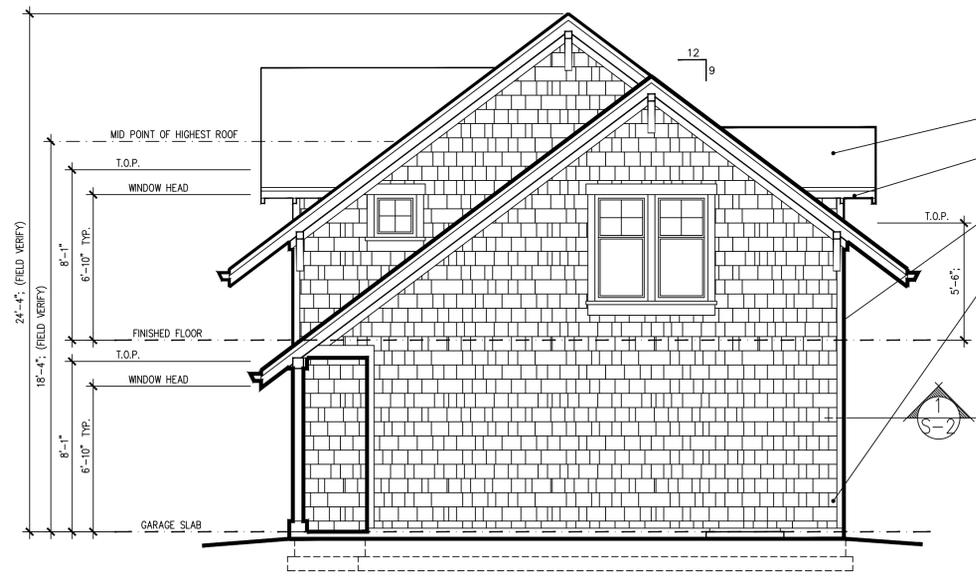


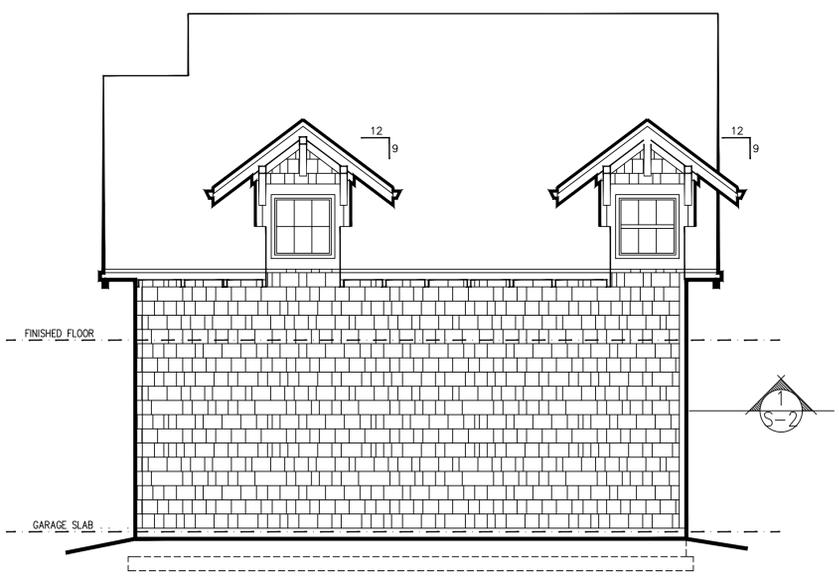


PROJECT:
 LESLIE DEAN
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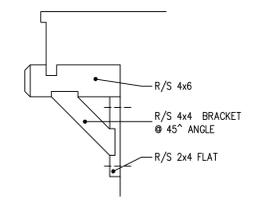


RIGHT SIDE ELEVATION
 SCALE: 1/4" = 1'-0"

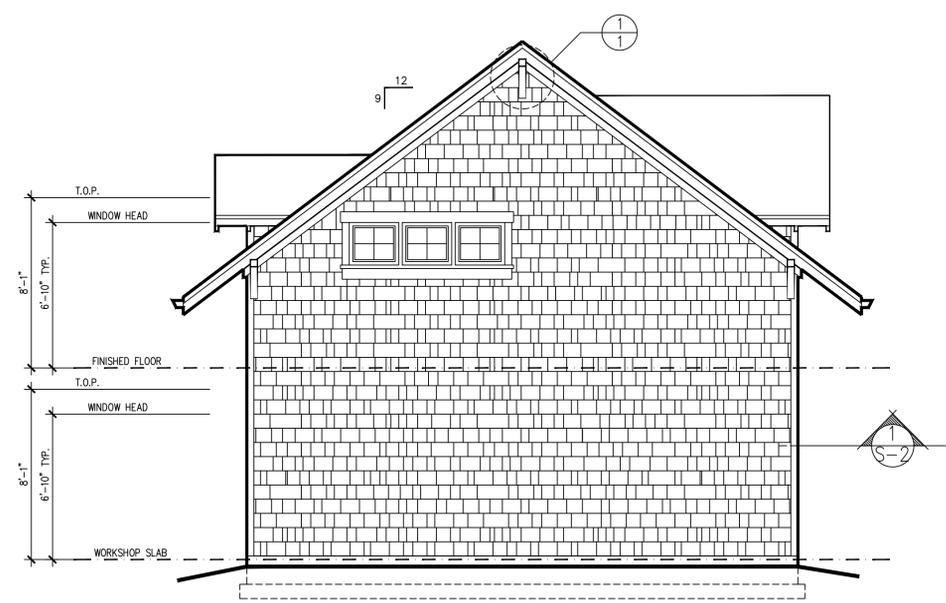
- ROOFING MATERIAL (SEE ROOF PLAN)
 - G. I. GUTTER ON 2 X 8 FASCIA C/W DOWNSPOUTS (SEE ROOF PLAN)
 - 5/4 X CEDAR CORNER BDS.
 - CEDAR SHINGLE SIDING (INSTALL PER MANUF. INSTRUCTIONS)
- THE TYPE OF EXTERIOR FINISH, THE INSTALLATION AND THE WATERPROOFING DETAILS ARE ALL TO BE THE FULL RESPONSIBILITY OF THE OWNER/BLDR. THIS DESIGNER ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE BLDG ENVELOPE.



