RESIDENTIAL CONSTRUCTION GUIDE

FOR DETACHED/ATTACHED SINGLE STORY UNCONDITIONED BUILDINGS LESS THAN 800 SQ. FT.

APPLICANT SHALL SUBMIT AN APPLICATION AS REQUIRED PER THE JURISDICATION WHEN THE PROJECT IS LOCATED. PROVIDE FLOOR PLANS, ELEVATIONS, SECTIONS AND DETAILS FOR REVIEW.

DESCRIBE SCOPE OF PROJECT

FLOOR PLANS MUST BE DRAWN TO SCALE ¼" = 1', Typical.
Label use of each room and show all doors, windows etc.

SELECT CONSTRUCTION DETAILS USED FROM PAGES 3 THROUGH 9 AND FILL IN INFORMATION ON SHEET 2.

SHEETS 10, 11 & 12 ARE DRAWING SAMPLES ONLY.

ADDITIONAL INFORMATION AND / OR REQUIREMENTS MAY APPLY – please contact a Permit Service Representatives.

If building is to be conditioned, WSEC-R will apply.

The State of Washington adopted the 2021 International Building and Residential Code.
Please note below the additional requirements based on the 2021 Building Code Cycle.

Winds Speed: Check with Jurisdiction
Exposure: Check with Jurisdiction
Seismic: Zone D1
Snow: Minimum roof snow load 25 psf... NO Reductions, 30 psf Ground
Allowable soil bearing pressure: 1500 maximum psf without a geotechnical evaluation

Southwest Washington Chapter of ICC

Revised: 11/7/24

RESIDENTIAL CONSTRUCTION GUIDE

BUILDING DESCRIPTION

Owners Name: _____ Permit number: _____

Address: _____

Phone: _____ E-mail address: _____

1) Please describe building use(s) _____

_____

2) Check one:
Detached _____ attached _____ Total Sq. Ft. of project _____

3) Footing Type: (see sheet 3) Check one:
Monolithic _____ Slab _____ Other: _____ foundation _____
(If other, please provide detail)

4) Floor Type: (see sheet 4 & 5) Check one:
Slab _____ Post & beam _____ Floor Joist _____
(If other, Please provide detail – see example on sheet 10)

5) Wall Type: (See sheet 6) Check one:

_____Detail 1 – 2 x 6 insulated with exterior sheathing (wall)

_____Detail 2 – 2 x 6 insulated with siding and sheathing (double wall)

_____Detail 3 – 2 x 4 or 2 x 6 unheated garage or shop

6) Roof Type (see sheets 7, 8, 9) Check one:

_____Conventional Roof framing – rafters w/ceiling joist (see sheet 7)

_____Engineered trusses (see sheet 8)

_____Shed roof (see sheet 9)

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This construction detail is illustrative of the minimum standard of construction based upon the 2021 IRC / WAC 51-51

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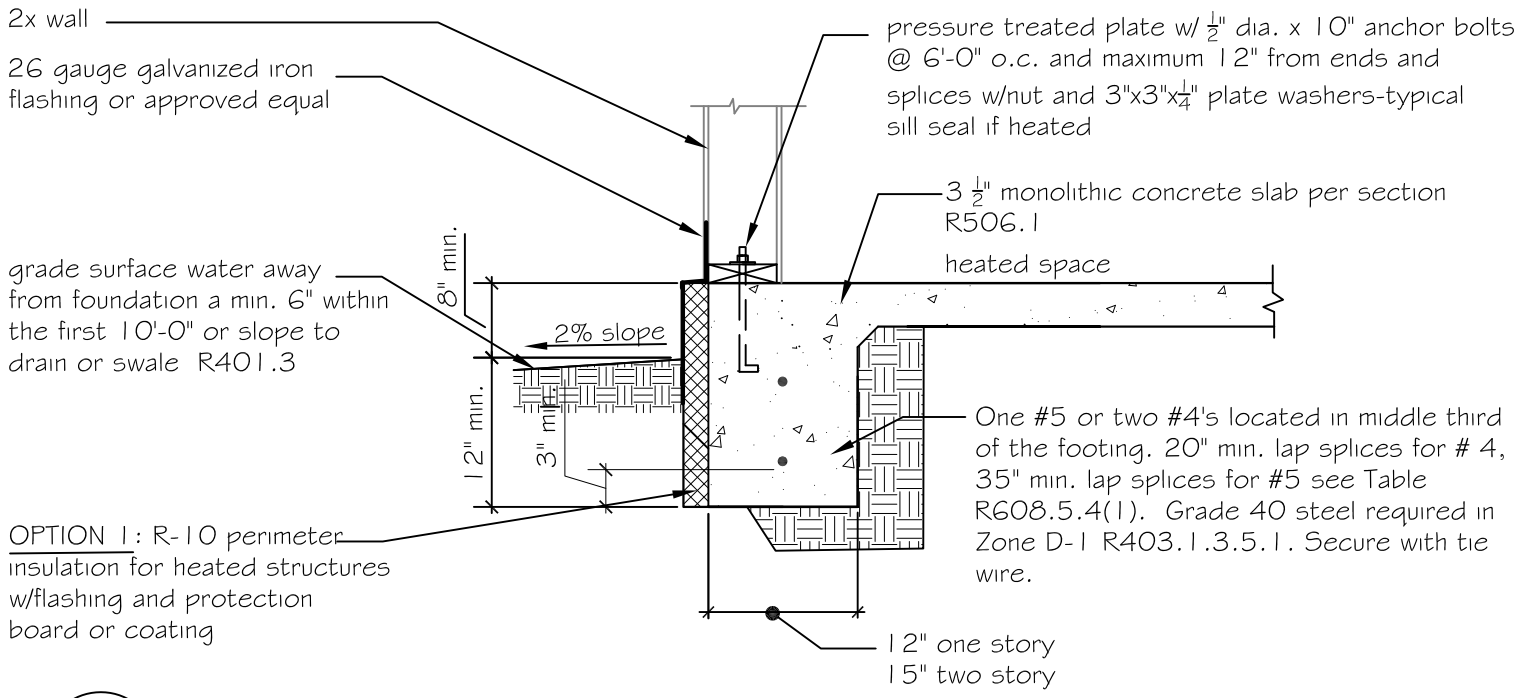
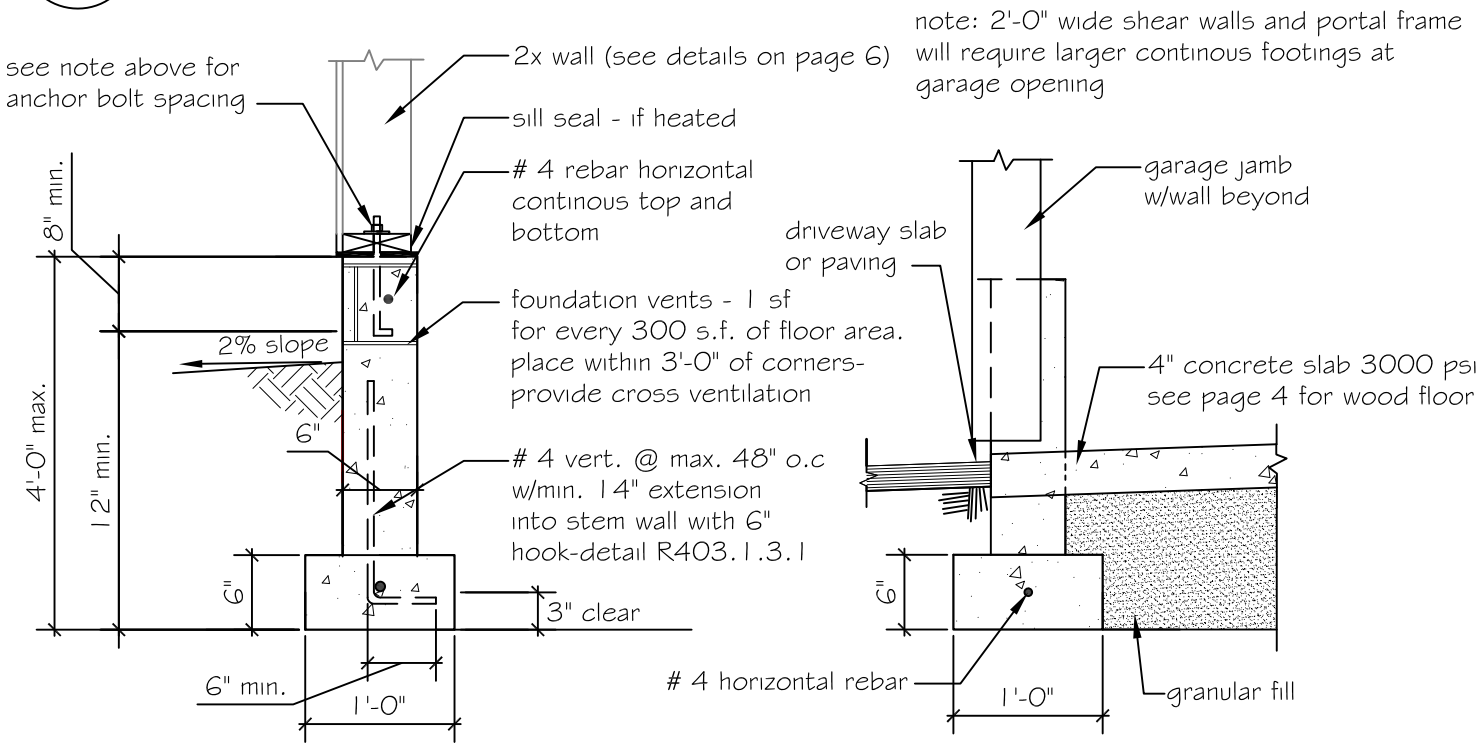


