EXHIBIT 4
DR18-01

GOVERNING DESIGN CODES

2015 INTERNATIONAL RESIDENTIAL CODE
(WITH WASHINGTON STATE AMENDMENTS)
2015 WSEC

HALLWAYS (R311.6)
THE MINIMUM WIDTH OF A HALLWAY SHALL BE NOT LESS THAN 3 FT.

EGRESS DOOR (R311.2)
AT LEAST ONE EGRESS DOOR SHALL BE PROVIDED FOR EACH DWELLING UNIT. THE EGRESS DOOR SHALL BE SIDE-HINGED AND SHALL PROVIDE A MINIMUM CLEAR WIDTH OF 32 INCHES WHEN MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP. THE MINIMUM CLEAR HEIGHT OF THE DOOR OPENING SHALL NOT BE LESS THAN 78 INCHES IN HEIGHT MEASURED FROM THE TOP OF THE THRESHOLD TO THE BOTTOM OF THE STOP. EGRESS DOORS SHALL BE READILY OPERABLE FROM INSIDE THE DWELLING WITHOUT THE USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT.

FLOORS AND LANDINGS AT EXTERIOR DOORS (R311.3)
THERE SHALL BE A LANDING OR FLOOR ON EACH SIDE OF EACH EXTERIOR DOOR. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES MEASURED IN THE DIRECTION OF TRAVEL. EXTERIOR LANDINGS SHALL BE PERMITTED TO HAVE A SLOPE NOT TO EXCEED ¼ UNIT VERTICAL IN 12 UNITS HORIZONTAL (2%).

FLOOR ELEVATIONS AT REQUIRED EGRESS DOORS (R3111.3.1)
LANDINGS OR FLOORS AT THE REQUIRED EGRESS DOOR SHALL NOT BE MORE THAN 1-1/2 INCHES LOWER THAN THE TOP OF THE THRESHOLD.

EMERGENCY ESCAPE AND RESCUE REQUIRED (R310.1)
BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR.
R310.1.1 MINIMUM OPENING AREA: ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET.
R310.1.2 MINIMUM OPENING HEIGHT: THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES.
R310.1.3 MINIMUM OPENING WIDTH. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES.
R310.1.4 EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE.

SMOKE ALARMS (R314)
SMOKE DETECTION SHALL BE INSTALLED IN EACH SLEEPING ROOM AND CENTRALLY LOCATED IN ADJACENT CORRIDOR. SMOKE DETECTORS SHALL BE INSTALLED ON EACH FLOOR LEVEL AND IN BASEMENTS. DETECTORS SHALL SOUND AN AUDIBLE ALARM IN ALL SLEEPING AREAS. UNITS WILL BE INTERCONNECTED, HARD WIRED AND ARE TO BE EQUIPPED WITH BATTERY BACK-UP.

CARBON MONOXIDE ALARMS (R315.1)
FOR NEW CONSTRUCTION, AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS IN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.

ALL BEAMS, RAFTERS, JOIST, HDR'S, POSTS AND STUDS ARE TO BE DF#2 GRADE UNLESS OTHERWISE NOTED ON PLAN. ALL WOOD IN CONTACT WITH CONCRETE MUST BE PRESSURE TREATED PER 2012 IRC R502.

SPECIFICATIONS AND CODES REFERENCED IN THESE NOTES ARE THE VERSIONS MOST RECENTLY ADOPTED BY THE PERMITTING AUTHORITIES.

FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURE PRIOR TO FABRICATION OF MATERIALS.

APPLY, PLACE, ERECT OR INSTALL ALL PRODUCTS AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ADEQUATELY BRACING STRUCTURE AND ALL STRUCTURAL COMPONENTS AGAINST WIND, LATERAL EARTH AND SEISMIC FORCES UNTIL THE PERMANENT LATERAL FORCE RESISTING SYSTEMS HAVE BEEN INSTALLED.

PROVIDE BLOCKING BETWEEN STUDS (OR OTHER MEANS OF BRACING) AT WOOD BEARING WALLS TO PREVENT STUD BUCKLING PRIOR TO INSTALLATION OF GYPSUM WALLBOARD.

EXTERIOR NOTES
ALL EXTERIOR DECKS EXPOSED TO WEATHER MUST UTILIZE WEATHER-RESISTANT WOOD SUCH AS CEDAR, REDWOOD, MAHOGANY OR PRESSURE-TREATED WOOD IN ACCORDANCE WITH IRC SECTION R502

RAIN AND LOW POINT DRAINS TO BE SCHEDULE 40 PVC OR ABS WITH DWV FITTINGS

GUTTER AND DOWNSPOUTS TO APPROVED DRAINAGE

NOTICE: FASTENERS FOR PRESSURE PRESERVATIVE TREATED WOOD (ACQ) SHALL BE HOT DIPPED GALVANIZED OR AS PER IRC R502

RADON REDUCTION SYSTEM REQUIREMENTS:
PER WSEC, APPENDIX F, WSIAQ, AND 2012 IRC

1. MIN SCHEDULE 40 PVC PIPES
2. "RADON REDUCTION SYSTEM" LABELS TO BE APPLIED TO PIPING AT ALL ACCESSIBLE LOCATIONS
3. MIN 6 MIL BLACK POLY, VAPOR BARRIER WITH 12" OVERLAPS AT SEAMS
4. ELECTRICAL JUNCTION BOX FOR FUTURE FAN REQUIRED AT ACCESSIBLE LOCATION NEAREST TO PIPE TERMINATION

EXTERIOR ELEVATIONS NOTES AND SPECIFICATIONS

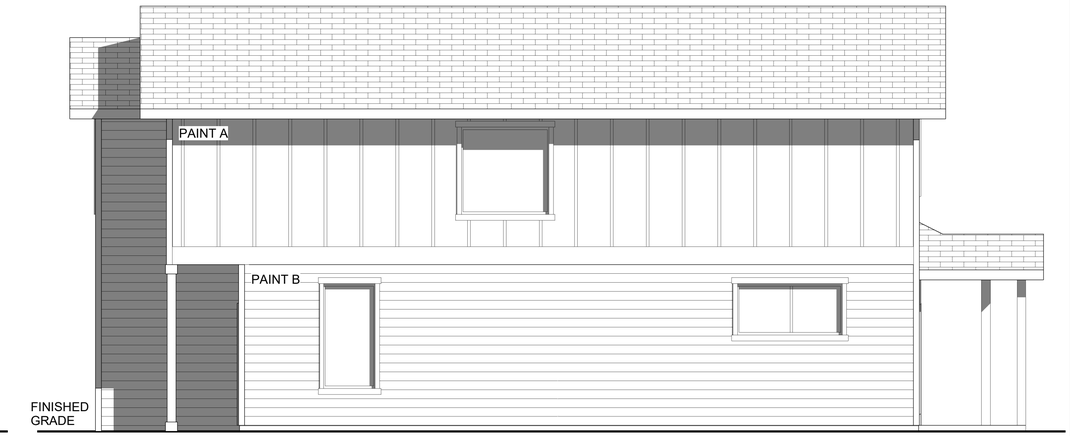
PROVIDE HARD SURFACE AREAS AT ALL EXTERIOR DOOR LOCATIONS

'COMPOSITION' ROOFING AT ALL ROOF STRUCTURES.

'HORIZONTAL' SIDING AT ALL SIDES UNLESS NOTED OTHERWISE.

