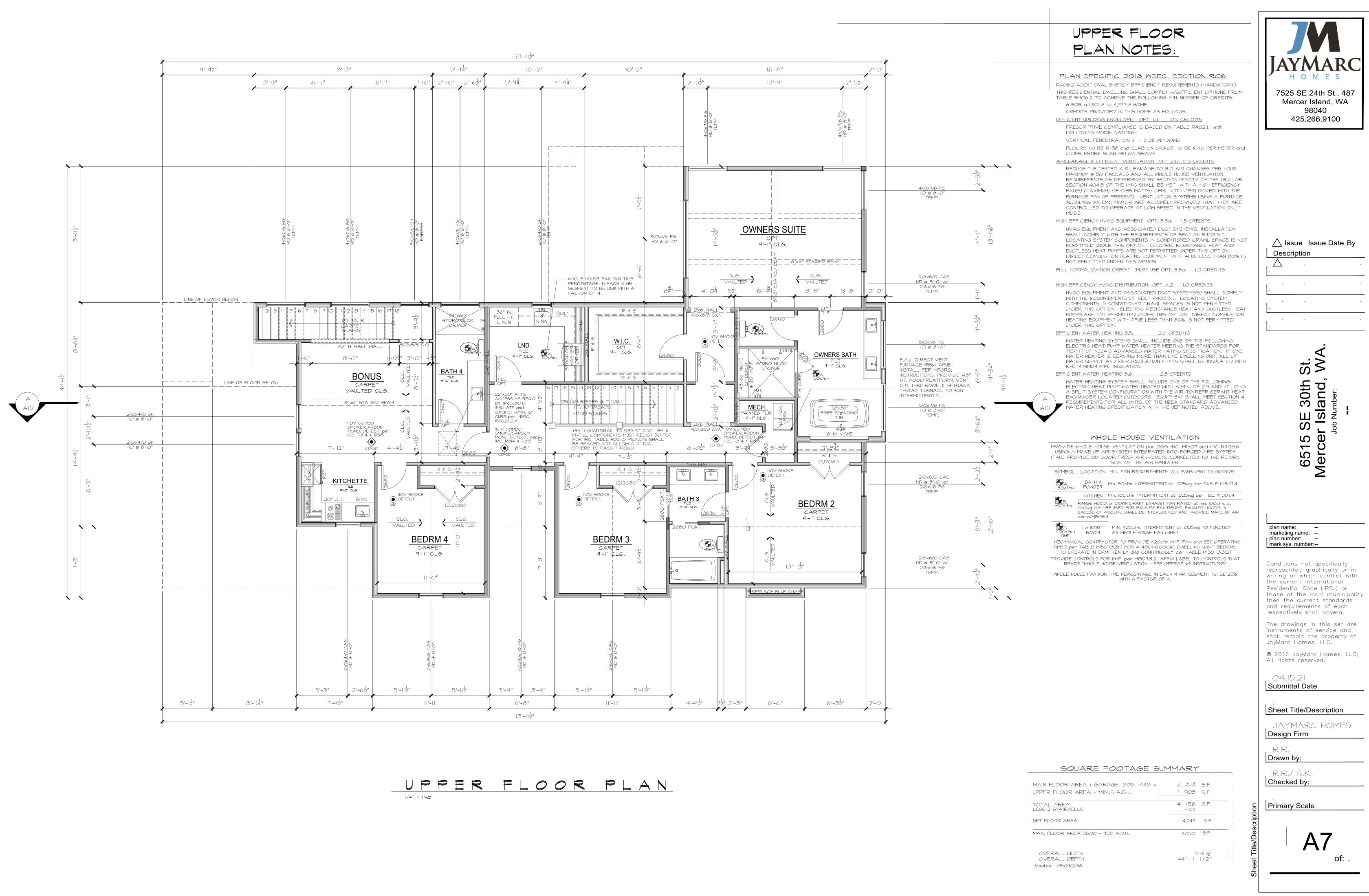
### <u>NOTE #3:</u>

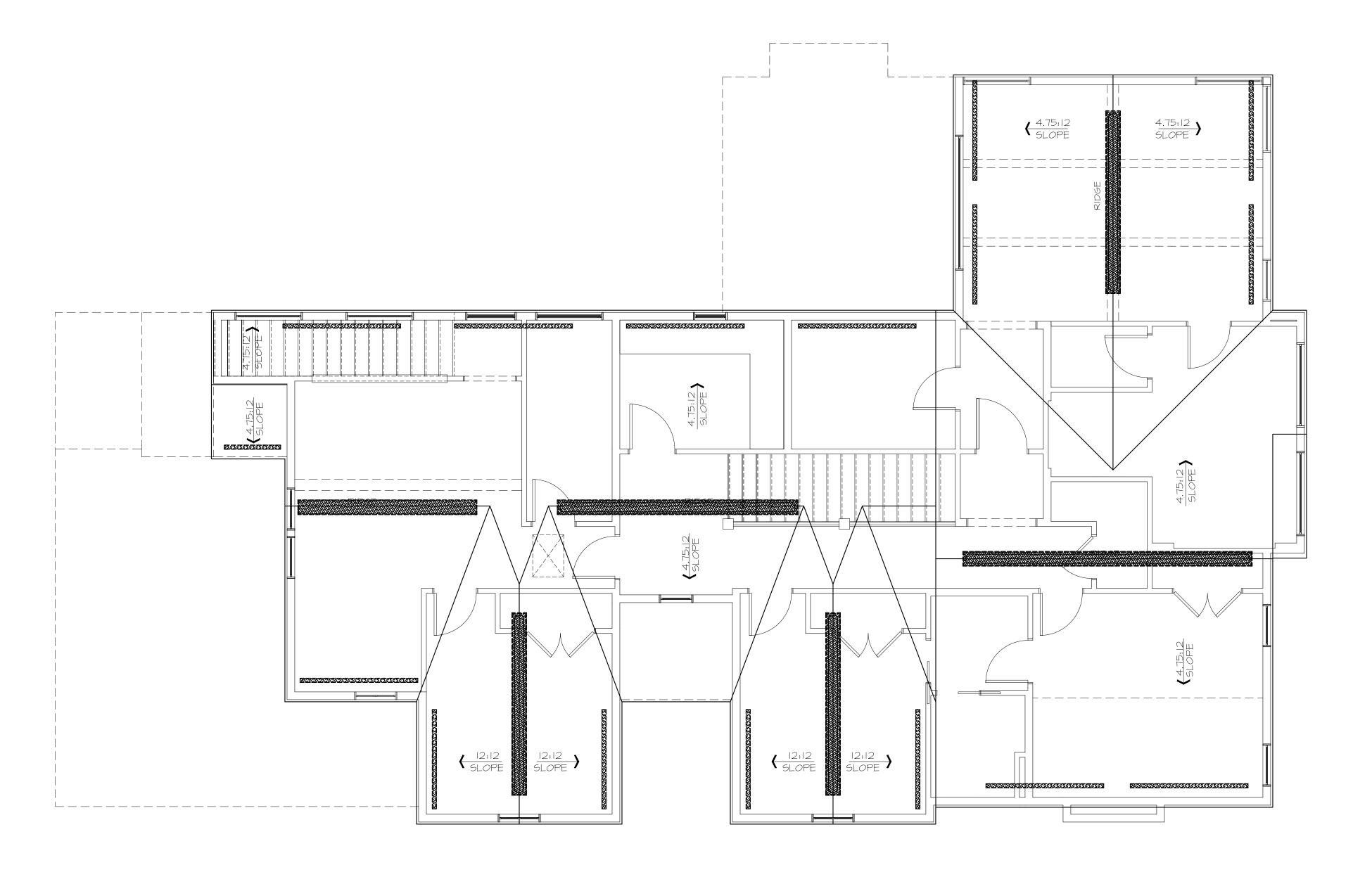
PROVIDE SIMPSON CSI6 STRAP FROM TOP OF DBL. TOP PLATE (13" END LENGTH) TO UNDERSIDE OF FULL HT. SOLID BLOCKING. PROVIDE BLOCKING BETWEEN TRUSSES FOR STRAP FASTENING AS SHOWN (3-BAY MIN.) FASTEN FLOOR SHTG. TO BLOCKING W/ 3"x O.131" NAILS @ 6" O.C. @ SHTG. EDGES.

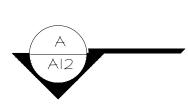
### <u>NOTE #4:</u>

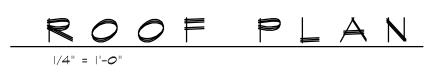
PROVIDE SIMPSON CSI6 STRAP FROM TOP OF DOUBLE TOP PLATE (13" END LENGTH) TO UNDERSIDE OF FLOOR DRAG TRUSS. FASTEN FLOOR SHTG. TO DRAG TRUSS w/ 3"x 0.131" NAILS @ 6" O.C. @ SHTG. EDGES.

|                         | JAA<  |
|-------------------------|---|
|                         | <pre></pre>   |
|                         | 6515 SE 30th St.<br>Mercer Island, WA.<br>Job Number:   |
|                         | plan name:<br>marketing name:<br>plan number:<br>mark sys. number:  |
|                         | Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC;<br>All rights reserved. |
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|                         | JAYMARC HOMES   |
|                         | R.R.<br>Drawn by:<br>. R.R./ S.K.   |
| _                       | Checked by:   |
| Sheet Title/Description | Primary Scale<br>A6<br>of: .  |





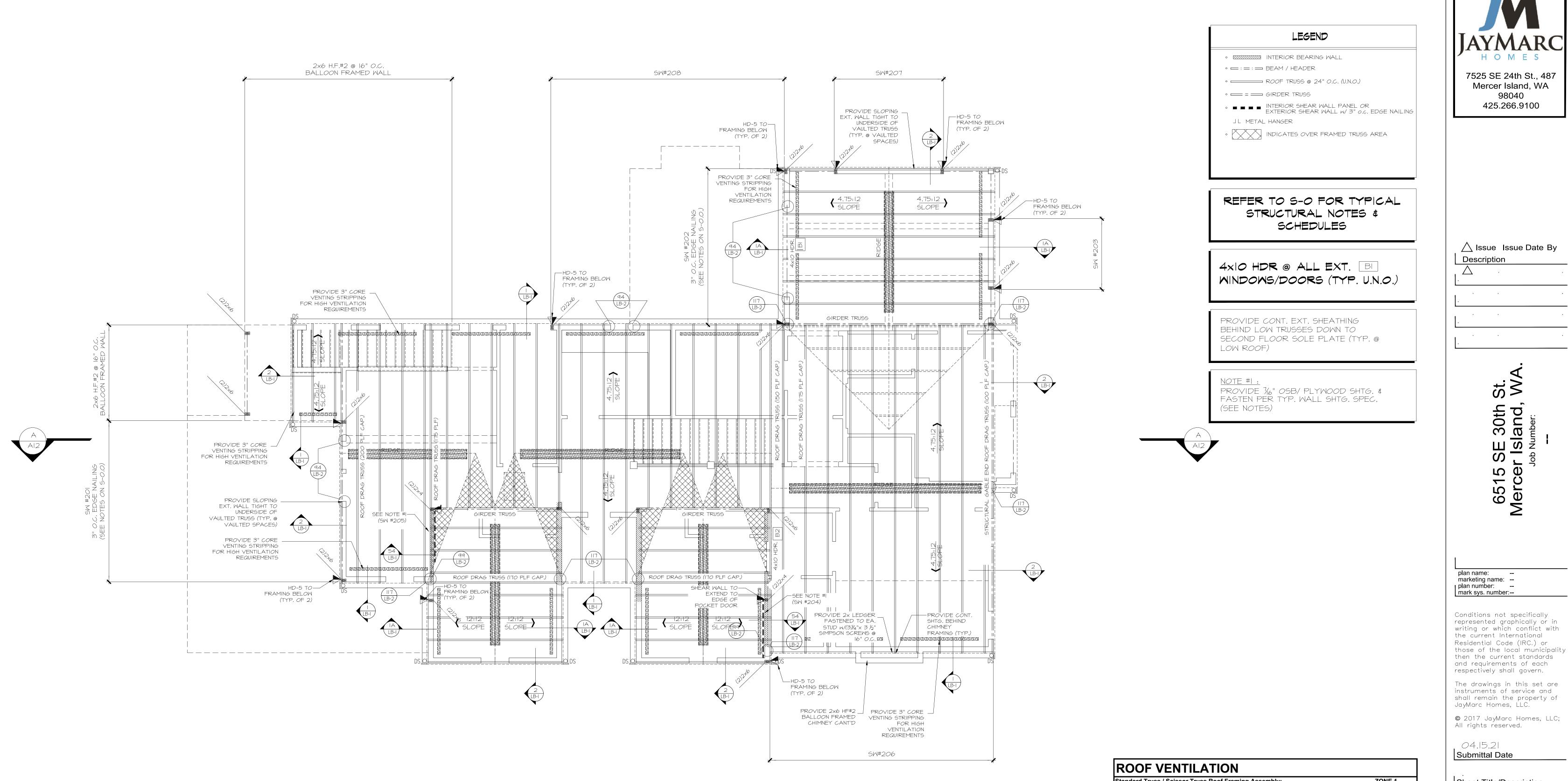




| Standard Truss / Scissor Truss Roof   | Framing Assembly:   | ZONE 1              |
|---|---|---------------------|
| Roof Area :   | <b>1794</b> s.f.  |                     |
| Ventilation Required:   | 1794 s.f. x 144 s.i. / s.f. / 300 =   | 861.12 s.i. Req'd   |
| Provide between 40% & 50% of the tota<br>the highest point of the space. Remain | al required ventilation no more than 3 ft below t<br>der to be installed at eave vents. | the ridge or        |
| Ridge Ventilation: 50% of ventilation   |   | 430.56              |
| Continuous Ridge Vent =   |   | 18.00 s.i. per l.f. |
| Upper Ventilation MIN. Req'd =  | 430.56 s.i. x 0.4 / s.i. per linear foot =  | 20 I.f.             |
| Upper Ventilation MAX. Req'd =  | 430.56 s.i. x 0.5 / s.i. per linear foot =  | 23 l.f.             |
| Provide:  | <b>50</b> l.f. ridge vent. Ventilation =  | 900.00 s.i.         |
| Ventilation area remainder for AF50 ver   | nts = (469)   |                     |
| Upper Roof Ventilation: as needed to a  | chive 50% of ventilation  |                     |
| AF50 Roof Jack (10" x 7") =   |   | 50.00 s.i. each.    |
| Upper Ventilation Req'd TO GET 50%=   | (469.44) s.i. / s.i. of each vent =   | -10 vent            |
| Provide:  | <b>0</b> -10"x7" roof jacks. Ventilation =  | 0.00 s.i.           |
| Eave Ventilation:   |   |                     |
| Birdblocking: (3)2" dia holes per bay =   | 4.71 s.i. / l.f 25% reduction =   | 3.53 s.i. / l.f.    |
| Eave Ventilation Req'd =  | 430.56 s.i. / s.i. per l.f. =   | -469.44 l.f.        |
| Provide Minimum:  | 133 I.f. birdblocking. Ventilation =  | 469.82 s.i.         |
| Minimum Ventilation Provided =  | 1369.82 s.i. IS GREATER THAN :  | 861.12 s.i. Req'd   |



A Al2





| ROOF VENTILATION   |  |                     |  |
|--|--|---------------------|--|
| Standard Truss / Scissor Truss Roof                            | Framing Assembly:                              | ZONE 1              |  |
| Roof Area :  | <b>1794</b> s.f.                               |                     |  |
| Ventilation Required:  | 1794 s.f. x 144 s.i. / s.f. / 300 =            | 861.12 s.i. Req'd   |  |
| Provide between 40% & 50% of the tota                          | I required ventilation no more than 3 ft below | the ridge or        |  |
| the highest point of the space. Remaind                        | ler to be installed at eave vents.             |                     |  |
| Ridge Ventilation: 50% of ventilation                          |  | 430.56              |  |
| Continuous Ridge Vent =  |  | 18.00 s.i. per l.f. |  |
| Upper Ventilation MIN. Req'd =                                 | 430.56 s.i. x 0.4 / s.i. per linear foot =     | 20 I.f.             |  |
| Upper Ventilation MAX. Req'd =                                 | 430.56 s.i. x 0.5 / s.i. per linear foot =     | 23 l.f.             |  |
| Provide:   | <b>50</b> I.f. ridge vent. Ventilation =       | 900.00 s.i.         |  |
| Ventilation area remainder for AF50 ven                        | ts = (469)                                     |                     |  |
| Upper Roof Ventilation: as needed to achive 50% of ventilation |  |                     |  |
| AF50 Roof Jack (10" x 7") =                                    |  | 50.00 s.i. each.    |  |
| Upper Ventilation Req'd TO GET 50%=                            | (469.44) s.i. / s.i. of each vent =            | -10 vent            |  |
| Provide:   | <b>0</b> -10"x7" roof jacks. Ventilation =     | 0.00 s.i.           |  |
| Eave Ventilation:  |  |                     |  |
| Birdblocking: (3)2" dia holes per bay =                        | 4.71 s.i. / l.f 25% reduction =                | 3.53 s.i. / l.f.    |  |
| Eave Ventilation Req'd =                                       | 430.56 s.i. / s.i. per l.f. =                  | -469.44 l.f.        |  |
| Provide Minimum:   | 133 I.f. birdblocking. Ventilation =           | 469.82 s.i.         |  |
| Minimum Ventilation Provided =                                 | 1369.82 s.i. IS GREATER THAN :                 | 861.12 s.i. Req'd   |  |

|                        | JayMarc Homes, LLC.                                |
|------------------------|--|
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|                        | 04.I5.2I<br>Submittal Date                         |
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|                        | JAYMARC HOMES                                      |
|                        | R.R.<br>Drawn by:                                  |
|                        | R.R./ S.K.<br>Checked by:                          |
| non                    | Primary Scale                                      |
| Sheet Ille/Description |  |
|                        |  |







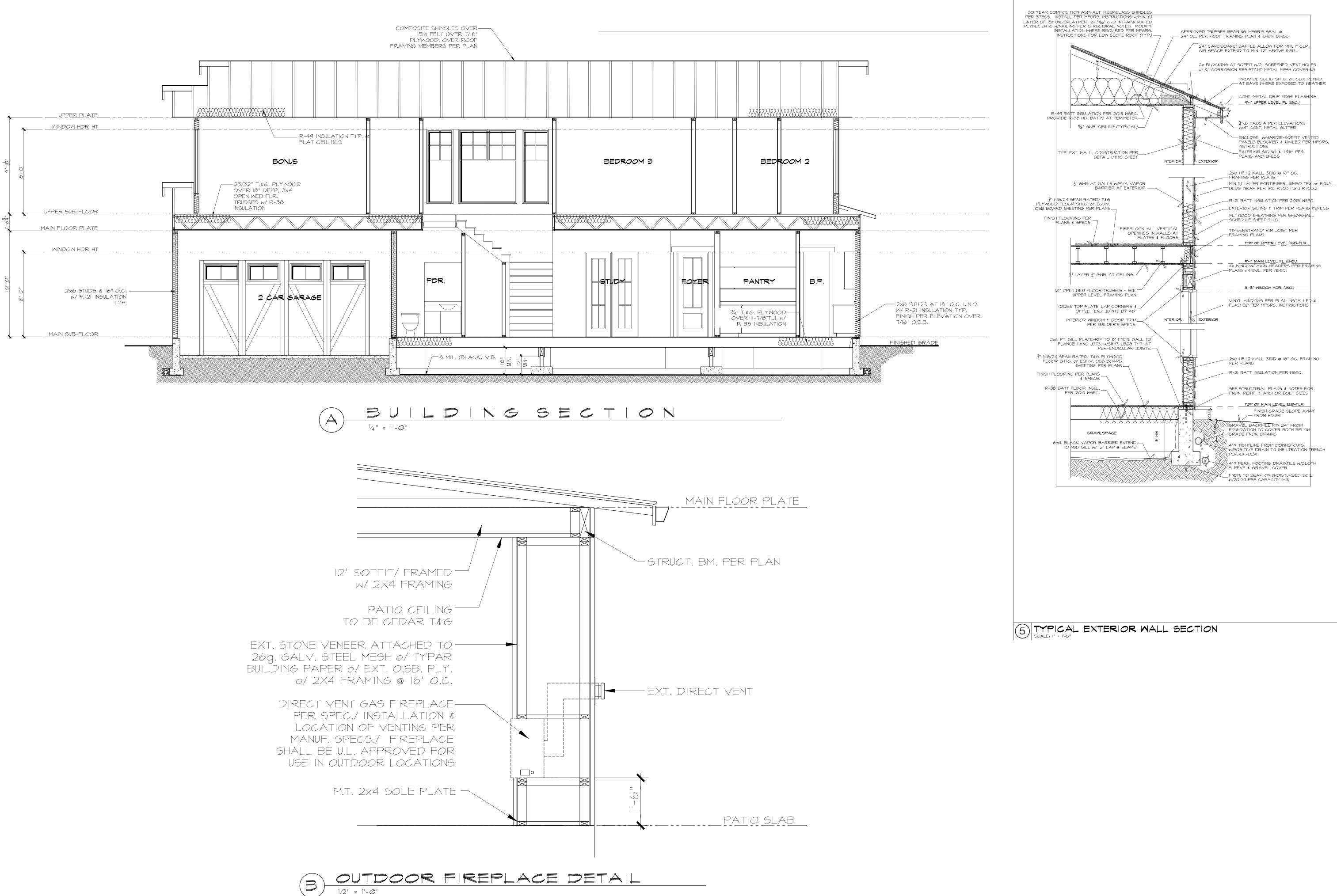
## – 2x6 CLR. F.J. CEDAR BARGE BOARD, TYP. AT GABLE END AND RAKES

