

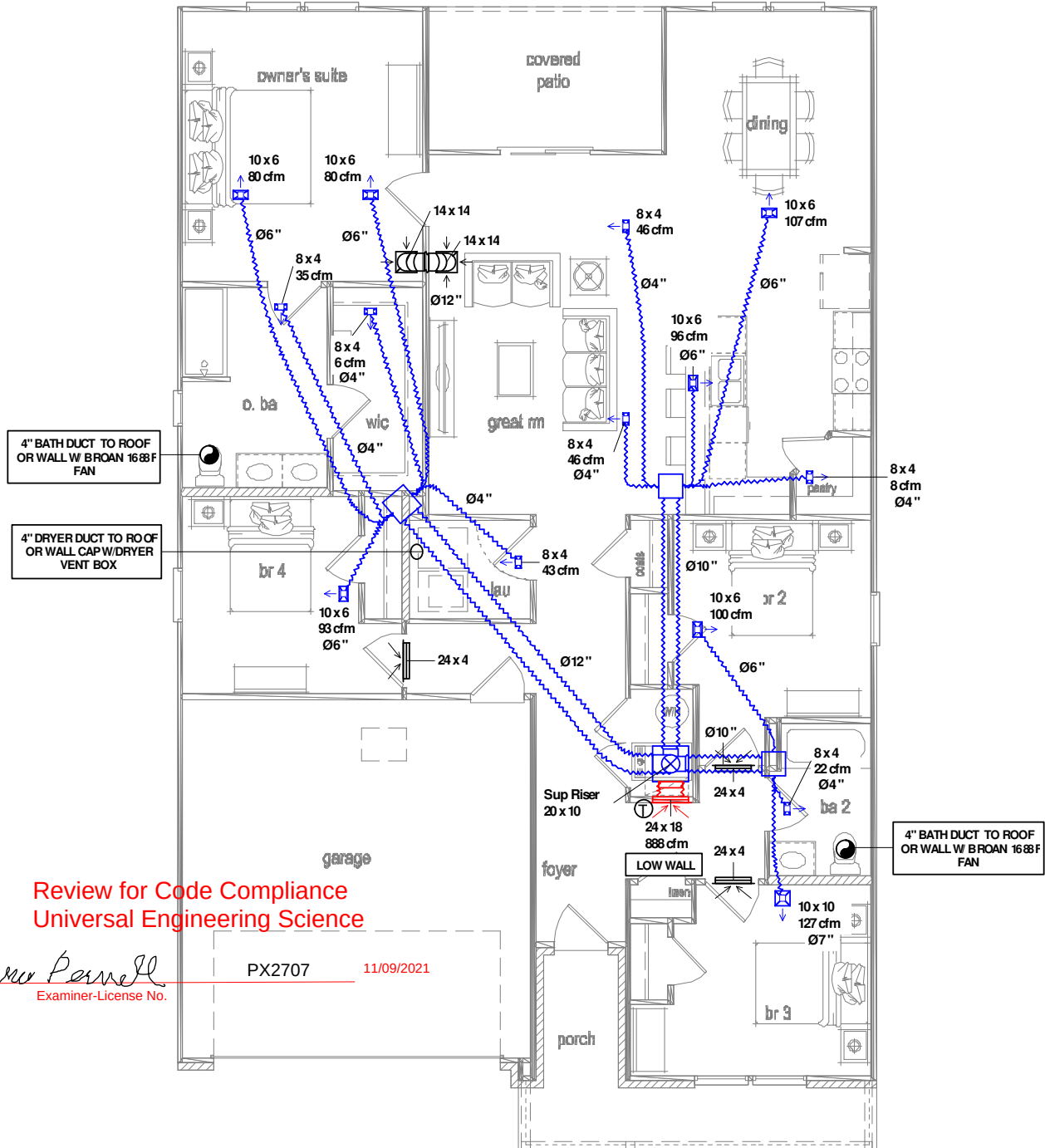
Main Floor

FRONT DOOR ORIENTATION
IS SET PER SITE PLAN

IMPORTANT: ANY DEVIATION FROM THIS
DESIGN, IE: ORIENTATION, WEATHER
LOCATION OR OPTIONS WILL REQUIRE
AN UPDATED HVAC DESIGN

