



Right-Suite® Universal 2012 Load Summary

Entire House

Glenn I. Jones, Inc.

Job: 31
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, FL 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennjonesinc.com

Project Information

For: Trinity Praise Worship Center Addition

Zone: Entire House

COOLING LOAD

1. DESIGN CONDITIONS		at Jul 1900 LDT	Peak load at Jul 1900 LDT		
Inside:	70 °F	Outside: 90 °F	TD:	20 °F	
RH:	54 %	MoistDiff: 62.2 gr/lb	Mult:	0	Ins.wb 58 °F
				Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS				667	-
3. TRANSMISSION GAINS		Sensible		4705	-
Walls:		2362		-	-
Glass:		257		-	-
Doors:		197		-	-
Partitions:		0		-	-
Floors:		0		-	-
Ceilings:		1888		-	-
4. INTERNAL HEAT GAIN		Sensible	Latent	11326	2900
Occupants:		5141	2900	-	-
Lights:		6185	-	-	-
Motors:		0	-	-	-
Appliances:		0	0	-	-
5. INFILTRATION:		Outside air cfm:	111	2452	4685
6. SUBTOTAL: Space load		Sensible	Latent	19150	7585
Envelope		19150	7585	-	-
Less external		0	-	-	-
Redistribution		0	0	-	-
7. SUPPLY DUCT				1651	-
8. SUBTOTAL: Space load + supply duct				20801	-
Actual cfm:	1133	at supply TD:	15	-	-
9. VENTILATION:		Make-up air cfm:	98	2163	4133
10. RETURN AIR LOAD:		Lighting + plenum (net)		0	-
11. RETURN DUCT				1023	-
12. TOTAL LOADS ON EQUIPMENT				23986	11718

HEATING LOAD

13. DESIGN CONDITIONS			Mult:	0	
Inside:	70 °F	Outside: 33 °F	TD:	37 °F	
14. TRANSMISSION LOSSES				5305	
Walls:		1902		-	
Glass:		511		-	
Doors:		137		-	
Partitions:		0		-	
Floors:		1761		-	
Ceilings:		995		-	
15. INFILTRATION:		Outside air cfm:	207	8398	
16. SUBTOTAL: Space load				13703	
Envelope		13703		-	
Less external		0		-	
Less transfer		0		-	
Redistribution		0		-	
17. SUPPLY DUCT:				760	
18. VENTILATION:		Make-up air cfm:	98	3975	
19. HUMIDIFICATION				5209	
Piping				0	
20. RETURN DUCT				332	
21. TOTAL HEATING LOAD ON EQUIPMENT				23979	



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...Construction\Trinity Church\trinity praise center addition.rup Calc = RTS Building Front fac

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Project Information

For: Trinity Praise Worship Center Addition

Design Conditions

Location:

Gainesville, FL, US
Elevation: 151 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

33
-
-
15.0

Cooling

90
19 (M)
77
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
37
40
10.6

Cooling

70
20
50
62.2

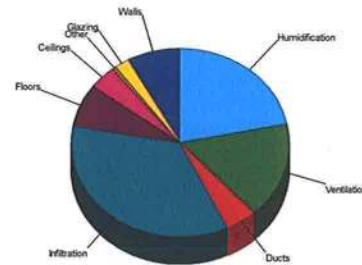
Infiltration:

Method
Construction quality

Simplified
Average

Heating

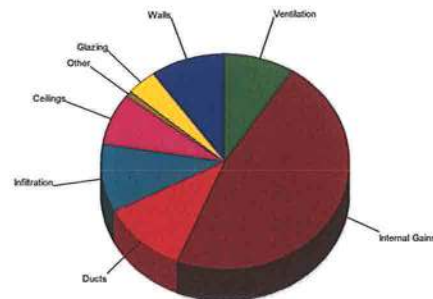
Component	Btuh/ft²	Btuh	% of load
Walls	3.4	1902	7.9
Glazing	17.0	511	2.1
Doors	3.3	137	0.6
Ceilings	1.3	995	4.1
Floors	2.2	1761	7.3
Infiltration	116.6	8398	35.0
Ducts		1092	4.6
Piping		0	0
Humidification		5209	21.7
Ventilation		3975	16.6
Adjustments		0	0
Total		23979	100.0



Cooling

Jul 1900 LDT

Component	Btuh/ft²	Btuh	% of load
Walls	4.2	2362	9.8
Glazing	30.8	925	3.9
Doors	4.7	197	0.8
Ceilings	2.4	1888	7.9
Floors	0	0	0
Infiltration	34.1	2452	10.2
Ducts		2674	11.1
Ventilation		2163	9.0
Internal gains		11326	47.2
Blower		0	0
Adjustments		0	0
Total		23986	100.0


Latent Cooling Load = 11718 Btuh
Overall U-value = 0.065 Btuh/ft²·°F

WARNING: window to floor area ratio = 3.8% - less than 5%.



