

CALCULATIONS

EMERGENCY DEPARTMENT BUILDING 110B DESIGN VA MEDICAL CENTER HAMPTON, VIRGINIA

Prepared By:

BOWMAN FOSTER & ASSOCIATES, PC
Consulting Engineers
#4 Interstate Corporate Center, Suite 1
Norfolk, VA 23502-4118

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FIRE PROTECTION CALCULATIONS

**HAMPTON VA
EMERGENCY DEPARTMENT
BUILDING 110B
HAMPTON, VA**

FIRE PROTECTION NARRATIVE

1. INTRODUCTION

Hughes Associates, Inc. (HAI) has prepared this fire protection narrative, as required by Program Guide PG-18-15 for the renovation of the emergency department in Building 110B at the Hampton VA in Hampton, VA. This narrative summarizes the applicable fire safety and building code requirements. The following building and fire safety codes and standards apply to this project:

- VA Fire Protection Design Manual, Sixth Edition, September 2011,
- ICC International Building Code – 2009 Edition (IBC) as referenced by the VA Fire Protection Design Manual,
- National Fire Protection Association Standards, including, but not limited to:
 - NFPA 1, *Uniform Fire Code* – 2012 Edition,
 - NFPA 101, *Life Safety Code* – 2012 edition (LSC)
 - NFPA 10, *Portable Fire Extinguisher* – 2010 edition,
 - NFPA 13, *Standard for the Installation of Sprinkler Systems* – 2010 edition,
 - NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances* – 2010 edition,
 - NFPA 70, *National Electrical Code* – 2011 edition,
 - NFPA 72, *National Fire Alarm Code* – 2010 edition,
 - NFPA 90A, *Installation of Air Conditioning and Ventilating Systems* – 2012 edition,

Other NFPA codes and standards apply to the project and are referenced in these documents.

The addition will be protected throughout with automatic fire sprinklers. Code allowances for fully-sprinklered buildings will be applied.

2. PROJECT DESCRIPTION

Bowman, Foster and Associates (BFA) has requested HAI provide fire and life safety code consulting services in support of the renovation of the emergency department located in the Hampton VA Building 110B in Hampton, VA. Building 110B is 2 stories in height and has a footprint area of approximately ~23,500 square feet. The proposed renovation occurs on the first floor of the building and does not change the overall height/area of the building. The renovation is contained in one area of the building and will slightly alter the location of fire and smoke separations on the first floor; however the overall life safety features of the building will not be impacted.

This analysis specifically addresses the emergency room renovation, for which BFA is providing design services. The work includes upgrade of fire alarm notification appliances and reconfiguration of the fire sprinkler installation in the renovated area.

The building construction is noted on Joint Commission life safety assessments to be Type II (222) construction. The equivalent IBC classification is Type IB construction. The building is currently provided with an electronically supervised sprinkler system throughout. The renovated area will be equipped with a reconfigured automatic fire sprinkler system zoned for the fire areas of the building, which will meet the requirements of the Life Safety Code and NFPA 13. The building is equipped with an EST campus wide fire alarm system with voice evacuation. New addressable fire alarm equipment will be provided on an existing fire alarm control unit within the building.

3. DESIGN ANALYSIS

New construction work must comply with the requirements of the VA Fire Protection Design Manual. The VA Fire Protection Design Manual generally requires construction issues to comply with IBC criteria and life safety/egress issues to meet the requirements of LSC. Conflicts between the IBC and LSC related to fire resistance ratings are required to comply with LSC criteria.

4. OCCUPANCY CLASSIFICATION

The building is a Group I-2 (Ambulatory Healthcare) occupancy building.

1. Group I-2, Ambulatory Healthcare [IBC §308.3, LSC §6.1.6.1]
2. Incidental, Special hazard (mechanical room and electrical room)

Note that the existing building classification is for ambulatory healthcare. It has been indicated that the emergency room will be used at times for patient sleeping. However the building has not been reclassified as a healthcare occupancy because a healthcare occupancy is for the treatment of four or more patients on an in-patient basis. Three or fewer in-patients are permitted to be treated in an ambulatory healthcare facility.

5. CONSTRUCTION FEATURES

5.1 Construction Requirements

The minimum construction type of a structure is required to comply with the fire resistance requirements and fire area limitations in the IBC. The building height and area limitations are based on the occupancy classification and maximum height/area of the building. The allowable area is determined by taking the base area identified in IBC Table 503 and adding sprinkler and open frontage increases in accordance with IBC §506. For Type IB construction an unlimited area, 4 story building is permitted.

The building is separated with 2-hour fire resistance rated construction between Building 110A and C. The foot print of building 110B is 23,500 ft². The building is permitted to be an unlimited area. Therefore, the building is code compliant as proposed and additional fire separation barriers are not required.

5.2 Fire Resistance Rated Construction

The required fire resistance ratings of building structural elements as specified in IBC Table 601 are provided in Table 2.

Table 2 – Required Fire Resistance Ratings (in hours) of Structural Elements

Building Element	IBC Type IB
Structural frame, including columns, girders, trusses ^a	2
Bearing walls, exterior	2
Bearing walls, interior	2
Non-bearing walls, exterior ^b	0
Non-bearing walls, interior ^c	0
Floor construction, including supporting beams and joists	2
Roof construction, including supporting beams and joists	1

^a The structural frame is considered to be the columns and the girders, beams, trusses and spandrels having direct connections to the columns and bracing members designed to carry gravity loads.

^b Based on Table 602 for a fire separation distance of 30 feet or more.

^c Not less the fire resistance required by other section of the code.

Building elements in Type I construction are required to be noncombustible in accordance with IBC Section 602.2.

5.2.1 Incidental Use/Special Hazard Areas

An *incidental use area* is an area or room that constitutes special hazards or risks to life safety beyond the protection provided by the general code requirements for the occupancy in which it is located [2012 IBC Commentary Vol. I, p. 5-25]. Such areas or rooms are termed as *special hazard areas* by the LSC. Both codes require separation and/or protection by automatic fire suppression systems. An incidental use area is permitted to be classified in accordance with the occupancy of that portion of the building in which it is located [IBC §508.2]. All incidental use areas will be protected with automatic sprinklers. The following spaces as shown in Table 3 are required to have fire partitions in accordance with IBC §508.2.5 and LSC §18.3.2.1].

Table 3 – Incidental Use/Special Hazard Area Requirements

Occupancy	Required Barrier Separation	Code Reference
Waste and linen collection rooms in I-2	1 hour	IBC Table 508.2.5
Storage rooms less than 100 ft ²	None	IBC Table 508.2.5
Storage rooms greater than 100 ft ²	1 hour	IBC Table 508.2.5

6. FIRE PROTECTION SYSTEMS

6.1 Automatic Suppression Systems

The sprinkler system design will be based on light hazard classification except for any storage rooms and laundry rooms which will be classified as ordinary hazard group 2.

The existing building sprinkler system zone will be reconfigured to such that sprinkler and fire zones coincide.

6.1.1 Water Supply

Hydrant flow tests were conducted in the vicinity of the project by Hampton VA Medical Center. The results of the flow tests are as follows:

Test Hydrant: (hydrant #32)
Static pressure: 55 psi
Residual pressure: 35 psi
Flow: 750 gpm

6.1.2 Special Suppression and Detection Systems

The use of special suppression or detection systems (e.g. gaseous system, water mist, and high sensitivity smoke detection) is not anticipated.

6.2 Fire Alarm System

A fire alarm system shall be provided as required by the LSC and the VA Fire Protection Design Manual. It will utilize an addressable microprocessor based type system with manual and automatic alarm initiation. Signal transmission will be a multiplex format and be dedicated to fire alarm service only. The new fire alarm equipment will be connected to the existing campus-wide EST fire alarm system. The new zone will be connected to an existing FACP. The system is required to notify the local fire department. Currently, there is a campus-wide fire alarm system that has connection to the local fire department.

The fire alarm systems shall consist of initiating devices (manual pull stations, smoke detectors, flow switches, etc.) and notification appliances. Automatic alarm initiating devices including detectors or water flow alarms must be connected to the fire alarm system. The fire alarm system must meet the requirements of NFPA 72, National Fire Alarm Code.

The HVAC systems, including duct detectors and fire/smoke dampers, are required to comply with NFPA 90A and the provisions of the LSC Chapter 20.

6.3 Fire Extinguishers

Fire extinguishers will be provided in accordance with LSC requirements. Installation of fire extinguishers will be in accordance with the size, type and spacing requirements of NFPA 10.

Fire extinguishers will be installed in closed front, non-locking, recess mounted steel cabinets with glass or lexan fronts. Fire extinguishers in utility spaces will be in surface mounted steel cabinets with glass or lexan fronts.

ABC multi-purpose fire extinguishers will be provided throughout ambulatory healthcare facilities. Supplemental carbon dioxide (CO₂) fire extinguishers will be located within electrical equipment room. Table 6 provides a summary of the fire extinguisher type, size, and placement.

Table 6 – Fire extinguisher type, size, and placement

Area	Fire Extinguisher Type	Minimum Fire Extinguisher Size	Maximum Travel Distance (ft)
Ambulatory Healthcare	ABC	4A:10B:C	75
Mechanical	ABC	4A:10B:C	*
Electrical	CO ₂	10 lb of agent	*

* Fire extinguishers will be located within room.

7. MEANS OF EGRESS

Means of egress are required to comply with the LSC. Relevant design criteria are summarized below.

7.1 Occupant Load

The calculated occupant loads are required to be determined in accordance with LSC §7.3.1.2. Table 7 summarizes the applicable occupant load factors for the building.

Table 7 - Applicable Occupant Load Factors

Area/Use	Occupant Load Factor (sq ft/per person)
Ambulatory Health	100 gross

Table 8 summarizes the design occupant loads for the building. The calculated occupant load shown in Table 8 takes into account the areas for individual rooms with similar use, which results in a higher occupant load than would be determined by simply dividing the aggregate building area by the associated occupant load factor.

Table 8 - Design Occupant Load Summary

Area/Use	Floor	Approximate Area (sq. ft)	Occupant Load factor (sq. ft/person)	Occupant Load (persons)
Ambulatory Care	First	11,200	100	112

7.2 Number and Capacity of Exits

A minimum of two remote exits is required for each area of the building [LSC §7.4.1]. A minimum of three exits is required where the occupant load of the floor exceeds 500; and four exits where the occupant load exceeds 1,000. Based on the calculated design occupant load for the addition of a total of 112 persons this area of the building is required to have a minimum of two exits.

The capacity of the means of egress is required to comply with LSC §7.3. The egress capacity of the exits must be sufficient to accommodate the calculated occupant loads. For level components (e.g., doors) and ramps, the egress capacity is based on 0.2 in./person [LSC Table 7.3.3.1].

The number and capacity of exits provided complies with these requirements

7.3 Arrangement of Exits

Where two or more means of egress (exits) are required, the means of egress must be located remote from one another, so that the distance between them is at least one-third the maximum diagonal distance of the area served [LSC §7.5.1.3.3].

Exits are required to be remotely located (i.e., separated by a distance equal to at least one-third the maximum diagonal distance of the area served). Table 10 summarizes the arrangement of means of egress criteria for the building (based on fully sprinklered building).

Table 10 - Travel Distance Limitations

Occupancy	Travel Distance (ft)	Common Path of Travel (ft)	Dead-end (ft)
Ambulatory Healthcare	200	100	50

NR = No Requirement

Where egress components serve more than one occupancy type, the more restrictive LSC requirements are applicable.

The arrangement of exits complies with these requirements.

7.4 Egress Illumination, Emergency Lighting and Exit Signage

Means of egress illumination must comply with LSC §7.8. Means of egress illumination is required for corridors and exit discharge. Emergency lighting is also required per LSC §20.2.9 and §7.9. The emergency lighting system is required to provide continued illumination for a duration of not less than 90 minutes in case of emergency or primary power loss [LSC 7.9.2.1 and 7.9.2.2]. Emergency lighting will be provided as part of the ballast lighting.

Means of egress are required to be provided with exit signage in accordance with LSC §7.10. Internally illuminated signs must be light-emitting diode (LED) type, electroluminescence (LEC), or cold cathode type.

7.5 Subdivision of Building Space

Ambulatory care buildings are required to be subdivided by smoke barriers in accordance with LSC §20.3.7.1. Smoke compartments are required to be less than 22,500 square feet or less and the travel distance to any smoke barrier door must be less than 200 feet. The smoke barriers will be provided as shown on the life safety drawings. Smoke barriers shall be installed per LSC §8.5 and shall be at least 1-hour fire resistance rated.

8. INTERIOR FINISH

All new walls, ceilings and floors shall comply with the interior finish requirements of LSC Chapter 10.

The code restricts the use of certain materials as interior finishes on walls and ceilings based on the flame spread rating and smoke development rating of the material. Interior wall and ceiling finishes shall be classified in accordance with ASTM E-84 or NFPA 255.

The interior finish materials shall be grouped in the following classes (based on their flame spread rating and smoke developed rating) [LSC §10.2.3.4]:

- Class A – Flame spread 0-25, smoke developed 0-450
- Class B – Flame spread 26-75, smoke developed 0-450
- Class C – Flame spread 76-200, smoke developed 0-450

Interior wall and ceiling finish requirements are summarized in Table 11.

Table 11 - Wall and Ceiling Finish Requirements [LSC A.10.2.2]

Occupancy	Exits	Exit Access Corridors	Other Spaces
Ambulatory Healthcare	A, B or C	A, B or C	A, B or C

Note: Automatic sprinkler protection allowances have been applied.

The most stringent interior finish requirements for the occupancies involved will apply where multiple occupancies are served.

The LSC has no restrictions for floor finishes in buildings equipped with an automatic sprinkler system.

9. CONCLUSION

The Emergency Room renovation to Building 110B of the Hampton VA in Hampton, VA has a work area of ~10,500 square feet. The building will continue to contain an I-2 / Ambulatory Healthcare occupancy and will be comprised of Type IB non-combustible construction. The relevant fire protection code requirements are as follows:

- The sprinkler system shall be designed for light hazard classification except in storage and laundry/linen rooms (Ordinary Hazard Group 2).
- The building is required to be provided with an addressable, voice evacuation fire alarm system per the VA FP Design Manual Section 7. The new fire alarm equipment shall be connected to the exiting campus-wide EST fire alarm system. The new devices will be connected to an existing FACP.
- Per NFPA 10, ABC multi-purpose fire extinguishers will be provided throughout the building. Extinguishers shall be located to ensure that the travel distance to an extinguisher is less than 75 feet.
- Means of egress illumination shall be provided as part of the ballast lighting per NFPA 101 Section 7.8.
- Emergency lighting shall be provided in accordance with NFPA 101, Section 7.9., emeg
- Exit signs shall be provided at exits and passageways in accordance with NFPA 101, Section 7.10.
- 1-hour fire resistance rated smoke barriers shall be provided in the buildings in accordance with NFPA 101, Section 20.3.7.1.
- All wall and ceiling interior finishes in the building shall be either Class A, B or C in accordance with NFPA 101, Section 10.2.2.

