



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1
15 Mar 09

Header Information

Contractor:	Alpha Mechanical Heating & AC Brad Wellard	REQUIRED ATTACHMENTS	ATTACHED
Mechanical license:		Manual J1 Form (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Building plan #:		or MJ1AE Form* (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Home address (Street or Lot#, Block, Subdivision):	4202 Marlin, Entire House	OEM performance data (heating, cooling, blower):	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Manual D Friction Rate Worksheet:	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Duct distribution sketch:	Yes <input type="checkbox"/> No <input type="checkbox"/>

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: -7 °F
 Indoor temperature: 70 °F
 Total heat loss: 21655 Btuh

Summer Design Conditions

Outdoor temperature: 90 °F
 Indoor temperature: 75 °F
 Grains difference: -29 gr/lb @ 50% RH
 Sensible heat gain: 8736 Btuh
 Latent heat gain: 0 Btuh
 Total heat gain: 8736 Btuh

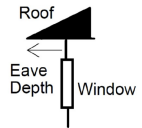
Building Construction Information

Building

Orientation: Front Door faces West
North, East, West, South, Northeast, Northwest, Southeast, Southwest
 Number of bedrooms: 2
 Conditioned floor area: 1890 ft²
 Number of occupants: 3

Windows

Eave overhang depth: 0 ft
 Internal shade: none
Blinds, drapes, etc.
 Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Gas furnace
Furnace, Heat pump, Boiler, etc.
 Model: Goodman Mfg.
 GMSS960403AN
 Heating output capacity: 38000 Btuh
Heat pumps - capacity at winter design outdoor conditions
 Aux. heating output capacity: 0 Btuh

Cooling Equipment Data

Equipment type: Split AC
Air Conditioner, Heat pump, etc.
 Model: Goodman Mfg.
 GSX16S181A*+A(E,F)W254++TDR
 Total cooling capacity: 0 Btuh
 Sensible cooling capacity: 0 Btuh
 Latent cooling capacity: 0 Btuh

Blower Data

Heating cfm: 675
 Cooling cfm: 675
 Static pressure: 0.80 in H2O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow: 675 cfm	Longest supply duct: 285 ft	Duct Materials Used
Equipment design ESP: 0.80 in H2O	Longest return duct: 181 ft	Trunk duct: Sheet metal
Total device pressure losses: -0.4 in H2O	Total effective length (TEL): 466 ft	Branch duct: Round flex vinyl, Sheet metal
Available static pressure (ASP): 0.37 in H2O	Friction rate: 0.079 in/100ft <small>Friction Rate = ASP ÷ (TEL x 100)</small>	

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist

Project Information

For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	-7	90	Method	Tight
Inside db (°F)	70	75	Construction quality	
Design TD (°F)	77	15	Fireplaces	
Daily range	-	H		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	35	-29		

HEATING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Model	GMSS960403AN
AHRI ref	10515334
Efficiency	96.1 AFUE
Heating input	40000 Btuh
Heating output	38000 Btuh
Temperature rise	61 °F
Actual air flow	675 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0.80 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSX16S181A*
Coil	A(E,F)W254++TDR
AHRI ref	202146696
Efficiency	11.9 EER, 15 SEER
Sensible cooling	10850 Btuh
Latent cooling	4650 Btuh
Total cooling	15500 Btuh
Actual air flow	675 cfm
Air flow factor	0.115 cfm/Btuh
Static pressure	0.80 in H2O
Load sensible heat ratio	1.00

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bed1	230	2910	691	108	79
Bath1	71	467	58	17	7
Bed2	210	3509	0	131	0
Cond Crawl	945	5511	61	205	7
Great Rm	434	5708	5072	213	582
Entire House	1890	18106	5882	675	675
Other equip loads		3549	2382		
Equip. @ 0.95 RSM			7818		
Latent cooling			0		
TOTALS	1890	21655	7818	675	675

Bold/italic values have been manually overridden

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

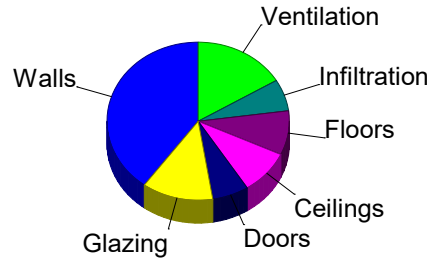
For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Design Conditions

Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N		Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 77 30 35.3	Cooling 75 15 50 -29.4
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -7 - - 15.0	Cooling 90 35 (H) 61 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Tight 0

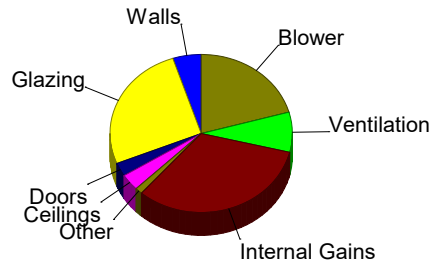
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.8	8647	39.9
Glazing	20.7	2737	12.6
Doors	22.2	1401	6.5
Ceilings	2.1	1957	9.0
Floors	2.1	1957	9.0
Infiltration	1.0	1407	6.5
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		3549	16.4
Adjustments		0	0
Total		21655	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.2	416	5.0
Glazing	16.4	2162	26.2
Doors	3.6	227	2.7
Ceilings	0.3	280	3.4
Floors	0	0	0
Infiltration	0.1	107	1.3
Ducts		0	0
Ventilation		676	8.2
Internal gains		2690	32.6
Blower		1707	20.6
Adjustments		0	0
Total		8264	100.0



Latent Cooling Load = 0 Btuh
 Overall U-value = 0.055 Btuh/ft²-°F

Data entries checked.

Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

<p>Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N</p>		<p>Indoor: Indoor temperature (°F) 70 Design TD (°F) 77 Relative humidity (%) 30 Moisture difference (gr/lb) 35.3</p>	<p>Heating 70 77 30 35.3</p>	<p>Cooling 75 15 50 -29.4</p>
<p>Outdoor: Dry bulb (°F) -7 Daily range (°F) - Wet bulb (°F) - Wind speed (mph) 15.0</p>	<p>Heating -7 - - 15.0</p>	<p>Cooling 90 35 (H) 61 7.5</p>	<p>Infiltration: Method Simplified Construction quality Tight Fireplaces 0</p>	

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² °F	Insul R ft ² °F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	474	0.065	21.0	4.99	2363	0.37	174
	e	120	0.065	21.0	4.99	598	0.48	58
	s	385	0.065	21.0	4.99	1921	0.36	139
	w	74	0.065	21.0	4.99	366	0	0
	all	1053	0.065	21.0	4.99	5249	0.35	371
15B-10s3c-4: Bg wall, heavy dry or light damp soil, concrete wall, r-12 ins, 8" thk, 1/2" gypsum board int fnsh	n	252	0.067	10.0	5.45	1372	0.07	18
	e	60	0.067	10.0	5.45	327	0.07	4
	s	252	0.067	10.0	5.45	1372	0.07	18
	w	60	0.067	10.0	5.45	327	0.07	4
	all	624	0.067	10.0	5.45	3398	0.07	45
Partitions								
12C-0sw		120	0	0	0	0	0	0
Windows								
2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	9	0.270	0	20.7	186	10.4	94
	s	98	0.270	0	20.7	2023	16.1	1571
	w	26	0.270	0	20.7	528	0	0
	all	132	0.270	0	20.7	2737	12.6	1665
Doors								
11P0: Door, mtl pur core type	n	21	0.290	10.5	22.2	467	5.39	113
	s	21	0.290	10.5	22.2	467	5.39	113
	w	21	0.290	10.5	22.2	467	0	0
	all	63	0.290	10.5	22.2	1401	3.60	227
Ceilings								
17A-34ad: Rf/clg ceiling, asphalt shingles roof mat, mtl cons, 5/8" gypsum board int fnsh, r-38 ceil ins		945	0.027	34.0	2.07	1957	0.30	280
Floors								
21A-20t: Bg floor, heavy dry or light damp soil, 3' depth		945	0.027	0	2.07	1957	0	0

Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 77 30 35.3	Cooling 75 15 50 -29.4
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -7 - - 15.0	Cooling 90 35 (H) 61 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Tight 0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	123	0.065	21.0	4.99	612	0.48	59
	e	120	0.065	21.0	4.99	598	0.48	58
	s	107	0.065	21.0	4.99	533	0.48	51
	all	350	0.065	21.0	4.99	1743	0.48	168

Partitions
(none)

Windows 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	16	0.270	0	20.7	324	19.2	301
---	---	----	-------	---	------	-----	------	-----

Doors
(none)

Ceilings 17A-34ad: Rf/clg ceiling, asphalt shingles roof mat, mtl cons, 5/8" gypsum board int fnsh, r-38 ceil ins		230	0.027	34.0	2.07	476	0.38	88
---	--	-----	-------	------	------	-----	------	----

Floors
(none)



Component Constructions
Bath1

Alpha Mechanical Heating & AC

Job: TJ-J 110 2nd,IF
Date: Feb 08, 2019
By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls Rgnl, ID, US			Indoor temperature (°F)	70	75
Elevation: 4744 ft			Design TD (°F)	77	15
Latitude: 44°N			Relative humidity (%)	30	50
Outdoor:	Heating	Cooling	Moisture difference (gr/lb)	35.3	-29.4
Dry bulb (°F)	-7	90	Infiltration:		
Daily range (°F)	-	35 (H)	Method	Simplified	
Wet bulb (°F)	-	61	Construction quality	Tight	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	53	0.065	21.0	4.99	266	0.48	26
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 17A-34ad: Rf/clg ceiling, asphalt shingles roof mat, mtl cons, 5/8" gypsum board int fnsh, r-38 ceil ins		71	0.027	34.0	2.07	147	0.38	27
Floors (none)								



Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N			Indoor: Indoor temperature (°F) 70 Design TD (°F) 77 Relative humidity (%) 30 Moisture difference (gr/lb) 35.3	Heating 70 77 30 35.3	Cooling 75 15 50 -29.4
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -7 - - 15.0	Cooling 90 35 (H) 61 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Tight 0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	112	0.065	21.0	4.99	558	0	0
	s	96	0.065	21.0	4.99	479	0	0
	w	74	0.065	21.0	4.99	366	0	0
	all	282	0.065	21.0	4.99	1403	0	0

Partitions (none)

Windows 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	16	0.270	0	20.7	331	0	0
	w	26	0.270	0	20.7	528	0	0
	all	42	0.270	0	20.7	859	0	0

Doors 11P0: Door, mtl pur core type	w	21	0.290	10.5	22.2	467	0	0
---	---	----	-------	------	------	-----	---	---

Ceilings 17A-34ad: Rf/clg ceiling, asphalt shingles roof mat, mtl cons, 5/8" gypsum board int fnsh, r-38 ceil ins		210	0.027	34.0	2.07	435	0	0
---	--	-----	-------	------	------	-----	---	---

Floors (none)

Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N			Indoor: Indoor temperature (°F) 70 Design TD (°F) 77 Relative humidity (%) 30 Moisture difference (gr/lb) 35.3	Heating 70 77 30 35.3	Cooling 75 15 50 -29.4
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -7 - - 15.0	Cooling 90 35 (H) 61 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Tight 0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 15B-10s3c-4: Bg wall, heavy dry or light damp soil, concrete wall, r-12 ins, 8" thk, 1/2" gypsum board int fnsh	n	252	0.067	10.0	5.45	1372	0.07	18
	e	60	0.067	10.0	5.45	327	0.07	4
	s	252	0.067	10.0	5.45	1372	0.07	18
	w	60	0.067	10.0	5.45	327	0.07	4
	all	624	0.067	10.0	5.45	3398	0.07	45
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings (none)								
Floors 21A-20t: Bg floor, heavy dry or light damp soil, 3' depth		945	0.027	0	2.07	1957	0	0

Project Information

For: Tyler Jone, Trust Home Inspections
4202 Marlin, Idaho Falls, Idaho 83401
Phone: 208-419-8721
Email: tyler.s.jones@gmail.com