1/3 Monolithic slab/footing

Perimeter foundation drain unless not required R405

Design based on 1500#/ft soil bearing capacity. See Table R403.1.

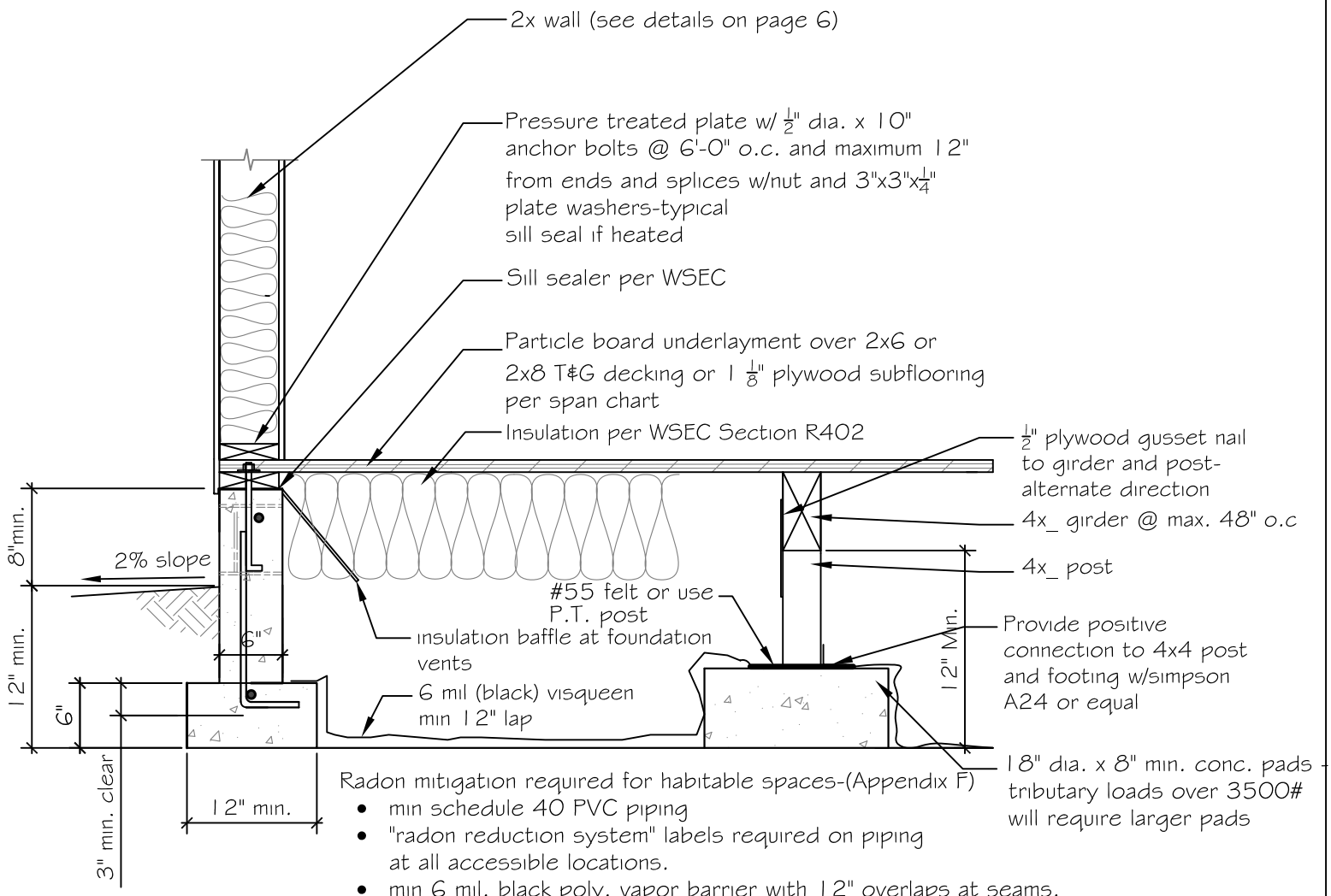


2/3 Footing with stem wall

3/3 Footing at door opening

NOTE: * Footings over 4'-0" high are required to be designed as retaining walls. Min. concrete strength for footings- *2500 p.s.i.-3000 p.s.i. for stem walls. * Lap rebar min. 20" for #4's & 25" for #5 at splices-secure with tie wire