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



1 EAVE BRACKET
 SCALE: 3/4" = 1'-0" EAVEBRKT1



LEFT SIDE ELEVATION
 SCALE: 1/4" = 1'-0"



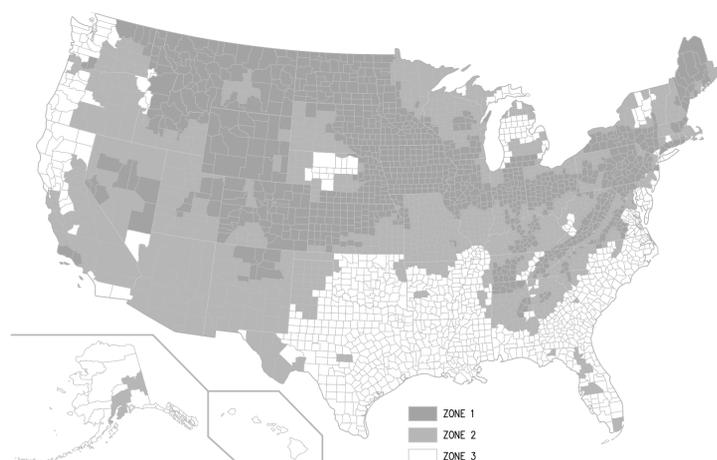
FRONT ELEVATION
 SCALE: 1/4" = 1'-0"

Revisions:		
No.	Description	Date

Sheet No.
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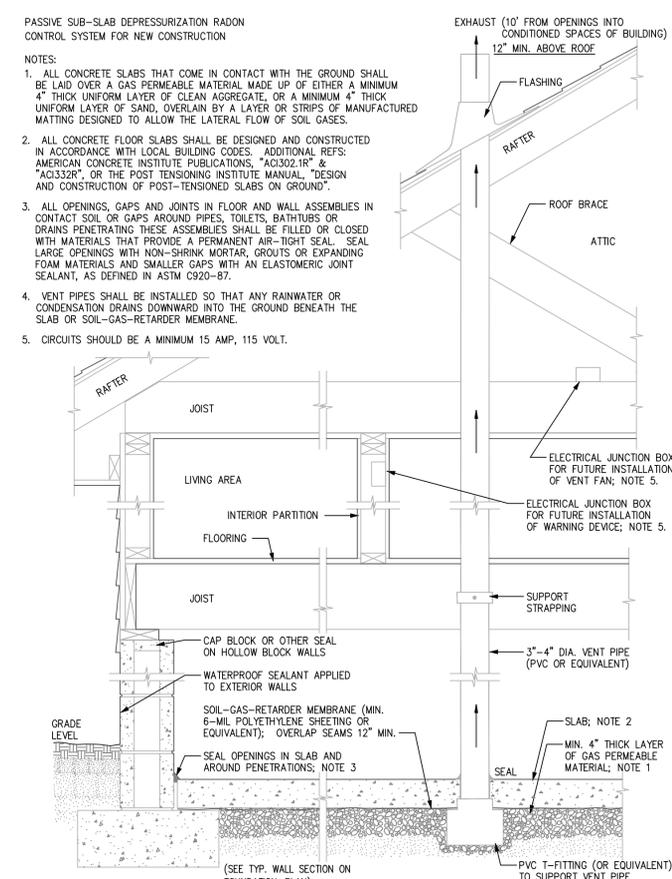
UPPER FLOOR	582 SQ. FT.
TOTAL AREA	582 SQ. FT.
WORKSHOP AREA	+ 611 SQ. FT.

THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE CORRECT INSTALLATION OF ALL EXTERIOR FINISHES AND WEATHERPROOFING.

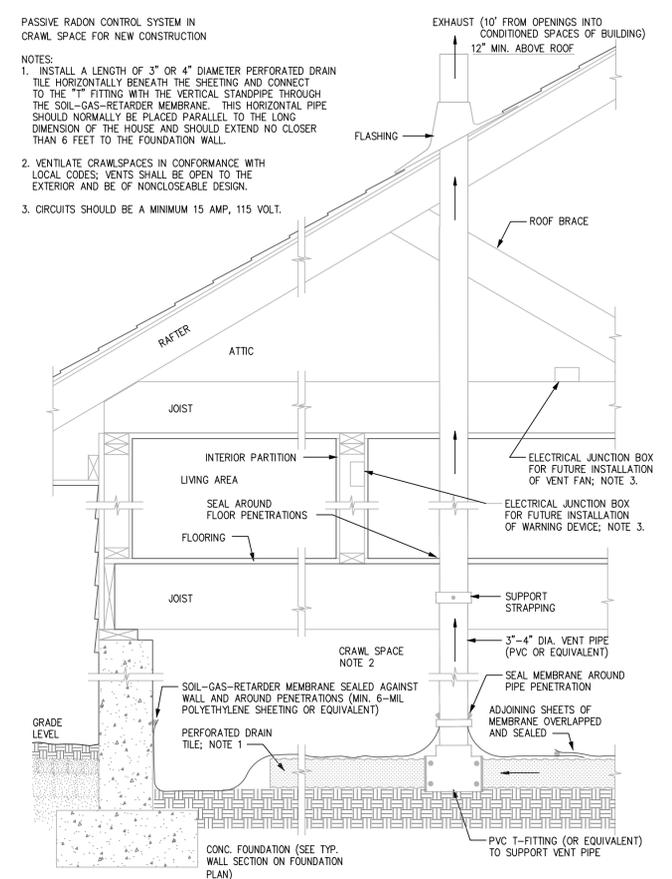


DISCLAIMER: THE PURPOSE OF THIS MAP IS TO ASSIST NATIONAL, STATE AND LOCAL ORGANIZATIONS TO TARGET THEIR RESOURCES AND TO IMPLEMENT RADON-RESISTANT BUILDING CODES. ALL HOMES SHOULD BE TESTED REGARDLESS OF GEOGRAPHIC LOCATION. EPA RECOMMENDS THAT THIS MAP BE SUPPLEMENTED WITH ANY AVAILABLE LOCAL DATA IN ORDER TO FURTHER UNDERSTAND AND PREDICT THE RADON POTENTIAL FOR A SPECIFIC AREA.

EPA RADON ZONES



SLAB ON-GRADE/BELOW-GRADE (BASEMENTS) SUB-MEMBRANE DEPRESSURIZATION SYSTEM



CRAWLSPACE SUB-MEMBRANE DEPRESSURIZATION SYSTEM

RADON MITIGATION

THE FOLLOWING CONSTRUCTION TECHNIQUES AND MEASURES ARE INTENDED TO MITIGATE RADON ENTRY IN NEW CONSTRUCTION. THESE TECHNIQUES MAY BE REQUIRED ON A JURISDICTION BY JURISDICTION BASIS. FOR EXAMPLE, IN THE STATE OF OREGON, PER 2017 O.R.S.C., THE COUNTIES OF MULTNOMAH, WASHINGTON, CLACKAMAS, POLK, YAMHILL, HOOD RIVER AND BAKER REQUIRE RADON MITIGATION, AS DO THE COUNTIES OF CLARK, FERRY, OKANOGAN, PEND OREILLE, SKAMANIA, SPOKANE AND STEVENS, IN THE STATE OF WASHINGTON, PER 2015 I.R.C./WAC 51-51-6010 (AF101 & AF103).

FOLLOWING THE U.S. E.P.A. "MODEL STANDARDS AND TECHNIQUES FOR CONTROL OF RADON IN NEW RESIDENTIAL BUILDINGS", THESE SPECIFICATIONS MEET MOST NATIONAL CODES. THE BUILDER AND HOME OWNER SHOULD CHECK FOR ANY LOCAL VARIANTS TO THESE GUIDELINES.

BUILDING TIGHTNESS MEASURES

THE FOLLOWING ARE POINTS OF ENTRY TO PROTECT FROM PASSAGE OF RADON GAS INTO LIVING SPACE – PROVIDE POLYURETHANE CAULK OR EQUIVALENT SEALANT AT THE FOLLOWING CRITICAL POINTS:

- SLAB ON-GRADE AND BASEMENT WALLS**
- CRACKS IN CONCRETE SLABS
 - COLD JOINT BETWEEN TWO CONCRETE POURS
 - PORES AND JOINTS IN CONCRETE BLOCKS
 - FLOOR-TO-WALL CRACK OR FRENCH DRAIN
 - EXPOSED SOIL, AS IN A SUMP
 - WEEPING (DRAIN) TILE, IF DRAINED TO OPEN SUMP
 - MORTAR JOINTS
 - LOOSE FITTING PIPE PENETRATIONS
 - OPEN TOPS OF BLOCK WALLS
 - WATER (FROM SOME WELLS)
 - UNTRAPPED FLOOR DRAIN TO A DRY WELL OR SEPTIC SYSTEM.