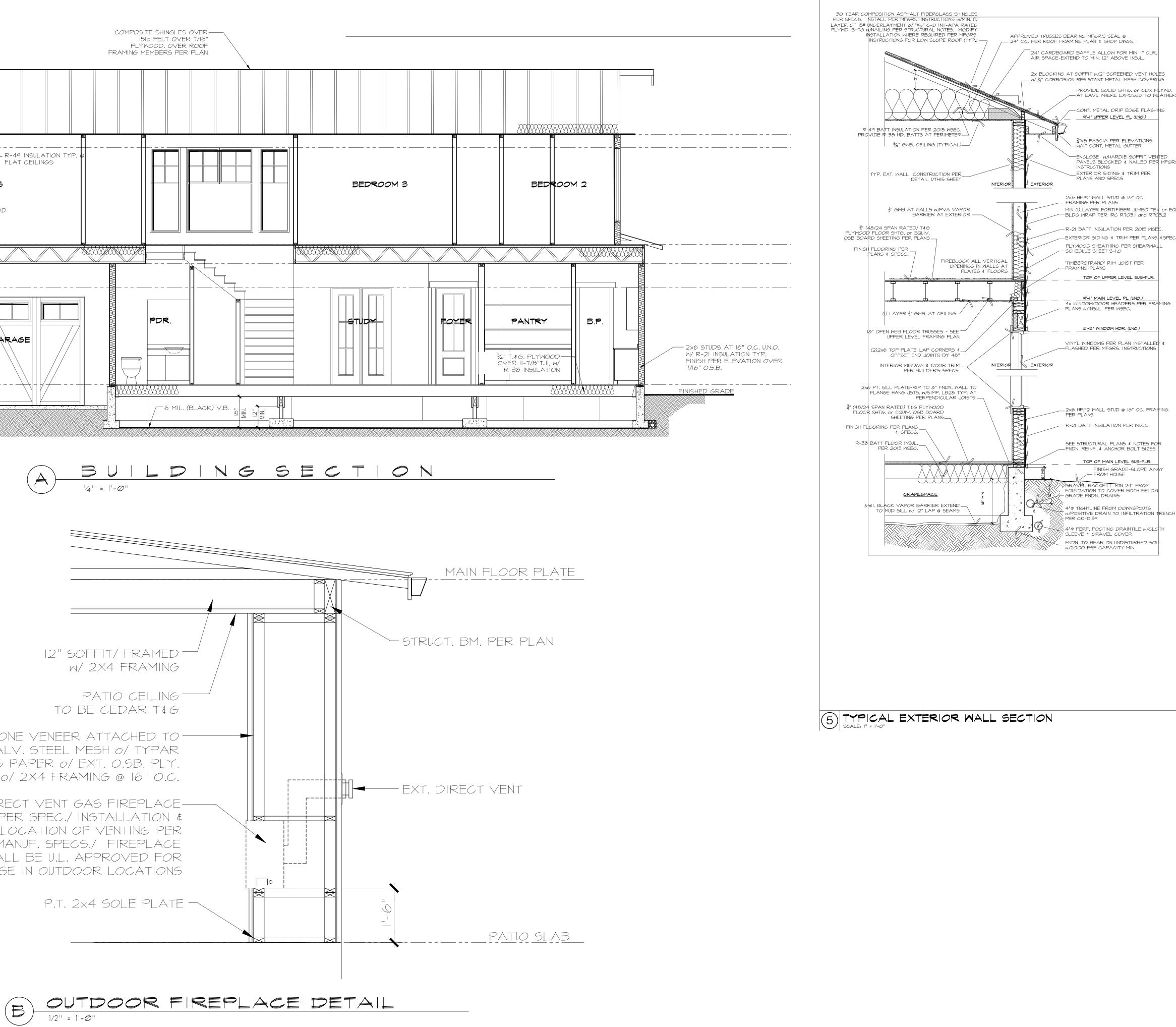
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|                         | <b>TABLE S</b>  |
|-------------------------|---|
|                         | ▲   ▲   ▲   ▲   ▲   ▲   ▲   ▲   Balance   Balance |
| scription               | plan name: -<br>plan number: -<br>plan number: -<br>mark sys. number: -<br>Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC;<br>All rights reserved.<br>04.15.21<br>Submittal Date<br>Sheet Title/Description<br>JAYMARC HOMES<br>Design Firm<br>R.R.<br>Drawn by:<br>R.R./ S.K.<br>Checked by:   |
| Sheet Title/Description | Submittal Date<br>Sheet Title/Description<br>JAYMARC HOMES<br>Design Firm<br>R.R.<br>Drawn by:<br>R.R./ S.K.<br>Checked by:   |

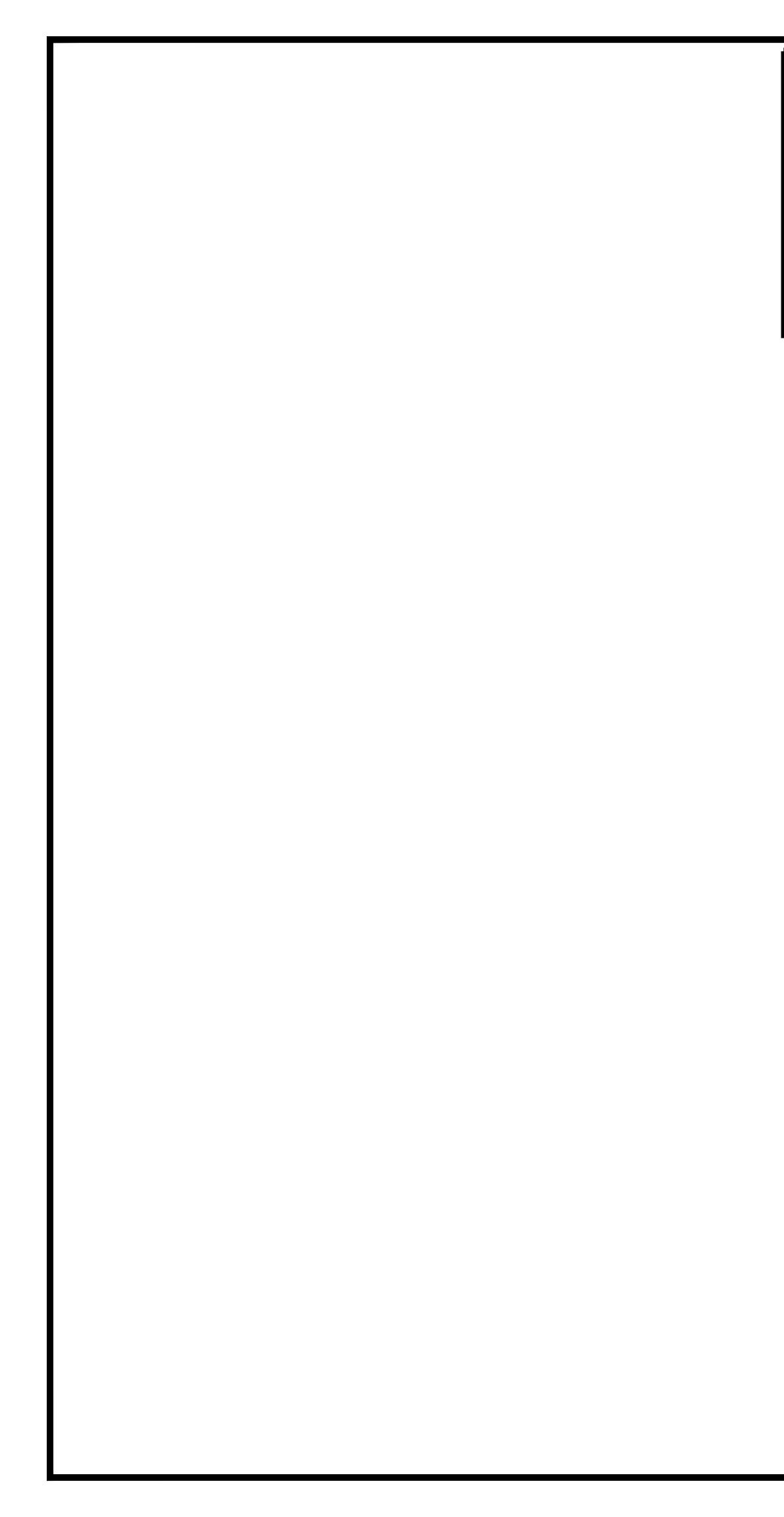












### BASEMENT SLAB

4" CONC. SLAB ON 6 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

#### GARAGE SLAB

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

### PORCH SLAB

4" CONC. SLAB ON GRADE ON 6 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

### GENERAL STRUCTURAL NOTES

#### FOUNDATION

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE

   <u>‡ 2018 INTERNATIONAL BUILDING CODE</u>

   DESIGN LOADS:
- SOIL 2,000 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.: f'c = 2,500 psi: ...... FOUNDATION WALLS\*
  - 2,500 psi: ...... FOOTINGS\*
  - 2,500 psi: ...... INTERIOR SLABS ON GRADE 3,500 psi: ...... GARAGE & EXT. SLABS ON GRADE
- fy = 60,000 psi \* UTILIZE 5½" SACK 2500 PSI CONCRETE MIXES THAT ARE EQUIVALENT TO 3,000 PSI CONCRETE FOR WEATHERING POTENTIAL
- ALL CONGRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS
- THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL CLASSIFICATIONS OF SC, ML-CL, OR CL (60 pcf) SOIL.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN.; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND I 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
  FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR
- 95% COMPACTED FILL.
  PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY
- TO DEVELOP. (15'-0" O.C.)
  FASTEN SILL PLATES TO FOUNDATION WALLS WITH <sup>5</sup>/<sub>8</sub>" DIA. ANCHOR BOLTS w/ MIN. 3"×3"× ¼" PLATE WASHERS (EDGE OF WASHER TO BE
- LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) & NUTS 6'-0" O.C. ● 2-STORY & 4'-0" O.C. ● 3-STORY CONDITIONS w/ 7" MIN.
  EMBEDMENT INTO CONC. PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
  ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF
- DUILDER TO VEIRIT F CORROSIONEREDISTANCE COMMANDENT OF HARDWARE & FASTENERS IN CONTACT W/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
   ARCH/BUILDER TO VERIFY ALL DIMENSIONS \*200 BC\*- 001 202

| H      | OLD-DOWN SCHEDULE   |
|--------|---|
| SYMBOL | SPECIFICATION   |
| HD-I   | SIMPSON STHD14 (RJ) HOLD-DOWN                                     |
| HD-5   | SIMPSON CSI6 STRAP TIE<br>(14" END LENGTH)                        |
| HD-6   | SIMPSON MSTC40 STRAP TIE<br>(CENTER STRAP ON FLOOR SYSTEM U.N.O.) |
| HD-7   | SIMPSON MSTC66 STRAP TIE<br>(CENTER STRAP ON FLOOR SYSTEM U.N.O.) |

#### MEANS & METHODS NOTES

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

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

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

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

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

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

| LOADING AND DESIGN<br>PARAMETERS  |                                       | LA   |
|---|---------------------------------------|--|
| GRAVITY DESIGN LOADS:<br>DEAD LOAD (PSF):<br>ROOF TRUSS TOP CHORD :<br>ROOF TRUSS BOTTOM CHORD :<br>FLOOR (TRUSSES) :<br>FLOOR (I-JOISTS) :   | 10<br>7<br>15<br>0<br>0               | THIS HC<br>LA<br>(ASC  |
| RESIDENTIAL LIVING AREAS :<br>RESIDENTIAL SLEEPING AREAS :<br>RESIDENTIAL WOOD DECKS :<br>GARAGE :<br>SNOW LOAD:  | 20<br>40<br>30<br>60<br>50            | II() M<br>ENGINI<br>2018 IE<br>AS PEF<br>ACCOR<br>AND DI                   |
| FLAT ROOF SNOW LOAD (P;) (PSF) :<br>SNOW EXPOSURE FACTOR ( $C_{0}$ ) :<br>SNOW LOAD IMPORTANCE FACTOR (I) :   | 25<br>25<br>0.9<br>1.0                | RESIST<br>AND D<br>PRES  |
| WIND RISK CATEGORY : I<br>IMPORTANCE FACTOR (Iw) : I<br>EXPOSURE CATEGORY : I<br>INTERNAL PRESSURE COEFF. (GCpl) : :<br>TOPOGRAPHIC FACTOR (Kzt) : I<br>SEISMIC LOAD: (IBC 1613)<br>SEISMIC RISK CATEGORY : I<br>SEISMIC IMPORTANCE FACTOR (I_0) : I<br>MAPPED SPECTRAL RESPONSE :<br>Ss: 1.405 S1: 0.489 | 100<br>11<br>1.0<br>c<br>±0.18<br>1.0 | STA<br>(INTER<br>FASTE<br>SUPPC<br>ALL S<br>FRAM<br>PROV<br>SHALL<br>PLANE |
| SPECTRAL RESPONSE COEFF. :<br>Sps: 1.124 Spi: 0.590   | D                                     | • 76"<br>ONLY<br>SHOWN<br>3" O.C<br>SHEET<br>MEMBE<br>TO SU                |

## LATERAL BRACING NOTES

IIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM: 100 MPH WIND SPEED, EXP. C

(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1) RISK CAT. 2 & SEISMIC CAT. D2.

O MPH WIND IN 2018 IRC MAP ENGINEERED DESIGN WAS COMPLETED PER 018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. CCORDINGLY, THIS MODEL, AS DOCUMENTED ND DETAILED HEREWITHIN, IS ADEQUATE TO SIST THE CODE REQUIRED LATERAL FORCES AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

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

%" OSB OR 15/32" PLYWOOD:

FASTEN SHEATHING W/ $2\frac{1}{2}$ "x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. <u>ALL EXTERIOR WALLS</u> SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

#### <u>3" O.C. EDGE NAILING</u> (WHERE NOTED ON PLANS)

%" OSB OR 15/32" PLYWOOD:

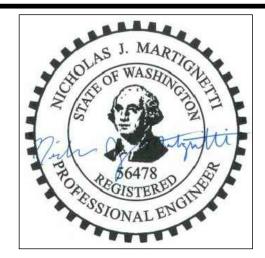
ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH  $\frac{7}{6}$ " OSB. FASTEN SHEATHING w/  $2\frac{1}{2}$ "x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

#### NOTES:

- LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)3½"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE C JOINT (TYP. U.N.O)
- 3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
- 4. ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

### LEGEND

- ETTTTTT INTERIOR BEARING WALL
- □□□□ BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- ---- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING AREA OF OVERFRAMING
- JL METAL HANGER
- \* INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.



### GENERAL STRUCTURAL NOTES

#### DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE
   <u>\$ 2018 INTERNATIONAL BUILDING CODE</u>
   WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN
- MOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

#### GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x 'STUD' GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) HEM FIR (HF) #2 GRADE LUMBER, OR BETTER.
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
   THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUG FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  LSL MEMBERS Fb=2325 PSI; Fv=310 PSI; E=1.55x10<sup>2</sup>6 PSI
  LYL MEMBERS Fb=2600 PSI Fy=285 PSI; F=2.001026 PSI
- LVL MEMBERS Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
   GLB MEMBERS Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.0)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  LVL MEMBERS Fb=2400 PSI; FcII=2500 PSI; E=1.8×10<sup>6</sup> PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED. APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- ALL MEMBERS SPECIFIED AS MULTI-PLY 1<sup>3</sup>/<sub>4</sub>" SHALL BE FASTENED TOGETHER PER MANUFACTURER. EQUIVALENT WIDTH SOLID MATERIAL MAY BE USED AS EQUAL.
- FASTEN 2x WOOD PLATES TO TOP FLANGE OF STEEL BEAMS w/P.A.F.s ('HILTI' X-U PINS OR EQUAL (0.157" DIA. x 2" LONG MIN.)) @ 16" O.C. STAGGERED, OR I/2" DIA. BOLTS @ 48" O.C., STAGGERED.
  REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

#### FLOOR FRAMING

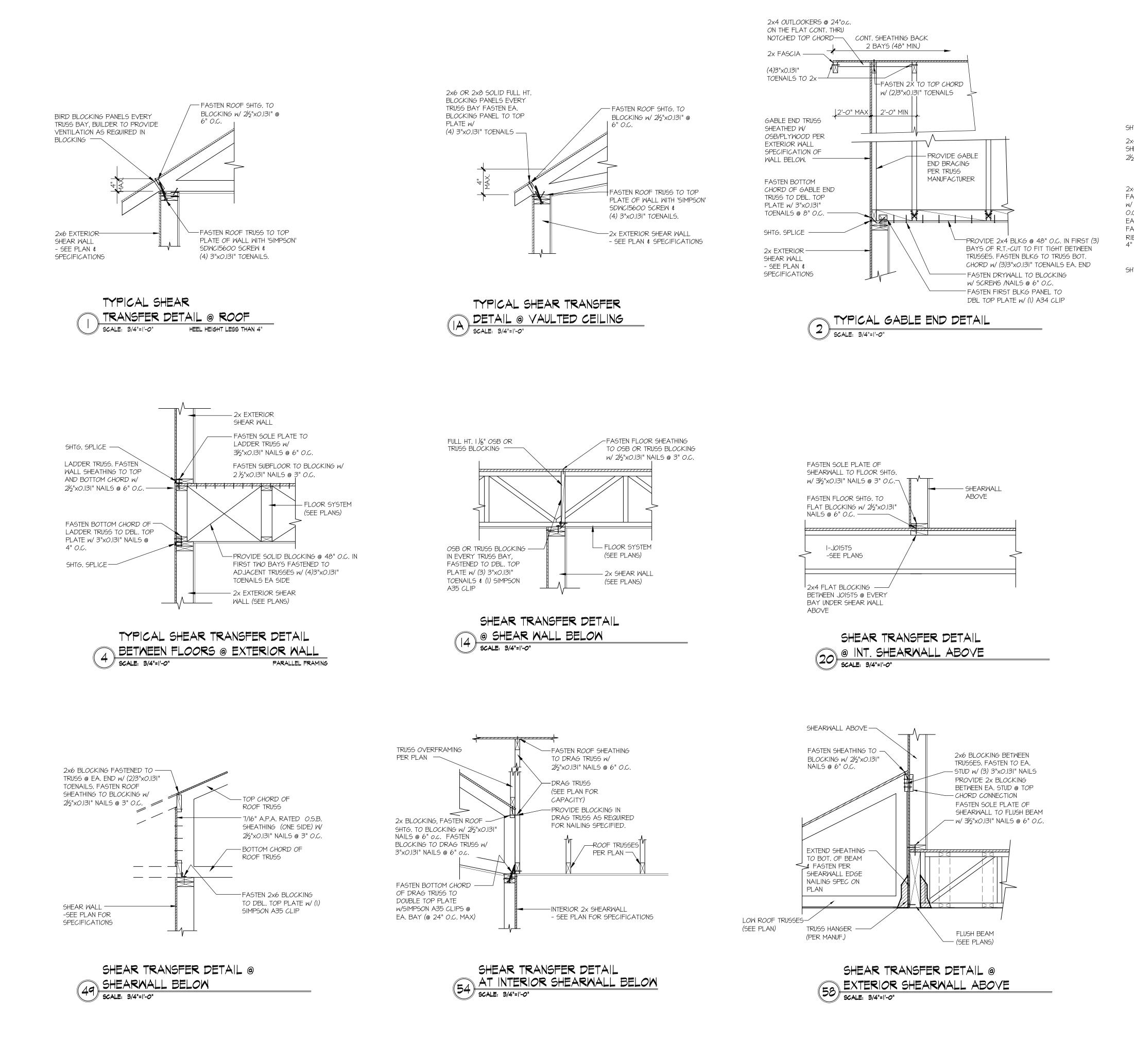
- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED
- CONSTRUCTED FLOORS CONTACT M&K FOR EXCLUDED DESIGNS).
   ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- I-JOIST/TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO
- FABRICATION OR DELIVERY.
  2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2X JOIST HANGERS (U.N.O. ON PLANS):
- SINGLE PLY: SIMPSON LUS210 DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C., EXPOSURE I (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W GLUE AND 2 <sup>1</sup>/<sub>2</sub>" × 0.131" NAILS @ 6"o.c. @ PANEL EDGES \$ @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS w/  $V_2$ " LONG NAILS.

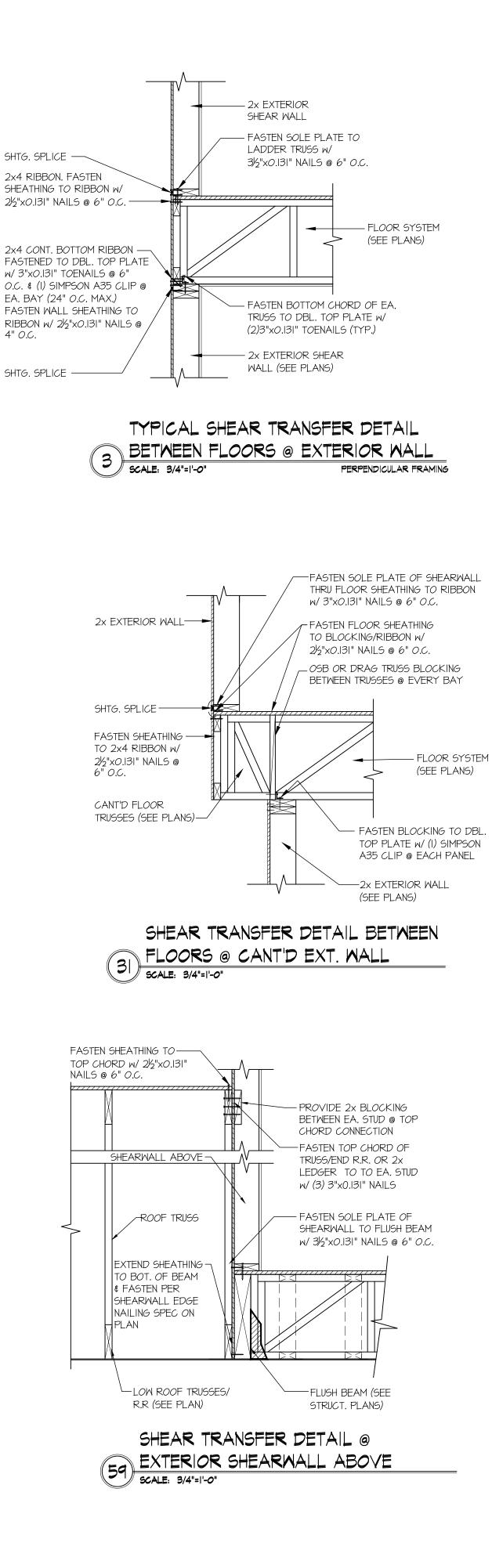
#### ROOF FRAMING

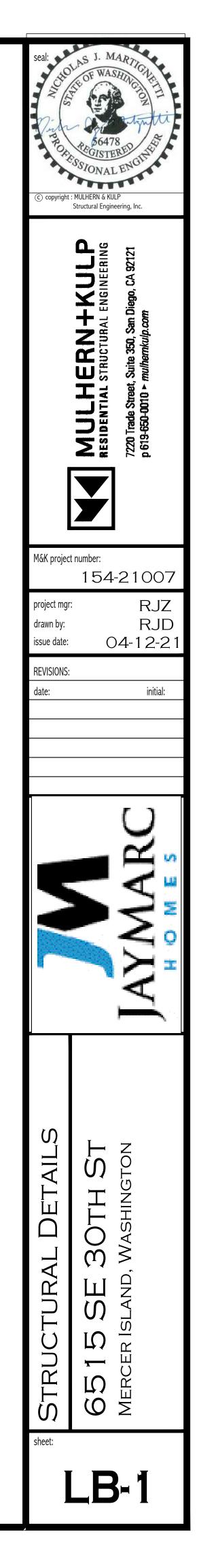
- FASTEN EACH ROOF TRUSS TO TOP PLATE W (4) 3"x0.131" TOENAILS (MIN.) & (1) 'SIMPSON' SDWC15600 SCREW @ ALL BEARING POINTS. PROVIDE (2) 'SIMPSON' SDWC15600 SCREWS AT 2-PLY GIRDER TRUSSES, (3) 'SIMPSON' SDWC15600 SCREWS AT 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (I) 'SIMPSON' SDWCI5600 SCREW. PROVIDE (2) 'SIMPSON' SDWCI5600 SCREWS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE I (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/  $2\frac{1}{2}$ " x 0.131" NAILS © 6"o.c. AT PANEL EDGES & © 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES, & HIPS FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS
- MANUFACTURER, UNLESS OTHERWISE NOTED. • ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE PREPARED BY A WASHINGTON STATE LICENSED ENGINEER AND SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCET-10, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI I-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW w/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- SUPPORT PORCH & SHORT SPAN ROOF TRUSSES (UP TO 6' TRIB.) w/2x6 LEDGER FASTENED TO FRAMING w/(3) 3"x0.131" NAILS @ 16" o.c
   FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS

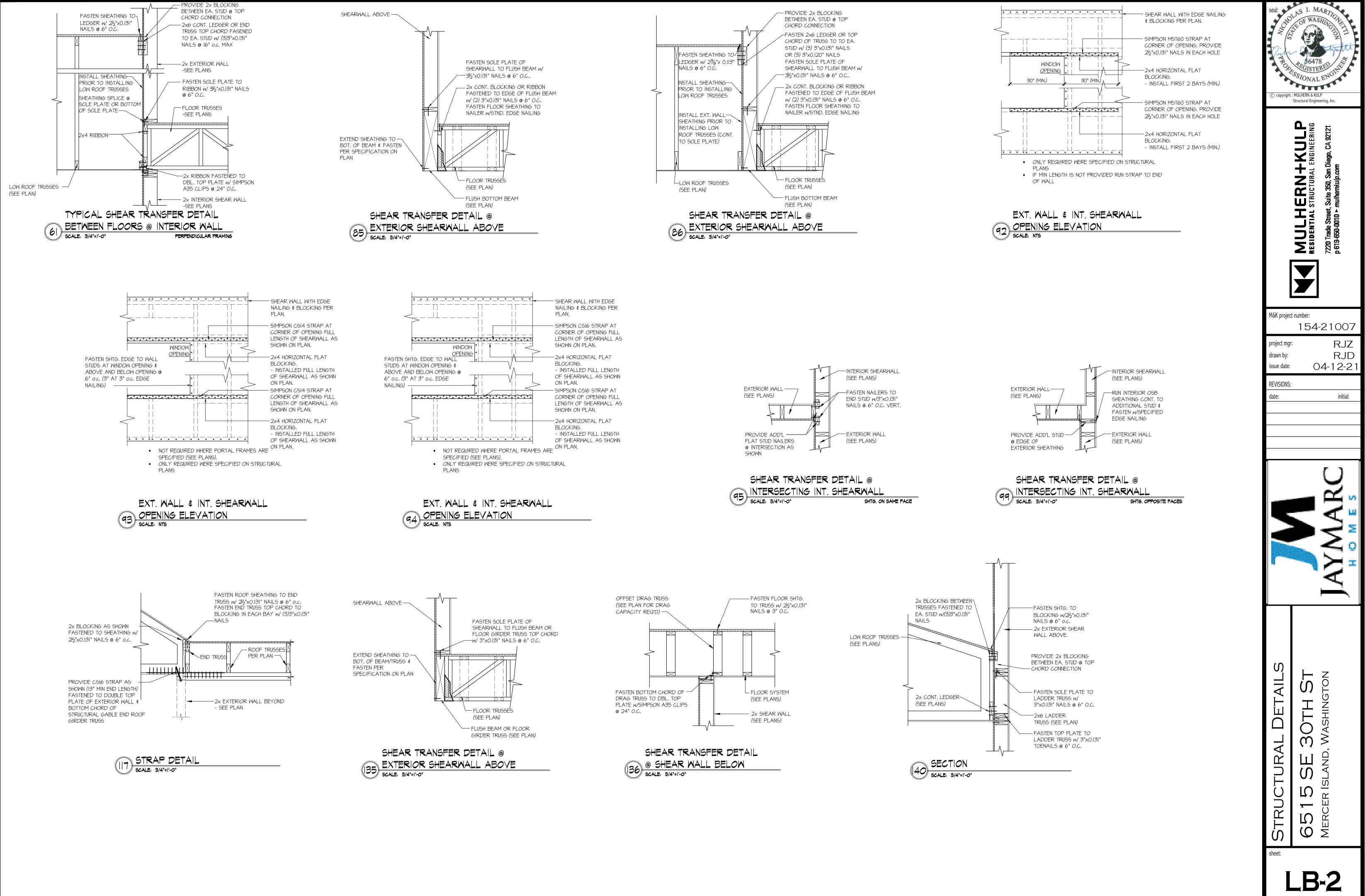
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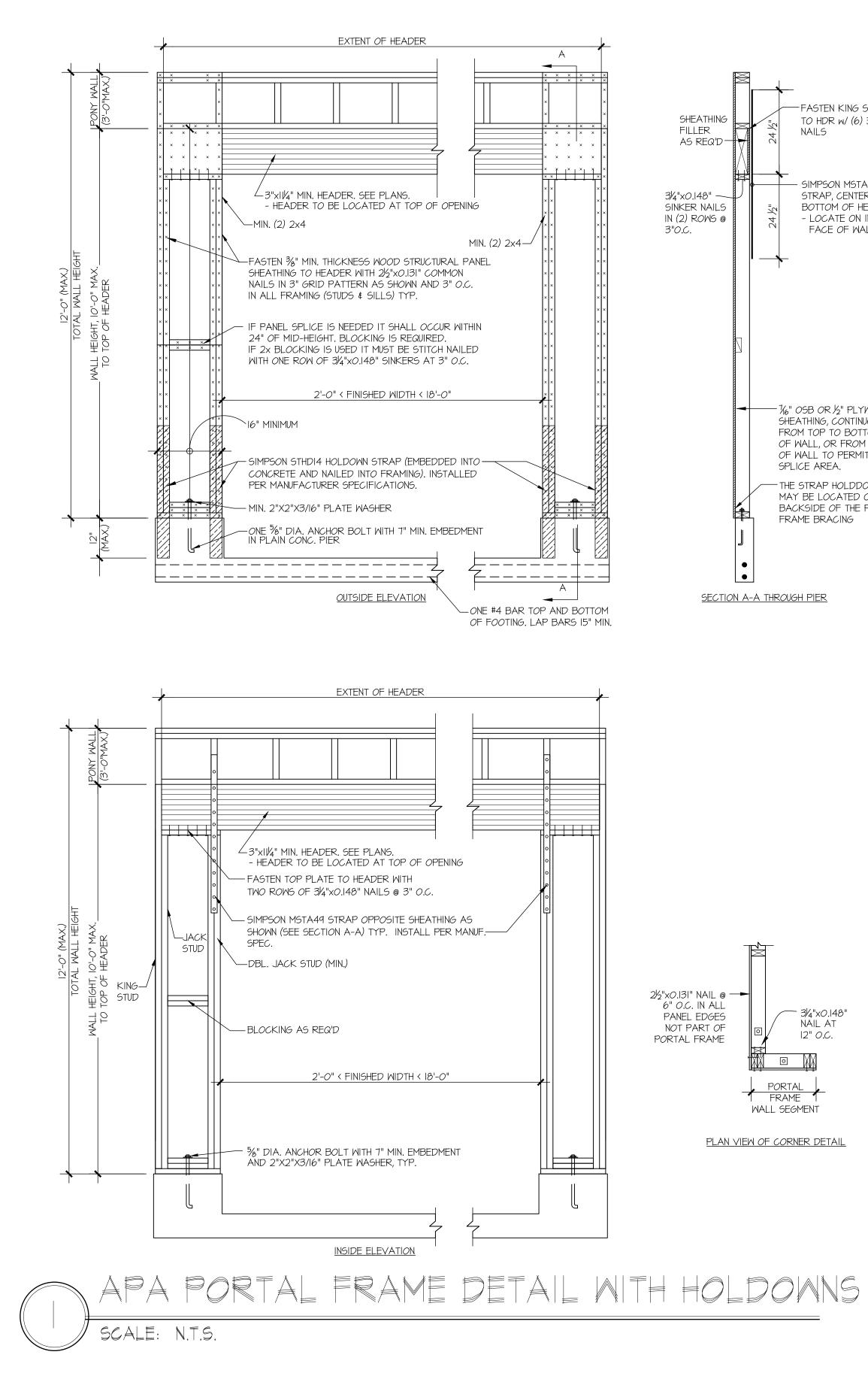
- BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" O.C. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.
- pyright : MULHERN & KULP Structural Engineering, Inc. 2 **D**<sup>m</sup> 2 ╋<sub>┛</sub> Z Ш T **RES** M&K project number: 154-21007 RJZ project mgr: RJC drawn by: 04-12-2 issue date: **REVISIONS:** initial: 1 1 Т Ζ R 1 11  $\boldsymbol{\gamma}$ L7

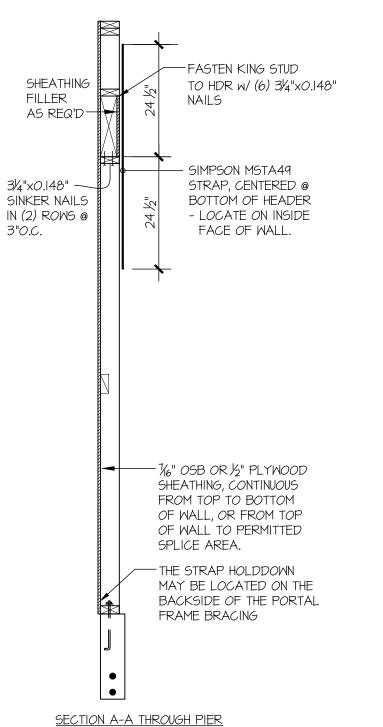


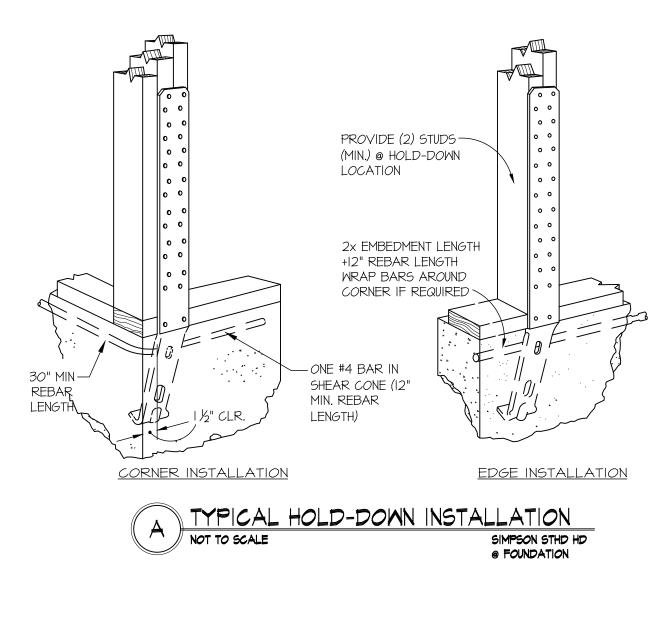


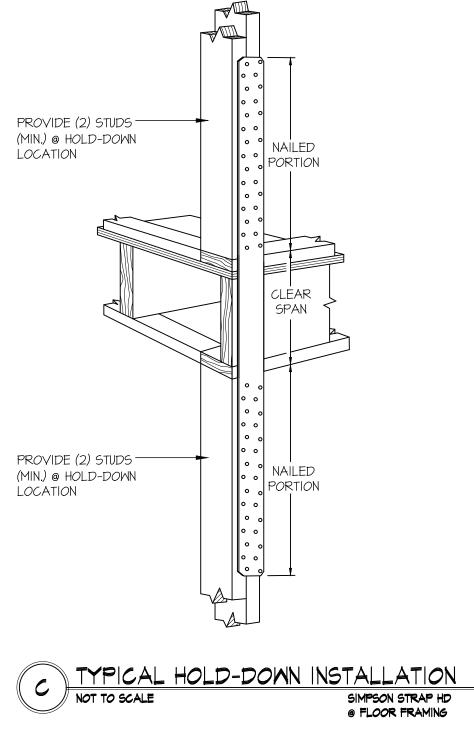






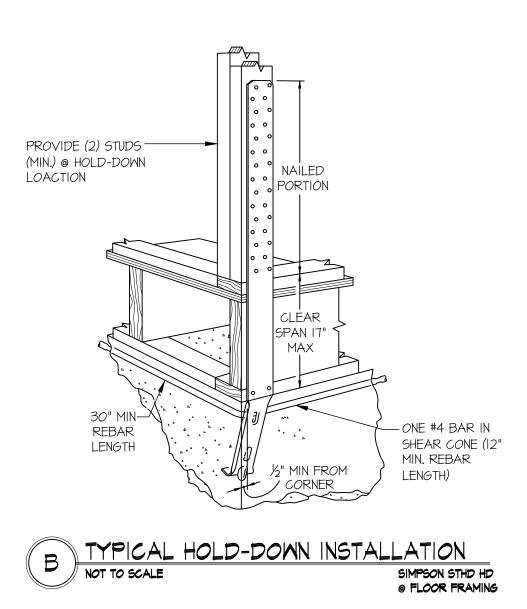


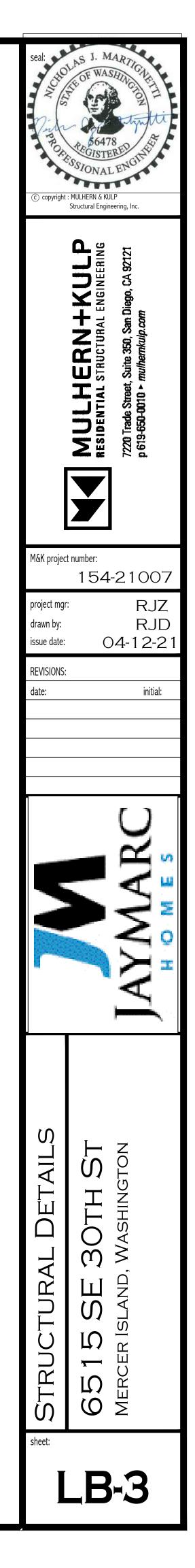


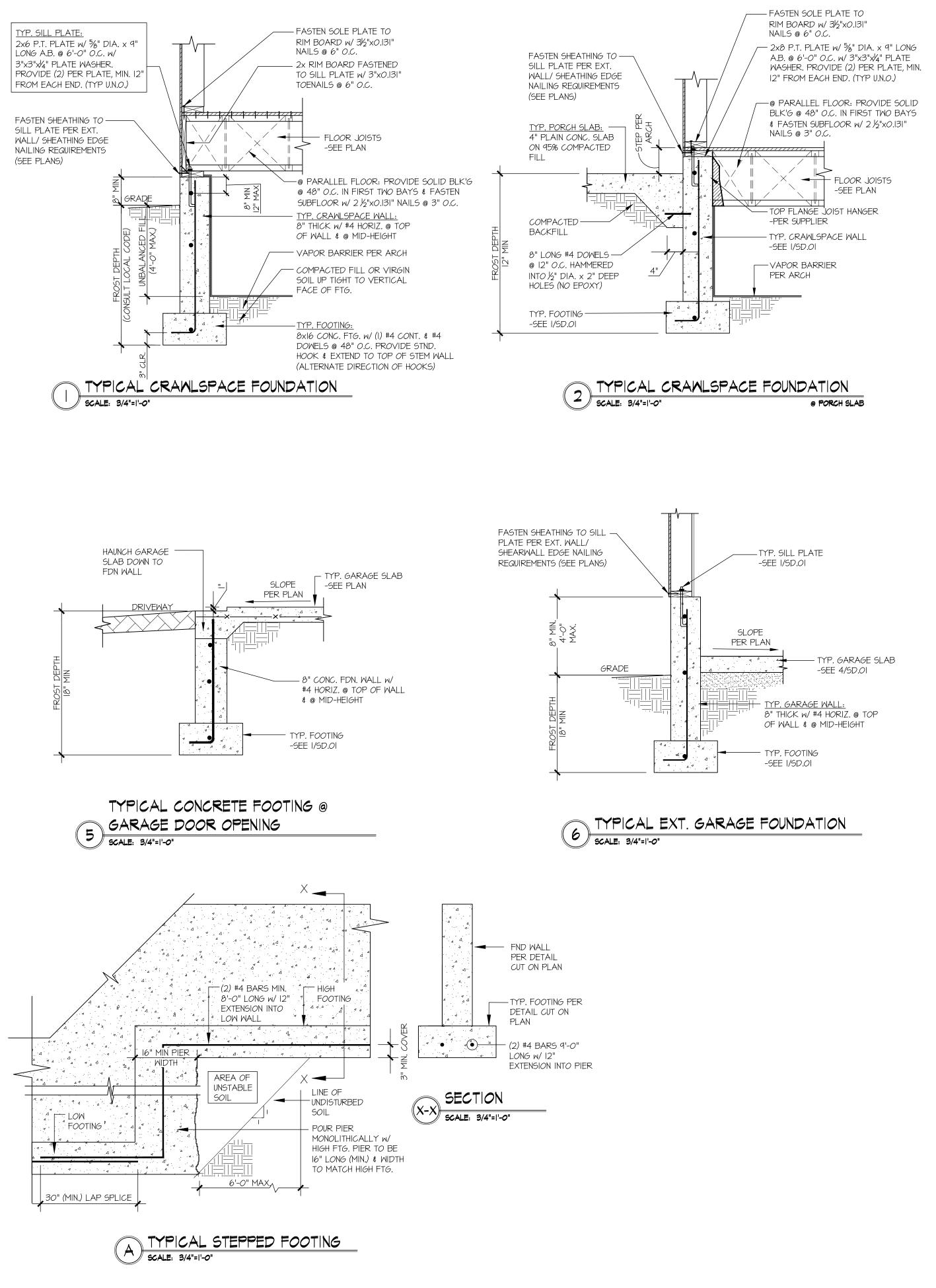


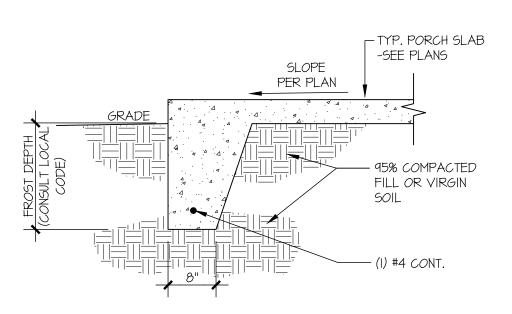
ਖ਼ਿ 2½"x0.131" NAIL @ ─<del>-</del> 6" O.C. IN ALL PANEL EDGES 3¼"x0.148" NAIL AT 12" 0.C. NOT PART OF PORTAL FRAME PORTAL FRAME WALL SEGMENT

PLAN VIEW OF CORNER DETAIL

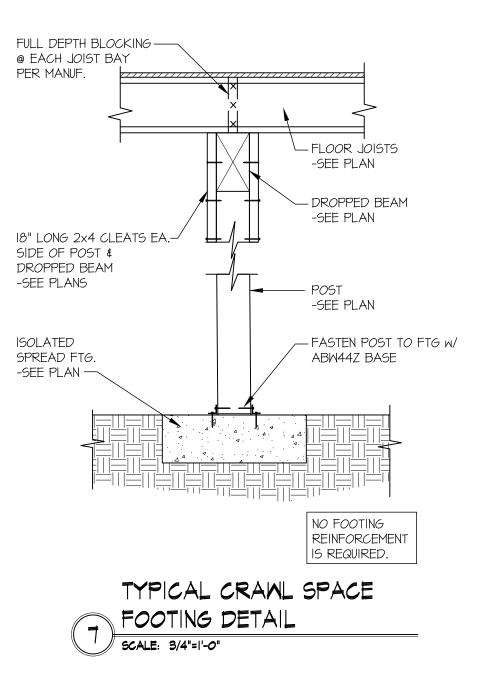








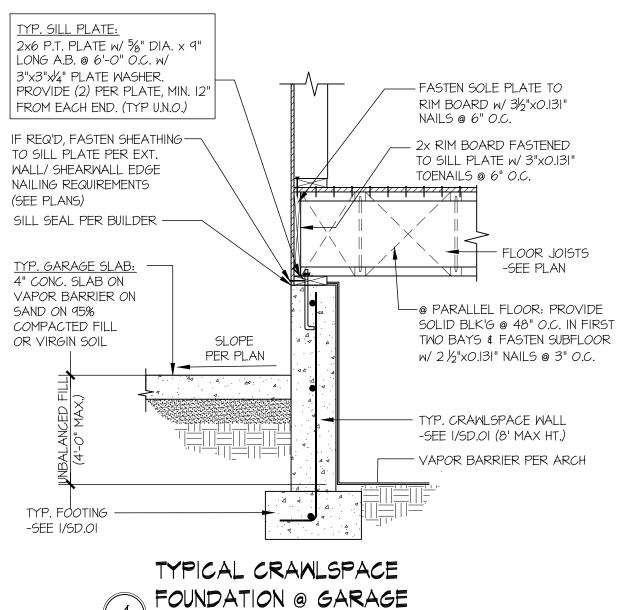
#### TYPICAL FOOTING @ PORCH SLAB (3 SCALE: 3/4"=1'-0"



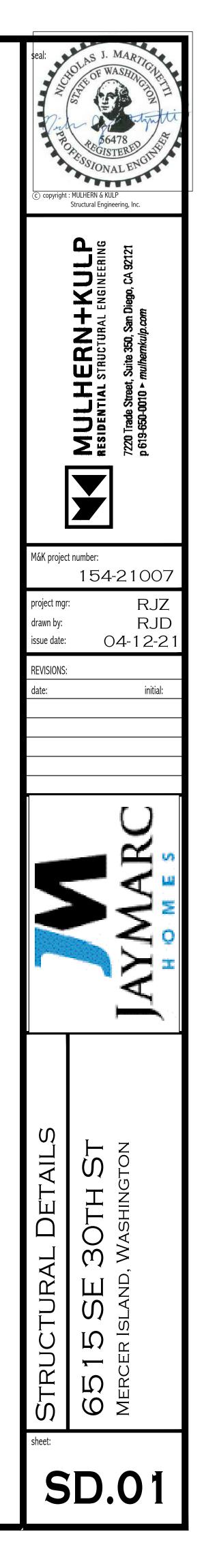
TYP. SILL PLATE:

TO SILL PLATE PER EXT. NAILING REQUIREMENTS (SEE PLANS)

4" CONC. SLAB ON VAPOR BARRIER ON SAND ON 95% COMPACTED FILL



SCALE: 3/4"=|'-0"







#### Vertical wall Installation

Install Typar® HouseWrap over an approved exterior sheathing after the framing is complete and before the windows and doors have been installed. Plastic capped fasteners should be used and spaced at 32" OC (vertically and horizontally) when being applied over 7/16" OSB or 15/32" plywood. When installing over metal framing use screws with washers. If the windows and doors have already been installed, trim the Typar WRB close to the window frame and flash according to the Typar Flashing instructions.