MECHANICAL CALCULATIONS

BFA Job 11-005B

Location VA Hampton
 Building owner
 Program user CML
 Company BFA
 Comments

 By BFA
 Dataset name C:\Documents and Settings\BFA\My Documents\TRACE
 700 Projects\BLDG110B.trc

 Calculation time 04:51 PM on 08/16/2012
 TRACE® 700 version 6.2.8

 Location Hampton, VA
 Latitude 36.0 deg
 Longitude 76.0 deg
 Time Zone 5
 Elevation 26 ft
 Barometric pressure 29.9 in. Hg

 Air density 0.0760 lb/cu ft
 Air specific heat 0.2444 Btu/lb·°F
 Density-specific heat product 1.1144 Btu/h·cfm·°F
 Latent heat factor 4,905.3 Btu-min/h·cu ft
 Enthalpy factor 4.5588 lb-min/hr·cu ft

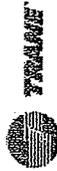
 Summer design dry bulb 94 °F
 Summer design wet bulb 77 °F
 Winter design dry bulb 20 °F
 Summer clearness number 0.85
 Winter clearness number 0.85
 Summer ground reflectance 0.20
 Winter ground reflectance 0.20
 Carbon Dioxide Level 400 ppm

 Design simulation period January - December
 Cooling load methodology TETD-TA1
 Heating load methodology UATD



BFA Job 11-005B

Location	VA Hampton
Building owner	
Program user	CML
Company	BFA
Comments	
: :	
By	BFA
Dataset name	C:\Documents and Settings\BFA\My Documents\TRACE 700 Projects\BLDG110B.trc
Calculation time	04:51 PM on 08/16/2012
TRACE@ 700 version	6.2.8
Location	Hampton, VA
Latitude	36.0 deg
Longitude	76.0 deg
Time Zone	5
Elevation	26 ft
Barometric pressure	29.9 in. Hg
Air density	0.0760 lb/cu ft
Air specific heat	0.2444 Btu/lb-°F
Density-specific heat product	1.1144 Btu/h-cfm-°F
Latent heat factor	4,905.3 Btu-min/h-cu ft
Enthalpy factor	4.5588 lb-min/hr-cu ft
Summer design dry bulb	94 °F
Summer design wet bulb	77 °F
Winter design dry bulb	20 °F
Summer clearness number	0.85
Winter clearness number	0.85
Summer ground reflectance	0.20
Winter ground reflectance	0.20
Carbon Dioxide Level	400 ppm
Design simulation period	January - December
Cooling load methodology	TETD-TA1
Heating load methodology	UATD



SEE BASIS OF DESIGN SELECTIONS

Existing AH-1 **FOR VAV BOXES** Variable Volume Reheat (30% Min Flow Default)

System Checksums By BFA

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES							
Peaked at Time: Outside Air:				Mo/Hr: 7 / 17 OADB/WB/Hr: 90 / 78 / 127				Mo/Hr: Heating Design OADB: 20				Cooling Heating							
Sens. + Lat	Plenum	Net	Space	Sens. + Lat	Plenum	Net	Space	Space Peak	Space Sens	Coil Peak	Coil Peak	SADB	Ra Plenum	Return	Ret/OA	Fn MfrTD	Fn BidTD	Fn Frict	
Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	
Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	Of Total	
Envelope Loads																			
Skylite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	13,525	0	13,525	5	0	0	13,892	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	3,007	0	3,007	1	0	0	3,108	0	0	-10,700	0	0	0	0	0	0	0	0	0
Wall Cond	716	0	1,276	0	0	0	629	0	0	-4,142	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	43,550	0	43,550	15	0	0	11,997	0	0	-39,935	0	0	0	0	0	0	0	0	0
Sub Total ==>	60,797	560	61,358	21	560	0	29,625	-52,916	-52,916	-54,778	16.44								
Internal Loads																			
Lights	32,879	8,220	41,099	14	8,220	0	32,879	0	0	0	0.00								
People	41,157	0	41,157	14	0	0	22,865	0	0	0	0.00								
Misc	60,675	0	60,675	21	0	0	60,675	0	0	0	0.00								
Sub Total ==>	134,711	8,220	142,931	49	8,220	0	116,419	0	0	0	0.00								
Ceiling Load	1,760	-1,760	0	0	0	0	1,742	-434	-434	0	0.00								
Ventilation Load	0	0	47,479	16	0	0	0	0	0	-43,538	13.07								
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0.00								
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0	0	0.00								
Ov/Undr Sizing	6,996	-1,164	6,996	2	-1,164	0	6,872	-136,402	-136,402	40.94									
Exhaust Heat	0	0	-1,164	0	0	0	0	287	0	-0.08									
Sup. Fan Heat	0	0	32,293	11	0	0	0	0	0	0.00									
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0	0.00								
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0.00								
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0	0.00								
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0.00								
Grand Total ==>	204,264	5,856	289,892	100.00	5,856	0	154,658	-189,752	-189,752	-333,207	100.00								

ENGINEERING CKS			
% OA	cfm/ft²	cfm/ton	Btu/hr/ft²
9.4	1.05	348.14	36.11
11.6	0.84	392.32	91
			No. People
			91

HEATING COIL SELECTION			
Capacity	Coil Airflow	Ent	Lvg
MBh	cfm	°F	°F
-302.8	8,782	55.0	95.1
0.0	0	0.0	0.0
-30.4	788	20.4	55.0
-113.1	6,782	55.0	70.0
0.0	0	0.0	0.0
0.0	0	0.0	0.0
-333.2			

AREAS			
Gross Total	Glass	Glass (%)	
ft²	ft²	ft²	
8,028	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
1,078	223	21	
0	0	0	
0	0	0	

COOLING COIL SELECTION			
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/Hr
ton	MBh	cfm	°F
24.2	289.9	8,384	77.0
0.0	0.0	0	0.0
0.0	0.0	0	0.0
24.2	289.9		

Room Checksums

By BFA

Existing Telecom

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Ra Plenum Return	Fn MtrTD	Fn BldTD	Fn Frict	Cooling	Heating
Envelope Loads	0	0	0	0	0	0	Envelope Loads	0	0	0	0	58.5	75.7	76.2	0.4	58.5	75.7	76.2
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0	0	75.7	75.7	76.2	0.4	75.7	75.7	76.2
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0	0	69.8	69.8	69.8	0.0	69.8	69.8	69.8
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0	0	59.9	59.9	59.9	0.0	59.9	59.9	59.9
Glass Solar	0	0	0	0	0	0	Glass Solar	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond	0	0	0	0	0.8	0.8	0.8	0.0	0.8	0.8	0.8
Wall Cond	0	0	0	0	0	0	Wall Cond	0	0	0	0	2.3	2.3	2.3	0.0	2.3	2.3	2.3
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0	0							
Floor	0	0	0	0	0	0	Floor	0	0	0	0							
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	0	0							
Infiltration	659	0	659	7	197	3	Infiltration	659	-577	15.87	0							
Sub Total ==>	659	0	659	7	197	3	Sub Total ==>	-577	-577	15.87	0							
Internal Loads							Internal Loads											
Lights	475	119	594	6	475	7	Lights	0	0	0.00	0							
People	522	0	522	5	290	4	People	0	0	0.00	0							
Misc	5,973	0	5,973	59	5,973	86	Misc	0	0	0.00	0							
Sub Total ==>	6,970	119	7,089	70	6,738	97	Sub Total ==>	0	0	0.00	0							
Ceiling Load	25	-25	0	0	25	0	Ceiling Load	-6	0	0.00	0							
Ventilation Load	0	0	879	9	0	0	Ventilation Load	0	-769	21.16	0							
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0	0							
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	-1,356	-1,356	37.28	0							
Exhaust Heat	-19	-19	-19	0	0	0	Exhaust Heat	5	5	-0.13	0							
Sup. Fan Heat	1,452	0	1,452	14	0	0	OA Preheat Diff.	0	0	0.00	0							
Ret. Fan Heat	0	0	0	0	0	0	RA Preheat Diff.	-918	-918	25.23	0							
Duct Heat Pkup	0	0	0	0	0	0	Additional Reheat	0	0	0.00	0							
Underfr Sup Ht Pkup	0	0	0	0	0	0	System Plenum Heat	-22	-22	0.59	0							
Supply Air Leakage	0	0	0	0	0	0	Underfr Sup Ht Pkup	0	0	0.00	0							
Grand Total ==>	7,654	75	10,059	100.00	6,960	100.00	Supply Air Leakage	0	0	0.00	0							
							Grand Total ==>	-1,939	-3,636	100.00	0							

COOLING COIL SELECTION				HEATING COIL SELECTION			
Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Enter DBWB/HR °F	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Clg 0.8	10.1	377	76.2	Main Htg -3.1	70	55.0	95.0
Aux Clg 0.0	0.0	0	0.0	Aux Htg 0.0	0	0.0	0.0
Opt Vent 0.0	0.0	0	0.0	Preheat -0.5	14	20.4	55.0
Total 0.8	10.1	0	0.0	Reheat -1.2	70	55.0	70.0
				Humidif 0.0	0	0.0	0.0
				Opt Vent 0.0	0	0.0	0.0
				Total -3.6			

Project Name: BFA Job 11-005B
 Dataset Name: BLDG110B.trc
 TRACE® 700 v6.2.8 calculated at 04:51 PM on 08/16/2012
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Room Checksums

By BFA

Fast Track

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			
	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent OF Total (%)	Space Sensible Btu/h	Percent OF Total (%)	Envelope Loads Btu/h	Mo/Hr: 6 / 15 OADB: 92	Space Peak Btu/h	Mo/Hr: Heating Design OADB: 20	Coil Peak Tot Sens Btu/h	Percent OF Total (%)
Envelope Loads	0	0	0	0	0	0	0		0	0	0	0.00
Skyllite Solar	0	0	0	0	0	0	0	Envelope Loads	0	0	0	0.00
Skyllite Cond	0	0	0	0	0	0	0	Skyllite Solar	0	0	0	0.00
Roof Cond	0	0	0	0	0	0	0	Skyllite Cond	0	0	0	0.00
Glass Solar	0	0	0	0	0	0	0	Roof Cond	0	0	0	0.00
Glass/Door Cond	0	0	0	0	0	0	0	Glass Solar	0	0	0	0.00
Wall Cond	0	0	0	0	0	0	0	Glass/Door Cond	0	0	0	0.00
Partition/Door	0	0	0	0	0	0	0	Wall Cond	0	0	0	0.00
Floor	0	0	0	0	0	0	0	Partition/Door	0	0	0	0.00
Adjacent Floor	0	0	0	0	0	0	0	Floor	0	0	0	0.00
Infiltration	2,937	0	2,937	17	876	10	876	Adjacent Floor	0	0	0	0.00
Sub Total ==>	2,937	0	2,937	17	876	10	876	Infiltration	-2,572	-2,572	11.22	
Internal Loads								Sub Total ==>	-2,572	-2,572	11.22	
Lights	2,117	529	2,647	15	2,117	25	2,117	Internal Loads	0	0	0.00	
People	2,327	0	2,327	13	1,293	15	1,293	Lights	0	0	0.00	
Misc	3,529	0	3,529	20	3,529	41	3,529	People	0	0	0.00	
Sub Total ==>	7,973	529	8,502	49	6,939	81	6,939	Misc	0	0	0.00	
Ceiling Load	112	-112	0	0	112	1	112	Sub Total ==>	0	0	0.00	
Ventilation Load	0	0	3,689	21	0	0	0	Ceiling Load	-28	-28	0.00	
Adj Air Trans Heat	0	0	0	0	0	0	0	Ventilation Load	-3,143	-3,143	13.72	
Dehumid. Ov Sizing	753	-79	674	4	629	7	629	Adj Air Trans Heat	0	0	0.00	
Exhaust Heat	753	-79	674	4	629	7	629	Ov/Undr Sizing	-10,363	-10,363	45.22	
Ret. Fan Heat	0	0	0	0	0	0	0	Exhaust Heat	20	20	-0.09	
Duct Heat PkUp	0	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00	
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	OA Preheat Diff.	-6,731	-6,731	28.37	
Supply Air Leakage	0	0	0	0	0	0	0	RA Preheat Diff.	-125	-125	0.55	
Grand Total ==>	11,775	338	17,495	100.00	8,556	100.00	8,556	Additional Reheat	0	0	0.00	
								System Plenum Heat	0	0	0.00	
								Underfir Sup Ht PkUp	0	0	0.00	
								Supply Air Leakage	0	0	0.00	
								Grand Total ==>	-12,963	-12,963	100.00	

COOLING COIL SELECTION				HEATING COIL SELECTION			
ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
1.5	17.5	11.6	465	-20.7	465	55.0	95.0
0.0	0.0	0.0	0	0.0	0	0.0	0.0
0.0	0.0	0.0	0	-2.2	57	20.4	55.0
1.5	17.5	11.6	465	-7.8	465	55.0	70.0
Total	17.5	11.6	465	-22.9	465	0.0	0.0

AREAS		
Gross Total	Glass ft²	(%)
517	0	0
Floor	0	0
Part	0	0
Int Door	0	0
ExFlr	0	0
Roof	0	0
Wall	0	0
Ext Door	0	0

TEMPERATURES			
	Cooling	Heating	
SADB	58.5	95.0	
Ra Plenum	75.7	69.8	
Return	75.7	69.8	
Re/OA	77.4	63.8	
Fn MtrTD	0.4	0.0	
Fn BltdTD	0.8	0.0	
Fn Frict	2.3	0.0	

AIRFLOWS			
	Cooling	Heating	
Diffuser	465	465	
Terminal	465	465	
Main Fan	465	465	
Sec Fan	0	0	
Nom Vent	57	57	
AHU Vent	57	57	
Infil	47	47	
MinStop/Rh	465	465	
Return	512	512	
Exhaust	103	103	
Rm Exh	0	0	
Auxiliary	0	0	
Leakage Dwn	0	0	
Leakage Ups	0	0	

ENGINEERING CKS			
	Cooling	Heating	
% OA	12.2	12.2	
cfm/ft²	0.90	0.90	
cfm/ton	319.16	319.16	
ft²/kon	354.62	354.62	
Btu/hr-ft²	33.84	-44.32	
No. People	\$	\$	

Room Checksums

By BFA

Life Support 1

Cooling Coil Peak	Mo/Hr: 8 / 15		Mo/Hr: 6 / 15		Mo/Hr: Heating Design	
	Outside Air:	OADB/WB/HR: 90 / 79 / 132	Space Sensible:	Percent Of Total:	Space Peak:	Coil Peak:
	Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Sens. Btu/h	Of Total (%)	Space Sens Btu/h	Tot Sens Btu/h
Envelope Loads	0	0	0	0	0	0
SkyLite Solar	0	0	0	0	0	0
SkyLite Cond	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0
Floor	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0
Infiltration	869	869	259	11	-761	-761
Sub Total ==>	869	0	259	11	-761	-761
Internal Loads						
Lights	627	157	627	27	0	0
People	689	0	383	16	0	0
Misc	1,044	0	1,044	45	0	0
Sub Total ==>	2,360	157	2,054	88	0	0
Ceiling Load	33	-33	33	1	-8	0
Ventilation Load	0	0	0	0	0	-930
Adj Air Trans Heat	0	0	0	0	0	0
Dehumid. Ov Sizing	0	0	0	0	-1,788	-1,788
Ov/Undr Sizing	0	-23	0	0	6	-0.12
Exhaust Heat	-23	0	0	0	0	0
Sup. Fan Heat	484	0	0	0	-1,235	-1,235
Ret. Fan Heat	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	-28	-28
Underfir Sup Ht PkUp	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0
Grand Total ==>	3,282	100	4,908	100.00	-2,557	-4,737
			2,346	100.00		100.00

COOLING COIL SELECTION		COOLING COIL SELECTION		COOLING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Leave DB/WB/HR °F	gr/lb
0.4	4.9	126	77.5 65.2	55.0 52.2	53.8
0.0	0.0	0	0.0 0.0	0.0 0.0	0.0
0.0	0.0	0	0.0 0.0	0.0 0.0	0.0
0.4	4.9				
Total					