Right-Suite® Universal 2012 Load Calculation education

Glenn I. Jones, Inc.

Job:
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, FL 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennjonesinc.com

Project Information

For: Trinity Praise Worship Center Addition



Zone: education

LWH: 19.7 x 19.7 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1900 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	90	54		19	77
Indoor Conditions	—>	70	50			58
TOD Correction	—>	2				

Difference 20 62.2

[Mult = 1.0]

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.68 °N Const Wt = M)

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
GLAZ-01	nw	15	90	0.00	n	1.00	0.32	33.6	504

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Sol-air TD	Shad	Clr	ConvSens	RadSens	Sens
GLAZ-01	nw	15	15	0.460	20.1	N	-	51	581	632
WALL-01	sw	157	157	0.091	52.2	N	m	342	393	735
WALL-02	nw	157	142	0.091	70.5	N	m	299	323	622
FLOR-01	-	387	387	0	0	-	-	0	0	0
CEIL-01	-	387	387	0.034	37.5	-	d	181	747	928

4. INTERNAL HEAT GAIN

PEOPLE

Sens Latent

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
Assembly	7ato10p	0	15	15	225	105	3264	1575
		0	0	0	0	0	0	0



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LIGHTS

Lamp/blst + fixture Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
Fluor MB + Rec trof 7ato10p	2.00	0	774	1.20	1.0	3041
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0

APPLIANCES / PLUG LOADS

Application Schedule	Usage	Sensible Btuh	Latent Btuh	Sens	Latent
#/ft² #					
0 0	1.00	0	0	0	0
#/ft² #					
0 0	1.00	0	0	0	0
#/ft² #					
0 0	1.00	0	0	0	0
#/ft² #					
0 0	1.00	0	0	0	0
#/ft² #					
0 0	1.00	0	0	0	0
#/ft² #					
0 0	1.00	0	0	0	0

MOTORS

Power (hp) Schedule	#/ft²	#	Total	Per mtr Btuh	Load factor	Sens
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0

5. INFILTRATION

0 cfm	→	x	db Temp Diff	20.1 x 1.09	Sens	Latent
	→	x	Moist. Diff	62.2 x 0.68	0	0

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope	Sensible	Latent	9222	5708
Less external cooling	9222	1575		
Redistribution	0			
	0	0		

7. SUPPLY DUCT HEAT GAIN

Gain factor	0.05	x Line 6 Sensible Gain	461
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8. COOLING FAN SIZING

Sum of Duct Gain	(7), Line (6) & Drawthru Fan	=	9683
Est Cooling cfm	(L 8 Sens) / (Xfer x Supply TD) = cfm		
Actual Cooling Fan	= (9683) / (1.09 x 15.0) = 590		
		= 524	

9. VENTILATION

OA	98 cfm	→	x	db Temp Diff	20.1 x 1.09	2163
		→	x	Moist. Diff	62.2 x 0.68	4133

10. RETURN AIR PLENUM

Lights	Total power (W)	774	0
Transmission load (plenum upper surface)			0
Space load credit (plenum lower surface)			0

11. RETURN DUCT HEAT GAIN

Gain factor	0.03	x Line 6 Sensible Gain	277
-------------	------	------------------------	-----

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

12123 5708

SPACE HEATING LOAD CALCULATION**13. HEATING DESIGN TEMPERATURE**

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

[Mult = 1.0]

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
------	-------	--------	---------	------	-----	------

15. INFILTRATION

15	cfm	x	db Temp Diff	37.0	x	1.09	Loss 626
----	-----	---	--------------	------	---	------	-------------

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	3257
Less external heating	0
Less transfer	0
Redistribution	0

17. SUPPLY DUCT HEAT LOSS

Loss factor	0.05	x	Line 16 Loss	163
Less transfer				0
Redistribution				0

18. VENTILATION

OA	98	cfm	x	db Temp Diff	37.0	x	1.09	2163
----	----	-----	---	--------------	------	---	------	------

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)
# of Glazing panes	:	2.0	(Max = 52.0 for 2 pane)

114	cfm	x	4.56	g/100cfm/d	=	5.2	gpd	1937
Piping								0

20. RETURN DUCT HEAT LOSS

Loss factor		x	Line 16 Loss	98
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21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

9429



Right-Suite® Universal 2012 Load Calculation

hallway

Glenn I. Jones, Inc.

