2429 74th Ave SE
MERCER ISLAND, WA - XXXXXX

GENERAL INFORMATION
APPLIES FULL SET

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 VERIFY EXACT ROUGH OPENINGS PRIOR TO FRAMING. WINDOW and DOOR HEAD HEIGHTS SHOULD BE COORDINATED SO THAT ALL WINDOW and DOOR TRIMS ALIGN (U.N.O.).

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 A10 & A11 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, M1307.3

O. PROVIDE FIREBLOCKING TO CUT OFF DRAFT OPENINGS AT LOCATIONS w/MATERIALS per IRC, R302.11 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 7¾" - 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;

LOWER FLOOR	9'-1" (U.N.O.)
MAIN FLOOR	10'-0" (U.N.O.)
UPPER FLOOR	9'-1" (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

1. GLAZING IN DOORS.
2. GLAZING ADJACENT TO DOORS.
3. GLAZING IN WINDOWS MEETING ALL (4) CONDITIONS LISTED.
4. GLAZING IN GUARD RAILS and HANDRAILINGS
5. GLAZING IN and NEAR WET SURFACES.
6. GLAZING ADJACENT TO STAIRS and RAMPS
7. GLAZING ADJACENT TO THE BOTTOM STAIR LANDING.

SKYLIGHTS and SLOPED GLAZING SHALL COMPLY with THE MATERIALS and REQUIREMENTS OF IRC, R308.6.1 through R308.6.9

EGRESS WINDOWS

WINDOWS PROVIDING EMERGENCY ESCAPE and RESCUE OPENING REQUIRED AT BASEMENTS, HABITABLE ATTICS and ALL SLEEPING ROOMS and SHALL OPEN DIRECTLY INTO A PUBLIC WAY or YARD TO SAME per IRC, R310.1

- WINDOW CANNOT REQUIRE KEYS, TOOLS or SPECIAL KNOWLEDGE TO OPEN per IRC, 310.1.1
- MUST HAVE AN OPENING AREA OF NOT LESS THAN 5.7 SqFt. with 20" min. WIDTH and 24" min. HEIGHT per IRC, 312.2.1
- MUST HAVE A SILL HEIGHT OF NOT MORE THAN 44" ABV. FLOOR per IRC, R310.2.2
- GUARD RAILS MUST BE PROVIDED AS WINDOW FALL PROTECTION AT LOW WINDOWS LOCATED GREATER THAN 72" ABV. FINISHED GRADE per IRC, R312.2

STAIRS and HANDRAILS

STAIRWAYS PROVIDING EGRESS FROM HABITABLE LEVELS NOT PROVIDED w/EGRESS DOOR per IRC, R311.2 SHALL MEET THE REQUIREMENTS and EXCEPTIONS OF IRC, R311.7.1 through R311.7.9 INCLUDING:

- SHALL PROVIDE A MIN. CLEAR WIDTH OF 36" ABOVE HANDRAIL w/MAX. HANDRAIL PROJECTION INTO STAIRWAY OF 4½" ON EITHER SIDE per R311.7.1
- SHALL PROVIDE A MIN. HEADROOM OF 6'-8" MEASURED VERTICALLY FROM THE NOSE OF TREADS or LANDINGS per R311.7.2
- SHALL NOT HAVE A VERTICAL RISE GREATER THAN 147" BTWN. FLOOR LEVELS or LANDINGS per R311.7.3
- SHALL MEET THE WALKLINE REQUIREMENTS AT WINDER TREADS per R311.7.4
- SHALL HAVE A MAX. RISER HEIGHT OF 7¾" and HAVE A MIN. TREAD DEPTH OF 10". THE GREATEST DIMENSION OF ANY RISER or TREAD MUST NOT EXCEED THE SMALLEST DIMENSION BY MORE THAN ⅜". TREADS LESS THAN 11" SHALL MEET NOSING REQUIREMENTS, THE OPENINGS AT OPEN RISERS SHALL NOT PERMIT THE PASSAGE OF A 4"Ø SPHERE per R311.5.1 through R311.5.4
- LANDINGS AT TOP and BOTTOM OF STAIRS SHALL MEET THE REQUIREMENTS OF R311.7.6
- THE WALKING SURFACE OF TREADS and LANDINGS SHALL NOT BE SLOPED MORE THAN 2% PER R311.7.7
- HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS w/(4) or MORE RISERS. THE TOP OF HANDRAIL SHALL BE 34-38" ABV. LINE CONNECTING NOSINGS, HAVE MIN. 1½" SPACE BETWN. RAIL and WALL, HANDRAIL MUST RUN CONTINUOUS FOR FULL LENGTH OF EACH FLIGHT and MEET APPROVED GRIP-SIZE per IRC, R311.7.8
- SHALL BE PROVIDED w/ILLUMINATION per IRC, R303.7 at INTERIOR STAIRWAYS and R303.8 at EXTERIOR STAIRWAYS.

GUARD RAILS

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" SPHERE or 4⅜" AT OPEN SIDES OF STAIRS or 6" AT TRIANGLE OF TREAD, RISER & BOTTOM RAIL per R312.1.3
- GUARDS MUST BE PROVIDED AS WINDOW FALL PROTECTION AT LOW WINDOWS LOCATED GREATER THAN 72" ABV. FINISHED GRADE per IRC, R312.2

GUARDS and HANDRAILS MUST RESIST A SINGLE CONCENTRATED LOAD OF 200lbs. IN ANY DIRECTION ALONG THE TOP and GUARD INFILL MUST RESIST A 50lb. LOAD APPLIED HORIZ. OVER 1 SqFt. per IRC, TABLE R301.5

ALARMS

SMOKE ALARMS and CARBON MONOXIDE ALARMS REQUIRED IN ALL NEW DWELLINGS SHALL MEET REQUIREMENTS and EXCEPTIONS OF NFPA 72, IRC, R314 and R315.

- SMOKE ALARMS TO BE LISTED and INSTALLED IN ACCORDANCE w/IRC, R314.1.1 and CARBON MONOXIDE ALARMS IN ACCORDANCE w/IRC, 315.1.1
- SMOKE ALARMS SHALL BE INSTALLED IN FOLLOWING LOCATIONS per R314.3 :

1. IN EACH SLEEPING ROOM.
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 :

1. 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 ALARMS SHALL BE PERMITTED IN LIEU OF SEPARATE ALARMS per R314.5 and R315..4

FIRE PROTECTION
LOCAL JURISDICTION REQUIRES DWELLING UNIT FIRE SPRINKLER SYSTEM PER IRC APPENDIX R

LOCAL JURISDICTION DOES NOT REQUIRE DWELLING UNIT FIRE SPRINKLER SYSTEM PER IRC APPENDIX R

ABBREVIATIONS

# Pound OR Number	ELEC Electrical	MC Medicine Cabinet	SLB Slab
& And	ELEV Elevation	MDO Medium Density Overlay	SPEC Specification
@ At	EQ Equal	MECH Mechanical	SQ Square
A/C Air Conditioner	EW Each Way	MED Medium	SQ IN Square inches
AB Anchor Bolt	EXC Excavate	MEMB Membrane	SQFT Square feet
ABV Above	EXH Exhaust	MFR Manufacturer	STC Sound Transmission Coefficient
AD Area Drain	EXIST Existing	MIN Minimum	STD Standard
ADDL Additional	EXT Exterior	MIR Mirror	STL Steel
ADH Adhesive	FBD Fiberboard	MISC Miscellaneous	STR Structural
ADJ Adjustable	FCB Fiber Cement Board	MLB Micro Laminate Beam	STRUCT Structure or Structural
AFF Above Finish Floor	FCO Floor clean out	MMB Membrane	SY Square yard
AGG Aggregate	FD Floor drain	MTL Metal	T Tread
ALT Alternate	FIN Finish	MWK Millwork	T&G Tongue and Groove
ALUM Aluminum	FIXT Fixture	NIC Not in Contract	TEL Telephone
ANC Anchor	FLOR Fluorescent	NO #	TEMP Tempered
APX Approximate	FLR Floor	NO Number	TK Tight Knot
ASPH Asphalt	FLSH Flashing	NOM Nominal	TME To Match Existing
AUTO Automatic	FND Foundation	NTS Not to Scale	TO Top Of
AVR Average	FO Face Of	O Non-Operable Window	TOB Top of Beam
AWG American Wire Gauge	FOC Face of Concrete	Section	TOC Top of curb/ Top of Concrete
AWN Awning	FOM Face of Masonry	OBS Obscure	TOF Top of footing
B/O By Others	FOS Face of Studs	OC On Center	TOJ Top of joist
BD Board	FOW Face of Wall	OD Outside Diameter	TOW Top of wall
BLDG Building	FPL Fireplace	OH Overhang	TP Toilet Paper Hanger
BLKG Blocking	FRM Frame(ing)	OP Opaque	TYP Typical
BLW Below	FRPF Fireproof	OPG Opening	UNO Unless Noted Otherwise
BM Beam	FT Foot	OPNG Opening or Rough Opening	VB Vapor barrier
BOF Bottom of footing	FTG Footing	OSB Orientated Strand Board	VERT Vertical
BOT Bottom	FUR Furred	PBD Particle Board	VIF Verify in field
BOW Bottom of wall	GA Gauge	PBF Prefabricated	W/ With
BR Bedroom	GALV Galvanized	PERF Perforate(d)	W/O Without
BSMT Basement	GFCI Ground Fault Circuit Interrupt	PL Property Line	WC Toilet (water closet)
BTW Between	GFI Ground Fault Interrupt	PLAM Plastic Laminate	WD Wood
BYND Beyond	GL Glass	PLT Plate	WDW Window
CAB Cabinet	GLB Glue Laminated Beam	PLYWD Plywood	WH Water Heater
CAS Casement	GLBK Glass Block	PNT Paint or Painted	WIC Walk-In Closet
CB Catch Basin	GWB Gypsum Wall Board	PSF Pounds Per Square Foot	WP Water Proofing
Ventilating	GYP Gypsum	PSI Pounds Per Square Inch	WP Weatherproof
CC Center to Center	HB Hose Bib	PT Pressure Treated	WR Weather Resistant
CIP cast-in-place	HC Hollow Core	PVC Polyvinyl Chloride	WRB Weather Resistive Barrier
CJ Control Joint	HDR Header	PVMT Pavement	WWF Welded Wire Fabric
CL Centerline	HDWR Hardware	R Riser	X Operable Window Section
CLG Ceiling	HT Height	R&S Rod and Shelf	
CLR Clear	HVAC Heat-Vent-Air Conditioning	RC Reinforced Concrete	
CMU Concrete Masonry Unit	HW Hot water	RD Rod	
CO Clean Out	ID Inside Diameter	RD Roof Drain	
COL Column	ILO In Lieu Of	RDL Roof drain leader	
CONC Concrete	IN Inch	REBAR Reinforcing Bar	
CONT Continuous	INCL Include	REFR Ref	
CRPT Carpet	INS Insulate(tion)	REG Register	
CT Ceramic Tile	INSUL Insulation	RENF Reinforced	
CTYD Courtyard	INT Interior	REQ Required	
CU FT Cubic Feet	J-Box Junction box	REQD Required	
CU YD Cubic Yard	JNT Joint	REV Revision	
DBL Double	JST Joist	RFG Roofing	
DEMO Demolish or Demolition	KD Kiln Dried	RM Room	
DH Double Hung	KIT Kitchen	RO Rough Opening	
DIA Diameter	LAM Laminate(d)	ROW Right of way	
DIM Dimension	LAV Lavatory	SA Supply Air	
DN Down	LB Pound	SCH Schedule	
DP Damp proofing	LF Lineal Feet	SCN Screen	
DR Door	LL Live Load	SD Smoke detector	
DRWR Drawer	LT Light	SECT Section	
DS Downspout	LTG Lighting	SGD Sliding Glass Door	
DT Drain Tile	LVL Laminated Veneer Lumber	SH Shelf	
DW Dishwasher	LVR Louver	SHTH Sheathing	
DWG Drawing	MAS Masonry	SIM Similar	
EA Each	MAX Maximum	SIM Similar	
EF Exhaust fan	MBR Member		
EJ Expansion Joint			
EL Elevation			

SHEET INDEX

SHEET #	DESCRIPTION
A1	COVERSHEET ARCHITECTURAL
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	2015 ENERGY CODE CALCULATIONS
EN2	2015 ENERGY CODE NOTES
EN3	2015 ENERGY CODE NOTES

BUILDING CODES FOR THIS SET

CITY OF MERCER ISLAND CODES AT THE DATE OF THIS DRAWING SET:

2015 INTERNATIONAL BUILDING CODE (IBC)
2015 INTERNATIONAL RESIDENTIAL CODE (IRC)
2015 WASHINGTON STATE ENERGY CODES
2009 ICC A117.1, BARRIER-FREE STANDARD
2015 INTERNATIONAL FIRE CODE (IFC)
2017 NATIONAL ELECTRIC CODE (NEC)
2015 UNIFORM PLUMBING CODE (UPC)
2015 INTERNATIONAL MECHANICAL CODE (IMC)
2015 INTERNATIONAL FUEL GAS CODE (IFGC)
2015 POOL AND SPA CODE

PROJECT TEAM

ARCHITECTURAL DRAFTING
JAYMARC HOMES - 425.226.9100 - JAYMARCHOMES.COM
RYAN REDMAN - RYAN@JAYMARCHOMES.COM

M&K ENGINEERING
MULHERN & KULP - 215.646.8001 - MULHERNKULP.COM
RICHARD ZABEL - RZABEL@MULHERNKULP.COM

SQUARE FOOTAGE SUMMARY

SQUARE FOOTAGE SUMMARY		
MAIN FLOOR AREA	1,964	S.F.
UPPER FLOOR AREA (MINUS STAIRS)	2,424	S.F.
TOTAL CONDITIONED AREA	4,398	S.F.
3 CAR GARAGE	684	S.F.
COVD ENTRY PORCH	78	S.F.
TOTAL AREA UNDER ROOF	5,160	S.F.
DECK	340	S.F.
OVERALL WIDTH	61'-10"	
OVERALL DEPTH	63'-4 1/2"	

Updated - 1/02/2018

Method for Calculating Square Footage - ANSI Z765-2013 except: no separate distinction of 'above-grade or below-grade' areas and each level is measured to the outside of studs not the exterior finished surface.

Square footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

See Sheet "CODES" for additional Zoning required Area Calculations

COVER SHEET

1/4" = 1'-0"

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

RCR
Drawn by:

SK
Checked by:

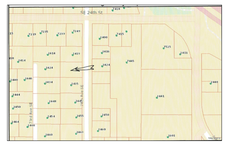
1/4 SCALE
Primary Scale

A1
of: .

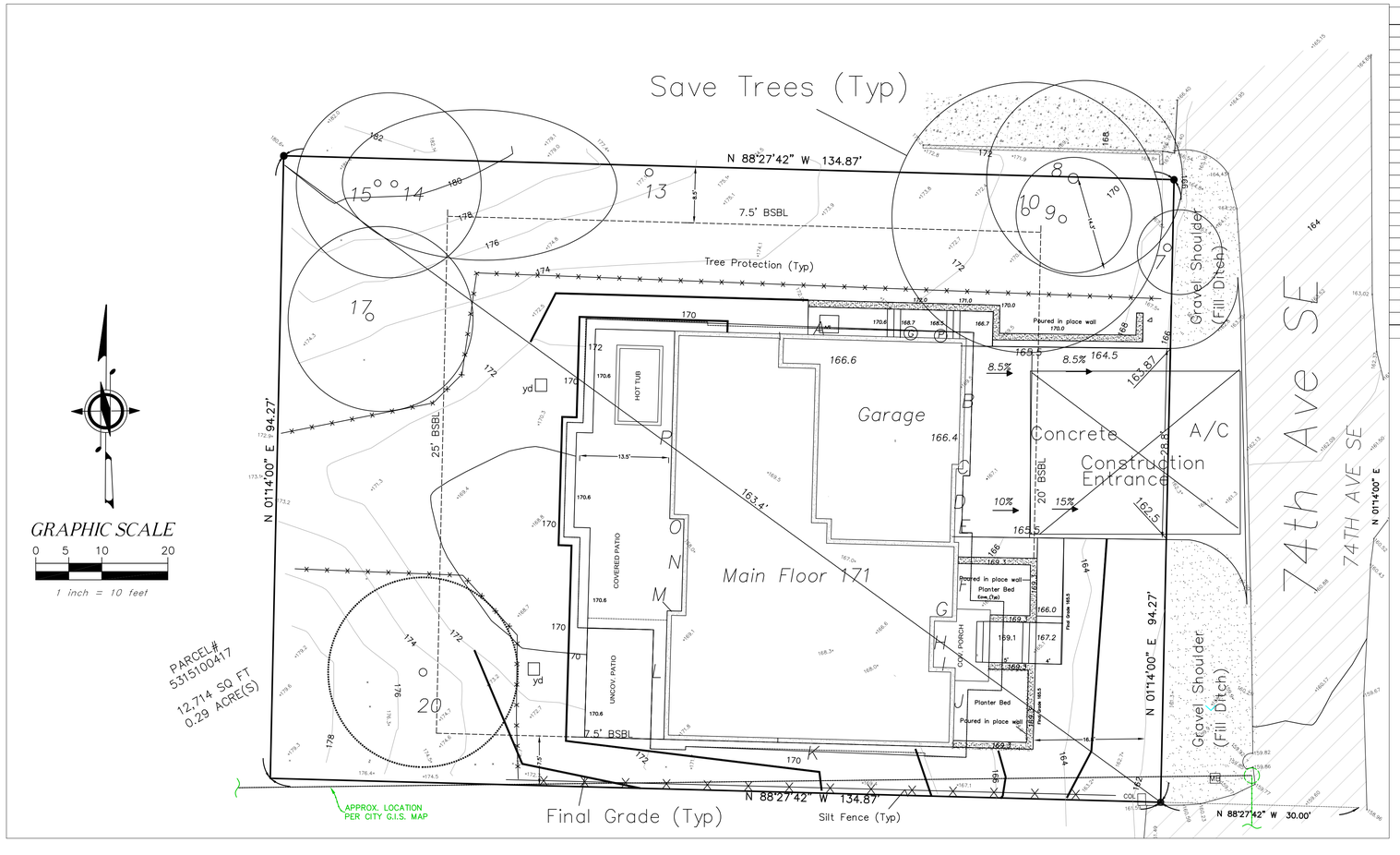
2429 74th Ave SE
Mercer Island, WA

Job Number:

Sheet Title/Description



Vicinity Map



GRAPHIC SCALE

0 5 10 20

1 inch = 10 feet

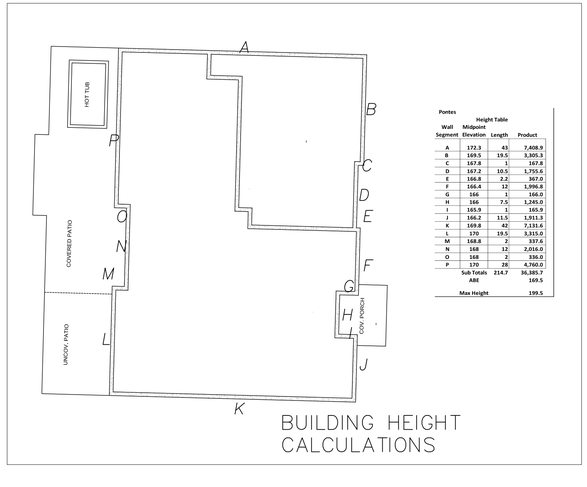
Tree Table						
ID	Species	DSHS	Drip	Saved	Saved	Exeptional
1	Willow	11.3	9.5		X	Yes
2	Willow	18	7.8		X	Yes
3	Wild Cherry	11.8	12.5		X	
4	Cedar	15	12.6		X	
5	Cedar	18.4	15.8		X	
6	Cedar	15	10.6		X	
7	Willow	9.5	6.4	X		Yes
8	Fir	21.2	9.3	X		
9	Maple	12.1	19.3	X		
10	Fir	31.3		X		Yes
11	Madrone	19.7	30.8		X	Yes
12	Wild Cherry	12.5	28		X	
13	Fir	37.5	20.6	X		Yes
14	Alder	15	22.6	X		
15	Alder	13	10.5	X		
16	Alder	13.5	23.6		X	
17	Alder	14	12.6	X		
18	Alder	11	12.5		X	
19	Alder	15.6	12.7		X	
20	Plum	10	14.4	X		
21	Cedar	13.2	13.6		X	
22	Alder	12	8.5		X	
23	Maple	11.6	10.5		X	
			SUB TOTALS	9	14	

Lot Slope Calculations		
High Point	180.6	ft
Low Point	161.59	ft
Elevation Difference	19.01	ft
Distance	163.4	ft
Slope%	11.60%	

LOT COVERAGE	
Lot Area	12,714
Allowed	40%
Allowed sf	5,629
New	
Main Structure	3,697
Driveway	875
New sf	4,572
Existing	
Existing	-
Existing Removed	-
Net Existing	-
Total	
Total New and Existing	4,572
%	36.0%

Hardscape		
Uncovered Patio	165	sf
Walkways	202	sf
Retaining Walls	115	sf
Total	482	sf
%	3.8	%

Gross Floor Area		
Main Floor - garage	1,969	sf
Second Floor	2,429	sf
Garage	684	sf
Sub Total	5,082	sf
Area subject to multiplier	N/A	
Total	5,082	sf
Allowed 40%*12714	5,085	sf
Proposed %	39.97%	



BUILDING HEIGHT CALCULATIONS

Pontes

Height Table				
Wall Segment	Midpoint Elevation	Length	Product	
A	172.3	43	7,408.9	
B	169.5	19.5	3,305.3	
C	167.8	1	167.8	
D	167.2	10.5	1,755.6	
E	166.8	2.2	367.0	
F	166.4	12	1,996.8	
G	166	1	166.0	
H	166	7.5	1,245.0	
I	165.5	1	165.9	
J	166.2	11.5	1,911.3	
K	169.8	42	7,131.6	
L	170	19.5	3,315.0	
M	168.8	2	337.6	
N	168	12	2,016.0	
O	168	2	336.0	
P	170	28	4,760.0	
Sub Totals	214.7		36,385.7	
ABE			169.5	
Max Height			199.5	

