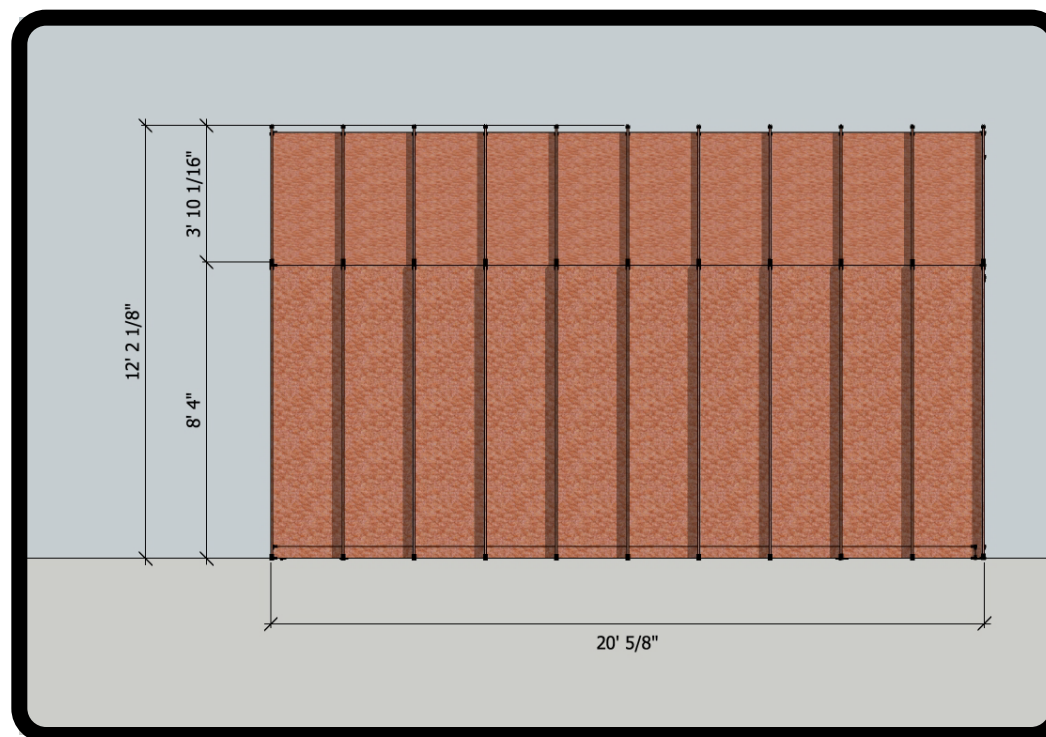
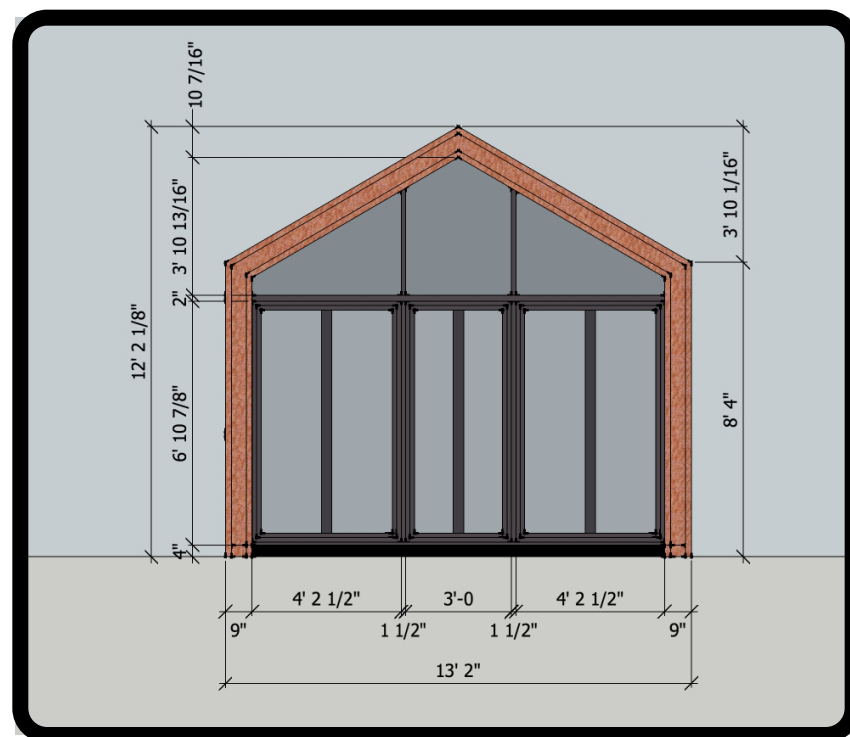


ELEVATIONS

Scale : 3/32" = 1'



Roof A = 2 (7.5' x 20.05') = 300.75 ft<sup>2</sup>

Roof R Values:

- standing-seam cor-ten steel cladding : R-0.61
- roofing membrane : R-0.33
- extruded polystyrene - 3 in : R-15
- 1/2" plywood sheathing: R-0.63
- rafter/cavity assembly: 0.09 (9.06) + 0.91 (30) = R-28.11
- 2 x 8 rafter : R-9.06
- fiberglass batt - 7.25 in: R-30
- 6 mil polyethylene air barrier: R-0
- 5/8" gypsum board: R-0.56

Total: R-45.24

Wall A = (8.33' x 20.05') + [(8.33' x 20.05') - (4' x 4')] = 318 ft<sup>2</sup>

Wall R Values:

- standing-seam cor-ten steel cladding : R-0.61
- # 30 felt paper: 0.12
- extruded polystyrene - 2 in : R-10
- 1/2" air space: R-1.00
- 1/2" plywood sheathing: R-0.63
- stud/cavity assembly: 0.09 (4.38) + 0.91 (15) = R-13.65
- 2 x 4 stud : R-4.38
- fiberglass batt - 3.5 in: R-15
- 6 mil polyethylene air barrier: R-0
- 5/8" gypsum board: R-0.56

Total: R-26.57

Window A = (4' x 4') + 2[(7.58' x 11.66') + (3.42' x 11.66')] = 121 ft<sup>2</sup>

double insulating glass w/ suspended film and low-e: R-4.05

Total Envelope Area = Roof A + Wall A + Window A  
 300.75 ft<sup>2</sup> + 318 ft<sup>2</sup> + 121 ft<sup>2</sup>  
 739.75 ft<sup>2</sup>

Roof % = 300.75 / 739.75 = 0.41

Wall % = 318 / 739.75 = 0.42

Window % = 121 / 739.75 = 0.17

Total R Value = Roof R (Roof %) + Wall R (Wall %) + Window R (Window %) =  
 45.24 (0.41) + 26.57 (0.42) + 4.05 (0.17) =  
**R-30.4**

U = 1/R = 1/30.4 = **0.03**