

Department of Veterans Affairs
WILKES-BARRE VA Medical Center
WILKES-BARRE, PA

**Project Number 693-19-106
(VEG 19.25)**

**RENOVATE 9TH FLOOR
MENTAL HEALTH**

Plumbing & Mechanical Calculations

FEBRUARY 02, 2023

ROOM COOLING AND HEATING LOADS OUTPUT DATA SUMMARY SCHEDULE

AHU	ROOM NAME	ROOM SIZE		MARK	PEAK ROOM COOLING LOAD		PEAK ROOM ENVELOPE HEATING LOAD	REHEAT COIL LOAD	CALCULATED ROOM AIRFLOW		REQUIRED ROOM AIRFLOW (PER VA HVAC DM)		SELECTED ROOM AIRFLOW		MAX SELECTED DESIGN ROOM AIRFLOW		MINIMUM OUTSIDE AIR ACH	MINIMUM OUTSIDE AIR CFM	ROOM RETURN OR EXHAUST (R OR E)	EF MARK	MIN. ROOM RETURN/ EXHAUST CFM	ROOM AIR BALANCE (+),(++), (-), (-), OR 0
		AREA	HEIGHT		SYSTEM TYPE	SENSIBLE			LATENT	COOLING	HEATING	TOTAL MIN.	REQ MIN.	COOLING	HEATING	CFM						
		SF	FT	VAV OR CV	BTUH	BTUH	BTUH	BTUH	CFM	CFM	ACH	CFM	CFM	CFM	CFM	CFM						
AHU-12	C9-43A TOILET	69	7.5	12-13	1133.4		698.48	2384.9	47.337426	33.548511	10	90	90	90	90	1.30434783	0	0	E	EF-8	120	(-)
AHU-12	C9-44 WOMENS	210	9	12-15	2644.85		991.09	4551.31	110.46444	47.6027858	6	190	190	190	190	0.9047619	2	70	R	-	190	0
AHU-12	C9-44A TOILET	57	7.5	12-15	851.02		406.48	1905.52	35.543583	19.5235351	10	80	80	80	80	1.40350877	0	0	E	EF-6	110	(-)
AHU-12	C9-45 PATIENT STORAGE	35	8.5	12-17	369.46		0.07	187.45	15.430815	0.00336215	0	0	20	10	20	0.57142857	0	0	R	-	20	0
AHU-12	C9-46 LINEN	59	8.5	12-17	451.37		0.07	749.59	18.851856	0.00336215	4	40	40	40	40	0.6779661	0	0	R	-	40	(+)
AHU-12	C9-55 MECHANICAL	546	10	MECH 12	2680.07		2710.72	13016.62	111.93543	130.197887	6	550	550	550	0	0	2	190	E	-	0	0
AHU-12	C9-47 OFFICE/GROUP ROOM	182	8.5	12-16	3587.74		831.38	2892.56	149.84505	39.9317963	4	110	150	110	150	0.82417582	2	60	R	-	150	0
AHU-12	C9-47A STORAGE	52	8.5	12-16	1762.77		260.66	635.42	73.623606	12.5196926	0	0	80	20	80	1.53846154	0	0	R	-	80	0
AHU-12	C9-48 LAUNDRY	38	8	12-11	568.95		189.26	1313.54	23.762686	9.09029779	10	60	60	60	60	1.57894737	2	20	E	EF-8	70	(-)
AHU-12	C9-49 WOMENS BARIATRIC	187	9	12-12	5239.59		1473.69	4659.15	218.83599	70.7824207	6	170	220	170	220	1.17647059	2	60	R	-	220	0
AHU-12	C9-49A TOILET	77	7.5	12-12	1452.79		967.26	2841.06	60.677025	46.4582133	10	100	100	100	100	1.2987013	0	0	E	EF-8	130	(-)
AHU-12	C9-50 MEETING ROOM	133	8.5	12-18	2310.14		0.07	1499.11	96.484985	0.00336215	4	80	100	80	100	0.7518797	2	40	R	-	100	0
AHU-12	C9-51 HAC	38	7.5	12-11	568.95		189.26	1126.16	23.762686	9.09029779	10	50	50	50	50	1.31578947	0	0	E	EF-8	70	(-)
AHU-12	C9-52 SALLY PORT	106	7.5	12-18	361.78		0.07	374.83	15.110053	0.00336215	1	20	20	20	20	0.18867925	0	0	R	-	20	0
AHU-12	C9-53 ELEC - uncon	41.2717	10	12-18	390.86		0.07	187.45	16.324604	0.00336215	0	0	20	10	0	0	0	0	R	-	0	0
AHU-12	C9-54 ELEVATOR LOBBY	421.217	7.5	12-19	1437.62		0.07	1124.35	60.043436	0.00336215	1	60	70	60	70	0.16618493	0	0	R	-	70	0
AHU-12	C9-56 CLEAN STORAGE	127	8	12-19	683.45		0.07	1311.73	28.544877	0.00336215	4	70	70	70	70	0.5511811	0	0	R	-	60	(+)
AHU-12	C9-57 HAC SUPPLIES	54	8	12-19	1079.5		645.2	2144.24	45.086247	30.9894332	10	80	80	80	80	1.48148148	0	0	E	EF-6	110	(-)
AHU-12	C9-58 ELEC - uncon	78	10	12-19	516.21		0.07	187.45	21.559955	0.00336215	0	0	30	10	0	0	0	0	R	-	0	0
AHU-12	C9-59 PREFUNCTION/COLLABORATION	195	9	12-20	14152.32		3822.52	7382.74	591.08382	183.598463	4	120	600	190	600	3.07692308	2	60	R	-	600	0
AHU-12	C9-60 CONFERENCE ROOM	195	8	12-21	7298.77		3584.15	6956.99	304.83941	172.149376	4	110	310	180	310	1.58974359	2	60	R	-	310	0
AHU-12	C9-61 WORKSTATIONS	252	8.5	12-20	5669.64		3081.76	5892.46	236.79739	148.019212	4	150	240	150	240	0.95238095	2	80	R	-	240	0
AHU-12	C9-62 ELEC - uncon	41.2717	10	12-11	390.86		0.07	187.45	16.324604	0.00336215	0	0	20	10	0	0	0	0	R	-	0	0
AHU-12	C9-63 ELEC - uncon	16	10	12-11	304.61		0.07	187.45	12.722299	0.00336215	0	0	20	10	0	0	0	0	R	-	0	0
AHU-12	C9-64 NURSES STATION	268	8.5	12-1	5065.73		0.07	2998.15	211.57457	0.00336215	4	160	220	160	220	0.82089552	2	80	R	-	220	0
AHU-12	C9-65 MED	86	8.5	12-1	3216.75		0.07	1499.11	134.35033	0.00336215	6	80	140	80	140	1.62790698	2	30	R	-	120	(+)
AHU-12	C9-66 GERIATRIC	213	9	12-9	5379.57		1521.97	5269.57	224.68237	73.1013449	6	200	230	200	230	1.07981221	2	70	R	-	230	0
AHU-12	C9-66A TOILET	56	7.5	12-9	1323.06		904.09	2215.75	55.25874	43.4241114	10	70	70	70	70	1.25	0	0	E	EF-8	90	(-)
AHU-12	C9-67 BARIATRIC GERIATRIC	193	9	12-2	3410.54		1453.37	4826.21	142.44414	69.8064361	6	180	180	180	180	0.93264249	2	60	R	-	180	0
AHU-12	C9-67A TOILET	81	7.5	12-2	1172.43		815.53	2876.71	48.967548	39.1705091	10	110	110	110	110	1.35802469	0	0	E	EF-6	130	(-)
AHU-12	C9-68 GERIATRIC	163	9	12-8	6071.08		1638.11	4448.81	253.56388	78.679635	6	150	260	150	260	1.59509202	2	50	R	-	260	0
AHU-12	C9-68A TOILET	74	7.5	12-8	818.06		315.5	2189.3	34.16698	15.1536984	10	100	100	100	100	1.35135135	0	0	E	EF-8	120	(-)
AHU-12	C9-69 SW OFFICE	129	8.5	12-7	6438.48		1345.53	2844.57	268.90866	64.6268012	4	80	270	80	270	2.09302326	2	40	R	-	270	0
AHU-12	C9-70 CU	99	8.5	12-6	5230.21		1003.61	2127.89	218.44422	48.2041306	4	60	220	60	220	2.22222222	0	0	R	-	190	(+)
AHU-12	C9-71 GROUP THERAPY	152	8.5	12-3	3785.3		1126.81	3562.75	158.09631	54.1215178	6	130	160	130	160	1.05263158	2	50	R	-	160	0
AHU-12	C9-72 DAY/TV - N	230	8.5	12-4	6839.18		2633.78	6381.38	285.64424	126.502402	6	200	290	200	290	1.26086957	2	70	R	EF-7	290	0
AHU-12	C9-72 DAY/TV - S	325	8.5	12-5	10914		3884.42	9131.06	455.8326	186.571566	6	280	460	280	460	1.41538462	2	100	R	EF-7	460	0
AHU-13	C9-C01 CORRIDOR	1170	8	13-11	4127.74		182.7	11987.64	172.39861	8.77521614	4	630	630	630	630	0.53846154	2	320	R	-	540	(+)
AHU-13	C9-C02 CORRIDOR	106	7.5	13-17	373.97		16.55	1140.83	15.619179	0.79490874	4	60	60	60	60	0.56603774	2	30	R	-	60	(+)
AHU-13	C9-C03 CORRIDOR	230	8	13-5	811.44		35.92	2471.86	33.89049	1.72526417	4	130	130	130	130	0.56521739	2	70	R	-	120	(+)
AHU-13	C9-C04 CORRIDOR	106	8.5	13-27	2643.01		835.71	2147.37	110.38759	40.1397695	4	70	120	70	120	1.13207547	2	40	R	-	110	(+)
AHU-13	C9-C05 CORRIDOR	77	8.5	13-3	271.65		12.02	948.92	11.345696	0.57732949	4	50	50	50	50	0.64935065	2	30	R	-	50	(+)
AHU-12	C9-C06 CORRIDOR	764	8	12-11	2607.53		0.07	7682.65	108.90573	0.00336215	4	410	410	410	410	0.53664921	2	210	R	-	350	(+)
AHU-12	C9-C07 CORRIDOR	80	8	12-17	273.04		0.07	936.97	11.403751	0.00336215	4	50	50	50	50	0.625	2	30	R	-	50	(+)
AHU-12	C9-C08 CORRIDOR	220	8	12-10	750.86		0.07	2248.63	31.360314	0.00336215	4	120	120	120	120	0.54545455	2	60	R	-	110	(+)
AHU-12	C9-C09 CORRIDOR	225	8	12-10	767.93		0.07	2248.63	32.073257	0.00336215	4	120	120	120	120	0.53333333	2	60	R	-	110	(+)

Ventilation Calculations - System 1

Manual Input

AHU-12	Airflow cooling (CFM)	Airflow heating (CFM)	Cooling Sens. Load (BTU/hr)	Heating Sens. Load (BTU/hr)
	6000	5400	230868	346874
	OA %	OA %		Steam Lbs/hr
	28%	31%		361
Airflow OA (CFM)	Cooling Tot. Load (BTU/hr)	Cooling Sens. Load (BTU/hr)	Heating GPM	
1700	337239	227671	23	
	Cooling GPM	SHR	0.68	
		Cooling lat. Load (BTU/hr)	106674	

336542

CFM Trans Factor	1.06
SAOB AHU summer (F)	53
SAOB AHU winter (F)	65
Summer Design (F)	89.3
Summer Design Wb (F)	71.9
Winter Design (F)	4.4
Summer RA Db (F)	75
Winter RA Db (F)	70
Summer MA Db (F)	82.635
Winter MA Db (F)	45.9222222
hw2	1060

Prelim Duct Static Pressure

L (ft)	200
Delta P	0.4
box	1
Delta P (subtotal)	1.4

RETURN	L (ft)	200
	Delta P (subtotal)	0.26

Total Delta P	1.66
50% fittings increase	2.49
10% safety	2.739

Heating Water Estimates

Q VAV (BTUH)	366496	Heat exchanger steam capacity lb/hr	381.7665729
EWT	180		15 PSIG
LWT	150		
q VAV (GPM)	24.43306067		
Total (BTUH)	713370		
Total (GPM)	48		

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	SIZE MIN	SYSTEM AND/OR SERVICE	AIR FLOW							REHEAT					MANUFACTURER AND MODEL (OR APPROVED EQUAL)	REMARKS
			EAT	LAT	MIN INLET S.P	MAX	MIN	HEATING	MAX TOTAL APD	FLUID TYPE	EWT (F)	LWT (F)	MBH	GPM		
			°F	°F	IN. W.C.	CFM	CFM	CFM	IN. W.C.							
12-1	6		52	70	1.00	360	240	240	0.5	-	180	150.0	4.50	0.30	TITUS DESV	
12-2	6		52	77	1.00	290	290	290	0.5	-	180	150.0	7.70	0.51	TITUS DESV	
12-3	4		52	78	1.00	160	130	130	0.5	-	180	150.0	3.56	0.24	TITUS DESV	
12-4	5		52	82	1.00	290	200	200	0.5	-	180	150.0	6.38	0.43	TITUS DESV	
12-5	6		52	83	1.00	460	280	280	0.5	-	180	150.0	9.13	0.61	TITUS DESV	
12-6	4		52	85	1.00	220	60	60	0.5	-	180	150.0	2.13	0.14	TITUS DESV	
12-7	4		52	86	1.00	270	80	80	0.5	-	180	150.0	2.84	0.19	TITUS DESV	
12-8	6		52	77	1.00	360	250	250	0.5	-	180	150.0	6.64	0.44	TITUS DESV	
12-9	6		52	78	1.00	300	270	270	0.5	-	180	150.0	7.49	0.50	TITUS DESV	
12-10	6		52	70	1.00	240	240	240	0.5	-	180	150.0	4.50	0.30	TITUS DESV	
12-11	8		52	71	1.00	580	580	600	0.5	-	180	150.0	12.03	0.80	TITUS DESV	
12-12	6		52	78	1.00	320	270	270	0.5	-	180	150.0	7.50	0.50	TITUS DESV	
12-13	6		52	78	1.00	360	290	290	0.5	-	180	150.0	7.85	0.52	TITUS DESV	
12-14	6		52	76	1.00	300	300	300	0.5	-	180	150.0	7.67	0.51	TITUS DESV	
12-15	4		52	75	1.00	270	270	270	0.5	-	180	150.0	6.46	0.43	TITUS DESV	
12-16	4		52	78	1.00	230	110	130	0.5	-	180	150.0	3.53	0.24	TITUS DESV	
12-17	4		52	70	1.00	110	90	100	0.5	-	180	150.0	1.87	0.12	TITUS DESV	
12-18	4		52	70	1.00	120	100	110	0.5	-	180	150.0	2.06	0.14	TITUS DESV	
12-19	6		52	72	1.00	220	210	220	0.5	-	180	150.0	4.77	0.32	TITUS DESV	
12-20	8		52	89	1.00	840	270	340	0.5	-	180	150.0	13.28	0.89	TITUS DESV	
12-21	6		52	88	1.00	310	110	180	0.5	-	180	150.0	6.96	0.46	TITUS DESV	
MECH 12	4		52	74	1.00	0	550	550	0.5	-	180	150.0	13.02	0.87	TITUS DESV	
																9.46

Manually Entered

6610 5190

Inlet Size	M Range	D	F		G	H	L	M	W	
			PESV	AESV DESV EESV						
4	0	225	3 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	5 3/8	12
5	226	350	4 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	5 3/8	12
6	351	500	5 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	3 3/8	12
7	501	650	6 7/8	7/8	1 1/8	7 3/8	10	15 1/2	3 3/8	12
8	651	900	7 7/8	7/8	1 1/8	7 3/8	10	15 1/2	3 3/8	12
9	901	1050	8 7/8			5 3/8	12 1/2	15 1/2	3 3/8	14
10	1051	1400	9 7/8			5 3/8	12 1/2	15 1/2	3 3/8	14
12	1401	2000	11 7/8			5 3/8	15	15 1/2	3 3/8	16
14	2001	3000	13 7/8			3 3/8	17 1/2	15 1/2	3 3/8	20
16	3001	4000	15 7/8			3 3/8	18	15 1/2	3 3/8	24
24X16	4001	8000	23.875-15.875	7/8	1 1/8	5 3/8	18	15	3 3/8	38

Ventilation Calculations - System 1

Manual Input

AHU-13	Airflow cooling (CFM)	Airflow heating (CFM)	Cooling Sens. Load (BTU/hr)	Heating Sens. Load (BTU/hr)	CFM Trans Factor
	12150	8520	467508	547291	53
	OA %	OA %	Steam Lbs/hr		65
	34%	49%	570		89.3
Airflow OA (CFM)	Cooling Tot. Load (BTU/hr)	Cooling Sens. Load (BTU/hr)	Heating GPM		71.9
4190	682908	461035	36		4.4
	Cooling GPM	SHR			75
	68	0.68			70
		Cooling lat. Load (BTU/hr)			83.206778
		213990			35.2014437
					1060

681497

Prelim Duct Static Pressure

L (ft)	200
Delta P	0.4
box	1
Delta P (subtotal)	1.4

RETURN	L (ft)	200
	Delta P (subtotal)	0.26
	Total Delta P	1.66
	50% fittings increase	2.49
	10% safety	2.739

Heat exchanger steam capacity lb/hr

Q VAV (BTUH)	366496	381.7665729
EWT	180	15 PSIG
LWT	150	
Q VAV (GPM)	24.43306067	
Total (BTUH)	913787	
Total (GPM)	61	

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	SIZE	SYSTEM AND/OR SERVICE	AIR FLOW							REHEAT	MANUFACTURER AND MODEL (OR APPROVED EQUAL)	REMARKS
			EAT	LAT	MIN INLET S.P.	MAX	MIN	HEATING				
			°F	°F	IN. W.C.	CFM	CFM	CFM	MBH			
13-1	6		52	80	1.00	360	130	130	3.88		TITUS DESV	
13-2	6		52	87	1.00	310	90	90	3.39		TITUS DESV	
13-3	8		52	78	1.00	880	360	380	10.50		TITUS DESV	
13-4	6		52	81	1.00	430	200	200	6.17		TITUS DESV	
13-5	8		52	70	1.00	630	500	500	9.51		TITUS DESV	
13-6	6		52	78	1.00	360	290	290	8.02		TITUS DESV	
13-7	6		52	78	1.00	330	280	280	7.81		TITUS DESV	
13-8	6		52	77	1.00	340	270	270	7.17		TITUS DESV	
13-9	6		52	79	1.00	400	210	210	6.10		TITUS DESV	
13-10	6		52	78	1.00	360	280	280	7.80		TITUS DESV	
13-11	10		52	71	1.00	1000	870	890	18.19		TITUS DESV	
13-12	6		52	84	1.00	380	90	110	3.77		TITUS DESV	
13-13	6		52	79	1.00	390	280	280	8.11		TITUS DESV	
13-14	9		52	85	1.00	920	410	410	14.49		TITUS DESV	
13-15	8		52	86	1.00	710	410	410	14.58		TITUS DESV	
13-16	4		52	70	1.00	130	130	130	2.46		TITUS DESV	
13-17	4		52	71	1.00	120	120	120	2.45		TITUS DESV	
13-18	4		52	70	1.00	90	60	60	1.14		TITUS DESV	
13-19	6		52	74	1.00	310	310	310	7.33		TITUS DESV	
13-20	6		52	76	1.00	280	280	280	7.16		TITUS DESV	
13-21	6		52	77	1.00	300	300	300	7.91		TITUS DESV	
13-22	8		52	79	1.00	830	280	280	7.93		TITUS DESV	
13-23	8		52	71	1.00	570	140	140	2.75		TITUS DESV	
13-24	4		52	72	1.00	160	160	160	3.47		TITUS DESV	
13-25	6		52	70	1.00	230	260	280	5.35		TITUS DESV	
13-26	6		52	72	1.00	310	0	10	0.21		TITUS DESV	
13-27	4		52	77	1.00	160	110	110	2.91		TITUS DESV	
13-28	4		52	70	1.00	110	110	110	2.07		TITUS DESV	
13-29	6		52	84	1.00	250	80	80	2.68		TITUS DESV	
13-30	10		52	79	1.00	1370	460	470	13.45		TITUS DESV	
13-31	4		52	80	1.00	120	120	120	3.60		TITUS DESV	
13-32	6		52	85	1.00	190	90	90	3.12		TITUS DESV	
13-33	4		52	79	1.00	120	120	120	3.42		TITUS DESV	
MECH 13			52	76	1.00	0	620	620	15.74		TITUS DESV	

Manually Entered

13450

Inlet Size	FM Range	D	F		AESV DESV EESV	G
			PESV			
4	0	225	3 7/8	1 7/8	2 1/8	7 3/8
5	226	350	4 7/8	1 7/8	2 1/8	7 3/8
6	351	500	5 7/8	1 7/8	2 1/8	7 3/8
7	501	650	6 7/8	7/8	1 1/8	7 3/8
8	651	900	7 7/8	7/8	1 1/8	7 3/8
9	901	1050	8 7/8			5 3/8
10	1051	1400	9 7/8			5 3/8
12	1401	2000	11 7/8			5 3/8
14	2001	3000	13 7/8			3 3/8
16	3001	4000	15 7/8			3 3/8
24X16	4001	8000	23.875-15.875	7/8	1 1/8	5 3/8

ROOM COOLING AND HEATING LOADS OUTPUT DATA SUMMARY SCHEDULE

AHU	ROOM NAME	ROOM SIZE		MARK	PEAK ROOM COOLING LOAD		PEAK ROOM ENVELOPE HEATING LOAD	REHEAT COIL LOAD	CALCULATED ROOM AIRFLOW		REQUIRED ROOM AIRFLOW (PER VA HVAC DM)		SELECTED ROOM AIRFLOW		MAX SELECTED DESIGN ROOM AIRFLOW		MINIMUM OUTSIDE AIR ACH	MINIMUM OUTSIDE AIR CFM	ROOM RETURN OR EXHAUST (R OR E)	MIN. ROOM RETURN/ EXHAUST CFM	ROOM AIR BALANCE (+),(++), (-), (-), OR 0
		AREA	HEIGHT		SYSTEM TYPE	SENSIBLE			LATENT	COOLING	HEATING	TOTAL MIN.	REQ MIN.	COOLING	HEATING	CFM					
		SF	FT	VAV OR CV			BTUH	BTUH									BTUH	BTUH	CFM	CFM	ACH
	L-102 SECRETARY	102	8.5	17-TU-1B	1119.88		724.13	1661.03	53.788665	17.39025	4	60	60	60	60	0.59	2	30	R	60	0
	L1-100 STORAGE	968	8	ZONE 17-9	0		14870.55	26113.35	0	714.24352	0	0	0	720	0	0.00	0	0	R	0	0
	L1-100A ELEC	42	11.75	ZONE 17-9	0		0.06	156.21	0	0.0028818	0	0	0	10	0	0.00	0	0	R	0	0
	L1-100E TELECOM ROOM	100	11.75	17-TU-8	14522.76		2905.19	5091.29	697.5389	139.53842	0	0	700	140	700	7.00	0	0	R	700	0
	L1-100F LOCKERS	67	8.5	17-TU-7	293.95		77.6	1639.1	14.118636	3.7271854	10	100	100	100	100	1.49	0	0	E	100	0
	L1-100G TOILET	54	9	17-TU-7	4197.9		2523.83	4553.78	201.62824	121.22142	10	90	210	130	210	3.89	0	0	E	210	0
	L1-100H OFFICE	120	9	17-TU-7	5039.86		1720.56	3125.91	242.0682	82.639769	4	80	250	90	250	2.08	2	40	R	250	0
	L1-101 STORAGE	27	9	17-TU-1B	70.03		7.44	163.59	3.3635927	0.3573487	0	0	10	10	10	0.37	0	0	R	10	0
	L1-102A CLOSET	14	8	17-TU-1B	36.31		3.83	159.98	1.7439962	0.1839577	0	0	10	10	10	0.71	0	0	R	10	0
	L1-103 OPEN OFFICE N	500	10	17-TU-1A	10451.77		7168.9	12634.15	502.00624	344.32757	4	340	510	350	510	1.02	2	170	R	510	0
	L1-103 OPEN OFFICE S	1124	10	17-TU-1B	14518.45		9158.12	20869.37	697.33189	439.87128	4	750	750	750	750	0.67	2	380	R	750	0
	L1-104 COPY/LOCKERS	116	8.5	17-TU-1B	1850.92		823.52	1916.57	88.901057	39.554275	4	70	90	70	90	0.78	2	40	R	90	0
	L1-105 TOILET	66	8.5	17-TU-1B	289.56		76.44	1637.94	13.907781	3.6714697	10	100	100	100	100	1.52	0	0	E	100	0
	L1-106 TOILET	59	8.5	17-TU-1B	258.85		68.33	1473.68	12.432757	3.2819404	10	90	90	90	90	1.53	0	0	E	90	0
	L1-107 OFFICE	97	8.5	17-TU-6	1064.97		688.64	1625.54	51.151297	33.075889	4	60	60	60	60	0.62	2	30	R	60	0
	L1-108 OFFICE	97	8.5	17-TU-5	1064.97		688.64	1625.54	51.151297	33.075889	4	60	60	60	60	0.62	2	30	R	60	0
	L1-109 OFFICE	97	8.5	17-TU-4	1064.97		688.64	1625.54	51.151297	33.075889	4	60	60	60	60	0.62	2	30	R	60	0
	L1-110 OFFICE	102	8.5	17-TU-3	1119.88		724.13	1661.03	53.788665	34.7805	4	60	60	60	60	0.59	2	30	R	60	0
	L1-111 CONFERENCE	296	10	17-TU-2	17141.63		4244.01	7523.16	823.32517	203.84294	4	200	830	210	830	2.80	2	100	R	830	0
	L1-112 MECH	73	11.75	ZONE 17-10	0		3511.7	6166.25	0	168.66955	6	90	90	170	0	0.00	2	30	R	0	0

GENERAL NOTES:

1. COOLING AIRFLOWS CALCULATED AT 440 FT ELEVATION WITH A SUPPLY AIR TEMPERATURE OF 55°F AND A COOLING SETPOINT OF 75°F.
2. HEATING AIRFLOWS CALCULATED AT 440 FT ELEVATION WITH A SUPPLY AIR TEMPERATURE OF 90°F AND A HEATING SETPOINT OF 70°F.
3. MINIMUM AIRFLOW USED FOR AIR CHANGE CALCULATIONS.

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE

MARK	SIZE MIN	SIZE MAX	SYSTEM AND/OR SERVICE	AIR FLOW							REHEAT					MANUFACTURER AND MODEL (OR APPROVED EQUAL)	REMARKS
				EAT	LAT	MIN INLET S.P	MAX	MIN	HEATING	MAX TOTAL APD	FLUID TYPE	EWT (F)	LWT (F)	MBH	GPM		
				°F	°F	IN. W.C.	CFM	CFM	CFM	IN. W.C.							
17-TU-1A	8	6		55	89	1.00	510	340	350	0.5	-	180	150.0	12.63	0.84	TITUS DESV	
17-TU-1B	10	9		55	79	1.00	1110	1070	1090	0.5	-	180	150.0	27.88	1.86	TITUS DESV	
17-TU-2	8	8		55	89	1.00	830	200	210	0.5	-	180	150.0	7.52	0.50	TITUS DESV	
17-TU-3	4	4		55	81	1.00	60	60	60	0.5	-	180	150.0	1.66	0.11	TITUS DESV	
17-TU-4	4	4		55	81	1.00	60	60	60	0.5	-	180	150.0	1.63	0.11	TITUS DESV	
17-TU-5	4	4		55	81	1.00	60	60	60	0.5	-	180	150.0	1.63	0.11	TITUS DESV	
17-TU-6	4	4		55	81	1.00	60	60	60	0.5	-	180	150.0	1.63	0.11	TITUS DESV	
17-TU-7	7	6		55	82	1.00	560	270	320	0.5	-	180	150.0	9.32	0.62	TITUS DESV	
17-TU-8	8	7		55	89	1.00	700	0	140	0.5	-	180	150.0	5.09	0.34	TITUS DESV	
ZONE 17-9	4	4		55	89	1.00	0	0	730	0.5	-	180	150.0	26.27	1.75	TITUS DESV	
ZONE 17-10	4	4		55	89	1.00	0	90	170	0.5	-	180	150.0	6.17	0.41	TITUS DESV	
																	6.76

Manually Entered

3950

Inlet Size	M Range	D	F		G	H	L	M	W	
			PESV	AESV DESV EESV						
4	0	225	3 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	5 3/8	12
5	226	350	4 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	5 3/8	12
6	351	500	5 7/8	1 7/8	2 1/8	7 3/8	8	15 1/2	3 3/8	12
7	501	650	6 7/8	7/8	1 1/8	7 3/8	10	15 1/2	3 3/8	12
8	651	900	7 7/8	7/8	1 1/8	7 3/8	10	15 1/2	3 3/8	12
9	901	1050	8 7/8			5 3/8	12 1/2	15 1/2	3 3/8	14
10	1051	1400	9 7/8			5 3/8	12 1/2	15 1/2	3 3/8	14
12	1401	2000	11 7/8			5 3/8	15	15 1/2	3 3/8	16
14	2001	3000	13 7/8			3 3/8	17 1/2	15 1/2	3 3/8	20
16	3001	4000	15 7/8			3 3/8	18	15 1/2	3 3/8	24
24X16	4001	8000	23.875-15.875	7/8	1 1/8	5 3/8	18	15	3 3/8	38

Ventilation Calculations - System 1

Manual Input

AHU-1	Airflow cooling (CFM)	Airflow heating (CFM)	Cooling Sens. Load (BTU/hr)	Heating Sens. Load (BTU/hr)
4040	3250	3250	130576	56333
OA %	23%	28%		59
Airflow OA (CFM)	910	227074	153299	4
		Cooling GPM	SRH	
			0.58	
		Cooling lat. Load (BTU/hr)	71154	

201730

CFM Trans Factor	1.06
SADB AHU summer (F)	53
SADB AHU winter (F)	65
Summer Design (F)	95.5
Summer Design Wb (F)	76.8
Winter Design (F)	6.6
Summer RA Db (F)	75
Winter RA Db (F)	70
Summer MA Db (F)	83.4913366
Winter MA Db (F)	48.648
hw2	1060

Prelim Duct Static Pressure	
L (ft)	200
Delta P	0.4
box	1
Delta P (subtotal)	1.4
RETURN	200
Delta P (subtotal)	0.26

Total Delta P	1.66
50% fittings increase	2.49
100% safety	2.739

Heating Water Estimates		Heat exchanger steam capacity lb/hr	
Q VAV (BTUH)	101423	105.6489688	15 PSIG
EWT	180		
LWT	150		
q VAV (GPM)	6.761534		
Total (BTUH)	157756		
Total (GPM)	11		

1									
2									
3	Ventilation Calculations - System 1								Manual Input
4									
5	AHU-1								
6	Airflow cooling (CFM)	Airflow Heating (CFM)	Cooling Sens. Load (B						
7	4040	3250	130576						
8	OA %	23%							
9	Airflow OA (CFM)	Cooling Tot. Load (BTU/hr)	Cooling Sens. Load (B						
10	910	227074	153299						
11		Cooling GPM	SRH						
12			0.58						
13			71154						
14									
15									
16									882.38
17									
18									
19									
20	Prelim Duct Static Pressure		200						
21	L (ft)	Delta P	0.4						
22	box	Delta P (subtotal)	1						
23			1.4						
24									
25	RETURN	Delta P (subtotal)	0.26						
26									
27	Total Delta P		1.66						
28	50% fittings increase		2.49						
29	100% safety		2.739						
30									
31									
32	Heating Water Estimates		101423						Heat exchanger steam cap
33	Q VAV (BTUH)		105.6489688						10
34	EWT								
35	LWT								
36	q VAV (GPM)		6.761534						
37	Total (BTUH)		157756						
38	Total (GPM)		11						

19.25 100% Wilkes-Barre 9th Floor Plumbing Calculations

DONE ON WEST-CENTER-EAST BRANCHES, TO FOLLOW DOMESTIC SHEETS

Main (16 total fixtures)

Fixture	Qty.	DFU	CW WSFU	HW WSFU	TOTAL WSFU
P-930,935 Lavatory, Private	4	4.0	2.0	2.0	2.8
P-408, P-417 Lavatory, Public	2	2.0	3.0	3.0	4.0
P-910,912 Water Closet, Flush Valve, Private	4	16.0	24.0	0.0	24.0
P-101 Water Closet, Flush Valve, Public	1	4.0	10.0	0.0	10.0
P-940, 941 Shower, Private	3	6.0	3.0	3.0	4.2
P-524 Sink, CRS (Kitchen)	2	6.0	3.0	3.0	4.0
P-501, 502 Service Sink	0	0.0	0.0	0.0	0.0
P-808 Washing Machine, 15 lb	0	0.0	0.0	0.0	0.0
Total	16	38.0	45.0	11.0	49.0
Total Cold Water GPM -->FROM IPC			48.0		
Total Hot Water GPM -->FROM IPC				15.4	

East (20 total fixtures)

Fixture	Qty.	DFU	CW WSFU	HW WSFU	TOTAL WSFU
P-408, P-417,930,935 Lavatory, Private	6	6.0	3.0	3.0	4.2
Lavatory, Public	0	0.0	0.0	0.0	0.0
P-101, 910,912 Water Closet, Flush Valve, Private	6	24.0	36.0	0.0	36.0
Water Closet, Flush Valve, Public	0	0.0	0.0	0.0	0.0
P-940, 941 Shower, Private	5	10.0	5.0	5.0	7.0
P-524 Sink, CRS (Kitchen)	0	0.0	0.0	0.0	0.0
P-501, 502 Service Sink	2	4.0	6.0	6.0	8.0
P-808 Washing Machine, 15 lb	1	3.0	3.0	3.0	4.0
Total	20	47.0	53.0	17.0	59.2
Total Cold Water GPM			50.0		
Total Hot Water GPM				18.4	

West (27 total fixtures)

Fixture	Qty.	DFU	CW WSFU	HW WSFU	TOTAL WSFU
P-408, 930, 935 Lavatory, Private	8	8.0	4.0	4.0	5.6
P-417 Lavatory, Public	1	1.0	1.5	1.5	2.0
P-101, 910, 912 Water Closet, Flush Valve, Private	8	32.0	48.0	0.0	48.0
Water Closet, Flush Valve, Public	0	0.0	0.0	0.0	0.0
P-940, 941 Shower, Private	7	14.0	7.0	7.0	9.8
P-524 Sink, CRS (Kitchen)	1	3.0	1.5	1.5	2.0
P-501, 502 Service Sink	2	4.0	6.0	6.0	8.0
P-808 Washing Machine, 15 lb	0	0.0	0.0	0.0	0.0
Total	27	62.0	68.0	20.0	75.4
Total Cold Water GPM -->2.5" PIPE, PER HUNTERS CURVE AND B&G SYSTEM SYZER			58.0		
Total Hot Water GPM -->2" PIPE, PER HUNTERS CURVE AND B&G SYSTEM SYZER				19.6	

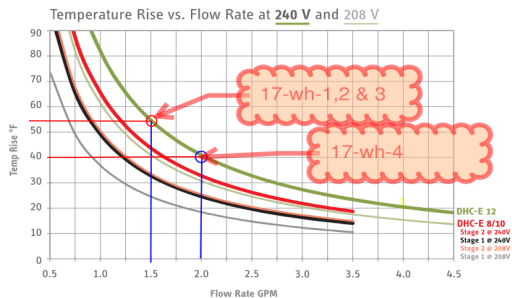
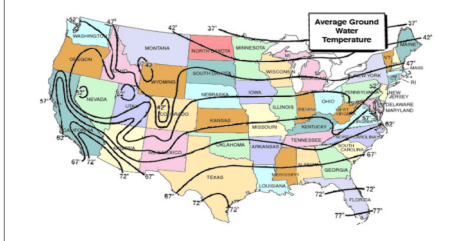
Warehouse (7 total fixtures)

Fixture	Qty.	DFU	CW WSFU	HW WSFU	TOTAL WSFU
P-524 Sink, CRS (Kitchen)	1	3	1.5	1.5	2.0
P-408 Lavatory, Public	3	3	3.0	1.5	6.0
P-103 Water Closet, Flush Valve, Public	3	12	18.0	0.0	18.0
Total	7	18	22.5	3	26
Total Cold Water GPM --> 1.5" PER B&G system syzer			23		
Total Hot Water GPM				3	

Delta T	Avg Ground Water temp	Output Temp
41	50	91
50	50	100
50	50	100
50	50	100

(e) The faucet timing shall be sufficient to deliver water at a temperature range between 29.4 deg C [85 deg F] and 43.3 deg C [110 deg F]. Domestic hot water must be available within 15 seconds of the time of operation. The faucet spout shall be gooseneck style to allow for fingers-up rinsing.

Ground Water Temperature Map - Entering Water Temperatures



Room Checksums

By Valhalla Engineering Group, LLC

C9-01 SUNROOM - N

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 10			Mo/Hr: 7 / 10		Mo/Hr: Heating Design						Cooling			Heating				
Outside Air:		OADB/WB/HR: 78 / 68 / 91			OADB: 78		OADB: 4						SADB	55.0	85.2	Ra Plenum	75.1	69.5		
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	Fn MtrTD	Fn BldTD	Fn Frict						
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)				AIRFLOWS					
Envelope Loads					Envelope Loads										Cooling			Heating		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	784	422	Terminal	784	422			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	784	422	Sec Fan	0	0			
Roof Cond	0	131	131	1	0	0	-864	3.98	0	-864	2.26	Nom Vent	141	141	AHU Vent	141	141			
Glass Solar	11,091	0	11,091	45	11,091	66	0	0.00	0	0	0.00	Infil	0	0	MinStop/Rh	422	422			
Glass/Door Cond	158	0	158	1	158	1	-6,344	29.24	-6,344	-6,344	29.24	Return	784	422	Exhaust	141	141			
Wall Cond	214	0	214	1	214	1	-490	2.26	-490	-490	2.26	Rm Exh	0	0	Auxiliary	0	0			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				ENGINEERING CKS					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	% OA	17.9	33.3	cfm/ft²	1.95	1.05			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	382.11		ft²/ton	195.85				
Sub Total ==>	11,463	131	11,594	47	11,463	68	-6,834	35.48	-6,834	-7,697	35.48	Btu/hr-ft²	61.27	-53.97						
Internal Loads					Internal Loads										No. People			12.0	29.9/1000 ft²	
Lights	1,372	0	1,372	6	1,372	8	0	0.00	0	0	0.00									
People	6,000	0	6,000	24	3,000	18	0	0.00	0	0	0.00									
Misc	1,024	0	1,024	4	1,024	6	0	0.00	0	0	0.00									
Sub Total ==>	8,396	0	8,396	34	5,396	32	0	0.00	0	0	0.00									
Ceiling Load	10	-10	0	0	10	0	-63	0.00	-63	0	0.00									
Ventilation Load	0	0	3,140	13	0	0	-9,925	45.75	0	-9,925	45.75									
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	-125	-125	-1	0	0	0	0.00	0	0	0.00									
Sup. Fan Heat	0	930	930	4	0	0	-4,872	22.46	0	-4,872	22.46									
Ret. Fan Heat	0	697	697	3	0	0	0	0.00	0	0	0.00									
Duct Heat Pkup	0	0	0	0	0	0	801	-3.69	0	801	-3.69									
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 ==>	19,868	694	24,631	100.00	16,868	100.00	-6,896	100.00	-6,896	-21,694	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	2.1	24.6	19.0	784	76.3	62.9	67.8	53.9	52.0	57.0	Floor	402							
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0							
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1							
Total	2.1	24.6									ExFlr	0							
											Roof	402	0	0					
											Wall	442	306	69					
											Ext Door	0	0	0					
											Total	-21.7							

Room Checksums

By Valhalla Engineering Group, LLC

C9-01 SUNROOM - S

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 10			Mo/Hr: 8 / 10		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 78 / 68 / 91			OADB: 73		OADB: 4						SADB	55.0	85.0		
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	Coil Peak	Percent Of Total	Ra Plenum	75.1	69.5			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	76.2	48.1
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	131	0	0	0	0	-864	4.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	15,893	0	53	16,590	76	0	0	0.00	0	0	0.00						
Glass/Door Cond	156	0	1	-377	-2	-6,249	-6,249	28.92	-6,249	-6,249	28.92						
Wall Cond	229	0	1	180	1	-500	-500	2.31	-500	-500	2.31						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
Sub Total ==>	16,278	131	55	16,409	75	-6,748	-7,612	35.23	-6,748	-7,612	35.23						
Internal Loads					Internal Loads										AIRFLOWS		
Lights	1,372	0	5	1,372	6	0	0	0.00	0	0	0.00	Diffuser	1,013	422			
People	6,000	0	20	3,000	14	0	0	0.00	0	0	0.00	Terminal	1,013	422			
Misc	1,024	0	3	1,024	5	0	0	0.00	0	0	0.00	Main Fan	1,013	422			
Sub Total ==>	8,396	0	28	5,396	25	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Ceiling Load	10	-10	0	2	0	-63	0	0.00	0	0	0.00	Nom Vent	141	141			
Ventilation Load	0	0	10	0	0	0	-9,925	45.93	0	0	0.00	AHU Vent	141	141			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0.00	Infil	0	0			
Dehumid. Ov Sizing			0					0.00			0.00	MinStop/Rh	422	422			
Ov/Undr Sizing	0		0	0	0	0	0	0.00	0	0	0.00	Return	1,013	422			
Exhaust Heat		-125	0					0.00			0.00	Exhaust	141	141			
Sup. Fan Heat			4	1,195	4		-4,872	22.55			0.00	Rm Exh	0	0			
Ret. Fan Heat		896	3	896	3			0.00			0.00	Auxiliary	0	0			
Duct Heat Pkup		0	0	0	0			0.00			0.00	Leakage Dwn	0	0			
Underflr Sup Ht Pkup		0	0	0	0			0.00			0.00	Leakage Ups	0	0			
Supply Air Leakage		0	0	0	0			0.00			0.00						
Grand Total ==>	24,683	893	100.00	29,911	100.00	-6,811	-21,609	100.00	-6,811	-21,609	100.00	ENGINEERING CKS					

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	2.5	29.9	24.3	1,008	76.2	62.7	66.7	53.9	52.4	58.3	Floor	402		Main Htg	-14.1	422	53.9	85.0	
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	1		Preheat	-7.5	141	4.4	53.9	
											ExFlr	0		Reheat	-7.3	422	53.9	70.0	
Total	2.5	29.9									Roof	402	0	Humidif	0.0	0	0.0	0.0	
											Wall	440	301	69	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-21.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-02 HAC

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 19		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 93			OADB: 83		OADB: 4						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	Fn MtrTD	Fn BldTD	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					Envelope Loads										AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	50	15			
Skylite Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	50	15			
Roof Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	50	15			
Glass Solar	0	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	0.00	0	0	0.00	Nom Vent	0	0			
Wall Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	0	0			
Partition/Door	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Floor	0	0	0	0	0.00	0	0	0	0.00	0	0	0.00	MinStop/Rh	15	15			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	50	15			
Infiltration	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0			
Sub Total ==>	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	100	100			
Internal Loads					Internal Loads										ENGINEERING CKS			
Lights	184	0	184	13	184	17	0	0	0.00	0	0	0.00	% OA	0.0	0.0			
People	500	0	500	35	250	23	0	0	0.00	0	0	0.00	cfm/ft²	0.93	0.28			
Misc	0	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	422.26				
Sub Total ==>	684	0	684	48	434	40	0	0	0.00	0	0	0.00	ft²/ton	451.89				
Sub Total ==>													Btu/hr-ft²	26.56	-16.96			
Sub Total ==>													No. People	1.0	18.5/1000 ft²			
Ceiling Load	4	-4	0	0	6	1	-8	0	0.00	-8	0	0.00						
Ventilation Load	0	0	0	0	0	0	0	0	0.00	0	0	0.00						
Adj Air Trans Heat	645		645	45	645	59	-645	-645	70									
Dehumid. Ov Sizing			0	0			0	0	0.00									
Ov/Undr Sizing	0		0	0	0	0	0	0	0.00									
Exhaust Heat		0	0	0			0	0	0.00									
Sup. Fan Heat			60	4			0	0	0.00									
RA Preheat Diff.			4	4			0	0	0.00									
Additional Reheat								-262	28.62									
OA Preheat Diff.								-8	0.92									
System Plenum Heat																		
Underflr Sup Ht Pkup			0	0					0.00									
Supply Air Leakage		0	0	0					0.00									
Grand Total ==>	1,333	41	1,434	100.00	1,085	100.00	Grand Total ==>	-654	-916	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	1.2	50	75.8	61.7	62.8	53.9	51.7	55.6	Floor	54	-0.9	15	53.9	110.2			
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	1	0.0	0	0.0	0.0			
											ExFlr	0	-0.3	15	53.9	70.0			
Total	0.1	1.4									Roof	0	0.0	0	0.0	0.0			
											Wall	0	0.0	0	0.0	0.0			
											Ext Door	0	0	0	0	0.0			
													Total	-0.9					