#### STEP 1

#### Start at the bottom of one end of the wall with the printed side facing out. When starting at a corner, overlap by a minimum of 12".

Place the housewrap roll horizontally and roll out the first course evenly, covering rough window and door openings. A minimum of a 1" (25.4 mm) overlap on the sill plate is required; however, for maximum protection, a 2-4" (51-102 mm) overlap on the sill plate is recommended.

Pull the Typar snug and avoid wrinkles and creases. Ensure that the product is level.



#### STEP 2

Fasten the Typar to the stud using plastic capped nails or plastic capped staples at 32" O.C. both horizontally and vertically.



#### STEP 3

The upper layer of Typar housewrap should overlap the bottom layer by a minimum of 6" (152 mm) vertically and horizontally. Ensure proper shingling throughout the installation to properly shed water. Once the structure is completely covered, tape all seams and penetrations using Typar® construction tape. (Please refer to the Typar® flashing instructions for more detailed instruction on penetrations and window flashing installation).

#### STEP 4

After the installation complete and before the exterior cladding is installed, inspect the Typar® for tears. Repair the issues with Typar Construction tape or Typar Flashing.

# pgi



#### Typical Window Flashing

#### STEP 1

Install the window sill pan according to the manufacturer's instructions. Alternatively, you can create a sill pan using Typar Flashing Flex. Cut a piece that is 12" longer than the length of the rough opening window sill.

Carefully pull off the release liner. Center the Flashing in the center of the rough opening and work you way toward the corners and then up the sides. Note: the flex flashing should overlap to the outside of the wall by 2-3". Only stretch the flashing in the corners.

Alternatively to above, you can create a sill pan by installing TYPAR Straight Flashing along the bottom sill and installing TYPAR Flashing Flex on the corners only.

If needed, secure the fanned edges of the TYPAR Flashing Flex with a plastic capped nail/ plastic capped staple.

#### STEP 2

Apply a continuous bead of sealant to the back of the window or on the wall. Do not apply the sealant across the bottom of the sill or on the bottom of the window. This area is left open to allow for proper drainage.

Install the window according to the manufacturer's installation instructions.

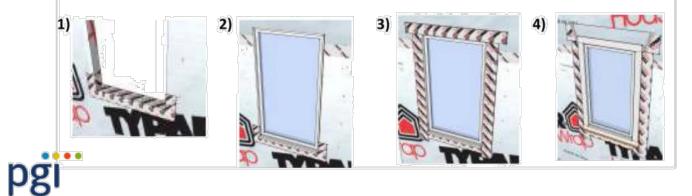
#### STEP 3

Cut two pieces of Typar Flashing long enough to extend 1" above the window head flange and 1" below the window sill flange. Carefully peel off the release liner and apply the flashing on both sides of the window. Make sure to cover the entire window flange, press firmly either by hand or using a J-roller. Ensure there are no wrinkles or bubbles.

Cut a piece of Typar Flashing for the head flashing. Ensure that the piece is long enough to extend by 1' on both sides of the jamb flashing. Remove the release liner and carefully install the flashing. Cover the window flange and press firmly by hand or using a J-roller.

#### STEP 4

Release the upper flap of the WRB that you cut earlier. Tape the 45 degree cuts using Typar Construction Tape or Typar Flashing. DO NOT tape the WRB along the top of the window flange.



## Window and Door Preparation Preparing for Window Installation

#### STEP 1

After wrapping the structure and covering all rough openings. Cut a horizontal line across the top of the window opening. The cut should not extend past the rough opening.

STEP 2 Start at the top center and make a vertical cut running two-thirds of the way down the opening.

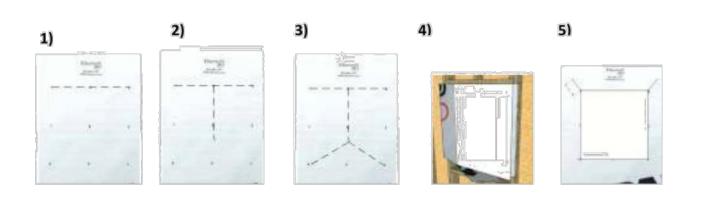
#### STEP3

From that stopping point, cut diagonally to both lower left and right corners of the opening. STEP 4

Pull each of the flaps tightly inside the rough opening and attach them to the frame with nails, staples, or tape.

#### STEP 5

At the window header, make a 6" diagonal cut at a 45 degree angle on both corners. Fold the material up exposing the sheathing. Now install the window or door according to the manufacturer instructions. The final step is to flash all seams and flanges securely (refer to Typar® Flashing instructions). Typar® flashing should also be installed in accordance with window manufacturer instructions and according to the ASTM 2112 standard.



# pgi

#### Flashing Penetrations

Penetrations such as exhaust fans, exterior electrical outlets, dryer vents, exterior lights, and gas outlets are a common entrance for bulk water into the wall cavity. Using Typar flashing will ensure proper water hold out and maintain the integrity of the structure.

The method is similar to the flashing a window. Start by flashing the bottom of the penetration. Ensure to shingle the upper tape over the bottom tape.

Some penetrations have flanges, such as dryer vents. These penetrations should be flashed according to the details below.

#### STEP 1

Install the vent according to the manufacturer's recommendations, Trim the housewrap as close as possible around the perimeter of the vent.

#### STEP 2

Flash the vent using the same method as windows. Starting at the bottom flange; cut the flashing so that it extends past the flanges by 1" on both sides. Now apply the flashing to the sides of the vent. Remember to extend the flashing 1" on both top and bottom. Make sure to smooth out wrinkles and air bubbles. The use of a J-roller is optional.

#### STEP 3

The Final step is to install the flashing across the top. Extend the flashing out at least 1" on both sides.

**Note:** This type of installation is suitable for several different penetrations. Always use the shingling method and ensure a tight seal around the flange/penetration.

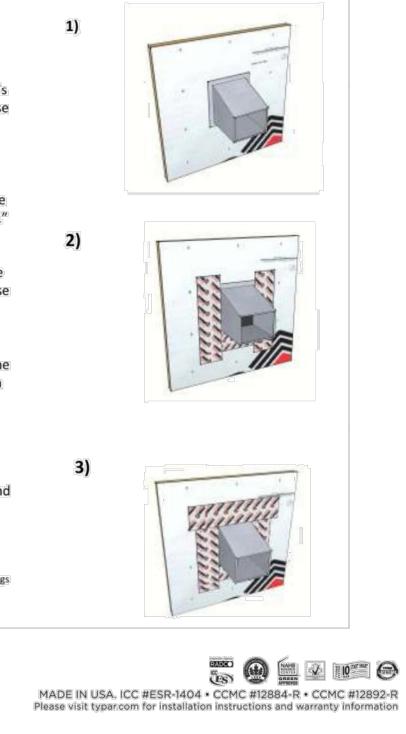
Typar<sup>®</sup> HouseWrap is part of a complete Weather Protection System, which also includes Typar<sup>®</sup> Metro Wrap, Typar<sup>®</sup> Flashings and Construction tape

For more information, visit www.Typar.com









|                         | JAA< |
|-------------------------|--|
|                         | ▲ Issue Issue Date By Description ▲  |
|                         | Job Number:  |
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| Project Information NEW SFR  |                      | 1        | Contact In |     |  |    |        |    |       |     |
|--|----------------------|----------|------------|-----|--|----|--------|----|-------|-----|
| 6515 SE 30th St.   |                      |          | 7525 SE    |     | the states of th |    |        |    |       |     |
| Mercer Island, WA. 98040   |                      | 1        | Mercer     |     |  | 98 | 040    |    |       |     |
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|  | ъ (                  |          |            | ~   | Widt   | •• | Heig   |    |       |     |
| Evenet Swinzing Deer (24 og ft. mey.)  | dbbiddbbiddeeeeeeeee | U-factor | 1          | Qt. | Feet   | 10 |        | To | Area  | UA  |
| Exempt Swinging Door (24 sq. ft. max.)<br>Exempt Glazed Fenestration (15 sq. ft. max.) | WSEC                 | 0.26     |            | 1   | 3<br>2   | 8  | 8<br>8 | 0  | 24.0  | 6.2 |
| Exempt Glazed Fellestration (15 sq. it. max.)  |                      |          |            | 1   | 2  |    | 8      |    | 21.3  | 0.  |
| Vertical Fenestration (Windows and doors)  |                      |          |            |     |  |    |        |    |       |     |
| Component  |                      |          |            |     | Widt   | h  | Heig   | ht |       |     |
| Description  | Ref.                 | U-factor |            | Qt. | Feet   |    |        |    | Area  | UA  |
| ADU Foyer - single hung  | WSEC                 |          |            | 2   | 2  | 6  | 6      | 0  | 30.0  | 8.  |
| Hallway - fixed  | WSEC                 |          |            | 2   | 5  | 0  | 7      | 6  | 75.0  | 19. |
| Hallway - slider   | WSEC                 |          |            | 1   | 10   | 0  | 8      | 0  | 80.0  | 22. |
| Kitchen - slider   | WSEC                 | 0.28     |            | 1   | 15   | 0  | 8      | 0  | 120.0 | 33. |
| Kitchen - single hung  | WSEC                 | 0.29     |            | 1   | 2  | 6  | 6      | 0  | 15.0  | 4.  |
| Scullery - casement  | WSEC                 | 0.28     |            | 1   | 2  | 6  | 5      | 6  | 13.8  | 3.  |
| Nook/ Great Room - casement  | WSEC                 | 0.28     |            | 2   | 4  | 0  | 5      | 6  | 44.0  | 12. |
| Nook/ Great Room - fixed   | WSEC                 | 0.28     |            | 3   | 4  | 0  | 5      | 6  | 66.0  | 18. |
| Nook/ Great Room - fixed   | WSEC                 | 0.26     |            | 5   | 2  | 6  | 2      | 0  | 25.0  | 6.  |
| Great Room - casement  | WSEC                 | 0.28     |            | 2   | 2  | 6  | 5      | 6  | 27.5  | 7.  |
| Great Room - fixed   | WSEC                 | 0.26     |            | 2   | 2  | 6  | 2      | 0  | 10.0  | 2.  |
| Dining- casement   | WSEC                 | 0.28     |            | 2   | 2  | 6  | 5      | 6  | 27.5  | 7.  |
| Dining - fixed   | WSEC                 | 0.26     |            | 3   | 2  | 6  | 5      | 6  | 41.3  | 10. |
| Dining - fixed   | WSEC                 | 0.26     |            | 5   | 2  | 6  | 2      | 0  | 25.0  | 6.  |
| Study/ Guest - casement  | WSEC                 | 0.28     |            | 2   | 2  | 6  | 5      | 6  | 27.5  | 7.  |
| Study/ Guest - fixed   | WSEC                 | 0.26     |            | 3   | 2  | 6  | 5      | 6  | 41.3  | 10. |
| Study/ Guest - fixed   | WSEC                 | 0.26     |            | 5   | 2  | 6  | 2      | 0  | 25.0  | 6.  |
| ADU Foyer -2 story -fixed  | WSEC                 | 0.26     |            | 4   | 5  | 0  | 2      | 6  | 50.0  | 13. |
| Bonus - single hung  | WSEC                 | 0.29     |            | 1   | 3  | 0  | 5      | 0  | 15.0  | 4.  |
| Bonus - single hung  | WSEC                 | 0.26     |            | 2   | 2  | 0  | 4      | 0  | 16.0  | 4.  |
| Bath 4 - fixed   | WSEC                 | 0.26     |            | 1   | 4  | 0  | 1      | 6  | 6.0   | 1.  |
| Laundry - single hung  | WSEC                 | 0.29     |            | 1   | 2  | 0  | 4      | 0  | 8.0   | 2.  |
| Owners Suite - fixed   | WSEC                 | 0.26     |            | 1   | 8  | 0  | 1      | 6  | 12.0  | 3.  |
| Owners Suite - fixed   | WSEC                 | 0.26     |            | 2   | 4  | 0  | 7      | 6  | 60.0  | 15. |
| Owners Suite - casement  | WSEC                 |          |            | 1   | 2  | 6  | 6      | 0  | 15.0  | 4.  |
| Owners Suite   | WSEC                 |          |            | 1   | 2  | 6  | 1      | 6  | 3.8   | 0.  |
| Bedroom 2 - casement   | WSEC                 |          |            | 2   | 2  | 6  | 6      | 0  | 30.0  | 8.  |
| Bedroom 2 - fixed  | WSEC                 |          |            | 2   | 2  | 6  | 1      | 6  | 7.5   | 1.  |
| Bedroom 3 - casement   | WSEC                 |          | _          | 1   | 2  | 6  | 5      | 6  | 13.8  | 3.  |
| Bedroom 3 - fixed  | WSEC                 |          |            | 1   | 4  | 0  | 2      | 0  | 8.0   | 2.  |
| Bedroom 4 - casement   | WSEC                 |          |            | 1   | 2  | 6  | 5      | 6  | 13.8  | 3.  |
| Bedroom 4 - fixed  | WSEC                 |          |            | 1   | 4  | 0  | 2      | 0  | 8.0   | 2.  |
| Kitchenette - casement   | WSEC                 | 0.28     |            | 1   | 2  | 0  | 4      | U  | 8.0   | 2.  |
|  |                      |          |            |     |  |    |        |    | 0.0   | 0.  |
|  |                      |          |            |     |  |    |        |    | 0.0   | 0.  |

## 2018 Washington State Energy Code – Residential Prescriptive Energy Code Compliance for All Climate Zones in Washington Single Family – New & Additions (effective February 1, 2021) Version 1.0

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

| Project Information      | Contact Information                        |
|--------------------------|--|
| 6515 SE 30th St          | Ryan Redman - JayMarc Homes - 214.663.7599 |
| Mercer Island, WA. 98040 |  |
|                          |  |

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

| Authorized Rep  | presentative Ryan   | Redman Digitally Date: 2   | / signed by Ryan Redman<br>021 03 05 11:48:40 -08'00'                  | Date 04/12/2021   |  |  |
|---|---|--|--|---|--|--|
|   |   | All Climate Zones (Ta  | able R402.1.1)   |   |  |  |
|   |   | R-Value <sup>a</sup>   |  | U-Factor <sup>a</sup>   |  |  |
| Fenestration U  |   | n/a  |  | 0.30  |  |  |
| Skylight U-Fact   | or <sup>b</sup>   | n/a  |  | 0.50  |  |  |
| Glazed Fenestra   | ation SHGC <sup>b,e</sup>   | n/a  |  | n/a   |  |  |
| Ceiling <sup>e</sup>  |   | 49   |  | 0.026   |  |  |
| Wood Frame W  | Vall <sup>g,h</sup>   | 21 int   |  | 0.056   |  |  |
| Floor   |   | 30   |  |   |  |  |
| Below Grade W   |   | 10/15/21 int +   | ГВ   | 0.042   |  |  |
| Slab <sup>d,f</sup> R-Value                                 | & Depth   | 10, 2 ft   |  | n/a   |  |  |
| "10/15/21<br>the interior<br>c the interior<br>the interior | r of the wall, or R-21 ca<br>r of the basement wall.<br>r of the basement wall  | tinuous insulation on the<br>wity insulation plus a the<br>"10/15/21 +5TB" shall b | ermal break between<br>be permitted to be me<br>lation on the interior | or R-15 continuous insulation on<br>the slab and the basement wall a<br>et with R-13 cavity insulation on<br>or exterior of the wall, "5TB" |  |  |
|   |   | aired under heated slab o  |  | ection 8402.2.9.1   |  |  |
| For single r  |   | ceilings, the insulation m   |  | 8 if the full insulation depth  |  |  |
| R-7.5 conti<br>f slab insulat                               | nuous insulation install<br>ion when applied to ex  | led over an existing slab<br>kisting slabs complying w                             | ith Section R503.1.1.  | valent to the required perimeter<br>If foam plastic is used, it shall   |  |  |
| For log stru  | meet the requirements for thermal barriers protecting foam plastics.<br>For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for<br><i>climate zone</i> 5 of ICC 400.– |  |  |   |  |  |

Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard h framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

Prescriptive Path - Single Family

3

|  |      |                                |     | , ,           |   | <br> |       |                |
|--|------|--------------------------------|-----|---------------|---|------|-------|----------------|
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               | _ |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
| Overhand Olening (Clavinship)                            |      | Sum of Vertica<br>Fenestration |     |               |   |      | 968.5 | 263.59<br>0.27 |
| Overhead Glazing (Skylights)<br>Component<br>Description | Ref. | U-factor                       | Ot. | Width<br>Feet |   |      | Area  | UA             |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      | 0.0   | 0.00           |
|  | Over | Sum of Ove<br>head Glazing .   |     |               |   |      | 0.0   | 0.00           |
|  |      |                                |     |               |   |      |       |                |

2018 Washington State Energy Code – Residential Prescriptive Energy Code Compliance for All Climate Zones in Washington Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit *in a residential building* shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

Small Dwelling Unit: 3 credits
 Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area.
 Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.

 Medium Dwelling Unit: 6 credits
 All dwelling units that are not included in #1 or #3

 Large Dwelling Unit: 7 credits
 Dwelling units exceeding 5,000 sf of conditioned floor area

4. Additions less than 500 square feet: 1.5 credits

All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

|                    | Summary of T  | able R406.2 |   |            |
|--------------------|---|-------------|---|------------|
| Heating<br>Options | Fuel Normalization Descriptions   |             | select ONE<br>g option                          | User Notes |
| 1                  | Combustion heating minimum NAECA <sup>b</sup>                                     | 0.0         |   |            |
| 2                  | Heat pump <sup>c</sup>  | 1.0         |   |            |
| 3                  | Electric resistance heat only - furnace or zonal                                  | 1.0         | 0   |            |
| 4                  | DHP with zonal electric resistance per option 3.4                                 | 0.5         |   |            |
| 5                  | All other heating systems   | -1.0        | 0   |            |
| Energy<br>Options  | Energy Credit Option Descriptions   | energy opti | select ONE<br>on from each<br>gory <sup>d</sup> |            |
| 1.1                | efficienceceles energies energies energies en | 0.5         | Í O F   |            |
| 1.2                | Efficient Building Envelope   | 1.0         | 0   |            |
| 1.3                | Efficient Building Envelope   | 0.5         |   |            |
| 1.4                | Efficient Building Envelope   | 1.0         | 0   |            |
| 1.5                | Efficient Building Envelope   | 2.0         | 0   |            |
| 1.6                | Efficient Building Envelope   | 3.0         | 0   |            |
| 1.7                | Efficient Building Envelope   | 0.5         | 0   |            |
| 2.1                | Air Leakage Control and Efficient Ventilation                                     | 0.5         | •   |            |
| 2.2                | Air Leakage Control and Efficient Ventilation                                     | 1.0         | 0   |            |
| 2.3                | Air Leakage Control and Efficient Ventilation                                     | 1.5         |   |            |
| 2.4                | Air Leakage Control and Efficient Ventilation                                     | 2.0         |   |            |
| 3.1ª               | High Efficiency HVAC  | 1.0         | 0   |            |
| 3.2                | High Efficiency HVAC  | 1.0         | 0   |            |
| 3.3ª               | High Efficiency HVAC  | 1.5         |   |            |
| 3.4                | High Efficiency HVAC  | 1.5         | 0   |            |
| 3.5                | High Efficiency HVAC  | 1.5         | •   |            |
|                    | High Efficiency HVAC  |             | 0   |            |
| Solar              | High Efficiency HVAC Distribution System  | 0.5         | O F   |            |
|                    | High Efficiency HVAC Distribution System  |             | •   |            |

Prescriptive Path – Single Family

2018 Washington State Energy Code-R

2

Simple Heating System Size: Washington State This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads. Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.



|  | Summary of Table  | R406.2 (co | nt.)  |                           |
|--|---|------------|---|---------------------------|
| Energy<br>Options                              | Energy Credit Option Descriptions (cont.)   | energy op  | elect ONE<br>tion from<br>tegory <sup>d</sup> | User Notes                |
| 5.1 <sup>d</sup>                               | Efficient Water Heating   | 0.5        |   |                           |
| 5.2  | Efficient Water Heating   | 0.5        | 0   |                           |
| 5.3  | Efficient Water Heating   | 1.0        | 0   |                           |
| 5.4  | Efficient Water Heating   | 1.5        | 0   |                           |
| 5.5  | Efficient Water Heating   | 2.0        |   |                           |
| 5.6  | Efficient Water Heating O   | 2.5        | •   |                           |
| 6.1°   | Renewable Electric Energy (3 credits max)   | 1.0        |   |                           |
| 7.1  | Appliance Package   | 0.5        |   |                           |
|  | Total Credits   |            | 7.0 Ca  | Iculate Total Clear For   |
| whic<br>Equip<br>Equip<br>You<br>with<br>1.0 c | Iternative heating source sized at a maximum of 0.5 W<br>hever is bigger, may be installed in the dwelling unit.<br>oment listed in Table C403.3.2(4) or C403.3.2(5)<br>oment listed in Table C403.3.2(1) or C403.3.2(2)<br>cannot select more than one option from any catego<br>options 5.2 through 5.6. See Table 406.3.<br>redit for each 1,200 kWh of electrical generation prov<br>he complete Table R406.2 for all requirements and op | ry EXCEPT  | in category 5.                                | Option 5.1 may be combine |

Prescriptive Path - Single Family

ENERGY

|         | Contact Information  |        |
|---------|--|--------|
|         | JayMarc Homes  |        |
|         | 7525 SE 24th St.   |        |
|         | Mercer Island, WA. 98040   |        |
|         | Heat Pump  |        |
|         |  |        |
| n the v | ord "Instructions"   |        |
| •       | Design Temperature Difference ( $\Delta T$ )45 $\Delta T$ = Indoor (70 degrees) - Outdoor Design Temp  |        |
|         |  |        |
|         | 3,594  |        |
|         | Conditioned Volume   |        |
|         | 9.0 32,346   |        |
|         | U-Factor X Area = UA   |        |
| -       | 0.280 1,013 283.64   |        |
| _       | U-Factor X Area = UA   |        |
|         |  |        |
|         | 0.00   |        |
|         | U-Factor X Area = UA   |        |
| -       | 0.026 1.794 46.64  |        |
| •       |  |        |
|         | U-Factor X <u>Area</u> UA  |        |
| •       | 0.020 612 12.24  |        |
|         | II Factor V. Area IIA  |        |
|         | U-Factor X Area UA   |        |
| •       | 0.056 3,594 201.26   |        |
|         | U-Factor X Area UA   |        |
| -       | 0.025 3,594 89.85  |        |
|         |  |        |
|         | U-Factor X Area UA   |        |
| •       | 0.028  |        |
|         | F-Factor X Length UA   |        |
| -       | 0.303  |        |
|         |  |        |
|         | F-Factor X Length UA   |        |
| -       |  |        |
|         |  |        |
|         | Duct Lookano Coofficient   |        |
| -       | Duct Leakage Coefficient<br>1.00   |        |
|         | 1.00   |        |
| S       | um of UA 633.64  |        |
| E       | nvelope Heat Load         28,514         Btu / Hour           Sum of UA x ∆T         28,514         Btu / Hour   |        |
| A       | ir Leakage Heat Load 15,720 Btu / Hour<br>Volume x 0.6 x ΔT x 0.018  |        |
| E       | uilding Design Heat Load 44,234 Btu / Hour   |        |
| _       | Air leakage + envelope heat loss   |        |
| E       | uilding and Duct Heat Load 44,234 Btu / Hour<br>Ducts in unconditioned space: sum of building heat loss x 1.10   |        |
|         | Ducts in conditioned space: sum of building heat loss x 1  |        |
| A       | aximum Heat Equipment Output         55,292         Btu / Hour           Building and duct heat loss x 1.40 for forced air furnace         55,292         Btu / Hour |        |
|         | Building and duct heat loss x 1.25 for heat pump   |        |
|         |  | 1      |
|         |  | (07/0. |

(07/01/13)

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SHEET

3

|           | IAYMARC  |
|-----------|--|
|           | HOMES  |
|           | 7525 SE 24th St., 487<br>Mercer Island, WA<br>98040  |
|           | 425.266.9100   |
|           |  |
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|           | $\triangle$ Issue Issue Date By  |
|           | Description  |
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|           | SE 301<br>r Islan  |
|           | 6515 SE 30th St.<br>Vercer Island, WA<br>Job Number:   |
|           | 551(<br>erco   |
|           | Š  |
|           |  |
|           | plan name: –   |
|           | marketing name:<br>plan number:<br>mark sys. number:   |
|           | Conditions not specifically<br>represented graphically or in   |
|           | writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality |
|           | then the current standards<br>and requirements of each<br>respectively shall govern.   |
|           | The drawings in this set are<br>instruments of service and<br>shall remain the property of                                   |
|           | JayMarc Homes, LLC.<br>© 2017 JayMarc Homes, LLC;<br>All rights reserved.  |
|           | 04.15.21   |
|           | Submittal Date   |
|           | Sheet Title/Description  |
|           | Design Firm  |
|           | Drawn by:  |
|           | R.R./ S.K.<br>Checked by:  |
| scription | Primary Scale  |
| scrip     |  |

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of: .