CRAWL SPACE

- CRACKS IN SUBFLOORING AND FLOORING
- SPACES BEHIND STUD WALLS AND BRICK VENEER WALLS THAT REST ON UNCAPPED HOLLOW-BLOCK FOUNDATION
- ELECTRICAL PENETRATIONS
- LOOSE-FITTING PIPE PENETRATIONS
- OPEN TOPS OF BLOCK WALLS
- WATER FROM SOME WELLS
- HEATING DUCT REGISTER PENETRATIONS
- COLD-AIR RETURN DUCTS IN CRAWL SPACE

CONDENSATE DRAINS SHALL BE RUN TO THE EXTERIOR USING NON PERFORATED PIPE OR SHALL BE PROVIDED WITH AN APPROVED TRAP.

SUMP PITS THAT SERVE AS END POINT FOR A SUB-SLAB OR EXTERIOR DRAIN TILE LOOP SYSTEM, AND SUMP PITS WHICH ARE NOT SEALED FROM THE SOIL, SHALL BE FITTED WITH A GASKETED OR SEALED LID, WHERE THE SUMP IS USED AS THE SUCTION POINT IN A SUB-SLAB DECOMPRESSION SYSTEM, THE LID MUST BE DESIGNED TO ACCOMMODATE THE VENT PIPE, WHERE USED AS A FLOOR DRAINING, THE SUMP PIT LID SHALL HAVE A TRAPPED INLET.

DUCTWORK WHICH PASSES THROUGH OR BENEATH A CONCRETE FLOOR SLAB SHALL BE FREE OF SEAMS AND MUST BE PERFORMANCE TESTED.

DUCTWORK PASSING THROUGH A CRAWLSPACE MUST HAVE ALL SEAMS AND JOINTS SEALED (PER M1601.4.1). ALL JOINTS OF DUCT SYSTEMS USED IN THE HEATING OR COOLING OF A CONDITIONED SPACE SHALL BE SEALED BY MEANS OF TAPES, MASTIC, AEROSOL SEALANT, GASKETING OR OTHER APPROVED CLOSURE SYSTEMS, WHERE MASTIC IS USED TO SEAL OPENINGS GREATER THAN 1/2\"/>

CRAWLSPACE ACCESS OR UNDER-FLOOR MECHANICAL EQUIPMENT ACCESS, OR ANY OTHER ACCESS POINT FROM THE HABITABLE SPACE INTO THE CRAWL SPACE, SUCH AS DOORS OR PANELS, MUST BE CLOSED AND GASKETED TO CREATE AN AIRTIGHT SEPARATION.

AIR HANDLING UNITS IN CRAWL SPACES SHALL BE SEALED TO PREVENT AIR FROM BEING DRAWN INTO THE UNIT.

CRAWL SPACE RADON MITIGATION

IN ADDITION TO THE CRAWL SPACE SEALING REQUIREMENTS, ONE OF THREE RADON MITIGATION METHODS SHALL BE IMPLEMENTED.

METHOD #1 – MECHANICAL VENTILATION (AF103.5, EXCEPTION)

- PROVIDE AN APPROVED MECHANICAL CRAWL SPACE VENTILATION SYSTEM OR OTHER EQUIVALENT SYSTEM.

METHOD #2 – PASSIVE SUB-MEMBRANE DEPRESSURIZATION SYSTEM (AF103.5.1)

- PROVIDE FOUNDATION VENTILATION SYSTEM (SEE FOUNDATION NOTES FOR CRAWLSPACE VENTING)
- PROVIDE A SOIL-GAS RETARDER, SUCH AS 6 MIL POLYETHYLENE OR EQUIVALENT (SEE GAS-RETARDER NOTES)
- PROVIDE A VENT STACK (SEE VENT STACK NOTES)

METHOD #3 – CRAWLSPACE VENTILATION, AND BUILDING TIGHTNESS.

- PROVIDE NO LESS THAN ONE NET SQ. FT. OF CRAWLSPACE FOUNDATION VENT AREA PER EACH 150 SQ. FT. OF UNDER-FLOOR AREA (SEE FOUNDATION NOTES FOR CRAWLSPACE VENTING LOCATION REQUIREMENTS).
- OPERABLE LOUVERS, DAMPERS, OR OTHER MEANS TO TEMPORARILY CLOSE OFF VENT OPENINGS ARE NOT ALLOWED TO MEET THE REQUIREMENTS OF THIS RADON MITIGATION METHOD.
- DWELLINGS SHALL BE TESTED WITH A BLOWER DOOR, DEPRESSURIZING THE DWELLING TO 50 PASCALS FROM AMBIENT CONDITIONS AND FOUND TO EXHIBIT NO MORE THAN 5.0 AIR CHANGES PER HOUR.
- INSTALL A MECHANICAL EXHAUST SUPPLY OR COMBINATION VENTILATION SYSTEM PROVIDING WHOLE-BUILDING VENTILATION RATES AS PER TABLE N1101.1(3).

VENTILATION AIR REQUIREMENTS (cfm)

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

SLAB-ON-GRADE/BASEMENT RADON MITIGATION

A PASSIVE SUB-SLAB DEPRESSURIZATION SYSTEM SHALL BE INSTALLED DURING CONSTRUCTION IN BASEMENT OR SLAB-ON-GRADE BUILDINGS. FOLLOW THE NOTES HERE REGARDING BUILDING TIGHTNESS MEASURES AND ASSEMBLE THE FOLLOWING ELEMENTS OF THIS MITIGATION SYSTEM.

- PROVIDE A RADON VENT PIPE EXTENDING FROM A GAS PERMEABLE LAYER BENEATH THE SLAB FLOOR SYSTEM, THROUGH THE FLOORS OF THE DWELLING AND TERMINATING AT THE ROOF.
- SEE NOTES REGARDING VENT PIPE, SOIL-GAS-RETARDER AND SLAB SUBFLOOR PREPARATION.

SLAB SUB-FLOOR PREPARATION

- A LAYER OF GAS-PERMEABLE MATERIAL SHALL BE PLACED UNDER ALL CONCRETE SLABS AND OTHER FLOOR SYSTEMS THAT DIRECTLY CONTACT THE GROUND, AND ARE WITHIN THE WALLS OF THE LIVING SPACES OF THE BUILDING. THE GAS-PERMEABLE LAYER SHALL CONSIST OF ONE OF THE FOLLOWING:
 1. A UNIFORM LAYER OF CLEAN AGGREGATE, A MINIMUM OF 4 INCHES THICK. THE AGGREGATE SHALL CONSIST OF MATERIAL SMALL ENOUGH TO PASS THROUGH A 2" SIEVE AND BE RETAINED BY A 1" SIEVE.
 2. A UNIFORM LAYER OF SAND (NATIVE OR FILL), A MINIMUM OF 4 INCHES THICK, OVERLAIN BY A LAYER OR STRIPS OF LEAD-TEXTILE DRAINAGE MATTING DESIGNED TO ALLOW THE LATERAL FLOW OF SOIL GASES.