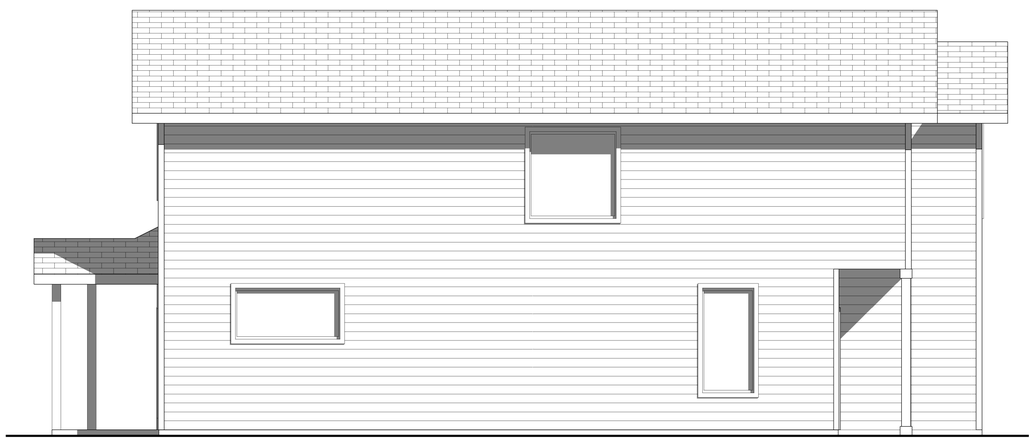
ROOF PITCH 6:12 AT MAIN ROOF.

1 / 1 EAST ELEVATION
1/4" = 1'-0"



2 / 1 NORTH ELEVATION
1/4" = 1'-0"

3 / 1 WEST ELEVATION
1/4" = 1'-0"



4 / 1 SOUTH ELEVATION
1/4" = 1'-0"

BURKLAND DUPLEX
-
704 SE TAMPA STREET
CAMAS, WA 98607

DRAWN BY
DM

DATE
02.09.2018

PROJECT NO.
Project Number

SHEET NAME
ELEVATIONS

SHEET NUMBER
1

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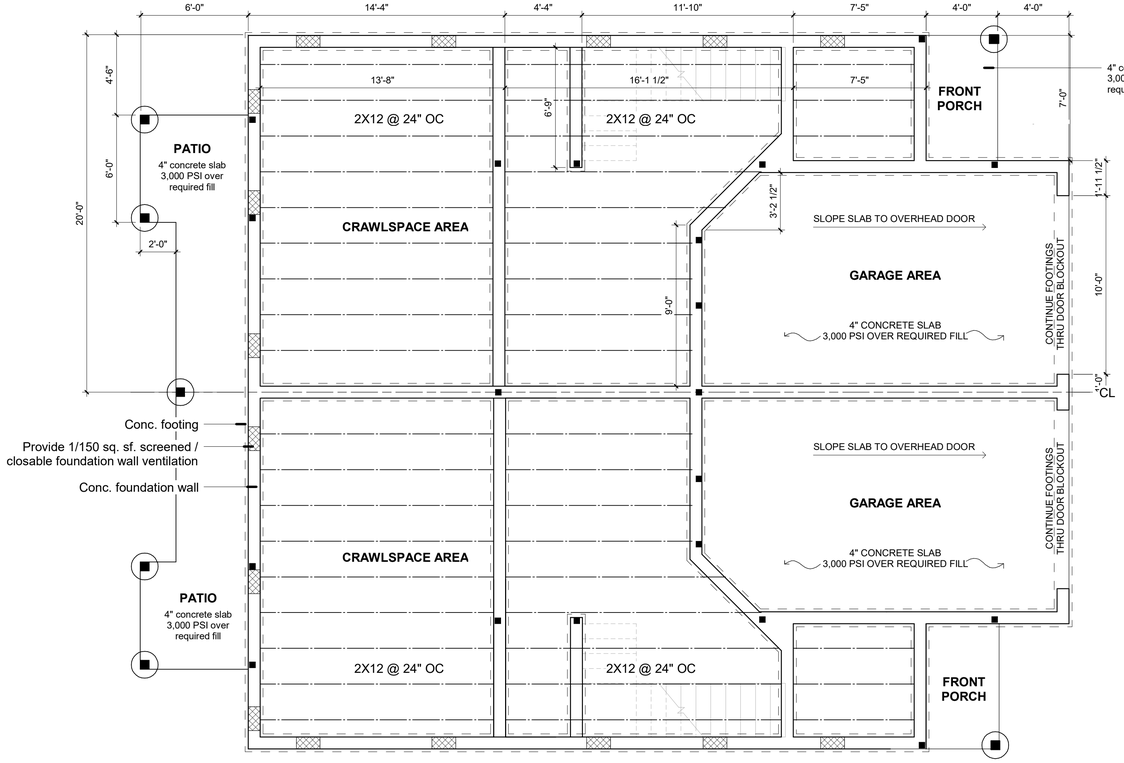
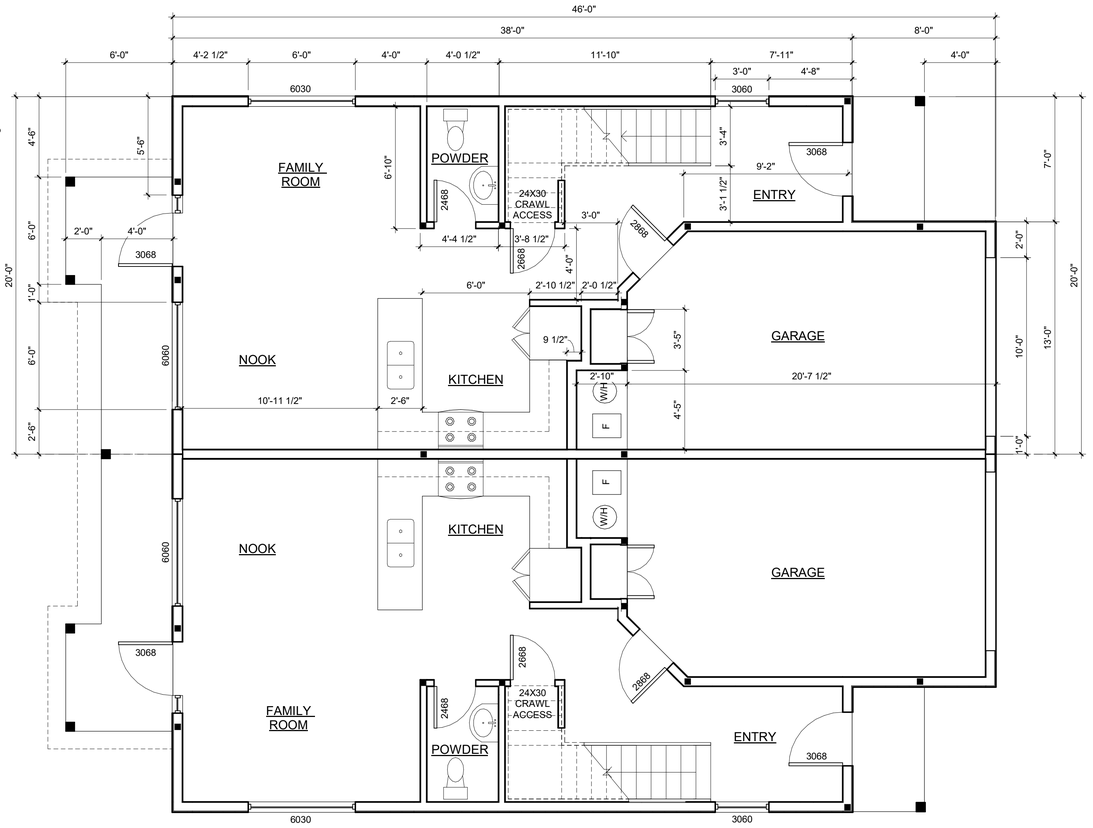