NOTE: MUST PROVIDE UNRESTRICTED 1 INCH
UNDERCUT BELOW DOORS TO HABITABLE ROOMS.
TRANSFER DUCTS/GRILLES SIZED IN COMPLIANCE WITH
FLORIDA RESIDENTIAL BUILDING CODE-AM602.4
BALANCED RETURN AIR. EXCEPTIONS 1-3

REGISTER SIZES ARE ESTIMATED BASED ON
INDUSTRY AVERAGES. TRACE TO ENSURE ACTUAL
REGISTERS CONFORM TO STANDARDS: 500-700 FPM
RECOMMENDED VELOCITY



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Universal Engineering Science

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PX2707

11/09/2021

Job #:

Performed for:

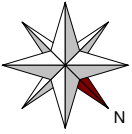
Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH
SW Jewel Lake Drive
Lake City, FL 32024

MiTek Wrightsoft

131 Hartwell Ave
Lexington, MA 02421
Phone: 800-225-8697 Fax: 781-861-2058
www.wrightsoft.com

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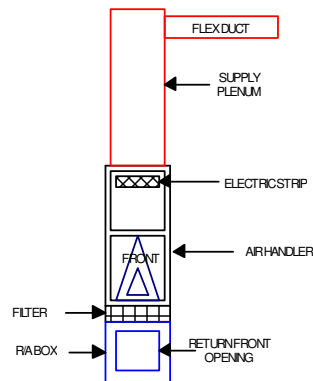
PX2707

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Notes

CITED NOTES	
①	
②	RANGE EXHAUST DUCT SIZE AS PER MANF. REQ. 3.25 X 10 DUCT, C/W WALL HOOD AND BACKDRAFT DAMPER (FOR ELECTRIC RANGE)
③	LAUNDRY ROOM COMBUSTION AIR FOR OPTIONAL GAS DRYER, SEE LOCAL CODES AND MANF. SPEC TO VERIFY
④	4" OR 6" VENT TO OUTSIDE, C/W BACKDRAFT DAMPER AND HOOD (ROOF)
⑤	4" OR 6" VENT TO OUTSIDE, C/W BACKDRAFT DAMPER AND HOOD (WALL)

GENERAL NOTES	
VERIFY NO STRUCTURAL INTERFERENCE BEFORE CUTTING OPENING FOR TRANSFER GRILLE ABOVE DOOR	
THERMOSTAT HEIGHT OF 60" TO THE TOP. WHEN A DESIGN MUST MEET ADA REQUIREMENTS, THERMOSTAT HEIGHT SHALL BE SPECIFIED AT 48" TO THE TOP.	



Carrier
25HBC530AP0300
FX4DNB037L
Elec strip Carrier KFCEH2601C10
FILTER TYPE: FLANDERS PRE FLEATED 40 LPD MERV 8 FILTER THICKNESS: 1" FILTER PRESSURE DROP: 0.15 IWC
FX4D CORRECTION COMPONENT PRESSURE DROP (DRY TO WET COIL): 0.055 IWC @ 888 CFM
FAN SPEED TAP: 2

Job #:
Performed for:

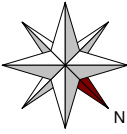
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MITEK-WRIGHTSOFT DESIGN DETAIL SUMMARY

MITEK'S RESPONSIBILITY IS SOLELY FOR DESIGN OF THE HVAC SYSTEM BASED UPON THE DESIGN INFORMATION AND CONDITIONS PROVIDED TO IT THAT ARE SPECIFIED IN THE DRAWING AND ACCOMPANYING ACCA MANUAL J, S, D AND T REPORTS. THE HVAC DESIGN IS BASED ONLY UPON THE DESIGN INFORMATION AND CONDITIONS SHOWN, WHICH HAVE NOT BEEN VERIFIED BY THE MITEK-WRIGHTSOFT DESIGN TEAM.

BEFORE USE, THE BUILDING DESIGNER MUST VERIFY THE APPLICABILITY OF THE DESIGN INFORMATION AND CONDITIONS, AND PROPERLY INCORPORATE THIS HVAC DESIGN INTO THE OVERALL BUILDING DESIGN. THE HVAC DESIGN SHOWN IS ONLY VALID FOR THE BUILDING LAYOUT, ELEVATIONS, ORIENTATION, INTERIOR FLOOR PLAN, CONSTRUCTION MATERIALS, EQUIPMENT, AND WEATHER BIN DATA SPECIFIED IN THE DRAWING.

