



**Robert J. Dole VA Medical Center
Site Preparation for Gamma
Camera Installation, B19
Wichita, KS**

Mechanical Calculations

Prepared for:
GLMV Architecture
Wichita, KS

PEC Project No.:
171134-000

Date:
03/28/2018
100% Construction Documents



PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

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Room Checksums

By Professional Engineering Consultants

100 - WAITING

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 99 / 74 / 93		OADB: 100		OADB: 7						SADB	54.4	82.3
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5
Envelope Loads				Envelope Loads								Ret/OA	83.9	7.4
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.0	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00						
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00						
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00						
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00						
Floor	0	0	0	0	0	Floor	0	0.00						
Adjacent Floor	0	0	0	0	0	Adjacent Floor	0	0.00						
Infiltration	409		409	6	245	Infiltration	-547	13.03						
Sub Total ==>	409	0	409	6	245	Sub Total ==>	-547	13.03						
Internal Loads				Internal Loads										
Lights	703	176	879	13	703	Lights	0	0.00						
People	3,000	0	3,000	43	1,500	People	0	0.00						
Misc	0	0	0	0	0	Misc	0	0.00						
Sub Total ==>	3,703	176	3,879	56	2,203	Sub Total ==>	0	0.00						
Ceiling Load	89	-89	0	0	89	Ceiling Load	-95	0.00						
Ventilation Load	0	0	2,728	39	0	Ventilation Load	0	78.18						
Adj Air Trans Heat	0		0	0	0	Adj Air Trans Heat	0	0						
Dehumid. Ov Sizing			0	0		Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	0		0	0	530	Exhaust Heat	89	-2.13						
Exhaust Heat		-91	-91	-1		OA Preheat Diff.	-274	6.53						
Sup. Fan Heat			0	0		RA Preheat Diff.	0	0.00						
Ret. Fan Heat		0	0	0		Additional Reheat	0	0.00						
Duct Heat Pkup		0	0	0		System Plenum Heat	-184	4.39						
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage		0	0	0		Supply Air Leakage	0	0.00						
Grand Total ==>	4,201	-4	6,925	100.00	3,068	Grand Total ==>	-642	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	165	49
Terminal	165	49
Main Fan	165	49
Sec Fan	0	0
Nom Vent	55	49
AHU Vent	55	49
Infil	8	8
MinStop/Rh	49	49
Return	173	58
Exhaust	63	58
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	100.0
cfm/ft²	0.80	0.24
cfm/ton	285.57	
ft²/ton	356.96	
Btu/hr-ft²	33.62	-20.37
No. People	6.0	29.1/1000 ft²

COOLING COIL SELECTION										
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			
	ton	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	
Main Clg	0.6	6.9	4.1	136	83.9	66.4	74.2	54.4	48.8	44.9
Aux Clg	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
Total	0.6	6.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	206		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.5	49	54.4	82.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.7	55	7.4	54.4
Reheat	-0.8	49	54.4	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.2			

Room Checksums

By Professional Engineering Consultants

104 - HOT LAB

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 17		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 100 / 74 / 89		OADB: 98		OADB: 7						SADB	54.4	76.2
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5
Envelope Loads				Envelope Loads								Ret/OA	75.4	54.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0
Glass Solar	742	0	742	8	1,110	14	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	158	0	158	2	153	2	-380	8.42	-380	-380	8.42	Diffuser	431	129
Wall Cond	168	51	218	2	257	3	-415	12.05	-415	-544	12.05	Terminal	431	129
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	431	129
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	31	31
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	31	31
Sub Total ==>	1,069	51	1,119	12	1,520	19	-794	20.47	-794	-923	20.47	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	129	129
Lights	314	79	393	4	314	4	0	0.00	0	0	0.00	Return	400	99
People	500	0	500	5	250	3	0	0.00	0	0	0.00	Exhaust	0	0
Misc	5,887	0	5,887	63	5,887	73	0	0.00	0	0	0.00	Rm Exh	31	31
Sub Total ==>	6,701	79	6,780	72	6,451	80	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load	50	-50	0	0	51	1	-53	0.00	-53	0	0.00	Leakage Dwn	0	0
Ventilation Load	0	0	1,473	16	0	0	-2,035	45.12	0	-2,035	45.12	Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	7.1	23.7
Ov/Undr Sizing	0	0	0	0	0	0	-1,474	32.70	0	0	0.00	cfm/ft²	3.75	1.12
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	551.84	
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	ft²/ton	147.24	
Ret. Fan Heat	0	0	0	0	0	0	-77	1.70	0	0	0.00	Btu/hr-ft²	81.50	-39.21
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	1.0	8.7/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	7,820	79	9,372	100.00	8,023	100.00	-847	100.00	-847	-4,509	100.00			