Room Checksums

By Valhalla Engineering Group, LLC

C9-03 GROUP COUNSELING ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4		OADB: 4				SADB	55.0	70.2
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	75.2	69.5
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	80.3	48.1
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	Cooling	Heating
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00					147	147
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Terminal	147	147
Floor	0	0	0	0.00	0	Floor	0	0.00				Main Fan	147	147
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Sec Fan	0	0
Infiltration	0	0	0	0	0	Infiltration	0	0.00				Nom Vent	49	49
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				AHU Vent	49	49
Internal Loads				Internal Loads								Infil	0	0
Lights	556	0	556	10	18	Lights	0	0.00				MinStop/Rh	147	147
People	1,000	0	1,000	18	16	People	0	0.00				Return	147	147
Misc	0	0	0	0	0	Misc	0	0.00				Exhaust	49	49
Sub Total ==>	1,556	0	1,556	27	33	Sub Total ==>	0	0.00				Rm Exh	0	0
Ceiling Load				Ceiling Load								Auxiliary	0	0
Ventilation Load	0	-9	0	0	19	Ventilation Load	-25	0.00				Leakage Dwn	0	0
Adj Air Trans Heat	0	0	1,777	31	0	Adj Air Trans Heat	0	-3,449	66.74			Leakage Ups	0	0
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				ENGINEERING CKS		
Ov/Undr Sizing	2,092	0	2,092	37	66	Exhaust Heat	0	0.00				% OA	Cooling	Heating
Exhaust Heat	0	-43	-43	-1	3	OA Preheat Diff.	-1,693	32.77					33.3	33.3
Sup. Fan Heat	0	130	130	2	0	RA Preheat Diff.	0	0.00				cfm/ft²	0.90	0.90
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	0	0.00				cfm/ton	309.63	
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-25	0.49				ft²/ton	344.03	
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				Btu/hr-ft²	34.88	-31.71
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00				No. People	2.0	12.3/1000 ft²
Grand Total ==>	3,657	78	5,685	100.00	3,155	100.00	Grand Total ==>	-25	-5,168	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	0.5	5.7	4.2	147	80.3	65.4	73.2	53.9	52.3	58.0	Floor	163	Main Htg	-2.6	147	53.9	70.2
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	1	Preheat	-2.6	49	4.4	53.9
Total	0.5	5.7									ExFlr	0	Reheat	-2.5	147	53.9	70.0
											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	-5.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-04 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 9 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	79.2
Outside Air:		OADB/WB/HR: 76 / 62 / 62		OADB: 53		OADB: 4			Ra Plenum		69.5	75.0	69.5	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	75.8	70.0	Ret/OA	75.8	48.1
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser		355	203		
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal		355	203		
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan		355	203		
Glass Solar	5,935	0	5,935	70	6,926	91	0	0.00	Sec Fan		0	0		
Glass/Door Cond	-41	0	-41	0	-604	-8	-1,618	17.77	Nom Vent		68	68		
Wall Cond	193	0	193	2	67	1	-353	3.87	AHU Vent		68	68		
Partition/Door	0	0	0	0	0	0	0	0.00	Infil		0	0		
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh		203	203		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return		288	135		
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust		0	0		
Sub Total ==>	6,087	0	6,087	71	6,389	84	-1,970	21.64	Rm Exh		0	0		
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	768	0	768	9	768	10	0	0.00	% OA		19.0	33.3		
People	1,000	0	1,000	12	500	7	0	0.00	cfm/ft²		1.58	0.90		
Misc	0	0	0	0	0	0	0	0.00	cfm/ton		500.49			
Sub Total ==>	1,768	0	1,768	21	1,268	17	0	0.00	ft²/ton		317.05			
Ceiling Load	-3	3	0	0	-18	0	-35	0.00	Btu/hr-ft²		37.85	-40.46		
Ventilation Load	0	0	12	0	0	0	0	-4,762	No. People		2.0	8.9/1000 ft²		
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0						
Ov/Undr Sizing	0	0	0	0	0	0	0	0						
Exhaust Heat	0	0	0	0	0	0	0	0						
Sup. Fan Heat	0	0	405	5	0	0	0	-2,338						
Ret. Fan Heat	0	244	244	3	0	0	0	0						
Duct Heat Pkup	0	0	0	0	0	0	0	-35						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0						
Supply Air Leakage	0	0	0	0	0	0	0	0						
Grand Total ==>	7,852	247	8,516	100.00	7,639	100.00	-2,005	-9,105						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION					
	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F gr/lb			Leave DB/WB/HR °F °F gr/lb			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F		
Main Clg	0.7	8.5	8.1	342	75.8	61.7	62.7	53.9	53.0	60.6	Floor	225		Main Htg	-5.5	203	53.9	79.2
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	1		Preheat	-3.6	68	4.4	53.9
Total	0.7	8.5									ExFlr	0		Reheat	-3.5	203	53.9	70.0
											Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	145	78	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-9.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-04A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 9 / 14		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	118.2		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 80		OADB: 4			Ra Plenum		69.5	Return	75.8	70.0		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA <td colspan="1">75.8</td> <td colspan="1">70.0</td> <td colspan="1">Fn MtrTD</td> <td colspan="1">0.1</td> <td colspan="1">0.0</td>	75.8	70.0	Fn MtrTD	0.1	0.0		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		75.8	70.0	70.0	Fn BldTD	0.3	0.0		
Envelope Loads				Envelope Loads				Envelope Loads			Fn Frict	0.7	0.0			
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00								
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00								
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00								
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	292	0	292	19	328	28	Wall Cond	-413	-413	36.17						
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00						
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00						
Sub Total ==>	292	0	292	19	328	28	Sub Total ==>	-413	-413	36.17						
Internal Loads				Internal Loads				Internal Loads								
Lights	171	0	171	11	171	14	Lights	0	0	0.00						
People	500	0	500	33	250	21	People	0	0	0.00						
Misc	0	0	0	0	0	0	Misc	0	0	0.00						
Sub Total ==>	671	0	671	44	421	36	Sub Total ==>	0	0	0.00						
Ceiling Load	3	-3	0	0	0	0	Ceiling Load	-8	0	0.00						
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0	0.00						
Adj Air Trans Heat	436	0	436	29	436	37	Adj Air Trans Heat	-436	-436	38						
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	OA Preheat Diff.	0	0	0.00						
Sup. Fan Heat	0	63	63	4	0	0	RA Preheat Diff.	0	0	0.00						
Ret. Fan Heat	0	48	48	3	0	0	Additional Reheat	-286	25.03							
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	-8	0.68							
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 ==>	1,401	45	1,509	100.00	1,184	100.00	Grand Total ==>	-857	-1,142	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	55	17
Terminal	55	17
Main Fan	55	17
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	17	17
Return	55	17
Exhaust	0	0
Rm Exh	68	68
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	1.10	0.33
cfm/ton	437.89	
ft²/ton	397.70	
Btu/hr-ft²	30.17	-22.85
No. People	1.0	20.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.1	1.5	1.3	54	75.8	61.7	62.8	53.9	51.8	56.0
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	1.5								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	50		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	79	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-1.1	17	53.9	118.2
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.3	17	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-05 TOILET

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 5 / 24			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 61			OADB: 4			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											
	0	0	0	0	0	0	0	0	0.00							
Skylite Solar	0	0	0	0	0	0	0	0	0.00							
Skylite Cond	0	0	0	0	0	0	0	0	0.00							
Roof Cond	0	0	0	0	0	0	0	0	0.00							
Glass Solar	0	0	0	0	0	0	0	0	0.00							
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00							
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	0.00	0	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0	0.00							
Sub Total ==>	0	0	0	0	0	0	0	0	0.00							
Internal Loads					Internal Loads											
Lights	157	0	157	18	157	26	0	0	0.00							
People	500	0	500	56	250	42	0	0	0.00							
Misc	0	0	0	0	0	0	0	0	0.00							
Sub Total ==>	657	0	657	73	407	69	0	0	0.00							
Ceiling Load	3	-3	0	0	3	1	-7	0	0.00							
Ventilation Load	0	0	0	0	0	0	0	0	0.00							
Adj Air Trans Heat	182	0	182	20	182	31	-182	-182	55							
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	33	4	0	0	0	0	0.00							
Ret. Fan Heat	0	24	24	3	0	0	-143	43.03								
Duct Heat Pkup	0	0	0	0	0	0	-7	2.16								
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00								
Supply Air Leakage	0	0	0	0	0	0	0	0.00								
Grand Total ==>	842	22	896	100.00	593	100.00	-190	-333	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	28	8
Terminal	28	8
Main Fan	28	8
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	8	8
Return	28	8
Exhaust	0	0
Rm Exh	28	28
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.60	0.18
cfm/ton	368.97	
ft²/ton	615.74	
Btu/hr-ft²	19.49	-7.23
No. People	1.0	21.7/1000 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	0.9	0.7	28	75.8	61.7	62.8	53.9	50.1	49.6
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	0.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	46		
Part	0		
Int Door	1		
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	-0.3	8	53.9	91.3
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.1	8	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.3			

Room Checksums

By Valhalla Engineering Group, LLC

C9-06 MECHANICAL ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 2		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	77.0
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 71		OADB: 4			Ra Plenum		69.5	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	80.3	0.1	0.0	0.0		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	552	552			
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	552	552			
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan	552	552			
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Nom Vent	184	184			
Wall Cond	941	0	941	5	1,200	10	-4,029	17.17	AHU Vent	184	184			
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	0	0			
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	552	552			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	552	552			
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust	184	184			
Sub Total ==>	941	0	941	5	1,200	10	-4,029	17.17	Rm Exh	0	0			
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	2,092	0	2,092	11	2,092	18	0	0.00	% OA	33.3	33.3			
People	0	0	0	0	0	0	0	0.00	cfm/ft²	0.90	0.90			
Misc	0	0	0	0	0	0	0	0.00	cfm/ton	339.45				
Sub Total ==>	2,092	0	2,092	11	2,092	18	0	0.00	ft²/ton	377.17				
Ceiling Load	34	-34	0	0	50	0	-96	0.00	Btu/hr-ft²	31.82	-38.28			
Ventilation Load	0	0	6,682	34	0	0	-12,973	55.28	No. People	0.0	0.0/1000 ft²			
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	8,807		8,807	45	8,523	72	0	0.00						
Exhaust Heat		-163	-163	-1			0	0.00						
Sup. Fan Heat			654	3			-6,369	27.14						
Ret. Fan Heat		490	490	3			0	0.00						
Duct Heat Pkup		0	0	0			-96	0.41						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	11,875	293	19,503	100.00	11,865	100.00	-4,125	-23,466	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				
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb					ft²	(%)	MBh	cfm
Main Clg	1.6	19.5	15.7	552	80.3	65.4	73.2	53.9	53.6	63.0	Floor	613		Main Htg	-13.7	552	53.9	77.0
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	1		Preheat	-9.8	184	4.4	53.9
											ExFlr	0		Reheat	-9.6	552	53.9	70.0
Total	1.6	19.5									Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	865	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-23.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-07 OFFICE

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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						AIRFLOWS				
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Cooling		Heating				
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Diffuser	95	60	Terminal	95	60	
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Main Fan	95	60	Sec Fan	0	0	
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	Nom Vent	30	30	Nom Vent	30	30	
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00	AHU Vent	30	30	Infil	0	0	
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00	MinStop/Rh	60	60	Return	95	60	
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Exhaust	30	30	Rm Exh	0	0	
Floor	0	0	0	0	0	Floor	0	0.00	Auxiliary	0	0	Leakage Dwn	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Leakage Ups	0	0	ENGINEERING CKS			
Infiltration	0	0	0	0	0	Infiltration	0	0.00	% OA	31.5	50.0	% OA	31.5	50.0	
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00	cfm/ft²	0.95	0.60	cfm/ton	300.93		
Internal Loads					Internal Loads						ft²/ton	316.11			
Lights	341	0	341	9	341	Lights	0	0.00	Btu/hr-ft²	37.96	-26.51	No. People	2.0	20.0/1000 ft²	
People	1,000	0	1,000	26	500	People	0	0.00							
Misc	1,195	0	1,195	31	1,195	Misc	0	0.00							
Sub Total ==>	2,536	0	2,536	67	2,036	Sub Total ==>	0	0.00							
Ceiling Load					Ceiling Load										
Ventilation Load	0	-6	0	0	12	Ventilation Load	-16	0.00							
Adj Air Trans Heat	0	0	1,090	29	0	Adj Air Trans Heat	0	-2,116	79.82						
Dehumid. Ov Sizing	0	0	0	0	0	Dehumid. Ov Sizing	0	0	0						
Ov/Undr Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00						
Exhaust Heat	0	-27	-27	-1	0	Exhaust Heat	0	0	0.00						
Sup. Fan Heat	0	0	113	3	0	OA Preheat Diff.	-519	19.59							
Ret. Fan Heat	0	0	84	2	0	RA Preheat Diff.	0	0.00							
Duct Heat Pkup	0	0	0	0	0	Additional Reheat	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	System Plenum Heat	-16	0.59							
Supply Air Leakage	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00							
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00							
Grand Total ==>	2,541	52	3,796	100.00	2,047	100.00	Grand Total ==>	-16	-2,651	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	0.3	3.8	2.7	95	80.1	65.2	72.6	53.9	51.6	55.3	Floor	100		Main Htg	-1.1	60	53.9	70.2
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	1		Preheat	-1.6	30	4.4	53.9
											ExFlr	0		Reheat	-1.0	60	53.9	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
Total	0.3	3.8									Ext Door	0	0	Total	-2.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-08 MENS BARIATRIC

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 80		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th>	Fn BldTD <th>Fn Frict</th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens							
Envelope Loads					Envelope Loads									
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Glass Solar	1,029	0	1,029	13	1,168	25	0	0.00	0	0	0.00	0	0	0.00
Glass/Door Cond	105	0	105	1	51	1	-617	7.23	-617	-399	4.68	0	0	0.00
Wall Cond	235	0	235	3	224	5	-399	4.68	-399	0	0.00	0	0	0.00
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Sub Total ==>	1,369	0	1,369	17	1,442	31	-1,016	11.91	-1,016	-1,016	11.91			
Internal Loads					Internal Loads									
Lights	809	0	809	10	809	18	0	0.00	0	0	0.00	0	0	0.00
People	1,000	0	1,000	12	500	11	0	0.00	0	0	0.00	0	0	0.00
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Sub Total ==>	1,809	0	1,809	22	1,309	29	0	0.00	0	0	0.00			
Ceiling Load	23	-23	0	0	20	0	-37	0.00	0	0	0.00			
Ventilation Load	0	0	2,070	25	0	0	-5,016	58.79	0	0	0.00			
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ov/Undr Sizing	2,579	0	2,579	31	1,816	40	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	253	3	0	0	-2,462	28.86	0	0	0.00			
Ret. Fan Heat	0	126	126	2	0	0	0	0.00	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	-37	0.43	0	0	0.00			
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 ==>	5,780	104	8,207	100.00	4,587	100.00	-1,053	100.00	-8,531	-8,531	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	213	213
Terminal	213	213
Main Fan	213	213
Sec Fan	0	0
Nom Vent	71	71
AHU Vent	71	71
Infil	0	0
MinStop/Rh	213	213
Return	142	142
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	311.89	
ft²/ton	346.54	
Btu/hr-ft²	34.63	-36.00
No. People	2.0	8.4/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.7	8.2	6.4	213	79.0	64.6	71.8	53.9	51.5	54.9
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	0.7	8.2								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	237		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	113	30	26
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-4.8	213	53.9	74.6
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.8	71	4.4	53.9
Reheat	-3.7	213	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-09 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78			OADB: 4			SADB	55.0	73.0	Ra Plenum	75.2	69.5
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>75.8</td> <td>70.0</td>	75.8	70.0	Ret/OA	75.8	70.0		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00				
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00				
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00				
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0.00	0	0.00	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00				
Internal Loads					Internal Loads											
Lights	141	0	141	91	141	97	0	0.00	Lights	0	0	0.00				
People	0	0	0	0	0	0	0	0.00	People	0	0	0.00				
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00				
Sub Total ==>	141	0	141	91	141	97	0	0.00	Sub Total ==>	0	0	0.00				
Ceiling Load	2	-2	0	0	5	3	-6	0.00	Ceiling Load	-6	0	0.00				
Ventilation Load	0	0	0	0	0	0	0	0.00	Ventilation Load	0	0	0.00				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing			0	0			0	0.00	Ov/Undr Sizing	0	0	0.00				
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	Exhaust Heat	0	0	0.00				
Exhaust Heat		0	0	0			0	0.00	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat			8	5			0	0.00	RA Preheat Diff.	0	0	0.00				
Ret. Fan Heat		6	6	4			-35	84.52	Additional Reheat	-35	84.52					
Duct Heat Pkup		0	0	0			-6	15.48	System Plenum Heat	-6	15.48					
Underflr Sup Ht Pkup			0	0			0	0.00	Underflr Sup Ht Pkup	0	0	0.00				
Supply Air Leakage		0	0	0			0	0.00	Supply Air Leakage	0	0	0.00				
Grand Total ==>	144	4	155	100.00	146	100.00	-6	-42	Grand Total ==>	-6	-42	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	7	2
Terminal	7	2
Main Fan	7	2
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	2	2
Return	7	2
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	0.16	0.05
cfm/ton	525.23	
ft²/ton	3,201.77	
Btu/hr-ft²	3.75	-1.01
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	0.0	0.2	0.2	7	75.8	61.7	62.8	53.9	53.5	62.8
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	0.0	0.2								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	41		
Part	0		
Int Door	1		
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	0.0	2	53.9	73.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	0.0	2	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-10 LAUNDRY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating					
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4		OADB: 4				SADB	55.0	70.1				
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	75.2	69.5				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0				
Envelope Loads				Envelope Loads								Ret/OA	75.8	70.0				
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0				
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0				
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	260	78	
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	260	78	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	260	78	
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0	
Internal Loads				Internal Loads											MinStop/Rh	78	78	
Lights	249	0	249	4	249	4	0	0.00	0	0	0.00				Return	260	78	
People	500	0	500	8	250	4	0	0.00	0	0	0.00	Exhaust	0	0				
Misc	5,090	0	5,090	80	5,090	91	0	0.00	0	0	0.00	Rm Exh	0	0				
Sub Total ==>	5,839	0	5,839	92	5,589	100	0	0.00	0	0	0.00	Auxiliary	0	0				
Ceiling Load	4	-4	0	0	8	0	-11	0.00	0	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	0	0	0	ENGINEERING CKS						
Dehumid. Ov Sizing			0	0			0	0.00			0.00				% OA	0.0	0.0	
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ft²	3.57	1.07	
Exhaust Heat		0	0	0			0	0.00			0.00				cfm/ton	489.65		
Sup. Fan Heat			308	5			0	0.00			0.00				ft²/ton	137.33		
Ret. Fan Heat		231	231	4			-1,352	99.16			-11				0.84	Btu/hr-ft²	87.38	-18.68
Duct Heat Pkup		0	0	0			0	0.00			0				0.00	No. People	1.0	13.7/1000 ft²
Underflr Sup Ht Pkup			0	0			0	0.00			0				0.00			
Supply Air Leakage		0	0	0			0	0.00			0				0.00			
Grand Total ==>	5,843	227	6,379	100.00	5,598	100.00	-11	100.00	-1,363	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
Main Clg	0.5	6.4	6.1	260	75.8	61.7	62.8	53.9	53.2	61.4	Floor	73		Main Htg	-1.4	78	53.9	70.1
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-1.4	78	53.9	70.0
Total	0.5	6.4									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	-1.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-11 GAMING

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 10 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 71 / 93		OADB: 58		OADB: 4			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	0	0	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0	
Glass Solar	2,093	0	2,093	17	4,168	49	0	0.00	0	0	0	0	0	
Glass/Door Cond	166	0	166	1	-297	-3	-1,006	16.19	-1,006	-1,006	0.1	0.3	0.7	
Wall Cond	282	0	282	2	153	2	-452	7.28	-452	-452	0.0	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.0	0.0	0.0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.0	0.0	0.0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.0	0.0	0.0	
Sub Total ==>	2,540	0	2,540	21	4,023	47	-1,458	23.46	-1,458	-1,458				
Internal Loads				Internal Loads										
Lights	512	0	512	4	512	6	0	0.00	0	0	0	0	0	
People	6,000	0	6,000	49	3,000	35	0	0.00	0	0	0	0	0	
Misc	1,024	0	1,024	8	1,024	12	0	0.00	0	0	0	0	0	
Sub Total ==>	7,536	0	7,536	62	4,536	53	0	0.00	0	0				
Ceiling Load	5	-5	0	0	-9	0	-23	0.00	0	0				
Ventilation Load	0	0	1,488	12	0	0	0	51.08	-3,174	-3,174				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0				
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0				
Exhaust Heat	0	-40	-40	0	0	0	0	0.00	0	0				
Sup. Fan Heat	0	0	390	3	0	0	-1,558	25.08	0	0				
Ret. Fan Heat	0	293	293	2	0	0	0	0.00	0	0				
Duct Heat Pkup	0	0	0	0	0	0	-23	0.38	0	0				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0				
Grand Total ==>	10,081	248	12,206	100.00	8,550	100.00	-1,482	100.00	-6,214	-6,214				

AIRFLOWS		
	Cooling	Heating
Diffuser	398	135
Terminal	398	135
Main Fan	398	135
Sec Fan	0	0
Nom Vent	45	45
AHU Vent	45	45
Infil	0	0
MinStop/Rh	135	135
Return	398	135
Exhaust	45	45
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	11.3	33.3
cfm/ft²	2.65	0.90
cfm/ton	390.83	
ft²/ton	147.46	
Btu/hr-ft²	81.38	-41.43
No. People	12.0	80.0/1000 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	1.0	12.2	8.3	329	77.4	63.1	66.9	53.9	50.0	49.5
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	1.0	12.2								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	150		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	135	48	36
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-3.8	135	53.9	80.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.4	45	4.4	53.9
Reheat	-2.3	135	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-6.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-11A STORAGE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 9 / 16		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 80		OADB: 4			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						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	141	0	141	17	171	37	-220	40.92						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	141	0	141	17	171	37	-220	40.92						
Internal Loads				Internal Loads										
Lights	41	0	41	5	41	9	0	0.00						
People	500	0	500	59	250	54	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	541	0	541	64	291	63	0	0.00						
Ceiling Load	1	-1	0	0	0	0	-2	0.00						
Ventilation Load	0	0	131	15	0	0	0	47.16						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat		-3	-3	0			0	0.00						
Sup. Fan Heat			24	3			-62	11.57						
Ret. Fan Heat			18	2			0	0.00						
Duct Heat Pkup			0	0			-2	0.35						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage			0	0			0	0.00						
Grand Total ==>	682	14	851	100.00	462	100.00	-222	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	21	7
Terminal	21	7
Main Fan	21	7
Sec Fan	0	0
Nom Vent	4	4
AHU Vent	4	4
Infil	0	0
MinStop/Rh	7	7
Return	21	7
Exhaust	4	4
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	16.8	50.0
cfm/ft²	1.79	0.60
cfm/ton	302.86	
ft²/ton	169.20	
Btu/hr-ft²	70.92	-44.87
No. People	1.0	83.3/1000 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	0.9	0.5	20	78.2	63.7	68.4	53.9	48.7	44.7
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	0.1	0.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	12		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	42	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-0.4	7	53.9	98.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.2	4	4.4	53.9
Reheat	-0.1	7	53.9	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 Valhalla Engineering Group, LLC

C9-11A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 4 / 24		Mo/Hr: Heating Design						Cooling			Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 93			OADB: 45		OADB: 4						SADB	55.0	103.4	Ra Plenum	75.2	69.5		
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	75.8	70.0	Ret/OA	75.8	70.0			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0			
Envelope Loads					Envelope Loads										AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	43	13	Terminal	43	13			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	43	13	Sec Fan	0	0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	0	0	AHU Vent	0	0			
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0	MinStop/Rh	13	13			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	43	13	Exhaust	0	0			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	71	71	Auxiliary	0	0			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0			
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	ENGINEERING CKS								
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	% OA	0.0	0.0	cfm/ft²	0.66	0.20			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	409.53		ft²/ton	621.57				
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	19.31	-10.53	No. People					
Internal Loads					Internal Loads										1.0			15.2/1000 ft²		
Lights	225	0	225	18	225	24	0	0.00	0	0	0.00									
People	500	0	500	39	250	27	0	0.00	0	0	0.00									
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00									
Sub Total ==>	725	0	725	57	475	51	0	0.00	0	0	0.00									
Ceiling Load	5	-5	0	0	1	0	-10	0.00	-10	0	0.00									
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00									
Adj Air Trans Heat	459	0	459	36	459	49	-459	66	-459	-459	66									
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	52	4	0	0	0	0.00	0	0	0.00									
Ret. Fan Heat	0	39	39	3	0	0	-226	32.50	-10	1.48										
Duct Heat Pkup	0	0	0	0	0	0	-10	1.48	0	0	0.00									
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 ==>	1,189	34	1,274	100.00	935	100.00	-469	100.00	-469	-695	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	1.3	1.0	43	75.8	61.7	62.8	53.9	51.3	54.4	Floor	66		Main Htg	-0.7	13	53.9	103.4
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-0.2	13	53.9	70.0
Total	0.1	1.3									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	-0.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-12 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling		Heating			
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			SADB		Ra Plenum	Return		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser		209	209		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Terminal		209	209		
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Main Fan		209	209		
Glass Solar	1,533	0	1,533	18	39	Glass Solar	0	0.00	Sec Fan		0	0		
Glass/Door Cond	156	0	156	2	2	Glass/Door Cond	-919	10.48	Nom Vent		70	70		
Wall Cond	293	0	293	4	6	Wall Cond	-497	5.67	AHU Vent		70	70		
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Infil		0	0		
Floor	0	0	0	0	0	Floor	0	0.00	MinStop/Rh		209	209		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return		139	139		
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Exhaust		0	0		
Sub Total ==>	1,981	0	1,981	24	47	Sub Total ==>	-1,416	16.14	Rm Exh		0	0		
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	792	0	792	9	18	Lights	0	0.00	% OA		33.3	33.3		
People	1,000	0	1,000	12	11	People	0	0.00	cfm/ft²		0.90	0.90		
Misc	0	0	0	0	0	Misc	0	0.00	cfm/ton		299.42			
Sub Total ==>	1,792	0	1,792	21	29	Sub Total ==>	0	0.00	ft²/ton		332.69			
Ceiling Load	22	-22	0	0	20	Ceiling Load	-36	0.00	Btu/hr-ft²		36.07	-37.81		
Ventilation Load	0	0	2,027	24	0	Ventilation Load	0	55.97	No. People		2.0	8.6/1000 ft²		
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0						
Dehumid. Ov Sizing			0	0	0	Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	2,197		2,197	26	24	Exhaust Heat	0	0.00						
Exhaust Heat		0	0	0	0	OA Preheat Diff.	0	0.00						
Sup. Fan Heat			247	3	3	RA Preheat Diff.	-2,410	27.48						
Ret. Fan Heat		124	124	1	1	Additional Reheat	0	0.00						
Duct Heat Pkup		0	0	0	0	System Plenum Heat	-36	0.41						
Underflr Sup Ht Pkup		0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage		0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	5,992	102	8,368	100.00	4,491	100.00	Grand Total ==>	-1,453	-8,773	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	0.7	8.4	6.6	209	79.0	64.6	71.8	53.9	50.9	52.5	Floor	232		Main Htg	-5.1	209	53.9	76.5	
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	1		Preheat	-3.7	70	4.4	53.9	
											ExFlr	0		Reheat	-3.6	209	53.9	70.0	
Total	0.7	8.4									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	148	44	30	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-8.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-12A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 2 / 24		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 89 / 72 / 93			OADB: 23		OADB: 4										
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	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00						
Internal Loads					Internal Loads												
Lights	191	0	191	16	191	22	0	0.00	0	0	0.00						
People	500	0	500	41	250	28	0	0.00	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00						
Sub Total ==>	691	0	691	56	441	50	0	0.00	0	0	0.00						
Ceiling Load	4	-4	0	0	-4	0	-9	0.00	0	0	0.00						
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00						
Adj Air Trans Heat	449		449	37	449	51	-449	67	-449	-449	67						
Dehumid. Ov Sizing			0	0			0	0.00			0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0.00			0.00						
Exhaust Heat		0	0	0			0	0.00			0.00						
Sup. Fan Heat			49	4			0	0.00			0.00						
Ret. Fan Heat		37	37	3				0.00			-214	31.86					
Duct Heat Pkup		0	0	0				0.00			-9	1.30					
Underflr Sup Ht Pkup			0	0				0.00			0	0.00					
Supply Air Leakage		0	0	0				0.00			0	0.00					
Grand Total ==>	1,144	33	1,226	100.00	886	100.00	-458	100.00	-672	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	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F		
Main Clg	0.1	1.2	41	75.8	61.7	62.8	53.9	51.2	53.7	Floor	56	-0.7	12	53.9	104.5	
Aux Clg	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	Int Door	1	0.0	0	0.0	0.0	
										ExFlr	0	-0.2	12	53.9	70.0	
										Roof	0	0.0	0	0.0	0.0	
										Wall	0	0.0	0	0.0	0.0	
										Ext Door	0	0.0	0	0.0	0.0	
Total	0.1	1.2										-0.7				

Room Checksums

By Valhalla Engineering Group, LLC

C9-13 SOILED UTILITY

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 19		Mo/Hr: Heating Design						Cooling			Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 93			OADB: 83		OADB: 4						SADB	55.0	111.5	Ra Plenum	75.2	69.5		
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	75.8	70.0	Ret/OA	75.8	70.0			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0			
Envelope Loads					Envelope Loads										AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	49	15	Terminal	49	15			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	49	15	Sec Fan	0	0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	0	0	AHU Vent	0	0			
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0	MinStop/Rh	15	15			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	49	15	Exhaust	0	0			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	100	100	Auxiliary	0	0			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0			
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	ENGINEERING CKS								
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	% OA	0.0	0.0	cfm/ft²	1.13	0.34			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	419.25		ft²/ton	370.49				
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	32.39	-21.04	No. People					
Internal Loads					Internal Loads										1.0			23.3/1000 ft²		
Lights	147	0	147	11	147	14	0	0.00	0	0	0.00									
People	500	0	500	36	250	24	0	0.00	0	0	0.00									
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00									
Sub Total ==>	647	0	647	46	397	38	0	0.00	0	0	0.00									
Ceiling Load	3	-3	0	0	5	0	-7	0.00	-7	0	0.00									
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00									
Adj Air Trans Heat	645		645	46	645	62	-645	71	-645	-645	71									
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00									
Ov/Undr Sizing	0		0	0	0	0	0	0.00	0	0	0.00									
Exhaust Heat		0	0	0			0	0.00			0									
Sup. Fan Heat			58	4			0	0.00			0									
Ret. Fan Heat			43	3			-253	27.94			-253									
Duct Heat Pkup			0	0			-7	0.74			-7									
Underflr Sup Ht Pkup			0	0			0	0.00			0									
Supply Air Leakage			0	0			0	0.00			0									
Grand Total ==>	1,295	40	1,393	100.00	1,047	100.00	-652	100.00	-652	-905	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	ft² (%)	Capacity	Coil Airflow	Ent °F	Lvg °F		
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb
Main Clg	0.1	1.4	1.1	49	75.8	61.7	62.8	53.9	51.6	55.3	Floor	43	Main Htg	-0.9	15	53.9	111.5		
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	1	Preheat	0.0	0	0.0	0.0		
											ExFlr	0	Reheat	-0.3	15	53.9	70.0		
Total	0.1	1.4									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	-0.9					

Room Checksums

By Valhalla Engineering Group, LLC

C9-14 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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												
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,543	0	1,543	18	1,751	39	0	0	0.00							
	157	0	157	2	76	2	-925	-925	10.47							
	290	0	290	3	276	6	-492	-492	5.57							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,990	0	1,990	24	2,103	46	-1,417	-1,417	16.04							
Internal Loads				Internal Loads												
	799	0	799	9	799	18	0	0	0.00							
	1,000	0	1,000	12	500	11	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,799	0	1,799	21	1,299	29	0	0	0.00							
	22	-22	0	0	20	0	-37	0	0.00							
	0	0	2,044	24	0	0	0	-4,952	56.04							
	0	0	0	0	0	0	0	0	0							
	0	0	0	0	0	0	0	0	0.00							
	2,225	0	2,225	26	1,107	24	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	250	3	0	0	0	-2,431	27.51							
	0	125	125	1	0	0	0	0	0.00							
	0	0	0	0	0	0	0	-37	0.41							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
Grand Total ==>	6,036	102	8,432	100.00	4,529	100.00	-1,454	-8,837	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	211	211
Terminal	211	211
Main Fan	211	211
Sec Fan	0	0
Nom Vent	70	70
AHU Vent	70	70
Infil	0	0
MinStop/Rh	211	211
Return	140	140
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	299.71	
ft²/ton	333.01	
Btu/hr-ft²	36.04	-37.76
No. People	2.0	8.5/1000 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	0.7	8.4	6.7	211	79.0	64.6	71.8	53.9	50.9	52.6
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	0.7	8.4								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	234		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	147	45	30
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.1	211	53.9	76.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.7	70	4.4	53.9
Reheat	-3.7	211	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-14A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 7 / 20		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00
Wall Cond	209	0	209	14	210	19	-372	33.73	-372	33.73	0.1	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0.00	0.3	0.0	0.0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0.00	0.7	0.0	0.0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	0	0.00				
<i>Sub Total ==></i>	209	0	209	14	210	19	-372	33.73	-372	33.73				
Internal Loads				Internal Loads										
Lights	197	0	197	13	197	18	0	0.00	0	0.00				
People	500	0	500	34	250	22	0	0.00	0	0.00				
Misc	0	0	0	0	0	0	0	0.00	0	0.00				
<i>Sub Total ==></i>	697	0	697	48	447	40	0	0.00	0	0.00				
Ceiling Load	6	-6	0	0	6	1	-9	0.00	0	0.00				
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0.00				
Adj Air Trans Heat	453	0	453	31	453	41	-453	41	-453	41				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0.00				
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0.00				
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0.00				
Sup. Fan Heat	0	0	61	4	0	0	0	0.00	0	0.00				
Ret. Fan Heat	0	46	46	3	0	0	-270	24.43	-270	24.43				
Duct Heat Pkup	0	0	0	0	0	0	-9	0.82	-9	0.82				
Underflr 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				
<i>Grand Total ==></i>	1,364	41	1,466	100.00	1,116	100.00	-834	100.00	-1,104	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	52	16
Terminal	52	16
Main Fan	52	16
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	16	16
Return	52	16
Exhaust	0	0
Rm Exh	70	70
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.90	0.27
cfm/ton	424.79	
ft²/ton	471.80	
Btu/hr-ft²	25.43	-19.15
No. People	1.0	17.3/1000 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	1.5	1.2	52	75.8	61.7	62.8	53.9	51.7	55.9
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	0.1	1.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	58		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	78	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.1	16	53.9	119.8
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.3	16	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-15 MENS BARIATRIC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 9 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 78 / 62 / 61		OADB: 53		OADB: 4						SADB	55.0	79.6
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	75.0	69.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	76.4	48.1
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Glass Solar	4,397	0	4,397	62	5,461	88	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	32	0	32	0	-476	-8	-1,275	16.27	-1,275	-1,275	16.27	Diffuser	289	173
Wall Cond	347	0	347	5	90	1	-476	6.07	-476	-476	6.07	Terminal	289	173
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	289	173
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	58	58
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	58	58
Sub Total ==>	4,777	0	4,777	67	5,075	82	-1,752	22.34	-1,752	-1,752	22.34	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	173	173
Lights	655	0	655	9	655	11	0	0.00	0	0	0.00	Return	231	115
People	1,000	0	1,000	14	500	8	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 ==>	1,655	0	1,655	23	1,155	19	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	-2	2	0	0	-15	0	-30	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	0	0	153	2	0	0	0	51.83	0	-4,063	51.83	ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	19.9	33.3
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	1.51	0.90
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	487.98	
Sup. Fan Heat	0	0	327	5	0	0	0	0.00	0	-1,995	25.44	ft²/ton	324.22	
Ret. Fan Heat	0	194	194	3	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	37.01	-40.83
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	2.0	10.4/1000 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 ==>	6,430	196	7,106	100.00	6,215	100.00	-1,782	100.00	-1,782	-7,840	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	0.6	7.1	6.7	276	76.4	61.9	62.5	53.9	52.8	60.1	Floor	192	Main Htg	-4.8	173	53.9	79.6
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	1	Preheat	-3.1	58	4.4	53.9
Total	0.6	7.1									ExFlr	0	Reheat	-3.0	173	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	152	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-7.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-15A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 9 / 14		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 80		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	280	0	280	18	325	27	-386	36.30						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	280	0	280	18	325	27	-386	36.30						
Internal Loads				Internal Loads										
Lights	266	0	266	17	266	22	0	0.00						
People	500	0	500	33	250	21	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	766	0	766	50	516	43	0	0.00						
Ceiling Load	4	-4	0	0	0	0	-12	0.00						
Ventilation Load	0	0	0	0	0	0	0	0.00						
Adj Air Trans Heat	372	0	372	24	372	31	-372	35						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	65	4	0	0	0	0.00						
Ret. Fan Heat	0	48	48	3	0	0	-293	27.58						
Duct Heat Pkup	0	0	0	0	0	0	-12	1.15						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	1,422	44	1,531	100.00	1,213	100.00	-769	-1,062	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	56	17
Terminal	56	17
Main Fan	56	17
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	17	17
Return	56	17
Exhaust	0	0
Rm Exh	58	58
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.72	0.22
cfm/ton	442.18	
ft²/ton	611.44	
Btu/hr-ft²	19.63	-13.62
No. People	1.0	12.8/1000 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	1.5	1.3	55	75.8	61.7	62.8	53.9	51.8	56.2
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	1.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	78		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	74	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.1	17	53.9	112.3
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.3	17	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-16 DINING/ ACTIVITIES

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	75.6
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			Ra Plenum		69.5	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th>	Fn BldTD <th>Fn Frict <td colspan="2"></td> </th>	Fn Frict <td colspan="2"></td>		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	77.4	0.1	0.0	0.0		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser		916	444		
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal		916	444		
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan		916	444		
Glass Solar	2,562	0	2,562	7	2,908	15	0	0.00	Sec Fan		0	0		
Glass/Door Cond	260	0	260	1	127	1	-1,536	8.43	Nom Vent		148	148		
Wall Cond	628	0	628	2	597	3	-1,065	5.84	AHU Vent		148	148		
Partition/Door	0	0	0	0	0	0	0	0.00	Infil		0	0		
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh		444	444		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return		916	444		
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust		148	148		
Sub Total ==>	3,451	0	3,451	9	3,631	18	-2,602	14.27	Rm Exh		0	0		
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	1,683	0	1,683	4	1,683	9	0	0.00	% OA		16.1	33.3		
People	27,115	0	27,115	69	13,558	69	0	0.00	cfm/ft²		1.86	0.90		
Misc	785	0	785	2	785	4	0	0.00	cfm/ton		281.17			
Sub Total ==>	29,583	0	29,583	76	16,025	81	0	0.00	ft²/ton		151.34			
Ceiling Load	47	-47	0	0	42	0	-77	0.00	Btu/hr-ft²		79.29	-36.98		
Ventilation Load	0	0	4,307	11	0	0	0	57.22	No. People		49.3	100.0/1000 ft²		
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-131	-131	0	0	0	-5,122	28.09						
Sup. Fan Heat	0	0	1,076	3	0	0	0	0.00						
Ret. Fan Heat	0	807	807	2	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-77	0.42						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	33,080	628	39,091	100.00	19,699	100.00	-2,679	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	3.3	39.1	22.9	908	77.4	63.2	67.2	53.9	47.7	41.0	Floor	493	Main Htg	-10.4	444	53.9	75.6
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	1	Preheat	-7.9	148	4.4	53.9
											ExFlr	0	Reheat	-7.7	444	53.9	70.0
Total	3.3	39.1									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	296	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-18.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-17 GROUP THERAPY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design									
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4									
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	Cooling	Heating		
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	55.0	79.4	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Ra Plenum	75.0	69.5	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	75.8	70.0	
Glass Solar	4,373	0	4,373	37	6,926	74	0	0.00	0	0	0.00	Ret/OA	77.0	48.1	
Glass/Door Cond	135	0	135	1	-604	-6	-1,618	16.72	-1,618	-1,618	16.72	Fn MtrTD	0.1	0.0	
Wall Cond	338	0	338	3	97	1	-514	5.31	-514	-514	5.31	Fn BldTD	0.3	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				
Sub Total ==>	4,845	0	4,845	41	6,419	69	-2,131	22.02	-2,131	-2,131	22.02				
Internal Loads				Internal Loads							AIRFLOWS				
Lights	812	0	812	7	812	9	0	0.00	0	0	0.00	Diffuser	436	214	
People	3,500	0	3,500	30	1,750	19	0	0.00	0	0	0.00	Terminal	436	214	
Misc	406	0	406	3	406	4	0	0.00	0	0	0.00	Main Fan	436	214	
Sub Total ==>	4,718	0	4,718	40	2,968	32	0	0.00	0	0	0.00	Sec Fan	0	0	
Ceiling Load	3	-3	0	0	-19	0	-37	0.00	0	0	0.00	Nom Vent	71	71	
Ventilation Load	0	0	1,455	12	0	0	0	52.04	-5,037	-5,037	52.04	AHU Vent	71	71	
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	Infil	0	0	
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00	MinStop/Rh	214	214	
Ov/Undr Sizing	0		0	0	0	0	0	0.00	0	0	0.00	Return	436	214	
Exhaust Heat		-63	-63	-1			0	0.00	0	0	0.00	Exhaust	71	71	
Sup. Fan Heat			431	4			0	0.00	-2,473	-2,473	25.55	Rm Exh	0	0	
Ret. Fan Heat		323	323	3			0	0.00	0	0	0.00	Auxiliary	0	0	
Duct Heat Pkup		0	0	0			0	0.00	0	0	0.00	Leakage Dwn	0	0	
Underflr Sup Ht Pkup		0	0	0			0	0.00	0	0	0.00	Leakage Ups	0	0	
Supply Air Leakage		0	0	0			0	0.00	0	0	0.00				
Grand Total ==>	9,566	257	11,709	100.00	9,369	100.00	-2,168	100.00	-2,168	-9,678	100.00	ENGINEERING CKS			
												% OA		16.4	33.3
												cfm/ft²		1.83	0.90
												cfm/ton		446.44	
												ft²/ton		243.91	
												Btu/hr-ft²		49.20	-40.66
												No. People		7.0	29.4/1000 ft²

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	1.0	11.7	9.0	363	77.0	62.9	66.6	53.9	51.7	55.8	Floor	238	Main Htg	-5.9	214	53.9	79.4
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	1	Preheat	-3.8	71	4.4	53.9
Total	1.0	11.7									ExFlr	0	Reheat	-3.7	214	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	176	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-18 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 9 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design								
Outside Air:		OADB/WB/HR: 76 / 62 / 62		OADB: 53		OADB: 4								
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating				
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Btu/h	Btu/h				
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				SADB	55.0	77.8
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Ra Plenum	75.0	69.5
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Return	75.8	70.0
Glass Solar	4,641	0	4,641	61	5,417	Glass Solar	0	0.00				Ret/OA	75.8	48.1
Glass/Door Cond	-32	0	-32	0	-473	Glass/Door Cond	-1,265	14.58				Fn MtrTD	0.1	0.0
Wall Cond	203	0	203	3	70	Wall Cond	-371	4.27				Fn BldTD	0.3	0.0
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Fn Frict	0.7	0.0
Floor	0	0	0	0	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
Sub Total ==>	4,813	0	4,813	64	5,014	Sub Total ==>	-1,636	18.86						
Internal Loads				Internal Loads							AIRFLOWS			
Lights	758	0	758	10	758	Lights	0	0.00				Diffuser	291	200
People	1,000	0	1,000	13	500	People	0	0.00				Terminal	291	200
Misc	0	0	0	0	0	Misc	0	0.00				Main Fan	291	200
Sub Total ==>	1,758	0	1,758	23	1,258	Sub Total ==>	0	0.00				Sec Fan	0	0
Ceiling Load	-3	3	0	0	-17	Ceiling Load	-35	0.00				Nom Vent	67	67
Ventilation Load	0	0	12	0	0	Ventilation Load	0	54.16				AHU Vent	67	67
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				Infil	0	0
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				MinStop/Rh	200	200
Ov/Undr Sizing	442	0	442	6	0	Exhaust Heat	0	0.00				Return	224	133
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	-2,306	26.59				Exhaust	0	0
Sup. Fan Heat	0	0	334	4	0	RA Preheat Diff.	0	0.00				Rm Exh	0	0
Ret. Fan Heat	0	192	192	3	0	Additional Reheat	0	0.00				Auxiliary	0	0
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-35	0.40				Leakage Dwn	0	0
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				Leakage Ups	0	0
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	7,009	195	7,550	100.00	6,255	Grand Total ==>	-1,671	100.00				ENGINEERING CKS		
												% OA	22.9	33.3
												cfm/ft²	1.31	0.90
												cfm/ton	462.23	
												ft²/ton	352.85	
												Btu/hr-ft²	34.01	-39.08
												No. People	2.0	9.0/1000 ft²