3 FOUNDATION PLAN
3/2 1/4" = 1'-0"



FIRST FLOOR LIVABLE AREA / UNIT: 560 SF
FIRST FLOOR GARAGE / UNIT: 270 SF

1 FLOOR PLAN - LEVEL ONE
1/2 1/4" = 1'-0"

FOUNDATION NOTES
GOVERNING DESIGN CODES

2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL RESIDENTIAL CODE
(WITH WASHINGTON STATE AMENDMENTS)

GENERAL (R403.1)
ALL EXTERIOR WALLS SHALL BE SUPPORTED ON CONTINUOUS SOLID OR FULLY GROUTED MASONRY OR CONCRETE FOOTINGS, CRUSHED STONE FOOTINGS, WOOD FOUNDATIONS, OR OTHER APPROVED STRUCTURAL SYSTEMS WHICH SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301 AND TO TRANSMIT THE RESULTING LOADS TO THE SOIL WITHIN THE LIMITATIONS AS DETERMINED FROM THE CHARACTER OF THE SOIL. FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL. CONCRETE FOOTINGS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R403 OR IN ACCORDANCE WITH ACI 332.

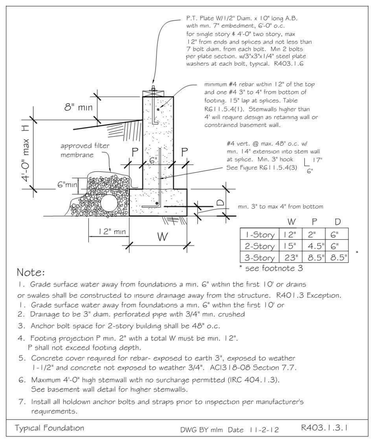
MINIMUM DEPTH (R403.1.4)
ALL EXTERIOR FOOTINGS SHALL BE PLACED AT LEAST 12 INCHES BELOW THE UNDISTURBED GROUND SURFACE. WHERE APPLICABLE, THE DEPTH OF FOOTINGS SHALL ALSO CONFORM TO SECTIONS R403.1.4.1 THROUGH R403.1.4.2 OR EXTENDED BELOW THE FROST LINE SPECIFIED IN TABLE R301.2.(1) +/- PER LOCAL JURISDICTION.

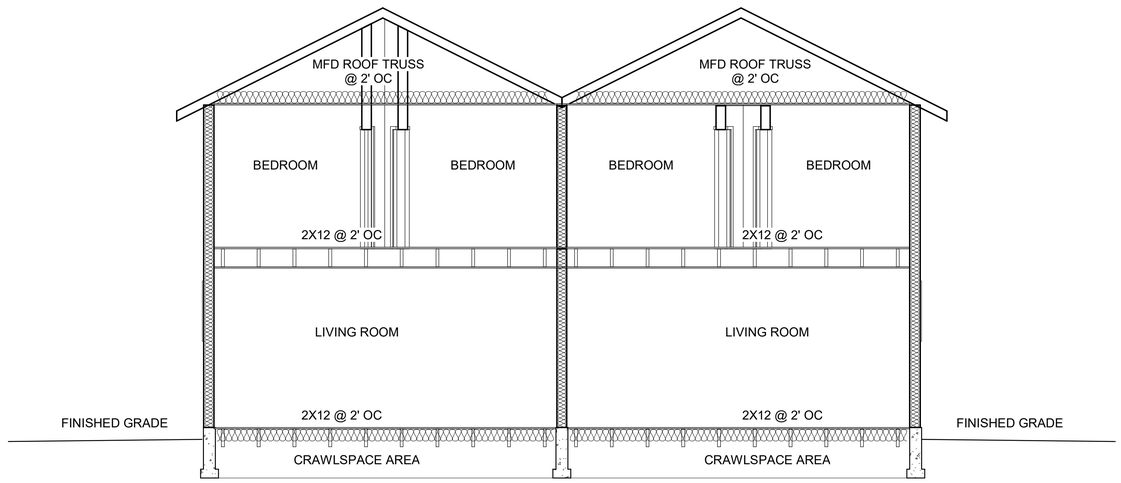
DRAINAGE (R401.3)
SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET. (3" DIA. PERF PIPE W/ ¾" MIN. CRUSHED ROCK OR GRAVEL AND APPROVED FILTER MEMBRANE)

OPENINGS FOR UNDER-FLOOR VENTILATION (R408.2)
THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SF FOR EACH 150 SF OF UNDER-FLOOR AREA. ONE VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING.

MINIMUM 16"X24" ACCESS THROUGH PONY WALLS

BEAM POCKET: W/ ½" AIR SPACE ON 3 SIDES





2 Section
2/2 1/4" = 1'-0"

BURKLAND DUPLEX

704 SE TAMPA STREET
CAMAS, WA 98607

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DATE
02.09.2018

PROJECT NO.
Project Number

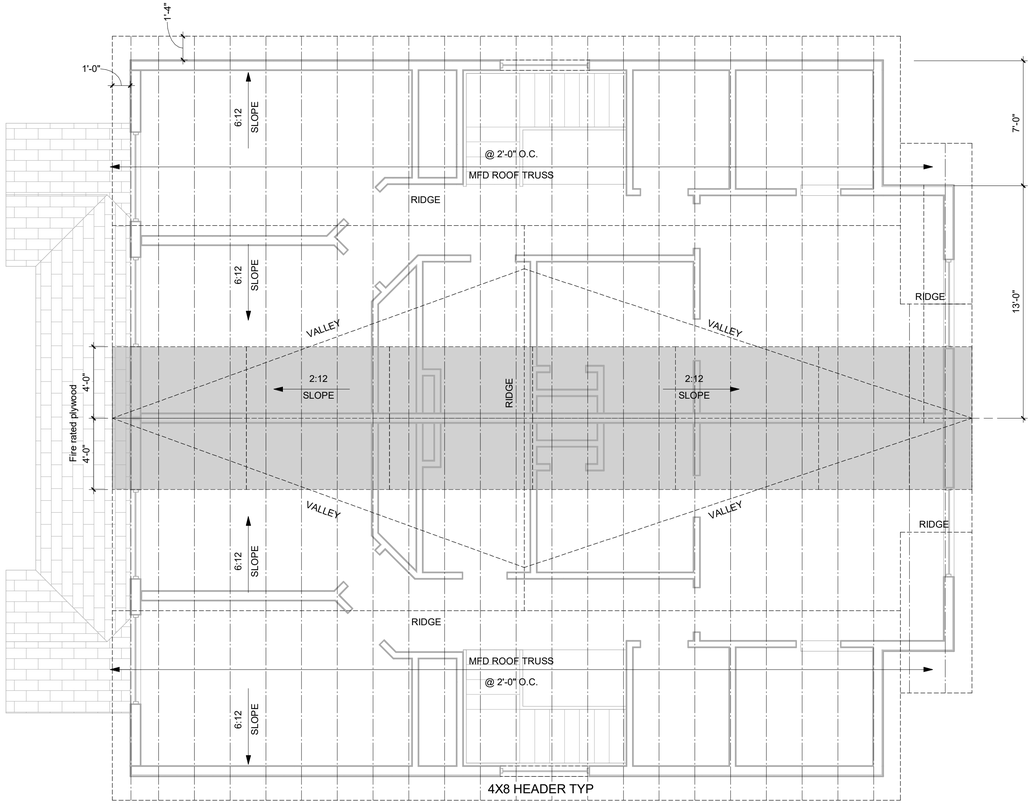
SHEET NAME
FLOOR PLAN - LEVEL ONE / FOUNDATION