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg	
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F	
Main Clg	0.8	9.4	8.6	407	75.4	61.5	63.7	54.4	53.4	62.4	Floor	115	Main Htg	-3.0	129	54.4	76.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0	Aux Htg	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	Int Door	0	Preheat	-1.5	31	7.4	54.4
Total	0.8	9.4									ExFlr	0	Reheat	-2.1	129	54.4	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	70	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-4.5			

Room Checksums

By Professional Engineering Consultants

108 Imaging

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 7 / 10		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 98 / 74 / 94		OADB: 87		OADB: 7			SADB			Ra Plenum				
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return			Ret/OA			
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD			Fn BldTD			
							Btu/h	Btu/h		Fn Frict						
Envelope Loads				Envelope Loads							AIRFLOWS					
	0	0	0	0	0	0	0	0	0.00	Cooling			Heating			
Skylite Solar	0	0	0	0	0	0	0	0	0.00	Diffuser			838			
Skylite Cond	0	0	0	0	0	0	0	0	0.00	Terminal			838			
Roof Cond	0	0	0	0	0	0	0	0	0.00	Main Fan			838			
Glass Solar	1,306	0	1,306	6	2,454	16	0	0	0.00	Sec Fan			0			
Glass/Door Cond	521	0	521	2	284	2	-1,518	-1,518	11.62	Nom Vent			92			
Wall Cond	1,422	400	1,822	9	895	6	-2,639	-3,393	25.97	AHU Vent			92			
Partition/Door	0	0	0	0	0	0	0	0	0.00	Infil			0			
Floor	0	0	0	0	0	0	0	0	0.00	MinStop/Rh			252			
Adjacent Floor	0	0	0	0	0	0	0	0	0.00	Return			746			
Infiltration	0	0	0	0	0	0	0	0	0.00	Exhaust			0			
Sub Total ==>	3,249	400	3,649	17	3,633	23	-4,157	-4,912	37.60	Rm Exh			92			
Internal Loads				Internal Loads							ENGINEERING CKS					
Lights	1,889	472	2,362	11	1,889	12	0	0	0.00	% OA			11.0			
People	1,500	0	1,500	7	750	5	0	0	0.00	cfm/ft²			2.42			
Misc	9,200	0	9,200	43	9,200	59	0	0	0.00	cfm/ton			474.68			
Sub Total ==>	12,589	472	13,062	62	11,839	76	0	0	0.00	ft²/ton			195.89			
Grand Total ==>	15,986	725	21,196	100.00	15,607	100.00	-4,317	-13,065	100.00	Btu/hr-ft²			61.26			
Ceiling Load				Ceiling Load							No. People					
Ventilation Load	0	0	4,485	21	0	0	0	-6,121	46.85	Cooling			3.0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	Heating			8.7/1000 ft²			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00							
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0.00							
Exhaust Heat	0	0	0	0	0	0	0	0	0.00							
Sup. Fan Heat	0	0	0	0	0	0	-2,381	18.22	18.22							
Ret. Fan Heat	0	0	0	0	0	0	0	0	0.00							
Duct Heat Pkup	0	0	0	0	0	0	349	-2.67	-2.67							
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0	0.00							
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00							

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION						
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Capacity	Coil Airflow	Ent	Lvg				
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F			
Main Clg	1.8	21.2	18.5	819	76.1	62.1	65.3	54.4	53.0	60.8	Floor	346	Main Htg	-8.5	252	54.4	86.2		
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0	Aux Htg	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	Int Door	0	Preheat	-4.6	92	7.4	54.4		
Total	1.8	21.2									ExFlr	0	Reheat	-4.2	252	54.4	70.0		
											Roof	0	Humidif	0.0	0	0.0	0.0		
											Wall	410	48	12	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-13.1			