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	0.6	7.6	7.1	282	75.8	61.7	62.7	53.9	52.3	57.9	Floor	222	Main Htg	-5.1	200	53.9	77.8
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	1	Preheat	-3.5	67	4.4	53.9
											ExFlr	0	Reheat	-3.5	200	53.9	70.0
Total	0.6	7.6									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	132	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-8.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-18A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 93			OADB: 53		OADB: 4						SADB	55.0	104.0		
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	75.2	69.5			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	75.8	70.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0			
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS					
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Cooling	Heating				
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Diffuser	40	12			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Terminal	40	12			
Floor	0	0	0	0.00	0	Floor	0	0.00				Main Fan	40	12			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Sec Fan	0	0			
Infiltration	0	0	0	0	0	Infiltration	0	0.00				Nom Vent	0	0			
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				AHU Vent	0	0			
Internal Loads					Internal Loads										Infil	0	0
Lights	184	0	184	15	21	Lights	0	0.00				MinStop/Rh	12	12			
People	500	0	500	42	29	People	0	0.00				Return	40	12			
Misc	0	0	0	0	0	Misc	0	0.00				Exhaust	0	0			
Sub Total ==>	684	0	684	57	51	Sub Total ==>	0	0.00				Rm Exh	67	67			
Ceiling Load					Ceiling Load										Auxiliary	0	0
Ventilation Load	4	-4	0	0	0	Ventilation Load	-8	0.00				Leakage Dwn	0	0			
Adj Air Trans Heat	430	0	430	36	50	Adj Air Trans Heat	-430	67				Leakage Ups	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				ENGINEERING CKS					
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				Cooling	Heating				
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				% OA	0.0	0.0			
Sup. Fan Heat	47	4	47	4	4	RA Preheat Diff.	0	0.00				cfm/ft²	0.74	0.22			
Ret. Fan Heat	36	36	3	3	3	Additional Reheat	-208	32.15				cfm/ton	400.78				
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-8	1.31				ft²/ton	541.39				
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				Btu/hr-ft²	22.17	-11.96			
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00				No. People	1.0	18.5/1000 ft²			
Grand Total ==>	1,118	32	1,197	100.00	860	100.00	Grand Total ==>	-438	-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	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	1.2	1.0	40	75.8	61.7	62.8	53.9	51.1	53.5	Floor	54	-0.7	12	53.9	104.0
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	1	0.0	0	0.0	0.0
											ExFlr	0	-0.2	12	53.9	70.0
Total	0.1	1.2									Roof	0	0.0	0	0.0	0.0
											Wall	0	0.0	0	0.0	0.0
											Ext Door	0	0.0	0	0.0	0.0
											Total	-0.7				

Room Checksums

By Valhalla Engineering Group, LLC

C9-19 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78			OADB: 4			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	102	0	102	91	102	97	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	102	0	102	91	102	97	0	0	0.00							
	2	-2	0	0	3	3	-5	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	6	5	0	0	0	0	0.00							
	4	4	4	4	0	0	-26	84.50								
	0	0	0	0	0	0	-5	15.50								
	0	0	0	0	0	0	0	0.00								
	0	0	0	0	0	0	0	0.00								
	104	3	112	100.00	106	100.00	-5	-30	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	5	1
Terminal	5	1
Main Fan	5	1
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	1	1
Return	5	1
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	0.16	0.05
cfm/ton	525.22	
ft²/ton	3,201.64	
Btu/hr-ft²	3.75	-1.01
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	0.0	0.1	0.1	5	75.8	61.7	62.8	53.9	53.5	62.8
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	0.0	0.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	30		
Part	0		
Int Door	1		
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	0.0	1	53.9	73.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	0.0	1	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-20 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 9 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 78 / 62 / 61		OADB: 53		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads							AIRFLOWS		
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00			Diffuser	Cooling	Heating
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00			Terminal	288	204
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00			Main Fan	288	204
Glass Solar	4,290	0	4,290	56	5,328	Glass Solar	0	0.00			Sec Fan	0	0
Glass/Door Cond	31	0	31	0	-465	Glass/Door Cond	-1,244	14.03			Nom Vent	68	68
Wall Cond	313	0	313	4	81	Wall Cond	-429	4.83			AHU Vent	68	68
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00			Infil	0	0
Floor	0	0	0	0	0.00	Floor	0	0.00			MinStop/Rh	204	204
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00			Return	220	136
Infiltration	0	0	0	0	0	Infiltration	0	0.00			Exhaust	0	0
Sub Total ==>	4,634	0	4,634	61	4,944	Sub Total ==>	-1,673	18.86			Rm Exh	0	0
Internal Loads				Internal Loads							ENGINEERING CKS		
Lights	775	0	775	10	775	Lights	0	0.00			% OA	Cooling	Heating
People	1,000	0	1,000	13	500	People	0	0.00			cfm/ft²	23.6	33.3
Misc	0	0	0	0	0	Misc	0	0.00			cfm/ton	1.27	0.90
Sub Total ==>	1,775	0	1,775	23	1,275	Sub Total ==>	0	0.00			ft²/ton	454.16	
Ceiling Load	-2	2	0	0	-18	Ceiling Load	-35	0.00			Btu/hr-ft²	33.56	-39.08
Ventilation Load	0	0	181	2	0	Ventilation Load	0	54.16			No. People	2.0	8.8/1000 ft²
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00					
Ov/Undr Sizing	519	0	519	7	0	Exhaust Heat	0	0.00					
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00					
Sup. Fan Heat	0	0	325	4	0	RA Preheat Diff.	-2,358	26.59					
Ret. Fan Heat	0	184	184	2	0	Additional Reheat	0	0.00					
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-35	0.40					
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	6,926	186	7,618	100.00	6,201	Grand Total ==>	-1,708	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	0.6	7.6	7.2	275	76.5	61.9	62.5	53.9	52.1	57.3	Floor	227		Main Htg	-5.3	204	53.9	77.8
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	1		Preheat	-3.6	68	4.4	53.9
Total	0.6	7.6									ExFlr	0		Reheat	-3.5	204	53.9	70.0
											Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	142	60	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-8.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-20A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 9 / 14		Mo/Hr: Heating Design						Cooling			Heating					
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 80		OADB: 4						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						
Envelope Loads					Envelope Loads								Fn Frict			AIRFLOWS					
													Cooling			Heating					
Skylite Solar					Skylite Solar					0			0			0			Diffuser		
Skylite Cond					Skylite Cond					0			0			0			Terminal		
Roof Cond					Roof Cond					0			0			0			Main Fan		
Glass Solar					Glass Solar					0			0			0			Sec Fan		
Glass/Door Cond					Glass/Door Cond					0			0			0			Nom Vent		
Wall Cond					Wall Cond					-407			-407			35.53			AHU Vent		
Partition/Door					Partition/Door					0			0			0			Infil		
Floor					Floor					0			0			0			MinStop/Rh		
Adjacent Floor					Adjacent Floor					0.00			0.00			0.00			Return		
Infiltration					Infiltration					0			0			0			Exhaust		
Sub Total ==>					Sub Total ==>					-407			-407			35.53			Rm Exh		
Internal Loads					Internal Loads														Auxiliary		
Lights					Lights					0			0			0.00			Leakage Dwn		
People					People					0			0			0.00			Leakage Ups		
Misc					Misc					0			0			0.00					
Sub Total ==>					Sub Total ==>					0			0			0.00					
Ceiling Load					Ceiling Load					-9			0			0.00					
Ventilation Load					Ventilation Load					0			0			0.00					
Adj Air Trans Heat					Adj Air Trans Heat					-439			-439			38					
Dehumid. Ov Sizing					Dehumid. Ov Sizing					0			0			0.00					
Ov/Undr Sizing					Ov/Undr Sizing					0			0			0.00					
Exhaust Heat					Exhaust Heat					0			0			0.00					
Sup. Fan Heat					Sup. Fan Heat					64			4			4					
Ret. Fan Heat					Ret. Fan Heat					48			3			3					
Duct Heat Pkup					Duct Heat Pkup					0			0			0					
Underflr Sup Ht Pkup					Underflr Sup Ht Pkup					0			0			0					
Supply Air Leakage					Supply Air Leakage					0			0			0					
Grand Total ==>					Grand Total ==>					-855			-1,144			100.00			No. People		
																			1.0		
																			18.2/1000 ft²		

COOLING COIL SELECTION											AREAS				HEATING COIL SELECTION				
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	ft² (%)	Capacity	Coil Airflow	Ent °F	Lvg °F		
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb
Main Clg	0.1	1.5	1.3	54	75.8	61.7	62.8	53.9	51.8	56.1	Floor	55	-1.1	17	53.9	117.5			
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	1	0.0	0	0.0	0.0			
											ExFlr	0	-0.3	17	53.9	70.0			
											Roof	0	0.0	0	0.0	0.0			
											Wall	78	0.0	0	0.0	0.0			
											Ext Door	0	-1.1	0	0.0	0.0			
Total	0.1	1.5																	

Room Checksums

By Valhalla Engineering Group, LLC

C9-21 SALLY PORT

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict		
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h								
Envelope Loads					Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00			
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00			
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00			
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00			
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00			
Internal Loads					Internal Loads										
Lights	379	0	379	14	379	26	0	0.00	Lights	0	0	0.00			
People	0	0	0	0	0	0	0	0.00	People	0	0	0.00			
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00			
Sub Total ==>	379	0	379	14	379	26	0	0.00	Sub Total ==>	0	0	0.00			
Ceiling Load	6	-6	0	0	13	1	-17	0.00	Ceiling Load	-17	0	0.00			
Ventilation Load	0	0	1,210	44	0	0	-2,349	79.82	Ventilation Load	0	-2,349	79.82			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing			0	0			0	0.00	Ov/Undr Sizing	0	0	0.00			
Ov/Undr Sizing	1,049		1,049	38	1,041	73	0	0.00	Exhaust Heat	0	0	0.00			
Exhaust Heat		-30	-30	-1			0	0.00	OA Preheat Diff.	0	0	0.00			
Sup. Fan Heat			79	3			-577	19.59	RA Preheat Diff.		-577	19.59			
Ret. Fan Heat		59	59	2			0	0.00	Additional Reheat		0	0.00			
Duct Heat Pkup		0	0	0			-17	0.59	System Plenum Heat		-17	0.59			
Underflr Sup Ht Pkup			0	0			0	0.00	Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			0	0.00	Supply Air Leakage		0	0.00			
Grand Total ==>	1,434	23	2,746	100.00	1,432	100.00	-17	100.00	Grand Total ==>	-17	-2,943	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	67	67
Terminal	67	67
Main Fan	67	67
Sec Fan	0	0
Nom Vent	33	33
AHU Vent	33	33
Infil	0	0
MinStop/Rh	67	67
Return	67	67
Exhaust	33	33
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	291.04	
ft²/ton	485.07	
Btu/hr-ft²	24.74	-26.51
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	0.2	2.8	2.1	67	82.6	67.1	78.4	53.9	53.6	63.2
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	0.2	2.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	111		
Part	0		
Int Door	1		
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	-1.2	67	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.8	33	4.4	53.9
Reheat	-1.2	67	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-22 SERVING KITCHEN

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 11		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 82		OADB: 4						SADB	55.0	70.6	Ra Plenum	75.2	69.5
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	75.8	70.0	Ret/OA	76.9	51.9	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0	
												Fn Frict	0.7	0.0				
Envelope Loads					Envelope Loads										AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	634	190	Terminal	634	190	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	634	190	Sec Fan	0	0	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	53	53	AHU Vent	53	53	
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0	MinStop/Rh	190	190	
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	582	190	Exhaust	0	53	
Wall Cond	42	0	42	0	84	1	-96	1.55	-96	-96	1.55	Rm Exh	53	0	Auxiliary	0	0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00							
Sub Total ==>	42	0	42	0	84	1	-96	1.55	-96	-96	1.55							
Internal Loads					Internal Loads										ENGINEERING CKS			
Lights	597	0	597	3	597	4	0	0.00	0	0	0.00	% OA	8.3	27.6	cfm/ft²	3.62	1.09	
People	1,000	0	1,000	6	500	4	0	0.00	0	0	0.00	cfm/ton	440.77		ft²/ton	121.66		
Misc	12,450	0	12,450	72	12,450	91	0	0.00	0	0	0.00	Btu/hr-ft²	98.64	-35.49				
Sub Total ==>	14,047	0	14,047	81	13,547	99	0	0.00	0	0	0.00	No. People	2.0	11.4/1000 ft²				
Ceiling Load	10	-10	0	0	4	0	-27	0.00	-27	0	0.00							
Ventilation Load	0	0	1,908	11	0	0	0	59.62	0	-3,703	59.62							
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing			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	0.00	0	0	0.00							
Sup. Fan Heat			749	4			-2,384	38.39		-2,384	38.39							
Ret. Fan Heat		515	515	3			0	0.00		0	0.00							
Duct Heat Pkup		0	0	0			0	0.44		-27	0.44							
Underflr Sup Ht Pkup			0	0			0	0.00		0	0.00							
Supply Air Leakage		0	0	0			0	0.00		0	0.00							
Grand Total ==>	14,099	506	17,261	100.00	13,636	100.00	-123	100.00	-123	-6,211	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	1.4	17.3	15.7	632	76.9	62.7	65.4	53.9	53.2	61.7	Floor	175	Main Htg	-3.4	190	53.9	70.6		
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	1	Preheat	-2.8	53	4.4	53.9		
											ExFlr	0	Reheat	-3.3	190	53.9	70.0		
Total	1.4	17.3									Roof	0	Humidif	0.0	0	0.0	0.0		
											Wall	20	Opt Vent	0.0	0	0.0	0.0		
											Ext Door	0	Total	-6.2					

Room Checksums

By Valhalla Engineering Group, LLC

C9-23 ELEVATOR LOBBY

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		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 83		OADB: 4		OADB: 4				SADB	55.0	73.7			
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	Ra Plenum	75.2	69.5			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	114	114
Wall Cond	165	0	165	4	274	11	-429	7.84	-429	7.84	Terminal				114	114	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0.00	Main Fan				114	114	
Floor	0	0	0	0	0	0	0	0.00	0	0.00	Sec Fan				0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	57	57
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	57	57
<i>Sub Total ==></i>	165	0	165	4	274	11	-429	7.84	-429	-429	7.84				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	114	114
Lights	649	0	649	14	649	26	0	0.00	0	0	0.00				Return	114	114
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	57	57			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
<i>Sub Total ==></i>	649	0	649	14	649	26	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	-11	0	0	20	1	-30	0.00	0	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	2,072	44	0	0	0	73.56	0	-4,022	73.56	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	50.0	50.0
Ov/Undr Sizing	1,646	0	1,646	35	1,510	62	0	0.00	0	0	0.00				cfm/ft²	0.60	0.60
Exhaust Heat	0	-51	-51	-1	0	0	0	0.00	0	0	0.00				cfm/ton	290.08	
Sup. Fan Heat	0	0	135	3	0	0	0	0.00	-987	18.06	ft²/ton				483.47		
Ret. Fan Heat	0	101	101	2	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	24.82	-28.77
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	-30	0.54					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						
<i>Grand Total ==></i>	2,470	40	4,717	100.00	2,452	100.00	-458	100.00	-5,467	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		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	4.7	3.5	114	82.6	67.1	78.4	53.9	53.6	63.0	Floor	190	Main Htg	-2.4	114	53.9	73.7
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	1	Preheat	-3.0	57	4.4	53.9
<i>Total</i>	0.4	4.7									ExFlr	0	Reheat	-2.0	114	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	89	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	<i>Total</i>	-5.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-24 MENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 9 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 76 / 62 / 62		OADB: 53		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads									
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00			SADB	55.0	78.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00			Ra Plenum	75.0	69.5
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00			Return	75.8	70.0
Glass Solar	4,641	0	4,641	62	5,417	Glass Solar	0	0.00			Ret/OA	75.8	48.1
Glass/Door Cond	-32	0	-32	0	-473	Glass/Door Cond	-1,265	14.65			Fn MtrTD	0.1	0.0
Wall Cond	217	0	217	3	75	Wall Cond	-397	4.59			Fn BldTD	0.3	0.0
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00			Fn Frict	0.7	0.0
Floor	0	0	0	0	0.00	Floor	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00					
Infiltration	0	0	0	0	0	Infiltration	0	0.00					
Sub Total ==>	4,827	0	4,827	64	5,019	Sub Total ==>	-1,662	19.24					
Internal Loads				Internal Loads							AIRFLOWS		
Lights	751	0	751	10	751	Lights	0	0.00			Diffuser	291	198
People	1,000	0	1,000	13	500	People	0	0.00			Terminal	291	198
Misc	0	0	0	0	0	Misc	0	0.00			Main Fan	291	198
Sub Total ==>	1,751	0	1,751	23	1,251	Sub Total ==>	0	0.00			Sec Fan	0	0
Ceiling Load	-3	3	0	0	-17	Ceiling Load	-34	0.00			Nom Vent	66	66
Ventilation Load	0	0	12	0	0	Ventilation Load	0	53.90			AHU Vent	66	66
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0			Infil	0	0
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00			MinStop/Rh	198	198
Ov/Undr Sizing	392	0	392	5	0	Exhaust Heat	0	0.00			Return	225	132
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	-2,286	26.46			Exhaust	0	0
Sup. Fan Heat	0	0	335	4	0	RA Preheat Diff.	0	0.00			Rm Exh	0	0
Ret. Fan Heat	0	192	192	3	0	Additional Reheat	0	0.00			Auxiliary	0	0
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-34	0.40			Leakage Dwn	0	0
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00			Leakage Ups	0	0
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	6,967	196	7,509	100.00	6,253	Grand Total ==>	-1,696	100.00			ENGINEERING CKS		

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	0.6	7.5	7.0	282	75.8	61.7	62.7	53.9	52.3	58.1	Floor	220	Main Htg	-5.1	198	53.9	78.0
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	1	Preheat	-3.5	66	4.4	53.9
Total	0.6	7.5									ExFlr	0	Reheat	-3.4	198	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	137	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-8.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-24A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 9 / 14		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 80		OADB: 4						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	Fn MtrTD	Fn BldTD	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					Envelope Loads													
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	55.0	75.2	0.1	0.3	0.7		
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	75.8	75.8	0.0	0.0	0.0		
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	75.8	75.8	0.0	0.0	0.0		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	0.1	0.1	0.0	0.0	0.0		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0.3	0.3	0.0	0.0	0.0		
Wall Cond	321	0	321	20	361	28	-455	37.93	-455	-455	37.93	0.0	0.0	0.0	0.0	0.0		
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	0.0	0.0	0.0	0.0	0.0		
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	0.0	0.0	0.0	0.0	0.0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	0.0	0.0	0.0	0.0	0.0		
Sub Total ==>	321	0	321	20	361	28	-455	37.93	-455	-455	37.93							
Internal Loads					Internal Loads													
Lights	236	0	236	15	236	19	0	0.00	0	0	0.00	59	59	0	0	0		
People	500	0	500	31	250	20	0	0.00	0	0	0.00	59	59	0	0	0		
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Sub Total ==>	736	0	736	46	486	38	0	0.00	0	0	0.00	0	0	0	0	0		
Ceiling Load	4	-4	0	0	0	0	-11	0.00	-11	0	0.00	0	0	0	0	0		
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Adj Air Trans Heat	426	0	426	27	426	33	-426	36	-426	-426	36	0	0	0	0	0		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Sup. Fan Heat	0	0	68	4	4	0	0	0.00	0	0	0.00	0	0	0	0	0		
Ret. Fan Heat	0	51	51	3	3	0	-307	25.64	-307	-307	25.64	0	0	0	0	0		
Duct Heat Pkup	0	0	0	0	0	0	-11	0.90	-11	-11	0.90	0	0	0	0	0		
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Grand Total ==>	1,486	47	1,601	100.00	1,272	100.00	-891	100.00	-891	-1,198	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	59	18
Terminal	59	18
Main Fan	59	18
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	18	18
Return	59	18
Exhaust	0	0
Rm Exh	66	66
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.86	0.26
cfm/ton	443.22	
ft²/ton	517.10	
Btu/hr-ft²	23.21	-17.37
No. People	1.0	14.5/1000 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	1.6	1.4	57	75.8	61.7	62.8	53.9	51.9	56.5
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	1.6								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	69		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	87	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.2	18	53.9	116.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.3	18	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-25 ANTE ROOM

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78			OADB: 4			SADB	55.0	70.2	Ra Plenum	75.2	69.5
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>80.3</td> <td>48.1</td>	75.8	70.0	Ret/OA	80.3	48.1		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads						AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	100	100	Terminal	100	100		
Skylite Cond	0	0	0	0	0	0	0	0.00	Main Fan	100	100	Sec Fan	0	0		
Roof Cond	0	0	0	0	0	0	0	0.00	Nom Vent	33	33	AHU Vent	33	33		
Glass Solar	0	0	0	0	0	0	0	0.00	Infil	0	0	MinStop/Rh	100	100		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Return	100	100	Exhaust	33	33		
Wall Cond	0	0	0	0	0	0	0	0.00	Rm Exh	0	0	Auxiliary	0	0		
Partition/Door	0	0	0	0	0	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0		
Floor	0	0	0	0.00	0	0	0	0.00								
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
Infiltration	0	0	0	0	0	0	0	0.00								
Sub Total ==>	0	0	0	0	0	0	0	0.00								
Internal Loads					Internal Loads						ENGINEERING CKS					
Lights	379	0	379	9	379	18	0	0.00	% OA	33.3	33.3	cfm/ft²	0.90	0.90		
People	1,000	0	1,000	25	500	23	0	0.00	cfm/ton	297.38		ft²/ton	330.42			
Misc	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	36.32	-31.71					
Sub Total ==>	1,379	0	1,379	34	879	41	0	0.00	No. People	2.0	18.0/1000 ft²					
Ceiling Load	6	-6	0	0	13	1	-17	0.00								
Ventilation Load	0	0	1,210	30	0	0	0	66.74								
Adj Air Trans Heat	0	0	0	0	0	0	0	0								
Dehumid. Ov Sizing			0	0			0	0.00								
Ov/Undr Sizing	1,265		1,265	31	1,257	59	0	0.00								
Exhaust Heat		-30	-30	-1			0	0.00								
Sup. Fan Heat			118	3			-1,153	32.77								
Ret. Fan Heat		89	89	2			0	0.00								
Duct Heat Pkup		0	0	0			-17	0.49								
Underflr Sup Ht Pkup			0	0			0	0.00								
Supply Air Leakage		0	0	0			0	0.00								
Grand Total ==>	2,650	53	4,031	100.00	2,149	100.00	-17	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	0.3	4.0	2.8	100	80.3	65.4	73.2	53.9	51.7	55.7	Floor	111	-1.8	100	53.9	70.2		
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	1	-1.8	33	4.4	53.9		
											ExFlr	0	-1.7	100	53.9	70.0		
Total	0.3	4.0									Roof	0	0.0	0	0.0	0.0		
											Wall	0	0.0	0	0.0	0.0		
											Ext Door	0	0	0	0	0.0		
													Total	-3.5				

Room Checksums

By Valhalla Engineering Group, LLC

C9-25A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 93		OADB: 53		OADB: 4						SADB	55.0	94.1		
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	Return	75.1	69.5		
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	75.8	70.0		
Envelope Loads				Envelope Loads								Fn MtrTD	0.1	0.0		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0		
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0		
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00					
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00					
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00					
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00					
Floor	0	0	0	0.00	0	0.00	0	0.00	0	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00					
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00					
Internal Loads				Internal Loads								AIRFLOWS				
Lights	167	0	167	18	167	26	0	0.00	0	0	0.00	Diffuser	30	9		
People	500	0	500	53	250	39	0	0.00	0	0	0.00	Terminal	30	9		
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	30	9		
Sub Total ==>	667	0	667	70	417	66	0	0.00	0	0	0.00	Sec Fan	0	0		
												Nom Vent	0	0		
Ceiling Load	2	-2	0	0	-4	-1	-8	0.00	0	0	0.00	AHU Vent	0	0		
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0		
Adj Air Trans Heat	223	0	223	23	223	35	-223	58	-223	-223	58	MinStop/Rh	9	9		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	30	9		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0		
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	35	35		
Sup. Fan Heat	0	0	35	4	0	0	0	0.00	0	0	0.00	Auxiliary	0	0		
Ret. Fan Heat	0	26	26	3	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0		
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0		
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 ==>	891	25	951	100.00	636	100.00	-230	100.00	-230	-384	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	1.0	0.7	30	75.8	61.7	62.8	53.9	50.2	50.2	Floor	49	-0.4	9	53.9	94.1	
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	1	0.0	0	0.0	0.0	
											ExFlr	0	-0.2	9	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	0	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
Total	0.1	1.0											Total	-0.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-25B SECLUSION ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 9 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 76 / 62 / 62		OADB: 53		OADB: 4			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	(%)	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						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	6,163	0	6,163	73	7,192	95	0	0.00						
Glass/Door Cond	-42	0	-42	0	-627	-8	-1,680	28.82						
Wall Cond	260	0	260	3	90	1	-475	8.14						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	6,381	0	6,381	76	6,655	88	-2,155	36.96						
Internal Loads				Internal Loads										
Lights	393	0	393	5	393	5	0	0.00						
People	1,000	0	1,000	12	500	7	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	1,393	0	1,393	16	893	12	0	0.00						
Ceiling Load	-2	2	0	0	-9	0	-18	0.00						
Ventilation Load	0	0	6	0	0	0	-2,434	41.75						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	401	5	0	0	-1,223	20.99						
Ret. Fan Heat	0	270	270	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-18	0.31						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	7,772	272	8,450	100.00	7,538	100.00	-2,172	-5,830	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	351	105
Terminal	351	105
Main Fan	351	105
Sec Fan	0	0
Nom Vent	35	35
AHU Vent	35	35
Infil	0	0
MinStop/Rh	105	105
Return	316	71
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	9.8	32.8
cfm/ft²	3.05	0.91
cfm/ton	497.77	
ft²/ton	163.31	
Btu/hr-ft²	73.48	-50.69
No. People	2.0	17.4/1000 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	0.7	8.5	338	75.8	61.7	62.8	53.9	53.0	60.6
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	0.7	8.5							

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	115		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	171	81	47
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-4.0	105	53.9	89.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.8	35	4.4	53.9
Reheat	-1.8	105	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-26 LOBBY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4			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		75.2	80.3	0.1	0.3	0.7		
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		75.8	80.3	0.1	0.3	0.7		
Envelope Loads				Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00							
Skylite Cond	0	0	0	0	0	0	0	0.00							
Roof Cond	0	0	0	0	0	0	0	0.00							
Glass Solar	0	0	0	0	0	0	0	0.00							
Glass/Door Cond	0	0	0	0	0	0	0	0.00							
Wall Cond	0	0	0	0	0	0	0	0.00							
Partition/Door	0	0	0	0	0	0	0	0.00							
Floor	0	0	0	0.00	0	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00							
Sub Total ==>	0	0	0	0	0	0	0	0.00							
Internal Loads				Internal Loads											
Lights	2,201	0	2,201	8	2,201	18	0	0.00							
People	15,449	0	15,449	58	9,463	76	0	0.00							
Misc	0	0	0	0	0	0	0	0.00							
Sub Total ==>	17,650	0	17,650	67	11,664	93	0	0.00							
Ceiling Load	36	-36	0	0	74	1	-101	0.00							
Ventilation Load	0	0	7,031	27	0	0	0	66.74							
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing			0	0			0	0.00							
Ov/Undr Sizing	793		793	3	746	6	0	0.00							
Exhaust Heat		-172	-172	-1			0	0.00							
Sup. Fan Heat			688	3			-6,701	32.77							
Ret. Fan Heat		516	516	2			0	0.00							
Duct Heat Pkup		0	0	0			-101	0.49							
Underflr Sup Ht Pkup			0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	18,479	308	26,506	100.00	12,485	100.00	-101	-20,452	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	581	581
Terminal	581	581
Main Fan	581	581
Sec Fan	0	0
Nom Vent	194	194
AHU Vent	194	194
Infil	0	0
MinStop/Rh	581	581
Return	581	581
Exhaust	194	194
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	262.81	
ft²/ton	292.01	
Btu/hr-ft²	41.09	-31.71
No. People	38.6	59.9/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.2	26.5	16.5	581	80.3	65.4	73.2	53.9	49.6	47.9
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	2.2	26.5								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	645		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-10.2	581	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-10.3	194	4.4	53.9
Reheat	-10.1	581	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-20.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-27 NURSES STATION

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4										
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 (%)	Cooling	Heating				
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h							
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00						
Internal Loads					Internal Loads												
Lights	925	0	925	10	925	18	0	0.00	0	0	0.00						
People	2,500	0	2,500	26	1,250	24	0	0.00	0	0	0.00						
Misc	2,901	0	2,901	30	2,901	57	0	0.00	0	0	0.00						
Sub Total ==>	6,326	0	6,326	65	5,076	99	0	0.00	0	0	0.00						
Ceiling Load	15	-15	0	0	31	1	-42	0.00									
Ventilation Load	0	0	2,954	30	0	0	-5,735	79.82									
Adj Air Trans Heat	0	0	0	0	0	0	0	0									
Dehumid. Ov Sizing			0	0			0	0.00									
Ov/Undr Sizing	0		0	0	0	0	0	0.00									
Exhaust Heat		-72	-72	-1			0	0.00									
Sup. Fan Heat			281	3			-1,408	19.59									
Ret. Fan Heat		210	210	2			0	0.00									
Duct Heat Pkup		0	0	0			-42	0.59									
Underflr Sup Ht Pkup			0	0			0	0.00									
Supply Air Leakage		0	0	0			0	0.00									
Grand Total ==>	6,341	123	9,699	100.00	5,107	100.00	-42	-7,185	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	0.8	9.7	6.7	237	80.5	65.5	73.5	53.9	51.6	55.3	Floor	271		Main Htg	-2.9	163	53.9	70.2	
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	1		Preheat	-4.3	81	4.4	53.9	
											ExFlr	0		Reheat	-2.8	163	53.9	70.0	
											Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-7.2			
Total	0.8	9.7																	

Room Checksums

By Valhalla Engineering Group, LLC

C9-27A NURSE WORKROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads							AIRFLOWS		
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Cooling		Heating		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Diffuser	676	203		
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Terminal	676	203		
Glass Solar	6,531	0	6,531	41	10,344	Glass Solar	0	0.00	Main Fan	676	203		
Glass/Door Cond	202	0	202	1	-902	Glass/Door Cond	-2,416	22.95	Sec Fan	0	0		
Wall Cond	576	0	576	4	166	Wall Cond	-876	8.32	Nom Vent	69	69		
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	AHU Vent	69	69		
Floor	0	0	0	0	0.00	Floor	0	0.00	Infil	0	0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	MinStop/Rh	203	203		
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Return	676	203		
Sub Total ==>	7,308	0	7,308	46	9,608	Sub Total ==>	-3,292	31.28	Exhaust	69	69		
Internal Loads				Internal Loads							ENGINEERING CKS		
Lights	788	0	788	5	788	Lights	0	0.00	% OA	10.3	34.2		
People	2,500	0	2,500	16	1,250	People	0	0.00	cfm/ft²	2.92	0.88		
Misc	2,901	0	2,901	18	2,901	Misc	0	0.00	cfm/ton	505.73			
Sub Total ==>	6,189	0	6,189	39	4,939	Sub Total ==>	0	0.00	ft²/ton	172.93			
Ceiling Load	3	-3	0	0	-18	Ceiling Load	-36	0.00	Btu/hr-ft²	69.39	-45.57		
Ventilation Load	0	0	1,413	9	0	Ventilation Load	0	46.44	No. People	5.0	21.6/1000 ft²		
Adj Air Trans Heat	0	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	0	Exhaust Heat	0	0.00					
Exhaust Heat		-62	-62	0		OA Preheat Diff.	0	0.00					
Sup. Fan Heat			675	4		RA Preheat Diff.	-2,309	21.94					
Ret. Fan Heat		506	506	3		Additional Reheat	0	0.00					
Duct Heat Pkup		0	0	0		System Plenum Heat	-36	0.34					
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 ==>	13,500	442	16,030	100.00	14,529	Grand Total ==>	-3,328	-10,526	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					
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb					ft²	(%)	MBh	cfm	°F
Main Clg	1.3	16.0	13.9	570	76.6	62.5	65.2	53.9	52.7	59.6	Floor	231			Main Htg	-6.8	203	53.9	85.3
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	1			Preheat	-3.7	69	4.4	53.9
											ExFlr	0			Reheat	-3.5	203	53.9	70.0
Total	1.3	16.0									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	284	116	41	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-10.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-28 SALLY PORT

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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		Btu/h	Tot Sens Btu/h								
Envelope Loads					Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00							
Skylite Cond	0	0	0	0	0	0	0	0.00							
Roof Cond	0	0	0	0	0	0	0	0.00							
Glass Solar	0	0	0	0	0	0	0	0.00							
Glass/Door Cond	0	0	0	0	0	0	0	0.00							
Wall Cond	0	0	0	0	0	0	0	0.00							
Partition/Door	0	0	0	0	0	0	0	0.00							
Floor	0	0	0	0	0.00	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00							
<i>Sub Total ==></i>	0	0	0	0	0	0	0	0.00							
Internal Loads					Internal Loads										
Lights	236	0	236	14	236	26	0	0.00							
People	0	0	0	0	0	0	0	0.00							
Misc	0	0	0	0	0	0	0	0.00							
<i>Sub Total ==></i>	236	0	236	14	236	26	0	0.00							
Ceiling Load	4	-4	0	0	8	1	-11	0.00							
Ventilation Load	0	0	752	44	0	0	0	-1,460	79.82						
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0	0.00						
Ov/Undr Sizing	652		652	38	647	73	0	0	0.00						
Exhaust Heat		-18	-18	-1			0	0	0.00						
Sup. Fan Heat			49	3			-358	19.59							
Ret. Fan Heat		37	37	2			0	0	0.00						
Duct Heat Pkup		0	0	0			-11	0.59							
Underflr Sup Ht Pkup			0	0			0	0	0.00						
Supply Air Leakage		0	0	0			0	0	0.00						
Grand Total ==>	891	15	1,707	100.00	890	100.00	-11	-1,829	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	41	41
Terminal	41	41
Main Fan	41	41
Sec Fan	0	0
Nom Vent	21	21
AHU Vent	21	21
Infil	0	0
MinStop/Rh	41	41
Return	41	41
Exhaust	21	21
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	291.04	
ft²/ton	485.07	
Btu/hr-ft²	24.74	-26.51
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	1.7	1.3	41	82.6	67.1	78.4	53.9	53.6	63.2
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	1.7								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	69		
Part	0		
Int Door	1		
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	-0.7	41	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.1	21	4.4	53.9
Reheat	-0.7	41	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-29 INTERVIEW

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 17			Mo/Hr: 8 / 17		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 91			OADB: 82		OADB: 4						SADB	55.0	82.8		
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	Return	75.3	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	77.7	70.0			
Envelope Loads					Envelope Loads										Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	2,717	0	2,717	32	2,893	50	0	0.00	0	0	0.00	Diffuser	271	86			
Glass/Door Cond	158	0	158	2	96	2	-780	15.67	-780	-780	15.67	Terminal	271	86			
Wall Cond	408	0	408	5	404	7	-383	7.68	-383	-383	7.68	Main Fan	271	86			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Nom Vent	43	43			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AHU Vent	43	43			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	3,284	0	3,284	39	3,393	58	-1,163	23.35	-1,163	-1,163	23.35	MinStop/Rh	86	86			
Internal Loads					Internal Loads										Return	271	86
Lights	491	0	491	6	491	8	0	0.00	0	0	0.00	Exhaust	43	43			
People	1,500	0	1,500	18	750	13	0	0.00	0	0	0.00	Rm Exh	0	0			
Misc	1,195	0	1,195	14	1,195	20	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	3,186	0	3,186	38	2,436	42	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load					Ceiling Load										Leakage Ups	0	0
Ventilation Load	0	-12	0	0	9	0	-22	0.00	0	0	0.00	ENGINEERING CKS					
Adj Air Trans Heat	0	0	1,395	17	0	0	0	61.18	-3,047	-3,047	61.18	% OA	15.9	50.0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	1.88	0.60			
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	388.70				
Exhaust Heat	0	-38	-38	0	0	0	0	0.00	0	0	0.00	ft²/ton	206.21				
Sup. Fan Heat	0	0	316	4	0	0	-748	15.02	-748	-748	15.02	Btu/hr-ft²	58.19	-34.59			
Ret. Fan Heat	0	237	237	3	0	0	0	0.00	0	0	0.00	No. People	3.0	20.8/1000 ft²			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
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 ==>	6,482	187	8,380	100.00	5,838	100.00	-1,185	100.00	-4,981	-4,981	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	0.7	8.4	6.8	267	77.7	63.3	67.4	53.9	52.5	58.8	Floor	144	-2.7	86	53.9	82.8		
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	1	-2.3	43	4.4	53.9		
											ExFlr	0	-1.5	86	53.9	70.0		
Total	0.7	8.4									Roof	0	0.0	0	0.0	0.0		
											Wall	117	0.0	0	0.0	0.0		
											Ext Door	0	-5.0	0	0.0	0.0		

Room Checksums

By Valhalla Engineering Group, LLC

C9-30 ELEVATOR LOBBY

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78			OADB: 4			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	Btu/h								
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00			
Skylite Cond	0	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00			
Roof Cond	0	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00			
Glass Solar	0	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00			
Floor	0	0	0	0	0.00	0	0	0	0.00	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00			
Internal Loads					Internal Loads											
Lights	1,543	0	1,543	14	1,543	26	0	0	0.00	Lights	0	0	0.00			
People	0	0	0	0	0	0	0	0	0.00	People	0	0	0.00			
Misc	0	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00			
Sub Total ==>	1,543	0	1,543	14	1,543	26	0	0	0.00	Sub Total ==>	0	0	0.00			
Ceiling Load	25	-25	0	0	52	1	-71	0	0.00	Ceiling Load	-71	0	0.00			
Ventilation Load	0	0	4,927	44	0	0	0	-9,565	79.82	Ventilation Load	0	-9,565	79.82			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00			
Ov/Undr Sizing	4,270	0	4,270	38	4,238	73	0	0	0.00	Exhaust Heat	0	0	0.00			
Exhaust Heat	0	-121	-121	-1	0	0	0	0	0.00	OA Preheat Diff.	0	0	0.00			
Sup. Fan Heat	0	0	321	3	0	0	-2,348	19.59	RA Preheat Diff.	-2,348	19.59					
Ret. Fan Heat	0	241	241	2	0	0	0	0	0.00	Additional Reheat	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	-71	0.59	System Plenum Heat	-71	0.59					
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00			
Grand Total ==>	5,838	95	11,182	100.00	5,833	100.00	Grand Total ==>	-71	-11,984	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	271	271
Terminal	271	271
Main Fan	271	271
Sec Fan	0	0
Nom Vent	136	136
AHU Vent	136	136
Infil	0	0
MinStop/Rh	271	271
Return	271	271
Exhaust	136	136
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	291.04	
ft²/ton	485.07	
Btu/hr-ft²	24.74	-26.51
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	0.9	11.2	8.3	271	82.6	67.1	78.4	53.9	53.6	63.2
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	0.9	11.2								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	452		
Part	0		
Int Door	1		
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	-4.8	271	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-7.2	136	4.4	53.9
Reheat	-4.7	271	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-12.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-31 IT CLOSET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0.00	0	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	0	0	0	0	0	0	0	0.00						
Internal Loads				Internal Loads										
Lights	580	0	580	6	580	8	0	0.00						
People	500	0	500	5	250	3	0	0.00						
Misc	6,400	0	6,400	64	6,400	88	0	0.00						
<i>Sub Total ==></i>	7,480	0	7,480	75	7,230	100	0	0.00						
Ceiling Load	9	-9	0	0	20	0	-27	0.00						
Ventilation Load	0	0	1,853	19	0	0	0	79.82						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0.00						
Exhaust Heat		-45	-45	0			0	0.00						
Sup. Fan Heat			399	4			-883	19.59						
Ret. Fan Heat		299	299	3			0	0.00						
Duct Heat Pkup		0	0	0			-27	0.59						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	7,490	244	9,986	100.00	7,250	100.00	-27	100.00	-4,507					

AIRFLOWS		
	Cooling	Heating
Diffuser	337	102
Terminal	337	102
Main Fan	337	102
Sec Fan	0	0
Nom Vent	51	51
AHU Vent	51	51
Infil	0	0
MinStop/Rh	102	102
Return	337	102
Exhaust	51	51
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	15.1	50.0
cfm/ft²	1.98	0.60
cfm/ton	405.07	
ft²/ton	204.28	
Btu/hr-ft²	58.74	-26.51
No. People	1.0	5.9/1000 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	0.8	10.0	8.7	337	77.9	63.4	67.5	53.9	53.3	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	0.8	10.0								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	170		
Part	0		
Int Door	1		
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	-1.8	102	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.7	51	4.4	53.9
Reheat	-1.8	102	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-32 MECHANICAL - uncon

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4						SADB	55.0	73.0		
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	75.2	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	75.8	70.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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		Cooling	Heating			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	23	7			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	23	7			
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	23	7			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sec Fan	0	0			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	0	0			
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	0	0			
Internal Loads					Internal Loads										Infil	0	0
Lights	474	0	474	91	474	97	0	0.00	0	0	0.00	MinStop/Rh	7	7			
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	23	7			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0			
Sub Total ==>	474	0	474	91	474	97	0	0.00	0	0	0.00	Rm Exh	0	0			
Ceiling Load					Ceiling Load										Auxiliary	0	0
Ventilation Load	0	-8	0	0	16	3	-22	0.00	0	0	0.00	Leakage Dwn	0	0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS					
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00		Cooling	Heating			
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	0.0	0.0			
Sup. Fan Heat	0	0	27	5	0	0	0	0.00	0	0	0.00	cfm/ft²	0.16	0.05			
Ret. Fan Heat	0	20	20	4	0	0	-118	84.51	-22	15.49	0.00	cfm/ton	525.27				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	ft²/ton	3,202.01				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	3.75	-1.01			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	0.0	0.0/1000 ft²			
Grand Total ==>	482	12	521	100.00	490	100.00	-22	-140	100.00	-22	-140	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					°F	gr/lb			
Main Clg	0.0	0.5	0.5	22	75.8	61.7	62.8	53.9	53.5	62.8	Floor	139			Main Htg	-0.1	7	53.9	73.0
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	1			Preheat	0.0	0	0.0	0.0
											ExFlr	0			Reheat	-0.1	7	53.9	70.0
Total	0.0	0.5									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-0.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-33 STAFF TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4			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								
Envelope Loads				Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00							
Skylite Cond	0	0	0	0	0	0	0	0.00							
Roof Cond	0	0	0	0	0	0	0	0.00							
Glass Solar	0	0	0	0	0	0	0	0.00							
Glass/Door Cond	0	0	0	0	0	0	0	0.00							
Wall Cond	0	0	0	0	0	0	0	0.00							
Partition/Door	0	0	0	0	0	0	0	0.00							
Floor	0	0	0	0.00	0	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00							
Sub Total ==>	0	0	0	0	0	0	0	0.00							
Internal Loads				Internal Loads											
Lights	259	0	259	32	259	50	0	0.00							
People	500	0	500	62	250	48	0	0.00							
Misc	0	0	0	0	0	0	0	0.00							
Sub Total ==>	759	0	759	94	509	98	0	0.00							
Ceiling Load	4	-4	0	0	9	2	-12	0.00							
Ventilation Load	0	0	0	0	0	0	0	0.00							
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing			0	0			0	0.00							
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00							
Exhaust Heat		0	0	0			0	0.00							
Sup. Fan Heat			28	3			0	0.00							
Ret. Fan Heat		21	21	3			-125	91.34							
Duct Heat Pkup		0	0	0			-12	8.66							
Underflr Sup Ht Pkup			0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	764	17	809	100.00	518	100.00	-12	-137	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	24	7
Terminal	24	7
Main Fan	24	7
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	7	7
Return	24	7
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	0.32	0.10
cfm/ton	357.38	
ft²/ton	1,127.40	
Btu/hr-ft²	10.64	-1.80
No. People	1.0	13.2/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.1	0.8	0.6	24	75.8	61.7	62.8	53.9	49.5	47.7
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	0.1	0.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	76		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent Lvg	
			°F	°F
Main Htg	-0.1	7	53.9	71.5
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.1	7	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-34 ELEC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design						Cooling	Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4						SADB	55.0	73.0	
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	75.2	69.5	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0	
Envelope Loads				Envelope Loads								Ret/OA	75.8	70.0	
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	5	2	
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	5	2	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	5	2	
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Sec Fan	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0	
Internal Loads				Internal Loads								MinStop/Rh	2	2	
Lights	109	0	109	91	109	97	0	0.00	0	0	0.00	Return	5	2	
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 ==>	109	0	109	91	109	97	0	0.00	0	0	0.00	Auxiliary	0	0	
Ceiling Load	2	-2	0	0	4	3	-5	0.00	0	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	0.00			0.00	% OA	0.0	0.0	
Ov/Undr Sizing	0		0	0	0	0		0.00			0.00	cfm/ft²	0.16	0.05	
Exhaust Heat		0	0	0				0.00			0.00	cfm/ton	525.22		
Sup. Fan Heat			6	5				0.00			0.00	ft²/ton	3,201.67		
Ret. Fan Heat		5	5	4				0.00			-27	84.51	Btu/hr-ft²	3.75	-1.01
Duct Heat Pkup		0	0	0				0.00			-5	15.49	No. People	0.0	0.0/1000 ft²
Underflr Sup Ht Pkup			0	0				0.00							
Supply Air Leakage		0	0	0				0.00							
Grand Total ==>	111	3	120	100.00	113	100.00	-5	-32	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	0.0	0.1	0.1	5	75.8	61.7	62.8	53.9	53.5	62.8	Floor	32		0.0	2	53.9	73.0
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	1		0.0	0	0.0	0.0
											ExFlr	0		0.0	2	53.9	70.0
Total	0.0	0.1									Roof	0	0	0	0	0.0	0.0
											Wall	0	0	0	0	0.0	0.0
											Ext Door	0	0	0	0	0.0	0.0
														Total	0.0		