POST & BEAM FOOTING



Radon mitigation required for habitable spaces-(Appendix F)

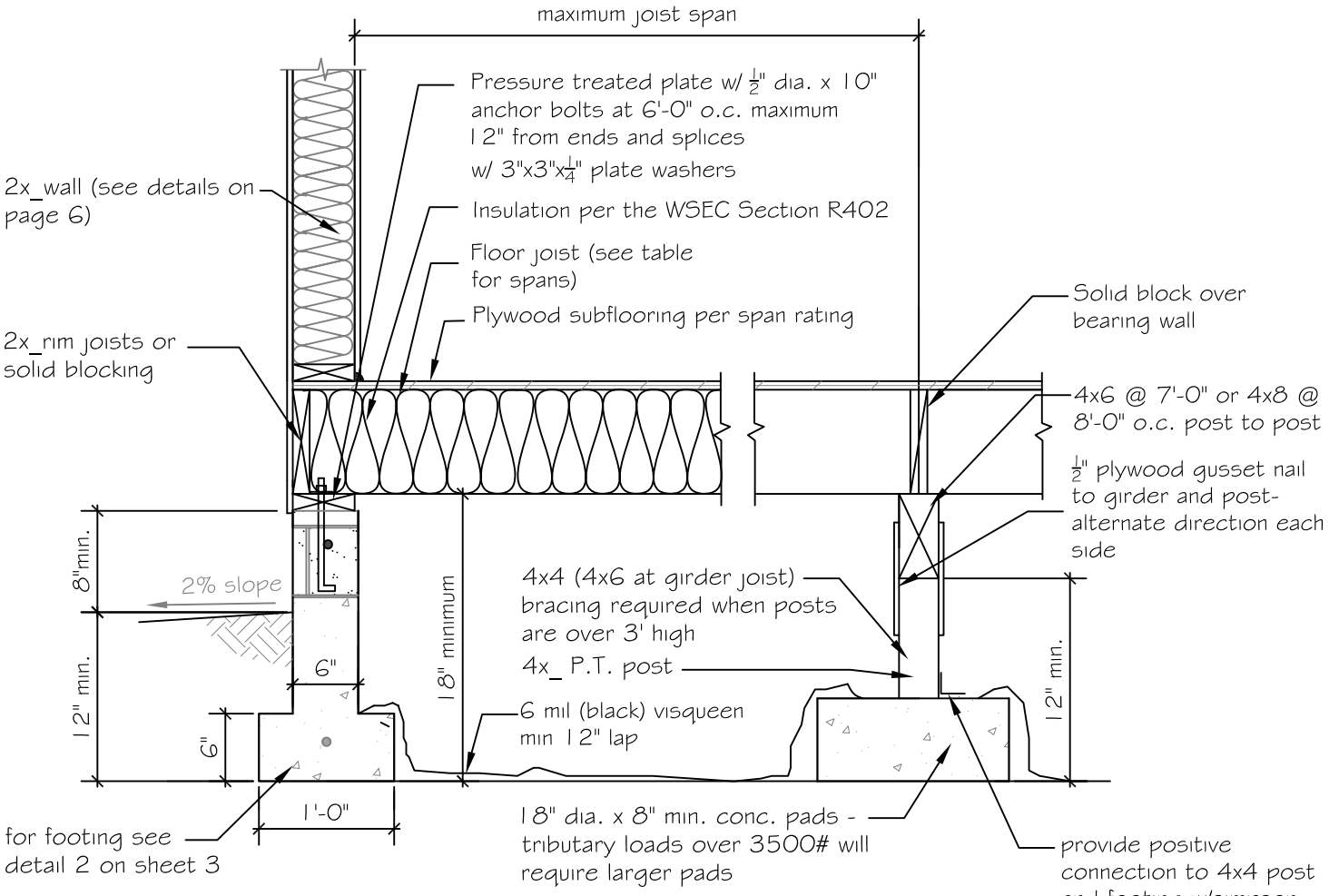
- min schedule 40 PVC piping
- "radon reduction system" labels required on piping at all accessible locations.
- min 6 mil. black poly. vapor barrier with 12" overlaps at seams.
- electrical junction box for future fan required at accessible location nearest to pipe termination.
- radon duct shall be located within warm walls.

1/4 POST & BEAM

NOTES:

1. 4x6 D.F. # 2 girders - maximum 6'-0" span. 4x8 maximum 8'-0" span.
2. 4x4 D.F. #2 post. 4x6 required at girder splices.
3. 2x decking must be covered with ⅜" plywood or approved underlayment.
4. 4x post over 4'-0" high must be braced.
5. See page 3 for rebar requirement in footing.
6. Support insulation at 24" o.c. to hold tight to underside of floor deck - do not compress -WSEC R402.2.7.
7. Minimum concrete strength 2500 p.s.i. for footings, 3000 p.s.i. for concrete exposed to weather. 20" lap for #4 rebar min. 25" lap for #5 bars at splices-secure with tie wire. See IRC Table R608.5.4(1).
8. Crawl space access per R408.4.

FLOOR JOIST



1/5 FLOOR JOISTS

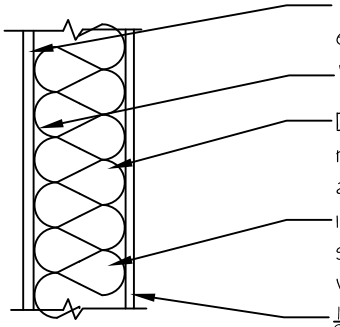
Not to scale

Table R502.3.1(2)			
Floor joist	12" o.c.	16" o.c.	24" o.c.
2x6	10'-9"	9'-9"	8'-3"
2x8	14'-2"	12'-9"	10'-5"
2x10	18'-0"	15'-7"	12'-9"
2x12	20'-11"	18'-1"	14'-9"

Table R503.2.1.1(2) Subfloor spans			
	16" o.c.	20" o.c.	24" o.c.
group 1	1/2"	5/8"	3/4"

NOTES:
1. Floor joist to be minimum Douglas Fir #2. Code loading requirements- 40# live and 10# dead. Not for exterior deck see IRC R507 and the deck detail package.
2. Minimum spans for subfloor-underlayment see subfloor span table this sheet.
3. Minimum concrete strength 2500 psi for footing, 3000p.s.i. for concrete exposed to weather, lap rebar min. 20" for #4 and 25" for #5 at slices-secure with tie wire.

