



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Phillips addition, Mike Todd Construction
FL

Cooling Equipment

Design Conditions

Outdoor design DB:	91.0°F	Sensible gain:	4730	Btuh	Entering coil DB:	76.3°F
Outdoor design WB:	74.0°F	Latent gain:	1129	Btuh	Entering coil WB:	63.1°F
Indoor design DB:	75.0°F	Total gain:	5859	Btuh		
Indoor RH:	50%	Estimated airflow:	216	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP	Model:	SEER 15.0, HSPF 8.5
Manufacturer:	Generic		
Actual airflow:	216 cfm		
Sensible capacity:	4540 Btuh	96% of load	
Latent capacity:	1946 Btuh	172% of load	
Total capacity:	6486 Btuh	111% of load	SHR: 70%



Heating Equipment

Design Conditions

Outdoor design DB:	17.0°F	Heat loss:	12130	Btuh	Entering coil DB:	68.9°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP	Model:	SEER 15.0, HSPF 8.5	Capacity balance:	38 °F
Manufacturer:	Generic			Economic balance:	-99 °F
Actual airflow:	216 cfm				
Output capacity:	6454 Btuh	53% of load			
Supplemental heat required:	5675 Btuh				

Backup equipment type:	Elec strip	Model:	
Manufacturer:			
Actual airflow:	216 cfm		
Output capacity:	3.6 kW	100% of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



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... HVAC\Trane\Mike Todd Construction Phillips.rup Calc = MJ8 Front Door faces: N



DHW Report
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Phillips addition, Mike Todd Construction
FL

Design Criteria

Occupants	
Age	Number
0-5	0
6-13	2
14-59	2
60+	0

Not occupied during the day	
Dishwasher	
Clothes washer	
Additional use (gpd)	0
Setpoint (°F)	120
Daily use (gpd)	61

Gas conventional (40 gal, 0.60 EF)

Manufacturer
Trade name
Model
AHRI ref. number

Tank size (gal)	40
Energy factor	0.60
Input (MBtuh)	0.0
1st hour (gal)	60
Recovery eff. (%)	77



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

Form
RPER 1
15 Mar 09

Header Information

Contractor: DL Williams Heating & Cooling LLC
Derrick Williams
Mechanical license:
Building plan #:
Home address (Street or Lot#, Block, Subdivision): , Entire House

REQUIRED ATTACHMENTS
Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 17 °F
Indoor temperature: 70 °F
Total heat loss: 12130 Btuh

Summer Design Conditions

Outdoor temperature: 91 °F
Indoor temperature: 75 °F
Grains difference: 35 gr/lb @ 50% RH
Sensible heat gain: 4927 Btuh
Latent heat gain: 1176 Btuh
Total heat gain: 6103 Btuh

Building Construction Information

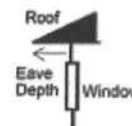
Building

Orientation: Front Door faces North
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms: 1
Conditioned floor area: 414 ft²
Number of occupants: 3

Windows

Eave overhang depth: 1.6 ft
Internal shade: blinds
Blinds, drapes, etc.
Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Split ASHP
Furnace, Heat pump, Boiler, etc.
Model: Generic
SEER 15.0, HSPF 8.5
Heating output capacity: 0 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 12129 Btuh

Cooling Equipment Data

Equipment type: Split ASHP
Air Conditioner, Heat pump, etc.
Model: Generic
SEER 15.0, HSPF 8.5+
Total cooling capacity: 0 Btuh
Sensible cooling capacity: 0 Btuh
Latent cooling capacity: 0 Btuh

Blower Data

Heating cfm: 216
Cooling cfm: 216
Static pressure: 0.50 in H₂O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow: 216 cfm
Equipment design ESP: 0.50 in H₂O
Total device pressure losses: 0 in H₂O
Available static pressure (ASP): 0.50 in H₂O
Longest supply duct: 0 ft
Longest return duct: 0 ft
Total effective length (TEL): 0 ft
Friction rate: 0 in/100ft
Friction Rate = ASP ÷ (TEL x 100)
Duct Materials Used
Trunk duct:
Branch duct: Sheet metal