SHEET NUMBER
2

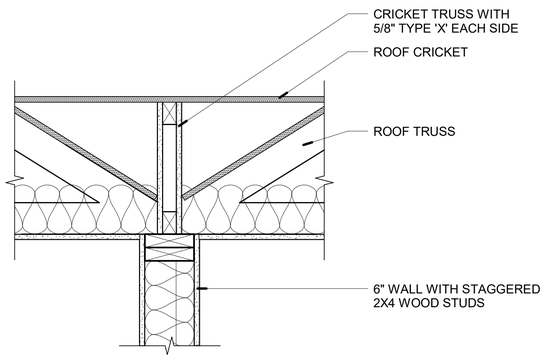
2/9/2018 9:44:46 AM

D C B A

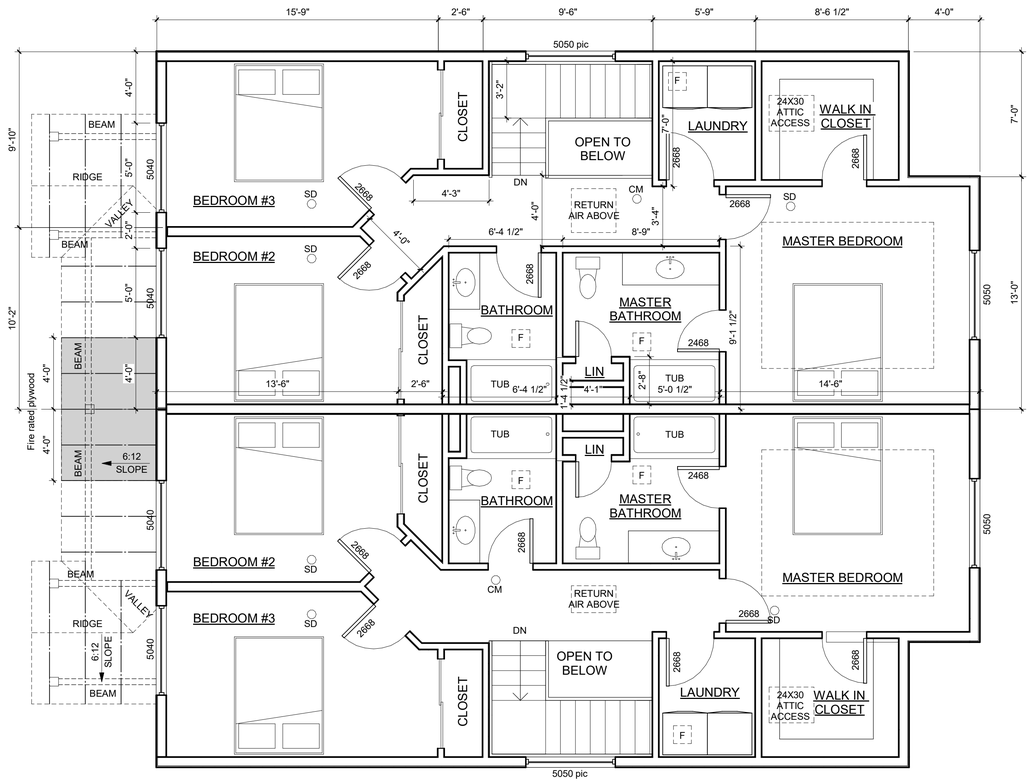
1 2 3 4



2 ROOF FRAMING PLAN
2/3 1/4" = 1'-0"



3 ROOF DETAIL
3/3 1 1/2" = 1'-0"



TOTAL SECOND FLOOR AREA / UNIT: 830 SF

1 FLOOR PLAN - LEVEL TWO
1/3 1/4" = 1'-0"

BURKLAND DUPLEX
704 SE TAMPA STREET
CAMAS, WA 98607

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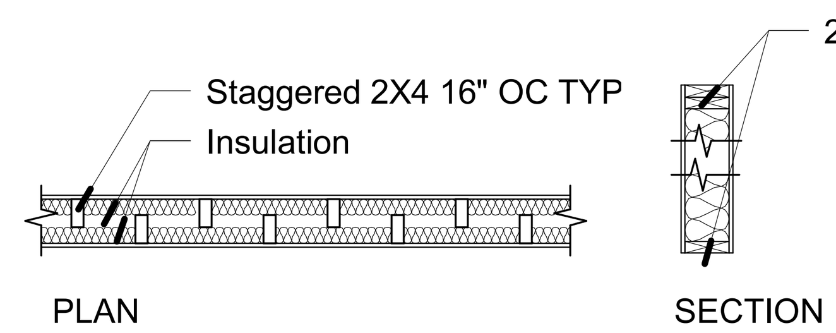
DATE
02.09.2018

PROJECT NO.
Project Number

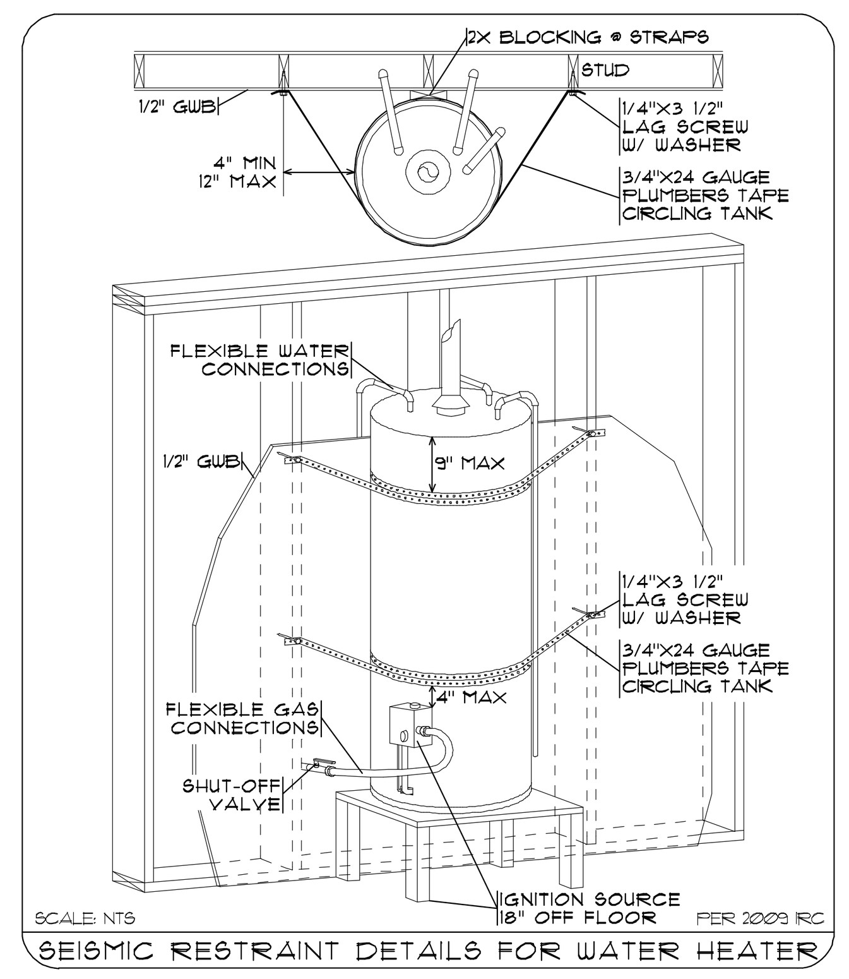
SHEET NAME
FLOOR PLAN - LEVEL TWO / ROOF