HEATING COIL SELECTION		HEATING COIL SELECTION	
Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
-4.1	92	55.0	95.0
0.0	0	0.0	0.0
-0.7	17	20.4	55.0
-1.5	92	55.0	70.0
0.0	0	0.0	0.0
0.0	0	0.0	0.0
-4.7			
Total			

TEMPERATURES	
	°F
SADB	58.5
Ra Plenum	75.7
Return	75.7
Rel/OA	77.5
Fa Mfr/TD	0.4
Fa Blg/TD	0.8
Fa Frict	2.3
Heating	85.0
Heating	69.8
Heating	69.8
Heating	60.8
Heating	0.0
Heating	0.0

AIRFLOWS	
	CFM
Diffuser	128
Terminal	128
Main Fan	128
Sec Fan	17
Nom Vent	17
AHU Vent	17
Infil	14
MinStop/Rh	14
Return	92
Exhaust	141
Rm Exh	31
Auxiliary	31
Leakage Dwn	0
Leakage Ups	0
Heating	92
Heating	92
Heating	92
Heating	0
Heating	0
Heating	0

ENGINEERING CKS	
	Value
% OA	13.2
cfm/ft²	18.3
cfm/ton	0.83
ft³/ton	311.94
Btu/hr/ft²	374.11
No. People	32.08
	-30.96
	2

Room Checksums

By BFA

Life Support 2

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK							
Peaked at Time: Outside Air				Mo/Hr: 8 / 15				Mo/Hr: 6 / 15				Mo/Hr: Heating Design			
OADB/WB/HR: 90 / 79 / 132				OADB: 92				OADB: 20							
Space Sens. + Lat	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak Sens	Percent Of Total	Space Peak Sens	Percent Of Total	Coil Peak Tot Sens	Percent Of Total	Coil Peak Tot Sens	Percent Of Total	Coil Peak Tot Sens	Percent Of Total
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)
Envelope Loads															
SkyLite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SkyLite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	869	869	18	259	11	-761	16.07	-761	16.07	-761	16.07	-761	16.07	-761	16.07
Sub Total ==>	869	869	18	259	11	-761	16.07	-761	16.07	-761	16.07	-761	16.07	-761	16.07
Internal Loads															
Lights	627	783	16	627	27	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
People	689	689	14	383	16	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Misc	1,044	1,044	21	1,044	46	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sub Total ==>	2,360	2,516	51	2,054	88	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ceiling Load	33	0	0	33	1	-8	-0.12	-8	-0.12	-8	-0.12	-8	-0.12	-8	-0.12
Ventilation Load	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Adj Air Trans Heat	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Dehumid. Ov Sizing	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ov/Undr Sizing	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Exhaust Heat	-23	-23	0	-23	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sup. Fan Heat	484	484	10	484	20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ret. Fan Heat	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Duct Heat PkUp	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Underflr Sup Ht PkUp	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Supply Air Leakage	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total ==>	3,262	4,908	100.00	2,346	100.00	-2,557	-4.737	-2,557	-4.737	-2,557	-4.737	-2,557	-4.737	-2,557	-4.737

TEMPERATURES

SADB	Cooling	58.5	Heating	95.0
Ra Plenum	75.7	69.8		
Return	75.7	69.8		
Ro/OA	77.5	60.8		
Fa MtrTD	0.4	0.0		
Fa BltdTD	0.8	0.0		
Fa Frict	2.3	0.0		

AIRFLOWS

Diffuser	Cooling	128	Heating	92
Terminal	128	92		
Main Fan	128	92		
Sec Fan	0	0		
Nom Vent	17	17		
AHU Vent	17	17		
Infil	14	14		
MinStop/Rh	92	92		
Return	141	106		
Exhaust	31	31		
Rm Exh	0	0		
Auxiliary	0	0		
Leakage Dwn	0	0		
Leakage Ups	0	0		

ENGINEERING CKS

% OA	Cooling	13.2	Heating	18.3
cfm/ft²	0.83	0.60		
cfm/ton	311.94			
ft³/ton	374.11			
Btu/hr/ft²	32.08	-30.96		
No. People	2			

HEATING COIL SELECTION

Capacity	MBh	cfm	Ent °F	Lvg °F
Main Htg	-4.1	92	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.7	17	20.4	55.0
Reheat	-1.5	82	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.7			

AREAS

Gross Total	153	Glass	ft²	(%)
Floor	0			
Part	0			
Int Door	0			
ExFlr	0			
Roof	0			
Wall	0			
Ext Door	0			

COOLING COIL SELECTION

Total Capacity	ton	MBh	Sens Cap.	MBh	Coil Airflow	cfm	Enter °F	DB/MB/HR	°F	gr/lb	Leave °F	DB/MB/HR	°F	gr/lb
Main Clg	0.4	4.9	3.2	126	77.5	65.2	73.6	55.0	52.2	53.8	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.4	4.9												

Room Checksums

By BFA

Multi purpose

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES								
	Space		Plenum		Net		Percent		Space		Percent		Space		Percent		Cooling		Heating		
	Sens. + Lat.	Sens. + Lat.	Total	OF Total	Total	OF Total	Sensible	OF Total	Space	OF Total	Space	OF Total	Space	OF Total	Space	OF Total	Coil Peak	Tot Sens	Coil Peak	Tot Sens	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	716	0	716	17	716	17	214	10	214	10	10	-627	11.22	-627	11.22	-627	11.22	-627	11.22	-627	11.22
Sub Total ==>	716	0	716	17	716	17	214	10	214	10	10	-627	11.22	-627	11.22	-627	11.22	-627	11.22	-627	11.22
Internal Loads	516	129	645	15	645	15	516	25	516	25	25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Lights	567	0	567	13	567	13	315	15	315	15	15	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
People	860	0	860	20	860	20	860	41	860	41	41	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Misc	1,943	0	1,943	49	1,943	49	1,691	81	1,691	81	81	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sub Total ==>	2,716	129	2,845	49	2,845	49	2,072	81	2,072	81	81	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ceiling Load	27	-27	0	0	0	0	27	1	27	1	1	-7	0.00	-7	0.00	-7	0.00	-7	0.00	-7	0.00
Ventilation Load	0	0	875	21	875	21	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Dehumid. Ov Sizing	184	-19	165	4	165	4	153	7	153	7	7	-2,526	45.22	-2,526	45.22	-2,526	45.22	-2,526	45.22	-2,526	45.22
OvUndr Sizing	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Exhaust Heat	0	0	-19	0	-19	0	0	0	0	0	0	-1,640	29.37	-1,640	29.37	-1,640	29.37	-1,640	29.37	-1,640	29.37
Sup. Fan Heat	0	0	437	10	437	10	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0	-31	0.55	-31	0.55	-31	0.55	-31	0.55	-31	0.55
Underflr Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total ==>	2,870	82	2,952	100.00	2,952	100.00	2,085	100.00	2,085	100.00	100.00	-3,159	100.00	-3,159	100.00	-3,159	100.00	-3,159	100.00	-3,159	100.00

COOLING COIL SELECTION				HEATING COIL SELECTION			
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR	Capacity	Coil Airflow	Ent	Lvg
ton	MBh	cfm	*F *F	MBh	cfm	*F	*F
0.4	4.3	113	77.4 65.0	-5.1	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	-0.5	14	20.4	55.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	70.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	-5.5	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.4	4.3	113	77.4 65.0	0.0	113	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0				

Room Checksums

By BFA

Nurse Station

COOLING COIL PEAK		Mo/Hr: 8 / 15		HEATING COIL PEAK		Mo/Hr: Heating Design	
Peaked at Time:		OADB/MB/HR: 90 / 79 / 132		Space Peak		OADB: 20	
Outside Air:		Sens. + Lat.		Sens. + Lat.		Coil Peak	
Sens. + Lat.		Sens. + Lat.		Sens. + Lat.		Tot. Sens	
Sens. + Lat.		Sens. + Lat.		Sens. + Lat.		Of Total	
Sens. + Lat.		Sens. + Lat.		Sens. + Lat.		(%)	
Envelope Loads							
Skylite Solar	0	0	0	0	0	0	0.00
Skylite Cond	0	0	0	0	0	0	0.00
Roof Cond	0	0	0	0	0	0	0.00
Glass Solar	0	0	0	0	0	0	0.00
Glass/Door Cond	0	0	0	0	0	0	0.00
Wall Cond	0	0	0	0	0	0	0.00
Partition/Door	0	0	0	0	0	0	0.00
Floor	0	0	0	0	0	0	0.00
Adjacent Floor	0	0	0	0	0	0	0.00
Infiltration	2,312	0	17	690	-2,025	-2,025	11.22
Sub Total ==>	2,312	0	17	690	-2,025	-2,025	11.22
Internal Loads							
Lights	1,667	417	15	1,667	0	0	0.00
People	1,832	0	13	1,018	0	0	0.00
Misc	3,473	0	25	3,473	0	0	0.00
Sub Total ==>	6,971	417	53	6,157	0	0	0.00
Ceiling Load	88	-88	0	88	-22	0	0.00
Ventilation Load	0	0	20	0	0	-2,475	13.72
Adj Air Trans Heat	0	0	0	0	0	0	0.00
Dehumid, Ov Sizing	0	0	0	0	-8,158	-8,158	45.22
Ov/Undr Sizing	0	-82	0	0	15	15	-0.09
Exhaust Heat	-82	0	0	0	0	0	0.00
Sup. Fan Heat	1,432	0	10	-5,299	0	0	28.37
Ret. Fan Heat	0	0	0	0	0	0	0.00
Duct Heat PkUp	0	0	0	0	-99	-99	0.55
Underfir Sup Ht PkUp	0	0	0	0	0	0	0.00
Supply Air Leakage	0	0	0	0	0	0	0.00
Grand Total ==>	9,371	266	100.00	13,895	-10,205	-18,039	100.00

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	
Total Capacity		Sens Cap.		Capacity		Ent	
Ton		MBh		MBh		°F	
1.2		13.9		-16.3		°F	
0.0		0.0		0.0		°F	
0.0		0.0		-6.1		°F	
1.2		13.9		-18.0		°F	
Main Clg	1.2	13.9	9.3	372	366	55.0	95.0
Aux Clg	0.0	0.0	0.0	0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0	0.0	0.0
Total	1.2	13.9	9.3	372	366	55.0	95.0

COOLING COIL SELECTION		Mo/Hr: 6 / 15		HEATING COIL SELECTION		Mo/Hr: Heating Design	

Room Checksums

By BFA

O2 Storage

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			
Peaked at Time: Outside Air: Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132				Mo/Hr: 6 / 15 OADB: 92				Mo/Hr: Heating Design OADB: 20			
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	
Envelope Loads											
Skyliite Solar	0	0	0	0	0	0	0	0.00	0	0.00	
Skyliite Cond	0	0	0	0	0	0	0	0.00	0	0.00	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0.00	
Glass Solar	0	0	0	0	0	0	0	0.00	0	0.00	
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0.00	
Wall Cond	0	0	0	0	0	0	0	0.00	0	0.00	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0.00	
Floor	0	0	0	0	0	0	0	0.00	0	0.00	
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0.00	
Infiltration	131	131	18	39	11	-114	-114	16.07	-114	16.07	
Sub Total ==>	131	131	18	39	11	-114	-114	16.07	-114	16.07	
Internal Loads											
Lights	94	24	16	94	27	0	0	0.00	0	0.00	
People	104	0	14	58	16	0	0	0.00	0	0.00	
Misc	157	0	21	157	45	0	0	0.00	0	0.00	
Sub Total ==>	355	24	51	309	88	0	0	0.00	0	0.00	
Ceiling Load	5	-5	0	5	1	-1	0	0.00	0	0.00	
Ventilation Load	0	0	22	0	0	0	-140	19.64	0	0	
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	
Dehumid. Ov Sizing	0	0	0	0	0	-269	-269	37.74	1	-0.12	
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0.00	
Exhaust Heat	0	-4	0	0	0	0	0	0.00	0	0.00	
Sup. Fan Heat	0	0	10	73	10	-186	-186	26.08	0	0.00	
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0.00	
Duct Heat PkUp	0	0	0	0	0	0	0	0.00	0	0.00	
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0.00	0	0.00	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0.00	
Grand Total ==>	490	15	100.00	353	100.00	-384	-712	100.00	-712	100.00	

COOLING COIL SELECTION				HEATING COIL SELECTION			
Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
0.1	0.7	19	77.5 65.2	-0.6	14	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	-0.1	3	20.4	55.0
0.1	0.7	0	0.0 0.0	-0.2	14	55.0	70.0
Total	0.7	0	0.0 0.0	0.0	0	0.0	0.0
				0.0	0	0.0	0.0
				-0.7	0	0.0	0.0

AREAS			
Gross Total	Glass ft² (%)	Internal Loads	Grand Total ==>
23		353	384
Floor Part		94	94
Int Door		58	58
ExFir		157	157
Roof		309	309
Wall		0	0
Ext Door		0	0
Total		353	384

TEMPERATURES			
	Cooling	Heating	
SADB	58.5	95.0	
Ra Plenum	75.7	69.8	
Return	75.7	69.8	
Re/OA	77.5	60.8	
Fn MtrTD	0.4	0.0	
Fn BlrTD	0.8	0.0	
Fn Frict	2.3	0.0	

AIRFLOWS			
	Cooling	Heating	
Diffuser	18	14	
Terminal	19	14	
Main Fan	19	14	
Sec Fan	0	0	
Nom Vent	3	3	
AHU Vent	3	3	
Infil	2	2	
MinStop/Rh	14	14	
Return	21	16	
Exhaust	5	5	
Rm Exh	0	0	
Auxiliary	0	0	
Leakage Dwn	0	0	
Leakage Ups	0	0	

ENGINEERING CKS			
	Cooling	Heating	
% OA	13.2	18.3	
cfm/ft²	0.83	0.60	
cfm/ton	311.95		
ft³/ton	374.10		
Btu/hr/ft²	32.08	-30.96	
No. People	0	0	

Room Checksums

By BFA

OB/TRT 1

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
	Space Sens. + Lat	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Envelope Loads	Space Peak	Coil Peak	Percent Of Total	SADB	Ra Plenum	Return	Rev/OA	Fn MitrTD	Fn Frict	Cooling	Heating
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)		Btu/h	Btu/h	(%)								
Envelope Loads	0	0	0	0	0	0	Envelope Loads	0	0	0.00								
Skyllite Solar	0	0	0	0	0	0	Skyllite Solar	0	0	0.00							58.5	95.0
Skyllite Cond	0	0	0	0	0	0	Skyllite Cond	0	0	0.00							75.7	69.8
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00							75.7	69.8
Glass Solar	0	0	0	0	0	0	Glass Solar	0	0	0.00							77.4	63.8
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond	0	0	0.00							0.4	0.0
Wall Cond	0	0	0	0	0	0	Wall Cond	0	0	0.00							0.8	0.0
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00							2.3	0.0
Floor	0	0	0	0	0	0	Floor	0	0	0.00								
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	0.00								
Infiltration	602	0	602	17	180	10	Infiltration	-527	-527	11.22								
Sub Total ==>	602	0	602	17	180	10	Sub Total ==>	-527	-527	11.22								
Internal Loads							Internal Loads											
Lights	434	109	543	15	434	25	Lights	0	0	0.00								
People	477	0	477	13	265	15	People	0	0	0.00								
Misc	724	0	724	20	724	41	Misc	0	0	0.00								
Sub Total ==>	1,635	109	1,743	49	1,423	81	Sub Total ==>	0	0	0.00								
Ceiling Load	23	-23	0	0	23	1	Ceiling Load	-6	0	0.00								
Ventilation Load	0	0	736	21	0	0	Ventilation Load	0	-644	13.72								
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0.00								
Dehumid. Ov Sizing	154	-16	138	4	129	7	Ov/Undr Sizing	-2,125	-2,125	45.22								
Ov/Undr Sizing	154	-16	138	4	129	7	Exhaust Heat	0	4	-0.09								
Exhaust Heat	154	-16	138	4	129	7	OA Preheat Diff.	0	0	0.00								
Sup. Fan Heat	0	0	367	10	0	0	RA Preheat Diff.	-1,380	-1,380	29.37								
Rec. Fan Heat	0	0	0	0	0	0	Additional Reheat	0	0	0.00								
Duct Heat PkUp	0	0	0	0	0	0	System Plenum Heat	-26	-26	0.55								
Underflr Sup Ht PkUp	0	0	0	0	0	0	Underflr Sup Ht PkUp	0	0	0.00								
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0	0.00								
Grand Total ==>	2,414	69	3,587	100.00	1,754	100.00	Grand Total ==>	-2,658	-4,688	100.00								