Room Checksums

By Valhalla Engineering Group, LLC

C9-34A ELEC - 100 cfm exhausted

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78			OADB: 4			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	114	0	114	91	114	97	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	114	0	114	91	114	97	0	0	0.00							
	2	-2	0	0	4	3	-5	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	6	5	0	0	0	0	0.00							
	5	5	4	4	0	0	-28	84.52								
	0	0	0	0	0	0	-5	15.48								
	0	0	0	0	0	0	0	0.00								
	0	0	0	0	0	0	0	0.00								
	115	3	125	100.00	117	100.00	-5	-34	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	5	2
Terminal	5	2
Main Fan	5	2
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	2	2
Return	5	2
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	0.16	0.05
cfm/ton	525.22	
ft²/ton	3,201.68	
Btu/hr-ft²	3.75	-1.01
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	0.0	0.1	0.1	5	75.8	61.7	62.8	53.9	53.5	62.8
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	0.0	0.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	33		
Part	0		
Int Door	1		
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	0.0	2	53.9	73.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	0.0	2	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-35 NURSES LOUNGE

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: 87 / 71 / 91		OADB: 85		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		75.3	77.0	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	3,602	0	3,602	8	4,105	15	0	0.00						
Glass/Door Cond	423	0	423	1	368	1	-2,081	12.29						
Wall Cond	1,283	0	1,283	3	1,419	5	-1,636	9.66						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	5,308	0	5,308	12	5,893	22	-3,717	21.95						
Internal Loads				Internal Loads										
Lights	1,399	0	1,399	3	1,399	5	0	0.00						
People	22,550	0	22,550	51	11,275	41	0	0.00						
Misc	8,750	0	8,750	20	8,750	32	0	0.00						
Sub Total ==>	32,699	0	32,699	74	21,424	78	0	0.00						
Ceiling Load	34	-34	0	0	39	0	-64	0.00						
Ventilation Load	0	0	3,973	9	0	0	-8,677	51.24						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-109	-109	0	0	0	0	0.00						
Sup. Fan Heat	0	0	1,475	3	0	0	-4,478	26.44						
Ret. Fan Heat	0	1,106	1,106	2	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-64	0.38						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	38,041	963	44,452	100.00	27,356	100.00	-3,781	-16,935	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	1,272	382
Terminal	1,272	382
Main Fan	1,272	382
Sec Fan	0	0
Nom Vent	123	123
AHU Vent	123	123
Infil	0	0
MinStop/Rh	382	382
Return	1,272	382
Exhaust	123	123
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	9.7	32.2
cfm/ft²	3.10	0.93
cfm/ton	343.38	
ft²/ton	110.68	
Btu/hr-ft²	108.42	-41.30
No. People	41.0	100.0/1000 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	3.7	44.5	30.8	1,245	77.0	62.7	65.6	53.9	50.1	49.6
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	3.7	44.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	410		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	441	100	23
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-10.4	382	53.9	79.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-6.6	123	4.4	53.9
Reheat	-6.6	382	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-16.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-35A LOCKERS

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: 89 / 72 / 94		OADB: 83		OADB: 4			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								
Envelope Loads				Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0	0.00		
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0	0.00		
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0	0.00		
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0	0.00		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0	0.00		
Wall Cond	248	0	248	3	409	9	-664	17.61	Wall Cond	-664	-664	17.61			
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0	0.00		
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0	0.00		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00		
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0	0.00		
<i>Sub Total ==></i>	248	0	248	3	409	9	-664	17.61	<i>Sub Total ==></i>	-664	-664	17.61			
Internal Loads				Internal Loads											
Lights	334	0	334	4	334	7	0	0.00	Lights	0	0	0	0.00		
People	6,000	0	6,000	66	3,000	63	0	0.00	People	0	0	0	0.00		
Misc	1,024	0	1,024	11	1,024	21	0	0.00	Misc	0	0	0	0.00		
<i>Sub Total ==></i>	7,358	0	7,358	81	4,358	91	0	0.00	<i>Sub Total ==></i>	0	0	0	0.00		
Ceiling Load	5	-5	0	0	10	0	-15	0.00	Ceiling Load	-15	0	0	0.00		
Ventilation Load	0	0	1,068	12	0	0	0	54.99	Ventilation Load	0	-2,074	54.99			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0	0		
Dehumid. Ov Sizing			0	0			0	0.00	Ov/Undr Sizing	0	0	0	0.00		
Ov/Undr Sizing	0		0	0	0	0	0	0.00	Exhaust Heat	0	0	0	0.00		
Exhaust Heat		-26	-26	0			0	0.00	OA Preheat Diff.		0	0	0.00		
Sup. Fan Heat			254	3			-1,018	27.00	RA Preheat Diff.	-1,018	27.00				
Ret. Fan Heat		191	191	2			0	0.00	Additional Reheat	0	0	0	0.00		
Duct Heat Pkup		0	0	0			-15	0.41	System Plenum Heat	-15	0.41				
Underflr Sup Ht Pkup		0	0	0			0	0.00	Underflr Sup Ht Pkup	0	0	0	0.00		
Supply Air Leakage		0	0	0			0	0.00	Supply Air Leakage	0	0	0	0.00		
Grand Total ==>	7,612	159	9,093	100.00	4,778	100.00	-679	100.00	Grand Total ==>	-679	-3,772	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	222	88
Terminal	222	88
Main Fan	222	88
Sec Fan	0	0
Nom Vent	29	29
AHU Vent	29	29
Infil	0	0
MinStop/Rh	88	88
Return	222	88
Exhaust	29	29
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	13.2	33.3
cfm/ft²	2.27	0.90
cfm/ton	293.19	
ft²/ton	129.33	
Btu/hr-ft²	92.79	-38.48
No. People	12.0	122.4/1000 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	0.8	9.1	5.5	214	77.7	63.3	67.1	53.9	48.1	42.4
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	0.8	9.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	98		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	138	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-2.2	88	53.9	77.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.6	29	4.4	53.9
Reheat	-1.5	88	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-35B CLOSET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 7 / 19		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 83		OADB: 4			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						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	98	0	98	12	107	27	-181	34.38						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	98	0	98	12	107	27	-181	34.38						
Internal Loads				Internal Loads										
Lights	44	0	44	6	44	11	0	0.00						
People	500	0	500	63	250	62	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	544	0	544	69	294	73	0	0.00						
Ceiling Load	1	-1	0	0	1	0	-2	0.00						
Ventilation Load	0	0	114	14	0	0	-275	52.38						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-3	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	22	3	0	0	-68	12.86						
Ret. Fan Heat	0	0	16	2	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-2	0.39						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	644	12	790	100.00	403	100.00	-183	-525	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	19	8
Terminal	19	8
Main Fan	19	8
Sec Fan	0	0
Nom Vent	4	4
AHU Vent	4	4
Infil	0	0
MinStop/Rh	8	8
Return	19	8
Exhaust	4	4
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	20.8	50.0
cfm/ft²	1.44	0.60
cfm/ton	284.19	
ft²/ton	197.37	
Btu/hr-ft²	60.80	-40.40
No. People	1.0	76.9/1000 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	0.8	0.5	18	77.8	63.6	68.6	53.9	48.2	42.9
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	0.1	0.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	13		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	38	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-0.3	8	53.9	91.8
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.2	4	4.4	53.9
Reheat	-0.1	8	53.9	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 Valhalla Engineering Group, LLC

C9-36 MECH

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 10			Mo/Hr: 7 / 10		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 78 / 68 / 91			OADB: 78		OADB: 4										
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	SADB	Cooling	Heating			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	101	101			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	101	101			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	101	101			
Glass Solar	805	0	805	22	805	37	0	0.00	0	0	0.00	Sec Fan	0	0			
Glass/Door Cond	6	0	6	0	6	0	-254	5.20	-254	-254	22.04	Nom Vent	34	34			
Wall Cond	512	0	512	14	512	24	-1,076	0.00	-1,076	-1,076	22.04	AHU Vent	34	34			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	MinStop/Rh	101	101			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	Return	101	101			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	34	34			
Sub Total ==>	1,323	0	1,323	36	1,323	61	Sub Total ==>	27.25	-1,330	-1,330	27.25	Rm Exh	0	0			
Internal Loads					Internal Loads										ENGINEERING CKS		
Lights	382	0	382	10	382	18	Lights	0	0	0.00	% OA	33.3	33.3				
People	0	0	0	0	0	0	People	0	0	0.00	cfm/ft²	0.90	0.90				
Misc	0	0	0	0	0	0	Misc	0	0	0.00	cfm/ton	325.46					
Sub Total ==>	382	0	382	10	382	18	Sub Total ==>	0	0	0.00	ft²/ton	361.62					
Ceiling Load	3	-3	0	0	3	0	Ceiling Load	-17	0	0.00	Btu/hr-ft²	33.18	-43.58				
Ventilation Load	0	0	750	20	0	0	Ventilation Load	0	-2,370	48.56	No. People	0.0	0.0/1000 ft²				
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0							
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0	0	0.00							
Ov/Undr Sizing	1,082		1,082	29	459	21	Exhaust Heat	0	0	0.00							
Exhaust Heat		-30	-30	-1			OA Preheat Diff.	0	0	0.00							
Sup. Fan Heat			119	3			RA Preheat Diff.	-1,164	23.84								
Ret. Fan Heat		90	90	2			Additional Reheat	0	0	0.00							
Duct Heat Pkup		0	0	0			System Plenum Heat	-17	0.36								
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup	0	0	0.00							
Supply Air Leakage		0	0	0			Supply Air Leakage	0	0	0.00							
Grand Total ==>	2,790	57	3,717	100.00	2,168	100.00	Grand Total ==>	-1,348	-4,881	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	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F		
Main Clg	0.3	3.7	3.1	101	76.7	63.9	72.1	53.9	51.2	53.9	Floor	112				
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0				
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1				
											ExFlr	0				
Total	0.3	3.7									Roof	0	0	0		
											Wall	236	12	5		
											Ext Door	0	0	0		
											Main Htg	-3.1	101	53.9	82.4	
											Aux Htg	0.0	0	0.0	0.0	
											Preheat	-1.8	34	4.4	53.9	
											Reheat	-1.8	101	53.9	70.0	
											Humidif	0.0	0	0.0	0.0	
											Opt Vent	0.0	0	0.0	0.0	
											Total	-4.9				

Room Checksums

By Valhalla Engineering Group, LLC

C9-37 TEAM ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design			Cooling		Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4			SADB		Ra Plenum	Return	Ret/OA		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Fn MtrTD	Fn BldTD	Fn Frict				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)							
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Cooling		Heating				
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Diffuser	209	142				
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Terminal	209	142				
Glass Solar	1,306	0	1,306	17	1,588	35	Glass Solar	0	0.00	Main Fan	209	142			
Glass/Door Cond	163	0	163	2	50	1	Glass/Door Cond	-919	14.31	Sec Fan	0	0			
Wall Cond	277	0	277	4	291	6	Wall Cond	-493	7.68	Nom Vent	47	47			
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00	AHU Vent	47	47			
Floor	0	0	0	0	0.00	0	Floor	0	0.00	Infil	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	MinStop/Rh	142	142			
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00	Return	209	142			
Sub Total ==>	1,745	0	1,745	22	1,928	43	Sub Total ==>	-1,412	-1,412	21.99					
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	539	0	539	7	539	12	Lights	0	0.00	Cooling		Heating			
People	3,500	0	3,500	45	1,750	39	People	0	0.00	% OA	22.6	33.3			
Misc	270	0	270	3	270	6	Misc	0	0.00	cfm/ft²	1.32	0.90			
Sub Total ==>	4,309	0	4,309	55	2,559	57	Sub Total ==>	0	0	0.00					
Ceiling Load	15	-15	0	0	15	0	Ceiling Load	-25	0	0.00					
Ventilation Load	0	0	1,380	18	0	0	Ventilation Load	0	-3,344	52.07					
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0					
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0	0	0.00					
Ov/Undr Sizing	0		0	0	0	0	Exhaust Heat	0	0	0.00					
Exhaust Heat		-42	-42	-1			OA Preheat Diff.		0	0.00					
Sup. Fan Heat			238	3			RA Preheat Diff.		-1,641	25.56					
Ret. Fan Heat		179	179	2			Additional Reheat		0	0.00					
Duct Heat Pkup		0	0	0			System Plenum Heat		-25	0.38					
Underflr Sup Ht Pkup		0	0	0			Underflr Sup Ht Pkup		0	0.00					
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00					
Grand Total ==>	6,069	121	7,809	100.00	4,502	100.00	Grand Total ==>	-1,437	-6,422	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	0.7	7.8	5.2	201	78.0	63.8	69.2	53.9	50.2	50.2	Floor	158		Main Htg	-3.9	142	53.9	79.4	
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	1		Preheat	-2.5	47	4.4	53.9	
											ExFlr	0		Reheat	-2.5	142	53.9	70.0	
Total	0.7	7.8									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	147	44	30	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-6.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-38 EXAM/INTAKE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4						SADB	55.0	78.9
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	75.3	69.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	79.0	48.1
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	877	0	877	17	1,066	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	109	0	109	2	34	Glass/Door Cond	-617	11.28				Diffuser	122	122
Wall Cond	302	0	302	6	317	Wall Cond	-538	9.84				Terminal	122	122
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	122	122
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	41	41
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	41	41
Sub Total ==>	1,288	0	1,288	25	1,416	Sub Total ==>	-1,155	21.13				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	122	122
Lights	464	0	464	9	464	Lights	0	0.00				Return	122	122
People	1,000	0	1,000	20	500	People	0	0.00				Exhaust	41	41
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	0	0
Sub Total ==>	1,464	0	1,464	29	964	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-13	0	0	13	Ventilation Load	-21	0.00				Leakage Ups	0	0
Adj Air Trans Heat	0	0	1,188	23	0	Adj Air Trans Heat	0	52.64				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	33.3	33.3
Ov/Undr Sizing	940	0	940	18	239	Exhaust Heat	0	0.00				cfm/ft²	0.90	0.90
Exhaust Heat	0	-36	-36	-1	0	OA Preheat Diff.	-1,413	25.84				cfm/ton	288.10	
Sup. Fan Heat	0	0	145	3	0	RA Preheat Diff.	0	0.00				ft²/ton	320.11	
Ret. Fan Heat	0	109	109	2	0	Additional Reheat	0	0.00				Btu/hr-ft²	37.49	-40.20
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-21	0.39				No. People	2.0	14.7/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	3,706	60	5,098	100.00	2,632	Grand Total ==>	-1,176	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	5.1	3.9	122	79.0	64.6	71.8	53.9	50.2	50.2	Floor	136	Main Htg	-3.3	122	53.9	78.9	
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	1	Preheat	-2.2	41	4.4	53.9	
Total	0.4	5.1									ExFlr	0	Reheat	-2.1	122	53.9	70.0	
											Roof	0	Humidif	0.0	0	0.0	0.0	
											Wall	142	30	21	0.0	0	0.0	0.0
											Ext Door	0	0	0	0.0	0	0.0	0.0
													Total	-5.5				

Room Checksums

By Valhalla Engineering Group, LLC

C9-39 HEAD NURESE OFFICE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4			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		Btu/h	Tot Sens Btu/h		75.0	76.8	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	3,420	0	3,420	43	5,417	75	0	0.00						
Glass/Door Cond	106	0	106	1	-473	-7	-1,265	21.43						
Wall Cond	269	0	269	3	78	1	-410	6.94						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	3,795	0	3,795	47	5,022	69	-1,675	28.37						
Internal Loads				Internal Loads							AIRFLOWS			
Lights	526	0	526	7	526	7	0	0.00	Diffuser					
People	1,000	0	1,000	13	500	7	0	0.00	Terminal					
Misc	1,195	0	1,195	15	1,195	17	0	0.00	Main Fan					
Sub Total ==>	2,720	0	2,720	34	2,220	31	0	0.00	Sec Fan					
Ceiling Load	2	-2	0	0	-12	0	-24	0.00	Nom Vent					
Ventilation Load	0	0	942	12	0	0	0	55.20	AHU Vent					
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Infil					
Dehumid. Ov Sizing			0	0			0	0.00	MinStop/Rh					
Ov/Undr Sizing	0		0	0	0	0	0	0.00	Return					
Exhaust Heat		-41	-41	-1			0	0.00	Exhaust					
Sup. Fan Heat			332	4			-946	16.03	Rm Exh					
Ret. Fan Heat		249	249	3			0	0.00	Auxiliary					
Duct Heat Pkup		0	0	0			-24	0.41	Leakage Dwn					
Underflr Sup Ht Pkup			0	0			0	0.00	Leakage Ups					
Supply Air Leakage			0	0			0	0.00						
Grand Total ==>	6,517	206	7,996	100.00	7,230	100.00	-1,699	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				
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb					ft²	(%)	MBh	cfm
Main Clg	0.7	8.0	6.9	280	76.8	62.7	66.0	53.9	52.9	60.2	Floor	154		Main Htg	-3.5	101	53.9	85.7
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	1		Preheat	-2.5	46	4.4	53.9
											ExFlr	0		Reheat	-1.8	101	53.9	70.0
											Roof	0	0	Humidif	0.0	0	0.0	0.0
Total	0.7	8.0									Wall	139	61	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-5.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-40 MED

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	80.4
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4			Ra Plenum		69.5	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th>	Fn BldTD <th>Fn Frict <td colspan="2"></td> </th>	Fn Frict <td colspan="2"></td>		
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		77.1 <th>0.1 <th>0.0 <th>0.0 <td colspan="2"></td> </th></th></th>	0.1 <th>0.0 <th>0.0 <td colspan="2"></td> </th></th>	0.0 <th>0.0 <td colspan="2"></td> </th>	0.0 <td colspan="2"></td>		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Cooling		Heating			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Diffuser		Terminal			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Main Fan		Sec Fan			
Glass Solar	2,830	0	2,830	32	5,402	Glass Solar	0	0.00	Nom Vent		AHU Vent			
Glass/Door Cond	172	0	172	2	-446	Glass/Door Cond	-1,244	20.77	Infil		MinStop/Rh			
Wall Cond	98	0	98	1	51	Wall Cond	-181	3.02	Return		Exhaust			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Rm Exh		Auxiliary			
Floor	0	0	0	0	0.00	Floor	0	0.00	Leakage Dwn		Leakage Ups			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
Sub Total ==>	3,101	0	3,101	35	5,007	Sub Total ==>	-1,425	23.79						
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	491	0	491	5	491	Lights	0	0.00	% OA		11.0		33.3	
People	1,000	0	1,000	11	500	People	0	0.00	cfm/ft²		2.72		0.90	
Misc	2,423	0	2,423	27	2,423	Misc	0	0.00	cfm/ton		524.32			
Sub Total ==>	3,915	0	3,915	44	3,415	Sub Total ==>	0	0.00	ft²/ton		193.08			
Ceiling Load	4	-4	0	0	-11	Ceiling Load	-22	0.00	Btu/hr-ft²		62.15		-41.61	
Ventilation Load	0	0	1,344	15	0	Ventilation Load	0	50.86	No. People		2.0		13.9/1000 ft²	
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00						
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	-1,496	24.97						
Sup. Fan Heat	0	0	359	4	0	RA Preheat Diff.	0	0.00						
Ret. Fan Heat	0	231	231	3	0	Additional Reheat	0	0.00						
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-22	0.38						
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	7,019	227	8,950	100.00	8,410	Grand Total ==>	-1,448	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	9.0	7.6	303	77.1	63.1	67.2	53.9	52.9	60.5	Floor	144	Main Htg	-3.7	130	53.9	80.4
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	1	Preheat	-2.3	43	4.4	53.9
											ExFlr	0	Reheat	-2.2	130	53.9	70.0
Total	0.8	9.0									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	95	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-6.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-41 WOMENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4						SADB	55.0	76.3			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	79.0	48.1			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	1,315	0	1,315	15	1,599	33	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	164	0	164	2	50	1	-925	9.67	-925	-925	9.67				Diffuser	229	229
Wall Cond	352	0	352	4	369	8	-626	6.55	-626	-626	6.55				Terminal	229	229
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	229	229
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	76	76
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	76	76
Sub Total ==>	1,831	0	1,831	21	2,018	41	-1,552	16.22	-1,552	-1,552	16.22				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	229	229
Lights	867	0	867	10	867	18	0	0.00	0	0	0.00				Return	152	152
People	1,000	0	1,000	11	500	10	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 ==>	1,867	0	1,867	21	1,367	28	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	0	2,271	26	0	0	0	56.19	0	-5,375	56.19	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	33.3	33.3
Ov/Undr Sizing	2,527	0	2,527	28	1,531	31	0	0.00	0	0	0.00				cfm/ft²	0.90	0.90
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ton	308.16	
Sup. Fan Heat	0	0	271	3	0	0	-2,639	27.59	0	0	0.00				ft²/ton	342.40	
Ret. Fan Heat	0	135	135	2	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	35.05	-37.66
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	2.0	7.9/1000 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						
Grand Total ==>	6,224	135	8,902	100.00	4,916	100.00	-1,552	100.00	-1,552	-9,566	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	ft²	(%)
Main Clg	0.7	8.9	7.0	229	79.0	64.5	71.1	53.9	51.1	53.5	Floor	254					Main Htg	-5.5	229	53.9	76.3
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	1					Preheat	-4.1	76	4.4	53.9
											ExFlr	0					Reheat	-4.0	229	53.9	70.0
Total	0.7	8.9									Roof	0	0	0			Humidif	0.0	0	0.0	0.0
											Wall	175	45	25			Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0			Total	-9.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-41A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 2 / 6		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 21		OADB: 4						SADB	55.0	105.3		
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	75.8	70.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	43	13			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	43	13			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	43	13			
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Internal Loads					Internal Loads										MinStop/Rh	13	13
Lights	188	0	188	15	188	20	0	0.00	0	0	0.00	Return	43	13			
People	500	0	500	39	250	27	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	76	76			
Sub Total ==>	688	0	688	54	438	47	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load					Ceiling Load										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	492	0	492	39	492	53	-492	69	-492	-492	69	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	0	0	0	0.00	0	0	0.00	cfm/ft²	0.79	0.24			
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	408.61				
Sup. Fan Heat	0	0	51	4	0	0	0	0.00	0	0	0.00	ft²/ton	520.10				
Ret. Fan Heat	0	38	38	3	0	0	0	0.00	0	-224	31.34	Btu/hr-ft²	23.07	-13.02			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	1.0	18.2/1000 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 ==>	1,179	38	1,269	100.00	929	100.00	-492		-492	-716	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				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F					°F	gr/lb	ft²	(%)
Main Clg	0.1	1.3	1.0	43	75.8	61.5	61.8	53.9	51.1	53.3	Floor	55		Main Htg	-0.7	13	53.9	105.3
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-0.2	13	53.9	70.0
Total	0.1	1.3									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	-0.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-42 TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 1 / 13		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 38		OADB: 4						SADB	55.0	103.3		
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	Return	75.0	70.0			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	75.8	70.0			
Envelope Loads					Envelope Loads										Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	0	0	0.00	Diffuser	Cooling	Heating			
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00	0	0	0.00	Terminal	38	12			
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00	0	0	0.00	Main Fan	38	12			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	0	0	0	0.00	0	Floor	0	0.00	0	0	0.00	Nom Vent	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00	0.00	AHU Vent	0	0			
Infiltration	0	0	0	0	0	Infiltration	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00	0	0	0.00	MinStop/Rh	12	12			
Internal Loads					Internal Loads										Return	38	12
Lights	164	0	164	14	20	Lights	0	0.00	0	0	0.00	Exhaust	0	0			
People	500	0	500	43	30	People	0	0.00	0	0	0.00	Rm Exh	64	64			
Misc	0	0	0	0	0	Misc	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	664	0	664	57	50	Sub Total ==>	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load					Ceiling Load										Leakage Ups	0	0
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00	0	0	0.00	ENGINEERING CKS					
Adj Air Trans Heat	412	0	412	36	50	Adj Air Trans Heat	-412	-67	-412	-67	67	% OA	Cooling	Heating			
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00	0	0	0.00	cfm/ft²	0.80	0.24			
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00	0	0	0.00	cfm/ton	398.79				
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00	0	0	0.00	ft²/ton	498.36				
Sup. Fan Heat	0	46	46	4	4	RA Preheat Diff.	0	0.00	0	0	0.00	Btu/hr-ft²	24.08	-12.75			
Ret. Fan Heat	0	34	34	3	3	Additional Reheat	-200	32.61	-200	32.61	32.61	No. People	1.0	20.8/1000 ft²			
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00	0	0	0.00						
Grand Total ==>	1,076	34	1,156	100.00	826	100.00	Grand Total ==>	-412	-612	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				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F					°F	gr/lb	ft²	(%)
Main Clg	0.1	1.2	0.9	38	75.8	61.5	61.8	53.9	50.8	52.2	Floor	48		Main Htg	-0.6	12	53.9	103.3
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-0.2	12	53.9	70.0
Total	0.1	1.2									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	-0.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-43 WOMENS

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design								
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4								
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating				
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Btu/h	Btu/h				
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				SADB	55.0	78.3
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Ra Plenum	75.0	70.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Return	75.8	70.0
Glass Solar	3,420	0	3,420	45	5,417	Glass Solar	0	0.00				Ret/OA	77.5	48.1
Glass/Door Cond	106	0	106	1	-473	Glass/Door Cond	-1,265	15.00				Fn MtrTD	0.1	0.0
Wall Cond	297	0	297	4	86	Wall Cond	-451	5.35				Fn BldTD	0.3	0.0
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Fn Frict	0.7	0.0
Floor	0	0	0	0	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
Sub Total ==>	3,822	0	3,822	50	5,030	Sub Total ==>	-1,716	20.34						
Internal Loads				Internal Loads							AIRFLOWS			
Lights	727	0	727	10	727	Lights	0	0.00				Diffuser	291	192
People	1,000	0	1,000	13	500	People	0	0.00				Terminal	291	192
Misc	0	0	0	0	0	Misc	0	0.00				Main Fan	291	192
Sub Total ==>	1,727	0	1,727	23	1,227	Sub Total ==>	0	0.00				Sec Fan	0	0
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00				Nom Vent	64	64
Ventilation Load	0	0	1,346	18	0	Ventilation Load	0	53.43				AHU Vent	64	64
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				Infil	0	0
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				MinStop/Rh	192	192
Ov/Undr Sizing	252	0	252	3	0	Exhaust Heat	0	0.00				Return	227	128
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				Exhaust	0	0
Sup. Fan Heat	0	0	278	4	0	RA Preheat Diff.	-2,213	26.23				Rm Exh	0	0
Ret. Fan Heat	0	152	152	2	0	Additional Reheat	0	0.00				Auxiliary	0	0
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00				Leakage Dwn	0	0
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				Leakage Ups	0	0
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	5,800	152	7,577	100.00	6,257	Grand Total ==>	-1,716	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	0.6	7.6	6.2	235	77.5	63.2	67.3	53.9	52.1	57.2	Floor	213		Main Htg	-5.0	192	53.9	78.3	
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	1		Preheat	-3.4	64	4.4	53.9	
											ExFlr	0		Reheat	-3.3	192	53.9	70.0	
Total	0.6	7.6									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	147	61	41	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-8.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-43A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 9 / 15		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 81		OADB: 4						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	Fn MtrTD	Fn BldTD	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
Envelope Loads					Envelope Loads										AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00								
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00								
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00								
Glass Solar	0	0	0	0	0	0	Glass Solar	0	0	0.00								
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond	0	0	0.00								
Wall Cond	305	0	305	21	369	33	Wall Cond	-420	-420	43.17								
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00								
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00								
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00								
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00								
<i>Sub Total ==></i>	305	0	305	21	369	33	<i>Sub Total ==></i>	-420	-420	43.17								
Internal Loads					Internal Loads													
Lights	236	0	236	17	236	21	Lights	0	0	0.00								
People	500	0	500	35	250	22	People	0	0	0.00								
Misc	0	0	0	0	0	0	Misc	0	0	0.00								
<i>Sub Total ==></i>	736	0	736	52	486	43	<i>Sub Total ==></i>	0	0	0.00								
Ceiling Load	0	0	0	0	0	0	Ceiling Load	0	0	0.00								
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0	0.00								
Adj Air Trans Heat	279	0	279	20	279	25	Adj Air Trans Heat	-279	-279	29								
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00								
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	0	0.00								
Exhaust Heat	0	0	0	0	0	0	OA Preheat Diff.	0	0	0.00								
Sup. Fan Heat	0	0	59	4	0	0	RA Preheat Diff.	0	0	0.00								
Ret. Fan Heat	0	44	44	3	0	0	Additional Reheat	-274	28.16									
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0	0.00								
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 ==>	1,319	44	1,422	100.00	1,133	100.00	Grand Total ==>	-698	-972	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	1.2	50	75.8	61.5	61.8	53.9	51.3	54.4	Floor	69		Main Htg	-1.0	16	53.9	111.1	
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	1		Preheat	0.0	0	0.0	0.0	
											ExFlr	0		Reheat	-0.3	16	53.9	70.0	
Total	0.1	1.4									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	80	0	Opt Vent	0.0	0	0.0	0.0	
											Ext Door	0	0	Total	-1.0				

Room Checksums

By Valhalla Engineering Group, LLC

C9-44 WOMENS

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 80		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	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	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Glass Solar	1,029	0	1,029	14	1,168	29	0	0.00	0	0	0.00	0	0	
Glass/Door Cond	105	0	105	1	51	1	-617	8.10	-617	-617	8.10	0	0	
Wall Cond	221	0	221	3	210	5	-374	4.91	-374	-374	4.91	0	0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Sub Total ==>	1,354	0	1,354	18	1,428	35	-991	13.01	-991	-991	13.01	0	0	
Internal Loads					Internal Loads									
Lights	717	0	717	10	717	18	0	0.00	0	0	0.00	0	0	
People	1,000	0	1,000	13	500	12	0	0.00	0	0	0.00	0	0	
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Sub Total ==>	1,717	0	1,717	23	1,217	30	0	0.00	0	0	0.00	0	0	
Ceiling Load	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Ventilation Load	0	0	1,878	25	0	0	-4,444	58.35	-4,444	-4,444	58.35	0	0	
Adj Air Trans Heat	0	0	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	0	0	
Ov/Undr Sizing	2,168	0	2,168	29	1,420	35	0	0.00	0	0	0.00	0	0	
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Sup. Fan Heat	0	0	224	3	0	0	-2,182	28.64	-2,182	-2,182	28.64	0	0	
Ret. Fan Heat	0	112	112	2	0	0	0	0.00	0	0	0.00	0	0	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	
Grand Total ==>	5,239	112	7,453	100.00	4,065	100.00	-991	100.00	-991	-7,617	100.00	0	0	

AIRFLOWS		
	Cooling	Heating
Diffuser	189	189
Terminal	189	189
Main Fan	189	189
Sec Fan	0	0
Nom Vent	63	63
AHU Vent	63	63
Infil	0	0
MinStop/Rh	189	189
Return	126	126
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	304.32	
ft²/ton	338.13	
Btu/hr-ft²	35.49	-36.27
No. People	2.0	9.5/1000 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	0.6	7.5	5.8	189	79.0	64.5	71.1	53.9	50.9	52.8
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	0.6	7.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	210		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	108	30	28
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-4.3	189	53.9	74.9
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.4	63	4.4	53.9
Reheat	-3.3	189	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-7.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-44A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 2 / 6		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 21		OADB: 4						SADB	55.0	101.9		
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	75.0	70.0			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	75.8	70.0			
Envelope Loads					Envelope Loads										Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	0	0	0.00	Diffuser	Cooling	Heating			
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00	0	0	0.00	Terminal	40	12			
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00	0	0	0.00	Main Fan	40	12			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	0	0	0	0.00	0	Floor	0	0.00	0	0	0.00	Nom Vent	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00	0.00	AHU Vent	0	0			
Infiltration	0	0	0	0	0	Infiltration	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00	0	0	0.00	MinStop/Rh	12	12			
Internal Loads					Internal Loads										Return	40	12
Lights	195	0	195	16	195	Lights	0	0.00	0	0	0.00	Exhaust	0	0			
People	500	0	500	42	250	People	0	0.00	0	0	0.00	Rm Exh	63	63			
Misc	0	0	0	0	0	Misc	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	695	0	695	59	445	Sub Total ==>	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00	0	0	0.00	Leakage Ups	0	0			
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00	0	0	0.00	ENGINEERING CKS					
Adj Air Trans Heat	406	0	406	34	406	Adj Air Trans Heat	-406	66	-406	-406	66	% OA	Cooling	Heating			
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00	0	0	0.00	cfm/ft²	0.0	0.0			
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00	0	0	0.00	cfm/ton	0.69	0.21			
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00	0	0	0.00	ft²/ton	401.33				
Sup. Fan Heat	0	0	47	4	0	RA Preheat Diff.	0	0.00	0	0	0.00	Btu/hr-ft²	578.15				
Ret. Fan Heat	0	35	35	3	0	Additional Reheat	-206	33.58	0	0	0.00	No. People	20.76	-10.74			
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00	0	0	0.00		1.0	17.5/1000 ft²			
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00	0	0	0.00						
Grand Total ==>	1,101	35	1,183	100.00	851	Grand Total ==>	-406	100.00	-406	-612	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				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F					°F	gr/lb	ft²	(%)
Main Clg	0.1	1.2	0.9	40	75.8	61.5	61.8	53.9	50.8	52.5	Floor	57		Main Htg	-0.6	12	53.9	101.9
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-0.2	12	53.9	70.0
Total	0.1	1.2									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	-0.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-45 PATIENT STORAGE

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB	55.0	70.0	Ra Plenum	75.0	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <th>Ret/OA</th> <td>82.6</td> <td>37.2</td>	75.8	70.0	Ret/OA	82.6	37.2		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00				
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00				
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00				
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0.00	0	0.00	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00				
Internal Loads					Internal Loads											
Lights	119	0	119	11	119	26	0	0.00	Lights	0	0	0.00				
People	500	0	500	44	250	55	0	0.00	People	0	0	0.00				
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00				
Sub Total ==>	619	0	619	55	369	82	0	0.00	Sub Total ==>	0	0	0.00				
Ceiling Load	0	0	0	0	0	0	0	0.00	Ceiling Load	0	0	0.00				
Ventilation Load	0	0	389	35	0	0	-741	80.30	Ventilation Load	0	-741	80.30				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	-0.01	Ov/Undr Sizing	0	0	-0.01				
Ov/Undr Sizing	82	0	82	7	82	18	0	0.00	Exhaust Heat	0	0	0.00				
Exhaust Heat	0	-9	-9	-1	0	0	0	0.00	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat	0	0	25	2	0	0	-182	19.71	RA Preheat Diff.	-182	19.71					
Ret. Fan Heat	0	19	19	2	0	0	0	0.00	Additional Reheat	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00				
Grand Total ==>	702	9	1,125	100.00	452	100.00	0	100.00	Grand Total ==>	0	-922	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	21	21
Terminal	21	21
Main Fan	21	21
Sec Fan	0	0
Nom Vent	11	11
AHU Vent	11	11
Infil	0	0
MinStop/Rh	21	21
Return	21	21
Exhaust	11	11
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	224.09	
ft²/ton	373.48	
Btu/hr-ft²	32.13	-26.36
No. People	1.0	28.6/1000 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	1.1	0.7	21	82.6	67.0	77.8	53.9	48.7	44.6
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	1.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	35		
Part	0		
Int Door	1		
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	-0.4	21	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.6	11	4.4	53.9
Reheat	-0.4	21	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-0.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-46 LINEN

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES										
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating							
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB			Ra Plenum							
											Return			Ret/OA							
											Fn MtrTD			Fn BldTD							
											Fn Frict										
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		Skylite Solar		0		0.00					
Skylite Cond		0		0		0		0		0		Skylite Cond		0		0.00					
Roof Cond		0		0		0		0		0		Roof Cond		0		0.00					
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		0.00		0		Floor		0		0.00					
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		Adjacent Floor		0.00		0.00					
Infiltration		0		0		0		0		0		Infiltration		0		0.00					
Sub Total ==>		0		0		0		0		0		Sub Total ==>		0		0.00					
Internal Loads																					
Lights		201		0		201		12		201		26		Lights		0		0.00			
People		500		0		500		29		250		33		People		0		0.00			
Misc		0		0		0		0		0		0		Misc		0		0.00			
Sub Total ==>		701		0		701		41		451		59		Sub Total ==>		0		0.00			
Ceiling Load		0		0		0		0		0		0		Ceiling Load		0		0.00			
Ventilation Load		0		0		655		38		0		0		Ventilation Load		-1,249		80.30			
Adj Air Trans Heat		0		0		0		0		0		0		Adj Air Trans Heat		0		0			
Dehumid. Ov Sizing		0		0		0		0		0		0		Ov/Undr Sizing		0		0.00			
Ov/Undr Sizing		310		-16		310		18		310		41		Exhaust Heat		0		0.00			
Exhaust Heat				-16		-16		-1						OA Preheat Diff.		0		0.00			
Sup. Fan Heat				42		42		2						RA Preheat Diff.		-306		19.71			
Ret. Fan Heat				31		31		2						Additional Reheat		0		0.00			
Duct Heat Pkup				0		0		0						System Plenum Heat		0		0.00			
Underflr Sup Ht Pkup				0		0		0						Underflr Sup Ht Pkup		0		0.00			
Supply Air Leakage				0		0		0						Supply Air Leakage		0		0.00			
Grand Total ==>		1,011		16		1,724		100.00		761		100.00		Grand Total ==>		0		-1,555		100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	35	35
Terminal	35	35
Main Fan	35	35
Sec Fan	0	0
Nom Vent	18	18
AHU Vent	18	18
Infil	0	0
MinStop/Rh	35	35
Return	35	35
Exhaust	18	18
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	246.36	
ft²/ton	410.60	
Btu/hr-ft²	29.23	-26.36
No. People	1.0	16.9/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.1	1.7	1.1	35	82.6	67.0	77.8	53.9	50.6	51.7
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	0.1	1.7								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	59		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.9	18	4.4	53.9
Reheat	-0.6	35	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-47 MECHANICAL

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 2		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 71		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	597	0	597	3	817	8	-2,711	13.60						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	597	0	597	3	817	8	-2,711	13.60						
Internal Loads				Internal Loads										
Lights	1,864	0	1,864	11	1,864	18	0	0.00						
People	0	0	0	0	0	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	1,864	0	1,864	11	1,864	18	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	6,064	35	0	0	-11,555	57.95						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	8,106	0	8,106	46	7,888	75	0	0.00						
Exhaust Heat	0	-146	-146	-1	0	0	0	0.00						
Sup. Fan Heat	0	0	582	3	0	0	-5,672	28.45						
Ret. Fan Heat	0	437	437	2	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	10,566	291	17,504	100.00	10,568	100.00	-2,711	-19,938	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	491	491
Terminal	491	491
Main Fan	491	491
Sec Fan	0	0
Nom Vent	164	164
AHU Vent	164	164
Infil	0	0
MinStop/Rh	491	491
Return	491	491
Exhaust	164	164
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	336.88	
ft²/ton	374.32	
Btu/hr-ft²	32.06	-36.52
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	1.5	17.5	14.0	491	80.3	65.2	72.5	53.9	53.3	62.0
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	1.5	17.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	546		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	582	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-11.2	491	53.9	75.1
Aux Htg	0.0	0	0.0	0.0
Preheat	-8.7	164	4.4	53.9
Reheat	-8.5	491	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-19.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-47 OFFICE/GROUP ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 22		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	77.1	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 76		OADB: 4			Ra Plenum		75.0	70.0	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	80.3	0.1	0.3	0.7			
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	167	109				
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	167	109				
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan	167	109				
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Nom Vent	55	55				
Wall Cond	233	0	233	3	272	8	-831	14.77	AHU Vent	55	55				
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	0	0				
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	109	109				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	167	109				
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust	55	55				
Sub Total ==>	233	0	233	3	272	8	-831	14.77	Rm Exh	0	0				
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	621	0	621	8	621	17	0	0.00	% OA	32.7	50.0				
People	3,000	0	3,000	41	1,500	42	0	0.00	cfm/ft²	0.92	0.60				
Misc	1,195	0	1,195	16	1,195	33	0	0.00	cfm/ton	271.84					
Sub Total ==>	4,816	0	4,816	65	3,316	92	0	0.00	ft²/ton	296.58					
Ceiling Load	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	40.46	-30.93				
Ventilation Load	0	0	2,021	27	0	0	0	-3,852	68.43				No. People	6.0	33.0/1000 ft²
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0						
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0						
Exhaust Heat	0	-49	-49	-1	0	0	0	0	0						
Sup. Fan Heat	0	0	196	3	0	0	0	-945	16.80						
Ret. Fan Heat	0	147	147	2	0	0	0	0	0						
Duct Heat Pkup	0	0	0	0	0	0	0	0	0						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0	0						
Supply Air Leakage	0	0	0	0	0	0	0	0	0						
Grand Total ==>	5,049	98	7,364	100.00	3,588	100.00	-831	-5,628	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	0.6	7.4	4.7	165	80.3	65.2	72.4	53.9	49.8	48.6	Floor	182	-2.7	109	53.9	77.1
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	1	-2.9	55	4.4	53.9
											ExFlr	0	-1.9	109	53.9	70.0
Total	0.6	7.4									Roof	0	0.0	0	0.0	0.0
											Wall	179	0.0	0	0.0	0.0
											Ext Door	0	0	0	0	0.0
											Total	-5.6				

Room Checksums

By Valhalla Engineering Group, LLC

C9-47A STORAGE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 22		Mo/Hr: Heating Design			Cooling		Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 76		OADB: 4			SADB		Ra Plenum	Return			
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h								
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	82	31				
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	82	31				
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan	82	31				
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Nom Vent	16	16				
Wall Cond	73	0	73	2	85	5	-261	15.98	AHU Vent	16	16				
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	0	0				
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	31	31				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	82	31				
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust	16	16				
Sub Total ==>	73	0	73	2	85	5	-261	15.98	Rm Exh	0	0				
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	177	0	177	4	177	10	0	0.00	% OA	19.0	50.0				
People	3,000	0	3,000	75	1,500	85	0	0.00	cfm/ft²	1.58	0.60				
Misc	0	0	0	0	0	0	0	0.00	cfm/ton	246.94					
Sub Total ==>	3,177	0	3,177	80	1,677	95	0	0.00	ft²/ton	156.66					
Ceiling Load	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	76.60	-31.37				
Ventilation Load	0	0	578	14	0	0	-1,100	67.46	No. People	6.0	115.4/1000 ft²				
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing			0	0			0	0.00							
Ov/Undr Sizing	0		0	0	0	0	0	0.00							
Exhaust Heat		-14	-14	0			0	0.00							
Sup. Fan Heat			96	2			-270	16.56							
Ret. Fan Heat		72	72	2			0	0.00							
Duct Heat Pkup		0	0	0			0	0.00							
Underflr Sup Ht Pkup			0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	3,251	58	3,983	100.00	1,763	100.00	-261	-1,631	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				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F					°F	gr/lb	ft²	(%)
Main Clg	0.3	4.0	2.2	81	78.4	63.7	68.0	53.9	45.9	34.8	Floor	52		Main Htg	-0.8	31	53.9	77.8
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	1		Preheat	-0.8	16	4.4	53.9
											ExFlr	0		Reheat	-0.5	31	53.9	70.0
Total	0.3	4.0									Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	56	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-1.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-48 LAUNDRY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 2 / 7		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 21		OADB: 4		OADB: 4				SADB	55.0	92.2
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	Return	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	75.8	70.0
Envelope Loads				Envelope Loads				Envelope Loads				Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00		Cooling	Heating
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	26	8
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	26	8
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	26	8
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0
Internal Loads				Internal Loads				Internal Loads				MinStop/Rh	8	8
Lights	130	0	130	15	130	23	0	0.00	0	0	0.00	Return	26	8
People	500	0	500	57	250	44	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	29	29
Sub Total ==>	630	0	630	72	380	67	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load				Ceiling Load				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	189	0	189	22	189	33	-189	58	-189	-189	58	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	0	0	0	0.00	0	0	0.00	cfm/ft²	0.70	0.21
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	363.26	
Sup. Fan Heat	0	0	31	4	0	0	0	0.00	0	0	0.00	ft²/ton	521.84	
Ret. Fan Heat	0	24	24	3	0	0	0	0.00	-137	42.06	42.06	Btu/hr-ft²	23.00	-8.60
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	1.0	26.3/1000 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 ==>	819	24	874	100.00	569	100.00	-189		-327	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	Lvq		
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb
Main Clg	0.1	0.9	0.6	26	75.8	61.5	61.8	53.9	49.6	47.9	Floor	38			Main Htg	-0.3	8	53.9	92.2
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	1			Preheat	0.0	0	0.0	0.0
											ExFlr	0			Reheat	-0.1	8	53.9	70.0
Total	0.1	0.9									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-0.3			