SHEET NUMBER
3

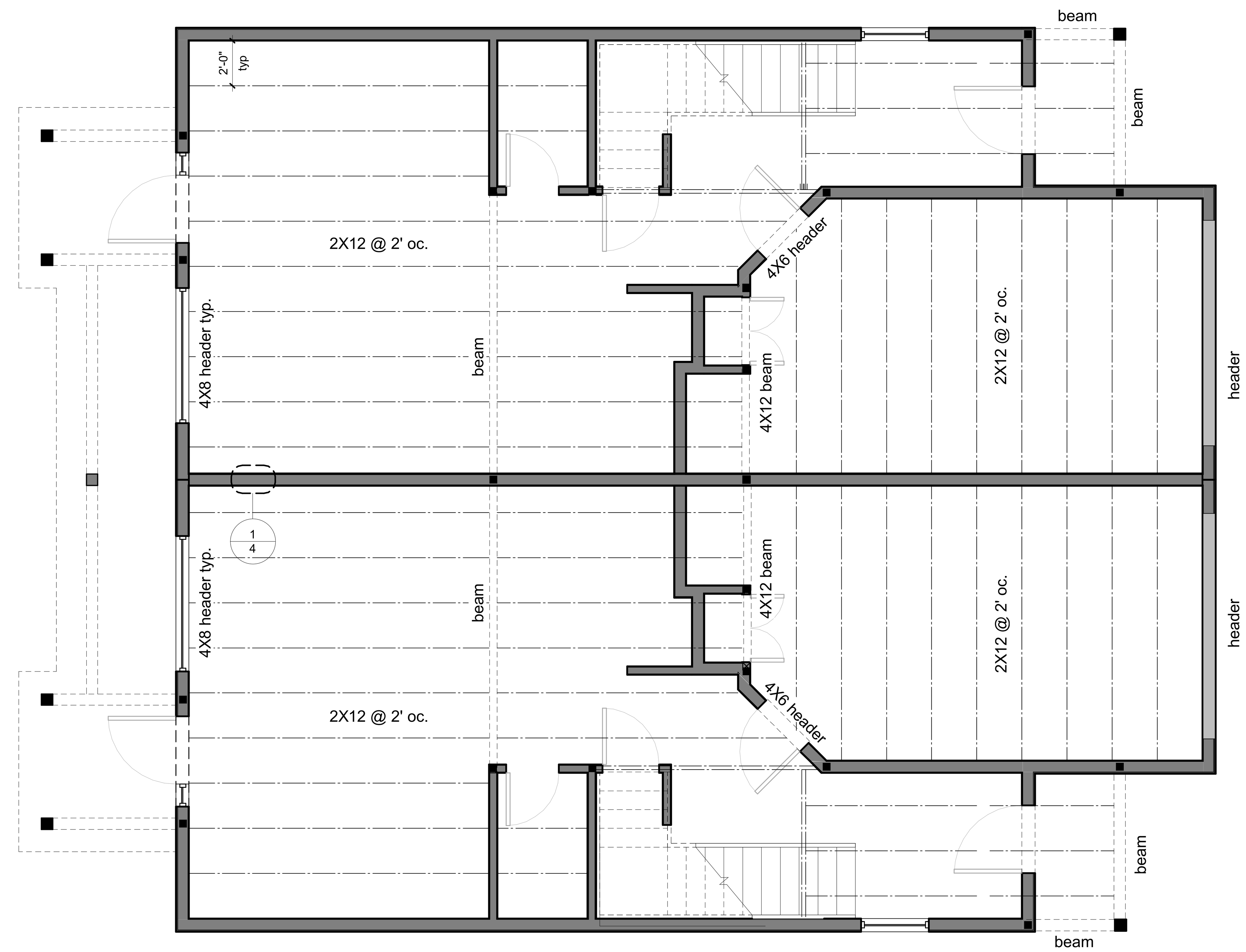
2/9/2018 9:44:53 AM



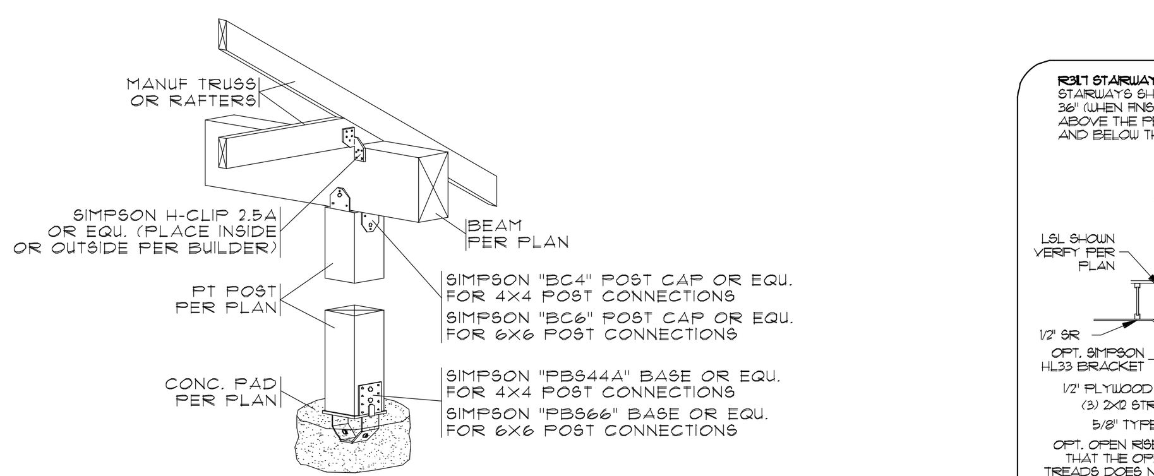
1/4 1 Hour Partition Wall
1/2" = 1'-0"