COOLING COIL SELECTION				HEATING COIL SELECTION			
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR	Capacity	Coil Airflow	Ent	Lug
ton	MBh	cfm	*F *F gr/lb	MSh	cfm	*F	*F
Main Cfg	0.3	3.6	95 77.4 65.0	-4.3	95	55.0	95.0
Aux Cfg	0.0	0.0	0 0.0 0.0	-0.5	0	0.0	0.0
Opt Vent	0.0	0.0	0 0.0 0.0	-1.6	12	20.4	55.0
Total	0.3	3.6	0 0.0 0.0		95	55.0	70.0

Project Name: BFA Job 11-005B
 Dataset Name: BLDG1108.irc

Room Checksums

By BFA

OB/TRT 2

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
	Peaked at Time: Outside Air:	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Cooling	Heating
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	58.5	95.0	95.0	
Skyllite Solar	0	0	0	0	0	0	0	0	0	0	0	0	75.7	69.8	69.8	
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	75.7	69.8	69.8	
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	77.4	63.8	63.8	
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0	0.0	
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0.0	0.0	
Floor	0	0	0	0	0	0	0	0	0	0	0	0				
Adjacent Floor	602	0	0	0	0	0	0	180	10	-527	0	0				
Infiltration	602	0	0	17	10	602	17	180	10	-527	0	0				
Sub Total ==>						602	17	180	10	-527	-527	11.22				
Internal Loads																
Lights	434	109	0	15	25	543	15	434	25	0	0	0.00				
People	477	0	0	13	15	477	13	265	15	0	0	0.00				
Misc	724	0	0	20	41	724	20	724	41	0	0	0.00				
Sub Total ==>	1,635	109	0	49	81	1,743	49	1,423	81	0	0	0.00				
Ceiling Load	23	-23	0	0	0	0	0	23	1	-6	0	0.00				
Ventilation Load	0	0	736	21	0	736	21	0	0	0	-644	13.72				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0				
Dehumid. Ov Sizing	154	-16	154	4	0	154	4	129	7	-2,125	-2,125	45.22				
Ov/Undr Sizing	-16	0	-16	0	0	-16	0	0	0	0	0	0.00				
Exhaust Heat	367	0	367	10	0	367	10	0	0	-1,380	-1,380	29.37				
Sup. Fan Heat	0	0	0	0	0	0	0	0	0	0	0	0.00				
Rel. Fan Heat	0	0	0	0	0	0	0	0	0	-26	-26	0.55				
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0	0.00				
Underfr. Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0	0.00				
Grand Total ==>	2,414	69	3,587	100.00	1,754	100.00	100.00	-2,658	-2,658	-4,698	-4,698	100.00				

COOLING COIL SELECTION				HEATING COIL SELECTION			
Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
0.3	3.6	95	77.4 65.0	-4.3	95	55.0	95.0
0.0	0.0	0	0.0 0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0 0.0	-0.5	12	20.4	55.0
0.3	3.6	95	77.4 65.0	-1.6	95	55.0	70.0
Total	0.3	3.6	0.0 0.0	0.0	0	0.0	0.0
				Opt Vent	0	0.0	0.0
				Total	-4.7		

Project Name: BFA Job 11-005B
 Dataset Name: BLDG110B.irc
 TRACE® 700 v6.2.8 calculated at 04:51 PM on 08/16/2012
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Room Checksums

By BFA

OB/TRT 4

Peaked at Time: Outside Air:	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES						
	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Envelope Loads	Space Peak Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Cooling	Heating	Ra Plenum	Return	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict
Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20													
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	602	0	602	17	180	10	0	-527	11.22	-527	0	0	0	0	0	0	0	0	0
Infiltration	602	0	602	17	180	10	0	-527	11.22	-527	0	0	0	0	0	0	0	0	0
Sub Total ==>																			
Internal Loads																			
Lights	434	109	543	15	434	25	0	0	0.00	0	0	0	0	0	0	0	0	0	0
People	477	0	477	13	265	15	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Misc	724	0	724	20	724	41	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Sub Total ==>	1,635	109	1,743	49	1,423	81	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Ceiling Load	23	-23	0	0	23	1	0	-6	0.00	0	0	0	0	0	0	0	0	0	0
Ventilation Load	0	0	736	21	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Dehumid. Ov Sizing	154	-16	154	4	129	7	0	-2,125	45.22	4	0	0	0	0	0	0	0	0	0
Ov/Undr Sizing	-16	0	-16	0	0	0	0	0	-0.09	0	0	0	0	0	0	0	0	0	0
Exhaust Heat	367	0	367	10	0	0	0	-1,380	29.37	0	0	0	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	-26	0.55	0	0	0	0	0	0	0	0	0	0
Underfr Sup Ht PkUp	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0
Grand Total ==>	2,414	69	3,587	100.00	1,754	100.00	0	-2,658	100.00	-4,698	100.00	0	0	0	0	0	0	0	0

ENGINEERING CKS			
% OA	12.2	Heating	12.2
cfm/ft²	0.90	Heating	0.90
cfm/ton	319.16		
ft³/ton	354.62		
Btu/hr-ft²	33.84		
No. People	1		

HEATING COIL SELECTION			
Capacity	MBh	Coil Airflow	cfm
Main Htg	-4.3	95	55.0
Aux Htg	0.0	0	0.0
Preheat	-0.5	12	20.4
Reheat	-1.6	95	55.0
Humidif	0.0	0	0.0
Opt Vent	0.0	0	0.0
Total	-4.7		

AREAS			
Gross Total	ft²	Glass	ft²
Floor	106		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0		
Wall	0		
Ext Door	0		

COOLING COIL SELECTION			
Total Capacity	ton	Coil Airflow	cfm
Sens Cap.	MBh	Enter	°F
Main Clg	0.3	77.4	65.0
Aux Clg	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0
Total	0.3		

Room Checksums

By BFA

OB/TRT 6

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES						
	Space Sens.+ Lat Btu/h	Plenum Sens.+ Lat Btu/h	Net Total Btu/h	Percent CF Total (%)	Space Sensible Btu/h	Percent CF Total (%)	Envelope Loads	Space Peak Btu/h	Coil Peak Tot Btu/h	Percent Of Total (%)	SADB	Moisture Heating Design OADB: 20	Moisture Heating Design OADB: 80	Moisture Heating Design OADB: 132	Moisture Heating Design OADB: 179 / 132	Moisture Heating Design OADB: 20	Moisture Heating Design OADB: 80	Moisture Heating Design OADB: 132	Moisture Heating Design OADB: 179 / 132
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	81	42	123	3	248	14	0	-349	-543	11.55	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Infiltration	602	0	602	17	56	3	0	-527	-527	11.22	0	0	0	0	0	0	0	0	0
Sub Total ==>	683	42	725	20	304	17	0	-877	-1,070	22.78	0	0	0	0	0	0	0	0	0
Internal Loads																			
Lights	434	109	543	15	434	25	0	0	0	0.00	0	0	0	0	0	0	0	0	0
People	477	0	477	13	265	15	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Misc	724	0	724	20	724	41	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Sub Total ==>	1,635	109	1,743	48	1,423	81	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Ceiling Load	23	-23	0	0	26	1	0	-1,775	-1,775	37.79	0	0	0	0	0	0	0	0	0
Ventilation Load	0	0	736	20	0	0	0	0	-644	13.72	0	0	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Dehumid, Ov Sizing	74	-16	0	0	1	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
OvUndr Sizing	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Exhaust Heat	0	0	-16	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	367	10	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Rel. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Underfr. Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0
Grand Total ==>	2,414	111	3,629	100.00	1,754	100.00	0	-2,658	-4,698	100.00	0	0	0	0	0	0	0	0	0

TEMPERATURES

SADB	Cooling	58.5	Heating	95.0
Ra Plenum	75.7	69.8		
Return	75.7	69.8		
Ret/OA	77.4	63.8		
Fn MfRTD	0.4	0.0		
Fn BlRTD	0.8	0.0		
Fn Frict	2.3	0.0		

AIRFLOWS

Diffuser	Cooling	95	Heating	95
Terminal	95	95		
Main Fan	95	95		
Sec Fan	0	0		
Nom Vent	12	12		
AHU Vent	12	12		
Infil	10	10		
MinStop/Rh	95	95		
Return	105	105		
Exhaust	21	21		
Rm Exh	0	0		
Auxiliary	0	0		
Leakage Dwn	0	0		
Leakage Ups	0	0		

ENGINEERING CKS

% OA	Cooling	12.2	Heating	12.2
cfm/ft²	0.90	0.90		
cfm/ton	315.45			
ft³/ton	350.50			
Btu/hr-ft²	34.24			
No. People	1			

HEATING COIL SELECTION

Capacity	MBh	Coil Airflow	cfm	Ent °F	Lvg °F
Main Htg	-4.3	95	55.0	95.0	95.0
Aux Htg	0.0	0	0.0	0.0	0.0
Preheat	-0.5	12	20.4	55.0	55.0
Reheat	-1.6	95	55.0	70.0	70.0
Humidif	0.0	0	0.0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0	0.0
Total	-4.7				

AREAS

Gross Total	ft²	Glass	ft²	(%)
Floor	106			
Part	0			
Int Door	0			
ExFlr	0			
Roof	0			
Wall	112			
Ext Door	0			

COOLING COIL SELECTION

Total Capacity	ton	Sens Cap.	MBh	Coil Airflow	cfm	Enter DB/MB/HR °F	Enter DB/MB/HR °F	Leave DB/MB/HR °F
Main Clg	0.3	3.6	2.4	95	77.4	65.0	72.8	55.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Total	0.3	3.6						

Project Name: BFA Job 11-005B
Dataset Name: BLDG1108.frc

TRACE0700 v6.2.8 calculated at 04:51 PM on 08/16/2012
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Room Checksums

By BFA

OB/TRT 7

Peaked at Time: Outside Air:	COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Percent Of Total (%)	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Cooling	Heating
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	95.0
Skylite Solar	0	0	0	0	0	0	0	0	0	0	0	75.7	75.7	69.8
Skylite Cond	0	0	0	0	0	0	0	0	0	0	0	77.4	77.4	63.8
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4	0.0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0.8	0.8	0.0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	2.3	2.3	0.0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0			
Partition/Door	0	0	0	0	0	0	0	0	0	0	0			
Floor	0	0	0	0	0	0	0	0	0	0	0			
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0			
Infiltration	670	0	670	200	17	670	200	10	-587	11.22	11.22			
Sub Total ==>	670	0	670	200	17	670	200	10	-587	11.22	11.22			
Internal Loads														
Lights	483	121	604	483	15	604	483	25	0	0.00	0.00			
People	531	0	531	295	13	531	295	15	0	0.00	0.00			
Misc	805	0	805	805	20	805	805	41	0	0.00	0.00			
Sub Total ==>	1,820	121	1,941	1,584	49	1,941	1,584	81	0	0.00	0.00			
Ceiling Load	26	-26	0	25	0	0	25	1	-8	0.00	0.00			
Ventilation Load	0	0	819	0	21	0	0	0	0	0.00	0.00			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	-717	13.72	13.72			
Dehumid. Ov Sizing	172	-18	172	144	4	172	144	7	-2,365	45.22	45.22			
Exhaust Heat	0	0	0	0	0	0	0	0	0	0.00	0.00			
Ov/Undr Sizing	0	0	0	0	0	0	0	0	-1,536	29.37	29.37			
Sup. Fan Heat	0	0	409	0	10	409	0	0	-29	0.55	0.55			
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0.00			
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0.00	0.00			
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0.00	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00	0.00			
Grand Total ==>	2,688	77	3,993	1,953	100.00	3,993	1,953	100.00	-2,959	-5,230	100.00			

AIRFLOWS

	Cooling	Heating
Diffuser	106	106
Terminal	106	106
Main Fan	106	106
Sec Fan	0	0
Nom Vent	13	13
AHU Vent	13	13
Infil	11	11
MinStop/Rh	106	106
Return	117	117
Exhaust	24	24
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	12.2	12.2
cfm/ft²	319.16	0.90
cfm/ton	354.62	
ft³/ton	33.84	
Btu/hr-ft²		-44.32
No. People	1	

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-4.7	106	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.5	13	20.4	55.0
Reheat	-1.8	106	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.2			

AREAS

	Gross Total	Glass	(%)
Floor	118		
Part	0		
Int Door	0		
ExFir	0		
Roof	0		
Wall	0		
Ext Door	0		
Total	0		

COOLING COIL SELECTION

Total Capacity	Sens Cap.	Coil Airflow	Enter	DBWB/HR	Leave	DBWB/HR
ton	MBh	cfm	°F	°F	°F	°F
Main Clg	4.0	2.7	106	77.4	65.0	72.8
Aux Clg	0.0	0.0	0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0	0.0	0.0	0.0
Total	4.0					