Room Checksums

By Valhalla Engineering Group, LLC

C9-49 WOMENS BARIATRIC

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13			Mo/Hr: 10 / 12		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 82 / 68 / 82			OADB: 58		OADB: 4						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	Fn MtrTD	Fn BldTD	Fn Frict	
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	244	168			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	244	168			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	244	168			
	2,775	0	2,775	42	4,254	81	0	0	0.00	0	0	0.00	Sec Fan	0	0			
	86	0	86	1	-303	-6	-1,027	-1,027	13.92	-1,027	-1,027	13.92	Nom Vent	56	56			
	294	0	294	4	151	3	-447	-447	6.06	-447	-447	6.06	AHU Vent	56	56			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
	0	0	0	0	0.00	0	0	0	0.00	0	0	0.00	MinStop/Rh	168	168			
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	188	112			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0			
	3,154	0	3,154	48	4,101	78	-1,474	-1,474	19.99	-1,474	-1,474	19.99	Rm Exh	0	0			
													Auxiliary	0	0			
Internal Loads					Internal Loads										ENGINEERING CKS			
	638	0	638	10	638	12	0	0	0.00	0	0	0.00	% OA	23.0	33.3			
	1,000	0	1,000	15	500	10	0	0	0.00	0	0	0.00	cfm/ft²	1.30	0.90			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	441.79				
	1,638	0	1,638	25	1,138	22	0	0	0.00	0	0	0.00	ft²/ton	339.11				
													Btu/hr-ft²	35.39	-39.43			
	0	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	2.0	10.7/1000 ft²			
	0	0	1,182	18	0	0	0	-3,957	53.67	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						
	279	0	279	4	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	237	4	0	0	0	-1,943	26.35	0	0	0.00						
	0	128	128	2	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						
	5,071	128	6,617	100.00	5,240	100.00	-1,474	-7,374	100.00	-1,474	-7,374	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	0.6	6.6	5.4	200	77.6	63.3	67.5	53.9	51.8	56.1	Floor	187	-4.4	168	53.9	78.1	
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	1	-3.0	56	4.4	53.9	
											ExFlr	0	-2.9	168	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	135	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
Total	0.6	6.6											-7.4				

Room Checksums

By Valhalla Engineering Group, LLC

C9-49A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14			Mo/Hr: 9 / 13		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4										
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	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h				
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00			Diffuser	Cooling	Heating	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			Terminal	68	20	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			Main Fan	68	20	
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	0	0	
Wall Cond	482	0	482	28	578	40	-605	45.92	-605	0	0.00			AHU Vent	0	0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00			Infil	0	0	
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00			MinStop/Rh	20	20	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			Return	68	20	
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00			Exhaust	0	0	
Sub Total ==>	482	0	482	28	578	40	-605	45.92	-605	-605	45.92			Rm Exh	56	56	
Internal Loads					Internal Loads										ENGINEERING CKS		
Lights	263	0	263	15	263	18	0	0.00	0	0	0.00	% OA	0.0	0.0			
People	500	0	500	29	250	17	0	0.00	0	0	0.00	cfm/ft²	0.88	0.26			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	466.44				
Sub Total ==>	763	0	763	44	513	35	0	0.00	0	0	0.00	ft²/ton	531.68				
Ceiling Load	0	0	0	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	22.57	-17.12			
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	1.0	13.0/1000 ft²			
Adj Air Trans Heat	362	0	362	21	362	25	-362	27	-362	-362	27						
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	75	4	0	0	0	0.00	0	0	0.00						
Ret. Fan Heat	0	56	56	3	0	0	0	0.00	0	-351	26.62						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
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 ==>	1,607	56	1,738	100.00	1,453	100.00	-967	100.00	-967	-1,318	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	ft² (%)	Capacity	Coil Airflow	Ent	Lvg			
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb	MBh
Main Clg	0.1	1.7	1.5	63	75.8	61.5	61.8	53.9	51.8	55.9	Floor	77				Main Htg	-1.3	20	53.9	114.4
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	1				Preheat	0.0	0	0.0	0.0
											ExFlr	0				Reheat	-0.4	20	53.9	70.0
											Roof	0	0	0		Humidif	0.0	0	0.0	0.0
											Wall	126	0	0		Opt Vent	0.0	0	0.0	0.0
Total	0.1	1.7									Ext Door	0	0	0		Total	-1.3			

Room Checksums

By Valhalla Engineering Group, LLC

C9-50 MEETING ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0.00	0	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	0	0	0	0	0	0	0	0.00						
Internal Loads				Internal Loads										
Lights	454	0	454	9	454	18	0	0.00						
People	2,660	0	2,660	50	1,629	63	0	0.00						
Misc	227	0	227	4	227	9	0	0.00						
<i>Sub Total ==></i>	3,341	0	3,341	63	2,310	90	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	1,477	28	0	0	0	67.07						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	264		264	5	264	10	0	0.00						
Exhaust Heat		-35	-35	-1			0	0.00						
Sup. Fan Heat			142	3			-1,382	32.93						
Ret. Fan Heat		106	106	2			0	0.00						
Duct Heat Pkup		0	0	0			0	0.00						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	3,605	71	5,295	100.00	2,574	100.00	0	-4,196	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	120	120
Terminal	120	120
Main Fan	120	120
Sec Fan	0	0
Nom Vent	40	40
AHU Vent	40	40
Infil	0	0
MinStop/Rh	120	120
Return	120	120
Exhaust	40	40
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	271.27	
ft²/ton	301.41	
Btu/hr-ft²	39.81	-31.55
No. People	6.7	50.0/1000 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	0.4	5.3	120	80.3	65.2	72.5	53.9	50.0	49.3
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	5.3							

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	133		
Part	0		
Int Door	1		
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	-2.1	120	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.1	40	4.4	53.9
Reheat	-2.1	120	53.9	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 Valhalla Engineering Group, LLC

C9-51 HAC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 2 / 7		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 21		OADB: 4						SADB	55.0	92.2
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total				Ra Plenum	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens					Return	75.8	70.0
											Ret/OA	75.8	70.0	
Envelope Loads				Envelope Loads							Fn MtrTD	0.1	0.0	
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn BldTD	0.3	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn Frict	0.7	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				Cooling	Heating	
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	26	8
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Terminal	26	8
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	26	8
Floor	0	0	0	0.00	0	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	0	0
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	0	0
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				Infil	0	0
Internal Loads				Internal Loads							MinStop/Rh	8	8	
Lights	130	0	130	15	23	Lights	0	0.00				Return	26	8
People	500	0	500	57	44	People	0	0.00				Exhaust	0	0
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	29	29
Sub Total ==>	630	0	630	72	67	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load							Leakage Dwn	0	0	
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00				Leakage Ups	0	0
Adj Air Trans Heat	189		189	22	33	Adj Air Trans Heat	-189	58				ENGINEERING CKS		
Dehumid. Ov Sizing			0	0		Ov/Undr Sizing	0	0.00				Cooling	Heating	
Ov/Undr Sizing	0		0	0	0	Exhaust Heat	0	0.00				% OA	0.0	0.0
Exhaust Heat		0	0	0		OA Preheat Diff.	0	0.00				cfm/ft²	0.70	0.21
Sup. Fan Heat			31	4		RA Preheat Diff.	0	0.00				cfm/ton	363.26	
Ret. Fan Heat		24	24	3		Additional Reheat		-137 42.06				ft²/ton	521.84	
Duct Heat Pkup		0	0	0		System Plenum Heat		0 0.00				Btu/hr-ft²	23.00	-8.60
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup		0 0.00				No. People	1.0	26.3/1000 ft²
Supply Air Leakage		0	0	0		Supply Air Leakage		0 0.00						
Grand Total ==>	819	24	874	100.00	569	100.00	Grand Total ==>	-189	-327	100.00				

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	0.1	0.9	0.6	26	75.8	61.5	61.8	53.9	49.6	47.9
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	0.1	0.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	38		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION					
	Capacity	Coil Airflow	Ent		Lvq
			MBh	cfm	
Main Htg	-0.3	8	53.9	92.2	
Aux Htg	0.0	0	0.0	0.0	
Preheat	0.0	0	0.0	0.0	
Reheat	-0.1	8	53.9	70.0	
Humidif	0.0	0	0.0	0.0	
Opt Vent	0.0	0	0.0	0.0	
Total	-0.3				

Room Checksums

By Valhalla Engineering Group, LLC

C9-52 SALLY PORT

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design		Mo/Hr: Heating Design		Mo/Hr: Heating Design				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 89		OADB: 4		OADB: 4				
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)		Space Peak	Coil Peak	Percent Of Total				
	Btu/h	Btu/h	Btu/h		Btu/h			Space Sens	Tot Sens					
								Btu/h	Btu/h					
Envelope Loads				Envelope Loads				Envelope Loads				AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00				
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00				
Glass Solar	0	0	0	0	0	0	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond	0	0	0.00				
Wall Cond	0	0	0	0	0	0	Wall Cond	0	0	0.00				
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00				
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00				
Sub Total ==>	0	0	0	0	0	0	Sub Total ==>	0	0	0.00				
Internal Loads				Internal Loads				Internal Loads						
Lights	362	0	362	16	362	32	Lights	0	0	0.00				
People	0	0	0	0	0	0	People	0	0	0.00				
Misc	0	0	0	0	0	0	Misc	0	0	0.00				
Sub Total ==>	362	0	362	16	362	32	Sub Total ==>	0	0	0.00				
Ceiling Load	0	0	0	0	0	0	Ceiling Load	0	0	0.00				
Ventilation Load	0	0	981	44	0	0	Ventilation Load	0	-1,869	80.29				
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00				
Ov/Undr Sizing	778	0	778	35	778	68	Exhaust Heat	0	0	0.00				
Exhaust Heat	0	-24	-24	-1	0	0	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat	0	0	63	3	0	0	RA Preheat Diff.	0	-459	19.71				
Ret. Fan Heat	0	47	47	2	0	0	Additional Reheat	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0	0.00				
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 ==>	1,140	24	2,207	100.00	1,140	100.00	Grand Total ==>	0	-2,328	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	0.2	2.2	1.6	53	82.6	67.0	77.8	53.9	53.3	62.1	Floor	106		-0.9	53	53.9	70.0
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	1		-1.4	27	4.4	53.9
											ExFlr	0		-0.9	53	53.9	70.0
Total	0.2	2.2									Roof	0	0	0.0	0	0.0	0.0
											Wall	0	0	0.0	0	0.0	0.0
											Ext Door	0	0	0.0	0	0.0	0.0
														-2.3			

Room Checksums

By Valhalla Engineering Group, LLC

C9-53 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89		OADB: 4			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				
Envelope Loads					Envelope Loads									
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00			
Internal Loads					Internal Loads									
Lights	141	0	141	11	141	26	0	0.00	0	0	0.00			
People	500	0	500	39	250	47	0	0.00	0	0	0.00			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00			
Sub Total ==>	641	0	641	50	391	73	0	0.00	0	0	0.00			
Ceiling Load	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ventilation Load	0	0	458	36	0	0	-873	80.30	0	0	0.00			
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	-0.01	0	0	0.00			
Ov/Undr Sizing	142	0	142	11	142	27	0	0.00	0	0	0.00			
Exhaust Heat	0	-11	-11	-1	0	0	0	0.00	0	0	0.00			
Sup. Fan Heat	0	0	29	2	0	0	-214	19.71	0	0	0.00			
Ret. Fan Heat	0	22	22	2	0	0	0	0.00	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
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 ==>	783	11	1,281	100.00	533	100.00	0	-1,088	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	25	25
Terminal	25	25
Main Fan	25	25
Sec Fan	0	0
Nom Vent	12	12
AHU Vent	12	12
Infil	0	0
MinStop/Rh	25	25
Return	25	25
Exhaust	12	12
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	231.92	
ft²/ton	386.53	
Btu/hr-ft²	31.05	-26.36
No. People	1.0	24.2/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.1	1.3	0.8	25	82.6	67.0	77.8	53.9	49.4	47.2
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	1.3								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	41		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-0.4	25	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.7	12	4.4	53.9
Reheat	-0.4	25	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-54 ELEVATOR LOBBY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 4						SADB	55.0	70.0	
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	75.0	70.0	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0	
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2	
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0	
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0	
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0	
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS			
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00					Diffuser	211	211
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Terminal	211	211	
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	211	211	
Floor	0	0	0	0.00	0	Floor	0	0.00				Sec Fan	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	105	105	
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	105	105	
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				Infil	0	0	
Internal Loads				Internal Loads								MinStop/Rh	211	211	
Lights	1,438	0	1,438	16	32	Lights	0	0.00				Return	111	111	
People	0	0	0	0	0	People	0	0.00				Exhaust	5	5	
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	0	0	
Sub Total ==>	1,438	0	1,438	16	32	Sub Total ==>	0	0.00				Auxiliary	0	0	
Ceiling Load				Ceiling Load								Leakage Dwn	0	0	
Ventilation Load	0	0	3,899	44	0	Ventilation Load	0	80.29				Leakage Ups	0	0	
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ENGINEERING CKS			
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00					Cooling	Heating	
Ov/Undr Sizing	3,092		3,092	35	68	Exhaust Heat	0	0.00				% OA	50.0	50.0	
Exhaust Heat		-5	-5	0	0	OA Preheat Diff.	0	0.00				cfm/ft²	0.50	0.50	
Sup. Fan Heat			250	3	3	RA Preheat Diff.	-1,823	19.71				cfm/ton	288.14		
Ret. Fan Heat		98	98	1	1	Additional Reheat	0	0.00				ft²/ton	576.27		
Duct Heat Pkup		0	0	0	0	System Plenum Heat	0	0.00				Btu/hr-ft²	20.82	-21.96	
Underflr Sup Ht Pkup		0	0	0	0	Underflr Sup Ht Pkup	0	0.00				No. People	0.0	0.0/1000 ft²	
Supply Air Leakage		0	0	0	0	Supply Air Leakage	0	0.00							
Grand Total ==>	4,529	94	8,771	100.00	4,529	100.00	Grand Total ==>	0	-9,252	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	0.7	8.8	6.5	211	82.6	67.0	77.8	53.9	53.3	62.1	Floor	421		Main Htg	-3.7	211	53.9	70.0	
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	1		Preheat	-5.6	105	4.4	53.9	
											ExFlr	0		Reheat	-3.7	211	53.9	70.0	
Total	0.7	8.8									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-9.3			

Room Checksums

By Valhalla Engineering Group, LLC

C9-56 CLEAN STORAGE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 89		OADB: 4				SADB	55.0	70.0			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	76	76
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	76	76
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	76	76
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	38	38
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	38	38
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	76	76
Lights	433	0	433	13	433	26	0	0.00	0	0	0.00				Return	76	76
People	500	0	500	15	250	15	0	0.00	0	0	0.00	Exhaust	38	38			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	933	0	933	27	683	42	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	0	1,411	41	0	0	0	80.29	0	-2,688	80.29	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	50.0	50.0
Ov/Undr Sizing	955	0	955	28	955	58	0	0.00	0	0	0.00				cfm/ft²	0.60	0.60
Exhaust Heat	0	-34	-34	-1	0	0	0	0.00	0	0	0.00				cfm/ton	267.10	
Sup. Fan Heat	0	0	90	3	0	0	0	0.00	0	-660	19.71				ft²/ton	445.16	
Ret. Fan Heat	0	68	68	2	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	26.96	-26.36
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	1.0	7.9/1000 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						
Grand Total ==>	1,889	34	3,423	100.00	1,639	100.00	0	100.00	0	-3,347	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	0.3	3.4	2.4	76	82.6	67.0	77.8	53.9	52.1	57.2	Floor	127	Main Htg	-1.3	76	53.9	70.0
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	1	Preheat	-2.0	38	4.4	53.9
											ExFlr	0	Reheat	-1.3	76	53.9	70.0
Total	0.3	3.4									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	-3.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-57 HAC SUPPLIES

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 4		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 70		OADB: 4						SADB	55.0	109.9		
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	75.8	70.0
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00	Fn MtrTD	0.1	0.0		
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00	Fn BldTD	0.3	0.0		
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00	Fn Frict	0.7	0.0		
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00	AIRFLOWS				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00	Diffuser	Cooling	Heating		
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00	Terminal	50	15		
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00	Main Fan	50	15		
Floor	0	0	0	0.00	0	0	0	0.00	Floor	0	0	0.00	Sec Fan	0	0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	Nom Vent	0	0		
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00	AHU Vent	0	0		
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00	Infil	0	0		
Internal Loads					Internal Loads										MinStop/Rh	15	15
Lights	184	0	184	13	184	17	0	0.00	Lights	0	0	0.00	Return	50	15		
People	500	0	500	35	250	23	0	0.00	People	0	0	0.00	Exhaust	0	0		
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00	Rm Exh	100	100		
Sub Total ==>	684	0	684	48	434	40	0	0.00	Sub Total ==>	0	0	0.00	Auxiliary	0	0		
Ceiling Load					Ceiling Load										Leakage Dwn	0	0
Ventilation Load	0	0	0	0	0	0	0	0.00	Ventilation Load	0	0	0.00	Leakage Ups	0	0		
Adj Air Trans Heat	645	0	645	45	645	60	-645	71	Adj Air Trans Heat	-645	-645	71	ENGINEERING CKS				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00	% OA	Cooling	Heating		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	Exhaust Heat	0	0	0.00	cfm/ft²	0.0	0.0		
Exhaust Heat	0	0	0	0	0	0	0	0.00	OA Preheat Diff.	0	0	0.00	cfm/ton	0.93	0.28		
Sup. Fan Heat	0	59	59	4	0	0	0	0.00	RA Preheat Diff.	0	0	0.00	ft²/ton	420.14			
Ret. Fan Heat	0	45	45	3	0	0	-261	28.78	Additional Reheat	-261	28.78		Btu/hr-ft²	26.55	-16.78		
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00	No. People	1.0	18.5/1000 ft²		
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00					
Grand Total ==>	1,330	45	1,434	100.00	1,080	100.00	-645	100.00	Grand Total ==>	-645	-906	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				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F					°F	gr/lb	ft²	(%)
Main Clg	0.1	1.4	1.2	50	75.8	61.5	61.8	53.9	51.4	54.5	Floor	54		Main Htg	-0.9	15	53.9	109.9
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	1		Preheat	0.0	0	0.0	0.0
Total	0.1	1.4									ExFlr	0		Reheat	-0.3	15	53.9	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	-0.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-58 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89		OADB: 4						SADB	55.0	70.0		
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	82.6	37.2
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	0	0	0.00						
Floor	0	0	0	0.00	0	Floor	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00	0	0	0.00						
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0	0	0	0.00						
Internal Loads					Internal Loads										AIRFLOWS		
Lights	266	0	266	12	266	Lights	0	0.00	0	0	0.00	Cooling	Heating				
People	500	0	500	23	250	People	0	0.00	0	0	0.00	Diffuser	47	47			
Misc	0	0	0	0	0	Misc	0	0.00	0	0	0.00	Terminal	47	47			
Sub Total ==>	766	0	766	35	516	Sub Total ==>	0	0	0	0	0.00	Main Fan	47	47			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
0	0	866	39	0	0	0	-1,651	80.29	0	0	0	Nom Vent	23	23			
0	0	0	0	0	0	0	0	0	0	0	0.00	AHU Vent	23	23			
490	-21	490	22	490	49	0	0	0.00	0	0	0.00	Infil	0	0			
-21	55	-21	-1	55	3	0	0	0.00	0	0	0.00	MinStop/Rh	47	47			
42	0	42	2	0	0	0	0	0.00	0	0	0.00	Return	47	47			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	23	23			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Auxiliary	0	0			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0			
0	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0			
Grand Total ==>	1,256	21	2,199	100.00	1,006	Grand Total ==>	0	-2,056	100.00						ENGINEERING CKS		

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
Main Clg	0.2	2.2	1.4	47	82.6	67.0	77.8	53.9	51.3	54.2	Floor	78	Main Htg	-0.8	47	53.9	70.0	
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	1	Preheat	-1.3	23	4.4	53.9	
											ExFlr	0	Reheat	-0.8	47	53.9	70.0	
Total	0.2	2.2									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	-2.1				

Room Checksums

By Valhalla Engineering Group, LLC

C9-59 PREFUNCTION/COLLABORATION

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 7 / 19		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 83		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	4,400	0	4,400	20	4,541	32	0	0.00						
Glass/Door Cond	581	0	581	3	507	4	-3,174	30.66						
Wall Cond	138	0	138	1	143	1	-648	6.26						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	5,119	0	5,119	23	5,192	37	-3,823	36.92						
Internal Loads				Internal Loads										
Lights	666	0	666	3	666	5	0	0.00						
People	13,000	0	13,000	59	7,963	56	0	0.00						
Misc	333	0	333	2	333	2	0	0.00						
Sub Total ==>	13,998	0	13,998	63	8,961	63	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	1,744	8	0	0	-4,127	39.85						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-52	-52	0	0	0	0	0.00						
Sup. Fan Heat	0	0	776	4	0	0	-2,405	23.23						
Ret. Fan Heat	0	582	582	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	19,118	530	22,167	100.00	14,152	100.00	-3,823	-10,355	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	658	197
Terminal	658	197
Main Fan	658	197
Sec Fan	0	0
Nom Vent	59	59
AHU Vent	59	59
Infil	0	0
MinStop/Rh	197	197
Return	658	197
Exhaust	59	59
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	8.9	29.6
cfm/ft²	3.37	1.01
cfm/ton	356.23	
ft²/ton	105.56	
Btu/hr-ft²	113.68	-53.10
No. People	32.5	166.7/1000 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	1.9	22.2	16.0	655	76.7	62.3	64.3	53.9	50.3	50.5
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	1.9	22.2								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	195		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	292	153	52
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-7.2	197	53.9	88.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.1	59	4.4	53.9
Reheat	-3.4	197	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-10.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-60 CONFERENCE ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 7 / 19		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 83		OADB: 4			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							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	3,091	0	3,091	28	3,254	45	0	0.00						
Glass/Door Cond	433	0	433	4	395	5	-2,509	25.77						
Wall Cond	253	0	253	2	262	4	-1,075	11.04						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	3,777	0	3,777	34	3,912	54	-3,584	36.81						
Internal Loads				Internal Loads										
Lights	666	0	666	6	666	9	0	0.00						
People	3,900	0	3,900	35	2,389	33	0	0.00						
Misc	333	0	333	3	333	5	0	0.00						
Sub Total ==>	4,898	0	4,898	44	3,387	46	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	1,744	16	0	0	-4,127	42.38						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-52	-52	0	0	0	0	0.00						
Sup. Fan Heat	0	0	395	4	0	0	-2,026	20.81						
Ret. Fan Heat	0	296	296	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	8,675	244	11,058	100.00	7,299	100.00	-3,584	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	339	176
Terminal	339	176
Main Fan	339	176
Sec Fan	0	0
Nom Vent	59	59
AHU Vent	59	59
Infil	0	0
MinStop/Rh	176	176
Return	339	176
Exhaust	59	59
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	17.2	33.3
cfm/ft²	1.74	0.90
cfm/ton	368.30	
ft²/ton	211.62	
Btu/hr-ft²	56.71	-49.93
No. People	9.8	50.0/1000 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	0.9	11.1	8.4	333	77.5	63.1	66.7	53.9	51.6	55.2
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	0.9	11.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	195		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	352	121	34
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-6.6	176	53.9	89.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.1	59	4.4	53.9
Reheat	-3.0	176	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-61 WORKSTATIONS

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: 89 / 72 / 94		OADB: 83		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	1,354	0	1,354	13	1,462	26	0	0.00						
Glass/Door Cond	253	0	253	2	253	4	-1,609	16.55						
Wall Cond	360	0	360	4	399	7	-1,473	15.14						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	1,967	0	1,967	19	2,115	37	-3,082	31.69						
Internal Loads				Internal Loads										
Lights	860	0	860	8	860	15	0	0.00						
People	3,000	0	3,000	29	1,500	26	0	0.00						
Misc	1,195	0	1,195	12	1,195	21	0	0.00						
<i>Sub Total ==></i>	5,055	0	5,055	49	3,555	63	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	2,799	27	0	0	-5,333	54.84						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0.00						
Exhaust Heat		-67	-67	-1			0	0.00						
Sup. Fan Heat			304	3			-1,309	13.46						
Ret. Fan Heat		228	228	2			0	0.00						
Duct Heat Pkup		0	0	0			0	0.00						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
<i>Grand Total ==></i>	7,022	161	10,286	100.00	5,670	100.00	-3,082	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	264	151
Terminal	264	151
Main Fan	264	151
Sec Fan	0	0
Nom Vent	76	76
AHU Vent	76	76
Infil	0	0
MinStop/Rh	151	151
Return	264	151
Exhaust	76	76
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	28.7	50.0
cfm/ft²	1.05	0.60
cfm/ton	307.55	
ft²/ton	293.99	
Btu/hr-ft²	40.82	-38.59
No. People	6.0	23.8/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.9	10.3	7.2	257	79.8	64.8	71.3	53.9	51.1	53.4
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	0.9	10.3								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	252		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	394	78	20
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-5.7	151	53.9	89.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-4.0	76	4.4	53.9
Reheat	-2.6	151	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-62 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB	55.0	70.0	Ra Plenum	75.0	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>82.6</td> <td>37.2</td>	75.8	70.0	Ret/OA	82.6	37.2		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00				
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00				
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00				
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0.00	0	0.00	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00				
Internal Loads					Internal Loads											
Lights	141	0	141	11	141	26	0	0.00	Lights	0	0	0.00				
People	500	0	500	39	250	47	0	0.00	People	0	0	0.00				
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00				
Sub Total ==>	641	0	641	50	391	73	0	0.00	Sub Total ==>	0	0	0.00				
Ceiling Load	0	0	0	0	0	0	0	0.00	Ceiling Load	0	0	0.00				
Ventilation Load	0	0	458	36	0	0	-873	80.30	Ventilation Load	0	-873	80.30				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	-0.01	Ov/Undr Sizing	0	0	-0.01				
Ov/Undr Sizing	142	0	142	11	142	27	0	0.00	Exhaust Heat	0	0	0.00				
Exhaust Heat	0	-11	-11	-1	0	0	0	0.00	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat	0	0	29	2	0	0	-214	19.71	RA Preheat Diff.	-214	19.71					
Ret. Fan Heat	0	22	22	2	0	0	0	0.00	Additional Reheat	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00				
Grand Total ==>	783	11	1,281	100.00	533	100.00	0	100.00	Grand Total ==>	0	-1,088	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	25	25
Terminal	25	25
Main Fan	25	25
Sec Fan	0	0
Nom Vent	12	12
AHU Vent	12	12
Infil	0	0
MinStop/Rh	25	25
Return	25	25
Exhaust	12	12
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	231.92	
ft²/ton	386.53	
Btu/hr-ft²	31.05	-26.36
No. People	1.0	24.2/1000 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	0.1	1.3	0.8	25	82.6	67.0	77.8	53.9	49.4	47.2
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	1.3								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	41		
Part	0		
Int Door	1		
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	-0.4	25	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.7	12	4.4	53.9
Reheat	-0.4	25	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-63 ELEC - uncon

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB	55.0	70.0	Ra Plenum	75.0	70.0
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>80.4</td> <td>37.2</td>	75.8	70.0	Ret/OA	80.4	37.2		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		0.1	0.0	Fn MtrTD	0.3	0.0			
						Btu/h	Btu/h		0.7	0.0	Fn Frict	0.7	0.0			
Envelope Loads					Envelope Loads						AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	0	0.00	Cooling		Heating		Diffuser	14	10	
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	14	10	Main Fan	14	10		
Roof Cond	0	0	0	0	0	0	0	0.00	Sec Fan	0	0	Sec Fan	0	0		
Glass Solar	0	0	0	0	0	0	0	0.00	Nom Vent	5	5	Nom Vent	5	5		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	AHU Vent	5	5	AHU Vent	5	5		
Wall Cond	0	0	0	0	0	0	0	0.00	Infil	0	0	Infil	0	0		
Partition/Door	0	0	0	0	0	0	0	0.00	MinStop/Rh	10	10	MinStop/Rh	10	10		
Floor	0	0	0	0	0	0	0	0.00	Return	14	10	Return	14	10		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Exhaust	5	5	Exhaust	5	5		
Infiltration	0	0	0	0	0	0	0	0.00	Rm Exh	0	0	Rm Exh	0	0		
Sub Total ==>	0	0	0	0	0	0	0	0.00	Auxiliary	0	0	Auxiliary	0	0		
Internal Loads					Internal Loads						ENGINEERING CKS					
Lights	55	0	55	7	55	18	0	0.00	% OA	33.9	50.0	% OA	33.9	50.0		
People	500	0	500	66	250	82	0	0.00	cfm/ft²	0.89	0.60	cfm/ft²	0.89	0.60		
Misc	0	0	0	0	0	0	0	0.00	cfm/ton	224.40		cfm/ton	224.40			
Sub Total ==>	555	0	555	73	305	100	0	0.00	ft²/ton	253.49		ft²/ton	253.49			
Ceiling Load					Ceiling Load						Btu/hr-ft²			47.34	-26.36	
Ventilation Load	0	0	178	23	0	0	0	0.00	Cooling		Heating		No. People	1.0	62.5/1000 ft²	
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	33.9	50.0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	-0.02	0.89	0.60						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	224.40							
Exhaust Heat	0	-4	-4	-1	0	0	0	0.00	253.49							
Sup. Fan Heat	0	17	17	2	0	0	0	0.00	47.34	-26.36						
Ret. Fan Heat	0	13	13	2	0	0	0	0.00	Cooling		Heating					
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	33.9	50.0						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0.89	0.60						
Supply Air Leakage	0	0	0	0	0	0	0	0.00	224.40							
Grand Total ==>	555	8	757	100.00	305	100.00	0	100.00	Cooling		Heating					

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	0.1	0.8	0.4	14	80.4	65.3	72.7	53.9	46.3	36.1	Floor	16		Main Htg	-0.2	10	53.9	70.0
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	1		Preheat	-0.3	5	4.4	53.9
											ExFlr	0		Reheat	-0.2	10	53.9	70.0
Total	0.1	0.8									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	-0.4			

Room Checksums

By Valhalla Engineering Group, LLC

C9-64 NURSES STATION

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 89		OADB: 4				SADB	55.0	70.0			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	80.4	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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				Cooling	Heating	
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Diffuser	236	161
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	236	161
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Main Fan	236	161
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Sec Fan	0	0
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				Nom Vent	80	80
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	80	80
Internal Loads				Internal Loads											Infil	0	0
Lights	915	0	915	9	18	0	0	0.00	0	0	0.00				MinStop/Rh	161	161
People	2,500	0	2,500	26	25	0	0	0.00	0	0	0.00	Return	236	161			
Misc	2,901	0	2,901	30	57	0	0	0.00	0	0	0.00	Exhaust	80	80			
Sub Total ==>	6,316	0	6,316	65	100	0	0	0.00	0	0	0.00	Rm Exh	0	0			
Ceiling Load				Ceiling Load								Auxiliary	0	0			
Ventilation Load	0	0	2,977	31	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	-5,672	80.29	Leakage Ups	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS					
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				Cooling	Heating	
Exhaust Heat	0	-71	-71	-1	0	0	0	0.00	0	0	0.00				% OA	34.1	50.0
Sup. Fan Heat	0	279	279	3	0	0	0	0.00	0	-1,392	19.71				cfm/ft²	0.88	0.60
Ret. Fan Heat	0	209	209	2	0	0	0	0.00	0	0	0.00				cfm/ton	291.11	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				ft²/ton	331.23	
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	36.23	-26.36
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	5.0	18.7/1000 ft²
Grand Total ==>	6,316	138	9,709	100.00	5,066	100.00	0	0.00	0	-7,064	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	0.8	9.7	6.7	236	80.4	65.3	72.8	53.9	51.3	54.2	Floor	268		Main Htg	-2.8	161	53.9	70.0	
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	1		Preheat	-4.3	80	4.4	53.9	
											ExFlr	0		Reheat	-2.8	161	53.9	70.0	
Total	0.8	9.7									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-7.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-65 MED

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89		OADB: 4						SADB	55.0	70.0		
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	Return	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	78.2	48.1			
Envelope Loads					Envelope Loads										Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	150	77			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	150	77			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	150	77			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Nom Vent	26	26			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AHU Vent	26	26			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	77	77			
Internal Loads					Internal Loads										Return	150	77
Lights	294	0	294	6	294	9	0	0.00	0	0	0.00	Exhaust	26	26			
People	1,000	0	1,000	20	500	16	0	0.00	0	0	0.00	Rm Exh	0	0			
Misc	2,423	0	2,423	49	2,423	75	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	3,717	0	3,717	75	3,217	100	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Sub Total ==>	3,717	0	3,717	75	3,217	100	0	0.00	0	0	0.00	Leakage Ups	0	0			
Ceiling Load					Ceiling Load										ENGINEERING CKS		
Ventilation Load	0	0	955	19	0	0	0	67.07	0	-1,820	67.07	% OA	17.2	33.3			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	cfm/ft²	1.74	0.90			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	361.92				
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	ft²/ton	208.10				
Exhaust Heat	0	-23	-23	0	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	57.67	-31.55			
Sup. Fan Heat	0	0	177	4	0	0	-893	32.93	0	0	0.00	No. People	2.0	23.3/1000 ft²			
Ret. Fan Heat	0	133	133	3	0	0	0	0.00	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
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						
Sub Total ==>	3,717	110	4,959	100.00	3,217	100.00	0	-2,713	100.00	0	-2,713						
Sub Total ==>	3,717	110	4,959	100.00	3,217	100.00	0	-2,713	100.00	0	-2,713						

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							
Main Clg	0.4	5.0	3.9	150	78.2	63.5	67.4	53.9	52.0	56.9	Floor	86	-1.3	77	53.9	70.0	
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	1	-1.4	26	4.4	53.9	
											ExFlr	0	-1.3	77	53.9	70.0	
Total	0.4	5.0									Roof	0	0.0	0	0.0	0.0	
											Wall	0	0.0	0	0.0	0.0	
											Ext Door	0	0	0	0	0	
													Total	-2.7			

Room Checksums

By Valhalla Engineering Group, LLC

C9-66 GERIATRIC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 10 / 12		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 87 / 71 / 93		OADB: 58		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads							AIRFLOWS		
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00			Diffuser	250	192
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00			Terminal	250	192
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00			Main Fan	250	192
Glass Solar	2,157	0	2,157	29	4,295	80	0	0.00			Sec Fan	0	0
Glass/Door Cond	171	0	171	2	-306	-6	-1,037	12.58			Nom Vent	64	64
Wall Cond	302	0	302	4	164	3	-485	5.89			AHU Vent	64	64
Partition/Door	0	0	0	0	0	0	0	0.00			Infil	0	0
Floor	0	0	0	0	0.00	0	0	0.00			MinStop/Rh	192	192
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			Return	186	128
Infiltration	0	0	0	0	0	0	0	0.00			Exhaust	0	0
Sub Total ==>	2,630	0	2,630	35	4,153	77	-1,522	18.46			Rm Exh	0	0
Internal Loads				Internal Loads							ENGINEERING CKS		
Lights	727	0	727	10	727	14	0	0.00			% OA	25.5	33.3
People	1,000	0	1,000	13	500	9	0	0.00			cfm/ft²	1.17	0.90
Misc	0	0	0	0	0	0	0	0.00			cfm/ton	400.13	
Sub Total ==>	1,727	0	1,727	23	1,227	23	0	0.00			ft²/ton	340.73	
Ceiling Load	0	0	0	0	0	0	0	0.00			Btu/hr-ft²	35.22	-38.70
Ventilation Load	0	0	2,156	29	0	0	-4,508	54.69			No. People	2.0	9.4/1000 ft²
Adj Air Trans Heat	0	0	0	0	0	0	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00					
Ov/Undr Sizing	648	0	648	9	0	0	0	0.00					
Exhaust Heat	0	0	0	0	0	0	0	0.00					
Sup. Fan Heat	0	0	227	3	0	0	-2,213	26.85					
Ret. Fan Heat	0	114	114	2	0	0	0	0.00					
Duct Heat Pkup	0	0	0	0	0	0	0	0.00					
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	0	0.00					
Grand Total ==>	5,005	114	7,502	100.00	5,380	100.00	-1,522	-8,242	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	0.6	7.5	5.7	192	79.6	64.9	72.1	53.9	51.6	55.2	Floor	213		Main Htg	-4.8	192	53.9	77.4
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	1		Preheat	-3.4	64	4.4	53.9
											ExFlr	0		Reheat	-3.3	192	53.9	70.0
Total	0.6	7.5									Roof	0	0	Humidif	0.0	0	0.0	0.0
											Wall	143	50	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-8.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-66A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 9 / 13		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4						SADB	55.0	115.6
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	75.8	70.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	Cooling	Heating
Wall Cond	392	0	392	24	470	35	Wall Cond	-492	40.19			Terminal	62	18
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00			Main Fan	62	18
Floor	0	0	0	0	0.00	0	Floor	0	0.00			Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00			Nom Vent	0	0
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00			AHU Vent	0	0
Sub Total ==>	392	0	392	24	470	35	Sub Total ==>	-492	40.19			Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	18	18
Lights	191	0	191	12	191	14	Lights	0	0.00			Return	62	18
People	500	0	500	31	250	19	People	0	0.00			Exhaust	0	0
Misc	0	0	0	0	0	0	Misc	0	0.00			Rm Exh	64	64
Sub Total ==>	691	0	691	43	441	33	Sub Total ==>	0	0.00			Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0.00			Leakage Ups	0	0
Adj Air Trans Heat	412	0	412	26	412	31	Adj Air Trans Heat	-412	34			ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0.00			% OA	Cooling	Heating
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	0.00			cfm/ft²	1.10	0.33
Exhaust Heat	0	0	0	0	0	0	OA Preheat Diff.	0	0.00			cfm/ton	457.01	
Sup. Fan Heat	0	69	69	4	0	0	RA Preheat Diff.	0	0.00			ft²/ton	416.02	
Ret. Fan Heat	0	51	51	3	0	0	Additional Reheat	-320	26.12			Btu/hr-ft²	28.85	-21.85
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0.00			No. People	1.0	17.9/1000 ft²
Underflr Sup Ht Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	1,495	51	1,615	100.00	1,323	100.00	Grand Total ==>	-904	-1,224	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	1.6	1.4	58	75.8	61.5	61.8	53.9	51.6	55.4	Floor	56	Main Htg	-1.2	18	53.9	115.6
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	1	Preheat	0.0	0	0.0	0.0
											ExFlr	0	Reheat	-0.3	18	53.9	70.0
Total	0.1	1.6									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	102	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-1.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-67 BARIATRIC GERIATRIC

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 6 / 18		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 80		OADB: 4						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									
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens	(%)									
Envelope Loads					Envelope Loads										AIRFLOWS			
	0	0	0	0	0	0	0	0	0.00									
Skylite Solar	0	0	0	0	0	0	0	0	0.00									
Skylite Cond	0	0	0	0	0	0	0	0	0.00									
Roof Cond	0	0	0	0	0	0	0	0	0.00									
Glass Solar	1,695	0	1,695	23	1,923	51	0	0	0.00									
Glass/Door Cond	172	0	172	2	84	2	-1,016	-1,016	13.47									
Wall Cond	258	0	258	4	245	7	-437	-437	5.80									
Partition/Door	0	0	0	0	0	0	0	0	0.00									
Floor	0	0	0	0	0.00	0	0	0	0.00									
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
Infiltration	0	0	0	0	0	0	0	0	0.00									
Sub Total ==>	2,125	0	2,125	29	2,252	60	-1,453	-1,453	19.27									
Internal Loads					Internal Loads													
Lights	659	0	659	9	659	18	0	0	0.00									
People	1,000	0	1,000	14	500	13	0	0	0.00									
Misc	0	0	0	0	0	0	0	0	0.00									
Sub Total ==>	1,659	0	1,659	23	1,159	31	0	0	0.00									
Ceiling Load	0	0	0	0	0	0	0	0	0.00									
Ventilation Load	0	0	1,726	24	0	0	0	-4,084	54.15									
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0									
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00									
Ov/Undr Sizing	1,520	0	1,520	21	325	9	0	0	0.00									
Exhaust Heat	0	0	0	0	0	0	0	0	0.00									
Sup. Fan Heat	0	0	206	3	0	0	0	-2,005	26.58									
Ret. Fan Heat	0	103	103	1	0	0	0	0	0.00									
Duct Heat Pkup	0	0	0	0	0	0	0	0	0.00									
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									
Grand Total ==>	5,303	103	7,338	100.00	3,736	100.00	-1,453	-7,543	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	0.6	7.3	5.8	174	79.0	64.5	71.1	53.9	49.8	48.7	Floor	193	Main Htg	-4.5	174	53.9	77.8		
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	1	Preheat	-3.1	58	4.4	53.9		
											ExFlr	0	Reheat	-3.0	174	53.9	70.0		
Total	0.6	7.3									Roof	0	Humidif	0.0	0	0.0	0.0		
											Wall	140	Opt Vent	0.0	0	0.0	0.0		
											Ext Door	0	Total	-7.5					

Room Checksums

By Valhalla Engineering Group, LLC

C9-67A TOILET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 17		Mo/Hr: 7 / 19		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 71 / 91		OADB: 83		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	211	0	211	14	272	23	-442	40.23						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	211	0	211	14	272	23	-442	40.23						
Internal Loads				Internal Loads										
Lights	276	0	276	19	276	24	0	0.00						
People	500	0	500	34	250	21	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	776	0	776	53	526	45	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	0	0	0	0	0	0.00						
Adj Air Trans Heat	374	0	374	25	374	32	-374	34						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	61	4	0	0	0	0.00						
Ret. Fan Heat	0	46	46	3	0	0	-283	25.77						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	1,361	46	1,468	100.00	1,172	100.00	-816	-1,099	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	55	16
Terminal	55	16
Main Fan	55	16
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	16	16
Return	55	16
Exhaust	0	0
Rm Exh	58	58
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.67	0.20
cfm/ton	445.65	
ft²/ton	662.16	
Btu/hr-ft²	18.12	-13.56
No. People	1.0	12.3/1000 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	1.5	1.2	52	75.8	61.5	61.8	53.9	51.4	54.7
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	0.1	1.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	81		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	92	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.1	16	53.9	116.4
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-0.3	16	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-1.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-68 GERIATRIC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design								
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4								
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating				
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Btu/h	Btu/h				
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				SADB	55.0	80.4
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Ra Plenum	75.0	70.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Return	75.8	70.0
Glass Solar	3,420	0	3,420	50	5,417	Glass Solar	0	0.00				Ret/OA	77.2	48.1
Glass/Door Cond	106	0	106	2	-473	Glass/Door Cond	-1,265	18.66				Fn MtrTD	0.1	0.0
Wall Cond	245	0	245	4	71	Wall Cond	-373	5.50				Fn BldTD	0.3	0.0
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Fn Frict	0.7	0.0
Floor	0	0	0	0	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
Sub Total ==>	3,770	0	3,770	56	5,015	Sub Total ==>	-1,638	24.16						
Internal Loads				Internal Loads							AIRFLOWS			
Lights	556	0	556	8	556	Lights	0	0.00				Diffuser	282	147
People	1,000	0	1,000	15	500	People	0	0.00				Terminal	282	147
Misc	0	0	0	0	0	Misc	0	0.00				Main Fan	282	147
Sub Total ==>	1,556	0	1,556	23	1,056	Sub Total ==>	0	0.00				Sec Fan	0	0
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00				Nom Vent	49	49
Ventilation Load	0	0	1,030	15	0	Ventilation Load	0	50.87				AHU Vent	49	49
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				Infil	0	0
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				MinStop/Rh	147	147
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				Return	233	98
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				Exhaust	0	0
Sup. Fan Heat	0	0	266	4	0	RA Preheat Diff.	-1,693	24.97				Rm Exh	0	0
Ret. Fan Heat	0	156	156	2	0	Additional Reheat	0	0.00				Auxiliary	0	0
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00				Leakage Dwn	0	0
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				Leakage Ups	0	0
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	5,327	156	6,779	100.00	6,071	Grand Total ==>	-1,638	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	0.6	6.8	5.6	224	77.2	62.9	66.2	53.9	52.4	58.6	Floor	163		Main Htg	-4.2	147	53.9	80.4
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	1		Preheat	-2.6	49	4.4	53.9
											ExFlr	0		Reheat	-2.5	147	53.9	70.0
											Roof	0	0	Humidif	0.0	0	0.0	0.0
Total	0.6	6.8									Wall	132	61	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-6.8			

Room Checksums

By Valhalla Engineering Group, LLC

C9-68A TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 13			Mo/Hr: 1 / 13		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 93			OADB: 38		OADB: 4						SADB	55.0	95.7		
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	75.0	70.0			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	75.8	70.0			
Envelope Loads					Envelope Loads										Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00		Cooling	Heating			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	38	11			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	38	11			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	38	11			
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Internal Loads					Internal Loads										MinStop/Rh	11	11
Lights	253	0	253	22	253	31	0	0.00	0	0	0.00	Return	38	11			
People	500	0	500	44	250	31	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	49	49			
Sub Total ==>	753	0	753	66	503	61	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load					Ceiling Load										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	316	0	316	28	316	39	-316	61	-316	-316	61	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	0	0	0	0.00	0	0	0.00	cfm/ft²	0.51	0.15			
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	397.95				
Sup. Fan Heat	0	45	45	4	0	0	0	0.00	0	0	0.00	ft²/ton	774.22				
Ret. Fan Heat	0	34	34	3	0	0	-198	38.51	0	0	0.00	Btu/hr-ft²	15.50	-6.93			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	1.0	13.5/1000 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 ==>	1,068	34	1,147	100.00	818	100.00	-316	-513	100.00	-316	-513						