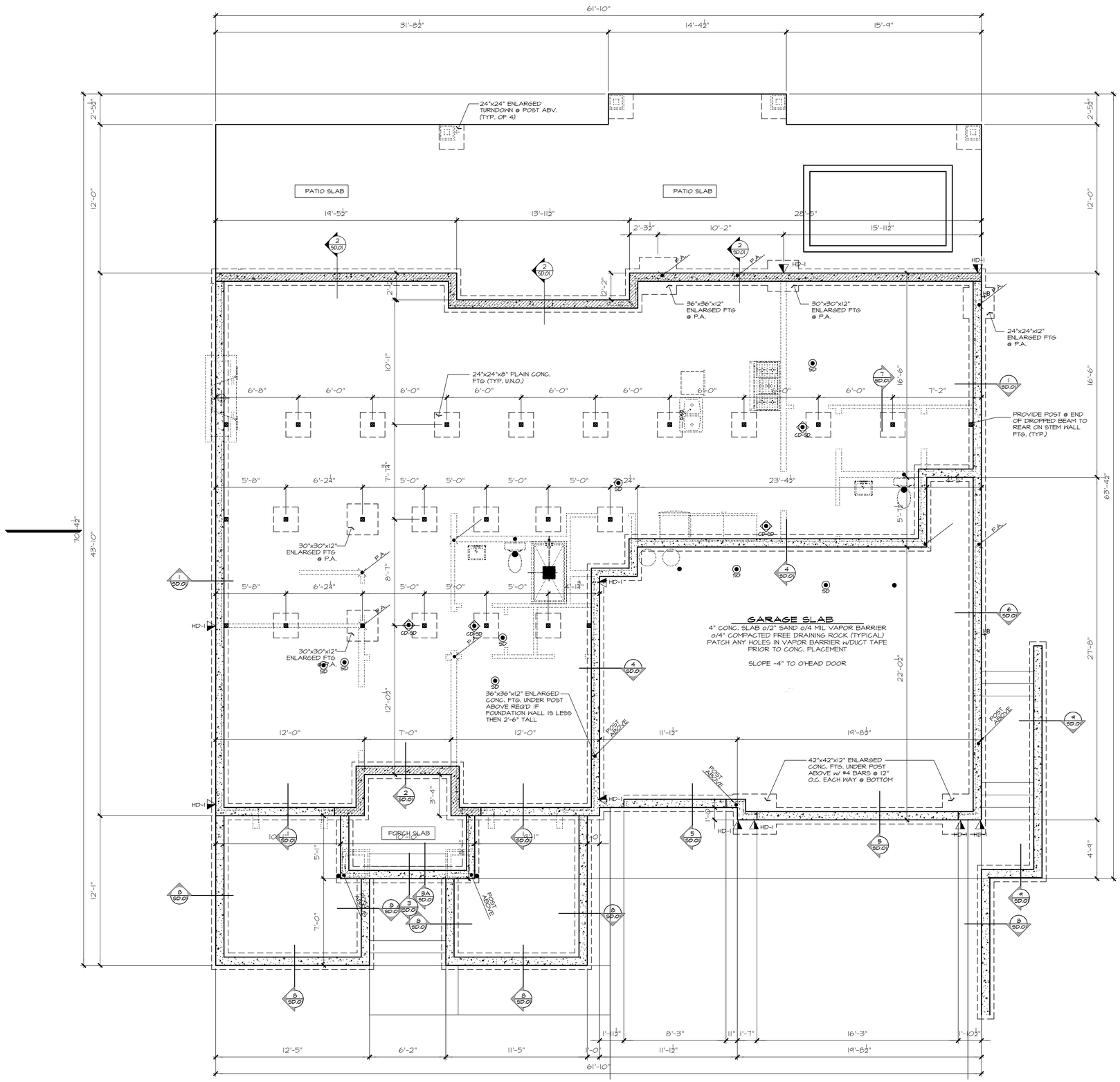
Pontes Custom

Site Plan and TESCP Plan

Drawn by GU

1/29/21

A2



HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.J) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (12" END LENGTH)
HD-7	SIMPSON MSTC66 STRAP TIE (24" END LENGTH)

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF FLOOR SYSTEM DESIGNED FOR TILE

JL METAL HANGER

✳ INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.

INDICATES HOLDOWN.

REFER TO S-0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

TYP. CRAWLSPACE POSTS:

4x4 P.T. POST W/2x4 CLEATS EA. SIDE + (2) A35 CLIPS ON EA. SIDE @ BASE OF POST w/ (2) ⅜" x 1¾" SIMPSON TITEN SCREWS 1" MIN APART IN A35 CLIP HOLES (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 24"x24"x8" PLAIN CONC. FTG. (TYP. U.N.O.)

B / A12

FOUNDATION PLAN

1/4" = 1'-0"

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

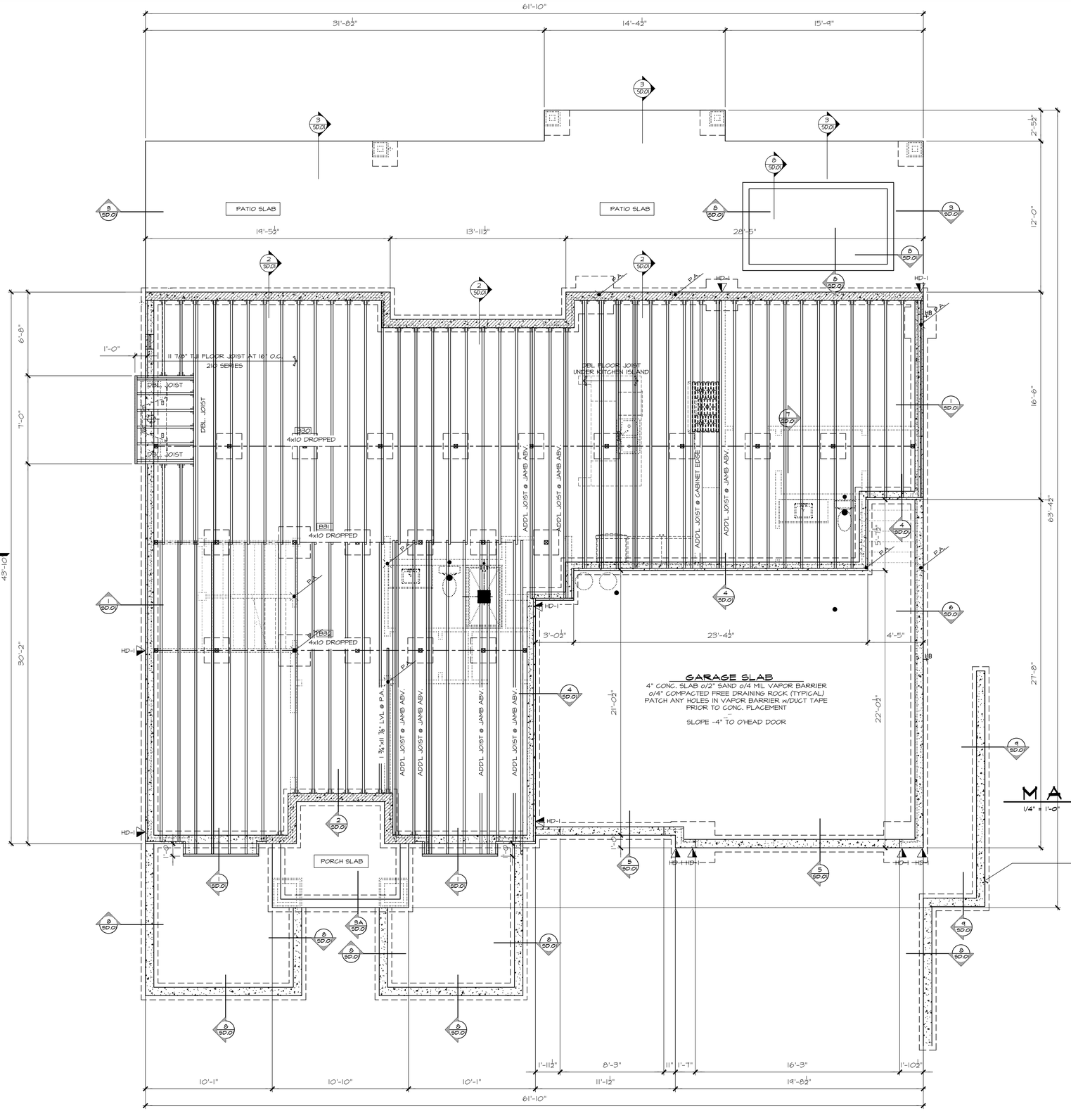
RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

A2
of: .

S:\Sheet Title\Description



HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (RJ) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (12" END LENGTH)
HD-7	SIMPSON MSTC66 STRAP TIE (24" END LENGTH)

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF FLOOR SYSTEM DESIGNED FOR TILE

JL METAL HANGER

✳ INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.

INDICATES HOLDOWN.

REFER TO S-0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

TYP. CRAWLSPACE POSTS:

4x4 P.T. POST W/2x4 CLEATS EA. SIDE + (2) A35 CLIPS ON EA. SIDE @ BASE OF POST w/ ⅜" DIA. x1 ½" LONG TAPCON SCREWS (4'-0" MAX. POST HEIGHT) ON ASPHALT SHINGLE ON 24"x24"x8" PLAIN CONC. FTG. (TYP. U.N.O.)

B / A12

FOUNDATION VENTILATION

Crawlspace Area:			1828 s.f.		
Ventilation Required:			1828 s.f. / 300 =		877.44 s.i. Req'd
Use:		14" x 7"	Foundation Vents		
Vent Area =			98 s.i. - 25% reduct.,1/4"mesh =		73.5 s.i.
Vents Required =			877.44 s.i. / Vent Area =		11.94 s.i.
Provide :	12	14" x 7"	Vents, Area =		882 s.i.
Ventilation Provided =			882.00 s.i. is Greater than		877.44 s.i. Req'd
Use:	**12**	**14" x 7"**	**Foundation Vents**		

*** FOUNDATION VENTS SHALL NOT INTERFERE WITH DIRECT LOAD PATH OF COLUMNS**
*** INSTALL 6 MIL BLACK POLYETHYLENE VAPOR RETARDER GROUND COVER**
*** LOCATE ONE VENT WITHIN 3 FEET OF EACH CORNER OF THE BUILDING, EXCEPT ONE SIDE OF THE BUILDING SHALL BE PERMITTED TO HAVE NO VENTS.**

MAIN FLOOR FRAMING PLAN

1/4" = 1'-0"

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number:--

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

RCR
Drawn by:

SK
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Primary Scale

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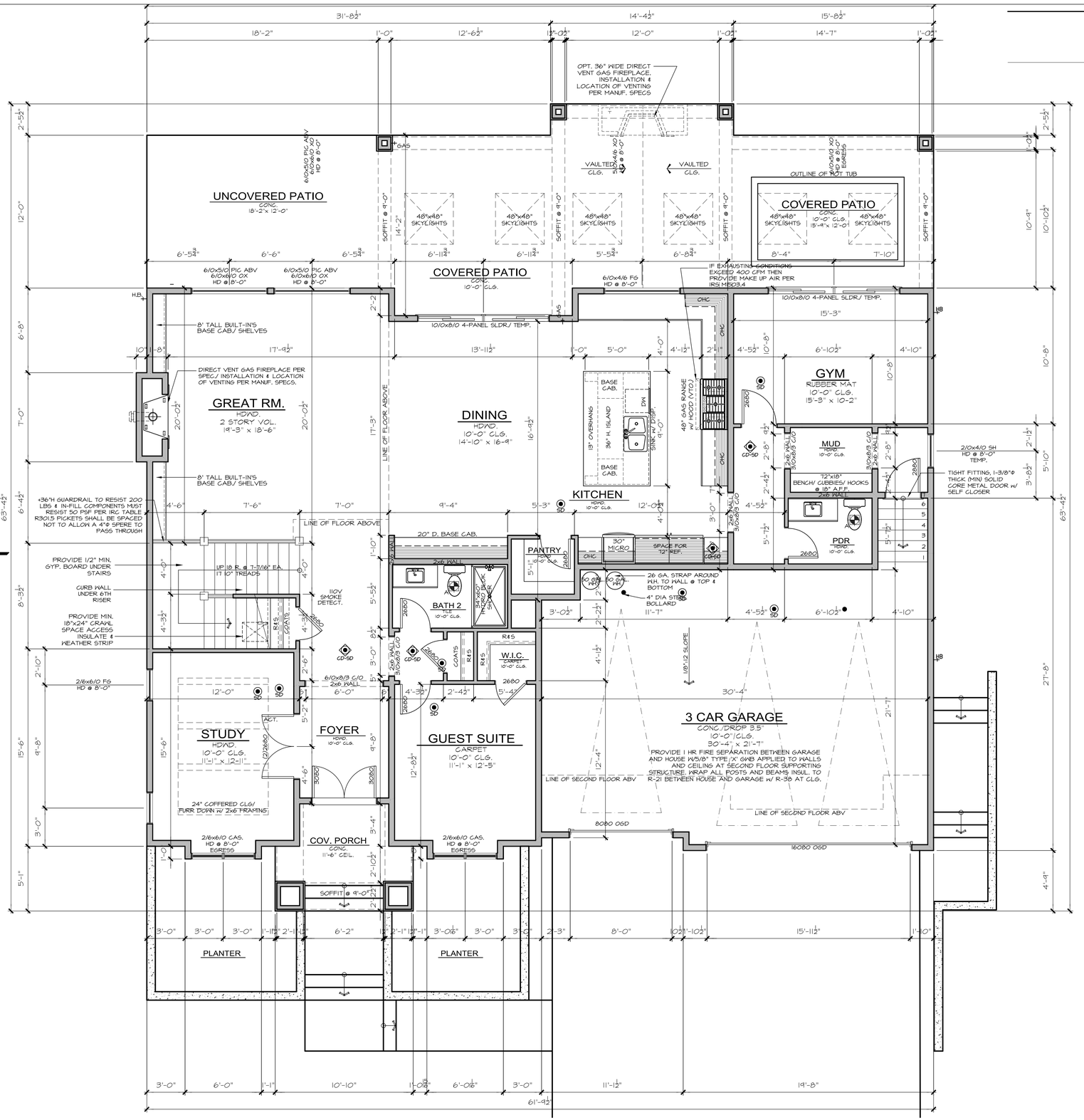
of: .

Sheet Title/Description



MAIN FLOOR PLAN NOTES

PLAN SPECIFIC 2015 WSEC, SECTION R06

R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY).

THIS RESIDENTIAL DWELLING SHALL COMPLY w/SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS:

3.5 FOR a 1,501sf to 4,999sf HOME.

CREDITS PROVIDED IN THIS HOME AS FOLLOWS:

EFFICIENT BUILDING ENVELOPE 1a: 0.5 CREDITS

PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 with FOLLOWING MODIFICATIONS:

VERTICAL FENESTRATION U = 0.28 WINDOWS

FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.

HIGH EFFICIENCY HVAC EQUIPMENT 3a: 1.0 CREDITS

GAS FURNACE WITH MINIMUM AFUE OF 96%

EFFICIENT WATER HEATING 5a: 0.5 CREDITS

ALL SHOWERHEAD and KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM or LESS.

ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM or LESS.

EFFICIENT WATER HEATING 5c: 1.5 CREDITS

WATER HEATING SYSTEM SHALL BE:
GAS WATER HEATER WITH A MINIMUM EF OF 0.91

WHOLE HOUSE VENTILATION

PROVIDE WHOLE HOUSE VENTILATION per 2015 IRC, M1507 and IMC R403.8 USING A MAKE UP AIR SYSTEM INTEGRATED INTO FORCED ARE SYSTEM (FAU) PROVIDE OUTDOOR FRESH AIR w/DUCTS CONNECTED TO THE RETURN SIDE OF THE AIR HANDLER.

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTDIDE)
EF 50cfm+	BATH & POWDER	Min. 50cfm. INTERMITTENT at .025wg per TABLE M1507.4
EF 100cfm+	KITCHEN	Min. 100cfm. INTERMITTENT at .025wg per TBL. M1507.4
		RANGE HOOD or DOWN DRAFT EXHAUST FAN RATED at min. 100cfm, at 0.1wg MAY BE USED FOR EXHAUST FAN REQMT. EXHAUST HOODS IN EXCESS OF 400cfm, SHALL BE INTERLOCKED and PROVIDE MAKE UP AIR per w/M1503.4
EF 100cfm+ HWF	LAUNDRY ROOM	MIN.420cfm. INTERMITTENT at .025wg TO FUNCTION AS WHOLE HOUSE FAN (HWF)

MECHANICAL CONTRACTOR TO PROVIDE 420cfm HWF FAN and SET OPERATING TIMER per TABLE M1507.3.3(1) FOR A 4,501-6,000sf, DWELLING w/6-7 BEDRMS, TO OPERATE INTERMITTENTLY and CONTINUOSLY per TABLE M1507.3.3(2)

PROVIDE CONTROLS FOR HWF, per M1507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

WHOLE HOUSE FAN RUN TIME PERCENTAGE IN EACH 4 HR. SEGMENT TO BE 25% WITH A FACTOR OF 4.

MAIN FLOOR PLAN

1/4" = 1'-0"

SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,964	S.F.
UPPER FLOOR AREA (MINUS STAIRS)	2,424	S.F.
TOTAL CONDITIONED AREA	4,398	S.F.
3 CAR GARAGE	684	S.F.
COV'D ENTRY PORCH	78	S.F.
TOTAL AREA UNDER ROOF	5,160	S.F.
DECK	340	S.F.
OVERALL WIDTH	61'-10"	
OVERALL DEPTH	63'-4 1/2"	

Updated : 1/02/2018

Method for Calculating Square Footage - ANSI Z765-2013 excepts: no separate distinction of 'above-grade or below-grade' areas and each level is measured to the outside of studs not the exterior finished surface.

Square footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

See Sheet "CODES" for additional Zoning required Area Calculations

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

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SK
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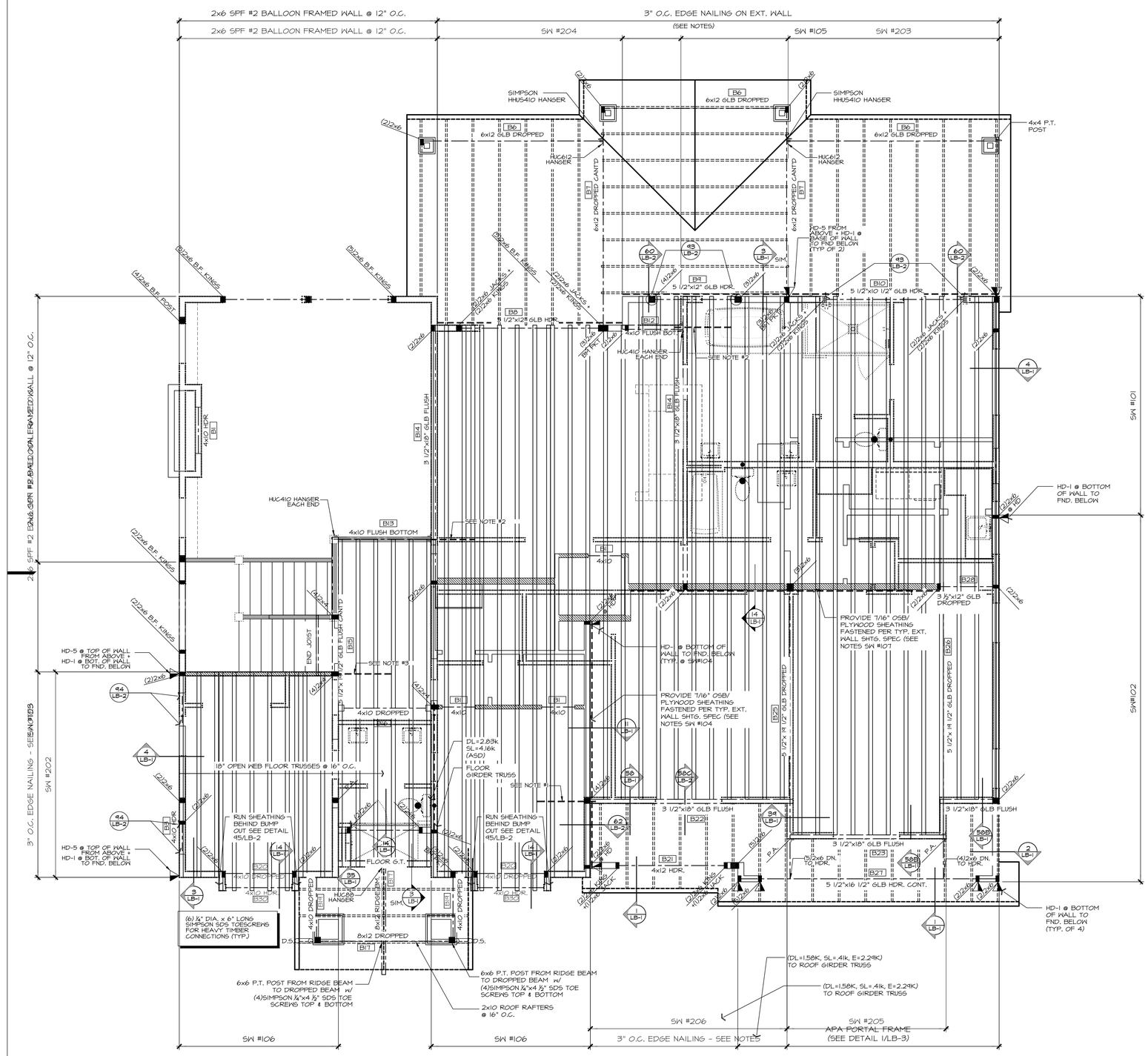

UPPER FLOOR FRAMING PLAN

1/4" = 1'-0"

B / A12

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (12" END LENGTH)
HD-7	SIMPSON MSTC66 STRAP TIE (24" END LENGTH)

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF FLOOR SYSTEM DESIGNED FOR TILE

JL METAL HANGER

✳ INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.

INDICATES HOLDOWN.