Room Checksums

By Professional Engineering Consultants

109 - HEART STATION

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 11			Mo/Hr: 7 / 10		Mo/Hr: Heating Design						Cooling			Heating				
Outside Air:		OADB/WB/HR: 91 / 71 / 89			OADB: 87		OADB: 7						SADB			Ra Plenum				
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Return			Ret/OA				
	Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Fn MtrTD			Fn BldTD				
													Fn Frict							
Envelope Loads					Envelope Loads															
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	801	0	801	18	1,032	38	0	0	0.00	0	0	0.00								
	97	0	97	2	76	3	-380	-380	10.77	-380	-380	10.77								
	334	96	430	10	263	10	-603	-778	22.07	-603	-778	22.07								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	1,232	96	1,328	29	1,371	50	-983	-1,158	32.84	-983	-1,158	32.84								
Internal Loads					Internal Loads															
	360	90	451	10	360	13	0	0	0.00	0	0	0.00								
	1,000	0	1,000	22	500	18	0	0	0.00	0	0	0.00								
	451	0	451	10	451	16	0	0	0.00	0	0	0.00								
	1,811	90	1,901	42	1,311	48	0	0	0.00	0	0	0.00								
	53	-53	0	0	51	2	-61	0	0.00	-61	0	0.00								
	0	0	1,344	30	0	0	0	-2,335	66.25	0	-2,335	66.25								
	0	0	0	0	0	0	0	0	0	0	0	0								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	54	-1.54	0	54	-1.54								
	-47	-47	-1	-1	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	-132	3.75	0	-132	3.75								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	46	-1.30	0	46	-1.30								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
Grand Total ==>	3,096	86	4,526	100.00	2,733	100.00	-1,044	-3,525	100.00	-1,044	-3,525	100.00								

AIRFLOWS		
	Cooling	Heating
Diffuser	147	44
Terminal	147	44
Main Fan	147	44
Sec Fan	0	0
Nom Vent	35	35
AHU Vent	35	35
Infil	0	0
MinStop/Rh	44	44
Return	147	44
Exhaust	35	35
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	24.0	79.9
cfm/ft²	1.11	0.33
cfm/ton	389.31	
ft²/ton	350.01	
Btu/hr-ft²	34.28	-26.70
No. People	2.0	15.2/1000 ft²

COOLING COIL SELECTION										
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			
	ton	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	
Main Clg	0.4	4.5	139	77.8	63.3	68.5	54.4	52.0	56.9	
Aux Clg	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	0.4	4.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	132		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0	0	0
Wall	95	12	13
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.8	44	54.4	92.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.8	35	7.4	54.4
Reheat	-0.7	44	54.4	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.5			

Room Checksums

By Professional Engineering Consultants

128 - LINEN ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 21		Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 67 / 71		OADB: 87		OADB: 7			SADB			Ra Plenum		
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Space Sens	Tot Sens	(%)	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Wall Cond	337	82	418	76	337	72	-377	90.93	-377	-469	0.00	0.00	0.00	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
<i>Sub Total ==></i>	337	82	418	76	337	72	-377	90.93	-377	-469	0.00	0.00	0.00	
Internal Loads				Internal Loads										
Lights	63	16	79	14	63	14	0	0.00	0	0	0.00	0	0.00	
People	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Misc	53	0	53	10	53	11	0	0.00	0	0	0.00	0	0.00	
<i>Sub Total ==></i>	116	16	132	24	116	25	0	0.00	0	0	0.00	0	0.00	
Ceiling Load	15	-15	0	0	15	3	-14	0.00	0	0	0.00	0	0.00	
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0.00	
Grand Total ==>	468	82	551	100.00	468	100.00	-391	100.00	-391	-516	0.00	0.00	0.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	25	8
Terminal	25	8
Main Fan	25	8
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	8	8
Return	25	8
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.81	0.24
cfm/ton	548.23	
ft²/ton	675.53	
Btu/hr-ft²	17.76	-16.64
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.1	0.6	0.6	25	73.6	60.4	61.7	54.4	52.6	59.2
Aux Clg	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
Total	0.1	0.6								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	31		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0	0	0
Wall	50	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-0.5	8	54.4	118.9
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.1	8	54.4	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.5			