Job:
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, Fl 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennijonesinc.com

Project Information

For: Trinity Praise Worsdhip Center Addition

Zone: hallway

LWH: 7.3 x 19.7 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1900 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	90	54		19	77
Indoor Conditions	—>	70	50			58
TOD Correction	—>	2				

Difference 20 62.2

[Mult = 1.0]

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.68 °N Const Wt = M)

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
------	-------	------	------	------	--------	--------	----	--------	------

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Sol-air TD	Shad	Clr	ConvSens	RadSens	Sens
WALL-01 sw		59	17	0.091	52.2	N	m	36	42	78
DOOR-01sw		42	42	0.088	52.2	-	-	78	118	197
FLOR-01 -		144	144	0	0	-	-	0	0	0
CEIL-01 -		144	144	0.034	37.5	-	d	68	279	346

4. INTERNAL HEAT GAIN

PEOPLE

Sens Latent

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
Assembly		0	5	5	225	105	1125	525
		0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture	W/ft²	W	Total W	Factor	Space fract	Sens
Schedule						
Fluor MB + Rec trof 7ato10p	2.00	0	288	1.20	1.0	1134
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0



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APPLIANCES / PLUG LOADS

Application
Schedule

Usage

Sensible
Btuh

Latent
Btuh

Sens

Latent

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

MOTORS

Power (hp)
Schedule

#/ft²

#

Total

Per mtr
Btuh

Load
factor

Sens

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

5. INFILTRATION

98

cfm

→

x

db Temp Diff

20.1

x

1.09

Sens

2151

Latent

4111

→

x

Moist. Diff

62.2

x

0.68

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope

Less external cooling

Redistribution

Sensible

5031

Latent

4636

5272

4677

0

241

41

7. SUPPLY DUCT HEAT GAIN

Gain factor

0.18

x Line 6 Sensible Gain

958

8. COOLING FAN SIZING

Sum of Duct Gain

(7)

,

Line

(6)

&

Drawthru Fan

=

6230

Est Cooling

cfm

=

(

6230

)

/

(

1.09

x

15.0

)

=

380

Actual Cooling Fan

=

(

6230

)

/

(

1.09

x

15.0

)

=

345

9. VENTILATION

OA

0

cfm

→

x

db Temp Diff

20.1

x

1.09

0

→

x

Moist. Diff

62.2

x

0.68

0

10. RETURN AIR PLENUM

Lights

Transmission load (plenum upper surface)

Space load credit (plenum lower surface)

Total power (W)

288

0

0

0

11. RETURN DUCT HEAT GAIN

Gain factor

0.12

x Line 6 Sensible Gain

606

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

6836

4677

SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
------	-------	--------	---------	------	-----	------

15. INFILTRATION						Loss
172	cfm	x	db Temp Diff	37.0	x	1.09
						6944

16. SUBTOTAL HEATING LOAD FOR SPACE						7632
Envelope						7482
Less external heating						0
Less transfer						0
Redistribution						150

17. SUPPLY DUCT HEAT LOSS						
Loss factor	0.06	x	Line 16 Loss			457
Less transfer						0
Redistribution						150

18. VENTILATION									
OA	0	cfm	x	db Temp Diff	37.0	x	1.09		0

19. HUMIDIFICATION									
Inside RH desired	:	40.0	(Max	=	32.0	for 1 pane	)		
# of Glazing panes	:	0	(Max	=	52.0	for 2 pane	)		
172	cfm	x	4.56		g/100cfm/d	=	7.8	gpd	2923
Piping									0

20. RETURN DUCT HEAT LOSS						
Loss factor		x	Line 16 Loss			150

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)						11161
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Right-Suite® Universal 2012 Load Calculation

office

Glenn I. Jones, Inc.