REFER TO S-0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

4x10 HDR. @ ALL EXT. WINDOW (TYP. U.N.O.) B1

NOTE #1
PROVIDE SIMPSON CS13 STRAP FROM TOP OF FLUSH BEAM (13" END LENGTH) TO TOP OF BLKG. PROVIDE BLKG BETWEEN TRUSSES FOR STRAP FASTENING AS SHOWN (3-BAY MIN.) FASTEN FLR SHTG TO BLKG w/ 3"x0.131" NAILS @ 6" O.C. @ SHTG. EDGES

NOTE #2
PROVIDE SIMPSON CS13 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 FLR SHTG TO BLOCKING w/ 3"x0.131" NAILS @ 6" O.C. @ SHTG. EDGES

NOTE #3
PROVIDE SIMPSON CS13 STRAP FROM TOP OF DOUBLE TOP PLATE (13" END LENGTH) TO UNDERSIDE OF FULL HEIGHT SOLID BLOCKING. PROVIDE BLKG. BETWEEN TRUSSES FOR STRAP FASTENING AS SHOWN (3-BAY MIN.) FASTEN FLR SHTG. TO BLKG. w/ 3"X0.131" NAILS @ 6" O.C. @ SHTG. EDGES

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

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2429 74th Ave SE
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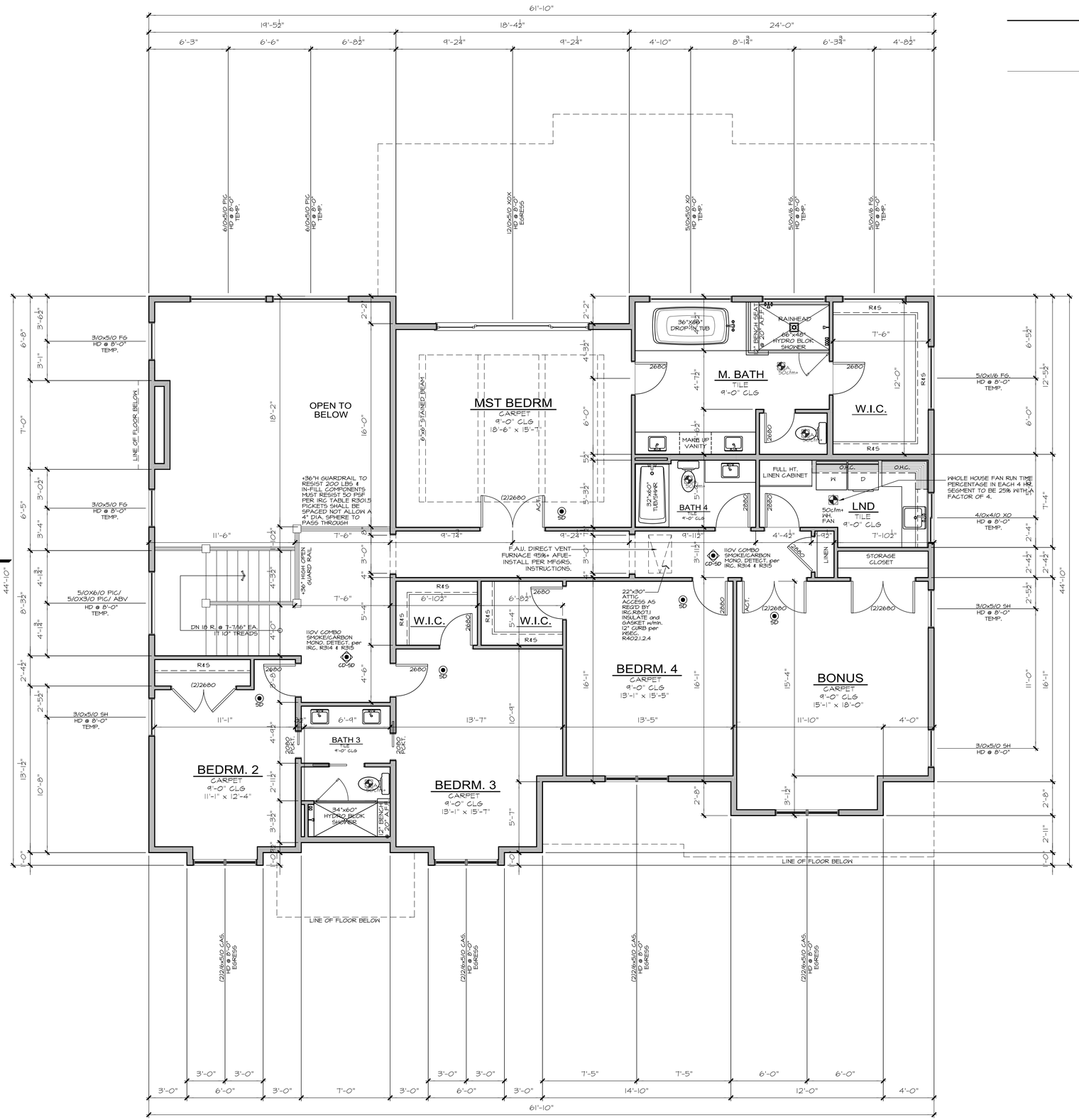

B
A12

UPPER FLOOR PLAN

1/4" = 1'-0"

UPPER FLOOR PLAN NOTES

PLAN SPECIFIC 2015 WSEC, SECTION R06

R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY).

THIS RESIDENTIAL DWELLING SHALL COMPLY W/SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS:

3.5 FOR A 1,501sf to 4,999sf HOME.

CREDITS PROVIDED IN THIS HOME AS FOLLOWS:

EFFICIENT BUILDING ENVELOPE 1a: 0.5 CREDITS

PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 with FOLLOWING MODIFICATIONS:

VERTICAL FENESTRATION U = 0.28 WINDOWS

FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.

HIGH EFFICIENCY HVAC EQUIPMENT 3a: 1.0 CREDITS

GAS FURNACE WITH MINIMUM AFUE OF 94%

EFFICIENT WATER HEATING 5a: 0.5 CREDITS

ALL SHOWERHEAD and KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM or LESS.

ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM or LESS.

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GAS WATER HEATER WITH A MINIMUM EF OF 0.91

WHOLE HOUSE VENTILATION

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SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTDIDE)
A. 50cfm+	BATH & POWDER	Min. 50cfm. INTERMITTENT at .025wg per TABLE M1507.4
	KITCHEN	Min. 100cfm. INTERMITTENT at .025wg per TBL. M1507.4
B. 100cfm+		RANGE HOOD or DOWN DRAFT EXHAUST FAN RATED at min. 100cfm. at 0.10wg MAY BE USED FOR EXHAUST FAN REQMT. EXHAUST HOODS IN EXCESS OF 400cfm. SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per w/M1503.4
C. 180cfm+ WHF	LAUNDRY ROOM	MIN. 420cfm. INTERMITTENT at .025wg TO FUNCTION AS WHOLE HOUSE FAN (WHF.)

MECHANICAL CONTRACTOR TO PROVIDE 420cfm WHF. FAN and SET OPERATING TIMER per TABLE M1507.3.3(1) FOR A 4,501-6,000sf. DWELLING w/6-7 BEDRMS. TO OPERATE INTERMITTENTLY and CONTINUOSLY per TABLE M1507.3.3(2)

PROVIDE CONTROLS FOR WHF. per M1507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

WHOLE HOUSE FAN RUN TIME PERCENTAGE IN EACH 4 HR. SEGMENT TO BE 25% WITH A FACTOR OF 4.

SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,969 S.F.
UPPER FLOOR AREA (MINUS STAIRS)	2,429 S.F.
TOTAL CONDITIONED AREA	4,398 S.F.
3 CAR GARAGE	684 S.F.
COVD ENTRY PORCH	78 S.F.
TOTAL AREA UNDER ROOF	5,160 S.F.
DECK	340 S.F.
OVERALL WIDTH	61'-10"
OVERALL DEPTH	63'-4 1/2"

Updated : 1/02/2018

Method for Calculating Square Footage - ANSI Z765-2013 except, no separate distinction of 'above-grade or below-grade' areas and each level is measured to the outside of studs not the exterior finished surface.

Square footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

See Sheet "CODES" for additional Zoning required Area Calculations

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By	Description

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

01.29.21
Submittal Date

Sheet Title/Description

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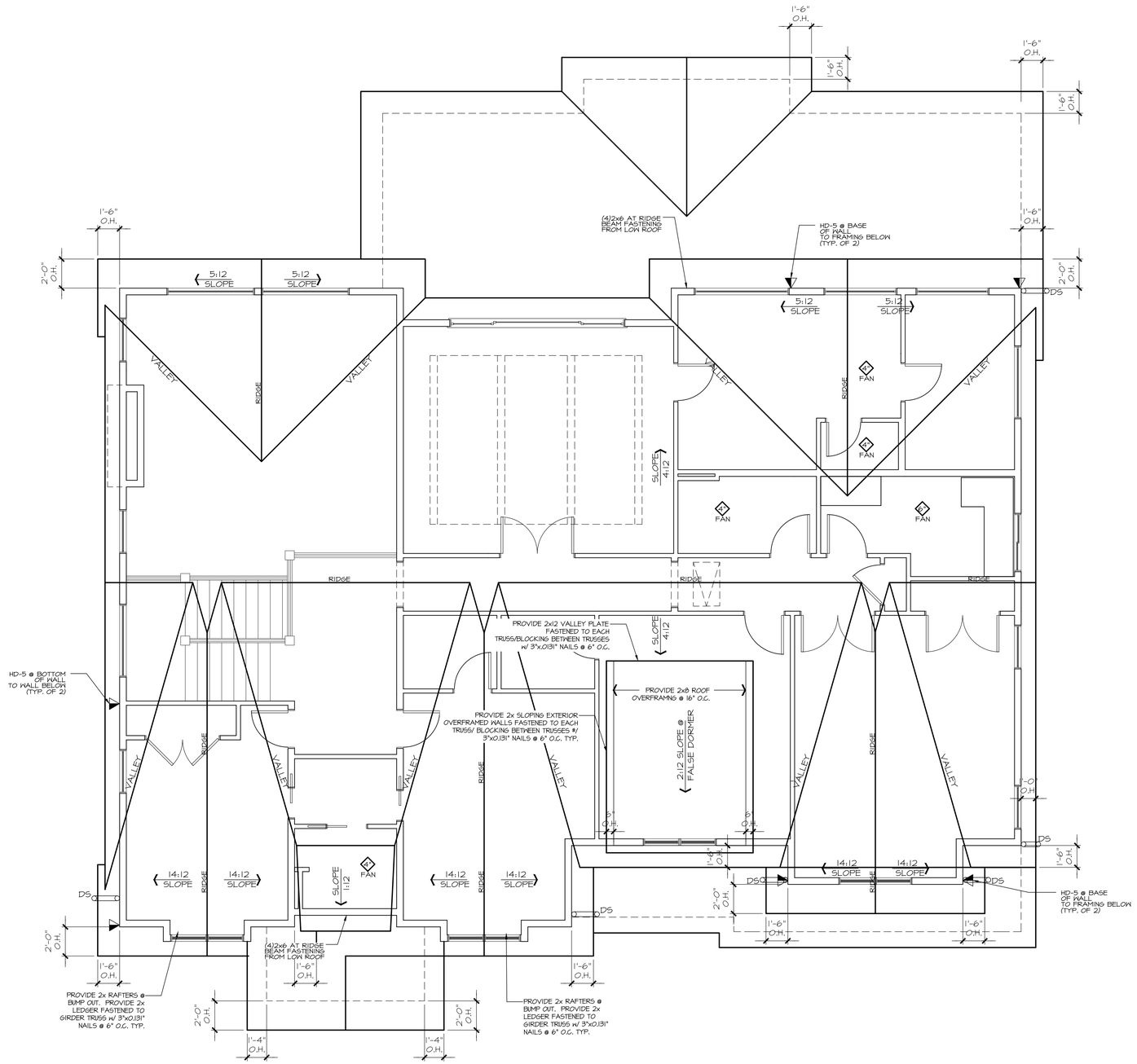

ROOF PLAN

1/4" = 1'-0"

ROOF VENTILATION

Standard Truss / Scissor Truss Roof Framing Assembly:		ZONE 1
Roof Area :	**1934** s.f.	
Ventilation Required:	1934 s.f. x 144 s.i. / s.f. / 300 =	928.32 s.i. Req'd
Provide between 40% & 50% of the total required ventilation no more than 3 ft below the ridge or the highest point of the space. Remainder to be installed at eave vents.		
Ridge Ventilation: 50% of ventilation		464.16
Continuous Ridge Vent =		18.00 s.i. per l.f.
Upper Ventilation MIN. Req'd =	464.16 s.i. x 0.4 / s.i. per linear foot =	21 l.f.
Upper Ventilation MAX. Req'd =	464.16 s.i. x 0.5 / s.i. per linear foot =	25 l.f.
Provide:	**0** l.f. ridge vent. Ventilation =	0.00 s.i.
Ventilation area remainder for AF50 vents =	464.16 s.i.	
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%=	464.16 s.i. / s.i. of each vent =	10 vents
Provide:	**14** -10"x7" roof jacks. Ventilation =	700.00 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 =	464.16 s.i. / s.i. per l.f. =	662.32 l.f.
Provide Minimum:	201 l.f. birdblocking. Ventilation =	710.03 s.i.
Minimum Ventilation Provided =	**1410.03 s.i. IS GREATER THAN :**	**928.32 s.i. Req'd**

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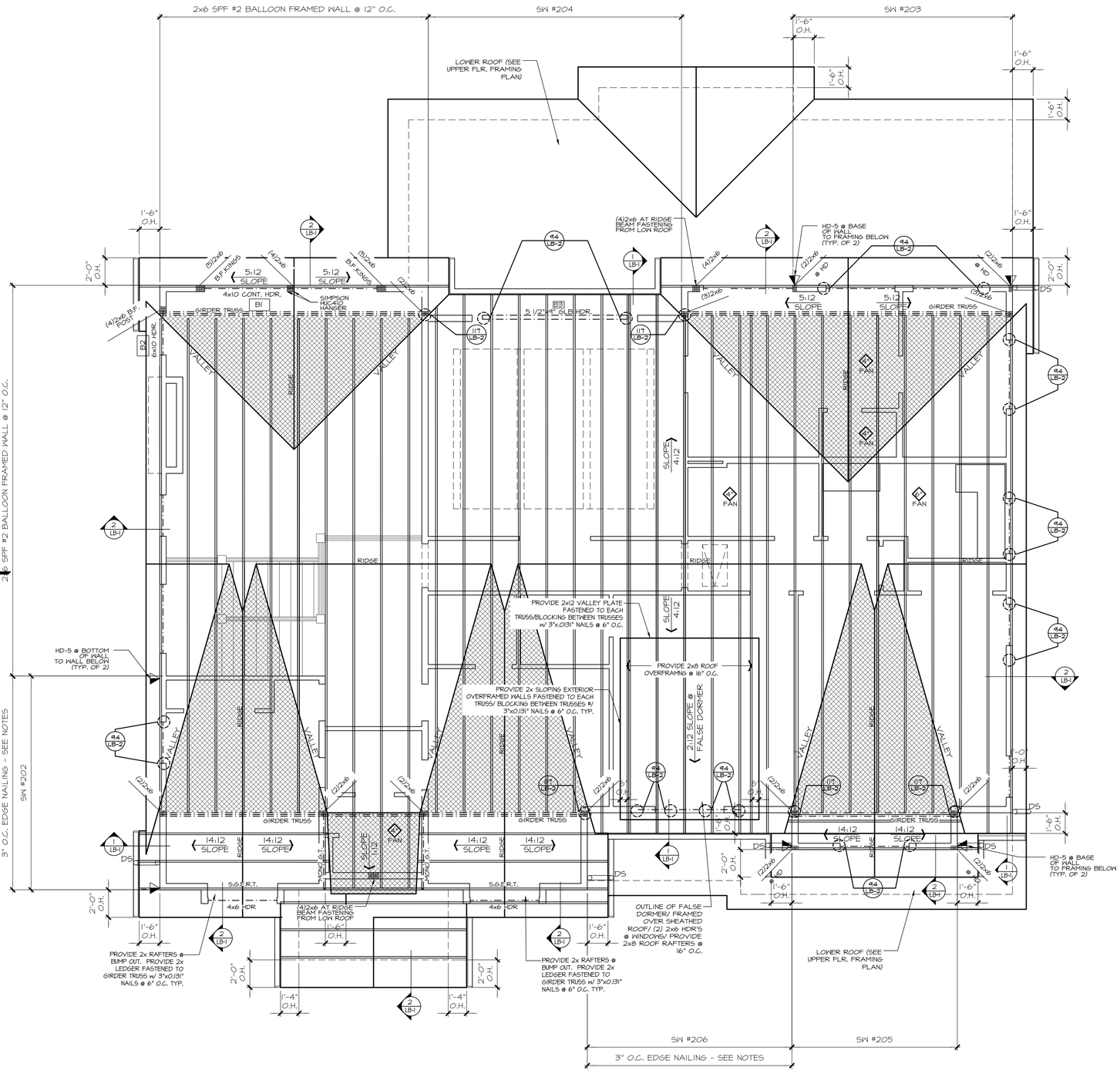

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (12" END LENGTH)
HD-7	SIMPSON MSTC66 STRAP TIE (24" END LENGTH)

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- AREA OF FLOOR SYSTEM DESIGNED FOR TILE

J.L METAL HANGER

✳ INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.

INDICATES HOLDDOWN.

REFER TO S-0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

4x10 HDR. @ ALL EXT. WINDOW (TYP. U.N.O.) B1

B / A12

ROOF FRAMING PLAN

1/4" = 1'-0"

JAYMARC HOMES
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Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC.) or those of the local municipality then the current standards and requirements of each respectively shall govern.

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FRONT ELEVATION

1/4" = 1'-0"

LEFT ELEVATION

1/4" = 1'-0"

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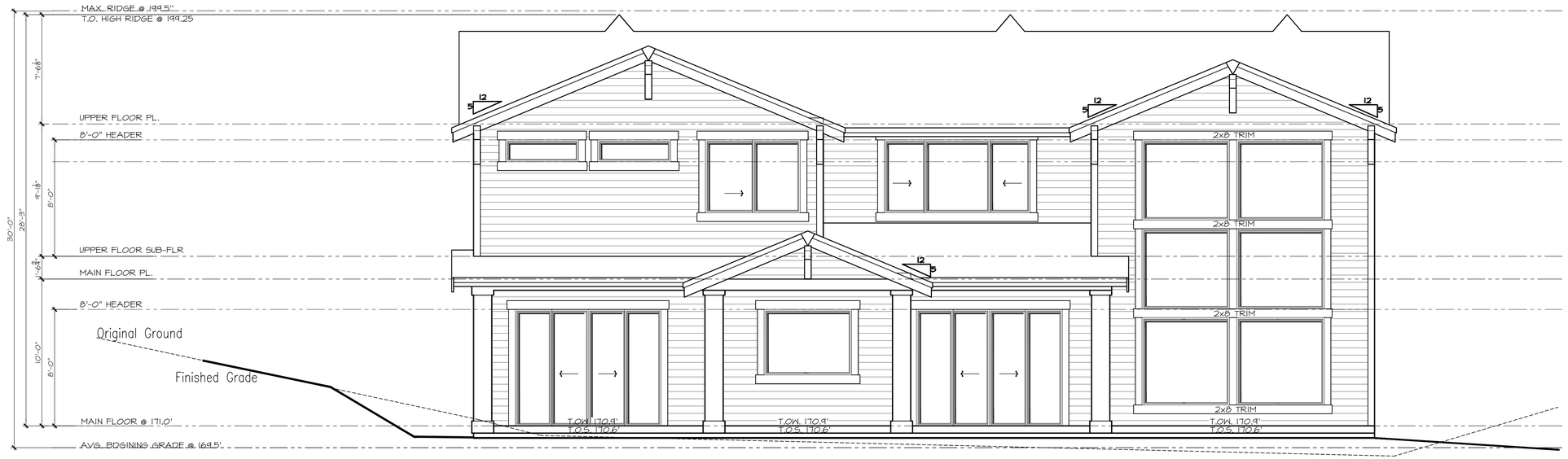
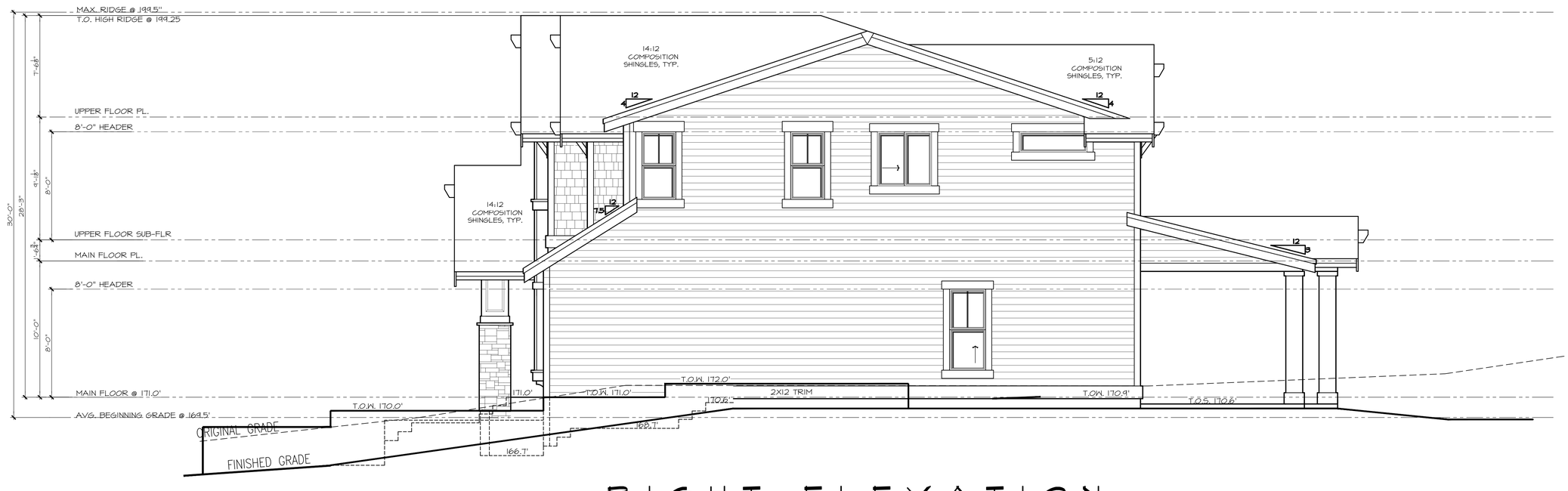
Sheet Title/Description



