

Project Information

Project Number
 Project Quote
 Project Name Blanford Residence
 Designed For Colorado P&H,

Steamboat Springs, CO

Contact Information

Designed By Brent Hettinger
 Company Name George T. Sanders Company
 Phone Number 970-468-8254

Project Assumptions

Outdoor Temp -21 °F
 Elevation 7800 ft
 Wind Speed 10 mph
 Market Cat.

Pump Specs

Zone Name	Flow	Head	Manifold (*)	Delta T	Supply
			Head Drop		Fluid Temp
Zone 1	1.1 GPM	0.8 ft	[0.043 ft]	20	95 °F
Zone 2	2.2 GPM	2 ft	[0.112 ft]	20	95 °F
Zone 3	0.2 GPM	0.4 ft	[0.022 ft]	20	95 °F
Zone 4	0.5 GPM	1.6 ft	[0.124 ft]	20	105 °F
Zone 5	0.3 GPM	0.6 ft	[0.047 ft]	20	110 °F
Zone 6	0.5 GPM	0.5 ft	[0.027 ft]	20	120 °F
Zone 7	0.5 GPM	0.5 ft	[0.027 ft]	20	120 °F
Zone 8	1.2 GPM	0.9 ft	[0.051 ft]	20	120 °F
Zone 9	0.9 GPM	1.6 ft	[0.09 ft]	20	120 °F
Zone 10	0.4 GPM	0.4 ft	[0.017 ft]	20	95 °F
Zone 11	0.6 GPM	0.5 ft	[0.039 ft]	20	135 °F
Zone 12	0.5 GPM	0.4 ft	[0.027 ft]	20	120 °F
Zone 13	1 GPM	0.9 ft	[0.057 ft]	20	120 °F
Zone 14	3.3 GPM	3.3 ft	[0.21 ft]	20	120 °F

Heated Area Descriptions

	Application	Construction	Heated Area	Product Totals
Zone 1 <> Room List (Mech Rm)	Radiant Heating	Slab None	765 ft²	(4) 240' Lengths of 1/2" RadiantPEX+
Zone 2 <> Room List (Garage)	Radiant Heating	Slab None	1132 ft²	(6) 240' Lengths of 1/2" RadiantPEX+
Zone 3 <> Room List (Lndry,Pwdr)	Radiant Heating	Slab None	146 ft²	(1) 190' Lengths of 1/2" RadiantPEX+
Zone 4 <> Room List (Mud,Hall)	Radiant Heating	Slab None	170 ft²	(1) 215' Lengths of 1/2" RadiantPEX+
Zone 5 <> Room List (Bath,Clst Above Garage)	Radiant Heating	ThinSlab None	160 ft²	(1) 205' Lengths of 1/2" RadiantPEX+
Zone 6 <> Room List (E.Bed Above Garage)				

		Radiant Heating	ThinSlab None	245 ft²	(2) 160' Lengths of 1/2" RadiantPEX+
Zone 7	<> Room List (W.Bed Above Garage)	Radiant Heating	ThinSlab None	245 ft²	(2) 160' Lengths of 1/2" RadiantPEX+
Zone 8	<> Room List (Family Rm Above Garage)	Radiant Heating	ThinSlab None	682 ft²	(4) 215' Lengths of 1/2" RadiantPEX+
Zone 9	<> Room List (M.Bed, M.Clst,Hall)	Radiant Heating	ThinSlab None	324 ft²	(2) 250' Lengths of 1/2" RadiantPEX+
Zone 10	<> Room List (M.Bath,Lndry)	Radiant Heating	ThinSlab None	254 ft²	(2) 165' Lengths of 1/2" RadiantPEX+
Zone 11	<> Room List (Office)	Radiant Heating	ThinSlab None	157 ft²	(2) 155' Lengths of 1/2" RadiantPEX+
Zone 12	<> Room List (Bed 106, Bath)	Radiant Heating	ThinSlab None	287 ft²	(2) 185' Lengths of 1/2" RadiantPEX+
Zone 13	<> Room List (Entry,Gallery, Powder 110)	Radiant Heating	ThinSlab None	473 ft²	(3) 200' Lengths of 1/2" RadiantPEX+
Zone 14	<> Room List (Liv,Din,Kit)	Radiant Heating	ThinSlab None	1118 ft²	(8) 250' Lengths of 1/2" RadiantPEX+

Heating Load Summary

	Tube Spacing (in)	Intensity (BTU/h·ft²)	Back/Edge Losses (BTU/h·ft²)	Total Required (BTU/h)	Total Provided (BTU/h)	Supp. Needed
Zone 1				9478	18994	
Mech Rm	12	12.39	1.51	9478	18994	
Zone 2				19170	27858	
Garage	12	16.93	2.49	19170	27858	
Zone 3				1588	2525	
Lndry,Pwdr	12	10.88	2.53	1588	2525	
Zone 4				3795	5317	
Mud,Hall	12	22.32	5.31	3795	5317	

Zone 5				2456	5457
Bath,Clst Above Garage	12	15.35	0.85	2456	5457
Zone 6				4726	6218
E.Bed Above Garage	12	19.29	1.24	4726	6218
Zone 7				4726	6218
W.Bed Above Garage	12	19.29	1.24	4726	6218
Zone 8				11338	17271
Family Rm Above Garage	12	16.62	1.10	11338	17271
Zone 9				5679	10363
M.Bed	8	21.78	2.43	4878	5893
M.Clst,Hall	12	8.01	24.63	801	4470
Zone 10				3987	4657
M.Bath,Lndry	12	15.7	1.56	3987	4657
Zone 11				5459	5916
Office	8	34.77	2.07	5459	5916
Zone 12				3950	7608
Bed 106	12	14.6	2.19	3459	5348
Bath	12	9.82	2.02	491	2260
Zone 13				9092	13348
Entry,Gallery	12	20.51	2.33	8532	10776
Powder 110	12	9.82	2.02	560	2572
Zone 14				30321	31853
Liv,Din,Kit	8	27.12	2.56	30321	31853

Project Summary

Total Flow: 13.1 GPM
 Total System Head: 3.3 ft
 Boiler Load: 130809 BTU/h
 Total System Volume: 179 Gallons
 Total Heated Area: 6158 ft²

** The Manifold Head Drop (shown in square brackets []) is included in the Head Drop, and is displayed for informational purposes.*

Please verify all project information for accuracy.

Signature: _____ **Date:** _____