#### CHAPTER 3 GENERAL REQUIREMENTS

SECTION R303 MATERIALS, SYSTEMS AND EQUIPMENT

#### R303.1 IDENTIFICATION

MATERIALS, SYSTEMS AND EQUIPMENT SHALL BE IDENTIFIED IN A MANNER THAT WILL ALLOW A DETERMINATION OF COMPLIANCE WITH THE APPLICABLE PROVISIONS OF THIS CODE.

#### R303.1.1 BUILDING THERMAL ENVELOPE INSULATION.

AN R-VALUE IDENTIFICATION MARK SHALL BE APPLIED BY THE MANUFACTURER TO EACH PIECE OF BUILDING THERMAL ENVELOPE INSULATION 12 INCHES (305 MM) OR GREATER IN WIDTH. ALTERNATELY, THE INSULATION INSTALLERS SHALL PROVIDE A CERTIFICATION LISTING THE TYPE, MANUFACTURER AND R-VALUE OF INSULATION INSTALLED IN EACH ELEMENT OF THE BUILDING THERMAL ENVELOPE. FOR BLOWN OR SPRAYED INSULATION (FIBERGLASS AND CELLULOSE), THE INITIAL INSTALLED THICKNESS, SETTLED THICKNESS, SETTLED R-VALUE, INSTALLED DENSITY, COVERAGE AREA AND NUMBER OF BAGS INSTALLED SHALL BE LISTED ON THE CERTIFICATION. FOR SPRAYED POLYURETHANE FOAM (SPF) INSULATION. THE INSTALLED THICKNESS OF THE AREAS COVERED AND R-VALUE OF INSTALLED THICKNESS SHALL BE LISTED ON THE CERTIFICATION. FOR INSULATED SIDING, THE R-VALUE SHALL BE LABELED ON THE PRODUCT'S PACKAGE AND SHALL BE LISTED ON THE CERTIFICATION. THE CERTIFICATION IN A CONSPICUOUS LOCATION ON THE JOB SITE. R303.1.1.1 BLOWN OR SPRAYED ROOF/CEILING INSULATION.

THE THICKNESS OF BLOWN-IN OR SPRAYED ROOF/CEILING INSULATION (FIBERGLASS OR CELLULOSE) SHALL BE WRITTEN IN INCHES (MM) ON MARKERS THAT ARE INSTALLED AT LEAST ONE FOR EVERY 300 SQUARE FEET (28 M2) THROUGHOUT THE ATTIC SPACE. THE MARKERS SHALL BE AFFIXED TO THE TRUSSES OR JOISTS AND MARKED WITH THE MINIMUM INITIAL INSTALLED THICKNESS WITH NUMBERS A MINIMUM OF I INCH (25 MM) IN HEIGHT. EACH MARKER SHALL FACE THE ATTIC ACCESS OPENING. SPRAY POLYURETHANE FOAM THICKNESS AND INSTALLED R402.2.3 EAVE BAFFLE. R-VALUE SHALL BE LISTED ON CERTIFICATION PROVIDED BY THE INSULATION INSTALLER.

#### R303.1.2 INSULATION MARK INSTALLATION.

INSULATING MATERIALS SHALL BE INSTALLED SUCH THAT THE MANUFACTURER'S R-VALUE MARK IS READILY OBSERVABLE UPON INSPECTION. R303.1.3 FENESTRATION PRODUCT RATING.

U-FACTORS OF FENESTRATION PRODUCTS (WINDOWS, DOORS AND SKYLIGHTS) SHALL BE DETERMINED IN ACCORDANCE WITH NFRC 100. EXCEPTION: WHERE REQUIRED, GARAGE DOOR U-FACTORS SHALL BE DETERMINED IN ACCORDANCE WITH EITHER NFRC 100 OR ANSI/DASMA 105. U-FACTORS SHALL BE DETERMINED BY AN ACCREDITED, INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER. PRODUCTS LACKING SUCH A LABELED U-FACTOR SHALL BE ASSIGNED A DEFAULT U-FACTOR FROM TABLE R303.1.3(1), R303.I.3(2) OR R303.I.3(4). THE SOLAR HEAT GAIN COEFFICIENT (SHGC) AND VISIBLE TRANSMITTANCE (VT) OF GLAZED FENESTRATION PRODUCTS (WINDOWS, GLAZED DOORS AND SKYLIGHTS) SHALL BE DETERMINED IN ACCORDANCE WITH NFRC 200 BY AN ACCREDITED, INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER. PRODUCTS LACKING SUCH A LABELED SHGC or VT SHALL BE ASSIGNED A DEFAULT SHGC or VT FROM TABLE R303.1.3(3).

EXCEPTIONS: I. UNITS WITHOUT NFRC RATINGS PRODUCED BY A SMALL BUSINESS MAY BE ASSIGNED DEFAULT U-FACTORS FROM TABLE R303.1.3(5) FOR VERTICAL FENESTRATION.

2. OWNER-BUILT, NONOPERABLE WOOD FRAME WINDOW CONSISTING OF A DOUBLE PANE UNIT WITH LOW-E (E=0.04 OR LESS),  $\frac{1}{2}$  INCH AIRSPACE WITH ARGON FILL

#### R303.1.4 INSULATION PRODUCT RATING.

THE THERMAL RESISTANCE (R-VALUE) OF INSULATION SHALL BE DETERMINED IN ACCORDANCE WITH THE U.S. FEDERAL TRADE COMMISSION R-VALUE RULE (C.F.R. TITLE 16, PART 460) IN UNITS OF H × FT2 × °F/BTU AT A MEAN TEMPERATURE OF 15°F (24°C). R303.1.4.1 INSULATED SIDING. THE THERMAL RESISTANCE (R-VALUE) OF INSULATED SIDING SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C1363. INSTALLATION FOR TESTING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

#### R303.2 INSTALLATION

ALL MATERIALS, SYSTEMS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE INTERNATIONAL BUILDING CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE.

R303.2.1 PROTECTION OF EXPOSED FOUNDATION INSULATION. INSULATION APPLIED TO THE EXTERIOR OF BASEMENT WALLS, CRAWLSPACE WALLS AND THE PERIMETER OF SLAB-ON-GRADE FLOORS

SHALL HAVE A RIGID, OPAQUE AND WEATHER-RESISTANT PROTECTIVE COVERING TO PREVENT THE DEGRADATION OF THE INSULATION'S THERMAL PERFORMANCE. THE PROTECTIVE COVERING SHALL COVER THE EXPOSED EXTERIOR INSULATION AND EXTEND A MINIMUM OF 6 INCHES (153 MM) BELOW GRADE.

#### R303.3 MAINTENANCE INFORMATION

MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EQUIPMENT AND SYSTEMS THAT REQUIRE PREVENTIVE MAINTENANCE. REQUIRED REGULAR MAINTENANCE ACTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

#### CHAPTER 4 RESIDENTIAL ENERGY EFFICIENCY

SECTION R401 GENERAL

#### R401.1 SCOPE.

THIS CHAPTER APPLIES TO RESIDENTIAL BUILDINGS.

R401.2 COMPLIANCE.

PROJECTS SHALL COMPLY WITH ONE OF THE FOLLOWING:

I. SECTIONS R401 THROUGH R404.

2. SECTION R405 AND THE PROVISIONS OF SECTIONS R401 THROUGH R404 LABELED "MANDATORY."

IN ADDITION, DWELLING UNITS AND SLEEPING UNITS IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SECTION R406.

#### R401.3 CERTIFICATE (MANDATORY)

A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED. A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING, WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BELOW-GRADE WALL, AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION, AND THE RESULTS FROM ANY REQUIRED R402.2.11 MASONRY VENEER. DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES AND EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT. WHERE A GAS-FIRED UNVENTED ROOM HEATER. ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.

#### SECTION R402 BUILDING THERMAL ENVELOPE

R402.1 GENERAL (PRESCRIPTIVE).

THE BUILDING THERMAL ENVELOPE SHALL MEET THE REQUIREMENTS OF SECTIONS R402.1.1 THROUGH R402.1.5. EXCEPTION: THE FOLLOWING BUILDINGS, OR PORTIONS THEREOF, SEPARATED FROM THE REMAINDER OF THE BUILDING BY BUILDING THERMAL ENVELOPE ASSEMBLIES COMPLYING WITH THIS CODE SHALL BE EXEMPT FROM THE BUILDING THERMAL ENVELOPE PROVISIONS OF THIS CODE: I. THOSE WITH A PEAK DESIGN RATE OF ENERGY USAGE LESS THAN 3.4 BTU/H FT2 (10.7 W/M2) OR I.O WATT/FT2 OF FLOOR AREA FOR SPACE

CONDITIONING PURPOSES 2. THOSE THAT DO NOT CONTAIN CONDITIONED SPACE.

3. GREENHOUSES ISOLATED FROM ANY CONDITIONED SPACE AND NOT INTENDED FOR OCCUPANCY.

#### R402.I.I INSULATION AND FENESTRATION CRITERIA.

THE BUILDING THERMAL ENVELOPE SHALL MEET THE REQUIREMENTS OF TABLE R402.1.1 BASED ON THE CLIMATE ZONE SPECIFIED IN CHAPTER

#### R402.1.2 R-VALUE COMPUTATION.

INSULATION MATERIAL USED IN LAYERS, SUCH AS FRAMING CAVITY INSULATION OR CONTINUOUS INSULATION, SHALL BE SUMMED TO COMPUTE THE CORRESPONDING COMPONENT R-VALUE. THE MANUFACTURER'S SETTLED R-VALUE SHALL BE USED FOR BLOWN INSULATION. COMPUTED R-VALUES SHALL NOT INCLUDE AN R-VALUE FOR OTHER BUILDING MATERIALS OR AIR FILMS. WHERE INSULATED SIDING IS USED FOR THE PURPOSE OF COMPLYING WITH THE CONTINUOUS INSULATION REQUIREMENTS OF TABLE R402.1.1, THE MANUFACTURER MUST SUPPLY AN ICC REPORT THAT THE R-FACTOR HAS BEEN CERTIFIED, OR USE R-5 PER INCH FOR EXTRUDED POLYSTYRENE, AND R-6 PER INCH FOR POLYISOCYANURATE RIGID INSULATION.

#### R402.1.3 U-FACTOR ALTERNATIVE.

AN ASSEMBLY WITH A U-FACTOR EQUAL TO OR LESS THAN THAT SPECIFIED IN TABLE R402.1.3 SHALL BE PERMITTED AS AN ALTERNATIVE TO THE R-VALUE IN TABLE R402.I.I.

#### TABLE R402.1.1 INSULATION and FENESTRATION REQUIREMENTS

BY COMPONENT

| CLIMATE ZONE                             | 5 and MARINE 4    | 1 | FOOTNOTES TO TABLE R402.I.I  | Т      |
|--|-------------------|---|--|--------|
|  | J UNU MARINE 4    | - | CI = CONTINUOUS INSULATION, INT = INTERMEDIATE FRAMING.  | p      |
| FENESTRATION U-FACTOR B                  | 0.28              | A | R-VALUES ARE MINIMUMS, U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS   | T      |
| SKYLIGHT <sup>b</sup> U-FACTOR           | 0.50              |   | INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF<br>THE INSULATION, THE COMPRESSED R-VALUE OF THE INSULATION FROM APPENDIX            | S<br>T |
| GLAZED FENESTRATION SHGC <sup>B, E</sup> | NR                |   | TABLE AIOI.4 SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.  | (9     |
| CEILING R-VALUE K                        | 49                | В | THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SHGC COLUMN<br>APPLIES TO ALL GLAZED FENESTRATION.  | Т      |
| WOOD FRAME WALL <sup>G,M,N</sup> R-VALUE | 21 INT            | C | "10/15/21 +TB" MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR<br>R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY      |        |
| MASS WALL R-VALUE                        | 21/21             |   | INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL   |        |
| FLOOR R-VALUE                            | 38                |   | AT THE INTERIOR OF THE BASEMENT WALL. " $IO/I5/2I + TB"$ SHALL BE PERMITTED TO BE<br>MET WITH R-I3 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS |        |
| BELOW-GRADEC,M WALL R-VALUE              | 10/15/21 INT + TB |   | R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. "TB"<br>MEANS THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.                           |        |
| SLAB <sup>D</sup> R-VALUE & DEPTH        | 10, 2 FT          | D | R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS.  |        |

SEE R402.2.9.1. E THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE.

- I THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL
- K FOR SINGLE RAFTER OF JOIST-VAULTED CEILINGS, THE INSULATION MAY BE REDUCED TO R-38. M INT. (INTERMEDIATE FRAMING) DENOTES STANDARD FRAMING 16 INCHES ON CENTER WITH HEADERS INSULATED WITH A MINIMUM OF R-10 INSULATION.

R402.1.4 TOTAL UA ALTERNATIVE.

IF THE TOTAL BUILDING THERMAL ENVELOPE VA (SUM OF U-FACTOR TIMES ASSEMBLY AREA) IS LESS THAN OR EQUAL TO THE TOTAL VA RESULTING FROM USING THE U-FACTORS IN TABLE R402.1.3 (MULTIPLIED BY THE SAME ASSEMBLY AREA AS IN THE PROPOSED BUILDING), THE NEW WOOD-BURNING FIREPLACES SHALL HAVE TIGHT-FITTING FLUE DAMPERS OR DOORS AND OUTDOOR COMBUSTION AIR. WHEN USING BUILDING SHALL BE CONSIDERED IN COMPLIANCE WITH TABLE R402.1.1. THE U-FACTORS FOR TYPICAL CONSTRUCTION ASSEMBLIES ARE

AND LISTED FOR THE FIREPLACE. WHERE USING TIGHT-FITTING DOORS ON MASONRY FIREPLACES, THE DOORS SHALL BE LISTED AND NCLUDED IN APPENDIX A IN CHAPTER 51-11C WAC. THESE VALUES SHALL BE USED FOR ALL CALCULATIONS. WHERE PROPOSED CONSTRUCTION ASSEMBLIES ARE NOT REPRESENTED IN APPENDIX A, VALUES SHALL BE CALCULATED IN ACCORDANCE WITH THE ASHRAE LABELED IN ACCORDANCE WITH UL 907. HANDBOOK OF FUNDAMENTALS USING THE FRAMING FACTORS LISTED IN APPENDIX A WHERE APPLICABLE AND SHALL INCLUDE THE THERMAL R402.4.3 AIR LEAKAGE OF FENESTRATION. BRIDGING EFFECTS OF FRAMING MATERIALS. THE SHGC REQUIREMENTS SHALL BE MET IN ADDITION TO VA COMPLIANCE. WHEN USING WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOO RESCHECK, THE U-FACTORS CALCULATED BY THE SOFTWARE BASED ON COMPONENT R-VALUE DESCRIPTIONS ARE ACCEPTABLE. FOR THE BASE BUILDING VA CALCULATION, THE MAXIMUM GLAZING AREA IS 15% OF THE FLOOR AREA. (1.5 L/S/M2), AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT (2.6 L/S/M2), WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA IOI/I.S.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER. R40215 VAPOR RETARDER EXCEPTIONS:

WALL ASSEMBLIES IN THE BUILDING THERMAL ENVELOPE SHALL COMPLY WITH THE VAPOR RETARDER REQUIREMENTS OF SECTION R702.7 OF THE INTERNATIONAL RESIDENTIAL CODE OR SECTION 1405.3 OF THE INTERNATIONAL BUILDING CODE, AS APPLICABLE.

R402.2 SPECIFIC INSULATION REQUIREMENTS (PRESCRIPTIVE). IN ADDITION TO THE REQUIREMENTS OF SECTION R402.1, INSULATION SHALL MEET THE SPECIFIC REQUIREMENTS OF SECTIONS R402.2.1 THROUGH R402.2.11.

R402.2.1 CEILINGS WITH ATTIC SPACES.

WHERE OPEN COMBUSTION AIR DUCTS PROVIDE COMBUSTION AIR TO OPEN COMBUSTION, SPACE CONDITIONING FUEL BURNING APPLIANCES, THE APPLIANCES AND COMBUSTION AIR OPENINGS SHALL BE LOCATED OUTSIDE OF THE BUILDING THERMAL ENVELOPE, OR ENCLOSED IN A WHERE SECTION R402.1.1 WOULD REQUIRE R-49 IN THE CEILING, INSTALLING R-38 OVER 100 PERCENT OF THE CEILING AREA REQUIRING ROOM ISOLATED FROM INSIDE THE THERMAL ENVELOPE. SUCH ROOMS SHALL BE SEALED AND INSULATED IN ACCORDANCE WITH THE INSULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENT FOR R-49 WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-38 INSULATION ENVELOPE REQUIREMENTS OF TABLE R402.1.1, WHERE THE WALLS, FLOORS AND CEILINGS SHALL MEET THE MINIMUM OF THE BELOW-GRADE EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. THIS REDUCTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN WALL R-VALUE REQUIREMENT. THE DOOR INTO THE ROOM SHALL BE FULLY GASKETED AND ANY WATER LINES AND DUCTS IN THE ROOM SECTION R402.1.3 AND THE TOTAL UA ALTERNATIVE IN SECTION R402.1.4. INSULATED IN ACCORDANCE WITH SECTION R403. THE COMBUSTION AIR DUCT SHALL BE INSULATED WHERE IT PASSES THROUGH CONDITIONED SPACE TO A MINIMUM OF R-8. R402.2.1.1 LOOSE INSULATION IN ATTIC SPACES. EXCEPTIONS:

OPEN-BLOWN OR POURED LOOSE FILL INSULATION MAY BE USED IN ATTIC SPACES WHERE THE SLOPE OF THE CEILING IS NOT MORE THAN 3 FEET IN 12 AND THERE IS AT LEAST 30 INCHES OF CLEAR DISTANCE FROM THE TOP OF THE BOTTOM CHORD OF THE TRUSS OR CEILING JOIST TO THE UNDERSIDE OF THE SHEATHING AT THE ROOF RIDGE.

#### R402.2.2 RESERVED.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM (0.944 L/S) WHEN TESTED AT A 1.57 PSF (75 PA) PRESSURE DIFFERENTIAL AND FOR AIR PERMEABLE INSULATIONS IN VENTED ATTICS, A BAFFLE SHALL BE INSTALLED ADJACENT TO SOFFIT AND EAVE VENTS. BAFFLES SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A SHALL MAINTAIN AN OPENING EQUAL OR GREATER THAN THE SIZE OF THE VENT. THE BAFFLE SHALL EXTEND OVER THE TOP OF THE ATTIC GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING. INSULATION. THE BAFFLE SHALL BE PERMITTED TO BE ANY SOLID MATERIAL.

R402.5 MAXIMUM FENESTRATION U-FACTOR (MANDATORY). R402.2.4 ACCESS HATCHES AND DOORS. THE AREA-WEIGHTED AVERAGE MAXIMUM FENESTRATION U-FACTOR PERMITTED USING TRADEOFFS FROM SECTION R402.1.4 or R405 SHALL ACCESS DOORS FROM CONDITIONED SPACES TO UNCONDITIONED SPACES (E.G., ATTICS AND CRAWL SPACES) SHALL BE WEATHERSTRIPPED BE 0.48 FOR VERTICAL FENESTRATION, AND 0.75 FOR SKYLIGHTS. AND INSULATED TO A LEVEL EQUIVALENT TO THE INSULATION ON THE SURROUNDING SURFACES. ACCESS SHALL BE PROVIDED TO ALL EQUIPMENT THAT PREVENTS DAMAGING OR COMPRESSING THE INSULATION. A WOOD FRAMED OR EQUIVALENT BAFFLE OR RETAINER IS INSULATION FROM SPILLING INTO THE LIVING SPACE WHEN THE ATTIC ACCESS IS OPENED, AND TO PROVIDE A PERMANENT MEANS OF

REQUIRED TO BE PROVIDED WHEN LOOSE FILL INSULATION IS INSTALLED, THE PURPOSE OF WHICH IS TO PREVENT THE LOOSE FILL MAINTAINING THE INSTALLED R-VALUE OF THE LOOSE FILL INSULATION. EXCEPTION: VERTICAL DOORS THAT PROVIDE ACCESS FROM CONDITIONED TO UNCONDITIONED SPACES SHALL BE PERMITTED TO MEET THE FENESTRATION REQUIREMENTS OF TABLE R402.1.1.