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



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Load Short Form

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Phillips addition, Mike Todd Construction
FL

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	17	91	Method	Simplified
Inside db (°F)	70	75	Construction quality	Average
Design TD (°F)	53	16	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	22	35		

HEATING EQUIPMENT

Make Generic
Trade
Model SEER 15.0, HSPF 8.5
AHRI ref
Efficiency 8.5 HSPF
Heating input
Heating output 6454 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 216 cfm
Air flow factor 0.018 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 38 °F

COOLING EQUIPMENT

Make Generic
Trade
Cond SEER 15.0, HSPF 8.5
Coil
AHRI ref
Efficiency 12.8 EER, 15 SEER
Sensible cooling 4540 Btuh
Latent cooling 1946 Btuh
Total cooling 6486 Btuh
Actual air flow 216 cfm
Air flow factor 0.046 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.81

Backup:
Input = 4 kW, Output = 12129 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
masterbed	276	12130	4730	216	216
bath	102	0	0	0	0
closet	36	0	0	0	0
Entire House	414	12130	4730	216	216
Other equip loads		0	0		
Equip. @ 0.96 RSM			4541		
Latent cooling			1129		
TOTALS	414	12130	5670	216	216

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



Building Analysis

Entire House

DL Williams Heating & Cooling LLC

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PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

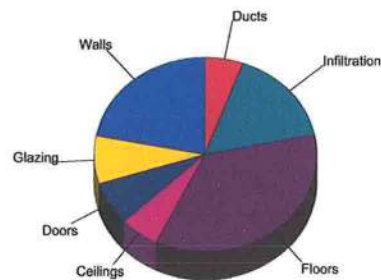
For: Phillips addition, Mike Todd Construction
FL

Design Conditions

Location: Washington National AP, DC, US Elevation: 0 ft Latitude: 38°N		Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)		Heating 70 53 30 22.3	Cooling 75 16 50 34.7
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 17 - - 15.0	Cooling 91 18 (M) 74 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

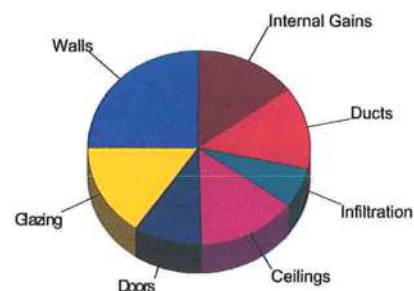
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.8	2668	22.0
Glazing	15.9	967	8.0
Doors	20.7	868	7.2
Ceilings	1.7	702	5.8
Floors	10.4	4298	35.4
Infiltration	3.0	1963	16.2
Ducts		663	5.5
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		12130	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.1	1183	25.0
Glazing	12.2	739	15.6
Doors	11.1	467	9.9
Ceilings	1.7	689	14.6
Floors	0	0	0
Infiltration	0.5	311	6.6
Ducts		651	13.8
Ventilation		0	0
Internal gains		690	14.6
Blower		0	0
Adjustments		0	0
Total		4730	100.0



Latent Cooling Load = 1129 Btuh

Overall U-value = 0.121 Btuh/ft²·°F, Window / Floor Area = 14.7 %

Data entries checked.



Component Constructions
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FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		22.3	34.7
		Infiltration:		Heating	Cooling
Drybulb (°F)		Method		Simplified	
Daily range (°F)		Construction quality		Average	
Wet bulb (°F)		Fireplaces		0	
Wind speed (mph)					

