Window, Skylight and Door Schedule Project Information Contact Information Mercer Island remodel and addition PAUL C RECTOR 253 332 6244 PAUL@RECTORDESIGNS.COM Width Height Qt. Feet Inch Feet Inch Ref. U-factor Exempt Swinging Door (24 sq. ft. max.) 0.28 Exempt Glazed Fenestration (15 sq. ft. max.) Vertical Fenestration (Windows and doors) Component Width Height Feet Inch Feet Inch Description Ref. U-factor Qt. Office Horizontal Slider 0.30 5 4 5 **Entry Fixed** 0.30 6 Door Mudroom 0.30 3 6

Area 40.0 33.0 20.0 0.0

Area

0.0

0.0

									0.0
									0.0
									0.0
	Sum of Vertical Fenestration Area and UA 93.0								
	Vertica	Vertical Fenestration Area Weighted U = UA/Area							
Overhead Glazing (Skylights)									
Component					Width	n H	leight		
Description	Ref.	U-factor		Qt.	Feet	<sup>Inch</sup> F	eet Inch		Area
									0.0
									0.0
									0.0
									0.0
									0.0
	0.40	Sum of rhood Gla	Overhea	ad Gla	azing /	Area 11 – 1	and UA		0.0
	Ove	ineau Gla.	Ling Alea	a vvelt	jiiteu	0-0	AIEd		
Total Sum of Fenestration Ar	ea and UA	(for hea	ting sys	tem s	izing d	calcu	lations	)	93.0

## Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete 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 contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information	Contact Information							
Mercer Island remodel & addition	253 332 6244 paul@rectordesigns.com							
Heating System Type:  All Other Systems	O Heat Pump							
To see detailed instructions for each section, place your cursor	on the word "Instructions"							
Design Temperature								
Instructions	Design Temperature Difference (∆T) 45							
Merceristand	$\Delta T = Indoor (70 \text{ degrees}) - Outdoor Design Temp$							
Area of Building								
Conditioned Floor Area								
Instructions Conditioned Floor Area (sq ft)	281							
Average Ceiling Height	Conditioned Volume							
Instructions Average Ceiling Height (ft)	8.0 2,248							
Glazing and Doors	U-Factor X <u>Area</u> = UA							
Instructions	0.300 93 27.90							
Skulinkte								
Instructions	0.50							
	0.50							
Insulation								
Attic	U-Factor X Area = UA							
<u>R-49</u>	0.026 55 1.43							
Single Rafter or Joist Vaulted Ceilings	U-Factor X Area UA							
Instructions Select R-Value	No selection							
Above Crade Wells ( 51 - 4								
R–21 Intermediate	0.030 387 21.07							
Floors	U-Factor X Area UA							
Instructions	0.029 226 6.55							
Bolow Grado Walls (								
	U-Factor A Area UA							
Select R-value								
Slab Below Grade (see Figure 1)	F-Factor X Length UA							
Instructions Select conditioning	No selection							
Sleb en Crode ( 5' 4								
Stab on Grade (see Figure 1)	F-Factor X Length UA							
R-10 Fully Insulated	0.300 33 19.60							
Location of Ducts	_							
Instructions	Duct Leakage Coefficient							
No Ducts	1.00							
	Sum of 11A 77.26							
	Sum of UA (7.36							
	Envelope Heat Load 3,481 Btu / Hour							
	Air Leakage Heat Load 1,093 Btu / Hour							
	Volume x 0.6 x ∆T x 0.018							
Above Grade	Building Design Heat Load4,574Btu / Hour							
Below Grade	Air leakage + envelope heat loss							
	Ducts in unconditioned space: sum of building heat loss x 1.1							
	Ducts in conditioned space: sum of building heat loss x 1							
	Waximum Heat Equipment Output 6.403 Btu / Hour							

 Maximum Heat Equipment Output
 6,403
 Btu / Hour

 Building and duct heat loss x 1.40 for forced air fumace
 Building and duct heat loss x 1.25 for heat pump