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			°F	°F	gr/lb	°F	°F	gr/lb								
Main Clg	0.1	1.2	0.9	38	75.8	61.5	61.8	53.9	50.7	52.1	Floor	74		Main Htg	-0.5	11	53.9	95.7
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	1		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Reheat	-0.2	11	53.9	70.0
Total	0.1	1.2									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	-0.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-69 SW OFFICE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES								
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating							
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4			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								
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00	Diffuser			Cooling			Heating		
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00	Terminal			299			90		
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00	Main Fan			299			90		
Glass Solar	2,480	0	2,480	35	4,662	72	Glass Solar	0	0	0.00	Sec Fan			0			0		
Glass/Door Cond	134	0	134	2	-407	-6	Glass/Door Cond	-1,089	-1,089	21.95	Nom Vent			39			39		
Wall Cond	127	0	127	2	49	1	Wall Cond	-257	-257	5.18	AHU Vent			39			39		
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00	Infil			0			0		
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00	MinStop/Rh			90			90		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	Return			299			90		
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00	Exhaust			39			39		
Sub Total ==>	2,741	0	2,741	39	4,304	67	Sub Total ==>	-1,346	-1,346	27.12	Rm Exh			0			0		
Internal Loads				Internal Loads							ENGINEERING CKS								
Lights	440	0	440	6	440	7	Lights	0	0	0.00	% OA			12.9			43.1		
People	1,000	0	1,000	14	500	8	People	0	0	0.00	cfm/ft²			2.32			0.70		
Misc	1,195	0	1,195	17	1,195	19	Misc	0	0	0.00	cfm/ton			510.14					
Sub Total ==>	2,635	0	2,635	37	2,135	33	Sub Total ==>	0	0	0.00	ft²/ton			219.82					
Ceiling Load	0	0	0	0	0	0	Ceiling Load	0	0	0.00	Btu/hr-ft²			54.59			-38.45		
Ventilation Load	0	0	1,231	17	0	0	Ventilation Load	0	-2,730	55.03	No. People			2.0			15.5/1000 ft²		
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0									
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00									
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	0	0.00									
Exhaust Heat	0	-34	-34	0	0	0	OA Preheat Diff.	0	0	0.00									
Sup. Fan Heat	0	0	269	4	0	0	RA Preheat Diff.	-885	17.84										
Ret. Fan Heat	0	202	202	3	0	0	Additional Reheat	0	0	0.00									
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0	0.00									
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 ==>	5,376	167	7,042	100.00	6,438	100.00	Grand Total ==>	-1,346	-4,961	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	0.6	7.0	5.7	227	77.4	63.2	67.2	53.9	52.4	58.6	Floor	129	-2.9	90	53.9	83.9	
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	1	-2.1	39	4.4	53.9	
											ExFlr	0	-1.6	90	53.9	70.0	
Total	0.6	7.0									Roof	0	0.0	0	0.0	0.0	
											Wall	101	0.0	0	0.0	0.0	
											Ext Door	0	-5.0	0	0.0	0.0	
											Total						

Room Checksums

By Valhalla Engineering Group, LLC

C9-70 CU

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h						
Envelope Loads				Envelope Loads							AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	Cooling		Heating		
Skylite Cond	0	0	0	0	0	0	0	0.00	Diffuser	243	73		
Roof Cond	0	0	0	0	0	0	0	0.00	Terminal	243	73		
Glass Solar	1,842	0	1,842	31	3,463	66	0	0.00	Main Fan	243	73		
Glass/Door Cond	99	0	99	2	-302	-6	-809	21.02	Sec Fan	0	0		
Wall Cond	97	0	97	2	37	1	-195	5.06	Nom Vent	30	30		
Partition/Door	0	0	0	0	0	0	0	0.00	AHU Vent	30	30		
Floor	0	0	0	0	0.00	0	0	0.00	Infil	0	0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MinStop/Rh	73	73		
Infiltration	0	0	0	0	0	0	0	0.00	Return	243	73		
Sub Total ==>	2,038	0	2,038	35	3,198	61	-1,004	26.08	Exhaust	30	30		
Internal Loads				Internal Loads							Rm Exh	0	0
Lights	338	0	338	6	338	6	0	0.00	Auxiliary	0	0		
People	1,000	0	1,000	17	500	10	0	0.00	Leakage Dwn	0	0		
Misc	1,195	0	1,195	20	1,195	23	0	0.00	Leakage Ups	0	0		
Sub Total ==>	2,532	0	2,532	43	2,032	39	0	0.00	ENGINEERING CKS				
Ceiling Load				Ceiling Load							% OA	12.2	40.7
Ventilation Load	0	0	944	16	0	0	0	0.00	cfm/ft²	2.46	0.74		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	cfm/ton	496.21			
Dehumid. Ov Sizing			0	0			0	0.00	ft²/ton	202.00			
Ov/Undr Sizing	0		0	0	0	0	0	0.00	Btu/hr-ft²	59.41	-38.87		
Exhaust Heat		-26	-26	0			0	0.00					
Sup. Fan Heat			224	4			-749	19.47	No. People	2.0	20.2/1000 ft²		
Ret. Fan Heat		168	168	3			0	0.00					
Duct Heat Pkup		0	0	0			0	0.00					
Underflr Sup Ht Pkup		0	0	0			0	0.00					
Supply Air Leakage		0	0	0			0	0.00					
Grand Total ==>	4,571	142	5,881	100.00	5,230	100.00	-1,004	-3,848	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	0.5	5.9	4.8	189	77.2	63.0	66.8	53.9	52.3	58.0	Floor	99		-2.3	73	53.9	82.8	
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	1		-1.6	30	4.4	53.9	
											ExFlr	0		-1.3	73	53.9	70.0	
Total	0.5	5.9									Roof	0	0	0.0	0	0.0	0.0	
											Wall	76	39	51	0.0	0	0.0	0.0
											Ext Door	0	0	0	0.0	0	0.0	0.0
														-3.9				

Room Checksums

By Valhalla Engineering Group, LLC

C9-71 GROUP THERAPY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design			Cooling		Heating			
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4			SADB		Ra Plenum	Return		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)						
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	707	0	707	10	859	23	0	0.00						
Glass/Door Cond	88	0	88	1	27	1	-497	8.40						
Wall Cond	354	0	354	5	371	10	-629	10.63						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	1,148	0	1,148	16	1,257	33	-1,127	19.03						
Internal Loads				Internal Loads										
Lights	519	0	519	7	519	14	0	0.00						
People	3,500	0	3,500	49	1,750	46	0	0.00						
Misc	259	0	259	4	259	7	0	0.00						
<i>Sub Total ==></i>	4,278	0	4,278	60	2,528	67	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	1,359	19	0	0	-3,217	54.31						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0.00						
Exhaust Heat		-41	-41	-1			0	0.00						
Sup. Fan Heat			203	3			-1,579	26.66						
Ret. Fan Heat		152	152	2			0	0.00						
Duct Heat Pkup		0	0	0			0	0.00						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	5,427	111	7,100	100.00	3,785	100.00	-1,127	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	176	137
Terminal	176	137
Main Fan	176	137
Sec Fan	0	0
Nom Vent	46	46
AHU Vent	46	46
Infil	0	0
MinStop/Rh	137	137
Return	176	137
Exhaust	46	46
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	25.9	33.3
cfm/ft²	1.16	0.90
cfm/ton	297.49	
ft²/ton	256.91	
Btu/hr-ft²	46.71	-38.96
No. People	7.0	46.1/1000 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	7.1	4.5	171	78.3	63.9	69.3	53.9	49.3	46.9
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	7.1								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	152		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	155	24	15
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-3.5	137	53.9	77.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.4	46	4.4	53.9
Reheat	-2.4	137	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-72 DAY/TV - N

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design			Cooling		Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total					
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads									
Skylite Solar	0	0	0	0	0	0	0	0.00	SADB	55.0	81.8		
Skylite Cond	0	0	0	0	0	0	0	0.00	Ra Plenum	75.0	70.0		
Roof Cond	0	0	0	0	0	0	0	0.00	Return	75.8	70.0		
Glass Solar	1,963	0	1,963	18	2,387	35	0	0.00	Ret/OA	77.9	48.1		
Glass/Door Cond	245	0	245	2	75	1	-1,382	13.97	Fn MtrTD	0.1	0.0		
Wall Cond	1,177	0	1,177	11	1,068	16	-1,252	12.66	Fn BldTD	0.3	0.0		
Partition/Door	0	0	0	0	0	0	0	0.00	Fn Frict	0.7	0.0		
Floor	0	0	0	0	0.00	0	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Infiltration	0	0	0	0	0	0	0	0.00					
<i>Sub Total ==></i>	3,385	0	3,385	31	3,530	52	-2,634	26.63					
Internal Loads				Internal Loads							AIRFLOWS		
Lights	785	0	785	7	785	11	0	0.00	Cooling		Heating		
People	3,000	0	3,000	28	1,500	22	0	0.00	Diffuser	318	207		
Misc	1,024	0	1,024	9	1,024	15	0	0.00	Terminal	318	207		
<i>Sub Total ==></i>	4,809	0	4,809	44	3,309	48	0	0.00	Main Fan	318	207		
Ceiling Load				Ceiling Load							Sec Fan		
Ventilation Load	0	0	2,057	19	0	0	0	0.00	Nom Vent	69	69		
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	AHU Vent	69	69		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Infil	0	0		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	MinStop/Rh	207	207		
Exhaust Heat	-61	-61	-1	-1	0	0	0	0.00	Return	318	207		
Sup. Fan Heat		369	3	3			-2,389	24.16	Exhaust	69	69		
Ret. Fan Heat		277	3	3			0	0.00	Rm Exh	0	0		
Duct Heat Pkup	0	0	0	0			0	0.00	Auxiliary	0	0		
Underflr Sup Ht Pkup	0	0	0	0			0	0.00	Leakage Dwn	0	0		
Supply Air Leakage	0	0	0	0			0	0.00	Leakage Ups	0	0		
<i>Grand Total ==></i>	8,194	215	10,835	100.00	6,839	100.00	-2,634	100.00	ENGINEERING CKS				

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	10.8	8.0	311	77.9	63.5	68.0	53.9	51.5	54.8	Floor	230		Main Htg	-6.2	207	53.9	81.8	
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	1		Preheat	-3.7	69	4.4	53.9	
<i>Total</i>	0.9	10.8									ExFlr	0		Reheat	-3.6	207	53.9	70.0	
											Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	327	67	20	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	<i>Total</i>	-9.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-72 DAY/TV - S

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 9 / 14		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 93		OADB: 80		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	3,819	0	3,819	25	6,292	58	0	0.00						
Glass/Door Cond	519	0	519	3	150	1	-2,402	16.99						
Wall Cond	1,216	0	1,216	8	839	8	-1,482	10.48						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	5,554	0	5,554	37	7,281	67	-3,884	27.47						
Internal Loads				Internal Loads										
Lights	1,109	0	1,109	7	1,109	10	0	0.00						
People	3,000	0	3,000	20	1,500	14	0	0.00						
Misc	1,024	0	1,024	7	1,024	9	0	0.00						
Sub Total ==>	5,133	0	5,133	34	3,633	33	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	3,501	23	0	0	-6,878	48.65						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-87	-87	-1	0	0	0	0.00						
Sup. Fan Heat	0	0	506	3	0	0	-3,376	23.88						
Ret. Fan Heat	0	380	380	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	10,687	293	14,988	100.00	10,914	100.00	-3,884	-14,139	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	507	293
Terminal	507	293
Main Fan	507	293
Sec Fan	0	0
Nom Vent	98	98
AHU Vent	98	98
Infil	0	0
MinStop/Rh	293	293
Return	507	293
Exhaust	98	98
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	19.2	33.3
cfm/ft²	1.56	0.90
cfm/ton	406.30	
ft²/ton	260.21	
Btu/hr-ft²	46.12	-43.50
No. People	6.0	18.5/1000 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	1.3	15.0	11.4	427	78.8	64.0	69.0	53.9	52.0	56.7
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	1.3	15.0								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	325		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	424	116	27
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-9.0	293	53.9	82.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-5.2	98	4.4	53.9
Reheat	-5.1	293	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-14.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C01 CORRIDOR

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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		Btu/h	Tot Sens Btu/h								
Envelope Loads					Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00			
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00			
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00			
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00			
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00			
Internal Loads					Internal Loads										
Lights	3,993	0	3,993	16	3,993	30	0	0.00	Lights	0	0	0.00			
People	0	0	0	0	0	0	0	0.00	People	0	0	0.00			
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00			
Sub Total ==>	3,993	0	3,993	16	3,993	30	0	0.00	Sub Total ==>	0	0	0.00			
Ceiling Load	65	-65	0	0	135	1	-183	0.00	Ceiling Load	-183	0	0.00			
Ventilation Load	0	0	11,336	44	0	0	0	79.76	Ventilation Load	0	-22,009	79.76			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing			0	0			0	0.00	Ov/Undr Sizing	0	0	0.00			
Ov/Undr Sizing	9,376		9,376	36	9,292	69	0	0.00	Exhaust Heat	0	0	0.00			
Exhaust Heat		-100	-100	0			0	0.00	OA Preheat Diff.		0	0.00			
Sup. Fan Heat			740	3			-5,402	19.58	RA Preheat Diff.		-5,402	19.58			
Ret. Fan Heat		377	377	1			0	0.00	Additional Reheat		0	0.00			
Duct Heat Pkup		0	0	0			-183	0.66	System Plenum Heat		-183	0.66			
Underflr Sup Ht Pkup			0	0			0	0.00	Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			0	0.00	Supply Air Leakage		0	0.00			
Grand Total ==>	13,435	212	25,723	100.00	13,420	100.00	-183	100.00	Grand Total ==>	-183	-27,594	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	624	624
Terminal	624	624
Main Fan	624	624
Sec Fan	0	0
Nom Vent	312	312
AHU Vent	312	312
Infil	0	0
MinStop/Rh	624	624
Return	424	424
Exhaust	112	112
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.53	0.53
cfm/ton	291.10	
ft²/ton	545.82	
Btu/hr-ft²	21.99	-23.58
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.1	25.7	19.2	624	82.6	67.1	78.4	53.9	53.6	63.2
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	2.1	25.7								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	1,170		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-11.0	624	53.9	70.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-16.6	312	4.4	53.9
Reheat	-10.8	624	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-27.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C02 CORRIDOR

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			SADB	55.0	70.3	Ra Plenum	75.2	69.5
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>82.6</td> <td>37.2</td>	75.8	70.0	Ret/OA	82.6	37.2	
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0	
						Btu/h	Btu/h		Fn Frict	0.7	0.0				
Envelope Loads					Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00			
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00			
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00			
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00			
Floor	0	0	0	0.00	0	0.00	0	0.00	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00			
Internal Loads					Internal Loads										
Lights	362	0	362	16	362	30	0	0.00	Lights	0	0	0.00			
People	0	0	0	0	0	0	0	0.00	People	0	0	0.00			
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00			
Sub Total ==>	362	0	362	16	362	30	0	0.00	Sub Total ==>	0	0	0.00			
Ceiling Load	6	-6	0	0	12	1	0	0.00	Ceiling Load	-17	0	0.00			
Ventilation Load	0	0	1,027	44	0	0	-1,994	79.76	Ventilation Load	0	-1,994	79.76			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00			
Ov/Undr Sizing	849	0	849	36	842	69	0	0.00	Exhaust Heat	0	0	0.00			
Exhaust Heat	0	0	0	0	0	0	-489	19.58	OA Preheat Diff.	0	0	0.00			
Sup. Fan Heat	0	67	3	0	0	0	0	0.00	RA Preheat Diff.	-489	19.58				
Ret. Fan Heat	0	25	1	0	0	0	0	0.00	Additional Reheat	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	-17	0.66	System Plenum Heat	-17	0.66				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00			
Grand Total ==>	1,217	19	2,330	100.00	1,216	100.00	-17	-2,500	Grand Total ==>	-17	-2,500	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	57	57
Terminal	57	57
Main Fan	57	57
Sec Fan	0	0
Nom Vent	28	28
AHU Vent	28	28
Infil	0	0
MinStop/Rh	57	57
Return	28	28
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.53	0.53
cfm/ton	291.11	
ft²/ton	545.83	
Btu/hr-ft²	21.99	-23.59
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	0.2	2.3	1.7	57	82.6	67.1	78.4	53.9	53.6	63.2
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	0.2	2.3								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	106		
Part	0		
Int Door	1		
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	-1.0	57	53.9	70.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	28	4.4	53.9
Reheat	-1.0	57	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.5			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C03 CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 78		OADB: 4				SADB	55.0	70.2			
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	75.2	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	138	138
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	138	138
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	138	138
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	69	69
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	69	69
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	138	138
Lights	785	0	785	14	26	0	0	0.00	0	0	0.00				Return	138	138
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	69	69			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	785	0	785	14	26	0	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	-13	0	0	1	-36	0	0.00	-36	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	2,507	44	0	0	-4,867	79.82	0	0	0	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	50.0	50.0
Ov/Undr Sizing	2,173	0	2,173	38	2,156	73	0	0.00	0	0	0.00				cfm/ft²	0.60	0.60
Exhaust Heat	0	-61	-61	-1	0	0	0	0.00	0	0	0.00				cfm/ton	291.04	
Sup. Fan Heat	0	164	164	3	0	0	-1,195	19.59	0	0	0.00				ft²/ton	485.07	
Ret. Fan Heat	0	123	123	2	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	24.74	-26.51
Duct Heat Pkup	0	0	0	0	0	0	-36	0.59	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 ==>	2,971	49	5,690	100.00	2,968	100.00	-36	100.00	-36	-6,098	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	0.5	5.7	4.2	138	82.6	67.1	78.4	53.9	53.6	63.2	Floor	230	Main Htg	-2.4	138	53.9	70.2
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	1	Preheat	-3.7	69	4.4	53.9
											ExFlr	0	Reheat	-2.4	138	53.9	70.0
Total	0.5	5.7									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	-6.1			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C04 CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 17		Mo/Hr: 8 / 17		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 71 / 91		OADB: 82		OADB: 4			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		Btu/h	Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	1,769	0	1,769	46	1,884	71	0	0.00						
Glass/Door Cond	103	0	103	3	62	2	-508	14.00						
Wall Cond	332	0	332	9	329	12	-311	8.57						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,205	0	2,205	58	2,275	86	-819	22.57						
Internal Loads				Internal Loads										
Lights	362	0	362	9	362	14	0	0.00						
People	0	0	0	0	0	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	362	0	362	9	362	14	0	0.00						
Ceiling Load	9	-9	0	0	6	0	-17	0.00						
Ventilation Load	0	0	1,027	27	0	0	-2,243	61.80						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-28	-28	-1	0	0	0	0.00						
Sup. Fan Heat	0	0	142	4	0	0	-551	15.17						
Ret. Fan Heat	0	106	106	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-17	0.46						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	2,575	69	3,814	100.00	2,643	100.00	-836	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	123	64
Terminal	123	64
Main Fan	123	64
Sec Fan	0	0
Nom Vent	32	32
AHU Vent	32	32
Infil	0	0
MinStop/Rh	64	64
Return	123	64
Exhaust	32	32
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	25.9	50.0
cfm/ft²	1.16	0.60
cfm/ton	386.69	
ft²/ton	333.54	
Btu/hr-ft²	35.98	-34.24
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	0.3	3.8	3.2	120	78.9	64.3	70.3	53.9	53.6	63.0
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	0.3	3.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	106		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	89	25	27
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-1.9	64	53.9	82.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.7	32	4.4	53.9
Reheat	-1.1	64	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.6			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C05 CORRIDOR

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			SADB			70.2	
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		Btu/h	Tot Sens Btu/h							
Envelope Loads					Envelope Loads									
Skylite Solar	0	0	0	0	0	0	0	0.00	SADB	55.0	75.2	75.8	82.6	
Skylite Cond	0	0	0	0	0	0	0	0.00	Ra Plenum	75.2	75.8	70.0	37.2	
Roof Cond	0	0	0	0	0	0	0	0.00	Ret/OA	82.6	0.1	0.0	0.0	
Glass Solar	0	0	0	0	0	0	0	0.00	Fn MtrTD	0.1	0.3	0.0	0.0	
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Fn BldTD	0.3	0.7	0.0	0.0	
Wall Cond	0	0	0	0	0	0	0	0.00	Fn Frict	0.7				
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	0	0	0	0	0	0	0	0.00						
Internal Loads					Internal Loads									
Lights	263	0	263	14	263	26	0	0.00						
People	0	0	0	0	0	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	263	0	263	14	263	26	0	0.00						
Ceiling Load	4	-4	0	0	9	1	-12	0.00						
Ventilation Load	0	0	839	44	0	0	0	79.82						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	727		727	38	722	73	0	0.00						
Exhaust Heat		-21	-21	-1			0	0.00						
Sup. Fan Heat			55	3			-400	19.59						
Ret. Fan Heat		41	41	2			0	0.00						
Duct Heat Pkup		0	0	0			-12	0.59						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	995	16	1,905	100.00	994	100.00	-12	-2,042	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	46	46
Terminal	46	46
Main Fan	46	46
Sec Fan	0	0
Nom Vent	23	23
AHU Vent	23	23
Infil	0	0
MinStop/Rh	46	46
Return	46	46
Exhaust	23	23
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.60	0.60
cfm/ton	291.04	
ft²/ton	485.07	
Btu/hr-ft²	24.74	-26.51
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	0.2	1.9	1.4	46	82.6	67.1	78.4	53.9	53.6	63.2
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	0.2	1.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	77		
Part	0		
Int Door	1		
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	-0.8	46	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.2	23	4.4	53.9
Reheat	-0.8	46	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.0			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C06 CORRIDOR

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB	55.0	70.0	Ra Plenum	75.0	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>82.6</td> <td>37.2</td>	75.8	70.0	Ret/OA	82.6	37.2		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00				
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00				
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00				
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0.00				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0.00	0	0.00	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0.00				
Internal Loads					Internal Loads											
Lights	2,608	0	2,608	15	2,608	30	0	0.00	Lights	0	0	0.00				
People	0	0	0	0	0	0	0	0.00	People	0	0	0.00				
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00				
Sub Total ==>	2,608	0	2,608	15	2,608	30	0	0.00	Sub Total ==>	0	0	0.00				
Ceiling Load	0	0	0	0	0	0	0	0.00	Ceiling Load	0	0	0.00				
Ventilation Load	0	0	7,543	44	0	0	0	80.29	Ventilation Load	0	-14,372	80.29				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00				
Ov/Undr Sizing	6,156	0	6,156	36	6,156	70	0	0.00	Exhaust Heat	0	0	0.00				
Exhaust Heat	0	-181	-181	-1	0	0	0	0.00	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat	0	0	483	3	0	0	0	19.71	RA Preheat Diff.	-3,528	19.71					
Ret. Fan Heat	0	362	362	2	0	0	0	0.00	Additional Reheat	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00				
Grand Total ==>	8,763	181	16,970	100.00	8,763	100.00	0	100.00	Grand Total ==>	0	-17,899	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	407	407
Terminal	407	407
Main Fan	407	407
Sec Fan	0	0
Nom Vent	204	204
AHU Vent	204	204
Infil	0	0
MinStop/Rh	407	407
Return	407	407
Exhaust	204	204
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.53	0.53
cfm/ton	288.14	
ft²/ton	540.25	
Btu/hr-ft²	22.21	-23.43
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	1.4	17.0	12.6	407	82.6	67.0	77.8	53.9	53.3	62.1
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
Total	1.4	17.0								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	764		
Part	0		
Int Door	1		
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	-7.1	407	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-10.8	204	4.4	53.9
Reheat	-7.1	407	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-17.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C07 CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design		Mo/Hr: Heating Design		Mo/Hr: Heating Design		Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 89		OADB: 4		OADB: 4		SADB	55.0	70.0
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	75.0	70.0
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0
Envelope Loads				Envelope Loads				Envelope Loads				Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	Cooling	Heating
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	43	43
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	43	43
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Floor	0	0	0	0.00	0	0.00	0	0.00	0	0	0.00	Nom Vent	21	21
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AHU Vent	21	21
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	43	43
Internal Loads				Internal Loads				Internal Loads				Return	43	43
Lights	273	0	273	15	30	0	0	0.00	0	0	0.00	Exhaust	21	21
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Auxiliary	0	0
Sub Total ==>	273	0	273	15	30	0	0	0.00	0	0	0.00	Leakage Dwn	0	0
Ceiling Load				Ceiling Load				Ceiling Load				Leakage Ups	0	0
Ventilation Load	0	0	790	44	0	0	0	80.29	0	-1,505	80.29	ENGINEERING CKS		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	% OA	Cooling	Heating
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	50.0	50.0
Ov/Undr Sizing	645	-19	645	36	70	0	0	0.00	0	0	0.00	cfm/ton	0.53	0.53
Exhaust Heat		-19	-19	-1	3	0	0	0.00	0	0	0.00	ft²/ton	288.14	
Sup. Fan Heat		51	51	3	3	0	0	0.00	0	0	0.00	Btu/hr-ft²	540.26	-23.43
Ret. Fan Heat		38	38	2	3	0	0	0.00	0	0	0.00	No. People	22.21	0.0/1000 ft²
Duct Heat Pkup		0	0	0	0	0	0	0.00	0	0	0.00			
Underflr Sup Ht Pkup		0	0	0	0	0	0	0.00	0	0	0.00			
Supply Air Leakage		0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	918	19	1,777	100.00	918	100.00	918	100.00	0	-1,874	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	ft² (%)	Capacity	Coil Airflow	Ent °F	Lvg °F
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F							
Main Clg	0.2	1.8	1.3	43	82.6	67.0	77.8	53.9	53.3	62.1	Floor	80	Main Htg	-0.7	43	53.9	70.0
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	1	Preheat	-1.1	21	4.4	53.9
											ExFlr	0	Reheat	-0.7	43	53.9	70.0
Total	0.2	1.8									Roof	0	0	0	0	0.0	0.0
											Wall	0	0	0	0	0.0	0.0
											Ext Door	0	0	0	0	0.0	0.0
													Total	-1.9			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C08 CORRIDOR

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB			Ra Plenum			
											Return			Ret/OA			
											Fn MtrTD			Fn BldTD			
											Fn Frict						
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		0.00	
Skylite Cond		0		0		0		0		0		0		0		0.00	
Roof Cond		0		0		0		0		0		0		0		0.00	
Glass Solar		0		0		0		0		0		0		0		0.00	
Glass/Door Cond		0		0		0		0		0		0		0		0.00	
Wall Cond		0		0		0		0		0		0		0		0.00	
Partition/Door		0		0		0		0		0		0		0		0.00	
Floor		0		0		0		0.00		0		0		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
Infiltration		0		0		0		0		0		0		0		0.00	
Sub Total ==>		0		0		0		0		0		0		0		0.00	
Internal Loads																	
Lights		751		0		751		15		751		30		0		0.00	
People		0		0		0		0		0		0		0		0.00	
Misc		0		0		0		0		0		0		0		0.00	
Sub Total ==>		751		0		751		15		751		30		0		0.00	
Ceiling Load		0		0		0		0		0		0		0		0.00	
Ventilation Load		0		0		2,172		44		0		0		-4,138		80.29	
Adj Air Trans Heat		0		0		0		0		0		0		0		0	
Dehumid. Ov Sizing		0		0		0		0		0		0		0		0.00	
Ov/Undr Sizing		1,773		0		1,773		36		1,773		70		0		0.00	
Exhaust Heat		0		0		0		0		0		0		0		0.00	
Sup. Fan Heat		0		0		139		3		0		0		-1,016		19.71	
Ret. Fan Heat		0		52		52		1		0		0		0		0.00	
Duct Heat Pkup		0		0		0		0		0		0		0		0.00	
Underflr Sup Ht Pkup		0		0		0		0		0		0		0		0.00	
Supply Air Leakage		0		0		0		0		0		0		0		0.00	
Grand Total ==>		2,523		52		4,887		100.00		2,523		100.00		0		-5,154 100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	117	117
Terminal	117	117
Main Fan	117	117
Sec Fan	0	0
Nom Vent	59	59
AHU Vent	59	59
Infil	0	0
MinStop/Rh	117	117
Return	59	59
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.53	0.53
cfm/ton	288.14	
ft²/ton	540.26	
Btu/hr-ft²	22.21	-23.43
No. People	0.0	0.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.4	4.9	3.6	117	82.6	67.0	77.8	53.9	53.3	62.1
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
Total	0.4	4.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	220		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-2.0	117	53.9	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.1	59	4.4	53.9
Reheat	-2.0	117	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.2			

Room Checksums

By Valhalla Engineering Group, LLC

C9-C09 CORRIDOR

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 89		OADB: 4				SADB	55.0	70.0			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	120	120
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	120	120
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	120	120
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	60	60
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	60	60
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	120	120
Lights	768	0	768	15	30	0	0	0.00	0	0	0.00				Return	120	120
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	60	60			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	768	0	768	15	30	0	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	0	2,221	44	0	0	0	80.29	0	-4,233	80.29	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	50.0	50.0
Ov/Undr Sizing	1,813		1,813	36	70	1,813		0.00	0	0	0.00				cfm/ft²	0.53	0.53
Exhaust Heat		-53	-53	-1				0.00	0	0	0.00				cfm/ton	288.14	
Sup. Fan Heat			142	3				0.00	-1,039	19.71	0.00				ft²/ton	540.26	
Ret. Fan Heat		107	107	2				0.00	0	0	0.00				Btu/hr-ft²	22.21	-23.43
Duct Heat Pkup		0	0	0				0.00	0	0	0.00				No. People	0.0	0.0/1000 ft²
Underflr Sup Ht Pkup		0	0	0				0.00	0	0	0.00						
Supply Air Leakage		0	0	0				0.00	0	0	0.00						
Grand Total ==>	2,581	53	4,998	100.00	2,581	100.00	2,581	100.00	0	-5,271	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	5.0	3.7	120	82.6	67.0	77.8	53.9	53.3	62.1	Floor	225	Main Htg	-2.1	120	53.9	70.0
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	1	Preheat	-3.2	60	4.4	53.9
											ExFlr	0	Reheat	-2.1	120	53.9	70.0
Total	0.4	5.0									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	-5.3			

System Checksums

By Valhalla Engineering Group, LLC

1-AHU-12

Variable Volume Reheat (30% Min Flow Default)

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 9 / 13		Mo/Hr: Heating Design			Cooling		Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4			SADB		Ra Plenum	Return			
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h								
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Cooling		Heating				
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Diffuser	6,751	4,942				
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Terminal	6,751	4,942				
Glass Solar	22,782	0	22,782	9	34,391	Glass Solar	0	0.00	Main Fan	6,751	4,942				
Glass/Door Cond	3,687	0	3,687	1	71	Glass/Door Cond	-20,624	9.12	Sec Fan	0	0				
Wall Cond	6,539	0	6,539	3	4,142	Wall Cond	-15,967	7.06	Nom Vent	1,878	1,878				
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	AHU Vent	1,878	1,878				
Floor	0	0	0	0	0.00	Floor	0	0.00	Infil	0	0				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	MinStop/Rh	4,942	4,942				
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Return	6,162	4,353				
Sub Total ==>	33,008	0	33,008	13	38,604	Sub Total ==>	-36,591	16.18	Exhaust	1,289	1,289				
Internal Loads				Internal Loads							Rm Exh	632	632		
Lights	24,361	0	24,361	10	24,361	Lights	0	0.00	Auxiliary	0	0				
People	59,560	0	59,560	24	31,981	People	0	0.00	Leakage Dwn	0	0				
Misc	13,302	0	13,302	5	13,302	Misc	0	0.00	Leakage Ups	0	0				
Sub Total ==>	97,223	0	97,223	39	69,644	Sub Total ==>	0	0.00	ENGINEERING CKS						
Ceiling Load				Ceiling Load							% OA	27.8	38.0		
Ventilation Load	0	0	68,337	28	0	Ventilation Load	0	58.57	cfm/ft²	0.95	0.69				
Adj Air Trans Heat	4,076	0	4,076	2	4,076	Adj Air Trans Heat	-4,076	2	cfm/ton	328.64					
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	1	0.00	ft²/ton	347.47					
Ov/Undr Sizing	32,139	0	32,139	13	32,866	Exhaust Heat	0	0.00	Btu/hr-ft²	34.54	-31.69				
Exhaust Heat	0	-1,146	-1,146	0	0	OA Preheat Diff.	0	0.00	No. People	129					
Sup. Fan Heat	0	0	7,653	3	0	RA Preheat Diff.	-50,461	22.31							
Ret. Fan Heat	0	5,216	5,216	2	0	Additional Reheat	-2,590	1.15							
Duct Heat Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	Supply Air Leakage	0	0.00							
Supply Air Leakage	0	0	0	0	0	Grand Total ==>	-40,666	-226,187							
Grand Total ==>	166,447	4,070	246,506	100.00	145,190	Grand Total ==>	-40,666	-226,187							

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	20.5	246.5	178.2	6,457	79.6	64.7	71.2	53.9	51.7	55.7
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	20.5	246.5								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	7,138		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	4,318	994	23
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-100.0	1,878	4.4	53.9
Reheat	-85.6	4,942	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-226.2			

System Checksums

By Valhalla Engineering Group, LLC

1-AHU-13

Variable Volume Reheat (30% Min Flow Default)

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 9 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 76		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	75.1	79.0	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00						
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00						
Roof Cond	0	480	480	0	0	Roof Cond	0	0.47						
Glass Solar	45,027	0	45,027	10	81,806	Glass Solar	0	0.00						
Glass/Door Cond	7,471	0	7,471	2	-849	Glass/Door Cond	-37,646	10.24						
Wall Cond	9,490	0	9,490	2	4,576	Wall Cond	-20,463	5.57						
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00						
Floor	0	0	0	0	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
Sub Total ==>	61,988	480	62,467	14	85,534	Sub Total ==>	-58,109	16.27						
Internal Loads				Internal Loads										
Lights	37,756	0	37,756	8	37,756	Lights	0	0.00						
People	127,114	0	127,114	28	65,295	People	0	0.00						
Misc	50,055	0	50,055	11	50,055	Misc	0	0.00						
Sub Total ==>	214,925	0	214,925	47	153,106	Sub Total ==>	0	0.00						
Ceiling Load	480	-480	0	0	-166	Ceiling Load	-1,727	0.00						
Ventilation Load	0	0	106,597	23	0	Ventilation Load	0	57.28						
Adj Air Trans Heat	5,158	0	5,158	1	5,158	Adj Air Trans Heat	-5,158	1						
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	44,075	0	44,075	10	46,757	Exhaust Heat	0	0.00						
Exhaust Heat	0	-1,858	-1,858	0	0	OA Preheat Diff.	0	0.00						
Sup. Fan Heat	0	0	14,593	3	0	RA Preheat Diff.	-87,468	23.79						
Ret. Fan Heat	0	10,149	10,149	2	0	Additional Reheat	-4,617	1.26						
Duct Heat Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	Supply Air Leakage	0	0.00						
Supply Air Leakage	0	0	0	0	0									
Grand Total ==>	326,626	8,291	456,107	100.00	290,389	Grand Total ==>	-64,995	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	13,502	8,304
Terminal	13,502	8,304
Main Fan	13,502	8,304
Sec Fan	0	0
Nom Vent	2,986	2,986
AHU Vent	2,986	2,986
Infil	0	0
MinStop/Rh	8,304	8,304
Return	12,607	7,461
Exhaust	2,091	2,143
Rm Exh	852	799
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	22.1	36.0
cfm/ft²	1.22	0.75
cfm/ton	355.24	
ft²/ton	291.04	
Btu/hr-ft²	41.23	-33.24
No. People	253	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	38.0	456.1	331.6	12,313	79.0	64.3	70.4	53.9	51.7	55.5
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	38.0	456.1								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	11,062		
Part	0		
Int Door	1		
ExFlr	0		
Roof	804	0	0
Wall	6,050	1,815	30
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-208.8	8,304	53.9	77.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-158.9	2,986	4.4	53.9
Reheat	-143.8	8,304	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-367.7			

Zone Checksums

By Valhalla Engineering Group, LLC

Mechanical AHU-12

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 2		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	75.1	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 71		OADB: 4			Ra Plenum		75.0	70.0	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		80.3	0.1	0.3	0.7			
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	491	491				
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	491	491				
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan	491	491				
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Nom Vent	164	164				
Wall Cond	597	0	597	3	817	8	-2,711	13.60	AHU Vent	164	164				
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	0	0				
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	491	491				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	491	491				
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust	164	164				
Sub Total ==>	597	0	597	3	817	8	-2,711	13.60	Rm Exh	0	0				
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	1,864	0	1,864	11	1,864	18	0	0.00	% OA	33.3	33.3				
People	0	0	0	0	0	0	0	0.00	cfm/ft²	0.90	0.90				
Misc	0	0	0	0	0	0	0	0.00	cfm/ton	336.88					
Sub Total ==>	1,864	0	1,864	11	1,864	18	0	0.00	ft²/ton	374.32					
Ceiling Load	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	32.06	-36.52				
Ventilation Load	0	0	6,064	35	0	0	0	0.00	No. People	0					
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00							
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00							
Ov/Undr Sizing	8,106		8,106	46	7,888	75	0	0.00							
Exhaust Heat		-146	-146	-1			0	0.00							
Sup. Fan Heat			582	3			-5,672	28.45							
Ret. Fan Heat		437	437	2			0	0.00							
Duct Heat Pkup		0	0	0			0	0.00							
Underflr Sup Ht Pkup		0	0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	10,566	291	17,504	100.00	10,568	100.00	-2,711	-19,938	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	1.5	17.5	14.0	491	80.3	65.2	72.5	53.9	53.3	62.0	Floor	546	Main Htg	-11.2	491	53.9	75.1
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	1	Preheat	-8.7	164	4.4	53.9
											ExFlr	0	Reheat	-8.5	491	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	582	Opt Vent	0.0	0	0.0	0.0
Total	1.5	17.5									Ext Door	0	Total	-19.9			

Zone Checksums

By Valhalla Engineering Group, LLC

Mechanical AHU-13

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 2		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 71		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	941	0	941	5	1,200	10	-4,029	17.17						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	941	0	941	5	1,200	10	-4,029	17.17						
Internal Loads				Internal Loads										
Lights	2,092	0	2,092	11	2,092	18	0	0.00						
People	0	0	0	0	0	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,092	0	2,092	11	2,092	18	0	0.00						
Ceiling Load	34	-34	0	0	50	0	-96	0.00						
Ventilation Load	0	0	6,682	34	0	0	-12,973	55.28						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	8,807	0	8,807	45	8,523	72	0	0.00						
Exhaust Heat	0	-163	-163	-1	0	0	0	0.00						
Sup. Fan Heat	0	0	654	3	0	0	-6,369	27.14						
Ret. Fan Heat	0	490	490	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	-96	0.41						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	11,875	293	19,503	100.00	11,865	100.00	-4,125	-23,466	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	552	552
Terminal	552	552
Main Fan	552	552
Sec Fan	0	0
Nom Vent	184	184
AHU Vent	184	184
Infil	0	0
MinStop/Rh	552	552
Return	552	552
Exhaust	184	184
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	339.45	
ft²/ton	377.17	
Btu/hr-ft²	31.82	-38.28
No. People	0	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	1.6	19.5	15.7	552	80.3	65.4	73.2	53.9	53.6	63.0
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	1.6	19.5								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	613		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	865	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-13.7	552	53.9	77.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-9.8	184	4.4	53.9
Reheat	-9.6	552	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-23.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-1

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 4						SADB	55.0	70.0			
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	Return	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	79.5	40.8			
Envelope Loads				Envelope Loads								Fn MtrTD	0.1	0.0			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00				Diffuser	385	238
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	385	238
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	385	238
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Nom Vent	106	106
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				AHU Vent	106	106
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				MinStop/Rh	238	238
Internal Loads				Internal Loads											Return	385	238
Lights	1,208	0	1,208	8	1,208	15	0	0.00	0	0	0.00	Exhaust	106	106			
People	3,500	0	3,500	24	1,750	21	0	0.00	0	0	0.00	Rm Exh	0	0			
Misc	5,324	0	5,324	36	5,324	64	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	10,032	0	10,032	68	8,282	100	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load				Ceiling Load								Leakage Ups	0	0			
Ventilation Load	0	0	3,932	27	0	0	0	0.00	0	-7,492	76.62	ENGINEERING CKS					
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0				% OA	27.6	44.6
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ft²	1.09	0.67
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ton	315.05	
Exhaust Heat	0	-94	-94	-1	0	0	0	0.00	0	0	0.00				ft²/ton	289.60	
Sup. Fan Heat	0	0	456	3	0	0	0	0.00	-2,286	23.38	0.00				Btu/hr-ft²	41.44	-27.62
Ret. Fan Heat	0	342	342	2	0	0	0	0.00	0	0	0.00				No. People	7	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
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 ==>	10,032	248	14,669	100.00	8,282	100.00	Grand Total ==>	0	-9,777	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	1.2	14.7	10.6	385	79.5	64.6	70.7	53.9	51.6	55.2	Floor	354		Main Htg	-4.1	238	53.9	70.0
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	1		Preheat	-5.7	106	4.4	53.9
											ExFlr	0		Reheat	-4.1	238	53.9	70.0
Total	1.2	14.7									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	-9.8			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-10

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 4						SADB	55.0	70.0
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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	237	237
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	237	237
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	237	237
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	119	119
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	119	119
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	237	237
Lights	1,519	0	1,519	15	1,519	30	0	0.00	0	0	0.00	Return	179	179
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	60	60
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0
Sub Total ==>	1,519	0	1,519	15	1,519	30	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	4,393	44	0	0	0	80.29	0	-8,371	80.29	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	50.0	50.0
Ov/Undr Sizing	3,585		3,585	36	3,585	70	0	0.00	0	0	0.00	cfm/ft²	0.53	0.53
Exhaust Heat		-53	-53	-1			0	0.00	0	0	0.00	cfm/ton	288.14	
Sup. Fan Heat			281	3			0	0.00	0	-2,055	19.71	ft²/ton	540.26	
Ret. Fan Heat		159	159	2			0	0.00	0	0	0.00	Btu/hr-ft²	22.21	-23.43
Duct Heat Pkup		0	0	0			0	0.00	0	0	0.00	No. People	0	
Underflr Sup Ht Pkup		0	0	0			0	0.00	0	0	0.00			
Supply Air Leakage		0	0	0			0	0.00	0	0	0.00			
Grand Total ==>	5,104	105	9,884	100.00	5,104	100.00	0	100.00	0	-10,426	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	9.9	7.3	237	82.6	67.0	77.8	53.9	53.3	62.1	Floor	445	Main Htg	-4.1	237	53.9	70.0
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	1	Preheat	-6.3	119	4.4	53.9
											ExFlr	0	Reheat	-4.1	237	53.9	70.0
Total	0.8	9.9									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	-10.4			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-11

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 1 / 13			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 38			OADB: 4			SADB			Ra Plenum		
											Return			Ret/OA		
											Fn MtrTD			Fn BldTD		
											Fn Frict					
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total							
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens								
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0.00							
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0.00							
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0.00							
Glass Solar	0	0	0	0	0	0	Glass Solar	0	0.00							
Glass/Door Cond	0	0	0	0	0	0	Glass/Door Cond	0	0.00							
Wall Cond	0	0	0	0	0	0	Wall Cond	0	0.00							
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00							
Floor	0	0	0	0	0.00	0	Floor	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00							
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00							
Sub Total ==>	0	0	0	0	0	0	Sub Total ==>	0	0.00							
Internal Loads					Internal Loads											
Lights	3,226	0	3,226	15	3,226	28	Lights	0	0.00							
People	2,500	0	2,500	11	1,250	11	People	0	0.00							
Misc	0	0	0	0	0	0	Misc	0	0.00							
Sub Total ==>	5,726	0	5,726	26	4,476	39	Sub Total ==>	0	0.00							
Ceiling Load	0	0	0	0	0	0	Ceiling Load	0	0.00							
Ventilation Load	0	0	8,179	37	0	0	Ventilation Load	0	75.38							
Adj Air Trans Heat	791	0	791	4	791	7	Adj Air Trans Heat	-791	4							
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0.00							
Ov/Undr Sizing	6,297	0	6,297	29	6,297	54	Exhaust Heat	0	0.00							
Exhaust Heat	0	-196	-196	-1	0	0	OA Preheat Diff.	0	0.00							
Sup. Fan Heat	0	637	637	3	0	0	RA Preheat Diff.	-3,825	18.50							
Ret. Fan Heat	0	478	478	2	0	0	Additional Reheat	-474	2.29							
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00							
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0.00							
Grand Total ==>	12,814	282	21,912	100.00	11,564	100.00	Grand Total ==>	-791	100.00							

AIRFLOWS

	Cooling	Heating
Diffuser	538	469
Terminal	538	469
Main Fan	538	469
Sec Fan	0	0
Nom Vent	221	221
AHU Vent	221	221
Infil	0	0
MinStop/Rh	469	469
Return	538	469
Exhaust	221	221
Rm Exh	123	123
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	41.1	47.1
cfm/ft²	0.57	0.50
cfm/ton	294.48	
ft²/ton	517.68	
Btu/hr-ft²	23.18	-21.87
No. People	5	