Job:

Date: Jul 20, 2012

By:

Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, FL 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennjonesinc.com

Project Information

For: Trinity Praise Worsdhip Center Addition

Zone: office

LWH: 13.0 x 14.7 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1900 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	90	54		19	77
Indoor Conditions	—>	70	50			58
TOD Correction	—>	2				

Difference 20 62.2

[Mult = 1.0]

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.68 °N Const Wt = M)

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
GLAZ-01	se	15	90	shd	n	1.00	0.32	10.9	164

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Sol-air TD	Shad	Clr	ConvSens	RadSens	Sens
GLAZ-01	se	15	15	0.460	20.1	N	-	51	241	292
WALL-01	se	117	102	0.091	25.4	N	m	115	202	317
WALL-02	sw	104	104	0.091	52.2	N	m	226	260	486
FLOR-01	-	191	191	0	0	-	-	0	0	0
CEIL-01	-	191	191	0.034	37.5	-	d	89	368	458

4. INTERNAL HEAT GAIN

PEOPLE

Sens Latent

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
Office	6PMto8AM	0	4	4	250	200	752	800
		0	0	0	0	0	0	0



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LIGHTS

Lamp/blst + fixture Schedule	W/ft ²	W	Total W	Factor	Space fract	Sens
Fluor MB + Rec trof 7ato10p	2.00	0	381	1.20	1.0	1499
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0

APPLIANCES / PLUG LOADS

Application Schedule	Usage	Sensible Btuh	Latent Btuh	Sens	Latent
#/ft ²	#				
0	0	1.00	0	0	0
#/ft ²	#				
0	0	1.00	0	0	0
#/ft ²	#				
0	0	1.00	0	0	0
#/ft ²	#				
0	0	1.00	0	0	0
#/ft ²	#				
0	0	1.00	0	0	0
#/ft ²	#				
0	0	1.00	0	0	0

MOTORS

Power (hp) Schedule	#/ft ²	#	Total	Per mtr Btuh	Load factor	Sens
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0

5. INFILTRATION

10 cfm	→	x	db Temp Diff	20.1 x 1.09	Sens	Latent
	→	x	Moist. Diff	62.2 x 0.68	224	428

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope	Sensible	Latent	4655	1333
Less external cooling	4029	1228		
Redistribution	0			
	626	105		

7. SUPPLY DUCT HEAT GAIN

Gain factor	0.05	x Line 6 Sensible Gain	233
-------------	------	------------------------	-----

8. COOLING FAN SIZING

Sum of Duct Gain	(7), Line (6) & Drawthru Fan	=	4888
Est Cooling cfm	(L 8 Sens) / (Xfer x Supply TD)	=	cfm
Actual Cooling Fan	(4888) / (1.09 x 15.0)	=	298
		=	264

9. VENTILATION

OA	0 cfm	→	x	db Temp Diff	20.1 x 1.09	0	
		→	x	Moist. Diff	62.2 x 0.68		0

10. RETURN AIR PLENUM

Lights	Total power (W)	381	0
Transmission load (plenum upper surface)			0
Space load credit (plenum lower surface)			0

11. RETURN DUCT HEAT GAIN

Gain factor	0.03	x Line 6 Sensible Gain	140
-------------	------	------------------------	-----

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

5027 1333

SPACE HEATING LOAD CALCULATION**13. HEATING DESIGN TEMPERATURE**

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

[Mult = 1.0]

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
------	-------	--------	---------	------	-----	------

15. INFILTRATION

15	cfm	x	db Temp Diff	37.0	x	1.09	Loss
							617

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	2815
Less external heating	2425
Less transfer	0
Redistribution	0
	389

17. SUPPLY DUCT HEAT LOSS

Loss factor	0.05	x	Line 16 Loss	141
Less transfer				0
Redistribution				389

18. VENTILATION

OA	0	cfm	x	db Temp Diff	37.0	x	1.09	0
----	---	-----	---	--------------	------	---	------	---

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)
# of Glazing panes	:	2.0	(Max = 52.0 for 2 pane)

15	cfm	x	4.56	g/100cfm/d	=	0.7	gpd	260
Piping								0

20. RETURN DUCT HEAT LOSS

Loss factor		x	Line 16 Loss	84
-------------	--	---	--------------	----

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

3300



Right-Suite® Universal 2012 Load Calculation

STO

Glenn I. Jones, Inc.