REAR ELEVATION

¼" = 1'-0"



RIGHT ELEVATION

¼" = 1'-0"

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Description		
△		

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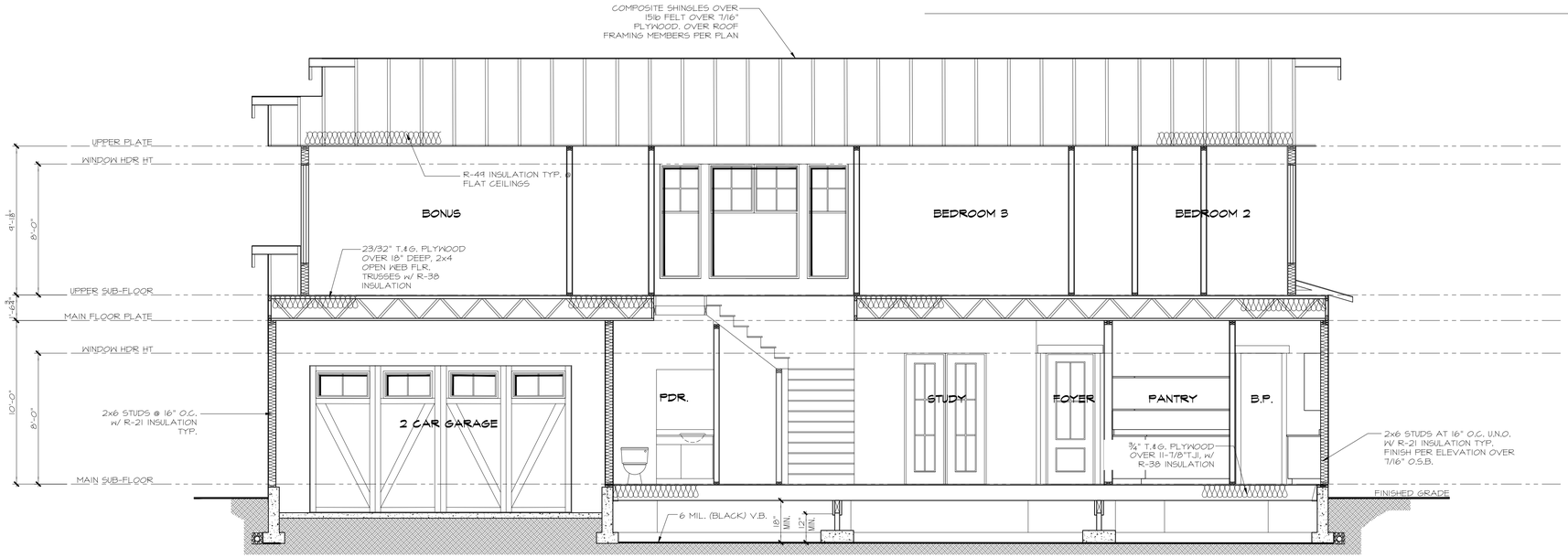
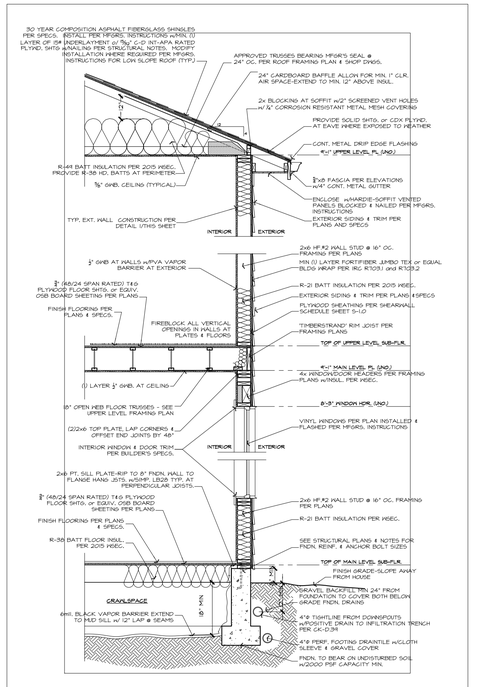


A BUILDING SECTION

1/4" = 1'-0"



5 TYPICAL EXTERIOR WALL SECTION

SCALE: 1" = 1'-0"

JAYMARC HOMES

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98040
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Sheet Title/Description

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 2015 INTERNATIONAL RESIDENTIAL CODE
- DESIGN LOADS:
  SOIL 1,500 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 3,000 psi: ..... FOUNDATION WALLS
  3,000 psi: ..... FOOTINGS
  2,500 psi: ..... INTERIOR SLABS ON GRADE
  3,500 psi: ..... GARAGE & EXT. SLABS ON GRADE
  fy = 60,000 psi
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- FOUNDATION WALL DESIGN IS BASED ON BACKFILL SOIL 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 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH ⅝" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x ¼" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) & NUTS @ 6'-0" O.C. @ UP TO 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. DTL'S).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT W/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (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 MK 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:
   1/4" 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 PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):

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

LIVE LOAD (PSF):

ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
RESIDENTIAL WOOD DECKS :	60
GARAGE :	50

SNOW LOAD:

GROUND SNOW LOAD (P_g) (PSF) :	25
FLAT ROOF SNOW LOAD (P_f) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)

SPEED (V_{ult}) (MPH) :	110
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_w) :	1.0
EXPOSURE CATEGORY :	B
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.3

SEISMIC LOAD: (IBC 1613)

SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE :	
S_s: 1.373	S_1: 0.528
SITE CLASS :	D
SPECTRAL RESPONSE COEFF. :	
S_{DS}: 0.915	S_{D1}: 0.528
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS :	
LIGHT FRAMED WALLS w/WOOD STRUCTURAL PANELS	
ULTIMATE BASE SHEAR:	
TRANS: 16 K	LONG: 16 K
SEISMIC RESPONSE COEFF. (C_s) :	
TRANS: 0.141	LONG: 0.141
RESPONSE MODIFICATION FACTOR (R) :	
TRANS: 6.5	LONG: 6.5
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE	

LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM: 110 MPH WIND SPEED, EXP. B (ASCE 7-10 WIND MAP, PER IRC R301.2.1.1) RISK CAT. 2 & SEISMIC CAT. D2.

110 MPH WIND IN 2015 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2015 IBC (SECTION 1609) & ASCE 7-10, AS PERMITTED BY R301.1.3 OF THE 2015 IRC. ACCORDINGLY, THIS MODEL, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS

(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

3" o.c. EDGE NAILING

(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

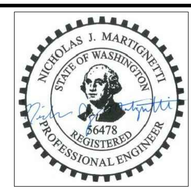
  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)8"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF 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

- 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 2015 INTERNATIONAL RESIDENTIAL CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, 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=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb=2400 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V8
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc⊥=2500 PSI; E=1.8x10^6 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 1¾" 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 1/2" 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 MK 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 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE. U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS w/ ½" LONG NAILS.

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (3) 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 (1) 'SIMPSON' SDWC15600 SCREW. PROVIDE (2) 'SIMPSON' SDWC15600 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 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" 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.
- 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 ASCE7-10, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "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 BOTTOM CHORD ABOVE WITH SIMPSON ST6 CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

seal:

MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 350, San Diego, CA 92121
p 619-630-0010 • mulhernkulp.com

M&K project number: 154-19020

project mgr: NJM
drawn by: RJZ
issue date: 01-29-21

REVISIONS:

date:	initial:

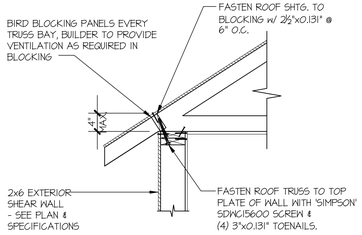
JAYMARC HOMES

STRUCTURAL NOTES

PONTES RESIDENCE
2429 74TH AVE SE
MERCER ISLAND, WASHINGTON

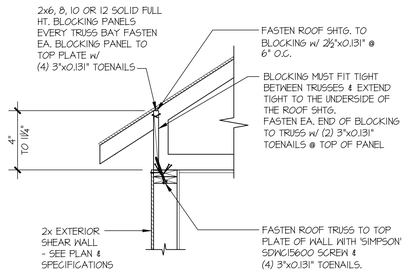
sheet:

S-0.0



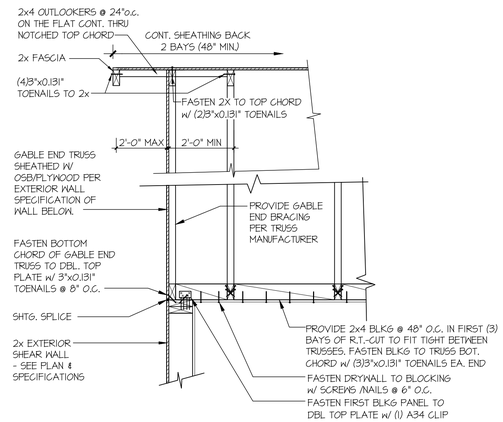
1 TYPICAL SHEAR TRANSFER DETAIL @ ROOF

SCALE: 3/4"=1'-0" HEEL HEIGHT LESS THAN 4"



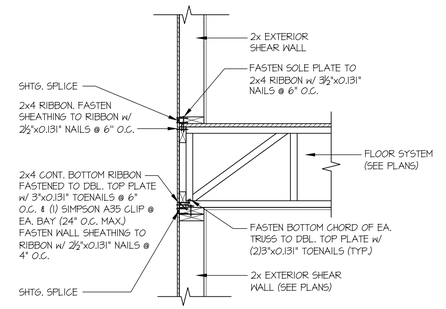
1 TYPICAL SHEAR TRANSFER DETAIL @ ROOF

SCALE: 3/4"=1'-0" HEEL HEIGHT BETWEEN 4" - 11¼"



2 TYPICAL GABLE END DETAIL

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



3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

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

4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

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

11 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

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

14 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

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

35 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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

39 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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

58 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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

59 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

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

seal: NICHOLAS J. MARTIGNETTI STATE OF WASHINGTON 36478 REGISTERED PROFESSIONAL ENGINEER

MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 350, San Diego, CA 92121
p 619-630-0010 • mulhernkulp.com

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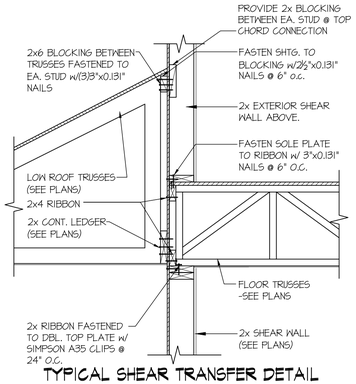
date: initial:

JAYMARC HOMES

STRUCTURAL DETAILS

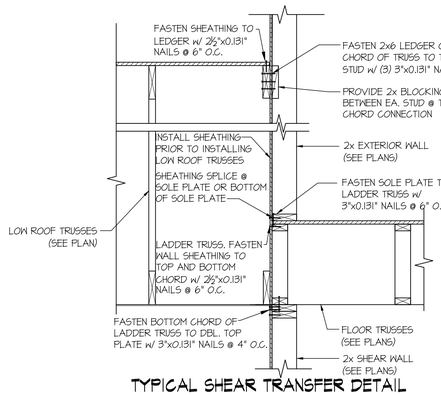
PONTES RESIDENCE
2429 74TH AVE SE
MERCER ISLAND, WASHINGTON

sheet: LB-1



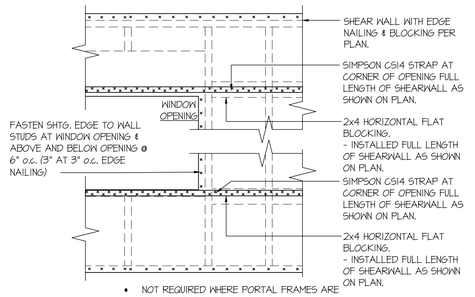
60 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS

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



62 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL

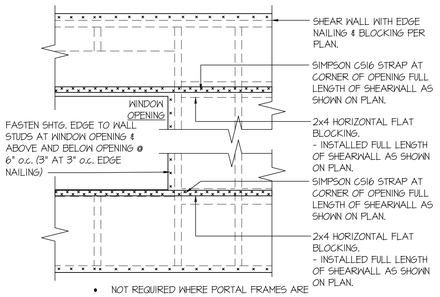
SCALE: 3/4"=1'-0"



- NOT REQUIRED WHERE PORTAL FRAMES ARE SPECIFIED (SEE PLANS).
- ONLY REQUIRED WERE SPECIFIED ON STRUCTURAL PLANS

93 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

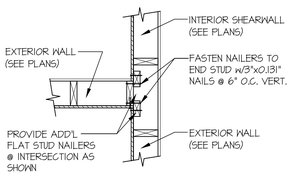
SCALE: NTS



- NOT REQUIRED WHERE PORTAL FRAMES ARE SPECIFIED (SEE PLANS).
- ONLY REQUIRED WERE SPECIFIED ON STRUCTURAL PLANS

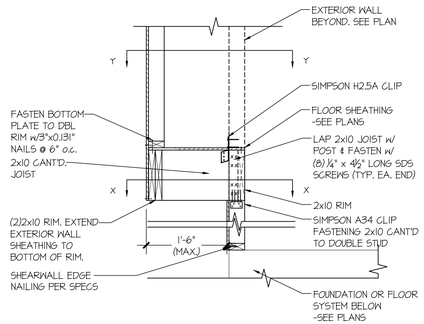
94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



95 SHEAR TRANSFER DETAIL @ INTERSECTING INT. SHEARWALL

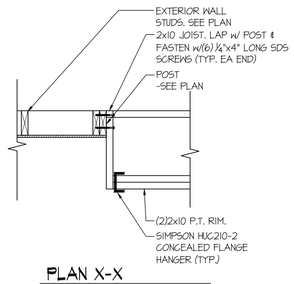
SCALE: 3/4"=1'-0" SHTG. ON SAME FACE



THIS DETAIL IS LIMITED TO A 9'-0" WIDE BAY WINDOW SEAT

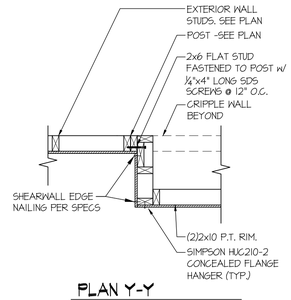
101 BUMPOUT DETAIL

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



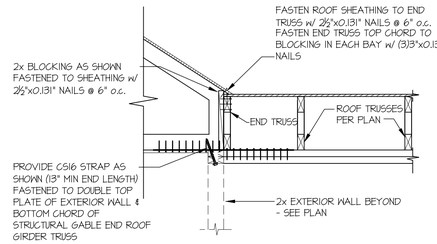
PLAN X-X

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



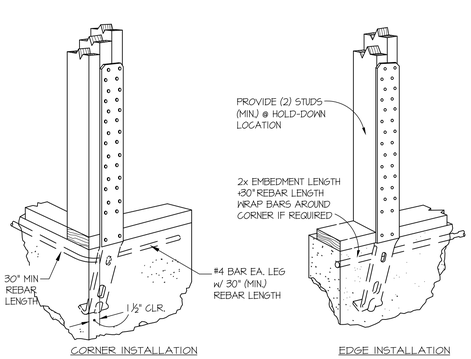
PLAN Y-Y

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



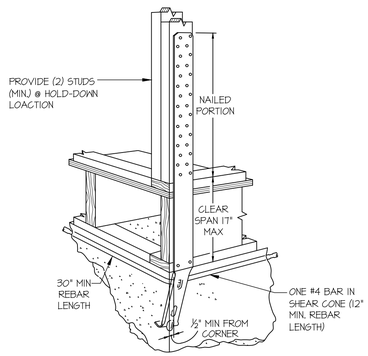
117 STRAP DETAIL

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



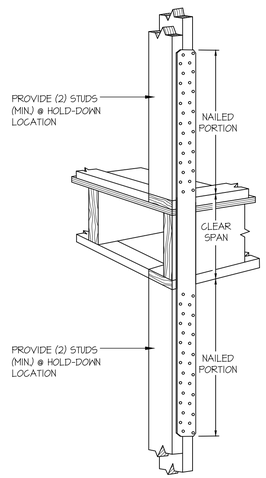
A TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE SIMPSON STHD HD @ FOUNDATION



B TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE SIMPSON STHD HD @ FLOOR FRAMING



C TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE SIMPSON STRAP HD @ FLOOR FRAMING

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RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 350, San Diego, CA 92121
p 619-630-0010 • mulhernkulp.com

seal: NICHOLAS J. MARTIGNETTI STATE OF WASHINGTON 56478 REGISTERED PROFESSIONAL ENGINEER

M&K project number: 154-19020

project mgr: NJM
drawn by: RJZ
issue date: 01-29-21

REVISIONS:

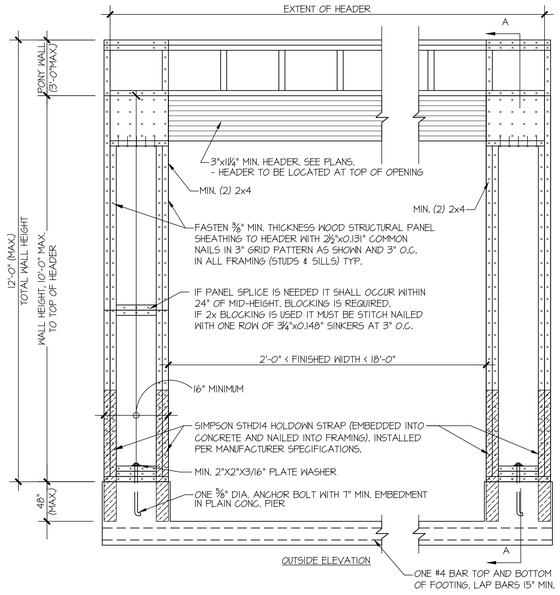
date:	initial:

JAYMARC HOMES

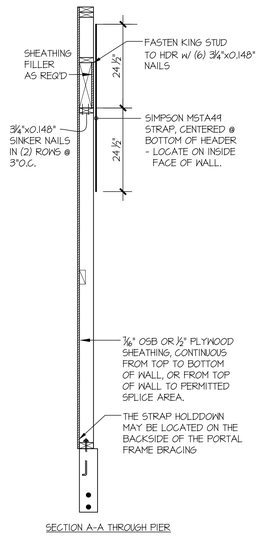
STRUCTURAL DETAILS

PONTES RESIDENCE
2429 74TH AVE SE
MERCER ISLAND, WASHINGTON

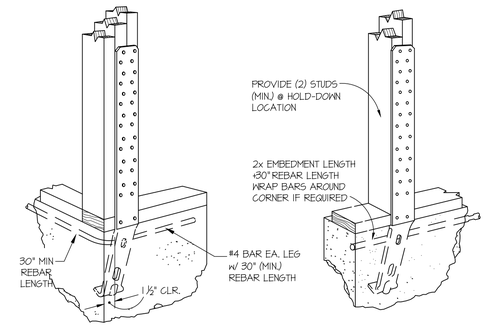
sheet: LB-2



OUTSIDE ELEVATION

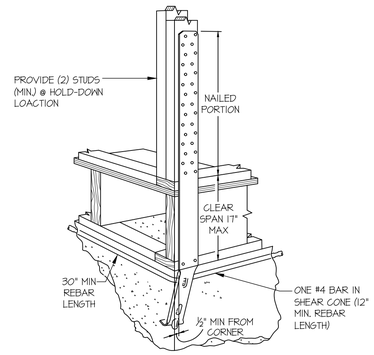


SECTION A-A THROUGH PIER

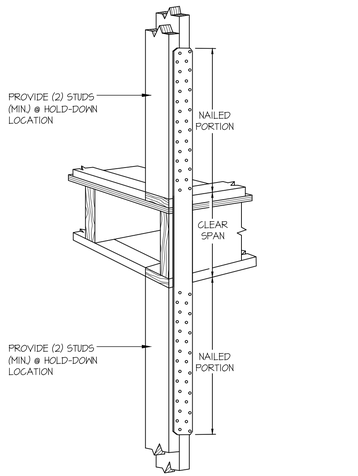


CORNER INSTALLATION EDGE INSTALLATION

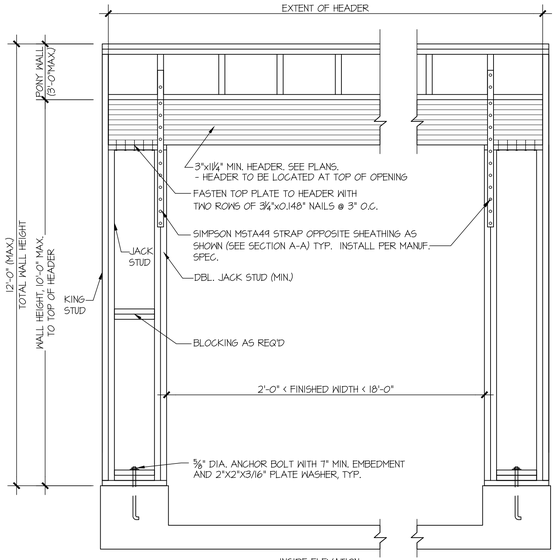
A TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE — SIMPSON STHD HD @ FOUNDATION



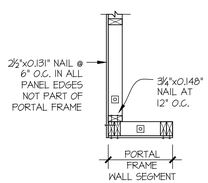
B TYPICAL HOLD-DOWN INSTALLATION
NOT TO SCALE — SIMPSON STHD HD @ FLOOR FRAMING



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



INSIDE ELEVATION



PLAN VIEW OF CORNER DETAIL

1 APA PORTAL FRAME DETAIL WITH HOLDOWNS

SCALE: N.T.S.

seal: NICHOLAS J. MARTIGNETTI — STATE OF WASHINGTON — 36478 — REGISTERED PROFESSIONAL ENGINEER

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RESIDENTIAL STRUCTURAL ENGINEERING
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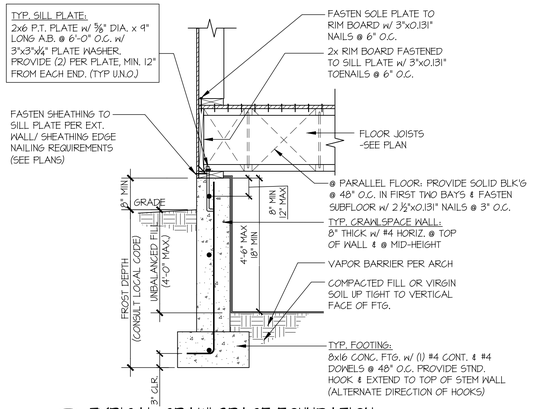
date:	initial:

JAYMARC HOMES

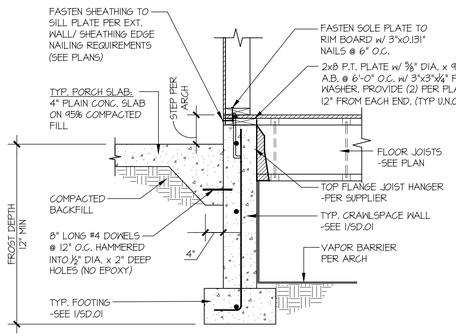
STRUCTURAL DETAILS

PONTES RESIDENCE
2429 74TH AVE SE
MERCER ISLAND, WASHINGTON

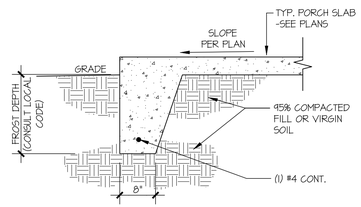
sheet: LB-3



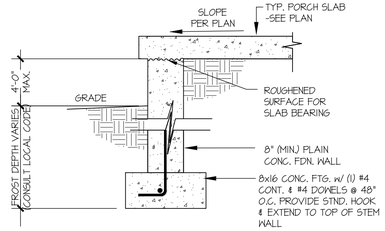
1 TYPICAL CRAWLSPACE FOUNDATION
SCALE: 3/4"=1'-0"



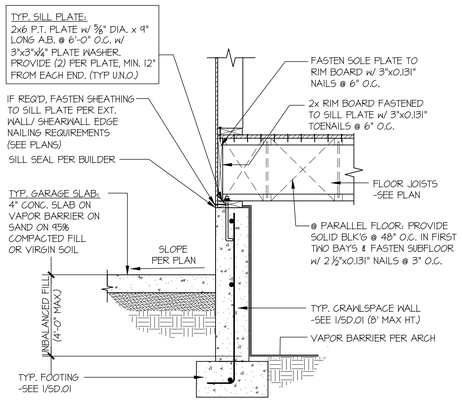
2 TYPICAL CRAWLSPACE FOUNDATION @ PORCH SLAB
SCALE: 3/4"=1'-0"



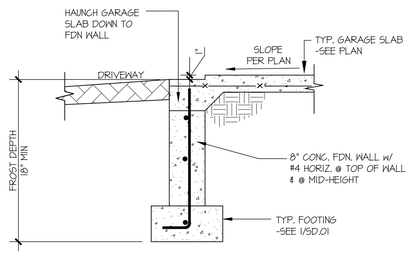
3 TYPICAL FOOTING @ PORCH SLAB
SCALE: 3/4"=1'-0"



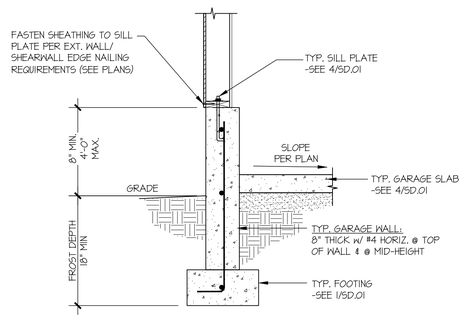
3A TYPICAL FOOTING @ PORCH SLAB
SCALE: 3/4"=1'-0"



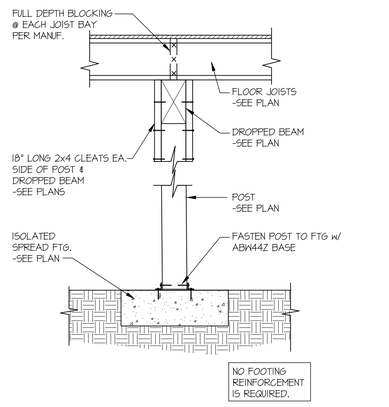
4 TYPICAL CRAWLSPACE FOUNDATION @ GARAGE
SCALE: 3/4"=1'-0"



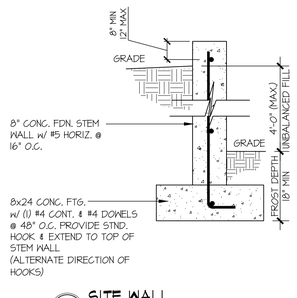
5 TYPICAL CONCRETE FOOTING @ GARAGE DOOR OPENING
SCALE: 3/4"=1'-0"



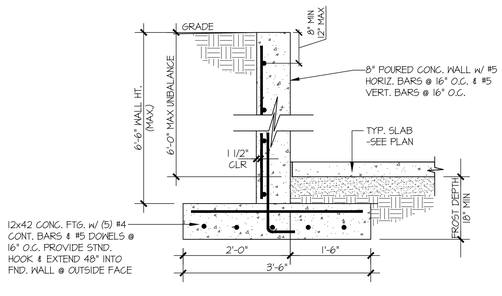
6 TYPICAL EXT. GARAGE FOUNDATION
SCALE: 3/4"=1'-0"



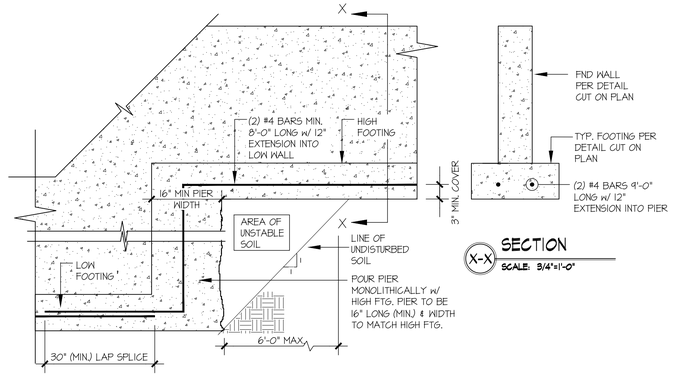
7 TYPICAL CRAWL SPACE FOOTING DETAIL
SCALE: 3/4"=1'-0"



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



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



10 TYPICAL STEPPED FOOTING
SCALE: 3/4"=1'-0"

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

seal:
NICHOLAS J. MARTIGNETTI
STATE OF WASHINGTON
86478
REGISTERED
PROFESSIONAL ENGINEER

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REVISIONS:
date: initial:

JAYMARC HOMES

STRUCTURAL DETAILS

PONTES RESIDENCE
2429 74TH AVE SE
MERCER ISLAND, WASHINGTON

sheet:
SD.01

TYPAR Weather Protection System

Vertical wall Installation

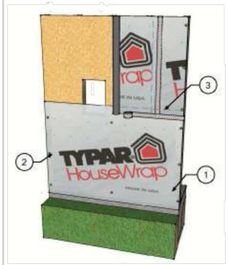
Install Typar® HouseWrap over an approved exterior sheathing after the framing is complete and before the windows and doors have been installed. Plastic capped fasteners should be used and spaced at 32" OC (vertically and horizontally) when being applied over 7/16" OSB or 15/32" plywood. When installing 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

TYPAR Weather Protection System

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.

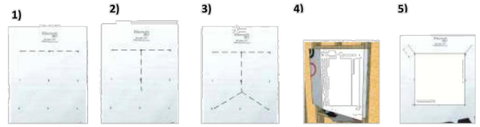
STEP 4

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.

1) 2) 3) 4) 5)



pgi

TYPAR Weather Protection System

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

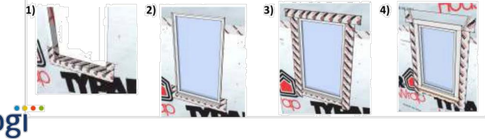
Cut two pieces of Typar Flashing long enough to extend 1" above the window head flange and 1" below the window sill flange. Carefully peel off the release liner and apply the flashing on both sides of the window. Make sure to cover the entire window flange, press firmly either by hand or using a J-roller. 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.

1) 2) 3) 4)



pgi

TYPAR Weather Protection System

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

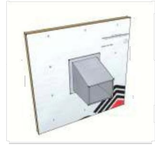
Flash the vent using the same method as windows. Starting at the bottom flange; cut the flashing so that it extends past the flanges by 1" on both sides. Now apply the flashing to the sides of the vent. Remember to extend the flashing 1" on both top and bottom. Make sure to smooth out wrinkles and air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

1)



2)

3)

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

For more information, visit www.Typar.com

MADE IN USA. ICC #ESR-1404 • CCMC #12884-R • CCMC #12892-R
Please visit typar.com for installation instructions and warranty information

pgi

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		
△		

Job Number:

plan name: --
marketing name:
plan number: --
mark sys. number: --

Submittal Date

Sheet Title/Description

Design Firm

Drawn by:

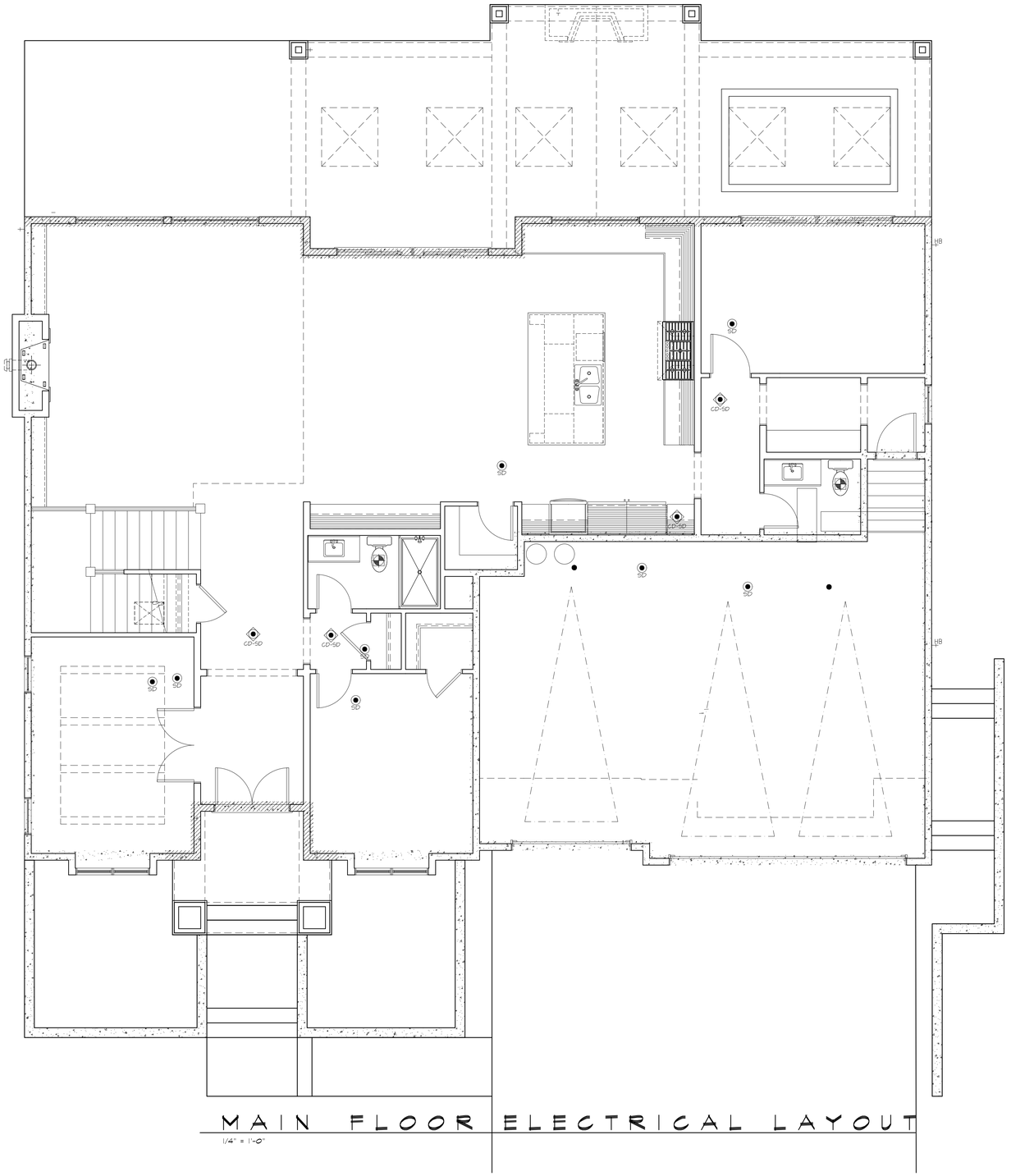
Checked by:

Primary Scale

Sheet Title/Description

D1

of: .



MAIN FLOOR ELECTRICAL LAYOUT

1/4" = 1'-0"

MAIN FLOOR ELECTRICAL KEY

Symbol	ELECTRICAL SYMBOL KEY
	LIGHT FIXTURES
	RECESSED CAN LIGHT
	RECESSED CAN - EYEBALL
	CEILING SURFACE MOUNT LIGHT
	WALL SURFACE MOUNT LIGHT
	WALL SCONCE
	OUTLETS
	DUPLEX OUTLET
	SPECIAL PURPOSE OUTLET (i.e. M.P. - G.F.I.)
SWITCHED	SWITCHED DUPLEX OUTLET
220V	RANGE/DRYER 220V OUTLET
APPLIANCE POWER	DIRECT WIRE CONNECTION
T	THERMOSTAT
	UNDER-COUNTER OR CONCEALED OUTLETS
CEILING	CEILING MOUNTED DUP. OUTLET
	FLOOR OUTLET
	SWITCHES
S	SINGLE POLE SWITCH
S3	THREE-WAY SWITCH
S4	FOUR-WAY SWITCH
SD	DIMMER SWITCH
	MISC FIXTURES
	EXHAUST FAN
	EXHAUST FAN/LIGHT
SMOKE	SMOKE DETECTOR
PANEL	ELECTRICAL PANEL
	LOW VOLTAGE
LV	LOW VOLTAGE
H.B.	FROST FREE HOSE BIB
L.P.	L.P. OUTLET FOR BBQ
GAS	GAS
S	SPEAKER LOCATION
SECURITY	SECURITY CAMERA
	DOORBELL BUTTON
S	SPRINKLER LOCATION

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By	Description
△			

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

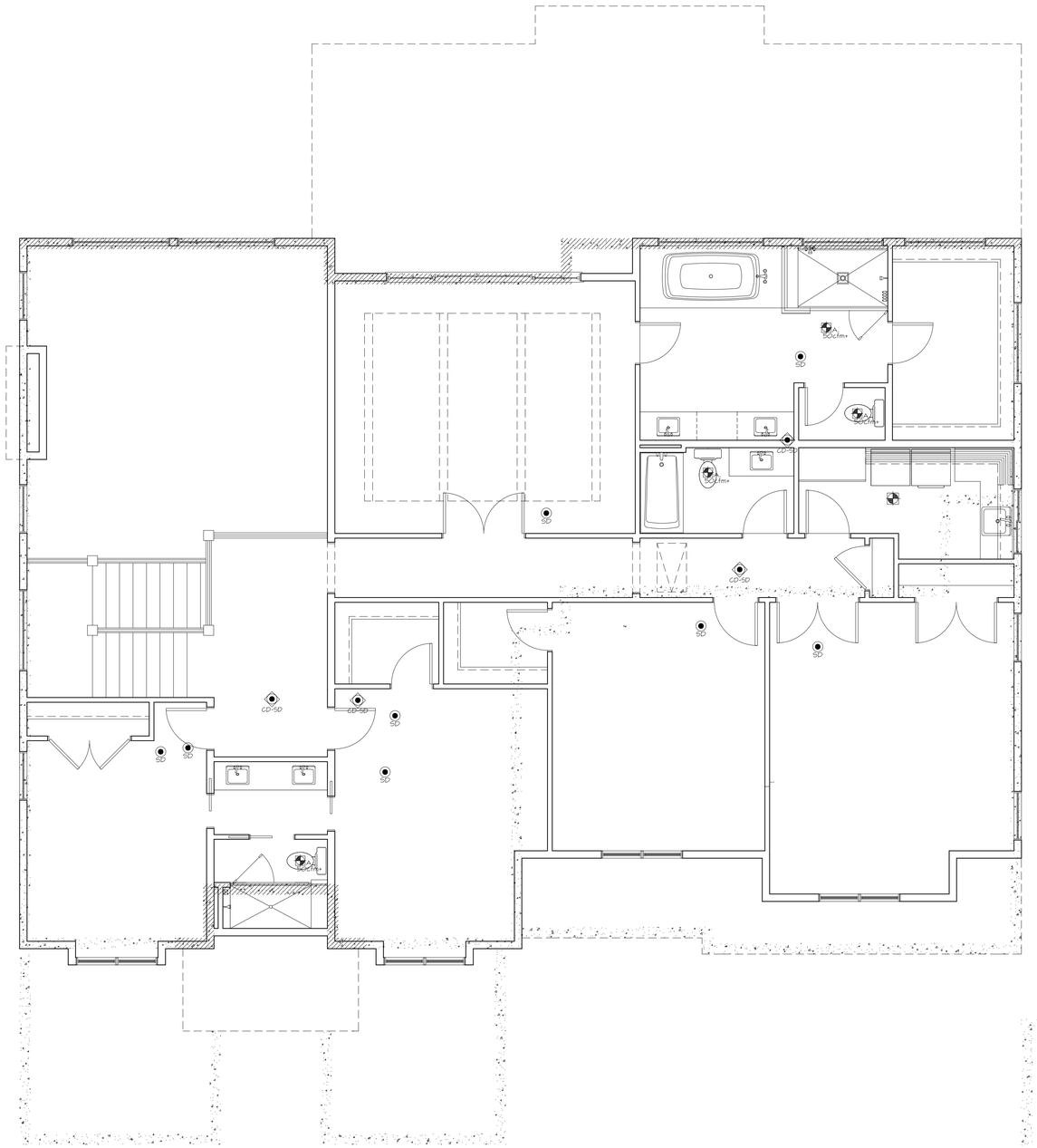
RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

E1
of: .

Sheet Title/Description



UPPER FLOOR ELECTRICAL LAYOUT

1/4" = 1'-0"

B
A12

UPPER FLOOR ELECTRICAL KEY

ELECTRICAL SYMBOL KEY

board	control	symbol	
			LIGHT FIXTURES
			RECESSED CAN LIGHT
			RECESSED CAN - EYEBALL
			CEILING SURFACE MOUNT LIGHT
			WALL SURFACE MOUNT LIGHT
			WALL SCONCE
			OUTLETS
			DUPLEX OUTLET
			SPECIAL PURPOSE OUTLET (i.e. A.P. - S.P.)
		SWITCHED	SWITCHED DUPLEX OUTLET
		220	RANGE/DRYER 220V OUTLET
	APPLIANCE/ POWER		DIRECT WIRE CONNECTION
		T	THERMOSTAT
			UNDER-COUNTER OR CONCEALED OUTLETS
		CEILING	CEILING MOUNTED DUP. OUTLET
			FLOOR OUTLET
			SWITCHES
			SINGLE POLE SWITCH
		3	THREE-WAY SWITCH
		4	FOUR-WAY SWITCH
		D	DIMMER SWITCH
			MISC FIXTURES
			EXHAUST FAN
			EXHAUST FAN/LIGHT
		SD	SMOKE DETECTOR
		PANEL	ELECTRICAL PANEL
			LOW VOLTAGE
			LOW VOLTAGE
		H.B.	FROST FREE HOSE BIB
		L.P.	L.P. OUTLET FOR BBQ
		GAS	GAS
		S	SPEAKER LOCATION
	SECURITY		SECURITY CAMERA
			DOORBELL BUTTON
		S	SPRINKLER LOCATION

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By	Description
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2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
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01.29.21
Submittal Date

Sheet Title/Description

Design Firm

RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

E2
of: .

Sheet Title/Description

Window, Skylight and Door Schedule

Project Information
New SFR
2429 74TH AVE SE
MERCER ISLAND, WA. 98040

Contact Information
JayMarc Homes
7525 SE 24th St, #487
Mercer Island, WA. 98040

	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)	WSEC	0.25	1	3	0	8	0	24.0	6.00
Exempt Glazed Fenestration (15 sq. ft. max.)	WSEC	.25	1	2	8	8	0	21.3	5.33

Vertical Fenestration (Windows and doors)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	Area	UA
Great Room	WSEC	0.29	2	3	0	5	0	30.0	8.70
Great Room	WSEC	0.26	2	6	0	5	0	60.0	15.60
Great Room	WSEC	0.28	2	6	0	5	0	60.0	16.80
Kitchen	WSEC	0.28	1	5	0	4	6	22.5	6.30
Bed 5	WSEC	0.28	1	6	0	6	0	36.0	10.08
Dining	WSEC	0.28	1	6	0	6	0	36.0	10.08
Study	WSEC	0.28	1	6	0	6	0	36.0	10.08
2 Story Great Room	WSEC	0.29	2	3	0	5	0	30.0	8.70
2 Story Great Room	WSEC	0.26	2	6	0	5	0	60.0	15.60
Mst. Bedroom	WSEC	0.28	1	10	0	5	0	50.0	14.00
Mst. Bath	WSEC	0.29	1	2	0	4	0	8.0	2.32
Mst. Bath	WSEC	0.28	1	5	0	5	0	25.0	7.00
Mst. Bath	WSEC	0.26	1	2	6	4	0	10.0	2.60
Laundry	WSEC	0.29	1	2	6	4	0	10.0	2.90
Media	WSEC	0.26	2	2	0	2	0	8.0	2.08
Media	WSEC	0.28	1	5	0	5	0	25.0	7.00
Bedroom 2	WSEC	0.28	1	5	0	5	0	25.0	7.00
Bedroom 3	WSEC	0.28	1	5	0	5	6	27.5	7.70
Bedroom 4	WSEC	0.28	1	5	0	5	6	27.5	7.70
2 Story Foyer	WSEC	0.26	1	6	0	5	0	30.0	7.80
Bedroom 4	WSEC	0.26	2	2	0	4	0	16.0	4.16
Stairwell	WSEC	0.26	1	5	0	6	0	30.0	7.80
Stairwell	WSEC	0.26	1	5	0	3	0	15.0	3.90
								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
								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
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00

Sum of Vertical Fenestration Area and UA 677.5 185.90
Vertical Fenestration Area Weighted U = UA/Area 0.27

Overhead Glazing (Skylights)

Component Description	Ref.	U-factor	Qt.	Width Feet	Inch	Height Feet	Inch	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

2x12
TRIM

Sum of Overhead Glazing Area and UA 0.0 0.00
Overhead Glazing Area Weighted U = UA/Area 0.00

Total Sum of Fenestration Area and UA ***(for heating system sizing calculations)*** 722.8 197.23

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2015 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This calculator will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please fill out all of 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 call the WSU Energy Extension Program at (360) 956-2042 for assistance.