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	1.8	21.9	538	81.4	66.0	75.0	53.9	52.4	58.6
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	1.8	21.9							

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	945		
Part	0		
Int Door	1		
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	-8.9	469	53.9	71.6
Aux Htg	0.0	0	0.0	0.0
Preheat	-11.8	221	4.4	53.9
Reheat	-8.1	469	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-20.7			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-12

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 8 / 13			Mo/Hr: 11 / 13		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 82 / 68 / 82			OADB: 55		OADB: 4			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	2,775	0	2,775	34	4,233	65	0	0	0.00							
	86	0	86	1	-340	-5	-1,027	-1,027	11.81							
	803	0	803	10	631	10	-1,052	-1,052	12.11							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	3,664	0	3,664	45	4,524	69	-2,079	-2,079	23.92							
Internal Loads					Internal Loads											
	901	0	901	11	901	14	0	0	0.00							
	1,500	0	1,500	19	750	11	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	2,401	0	2,401	30	1,651	25	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	1,182	15	0	0	0	-3,957	45.53							
	362	0	362	4	362	6	-362	-362	4							
	0	0	0	0	0	0	0	0	0.00							
	-27	0	-27	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	311	4	0	0	0	-1,943	22.35							
	0	184	184	2	0	0	0	-351	4.04							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	6,400	184	8,077	100.00	6,537	100.00	-2,441	-8,692	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	304	189
Terminal	304	189
Main Fan	304	189
Sec Fan	0	0
Nom Vent	56	56
AHU Vent	56	56
Infil	0	0
MinStop/Rh	189	189
Return	248	132
Exhaust	0	0
Rm Exh	56	56
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	18.5	29.8
cfm/ft²	1.15	0.71
cfm/ton	451.61	
ft²/ton	392.24	
Btu/hr-ft²	30.59	-32.92
No. People	3	

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	0.7	8.1	6.6	263	77.1	62.9	66.1	53.9	52.2	57.6
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	0.7	8.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	264		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	261	50	19
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.7	189	53.9	82.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.0	56	4.4	53.9
Reheat	-3.3	189	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.7			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-13

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 13		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 55		OADB: 4						SADB	55.0	80.8
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	77.2	49.8
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	3,420	0	3,420	38	5,216	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	106	0	106	1	-419	Glass/Door Cond	-1,265	13.45				Diffuser	333	208
Wall Cond	572	0	572	6	374	Wall Cond	-871	9.26				Terminal	333	208
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	333	208
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	64	64
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	64	64
Sub Total ==>	4,098	0	4,098	46	5,171	Sub Total ==>	-2,136	22.70				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	208	208
Lights	962	0	962	11	962	Lights	0	0.00				Return	269	144
People	1,500	0	1,500	17	750	People	0	0.00				Exhaust	0	0
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	43	43
Sub Total ==>	2,462	0	2,462	28	1,712	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	1,346	15	0	Ventilation Load	0	47.91				Leakage Ups	0	0
Adj Air Trans Heat	279	0	279	3	279	Adj Air Trans Heat	-279	3				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	19.2	30.8
Ov/Undr Sizing	168	0	168	2	0	Exhaust Heat	0	0.00				cfm/ft²	1.18	0.74
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	-2,213	23.52				cfm/ton	449.04	
Sup. Fan Heat	0	0	345	4	0	RA Preheat Diff.	-274	2.91				ft²/ton	380.25	
Ret. Fan Heat	0	202	202	2	0	Additional Reheat	0	0.00				Btu/hr-ft²	31.56	-33.37
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00				No. People	3	
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	7,007	202	8,900	100.00	7,162	Grand Total ==>	-2,415	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	0.7	8.9	7.3	291	77.2	62.9	66.2	53.9	52.3	58.1	Floor	282	-6.0	208	53.9	80.8	
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	1	-3.4	64	4.4	53.9	
Total	0.7	8.9									ExFlr	0	-3.6	208	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	227	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
											Total	-9.4					

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-14

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4						SADB	55.0	77.9			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	78.5	49.3			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	1,315	0	1,315	14	1,599	27	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	164	0	164	2	50	1	-925	9.00	-925	-925	9.00				Diffuser	272	242
Wall Cond	352	0	352	4	369	6	-626	6.09	-626	-626	6.09				Terminal	272	242
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	272	242
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	76	76
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	76	76
Sub Total ==>	1,831	0	1,831	20	2,018	35	-1,552	15.09	-1,552	-1,552	15.09				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	242	242
Lights	1,055	0	1,055	11	1,055	18	0	0.00	0	0	0.00				Return	196	165
People	1,500	0	1,500	16	750	13	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	76	76			
Sub Total ==>	2,555	0	2,555	27	1,805	31	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	0	2,271	24	0	0	0	0.00	0	-5,375	52.28	Leakage Ups	0	0			
Adj Air Trans Heat	492	0	492	5	492	8	-492	5	-492	-492	5	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	28.0	31.5
Ov/Undr Sizing	1,719	0	1,719	18	1,531	26	0	0.00	0	0	0.00				cfm/ft²	0.88	0.78
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ton	348.37	
Sup. Fan Heat	0	0	322	3	0	0	-2,639	25.66	-2,639	-2,639	25.66				ft²/ton	396.03	
Ret. Fan Heat	0	174	174	2	0	0	-224	2.18	-224	-224	2.18				Btu/hr-ft²	30.30	-33.28
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	3	
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 ==>	6,596	174	9,363	100.00	5,846	100.00	-2,044	100.00	-2,044	-10,282	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	0.8	9.4	7.2	272	78.5	64.0	69.6	53.9	52.2	57.8	Floor	309		Main Htg	-6.2	242	53.9	77.9	
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	1		Preheat	-4.1	76	4.4	53.9	
											ExFlr	0		Reheat	-4.2	242	53.9	70.0	
Total	0.8	9.4									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	175	45	25	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-10.3			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-15

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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												
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,029	0	1,029	13	1,168	24	0	0	0.00							
	105	0	105	1	51	1	-617	-617	7.50							
	221	0	221	3	210	4	-374	-374	4.55							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,354	0	1,354	17	1,428	29	-991	-991	12.04							
Internal Loads				Internal Loads												
	911	0	911	11	911	19	0	0	0.00							
	1,500	0	1,500	19	750	15	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	2,411	0	2,411	30	1,661	34	0	0	0.00							
Ceiling Load				Ceiling Load												
	0	0	0	0	0	0	0	0	0.00							
Ventilation Load				Ventilation Load												
	0	0	1,878	24	0	0	0	-4,444	54.01							
Adj Air Trans Heat				Adj Air Trans Heat												
	406	0	406	5	406	8	-406	-406	5							
Dehumid. Ov Sizing				Ov/Undr Sizing												
	0	0	0	0	0	0	0	0	0.00							
Ov/Undr Sizing				Exhaust Heat												
	1,494	0	1,494	19	1,420	29	0	0	0.00							
Exhaust Heat				OA Preheat Diff.												
	0	0	0	0	0	0	0	0	0.00							
Sup. Fan Heat				RA Preheat Diff.												
	0	0	271	3	0	0	-2,182	-2,182	26.51							
Ret. Fan Heat				Additional Reheat												
	0	147	147	2	0	0	-206	-206	2.50							
Duct Heat Pkup				System Plenum Heat												
	0	0	0	0	0	0	0	0	0.00							
Underflr Sup Ht Pkup				Underflr Sup Ht Pkup												
	0	0	0	0	0	0	0	0	0.00							
Supply Air Leakage				Supply Air Leakage												
	0	0	0	0	0	0	0	0	0.00							
Grand Total ==>				Grand Total ==>				Grand Total ==>								
	5,666	147	7,962	100.00	4,916	100.00	-1,398	-8,229	100.00							

AIRFLOWS

	Cooling	Heating
Diffuser	229	201
Terminal	229	201
Main Fan	229	201
Sec Fan	0	0
Nom Vent	63	63
AHU Vent	63	63
Infil	0	0
MinStop/Rh	201	201
Return	166	138
Exhaust	0	0
Rm Exh	63	63
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	27.6	31.4
cfm/ft²	0.86	0.75
cfm/ton	344.51	
ft²/ton	402.44	
Btu/hr-ft²	29.82	-30.82
No. People	3	

COOLING COIL SELECTION

	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.7	8.0	6.0	229	78.4	64.0	69.5	53.9	52.1	57.1
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
Total	0.7	8.0								

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	267		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	108	30	28
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent	
			°F	Lvg °F
Main Htg	-4.9	201	53.9	76.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.4	63	4.4	53.9
Reheat	-3.5	201	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-16

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 22		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 76		OADB: 4						SADB	55.0	77.2
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	79.7	37.2
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	249	140
Wall Cond	306	0	306	3	357	7	Wall Cond	-1,092	15.04			Terminal	249	140
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00			Main Fan	249	140
Floor	0	0	0	0	0.00	0	Floor	0	0.00			Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00			Nom Vent	70	70
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00			AHU Vent	70	70
Sub Total ==>	306	0	306	3	357	7	Sub Total ==>	-1,092	15.04			Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	140	140
Lights	799	0	799	7	799	15	Lights	0	0.00			Return	249	140
People	6,000	0	6,000	53	3,000	56	People	0	0.00			Exhaust	70	70
Misc	1,195	0	1,195	11	1,195	22	Misc	0	0.00			Rm Exh	0	0
Sub Total ==>	7,993	0	7,993	70	4,993	93	Sub Total ==>	0	0.00			Auxiliary	0	0
Ceiling Load	0	0	0	0	0	0	Ceiling Load	0	0.00			Leakage Dwn	0	0
Ventilation Load	0	0	2,599	23	0	0	Ventilation Load	0	68.21			Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0			ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0.00			% OA	28.2	50.0
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	0.00			cfm/ft²	1.06	0.60
Exhaust Heat	0	-62	-62	-1	0	0	OA Preheat Diff.	0	0.00			cfm/ton	263.10	
Sup. Fan Heat	0	292	292	3	0	0	RA Preheat Diff.	-1,216	16.74			ft²/ton	247.46	
Ret. Fan Heat	0	219	219	2	0	0	Additional Reheat	0	0.00			Btu/hr-ft²	48.49	-31.02
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0.00			No. People	12	
Underflr Sup Ht Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	8,299	157	11,347	100.00	5,351	100.00	Grand Total ==>	-1,092	-7,260	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	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F					
Main Clg	1.0	11.4	6.8	246	79.7	64.7	71.0	53.9	48.5	44.1	Floor	234			Main Htg	-3.5	140	53.9	77.2
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	1			Preheat	-3.7	70	4.4	53.9
Total	1.0	11.4									ExFlr	0			Reheat	-2.4	140	53.9	70.0
											Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	234	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-7.3			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-17

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 15			Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 89			OADB: 4			SADB			Ra Plenum			
											Return			Ret/OA			
											Fn MtrTD			Fn BldTD			
											Fn Frict						
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		0.00	
Skylite Cond		0		0		0		0		0		0		0		0.00	
Roof Cond		0		0		0		0		0		0		0		0.00	
Glass Solar		0		0		0		0		0		0		0		0.00	
Glass/Door Cond		0		0		0		0		0		0		0		0.00	
Wall Cond		0		0		0		0		0		0		0		0.00	
Partition/Door		0		0		0		0		0		0		0		0.00	
Floor		0		0		0		0.00		0		0		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
Infiltration		0		0		0		0		0		0		0		0.00	
Sub Total ==>		0		0		0		0		0		0		0		0.00	
Internal Loads																	
Lights		594		0		594		13		594		28		0		0.00	
People		1,000		0		1,000		22		500		23		0		0.00	
Misc		0		0		0		0		0		0		0		0.00	
Sub Total ==>		1,594		0		1,594		34		1,094		51		0		0.00	
Ceiling Load		0		0		0		0		0		0		0		0.00	
Ventilation Load		0		0		1,834		40		0		0		-3,494		80.30	
Adj Air Trans Heat		0		0		0		0		0		0		0		0	
Dehumid. Ov Sizing						0		0						0		0.00	
Ov/Undr Sizing		1,037				1,037		22		1,037		49				0.00	
Exhaust Heat				-44		-44		-1						0		0.00	
Sup. Fan Heat						117		3						-858		19.71	
Ret. Fan Heat				88		88		2						0		0.00	
Duct Heat Pkup				0		0		0						0		0.00	
Underflr Sup Ht Pkup				0		0		0						0		0.00	
Supply Air Leakage				0		0		0						0		0.00	
Grand Total ==>		2,631		44		4,626		100.00		2,131		100.00		0		-4,352 100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	99	99
Terminal	99	99
Main Fan	99	99
Sec Fan	0	0
Nom Vent	50	50
AHU Vent	50	50
Infil	0	0
MinStop/Rh	99	99
Return	99	99
Exhaust	50	50
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	257.00	
ft²/ton	451.39	
Btu/hr-ft²	26.58	-25.01
No. People	2	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.4	4.6	3.1	99	82.6	67.0	77.8	53.9	51.4	54.7
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	0.4	4.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	174		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.6	50	4.4	53.9
Reheat	-1.7	99	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.4			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-18

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 89		OADB: 4						SADB	55.0	70.0
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	Return	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	81.2	43.8
Envelope Loads				Envelope Loads								Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	197	197
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	197	197
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	197	197
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00	Nom Vent	79	79
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AHU Vent	79	79
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	197	197
Internal Loads				Internal Loads								Return	197	197
Lights	957	0	957	11	957	23	0	0.00	0	0	0.00	Exhaust	79	79
People	3,160	0	3,160	36	1,879	44	0	0.00	0	0	0.00	Rm Exh	0	0
Misc	227	0	227	3	227	5	0	0.00	0	0	0.00	Auxiliary	0	0
Sub Total ==>	4,344	0	4,344	49	3,063	72	0	0.00	0	0	0.00	Leakage Dwn	0	0
Ceiling Load				Ceiling Load								Leakage Ups	0	0
Ventilation Load	0	0	2,917	33	0	0	0	0.00	0	-5,557	73.01	ENGINEERING CKS		
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0	% OA	39.9	39.9
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	0.70	0.70
Ov/Undr Sizing	1,184	0	1,184	13	1,184	28	0	0.00	0	0	0.00	cfm/ton	269.77	
Exhaust Heat	0	-70	-70	-1	0	0	0	0.00	0	0	0.00	ft²/ton	382.90	
Sup. Fan Heat	0	0	234	3	0	0	0	0.00	0	-2,055	27.00	Btu/hr-ft²	31.34	-27.16
Ret. Fan Heat	0	176	176	2	0	0	0	0.00	0	0	0.00	No. People	8	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
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 ==>	5,527	105	8,784	100.00	4,247	100.00	0	0.00	0	-7,612	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	cfm	°F	°F	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F						
Main Clg	0.7	8.8	5.8	197	81.2	65.9	74.6	53.9	50.8	52.5	Floor	280			Main Htg	-3.4	197	53.9	70.0
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	1			Preheat	-4.2	79	4.4	53.9
											ExFlr	0			Reheat	-3.4	197	53.9	70.0
Total	0.7	8.8									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-7.6			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-2

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
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						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	1,695	0	1,695	22	1,923	39	0	0.00						
Glass/Door Cond	172	0	172	2	84	2	-1,016	11.76						
Wall Cond	506	0	506	7	479	10	-879	10.17						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,373	0	2,373	31	2,486	51	-1,895	21.93						
Internal Loads				Internal Loads										
Lights	935	0	935	12	935	19	0	0.00						
People	1,500	0	1,500	19	750	15	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,435	0	2,435	31	1,685	34	0	0.00						
Ceiling Load	0	0	0	0	0	0	0	0.00						
Ventilation Load	0	0	1,726	22	0	0	-4,084	47.26						
Adj Air Trans Heat	374	0	374	5	374	8	-374	4						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	415	0	415	5	364	7	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	267	3	0	0	-2,005	23.20						
Ret. Fan Heat	0	149	149	2	0	0	-283	3.28						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	5,597	149	7,738	100.00	4,908	100.00	-2,269	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	228	190
Terminal	228	190
Main Fan	228	190
Sec Fan	0	0
Nom Vent	58	58
AHU Vent	58	58
Infil	0	0
MinStop/Rh	190	190
Return	170	132
Exhaust	0	0
Rm Exh	58	58
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	25.4	30.5
cfm/ft²	0.83	0.69
cfm/ton	353.90	
ft²/ton	424.90	
Btu/hr-ft²	28.24	-31.54
No. People	3	

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	7.7	5.9	225	78.2	63.8	69.0	53.9	52.0	57.0
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	7.7								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	274		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	232	49	21
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.6	190	53.9	81.1
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.1	58	4.4	53.9
Reheat	-3.3	190	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.6			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-20

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 7 / 19		Mo/Hr: Heating Design						Cooling			Heating			
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 83		OADB: 4						SADB	55.0	88.4	Ra Plenum	75.0	70.0	
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	Return	75.8	70.0	Ret/OA	77.2	44.8		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
Envelope Loads					Envelope Loads										AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00	Cooling		Heating		Diffuser	922	349
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00	Terminal	922	349	Main Fan	922	349	
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00	Sec Fan	0	0	Nom Vent	134	134	
Glass Solar	5,840	0	5,840	18	6,004	30	0	0.00	Glass Solar	0	0	0.00	AHU Vent	134	134	Infil	0	0	
Glass/Door Cond	859	0	859	3	761	4	4	23.83	Glass/Door Cond	-4,784	-4,784	23.83	MinStop/Rh	349	349	Return	922	349	
Wall Cond	527	0	527	2	542	3	0	10.56	Wall Cond	-2,121	-2,121	10.56	Exhaust	134	134	Rm Exh	0	0	
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00	Auxiliary	0	0	Leakage Dwn	0	0	
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0.00	Leakage Ups	0	0				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00							
Sub Total ==>	7,226	0	7,226	23	7,307	37	0	34.39	Sub Total ==>	-6,904	-6,904	34.39							
Internal Loads					Internal Loads										ENGINEERING CKS				
Lights	1,526	0	1,526	5	1,526	8	0	0.00	Lights	0	0	0.00	% OA	14.5	38.5	cfm/ft²	2.06	0.78	
People	16,000	0	16,000	50	9,463	48	0	0.00	People	0	0	0.00	cfm/ton	344.97		ft²/ton	167.31		
Misc	1,527	0	1,527	5	1,527	8	0	0.00	Misc	0	0	0.00	Btu/hr-ft²	71.72	-44.92	No. People	39		
Sub Total ==>	19,053	0	19,053	59	12,515	63	0	0.00	Sub Total ==>	0	0	0.00							
Ceiling Load	0	0	0	0	0	0	0	0.00	Ceiling Load	0	0	0.00							
Ventilation Load	0	0	3,997	12	0	0	0	47.11	Ventilation Load	0	-9,460	47.11							
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0							
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00							
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	Exhaust Heat	0	0	0.00							
Exhaust Heat	0	-119	-119	0	0	0	0	0.00	OA Preheat Diff.	0	0	0.00							
Sup. Fan Heat	0	0	1,088	3	0	0	0	18.50	RA Preheat Diff.	-3,714	-3,714	18.50							
Ret. Fan Heat	0	816	816	3	0	0	0	0.00	Additional Reheat	0	0	0.00							
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00							
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00							
Grand Total ==>	26,279	697	32,061	100.00	19,822	100.00	0	100.00	Grand Total ==>	-6,904	-20,078	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	2.7	32.1	23.0	918	77.2	62.8	65.9	53.9	50.5	51.4	Floor	447	Main Htg	-12.9	349	53.9	88.4	
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	1	Preheat	-7.1	134	4.4	53.9	
											ExFlr	0	Reheat	-6.0	349	53.9	70.0	
Total	2.7	32.1									Roof	0	Humidif	0.0	0	0.0	0.0	
											Wall	686	Opt Vent	0.0	0	0.0	0.0	
											Ext Door	0	Total	-20.1				

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-3

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 6 / 19		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 77		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th>	Fn BldTD <th>Fn Frict</th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens							
Envelope Loads					Envelope Loads									
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00		
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00		
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00		
Glass Solar	707	0	707	10	859	23	0	0.00	Glass Solar	0	0	0.00		
Glass/Door Cond	88	0	88	1	27	1	-497	8.40	Glass/Door Cond	-497	-497	8.40		
Wall Cond	354	0	354	5	371	10	-629	10.63	Wall Cond	-629	-629	10.63		
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00		
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0.00		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00		
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00		
<i>Sub Total ==></i>	1,148	0	1,148	16	1,257	33	-1,127	19.03	<i>Sub Total ==></i>	-1,127	-1,127	19.03		
Internal Loads					Internal Loads									
Lights	519	0	519	7	519	14	0	0.00	Lights	0	0	0.00		
People	3,500	0	3,500	49	1,750	46	0	0.00	People	0	0	0.00		
Misc	259	0	259	4	259	7	0	0.00	Misc	0	0	0.00		
<i>Sub Total ==></i>	4,278	0	4,278	60	2,528	67	0	0.00	<i>Sub Total ==></i>	0	0	0.00		
Ceiling Load	0	0	0	0	0	0	0	0.00	Ceiling Load	0	0	0.00		
Ventilation Load	0	0	1,359	19	0	0	-3,217	54.31	Ventilation Load	0	-3,217	54.31		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	Exhaust Heat	0	0	0.00		
Exhaust Heat	0	-41	-41	-1	0	0	0	0.00	OA Preheat Diff.	0	0	0.00		
Sup. Fan Heat	0	0	203	3	0	0	-1,579	26.66	RA Preheat Diff.	-1,579	-1,579	26.66		
Ret. Fan Heat	0	152	152	2	0	0	0	0.00	Additional Reheat	0	0	0.00		
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00		
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00		
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00		
Grand Total ==>	5,427	111	7,100	100.00	3,785	100.00	-1,127	100.00	Grand Total ==>	-1,127	-5,923	100.00		

AIRFLOWS		
	Cooling	Heating
Diffuser	176	137
Terminal	176	137
Main Fan	176	137
Sec Fan	0	0
Nom Vent	46	46
AHU Vent	46	46
Infil	0	0
MinStop/Rh	137	137
Return	176	137
Exhaust	46	46
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	25.9	33.3
cfm/ft²	1.16	0.90
cfm/ton	297.49	
ft²/ton	256.91	
Btu/hr-ft²	46.71	-38.96
No. People	7	

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	7.1	4.5	171	78.3	63.9	69.3	53.9	49.3	46.9
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	7.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	152		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	155	24	15
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-3.5	137	53.9	77.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.4	46	4.4	53.9
Reheat	-2.4	137	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-4

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4			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		Btu/h	Btu/h		75.0	77.9	0.1	0.3	0.7
Envelope Loads				Envelope Loads										
	0	0	0	0	0	0	0	0	0.00					
Skylite Solar	0	0	0	0	0	0	0	0	0.00					
Skylite Cond	0	0	0	0	0	0	0	0	0.00					
Roof Cond	0	0	0	0	0	0	0	0	0.00					
Glass Solar	1,963	0	1,963	18	2,387	35	0	0	0.00					
Glass/Door Cond	245	0	245	2	75	1	-1,382	-1,382	13.97					
Wall Cond	1,177	0	1,177	11	1,068	16	-1,252	-1,252	12.66					
Partition/Door	0	0	0	0	0	0	0	0	0.00					
Floor	0	0	0	0	0.00	0	0	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Infiltration	0	0	0	0	0	0	0	0	0.00					
<i>Sub Total ==></i>	3,385	0	3,385	31	3,530	52	-2,634	-2,634	26.63					
Internal Loads				Internal Loads										
Lights	785	0	785	7	785	11	0	0	0.00					
People	3,000	0	3,000	28	1,500	22	0	0	0.00					
Misc	1,024	0	1,024	9	1,024	15	0	0	0.00					
<i>Sub Total ==></i>	4,809	0	4,809	44	3,309	48	0	0	0.00					
Ceiling Load	0	0	0	0	0	0	0	0	0.00					
Ventilation Load	0	0	2,057	19	0	0	0	-4,867	49.21					
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0					
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	-61	-61	-1	0	0	0	0	0.00					
Sup. Fan Heat	0	0	369	3	0	0	0	-2,389	24.16					
Ret. Fan Heat	0	277	277	3	0	0	0	0	0.00					
Duct Heat Pkup	0	0	0	0	0	0	0	0	0.00					
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					
Grand Total ==>	8,194	215	10,835	100.00	6,839	100.00	-2,634	-9,891	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	318	207
Terminal	318	207
Main Fan	318	207
Sec Fan	0	0
Nom Vent	69	69
AHU Vent	69	69
Infil	0	0
MinStop/Rh	207	207
Return	318	207
Exhaust	69	69
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	21.7	33.3
cfm/ft²	1.38	0.90
cfm/ton	352.20	
ft²/ton	254.74	
Btu/hr-ft²	47.11	-43.00
No. People	6	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.9	10.8	8.0	311	77.9	63.5	68.0	53.9	51.5	54.8
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	0.9	10.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	230		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	327	67	20
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.7	69	4.4	53.9
Reheat	-3.6	207	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-5

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 9 / 14		Mo/Hr: Heating Design			Cooling	Heating					
Outside Air:		OADB/WB/HR: 89 / 72 / 93		OADB: 80		OADB: 4			SADB	55.0	82.4				
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ra Plenum	75.0	70.0				
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Ret/OA	75.8	48.1				
							Btu/h	Btu/h		Fn MtrTD	0.1	0.0			
										Fn BldTD	0.3	0.0			
										Fn Frict	0.7	0.0			
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser	507			293		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Terminal	507			293		
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Main Fan	507			293		
Glass Solar	3,819	0	3,819	25	6,292	Glass Solar	0	0.00	Sec Fan	0			0		
Glass/Door Cond	519	0	519	3	150	Glass/Door Cond	-2,402	16.99	Nom Vent	98			98		
Wall Cond	1,216	0	1,216	8	839	Wall Cond	-1,482	10.48	AHU Vent	98			98		
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Infil	0			0		
Floor	0	0	0	0	0.00	Floor	0	0.00	MinStop/Rh	293			293		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return	507			293		
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Exhaust	98			98		
Sub Total ==>	5,554	0	5,554	37	7,281	Sub Total ==>	-3,884	27.47	Rm Exh	0			0		
Internal Loads				Internal Loads									Auxiliary	0	0
Lights	1,109	0	1,109	7	1,109	Lights	0	0.00	Leakage Dwn	0			0		
People	3,000	0	3,000	20	1,500	People	0	0.00	Leakage Ups	0			0		
Misc	1,024	0	1,024	7	1,024	Misc	0	0.00	ENGINEERING CKS						
Sub Total ==>	5,133	0	5,133	34	3,633	Sub Total ==>	0	0.00				% OA	19.2	33.3	
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00				cfm/ft²	1.56	0.90	
Ventilation Load	0	0	3,501	23	0	Ventilation Load	0	48.65				cfm/ton	406.30		
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ft²/ton	260.21		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				Btu/hr-ft²	46.12	-43.50	
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				No. People	6		
Exhaust Heat	0	-87	-87	-1	0	OA Preheat Diff.	0	0.00							
Sup. Fan Heat	0	506	506	3	0	RA Preheat Diff.	-3,376	23.88							
Ret. Fan Heat	0	380	380	3	0	Additional Reheat	0	0.00							
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00							
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00							
Grand Total ==>	10,687	293	14,988	100.00	10,914	Grand Total ==>	-3,884	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	1.3	15.0	11.4	427	78.8	64.0	69.0	53.9	52.0	56.7	Floor	325		Main Htg	-9.0	293	53.9	82.4	
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	1		Preheat	-5.2	98	4.4	53.9	
											ExFlr	0		Reheat	-5.1	293	53.9	70.0	
Total	1.3	15.0									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	424	116	27	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-14.1			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-6

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4		OADB: 4				SADB	55.0	82.8			
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	75.0	70.0			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	77.2	43.3			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	1,842	0	1,842	31	3,463	66	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	99	0	99	2	-302	-6	-809	21.02	-809	-809	21.02				Cooling	Heating	
Wall Cond	97	0	97	2	37	1	-195	5.06	-195	-195	5.06				Diffuser	243	73
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	243	73
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Main Fan	243	73
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Sec Fan	0	0
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				Nom Vent	30	30
Sub Total ==>	2,038	0	2,038	35	3,198	61	-1,004	26.08	-1,004	-1,004	26.08				AHU Vent	30	30
Internal Loads				Internal Loads											Infil	0	0
Lights	338	0	338	6	338	6	0	0.00	0	0	0.00				MinStop/Rh	73	73
People	1,000	0	1,000	17	500	10	0	0.00	0	0	0.00	Return	243	73			
Misc	1,195	0	1,195	20	1,195	23	0	0.00	0	0	0.00	Exhaust	30	30			
Sub Total ==>	2,532	0	2,532	43	2,032	39	0	0.00	0	0	0.00	Rm Exh	0	0			
Ceiling Load				Ceiling Load								Auxiliary	0	0			
Ventilation Load	0	0	944	16	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	-2,095	54.45	Leakage Ups	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS					
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				Cooling	Heating	
Exhaust Heat	0	-26	-26	0	0	0	0	0.00	0	0	0.00				% OA	12.2	40.7
Sup. Fan Heat	0	224	224	4	0	0	-749	19.47	0	0	0.00				cfm/ft²	2.46	0.74
Ret. Fan Heat	0	168	168	3	0	0	0	0.00	0	0	0.00				cfm/ton	496.21	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				ft²/ton	202.00	
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	59.41	-38.87
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	2	
Grand Total ==>	4,571	142	5,881	100.00	5,230	100.00	-1,004	100.00	-1,004	-3,848	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	0.5	5.9	4.8	189	77.2	63.0	66.8	53.9	52.3	58.0	Floor	99	-2.3	73	53.9	82.8	
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	1	-1.6	30	4.4	53.9	
											ExFlr	0	-1.3	73	53.9	70.0	
Total	0.5	5.9									Roof	0	0.0	0	0.0	0.0	
											Wall	76	0.0	0	0.0	0.0	
											Ext Door	0	-3.9	0	0.0	0.0	

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-7

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4						SADB	55.0	83.9
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	77.4	41.7
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	2,480	0	2,480	35	4,662	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	134	0	134	2	-407	Glass/Door Cond	-1,089	21.95				Diffuser	299	90
Wall Cond	127	0	127	2	49	Wall Cond	-257	5.18				Terminal	299	90
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	299	90
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	39	39
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	39	39
Sub Total ==>	2,741	0	2,741	39	4,304	Sub Total ==>	-1,346	27.12				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	90	90
Lights	440	0	440	6	440	Lights	0	0.00				Return	299	90
People	1,000	0	1,000	14	500	People	0	0.00				Exhaust	39	39
Misc	1,195	0	1,195	17	1,195	Misc	0	0.00				Rm Exh	0	0
Sub Total ==>	2,635	0	2,635	37	2,135	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	1,231	17	0	Ventilation Load	0	55.03				Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	12.9	43.1
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				cfm/ft²	2.32	0.70
Exhaust Heat	0	-34	-34	0	0	OA Preheat Diff.	0	0.00				cfm/ton	510.14	
Sup. Fan Heat	0	269	269	4	0	RA Preheat Diff.	-885	17.84				ft²/ton	219.82	
Ret. Fan Heat	0	202	202	3	0	Additional Reheat	0	0.00				Btu/hr-ft²	54.59	-38.45
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00				No. People	2	
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	5,376	167	7,042	100.00	6,438	Grand Total ==>	-1,346	4.961	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	0.6	7.0	5.7	227	77.4	63.2	67.2	53.9	52.4	58.6	Floor	129	-2.9	90	53.9	83.9	
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	1	-2.1	39	4.4	53.9	
Total	0.6	7.0									ExFlr	0	-1.6	90	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	101	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
											Total	-5.0					

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-8

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4						SADB	55.0	81.5
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	75.0	70.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	76.9	49.7
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Glass Solar	3,420	0	3,420	41	5,417	79	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	106	0	106	1	-473	-7	-1,265	17.34	-1,265	-1,265	17.34	Diffuser	320	158
Wall Cond	245	0	245	3	71	1	-373	5.11	-373	-373	5.11	Terminal	320	158
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	320	158
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	49	49
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	49	49
Sub Total ==>	3,770	0	3,770	45	5,015	73	-1,638	22.46	-1,638	-1,638	22.46	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	158	158
Lights	809	0	809	10	809	12	0	0.00	0	0	0.00	Return	271	109
People	1,500	0	1,500	18	750	11	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	49	49
Sub Total ==>	2,309	0	2,309	28	1,559	23	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	1,030	12	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	316	0	316	4	316	5	-316	4	-316	-316	4	ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	15.3	30.9
Ov/Undr Sizing	426	0	426	5	0	0	0	0.00	0	0	0.00	cfm/ft²	1.35	0.67
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	457.97	
Sup. Fan Heat	0	0	335	4	0	0	-1,693	23.22	-1,693	-1,693	23.22	ft²/ton	338.84	
Ret. Fan Heat	0	207	207	2	0	0	-198	2.71	-198	-198	2.71	Btu/hr-ft²	35.42	-30.78
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	3	
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 ==>	6,821	207	8,393	100.00	6,889	100.00	-1,954	100.00	-1,954	-7,294	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	0.7	8.4	7.0	282	76.9	62.6	65.3	53.9	52.3	57.9	Floor	237		Main Htg	-4.7	158	53.9	81.5	
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	1		Preheat	-2.6	49	4.4	53.9	
											ExFlr	0		Reheat	-2.7	158	53.9	70.0	
Total	0.7	8.4									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	132	61	46	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-7.3			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 12-9

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 11 / 13		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	80.7
Outside Air:		OADB/WB/HR: 87 / 71 / 93		OADB: 55		OADB: 4			Ra Plenum		70.0	Return	75.8	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th>	Fn BldTD <th>Fn Frict <td colspan="2"></td> </th>	Fn Frict <td colspan="2"></td>		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	78.7	0.1	0.0	0.0		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser		306	210		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Terminal		306	210		
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	Main Fan		306	210		
Glass Solar	2,157	0	2,157	25	4,274	Glass Solar	0	0.00	Sec Fan		0	0		
Glass/Door Cond	171	0	171	2	-343	Glass/Door Cond	-1,037	10.95	Nom Vent		64	64		
Wall Cond	686	0	686	8	565	Wall Cond	-977	10.32	AHU Vent		64	64		
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Infil		0	0		
Floor	0	0	0	0	0.00	Floor	0	0.00	MinStop/Rh		210	210		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return		242	146		
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Exhaust		0	0		
Sub Total ==>	3,014	0	3,014	34	4,496	Sub Total ==>	-2,014	21.27	Rm Exh		64	64		
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	918	0	918	10	918	Lights	0	0.00	% OA		20.9	30.4		
People	1,500	0	1,500	17	750	People	0	0.00	cfm/ft²		1.14	0.78		
Misc	0	0	0	0	0	Misc	0	0.00	cfm/ton		419.46			
Sub Total ==>	2,418	0	2,418	28	1,668	Sub Total ==>	0	0.00	ft²/ton		369.01			
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00	Btu/hr-ft²		32.52	-35.19		
Ventilation Load	0	0	2,156	25	0	Ventilation Load	0	47.62	No. People		3			
Adj Air Trans Heat	412	0	412	5	412	Adj Air Trans Heat	-412	4						
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00						
Ov/Undr Sizing	285	0	285	3	0	Exhaust Heat	0	0.00						
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00						
Sup. Fan Heat	0	0	296	3	0	RA Preheat Diff.	-2,213	23.38						
Ret. Fan Heat	166	166	166	2	0	Additional Reheat	-320	3.38						
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	6,130	166	8,748	100.00	6,576	Grand Total ==>	-2,426	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	0.7	8.8	6.7	250	78.7	64.1	69.7	53.9	52.2	57.5	Floor	269	Main Htg	-6.1	210	53.9	80.7
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	1	Preheat	-3.4	64	4.4	53.9
											ExFlr	0	Reheat	-3.6	210	53.9	70.0
Total	0.7	8.8									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	245	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-1

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 11 / 12		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 93		OADB: 53		OADB: 4		OADB: 4				SADB	55.0	80.4
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	75.1	69.5
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	77.1	48.1
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	2,830	0	2,830	32	5,402	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	172	0	172	2	-446	Glass/Door Cond	-1,244	20.77				Diffuser	391	130
Wall Cond	98	0	98	1	51	Wall Cond	-181	3.02				Terminal	391	130
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	391	130
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	43	43
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	43	43
Sub Total ==>	3,101	0	3,101	35	5,007	Sub Total ==>	-1,425	23.79				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	130	130
Lights	491	0	491	5	491	Lights	0	0.00				Return	348	86
People	1,000	0	1,000	11	500	People	0	0.00				Exhaust	0	0
Misc	2,423	0	2,423	27	2,423	Misc	0	0.00				Rm Exh	0	0
Sub Total ==>	3,915	0	3,915	44	3,415	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load	4	-4	0	0	-11	Ceiling Load	-22	0.00				Leakage Dwn	0	0
Ventilation Load	0	0	1,344	15	0	Ventilation Load	0	50.86				Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	11.0	33.3
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				cfm/ft²	2.72	0.90
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				cfm/ton	524.32	
Sup. Fan Heat	0	0	359	4	0	RA Preheat Diff.	-1,496	24.97				ft²/ton	193.08	
Ret. Fan Heat	0	231	231	3	0	Additional Reheat	0	0.00				Btu/hr-ft²	62.15	-41.61
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	-22	0.38				No. People	2	
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	7,019	227	8,950	100.00	8,410	Grand Total ==>	-1,448	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	ft²	(%)
Main Clg	0.8	9.0	7.6	303	77.1	63.1	67.2	53.9	52.9	60.5	Floor	144					Main Htg	-3.7	130	53.9	80.4
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	1					Preheat	-2.3	43	4.4	53.9
Total	0.8	9.0									ExFlr	0					Reheat	-2.2	130	53.9	70.0
											Roof	0	0	0			Humidif	0.0	0	0.0	0.0
											Wall	95	60	63			Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0			Total	-6.0			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-10

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 13		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 55		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		75.0	77.1	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	75.8	70.0	0.0	0.0	0.0	
Skylite Cond	0	0	0	0	0	0	0	0.00	75.8	70.0	0.0	0.0	0.0	
Roof Cond	0	0	0	0	0	0	0	0.00	77.1	50.1	0.0	0.0	0.0	
Glass Solar	3,448	0	3,448	40	5,259	73	0	0.00	0.1	0.0	0.0	0.0	0.0	
Glass/Door Cond	106	0	106	1	-423	-6	-1,275	14.33	0.3	0.0	0.0	0.0	0.0	
Wall Cond	566	0	566	7	370	5	-862	9.68	0.7	0.0	0.0	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	4,120	0	4,120	47	5,206	72	-2,137	24.01						
Internal Loads				Internal Loads										
Lights	922	0	922	11	922	13	0	0.00						
People	1,500	0	1,500	17	750	10	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,422	0	2,422	28	1,672	23	0	0.00						
Ceiling Load	3	-3	0	0	-21	0	-42	0.00						
Ventilation Load	0	0	1,174	14	0	0	-4,063	45.64						
Adj Air Trans Heat	372	0	372	4	372	5	-372	4						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	48	0	48	1	0	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	0	342	4	0	0	-1,995	22.41						
Ret. Fan Heat	0	206	206	2	0	0	-293	3.29						
Duct Heat Pkup	0	0	0	0	0	0	-42	0.47						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	6,965	202	8,684	100.00	7,229	100.00	-2,551	100.00						

AIRFLOWS

	Cooling	Heating
Diffuser	336	190
Terminal	336	190
Main Fan	336	190
Sec Fan	0	0
Nom Vent	58	58
AHU Vent	58	58
Infil	0	0
MinStop/Rh	190	190
Return	279	132
Exhaust	0	0
Rm Exh	58	58
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	17.1	30.4
cfm/ft²	1.24	0.70
cfm/ton	464.48	
ft²/ton	373.12	
Btu/hr-ft²	32.16	-32.97
No. People	3	

COOLING COIL SELECTION

	Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F gr/lb			Leave DB/WB/HR °F °F gr/lb		
Main Clg	0.7	8.7	289	77.1	63.0	66.6	53.9	52.6	59.1
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	0.7	8.7							

AREAS

	Gross Total	Glass ft²	(%)
Floor	270		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	226	62	27
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-5.8	190	53.9	82.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.1	58	4.4	53.9
Reheat	-3.3	190	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-8.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-11

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: 89 / 72 / 94			OADB: 83			OADB: 4			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	11,407	0	11,407	32	10,657	50	0	0	0.00							
Internal Loads					Internal Loads											
	4,817	0	4,817	14	4,817	23	0	0	0.00							
	1,500	0	1,500	4	750	4	0	0	0.00							
	5,090	0	5,090	14	5,090	24	0	0	0.00							
	11,407	0	11,407	32	10,657	50	0	0	0.00							
	79	-79	0	0	149	1	-220	0	0.00							
	0	0	11,336	32	0	0	0	-22,009	71.34							
	1,290	0	1,290	4	1,290	6	-1,290	-1,290	4							
	0	0	0	0	0	0	0	0	0.00							
	9,363	0	9,363	27	9,305	43	0	0	0.00							
	0	-100	-100	0	0	0	0	0	0.00							
	0	0	1,179	3	0	0	0	-5,402	17.51							
	0	706	706	2	0	0	0	-1,928	6.25							
	0	0	0	0	0	0	0	-220	0.71							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	22,139	528	35,182	100.00	21,401	100.00	-1,511	-30,850	100.00							

AIRFLOWS

	Cooling	Heating
Diffuser	995	735
Terminal	995	735
Main Fan	995	735
Sec Fan	0	0
Nom Vent	312	312
AHU Vent	312	312
Infil	0	0
MinStop/Rh	735	735
Return	795	535
Exhaust	112	112
Rm Exh	200	200
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	31.4	42.4
cfm/ft²	0.71	0.52
cfm/ton	339.41	
ft²/ton	481.38	
Btu/hr-ft²	24.93	-21.86
No. People	3	

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	2.9	35.2	27.9	80.1	65.1	72.6	53.9	53.3	62.0
Aux Clg	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
Total	2.9	35.2							

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	1,411		
Part	0		
Int Door	1		
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	-14.2	735	53.9	71.9
Aux Htg	0.0	0	0.0	0.0
Preheat	-16.6	312	4.4	53.9
Reheat	-12.7	735	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-30.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-12

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 13			Mo/Hr: 10 / 12		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 93			OADB: 58		OADB: 4						SADB	55.0	81.1		
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	75.1	69.5			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	75.8	70.0			
Envelope Loads					Envelope Loads										Ret/OA	77.2	47.6
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	2,093	0	2,093	15	4,168	47	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	166	0	166	1	-297	-3	-1,006	14.89	-1,006	-1,006	14.89	Diffuser	413	142			
Wall Cond	390	0	390	3	184	2	-673	9.96	-673	-673	9.96	Terminal	413	142			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	413	142			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	49	49			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	49	49			
Sub Total ==>	2,648	0	2,648	19	4,055	46	-1,679	24.86	-1,679	-1,679	24.86	Infil	0	0			
Internal Loads					Internal Loads										MinStop/Rh	142	142
Lights	553	0	553	4	553	6	0	0.00	0	0	0.00	Return	413	142			
People	6,500	0	6,500	46	3,250	37	0	0.00	0	0	0.00	Exhaust	49	49			
Misc	1,024	0	1,024	7	1,024	12	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	8,077	0	8,077	57	4,827	54	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load	5	-5	0	0	-10	0	-25	0.00	0	0	0.00	Leakage Dwn	0	0			
Ventilation Load	0	0	1,607	11	0	0	0	50.77	-3,428	-3,428	50.77	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	11.8	34.2			
Ov/Undr Sizing	1,070	0	1,070	8	0	0	0	0.00	0	0	0.00	cfm/ft²	2.55	0.88			
Exhaust Heat	0	-43	-43	0	0	0	0	0.00	0	0	0.00	cfm/ton	349.02				
Sup. Fan Heat	0	0	471	3	0	0	-1,621	24.00	0	0	0.00	ft²/ton	137.07				
Ret. Fan Heat	0	353	353	2	0	0	0	0.00	-25	-25	0.37	Btu/hr-ft²	87.55	-41.68			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	13				
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 ==>	11,800	305	14,182	100.00	8,871	100.00	-1,704	100.00	-1,704	-6,753	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	1.2	14.2	10.0	398	77.2	63.0	66.5	53.9	50.4	50.9	Floor	162	Main Htg	-4.2	142	53.9	81.1
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	1	Preheat	-2.6	49	4.4	53.9
Total	1.2	14.2									ExFlr	0	Reheat	-2.5	142	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	177	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-6.8			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-13

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 9 / 13		Mo/Hr: 10 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 78 / 62 / 61		OADB: 58		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h	(%)	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						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	5,577	0	5,577	56	6,703	78	0	0.00						
Glass/Door Cond	41	0	41	0	-478	-6	-1,618	15.79						
Wall Cond	531	0	531	5	225	3	-766	7.47						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	6,149	0	6,149	62	6,450	75	-2,384	23.26						
Internal Loads				Internal Loads										
Lights	939	0	939	9	939	11	0	0.00						
People	1,500	0	1,500	15	750	9	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,439	0	2,439	25	1,689	20	0	0.00						
Ceiling Load	-3	3	0	0	-17	0	-43	0.00						
Ventilation Load	0	0	180	2	0	0	-4,762	46.47						
Adj Air Trans Heat	436		436	4	436	5	-436	4						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0.00						
Exhaust Heat		0	0	0			0	0.00						
Sup. Fan Heat			456	5			-2,338	22.81						
Ret. Fan Heat		282	282	3			-286	2.79						
Duct Heat Pkup		0	0	0			-43	0.42						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	9,020	285	9,941	100.00	8,557	100.00	-2,862	-10,247	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	398	219
Terminal	398	219
Main Fan	398	219
Sec Fan	0	0
Nom Vent	68	68
AHU Vent	68	68
Infil	0	0
MinStop/Rh	219	219
Return	330	152
Exhaust	0	0
Rm Exh	68	68
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	17.0	30.8
cfm/ft²	1.45	0.80
cfm/ton	480.31	
ft²/ton	331.97	
Btu/hr-ft²	36.15	-37.26
No. People	3	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.8	9.9	9.3	385	76.3	61.8	62.6	53.9	52.8	59.9
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	0.8	9.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	275		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	224	78	35
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-6.7	219	53.9	82.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.6	68	4.4	53.9
Reheat	-3.8	219	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-10.3			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-14