Job:
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

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Project Information

For: Trinity Praise Worsdhip Center Addition



Zone: STO

LWH: 13.0 x 5.0 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1900 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	90	54		19	77
Indoor Conditions	—>	70	50			58
TOD Correction	—>	2				

Difference 20 62.2

[Mult = 1.0] —

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.68 °N Const Wt = M)

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
------	-------	------	------	------	--------	--------	----	--------	------

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Sol-air TD	Shad	Clr	ConvSens	RadSens	Sens
WALL-01	se	40	40	0.091	25.4	N	m	45	79	124
FLOR-01	-	65	65	0	0	-	-	0	0	0
CEIL-01	-	65	65	0.034	37.5	-	d	30	126	156

4. INTERNAL HEAT GAIN

PEOPLE

Activity Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
Fluor MB + Rec trof 7ato10p	2.00	0	130	1.20	1.0	511
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0



Right-Suite® Universal 2012 12.0.04 RSU01086

2012-Jul-20 15:18:05

...Construction\Trinity Church\trinity praise center addition.rup Calc = RTS Building Front fac

Page 1

APPLIANCES / PLUG LOADS

Application
Schedule

Usage

Sensible
Btuh

Latent
Btuh

Sens

Latent

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

MOTORS

Power (hp)
Schedule

#/ft²

#

Total

Per mtr
Btuh

Load
factor

Sens

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

5. INFILTRATION

3 cfm

→

x

db Temp Diff

20.1 x

1.09

Sens

Latent

→

x

Moist. Diff

62.2 x

0.68

76

146

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope

Less external cooling

Redistribution

Sensible

867

Latent

146

0

0

0

-867

-146

7. SUPPLY DUCT HEAT GAIN

Gain factor 0.05

x Line 6 Sensible Gain

0

8. COOLING FAN SIZING

Sum of Duct Gain

(7), Line

(6)

& Drawthru Fan

=

0

(L 8 Sens

) /

(Xfer x Supply TD

) =

cfm

Est Cooling

cfm

= (

0) /

(1.09 x 15.0

) =

0

Actual Cooling Fan

=

0

=

0

9. VENTILATION

OA

0 cfm

→

x

db Temp Diff

20.1 x

1.09

0

→

x

Moist. Diff

62.2 x

0.68

0

10. RETURN AIR PLENUM

Lights

Total power (W)

130

0

Transmission load (plenum upper surface)

0

Space load credit (plenum lower surface)

0

11. RETURN DUCT HEAT GAIN

Gain factor 0.03

x Line 6 Sensible Gain

0

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

0

0

SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
------	-------	--------	---------	------	-----	------

15. INFILTRATION

5	cfm	x	db Temp Diff	37.0	x	1.09	Loss
							210

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	539
Less external heating	0
Less transfer	0
Redistribution	-539

17. SUPPLY DUCT HEAT LOSS

Loss factor	0.05	x	Line 16 Loss	0
Less transfer				0
Redistribution				-539

18. VENTILATION

OA	0	cfm	x	db Temp Diff	37.0	x	1.09	0
----	---	-----	---	--------------	------	---	------	---

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)					
# of Glazing panes	:	0	(Max = 52.0 for 2 pane)					
5	cfm	x	4.56	g/100cfm/d	=	0.2	gpd	89
Piping								0

20. RETURN DUCT HEAT LOSS

Loss factor		x	Line 16 Loss	0
-------------	--	---	--------------	---

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

89



Right-Suite® Universal 2012 Time of day details
Entire House
Glenn I. Jones, Inc.

Job:
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, FL 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennjonesinc.com

Project Information

For: Trinity Praise Worsdhip Center Addition

Zone: Entire House

July				
Time hr	SenLoad MBtuh	LatLoad MBtuh	TotLoad MBtuh	Air Flow cfm
1	9.00	6.88	15.88	521
2	7.99	6.88	14.86	462
3	7.21	6.88	14.09	416
4	6.48	6.88	13.36	374
5	5.89	6.88	12.77	340
6	5.37	6.88	12.25	309
7	11.44	11.72	23.16	645
8	11.90	10.92	22.82	669
9	12.78	10.92	23.70	714
10	13.90	10.92	24.81	769
11	15.19	10.92	26.11	828
12	16.51	10.92	27.43	887
13	17.98	10.92	28.90	952
14	19.38	10.92	30.30	1013
15	20.61	10.92	31.53	1070
16	21.62	10.92	32.53	1119
17	22.54	10.92	33.46	1170
18	23.80	11.72	35.52	1248
19	23.99	11.72	35.70	1268
20	23.43	11.72	35.15	1249
21	22.45	11.72	34.17	1208
22	13.98	6.88	20.86	811
23	11.84	6.88	18.72	686
24	10.24	6.88	17.11	593



Right-Suite® Universal 2012 Short Form
Entire House
Glenn I. Jones, Inc.