Design Conditions

<p>Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N</p>		<p>Indoor: Indoor temperature (°F) 70 Design TD (°F) 77 Relative humidity (%) 30 Moisture difference (gr/lb) 35.3</p>	<p>Heating 70 77 30 35.3</p>	<p>Cooling 75 15 50 -29.4</p>
<p>Outdoor: Dry bulb (°F) -7 Daily range (°F) - Wet bulb (°F) - Wind speed (mph) 15.0</p>	<p>Heating -7 - - 15.0</p>	<p>Cooling 90 35 (H) 61 7.5</p>	<p>Infiltration: Method Simplified Construction quality Tight Fireplaces 0</p>	

Construction descriptions

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² °F	Insul R ft ² °F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12F-0sw: Frm wall, wd ext, 1/2" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	186	0.065	21.0	4.99	927	0.48	89
	s	182	0.065	21.0	4.99	909	0.48	88
	all	368	0.065	21.0	4.99	1836	0.48	177
Partitions								
12C-0sw		120	0	0	0	0	0	0
Windows								
2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	9	0.270	0	20.7	186	10.4	94
	s	66	0.270	0	20.7	1367	19.2	1270
	all	75	0.270	0	20.7	1553	18.2	1363
Doors								
11P0: Door, mtl pur core type	n	21	0.290	10.5	22.2	467	5.39	113
	s	21	0.290	10.5	22.2	467	5.39	113
	all	42	0.290	10.5	22.2	934	5.39	227
Ceilings								
17A-34ad: Rf/clg ceiling, asphalt shingles roof mat, mtl cons, 5/8" gypsum board int fnsh, r-38 ceil ins		434	0.027	34.0	2.07	899	0.38	165
Floors								
(none)								

Project Information

For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Notes:

Design Information

Weather: Idaho Falls Rgnl, ID, US

Winter Design Conditions

Outside db	-7 °F
Inside db	70 °F
Design TD	77 °F

Summer Design Conditions

Outside db	90 °F
Inside db	75 °F
Design TD	15 °F
Daily range	H
Relative humidity	50 %
Moisture difference	-29 gr/lb

Heating Summary

Structure	18106 Btuh
Ducts	0 Btuh
Central vent (50 cfm)	3549 Btuh
Outside air	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	21655 Btuh

Sensible Cooling Equipment Load Sizing

Structure	5882 Btuh
Ducts	0 Btuh
Central vent (50 cfm)	676 Btuh
Outside air	
Blower	1707 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.95
Equipment sensible load	7818 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	466 Btuh
Ducts	0 Btuh
Central vent (50 cfm)	-840 Btuh
Outside air	
Equipment latent load	0 Btuh

	Heating	Cooling
Area (ft ²)	1890	1680
Volume (ft ³)	8505	6825
Air changes/hour	0.14	0.07
Equiv. AVF (cfm)	20	8

Equipment Total Load (Sen+Lat)	7818 Btuh
Req. total capacity at 0.70 SHR	0.9 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Model	GMSS960403AN
AHRI ref	10515334
Efficiency	96.1 AFUE
Heating input	40000 Btuh
Heating output	38000 Btuh
Temperature rise	61 °F
Actual air flow	675 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0.80 in H2O
Space thermostat	

Cooling Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSX16S181A*
Coil	A(E,F)W254++TDR
AHRI ref	202146696
Efficiency	11.9 EER, 15 SEER
Sensible cooling	10850 Btuh
Latent cooling	4650 Btuh
Total cooling	15500 Btuh
Actual air flow	675 cfm
Air flow factor	0.115 cfm/Btuh
Static pressure	0.80 in H2O
Load sensible heat ratio	1.00

Bold/italic values have been manually overridden

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

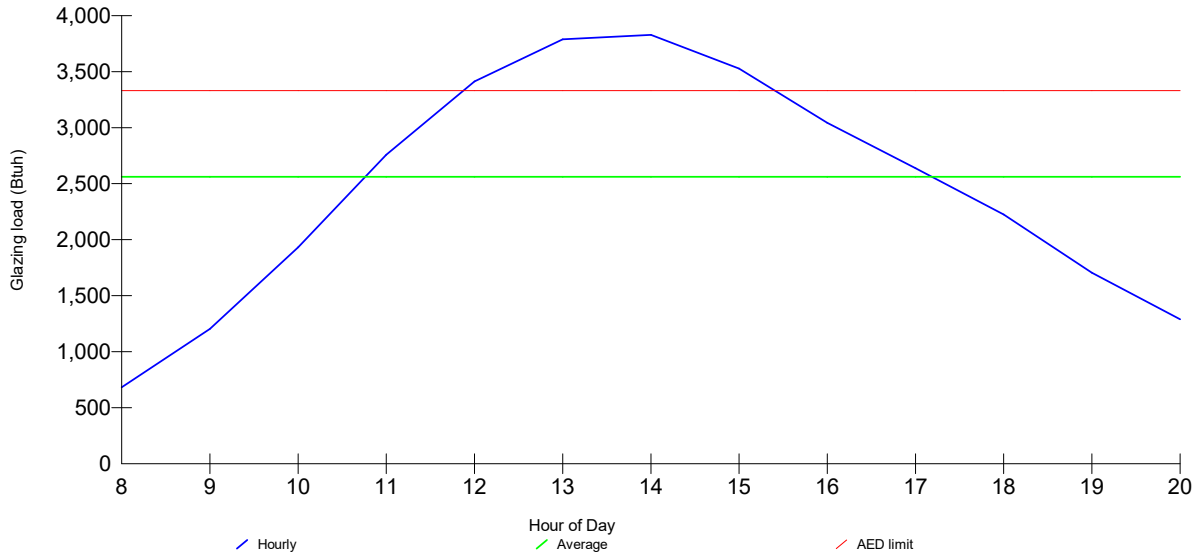
For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Design Conditions