Room Checksums

By Professional Engineering Consultants

129 - IMAGING

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 18		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 100 / 74 / 89		OADB: 95		OADB: 7								
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)			
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	SADB	54.4	77.5
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Ra Plenum	73.4	68.5
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	73.4	68.5
Glass Solar	742	0	742	5	1,022	9	0	0.00	0	0	0.00	Ret/OA	75.8	50.7
Glass/Door Cond	158	0	158	1	142	1	-380	5.37	-380	-380	5.37	Fn MtrTD	0.0	0.0
Wall Cond	389	103	492	4	721	6	-961	17.31	-1,224	-1,224	17.31	Fn BldTD	0.0	0.0
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00			
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00			
Sub Total ==>	1,290	103	1,393	10	1,884	17	-1,341	22.68	-1,341	-1,603	22.68			
Internal Loads				Internal Loads										
Lights	679	170	849	6	679	6	0	0.00	0	0	0.00			
People	1,000	0	1,000	7	500	4	0	0.00	0	0	0.00			
Misc	8,100	0	8,100	58	8,100	72	0	0.00	0	0	0.00			
Sub Total ==>	9,779	170	9,949	72	9,279	82	0	0.00	0	0	0.00			
Ceiling Load	86	-86	0	0	90	1	-92	0.00	0	0	0.00			
Ventilation Load	0	0	2,549	18	0	0	0	49.80	-3,521	-3,521	49.80			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00			
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Sup. Fan Heat	0	0	0	0	0	0	-1,918	27.13	-1,918	-1,918	27.13			
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	-28	0.40	-28	-28	0.40			
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	11,155	187	13,891	100.00	11,254	100.00	-1,433	100.00	-1,433	-7,070	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	605	181
Terminal	605	181
Main Fan	605	181
Sec Fan	0	0
Nom Vent	53	53
AHU Vent	53	53
Infil	0	0
MinStop/Rh	181	181
Return	552	128
Exhaust	0	0
Rm Exh	53	53
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	8.8	29.3
cfm/ft²	3.04	0.91
cfm/ton	522.27	
ft²/ton	171.91	
Btu/hr-ft²	69.80	-35.53
No. People	2.0	10.1/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	1.2	13.9	12.4	572	75.8	61.8	64.2	54.4	53.2	61.8
Aux Clg	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
Total	1.2	13.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	199		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0	0	0
Wall	143	12	8
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-4.4	181	54.4	77.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.7	53	7.4	54.4
Reheat	-3.0	181	54.4	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-7.1			

Room Checksums

By Professional Engineering Consultants

130 - WAITING

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 11		Mo/Hr: 7 / 9		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 91 / 71 / 89		OADB: 84		OADB: 7		OADB: 7				SADB	54.4	91.1			
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.3	68.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.3	68.5			
Envelope Loads				Envelope Loads								Ret/OA	76.0	39.4			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0			
Glass Solar	1,869	0	1,869	17	2,596	39	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	226	0	226	2	134	2	-886	13.33	-886	-886	13.33				Diffuser	354	106
Wall Cond	495	154	649	6	292	4	-892	17.67	-1,174	-1,174	17.67				Terminal	354	106
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	354	106
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00				Nom Vent	51	51
Infiltration	290	0	290	3	93	1	-504	7.59	-504	-504	7.59				AHU Vent	51	51
<i>Sub Total ==></i>	2,880	154	3,034	27	3,116	47	-2,282	38.58	-2,282	-2,564	38.58				Infil	8	8
Internal Loads				Internal Loads											MinStop/Rh	106	106
Lights	648	162	811	7	648	10	0	0.00	0	0	0.00				Return	361	114
People	5,500	0	5,500	49	2,750	42	0	0.00	0	0	0.00	Exhaust	58	58			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
<i>Sub Total ==></i>	6,148	162	6,311	56	3,398	52	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	-76	0	0	72	1	-88	0.00	0	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	1,934	17	0	0	0	50.58	0	-3,361	50.58	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	14.3	47.7
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ft²	1.86	0.56
Exhaust Heat	0	-78	-78	-1	0	0	90	-1.36	0	0	0.00				cfm/ton	379.09	
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				ft²/ton	203.56	
Ret. Fan Heat	0	0	0	0	0	0	-829	12.48	0	0	0.00				Btu/hr-ft²	58.95	-34.98
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	11.0	57.9/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00						
<i>Grand Total ==></i>	9,104	163	11,201	100.00	6,586	100.00	-2,370	100.00	-2,370	-6,646	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION						
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Lvg	Capacity	Coil Airflow	Ent	Lvg		
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb
Main Clg	0.9	11.2	7.4	334	76.0	62.1	65.7	54.4	50.1	49.8	Floor	190		Main Htg	-4.1	106	54.4	91.1	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	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	Int Door	0		Preheat	-2.5	51	7.4	54.4	
<i>Total</i>	0.9	11.2									ExFlr	0		Reheat	-1.8	106	54.4	70.0	
											Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	153	28	18	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	<i>Total</i>	-6.7			