SOIL-GAS-RETARDER

- THE SOIL IN CRAWLSPACES SHALL BE COVERED WITH A CONTINUOUS LAYER OF MINIMUM 6-MIL POLYETHYLENE SOIL-GAS-RETARDER. THE GROUND COVER SHALL BE LAPPED A MINIMUM OF 12 INCHES AT JOINTS AND SHALL EXTEND TO ALL FOUNDATION WALLS ENVELOPING THE CRAWL SPACE AREA.
- THE SHEETING SHALL FIT CLOSELY AROUND ANY PIPE, WIRE OR OTHER PENETRATIONS OF THE MATERIAL.
- ALL PUNCTURES OR TEARS IN THE MATERIAL SHALL BE SEALED OR COVERED WITH ADDITIONAL SHEETING.

VENT PIPE (RADON)

- A PLUMBING TEE OR OTHER APPROVED CONNECTION SHALL BE INSERTED HORIZONTALLY BENEATH THE SOIL-GAS-RETARDER SHEETING AND CONNECTED TO A 3" OR 4" DIAMETER FITTING WITH A VERTICAL VENT PIPE INSTALLED THROUGH THE SHEETING.
- THE VENT PIPE SHALL BE EXTENDED UP THROUGH THE BUILDING FLOORS TO TERMINATE AT LEAST 12 INCHES ABOVE THE ROOF SURFACE IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET FROM ANY WINDOW OR OTHER OPENING IN ADJOINING OR ADJACENT BUILDINGS.
- IN BUILDINGS WHERE INTERIOR FOOTINGS OR OTHER BARRIERS SEPARATE THE SUB-SLAB AGGREGATE OR OTHER GAS-PERMEABLE MATERIAL, EACH AREA SHALL BE FITTED WITH AN INDIVIDUAL VENT PIPE.
- MULTIPLE VENT PIPES SHALL CONNECT TO A SINGLE VENT THAT TERMINATES ABOVE THE ROOF OR EACH INDIVIDUAL VENT PIPE SHALL TERMINATE ABOVE THE ROOF.
- ALL COMPONENTS OF THE RADON VENT PIPE SYSTEM SHALL BE INSTALLED TO PROVIDE POSITIVE DRAINAGE TO THE GROUND BENEATH THE SLAB OR SOIL-GAS-RETARDER.
- RADON VENT PIPES SHALL BE ACCESSIBLE FOR FUTURE FAN INSTALLATION THROUGH AN ATTIC OR OTHER AREA OUTSIDE THE HABITABLE SPACE, OR AN APPROVED ROOF TOP ELECTRICAL SUPPLY MAY BE PROVIDED FOR FUTURE USE FOR A POWERED RADON VENT FAN.
- ALL EXPOSED AND VISIBLE INTERIOR RADON VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR AND IN ACCESSIBLE ATTICS. THE LABEL SHALL READ: "RADON REDUCTION SYSTEM."

POWER SOURCE REQUIREMENT

- TO ACCOMMODATE FUTURE INSTALLATION OF AN ACTIVE SUB-MEMBRANE OR SUB-SLAB DEPRESSURIZATION SYSTEM, AN ELECTRICAL CIRCUIT TERMINATED IN AN APPROVED BOX SHALL BE INSTALLED DURING CONSTRUCTION IN THE ATTIC OR OTHER ANTICIPATED LOCATION OF VENT PIPE FANS. AN ELECTRICAL SUPPLY SHALL ALSO BE ACCESSIBLE IN ANTICIPATED LOCATION OF SYSTEM FAILURE ALARMS.

COMBINATION FOUNDATIONS

- COMBINATION: BASEMENT/CRAWL SPACE OR SLAB-ON-GRADE/CRAWL SPACE FOUNDATIONS SHALL HAVE SEPARATE RADON MITIGATION SYSTEMS IN EACH TYPE OF FOUNDATION AREA. PASSIVE SUB-SLAB AND PASSIVE SUB-MEMBRANE RADON VENT PIPES MAY BE CONNECTED TO A SINGLE VENT TERMINATING ABOVE THE ROOF, OR EACH VENT MAY INDIVIDUALLY CONTINUE TO TERMINATE ABOVE THE ROOF (SEE VENT PIPE NOTES).

THE Mascord COLLECTION

LICENSE NUMBER: 122302

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SMYRNA, GA 30080
SITE: 180

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PROJECT:
LESLIE DEAN
1015 HILSDALE STREET
SMYRNA, GA 30080

Revisions:		
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UPPER FLOOR	582 SQ. FT.
TOTAL AREA	582 SQ. FT.
WORKSHOP AREA	+ 611 SQ. FT.

DISCLAIMER

THESE PLANS HAVE BEEN LICENSED TO THE CUSTOMER FOR USE IN THE CONSTRUCTION OF ONE BUILDING ONLY AND ARE SUBJECT TO THE CONDITIONS OF LICENSE ACCEPTED BY THE CUSTOMER. (MULTI-USE BUILDING LICENSES ARE AVAILABLE). USE OF ANY PART OF THE PLANS BY ANY PARTY OTHER THAN THE CUSTOMER, EXCEPT ON LOAN BY THE CUSTOMER TO THIRD PARTIES NECESSARY TO ASSIST THE CUSTOMER IN USING THE PLANS, SUCH AS CONTRACTORS AND SUBCONTRACTORS, IS STRICTLY PROHIBITED. THE PLANS MAY NOT BE RE-USED OR COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION FROM ALAN MASCORD DESIGN ASSOCIATES, INC. ("MASCORD"), WHICH RETAINS COPYRIGHTS TO, & OWNERSHIP OF THE PLANS.

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GENERAL NOTES:

1. ALL WORK IS TO COMPLY WITH THE LATEST ADOPTED VERSION OF THE 2018 INTERNATIONAL RESIDENTIAL CODE (I.R.C.) AND/OR ANY APPLICABLE STATE, COUNTY OR LOCAL JURISDICTION.

2. THE CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND IS TO NOTIFY THE DESIGNER OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION. OWNER/CONTRACTOR SHALL VERIFY WITH LOCAL BLDG. DEPT. WHICH CLIMATE ZONE THE PROJECT WILL BE BUILT IN.

3. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.

4. DESIGN LOADS:

USE	LL	DL
UNINHAB. ATTIC W/O STORAGE	10	10
UNINHAB. ATTIC W/ LIMITED STORAGE	20	10
HABITABLE ATTICS & ATTICS SERVED BY STAIR	30	10
BALCONIES (EXTERIOR) & DECKS	40	10
GUARD RAILS & HAND RAILS	200	-
GUARD RAIL FULL COMPONENTS	50	-
PASSENGER VEHICLE GARAGE, (3,000 POINT)	50	VARIABLES
SLEEPING ROOMS	40	10
STAIRS	30	10

(IF YOUR LOCAL AREA REQUIRES DIFFERENT DESIGN LOADS CONSULT WITH A LOCAL QUALIFIED PROFESSIONAL TO DETERMINE THE APPROPRIATE REVISIONS.)

5. INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT:

CLIMATE ZONE	1	2	3	4 Except Marine	5 and Marine 4	6	7 and 8
FENESTRATION U-FACTOR	NR	0.40	0.32	0.32	0.30	0.30	0.30
SKYLIGHT U-FACTOR	NR	0.65	0.55	0.55	0.55	0.55	0.55
GLAZED FENESTRATION SHGC	NR	0.25	0.25	0.25	0.40	NR	NR
CLG R-VALUE	1	30	38	49	49	49	49
WOOD FRAME	13	13	20 or 13.4	20 or 13.4	20+5 or 13.4+5	20+5 or 13.4+5	20+5 or 13.4+5
MASS WALL R-VALUE	1	3/4	4/6	8/13	13/17	15/20	19/21
FLOOR R-VALUE	13	13	19	19	30	9	38
BASMENT WALL R-VALUE	0	0	5/13	10/13	15/19	15/19	15/19
SLAB R-VALUE AND DEPTH	0	0	0	10, 2 R	10, 2 R	10, 4R	10, 4R
CRAWL SPACE WALL R-VALUE	0	0	5/13	10/13	15/19	15/19	15/19

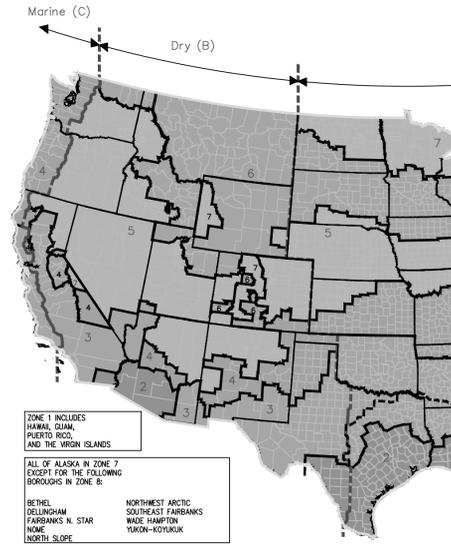
For S1: 1 foot = 304.8 mm
UP TO 15 R² GLAZED FENESTRATION & (1) SIDE HINGED SOLID DR UP TO 24 R² IS PERMITTED TO BE EXEMPTED FROM THE U-FACTOR SHGC REQ/MT OF TABLE R402.1.1 AREA WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQ/MTS
SUPPLY DUCTS IN ATTICS INSULATED TO MIN. R-8. ALL OTHER DUCTS SHALL BE INSULATED TO MIN. R-6

- a. R-values are minimums. U-factors and SHGC are maximums. When insul. is installed in a cavity which is less than the label or design thickness of the insul., the installed R-value of the insul. 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. Exception: Skylights may be excluded from glazed fenestration SHGC req/mts. in Climate Zones 1 thru 3 where the SHGC for such skylights does not exceed 0.30.
- c. "15/19" means R-15 cont. insul. on the int. or ext. of the home or R-13 cavity insul. on the int. of the bsm't. wall. "15/19" shall be permitted to be met w/ R-13 cavity insul. on the int. of the bsm't. wall plus R-5 cont. insul. on the int. or ext. of the home. "10/13" means R-10 cont. insul. on the int. or ext. of the home, or R-13 cavity insul. @ the int. of the bsm't. wall.
- d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the fig. or 2" or 1", whichever is less in Zones 1 thru 3 for heated slabs.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insul. is not req'd in warm-humid locations. (see climate map)
- g. Or insulation sufficient to fill the framing cavity, R-19 min.
- h. First value is cavity insul., second is cont. insul. or insulated siding, so "13+5" means R-13 cavity insul. plus R-5 cont. insul. or insulated siding. If struct. sheathing covers 40% or less of the ext. cont. insul. R-value shall be permitted to be reduced by no more than R-3 in locations where struct. sheathing is used - to maintain a consistent total sheathing thickness.
- i. The second R-value applies when more than half the insul. is on the interior of the mass wall.
- j. Under prescriptive building thermal envelope, R-30 shall be deemed to satisfy the req't for R-38 wherever the full height of uncompressed R-30 insul. extends over the wall top plate at the eaves. Similarly, R-38 satisfies the req't for R-49. In limited areas (500 sq. ft. or 20% of total insul. c/g area, whichever is less) roof/c/g assembly thermal envelope req't may be reduced to R-30.

1. AIR BARRIER: CONT. AIR BARRIER SHALL BE INSTALLED IN THE BLDG. ENVELOPE. BREAKS/JUNCTIONS IN THE AIR BARRIER SHALL BE SEALED. AIR PERMEABLE INSUL. SHALL NOT BE USED AS A SEALING MATERIAL. INSUL. SHALL BE INSTALLED PER MANUF. GUIDELINES.

2. INFILTRATION: THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. THE FOLLOWING SHALL BE CALKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED WITH AN AIR BARRIER MATERIAL, SUITABLE FILM OR SOLID MATERIAL.

3. TESTING: DWELLING SHALL BE TESTED TO VERIFY LEAKAGE RATE DOES NOT EXCEED 5 AIR CHANGES PER HOUR IN ZONES 1 & 2, AND 3 AIR CHANGES PER HOUR IN ZONES 3-8 BY BLOWER DR. TEST AT A PRESSURE OF 0.2 IN. W.G. (50 PASCALS). WHERE REQ'D BY BUILDING OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. SEE N1102.4.1.2 (R402.4.1.2) FOR TESTING PROCEDURES AND DOCUMENTATION REQ'TS.



CLIMATE ZONE MAP

- SPACE BETWEEN WINDOWS/DOOR JAMBS & FRAMING AND SKYLIGHTS & FRAMING.
 - DUCTS, SHAFTS, UTILITY PENETRATIONS & FLEX SHAFTS OPENING TO EXT. OR UNCONDITIONED SPACE.
 - JUNCTIONS OF FOUNDATION & SILL PLATE & JUNCTION OF THE TOP PLATE & TOP OF EXT. WALLS.
 - HVAC REGISTER BOOTHS THAT PENETRATE BLDG. THERMAL ENVELOPE (SEAL TO SUBFLOOR/DRYWALL).
 - RECESSED LIGHT FIXTURES INSTALLED IN THE BLDG. THERMAL ENVELOPE SHALL BE AIR TIGHT, IC-RATED & SEALED TO THE DRYWALL.
 - BETWEEN GARAGE AND CONDITIONED SPACES.
 - AIR BARRIER TO BE INSTALLED ON FIREPLACE WALLS - FIREPLACE TO HAVE GASKETED DOORS.
 - OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH THE ROOF, WALLS, AND FLOORS.
 - BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS.
 - JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDERS.
 - ALL OTHER OPENINGS IN THE BUILDING ENVELOPE.
- CAVITIES IN WALL CORNERS & JOISTS TO BE FULLY INSULATED TO R3/in & SHALL BE SEALED. FLOORS, INCLUDING ABOVE GARAGE AND CANTILEVERED FLOORS - INSUL. SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT W/ UNEXPOSED SUBFLOOR DECKING. (EXCEPTIONS PER N1102.2.8) THE AIR BARRIER SHALL BE INSTALLED AT ANY EXPOSED EDGE OF INSUL. RIM JOIST SHALL BE INSULATED & INCLUDE AIR BARRIER. KNEE WALLS SHALL BE SEALED

WHERE PROVIDED @ CRAWLSPACE IN LIEU OF FLOOR INSUL., INSUL. SHALL BE PERMANENTLY ATTACHED TO THE CRAWLSPACE WALLS. EXPOSED EARTH IN UNVENTED EARTH SHALL BE COVERED WITH A CLASS-1 VAPOR RETARDER W/ OVERLAPPING JOINTS TAPED.