Location:		Indoor:	Heating	Cooling
Idaho Falls Rgnl, ID, US		Indoor temperature (°F)	70	75
Elevation: 4744 ft		Design TD (°F)	77	15
Latitude: 44°N		Relative humidity (%)	30	50
		Moisture difference (gr/lb)	35.3	-29.4
Outdoor:	Heating	Cooling		
Dry bulb (°F)	-7	90		
Daily range (°F)	-	35 (H)		
Wet bulb (°F)	-	61		
Wind speed (mph)	15.0	7.5		
		Infiltration:		

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 49.4%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 497 Btuh (PFG - 1.3*AFG)

Right-J® Worksheet

Entire House

Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
 Date: Feb 08, 2019
 By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

1 Room name				Entire House				Bed1						
2 Exposed wall				312.0 ft				45.7 ft						
3 Room height				6.0 ft				8.0 ft						
4 Room dimensions								15.0 x 15.3 ft						
5 Room area				1890.0 ft²				230.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.99	0.37	504	474	2363	174	123	123	612	59
	G	2 glazing, dr outr,	0.270	n	20.71	10.40	9	0	186	94	0	0	0	0
	D	11P0	0.290	n	22.24	5.39	21	21	467	113	0	0	0	0
	W	15B-10s3c-4	0.083	n	5.45	0.07	252	252	1372	18	0	0	0	0
11	W	12F-0sw	0.065	e	4.99	0.48	120	120	598	58	120	120	598	58
	W	15B-10s3c-4	0.083	e	5.45	0.07	60	60	327	4	0	0	0	0
	W	12F-0sw	0.065	s	4.99	0.36	504	385	1921	139	123	107	533	51
	G	2 glazing, dr outr,	0.270	s	20.71	16.09	98	0	2023	1571	16	0	324	301
	D	11P0	0.290	s	22.24	5.39	21	21	467	113	0	0	0	0
	W	15B-10s3c-4	0.083	s	5.45	0.07	252	252	1372	18	0	0	0	0
	W	12F-0sw	0.065	w	4.99	0.00	120	74	366	0	0	0	0	0
	G	2 glazing, dr outr,	0.270	w	20.71	0.00	26	0	528	0	0	0	0	0
	D	11P0	0.290	w	22.24	0.00	21	21	467	0	0	0	0	0
	W	15B-10s3c-4	0.083	w	5.45	0.07	60	60	327	4	0	0	0	0
	P	12C-0sw	0.000	-	0.00	0.00	120	120	0	0	0	0	0	0
	C	17A-34ad	0.027	-	2.07	0.30	945	945	1957	280	230	230	476	88
	F	21A-20t	0.027	-	2.07	0.00	945	945	1957	0	0	0	0	0
6	c) AED excursion									497				96
	Envelope loss/gain								16699	3085			2544	654
12	a) Infiltration								1407	107			366	37
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			3			690	0			0
			Appliances/other							2000				0
	Subtotal (lines 6 to 13)								18106	5882			2910	691
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								18106	5882			2910	691
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								18106	5882			2910	691
	Air required (cfm)								675	675			108	79

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet

Entire House

Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
 Date: Feb 08, 2019
 By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

1 Room name				Bath1		Bed2								
2 Exposed wall				8.0 ft		43.0 ft								
3 Room height				6.7 ft		heat/cool								
4 Room dimensions				8.0 ft		15.0 x 14.0 ft								
5 Room area				71.1 ft²		210.0 ft²								
Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
				Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12F-0sw	0.065	n	4.99	0.37	53	53	266	26	112	112	558	0
	G	2 glazing, dr outr,	0.270	n	20.71	10.40	0	0	0	0	0	0	0	0
	D	11P0	0.290	n	22.24	5.39	0	0	0	0	0	0	0	0
	W	15B-10s3c-4	0.083	n	5.45	0.07	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	4.99	0.48	0	0	0	0	0	0	0	0
	W	15B-10s3c-4	0.083	e	5.45	0.07	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.99	0.36	0	0	0	0	112	96	479	0
	G	2 glazing, dr outr,	0.270	s	20.71	16.09	0	0	0	0	16	0	331	0
	D	11P0	0.290	s	22.24	5.39	0	0	0	0	0	0	0	0
	W	15B-10s3c-4	0.083	s	5.45	0.07	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.99	0.00	0	0	0	0	120	74	366	0
	G	2 glazing, dr outr,	0.270	w	20.71	0.00	0	0	0	0	26	0	528	0
	D	11P0	0.290	w	22.24	0.00	0	0	0	0	21	21	467	0
	W	15B-10s3c-4	0.083	w	5.45	0.07	0	0	0	0	0	0	0	0
	P	12C-0sw	0.000	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	17A-34ad	0.027	-	2.07	0.30	71	71	147	27	210	210	435	0
	F	21A-20t	0.027	-	2.07	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				0
	Envelope loss/gain								413	53			3165	0
12	a) Infiltration								53	5			345	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		0				0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								467	58			3509	0
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								467	58			3509	0
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								467	58			3509	0
	Air required (cfm)								17	7			131	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet

Entire House

Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
 Date: Feb 08, 2019
 By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