Room Checksums

By Professional Engineering Consultants

131 - VESTIBULE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 19		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 100 / 74 / 89		OADB: 92		OADB: 7						SADB	54.4	385.1			
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5			
Envelope Loads				Envelope Loads								Ret/OA	73.4	68.5			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0			
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Diffuser	16	5
Wall Cond	120	63	183	13	410	77	-591	-763	44.42	0	0.00				Terminal	16	5
Partition/Door	0	0	0	0	0	0	0	0	0.00	0	0.00				Main Fan	16	5
Floor	0	0	0	0	0	0	0	0	0.00	0	0.00				Sec Fan	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0.00	0	0.00				Nom Vent	0	0
Infiltration	767	767	54	171	32	-1,249	-1,249	72.72	-1,249	-1,249	72.72				AHU Vent	0	0
Sub Total ==>	887	63	950	67	580	110	-1,840	-2,012	117.15	0	0.00				Infil	22	22
Internal Loads				Internal Loads											MinStop/Rh	5	5
Lights	153	38	191	13	153	29	0	0	0.00	0	0.00				Return	39	27
People	0	0	0	0	0	0	0	0	0.00	0	0.00	Exhaust	22	22			
Misc	0	0	0	0	0	0	0	0	0.00	0	0.00	Rm Exh	0	0			
Sub Total ==>	153	38	191	13	153	29	0	0	0.00	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	-206	206	0	0	-204	-39	152	0	0.00	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00	0	0.00				% OA	0.0	0.0
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0.00	0	0.00				cfm/ft²	0.29	0.09
Exhaust Heat	0	276	276	19	0	0	0	-203	11.81	0	0.00				cfm/ton	138.26	
Sup. Fan Heat	0	0	0	0	0	0	0	0	0.00	0	0.00				ft²/ton	474.16	
Ret. Fan Heat	0	0	0	0	0	0	0	0	0.00	0	0.00				Btu/hr-ft²	25.31	-30.66
Duct Heat Pkup	0	0	0	0	0	0	0	0	0.00	0	0.00				No. People	0.0	0.0/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0	0.00	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00	0	0.00						
Grand Total ==>	834	583	1,417	100.00	529	100.00	-1,688	-1,717	100.00								

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION			
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F
Main Clg	0.1	1.4	1.0	13	73.4	60.4	61.7	54.4	0.0	0.0	Floor	56	-1.7	5	54.4	385.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	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	Int Door	0	0.0	0	0.0	0.0
											ExFlr	0	0.0	5	54.4	60.0
Total	0.1	1.4									Roof	0	0	0	0.0	0.0
											Wall	93	0	0	0.0	0.0
											Ext Door	0	0	0	0.0	0.0
											Total	-1.7				