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								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	163	0.091	13.0	4.82	786	2.14	349
	e	102	0.091	13.0	4.82	493	2.14	219
	s	144	0.091	13.0	4.82	695	2.14	308
	w	144	0.091	13.0	4.82	695	2.14	308
	all	553	0.091	13.0	4.82	2668	2.14	1183
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (4 ft window ht, 1 ft sep.); 6.67 ft head ht	e	16	0.300	0	15.9	254	19.4	310
	s	40	0.300	0	15.9	636	7.91	316
	all	56	0.300	0	15.9	890	11.2	627
4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 1.6 ft overhang (1.6 ft window ht, 1 ft sep.); 6.67 ft head ht	e	5	0.300	0	15.9	76	23.4	112
Doors								
11D0: Door, wd sc type	n	21	0.390	0	20.7	434	11.1	233
	e	21	0.390	0	20.7	434	11.1	233
	all	42	0.390	0	20.7	868	11.1	467
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		414	0.032	30.0	1.70	702	1.66	689
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		82	0.989	0	52.4	4298	0	0



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Component Constructions
masterbed
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Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation:	0 ft	Design TD (°F)		53	16
Latitude:	38°N	Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		22.3	34.7
Drybulb (°F)	17	Infiltration:			
Daily range (°F)	-	Method		Simplified	
Wet bulb (°F)	-	Construction quality		Average	
Wind speed (mph)	15.0	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								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	59	0.091	13.0	4.82	285	2.14	126
	s	144	0.091	13.0	4.82	695	2.14	308
	w	96	0.091	13.0	4.82	463	2.14	205
	all	299	0.091	13.0	4.82	1442	2.14	639
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (4 ft window ht, 1 ft sep.); 6.67 ft head ht	e	16	0.300	0	15.9	254	19.4	310
	s	40	0.300	0	15.9	636	7.91	316
	all	56	0.300	0	15.9	890	11.2	627
Doors								
11D0: Door, wd sc type	e	21	0.390	0	20.7	434	11.1	233
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 cell ins, 1/2" gypsum board int fnsh		276	0.032	30.0	1.70	468	1.66	459
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		47	0.989	0	52.4	2464	0	0



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Component Constructions
bath
DL Williams Heating & Cooling LLC

Job:
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Project Information

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FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Heating	Cooling
		Method		Simplified	
		Construction quality		Average	
		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								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	136	0.091	13.0	4.82	656	2.14	291
	e	43	0.091	13.0	4.82	208	2.14	92
	all	179	0.091	13.0	4.82	864	2.14	383
Partitions (none)								
Windows								
4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 1.6 ft overhang (1.6 ft window ht, 1 ft sep.); 6.67 ft head ht	e	5	0.300	0	15.9	76	23.4	112
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		102	0.032	30.0	1.70	173	1.66	170
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		23	0.989	0	52.4	1206	0	0



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Component Constructions
closet
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Project Information

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Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Heating	Cooling
		Method		Simplified	
		Construction quality		Average	
		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								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	27	0.091	13.0	4.82	130	2.14	58
	w	48	0.091	13.0	4.82	232	2.14	103
	all	75	0.091	13.0	4.82	362	2.14	160
Partitions (none)								
Windows (none)								
Doors								
11D0: Door, wd sc type	n	21	0.390	0	20.7	434	11.1	233
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		36	0.032	30.0	1.70	61	1.66	60
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		12	0.989	0	52.4	629	0	0



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Notes:

Design Information

Weather: Washington National AP, DC, US

Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

Summer Design Conditions

Outside db	91 °F
Inside db	75 °F
Design TD	16 °F
Daily range	M
Relative humidity	50 %
Moisture difference	35 gr/lb

Heating Summary

Structure	11466 Btuh
Ducts (R-6.0)	663 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	12130 Btuh

Sensible Cooling Equipment Load Sizing

Structure	4079 Btuh
Ducts (R-6.0)	651 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	4541 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft ²)	414	414
Volume (ft ³)	3312	3312
Air changes/hour	0.61	0.32
Equiv. AVF (cfm)	34	18

Latent Cooling Equipment Load Sizing

Structure	1016 Btuh
Ducts	113 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	1129 Btuh