BATT INSUL. SHALL BE CUT NEATLY TO FIT AROUND WIRING & PLUMBING IN EXT. WALLS WITHOUT VOIDS/GAPS. AIR BARRIER SHALL EXTEND BEHIND ELECTRICAL/COMMUNICATION BOXES OR INSTALL AIR SEALED BOXES.

EXT. WALLS ADJACENT TO TUBS/SHOWERS TO BE INSULATED AND AIR BARRIER SHALL SEPARATE THE INSULATED WALL FROM THE SHOWER/TUB.

AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EA. SEPARATE HEATING AND COOLING SYSTEM. WITH FORCED AIR HEATING, AT LEAST ONE THERMOSTAT SHALL BE DAILY PROGRAMMABLE.

DUCTS, AIR HANDLERS & FILTER BOXES SHALL BE SEALED (N1103.3.2) JOISTS & SEAMS SHALL COMPLY W/ IBC OR MIE01.4.1 EXCEPTIONS ALLOWED FOR AIR-IMPERMEABLE SPRAY FOAM PRODUCTS (EXCEPTION 1) OR DUCTS MEETING SPECIFIC PRESSURE & JOINT REQ'TS (EXCEPTION 2). DUCTS SHALL BE PRESSURE TESTED PER N1103.3.3 (MANDATORY) BY EITHER BLOW-IN TEST OR PISTON CONSTRUCTION TEST AS DESCRIBED IN CODE. UNLESS DUCTS & AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THERMAL BLDG. ENVELOPE. A WRITTEN TEST REPORT, SIGNED BY THE TESTER, SHALL BE PROVIDED TO THE BUILDING OFFICIAL. TOTAL DUCT LEAKAGE SHALL MEET (PRESCRIPTIVE) REQ'TS OF N1103.4.1 BLOW-IN TEST, OR N1103.4.2 PISTON CONSTRUCTION TEST.

6. ALL EXPOSED INSUL. TO HAVE A FLAME SPREAD RATING NOT TO EXCEED 25. SMOKE-DEVELOPED INDEX NOT TO EXCEED 450. WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL723, AND WERE INSTALLED ON ATTIC FLOORS, ALL HAVE A CRITICAL RAINFALL FLUX NOT LESS THAN 0.12 WATTS PER CM² PER ASTM E 790.

7. INSULATE ALL ACCESS DOORS/HATCHES TO CRAWLSPACES AND ATTICS TO THE EQUIV. RATING OF THE WALL, FLOOR, OR CEILING THROUGH WHICH THEY PENETRATE. EXCEPTION: VERTICAL ACCESS DOORS TO UNCONDITIONED SPACE SHALL BE PERMITTED TO MEET THE WALL R-VALUE. A MIN. OF 90% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH EFFICIENCY LAMPS.

8. ALL WINDOWS WITHIN 24" OF ANY DOOR (REGARDLESS OF WALL PLANE), AND WHOSE DOOR EDGE IS LESS THAN 60" ABOVE FLOOR OR WALKING SURFACE SHALL HAVE TEMPERED GLAZING.

9. SKYLIGHTS ARE ASSUMED TO BE PRE-WFR UNIT SKYLIGHTS. UNIT SKYLIGHTS SHALL COMPLY WITH THE REQUIREMENTS OF ALUMA/MAN/CSA 101.03/4440.

10. A PERMANENT CERTIFICATE SHALL BE COMPLETED AND POSTED ON OR IN THE ELEC. DIST. PANEL LISTING THE PREDOMINANT MATERIALS OF INSUL. INSTALLED IN OR ON CGLD/PROOF. WALLS, FDN. (SLAB), SILL WALLS, CRAWLSPACE WALL AND/OR (FLOOR) AND DUCTS OUTSIDE COND. SPACES. - FENESTRATION U-FACTORS/SHGC AND RESULTS FROM ANY REQ'D. ENVELOPE AIR LEAKAGE TESTING, ALONG WITH TYPES AND EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIP. PER N1101.4 (R401.3)

11. ALL EXTERIOR WINDOWS ARE TO BE DOUBLE GLAZED AND ALL EXTERIOR DOORS ARE TO BE SOLID CORE WITH WEATHER-STRIPPING. PROVIDE 1/2" IN. DEAD-BOLT LOCKS ON ALL EXTERIOR DOORS, AND LOCKING DEVICES ON ALL DOORS AND WINDOWS WITHIN 10 FT. (VERTICAL) OF GRADE. PROVIDE PEEPHOLE 54" - 68" ABOVE FIN. FLOOR ON EXTERIOR ENTRY DOORS. OPERABLE WINDOWS LOCATED MORE THAN 7'2" ABOVE FINISHED GRADE OR SURFACE SHALL HAVE LOWER PART OF CLEAR OPENING A MIN. OF 24" ABOVE FINISHED FLOOR. GLAZING BETWEEN FN FLOOR AND 24" SHALL BE FIXED OR HAVE OPENINGS THROUGH WHICH A 4" DIA. SPHERE CANNOT PASS OR CODE APPROVED WINDOW GUARD. (COMPLIANT W/ ASTM F2090).

12. DOORS BETWEEN GARAGE AND RESIDENCE SHALL BE SOLID WOOD NOT LESS THAN 1-3/8" THICKNESS OR 20 MINUTE RATE FIRE-RATED, AND TO BE EQUIPPED WITH A SELF-CLOSING DEVICE.

13. GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS & SHOWERS, AND IN ANY PART OF A BUILDING WALL ENCLOSED THESE COMPARTMENTS, WHERE BOTTOM EDGE OF GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE, TO BE TEMPERED GLAZING.

14. BASEMENTS, EVERY SLEEPING ROOM AND HABITABLE ATTICS TO HAVE MIN. WINDOW OPENING OF 5.7 SQ. FT. WITH A MIN. WIDTH OF 20" AND A SILL HGT. NOT MORE THAN 44" ABOVE FIN. FLOOR.

15. SMOKE DETECTORS SHALL BE INSTALLED IN EA. SLEEPING ROOM, OUTSIDE THE IMMEDIATE VICINITY OF EA. SLEEPING AREA AND ON EA. STORY OF THE DWELLING. CARBON MONOXIDE ALARMS SHALL BE LOCATED IN EA. BEDROOM OR W/IN 15 FEET OUTSIDE OF EA. BEDROOM DR. BEDROOMS ON SEPARATE FLOOR LEVELS IN A STRUCTURE OF TWO OR MORE STORES SHALL HAVE SEPARATE CARBON MONOXIDE ALARMS SERVING EA. STORY. ALL SMOKE DETECTORS AND/OR COMBINATION SMOKE/CARBON MONOXIDE ALARMS SHALL BE INTERCONNECTED SUCH THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS AND WILL BE AUDIBLE IN ALL SLEEPING AREAS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENEING DOORS CLOSED. SINGLE STATION CARBON MONOXIDE ALARMS THAT ARE HARD WIRED SHALL BE EQUIPPED W/ BATTERY BACKUP.