ANY CHANGE TO THE DESIGN INFORMATION AND CONDITIONS, OR DEVIATION FROM THIS DESIGN WILL REQUIRE AN UPDATED HVAC DESIGN. MITEK TAKES NO RESPONSIBILITY FOR DEVIATIONS FROM ITS HVAC DESIGN, USE OF ITS DESIGNS FOR PURPOSE OTHER THAN AS INTENDED BY MITEK-WRIGHTSOFT, OR FOR THE IMPROPER CONSTRUCTION OR INSTALLATION OF HVAC SYSTEMS BASED ON ITS DESIGNS.

MITEK IS NOT RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEM OR THE PERFORMANCE OF EQUIPMENT REFERENCED IN THE HVAC DESIGN. THE HVAC DESIGNS ASSUME FABRICATION AND INSTALLATION BY A CERTIFIED HVAC CONTRACTOR IN STRICT CONFORMANCE WITH HVAC DESIGNS AND THE GUIDELINES PUBLISHED BY ACCA RESIDENTIAL QUALITY INSTALLATION CHECKLIST. FOR GENERAL GUIDANCE REGARDING THE INSTALLATION AND TESTING OF THE HVAC SYSTEM(S), PLEASE SEE ACCA MANUAL D, ACCA MANUAL B, IBC, IMC, AND IRC.

Job #:

Performed for:

Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH
SW Jewel Lake Drive
Lake City, FL 32024

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Project Information

PX2707

11/08/2021

For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

Design Information

	Htg	Clg	Infiltration
Outside db (°F)	33	92	Method
Inside db (°F)	70	75	Shielding / stories
Design TD (°F)	37	17	Pressure / AVF
Daily range	-	M	
Inside humidity (%)	30	50	Blower door
Moisture difference (gr/lb)	11	45	4 (substantial) / 1
			50 Pa / 1434 cfm

HEATING EQUIPMENT

Make	Carrier
Trade	CARRIER
Model	25HBC530AP0300
AHRI ref	204837254
Efficiency	8.5 HSPF
Heating input	
Heating output	28400 Btuh @ 47°F
Temperature rise	0 °F
Actual air flow	0 cfm
Air flow factor	0 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 33 °F	

Backup: Carrier KFCEH2601C10
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

COOLING EQUIPMENT

Make	Carrier
Trade	CARRIER
Cond	25HBC530AP0300
Coil	FX4DNB037L
AHRI ref	204837254
Efficiency	12.5 EER, 15 SEER
Sensible cooling	22170 Btuh
Latent cooling	4866 Btuh
Total cooling	27036 Btuh
Actual air flow	888 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.83

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
BEDROOM 3	149	4765	2883	0	127
BATH 2	54	1393	511	0	22
BEDROOM 4	147	2922	2121	0	93
HVAC	25	0	0	0	0
LAU	42	704	986	0	43
O. BATH	100	1515	789	0	35
O.WIC	65	89	136	0	6
OWNER'S SUITE	217	4806	3623	0	159
GREAT ROOM	268	2517	2076	0	91
FOYER	215	0	0	0	0
BEDROOM 2	152	2454	2269	0	100
PANTRY	20	559	185	0	8
DINING	162	4282	2425	0	107
KITCHEN	160	1393	2174	0	96

Bold/italic values have been manually overridden

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

System 1	1774	27400	20179	0	888
Other equip loads		0	0		
Equip. @ 1.00 RSM			20179		
Latent cooling			3996		
TOTALS	1774	27400	20179	0	888



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...SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH.rup Calc = MJ8 Front Door faces: NE