Room Checksums

By BFA

Staff Break room

	COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES						
	Peaked at Time: Outside Air:	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 78 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Percent Of Total (%)	Envelope Loads	Space Peak Btu/h	Coil Peak Btu/h	Percent Of Total (%)	SADB	Cooling	Heating
Envelope Loads																
Skyllite Solar	0	0	0	0	0	0	0	0	Skyllite Solar	0	0	0.00	58.5	75.7	95.0	
Skyllite Cond	0	0	0	0	0	0	0	0	Skyllite Cond	0	0	0.00	69.8	69.8		
Roof Cond	0	0	0	0	0	0	0	0	Roof Cond	0	0	0.00	75.7	69.8		
Glass Solar	0	0	0	0	0	0	0	0	Glass Solar	0	0	0.00	77.5	60.8		
Glass/Door Cond	0	0	0	0	0	0	0	0	Glass/Door Cond	0	0	0.00	0.4	0.0		
Wall Cond	0	0	0	0	0	0	0	0	Wall Cond	0	0	0.00	0.8	0.0		
Partition/Door	0	0	0	0	0	0	0	0	Partition/Door	0	0	0.00	2.3	0.0		
Floor	0	0	0	0	0	0	0	0	Floor	0	0	0.00				
Adjacent Floor	0	0	0	0	0	0	0	0	Adjacent Floor	0	0	0.00				
Infiltration	1,108	0	1,108	18	18	1,108	331	11	Infiltration	-970	-970	16.07				
Sub Total ==>	1,108	0	1,108	18	18	1,108	331	11	Sub Total ==>	-970	-970	16.07				
Internal Loads									Internal Loads							
Lights	42	200	998	16	16	998	799	27	Lights	0	0	0.00				
People	0	0	878	14	14	878	488	16	People	0	0	0.00				
Misc	1,331	0	1,331	21	21	1,331	1,331	45	Misc	0	0	0.00				
Sub Total ==>	3,007	200	3,207	51	51	3,207	2,617	88	Sub Total ==>	0	0	0.00				
Ceiling Load	42	-42	0	0	0	0	42	1	Ceiling Load	-11	0	0.00				
Ventilation Load	0	0	1,354	22	22	1,354	0	0	Ventilation Load	0	-1,186	19.64				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0.00				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	Ov/Undr Sizing	-2,279	-2,279	37.74				
Ov/Undr Sizing	-30	-30	-30	0	0	-30	0	0	Exhaust Heat	7	-0.12	-0.12				
Exhaust Heat	0	0	616	10	10	616	0	0	OA Preheat Diff.	-1,575	-1,575	26.08				
Sup. Fan Heat	0	0	0	0	0	0	0	0	RA Preheat Diff.	0	0	0.00				
Ret. Fan Heat	0	0	0	0	0	0	0	0	Additional Reheat	-36	-36	0.60				
Duct Heat PkUp	0	0	0	0	0	0	0	0	System Plenum Heat	0	0	0.00				
Underfir. Sup Ht PkUp	0	0	0	0	0	0	0	0	Underfir. Sup Ht PkUp	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0	Supply Air Leakage	0	0	0.00				
Grand Total ==>	4,157	128	6,255	100.00	100.00	6,255	2,990	100.00	Grand Total ==>	-3,259	-6,038	100.00				

AIRFLOWS

	Cooling	Heating
Diffuser	163	117
Terminal	163	117
Main Fan	163	117
Sec Fan	0	0
Nom Vent	21	21
AHU Vent	21	21
Infil	18	18
MinStop/Rh	117	117
Return	180	135
Exhaust	39	39
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	13.2	18.3
cfm/ft²	0.83	0.60
cfm/ton	311.94	
ft³/ton	374.11	
Btu/hr-ft²	32.08	-30.96
No. People	2	

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-5.2	117	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.8	21	20.4	55.0
Reheat	-2.0	117	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-6.0			

AREAS

	Gross Total	Glass ft²	Percent (%)
Floor	195		
Part	0		
Int Door	0		
ExFir	0		
Roof	0		
Wall	0		
Ext Door	0		

COOLING COIL SELECTION

ion	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter °F	Enter DB/WB/HR °F	gr/lb	Leave °F	Leave DB/WB/HR °F	gr/lb
Main Ctg	0.5	6.3	160	77.5	65.2	73.6	55.0	52.2	53.8
Aux Ctg	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.5	6.3							

Room Checksums

By BFA

Triage Corridor

	COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
	Peaked at Time: Outside Air:	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	SADB	Ra Plenum	Return	Re/OA	Fa MtrTD	Fa BldTD	Fa Frict	Cooling	Heating
Envelope Loads	Space Sens. + Lat	Plenum Sens. + Lat	Net Total	Space Sensible	Percent Of Total	Space Total	Space Sens	Coil Peak Tot Sens	Percent Of Total				
Skyllite Solar	Btu/h	Btu/h	Btu/h	Btu/h	(%)	Btu/h	Btu/h	Btu/h	(%)				
Skyllite Cond	0	0	0	0	0	0	0	0	0	Envelope Loads			
Roof Cond	0	0	0	0	0	0	0	0	0	Skyllite Solar			
Glass Solar	0	0	0	0	0	0	0	0	0	Skyllite Cond			
Glass/Door Cond	0	0	0	0	0	0	0	0	0	Roof Cond			
Wall Cond	0	0	0	0	0	0	0	0	0	Glass Solar			
Partition/Door	0	0	0	0	0	0	0	0	0	Glass/Door Cond			
Floor	0	0	0	0	0	0	0	0	0	Wall Cond			
Adjacent Floor	0	0	0	0	0	0	0	0	0	Partition/Door			
Infiltration	2,653	0	2,653	792	10	2,653	-2,323	-2,323	11.73	Floor			
Sub Total ==>	2,653	0	2,653	792	10	2,653	-2,323	-2,323	11.73	Adjacent Floor			
										Infiltration			
Internal Loads										Sub Total ==>			
Lights	1,913	478	2,391	1,913	25	1,913	0	0	0.00	Internal Loads			
People	2,102	0	2,102	1,168	15	1,168	0	0	0.00	Lights			
Misc	3,188	0	3,188	3,188	41	3,188	0	0	0.00	People			
Sub Total ==>	7,202	478	7,680	6,268	81	6,268	0	0	0.00	Misc			
										Sub Total ==>			
Ceiling Load	101	-101	0	101	1	0	-25	0	0.00	Ceiling Load			
Adj Air Trans Heat	0	0	1,768	0	0	0	0	-1,548	7.82	Ventilation Load			
Dehumid. Ov Sizing	680	-54	680	568	7	568	-9,361	-9,361	47.28	Adj Air Trans Heat			
Exhaust Heat	0	0	-54	0	0	0	0	0	0.00	Dehumid. Ov Sizing			
Ret. Fan Heat	0	0	1,619	0	0	0	0	-6,464	32.65	Exhaust Heat			
Duct Heat PkUp	0	0	0	0	0	0	0	-113	0.57	Ret. Fan Heat			
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0.00	Duct Heat PkUp			
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00	Underfir Sup Ht PkUp			
Grand Total ==>	10,636	323	14,347	7,729	100.00	14,347	-11,709	-19,797	100.00	Supply Air Leakage			

AIR FLOWS

	Cooling	Heating
Diffuser	420	420
Terminal	420	420
Main Fan	420	420
Sec Fan	0	0
Nom Vent	28	28
AHU Vent	28	28
Infil	42	42
MinStop/Rh	420	420
Return	462	462
Exhaust	70	70
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	6.7	6.7
cfm/ft²	0.90	0.90
cfm/ton	351.55	
ft³/ton	380.61	
Btu/hr-ft²	30.72	-42.39
No. People	5	

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-18.7	420	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.1	28	20.4	55.0
Exhaust	-7.0	420	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-19.8			

AREAS

	Gross Total	Glass
	ft²	ft² (%)
Floor	467	
Part	0	
Int Door	0	
ExFir	0	
Roof	0	
Wall	0	
Ext Door	0	

COOLING COIL SELECTION

	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR	Leave DB/WB/HR
ton	MBh	MBh	cfm	°F	°F
Main Clg	1.2	14.4	420	76.6	55.0
Aux Clg	0.0	0.0	0	64.0	52.5
Opt Vent	0.0	0.0	0	0.0	0.0
Total	1.2	14.4			

Room Checksums

By BFA

Vestibule

COOLING COIL PEAK		CLG SPACE PEAK		HEATING COIL PEAK		TEMPERATURES	
Peaked at Time: Outside Air:		Mo/Hr: 7 / 17 OADB/WB/HR: 90 / 78 / 127		Mo/Hr: Heating Design OADB: 20			
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Space Peak Sens Btu/h	Coil Peak Tot Btu/h	Percent Of Total (%)	
Envelope Loads							
Skyllie Solar	0	0	0	0	0	0.00	Cooling 58.5 Heating 95.0
Skyllie Cond	0	0	0	0	0	0.00	Ra Plenum 75.7 Heating 69.8
Roof Cond	0	0	0	0	0	0.00	Return 75.7 Heating 69.8
Glass Solar	7,977	7,977	8,227	-2,303	-2,303	22.54	Ret/OA 76.0 Heating 66.5
Glass/Door Cond	648	648	595	-247	-513	5.03	Fn MtrTD 0.4 Heating 0.0
Wall Cond	88	179	102	0	0	0.00	Fn BldTD 0.8 Heating 0.0
Partition/Door	0	0	0	0	0	0.00	Fn Frict 2.3 Heating 0.0
Floor	0	0	0	0	0	0.00	
Adjacent Floor	0	0	0	0	0	0.00	
Infiltration	1,307	1,307	314	-1,199	-1,199	11.73	
Sub Total ==>	10,020	10,111	9,238	-3,749	-4,015	39.30	
Internal Loads							
Lights	987	1,234	987	0	0	0.00	
People	1,085	1,085	603	0	0	0.00	
Misc	1,645	1,645	1,645	0	0	0.00	
Sub Total ==>	3,717	3,963	3,235	0	0	0.00	
Ceiling Load	53	0	53	-13	0	0.00	
Ventilation Load	0	872	0	-799	0	0.00	
Adj Air Trans Heat	0	0	0	0	0	0.00	
Dehumid. Ov Sizing	0	0	0	-2,280	7	22.32	
Ov/Undr Sizing	0	0	0	0	0	0.00	
Exhaust Heat	-28	-28	0	-3,336	0	0.00	
Sup. Fan Heat	0	2,587	15	208	0	0.00	
Ret. Fan Heat	0	0	0	0	0	0.00	
Duct Heat PkUp	0	0	0	0	0	0.00	
Underfir Sup Ht PkUp	0	0	0	0	0	0.00	
Supply Air Leakage	0	0	0	0	0	0.00	
Grand Total ==>	13,790	17,506	12,526	-6,043	-10,216	100.00	

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Sens Cap. MBh	Capacity MBh
1.5	17.5	15.4	-8.7
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
1.5	17.5	0.0	-10.2
Main Clg	17.5	15.4	217
Aux Clg	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0
Total	17.5	15.4	217

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Sens Cap. MBh	Capacity MBh
1.5	17.5	15.4	-8.7
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
1.5	17.5	0.0	-10.2
Main Clg	17.5	15.4	217
Aux Clg	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0
Total	17.5	15.4	217

AIRFLOWS		ENGINEERING CKS	
	Cooling		
Diffuser	681	% OA	2.1
Terminal	681	cfm/ft²	2.83
Main Fan	681	cfm/ton	466.93
Sec Fan	0	ft²/ton	165.20
Nom Vent	14	Btu/hr-ft²	72.64
AHU Vent	14	No. People	2
Infil	22		
MinStop/Rh	217		
Return	703		
Exhaust	36		
Rm Exh	0		
Auxiliary	0		
Leakage Dwn	0		
Leakage Ups	0		

TEMPERATURES		AREAS	
	°F	Gross Total	Glass ft²
Main Htg	55.0	241	0
Aux Htg	0.0	0	0
Preheat	14	0	0
Reheat	20.4	0	0
Humidif	55.0	154	48
Opt Vent	0.0	0	0
Total	0.0	0	0

Zone Checksums

By BFA

VAV-03

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time: Outside Air:				Mo/Hr: 8 / 15				Mo/Hr: Heating Design									
OADB/WB/HR: 90 / 79 / 132				OADB: 92				OADB: 20									
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Percent Of Total	Coil Peak	Percent Of Total	SADB	Cooling	Heating	Return	Rev/OA	Fn MirTD	Fn BlcTD	Fn Frict
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)		Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h
Envelope Loads	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
SkyLite Solar	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
SkyLite Cond	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Infiltration	3,090	0	18	922	10	922	10	-2,706	11.73		-2,706	0	0	0	0	0	0
Sub Total ==>	3,090	0	18	922	10	922	10	-2,706	11.73		-2,706	0	0	0	0	0	0
Internal Loads																	
Lights	2,228	557	17	2,228	25	0	0	0	0.00		0	490	0	0	0	0	0
People	2,448	0	15	1,360	15	0	0	0	0.00		0	490	0	0	0	0	0
Misc	3,713	0	22	3,713	41	0	0	0	0.00		0	539	0	0	0	0	0
Sub Total ==>	8,389	557	54	7,301	81	0	0	0	0.00		0	0	0	0	0	0	0
Ceiling Load	118	-118	0	118	1	0	0	-29	0.00		0	0	0	0	0	0	0
Ventilation Load	0	0	0	0	0	0	0	0	0.00		0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	-1,804	7.82		0	0	0	0	0	0	0
Dehumid, Ov Sizing	793	-62	5	662	7	0	0	-10,904	47.28		0	0	0	0	0	0	0
Ov/Undr Sizing	793	793	5	662	7	0	0	0	0.00		0	0	0	0	0	0	0
Exhaust Heat	0	0	0	0	0	0	0	0	0.00		0	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	-7,530	32.65		0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	-132	0.57		0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0	0.00		0	0	0	0	0	0	0
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0.00		0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00		0	0	0	0	0	0	0
Grand Total ==>	12,390	376	100.00	9,003	100.00	16,712	100.00	-13,640	100.00		-23,061	-42.39	5				

AIR FLOWS

	Cooling	Heating
Diffuser	490	490
Terminal	490	490
Main Fan	490	490
Sec Fan	0	0
Nom Vent	33	33
AHU Vent	33	33
Infil	49	49
MinStop/Rh	490	490
Return	539	539
Exhaust	82	82
Rm Ext	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	6.7	6.7
cfm/ft	0.90	0.90
cfm/ton	351.55	
ft ³ /ton	390.61	
Btu/hr-ft ²	30.72	-42.39
No. People	5	

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	*F	*F
Main Htg	-21.8	490	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.3	33	20.4	55.0
Reheat	-8.2	490	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-23.1			

AREAS

	Gross Total	Glass	(%)
	ft ²	ft ²	
Floor	544		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0		
Wall	0		
Ext Door	0		
Total			

COOLING COIL SELECTION

	Total Capacity	Sens Cap.	Coil Airflow	Enter	DB/WB/HR	Leave	DB/WB/HR
ton	MBh	MBh	cfm	*F	*F	*F	gr/lb
Main Clg	1.4	16.7	11.8	490	76.6	55.0	52.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	1.4	16.7					

Zone Checksums

By BFA

VAV-06

	COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Percent Of Total (%)	Mo/Hr: 8 / 15 OADB: 92	Space Peak Btu/h	Mo/Hr: Heating Design OADB: 20	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Cooling	Heating
Envelope Loads	0	0	0	0	0		0	0	0	0.00	56.5	75.7	95.0
Skyllie Solar	0	0	0	0	0		0	0	0	0.00	75.7	75.7	69.8
Skyllie Cond	0	0	0	0	0		0	0	0	0.00	77.6	77.6	60.3
Roof Cond	0	0	0	0	0		0	0	0	0.00	0.4	0.4	0.0
Glass Solar	0	0	0	0	0		0	0	0	0.00	0.8	0.8	0.0
Glass/Door Cond	0	0	0	0	0		0	0	0	0.00	2.3	2.3	0.0
Wall Cond	0	0	0	0	0		0	0	0	0.00			
Partition/Door	0	0	0	0	0		0	0	0	0.00			
Floor	0	0	0	0	0		0	0	0	0.00			
Adjacent Floor	0	0	0	0	0		0	0	0	0.00			
Infiltration	1,607	1,607	1,607	480	11		-1,408	-1,408	-1,408	15.95			
Sub Total ==>	1,607	1,607	1,607	480	11		-1,408	-1,408	-1,408	15.95			
Internal Loads													
Lights	1,159	290	1,449	1,159	27		0	0	0	0.00			
People	1,274	0	1,274	708	16		0	0	0	0.00			
Misc	1,932	0	1,932	1,932	45		0	0	0	0.00			
Sub Total ==>	4,364	290	4,654	3,798	88		0	0	0	0.00			
Ceiling Load	61	-61	0	61	1		-15	0	0	0.00			
Ventilation Load	0	0	2,071	0	0		0	-1,813	20.54	0			
Adj Air Trans Heat	0	0	0	0	0		0	0	0	0.00			
Dehumid. Ov Sizing	0	0	0	0	0		-3,307	-3,307	37.47	0			
Ov/Undr Sizing	0	0	0	0	0		0	0	-0.13	0.00			
Exhaust Heat	-45	-45	895	0	10		-2,257	-2,257	25.57	0			
Sup. Fan Heat	0	0	0	0	0		0	0	0.00	0.00			
Ret. Fan Heat	0	0	0	0	0		0	0	0.00	0.59			
Duct Heat PkUp	0	0	0	0	0		0	-52	0.00	0.00			
Underfir Sup Ht PkUp	0	0	0	0	0		0	0	0.00	0.00			
Supply Air Leakage	0	0	0	0	0		0	0	0.00	0.00			
Grand Total ==>	6,033	184	9,182	4,339	100.00		-4,730	-8,827	100.00				