Room Checksums

By Professional Engineering Consultants

132 - RECEPTION

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 99 / 74 / 93		OADB: 100		OADB: 7						SADB	54.4	77.6		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	73.4	68.5		
Envelope Loads				Envelope Loads								AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	162	49		
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	162	49		
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	162	49		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	34	34		
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	34	34		
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	5	5		
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	49	49		
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	167	54		
Infiltration	250	250	5	150	5	-334	-334	11.65	-334	-334	11.65	Exhaust	39	39		
Sub Total ==>	250	250	5	150	5	-334	-334	11.65	-334	-334	11.65	Rm Exh	0	0		
Internal Loads				Internal Loads								ENGINEERING CKS				
Lights	516	129	645	12	516	0	0	0.00	0	0	0.00	% OA	20.7	69.0		
People	900	0	900	17	500	0	0	0.00	0	0	0.00	cfm/ft²	1.29	0.39		
Misc	1,800	0	1,800	35	1,800	0	0	0.00	0	0	0.00	cfm/ton	373.90			
Sub Total ==>	3,216	129	3,345	64	2,816	0	0	0.00	0	0	0.00	ft²/ton	290.31			
Ceiling Load	54	-54	0	0	55	-58	0	0.00	-58	0	0.00	Btu/hr-ft²	41.34	-22.78		
Ventilation Load	0	0	1,669	32	0	0	-2,229	77.65	0	-2,229	77.65	No. People	2.0	15.9/1000 ft²		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00					
Ov/Undr Sizing	0	0	0	0	0	60	-2.08		60	-2.08						
Exhaust Heat	0	-56	-56	-1	0	0	0.00		0	0.00						
Sup. Fan Heat	0	0	0	0	0	-226	7.86		-226	7.86						
Ret. Fan Heat	0	0	0	0	0	0	0.00		0	0.00						
Duct Heat Pkup	0	0	0	0	0	-141	4.92		-141	4.92						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0.00		0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0.00		0	0.00						
Grand Total ==>	3,521	19	5,208	100.00	3,021	-393	-2,871	100.00	-393	-2,871	100.00					

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg	
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F	
Main Clg	0.4	5.2	4.0	162	78.8	63.5	68.1	54.4	52.4	58.6	Floor	126	Main Htg	-1.2	49	54.4	77.6
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0	Aux Htg	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	Int Door	0	Preheat	-1.7	34	7.4	54.4
											ExFlr	0	Reheat	-0.8	49	54.4	70.0
Total	0.4	5.2									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-2.9			

Room Checksums

By Professional Engineering Consultants

133 - TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 17		Mo/Hr: 7 / 18		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 98 / 71 / 74		OADB: 95		OADB: 7						SADB	54.4	101.8
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5
Envelope Loads				Envelope Loads								Ret/OA	73.4	68.5
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0
Glass Solar	1,026	0	1,026	59	1,026	110	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	154	0	154	9	144	15	-380	30.22	-380	-380	30.22	Diffuser	50	25
Wall Cond	256	77	333	19	309	33	-434	45.14	-434	-567	45.14	Terminal	50	25
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	50	25
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	0	0
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	0	0
Sub Total ==>	1,435	77	1,512	87	1,479	159	-813	75.37	-813	-947	75.37	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	25	25
Lights	180	45	225	13	180	19	0	0.00	0	0	0.00	Return	50	25
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0
Sub Total ==>	180	45	225	13	180	19	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load	29	-29	0	0	30	3	-31	0.00	-31	0	0.00	Leakage Dwn	0	0
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	0.0	0.0
Ov/Undr Sizing	0	0	0	0	-758	-81	0	0.00	0	0	0.00	cfm/ft²	0.76	0.38
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	345.33	
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	ft²/ton	455.83	
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	26.33	-19.03
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	0.0	0.0/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	1,644	93	1,737	100.00	931	100.00	-844	100.00	-844	-1,256	100.00			

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg	
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F	
Main Clg	0.1	1.7	1.7	50	73.4	60.4	61.7	54.4	47.4	39.8	Floor	66	-1.3	25	54.4	101.8	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	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	Int Door	0	0.0	0	0.0	0.0	
Total	0.1	1.7									ExFlr	0	-0.4	25	54.4	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	73	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
											Total	-1.3					