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Project Information

PX2707

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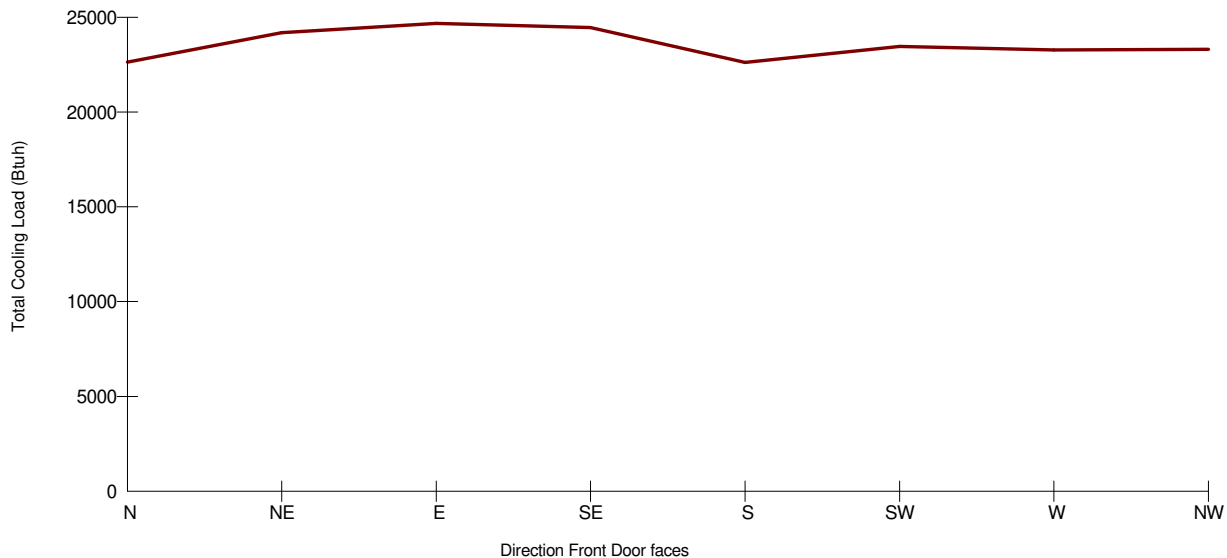
For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		70	75
Elevation:	164 ft	Design TD (°F)		37	17
Latitude:	30°N	Relative humidity (%)		30	50
		Moisture difference (gr/lb)		10.6	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	18637	20179	20674	20464	18624	19459	19268	19317
Latent Load (Btuh)	3996	3996	3996	3996	3996	3996	3996	3996
Total Load (Btuh)	22634	24175	24670	24460	22620	23455	23264	23314
Heating AVF (cfm)	0	0	0	0	0	0	0	0
Cooling AVF (cfm)	888	888	888	888	888	888	888	888

Building Orientation Cooling Load



Current Orientation: Front Door faces Northeast
Highest Cooling Load: Front Door faces East

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



Project Information

For: Radford SLAB Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century City Florida
SW Jewel Lake Drive, Lake City, FL 32024

PX2707 11/09/2021
Examiner-License No.

Design Conditions

Location:

Gainesville Regional AP, FL, US
Elevation: 164 ft
Latitude: 30°N

Outdoor:

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

Heating

33
-
-
15.0

Cooling

92
20 (M)
76
7.5

Indoor:

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

Heating

70
37
30
10.6

Cooling

75
17
50
45.4

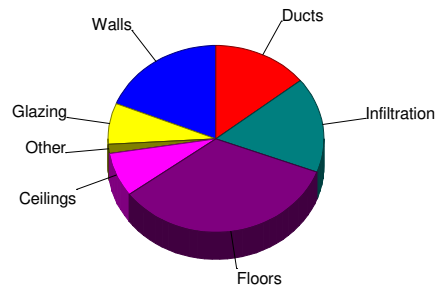
Infiltration:

Method
Shielding / stories
Pressure / AVF

Blower door
4 (substantial) / 1
50 Pa / 1434 cfm

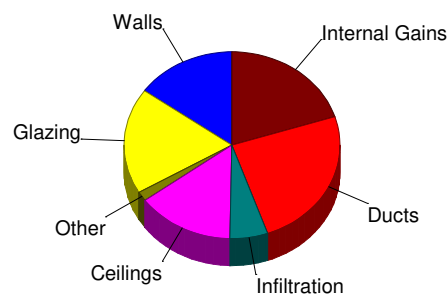
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.4	5153	18.8
Glazing	12.2	1945	7.1
Doors	10.7	429	1.6
Ceilings	1.2	2100	7.7
Floors	5.3	9343	34.1
Infiltration	3.1	4520	16.5
Ducts		3909	14.3
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		27400	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	3045	15.1
Glazing	23.2	3697	18.3
Doors	8.3	331	1.6
Ceilings	1.7	2951	14.6
Floors	0	0	0
Infiltration	0.8	1152	5.7
Ducts		4953	24.5
Ventilation		0	0
Internal gains		4050	20.1
Blower		0	0
Adjustments		0	0
Total		20179	100.0