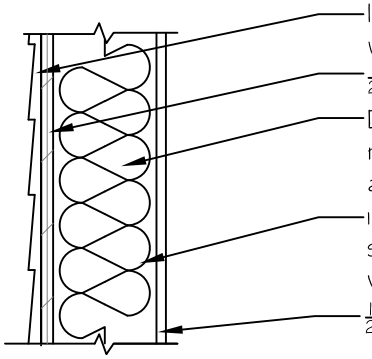
EXTERIOR WALL TYPES



- TI-11 panel sheathing or other approved exterior sheathing panel
- Weather-resistive barrier
- D.F. #2 studs - 2x6's @ 16" o.c. - maximum 10'-0" high w/ single bottom plate and double top plates
- insulation at heated areas per WSEC Section R402 - staple vapor barrier flange to face of studs (one perm vapor barrier)
- ½" gypsum wall board

1/6 2X6 WALL WITH EXTERIOR SHEATHING

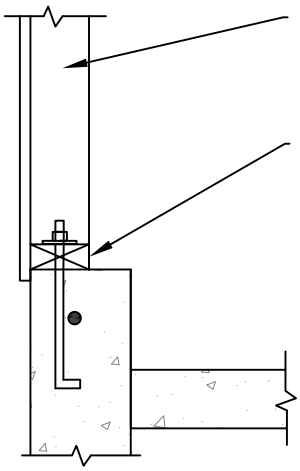
scale- 1" = 1'-0"



- lap siding on #15 felt or other approved weather-resistive barrier
- ½" cdx plywood
- D.F. #2 studs - 2x6's @ 16" o.c. - maximum 10'-0" high w/ single bottom plate and double top plates
- insulation at heated areas per WSEC Section R402 - staple vapor barrier flange to face of studs (one perm vapor barrier)
- ½" gypsum wall board

2/6 2X6 WALL WITH SIDING AND SHEATHING

scale- 1" = 1'-0"

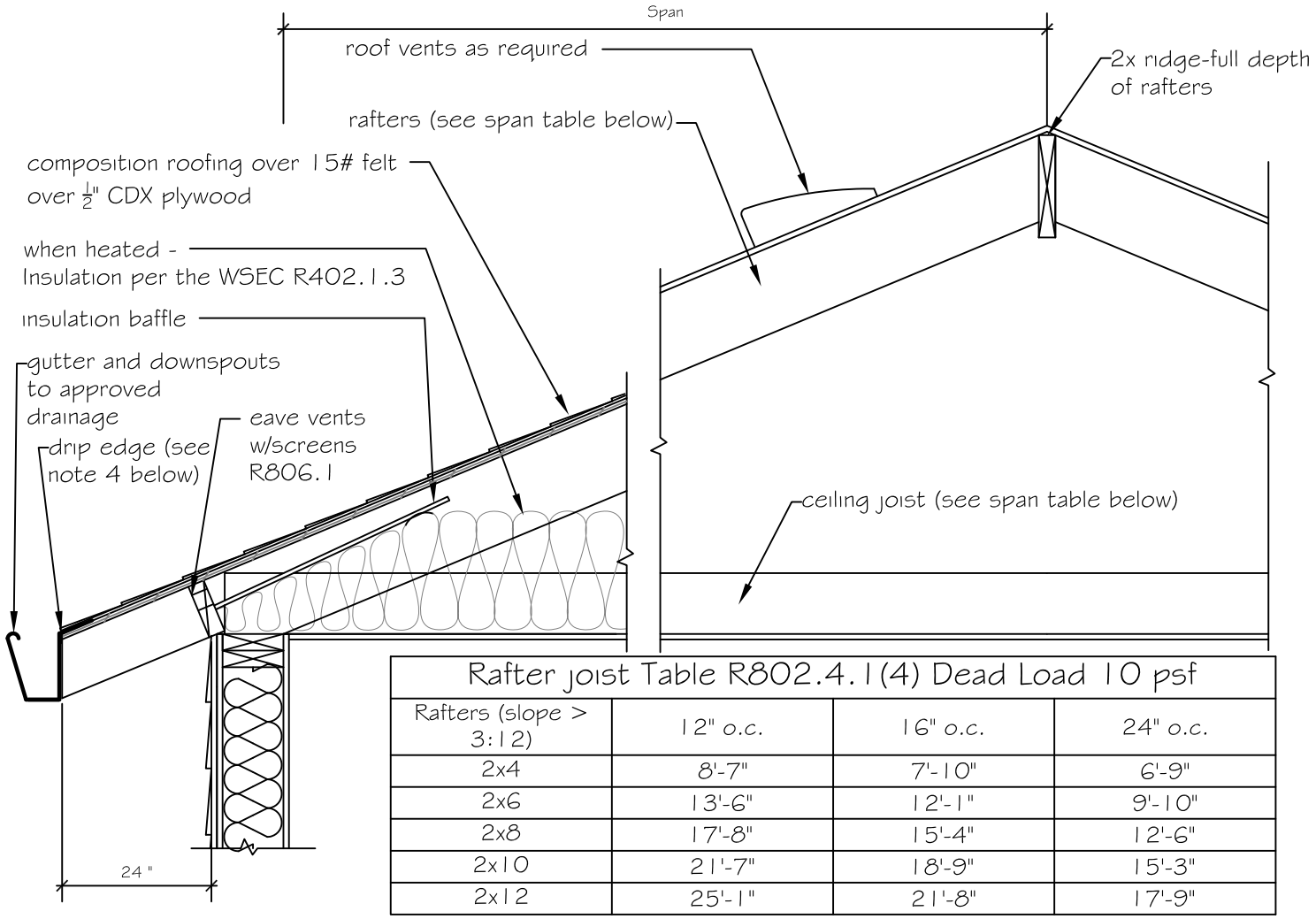


- Douglas Fir #2 studs at 16" o.c.
  2x6 maximum 10'-0" high
  2x4's maximum 10'-0" high
- sill plates on concrete to be pressure treated
  no insulation required at unheated areas
  unfinished heated areas must have exposed insulation with flame spread 25 vapor barrier

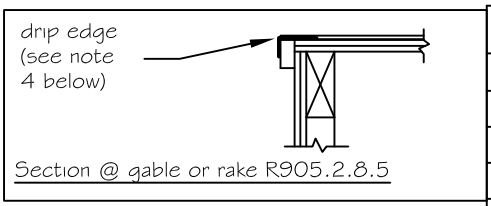
3/6 2 x 4 or 2 x 6 WALL - UNHEATED

scale- 1" = 1'-0"

ROOF TYPES (Rafters w/Ceiling Joists)



Rafter joist Table R802.4.1(4) Dead Load 10 psf			
Rafters (slope > 3:12)	12" o.c.	16" o.c.	24" o.c.
2x4	8'-7"	7'-10"	6'-9"
2x6	13'-6"	12'-1"	9'-10"
2x8	17'-8"	15'-4"	12'-6"
2x10	21'-7"	18'-9"	15'-3"
2x12	25'-1"	21'-8"	17'-9"