Equipment Total Load (Sen+Lat)	5670 Btuh
Req. total capacity at 0.70 SHR	0.5 ton

Heating Equipment Summary

Make	Generic
Trade	
Model	SEER 15.0, HSPF 8.5
AHRI ref	
Efficiency	8.5 HSPF
Heating input	
Heating output	6454 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	216 cfm
Air flow factor	0.018 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 38 °F	

Backup:
Input = 4 kW, Output = 12129 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 15.0, HSPF 8.5
Coil	
AHRI ref	
Efficiency	12.8 EER, 15 SEER
Sensible cooling	4540 Btuh
Latent cooling	1946 Btuh
Total cooling	6486 Btuh
Actual air flow	216 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.81

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



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Page 1



AED Assessment
Entire House
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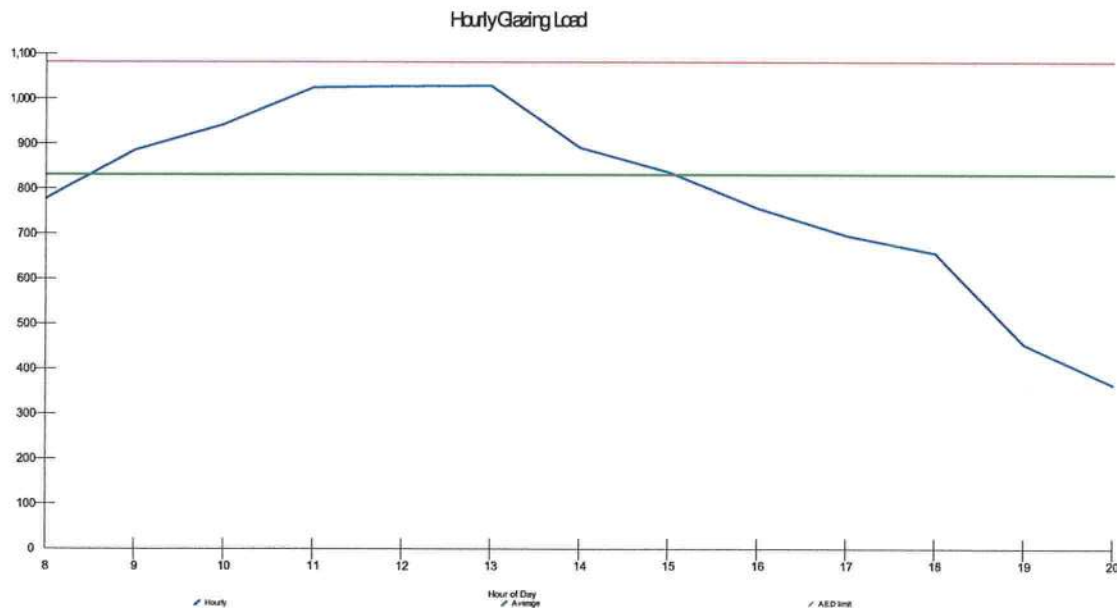
Project Information

For: Phillips addition, Mike Todd Construction
FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 23.7%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					Entire House					masterbed				
2	Exposed wall					82.0 ft					47.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					23.0 x 12.0 ft					heat/cool				
5	Room area					414.0 ft²					276.0 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	12C-0sw	0.091	n	4.82	2.14	184	163	786	349	0	0	0	0	
11	D	11D0	0.390	n	20.67	11.11	21	21	434	233	0	0	0	0	
	W	12C-0sw	0.091	e	4.82	2.14	144	102	493	219	96	59	285	126	
	G	4A5-2ov	0.300	e	15.90	19.39	16	1	254	310	16	1	254	310	
	G	4B5-2fv	0.300	e	15.90	23.40	5	1	76	112	0	0	0	0	
	D	11D0	0.390	e	20.67	11.11	21	21	434	233	21	21	434	233	
	W	12C-0sw	0.091	s	4.82	2.14	184	144	695	308	184	144	695	308	
	G	4A5-2ov	0.300	s	15.90	7.91	40	32	636	316	40	32	636	316	
	W	12C-0sw	0.091	w	4.82	2.14	144	144	695	308	96	96	463	205	
	C	16B-30ad	0.032	-	1.70	1.66	414	414	702	689	276	276	468	459	
	F	22A-tpl	0.989	-	52.42	0.00	414	82	4298	0	276	47	2464	0	