R402.2.5 MASS WALLS. MASS WALLS FOR THE PURPOSES OF THIS CHAPTER SHALL BE CONSIDERED ABOVE-GRADE WALLS OF CONCRETE BLOCK, CONCRETE, INSULATED CONCRETE FORM (ICF), MASONRY CAVITY, BRICK (OTHER THAN BRICK VENEER), EARTH (ADOBE, COMPRESSED EARTH BLOCK, RAMMED EARTH) AND SOLID TIMBER/LOGS, OR ANY OTHER WALLS HAVING A HEAT CAPACITY GREATER THAN OR EQUAL TO 8 BTU/FT2 x °F

(123 KJ/M3 x K).

R402.2.6 STEEL-FRAME CEILINGS, WALLS, AND FLOORS. STEEL-FRAME CEILINGS, WALLS, AND FLOORS SHALL MEET THE U-FACTOR REQUIREMENTS OF TABLE R402.

R402.2.7 FL00RS FLOOR FRAMING CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24-INCHES ON CENTER. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.

EXCEPTIONS:

- R-VALUE IN TABLE R402.1.1 AND EXTENDS FROM THE BOTTOM TO THE TOP OF ALL PERIMETER FLOOR FRAMING MEMBERS.
- PERMANENTLY ATTACHED BAFFLE SHALL BE INSTALLED AT AN ANGLE OF 30° FROM HORIZONTAL, TO DIVERT AIR FLOW BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.
- WHERE FULL R-VALUE INSULATION IS INSTALLED BETWEEN THE DUCT AND THE EXTERIOR SURFACE. R402.2.8 BELOW-GRADE WALLS.

BELOW-GRADE EXTERIOR WALL INSULATION USED ON THE EXTERIOR (COLD) SIDE OF THE WALL SHALL EXTEND FROM THE TOP OF THE BELOW-GRADE WALL TO THE TOP OF THE FOOTING AND SHALL BE APPROVED FOR BELOW-GRADE USE. ABOVE-GRADE INSULATION SHALL BE PROTECTED. INSULATION USED ON THE INTERIOR (WARM) SIDE OF THE WALL SHALL EXTEND FROM THE TOP OF THE BELOW-GRADE WALL TO THE BELOW-GRADE FLOOR LEVEL AND SHALL INCLUDE R-5 RIGID BOARD PROVIDING A THERMAL BREAK BETWEEN THE CONCRETE WALL AND THE SLAB.

#### R402.2.9 SLAB-ON-GRADE FLOORS.

THE MINIMUM THERMAL RESISTANCE (R-VALUE) OF THE INSULATION AROUND THE PERIMETER OF UNHEATED OR HEATED SLAB-ON-GRADE FLOORS SHALL BE AS SPECIFIED IN TABLE R402.1.1. THE INSULATION SHALL BE PLACED ON THE OUTSIDE OF THE FOUNDATION OR ON THE INSIDE OF THE FOUNDATION WALL. THE INSULATION SHALL EXTEND DOWNWARD FROM THE TOP OF THE SLAB FOR A MINIMUM DISTANCE AS SHOWN IN THE TABLE OR TO THE TOP OF THE FOOTING, WHICHEVER IS LESS, OR DOWNWARD TO AT LEAST THE BOTTOM OF THE SLAB AND THEN HORIZONTALLY TO THE INTERIOR OR EXTERIOR FOR THE TOTAL DISTANCE SHOWN IN THE TABLE. A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS. INSULATION EXTENDING AWAY FROM THE BUILDING SHALL BE PROTECTED BY PAVEMENT OR BY A MINIMUM OF 10 INCHES (254 MM) OF SOIL

R402.2.9.1 HEATED SLAB-ON-GRADE FLOORS (MANDATORY).

I-GRADE FLOOR SHALL BE THERMALLY ISOLATED FROM THE SOIL WITH A MINIMUM OF R-NSULATION. THE INSULATION SHALL BE AN APPROVED PRODUCT FOR ITS INTENDED USE. IF A SOIL GAS CONTROL SYSTEM IS PRESENT BELOW THE HEATED SLAB-ON-GRADE FLOOR, WHICH RESULTS IN INCREASED CONVECTIVE FLOW BELOW THE HEATED SLAB-ON-GRADE FLOOR, THE HEATED SLAB-ON-GRADE FLOOR SHALL BE THERMALLY ISOLATED FROM THE SUB-SLAB GRAVEL LAYER. R-10 HEATED SLAB-ON-GRADE FLOOR INSULATION IS REQUIRED FOR ALL COMPLIANCE PATHS.

#### R402.2.10 RESERVED.

R402.3 FENESTRATION (PRESCRIPTIVE)

IN ADDITION TO THE REQUIREMENTS OF SECTION R402, FENESTRATION SHALL COMPLY WITH SECTIONS R402.3.1 THROUGH R402.3.5. R402.3.1 U-FACTOR

AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS.

R402.3.2 GLAZED FENESTRATION SHGC. AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS MORE THAN 50 PERCENT GLAZED SHALL BE PERMITTED TO SATISFY THE SHGC REQUIREMENTS.

#### R402.3.3 GLAZED FENESTRATION EXEMPTION.

UP TO 15 SQUARE FEET (1.4 M2) OF GLAZED FENESTRATION PER DWELLING UNIT SHALL BE PERMITTED TO BE EXEMPT FROM U-FACTOR AND SHGC REQUIREMENTS IN SECTION R402.1.1. THIS EXEMPTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN SECTION R402.1.3 AND THE TOTAL UA ALTERNATIVE IN SECTION R402.1.4.

R402.3.4 OPAQUE DOOR EXEMPTION ONE SIDE-HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET (2.22 M2) IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT IN SECTION R402.1.1. THIS EXEMPTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN SECTION R402.1.3 AND THE TOTAL UA ALTERNATIVE IN SECTION R402.1.4.

#### R402.3.5 RESERVED

R402.4 AIR LEAKAGE (MANDATORY).

R402.4.1 THROUGH R402.4.4.

#### R402.4.1 BUILDING THERMAL ENVELOPE

THE BUILDING THERMAL ENVELOPE SHALL COMPLY WITH SECTIONS R402.4.1.1 AND R402.4.1.2. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION.

R402.4.1.1 INSTALLATION THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE R402.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE

#### REQUIRED BY THE CODE OFFICIAL, AN APPROVED THIRD PARTY SHALL INSPECT ALL COMPONENTS AND VERIFY COMPLIANCE. R402.4.1.2 TESTING

THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE. ONCE VISUAL INSPECTION HAS CONFIRMED SEALING (SEE TABLE R402.4.I.I), OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

#### DURING TESTING

EXCEPTIONS

R402.4.2 FIREPLACES

- WEATHERSTRIPPING or OTHER INFILTRATION CONTROL MEASURES;
- INTENDED INFILTRATION CONTROL MEASURES;
- CONDITIONED ATTICS SHALL BE OPEN;
- 5. HEATING AND COOLING SYSTEMS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE TURNED OFF; and

I THE FLOOR FRAMING CAVITY INSULATION SHALL BE PERMITTED TO BE IN CONTACT WITH THE TOPSIDE OF SHEATHING OR CONTINUOUS INSULATION INSTALLED ON THE BOTTOM SIDE OF FLOOR FRAMING WHERE COMBINED WITH INSULATION THAT MEETS OR EXCEEDS THE MINIMUM WOOD FRAME 2. WHEN FOUNDATION VENTS ARE NOT PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION, A

3. SUBSTANTIAL CONTACT WITH THE SURFACE BEING INSULATED IS NOT REQUIRED IN ENCLOSED FLOOR/CEILING ASSEMBLIES CONTAINING DUCTS

INSULATION SHALL NOT BE REQUIRED ON THE HORIZONTAL PORTION OF THE FOUNDATION THAT SUPPORTS A MASONRY VENEER.

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS

MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION. WHERE

I. EXTERIOR WINDOWS AND DOORS, FIREPLACE AND STOVE DOORS SHALL BE CLOSED, BUT NOT SEALED, BEYOND THE INTENDED

2. DAMPERS INCLUDING EXHAUST, INTAKE, MAKEUP AIR, BACKDRAFT AND FLUE DAMPERS SHALL BE CLOSED, BUT NOT SEALED BEYOND

3. INTERIOR DOORS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE OPEN, ACCESS HATCHES TO CONDITIONED CRAWL SPACES AND 4. EXTERIOR OPENINGS FOR CONTINUOUS VENTILATION SYSTEMS AND HEAT RECOVERY VENTILATORS SHALL BE CLOSED AND SEALED;

6. SUPPLY AND RETURN REGISTERS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE FULLY OPEN.

I. ADDITIONS LESS THAN 500 SQUARE FEET OF CONDITIONED FLOOR AREA.

2. ADDITIONS TESTED WITH THE EXISTING HOME HAVING A COMBINED MAXIMUM AIR LEAKAGE RATE OF 7 AIR CHANGES PER HOUR. TO QUALIFY FOR THIS EXCEPTION, THE DATE OF CONSTRUCTION OF THE EXISTING HOUSE MUST BE PRIOR TO THE 2009 WASHINGTON STATE ENERGY CODE.

TIGHT-FITTING DOORS ON FACTORY-BUILT FIREPLACES LISTED AND LABELED IN ACCORDANCE WITH UL 127, THE DOORS SHALL BE TESTED

FIELD-FABRICATED FENESTRATION PRODUCTS (WINDOWS SKYLIGHTS AND DOORS)

2. CUSTOM EXTERIOR FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY MEET THE APPLICABLE PROVISIONS OF CHAPTER 24 OF THE INTERNATIONAL BUILDING CODE, ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET, OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST. R402.4.4 COMBUSTION AIR OPENINGS.

I. DIRECT VENT APPLIANCES WITH BOTH INTAKE AND EXHAUST PIPES INSTALLED CONTINUOUS TO THE OUTSIDE.

2. FIREPLACES AND STOVES COMPLYING WITH SECTION R402.4.2 AND SECTION RIOOG OF THE INTERNATIONAL RESIDENTIAL CODE. R402.4.5 RECESSED LIGHTING

|  |  | BLE R402.4.1.1<br>d INSULATION INSTALLATION   |
|--|--|---|
| COMPONENT<br>GENERAL<br>REQUIREMENTS                                   | AIR BARRIER CRITERIA<br>A CONTINUOUS AIR BARRIER SHALL BE<br>INSTALLED IN THE BUILDING ENVELOPE.<br>EXTERIOR THERMAL ENVELOPE CONTAINS A<br>CONTINUOUS AIR BARRIER.<br>BREAKS OR JOINTS IN THE AIR BARRIER<br>SHALL BE SEALED.   | INSULATION CRITERIA<br>AIR-PERMEABLE INSULATION SHALL NOT BE USED AS A SEALING MATERIAL.  |
| CAVITY<br>INSULATION<br>INSTALLATION                                   |  | ALL CAVITIES IN THE THERMAL ENVELOPE SHALL BE FILLED WITH INSULATION<br>THE DENSITY OF THE INSULATION SHALL BE AT THE MANUFACTURERS'<br>PRODUCT RECOMMENDATION AND SAID DENSITY SHALL BE MAINTAINED FOR<br>ALL VOLUME OF EACH CAVITY. BATT TYPE INSULATION WILL SHOW NO VOIDS<br>OR GAPS AND MAINTAIN AN EVEN DENSITY FOR THE ENTIRE CAVITY. BATT<br>INSULATION SHALL BE INSTALLED IN THE RECOMMENDED CAVITY DEPTH.<br>WHERE AN OBSTRUCTION IN THE CAVITY DUE TO SERVICES, BLOCKING,<br>BRACING OR OTHER OBSTRUCTION EXISTS, THE BATT PRODUCT WILL BE CUT<br>TO FIT THE REMAINING DEPTH OF THE CAVITY. WHERE THE BATT IS CUT<br>AROUND OBSTRUCTIONS, LOOSE FILL INSULATION SHALL BE PLACED TO FILL<br>ANY SURFACE OR CONCEALED VOIDS, AND AT THE MANUFACTURERS'<br>SPECIFIED DENSITY. WHERE FACED BATT IS USED, THE INSTALLATION TABS<br>MUST BE STAPLED TO THE FACE OF THE STUD. THERE SHALL BE NO<br>COMPRESSION TO THE BATT AT THE EDGES OF THE CAVITY DUE TO INSET<br>STAPLING INSTALLATION TABS.<br>INSULATION THAT UPON INSTALLATION READILY CONFORMS TO AVAILABLE<br>SPACE SHALL BE INSTALLED FILLING THE ENTIRE CAVITY AND WITHIN THE<br>MANUFACTURERS' DENSITY RECOMMENDATION. |
| CEILING/ATTIC  | THE AIR BARRIER IN ANY DROPPED<br>CEILING/SOFFIT SHALL BE ALIGNED WITH THE<br>INSULATION AND ANY GAPS IN THE AIR<br>BARRIER SEALED.<br>ACCESS OPENINGS, DROP DOWN STAIR OR<br>KNEE WALL DOORS TO UNCONDITIONED ATTIC<br>SPACES SHALL BE SEALED.                                  | THE INSULATION IN ANY DROPPED CEILING/SOFFIT SHALL BE ALIGNED WITH<br>THE AIR BARRIER<br>BATT INSULATION INSTALLED IN ATTIC ROOF ASSEMBLIES MAY BE<br>COMPRESSED AT EXTERIOR WALL LINES TO ALLOW FOR REQUIRED ATTIC<br>VENTILATION.   |
| WALLS  | THE JUNCTION OF THE FOUNDATION AND SILL<br>PLATE SHALL BE SEALED. THE JUNCTION OF<br>THE TOP PLATE AND TOP OF EXTERIOR<br>WALLS SHALL BE SEALED. KNEE WALLS<br>SHALL BE SEALED.  | CAVITIES WITHIN CORNERS AND HEADERS OF FRAME WALLS SHALL BE<br>INSULATED BY COMPLETELY FILLING THE CAVITY WITH A MATERIAL HAVING A<br>THERMAL RESISTANCE OF R-3 PER INCH MINIMUM.<br>EXTERIOR THERMAL ENVELOPE INSULATION FOR FRAMED WALLS SHALL BE<br>INSTALLED IN SUBSTANTIAL CONTACT AND CONTINUOUS ALIGNMENT WITH THE<br>AIR BARRIER.   |
| WINDOWS,<br>SKYLIGHTS AND<br>DOORS                                     | THE SPACE BETWEEN WINDOW/DOOR JAMBS<br>AND FRAMING AND SKYLIGHTS AND FRAMING<br>SHALL BE SEALED.   |   |
| RIM JOISTS   | RIM JOISTS SHALL INCLUDE THE AIR BARRIER.  | RIM JOISTS SHALL BE INSULATED.  |
| FLOORS<br>(INCLUDING<br>ABOVE GARAGE<br>and<br>CANTILEVERED<br>FLOORS) | THE AIR BARRIER SHALL BE INSTALLED AT<br>ANY EXPOSED EDGE OF INSULATION.   | FLOOR FRAMING CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIN<br>PERMANENT CONTACT WITH THE UNDERSIDE OF SUBFLOOR DECKING OR<br>FLOOR FRAMING CAVITY INSULATION SHALL BE PERMITTED TO BE IN<br>CONTACT WITH THE TOPSIDE OF SHEATHING OR CONTINUOUS INSULATION<br>INSTALLED ON THE UNDERSIDE OF FLOOR FRAMING AND EXTEND FROM THE<br>BOTTOM TO THE TOP OF ALL PERIMETER FLOOR FRAMING MEMBERS   |
| CRAWLSPACE<br>WALLS  | EXPOSED EARTH IN UNVENTED CRAWL SPACES<br>SHALL BE COVERED WITH A CLASS I, BLACK<br>VAPOR RETARDER WITH OVERLAPPING<br>JOINTS TAPED.   | WHERE PROVIDED INSTEAD OF FLOOR INSULATION, INSULATION SHALL BE<br>PERMANENTLY ATTACHED TO THE CRAWLSPACE WALLS.  |
| SHAFTS,<br>PENETRATIONS  | DUCT SHAFTS, UTILITY PENETRATIONS, AND<br>FLUE SHAFTS OPENING TO EXTERIOR OR<br>UNCONDITIONED SPACE SHALL BE SEALED.   |   |
| NARROW<br>CAVITIES   |  | BATTS IN NARROW CAVITIES SHALL BE CUT TO FIT AND INSTALLED TO THE<br>CORRECT DENSITY WITHOUT ANY VOIDS OR GAPS OR COMPRESSION, OR<br>NARROW CAVITIES SHALL BE FILLED BY INSULATION THAT ON INSTALLATION<br>READILY CONFORMS TO THE AVAILABLE CAVITY SPACE.  |
| GARAGE<br>SEPARATI <i>O</i> N  | AIR SEALING SHALL BE PROVIDED BETWEEN<br>THE GARAGE AND CONDITIONED SPACES.  |   |
| RECESSED<br>LIGHTING   | RECESSED LIGHT FIXTURES INSTALLED IN THE<br>BUILDING THERMAL ENVELOPE SHALL BE<br>SEALED TO THE DRYWALL.   | RECESSED LIGHT FIXTURES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE AIR TIGHT AND IC RATED.   |
| PLUMBING AND<br>WIRING   |  | BATT INSULATION SHALL BE CUT NEATLY TO FIT AROUND WIRING AND<br>PLUMBING IN EXTERIOR WALLS. THERE SHALL BE NO VOIDS OR GAPS OR<br>COMPRESSION WHERE CUT TO FIT. INSULATION THAT ON INSTALLATION<br>READILY CONFORMS TO AVAILABLE SPACE SHALL EXTEND BEHIND PIPING<br>AND WIRING.  |
| SHOWER/TUB<br>ON EXTERIOR<br>WALL                                      | THE AIR BARRIER INSTALLED AT EXTERIOR<br>WALLS ADJACENT TO SHOWERS AND TUBS<br>SHALL SEPARATE THEM FROM THE<br>SHOWERS AND TUBS.   | EXTERIOR WALLS ADJACENT TO SHOWERS AND TUBS SHALL BE INSULATED.   |
| ELECTRICAL/<br>PHONE BOX ON<br>EXTERIOR<br>WALL                        | THE AIR BARRIER SHALL BE INSTALLED<br>BEHIND ELECTRICAL OR COMMUNICATION<br>BOXES OR AIR SEALED BOXES SHALL BE<br>INSTALLED.   |   |
| HVAC<br>REGISTER<br>BOOTS  | HVAC REGISTER BOOTS THAT PENETRATE<br>BUILDING THERMAL ENVELOPE SHALL BE<br>SEALED TO THE SUBFLOOR OR DRYWALL.   |   |
| CONCEALED<br>SPRINKLERS  | WHEN REQUIRED TO BE SEALED, CONCEALED<br>FIRE SPRINKLERS SHALL ONLY BE SEALED IN<br>A MANNER THAT IS RECOMMENDED BY THE<br>MANUFACTURER. CAULKING OR OTHER<br>ADHESIVE SEALANTS SHALL NOT BE USED TO<br>FILL VOIDS BETWEEN FIRE SPRINKLER COVER<br>PLATES AND WALLS OR CEILINGS. |   |

R403.I CONTROLS (MANDATORY). AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.

R403.1.1 PROGRAMMABLE THERMOSTA

WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. THE THERMOSTAT SHALL ALLOW FOR, AT A MINIMUM, A 5-2 PROGRAMMABLE SCHEDULE (WEEKDAYS/WEEKENDS) AND BE CAPABLE OF PROVIDING AT LEAST TWO PROGRAMMABLE SETBACK PERIODS PER DAY. THIS THERMOSTAT SHALL INCLUDE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C). THE THERMOSTAT SHALL INITIALLY BE PROGRAMMED BY THE MANUFACTURER WITH A HEATING TEMPERATURE SET POINT NO HIGHER THAN 70°F (21°C) AND A COOLING TEMPERATURE SET POINT NO LOWER THAN 78°F (26°C). THE THERMOSTAT AND/OR CONTROL SYSTEM SHALL HAVE AN ADJUSTABLE DEADBAND OF NOT LESS THAN 10°F. EXCEPTIONS:

I. SYSTEMS CONTROLLED BY AN OCCUPANT SENSOR THAT IS CAPABLE OF SHUTTING THE SYSTEM OFF WHEN NO OCCUPANT IS SENSED FOR A PERIOD OF UP TO 30 MINUTES. 2. SYSTEMS CONTROLLED SOLELY BY A MANUALLY OPERATED TIMER CAPABLE OF OPERATING THE SYSTEM FOR NO MORE THAN TWO HOURS.

R403.1.2 HEAT PUMP SUPPLEMENTARY HEAT (MANDATORY UNITARY AIR COOLED HEAT PUMPS SHALL INCLUDE CONTROLS THAT MINIMIZE SUPPLEMENTAL HEAT USAGE DURING START-UP, SET-UP, AND

DEFROST CONDITIONS. THESE CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE OF



## 2018 MSEC COMPLIANCE NOTES

### 2018 WASH. STATE ENERGY CODE (WSEC)

HEAT. CONTROLS SHALL INDICATE WHEN SUPPLEMENTAL HEATING IS BEING USED THROUGH VISUAL MEANS (E.G., LED INDICATORS). HEAT PUMPS EQUIPPED WITH SUPPLEMENTARY HEATERS SHALL BE INSTALLED WITH CONTROLS THAT PREVENT SUPPLEMENTAL HEATER OPERATION ABOVE 40°F. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35°F OR LESS. R403.2 HOT WATER BOILER OUTDOOR TEMPERATURE SETBACK.

HOT WATER BOILERS THAT SUPPLY HEAT TO THE BUILDING THROUGH ONE- OR TWO-PIPE HEATING SYSTEMS SHALL HAVE AN OUTDOOR TEMPERATURE SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE. R403.3 DUCTS.

DUCTS AND AIR HANDLERS SHALL BE IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.5.

R403.3.1 INSULATION (PRESCRIPTIVE).

DUCTS OUTSIDE THE BUILDING THERMAL ENVELOPE SHALL BE INSULATED TO A MINIMUM OF R-8. DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10 WITH INSULATION DESIGNED TO BE USED BELOW GRADE. EXCEPTION: DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE. DUCTS LOCATED IN CRAWL SPACES DO NOT QUALIFY FOR THIS EXCEPTION.