Section @ gable or rake R905.2.8.5

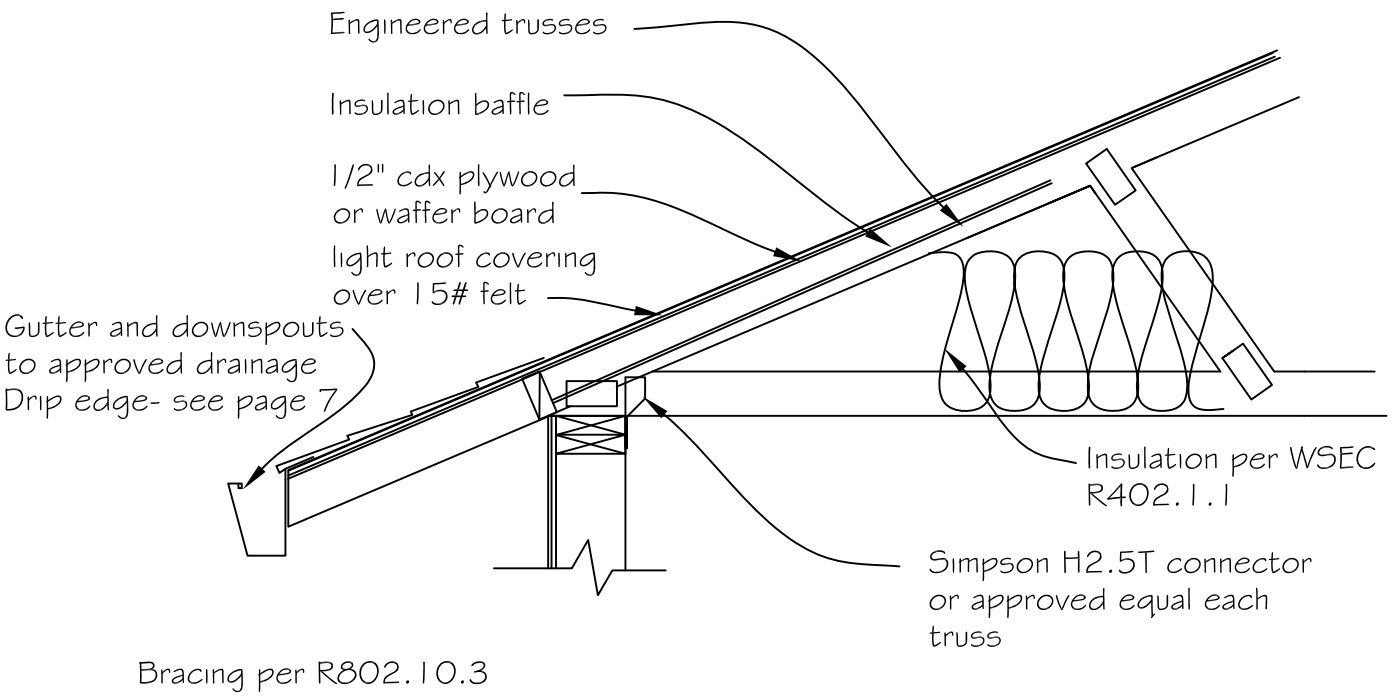
Ceiling joist Table R802.5.1(2) Dead Load 10 psf			
ceiling joist	12" o.c.	16" o.c.	24 o.c.
2x4	9'-10"	8'-11"	7'-3"
2x6	15'-0"	13'-0"	10'-8"
2x8	19'-1"	16'-6"	13'-6"
2x10	23'-3"	20'-2"	16'-5"

1/7 CONVENTIONAL FRAMING

scale- 1" = 1'-0"

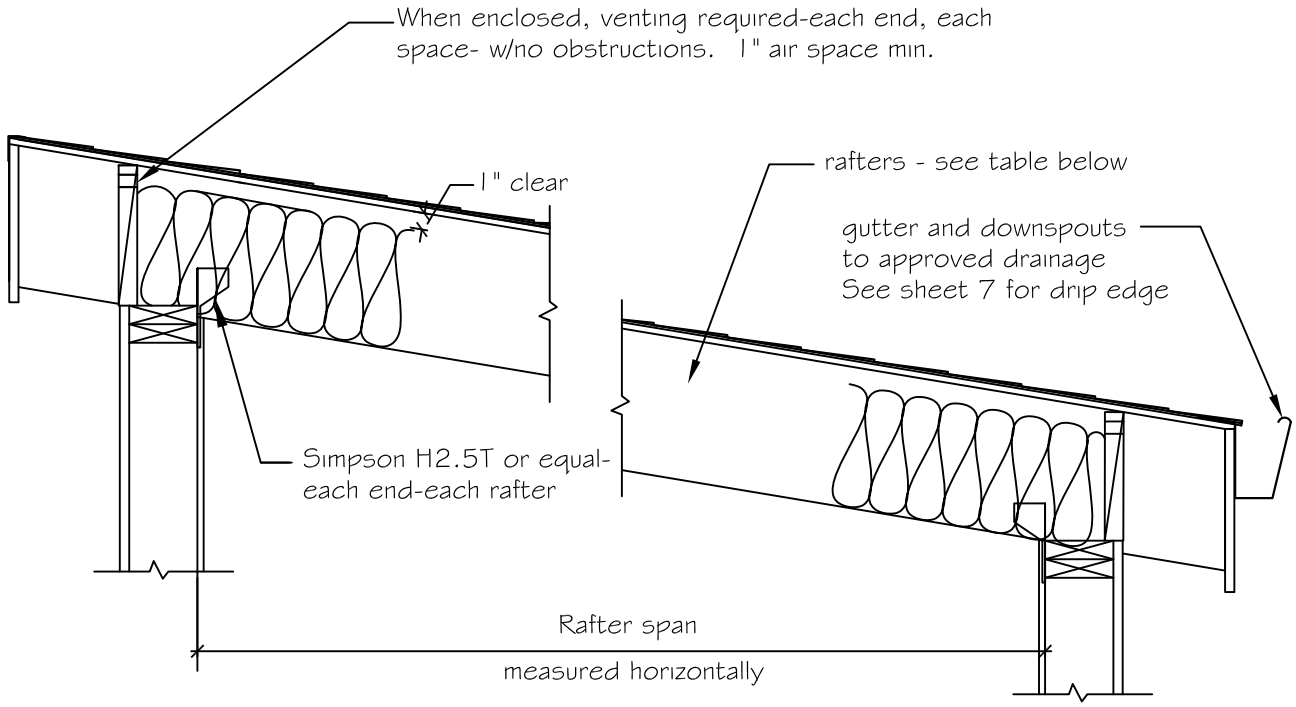
NOTES:

1. Ceiling joists to be Douglas Fir #2 or better.
2. Rafters to be Douglas Fir or better. Roof slopes greater than 3:12. (see sheet 10 for slopes less than 3:12). Rafters are for light roof coverings only - 30# ground snow - 10# dead load. Roof vent total net area to be 1/300 of roof area if half of required vents are no less than 3'-0" below the ridge, otherwise 1/150 of roof area is required in roof vents R806.2.
3. Provide a drip edge that overlaps a min. of 2" and extends a ¼" below roof sheathing. Fastened to roof deck 12" o.c. Install underlayment over the drip edge along the eaves and under the drip edge on gables. Unless specified by manufacturer.