AIRFLOWS

	Cooling	Heating
Diffuser	236	170
Terminal	236	170
Main Fan	236	170
Sec Fan	0	0
Nom Vent	33	33
AHU Vent	33	33
Infil	25	25
MinStop/Rh	170	170
Return	261	195
Exhaust	58	58
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	13.9	19.3
cfm/ft²	0.83	0.60
cfm/ton	308.38	
ft³/ton	369.84	
Btu/hr-ft²	32.45	-31.19
No. People	3	

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-7.6	170	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.3	33	20.4	55.0
Reheat	-2.8	170	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.8			

AREAS

	Gross Total	Glass ft² (%)
Floor	283	
Part	0	
Int Door	0	
ExFir	0	
Roof	0	
Wall	0	
Ext Door	0	

COOLING COIL SELECTION

ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter °F	DBWB/HR °F	gr/lb	Leave °F	DBWB/HR °F	gr/lb
Main Cig	0.8	9.2	232	77.6	65.3	74.1	55.0	52.2	53.8
Aux Cig	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.8	9.2							

Zone Checksums

By BFA

VAV-07

	COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES														
	Peaked at Time: Outside Air:	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Space Peak Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	Percent Of Total (%)	SADB	Return	Ret/OA	Fn MtrTD	Fn BidTD	Fn Frict						
Envelope Loads													58.5	75.7	77.4	0.4	0.8	2.3	95.0	69.8	63.7	0.0	0.0	0.0
Skylite Solar	0	0	0	0	0	0	0	0	0	0	0	0	75.7	77.4	0.4	0.8	2.3	95.0	69.8	63.7	0.0	0.0	0.0	
Skylite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	1,891	1,891	1,891	17	17	1,891	564	-1,657	-1,657	11.46	11.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub Total ==>	1,891	1,891	1,891	17	17	1,891	564	-1,657	-1,657	11.46	11.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal Loads																								
Lights	1,364	341	1,705	15	15	1,705	1,364	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
People	1,499	0	1,499	13	13	1,499	833	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Misc	2,273	0	2,273	20	20	2,273	2,273	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total ==>	5,135	341	5,476	49	49	5,476	4,469	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Ceiling Load	72	-72	0	0	0	0	72	-18	-2,025	14.01	14.01	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation Load	0	0	2,312	21	21	2,312	0	0	-6,483	44.86	44.86	0	0	0	0	0	0	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Dehumid. OV Sizing	448	-51	448	4	4	448	377	-6,483	-6,483	44.86	44.86	0	0	0	0	0	0	0	0	0	0	0	0	0
OV/Undr Sizing	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhaust Heat	0	0	-51	0	0	-51	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	1,147	10	10	1,147	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total ==>	7,547	218	11,224	100.00	100.00	11,224	5,483	-8,157	-14,452	100.00	100.00	0	0	0	0	0	0	0	0	0	0	0	0	0

ENGINEERING CKS

% OA	12.3	Heating	95.0
cfm/ft²	0.90	Cooling	69.8
cfm/ton	318.80		
ft³/ton	356.03		
Btu/hr-ft²	33.70		
No. People	3		

HEATING COIL SELECTION

Capacity	Coil Airflow	Ent Lvg
MBh	cfm	°F
-13.0	293	55.0
0.0	0	0.0
-1.4	37	20.4
-4.9	293	55.0
0.0	0	0.0
0.0	0	0.0
-14.5	0	0.0
Total		

AREAS

Gross Total	Glass
ft²	(%)
333	
Floor	
Part	
Int Door	
ExFlr	
Roof	
Wall	
Ext Door	

COOLING COIL SELECTION

Total Capacity	Sens Cap.	Coil Airflow	Enter	Leave
ton	MBh	cfm	°F	°F
0.9	7.4	298	77.4	55.0
0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0	0.0
0.9	11.2	0	0.0	0.0
Total				

Zone Checksums

By BFA

VAV-09 and VAV-10

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
	Space Sens. + Lat	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Envelope Loads	Mo/Hr: 8 / 15	Mo/Hr: Heating Design	Space Peak	Coil Peak	Percent Of Total	SADB	Cooling	Heating	
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)		OADB/WB/HR: 90 / 79 / 132	OADB: 20	Btu/h	Btu/h	(%)	Return	75.7	95.0	
Envelope Loads	0	0	0	0	0	0	Envelope Loads			0	0	0.00	Ra Plenum	69.8	69.8	
Skyllie Solar	0	0	0	0	0	0	Skyllie Solar			0	0	0.00	Return	76.9	65.4	
Skyllie Cond	0	0	0	0	0	0	Skyllie Cond			0	0	0.00	Fa MtrTD	0.4	0.0	
Roof Cond	0	0	0	0	0	0	Roof Cond			0	0	0.00	Fa BldTD	0.8	0.0	
Glass Solar	0	0	0	0	0	0	Glass Solar			0	0	0.00	Fa Frict	2.3	0.0	
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond			0	0	0.00				
Wall Cond	81	42	123	0	82	0	Wall Cond			-349	-543	0.49				
Partition/Door	0	0	0	0	0	0	Partition/Door			0	0	0.00				
Floor	0	0	0	0	0	0	Floor			0	0	0.00				
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor			0	0	0.00				
Infiltration	14,637	0	14,637	18	4,368	10	Infiltration			-12,819	-12,819	11.52				
Sub Total ==>	14,718	42	14,760	18	4,450	10	Sub Total ==>			-13,169	-13,362	12.01				
Internal Loads							Internal Loads									
Lights	10,554	2,639	13,193	16	10,554	25	Lights			0	0	0.00				
People	11,597	0	11,597	14	6,443	15	People			0	0	0.00				
Misc	18,285	0	18,285	22	18,285	43	Misc			0	0	0.00				
Sub Total ==>	40,436	2,639	43,075	52	35,282	82	Sub Total ==>			0	0	0.00				
Ceiling Load	560	-560	0	0	559	1	Ceiling Load			-139	0	0.00				
Ventilation Load	0	0	13,048	16	0	0	Ventilation Load			0	-11,429	10.27				
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat			0	0	0				
Dehumid. Ov Sizing	3,019	-335	3,019	4	2,559	6	Ov/Under Sizing			-51,305	-51,305	46.11				
Exhaust Heat	0	0	0	0	0	0	Exhaust Heat			83	83	-0.08				
Sup. Fan Heat	0	0	0	0	0	0	OA Preheat Diff.			-34,812	-34,812	31.29				
Ret. Fan Heat	0	0	0	0	0	0	RA Preheat Diff.			0	0	0.00				
Duct Heat PkUp	0	0	0	0	0	0	Additional Reheat			-431	-431	0.39				
Underfrt. Sup Ht PkUp	0	0	0	0	0	0	System Plenum Heat			0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	Underfrt. Sup Ht PkUp			0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage			0	0	0.00				
Grand Total ==>	58,733	1,786	82,510	100.00	42,849	100.00	Grand Total ==>			-64,613	-111,256	100.00				

AIRFLOWS

	Cooling	Heating
Diffuser	2,330	2,319
Terminal	2,330	2,319
Main Fan	2,330	2,319
Sec Fan	0	0
Nom Vent	207	207
AHU Vent	207	207
Infil	232	232
MinStop/Rh	2,319	2,319
Return	2,562	2,551
Exhaust	439	439
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	8.9	8.9
cfm/ft ²	0.90	0.90
cfm/ton	338.89	
ft ³ /ton	374.79	
Btu/hr-ft ²	32.02	-43.17
No. People	26	

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-103.3	2,319	55.0	95.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-8.0	207	20.4	55.0
Reheat	-38.7	2,319	55.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-111.3			

AREAS

	Gross Total	Glass	(%)
Floor	2,577		
Part	0		
Int Door	0		
ExFlr	0		
Roof	112		
Wall	0		
Ext Door	0		

COOLING COIL SELECTION

	Total Capacity	Sens Cap.	Coil Airflow	Enter	DB/WB/HR	Leave	DB/WB/HR
ton	MBh	MBh	cfm	°F	°F	°F	°F
Main Clg	6.9	82.5	2,321	76.9	64.4	55.0	52.5
Aux Clg	0.0	0.0	0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0	0.0	0.0	0.0	0.0
Total	6.9	82.5					

Zone Checksums

By BFA

VAV-11

Peaked at Time: Outside Air:	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
	Mo/Hr: 8 / 15 OADB/WB/HR: 90 / 79 / 132	Mo/Hr: 8 / 15 OADB: 92	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Sens.+ Lat. Btu/h	Plenum Sens.+ Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Cooling	Heating
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	0.00	58.5	95.0	
SkyLite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0.00	75.7	69.8	
SkyLite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.00	75.7	69.8	
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.00	77.4	63.8	
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.4	0.0	
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.8	0.0	
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0.00	2.3	0.0	
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
Infiltration	716	0	716	17	214	10	10	214	10	-627	-627	11.22				
Sub Total ==>	716	0	716	17	214	10	10	214	10	-627	-627	11.22				
Internal Loads																
Lights	516	129	645	15	516	25	25	516	25	0	0	0.00				
People	567	0	567	13	315	15	15	315	15	0	0	0.00				
Misc	860	0	860	20	860	41	41	860	41	0	0	0.00				
Sub Total ==>	1,943	129	2,072	49	1,691	81	81	1,691	81	0	0	0.00				
Ceiling Load	27	-27	0	0	27	1	1	27	1	-7	-7	0.00				
Ventilation Load	0	0	875	21	0	0	0	0	0	0	0	0.00				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0.00				
Dehumid. Ov Sizing	184	-19	184	4	153	7	7	153	7	-2,526	-2,526	45.22				
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0	5	5	-0.09				
Exhaust Heat	0	0	-19	0	0	0	0	0	0	0	0	0.00				
Sup. Fan Heat	0	0	437	10	0	0	0	0	0	-1,640	-1,640	29.37				
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0	0	0.00				
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0	0.00				
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	-31	-31	0.55				
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0	0.00				
Grand Total ==>	2,870	82	4,264	100.00	2,085	100.00	100.00	2,085	100.00	-3,159	-5,584	100.00				

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Ent Lvg °F
0.4	4.3	-5.1	95.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.4	4.3	0.0	0.0
Total	0.4	-5.1	95.0

COOLING COIL SELECTION		HE	
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Zone Checksums

By BFA

VAV-13

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time: Outside Air:				Mo/Hr: 8 / 15				Mo/Hr: Heating Design							
OADBWB/HR: 90 / 79 / 132				OADB: 92				OADB: 20							
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Percent Of Total	Space Peak	Percent Of Total	Space Peak	Percent Of Total	Space Peak	Percent Of Total	Space Peak	Percent Of Total
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)	Btu/h	(%)
Envelope Loads															
Skyllite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyllite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	869	869	18	259	11	-761	0	-761	0	-761	16.07	0	0	0	0
Infiltration	869	869	18	259	11	-761	0	-761	0	-761	16.07	0	0	0	0
Sub Total ==>															
Internal Loads															
Lights	627	783	16	627	27	0	0	0	0	0	0.00	0	0	0	0.00
People	689	689	14	383	16	0	0	0	0	0	0.00	0	0	0	0.00
Misc	1,044	1,044	21	1,044	45	0	0	0	0	0	0.00	0	0	0	0.00
Sub Total ==>	2,360	2,516	51	2,054	88	0	0	0	0	0	0.00	0	0	0	0.00
Ceiling Load	33	-33	0	33	1	-8	0	-8	0	0	0.00	0	0	0	0.00
Ventilation Load	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Dehumid, Ov Sizing	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Exhaust Heat	-23	-23	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Sup. Fan Heat	484	484	10	0	0	-1,788	0	-1,788	0	-1,788	37.74	0	0	0	0.00
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00
Grand Total ==>	3,262	100	4,908	100.00	2,346	100.00	2,346	100.00	2,346	100.00	2,346	100.00	2,346	100.00	2,346

ENGINEERING CKS

% OA	13.2	Heating
cfm/ft²	18.3	Heating
cfm/ton	0.83	0.60
ft²/ton	311.94	
Btu/hr-ft²	374.11	
No. People	32.08	-30.96
	2	

HEATING COIL SELECTION

Capacity	Coil Airflow	Ent	Lvg
MBh	cfm	°F	°F
Main Htg	92	55.0	95.0
Aux Htg	0	0	0
Preheat	-0.7	17	20.4
Reheat	-1.5	92	55.0
Humidif	0	0	0
Opt Vent	0	0	0
Total	-4.7	0	0

AREAS

Gross Total	Glass
ft²	(%)
Floor	153
Part	0
Int Door	0
ExFir	0
Roof	0
Wall	0
Ext Door	0

COOLING COIL SELECTION

Total Capacity	Sens Cap.	Coil Airflow	Enter	DBWB/HR	Leave
ton	MBh	cfm	°F	°F	°F
Main Clg	4.9	126	77.5	65.2	55.0
Aux Clg	0.0	0	0	0	0
Opt Vent	0.0	0	0	0	0
Total	4.9	126	77.5	65.2	55.0

Zone Checksums

By BFA

VAV-15

	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES									
	Peaked at Time: Outside Air:	Mo/Hr: 8 / 15 OADB/MB/HR: 90 / 79 / 132	Mo/Hr: 6 / 15 OADB: 92	Mo/Hr: Heating Design OADB: 20	Space Sens. + Lat. Sens. Btu/h	Plenum Sens. + Lat. Sens. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Envelope Loads Btu/h	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Return	Fn MtrTD	Fn BidTD	Fn Frict	Cooling	Heating	
Envelope Loads																						
Skyline Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	2,937	2,937	2,937	17	2,937	2,937	17	876	10	876	-2,572	-2,572	11.22	465	465	465	0	0	57	57	57	57
Sub Total ==>	2,937	2,937	2,937	17	2,937	2,937	17	876	10	876	-2,572	-2,572	11.22	465	465	465	0	0	57	57	57	57
Internal Loads																						
Lights	2,117	529	2,647	15	2,117	2,647	15	2,117	25	2,117	0	0	0.00	465	465	465	0	0	47	47	47	47
People	2,327	0	2,327	13	2,327	2,327	13	1,293	15	1,293	0	0	0.00	465	465	465	0	0	47	47	47	47
Misc	3,529	0	3,529	20	3,529	3,529	20	3,529	41	3,529	0	0	0.00	512	512	512	0	0	57	57	57	57
Sub Total ==>	7,973	529	8,502	49	7,973	8,502	49	6,939	81	6,939	0	0	0.00	103	103	103	0	0	57	57	57	57
Ceiling Load	112	-112	0	0	112	0	0	112	1	112	-28	-28	0.00	0	0	0	0	0	0	0	0	0
Ventilation Load	0	0	3,588	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dehumid. Ov Sizing	753	-79	753	4	753	753	4	629	7	629	-10,363	-10,363	45.22	0	0	0	0	0	0	0	0	0
OvUndr Sizing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhaust Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total ==>	11,775	338	17,495	100.00	11,775	17,495	100.00	8,556	100.00	8,556	-12,963	-12,963	100.00	0	0	0	0	0	0	0	0	0