16. ELECTRICAL RECEPTACLES IN BATHROOMS, KITCHENS, EXTERIOR LOCATIONS AND GARAGES SHALL BE G.F.I. OR G.F.C.F. PER NATIONAL ELECTRICAL CODE (N.E.C.) REQUIREMENTS.

17. INTERIOR & EXTERIOR STAIRS SHALL HAVE A MEANS TO ILLUMINATE THE STAIRS, INCLUDING LANDINGS & TREADS. INTERIOR STAIRS OF 6 STEPS OR MORE SHALL HAVE THE REQUIRED LIGHTING IN THE IMMEDIATE VICINITY OF THE TOP & BOTTOM OF THE STAIRS. EXTERIOR STAIRS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF STAIR. EXTERIOR STAIRS LEADING FROM GRADE TO BASEMENT SHALL HAVE AN ARTIFICIAL LIGHT SOURCE IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF STAIRS. LIGHTING FOR INTERIOR STAIRS SHALL BE CONTROLLED FROM TOP & BOTTOM OF EA. STAIR. SEE I.R.C. 303.7

18. PROVIDE COMBUSTION AIR VENTS (W/ SCREEN AND BACK DAMPER) FOR FIREPLACES, WOOD STOVES, AND ANY APPLIANCES WITH AN OPEN FLAME. FIREPLACE FLUE DAMPERS SHALL BE TIGHTLY FITTING AND OPERATED BY A READILY ACCESSIBLE MANUAL OR APPROVED AUTOMATIC CONTROL.

19. LOCAL EXHAUST - BATHROOMS-TOILET ROOMS, UTILITY ROOMS & INDOOR SWIMMING POOLS & SPAS ARE TO BE VENTED WITH A FAN CAPABLE OF PRODUCING A MIN. 50 CFM INTERMITTENT OR 20 CFM CONT. AND KITCHENS CAPABLE OF 100 CFM INTERMITTENT OR 25 CFM CONT. DUCT LENGTH, DIA., & TYPE TO BE DETERMINED PER TABLE M1507.2. ALL EXHAUST VENTS TO BE VENTED TO EXTERIOR. WHERE IT EXCEEDS 30', THE EQUIVALENT LENGTH OF THE DRYER EXHAUST DUCT SHALL BE IDENTIFIED ON A PERMANENT LABEL OR TAG LOCATED WITHIN 6 FEET OF THE EXHAUST DUCT CONNECTION.

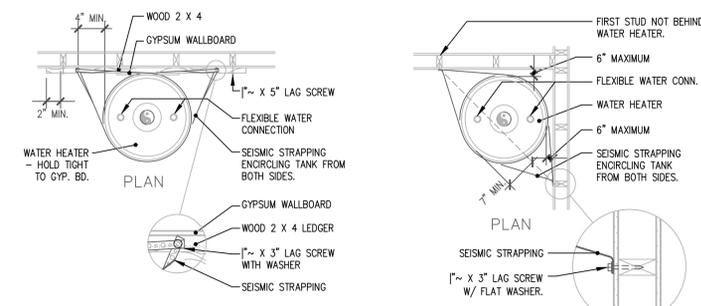
20. WHOLE HOUSE MECHANICAL VENTILATION: SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY OR EXHAUST FANS, OR A COMBINATION OF SUCH, AND ASSOCIATED DUCTS AND CONTROLS. LOCAL EXHAUST OR SUPPLY FANS ARE PERMITTED TO SERVE AS SUCH A SYSTEM. OUTDOOR AIR DUCTS CONNECTED TO THE RETURN SIDE OF A HR HANDLER SHALL BE CONSIDERED TO PROVIDE SUPPLY VENTILATION. SYSTEM SHALL BE PROVIDED WITH MANUAL OVERRIDE CONTROLS. (CHECK-W/HAUS CONTRACTOR TO SIZE VENTILATION SYSTEM IN ACCORDANCE WITH SECTION M1507.3. REGARDING AREA SERVED AND SYSTEM TYPE.)

21. SPECIFIC MANUFACTURES AND MATERIALS DEPICTED ON THESE PLANS ARE AN INDICATION OF QUALITY AND STRENGTH. VERIFY ALL CONSTRUCTION MATERIAL SUBSTITUTIONS WITH CURRENT APPLICABLE BUILDING CODES AND LOCAL BUILDING OFFICIALS PRIOR TO INSTALLATION / SUBSTITUTION.

22. THIS DESIGN, UNLESS PURCHASED WITH ITS SPECIFIC ENGINEERED ANALYSIS, HAS NOT BEEN REVIEWED FOR ANY SPECIFIC LATERAL DESIGN REQUIREMENTS.

FOUNDATION NOTES:

1. FOOTINGS ARE TO BEAR ON UNDISTURBED LEVEL SOIL DEVOID OF ANY ORGANIC MATERIAL AND STEPPED AS REQUIRED TO MAINTAIN THE REQUIRED DEPTH BELOW THE FINAL GRADE.
2. CONTINUOUS FOOTINGS ARE DESIGNED PER 2018 IRC TABLE R403.1(1) - SOIL BEARING VALUE OF 1500 PSF, 30# SNOW LOAD, LIGHT FRAME CONSTRUCTION BASED ON 32" WIDE HOUSE WITH CENTER BEARING WALL.
3. MAX. SLOPE OF CUTS AND FILLS TO BE TO ONE (1) VERT. FOR BLDG. STRUCTURES, AND FDNIS.
4. ANY FILL UNDER GARAGE SUPPORTED SLABS TO BE A MIN. OF 4" IN. GRANULAR MAT. COMPACTED TO 95%.
5. CONCRETE:
 - BASEMENT WALLS & FOUNDATIONS NOT EXPOSED TO WEATHER: 2,500 PSI MORTAR & GROUT TO BE MIXED PER MFR REQ/MTS
 - BASEMENT & INTERIOR SLABS ON GRADE: 2,500 PSI
 - BASEMENT WALLS & FOUNDATIONS EXPOSED TO THE WEATHER, AND GARAGE SLABS: 3,000 PSI
 - PORCHES, STEPS, & CARPORT SLABS EXPOSED TO WEATHER: 3,500 PSI



6. GARAGE FLOORS TO SLOPE 1/8\"/>
7. CONCRETE SIDEWALKS TO HAVE 3/4\"/>
8. REINFORCING STEEL TO BE A-615 GRADE 60. OPTIONAL WELDED WIRE MESH TO BE A-185.
9. EXCAVATE SITE TO PROVIDE A MIN. OF 18\"/>
10. COVER ENTIRE CRAWL SPACE WITH CLASS 1 VAPOR RETARDER (e.g. 6 MIL POLYETHYLENE FILM), & INSTALL A RADON VENT BETWEEN GROUND COVER AND SOIL (PER IRC APPENDIX F - SEE SHEET R-). AS REQ'D WHERE VENT AREA IS LESS THAN 1/150 OF CRAWLSPACE AREA OR OPERABLE LouVERS ARE INSTALLED AT CRAWLSPACE VENTS.
11. PROVIDE A MIN. OF 1 SQ. FT. OF VENTILATION AREA FOR EACH 1500 SQ. FT. OF CRAWL SPACE AREA. LOCATE VENTS TO PROVIDE CROSS VENTILATION OF THE SPACE. IF CLASS 1 VAPOR RETARDER NOT USED, PROVIDE 1 SQ. FT. OF VENTILATION AREA FOR EA. 150 SQ. FT. OF CRAWL SPACE AREA, AND VENTS TO BE EVENLY SPACED TO PROVIDE CROSS VENTILATION, EXCEPT ONE SIDE OF BUILDING MAY HAVE NO VENT OPENING. VENTS ARE TO BE COVERED WITH 1/8\"/>
12. ALL WOOD IN CONTACT WITH CONCRETE TO BE OF GRADE TREATED OR PROTECTED WITH 55# ROLL ROOFING.
13. BEAM POCKETS IN CONCRETE TO HAVE 1/2\"/>
14. WATERPROOF BASEMENT WALLS BEFORE BACKFILLING. PROVIDING A 4\"/>
15. PROVIDE MIN. 16\"/>