Latent Cooling Load = 3996 Btuh
Overall U-value = 0.097 Btuh/ft²-°F

Data entries checked.



Lawrence Parnell

PX2707

11/09/2021

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Supporting Detail

Project Name:	CMP-FL-39-1776_Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH	Date:	Oct 07, 2021
Address:	SW Jewel Lake Drive, Lake City, FL 32024		
Phone:		Job ID:	

Worksheet A

Location and Design Conditions

Weather Location:	Gainesville Regional AP, FL, US	Elevation =	164	Latitude =	30
Indoor Conditions, Heating:	DB = 70 °F	RH = 30 %	Indoor Conditions, Cooling:	DB = 75 °F	RH = 50 %
Table 1 Conditions	99% DB = 33 °F	1% DB = 92 °F	Grains Difference =	45 gr/lb	Daily Range = M
Design Temperature Differences		HTD =	37 °F	CTD =	17 °F

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



Project Information

PX2707

11/09/2021

For: Radford SLAB Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional AP, FL, US
Elevation: 164 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F) 33
Daily range (°F) -
Wet bulb (°F) -
Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

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

Heating

70
37
30
10.6

Cooling

75
17
50
45.4

Infiltration:

Method Blower door
Shielding / stories 4 (substantial) / 1
Pressure / AVF 50 Pa / 1434 cfm

Construction descriptions

Walls

12C-0sw: Frm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

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
ne	104	0.091	13.0	3.37	349	2.14	222
se	418	0.091	13.0	3.37	1406	2.14	893
sw	222	0.091	13.0	3.37	747	2.14	475
nw	535	0.091	13.0	3.37	1800	2.14	1143
all	1278	0.091	13.0	3.37	4302	2.14	2732

Partitions

12C-0sw: Frm wall, 1/2" gyp.bd ext, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

	253	0.091	13.0	3.37	851	1.24	313
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Windows

Century Florida Jacksonville Wnd: Window; NFRC rated (SHGC=0.29); 50% blinds 45°, medium; 50% outdoor insect screen; 5 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht

ne	30	0.330	0	12.2	366	20.0	599
----	----	-------	---	------	-----	------	-----

Century Florida Jacksonville Wnd: Window; NFRC rated (SHGC=0.29); 50% blinds 45°, medium; 50% outdoor insect screen; 1 ft overhang (3 ft window ht, 1 ft sep.); 6.67 ft head ht

se	6	0.330	0	12.2	73	18.6	111
----	---	-------	---	------	----	------	-----

Century Florida Jacksonville Wnd: Window; NFRC rated (SHGC=0.29); 50% blinds 45°, medium; 50% outdoor insect screen; 1 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht

se	15	0.330	0	12.2	183	19.6	294
sw	60	0.330	0	12.2	733	19.6	1174
nw	15	0.330	0	12.2	183	20.0	300
all	90	0.330	0	12.2	1099	19.6	1767

Century Florida Jacksonville SGD: Door; NFRC rated (SHGC=0.29); 50% outdoor insect screen; 9 ft overhang (6.67 ft window ht, 1 ft sep.); 6.67 ft head ht

sw	33	0.330	0	12.2	407	10.5	349
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Doors

11P0: Door, mtl pur core type

ne	20	0.290	10.5	10.7	215	8.26	165
n	20	0.290	10.5	10.7	215	8.26	165
all	40	0.290	10.5	10.7	429	8.26	331

Ceilings

16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh

	1774	0.032	30.0	1.18	2100	1.66	2951
--	------	-------	------	------	------	------	------

Floors

22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth

214

1.180

0

43.7

9343

0

0



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Project Information

For: Radford SLAB Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

PX2707

11/09/2021

Notes:

Design Information

Weather: Gainesville Regional AP, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 70 °F
Design TD 37 °F

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 45 gr/lb

Heating Summary

Structure 23491 Btuh
Ducts 3909 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 27400 Btuh

Sensible Cooling Equipment Load Sizing

Structure 15226 Btuh
Ducts 4953 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data y
Rate/swing multiplier 1.00
Equipment sensible load 20179 Btuh

Infiltration

Method Blower door
Shielding / stories 4 (substantial) / 1
Pressure / AVF 50 Pa / 1434 cfm

Latent Cooling Equipment Load Sizing

Structure 2903 Btuh
Ducts 1093 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 3996 Btuh

	Heating	Cooling
Area (ft ²)	1774	1774
Volume (ft ³)	14336	14336
Air changes/hour	0.47	0.26
Equiv. AVF (cfm)	112	62

Equipment Total Load (Sen+Lat) 24175 Btuh
Req. total capacity at 0.82 SHR 2.1 ton

Heating Equipment Summary

Make Carrier
Trade CARRIER
Model 25HBC530AP0300
AHRI ref 204837254

Efficiency 8.5 HSPF
Heating input 28400 Btuh @ 47°F
Heating output 0 °F
Temperature rise 0 °F
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 33 °F
Backup: Carrier KFCEH2601C10
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Cooling Equipment Summary

Make Carrier
Trade CARRIER
Cond 25HBC530AP0300
Coil FX4DNB037L
AHRI ref 204837254

Efficiency 12.5 EER, 15 SEER
Sensible cooling 22170 Btuh
Latent cooling 4866 Btuh
Total cooling 27036 Btuh
Actual air flow 888 cfm
Air flow factor 0.044 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.83

Bold/italic values have been manually overridden

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



Project Information

PX2707

11/08/2021

For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
 SW Jewel Lake Drive, Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional AP, FL, US
 Elevation: 164 ft
 Latitude: 30°N

Indoor:

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

Heating

70
 37
 30
 10.6

Cooling

75
 17
 50
 45.4

Outdoor:

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

Heating

33
 -
 -
 15.0

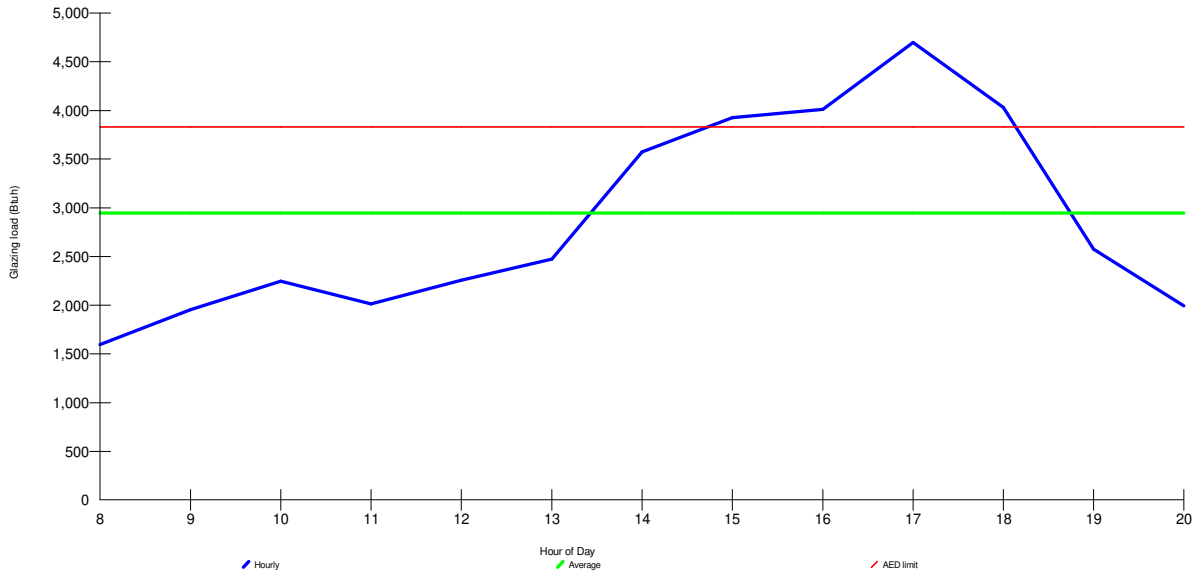
Cooling

92
 20 (M)
 76
 7.5

Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 59.5%.