R403.3.2 SEALING (MANDATORY).

EXCEPTIONS:

DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE.

I. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITIONAL JOINT SEALS. 2. FOR DUCTS HAVING A STATIC PRESSURE CLASSIFICATION OF LESS THAN 2 INCHED OF WATER COLUMN (500 PA), ADDITIONAL CLOSURE SYSTEMS SHALL NOT BE REQUIRED FOR CONTINUOUSLY WELDED JOINTS AND SEAMS, AND LOCKING-TYPE JOINTS AND SEAMS OF OTHER THAN THE SNAP-LOCK AND BUTTON-LOCK TYPES.

R403.3.2.I SEALED AIR HANDLER. AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.

R403.3.3 DUCT TESTING (MANDATORY).

DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RS-33, USING THE MAXIMUM DUCT LEAKAGE RATES SPECIFIED. EXCEPTION: THE TOTAL LEAKAGE TEST OR LEAKAGE TO THE OUTDOORS IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE, FOR FORCED AIR DUCTS, A MAXIMUM OF IO LINEAR FEET OF RETURN DUCTS AND 5 LINEAR FEET OF SUPPLY DUCTS. MAY BE LOCATED OUTSIDE THE CONDITIONED SPACE ALL METALLIC DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST HAVE BOTH TRANSVERSE AND LONGITUDINAL JOINTS SEALED WITH MASTIC. IF FLEX DUCTS ARE USED, THEY CANNOT CONTAIN SPLICES. FLEX DUCT CONNECTIONS MUST BE MADE WITH NYLON STRAPS AND INSTALLED USING A PLASTIC STRAPPING TENSIONING TOOL. DUCTS LOCATED IN CRAWL SPACES DO NOT QUALIFY FOR THIS EXCEPTION

A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. R403.3.4 DUCT LEAKAGE (MANDATORY).

THE TOTAL LEAKAGE OF THE DUCTS, WHERE MEASURED IN ACCORDANCE WITH SECTION R403.3.3, SHALL BE AS FOLLOWS: I. ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF O.I. INCHES W.G. (25 PA) ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE, ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM (85 L/MIN) PER 100

SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA. 2. POSTCONSTRUCTION TEST: LEAKAGE TO OUTDOORS SHALL BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA OR TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF O.I INCHES W.G. (25 PA) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE

R403.3.5 BUILDING CAVITIES (MANDATORY).

BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.

R403.4 MECHANICAL SYSTEM PIPING INSULATION (MANDATORY). MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F (41°C) OR BELOW 55°F (13°C) SHALL BE INSULATED TO A MINIMUM

0F R-6. EXCEPTION: UP TO 200 FEET OF HYDRONIC SYSTEM PIPING INSTALLED WITHIN THE CONDITIONED SPACE MAY BE INSULATED WITH A MINIMUM OF  $\frac{1}{2}$  INCH

INSULATION WITH A K VALUE OF 0.28. R403.4.1 PROTECTION OF PIPING INSULATION.

PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

R403.5 SERVICE HOT WATER SYSTEMS.

ENERGY CONSERVATION MEASURES FOR SERVICE HOT WATER SYSTEMS SHALL BE IN ACCORDANCE WITH SECTIONS R403.5.1 THROUGH

R403.5.1 HEATED WATER CIRCULATION AND TEMPERATURE MAINTENANCE SYSTEM (MANDATORY). HEATED WATER CIRCULATION SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION R403.5.1.

HEAT TRACE TEMPERATURE MAINTENANCE SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION R403.5.1.2. AUTOMATIC CONTROLS, TEMPERATURE SENSORS AND PUMPS SHALL BE ACCESSIBLE. MANUAL CONTROLS SHALL BE READILY ACCESSIBLE.

R403.5.1.1 CIRCULATION SYSTEMS HEATED WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. GRAVITY AND THERMO-SYPHON CIRCULATION SYSTEMS SHALL BE PROHIBITED. CONTROLS FO

R403.5.1.2 HEAT TRACE SYSTEMS ELECTRIC HEAT TRACE SYSTEMS SHALL COMPLY WITH IEEE 515.1 OR UL 515. CONTROLS FOR SUCH SYSTEMS SHALL AUTOMATICALLY ADJUST THE ENERGY INPUT TO THE HEAT TRACING TO MAINTAIN THE DESIRED WATER TEMPERATURE IN THE PIPING IN ACCORDANCE WITH THE TIMES WHEN HEATED WATER IS USED IN THE OCCUPANCY.

R403.5.2 DEMAND RECIRCULATION SYSTEMS

A WATER DISTRIBUTION SYSTEM HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED WATER SUPPLY PIPE BACK TO THE HEATED WATER SOURCE THROUGH A COLD WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING

I. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE. 2. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD WATER PIPING TO 104° F (40° C). R403.5.3 HOT WATER PIPE INSULATION (PRESCRIPTIVE).

INSULATION FOR HOT WATER PIPE, BOTH WITHIN AND OUTSIDE THE CONDITIONED SPACE, SHALL HAVE A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-3.

EXCEPTION: PIPE INSULATION IS PERMITTED TO BE DISCONTINUOUS WHERE IT PASSES THROUGH STUDS, JOISTS OR OTHER STRUCTURAL MEMBERS AND WHERE THE INSULATED PIPES PASS OTHER PIPING, CONDUIT OR VENTS, PROVIDED THE INSULATION IS INSTALLED TIGHT TO EACH OBSTRUCTION. R403.5.4 DRAIN WATER HEAT RECOVERY UNITS.

DRAIN WATER HEAT RECOVERY UNITS SHALL COMPLY WITH CSA 55.2. DRAIN WATER HEAT RECOVERY UNITS SHALL BE IN ACCORDANCE WITH CSA 55.1. POTABLE WATER-SIDE PRESSURE LOSS OF DRAIN WATER HEAT RECOVERY UNITS SHALL BE LESS THAN 3 PSI (20.7 KPA) FOR INDIVIDUAL UNITS CONNECTED TO ONE OR TWO SHOWERS. POTABLE WATER-SIDE PRESSURE LOSS OF DRAIN WATER HEAT RECOVERY UNITS SHALL BE LESS THAN 2 PSI (13.8 KPA) FOR INDIVIDUAL UNITS CONNECTED TO THREE OR MORE SHOWERS.

R403.5.5 ELECTRIC WATER HEATER INSULATION. ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OF ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10.

R403.6 MECHANICAL VENTILATION (MANDATORY).

SHEE

BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE Or INTERNATIONAL MECHANICAL CODE, AS APPLICABLE, OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OF GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

R403.6.1 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY. MECHANICAL VENTILATION SYSTEM FANS SHALL MEET THE EFFICACY REQUIREMENTS OF TABLE R403.6.1.

EXCEPTION: WHERE MECHANICAL VENTILATION FANS ARE INTEGRAL TO TESTED AND LISTED HVAC EQUIPMENT, THEY SHALL BE POWERED BY AN ELECTRONICALLY COMMUTATED MOTOR.

| <b>JAYMARC</b><br><b>H</b> O M E S<br>7525 SE 24th St., 487<br>Mercer Island, WA<br>98040<br>425.266.9100   |
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| 6515 SE 30th St.<br>Mercer Island, WA<br>Job Number:  |
| plan name: –<br>marketing name:<br>plan number:<br>mark sys. number:  |
| Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are<br>instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC. |

04.15.21 Submittal Date

Sheet Title/Description

JAYMARC HOMES Design Firm

Drawn by:

R.R./ S.K Checked by:

Primary Scale



|   |                                    |                              |  |   |  | TABLE 406.2 ENERGY CREDITS   |           |  | TABLE 406   |  |
|---|------------------------------------|------------------------------|--|---|--|--|-----------|--|---|--|
|   |                                    |                              |  |   | OPTION   | DESCRIPTION  | CREDITS ( | OPTION   |   |  |
| R403.6 MECHANICAL VENTILATION (MANDATORY).<br>BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL<br>CODE OF INTERNATIONAL MECHANICAL CODE, AS APPLICABLE, OF WITH OTHER APPROVED MEANS OF VENTILATION.<br>OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OF GRAVITY DAMPERS THAT CLOSE WHEN THE<br>VENTILATION SYSTEM IS NOT OPERATING.<br>R403.6.1 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY.<br>MECHANICAL VENTILATION SYSTEM FANS SHALL MEET THE EFFICACY REQUIREMENTS OF TABLE R403.6.1.<br>EXCEPTION: WHERE MECHANICAL VENTILATION FANS ARE INTEGRAL TO TESTED AND LISTED HVAC EQUIPMENT, THEY   |                                    |                              | OVED MEANS OF VENTILATION.<br>RS THAT CLOSE WHEN THE<br>OF TABLE R403.6.1.   | la                                      | EFFICIENT BUILDING ENVELOPE IA:<br>PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.I.I WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28<br>FLOOR R-38<br>SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB<br>BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB<br>or<br>COMPLIANCE BASED ON SECTION R402.I.4: REDUCE THE TOTAL UA BY 5%.  | 0.5  | 4         | HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:<br>ALL HEATING AND COOLING SYSTEM COMPONENTS INSTALL<br>DISTRIBUTION SYSTEM COMPONENTS SUCH AS FORCED AIR<br>RADIATORS. ALL COMBUSTION EQUIPMENT SHALL BE DIREC<br>FOR FORCED AIR DUCTS: A MAXIMUM OF IO LINEAR FEET<br>OUTSIDE THE CONDITIONED SPACE. ALL METALLIC DUCTS I<br>LONGITUDINAL JOINTS SEALED WITH MASTIC. IF LEX DUCT |   |  |
| HALL BE POWERED BY ,  |                                    |                              |  | LISTED HVAC EQUIPMENT, THET             | lb   | EFFICIENT BUILDING ENVELOPE ID:  | I.O .     |  | MADE WITH NYLON STRAPS AND INSTALLED USING A PLAS<br>SPACE MUST BE INSULATED TO A MINIMUM OF R-8.         |  |
| MEC   | TABLE R40<br>HANICAL VENTILATION S |                              |  |   |  | PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.25<br>WALL R-21 PLVS R-4  |           |  | LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL<br>ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS       |  |
| FAN LOCATION  | AIR FLOW                           | MINIMUM EFFICACY             | AIR FLOW RATE  |   |  | FLOOR R-38   |           |  | WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS   |  |
|   | RATEMINIMUM (CFM)                  | (CFM/WATT)                   | MAXIMUM (CFM)  |   |  | BASEMENT WALL R-21 INT PLUS R-5 CI<br>SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB   |           |  | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT<br>HEATING EQUIPMENT TYPE AND SHALL SHOW THE LOCATIO |  |
| RANGE HOODS   | ANY                                | 2.8 CFM/WATT<br>2.8 CFM/WATT | ANY  |   |  | BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB  |           | 5a   | EFFICIENT WATER HEATING 5a:   |  |
| BATHROOM, UTILITY ROOM  | 10                                 | 1.4 CFM/WATT                 | < 90   |   |  | COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL VA BY 15%.  |           |  | ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED<br>FAUCETS SHALL BE RATED AT I.O GPM OR LESS.C          |  |
| ATHROOM, UTILITY ROOM   | 90                                 | 2.8 CFM/WATT                 | ANY  |   |  | EFFICIENT BUILDING ENVELOPE IC:  | 2.0       |  | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT<br>MAXIMUM FLOW RATES FOR ALL SHOWERHEADS, KITCHEN   |  |
| R403.7 EQUIPMENT SIZING AND EFFICIENCY RATING (MANDATORY).<br>HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN<br>ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES. THE OUTPUT CAPACITY OF<br>HEATING AND COOLING EQUIPMENT SHALL NOT BE GREATER THAN THAT OF THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS<br>CALCULATED, INCLUDING ALLOWABLE OVERSIZING LIMITS. NEW OR REPLACEMENT HEATING AND COOLING EQUIPMENT SHALL HAVE AN EFFICIENCY<br>RATING EQUAL TO OR GREATER THAN THE MINIMUM REQUIRED BY FEDERAL LAW FOR THE GEOGRAPHIC LOCATION WHERE THE EQUIPMENT IS  |                                    |                              | DOLOGIES. THE OUTPUT CAPACITY OF<br>QUIPMENT SIZE THAT EXCEEDS THE LOADS<br>EQUIPMENT SHALL HAVE AN EFFICIENCY   |   | PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.22<br>CEILING AND SINGLE-RAFTER OR JOIST-VAULTED R-49 ADVANCED<br>WOOD FRAME WALL R-21 INT PLUS R-12 CI<br>FLOOR R-38<br>BASEMENT WALL R-21 INT PLUS R-12 CI<br>SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB<br>BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB   |  | 5b        | EFFICIENT WATER HEATING 56:<br>WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLI<br>GAS, PROPANE OR OIL WATER HEATER WITH A MINIMUM EF<br>OR<br>WATER HEATER HEATED BY GROUND SOURCE HEAT PUMP N<br>OR  |   |  |
| STALLED.  |                                    |                              |  |   |  | COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 30%.  |           |  | FOR R-2 OCCUPANCY, A CENTRAL HEAT PUMP WATER HEA<br>THROUGH A CENTRAL WATER LOOP INSULATED WITH R-8 M     |  |
| <ul> <li>R403.T.I ELECTRIC RESISTANCE ZONE HEATED UNITS.</li> <li>ALL DETACHED ONE- AND TWO-FAMILY DIVELLINGS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN USING ELECTRIC ZONAL HEATING AS THE PRIMARY HEAT SOURCE SHALL INSTALL AN INVERTER-DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE IN THE DWELLING. BUILDING PERMIT DRAWINGS SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND LOCATION OF THE HEATING SYSTEM.</li> <li>EXCEPTION: TOTAL INSTALLED HEATING CAPACITY OF 2KW PER DWELLING OR LESS.</li> <li>R403.8 SYSTEMS SERVING MULTIPLE DWELLING UNITS (MANDATORY).</li> <li>SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSECCOMMERCIAL PROVISIONS IN LIEU OF SECTION R403.</li> <li>R403.9 SNOW MELT SYSTEM CONTROLS (MANDATORY).</li> <li>SNOW AND ICE-MELTING SYSTEMS SUPPLIED THROUGH ENERGY SERVICE TO THE BUILDING, SHALL INCLUDE AUTOMATIC CONTROLS CAPABLE OF SHUTTING OFF THE SYSTEM WHEN THE PAVEMENT TEMPERATURE IS ABOVE 50°F, AND NO PRECIPITATION IS FALLING AND AN AUTOMATIC OR MANUAL CONTROL THAT WILL ALLOW SHUTOFF WHEN THE OUTDOOR TEMPERATURE IS ABOVE 40°F.</li> <li>R403.IO POOL AND PERMANENT SPA ENERGY CONSUMPTION (MANDATORY).</li> <li>POOLS AND PERMANENT SPA SHALL COMPLY WITH SECTIONS R403.IO.I THROUGH R403.IO.4.2.</li> <li>R403.IO HEATERS.</li> <li>THE ELECTRIC POWER TO HEATERS SHALL BE CONTROLLED BY A READILY ACCESSIBLE ON-OFF SWITCH THAT IS AN INTEGRAL PART OF THE HEATER OR EXTERNAL TO AND WITHIN 3 FEET (414 MM) OF THE HEATER, OPERATION OF SUCH SWITCH SHALL NOT</li> </ul> |                                    |                              | TER-DRIVEN DUCTLESS MINI-SPLIT HEAT  | Id <sup>A</sup>                         | EFFICIENT BUILDING ENVELOPE Id:<br>PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.24   | 0.5  |           | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT<br>WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPM   |   |  |
|   |                                    |                              | EQUIPMENT TYPE AND LOCATION OF THE   | 2a                                      | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:<br>COMPLIANCE BASED ON R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM<br>and  | 0.5  | 5c        | EFFICIENT WATER HEATING 5C:<br>WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLL<br>GAS, PROPANE OR OIL WATER HEATER WITH A MINIMUM EF  |   |  |
|   |                                    |                              | BECCOMMERCIAL PROVISIONS IN LIEU OF  |   | ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION MI507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE<br>MET WITH A HIGH EFFICIENCY FAN (MAXIMUM 0.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN. VENTILATION SYSTEMS USING A<br>FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN VENTILATION<br>ONLY MODE.   |  |           | or<br>SOLAR WATER HEATING SUPPLEMENTING A MINIMUM STAND,<br>SAVINGS OF 85 THERMS OR 2000 KWH BASED ON THE SO<br>OG-300 CERTIFIED SOLAR WATER HEATING SYSTEMS.  |   |  |
|   |                                    |                              |  |   | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE MAXIMUM TESTED BUILDING AIR LEAKAGE AND SHALL SHOW THE QUALIFYING VENTILATION SYSTEM.  | PECIFY THE   |           | OR<br>ELECTRIC HEAT PUMP WATER HEATER WITH A MINIMUM EF O<br>SPECIFICATIONS FOR HEAT PUMP WATER HEATERS.<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT   |   |  |
|   |                                    |                              |  | 2b                                      | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 26:<br>COMPLIANCE BASED ON SECTION R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM<br>and  | I. <i>O</i>  |           | WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPM<br>THE MINIMUM ENERGY SAVINGS.  |   |  |
|   |                                    |                              |  |   | ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION MI507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE<br>MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.70.<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>MAXIMUM TESTED BUILDING AIR LEAKAGE AND SHALL SHOW THE HEAT RECOVERY VENTILATION SYSTEM. |  | 5d        | EFFICIENT WATER HEATING 5d:<br>A DRAIN WATER HEAT RECOVERY UNIT(S) SHALL BE INSTAL<br>MINIMUM EFFICIENCY OF 40% IF INSTALLED FOR EQUAL FL<br>SHALL BE RATED IN ACCORDANCE WITH CSA B55. AND BE   |   |  |
| EATER. GAS- FIRED HEATERS SHALL NOT BE EQUIPPED WITH CONSTANT BURNING PILOT LIGHTS.   |                                    | 2c                           | AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:<br>COMPLIANCE BASED ON SECTION R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM                           | I.5                                     |  | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT<br>WATER HEAT RECOVERY UNITS AND THE PLUMBING LAYOUT<br>PROVIDED THAT DEMONSTRATES THAT THE UNIT COMPLIES   |           |  |   |  |
| R403.IO.2 TIME SWITCHES.<br>TIME SWITCHES OR OTHER CONTROL METHOD THAT CAN AUTOMATICALLY TURN OFF AND ON ACCORDING TO A PRESET SCHEDULE SHALL BE<br>INSTALLED FOR HEATERS AND PUMP MOTORS. HEATERS AND PUMP MOTORS THAT HAVE BUILT IN TIME SWITCHES SHALL BE DEEMED IN COMPLIANCE<br>WITH THIS REQUIREMENT.<br>EXCEPTIONS:<br>I. WHERE PUBLIC HEALTH STANDARDS REQUIRE 24-HOUR PUMP OPERATION.<br>2. PUMPS THAT OPERATE SOLAR- AND WASTE-HEAT-RECOVERY POOL HEATING SYSTEMS.<br>R403.IO.3 COVERS.<br>OUTDOOR HEATED POOLS AND OUTDOOR PERMANENT SPAS SHALL BE PROVIDED WITH A VAPOR-RETARDANT COVER, OR OTHER APPROVED VAPOR<br>RETARDANT MEANS.<br>EXCEPTION: WHERE MORE THAN TO PERCENT OF THE ENERGY FOR HEATING, COMPUTED OVER AN OPERATING SEASONS, IS FROM SITE-RECOVERED ENERGY, SUCH<br>AS FROM A HEAT PUMP OR SOLAR ENERGY SOURCE, COVERS OR OTHER VAPOR-RETARDANT MEANS SHALL NOT BE REQUIRED.<br>R403.IO.4 RESIDENTIAL POOL PUMPS.<br>POOL PUMP MOTORS MAY NOT BE SPLIT-PHASE OR CAPACITOR START-INDUCTION RUN TYPE.   |                                    |                              |  |   | ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION MI507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE<br>MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.85.<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>MAXIMUM TESTED BUILDING AIR LEAKAGE AND SHALL SHOW THE HEAT RECOVERY VENTILATION SYSTEM. |  | 6         | RENEWABLE ELECTRIC ENERGY:<br>FOR EACH 1200 KWH OF ELECTRICAL GENERATION PER HC<br>CREDIT SHALL BE ALLOWED, UP TO 3 CREDITS. GENERATIC<br>FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DE<br>LABORATORY CALCULATOR PVWATTS.   |   |  |
|   |                                    |                              |  | За <sup>в</sup>                         | HIGH EFFICIENCY HVAC EQUIPMENT 3a:<br>GAS, PROPANE OR OIL-FIRED FURNACE WITH MINIMUM AFUE OF 94%, or<br>GAS, PROPANE OR OILED-FIRED BOILER WITH MINIMUM AFUE OF 92%<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE   | 1.0  |           | DOCUMENTATION NOTING SOLAR ACCESS SHALL BE INCLUE<br>FOR WIND GENERATION PROJECTS DESIGNS SHALL DOCUM<br>THE WIND TURBINE POWER CURVE; AVERAGE ANNUAL WIND<br>HEIGHT OF THE TOWER.<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT   |   |  |
|   |                                    |                              | ASONS, IS FROM SITE-RECOVERED ENERGY, SUCH   | 3b <sup>B</sup>                         | HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.<br>HIGH EFFICIENCY HVAC EQUIPMENT 3b:   | I. <i>O</i> .  |           | PHOTOVOLTAIC OR WIND TURBINE EQUIPMENT TYPE, PROVID<br>THE MINIMUM ANNUAL ENERGY POWER PRODUCTION.   |   |  |
|   |                                    |                              | DE NEQUINED.   |   | AIR-SOURCE HEAT PUMP WITH MINIMUM HSPF OF 9.0<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.   |  |           | A. PROJECTS USING THIS OPTION MAY NOT USE C  |   |  |
| 403.10.4.1 TWO-SPEED CAP,<br>PUMP MOTORS: POOL PUM  | ABILITY.<br>1P MOTORS WITH A CAPAC | NTY OF I HP OR MORE SHA      | LL HAVE THE CAPABILITY (   | OF OPERATING AT TWO OR MORE SPEEDS WITH | 3c <sup>B</sup>  | 3c <sup>B</sup> HIGH EFFICIENCY HVAC EQUIPMENT 3c:<br>CLOSED-LOOP GROUND SOURCE HEAT PUMP; WITH A MINIMUM COP OF 3.3   |           |  | B. PROJECTS MAY ONLY INCLUDE CREDIT FROM<br>TWO PIECES OF EQUIPMENT (I.E., TWO FURNACES)                  |  |
| LOW SPEED HAVING A ROTATION RATE THAT IS NO MORE THAN ONE-HALF OF THE MOTOR'S MAXIMUM ROTATION RATE.<br>2. PUMP CONTROLS: POOL PUMP MOTOR CONTROLS SHALL HAVE THE CAPABILITY OF OPERATING THE POOL PUMP WITH AT LEAST TWO SPEEDS. THE<br>DEFAULT CIRCULATION SPEED SHALL BE THE LOWEST SPEED, WITH A HIGH SPEED OVERRIDE CAPABILITY BEING FOR A TEMPORARY PERIOD NOT TO<br>EXCEED ONE NORMAL CYCLE.   |                                    |                              | PUMP WITH AT LEAST TWO SPEEDS. THE   |   | OPEN LOOP WATER SOURCE HEAT PUMP WITH A MAXIMUM PUMPING HYDRAULIC HEAD OF 150 FEET AND MINIMUM COP OF 3.6<br>TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.   |  |           | <ul> <li>C. PLUMBING FIXTURES FLOW RATINGS. LOW FLOW</li> <li>(FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH</li> <li>I. RESIDENTIAL BATHROOM LAVATORY SINK FAULACCORDANCE WITH ASME AII2.18.1/CSA BI25.1.</li> <li>2. RESIDENTIAL KITCHEN FAUCETS: MAXIMUM FL</li> </ul>   |   |  |
|   |                                    |                              | LATION PUMP(S) CAN BE CO   | NVENIENTLY TURNED OFF, AUTOMATICALLY OR | 3d <sup>B</sup>  | 3d <sup>B</sup> HIGH EFFICIENCY HVAC EQUIPMENT 3d:<br>DUCTLESS SPLIT SYSTEM HEAT PUMPS, ZONAL CONTROL: IN HOMES WHERE THE PRIMARY SPACE HEATING SYSTEM IS ZONAL ELECTRIC HEATING,<br>A DUCTLESS HEAT PUMP SYSTEM SHALL BE INSTALLED AND PROVIDE HEATING TO THE LARGEST ZONE OF THE HOUSING UNIT. |           |  | ASME AII2.18.1/CSA BI25.1.<br>3. RESIDENTIAL SHOWERHEADS: MAXIMUM FLOW                                    |  |
| R403.11 PORTABLE SPAS (MANDATORY).<br>THE ENERGY CONSUMPTION OF ELECTRIC-POWERED PORTABLE SPAS SHALL BE CONTROLLED BY THE REQUIREMENTS OF APSP-14.  |                                    |                              | TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY. |   |  | WITH ASME AII2.18.1/CSA BI25.1.  |           |  |   |  |
| R403.12 RESIDENTIAL POOLS /<br>RESIDENTIAL SWIMMING POOLS   |                                    |                              | ACCESSORY TO DETACHE   | D ONE- AND TWO-FAMILY DWELLINGS AND     |  |  | _ · ·     |  |   |  |