1 Room name				Cond Crawl 156.0 ft				Great Rm 60.7 ft						
2 Exposed wall				4.0 ft heat/cool				8.0 ft heat/cool						
3 Room height				15.0 x 63.0 ft				1.0 x 433.9 ft						
4 Room dimensions				945.0 ft²				433.9 ft²						
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.99	0.37	0	0	0	0	216	186	927	89
	G	2 glazing, dr outr,	0.270	n	20.71	10.40	0	0	0	0	9	0	186	94
	D	11P0	0.290	n	22.24	5.39	0	0	0	0	21	21	467	113
	W	15B-10s3c-4	0.083	n	5.45	0.07	252	252	1372	18	0	0	0	0
11	W	12F-0sw	0.065	e	4.99	0.48	0	0	0	0	0	0	0	0
	W	15B-10s3c-4	0.083	e	5.45	0.07	60	60	327	4	0	0	0	0
	W	12F-0sw	0.065	s	4.99	0.36	0	0	0	0	269	182	909	88
	G	2 glazing, dr outr,	0.270	s	20.71	16.09	0	0	0	0	66	0	1367	1270
	D	11P0	0.290	s	22.24	5.39	0	0	0	0	21	21	467	113
	W	15B-10s3c-4	0.083	s	5.45	0.07	252	252	1372	18	0	0	0	0
	W	12F-0sw	0.065	w	4.99	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, dr outr,	0.270	w	20.71	0.00	0	0	0	0	0	0	0	0
	D	11P0	0.290	w	22.24	0.00	0	0	0	0	0	0	0	0
	W	15B-10s3c-4	0.083	w	5.45	0.07	60	60	327	4	0	0	0	0
	P	12C-0sw	0.000	-	0.00	0.00	0	0	0	0	120	120	0	0
	C	17A-34ad	0.027	-	2.07	0.30	0	0	0	0	434	434	899	165
	F	21A-20t	0.027	-	2.07	0.00	945	945	1957	0	0	0	0	0
6	c) AED excursion									0				401
	Envelope loss/gain									5355	45			5222 2333
12	a) Infiltration									156	16			486 49
	b) Room ventilation									0	0			0 0
13	Internal gains:		Occupants @	230			0			0	3			690 2000
			Appliances/other							0				
	Subtotal (lines 6 to 13)									5511	61			5708 5072
	Less external load									0	0			0 0
	Less transfer									0	0			0 0
	Redistribution									0	0			0 0
14	Subtotal									5511	61			5708 5072
15	Duct loads						-0%	0%		0	0	-0%	0%	0 0
	Total room load									5511	61			5708 5072
	Air required (cfm)									205	7			213 582

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J8® Form J1 Entire House Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
Date: Feb 08, 2019
By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

1 Name of Room		Entire House					Bed1						
2 Running Feet of Exposed Wall		312.0 ft					45.7 ft						
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)		6.0 ft	2629.3 ft²		8.0 ft	485.3 ft²							
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)		1890.0 ft²		15.0 x 15.3 ft		230.0 ft²							
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)		0 °	1890.0 ft²		0 °	230.0 ft²							
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh			
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg	
6	Wall	12F-0sw	n	4.99	0.37	504	2363	174		123	612	59	
	Glaz	2 glazing, cr outr,	n	20.71	10.40	9	186	94		0	0	0	
	Door	11P0	n	22.24	5.39	21	467	113		0	0	0	
	Wall	15B-10s3c-4	n	5.45	0.07	252	1372	18		0	0	0	
11	Wall	12F-0sw	e	4.99	0.48	120	598	58		120	598	58	
	Wall	15B-10s3c-4	e	5.45	0.07	60	327	4		0	0	0	
	Wall	12F-0sw	s	4.99	0.36	504	1921	139		123	533	51	
	Glaz	2 glazing, cr outr,	s	20.71	16.09	98	2023	1571		16	324	301	
	Door	11P0	s	22.24	5.39	21	467	113		0	0	0	
	Wall	15B-10s3c-4	s	5.45	0.07	252	1372	18		0	0	0	
	Wall	12F-0sw	w	4.99	0.00	120	366	0		0	0	0	
	Glaz	2 glazing, cr outr,	w	20.71	0.00	26	528	0		0	0	0	
	Door	11P0	w	22.24	0.00	21	467	0		0	0	0	
	Wall	15B-10s3c-4	w	5.45	0.07	60	327	4		0	0	0	
	Wall	12C-0sw	-	0.00	0.00	120	0	0		0	0	0	
	Ceiling	17A-34ad	-	2.07	0.30	945	1957	280		230	476	88	
	Floor	21A-20t	-	2.07	0.00	945	1957	0		0	0	0	
12	Infiltration	Heating Load (Btuh)		Effect ACH		0.14	WAR	1407		WAR	0.26	366	
		Sensible Load (Btuh)				0.07						37	
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh				3		690	600	0		0	0
		b Scenario number						2000				0	
		c Default Adjustments											
		d Custom Appliances						0	0			0	0
		e Plants							0			0	0
14	Subtotals	Sum lines 6 through 12						18106	5882	466		2910	691
15	Duct Loads	EHLF & ESGF		0	0			0	0		0	0	
		ELG							0			0	
16	Ventilation Loads	Vent Cfm	50	E Cfm	50			3549	676	-840			
17	Winter Humidification Load	Gal/Day		0				0					
18	Piping Load							0					
19	Blower Heat								1707				
20	AED Excursion & Latent Moisture Migration Load								497			96	
21	Total Load	Sum lines 13 through 19						21655	8264	0		2910	691

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J8® Form J1 Entire House Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
Date: Feb 08, 2019
By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

				Bath1			Bed2					
				8.0 ft	6.7 ft	277.3 ft²	8.0 ft	43.0 ft	464.0 ft²			
				10.7 x 6.7 ft		71.1 ft²	15.0 x 14.0 ft		210.0 ft²			
				0 °		71.1 ft²	0 °		210.0 ft²			
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12F-0sw	n	4.99	0.37	53	266	26		112	558	0
	Glaz	2 glazing, cr outr,	n	20.71	10.40	0	0	0		0	0	0
	Door	11P0	n	22.24	5.39	0	0	0		0	0	0
	Wall	15B-10s3c-4	n	5.45	0.07	0	0	0		0	0	0
11	Wall	12F-0sw	e	4.99	0.48	0	0	0		0	0	0
	Wall	15B-10s3c-4	e	5.45	0.07	0	0	0		0	0	0
	Wall	12F-0sw	s	4.99	0.36	0	0	0		112	479	0
	Glaz	2 glazing, cr outr,	s	20.71	16.09	0	0	0		16	331	0
	Door	11P0	s	22.24	5.39	0	0	0		0	0	0
	Wall	15B-10s3c-4	s	5.45	0.07	0	0	0		0	0	0
	Wall	12F-0sw	w	4.99	0.00	0	0	0		120	366	0
	Glaz	2 glazing, cr outr,	w	20.71	0.00	0	0	0		26	528	0
	Door	11P0	w	22.24	0.00	0	0	0		21	467	0
	Wall	15B-10s3c-4	w	5.45	0.07	0	0	0		0	0	0
	Wall	12C-0sw	-	0.00	0.00	0	0	0		0	0	0
	Ceil	17A-34ad	-	2.07	0.30	71	147	27		210	435	0
	Flo	21A-20t	-	2.07	0.00	0	0	0		0	0	0
12	Infiltration	Heating Load (Btuh)		Effect ACH		0.14	53		WAR	345		
		Sensible Load (Btuh)		0.07		WAR		5	0.25		0	
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0
		b Scenario number					0				0	
		c Default Adjustments										
		d Custom Appliances					0	0			0	0
		e Plants						0				0
14	Subtotals	Sum lines 6 through 12					467	58			3509	0
15	Duct Loads	EHLF & ESGF		0	0		0	0		0	0	
		ELG						0				0
16	Ventilation Loads	Vent Cfm	50	E Cfm	50							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							0			0	
21	Total Load	Sum lines 13 through 19					467	58			3509	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Right-J8® Form J1 Entire House Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
Date: Feb 08, 2019
By:

2184 Charming Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

1 Name of Room				Cond Crawl 156.0 ft			Great Rm 60.7 ft						
2 Running Feet of Exposed Wall				4.0 ft			8.0 ft						
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				15.0 x 63.0 ft			1.0 x 433.9 ft						
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				0 °			0 °						
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				624.0 ft²			778.7 ft²						
				945.0 ft²			433.9 ft²						
				945.0 ft²			433.9 ft²						
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh			
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg	
6	Wall	12F-0sw	n	4.99	0.37	0	0	0	216	927	89		
	Glaz	2 glazing, cr outr,	n	20.71	10.40	0	0	0	9	186	94		
	Door	11P0	n	22.24	5.39	0	0	0	21	467	113		
11	Wall	15B-10s3c-4	n	5.45	0.07	252	1372	18	0	0	0		
	Wall	12F-0sw	e	4.99	0.48	0	0	0	0	0	0		
	Wall	15B-10s3c-4	e	5.45	0.07	60	327	4	0	0	0		
	Wall	12F-0sw	s	4.99	0.36	0	0	0	269	909	88		
	Glaz	2 glazing, cr outr,	s	20.71	16.09	0	0	0	66	1367	1270		
	Door	11P0	s	22.24	5.39	0	0	0	21	467	113		
	Wall	15B-10s3c-4	s	5.45	0.07	252	1372	18	0	0	0		
	Wall	12F-0sw	w	4.99	0.00	0	0	0	0	0	0		
	Glaz	2 glazing, cr outr,	w	20.71	0.00	0	0	0	0	0	0		
	Door	11P0	w	22.24	0.00	0	0	0	0	0	0		
	Wall	15B-10s3c-4	w	5.45	0.07	60	327	4	0	0	0		
	Wall	12C-0sw	-	0.00	0.00	0	0	0	120	0	0		
	Ceiling	17A-34ad	-	2.07	0.30	0	0	0	434	899	165		
	Floor	21A-20t	-	2.07	0.00	945	1957	0	0	0	0		
12	Infiltration	Heating Load (Btuh)		Effect ACH	0.14	WAR 0.11	156			WAR 0.35	486		
		Sensible Load (Btuh)			0.07		16				49		
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh			0		0	0	3		690	600	
		b Scenario number					0				2000		
		c Default Adjustments											
		d Custom Appliances						0	0			0	0
		e Plants							0			0	0
14	Subtotals	Sum lines 6 through 12					5511	61		5708	5072		
15	Duct Loads	EHLF & ESGF		0	0		0	0		0	0		
		ELG							0			0	
16	Ventilation Loads	Vent Cfm	50	E Cfm	50								
17	Winter Humidification Load	Gal/Day		0									
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load							0			401		
21	Total Load	Sum lines 13 through 19					5511	61			5708	5072	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Project Information

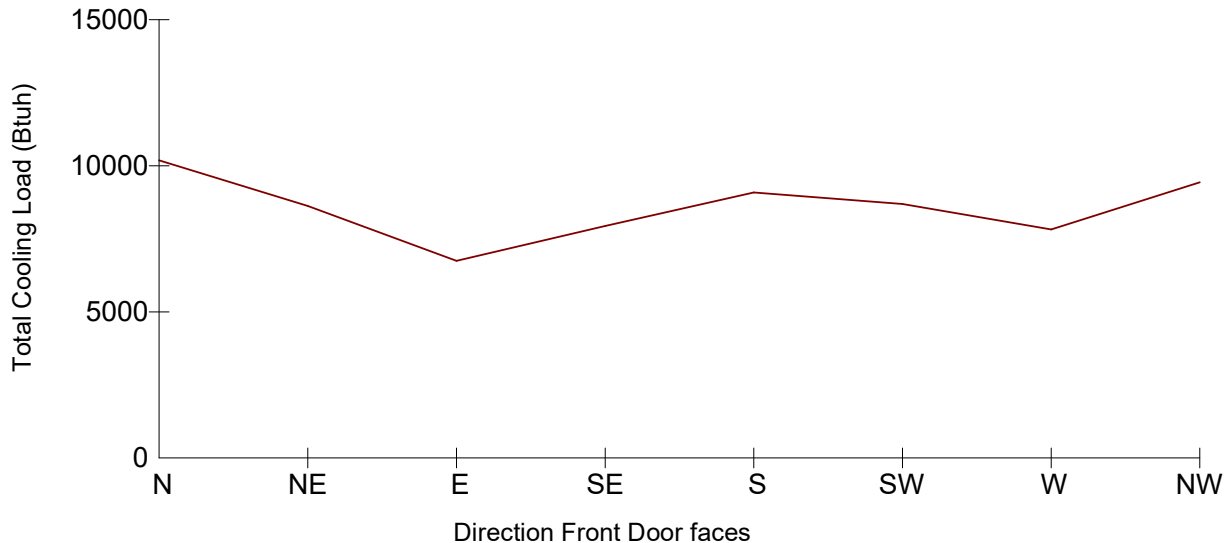
For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Design Conditions