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27. SPECIFIC MANUFACTURES AND MATERIALS DEPICTED ON THESE PLANS ARE AN INDICATION OF QUALITY AND STRENGTH. VERIFY ALL CONSTRUCTION MATERIAL SUBSTITUTIONS WITH CURRENT APPLICABLE BUILDING CODES AND LOCAL BUILDING OFFICIALS PRIOR TO INSTALLATION / SUBSTITUTION.
28. THIS DESIGN, UNLESS PURCHASED WITH ITS SPECIFIC ENGINEERED ANALYSIS, HAS NOT BEEN REVIEWED FOR ANY SPECIFIC LATERAL DESIGN REQUIREMENTS.

FRAMING NOTES:

1. ALL EXTERIOR WALL OPENINGS & BEARING WALL OPENINGS TO HAVE 4 X 10 HEADERS UNLESS OTHERWISE INDICATED. IF BUILDING BUILT WITH 8B" IN. STUDS USE 4 X 8 HEADERS UNLESS OTHERWISE INDICATED.
2. ALL INTERIOR WALLS TO BE BUILT OF 2 X 4 STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE TO BE BUILT OF 2 X 4 STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SUPPORTING TWO OR MORE FLOORS AND 1 OR MORE ROOF/CEILING ASSEMBLIES SHALL BE 2 X 6 STUDS @ 16" O.C. FOUNDATION GIRPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDING ABOVE. WHEN EXCEEDING 4' IN HEIGHT, SUCH WALLS SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY UNLESS SPECIFIED OTHERWISE.
3. ALL METAL CONNECTORS TO BE "SIMPSON" OR EQUIVALENT. U.N.O. JOISTS HUNG ON FLUSH BEAMS TO BE ATTACHED WITH U210 OR EQUIVALENT. MULTIPLE JOISTS USE U210-2/U210-3 AS REQUIRED. USE OF 104 X 1-1/2" NAILS ARE ALLOWED WITH THESE TYPE OF HANGERS UNLESS NOTED ON THE PLANS. SEE NAIL CONVERSION CHART FROM CONNECTOR MANUFACTURERS. CATALOG FOR OTHER NOTES AND RESTRICTIONS THAT MAY APPLY. "USP" CONNECTORS CONSIDERED APPROVED EQUAL.
4. PROVIDE DOUBLE JOISTS UNDER ALL WALLS ABOVE. RUNNING PARALLEL TO JOISTS AND SOLID BLOCKING BELOW ALL BEARING WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS.
5. PROVIDE POSITIVE VENTILATION AT EACH END OF EACH RAFTER STAIR AT VAULTED CGL AREAS, AND INSULATION BAFFLES AT EA VENT BETWEEN RAFTERS. RAFTER VENTILATION IS ALSO REQUIRED AT BLOCKING LOCATIONS ABOVE THE PLATE.
6. PROVIDE FIRE BLOCKING PER 2018 I.R.C. R302.11 & DRAFT STOPS PER 2018 I.R.C. R302.12
7. HIPS, VALLEYS & RIDGES SHALL NOT BE LESS IN DEPTH THAN THE END OF THE RAFTER.
8. UNLESS NOTED OTHERWISE, CONNECT POST TO BEAM WITH "SIMPSON" BC SERIES CAP/BASE (OR APPROVED EQUAL) CONNECTORS. AT EXTERIOR APPLICATIONS USE "SIMPSON" EPB SERIES BASES. U.N.O. AND AT INTERIOR GARAGE POSTS AT FINISH FLOOR, (POST NOT EMBEDDED) USE "SIMPSON" CB SERIES BASES. "USP" CONNECTORS CONSIDERED APPROVED EQUAL.
9. FASTENERS FOR PRESERVATIVE-TREATED WOOD INCLUDING NUTS AND WASHERS SHALL BE HOT-DIPPED, ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL.
10. LUMBER SPECIES:

A. POSTS, BEAMS, HEADERS JOISTS AND RAFTERS	NO. 2 DOUGLAS FIR
B. SILLS, PLATES, BLOCKING BRIDGING ETC.	NO. 3 DOUGLAS FIR
C. STUDS	STUD GRADE D.F.
D. STUDS OVER 10' HIGH	NO. 2 OR BETTER D/F
E. POST & BEAM BRIDGING	UTILITY GRADE D.F.
F. PLYWOOD SHEATHING	CDX PLY, 3/2" 76
G. GYU-LAM BEAMS (EXT. ADH. @ EXT. CONDITIONS)	Fb=2400, DRY ADH.
H. PSL MATERIALS **	Fb = 2900 E= 2.0 Fv = 290
LVL MATERIALS **	Fb = 2900 E= 2.0 Fv = 285
LVL MATERIALS ***	Fb = 2900 E= 1.9 Fv = 285
LSL MATERIALS ***	Fb = 2335 E= 1.55 Fv = 525

11. FASTENING SCHEDULE:

DESCRIPTION	FASTENER	TYPE
BLKG BETWEEN CEL.ISTS OR RFRS TO TOP	4-8d BOX (3"x0.113")	TOE NAIL
CLG.IST TO TOP	4-8d BOX (3"x0.113")	FACE NAIL
CLG.IST LAPPED AT PARTITION	4-10d BOX (3"x0.128")	TOE NAIL
CEL.ISTS TO RAFTER	PER TABLE R02.5.1(9)	FACE NAIL EA. RFR
COLLAR TO RAFTER	4-10d BOX (3"x0.128")	TOE NAIL
RAFTER/TRUSS TO >	3-16d BOX (3"x0.135")	END NAIL
RAFTER TO RIDGE/HIP/VALLEY (MIN. 2")	3-16d BOX (3"x0.135")	12" O.C. FACE
STUD TO STUD @ INSERTING WALL CORNERS	16d COM (3"x0.162")	16" O.C. EDGE
BUILT-UP HOR. 2X MEMBERS	16d COM (3"x0.162")	TOE NAIL
CONT. HOR. TO STUD	5-8d BOX (2"x0.113")	12" O.C. FACE
TOP > TO STUD	2-16d COM (3"x0.162")	FACE EA. SIDE
DBL. TOP > SPLICE	12-16d COM (3"x0.162")	16" O.C. FACE
SOLE > TO JST, RIM OR BLK'G	16d COM (3"x0.162")	END NAIL
TOP OR BOTTOM > TO STUD	3-16d BOX (3"x0.135")	