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

AED excursion: 870 Btuh (PFG - 1.3*AFG)


For: Radford SLAB_Reserve at Jewel Lake
 820 Jewel Lake Drive
 Lake City, FL 32024


 Examiner-License No.

PX2707

11/09/2021

Notes:

Src	Part #	Description	Qty	Unit price	Extension
CARR	KFCEH2601C10	Equipment 10KW,ELECT HTR,W/CIRC BRKR,1-PH,WIND SEA	1.00	0	0
		Subtotal, Equipment			0
		Duct System Equipment			
WSF	DDVn04	Round vinyl duct, D = 4"	69.0	1.40	96.60
WSF	FBTJ-4	Ceiling rect register, size 4"	7.00	24.00	168.00
HACL	301-8X4	301 Curved-Blade Register 8 x 4	7.00	0	0
WSF	DDVn06	Round vinyl duct, D = 6"	80.0	1.60	128.00
WSF	FBTJ-6	Ceiling rect register, size 6"	6.00	26.80	160.80
HACL	301-10X6	301 Curved-Blade Register 10 x 6	6.00	0	0
WSF	DDVn07	Round vinyl duct, D = 7"	8.00	1.70	13.60
WSF	FBTJ-7	Ceiling rect register, size 7"	1.00	28.20	28.20
WSF	FCLR-7	Collar, d = 7"	1.00	0	0
WSF	FCLR-10	Collar, d = 10"	4.00	0	0
WSF	FCLR-4	Collar, d = 4"	7.00	0	0
WSF	FCLR-6	Collar, d = 6"	6.00	0	0
WSF	FJB-10	Junction box, size 10"	2.00	32.40	64.80
PGM	FRGRMCR-1010	Rectangular metal ceiling register one way, 10" x 10"	1.00	0	0
WSF	FCLR-12	Collar, d = 12"	2.00	0	0
WSF	FJB-12	Junction box, size 12"	1.00	35.20	35.20
WSF	DDVn12	Round vinyl duct, D = 12"	24.0	2.20	52.80
PGM	FPLH-12	Plenum rect tapered take off, size 12"	1.00	40.00	40.00
PGM	FJB-15	Junction box, size 20" x 10"	1.00	63.20	63.20
WSF	DRFg2010	Rectangular fiberglass duct, 20" x 10"	9.00	5.10	45.90
WSF	DDVn10	Round vinyl duct, D = 10"	22.0	2.00	44.00
PGM	FPLH-10	Plenum rect tapered take off, size 10"	2.00	40.00	80.00
WSF	DDVn16	Round vinyl duct, D = 16"	4.00	2.60	10.40
WSF	FPLG-16	Plenum side round take off, size 16"	1.00	0	0
PGM	FBTD-16	Vert floor boot from round duct, size 16"	1.00	40.80	40.80
HACL	LW-672-18X24	672 Return Air Grille 18 x 24	1.00	0	0
WSF	FBTS-12	Angle boot without transition, size 12"	2.00	0	0
PGM	FRGRMWG-2404	Rectangular metal high wall grille, 24" x 4"	3.00	0	0
HACL	650-14X14	650 Return Air Grille 14 x 14	2.00	0	0
		Subtotal, Duct System Equipment			1072.30
		Overall total			1072.30



Project Information

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For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.50	0.50
Pressure losses		
Coil	0	0.05
Heat exchanger	0	0
Supply diffusers	0.05	0.05
Return grilles	0.03	0.03
Filter	0.15	0.15
Humidifier	0	0
Balancing damper	0.02	0.02
Other device	0	0
Available static pressure	0.25	0.19

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	22	4
Measured length of trunk	22	0
Equivalent length of fittings	130	60
Total length	174	64
Total effective length		238

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.105	OK	0.082	OK
Return Ducts	0.105	OK	0.082	OK

Fitting Equivalent Length Details

Supply	4AD=60, 11A=20, 11G=5, 11G=5, 1D=10, 11A=20, 11G=5: TotalEL=130
Return	5B=40, 6N=10, 11I=10: TotalEL=60