Project Information
New SFR
2429 74TH AVE SE
MERCER ISLAND, WA. 98040

Contact Information
JayMarc Homes
7525 SE 24th St, #487
MERCER ISLAND, WA. 98040

Heating System Type: ● All Other Systems ○ Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions".

Design Temperature
Instructions
Mercer Island
Design Temperature Difference (ΔT) 45
ΔT = Indoor (70 degrees) - Outdoor Design Temp

Area of Building
Conditioned Floor Area
Instructions
Conditioned Floor Area (sq ft) 3,762
Average Ceiling Height
Instructions
Average Ceiling Height (ft) 9.0
Conditioned Volume 33,858

Section	Selection	U-Factor / F-Factor	X	Area / Length	=	UA
Glazing and Doors	U-0.28	0.280	X	723	=	202.44
Skylights		0.50	X		=	---
Insulation – Attic	R-49	0.026	X	1,934	=	50.28
Single Rafter or Joist Vaulted Ceilings	Select R-Value	No selection	X			---
Above Grade Walls *(see Figure 1)*	R-21 Intermediate	0.056	X	3,762		210.67
Floors	R-38	0.025	X	3,762		94.05
Below Grade Walls *(see Figure 1)*	Select R-value	No selection	X			---
Slab Below Grade *(see Figure 1)*	Select conditioning	No selection (F-Factor)	X	(Length)		---
Slab on Grade *(see Figure 1)*	R-10 Fully Insulated	0.360 (F-Factor)	X	0 (Length)		

Each section: Instructions

Location of Ducts
Instructions
Conditioned Space
Duct Leakage Coefficient 1.00

Figure 1.

Sum of UA	557.45	
Envelope Heat Load *Sum of UA X ΔT*	25,085	Btu / Hour
Air Leakage Heat Load *Volume X 0.6 X ΔT X .018*	16,455	Btu / Hour
Building Design Heat Load *Air Leakage + Envelope Heat Loss*	41,540	Btu / Hour
Building and Duct Heat Load *Ducts in unconditioned space: Sum of Building Heat Loss X 1.10* *Ducts in conditioned space: Sum of Building Heat Loss X 1*	41,540	Btu / Hour
Maximum Heat Equipment Output *Building and Duct Heat Loss X 1.40 for Forced Air Furnace* *Building and Duct Heat Loss X 1.25 for Heat Pump*	58,156	Btu / Hour

(07/01/13)

Prescriptive Energy Code Compliance for All Climate Zones in Washington

Project Information
New SFR
2429 74TH AVE SE
MERCER ISLAND, WA. 98040

Contact Information
JayMarc Homes
7525 SE 24th St, #487
Mercer Island, WA. 98040

This project will use the requirements of the Prescriptive Path below and incorporate the the minimum values listed. In addition, based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Authorized Representative ____________________ Date ____________________

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

*Table R402.1.1 and Table R402.1.3 Footnotes included on Page 2.

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:

☐ **1. Small Dwelling Unit: 1.5 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 that are 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.

☐ **4. Additions less than 500 square feet: .5 credits**

Table R406.2 Summary

Option	Description	Credit(s)		
1a	Efficient Building Envelope 1a	0.5	☑	0.5
1b	Efficient Building Envelope 1b	1.0	☐	
1c	Efficient Building Envelope 1c	2.0	☐	
1d	Efficient Building Envelope 1d	0.5	☐	
2a	Air Leakage Control and Efficient Ventilation 2a	0.5	☐	
2b	Air Leakage Control and Efficient Ventilation 2b	1.0	☐	
2c	Air Leakage Control and Efficient Ventilation 2c	1.5	☐	
3a	High Efficiency HVAC 3a	1.0	☑	1.0
3b	High Efficiency HVAC 3b	1.0	☐	
3c	High Efficiency HVAC 3c	1.5	☐	
3d	High Efficiency HVAC 3d	1.0	☐	
4	High Efficiency HVAC Distribution System	1.0	☐	
5a	Efficient Water Heating 5a	0.5	☑	0.5
5b	Efficient Water Heating 5b	1.0	☐	
5c	Efficient Water Heating 5c	1.5	☑	1.5
5d	Efficient Water Heating 5d	0.5	☐	
6	Renewable Electric Energy	0.5	*1200 kwh	0.0
Total Credits				**3.50**

*Please refer to Table R406.2 for complete option descriptions

Table R402.1.1 Footnotes

For SI: 1 foot .= 304.8 mm, ci .= continuous insulation, int .= intermediate framing.

[a] R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

[b] The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

[c] "10/15/21.+TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21.+TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall. "TB" means thermal break between floor slab and basement wall.

[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.

[f] Reserved.

[g] Reserved.

[h] Reserved.

[i] The second R-value applies when more than half the insulation is on the interior of the mass wall.

[j] Reserved.

[k] For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38.

[l] Reserved.

[m] Int. (intermediate framing) denotes standard framing 16 inches on center with headers insulated with a minimum of R-10 insulation.

Table R402.1.3 Footnote

[a] Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source or as specified in Section R402.1.3.

ENERGY SHEET 1

JAYMARC
HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By
Description		

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC.) or those of the local municipality 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.

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

Sheet Title/Description

EN1
of: .

2015 WSEC. COMPLIANCE NOTES:

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 1 INCH (25 MM) IN HEIGHT. EACH MARKER SHALL FACE THE ATTIC ACCESS OPENING. SPRAY POLYURETHANE FOAM THICKNESS AND INSTALLED 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), R303.1.3(2) OR R303.1.3(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:
1. 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 75°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:
1. 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 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:
1. THOSE WITH A PEAK DESIGN RATE OF ENERGY USAGE LESS THAN 3.4 BTU/H FT2 (10.7 W/M2) OR 1.0 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.

R402.1.1 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 3.

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 R402.1.1.

TABLE R402.1.1
INSULATION and FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	5 and MARINE 4
FENESTRATION U-FACTOR ^{B}	0.28
SKYLIGHT^{B} U-FACTOR	0.50
GLAZED FENESTRATION SHGC$^{B, E}$	NR
CEILING R-VALUE ^{K}	49
WOOD FRAME WALL^{G,M,N} R-VALUE	21 INT
MASS WALL R-VALUE ^{I}	21/21
FLOOR R-VALUE	38
BELOW-GRADE^{C,M} WALL R-VALUE	10/15/21 INT + TB
SLAB^{D} R-VALUE & DEPTH	10, 2 FT

FOOTNOTES TO TABLE R402.1.1

CI = CONTINUOUS INSULATION, INT = INTERMEDIATE FRAMING.

A R-VALUES ARE MINIMUMS. U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE COMPRESSED R-VALUE OF THE INSULATION FROM APPENDIX TABLE A101.4 SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.

B THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SHGC COLUMN APPLIES TO ALL GLAZED FENESTRATION.

C "10/15/21 +TB" MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL AT THE INTERIOR OF THE BASEMENT WALL. "10/15/21 +TB" SHALL BE PERMITTED TO BE MET WITH R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. "TB" MEANS THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.

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 or 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 UA (SUM OF U-FACTOR TIMES ASSEMBLY AREA) IS LESS THAN OR EQUAL TO THE TOTAL UA RESULTING FROM USING THE U-FACTORS IN TABLE R402.1.3 (MULTIPLIED BY THE SAME ASSEMBLY AREA AS IN THE PROPOSED BUILDING), THE BUILDING SHALL BE CONSIDERED IN COMPLIANCE WITH TABLE R402.1.1. THE U-FACTORS FOR TYPICAL CONSTRUCTION ASSEMBLIES ARE INCLUDED 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 HANDBOOK OF FUNDAMENTALS USING THE FRAMING FACTORS LISTED IN APPENDIX A WHERE APPLICABLE AND SHALL INCLUDE THE THERMAL BRIDGING EFFECTS OF FRAMING MATERIALS. THE SHGC REQUIREMENTS SHALL BE MET IN ADDITION TO UA COMPLIANCE. WHEN USING RESCHECK, THE U-FACTORS CALCULATED BY THE SOFTWARE BASED ON COMPONENT R-VALUE DESCRIPTIONS ARE ACCEPTABLE. FOR THE BASE BUILDING UA CALCULATION, THE MAXIMUM GLAZING AREA IS 15% OF THE FLOOR AREA.

R402.1.5 VAPOR RETARDER.

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 SECTION R402.1.1 WOULD REQUIRE R-49 IN THE CEILING, INSTALLING R-38 OVER 100 PERCENT OF THE CEILING AREA REQUIRING INSULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENT FOR R-49 WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-38 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. THIS REDUCTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN SECTION R402.1.3 AND THE TOTAL UA ALTERNATIVE IN SECTION R402.1.4.

R402.2.1.1 LOOSE INSULATION IN ATTIC SPACES.

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.

R402.2.3 EAVE BAFFLE.

FOR AIR PERMEABLE INSULATIONS IN VENTED ATTICS, A BAFFLE SHALL BE INSTALLED ADJACENT TO SOFFIT AND EAVE VENTS. BAFFLES SHALL MAINTAIN AN OPENING EQUAL OR GREATER THAN THE SIZE OF THE VENT. THE BAFFLE SHALL EXTEND OVER THE TOP OF THE ATTIC INSULATION. THE BAFFLE SHALL BE PERMITTED TO BE ANY SOLID MATERIAL.

R402.2.4 ACCESS HATCHES AND DOORS.

ACCESS DOORS FROM CONDITIONED SPACES TO UNCONDITIONED SPACES (E.G., ATTICS AND CRAWL SPACES) SHALL BE WEATHERSTRIPPED 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 REQUIRED TO BE PROVIDED WHEN LOOSE FILL INSULATION IS INSTALLED, THE PURPOSE OF WHICH IS TO PREVENT THE LOOSE FILL INSULATION FROM SPILLING INTO THE LIVING SPACE WHEN THE ATTIC ACCESS IS OPENED, AND TO PROVIDE A PERMANENT MEANS OF 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 FLOORS.

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:
1. 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 R-VALUE IN TABLE R402.1.1 AND EXTENDS FROM THE BOTTOM TO THE TOP OF ALL PERIMETER FLOOR FRAMING MEMBERS.
2. WHEN FOUNDATION VENTS ARE NOT PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION, A 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.
3. SUBSTANTIAL CONTACT WITH THE SURFACE BEING INSULATED IS NOT REQUIRED IN ENCLOSED FLOOR/CEILING ASSEMBLIES CONTAINING DUCTS 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).

THE ENTIRE AREA OF A HEATED SLAB-ON-GRADE FLOOR SHALL BE THERMALLY ISOLATED FROM THE SOIL WITH A MINIMUM OF R-10 INSULATION. 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.

R402.2.11 MASONRY VENEER.

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

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).

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 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 MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION. WHERE 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 R402.4.1.1), OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

DURING TESTING:
1. EXTERIOR WINDOWS AND DOORS, FIREPLACE AND STOVE DOORS SHALL BE CLOSED, BUT NOT SEALED, BEYOND THE INTENDED WEATHERSTRIPPING or OTHER INFILTRATION CONTROL MEASURES;
2. DAMPERS INCLUDING EXHAUST, INTAKE, MAKEUP AIR, BACKDRAFT AND FLUE DAMPERS SHALL BE CLOSED, BUT NOT SEALED BEYOND INTENDED INFILTRATION CONTROL MEASURES;
3. INTERIOR DOORS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE OPEN, ACCESS HATCHES TO CONDITIONED CRAWL SPACES AND CONDITIONED ATTICS SHALL BE OPEN;
4. EXTERIOR OPENINGS FOR CONTINUOUS VENTILATION SYSTEMS AND HEAT RECOVERY VENTILATORS SHALL BE CLOSED AND SEALED;
5. HEATING AND COOLING SYSTEMS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE TURNED OFF; and
6. SUPPLY AND RETURN REGISTERS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE FULLY OPEN.

EXCEPTIONS:
1. 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.

R402.4.2 FIREPLACES.

NEW WOOD-BURNING FIREPLACES SHALL HAVE TIGHT-FITTING FLUE DAMPERS OR DOORS AND OUTDOOR COMBUSTION AIR. WHEN USING TIGHT-FITTING DOORS ON FACTORY-BUILT FIREPLACES LISTED AND LABELED IN ACCORDANCE WITH UL 127, THE DOORS SHALL BE TESTED AND LISTED FOR THE FIREPLACE. WHERE USING TIGHT-FITTING DOORS ON MASONRY FIREPLACES, THE DOORS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 907.

R402.4.3 AIR LEAKAGE OF FENESTRATION.

WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT (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 101/I.S.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.

EXCEPTIONS:
1. 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.

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 ROOM ISOLATED FROM INSIDE THE THERMAL ENVELOPE. SUCH ROOMS SHALL BE SEALED AND INSULATED IN ACCORDANCE WITH THE ENVELOPE REQUIREMENTS OF TABLE R402.1.1, WHERE THE WALLS, FLOORS AND CEILINGS SHALL MEET THE MINIMUM OF THE BELOW-GRADE WALL R-VALUE REQUIREMENT. THE DOOR INTO THE ROOM SHALL BE FULLY GASKETED AND ANY WATER LINES AND DUCTS IN THE ROOM 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.

EXCEPTIONS:
1. 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 R1006 OF THE INTERNATIONAL RESIDENTIAL CODE.

R402.4.5 RECESSED LIGHTING.

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 SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

R402.5 MAXIMUM FENESTRATION U-FACTOR (MANDATORY).

THE AREA-WEIGHTED AVERAGE MAXIMUM FENESTRATION U-FACTOR PERMITTED USING TRADEOFFS FROM SECTION R402.1.4 or R405 SHALL BE 0.48 FOR VERTICAL FENESTRATION, AND 0.75 FOR SKYLIGHTS.

TABLE R402.4.1.1
AIR BARRIER and INSULATION INSTALLATION

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

SECTION R403 SYSTEMS

R403.1 CONTROLS (MANDATORY).

AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.

R403.1.1 PROGRAMMABLE THERMOSTAT.

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:
1. 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 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.

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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).

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.

EXCEPTIONS:
1. 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.

R403.3.2.1 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 10 LINEAR FEET OF RETURN DUCTS AND 5 LINEAR FEET OF SUPPLY DUCTS MAY BE LOCATED OUTSIDE THE CONDITIONED SPACE. ALL METALLIC DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST HAVE BOTH TRANSVERSE AND LONGITUDINAL JOINTS SEALED WITH MASTIC. IF FLEX DUCTS ARE USED, THEY CANNOT CONTAIN SPLICES. FLEX DUCT CONNECTIONS MUST BE MADE WITH NYLON STRAPS AND INSTALLED USING A PLASTIC STRAPPING TENSIONING TOOL. DUCTS LOCATED 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:
1. 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 0.1 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 TO4 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 0.1 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 TEST.

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 OF 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 R403.5.5.

R403.5.1 HEATED WATER CIRCULATION AND TEMPERATURE MAINTENANCE SYSTEM (MANDATORY).

HEATED WATER CIRCULATION SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION R403.5.1.1.

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:
1. 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 or ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10.

R403.6 MECHANICAL VENTILATION (MANDATORY).

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 or 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.

ENERGY SHEET 2

Sheet Title/Description

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue	Issue Date	By
Description		
△ .	.	.
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2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number:--

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC.) or those of the local municipality 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.

01.29.21
Submittal Date

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Sheet Title/Description

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Design Firm

RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

EN2
of: .

2015 WSEC COMPLIANCE NOTES - SHEET 3

2015 WASH. STATE ENERGY CODE (WSEC)

R403.6 MECHANICAL VENTILATION (MANDATORY).
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 or 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.

TABLE R403.6.1
MECHANICAL VENTILATION SYSTEM FAN EFFICACY

FAN LOCATION	AIR FLOW RATEMINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)
RANGE HOODS	ANY	2.8 CFM/WATT	ANY
IN-LINE FAN	ANY	2.8 CFM/WATT	ANY
BATHROOM, UTILITY ROOM	10	1.4 CFM/WATT	< 90
BATHROOM, UTILITY ROOM	90	2.8 CFM/WATT	ANY

R403.7 EQUIPMENT SIZING AND EFFICIENCY RATING (MANDATORY).
HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES. THE OUTPUT CAPACITY OF HEATING AND COOLING EQUIPMENT SHALL NOT BE GREATER THAN THAT OF THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED, INCLUDING ALLOWABLE OVERSIZING LIMITS. NEW OR REPLACEMENT HEATING AND COOLING EQUIPMENT SHALL HAVE AN EFFICIENCY RATING EQUAL TO OR GREATER THAN THE MINIMUM REQUIRED BY FEDERAL LAW FOR THE GEOGRAPHIC LOCATION WHERE THE EQUIPMENT IS INSTALLED.

R403.7.1 ELECTRIC RESISTANCE ZONE HEATED UNITS.
ALL DETACHED ONE- AND TWO-FAMILY DWELLINGS 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.
EXCEPTION: TOTAL INSTALLED HEATING CAPACITY OF 2KW PER DWELLING OR LESS.

R403.8 SYSTEMS SERVING MULTIPLE DWELLING UNITS (MANDATORY).
SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC--COMMERCIAL PROVISIONS IN LIEU OF SECTION R403.

R403.9 SNOW MELT SYSTEM CONTROLS (MANDATORY).
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.

R403.10 POOL AND PERMANENT SPA ENERGY CONSUMPTION (MANDATORY).
POOLS AND PERMANENT SPAS SHALL COMPLY WITH SECTIONS R403.10.1 THROUGH R403.10.4.2.

R403.10.1 HEATERS.
THE ELECTRIC POWER TO HEATERS SHALL BE CONTROLLED BY A READILY ACCESSIBLE ON-OFF SWITCH THAT IS AN INTEGRAL PART OF THE HEATER MOUNTED ON THE EXTERIOR OF THE HEATER, OR EXTERNAL TO AND WITHIN 3 FEET (914 MM) OF THE HEATER. OPERATION OF SUCH SWITCH SHALL NOT CHANGE THE SETTINGS OF THE HEATER THERMOSTAT. SUCH SWITCHES SHALL BE IN ADDITION TO A CIRCUIT BREAKER FOR THE POWER TO THE HEATER. GAS- FIRED HEATERS SHALL NOT BE EQUIPPED WITH CONSTANT BURNING PILOT LIGHTS.

R403.10.2 TIME SWITCHES.
TIME SWITCHES OR OTHER CONTROL METHOD THAT CAN AUTOMATICALLY TURN OFF AND ON ACCORDING TO A PRESET SCHEDULE SHALL BE INSTALLED FOR HEATERS AND PUMP MOTORS. HEATERS AND PUMP MOTORS THAT HAVE BUILT IN TIME SWITCHES SHALL BE DEEMED IN COMPLIANCE WITH THIS REQUIREMENT.
EXCEPTIONS:
1. WHERE PUBLIC HEALTH STANDARDS REQUIRE 24-HOUR PUMP OPERATION.
2. PUMPS THAT OPERATE SOLAR- AND WASTE-HEAT-RECOVERY POOL HEATING SYSTEMS.

R403.10.3 COVERS.
OUTDOOR HEATED POOLS AND OUTDOOR PERMANENT SPAS SHALL BE PROVIDED WITH A VAPOR-RETARDANT COVER, OR OTHER APPROVED VAPOR RETARDANT MEANS.
EXCEPTION: WHERE MORE THAN 50 PERCENT OF THE ENERGY FOR HEATING, COMPUTED OVER AN OPERATING SEASON, IS FROM SITE-RECOVERED ENERGY, SUCH AS FROM A HEAT PUMP OR SOLAR ENERGY SOURCE, COVERS OR OTHER VAPOR-RETARDANT MEANS SHALL NOT BE REQUIRED.

R403.10.4 RESIDENTIAL POOL PUMPS.
POOL PUMP MOTORS MAY NOT BE SPLIT-PHASE OR CAPACITOR START-INDUCTION RUN TYPE.
R403.10.4.1 TWO-SPEED CAPABILITY.
1. PUMP MOTORS: POOL PUMP MOTORS WITH A CAPACITY OF 1 HP OR MORE SHALL HAVE THE CAPABILITY OF OPERATING AT TWO OR MORE SPEEDS WITH LOW SPEED HAVING A ROTATION RATE THAT IS NO MORE THAN ONE-HALF OF THE MOTOR'S MAXIMUM ROTATION RATE.
2. PUMP CONTROLS: POOL PUMP MOTOR CONTROLS SHALL HAVE THE CAPABILITY OF OPERATING THE POOL PUMP WITH AT LEAST TWO SPEEDS, THE DEFAULT CIRCULATION SPEED SHALL BE THE LOWEST SPEED, WITH A HIGH SPEED OVERRIDE CAPABILITY BEING FOR A TEMPORARY PERIOD NOT TO EXCEED ONE NORMAL CYCLE.
R403.10.4.2 PUMP OPERATION.
CIRCULATING WATER SYSTEMS SHALL BE CONTROLLED SO THAT THE CIRCULATION PUMP(S) CAN BE CONVENIENTLY TURNED OFF, AUTOMATICALLY OR MANUALLY, WHEN THE WATER SYSTEM IS NOT IN OPERATION.

R403.11 PORTABLE SPAS (MANDATORY).
THE ENERGY CONSUMPTION OF ELECTRIC-POWERED PORTABLE SPAS SHALL BE CONTROLLED BY THE REQUIREMENTS OF APSP-14.

R403.12 RESIDENTIAL POOLS AND PERMANENT RESIDENTIAL SPAS.
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.