Room Checksums

By Professional Engineering Consultants

136 - CLEAN SUPPLY

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14			Mo/Hr: 7 / 21		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 99 / 74 / 93			OADB: 87		OADB: 7						SADB	54.4	72.7		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent	Space Sens	Tot Sens	Of Total	Return	73.4	68.5			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	93.0	7.4			
Envelope Loads					Envelope Loads										Fn MtrTD	0.0	0.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn BldTD	0.0	0.0			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn Frict	0.0	0.0			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				AIRFLOWS					
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				Diffuser	Cooling	Heating			
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Terminal	25	7			
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Main Fan	25	7			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Sec Fan	0	0			
Floor	0	0	0	0	0	Floor	0	0.00				Nom Vent	12	7			
Adjacent Floor	0	0	0	0	0	Adjacent Floor	0	0.00				AHU Vent	12	7			
Infiltration	0	0	0	0	0	Infiltration	0	0.00				Infil	0	0			
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				MinStop/Rh	7	7			
Internal Loads					Internal Loads										Return	25	7
Lights	126	31	157	17	126	Lights	0	0.00				Exhaust	12	7			
People	0	0	0	0	0	People	0	0.00				Rm Exh	0	0			
Misc	157	0	157	17	157	Misc	0	0.00				Auxiliary	0	0			
Sub Total ==>	283	31	314	35	283	Sub Total ==>	0	0.00				Leakage Dwn	0	0			
Ceiling Load	20	-20	0	0	23	Ceiling Load	-21	0.00				Leakage Ups	0	0			
Ventilation Load	0	0	609	67	0	Ventilation Load	0	-488	64.75			ENGINEERING CKS					
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0	0			% OA	Cooling	Heating			
Dehumid. Ov Sizing			0	0		Ov/Undr Sizing	0	0	0.00			cfm/ft²	50.0	100.0			
Ov/Undr Sizing	0		0	0	151	Exhaust Heat		11	-1.51			cfm/ton	0.53	0.16			
Exhaust Heat		-18	-18	-2		OA Preheat Diff.		-245	32.43			ft²/ton	325.12				
Sup. Fan Heat			0	0		RA Preheat Diff.		0	0.00			Btu/hr-ft²	609.60	-16.40			
Ret. Fan Heat			0	0		Additional Reheat		0	0.00			No. People	0.0	0.0/1000 ft²			
Duct Heat Pkup			0	0		System Plenum Heat		-33	4.33								
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup		0	0.00								
Supply Air Leakage			0	0		Supply Air Leakage		0	0.00								
Grand Total ==>	302	-6	905	100.00	457	Grand Total ==>	-21	-754	100.00								

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION					
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Ent	Lvg	Capacity	Coil Airflow	Ent	Lvg
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								
Main Clg	0.1	0.9	0.7	16	93.0	71.1	85.0	54.4	53.6	63.2	Floor	46		Main Htg	-0.1	7	54.4	72.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	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	Int Door	0		Preheat	-0.6	12	7.4	54.4
											ExFlr	0		Reheat	-0.1	7	54.4	70.0
Total	0.1	0.9									Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-0.8			