ROOF TYPES (engineered trusses)

ROOF TYPES (shed)



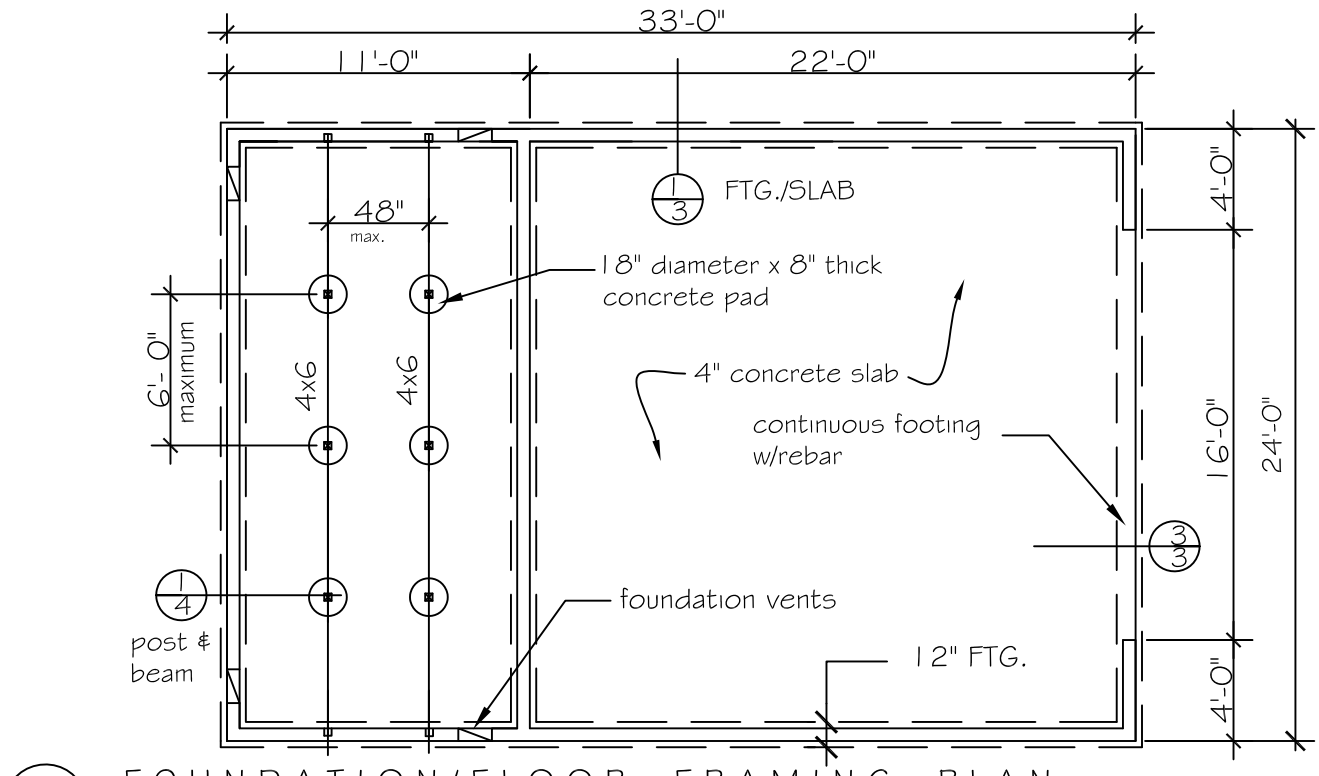
1/10 ROOF FRAMING (shed)

scale- 3/4" = 1'-0"

Rafter Span Table R802.4.1(4) snow load = 25 psf L/ = Δ240, dead load = 10psf			
	12" o.c.	16" o.c.	24" o.c.
2x4	8'-7"	7'-10"	6'-9"
2x6	13'-6"	12'-1"	9'-10"
2x8	17'-8"	15'-4"	12'-6"
2x10	21'-7"	18'-9"	15'-3"
2x12	25'-1"	21'-8"	17'-9"

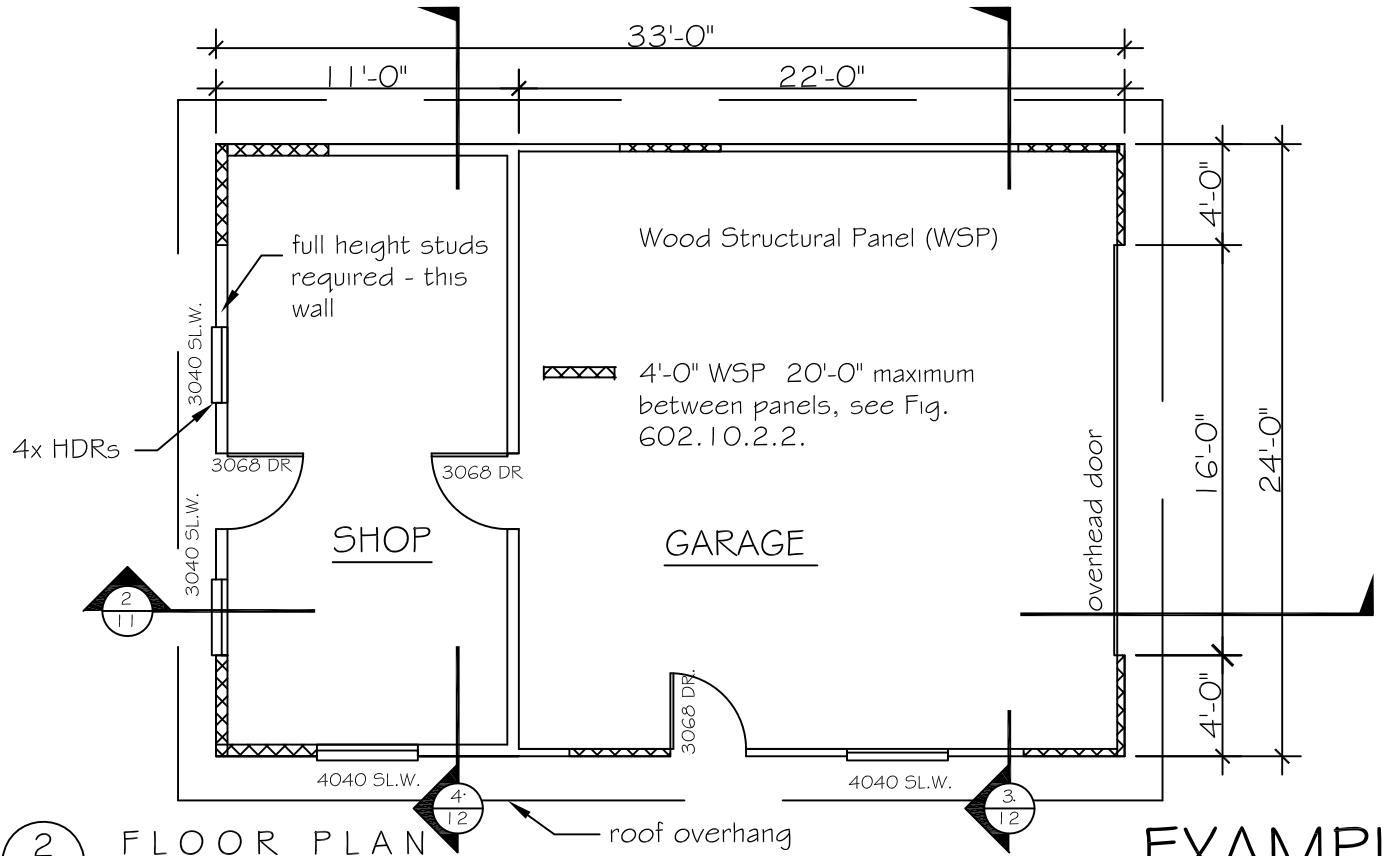
NOTES:

1. 2:12 slope min. for 3 tab composition roofing - for slopes 2:12 to 3:12, two layers of 15# felt required, applied shingle fashion. R905.1.1. See page 7 for slopes over 3 in 12 slopes.
2. Pitches less than 2:12 are to be hot mop, metal, sheet metal, rolled roofing or other approved material, applied as directed in approved manufacture's instructions.
3. When ceiling is applied, vent each rafter space continuously through top and bottom blocking. When heated, insulation per the WSEC R402 with 2x12 rafters to allow one inch vent space R806.3.
4. When attaching to existing building show ledger, size and method of fastening joist and ledger. Show required flashing.
5. Douglas Fir #2. For slopes 2:12 to 3:12.



1/10 FOUNDATION/FLOOR FRAMING PLAN

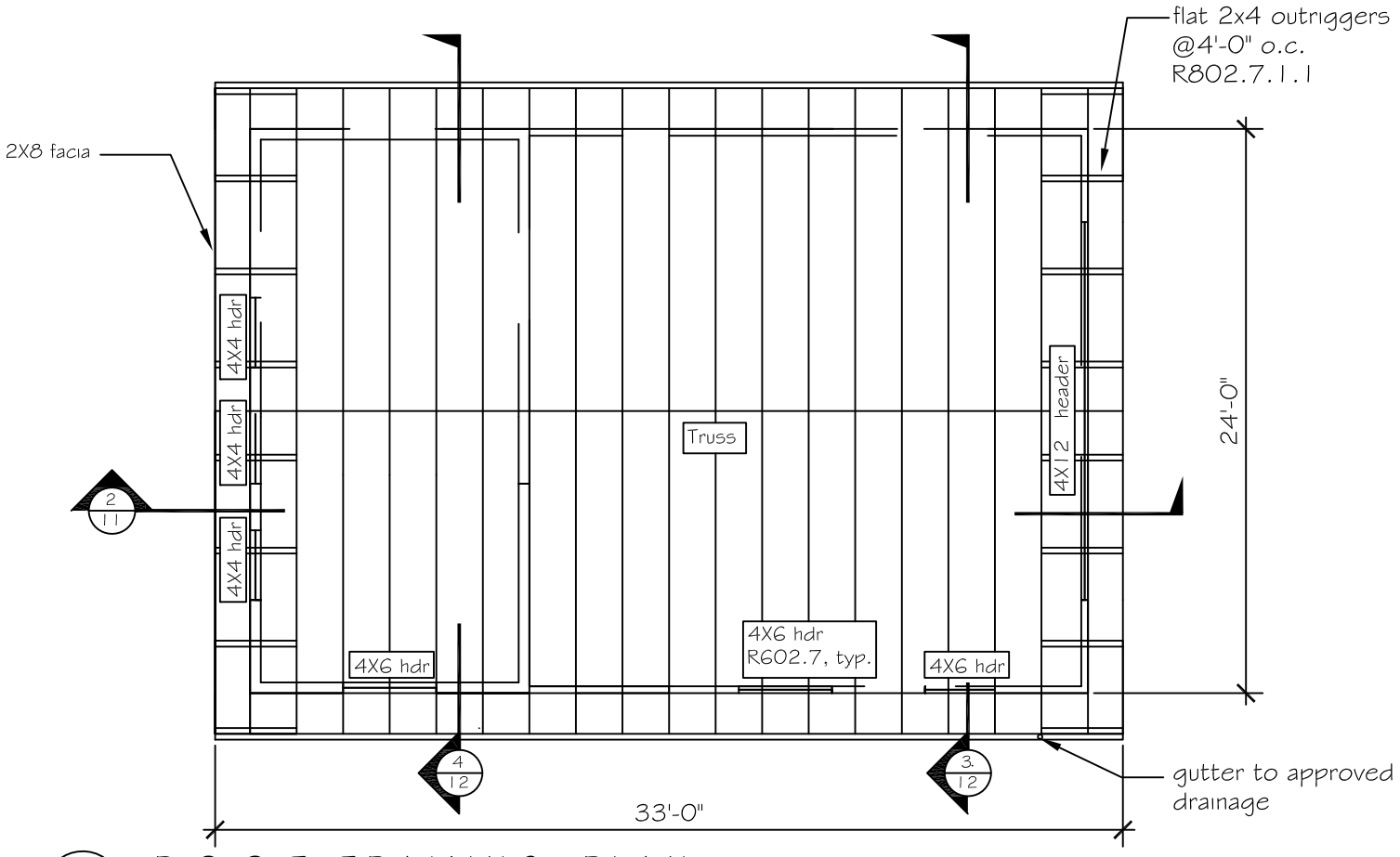
scale- 1/4" = 1'-0" (REDUCED SCALE EXAMPLE)



2/10 FLOOR PLAN

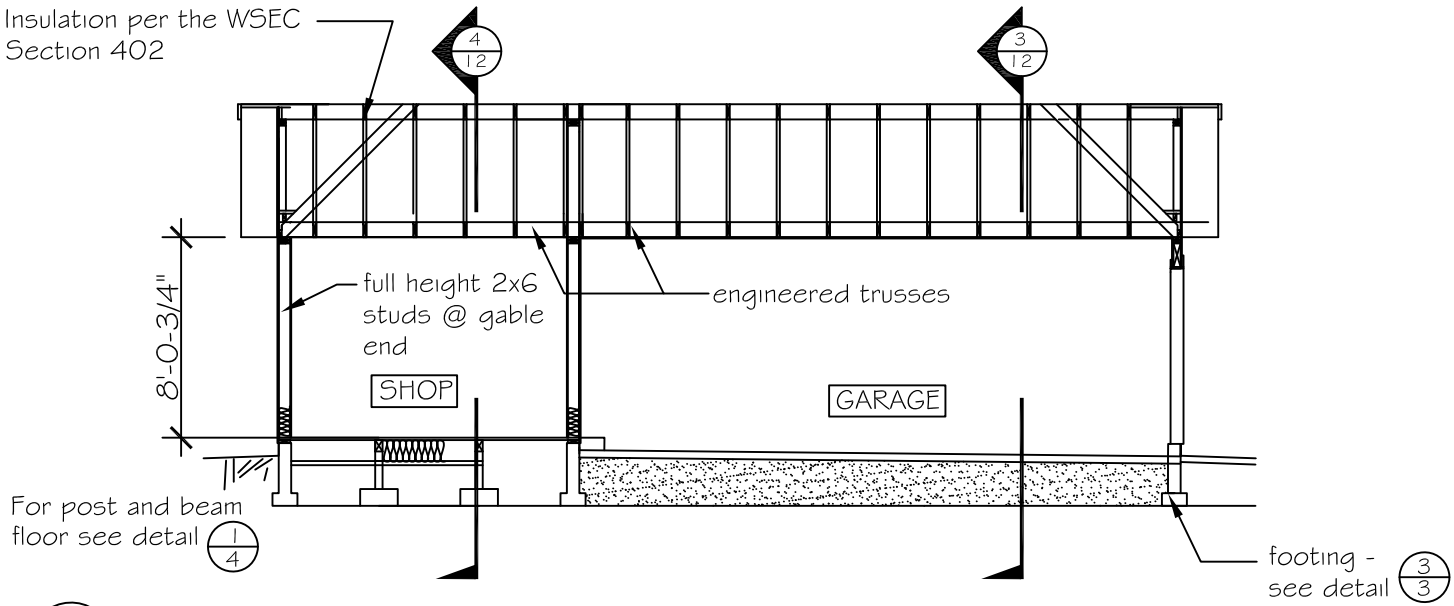
scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