CLIMATE ZONE 5 and MARINE 4							
FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAMED WALL R-VALUE	FLOOR R-VALUE	BELOW GRADE WALL R-VALUE	SLAB R-VALUE & DEPTH
0.30	0.50	NR.	R-49 R-38 VAULTED	R-21	R-30	10/15 R-21 + TB.	R-10 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:
1. 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

R406.1 SCOPE.
THIS SECTION ESTABLISHES OPTIONS FOR ADDITIONAL CRITERIA TO BE MET FOR ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES, AS DEFINED IN SECTION 101.2 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:

1. SMALL DWELLING UNIT: . . . . . 1.5 CREDITS
DWELLINGS 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.

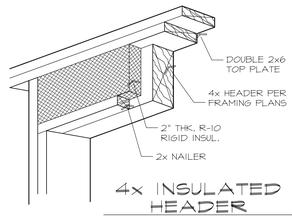
3. LARGE DWELLING UNIT: . . . . . 4.5 CREDITS
DWELLING UNITS EXCEEDING 5000 SQUARE FEET OF CONDITIONED FLOOR AREA.
EXCEPTION: DWELLING UNITS SERVING R-2 OCCUPANCIES SHALL REQUIRE 2.5 CREDITS.

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 CREDITS

OPTION	DESCRIPTION	CREDITS
1a	EFFICIENT BUILDING ENVELOPE 1a: PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28 FLOOR R-38 SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB or COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 5%.	0.5
1b	EFFICIENT BUILDING ENVELOPE 1b: PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.25 WALL R-21 PLUS R-4 FLOOR R-38 BASEMENT WALL R-21 INT PLUS R-5 CI SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB or COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 15%.	1.0
1c	EFFICIENT BUILDING ENVELOPE 1c: PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.22 CEILING AND SINGLE-RAFTER OR JOIST-VAULTED R-49 ADVANCED WOOD FRAME WALL R-21 INT PLUS R-12 CI FLOOR R-38 BASEMENT WALL R-21 INT PLUS R-12 CI SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB or COMPLIANCE BASED ON SECTION R402.1.4: REDUCE THE TOTAL UA BY 30%.	2.0
1d[A]	EFFICIENT BUILDING ENVELOPE 1d: PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.24	0.5
2a	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a: COMPLIANCE BASED ON R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM and ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAXIMUM 0.35 WATTS/CFM), NOT INTERLOCKED WITH THE FURNACE FAN. VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN VENTILATION ONLY MODE. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE MAXIMUM TESTED BUILDING AIR LEAKAGE AND SHALL SHOW THE QUALIFYING VENTILATION SYSTEM.	0.5
2b	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b: COMPLIANCE BASED ON SECTION R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 2.0 AIR CHANGES PER HOUR MAXIMUM and ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.70. 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 HEAT RECOVERY VENTILATION SYSTEM.	1.0
2c	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c: COMPLIANCE BASED ON SECTION R402.4.1.2: REDUCE THE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAXIMUM and ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M1507.3 OF THE INTERNATIONAL RESIDENTIAL CODE SHALL BE MET WITH A HEAT RECOVERY VENTILATION SYSTEM WITH MINIMUM SENSIBLE HEAT RECOVERY EFFICIENCY OF 0.85. 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 HEAT RECOVERY VENTILATION SYSTEM.	1.5
3a[B]	HIGH EFFICIENCY HVAC EQUIPMENT 3a: GAS, PROPANE OR OIL-FIRED FURNACE WITH MINIMUM AFUE OF 94%, or GAS, PROPANE OR OILED-FIRED BOILER WITH MINIMUM AFUE OF 92% 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.	1.0
3b[B]	HIGH EFFICIENCY HVAC EQUIPMENT 3b: AIR-SOURCE HEAT PUMP WITH MINIMUM HSPF OF 9.0 TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.	1.0
3c[B]	HIGH EFFICIENCY HVAC EQUIPMENT 3c: CLOSED-LOOP GROUND SOURCE HEAT PUMP; WITH A MINIMUM COP OF 3.3 or OPEN LOOP WATER SOURCE HEAT PUMP WITH A MAXIMUM PUMPING HYDRAULIC HEAD OF 150 FEET AND MINIMUM COP OF 3.6 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.	1.5
3d[B]	HIGH EFFICIENCY HVAC EQUIPMENT 3d: DUCTLESS SPLIT SYSTEM HEAT PUMPS, ZONAL CONTROL: IN HOMES WHERE THE PRIMARY SPACE HEATING SYSTEM IS ZONAL ELECTRIC HEATING, A DUCTLESS HEAT PUMP SYSTEM SHALL BE INSTALLED AND PROVIDE HEATING TO THE LARGEST ZONE OF THE HOUSING UNIT. 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.	1.0



4x INSULATED HEADER
1" = 1'-0" Per 2015 WSEC Table 402.1.1 FOOTNOTE "K." INTERMEDIATE FRAMING

TABLE 406.2 ENERGY CREDITS (continued)

OPTION	DESCRIPTION	CREDITS
4	HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM: ALL HEATING AND COOLING SYSTEM COMPONENTS INSTALLED INSIDE THE CONDITIONED SPACE. THIS INCLUDES ALL EQUIPMENT AND DISTRIBUTION SYSTEM COMPONENTS SUCH AS FORCED AIR DUCTS, HYDRONIC PIPING, HYDRONIC FLOOR HEATING LOOP, CONVECTORS AND RADIATORS. ALL COMBUSTION EQUIPMENT SHALL BE DIRECT VENT OR SEALED COMBUSTION. FOR FORCED AIR DUCTS: A MAXIMUM OF 10 LINEAR FEET OF RETURN DUCTS AND 5 LINEAR FEET OF SUPPLY DUCTS MAY BE LOCATED OUTSIDE THE CONDITIONED SPACE. ALL METALLIC DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST HAVE BOTH TRANSVERSE AND LONGITUDINAL JOINTS SEALED WITH MASTIC. IF FLEX DUCTS ARE USED, THEY CANNOT CONTAIN SPLICES. FLEX DUCT CONNECTIONS MUST BE MADE WITH NYLON STRAPS AND INSTALLED USING A PLASTIC STRAPPING TENSIONING TOOL. DUCTS LOCATED OUTSIDE THE CONDITIONED SPACE MUST BE INSULATED TO A MINIMUM OF R-8. LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT TYPE AND SHALL SHOW THE LOCATION OF THE HEATING AND COOLING EQUIPMENT AND ALL THE DUCTWORK.	1.0
5a	EFFICIENT WATER HEATING 5a: ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.C TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE MAXIMUM FLOW RATES FOR ALL SHOWERHEADS, KITCHEN SINK FAUCETS, AND OTHER LAVATORY FAUCETS.	0.5
5b	EFFICIENT WATER HEATING 5b: WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING: GAS, PROPANE OR OIL WATER HEATER WITH A MINIMUM EF OF 0.74 or WATER HEATER HEATED BY GROUND SOURCE HEAT PUMP MEETING THE REQUIREMENTS OF OPTION 3c. or FOR R-2 OCCUPANCY, A CENTRAL HEAT PUMP WATER HEATER WITH AN EF GREATER THAN 2.0 THAT WOULD SUPPLY DHW TO ALL THE UNITS THROUGH A CENTRAL WATER LOOP INSULATED WITH R-8 MINIMUM PIPE INSULATION. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.	1.0
5c	EFFICIENT WATER HEATING 5c: WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING: GAS, PROPANE OR OIL WATER HEATER WITH A MINIMUM EF OF 0.91 or SOLAR WATER HEATING SUPPLEMENTING A MINIMUM STANDARD WATER HEATER. SOLAR WATER HEATING WILL PROVIDE A RATED MINIMUM SAVINGS OF 85 THERMS OR 2000 KWH BASED ON THE SOLAR RATING AND CERTIFICATION CORPORATION (SRCC) ANNUAL PERFORMANCE OF OG-300 CERTIFIED SOLAR WATER HEATING SYSTEMS. or ELECTRIC HEAT PUMP WATER HEATER WITH A MINIMUM EF OF 2.0 AND MEETING THE STANDARDS OF NEEA'S NORTHERN CLIMATE SPECIFICATIONS FOR HEAT PUMP WATER HEATERS. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY AND, FOR SOLAR WATER HEATING SYSTEMS, THE CALCULATION OF THE MINIMUM ENERGY SAVINGS.	1.5
5d	EFFICIENT WATER HEATING 5d. A DRAIN WATER HEAT RECOVERY UNIT(S) SHALL BE INSTALLED, WHICH CAPTURES WASTE WATER HEAT FROM ALL THE SHOWERS, AND HAS A MINIMUM EFFICIENCY OF 40% IF INSTALLED FOR EQUAL FLOW OR A MINIMUM EFFICIENCY OF 52% IF INSTALLED FOR UNEQUAL FLOW. SUCH UNITS SHALL BE RATED IN ACCORDANCE WITH CSA B55.1 AND BE SO LABELED. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL INCLUDE A PLUMBING DIAGRAM THAT SPECIFIES THE DRAIN WATER HEAT RECOVERY UNITS AND THE PLUMBING LAYOUT NEEDED TO INSTALL IT AND LABELS OR OTHER DOCUMENTATION SHALL BE PROVIDED THAT DEMONSTRATES THAT THE UNIT COMPLIES WITH THE STANDARD.	0.5
6	RENEWABLE ELECTRIC ENERGY: FOR EACH 1,000 KWH OF ELECTRICAL GENERATION PER HOUSING UNIT PROVIDED ANNUALLY BY ON-SITE WIND OR SOLAR EQUIPMENT A 0.5 CREDIT SHALL BE ALLOWED, UP TO 3 CREDITS. GENERATION SHALL BE CALCULATED AS FOLLOWS: FOR SOLAR ELECTRIC SYSTEMS, THE DESIGN SHALL BE DEMONSTRATED TO MEET THIS REQUIREMENT USING THE NATIONAL RENEWABLE ENERGY LABORATORY CALCULATOR PVWATTS. DOCUMENTATION NOTING SOLAR ACCESS SHALL BE INCLUDED ON THE PLANS. FOR WIND GENERATION PROJECTS DESIGNS SHALL DOCUMENT ANNUAL POWER GENERATION BASED ON THE FOLLOWING FACTORS: THE WIND TURBINE POWER CURVE; AVERAGE ANNUAL WIND SPEED AT THE SITE; FREQUENCY DISTRIBUTION OF THE WIND SPEED AT THE SITE AND HEIGHT OF THE TOWER. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SHOW THE PHOTOVOLTAIC OR WIND TURBINE EQUIPMENT TYPE, PROVIDE DOCUMENTATION OF SOLAR AND WIND ACCESS, AND INCLUDE A CALCULATION OF THE MINIMUM ANNUAL ENERGY POWER PRODUCTION.	0.5

A. PROJECTS USING THIS OPTION MAY NOT USE OPTION 1a, 1b or 1c.
B. PROJECTS MAY ONLY INCLUDE CREDIT FROM ONE SPACE HEATING OPTION, 3a, 3b, 3c or 3d. WHEN A HOUSING UNIT HAS TWO PIECES OF EQUIPMENT (I.E., TWO FURNACES) BOTH MUST MEET THE STANDARD TO RECEIVE THE CREDIT.
C. PLUMBING FIXTURES FLOW RATINGS. LOW FLOW PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE - 3.8 L/MIN (1.0 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1.
2. RESIDENTIAL KITCHEN FAUCETS: MAXIMUM FLOW RATE - 6.6 L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1.
3. RESIDENTIAL SHOWERHEADS: MAXIMUM FLOW RATE - 6.6 L/MIN (1.75 GAL/MIN) WHEN TESTED IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1.

JAYMARC HOMES
7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

△ Issue Issue Date By Description
. . . .
. . . .
. . . .
. . . .
. . . .

2429 74th Ave SE
Mercer Island, WA

Job Number:

plan name: --
marketing name: VICTORIA - 'B'
plan number: --
mark sys. number: --

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC.) or those of the local municipality then the current standards and requirements of each respectively shall govern.

01.29.21
Submittal Date

Sheet Title/Description

Design Firm

RCR
Drawn by:

SK
Checked by:

1/4 SCALE
Primary Scale

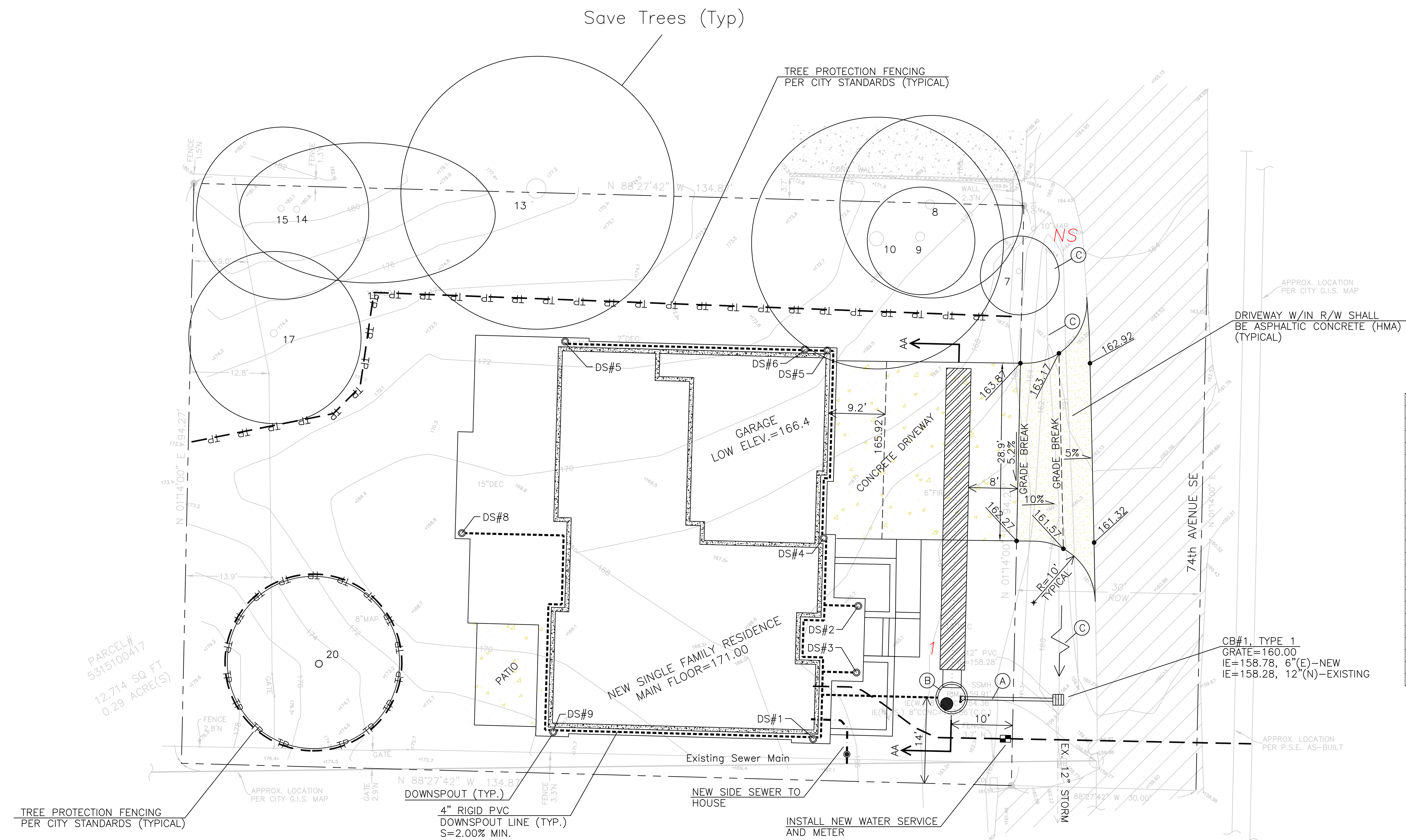
EN3
of: .

Sheet Title/Description

NE 1/4 OF THE NW 1/4 OF SECTION 12, TOWNSHIP 24 NORTH., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILIITES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

CALL BEFORE YOU DIG: 811



NOTES

(A) 15LF., 6" D.I. @S=2.00%

(B) CB#2, TYPE II, 54"
W/SOLID LOCKING LID
PER CITY DETAIL "ATTACHMENT 1"
RIM=164.75
8" OVERFLOW=162.58
IE=162.33, 2" VENT(S)
IE=159.08, 36"(S)
IE=162.00, 4"(E)
IE=159.08, 6"(W)

(C) FILL EXISTING DITCH W/COMPACTED CRUSHED ROCK SLOPE AREA TO DRAIN TOWARDS CB#1

DOWNSPOUT TABLE

DS#1	GROUND=166.50 DOWNSPOUT LINE=164.50
DS#2	CONCRETE=171.00 DOWNSPOUT LINE=169.00
DS#3	CONCRETE=171.00 DOWNSPOUT LINE=169.00
DS#4	CONCRETE=166.40 DOWNSPOUT LINE=163.60
DS#5	GROUND=166.00 DOWNSPOUT LINE=164.20
DS#6	GROUND=166.00 DOWNSPOUT LINE=164.50
DS#7	CONCRETE=169.50 DOWNSPOUT LINE=167.50
DS#8	GROUND=170.60 DOWNSPOUT LINE=168.10
DS#9	GROUND=169.50 DOWNSPOUT LINE=167.50

NOTE: 4" PERFORATED FOOTING DRAIN REQUIRED BUT NOT SHOWN ON PLAN, CONNECT WHERE SHOWN ON PLAN

STORM PIPE PVC SHALL BE SDR-35 PVC AT SLOPE=2.00% MINIMUM (TYPICAL) UNLESS OTHERWISE NOTED

IMPERVIOUS SURFACES:
ROOF AREA W/EAVES = 3,219 SQ. FEET
UNCOVERED DRIVEWAY = 906 SQ. FEET
UNCOVERED CONCRETE PATIO = 420 SQ. FEET
UNCOVERED WALKWAY = 126 SQ. FEET
TOTAL IMPERVIOUS AREAS = 4,671 SQ. FEET

LANDSCAPE AREAS NOTE:
DISTURBED LANDSCAPE AREAS SHALL BE TREATED AS AMENDED SOILS PER DOE FIGURE V-5.3.3, TYPICAL

Tree Table

ID	Species	DSHS	Drip	Saved	Saved	Exeptional
1	Willow	11.3	9.5		X	Yes
2	Willow	18	7.8		X	Yes
3	Wild Cherry	11.8	12.5		X	
4	Cedar	15	12.6		X	
5	Cedar	18.4	15.8		X	
6	Cedar	15	10.6		X	
7	Willow	9.5	6.4	X		Yes
8	Fir	21.2	14.9	X		
9	Maple	12.1	4.5	X		
10	Fir	31.3	19.3	X		Yes
11	Madrone	19.7	30.8		X	Yes
12	Wild Cherry	12.5	28		X	
13	Fir	37.5	20.6	X		Yes
14	Alder	15	22.6	X		
15	Alder	13	10.5	X		
16	Alder	13.5	23.6		X	
17	Alder	14	12.6	X		
18	Alder	11	12.5		X	
19	Alder	15.6	12.7		X	
20	Plum	10	13.6	X		
21	Cedar	13.2	13.6		X	
22	Alder	12	8.5		X	
23	Maple	11.6	10.5		X	
		SUB TOTALS		9	14	

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

REV. NO. | DATE | DESCRIPTION

01/28/2021

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DESIGNED BY DLO | DRAWN BY VS | CHECKED BY DLO

PROJECT: 2429 74th Avenue SE

CLIENT: JayMarc Homes - Luigi Pontes Custom

SHEET CONTENT: Utility & Tree Plan

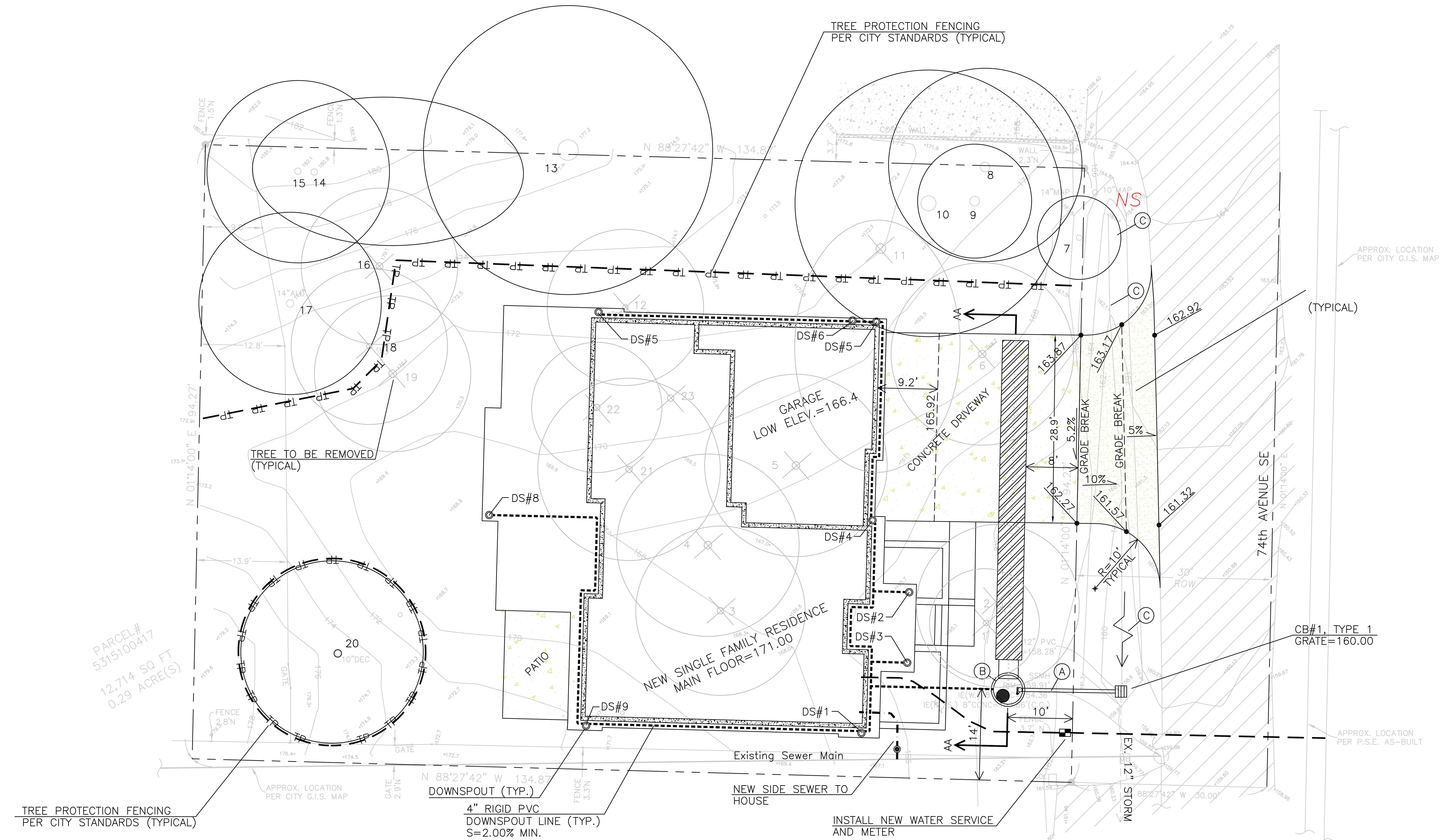
DATE 01/28/2021
JOB NO.
DWG NO.