SEISMIC RESTRAINT DETAILS FOR WATER HEATER

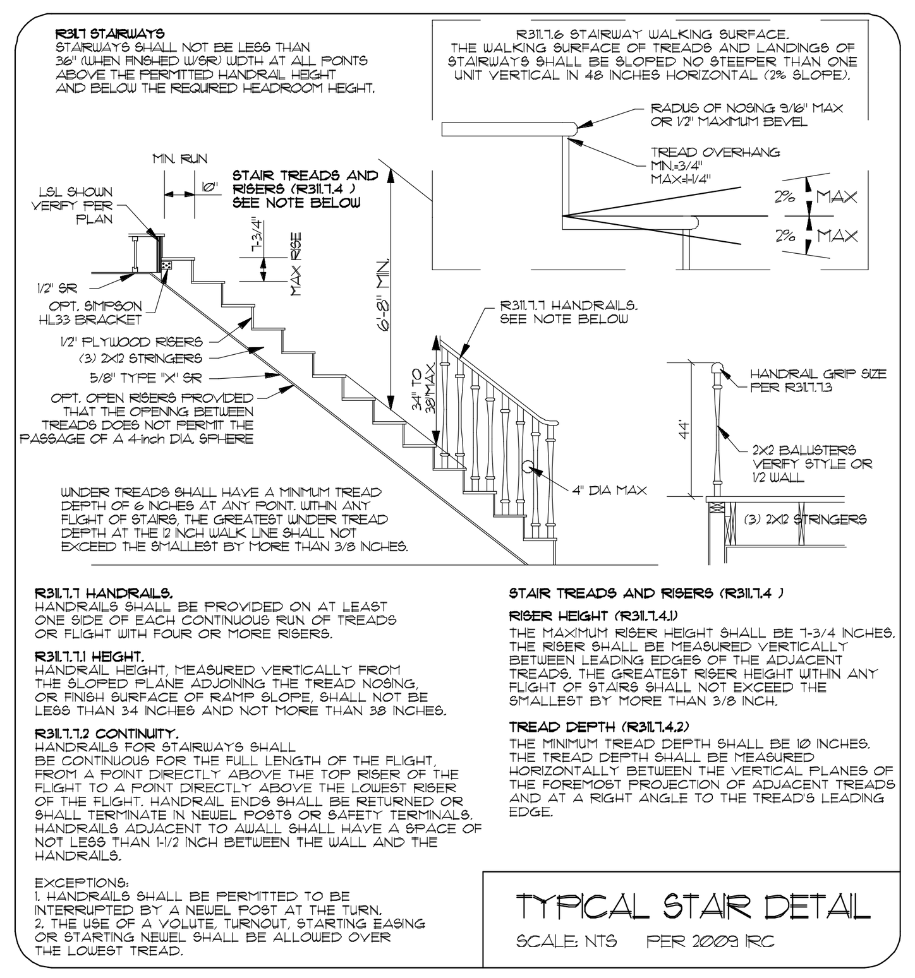


2/4 FRAMING PLAN - LEVEL TWO
1/4" = 1'-0"



TYPICAL POST CONNECTION DETAILS

NOT TO SCALE



TYPICAL STAIR DETAIL
SCALE: NTS PER 2009 IRC

ADDITIONAL CONSTRUCTION NOTES:

FRAMING LUMBER
LUMBER SPECIES: DOUGLAS FIR-LARCH GRADE LUMBER
LUMBER GRADES:
EXTERIOR WALL STUDS NO.2 OR BETTER
INTERIOR NON-BEARING WALL STUDS ....STANDARD OR BETTER
INTERIOR BEARING WALL STUDS ....NO.2 OR BETTER
JOISTS ....NO.2 OR BETTER
BEAMS ....NO.1 OR BETTER UNLESS NOTED ON PLAN
POSTS ....NO.1 OR BETTER UNLESS NOTED ON PLAN
BLOCKING ....STANDARD OR BETTER
SOLID BLOCKING USE SAME DEPTH AS MEMBERS

MINIMUM HEIGHT (R305.1)
HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF BASEMENTS CONTAINING THESE SPACES SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET.
EXCEPTIONS:
1. FOR ROOMS WITH SLOPED CEILINGS, AT LEAST 50 PERCENT OF THE REQUIRED FLOOR AREA OF THE ROOM MUST HAVE A CEILING HEIGHT OF AT LEAST 7 FEET AND NO PORTION OF THE REQUIRED FLOOR AREA MAY HAVE A CEILING HEIGHT OF LESS THAN 5 FEET.
2. BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES AT THE CENTER OF THE FRONT CLEARANCE AREA FOR FIXTURES.
3. BEAMS, GIRDERS, DUCTS OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6 FEET 4 INCHES OF THE FINISHED FLOOR.

BATHTUB AND SHOWER SPACES (R307.2)
BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.

FLOOR SURFACE (R309.1)
GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

GROUND CONTACT (R317.1.2) PROTECTION OF WOOD AGAINST DECAY
ALL WOOD IN CONTACT WITH THE GROUND, EMBEDDED IN CONCRETE IN DIRECT CONTACT WITH THE GROUND OR EMBEDDED IN CONCRETE EXPOSED TO THE WEATHER THAT SUPPORTS PERMANENT STRUCTURES INTENDED FOR HUMAN OCCUPANCY SHALL BE APPROVED PRESSURE-PRESERVATIVE TREATED WOOD SUITABLE FOR GROUND CONTACT USE, EXCEPT UNTREATED WOOD MAY BE USED WHERE ENTIRELY BELOW GROUNDWATER LEVEL OR CONTINUOUSLY SUBMERGED IN FRESH WATER.

FIELD TREATMENT (R317.1.1)
FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

WOOD COLUMNS (R317.1.4)
WOOD COLUMNS SHALL BE APPROVED WOOD OF NATURAL DECAY RESISTANCE OR APPROVED PRESSURE-PRESERVATIVE-TREATED WOOD.

EXPOSED GLUED-LAMINATED TIMBERS (R317.1.5)
THE PORTIONS OF GLUED-LAMINATED TIMBERS THAT FORM THE STRUCTURAL SUPPORTS OF A BUILDING OR OTHER STRUCTURE AND ARE EXPOSED TO WEATHER AND NOT PROPERLY PROTECTED BY A ROOF, EAVE OR SIMILAR COVERING SHALL BE PRESSURE TREATED WITH PRESERVATIVE, OR BE MANUFACTURED FROM NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.

GLULAM COLUMNS: USE COMBINATION #3 DF
GLUE LAMINATED MEMBERS:
MEMBER SPECIES: USE WESTERN GRADE SPECIES
MEMBER GRADE: (SIMPLE, MULTIPLE OR CANTILEVER SPANS) USE 24F-V4
MATERIAL STANDARDS: ARCHITECTURAL GRADE APPEARANCE DO NOT USE 24F-1.8E UNLESS NOTED & APPROVED BY A QUALIFIED SUPPLIER OR STRUCTURAL ENGINEER.

ALL EXTERIOR DECKS EXPOSED TO WEATHER MUST UTILIZE WEATHER-RESISTANT WOOD SUCH AS CEDAR, REDWOOD, MOHOGANY OR PRESSURE-TREATED WOOD IN ACCORDANCE WITH 2009 IRC R317

FASTENERS FOR PRESERVATIVE-TREATED WOOD (R317.3.1)
FASTENERS FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. COATING TYPES AND WEIGHTS FOR CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURERS RECOMMENDATIONS. IN THE ABSENCE OF MANUFACTURERS RECOMMENDATIONS, A MINIMUM OF ASTM A 653 TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.

PLYWOOD SHEATING
ROOF SHEATHING: 1/2" MIN. INDEX 32/16.
FLOOR SHEATHING: 3/4" MIN. INDEX 48/24 T&G
WALLS SHEATHING: 7/16" MIN. INDEX 32/0

ENGINEERED WOOD PRODUCTS MUST CONFORM WITH ALL APPLICABLE PROVISIONS OF THE 2009 IBC CODE

WOOD PRODUCT MANUFACTURERS:
TRUS JOIST =TJI SERIES JOIST OR BOISE ENGINEERING =BCI SERIES JOISTS

ASSEMBLIES AND HANGERS, AS REQUIRED TO PROVIDE A COMPLETE FLOOR OR ROOF STRUCTURAL SYSTEM PER I-JOIST MANUF.