Location: Idaho Falls Rgnl, ID, US Elevation: 4744 ft Latitude: 44°N		Indoor: Indoor temperature (°F) 70 Design TD (°F) 77 Relative humidity (%) 30 Moisture difference (gr/lb) 35.3	Heating 70 77 30 35.3	Cooling 75 15 50 -29.4
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -7 - - 15.0	Cooling 90 35 (H) 61 7.5	Infiltration:	

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	10188	8622	6745	7940	9085	8690	7818	9433
Latent Load (Btuh)	0	0	0	0	0	0	0	0
Total Load (Btuh)	10188	8622	6745	7940	9085	8690	7818	9433
Heating AVF (cfm)	675	675	675	675	675	675	675	675
Cooling AVF (cfm)	675	675	675	675	675	675	675	675

Building Orientation Cooling Load



Current Orientation: Front Door faces West
 Highest Cooling Load: Front Door faces North

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



J1 Form - Worksheet A
Entire House
Alpha Mechanical Heating & AC

Job: TJJ 110 2nd,IF
 Date: Feb 08, 2019
 By:

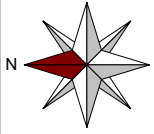
2184 Channing Way PMB 314, Idaho Falls, Idaho 83406 Phone: 208-243-0453 Fax: 888-600-5731 Email: bradw@alpha-mechanical.com

Supporting Detail	
Project Name: TJJ 950 Boise Ave, IF (1)	Date: Feb 08, 2019
Address: 4202 Marlin, Idaho Falls, Idaho 83401	
Phone: 208-419-8721	Job ID: TJJ 110 2nd,IF

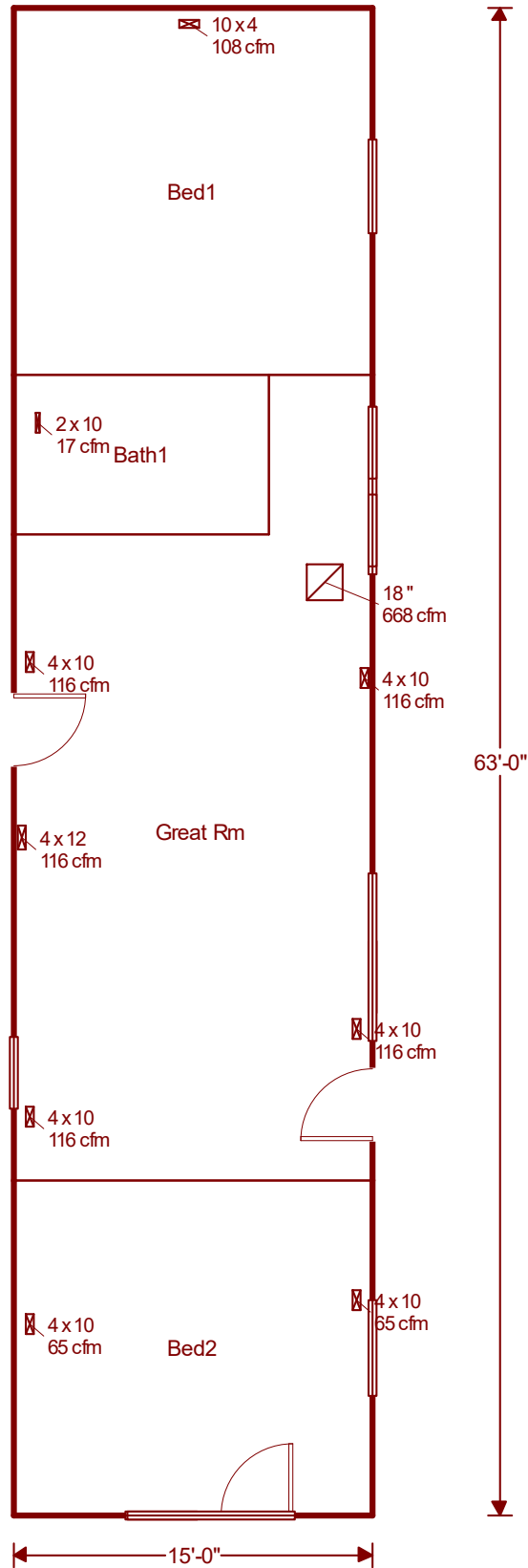
Worksheet A	
Location and Design Conditions	
Weather Location: Idaho Falls Rgnl, ID, US	Elevation = 4744 Latitude = 44
Indoor Conditions, Heating: DB = 70 °F RH = 30 %	Indoor Conditions, Cooling: DB = 75 °F RH = 50 %
Table 1 Conditions 99% DB = -7 °F 1% DB = 90 °F	Grains Difference = -29 gr/lb Daily Range = H
Design Temperature Differences	HTD = 77 °F CTD = 15 °F