SHEET 1 OF 3

NE 1/4 OF THE NW 1/4 OF SECTION 12, TOWNSHIP 24 NORTH., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILIITES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

CALL BEFORE YOU DIG: 811



Tree Table

ID	Species	DSHS	Drip	Saved	Saved	Exeptional
1	Willow	11.3	9.5		X	Yes
2	Willow	18	7.8		X	Yes
3	Wild Cherry	11.8	12.5		X	
4	Cedar	15	12.6		X	
5	Cedar	18.4	15.8		X	
6	Cedar	15	10.6		X	
7	Willow	9.5	6.4	X		Yes
8	Fir	21.2	9.3	X		
9	Maple	12.1	19.3	X		
10	Fir	31.3		X		Yes
11	Madrone	19.7	30.8		X	Yes
12	Wild Cherry	12.5	28		X	
13	Fir	37.5	20.6	X		Yes
14	Alder	15	22.6	X		
15	Alder	13	10.5	X		
16	Alder	13.5	23.6		X	
17	Alder	14	12.6	X		
18	Alder	11	12.5		X	
19	Alder	15.6	12.7		X	
20	Plum	10	14.4	X		
21	Cedar	13.2	13.6		X	
22	Alder	12	8.5		X	
23	Maple	11.6	10.5		X	
			SUB TOTALS	9	14	

NOTES

(A) 15LF., 6" D.I. @S=2.00%

(B) CB#2, TYPE II, 54"
W/SOLID LOCKING LID
PER CITY DETAIL "ATTACHMENT 1"
RIM=164.75
8" OVERFLOW=162.58
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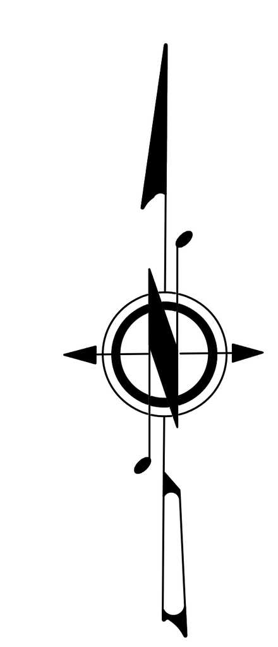
SLOPE AREA TO DRAIN TOWARDS CB#1



GRAPHIC SCALE

0 5 10 20

1 inch = 10 feet

REV. NO.	DATE	DESCRIPTION

DARRELL L. OFFE, JR. 27460 01/28/2021

OE OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DESIGNED BY DLO | DRAWN BY VS | CHECKED BY DLO

PROJECT **2429 74th Avenue SE**

CLIENT **JayMarc Homes - Luigi Pontes Custom**

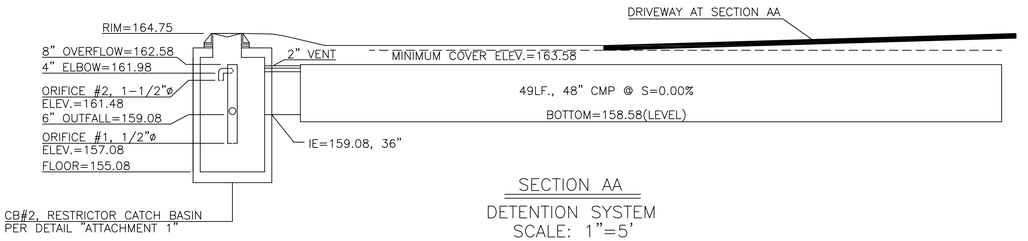
SHEET CONTENT **Tree Removal Plan**

DATE 01/28/2021

JOB NO.

DWG NO.

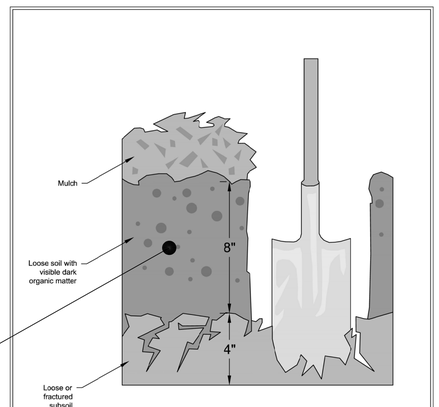
SHEET 2 OF 3



SECTION AA

DETENTION SYSTEM
SCALE: 1"=5'

Figure V-5.3.3 Planting bed Cross-Section



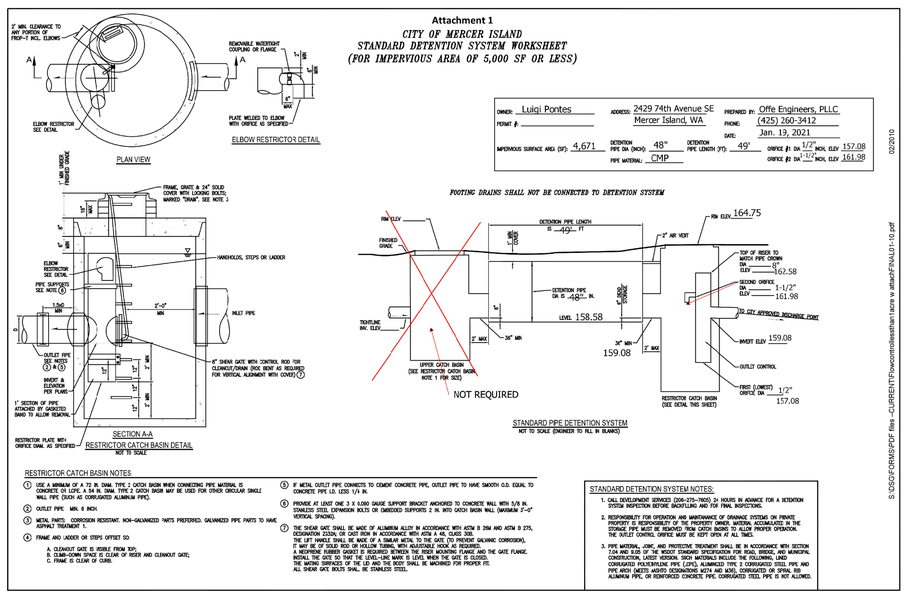
Reprinted from Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington, 2010, Washington Organic Recycling Council

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Figure V-5.3.3
Planting Bed Cross-Section

Revised January 2016



REV. NO.	DATE	DESCRIPTION

01/21/2021

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DRAWN BY VS
CHECKED BY DLO
DESIGNED BY DLO

PROJECT **2429 74th Avenue SE**
CLIENT **JayMarc Homes - Luigi Pontes Custom**
SHEET CONTENT **Storm Water Details**

DATE 01/20/2021
JOB NO.
DWG NO.

SHEET 3 OF 3

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED, AFN 20170925000093)

THAT PORTION OF LOTS 10 AND 11 IN BLOCK 5, MCGILVRA'S ISLAND ADDITION, N.E. 1/4 SEC. 12, TWN. 24 N., R. 4 EWM, ACCORDING TO PLAT RECORDED IN VOL. 16 OF PLATS, PAGE 58 IN KING COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT 11 WHICH IS 94.27 FEET SOUTH OF THE NORTHEAST CORNER THEREOF, AND RUNNING THENCE WEST, PARALLEL TO THE SOUTH LINE OF SAID BLOCK 134.87 FEET, THENCE SOUTH, PARALLEL TO THE EAST LINE OF SAID BLOCK 94.27 FEET; THENCE EAST, PARALLEL TO THE SOUTH LINE OF SAID BLOCK 134.87 FEET TO THE EAST LINE OF SAID LOT 10; THENCE NORTH ALONG THE EAST LINES OF SAID LOTS 10 AND 11, A DISTANCE OF 94.27 FEET TO THE POINT OF THE BEGINNING.

BASIS OF BEARINGS

N 88°27'42" W BETWEEN SURVEY MONUMENTS FOUND ON THE CENTERLINE OF S.E. 27TH ST., PER GPS OBSERVATIONS, WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE.

REFERENCES

R1 MCGILVRA'S ISLAND ADDITION, RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON.

R2 RECORD OF SURVEY, RECORDED IN BOOK 88 OF SURVEYS, PAGE 22, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD(88) PER GPS OBSERVATIONS.

SURVEYOR'S NOTES

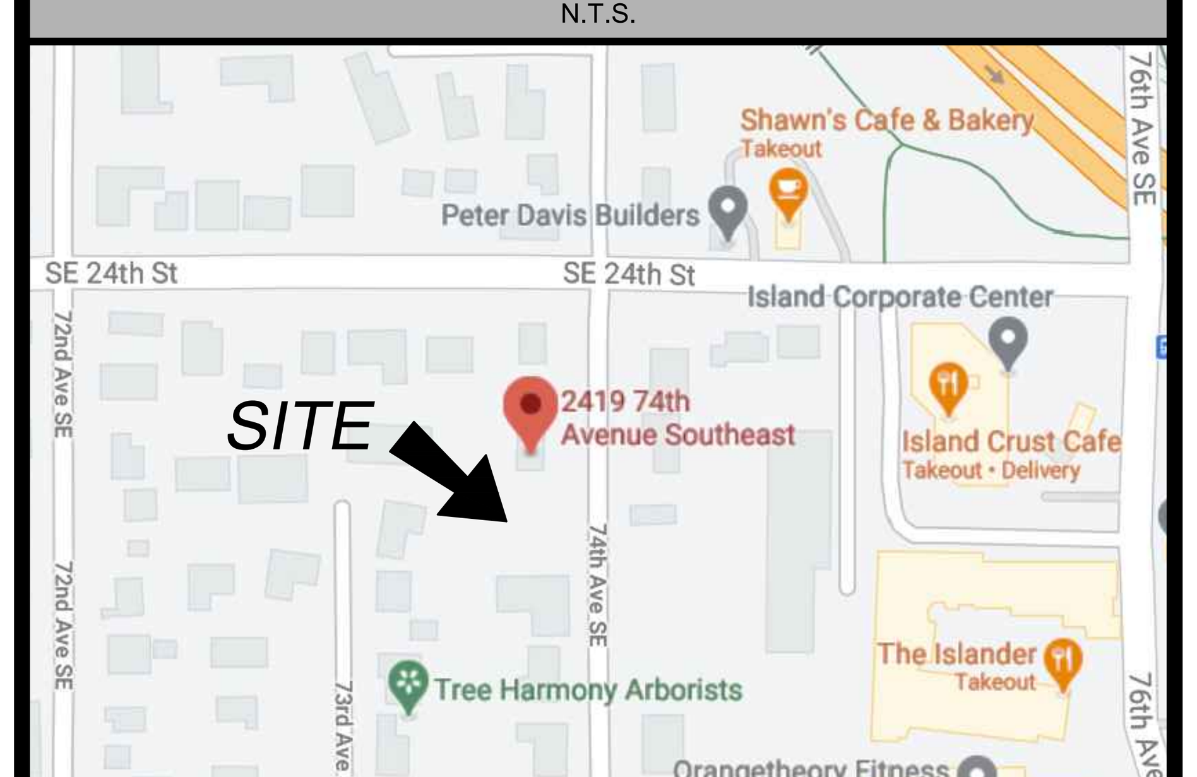
1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN SEPTEMBER OF 2020. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
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).
4. SUBJECT PROPERTY TAX PARCEL NO. 5315100417.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 12,714± S.F. (0.29 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

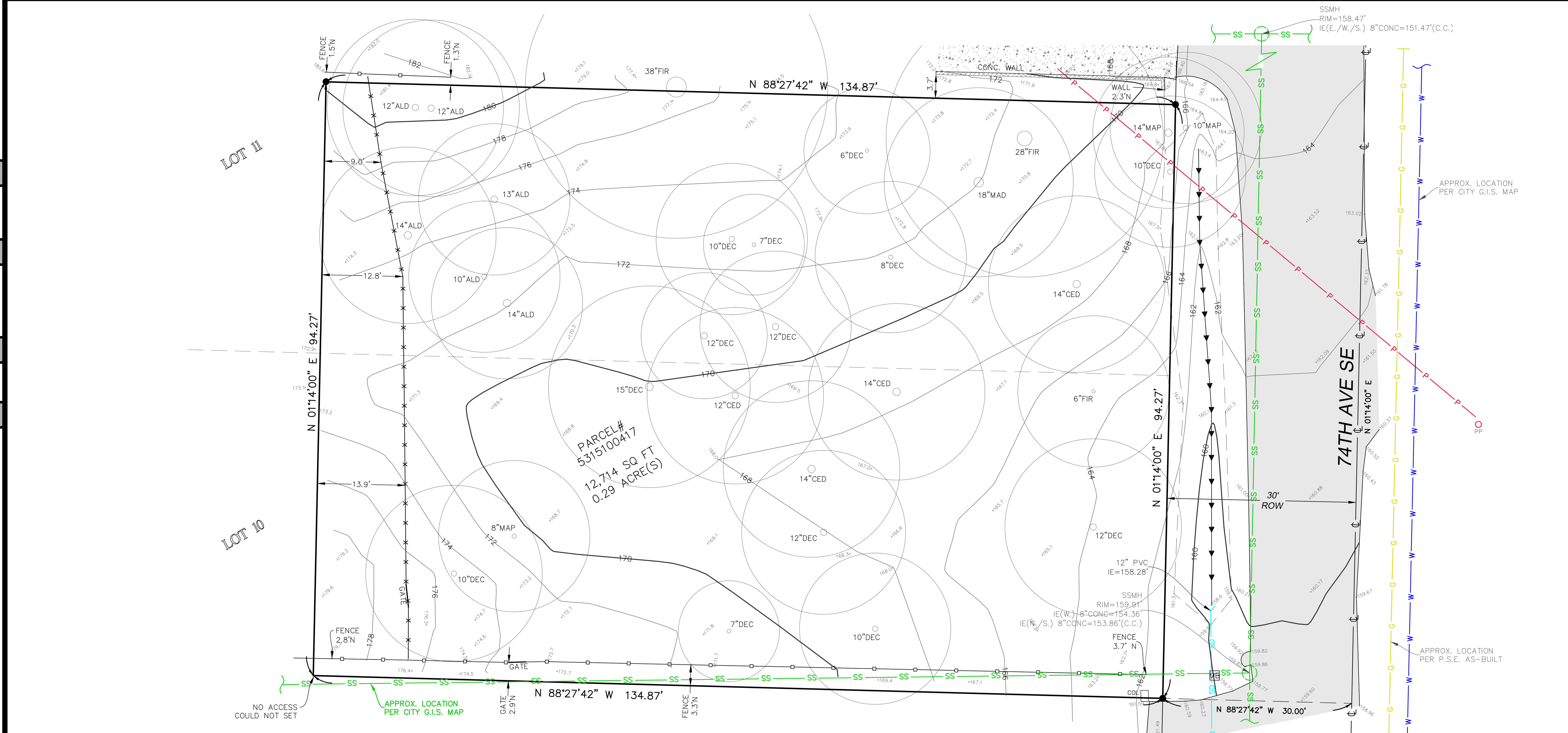
LEGEND

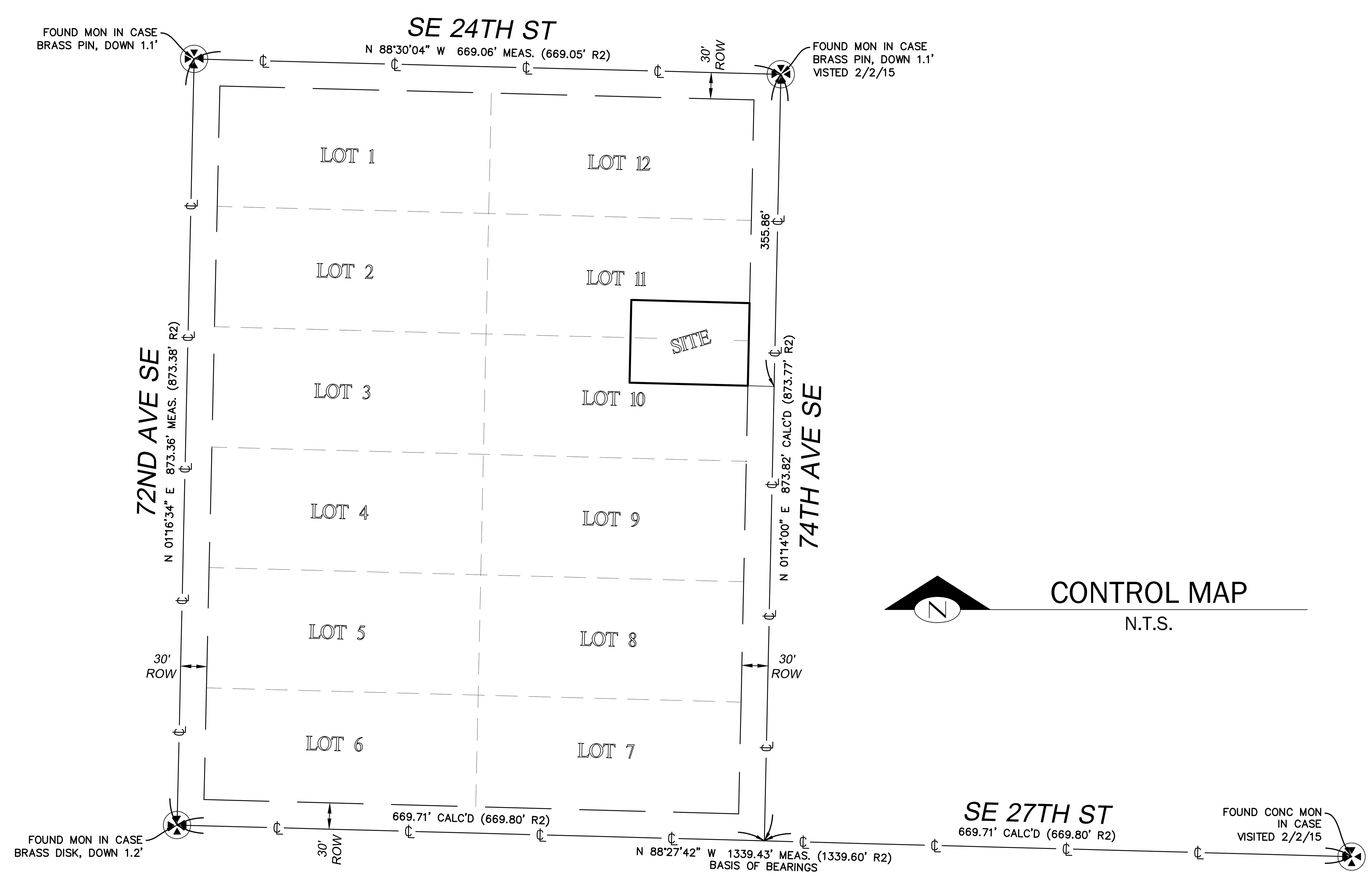
- ASPHALT SURFACE
- CENTERLINE ROW
- CULVERT PIPE
- CONCRETE SURFACE
- RETAINING WALL
- DITCH (FLOWLINE)
- FENCE LINE (CHAIN LINK)
- FENCE LINE (WOOD)
- GAS LINE
- MAILBOX (RESIDENTIAL)
- MONUMENT IN CASE (FOUND)
- POWER (OVERHEAD)
- POWER POLE
- REBAR & CAP (SET)
- SEWER LINE
- SEWER MANHOLE
- STORM DRAIN LINE
- SIZE TYPE TREE (AS NOTED)
- WATER LINE
- COLUMN
- INLET (TYPE 1)

VICINITY MAP

N.T.S.

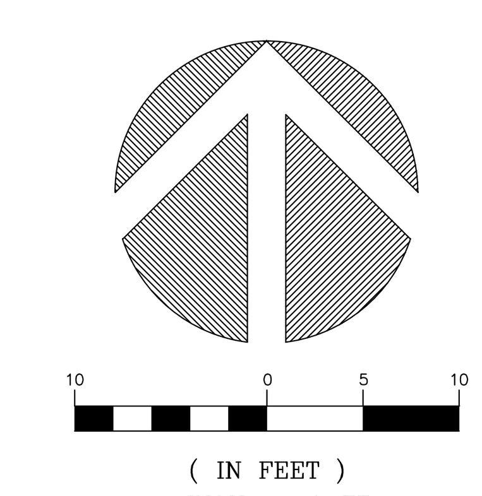






CONTROL MAP

N.T.S.



STEEP SLOPE/BUFFER DISCLAIMER:
THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS; AS SUCH, TERRANE CANNOT BE HELD RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY STEEP SLOPE INFORMATION. ULTIMATELY, THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.

measure success

TOPOGRAPHIC & BOUNDARY SURVEY
NE 1/4 OF NW 1/4 SEC 12, TWP 24N., RGE 04E., W.M.
PARCEL NO. 5315100417

FONG RESIDENCE
74TH AVE SE
MERCER ISLAND, WA 98040

Terrane
10801 Main Street, Suite 102, Bellevue, WA 98004
phone 425.458.4488 support@terrane.net
www.terrane.net

JOB NUMBER:	201543
DATE:	09/22/2020
DRAFTED BY:	RSN
CHECKED BY:	JGM/RLS
SCALE:	1" = 10'

REVISION HISTORY