EXAMPLE



1/12 ROOF FRAMING PLAN

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)



2/12 LONGITUDINAL CROSS SECTION

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

EXAMPLE

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This construction detail is illustrative of the minimum standard of construction based upon the 2021 IRC / WAC 51-51

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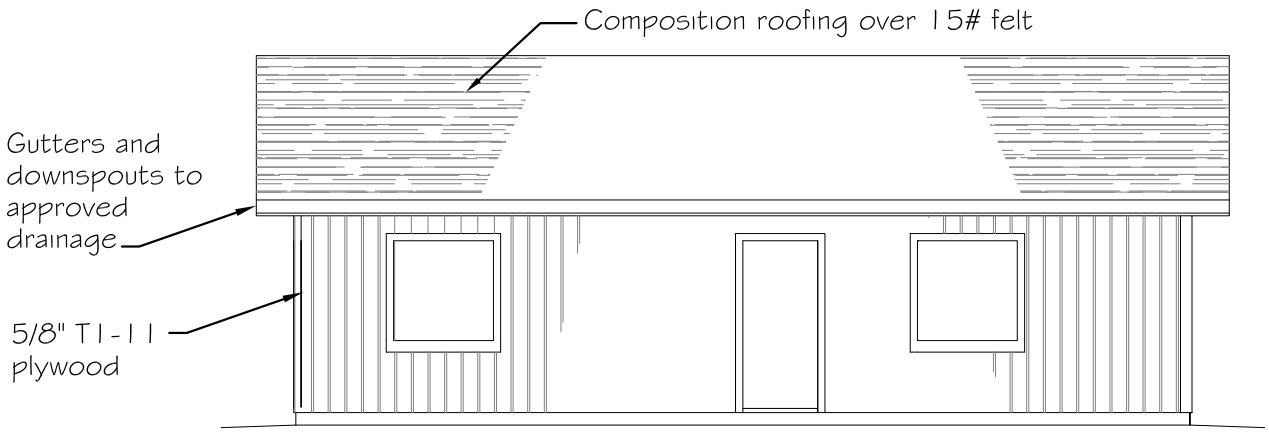
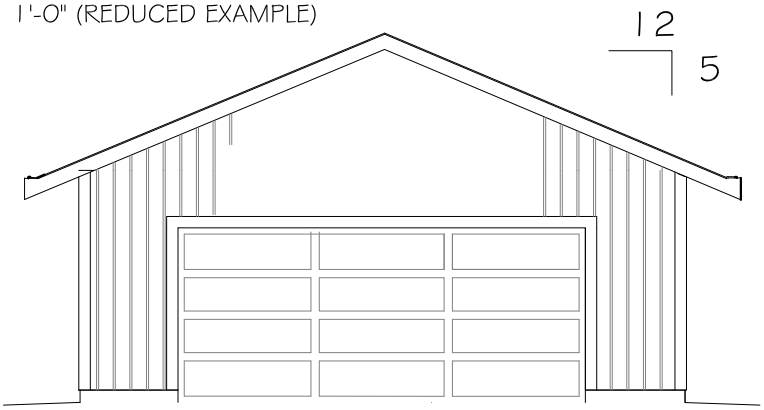


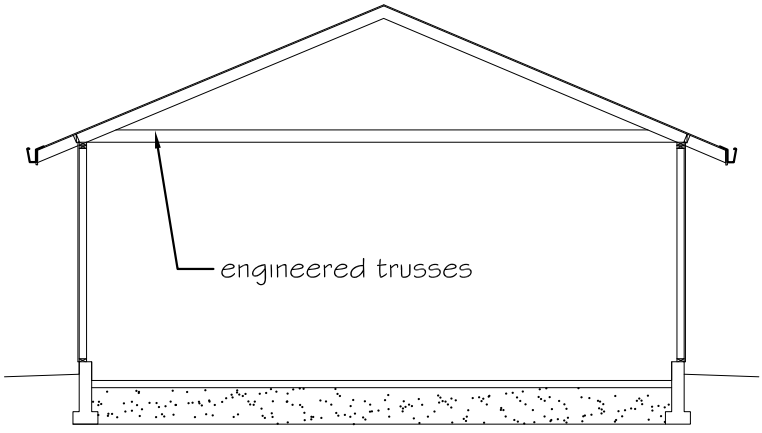
1/12 SIDE ELEVATION

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)



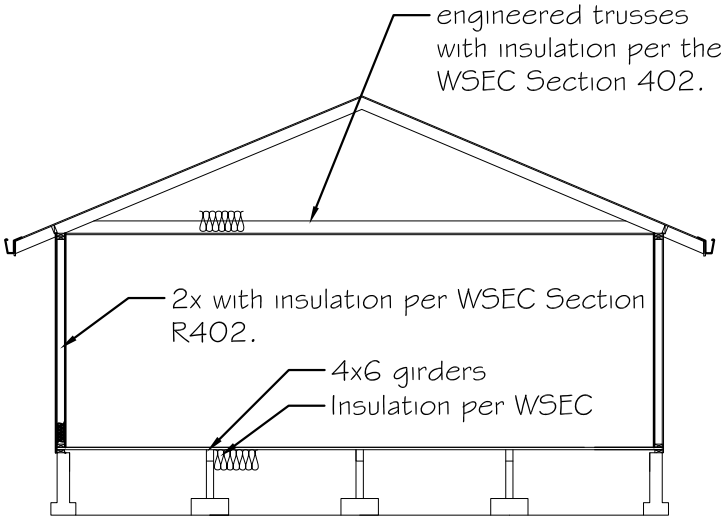
2/12 FRONT ELEVATION

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)



3/12 SECTION (thru garage)

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)



4/12 SECTION (thru shop)

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

EXAMPLE