ENGINEERING CKS

Cooling	12.2	Heating	12.2
% OA	0.90		0.90
cfm/ft²	319.16		319.16
cfm/ton	354.62		354.62
ft³/ton	33.84		33.84
Etu/hr-ft²	5		-44.32
No. People			5

HEATING COIL SELECTION

Capacity	Coil Airflow	Ent °F	Lvg °F
MBh	cfm		
-20.7	465	55.0	95.0
0.0	0	0.0	0.0
-2.2	57	20.4	55.0
-7.8	465	55.0	70.0
0.0	0	0.0	0.0
0.0	0	0.0	0.0
-22.9			

AREAS

Gross Total	Glass	(%)
517	ft²	
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		

COOLING COIL SELECTION

Total Capacity	Sens Cap.	Coil Airflow	Enter °F	DB/MB/HR	Leave °F	gr/lb
ton	MBh	cfm				
1.5	17.5	465	77.4	65.0	54.8	54.8
0.0	0.0	0	0.0	0.0	0.0	0.0
0.0	0.0	0	0.0	0.0	0.0	0.0
1.5	17.5					

TRACE@ 700 v6.2.8 calculated at 04:51 PM on 08/16/2012
Alternative - 1 System Checksums Report Page 14 of 17

Project Name: BFA Job 11-005B
Dataset Name: BLDG110B.trc

Zone Checksums

By BFA

VAV-16

Peaked at Time: Outside Air:	COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
	Mo/Hr: 8 / 15	Mo/Hr: 6 / 15	Mo/Hr: Heating Design	Mo/Hr: 20	Mo/Hr: 8 / 15	Mo/Hr: 6 / 15	Mo/Hr: Heating Design	Mo/Hr: 20	Mo/Hr: 8 / 15	Mo/Hr: 6 / 15	Mo/Hr: Heating Design	Mo/Hr: 20	Mo/Hr: 8 / 15	Mo/Hr: 6 / 15	Mo/Hr: Heating Design	Mo/Hr: 20		
	OADB/WB/HR: 90 / 79 / 132																	
	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Envelope Loads Btu/h	Space Peak Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	Space Peak Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)	SADB	Return	Fn MtrTD	Fn BldTD	Fn Frict
Envelope Loads	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Skyllite Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Skyllite Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Wall Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Partition/Door	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	58.5	75.7	76.7	0.4	2.3
Infiltration	4,942	4,942	4,942	18	1,475	10	1,475	4,942	-4,328	11.68	-4,328	-4,328	11.68	58.5	75.7	76.7	0.4	2.3
Sub Total ==>	4,942	4,942	4,942	18	1,475	10	1,475	4,942	-4,328	11.68	-4,328	-4,328	11.68	58.5	75.7	76.7	0.4	2.3
Internal Loads																		
Lights	3,563	891	4,454	16	3,563	25	3,563	0	0	0.00	0	0	0.00					
People	3,915	0	3,915	14	2,175	15	2,175	0	0	0.00	0	0	0.00					
Misc	5,939	0	5,939	22	5,939	41	5,939	0	0	0.00	0	0	0.00					
Sub Total ==>	13,417	891	14,308	53	11,677	81	11,677	0	0	0.00	0	0	0.00					
Ceiling Load	189	-189	0	0	189	1	189	-47	0	0.00	-47	0	0.00					
Ventilation Load	0	0	3,591	13	0	0	0	0	0	0.00	0	0	0.00					
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Dehumid. Ov Sizing	1,258	-103	1,258	5	1,059	7	1,059	-17,439	-17,439	47.05	-17,439	-17,439	47.05					
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Exhaust Heat	0	0	-103	0	0	0	0	0	0	0.00	0	0	0.00					
Sup. Fan Heat	0	0	3,014	11	0	0	0	-11,965	-11,965	32.28	-11,965	-11,965	32.28					
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00					
Grand Total ==>	19,806	598	27,009	100.00	14,399	100.00	14,399	-21,813	-37,062	100.00	-21,813	-37,062	100.00					

AIRFLOWS

	Cooling	Heating
Diffuser	783	783
Terminal	783	783
Main Fan	783	783
Sec Fan	0	0
Nom Vent	57	57
AHU Vent	57	57
Infil	78	78
MinStop/Rh	783	783
Return	861	861
Exhaust	135	135
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	7.3	7.3
cfm/ft²	0.90	0.90
cfm/ton	347.88	
ft/ton	386.54	
Btu/ft²	31.04	-42.60
No. People	9	

HEATING COIL SELECTION

Capacity	Coil Airflow	Ent °F	Lvg °F
MBh	cfm		
-34.9	783	55.0	95.0
0.0	0	0.0	0.0
-2.2	57	20.4	55.0
-13.1	783	55.0	70.0
0.0	0	0.0	0.0
0.0	0	0.0	0.0
-37.1			

AREAS

Gross Total	Glass ft²	(%)
870		
Floor		
Part		
Int Door		
ExFir		
Roof		
Wall		
Ext Door		

COOLING COIL SELECTION

Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR	Leave DB/WB/HR
ton	MBh	cfm	°F	°F
2.3	18.9	782	64.1	54.8
0.0	0.0	0	0.0	0.0
0.0	0.0	0	0.0	0.0
2.3	27.0			

Zone Checksums

By BFA

VAV-18

		COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES							
		Mo/Hr: 8 / 15	Mo/Hr: 6 / 15	Mo/Hr: Heating Design	Mo/Hr: Heating Design	Space Sensible	Space Percent	Space Peak	Coil Peak	Space Sensible	Space Percent	Space Peak	Coil Peak	SADB	Ra Plenum	Return	Fri Mtr/OA	Fri MtrTD	Fri Frict	Cooling	Heating
Peaked at Time: Outside Air		OADB/WB/HR: 90 / 79 / 132	OADB/WB/HR: 90 / 79 / 132	OADB: 92	OADB: 20																
Envelope Loads	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)	Space Peak Spas Btu/h	Coil Peak Tot Spas Btu/h	Percent Of Total (%)	Space Peak Spas Btu/h	Coil Peak Tot Spas Btu/h	Percent Of Total (%)	SADB	Ra Plenum	Return	Fri Mtr/OA	Fri MtrTD	Fri Frict	Cooling	Heating	
Envelope Loads	0	0	0	0	0	0	0	0	0.00	0	0	0.00	58.5	75.7	75.7	77.5	0.4	0.8	2.3	58.5	95.0
SkyLite Solar	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
SkyLite Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Roof Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Glass Solar	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Wall Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Partition/Door	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Floor	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Adjacent Floor	0	0	0	0	0	0	0	0	0.00	0	0	0.00	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Infiltration	1,108	0	1,108	18	331	11	-970	-970	16.07	-970	-970	16.07	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Sub Total ==>	1,108	0	1,108	18	331	11	-970	-970	16.07	-970	-970	16.07	75.7	75.7	75.7	77.5	0.4	0.8	2.3	75.7	69.8
Internal Loads																					
Lights	799	200	998	16	799	27	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
People	878	0	878	14	488	16	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Misc	1,331	0	1,331	21	1,331	45	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Sub Total ==>	3,007	200	3,207	51	2,617	88	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Ceiling Load	42	-42	0	0	42	1	-11	0	0.00	-11	-11	0.00	163	163	163	163	0	0	21	117	117
Ventilation Load	0	0	1,354	22	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Dehumid. Ov Sizing	0	0	0	0	0	0	-2,279	-2,279	37.74	-2,279	-2,279	37.74	163	163	163	163	0	0	21	117	117
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Exhaust Heat	-30	-30	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Sup. Fan Heat	616	0	616	10	0	0	-1,575	-1,575	26.08	-1,575	-1,575	26.08	163	163	163	163	0	0	21	117	117
Ret. Fan Heat	0	0	0	0	0	0	-36	-36	0.60	-36	-36	0.60	163	163	163	163	0	0	21	117	117
Duct Heat PkUp	0	0	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Underfir Sup Ht PkUp	0	0	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00	0	0	0.00	163	163	163	163	0	0	21	117	117
Grand Total ==>	4,157	128	6,255	100.00	2,990	100.00	-3,259	-6,038	100.00	-3,259	-6,038	100.00	163	163	163	163	0	0	21	117	117

TRACE@ 700 v6.2.8 calculated at 04:51 PM on 08/16/2012
Alternative - 1 System Checksums Report Page 17 of 17

Project Name: BFA Job 11-0058
Dataset Name: BLDG1108.trc

PEAK HEATING LOADS

MAIN SYSTEM

By BFA

Peak Time	OA Condition
Htg Design	DB °F
	WB °F
	14

System Zone	Room	Block or Peak	Floor Area ft²	SPACE				COIL			
				Supply Dry Bulb °F	Space Air Flow cfm	Space Sensible Load Btu/h	Supply Dry Bulb °F	Coil Air Flow cfm	Coil Sensible Load Btu/h		
Alternative	Nurse Manager	Peak	122	70.0	73	-2,447	100.0	73	-3,667		
	Office	Peak	123	70.0	74	-2,467	100.0	74	-3,697		
	VAV-01	Peak	245	70.0	147	-4,914	100.0	147	-7,365		
	VAV-01	Block	245	70.0	147	-4,914	100.0	147	-7,365		
	Waiting / Vending	Peak	982	70.0	884	-24,622	95.0	884	-39,354		
	VAV-02	Peak	982	70.0	884	-24,622	95.0	884	-39,354		
	VAV-02	Block	982	70.0	884	-24,622	95.0	884	-39,354		
	Lobby near ER entrance	Peak	544	70.0	490	-13,640	95.0	490	-21,801		
	VAV-03	Peak	544	70.0	490	-13,640	95.0	490	-21,801		
	VAV-03	Block	544	70.0	490	-13,640	95.0	490	-21,801		
	Vestibule	Peak	241	70.0	217	-6,043	95.0	217	-9,658		
	VAV-04	Peak	241	70.0	217	-6,043	95.0	217	-9,658		
	VAV-04	Block	241	70.0	217	-6,043	95.0	217	-9,658		
	Storage near Nurse Manager	Peak	64	70.0	38	-1,070	95.0	38	-1,710		
	Triage 1	Peak	125	70.0	113	-3,134	95.0	113	-5,009		
	Triage 2	Peak	140	70.0	126	-3,510	95.0	126	-5,611		
	VAV-05	Peak	329	70.0	277	-7,714	95.0	277	-12,330		
	VAV-05	Block	329	70.0	277	-7,714	95.0	277	-12,330		
	Clean Utility	Peak	115	70.0	69	-1,922	95.0	69	-3,072		
	Storage 1	Peak	84	70.0	50	-1,404	95.0	50	-2,244		
	Storage 2	Peak	84	70.0	50	-1,404	95.0	50	-2,244		
	VAV-06	Peak	283	70.0	170	-4,730	95.0	170	-7,561		
	VAV-06	Block	283	70.0	170	-4,730	95.0	170	-7,561		
	Future Radiology (Swing)	Peak	310	70.0	279	-7,773	95.0	279	-12,423		
	O2 Storage	Peak	23	70.0	14	-384	95.0	14	-614		
	VAV-07	Peak	333	70.0	293	-8,157	95.0	293	-13,038		
	VAV-07	Block	333	70.0	293	-8,157	95.0	293	-13,038		
	Interview / AOD	Peak	246	70.0	148	-4,112	95.0	148	-6,572		
	VAV-08	Peak	246	70.0	148	-4,112	95.0	148	-6,572		
	VAV-08	Block	246	70.0	148	-4,112	95.0	148	-6,572		
	Main ER corridor	Peak	1,534	70.0	1,381	-38,462	95.0	1,381	-61,476		
	Nurse Station	Peak	407	70.0	366	-10,205	95.0	366	-16,311		
	OB/TRT 1	Peak	106	70.0	95	-2,658	95.0	95	-4,248		

PEAK COOLING LOADS

MAIN SYSTEM
By BFA

COIL

SPACE

System	Zone	Room	Floor Area ft ²	SPACE										COIL									
				Peak Time Mo/Hr	OA DB °F	WB °F	Condition °F	Dry Bulb °F	Supply Bulb °F	Air Flow cfm	Space Sensible Load Btu/h	Space Latent Load Btu/h	Peak Time Mo/Hr	OA DB °F	WB °F	Condition °F	Dry Bulb °F	Supply Bulb °F	Airflow cfm	Coil Sensible Load Btu/h	Coil Latent Load Btu/h		
Alternative		Nurse Manager	122	6/15	92	77	75.0	58.5	200	3,673	646	7/15	91	78	58.5	198	4,786	1,238					
		Office	123	6/15	92	77	75.0	58.5	201	3,692	652	7/15	91	78	58.5	199	4,798	1,268					
	VAV-01		245	6/15	92	77	75.0	58.5	401	7,365	1,298	7/15	91	78	58.5	396	9,585	2,526					
	VAV-01	Block	245	6/15	92	77	75.0	58.5	401	7,365	1,298	7/15	91	78	58.5	396	9,585	2,526					
	VAV-02	Waiting / Vending	982	6/15	92	77	75.0	58.5	1,271	23,370	7,439	7/14	91	78	58.5	1,257	31,604	15,056					
	VAV-02	Peak	982	6/15	92	77	75.0	58.5	1,271	23,370	7,439	7/14	91	78	58.5	1,257	31,604	15,056					
	VAV-02	Block	982	6/15	92	77	75.0	58.5	1,271	23,370	7,439	7/14	91	78	58.5	1,257	31,604	15,056					
	VAV-03	Lobby near ER entrance	544	6/15	92	77	75.0	58.5	490	9,003	2,882	8/15	90	79	58.5	490	11,793	4,819					
	VAV-03	Peak	544	6/15	92	77	75.0	58.5	490	9,003	2,882	8/15	90	79	58.5	490	11,793	4,819					
	VAV-03	Block	544	6/15	92	77	75.0	58.5	490	9,003	2,882	8/15	90	79	58.5	490	11,793	4,819					
	VAV-04	Vestibule	241	7/18	88	77	75.0	58.5	681	12,526	1,383	7/17	90	78	58.5	672	15,432	2,073					
	VAV-04	Peak	241	7/18	88	77	75.0	58.5	681	12,526	1,383	7/17	90	78	58.5	672	15,432	2,073					
	VAV-04	Block	241	7/18	88	77	75.0	58.5	681	12,526	1,383	7/17	90	78	58.5	672	15,432	2,073					
	VAV-05	Storage near Nurse Manager	64	6/15	92	77	75.0	58.5	53	981	339	8/15	90	79	58.5	53	1,334	759					
	VAV-05	Peak	64	6/15	92	77	75.0	58.5	53	981	339	8/15	90	79	58.5	53	1,334	759					
	VAV-05	Block	64	6/15	92	77	75.0	58.5	53	981	339	8/15	90	79	58.5	53	1,334	759					
	VAV-05	Triage 1	125	6/15	92	77	75.0	58.5	112	2,069	662	8/15	90	79	58.5	112	2,806	1,424					
	VAV-05	Peak	140	6/15	92	77	75.0	58.5	126	2,317	742	8/15	90	79	58.5	126	3,143	1,595					
	VAV-05	Block	329	6/15	92	77	75.0	58.5	292	5,367	1,743	8/15	90	79	58.5	291	7,280	3,778					
	VAV-05	Block	329	6/15	92	77	75.0	58.5	292	5,367	1,743	8/15	90	79	58.5	291	7,280	3,778					
	VAV-06	Clean Utility	115	6/15	92	77	75.0	58.5	96	1,763	609	8/15	90	79	58.5	94	2,379	1,310					
	VAV-06	Peak	84	6/15	92	77	75.0	58.5	70	1,288	445	8/15	90	79	58.5	69	1,751	996					
	VAV-06	Block	84	6/15	92	77	75.0	58.5	70	1,288	445	8/15	90	79	58.5	69	1,751	996					
	VAV-06	Storage 1	283	6/15	92	77	75.0	58.5	236	4,339	1,500	8/15	90	79	58.5	232	5,880	3,302					
	VAV-06	Peak	283	6/15	92	77	75.0	58.5	236	4,339	1,500	8/15	90	79	58.5	232	5,880	3,302					
	VAV-06	Block	310	6/15	92	77	75.0	58.5	279	5,131	1,643	8/15	90	79	58.5	279	6,959	3,531					
	VAV-06	Future Radiology (Swing)	23	6/15	92	77	75.0	58.5	19	353	122	8/15	90	79	58.5	19	476	262					
	VAV-06	Peak	23	6/15	92	77	75.0	58.5	19	353	122	8/15	90	79	58.5	19	476	262					
	VAV-06	Block	333	6/15	92	77	75.0	58.5	288	5,483	1,764	8/15	90	79	58.5	288	7,431	3,793					
	VAV-06	Storage 2	333	6/15	92	77	75.0	58.5	298	5,483	1,764	8/15	90	79	58.5	298	7,431	3,793					
	VAV-06	Peak	246	6/15	92	77	75.0	58.5	205	3,772	1,303	8/15	90	79	58.5	202	5,089	2,802					
	VAV-06	Block	246	6/15	92	77	75.0	58.5	205	3,772	1,303	8/15	90	79	58.5	202	5,089	2,802					
	VAV-06	Interview / AOD	246	6/15	92	77	75.0	58.5	205	3,772	1,303	8/15	90	79	58.5	202	5,089	2,802					
	VAV-06	Block	246	6/15	92	77	75.0	58.5	205	3,772	1,303	8/15	90	79	58.5	202	5,089	2,802					
	VAV-08	Main ER corridor	1,534	6/15	92	77	75.0	58.5	1,381	25,388	8,128	8/15	90	79	58.5	1,381	33,255	13,872					
	VAV-08	Peak	407	6/15	92	77	75.0	58.5	377	6,935	2,157	8/15	90	79	58.5	372	9,259	4,636					
	VAV-08	Nurse Station	106	6/15	92	77	75.0	58.5	95	1,754	562	8/15	90	79	58.5	95	2,380	1,207					
	VAV-08	OB/TRT 1	106	6/15	92	77	75.0	58.5	95	1,754	562	8/15	90	79	58.5	95	2,380	1,207					
	VAV-08	OB/TRT 2	106	6/15	92	77	75.0	58.5	95	1,754	562	8/15	90	79	58.5	95	2,380	1,207					