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





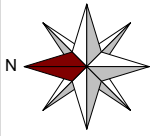
Main Floor



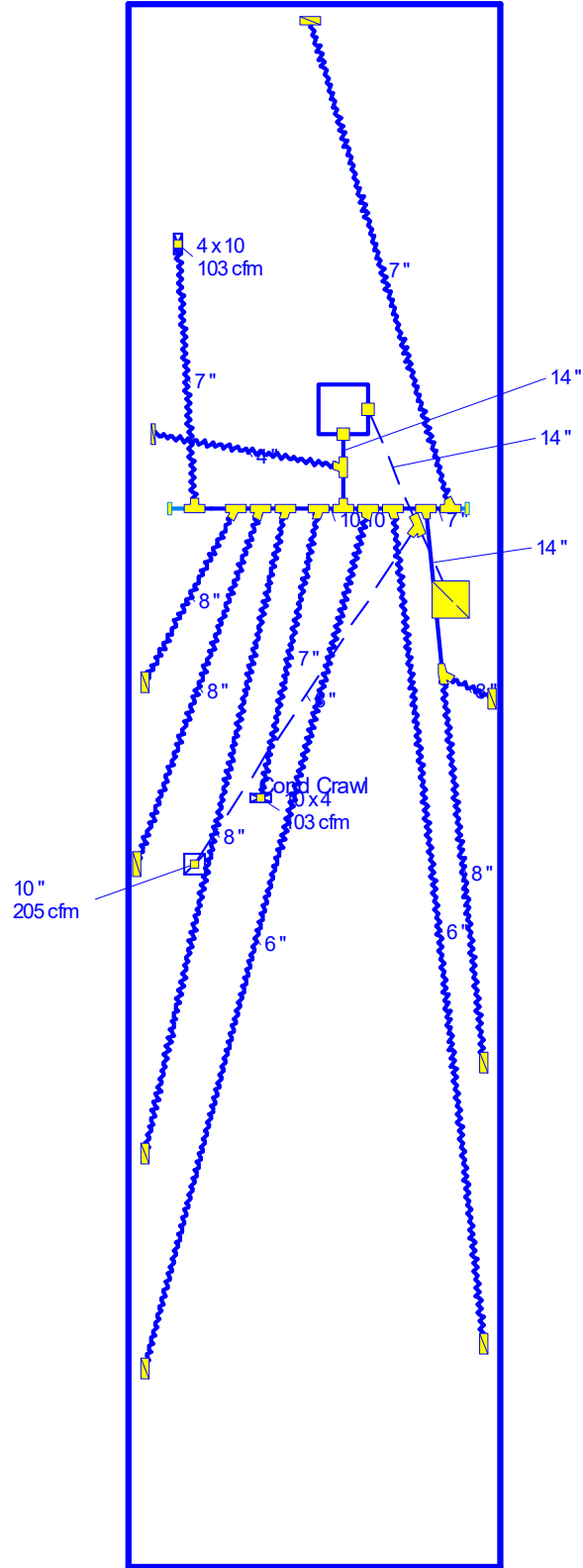
Job #: TJ-J 110 2nd,IF
Performed for:
Tyler Jone
4202 Martin
Idaho Falls, Idaho 83401
Phone: 208-419-8721
tyler.s.jones@gmail.com

Alpha Mechanical Heating & AC
2184 Channing Way PMB 314
Idaho Falls, Idaho 83406
Phone: 208-243-0453 Fax: 888-600-5731
bradw@alpha-mechanical.com

Scale: 1 : 92
Page 1
Right-Suite® Universal 2019
19.0.05 RSU09572
2019-May-01 11:16:38
...s\TJ-J 950 Boise Ave, IF (1).rup



Crawl



Job #: TJ-J 110 2nd,IF
Performed for:
Tyler Jones
4202 Marlin
Idaho Falls, Idaho 83401
Phone: 208-419-8721
tylers.jones@gmail.com

Alpha Mechanical Heating & AC
2184 Channing Way PMB 314
Idaho Falls, Idaho 83406
Phone: 208-243-0453 Fax: 888-600-5731
bradw@alpha-mechanical.com

Scale: 1 : 92
Page 2
Right-Suite® Universal 2019
19.0.05 RSU09572
2019-May-01 11:16:38
...s\TJ-J 950 Boise Ave, IF (1).rup

Project Information

For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

	Heating	Cooling
External static pressure	0.80 in H2O	0.80 in H2O
Pressure losses	0.43 in H2O	0.43 in H2O
Available static pressure	0.37 in H2O	0.37 in H2O
Supply / return available pressure	0.226 / 0.144 in H2O	0.226 / 0.144 in H2O
Lowest friction rate	0.079 in/100ft	0.079 in/100ft
Actual air flow	675 cfm	675 cfm
Total effective length (TEL)		466 ft

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Bath1	h 467	17	7	0.152	4.0	0x0	VIFx	9.1	140.0	st1
Bed1	h 2910	108	79	0.093	7.0	0x0	VIFx	27.8	215.0	st3
Bed2	h 1755	65	0	0.079	6.0	0x0	VIFx	39.8	245.0	st4
Bed2-A	h 1755	65	0	0.083	6.0	0x0	VIFx	38.9	235.0	st4
Cond Crawl	h 2756	103	4	0.096	7.0	0x0	VIFx	19.7	215.0	st5
Cond Crawl-A	h 2756	103	4	0.085	7.0	0x0	VIFx	15.9	250.0	st5
Great Rm	c 1014	43	116	0.094	8.0	0x0	VIFx	15.2	225.0	st5
Great Rm-A	c 1014	43	116	0.088	8.0	0x0	VIFx	21.5	235.0	st5
Great Rm-B	c 1014	43	116	0.082	8.0	0x0	VIFx	31.9	245.0	st5
Great Rm-C	c 1014	43	116	0.093	8.0	0x0	VIFx	28.8	215.0	st2
Great Rm-D	c 1014	43	116	0.098	8.0	0x0	VIFx	15.3	215.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st5	Peak AVF	333	356	0.082	653	10.0	0 x 0	ShtMetl	st1
st2	Peak AVF	85	233	0.093	527	9.0	0 x 0	ShtMetl	st4
st4	Peak AVF	324	312	0.079	595	10.0	0 x 0	ShtMetl	st1
st3	Peak AVF	108	79	0.093	406	7.0	0 x 0	ShtMetl	st4
st1	Peak AVF	675	675	0.079	631	14.0	0 x 0	ShtMetl	

Bold/italic values have been manually overridden

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	470	668	168.4	0.086	625	14.0	0x 0		ShMt	rt1
rb3	0x0	205	7	181.4	0.079	589	8.0	0x 0		ShMt	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	675	675	0.079	631	14.0	0 x 0	ShtMetl	

Project Information

For: Tyler Jone, Trust Home Inspections
 4202 Marlin, Idaho Falls, Idaho 83401
 Phone: 208-419-8721
 Email: tyler.s.jones@gmail.com

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.80	0.80
Pressure losses		
Coil	0.20	0.20
Heat exchanger	0	0
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.14	0.14
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.37	0.37

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	36	16
Measured length of trunk	4	5
Equivalent length of fittings	245	160
Total length	285	181
Total effective length		466

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.079	OK	0.079	OK
Return Ducts	0.079	OK	0.079	OK

Fitting Equivalent Length Details

Supply 4AD=60, 2A3=65, 9I1=85, 1A=35: TotalEL=245
 Return 6M=20, 6A6=75, 5D=40, 6AB=25: TotalEL=160