

# Zone Checksums

By MATENO

**Aerobic**

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14			Mo/Hr: 7 / 14		Mo/Hr: Heating Design			Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 109 / 90 / 188			OADB: 109		OADB: 109			OADB: 46		OADB: 46					
Space Sens.	Plenum Sens.	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent	Space Sens	Coil Peak	Percent	SADB	Cooling	Heating			
+ Lat.	+ Lat	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	Of Total	Btu/h	Btu/h	(%)	Plenum					
Btu/h	Btu/h											Return					
												Ret/OA					
												Fn MtrTD					
												Fn BldTD					
												Fn Frict					
<b>Envelope Loads</b>																	
Skylite Solar	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			
Roof Cond	0	18,906	18,906	32	0	0	0	0	0	-4,813	39	0	0	0			
Glass Solar	5,419	0	5,419	9	5,419	20	0	0	0	0	0	0	0	0			
Glass Cond	3,939	0	3,939	7	3,939	15	0	0	0	-2,621	21	0	0	0			
Wall Cond	4,520	2,322	6,842	12	4,520	17	0	0	0	-1,853	24	0	0	0			
Partition	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Exposed Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Infiltration	11,522	0	11,522	20	3,575	13	0	0	0	-2,298	19	0	0	0			
<b>Sub Total ==&gt;</b>	<b>25,400</b>	<b>21,228</b>	<b>46,627</b>	<b>80</b>	<b>17,452</b>	<b>64</b>				<b>-6,772</b>	<b>103</b>						
<b>Internal Loads</b>																	
Lights	2,730	683	3,413	6	2,730	10	0	0	0	0	0	0	0	0			
People	3,366	0	3,366	6	1,683	6	0	0	0	0	0	0	0	0			
Misc	84	0	84	0	84	0	0	0	0	1,195	-10	0	0	0			
<b>Sub Total ==&gt;</b>	<b>6,180</b>	<b>683</b>	<b>6,863</b>	<b>12</b>	<b>4,497</b>	<b>17</b>				<b>1,195</b>	<b>-10</b>						
<b>Ceiling Load</b>																	
Ceiling Load	5,204	-5,204	0	0	5,204	19	0	0	0	-1,390	0	0	0	0			
Ventilation Load	0	0	7,320	13	0	0	0	0	0	0	12	0	0	0			
Dehumid. Ov Sizing	0	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	612	-5	0	0	0			
Exhaust Heat	0	-2,292	-2,292	-4	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			
Ret. Fan Heat	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			
Reheat at Design	0	0	0	0	0	0	0	0	0	-1	0	0	0	0			
<b>Grand Total ==&gt;</b>	<b>36,784</b>	<b>14,414</b>	<b>58,518</b>	<b>100.00</b>	<b>27,153</b>	<b>100.00</b>				<b>-6,968</b>	<b>-12,302</b>	<b>100.00</b>					

AIRFLOWS		
	Cooling	Heating
Vent	61	61
Infil	96	96
Supply	1,058	1,058
MinStop/Rh	0	0
Return	1,154	1,154
Exhaust	158	158
Rm Exh	0	0
Auxil	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	5.8	5.8
cfm/ft2	0.86	0.86
cfm/ton	216.93	
ft2/ton	251.00	
Btu/hr-ft2	47.81	-10.05
No. People	6	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			F	F	gr/lb	F	F	gr/lb
Main Clg	4.9	58.5	43.8	1,058	89.6	68.5	73.8	51.3	50.2	53.7
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
<b>Total</b>	<b>4.9</b>	<b>58.5</b>								

AREAS			
	Gross Total	Glass	
		ft2	(%)
Floor	1,224		
Part	0		
ExFlr	0		
Roof	1,224	0	0
Wall	779	234	30

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent Lvg	
			MBh	F
Main Htg	-12.3	1,058	63.4	74.1
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
<b>Total</b>	<b>-12.3</b>			

# Zone Checksums

By MATENO

## Circuit Training

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 14			Mo/Hr: 7 / 14		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 109 / 90 / 188			OADB: 109		OADB: 46			SADB			Plenum		
		Return					Ret/OA			Fn MtrTD			Fn BldTD		
		Fn Frict													
Space Sens.	Plenum Sens.	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent	Space Sens	Tot Sens	Of Total				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)				
<b>Envelope Loads</b>															
Skylite Solar	0	0	0	0	0	0	0	0	0	0	0				
Skylite Cond	0	0	0	0	0	0	0	0	0	0	0				
Roof Cond	0	10,438	10,438	27	0	0	-2,657	31	0	0	0				
Glass Solar	4,120	0	4,120	11	4,120	21	0	0	0	0	0				
Glass Cond	2,937	0	2,937	8	2,937	15	-1,955	23	0	0	0				
Wall Cond	4,125	2,137	6,262	16	4,125	21	-1,649	30	0	0	0				
Partition	0	0	0	0	0	0	0	0	0	0	0				
Exposed Floor	0	0	0	0	0	0	0	0	0	0	0				
Infiltration	6,362	0	6,362	17	1,974	10	-1,269	15	0	0	0				
<i>Sub Total ==&gt;</i>	17,545	12,575	30,120	79	13,157	67	-4,872	100	0	0	0				
<b>Internal Loads</b>															
Lights	2,730	683	3,413	9	2,730	14	0	0	0	0	0				
People	1,858	0	1,858	5	929	5	0	0	0	0	0				
Misc	84	0	84	0	84	0	1,195	-14	0	0	0				
<i>Sub Total ==&gt;</i>	4,672	683	5,355	14	3,743	19	1,195	-14	0	0	0				
<b>Ceiling Load</b>															
Ventilation Load	2,873	-2,873	0	0	2,873	15	-768	9	0	0	0				
Dehumid. Ov Sizing	0	0	4,042	11	0	0	0	0	0	0	0				
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0	0	0				
Exhaust Heat	0	-1,266	-1,266	-3	0	0	338	-4	0	0	0				
Sup. Fan Heat	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				
Duct Heat Pkup	0	0	0	0	0	0	0	0	0	0	0				
Reheat at Design	0	0	0	0	0	0	-766	9	0	0	0				
<i>Grand Total ==&gt;</i>	25,091	9,119	38,251	100.00	19,773	100.00	-4,445	100.00	-8,514	100.00					