RESIDENTIAL SWIMMING POOLS AND PERMANENT RESIDENTIAL SPAS THAT ARE ACCESSORY TO DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE AND THAT ARE AVAILABLE ONLY TO THE HOUSEHOLD AND ITS GUESTS SHALL BE IN ACCORDANCE WITH APSP-15.

|                          |                      | CL                             | IMATE ZONE 5 ar      | nd MARINE 4                 |                           |                                   |                            |
|--------------------------|----------------------|--------------------------------|----------------------|-----------------------------|---------------------------|-----------------------------------|----------------------------|
| FENESTRATION<br>U-FACTOR | SKYLIGHT<br>U-FACTOR | GLAZED<br>FENESTRATION<br>SHGC | CEILING R-VALUE      | WOOD FRAMED<br>WALL R-VALUE | FL <i>OO</i> R<br>R-VALUE | BELOW<br>GRADE<br>WALL<br>R-VALUE | SLAB<br>R-VALUE &<br>DEPTH |
| 0.30                     | 0.50                 | NR.                            | R-49<br>R-38 VAULTED | R-21                        | R-30                      | 10/15<br>R-21 + TB.               | R-IO<br>2 FEET             |

SECTION R404 ELECTRICAL POWER AND LIGHTING SYSTEMS

R404.1 LIGHTING EQUIPMENT (MANDATORY).

A MINIMUM OF 75 PERCENT OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

HIGH-EFFICACY LAMPS. COMPACT FLUORESCENT LAMPS, T-8 OR SMALLER DIAMETER LINEAR FLUORESCENT LAMPS, or LAMPS WITH A MINIMUM EFFICACY OF:

I. 60 LUMENS PER WATT FOR LAMPS OVER 40 WATTS; 2. 50 LUMENS PER WATT FOR LAMPS OVER 15 WATTS TO 40 WATTS; AND

3. 40 LUMENS PER WATT FOR LAMPS 15 WATTS or LESS.

R404.1.1 LIGHTING EQUIPMENT (MANDATORY). FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

SECTION R406 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

#### R406.I SCOPE.

THIS SECTION ESTABLISHES OPTIONS FOR ADDITIONAL CRITERIA TO BE MET FOR ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES, AS DEFINED IN SECTION IOI.2 OF THE INTERNATIONAL RESIDENTIAL CODE TO DEMONSTRATE COMPLIANCE WITH THIS CODE.

R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). EACH DWELLING UNIT IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE FOLLOWING MINIMUM NUMBER OF CREDITS:

DWELLING UNITS LESS THAN 1500 SQUARE FEET IN CONDITIONED FLOOR AREA WITH LESS THAN 300 SQUARE FEET OF FENESTRATION AREA. ADDITIONS TO EXISTING BUILDING GREATER THAN 500 SQUARE FEET OF HEATED FLOOR AREA BUT LESS THAN 1500 SQUARE FEET.

2. MEDIUM DWELLING UNIT: ..... 3.5 CREDITS

ALL DWELLING UNITS THAT ARE NOT INCLUDED IN #1 or #3. EXCEPTION: DWELLING UNITS SERVING R-2 OCCUPANCIES SHALL REQUIRE 2.5 CREDITS.

3. LARGE DWELLING UNIT: ..... 4.5 CREDITS

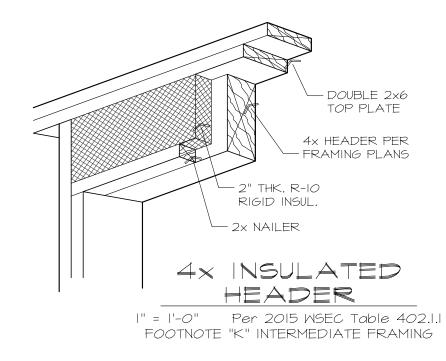
DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.

EXCEPTION: DWELLING UNITS SERVING R-2 OCCUPANCIES SHALL REQUIRE 2.5 CREDITS.

4. ADDITIONS LESS THAN 500 SQUARE FEET: ..... 0.5 CREDITS

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

| TABLE 406.2 |
|-------------|



ENERGY

| 2018 MSEC COMPLIANCE NO  | OTES    |  |
|--|---------|--|
| - SHEET 3  |         |  |
| 2018 WASH. STATE ENERGY CODE (M  | NSEC)   | JAYMARC  |
| TABLE 406.2 ENERGY CREDITS (continued)<br>DESCRIPTION  | CREDITS | HOMES<br>7525 SE 24th St., 487   |
| NCY HVAC DISTRIBUTION SYSTEM:<br>AND COOLING SYSTEM COMPONENTS INSTALLED INSIDE THE CONDITIONED SPACE. THIS INCLUDES ALL EQUIPMENT AND<br>N SYSTEM COMPONENTS SUCH AS FORCED AIR DUCTS, HYDRONIC PIPING, HYDRONIC FLOOR HEATING LOOP, CONVECTORS AND<br>ALL COMBUSTION EQUIPMENT SHALL BE DIRECT VENT OR SEALED COMBUSTION.<br>2 AIR DUCTS: A MAXIMUM OF IO LINEAR FEET OF RETURN DUCTS AND 5 LINEAR FEET OF SUPPLY DUCTS MAY BE LOCATED<br>CONDITIONED SPACE. ALL METALLIC DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST HAVE BOTH TRANSVERSE AND<br>L JOINTS SEALED WITH MASTIC. IF FLEX DUCTS ARE USED, THEY CANNOT CONTAIN SPLICES. FLEX DUCT CONNECTIONS MUST BE<br>INSULATED TO A MINIMUM OF R-8.<br>(STEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.<br>ESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.<br>DIRECT COMBUSTION HEATING EQUIPMENT<br>ESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>IPMENT TYPE AND SHALL SHOW THE LOCATION OF THE HEATING AND COOLING EQUIPMENT AND ALL THE DUCTWORK.                    | I.O     | Mercer Island, WA<br>98040<br>425.266.9100   |
| ATER HEATING 5a:<br>HEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY<br>ALL BE RATED AT 1.0 GPM OR LESS.C<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>OW RATES FOR ALL SHOWERHEADS, KITCHEN SINK FAUCETS, AND OTHER LAVATORY FAUCETS.  | 0.5     |  |
| ATER HEATING 56:<br>ING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:<br>NE OR OIL WATER HEATER WITH A MINIMUM EF OF 0.74   | I.O     |  |
| ER HEATED BY GROUND SOURCE HEAT PUMP MEETING THE REQUIREMENTS OF OPTION 3C.<br>CUPANCY, A CENTRAL HEAT PUMP WATER HEATER WITH AN EF GREATER THAN 2.0 THAT WOULD SUPPLY DHW TO ALL THE UNITS<br>CENTRAL WATER LOOP INSULATED WITH R-8 MINIMUM PIPE INSULATION.<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>ER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.   |         | ▲ Issue Issue Date By Description  |
| ATER HEATING 5c:<br>ING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:<br>NE OR OIL WATER HEATER WITH A MINIMUM EF OF 0.91   | 1.5     |  |
| ER HEATING SUPPLEMENTING A MINIMUM STANDARD WATER HEATER. SOLAR WATER HEATING WILL PROVIDE A RATED MINIMUM<br>85 THERMS OR 2000 KWH BASED ON THE SOLAR RATING AND CERTIFICATION CORPORATION (SRCC) ANNUAL PERFORMANCE OF<br>RTIFIED SOLAR WATER HEATING SYSTEMS.   |         |  |
| AT PUMP WATER HEATER WITH A MINIMUM EF OF 2.0 AND MEETING THE STANDARDS OF NEEA'S NORTHERN CLIMATE<br>ONS FOR HEAT PUMP WATER HEATERS.<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE<br>ER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY AND, FOR SOLAR WATER HEATING SYSTEMS, THE CALCULATION OF<br>ENERGY SAVINGS.   |         | · · · · ·  |
| ATER HEATING 5d:<br>TER HEAT RECOVERY UNIT(S) SHALL BE INSTALLED, WHICH CAPTURES WASTE WATER HEAT FROM ALL THE SHOWERS, AND HAS A<br>ICIENCY OF 40% IF INSTALLED FOR EQUAL FLOW OR A MINIMUM EFFICIENCY OF 52% IF INSTALLED FOR UNEQUAL FLOW. SUCH UNITS<br>ATED IN ACCORDANCE WITH CSA B55.1 AND BE SO LABELED.<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL INCLUDE A PLUMBING DIAGRAM THAT SPECIFIES THE DRAIN<br>RECOVERY UNITS AND THE PLUMBING LAYOUT NEEDED TO INSTALL IT AND LABELS OR OTHER DOCUMENTATION SHALL BE<br>HAT DEMONSTRATES THAT THE UNIT COMPLIES WITH THE STANDARD.   | 0.5     | ן St.<br>I, WA.  |
| ELECTRIC ENERGY:<br>200 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 0.5<br>1 BE ALLOWED, UP TO 3 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS:<br>ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY<br>Y CALCULATOR PVWATTS.<br>TION NOTING SOLAR ACCESS SHALL BE INCLUDED ON THE PLANS.<br>ENERATION PROJECTS DESIGNS SHALL DOCUMENT ANNUAL POWER GENERATION BASED ON THE FOLLOWING FACTORS:<br>RBINE POWER CURVE; AVERAGE ANNUAL WIND SPEED AT THE SITE; FREQUENCY DISTRIBUTION OF THE WIND SPEED AT THE SITE AND<br>HE TOWER.<br>TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SHOW THE<br>AIC OR WIND TURBINE EQUIPMENT TYPE, PROVIDE DOCUMENTATION OF SOLAR AND WIND ACCESS, AND INCLUDE A CALCULATION OF<br>ANNUAL ENERGY POWER PRODUCTION.  | 0.5     | 3515 SE 30th<br>ercer Island<br>Job Number:  |
| 20 JECTS USING THIS OPTION MAY NOT USE OPTION IA, Ib or Ic.<br>20 JECTS MAY ONLY INCLUDE CREDIT FROM ONE SPACE HEATING OPTION, 3a, 3b, 3c or 3d. WHEN A HOUSING UNIT HAS<br>20 JECTS MAY ONLY INCLUDE CREDIT FROM ONE SPACE HEATING OPTION, 3a, 3b, 3c or 3d. WHEN A HOUSING UNIT HAS<br>20 JECTS OF EQUIPMENT (I.E., TWO FURNACES) BOTH MUST MEET THE STANDARD TO RECEIVE THE CREDIT.<br>20 JECTS AND FLOW RATINGS. LOW FLOW PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS<br>25 AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:<br>26 JECNTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 3.8 L/MIN (I.O GAL/MIN) WHEN TESTED IN<br>27 JANCE WITH ASME AII2.18.1/CSA BI25.1.<br>28 JECNTIAL KITCHEN FAUCETS: MAXIMUM FLOW RATE - 6.6 L/MIN (I.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH<br>29 JOENTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (I.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH<br>29 JECNTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (I.75 GAL/MIN) WHEN TESTED IN ACCORDANCE<br>29 JECNTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (I.75 GAL/MIN) WHEN TESTED IN ACCORDANCE<br>20 JECNTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (I.75 GAL/MIN) WHEN TESTED IN ACCORDANCE |         | glan name:   |
| SME AII2.18.1/CSA BI25.1.  |         | plan name<br>marketing name:<br>plan number:<br>mark sys. number:  |
|  |         | Conditions not specifically<br>represented graphically or in<br>writing or which conflict with<br>the current International<br>Residential Code (IRC.) or<br>those of the local municipality<br>then the current standards<br>and requirements of each<br>respectively shall govern.<br>The drawings in this set are |
|  |         | instruments of service and<br>shall remain the property of<br>JayMarc Homes, LLC.  |

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04.15.21 Submittal Date

Sheet Title/Description

JAYMARC HOMES Design Firm

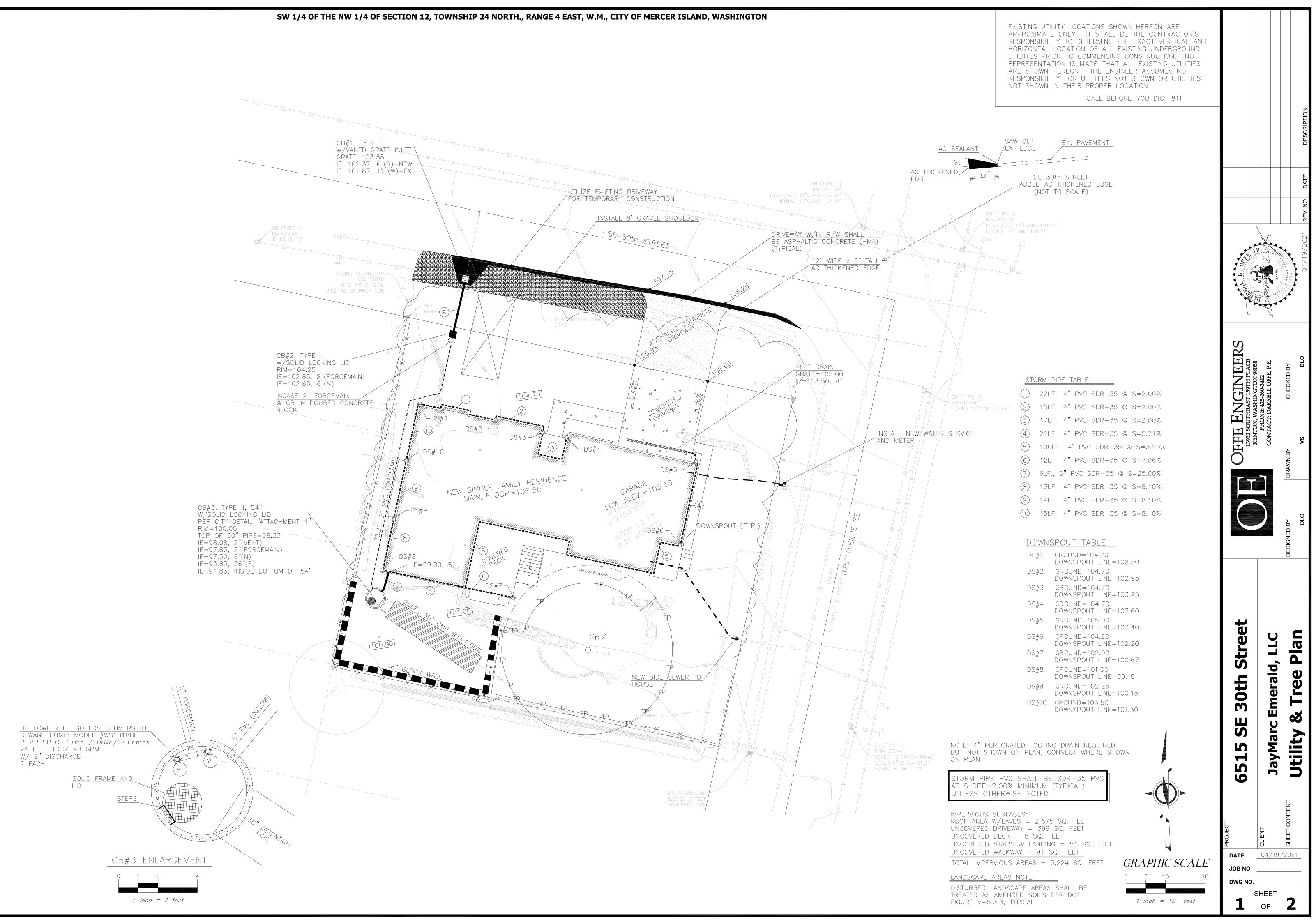
R.R. Drawn by:

R.R./ S.K. Checked by:

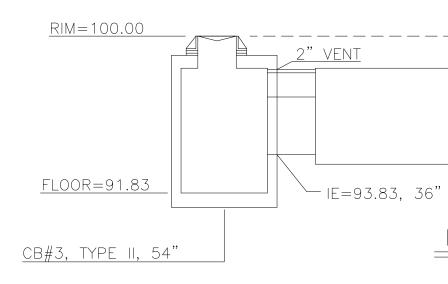
Primary Scale

SHEET 3





ph to be between <u>6-10</u> Organic matter w.b. to be greater than 10%



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Missing or invalid reference File: .\ATTACHMENT A.pdf Sheet: 1



DETENTION SYSTEM SCALE: 1"= 5'

26LF., 60" CMP @ S=0.00% BOTTOM=93.33(LEVEL)

MINIMUM COVER ELEV.=100.00

MINIMUM FINAL GRADE

2" VENT

| LEGAL DESCRIPTION  |  |
|--|--|
| (PER QUIT CLAIM DEED RECORDING #20010815001315)<br>LOTS 31, 32 AND 33, BLOCK 5, EAST SEATTLE ACCORDING TO THE<br>PLAT THEREOF, RECORDED IN VOLUME 3 OF PLATS, PAGE 22, IN<br>KING COUNTY, WASHINGTON.  |  |
| BASIS OF BEARINGS  |  |
| HELD A BEARING OF N 89°51'12" E BETWEEN FOUND<br>MONUMENTS ON CENTERLINE OF SE 32ND ST PER R1  |  |
| REFERENCES   |  |
| R1. RECORD OF SURVEY, VOL. 244, PG. 067,<br>RECORDS OF KING COUNTY, WASHINGTON.  |  |
| VERTICAL DATUM   |  |
| NAVD88 PER GPS OBSERVATIONS.   | ( IN FEET $)1 INCH = 10 FT.$   |
| SURVEYOR'S NOTES   |  |
| 1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN<br>DECEMBER OF 2020. THE FIELD DATA WAS COLLECTED AND<br>RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC<br>THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD.<br>WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN<br>FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT<br>ELEVATIONS.  |  |
| 2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.  |  |
| <ul> <li>3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).</li> </ul>   |  |
| <ol> <li>SUBJECT PROPERTY TAX PARCEL NO. 2174500800.</li> <li>SUBJECT PROPERTY AREA PER THIS SURVEY IS 9,000± S.F.</li> </ol>  |  |
| <ul><li>(0.21 ACRES)</li><li>6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE<br/>REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST</li></ul>  |  |
| <ul> <li>THAT ARE NOT SHOWN HEREON.</li> <li>7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD<br/>MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND<br/>TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS.<br/>ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND<br/>MEET THE STANDARDS SET BY WAC 332-130-090.</li> </ul>   |  |
| LEGEND   |  |
| ASPHALT SURFACE OIL OIL FILL CAP   |  |
| → CENTERLINE ROW PST POST  |  |
| CULVERT PIPE     P     POWER METER       CONCRETE SURFACE     P     POWER (OVERHEAD)   |  |
| Prover (over reading wall  |  |
| DITCH (FLOWLINE)     O     REBAR AS NOTED (FOUND)  |  |
|  |  |
| Ö  FIRE HYDRANT    SEWER LINE  |  |
| G — GAS LINE GAS LINE G SEWER MANHOLE  |  |
| GV M GAS VALVE   |  |
| GRAVEL SURFACE     SIZE TYPE ( • ) TREE (AS NOTED)       HEDGE FOLIAGE LINE     WATER LINE   |  |
| INLET (TYPE 1) WM WATER METER  |  |
| <ul> <li>NAIL AS NOTED</li> <li>₩Vᢂ WATER VALVE</li> <li>MAILBOX (RESIDENTIAL)</li> </ul>  |  |
| VICINITY MAP   |  |
| N.T.S.   |  |
| ANE S AVES   |  |
| West Mercer O<br>Island B&G Club O<br>Way with a club of the second sec | INDEXING INFORMATION $\underline{NW^4 - NE^4}$ $\underline{SW}$ $1/4$ $\underline{NW}$ $1/4$ $\underline{SW^4 - NE^4}$ $\underline{SECTION: 12}$ $\underline{12}$ $\underline{12}$ TOWNSHIP: 24N $\underline{24N}$ $\underline{RANGE: 04E}$ $\underline{04E}$ COUNTY: <u>KING</u> $\underline{KING}$ |