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



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... HVAC\Trane\Mike Todd Construction Phillips.rup Calc = MJ8 Front Door faces: N

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Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

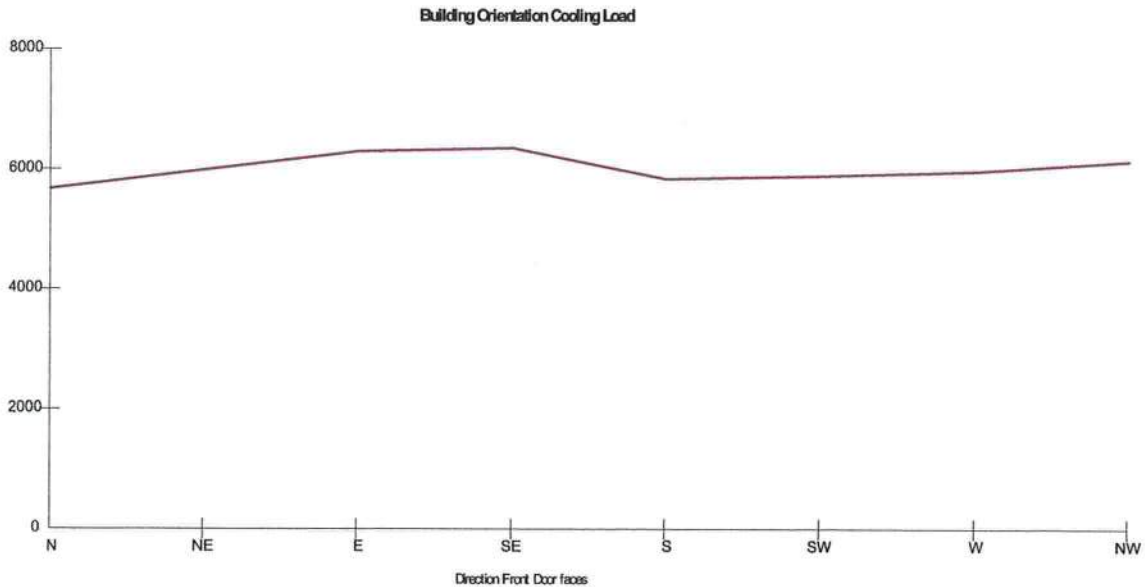
Project Information

For: Phillips addition, Mike Todd Construction
FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	17	91			
Daily range (°F)	-	18 (M)			
Wet bulb (°F)	-	74			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	4541	4851	5163	5222	4710	4761	4839	5010
Latent Load (Btuh)	1129	1129	1129	1129	1129	1129	1129	1129
Total Load (Btuh)	5670	5980	6293	6351	5840	5891	5969	6140
Heating AVF (cfm)	216	216	216	216	216	216	216	216
Cooling AVF (cfm)	216	216	216	216	216	216	216	216



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

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



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J1 Form - Worksheet A
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 08, 2024
By:

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Supporting Detail

Project Name:	Mike Todd Construction Phillips	Date:	Mar 08, 2024
Address:	FL		
Phone:	Job ID:		

Worksheet A
Location and Design Conditions

Weather Location:	Washington National AP, DC, US	Elevation =	0	Latitude =	38
Indoor Conditions, Heating:	DB = 70 °F	RH = 30 %	Indoor Conditions, Cooling:	DB = 75 °F	RH = 50 %
Table 1 Conditions	99% DB = 17 °F	1% DB = 91 °F	Grains Difference =	35 gr/lb	Daily Range = M
Design Temperature Differences			HTD =	53 °F	CTD = 16 °F

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



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