Single Duct Terminal Unit Schedule

Tag	Model	Size		CFM			Static Pressure			NC Levels			Hot Water Heat Coil									
		Unit	Outlet	Max	Min	Inlet	Down	Min	Rad.	Disch.	CFM	MBH	EAT	LAT	APd	GPM	EWT	LWT	WPD	Rows	FPI	
VAV-01	DESV	05	12x8	200	100	2.00	0.25	0.05	24	23	200	8.6	55.0	95.0	0.03	3.2	180.0	174.7	4.3	1-RH	10	
VAV-02	DESV	12	16x15	1260	950	2.00	0.25	0.31	30	28	950	41.0	55.0	95.0	0.30	1.6	180.0	128.0	0.3	2-RH	10	
VAV-03	DESV	08	12x10	600	600	2.00	0.25	0.29	27	28	600	25.9	55.0	95.0	0.27	1.4	180.0	143.1	0.4	2-RH	10	
VAV-04	DESV	07	12x10	400	220	2.00	0.25	0.13	24	24	220	9.5	55.0	95.0	0.07	1.0	180.0	161.6	0.8	1-RH	10	
VAV-05	DESV	06	12x8	300	300	2.00	0.25	0.21	27	24	300	15.0	55.0	101.0	0.13	0.9	180.0	146.2	0.2	2-RH	10	
VAV-06	DESV	06	12x8	320	180	2.00	0.25	0.16	28	25	180	7.8	55.0	95.0	0.08	1.4	180.0	169.0	1.0	1-RH	10	
VAV-07	DESV	06	12x8	350	300	2.00	0.25	0.28	29	27	300	15.0	55.0	101.0	0.18	0.9	180.0	146.2	0.1	2-RH	10	
VAV-08	DESV	07	12x10	400	200	2.00	0.25	0.19	24	24	400	17.3	55.0	95.0	0.13	0.7	180.0	128.1	0.1	2-RH	10	
VAV-09	DESV	12	16x15	1400	1400	2.00	0.25	0.37	31	29	1,400	60.5	55.0	95.0	0.36	3.4	180.0	144.8	1.0	2-RH	10	
VAV-10	DESV	12	16x15	1300	1300	2.00	0.25	0.33	30	29	1,300	56.1	55.0	95.0	0.32	2.9	180.0	141.4	0.8	2-RH	10	
VAV-11	DESV	05	12x8	210	210	2.00	0.25	0.06	25	23	210	9.0	55.0	95.0	0.04	4.5	180.0	176.0	7.6	1-RH	10	
VAV-12	DESV	05	12x8	200	100	2.00	0.25	0.05	24	23	200	8.6	55.0	95.0	0.03	3.2	180.0	174.7	4.3	1-RH	10	
VAV-13	DESV	05	12x8	200	100	2.00	0.25	0.05	24	23	200	8.6	55.0	95.0	0.03	3.2	180.0	174.7	4.3	1-RH	10	
VAV-14	DESV	05	12x8	200	150	2.00	0.25	0.05	24	23	200	8.6	55.0	95.0	0.03	3.2	180.0	174.7	4.3	1-RH	10	
VAV-15	DESV	07	12x10	460	460	2.00	0.25	0.24	25	25	460	19.9	55.0	95.0	0.17	0.8	180.0	133.0	0.2	2-RH	10	
VAV-16	DESV	09	14x12.5	800	800	2.00	0.25	0.27	27	24	800	34.6	55.0	95.0	0.23	1.7	180.0	140.1	0.2	2-RH	10	
VAV-17	DESV	05	12x8	250	125	2.00	0.25	0.13	28	25	250	12.4	55.0	101.0	0.10	0.6	180.0	139.5	0.1	2-RH	10	

Tag	Model	Size		CFM		Static Pressure			NC Levels		Hot Water Heat Coil										
		Unit	Outlet	Max	Min	Inlet	Down	Min	Rad.	Disch.	CFM	MBH	EAT	LAT	APd	GPM	EWT	LWT	WPd	Rows	FPI
VAV-18	DESV	05	12x8	200	100	2.00	0.25	0.05	24	23	100	4.8	55.0	100.0	0.03	0.3	180.0	148.5	0.1	1-RH	10

200

- Notes:
1. Room NC level shown includes attenuation transfer functions obtained from tables in AHRI Standard 885.
 2. Sound data shall be obtained from tests conducted in accordance with AHRI Standard 880-98.
 3. Selections based upon Titus as Manufacturer.
 4. All CFM, pressure and heating performance values are corrected for altitude.
 5. Size units are given in inches, flow units are cubic feet per minute, pressure units are inches of water, and temperature units are degrees fahrenheit.
 6. Water pressure drop is in ft. water.

Existing VAV boxes

VAV mark	CFM		% Turndown	MBH
	max	min		
TU-1-1	240	140	58.3%	6.6
TU-1-2	280	280	100.0%	9.6
TU-1-3	210	90	42.9%	4.6
TU-1-4	560	560	100.0%	16.7
TU-1-5A	260	110	42.3%	17.3
TU-1-5B	260	110	42.3%	17.3
TU-1-6	240	100	41.7%	6.7
TU-1-7	360	360	100.0%	12.0
TU-1-8	1580	910	57.6%	36.0
TU-1-9	520	520	100.0%	17.7
TU-1-10	960	380	39.6%	17.3
TU-1-11	520	320	61.5%	11.9
TU-1-12	1320	530	40.2%	34.2
TU-1-13	440	180	40.9%	10.3
TU-1-14	930	930	100.0%	32.7
TU-1-15	230	230	100.0%	8.9
TU-1-16	860	480	55.8%	24.8
TU-1-17	420	420	100.0%	17.3
TU-1-18	410	170	41.5%	7.5
TU-1-19	770	310	40.3%	22.3
TU-1-20	240	100	41.7%	8.1
TU-1-21	520	520	100.0%	19.4
TU-1-22	160	80	50.0%	3.2
TU-1-23	580	480	82.8%	15.6
TU-1-24	380	160	42.1%	7.1
TU-1-25	320	160	50.0%	6.4
TU-1-26	480	480	100.0%	14.6
TU-1-27	700	700	100.0%	23.6
TU-1-28	1120	450	40.2%	15.0
TU-1-29	Not Used	Not Used	0.0%	
TU-1-30	250	100	40.0%	3.4
Total	16120	10360	64.3%	448.1

VAV mark	CFM		% Turndown	MBH
	max	min		

Existing Boxes to Remain

TU-1-1	240	140	58.3%	6.6
TU-1-2	280	280	100.0%	9.6
TU-1-3	210	90	42.9%	4.6
?????	560	560	100.0%	16.7
TU-1-18	410	170	41.5%	7.5
TU-1-21	520	520	100.0%	19.4
TU-1-26	480	480	100.0%	14.6
Subtotal				79.0

New Boxes	Cool Max		Heat/ Cool Min		Heat Max	Turndown	Heat (MBH)	Flow (gpm)
VAV-1-01	200	100	200	100	200	50.0%	8.6	0.86
VAV-1-02	1260	630	1260	630	1260	50.0%	54.4	5.44
VAV-1-03	600	300	600	300	600	50.0%	25.9	2.59
VAV-1-04	400	200	400	200	400	50.0%	17.3	1.73
VAV-1-05	300	150	300	150	300	50.0%	13.0	1.30
VAV-1-06	320	160	320	160	320	50.0%	13.8	1.38
VAV-1-07	350	175	350	175	350	50.0%	15.1	1.51
VAV-1-08	400	200	400	200	400	50.0%	17.3	1.73
VAV-1-09	1400	700	1400	700	1400	50.0%	60.5	6.05
VAV-1-10	1300	650	1300	650	1300	50.0%	56.2	5.62
VAV-1-11	210	105	210	105	210	50.0%	9.1	0.91
VAV-1-12	200	100	200	100	200	50.0%	8.6	0.86
VAV-1-13	200	100	200	100	200	50.0%	8.6	0.86
VAV-1-14	200	100	200	100	200	50.0%	8.6	0.86
VAV-1-15	460	230	460	230	460	50.0%	19.9	1.99
VAV-1-16	800	400	800	400	800	50.0%	34.6	3.46
VAV-1-17	250	125	250	125	250	50.0%	10.8	1.08
VAV-1-18	200	100	200	100	200	50.0%	8.6	0.86

Outside Air

Sub Total	11750	6765	4985			390.96
Existing Total						79.00
Total						469.96

Existing Performance Criteria (AH-1)

Airflow (CFM)		Static Pressure	HP	Cooling (MBH)	Sensible (MBH)	GPM	Heating (MBH)	GPM
Fan	SA	OA						
SF-1	18340	4985	40.0	897.00	?	163	199	64

EF-1	4170		1.0					
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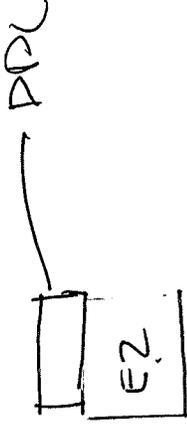
New Performance Criteria (AH-1)

Airflow (CFM)		Static Pressure	HP	Cooling (MBH)	Sensible (MBH)	GPM
Fan	SA	OA				
SF-1	11750	4985	40.0	558.70	349.00	93.1

Preheat Criteria

Fan	SA	EAT	LAT	Heating (MBH)	GPM
SF-1	11750	46	56.0	126.9	12.69

EF-1	4000		1.0		
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SHUT OFF TYPE VAV BOX SCHEDULE

MARK	VOLUME REGULATOR DATA				HEATING COIL DATA -- (EWT -- 180 DEG F., LWT -- VARIES)				ACOUSTICAL PERFORMANCE (MAX. NC)			REMARKS	
	INLET DIA INCHES	MAX COOLING/HEATING AIRFLOW CFM	MIN COOLING/HEATING AIRFLOW CFM	MIN PD AT MAX COOLING AIRFLOW (W/C)	TOTAL MBH	E.A.T. (DEG.F.)	L.A.T. (DEG.F.)	WATER FLOW (GPM)	MAX PD HEAT	WPD (FT)	RADIATED		DISCHARGE
VAV-1-01	5	200	100	0.05	8.6	55	95	0.9	0.03	4.3	24	23	1,2,3
VAV-1-02	12	1260	950	0.31	54.4	55	95	5.4	0.30	0.3	30	28	1,2,3
VAV-1-03	8	600	600	0.29	25.9	55	95	2.6	0.27	0.4	27	28	1,2,3
VAV-1-04	7	400	220	0.13	17.3	55	95	1.7	0.07	0.8	24	24	1,2,3
VAV-1-05	6	300	300	0.21	13.0	55	95	1.3	0.13	0.2	27	24	1,2,3
VAV-1-06	6	320	180	0.16	13.8	55	95	1.4	0.08	1.0	28	25	1,2,3
VAV-1-07	6	350	300	0.28	15.0	55	95	1.5	0.18	0.1	29	27	1,2,3
VAV-1-08	7	400	200	0.19	17.3	55	95	1.7	0.13	0.1	24	24	1,2,3
VAV-1-09	12	1400	1400	0.37	60.5	55	95	6.1	0.36	1.0	31	29	1,2,3
VAV-1-10	12	1300	1300	0.33	56.2	55	95	5.6	0.32	0.8	30	29	1,2,3
VAV-1-11	5	210	210	0.06	9.1	55	95	0.9	0.04	7.6	25	23	1,2,3
VAV-1-12	5	200	100	0.05	8.6	55	95	0.9	0.03	4.3	24	23	1,2,3
VAV-1-13	5	200	100	0.05	8.6	55	95	0.9	0.03	4.3	24	23	1,2,3
VAV-1-14	5	200	150	0.05	8.6	55	95	0.9	0.03	4.3	24	23	1,2,3
VAV-1-15	7	460	460	0.24	19.9	55	95	2.0	0.17	0.2	25	25	1,2,3
VAV-1-16	9	800	800	0.27	34.6	55	95	3.5	0.23	0.2	27	24	1,2,3
VAV-1-17	5	250	125	0.13	10.8	55	95	1.1	0.10	0.1	28	25	1,2,3
VAV-1-18	5	200	100	0.05	8.6	55	95	0.9	0.03	0.1	24	23	1,2,3

NOTES:

1. DESIGN BASED ON TITUS DESV MODEL WITH DIRECT DIGITAL CONTROLS.
2. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880-98.
3. PROVIDE MINIMUM INTERNAL 1" LINER MEETING UL 181 AND NFPA 90A.