Duct System Summary

System 1

MiTek Wrightsoft

Job:
Date: Oct 07, 2021
By:

131 Hartwell Ave, Lexington, MA 02421 Phone: 800-225-8697 Fax: 781-861-2058 Web: www.wrightsoft.com



Review for Code Compliance
Universal Engineering Science

Project Information

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11/08/2021

For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0.25 in H ₂ O	0.31 in H ₂ O
Available static pressure	0.25 in H ₂ O	0.19 in H ₂ O
Supply / return available pressure	0.183 / 0.067 in H ₂ O	0.143 / 0.052 in H ₂ O
Lowest friction rate	0.105 in/100ft	0.082 in/100ft
Actual air flow	0 cfm	888 cfm
Total effective length (TEL)	238 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
BATH 2	C 511	0	22	0.115	4.0	0x0	VIFx	8.5	115.0	st2
BEDROOM 2	C 2269	0	100	0.110	6.0	0x0	VIFx	14.6	115.0	st2
BEDROOM 3	C 2883	0	127	0.107	7.0	0x0	VIFx	13.3	120.0	st2
BEDROOM 4	C 2121	0	93	0.096	6.0	0x0	VIFx	27.7	120.0	st1
DINING	C 2425	0	107	0.096	6.0	0x0	VIFx	32.9	115.0	st3
GREAT ROOM-C	C 1038	0	46	0.101	4.0	0x0	VIFx	21.8	120.0	st3
GREAT ROOM-D	C 1038	0	46	0.094	4.0	0x0	VIFx	31.6	120.0	st3
KITCHEN	C 2174	0	96	0.104	6.0	0x0	VIFx	22.5	115.0	st3
LAU	C 986	0	43	0.095	4.0	0x0	VIFx	30.4	120.0	st1
O. BATH	C 789	0	35	0.091	4.0	0x0	VIFx	36.5	120.0	st1
O.WIC-A	C 136	0	6	0.093	4.0	0x0	VIFx	33.5	120.0	st1
OWNER'S SUITE	C 1812	0	80	0.082	6.0	0x0	VIFx	44.0	130.0	st1
OWNER'S SUITE-A	C 1812	0	80	0.086	6.0	0x0	VIFx	40.0	125.0	st1
PANTRY	C 185	0	8	0.103	4.0	0x0	VIFx	23.3	115.0	st3

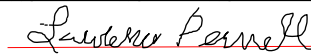
Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	0	337	0.082	429	12.0	0 x 0	VinIFlx	srs1
srs1	Peak AVF	0	888	0.082	639	14.5	10 x 20	RectFbg	srs1
st2	Peak AVF	0	249	0.107	457	10.0	0 x 0	VinIFlx	srs1
st3	Peak AVF	0	302	0.094	554	10.0	0 x 0	VinIFlx	srs1

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	0	888	64.0	0.082	336	16.0	0x0		VIFx	


 Examiner-License No.

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Examiner License No.

For: Radford_SLAB_Reserve at Jewel Lake P2_FrmB1_LS04_LH, Century CMP Florida
SW Jewel Lake Drive, Lake City, FL 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	20179	Btuh	Entering coil DB:	75.0°F
Outdoor design WB:	76.0°F	Latent gain:	3996	Btuh	Entering coil WB:	62.5°F
Indoor design DB:	75.0°F	Total gain:	24175	Btuh		
Indoor RH:	50%	Estimated airflow:	888	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	25HBC530AP0300+FX4DNB037L		
Actual airflow:	888	cfm			
Sensible capacity:	22115	Btuh	110%	of load	
Latent capacity:	4921	Btuh	123%	of load	
Total capacity:	27036	Btuh	112%	of load	SHR: 82%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	27400	Btuh	Entering coil DB:	70.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	25HBC530AP0300+FX4DNB037L		
Actual airflow:	0	cfm			
Output capacity:	28400	Btuh	104%	of load	
Supplemental heat required:	0	Btuh			
					Capacity balance: 33 °F
					Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Carrier	Model:	KFCEH2601C10		
Actual airflow:	0	cfm			
Output capacity:	10.0	kW	125%	of load	Temp. rise: 35 °F

Meets all requirements of ACCA Manual S.