Room Checksums

By Professional Engineering Consultants

1-CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 99 / 74 / 93		OADB: 100		OADB: 7						SADB	54.4	81.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5
Envelope Loads				Envelope Loads								Ret/OA	96.1	7.4
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.0	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00						
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00						
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00						
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00						
Floor	0	0	0	0	0	Floor	0	0.00						
Adjacent Floor	0	0	0	0	0	Adjacent Floor	0	0.00						
Infiltration	751		751	10	450	Infiltration	-1,003	12.75						
<i>Sub Total ==></i>	751	0	751	10	450	<i>Sub Total ==></i>	-1,003	12.75						
Internal Loads				Internal Loads										
Lights	1,548	387	1,935	26	1,548	Lights	0	0.00						
People	0	0	0	0	0	People	0	0.00						
Misc	0	0	0	0	0	Misc	0	0.00						
<i>Sub Total ==></i>	1,548	387	1,935	26	1,548	<i>Sub Total ==></i>	0	0.00						
Ceiling Load	163	-163	0	0	164	Ceiling Load	-175	0.00						
Ventilation Load	0	0	5,006	67	0	Ventilation Load	0	85.03						
Adj Air Trans Heat	0		0	0	0	Adj Air Trans Heat	0	0						
Dehumid. Ov Sizing			0	0		Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	0		0	0	1,590	Exhaust Heat		179						
Exhaust Heat		-167	-167	-2		OA Preheat Diff.		0						
Sup. Fan Heat			0	0		RA Preheat Diff.		0						
Ret. Fan Heat			0	0		Additional Reheat		0						
Duct Heat Pkup			0	0		System Plenum Heat		-354						
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup		0						
Supply Air Leakage			0	0		Supply Air Leakage		0						
Grand Total ==>	2,462	57	7,525	100.00	3,753	Grand Total ==>	-1,178	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	202	101
Terminal	202	101
Main Fan	202	101
Sec Fan	0	0
Nom Vent	101	101
AHU Vent	101	101
Infil	15	15
MinStop/Rh	101	101
Return	217	116
Exhaust	116	116
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	100.0
cfm/ft²	0.53	0.27
cfm/ton	321.50	
ft²/ton	602.81	
Btu/hr-ft²	19.91	-20.81
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			
	ton	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	
Main Clg	0.6	7.5	5.1	116	96.1	72.5	88.7	54.4	52.2	57.7
Aux Clg	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
Total	0.6	7.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	378		
Part	0		
Int Door	0		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-2.8	101	54.4	81.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-5.0	101	7.4	54.4
Reheat	-1.7	101	54.4	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-7.9			

Room Checksums

By Professional Engineering Consultants

WTG CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 99 / 74 / 93		OADB: 100		OADB: 7						SADB	54.4	81.0
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	73.4	68.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	73.4	68.5
Envelope Loads				Envelope Loads								Ret/OA	96.1	7.4
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	148	74
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	148	74
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	148	74
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	74	74
Infiltration	552		552	10	331	12	-738	12.75	-738	-738	12.75	AHU Vent	74	74
Sub Total ==>	552	0	552	10	331	12	-738	12.75	-738	-738	12.75	Infil	11	11
Internal Loads				Internal Loads								MinStop/Rh	74	74
Lights	1,139	285	1,423	26	1,139	41	0	0.00	0	0	0.00	Return	159	85
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	85	85
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0
Sub Total ==>	1,139	285	1,423	26	1,139	41	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-120	0	0	120	4	-128	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	0	0	3,682	67	0	0	0	85.02	0	-4,918	85.02	ENGINEERING CKS		
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00	% OA	50.0	100.0
Ov/Undr Sizing	0		0	0	1,170	42	0	0.00	0	0	0.00	cfm/ft²	0.53	0.27
Exhaust Heat		-123	-123	-2			132	-2.28				cfm/ton	321.50	
Sup. Fan Heat		0	0	0			0	0.00				ft²/ton	602.81	
Ret. Fan Heat		0	0	0			0	0.00				Btu/hr-ft²	19.91	-20.81
Duct Heat Pkup		0	0	0			-260	4.50				No. People	0.0	0.0/1000 ft²
Underflr Sup Ht Pkup		0	0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	1,811	42	5,534	100.00	2,760	100.00	-866	100.00	-5,784	100.00	100.00			

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION					
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Lvg	Capacity	Coil Airflow	Ent	Lvg	
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F
Main Clg	0.5	5.5	3.8	85	96.1	72.5	88.7	54.4	52.2	57.7	Floor	278		Main Htg	-2.1	74	54.4	81.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	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	Int Door	0		Preheat	-3.7	74	7.4	54.4
Total	0.5	5.5									ExFlr	0		Reheat	-1.2	74	54.4	70.0
											Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-5.8			

NUCLEAR EXAM ROOM			
EQUIPMENT	QUANTITY	HEAT LOSS	TOTAL
1	1	2150	2150
2	1	508	508
3	1	273	273
4	1	204	204
5	1	518	518
6	1	0	0
7	1	0	0
9	1	4436	4436
61	1	0	0
62	1	0	0
			8089 TOTAL
8	1	255	255
60	1	0	0
90	1	0	0
			255 TOTAL