RIM BOARD:
1-1/4" WIDE, 1.3E GRADE UNLESS OTHERWISE NOTED ON PLANS OR APPROVED BY JOIST SUPPLIER OR STRUCTURAL ENGINEER.

BEARING REQUIREMENTS FOR MECHANICAL UNITS:
JOIST SUPPLIER AND CONTRACTOR TO DOUBLE ALL JOISTS MEMBERS UNDER MECHANICAL UNITS, UNLESS NOTED OTHERWISE. DO NOT NOTCH OR DRILL STRUCTURAL MEMBERS, EXCEPT AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

WATER RESISTANCE (R703.1.1) EXTERIOR COVERING
THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED BY SECTION R703.2 AND A MEANS OF DRAINING TO THE EXTERIOR WATER THAT ENTERS THE ASSEMBLY. PROTECTION AGAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R601.3 OF THIS CODE.

PANEL SIDING (R703.3.1)
JOINTS IN WOOD, HARDBOARD OR WOOD STRUCTURAL PANEL SIDING SHALL BE MADE AS FOLLOWS UNLESS OTHERWISE APPROVED. VERTICAL JOINTS IN PANEL SIDING SHALL OCCUR OVER FRAMING MEMBERS, UNLESS WOOD OR WOOD STRUCTURAL PANEL SHEATHING IS USED, AND SHALL BE SHIPLAPPED OR COVERED WITH A BATTEN. HORIZONTAL JOINTS IN PANEL SIDING SHALL BE LAPPED A MINIMUM OF 1 INCH OR SHALL BE SHIPLAPPED OR SHALL BE FLASHED WITH Z-FLASHING AND OCCUR OVER SOLID BLOCKING, WOOD OR WOOD STRUCTURAL PANEL SHEATHING.

HORIZONTAL SIDING (R703.3.2)
HORIZONTAL LAP SIDING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUF. RECOMMENDATIONS. WHERE THERE ARE NO RECOMMENDATIONS THE SIDING SHALL BE LAPPED A MINIMUM OF 1 INCH, OR 1/2 INCH IF RABBETED, AND SHALL HAVE THE ENDS CAULKED, COVERED WITH A BATTEN OR SEALED AND INSTALLED OVER A STRIP OF FLASHING.

GARAGE / DWELLING SEPARATION:
GWB BOARD SHALL BE PLACED ON THE GARAGE SIDE OF WALLS AND CEILINGS WHERE HABITABLE AREAS ARE ON THE OPPOSITE SIDE. A MIN. OF 1/2" GWB FOR WALL SEPERATIONS AND 5/8" TYPE "X" GWB AT CEILING SEPERATIONS WITH HABITABLE ROOMS ABOVE.

MINIMUM AREA (R806.2) ATTIC VENTILATION
THE TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT REDUCTION OF THE TOTAL AREA TO 1/300 IS PERMITTED PROVIDED THAT AT LEAST 50 PERCENT AND NOT MORE THAN 80 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3' ABOVE THE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. AS AN ALTERNATIVE, THE NET FREE CROSS-VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OR II VAPOR BARRIER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.

ROOF:
COMPOSITION ROOF SHINGLES MUST BE A MINIMUM OF 25-YEAR ON 15# FELT ON 1/2" PLYWOOD ON MANUF. TRUSS OR RAFTERS 24" O/C PER 2009 IRC R905. USE SIMPSON 2.5 "H" CLIP ON EACH TRUSS OR RAFTER. VERIFY W/ LOCAL JURISDICTION.

INSULATION R-VALUES:
2X4 WALLS: R-15 MIN. 2X6 WALLS: R-21 MIN. FLAT ROOF CAVITIES: R-38 MIN.
VAULTED CEILINGS: R-30 MIN. UNDER SLAB: R-10 RIGID MIN., 24" HORIZONTAL LENGTH MIN.
INSULATION BAFFLES AT VENTS (PER IBC 1203.2)
FLOOR CAVITIES: R-30 MIN. WITH 1" MIN. AIR SPACE FOR VENTING (PER IBC 1203.2)

CRAWLSPACE:
18" MIN. CLEARANCE FROM GRADE TO BOTTOM OF FLOOR JOIST AND MIN. 12" CLEARANCE TO BOTTOM OF GIRDERS OR BEAMS IN THE CRAWLSPACE. VERIFY W/ LOCAL JURISDICTION.

OVERHANGS: OVERHANGS ARE TO BE DETERMINED BY OWNER/BUILDER

GUTTERS:
GUTTERS ARE TO BE DETERMINED BY OWNER/BUILDER. GUTTER AND DOWNSPOUTS TO APPROVED DRAINAGE RAIN AND LOW POINT DRAINS TO BE SCHEDULE 40 PVC OR ABS WITH DWV FITTINGS. VERIFY W/ LOCAL JURISDICTION.

TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER a,b,c	SPACING OF FASTENERS
	ROOF		
1	Blocking between joists or rafters to top plate, toe nail	3-8d (2 1/2" x 0.113")	-
2	Ceiling joists to plate, toe nail	3-8d (2 1/2" x 0.113")	-
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	-
4	Collar tie rafter, face nail or 1 1/4" X 20 Gage ridge strap	3-10d (3" x 0.128")	-
5	Rafter to plate, toe nail	2-16d (3 1/2" x 0.135")	-
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d (3 1/2" x 0.135") 3-16d (3 1/2" x 0.135")	- -
	WALL		
7	Built-up corner studs	10d (3" x 0.128")	24" o.c.
8	Built-up header, two pieces with 1/2" spacer	16d (3 1/2" x 0.135")	16" o.c. along each edge
9	Continued header, two pieces	16d (3 1/2" x 0.135")	16" o.c. along each edge
10	Continuous header to stud, toe nail	4-8d (2 1/2" x 0.113")	-
11	Double studs, face nail	10d (3" x 0.128")	24" o.c.
12	Double top plates, face nail	10d (3" x 0.128")	24" o.c.
13	Double top plates, minimum 48-inch offset of end joints, face nail in lapped area	8-16d (3 1/2" x 0.135")	-
14	Sole plate to joist or blocking, face nail	16d (3 1/2" x 0.135")	16" o.c.
15	Sole plate to joist or blocking at braced wall panels	3-16d (3 1/2" x 0.135")	16" o.c.
16	Stud to sole plate, toe nail	3-8d (2 1/2" x 0.113") or 2-16d 3 1/2" x 0.135")	- -
17	Top or sole plate to stud, end nail	2-16d (3 1/2" x 0.135")	-
18	Top plates, laps at corners and intersections, face nail	2-10d (3" x 0.128")	-
19	1" brace to each stud and plate, face nail	2-8d (2 1/2" x 0.113") 2 staples 1 3/4"	- -
20	1" x 6" sheathing to each bearing, face nail	2-8d (2 1/2" x 0.113") 3 staples 1 3/4"	- -
21	1" x 8" sheathing to each bearing, face nail	2-8d (2 1/2" x 0.113") 3 staples 1 3/4"	- -
22	Wider than 1" x 8" sheathing to each bearing, face nail	3-8d (2 1/2" x 0.113") 4 staples 1 3/4"	- -
	FLOOR		
23	Joist to sill or girder, toe nail	3-8d (2 1/2" x 0.113")	-
24	1" x 6" subfloor or less to each joist, face nail	2-8d (2 1/2" x 0.113") 2 staples 1 3/4"	- -
25	2" subfloor to joist or girder, blind and face nail	2-16d (3 1/2" x 0.135")	-
26	Rim joist to top plate, toe nail (roof applications also)	8d (2 1/2" x 0.113")	6" o.c.
27	2" planks (plank & beam floor & roof)	2-16d (3 1/2" x 0.135")	at each bearing
28	Built-up girders and beams, 2-inch lumber layers	10d (3" x 0.128")	Nail each layer as follows: 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice.
29	Ledger strip supporting joists or rafters	3-16d (3 1/2" x 0.135")	At each joist or rafter

WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING

	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER B, C, E	SPACING OF FASTENERS Edges (Inches) I	SPACING OF FASTENERS Intermediate Supports C, E (Inches)
30	3/8" - 1/2"	6d common (2" x 0.113") nail (subfloor wall) J 8d common (2 1/2" x 0.131") nail (roof)	6	12 g
31	5/16" - 1/2"	6d common (2" x 0.113") nail (subfloor, wall) 8d common (2 1/2" x 0.131") nail (roof) f	6	12 g
32	19/32" - 1"	8d common nail (2 1/2" x 0.131")	6	12 g
33	1 1/8" - 1 1/4"	10d common (3" x 0.148") nail or 8d (2 1/2" x 0.131") deformed nail	6	12
	OTHER WALL SHEATHING H			
34	1/2" structural cellulosic fiberboard sheathing	1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/4" long	3	6
35	25/32" structural cellulosic fiberboard sheathing	1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/2" long	3	6
36	1/2" gypsum sheathing D	1 1/2" galvanized roofing nail; staple galvanized, 1 1/2" long; 1 1/4" screws, Type W or S	7	7
37	5/8" gypsum sheathing D	1 3/4" galvanized roofing nail; staple galvanized, 1 5/8" long; 1 5/8" screws, Type W or S	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
38	3/4" and less	6d deformed (2" x 0.120") nail or 8d common (2 1/2" x 0.131") nail	6	12
39	7/8" - 1"	8d common (2 1/2" x 0.131") nail or 8d deformed (2 1/2" x 0.120") nail	6	12
40	1 1/8" - 1 1/4"	10d common (3" x 0.148") nail or 8d deformed (2 1/2" x 0.120") nail	6	12

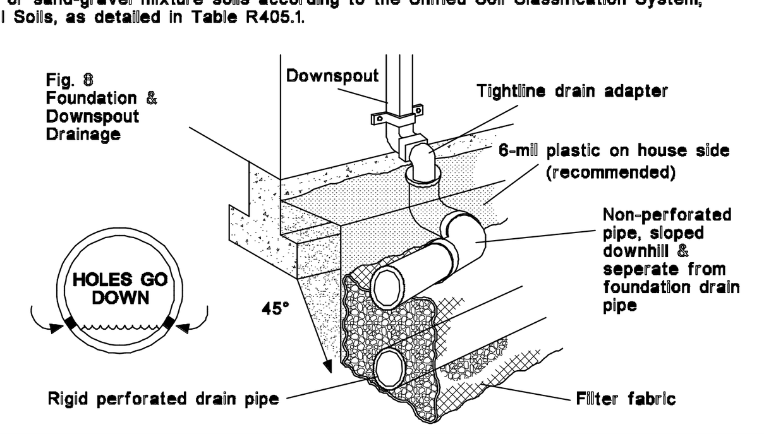
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 MPa.
a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.
c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2 1/2" x 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.
i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

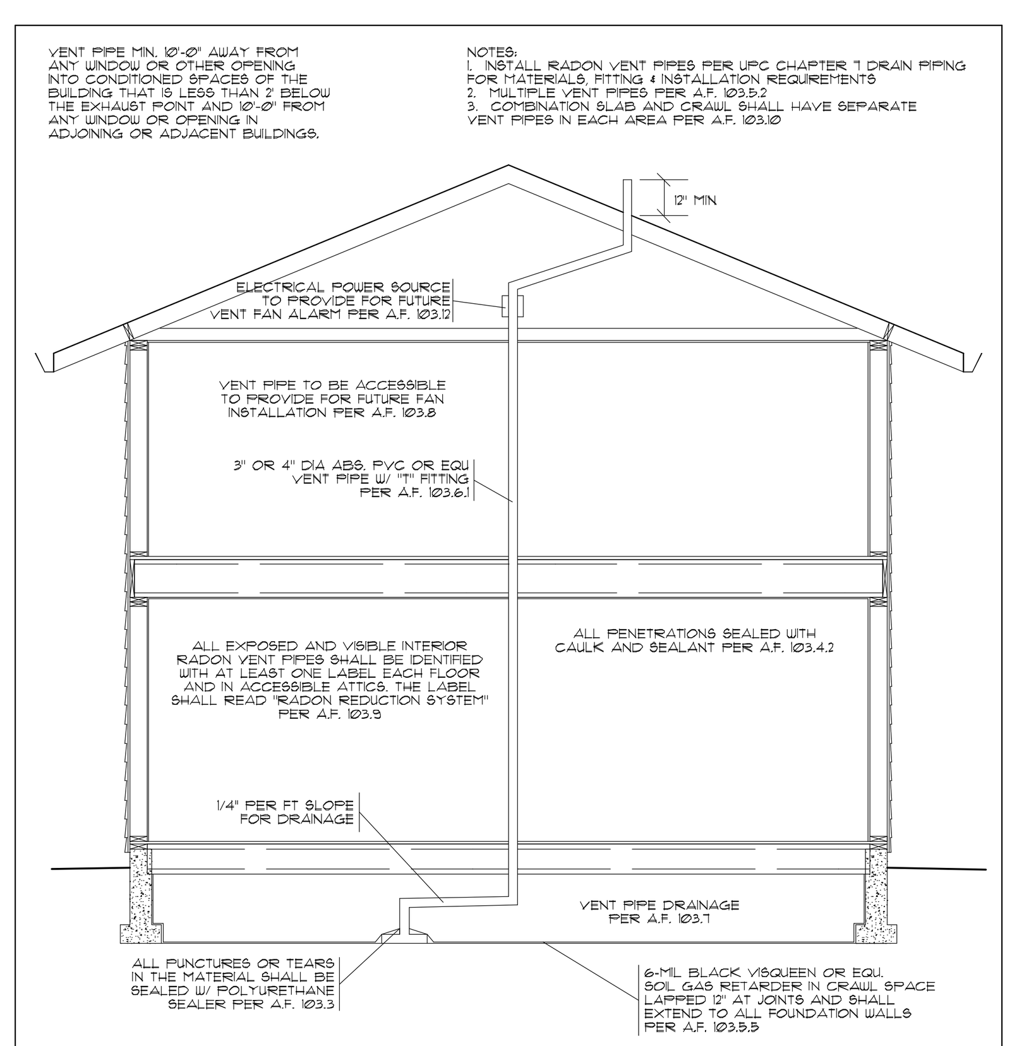
SECTION R405 FOUNDATION DRAINAGE

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock at least one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exception: A drainage system is not required when the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I Soils, as detailed in Table R405.1.

Fig. 8 Foundation & Downspout Drainage





RADON REQUIREMENTS

BURKLAND DUPLEX

704 SE TAMPA STREET
CAMAS, WA 98607

DRAWN BY
DM

DATE
02.09.2018

PROJECT NO.
Project Number

SHEET NAME
NAIL & ATTACHMENT SCHEDULE

SHEET NUMBER
4

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