AIRFLOWS		
	Cooling	Heating
Vent	34	34
Infil	53	53
Supply	873	873
MinStop/Rh	0	0
Return	926	926
Exhaust	87	87
Rm Exh	0	0
Auxil	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	3.9	3.9
cfm/ft2	1.29	1.29
cfm/ton	273.94	
ft2/ton	212.01	
Btu/hr-ft2	56.60	-12.60
No. People	3	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			F	F	gr/lb	F	F	gr/lb
Main Clg	3.2	38.3	30.2	873	89.2	68.0	71.4	54.1	53.8	63.1
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
<b>Total</b>	<b>3.2</b>	<b>38.3</b>								

AREAS			
	Gross Total	Glass	
		ft2	(%)
Floor	676		
Part	0		
ExFlr	0		
Roof	676	0	0
Wall	581	174	30

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	
			F	Lvg
Main Htg	-8.5	873	63.7	72.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
<b>Total</b>	<b>-8.5</b>			

# Zone Checksums

By MATENO

## Free Weights and Bathrooms

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14			Mo/Hr: 7 / 14				Mo/Hr: Heating Design					
Outside Air:		OADB/WB/HR: 109 / 90 / 188			OADB: 109				OADB: 46					
Space Sens.	Plenum Sens.	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent	Space Sens	Tot Sens	Of Total	SADB	Cooling	Heating
+ Lat.	+ Lat	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Plenum		
Btu/h	Btu/h											Return		
												Ret/OA		
												Fn MtrTD		
												Fn BldTD		
												Fn Frict		
<b>Envelope Loads</b>														
Skylite Solar	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
Roof Cond	0	18,387	18,387	35	0	0	0	0	0	-4,681	48	0	0	0
Glass Solar	3,831	0	3,831	7	3,831	17	0	0	0	0	0	0	0	0
Glass Cond	2,759	0	2,759	5	2,759	12	0	0	-1,836	-1,836	19	0	0	0
Wall Cond	3,497	1,804	5,302	10	3,497	15	0	0	-1,415	-2,227	23	0	0	0
Partition	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exposed Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	11,206	0	11,206	21	3,477	15	0	0	-2,235	-2,235	23	0	0	0
<b>Sub Total ==&gt;</b>	<b>21,293</b>	<b>20,191</b>	<b>41,485</b>	<b>78</b>	<b>13,564</b>	<b>59</b>			<b>-5,486</b>	<b>-10,979</b>	<b>112</b>			
<b>Internal Loads</b>														
Lights	2,730	683	3,413	6	2,730	12	0	0	0	0	0	0	0	0
People	3,274	0	3,274	6	1,637	7	0	0	0	0	0	0	0	0
Misc	84	0	84	0	84	0	0	0	1,195	1,195	-12	0	0	0
<b>Sub Total ==&gt;</b>	<b>6,088</b>	<b>683</b>	<b>6,770</b>	<b>13</b>	<b>4,451</b>	<b>19</b>			<b>1,195</b>	<b>1,195</b>	<b>-12</b>			
<b>Ceiling Load</b>														
Ventilation Load	5,061	-5,061	0	0	5,061	22	0	0	-1,352	0	0	0	0	0
Dehumid. Ov Sizing	0	0	7,119	13	0	0	0	0	0	-1,420	14	0	0	0
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhaust Heat	0	-2,229	-2,229	-4	0	0	0	0	596	596	-6	0	0	0
Sup. Fan Heat	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
Duct Heat Pkup	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reheat at Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total ==&gt;</b>	<b>32,442</b>	<b>13,583</b>	<b>53,145</b>	<b>100.00</b>	<b>23,076</b>	<b>100.00</b>			<b>-5,644</b>	<b>-9,842</b>	<b>100.00</b>			

AIRFLOWS		
	Cooling	Heating
Vent	60	60
Infil	94	94
Supply	774	774
MinStop/Rh	0	0
Return	868	868
Exhaust	153	153
Rm Exh	0	0
Auxil	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	7.7	7.7
cfm/ft2	0.65	0.65
cfm/ton	174.79	
ft2/ton	268.79	
Btu/hr-ft2	44.64	-8.27
No. People	6	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			F	F	gr/lb	F	F	gr/lb
Main Clg	4.4	53.1	38.9	774	90.0	69.1	76.1	47.5	45.5	43.3
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
<b>Total</b>	<b>4.4</b>	<b>53.1</b>								

AREAS			
	Gross Total	Glass	
		ft2	(%)
Floor	1,190		
Part	0		
ExFlr	0		
Roof	1,190	0	0
Wall	546	164	30

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
Main Htg	-9.8	774	63.0	74.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
<b>Total</b>	<b>-9.8</b>			