Job:
Date: Jul 20, 2012
By:
Plan: 2012-019 CES

552 NW Hilton Ave, Lake City, FL 32055 Phone: 386-752-5389 Fax: 386-755-3401 Email: glenn@gijinc.com Web: www.glennijonesinc.com

Project Information

For: Trinity Praise Worship Center Addition

Outside db	(°F)	Htg	Clg
Outside RH	(%)	-	54
Outside wb	(°F)	-	77
Daily range	(°F)	-	19
Moisture diff.	(gr/lb)	-	62

Inside db	(°F)	Htg	Clg
Inside RH	(%)	-	50
Inside wb	(°F)	-	58
Design TD	(°F)	37	20

Heating Equipment

Make	Carrier
Model	25HBB336C31
Type	Split ASHP
Efficiency	8 HSPF
Heating Input	
Heating Output	34.0 MBtuh @ 47°F
Humidifier	13.9 gpd
Leaving Air Temp	97.4 °F
Actual Heating Fan	1133 cfm

Cooling Equipment

Make	Carrier
Model	25HBB336C31
Type	Split ASHP
COP / EER / SEER	13.0
Sensible Cooling	23.8 MBtuh
Latent Cooling	10.2 MBtuh
Total Cooling	34.0 MBtuh
Leaving Air Temp	55.0 °F
Actual Cooling Fan	1133 cfm

Equipment Location	Entire House
System Type	PEAKCV
Fan Motor Heat Type	PACKAGE
Fan & Motor Combined Efficiency	0 %
Static Pressure Across Fan	0 in H2O

NAME	Area ft²	Heat Loss	Sensible Gain	Latent Gain	Htg cfm	Clg cfm	Time
STO	65	89	0	0	0	0	Jul 1900 LDT
office	191	3300	5027	1333	233	264	Jul 1900 LDT
hallway	144	11161	6836	4677	631	345	Jul 1900 LDT
education	387	9429	12123	5708	269	524	Jul 1900 LDT
Entire House	787	23979	23986	11718	1133	1133	Jul 1900 LDT



Project Information

For: Trinity Praise Worsdhip Center Addition

Design Conditions

Location:

Gainesville, FL, US
 Elevation: 151 ft
 Latitude: 30°N

Outdoor:

Dry bulb (°F)
 Daily range (°F)
 Wet bulb (°F)
 Wind speed (mph)

Heating

33
 -
 -
 15.0

Cooling

90
 19 (M)
 77
 7.5

Indoor:

Indoor temperature (°F)
 Design TD (°F)
 Relative humidity (%)
 Moisture difference (gr/lb)

Heating

70
 37
 40
 10.6

Cooling

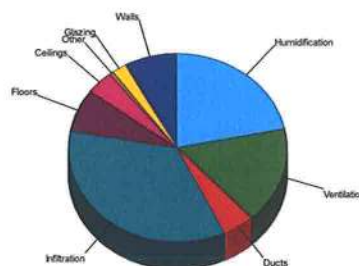
70
 20
 50
 62.2

Infiltration:

Method
 Construction quality
 Simplified
 Average

Heating

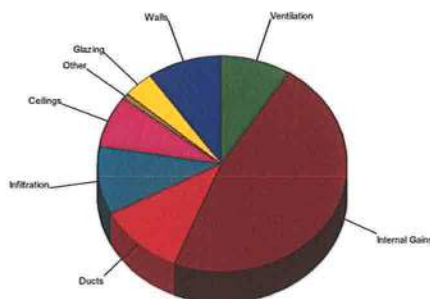
Component	Btuh/ft²	Btuh	% of load
Walls	3.4	1902	7.9
Glazing	17.0	511	2.1
Doors	3.3	137	0.6
Ceilings	1.3	995	4.1
Floors	2.2	1761	7.3
Infiltration	116.6	8398	35.0
Ducts		1092	4.6
Piping		0	0
Humidification		5209	21.7
Ventilation		3975	16.6
Adjustments		0	0
Total		23979	100.0



Cooling

Jul 1900 LDT

Component	Btuh/ft²	Btuh	% of load
Walls	4.2	2362	9.8
Glazing	30.8	925	3.9
Doors	4.7	197	0.8
Ceilings	2.4	1888	7.9
Floors	0	0	0
Infiltration	34.1	2452	10.2
Ducts		2674	11.1
Ventilation		2163	9.0
Internal gains		11326	47.2
Blower		0	0
Adjustments		0	0
Total		23986	100.0



Latent Cooling Load = 11718 Btuh
 Overall U-value = 0.065 Btuh/ft²·°F

WARNING: window to floor area ratio = 3.8% - less than 5%.