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 10			Mo/Hr: 8 / 10			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 78 / 68 / 91			OADB: 73			OADB: 4			SADB	55.0	85.0	Ra Plenum	75.1	69.5
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <td>75.8</td> <td>70.0</td> <td>Ret/OA</td> <td>76.2</td> <td>48.1</td>	75.8	70.0	Ret/OA	76.2	48.1		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0		
						Btu/h	Btu/h		Fn Frict	0.7	0.0					
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00				
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00				
Roof Cond	0	131	131	0	0	0	-864	4.00	Roof Cond	0	-864	4.00				
Glass Solar	15,893	0	15,893	53	16,590	76	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	156	0	156	1	-377	-2	-6,249	28.92	Glass/Door Cond	-6,249	-6,249	28.92				
Wall Cond	229	0	229	1	180	1	-500	2.31	Wall Cond	-500	-500	2.31				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	16,278	131	16,409	55	16,393	75	-6,748	35.23	Sub Total ==>	-6,748	-7,612	35.23				
Internal Loads					Internal Loads											
Lights	1,372	0	1,372	5	1,372	6	0	0.00	Lights	0	0	0.00				
People	6,000	0	6,000	20	3,000	14	0	0.00	People	0	0	0.00				
Misc	1,024	0	1,024	3	1,024	5	0	0.00	Misc	0	0	0.00				
Sub Total ==>	8,396	0	8,396	28	5,396	25	0	0.00	Sub Total ==>	0	0	0.00				
Ceiling Load	10	-10	0	0	2	0	-63	0.00	Ceiling Load	-63	0	0.00				
Ventilation Load	0	0	3,140	10	0	0	-9,925	45.93	Ventilation Load	0	-9,925	45.93				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	Ov/Undr Sizing	0	0	0.00				
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	Exhaust Heat	0	0	0.00				
Exhaust Heat	0	-125	-125	0	0	0	0	0.00	OA Preheat Diff.	0	0	0.00				
Sup. Fan Heat	0	0	1,195	4	0	0	-4,872	22.55	RA Preheat Diff.	-4,872	22.55					
Ret. Fan Heat	0	896	896	3	0	0	0	0.00	Additional Reheat	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	801	-3.71	System Plenum Heat	801	-3.71					
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00				
Grand Total ==>	24,683	893	29,911	100.00	21,791	100.00	-6,811	100.00	Grand Total ==>	-6,811	-21,609	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	1,013	422
Terminal	1,013	422
Main Fan	1,013	422
Sec Fan	0	0
Nom Vent	141	141
AHU Vent	141	141
Infil	0	0
MinStop/Rh	422	422
Return	1,013	422
Exhaust	141	141
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	13.9	33.3
cfm/ft²	2.52	1.05
cfm/ton	406.50	
ft²/ton	161.28	
Btu/hr-ft²	74.40	-53.75
No. People	12	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.5	29.9	24.3	1,008	76.2	62.7	66.7	53.9	52.4	58.3
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
Total	2.5	29.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	402		
Part	0		
Int Door	1		
ExFlr	0		
Roof	402	0	0
Wall	440	301	69
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-14.1	422	53.9	85.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-7.5	141	4.4	53.9
Reheat	-7.3	422	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-21.6			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-15

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 10		Mo/Hr: 7 / 10		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 78 / 68 / 91		OADB: 78		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		75.1	76.3	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	55.0	85.2				
Skylite Cond	0	0	0	0	0	0	0	0.00	75.1	69.5				
Roof Cond	0	131	131	1	0	0	-864	3.98	75.8	70.0				
Glass Solar	11,091	0	11,091	45	11,091	66	0	0.00	76.3	48.1				
Glass/Door Cond	158	0	158	1	158	1	-6,344	29.24	0.1	0.0				
Wall Cond	214	0	214	1	214	1	-490	2.26	0.3	0.0				
Partition/Door	0	0	0	0	0	0	0	0.00	0.7	0.0				
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	11,463	131	11,594	47	11,463	68	-6,834	35.48						
Internal Loads				Internal Loads										
Lights	1,372	0	1,372	6	1,372	8	0	0.00						
People	6,000	0	6,000	24	3,000	18	0	0.00						
Misc	1,024	0	1,024	4	1,024	6	0	0.00						
Sub Total ==>	8,396	0	8,396	34	5,396	32	0	0.00						
Ceiling Load	10	-10	0	0	10	0	-63	0.00						
Ventilation Load	0	0	3,140	13	0	0	-9,925	45.75						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00						
Exhaust Heat	0	-125	-125	-1	0	0	0	0.00						
Sup. Fan Heat	0	930	930	4	0	0	-4,872	22.46						
Ret. Fan Heat	0	697	697	3	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	801	-3.69						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	19,868	694	24,631	100.00	16,868	100.00	-6,896	-21,694	100.00					

AIRFLOWS

	Cooling	Heating
Diffuser	784	422
Terminal	784	422
Main Fan	784	422
Sec Fan	0	0
Nom Vent	141	141
AHU Vent	141	141
Infil	0	0
MinStop/Rh	422	422
Return	784	422
Exhaust	141	141
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	17.9	33.3
cfm/ft²	1.95	1.05
cfm/ton	382.11	
ft²/ton	195.85	
Btu/hr-ft²	61.27	-53.97
No. People	12	

COOLING COIL SELECTION

	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.1	24.6	19.0	784	76.3	62.9	67.8	53.9	52.0	57.0
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	2.1	24.6								

AREAS

	Gross Total	Glass ft²	(%)
Floor	402		
Part	0		
Int Door	1		
ExFlr	0		
Roof	402	0	0
Wall	442	306	69
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-14.2	422	53.9	85.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-7.5	141	4.4	53.9
Reheat	-7.3	422	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-21.7			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-16

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict</th> </th>	Fn BldTD <th>Fn Frict</th>	Fn Frict		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens								
Envelope Loads					Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0	0.00		
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0	0.00		
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0	0.00		
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0	0.00		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0	0.00		
Wall Cond	0	0	0	0	0	0	0	0.00	Wall Cond	0	0	0	0.00		
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0	0.00		
Floor	0	0	0	0	0.00	0	0	0.00	Floor	0	0	0	0.00		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00		
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0	0.00		
Sub Total ==>	0	0	0	0	0	0	0	0.00	Sub Total ==>	0	0	0	0.00		
Internal Loads					Internal Loads										
Lights	556	0	556	10	556	18	0	0.00	Lights	0	0	0	0.00		
People	1,000	0	1,000	18	500	16	0	0.00	People	0	0	0	0.00		
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0	0.00		
Sub Total ==>	1,556	0	1,556	27	1,056	33	0	0.00	Sub Total ==>	0	0	0	0.00		
Ceiling Load	9	-9	0	0	19	1	-25	0.00	Ceiling Load	-25	0	0	0.00		
Ventilation Load	0	0	1,777	31	0	0	0	66.74	Ventilation Load	0	-3,449	0	66.74		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0	0		
Dehumid. Ov Sizing			0	0			0	0.00	Ov/Undr Sizing	0	0	0	0.00		
Ov/Undr Sizing	2,092		2,092	37	2,080	66	0	0.00	Exhaust Heat	0	0	0	0.00		
Exhaust Heat		-43	-43	-1			0	0.00	OA Preheat Diff.		0	0	0.00		
Sup. Fan Heat			174	3			-1,693	32.77	RA Preheat Diff.		-1,693	0	32.77		
Ret. Fan Heat		130	130	2			0	0.00	Additional Reheat		0	0	0.00		
Duct Heat Pkup		0	0	0			-25	0.49	System Plenum Heat		-25	0	0.49		
Underflr Sup Ht Pkup		0	0	0			0	0.00	Underflr Sup Ht Pkup		0	0	0.00		
Supply Air Leakage		0	0	0			0	0.00	Supply Air Leakage		0	0	0.00		
Grand Total ==>	3,657	78	5,685	100.00	3,155	100.00	-25	100.00	Grand Total ==>	-25	-5,168	100.00			

AIRFLOWS

	Cooling	Heating
Diffuser	147	147
Terminal	147	147
Main Fan	147	147
Sec Fan	0	0
Nom Vent	49	49
AHU Vent	49	49
Infil	0	0
MinStop/Rh	147	147
Return	147	147
Exhaust	49	49
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	309.63	
ft²/ton	344.03	
Btu/hr-ft²	34.88	-31.71
No. People	2	

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	0.5	5.7	147	80.3	65.4	73.2	53.9	52.3	58.0
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	0.5	5.7							

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	163		
Part	0		
Int Door	1		
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	-2.6	147	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.6	49	4.4	53.9
Reheat	-2.5	147	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-17

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 22		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 76		OADB: 4			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		Btu/h	Tot Sens		Btu/h					
Envelope Loads					Envelope Loads										
	0	0	0	0	0	0	0	0	0.00						
Skylite Solar	0	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00						
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	0.00	0	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0	0.00						
Sub Total ==>	0	0	0	0	0	0	0	0	0.00						
Internal Loads					Internal Loads										
Lights	519	0	519	16	519	29	0	0	0.00						
People	500	0	500	16	250	14	0	0	0.00						
Misc	0	0	0	0	0	0	0	0	0.00						
Sub Total ==>	1,019	0	1,019	32	769	43	0	0	0.00						
Ceiling Load	8	-8	0	0	17	1	-24	0	0.00						
Ventilation Load	0	0	1,027	32	0	0	0	-1,994	70.39						
Adj Air Trans Heat	182	0	182	6	182	10	-182	-182	6						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00						
Ov/Undr Sizing	848	0	848	26	840	46	0	0	0.00						
Exhaust Heat	0	0	0	0	0	0	0	0	0.00						
Sup. Fan Heat	0	100	100	3	0	0	0	-489	17.28						
Ret. Fan Heat	0	50	50	2	0	0	0	-143	5.05						
Duct Heat Pkup	0	0	0	0	0	0	0	-24	0.84						
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						
Grand Total ==>	2,058	41	3,226	100.00	1,809	100.00	Grand Total ==>	-206	-2,833	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	84	65
Terminal	84	65
Main Fan	84	65
Sec Fan	0	0
Nom Vent	28	28
AHU Vent	28	28
Infil	0	0
MinStop/Rh	65	65
Return	56	37
Exhaust	0	0
Rm Exh	28	28
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.6	43.6
cfm/ft²	0.55	0.43
cfm/ton	312.86	
ft²/ton	565.48	
Btu/hr-ft²	21.22	-18.64
No. People	1	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.3	3.2	2.4	84	80.4	65.4	73.3	53.9	52.5	58.8
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	0.3	3.2								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	152		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	28	4.4	53.9
Reheat	-1.1	65	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.8			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-18

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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							
Envelope Loads					Envelope Loads										
	0	0	0	0	0	0	0	0	0.00						
Skylite Solar	0	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00						
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	0.00	0	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0	0.00						
Sub Total ==>	0	0	0	0	0	0	0	0	0.00						
Internal Loads					Internal Loads										
Lights	341	0	341	9	341	17	0	0	0.00						
People	1,000	0	1,000	26	500	24	0	0	0.00						
Misc	1,195	0	1,195	31	1,195	58	0	0	0.00						
Sub Total ==>	2,536	0	2,536	67	2,036	99	0	0	0.00						
Ceiling Load	6	-6	0	0	12	1	-16	0	0.00						
Ventilation Load	0	0	1,090	29	0	0	0	-2,116	79.82						
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0	0.00						
Ov/Undr Sizing	0		0	0	0	0	0	0	0.00						
Exhaust Heat		-27	-27	-1			0	0	0.00						
Sup. Fan Heat			113	3				-519	19.59						
Ret. Fan Heat		84	84	2				0	0.00						
Duct Heat Pkup		0	0	0				-16	0.59						
Underflr Sup Ht Pkup			0	0				0	0.00						
Supply Air Leakage		0	0	0				0	0.00						
Grand Total ==>	2,541	52	3,796	100.00	2,047	100.00	Grand Total ==>	-16	-2,651	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	95	60
Terminal	95	60
Main Fan	95	60
Sec Fan	0	0
Nom Vent	30	30
AHU Vent	30	30
Infil	0	0
MinStop/Rh	60	60
Return	95	60
Exhaust	30	30
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	31.5	50.0
cfm/ft²	0.95	0.60
cfm/ton	300.93	
ft²/ton	316.11	
Btu/hr-ft²	37.96	-26.51
No. People	2	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.3	3.8	2.7	95	80.1	65.2	72.6	53.9	51.6	55.3
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
Total	0.3	3.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	100		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent Lvg	
			°F	°F
Main Htg	-1.1	60	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.6	30	4.4	53.9
Reheat	-1.0	60	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-2.7			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-19

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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						
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0.00					
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0.00					
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0.00					
Glass Solar	1,029	0	1,029	12	1,168	21	Glass Solar	0	0.00					
Glass/Door Cond	105	0	105	1	51	1	Glass/Door Cond	-617	6.69					
Wall Cond	235	0	235	3	224	4	Wall Cond	-399	4.33					
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00					
Floor	0	0	0	0	0.00	0	Floor	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00					
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00					
<i>Sub Total ==></i>	1,369	0	1,369	16	1,442	26	<i>Sub Total ==></i>	-1,016	11.02					
Internal Loads				Internal Loads										
Lights	1,034	0	1,034	12	1,034	19	Lights	0	0.00					
People	1,500	0	1,500	17	750	14	People	0	0.00					
Misc	0	0	0	0	0	0	Misc	0	0.00					
<i>Sub Total ==></i>	2,534	0	2,534	29	1,784	32	<i>Sub Total ==></i>	0	0.00					
Ceiling Load	29	-29	0	0	26	0	Ceiling Load	-47	0.00					
Ventilation Load	0	0	2,070	24	0	0	Ventilation Load	0	54.36					
Adj Air Trans Heat	459		459	5	459	8	Adj Air Trans Heat	-459	5					
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0	0.00					
Ov/Undr Sizing	1,882		1,882	21	1,811	33	Exhaust Heat	0	0.00					
Exhaust Heat		0	0	0			OA Preheat Diff.		0.00					
Sup. Fan Heat			304	3			RA Preheat Diff.	-2,462	26.69					
Ret. Fan Heat		165	165	2			Additional Reheat	-226	2.45					
Duct Heat Pkup		0	0	0			System Plenum Heat	-47	0.51					
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 ==>	6,273	136	8,783	100.00	5,523	100.00	Grand Total ==>	-1,522	9,226	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	0.7	8.8	6.7	257	78.4	64.2	70.3	53.9	52.5	58.8	Floor	303	Main Htg	-5.4	226	53.9	76.3
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	1	Preheat	-3.8	71	4.4	53.9
											ExFlr	0	Reheat	-3.9	226	53.9	70.0
Total	0.7	8.8									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	113	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-2

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design		Mo/Hr: Heating Design				Cooling	Heating				
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 53		OADB: 4				SADB	55.0	85.7			
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	Ra Plenum	75.0	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	76.8	40.0			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	3,420	0	3,420	43	5,417	75	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	106	0	106	1	-473	-7	-1,265	21.43	-1,265	-1,265	21.43				Diffuser	336	101
Wall Cond	269	0	269	3	78	1	-410	6.94	-410	-410	6.94				Terminal	336	101
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	336	101
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	46	46
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	46	46
Sub Total ==>	3,795	0	3,795	47	5,022	69	-1,675	28.37	-1,675	-1,675	28.37				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	101	101
Lights	526	0	526	7	526	7	0	0.00	0	0	0.00				Return	336	101
People	1,000	0	1,000	13	500	7	0	0.00	0	0	0.00	Exhaust	46	46			
Misc	1,195	0	1,195	15	1,195	17	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	2,720	0	2,720	34	2,220	31	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	-2	0	0	-12	0	-24	0.00	0	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	942	12	0	0	0	55.20	0	-3,259	55.20	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	13.7	45.8
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ft²	2.18	0.65
Exhaust Heat	0	-41	-41	-1	0	0	0	0.00	0	0	0.00				cfm/ton	504.53	
Sup. Fan Heat	0	0	332	4	0	0	-946	16.03	0	0	0.00				ft²/ton	231.13	
Ret. Fan Heat	0	249	249	3	0	0	0	0.00	-24	0	0.41				Btu/hr-ft²	51.92	-38.34
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	2	
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 ==>	6,517	206	7,996	100.00	7,230	100.00	-1,699	100.00	-5,904	-5,904	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	0.7	8.0	6.9	280	76.8	62.7	66.0	53.9	52.9	60.2	Floor	154		Main Htg	-3.5	101	53.9	85.7	
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	1		Preheat	-2.5	46	4.4	53.9	
											ExFlr	0		Reheat	-1.8	101	53.9	70.0	
Total	0.7	8.0									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	139	61	44	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-5.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-20

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			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												
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,533	0	1,533	18	1,739	32	0	0	0.00							
	156	0	156	2	76	1	-919	-919	9.73							
	293	0	293	3	279	5	-497	-497	5.27							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	1,981	0	1,981	23	2,094	39	-1,416	-1,416	15.00							
Internal Loads				Internal Loads												
	983	0	983	11	983	18	0	0	0.00							
	1,500	0	1,500	17	750	14	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	2,483	0	2,483	29	1,733	32	0	0	0.00							
	27	-27	0	0	25	0	-45	0	0.00							
	0	0	2,027	24	0	0	0	-4,910	51.99							
	449	0	449	5	449	8	-449	-449	5							
	0	0	0	0	0	0	0	0	0.00							
	1,186	0	1,186	14	1,076	20	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	296	3	0	0	0	-2,410	25.52							
	0	160	160	2	0	0	0	-214	2.27							
	0	0	0	0	0	0	0	-45	0.48							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
Grand Total ==>	6,127	133	8,583	100.00	5,377	100.00	-1,910	-9,444	100.00							

AIRFLOWS		
	Cooling	Heating
Diffuser	250	221
Terminal	250	221
Main Fan	250	221
Sec Fan	0	0
Nom Vent	70	70
AHU Vent	70	70
Infil	0	0
MinStop/Rh	221	221
Return	180	152
Exhaust	0	0
Rm Exh	70	70
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	27.8	31.5
cfm/ft²	0.87	0.77
cfm/ton	349.55	
ft²/ton	402.68	
Btu/hr-ft²	29.80	-32.79
No. People	3	

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	0.7	8.6	6.6	250	78.4	64.2	70.3	53.9	52.5	58.7
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	0.7	8.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	288		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	148	44	30
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.7	221	53.9	78.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.7	70	4.4	53.9
Reheat	-3.8	221	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.4			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-21

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 18			Mo/Hr: 6 / 18		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 85 / 70 / 90			OADB: 80		OADB: 4						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	Fn MtrTD	Fn BldTD	Fn Frict	
	Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h							
Envelope Loads					Envelope Loads										AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00								
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00								
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00								
Glass Solar	1,543	0	1,543	17	1,751	31	Glass Solar	0	0	0.00								
Glass/Door Cond	157	0	157	2	76	1	Glass/Door Cond	-925	-925	9.31								
Wall Cond	499	0	499	6	473	8	Wall Cond	-864	-864	8.69								
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00								
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00								
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00								
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00								
Sub Total ==>	2,199	0	2,199	25	2,300	41	Sub Total ==>	-1,790	-1,790	18.00								
Internal Loads					Internal Loads													
Lights	995	0	995	11	995	18	Lights	0	0	0.00								
People	1,500	0	1,500	17	750	13	People	0	0	0.00								
Misc	0	0	0	0	0	0	Misc	0	0	0.00								
Sub Total ==>	2,495	0	2,495	28	1,745	31	Sub Total ==>	0	0	0.00								
Ceiling Load	28	-28	0	0	25	0	Ceiling Load	-46	0	0.00								
Ventilation Load	0	0	2,044	23	0	0	Ventilation Load	0	-4,952	49.82								
Adj Air Trans Heat	453	0	453	5	453	8	Adj Air Trans Heat	-453	-453	5								
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0	0.00								
Ov/Undr Sizing	1,218	0	1,218	14	1,122	20	Exhaust Heat	0	0	0.00								
Exhaust Heat	0	0	0	0	0	0	OA Preheat Diff.	-2,431	24.46									
Sup. Fan Heat	0	0	311	3	0	0	RA Preheat Diff.	-270	2.71									
Ret. Fan Heat	0	171	171	2	0	0	Additional Reheat	-46	0.46									
Duct Heat Pkup	0	0	0	0	0	0	System Plenum Heat	0	0.00									
Underflr Sup Ht Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00									
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0.00									
Grand Total ==>	6,394	143	8,892	100.00	5,646	100.00	Grand Total ==>	-2,288	-9,941	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	0.7	8.9	6.9	262	78.3	64.1	70.0	53.9	52.5	58.9	Floor	292	Main Htg	-6.2	226	53.9	79.4		
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	1	Preheat	-3.7	70	4.4	53.9		
											ExFlr	0	Reheat	-3.9	226	53.9	70.0		
Total	0.7	8.9									Roof	0	Humidif	0.0	0	0.0	0.0		
											Wall	225	Opt Vent	0.0	0	0.0	0.0		
											Ext Door	0	Total	-9.9					

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-22

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 18		Mo/Hr: Heating Design			Cooling		Heating	SADB	55.0	75.6	
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 80		OADB: 4			Ra Plenum		69.5	75.3	69.5		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	75.8	70.0	Ret/OA	77.4	48.1	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Fn MtrTD	0.1	0.0	Fn BldTD	0.3	0.0	
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser		916	444			
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal		916	444			
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan		916	444			
Glass Solar	2,562	0	2,562	7	2,908	15	0	0.00	Sec Fan		0	0			
Glass/Door Cond	260	0	260	1	127	1	-1,536	8.43	Nom Vent		148	148			
Wall Cond	628	0	628	2	597	3	-1,065	5.84	AHU Vent		148	148			
Partition/Door	0	0	0	0	0	0	0	0.00	Infil		0	0			
Floor	0	0	0	0	0.00	0	0	0.00	MinStop/Rh		444	444			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return		916	444			
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust		148	148			
Sub Total ==>	3,451	0	3,451	9	3,631	18	-2,602	14.27	Rm Exh		0	0			
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	1,683	0	1,683	4	1,683	9	0	0.00	% OA		16.1	33.3			
People	27,115	0	27,115	69	13,558	69	0	0.00	cfm/ft²		1.86	0.90			
Misc	785	0	785	2	785	4	0	0.00	cfm/ton		281.17	53.9	70.0		
Sub Total ==>	29,583	0	29,583	76	16,025	81	0	0.00	ft²/ton		151.34	79.29	-36.98		
Ceiling Load	47	-47	0	0	42	0	-77	0.00	Btu/hr-ft²		79.29	-36.98			
Ventilation Load	0	0	4,307	11	0	0	-10,433	57.22	No. People		49				
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00							
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00							
Exhaust Heat	0	-131	-131	0	0	0	0	0.00							
Sup. Fan Heat	0	0	1,076	3	0	0	-5,122	28.09							
Ret. Fan Heat	0	807	807	2	0	0	0	0.00							
Duct Heat Pkup	0	0	0	0	0	0	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	0	-77	0.42							
Supply Air Leakage	0	0	0	0	0	0	0	0.00							
Grand Total ==>	33,080	628	39,091	100.00	19,699	100.00	-2,679	100.00							

COOLING COIL SELECTION											AREAS			HEATING COIL SELECTION			
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	3.3	39.1	22.9	908	77.4	63.2	67.2	53.9	47.7	41.0	Floor	493	Main Htg	-10.4	444	53.9	75.6
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	1	Preheat	-7.9	148	4.4	53.9
											ExFlr	0	Reheat	-7.7	444	53.9	70.0
Total	3.3	39.1									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	296	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-18.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-23

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 11		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 82		OADB: 4			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		Btu/h	Tot Sens		Btu/h					
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	634	190			
Skylite Cond	0	0	0	0	0	0	0	0	0.00	Terminal	634	190			
Roof Cond	0	0	0	0	0	0	0	0	0.00	Main Fan	634	190			
Glass Solar	0	0	0	0	0	0	0	0	0.00	Sec Fan	0	0			
Glass/Door Cond	0	0	0	0	0	0	0	0	0.00	Nom Vent	53	53			
Wall Cond	42	0	42	0	84	1	-96	-96	1.55	AHU Vent	53	53			
Partition/Door	0	0	0	0	0	0	0	0	0.00	Infil	0	0			
Floor	0	0	0	0	0.00	0	0	0	0.00	MinStop/Rh	190	190			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	582	190			
Infiltration	0	0	0	0	0	0	0	0	0.00	Exhaust	0	53			
Sub Total ==>	42	0	42	0	84	1	-96	-96	1.55	Rm Exh	53	0			
Internal Loads					Internal Loads						ENGINEERING CKS				
Lights	597	0	597	3	597	4	0	0	0.00	Auxiliary	0	0			
People	1,000	0	1,000	6	500	4	0	-3,703	59.62	Leakage Dwn	0	0			
Misc	12,450	0	12,450	72	12,450	91	0	0	0.00	Leakage Ups	0	0			
Sub Total ==>	14,047	0	14,047	81	13,547	99	0	0	0.00	% OA	8.3	27.6			
Ceiling Load	10	-10	0	0	4	0	-27	0	0.00	cfm/ft²	3.62	1.09			
Ventilation Load	0	0	1,908	11	0	0	0	-2,384	38.39	ft²/ton	121.66				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	98.64	-35.49			
Dehumid. Ov Sizing			0	0			0	0	0.00	No. People	2				
Ov/Undr Sizing	0	0	0	0	0	0	0	0	0.00						
Exhaust Heat		0	0	0			0	0	0.00						
Sup. Fan Heat			749	4			0	0	0.00						
Ret. Fan Heat		515	515	3			0	0	0.00						
Duct Heat Pkup		0	0	0			-27	0.44							
Underflr Sup Ht Pkup			0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	14,099	506	17,261	100.00	13,636	100.00	-123	-6,211	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	1.4	17.3	15.7	632	76.9	62.7	65.4	53.9	53.2	61.7	Floor	175	-3.4	190	53.9	70.6	
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	1	-2.8	53	4.4	53.9	
											ExFlr	0	-3.3	190	53.9	70.0	
Total	1.4	17.3									Roof	0	0.0	0	0.0	0.0	
											Wall	20	0.0	0	0.0	0.0	
											Ext Door	0	0	0	0	0	
													Total	-6.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-24

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: 89 / 72 / 94		OADB: 83		OADB: 4						SADB	55.0	72.5			
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	75.2	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	82.6	37.2			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	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				Cooling	Heating	
Wall Cond	165	0	165	2	274	7	-429	5.10	-429	-429	5.10				Diffuser	181	181
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	181	181
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Main Fan	181	181
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Sec Fan	0	0
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				Nom Vent	90	90
Sub Total ==>	165	0	165	2	274	7	-429	5.10	-429	-429	5.10				AHU Vent	90	90
Internal Loads				Internal Loads											Infil	0	0
Lights	1,027	0	1,027	14	1,027	26	0	0.00	0	0	0.00				MinStop/Rh	181	181
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	181	181			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	90	90			
Sub Total ==>	1,027	0	1,027	14	1,027	26	0	0.00	0	0	0.00	Rm Exh	0	0			
Ceiling Load				Ceiling Load								Auxiliary	0	0			
Ventilation Load	0	-17	0	0	32	1	-47	0.00	0	0	0.00	Leakage Dwn	0	0			
Adj Air Trans Heat	0	0	3,281	44	0	0	0	75.75	-6,371	-6,371	75.75	Leakage Ups	0	0			
Dehumid. Ov Sizing			0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS					
Ov/Undr Sizing	2,675		2,675	36	2,551	66	0	0.00	0	0	0.00				Cooling	Heating	
Exhaust Heat		-80	-80	-1			0	0.00	0	0	0.00				% OA	50.0	50.0
Sup. Fan Heat			214	3			0	0.00	-1,564	-1,564	18.59				cfm/ft²	0.60	0.60
Ret. Fan Heat		161	161	2			0	0.00	0	0	0.00				cfm/ton	291.19	
Duct Heat Pkup		0	0	0			0	0.56	-47	-47	0.56				ft²/ton	485.31	
Underflr Sup Ht Pkup		0	0	0			0	0.00	0	0	0.00				Btu/hr-ft²	24.73	-27.94
Supply Air Leakage		0	0	0			0	0.00	0	0	0.00				No. People	0	
Grand Total ==>	3,885	64	7,444	100.00	3,885	100.00	-476	100.00	-8,410	-8,410	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	0.6	7.4	5.6	181	82.6	67.1	78.4	53.9	53.6	63.2	Floor	301		Main Htg	-3.6	181	53.9	72.5	
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	1		Preheat	-4.8	90	4.4	53.9	
											ExFlr	0		Reheat	-3.1	181	53.9	70.0	
Total	0.6	7.4									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	89	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-8.4			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-25

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94			OADB: 78		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	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	0	0		
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Internal Loads					Internal Loads										
Lights	2,240	0	2,240	19	2,240	34	0	0.00	0	0	0	0	0		
People	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Misc	0	0	0	0	0	0	0	0.00	0	0	0	0	0		
Sub Total ==>	2,240	0	2,240	19	2,240	34	0	0.00	0	0	0	0	0		
Ceiling Load	37	-37	0	0	75	1	-102	0.00	0	0	0	0	0		
Ventilation Load	0	0	4,927	41	0	0	0	78.47	-9,565	0	0	0	0		
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0	0		
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0	0	0		
Ov/Undr Sizing	4,265		4,265	36	4,238	65	0	0.00	0	0	0	0	0		
Exhaust Heat		-121	-121	-1			0	0.00	0	0	0	0	0		
Sup. Fan Heat			360	3			-2,348	19.26							
Ret. Fan Heat		270	270	2			-174	1.43							
Duct Heat Pkup		0	0	0			-102	0.84							
Underflr Sup Ht Pkup			0	0			0	0.00							
Supply Air Leakage		0	0	0			0	0.00							
Grand Total ==>	6,541	113	11,942	100.00	6,553	100.00	-102	100.00	-12,190						

AIRFLOWS		
	Cooling	Heating
Diffuser	305	281
Terminal	305	281
Main Fan	305	281
Sec Fan	0	0
Nom Vent	136	136
AHU Vent	136	136
Infil	0	0
MinStop/Rh	281	281
Return	305	281
Exhaust	136	136
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	44.5	48.2
cfm/ft²	0.46	0.43
cfm/ton	306.19	
ft²/ton	659.45	
Btu/hr-ft²	18.20	-18.58
No. People	0	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	1.0	11.9	9.1	304	81.8	66.5	76.7	53.9	53.6	63.2
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	1.0	11.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	656		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-5.0	281	53.9	70.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-7.2	136	4.4	53.9
Reheat	-4.9	281	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-12.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-26

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4						SADB	55.0	70.2			
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	Return	75.2	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	77.9	70.0			
Envelope Loads				Envelope Loads								Fm MtrTD	0.1	0.0			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fm BldTD	0.3	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fm Frict	0.7	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00				Cooling	Heating	
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Diffuser	337	102
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	337	102
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	337	102
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	51	51
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	51	51
Sub Total ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	102	102
Lights	580	0	580	6	580	8	0	0.00	0	0	0.00	Return	337	102			
People	500	0	500	5	250	3	0	0.00	0	0	0.00	Exhaust	51	51			
Misc	6,400	0	6,400	64	6,400	88	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	7,480	0	7,480	75	7,230	100	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load				Ceiling Load								Leakage Dwn	0	0			
Ventilation Load	0	-9	0	0	20	0	-27	0.00	0	0	0.00	Leakage Ups	0	0			
Adj Air Trans Heat	0	0	1,853	19	0	0	0	79.82	0	-3,598	0	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				Cooling	Heating	
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	15.1	50.0
Exhaust Heat	0	-45	-45	0	0	0	0	0.00	0	0	0.00				cfm/ft²	1.98	0.60
Sup. Fan Heat	0	0	399	4	0	0	-883	19.59	0	0	0.00				cfm/ton	405.07	
Ret. Fan Heat	0	299	299	3	0	0	0	0.00	0	0	0.00				ft²/ton	204.28	
Duct Heat Pkup	0	0	0	0	0	0	-27	0.59	0	0	0.00				Btu/hr-ft²	58.74	-26.51
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	1	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00						
Grand Total ==>	7,490	244	9,986	100.00	7,250	100.00	-27	100.00	-27	-4,507	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	10.0	8.7	337	77.9	63.4	67.5	53.9	53.3	61.8	Floor	170	Main Htg	-1.8	102	53.9	70.2
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	1	Preheat	-2.7	51	4.4	53.9
											ExFlr	0	Reheat	-1.8	102	53.9	70.0
Total	0.8	10.0									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	-4.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-27

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 17		Mo/Hr: 8 / 17		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 71 / 91		OADB: 82		OADB: 4			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	75.3	79.6	0.1	0.3	0.7	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	1,769	0	1,769	33	1,884	53	0	0.00						
Glass/Door Cond	103	0	103	2	62	2	-508	9.31						
Wall Cond	332	0	332	6	329	9	-311	5.70						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	2,205	0	2,205	41	2,275	64	-819	15.01						
Internal Loads				Internal Loads										
Lights	597	0	597	11	597	17	0	0.00						
People	0	0	0	0	0	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
Sub Total ==>	597	0	597	11	597	17	0	0.00						
Ceiling Load	15	-15	0	0	11	0	-27	0.00						
Ventilation Load	0	0	1,696	31	0	0	-3,703	67.84						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	649		649	12	651	18	0	0.00						
Exhaust Heat		-47	-47	-1			0	0.00						
Sup. Fan Heat			191	4			-909	16.65						
Ret. Fan Heat		143	143	3			0	0.00						
Duct Heat Pkup		0	0	0			-27	0.50						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	3,466	82	5,434	100.00	3,533	100.00	-846	100.00						

AIRFLOWS

	Cooling	Heating
Diffuser	164	105
Terminal	164	105
Main Fan	164	105
Sec Fan	0	0
Nom Vent	53	53
AHU Vent	53	53
Infil	0	0
MinStop/Rh	105	105
Return	164	105
Exhaust	53	53
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	32.0	50.0
cfm/ft²	0.94	0.60
cfm/ton	362.79	
ft²/ton	386.43	
Btu/hr-ft²	31.05	-31.19
No. People	0	

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	0.5	5.4	161	79.6	64.9	72.0	53.9	53.6	63.1
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	0.5	5.4							

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	175		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	89	25	27
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-2.7	105	53.9	77.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-2.8	53	4.4	53.9
Reheat	-1.8	105	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-5.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-28

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design						Cooling	Heating					
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4						SADB	55.0	71.5				
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	75.2	69.5				
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	75.8	70.0				
Envelope Loads				Envelope Loads								Fn MtrTD	0.1	0.0				
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0				
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0				
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00				Cooling	Heating		
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Diffuser	24	7	
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	24	7	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	24	7	
Floor	0	0	0	0.00	0	0	0	0.00	0	0	0.00				Sec Fan	0	0	
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	0	0	0	0	0	0	0	0.00	0	0	0.00				Infil	0	0	
Internal Loads				Internal Loads											MinStop/Rh	7	7	
Lights	259	0	259	32	259	50	0	0.00	0	0	0.00	Return	24	7				
People	500	0	500	62	250	48	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 ==>	759	0	759	94	509	98	0	0.00	0	0	0.00	Auxiliary	0	0				
Ceiling Load	4	-4	0	0	9	2	-12	0.00	-12	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	0	0	0	ENGINEERING CKS						
Dehumid. Ov Sizing			0	0			0	0.00			0.00				Cooling	Heating		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	0.0	0.0	
Exhaust Heat		0	0	0			0	0.00			0.00				cfm/ft²	0.32	0.10	
Sup. Fan Heat			28	3			0	0.00			0.00				cfm/ton	357.38		
Ret. Fan Heat		21	21	3			-125	91.34			-125				91.34	ft²/ton	1,127.40	
Duct Heat Pkup		0	0	0			-12	8.66			-12				8.66	Btu/hr-ft²	10.64	-1.80
Underflr Sup Ht Pkup			0	0			0	0.00			0				0.00	No. People	1	
Supply Air Leakage		0	0	0			0	0.00			0				0.00			
Grand Total ==>	764	17	809	100.00	518	100.00	-12	100.00	-12	-137	100.00							

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION							
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F				
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb										
Main Clg	0.1	0.8	0.6	24	75.8	61.7	62.8	53.9	49.5	47.7	Floor	76				Main Htg	-0.1	7	53.9	71.5
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	1				Preheat	0.0	0	0.0	0.0
											ExFlr	0				Reheat	-0.1	7	53.9	70.0
Total	0.1	0.8									Roof	0	0	0		Humidif	0.0	0	0.0	0.0
											Wall	0	0	0		Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0		Total	-0.1			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-29

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 17		Mo/Hr: 8 / 17		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 87 / 71 / 91		OADB: 82		OADB: 4						SADB	55.0	82.8
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	75.3	69.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	77.7	37.2
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Glass Solar	2,717	0	2,717	32	2,893	50	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	158	0	158	2	96	2	-780	15.67	-780	-780	15.67	Diffuser	271	86
Wall Cond	408	0	408	5	404	7	-383	7.68	-383	-383	7.68	Terminal	271	86
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	271	86
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	43	43
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	43	43
Sub Total ==>	3,284	0	3,284	39	3,393	58	-1,163	23.35	-1,163	-1,163	23.35	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	86	86
Lights	491	0	491	6	491	8	0	0.00	0	0	0.00	Return	271	86
People	1,500	0	1,500	18	750	13	0	0.00	0	0	0.00	Exhaust	43	43
Misc	1,195	0	1,195	14	1,195	20	0	0.00	0	0	0.00	Rm Exh	0	0
Sub Total ==>	3,186	0	3,186	38	2,436	42	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-12	0	0	9	0	-22	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	0	0	1,395	17	0	0	0	61.18	0	-3,047	61.18	ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	15.9	50.0
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	1.88	0.60
Exhaust Heat	0	-38	-38	0	0	0	0	0.00	0	0	0.00	cfm/ton	388.70	
Sup. Fan Heat	0	0	316	4	0	0	-748	15.02	0	0	0.00	ft²/ton	206.21	
Ret. Fan Heat	0	237	237	3	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	58.19	-34.59
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	No. People	3	
Underflr Sup Ht Pkup	0	0	0	0	0	0	-22	0.45	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	6,482	187	8,380	100.00	5,838	100.00	-1,185	100.00	-1,185	-4,981	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	0.7	8.4	6.8	267	77.7	63.3	67.4	53.9	52.5	58.8	Floor	144	-2.7	86	53.9	82.8	
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	1	-2.3	43	4.4	53.9	
Total	0.7	8.4									ExFlr	0	-1.5	86	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	117	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
													Total	-5.0			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-3

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 87 / 71 / 93		OADB: 53		OADB: 4			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		75.1	78.3	0.1	0.3	0.7
							Btu/h	Btu/h		75.8	78.3	0.1	0.3	0.7
Envelope Loads				Envelope Loads										
	0	0	0	0	0	0	0	0	0.00					
Skylite Solar	0	0	0	0	0	0	0	0	0.00					
Skylite Cond	0	0	0	0	0	0	0	0	0.00					
Roof Cond	0	0	0	0	0	0	0	0	0.00					
Glass Solar	5,027	0	5,027	19	10,344	50	0	0	0.00					
Glass/Door Cond	398	0	398	1	-902	-4	-2,416	-2,416	12.23					
Wall Cond	546	0	546	2	166	1	-876	-876	4.44					
Partition/Door	0	0	0	0	0	0	0	0	0.00					
Floor	0	0	0	0	0.00	0	0	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Infiltration	0	0	0	0	0	0	0	0	0.00					
Sub Total ==>	5,971	0	5,971	22	9,608	47	-3,292	-3,292	16.67					
Internal Loads				Internal Loads										
Lights	1,976	0	1,976	7	1,976	10	0	0	0.00					
People	5,000	0	5,000	19	2,500	12	0	0	0.00					
Misc	5,802	0	5,802	22	5,802	28	0	0	0.00					
Sub Total ==>	12,778	0	12,778	48	10,278	50	0	0	0.00					
Ceiling Load	19	-19	0	0	-46	0	-90	0	0.00					
Ventilation Load	0	0	5,742	22	0	0	0	-12,253	62.03					
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0					
Dehumid. Ov Sizing			0	0			0	0	0.00					
Ov/Undr Sizing	727		727	3	732	4	0	0	0.00					
Exhaust Heat		-154	-154	-1			0	0	0.00					
Sup. Fan Heat			937	4				-4,117	20.84					
Ret. Fan Heat		702	702	3				0	0.00					
Duct Heat Pkup		0	0	0				-90	0.46					
Underflr Sup Ht Pkup			0	0				0	0.00					
Supply Air Leakage		0	0	0				0	0.00					
Grand Total ==>	19,496	529	26,703	100.00	20,572	100.00	-3,383	-19,753	100.00					

AIRFLOWS

	Cooling	Heating
Diffuser	957	411
Terminal	957	411
Main Fan	957	411
Sec Fan	0	0
Nom Vent	174	174
AHU Vent	174	174
Infil	0	0
MinStop/Rh	411	411
Return	957	411
Exhaust	174	174
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	18.2	42.2
cfm/ft²	1.65	0.71
cfm/ton	429.87	
ft²/ton	260.20	
Btu/hr-ft²	46.12	-34.12
No. People	10	

COOLING COIL SELECTION

	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.2	26.7	20.7	790	78.3	63.9	69.4	53.9	52.4	58.3
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
Total	2.2	26.7								

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	579		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	284	116	41
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent	
			°F	Lvg °F
Main Htg	-10.5	411	53.9	77.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-9.3	174	4.4	53.9
Reheat	-7.1	411	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-19.8			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-30

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: 87 / 71 / 91		OADB: 85		OADB: 4			SADB	55.0	79.0		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	75.3	69.5		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Ret/OA	75.8	70.0		
						Btu/h	Btu/h		Fn MtrTD	77.0	48.5		
Envelope Loads				Envelope Loads						Fn BldTD	0.1	0.0	
Skylite Solar	0	0	0	0	0	0	0	0.00	Fn Frict	0.3	0.0		
Skylite Cond	0	0	0	0	0	0	0	0.00		0.7	0.0		
Roof Cond	0	0	0	0	0	0	0	0.00	AIRFLOWS				
Glass Solar	3,602	0	3,602	7	4,105	13	0	0.00					
Glass/Door Cond	423	0	423	1	368	1	-2,081	9.80	Diffuser	1,511	478		
Wall Cond	1,684	0	1,684	3	1,890	6	-2,480	11.68	Terminal	1,511	478		
Partition/Door	0	0	0	0	0	0	0	0.00	Main Fan	1,511	478		
Floor	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	156	156		
Infiltration	0	0	0	0	0	0	0	0.00	AHU Vent	156	156		
Sub Total ==>	5,709	0	5,709	11	6,364	20	-4,561	21.48	Infil	0	0		
Internal Loads				Internal Loads						MinStop/Rh	478	478	
Lights	1,778	0	1,778	3	1,778	5	0	0.00	Return	1,511	478		
People	29,050	0	29,050	54	14,525	45	0	0.00	Exhaust	156	156		
Misc	9,774	0	9,774	18	9,774	30	0	0.00	Rm Exh	0	0		
Sub Total ==>	40,602	0	40,602	75	26,077	80	0	0.00	Auxiliary	0	0		
Ceiling Load				Ceiling Load						Leakage Dwn	0	0	
Ventilation Load	0	-43	0	0	50	0	-81	0.00	Leakage Ups	0	0		
Adj Air Trans Heat	0	0	5,048	9	0	0	0	51.93	ENGINEERING CKS				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	% OA	10.3	32.7		
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	cfm/ft²	2.90	0.92		
Exhaust Heat	0	-139	-139	0	0	0	-5,563	26.20	cfm/ton	333.92			
Sup. Fan Heat	0	0	1,754	3	0	0	0	0.00	ft²/ton	115.16			
Ret. Fan Heat	0	0	1,316	2	0	0	0	0.00	Btu/hr-ft²	104.20	-40.75		
Duct Heat Pkup	0	0	0	0	0	0	-81	0.38	No. People	54			
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	0	0.00					
Grand Total ==>	46,354	1,133	54,289	100.00	32,490	100.00	-4,643	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			°F	°F	gr/lb	°F	°F	gr/lb								ft²	(%)
Main Clg	4.5	54.3	36.8	1,480	77.0	62.8	65.8	53.9	49.8	48.5	Floor	521			Main Htg	-12.9	478	53.9	79.0
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	1			Preheat	-8.3	156	4.4	53.9
											ExFlr	0			Reheat	-8.3	478	53.9	70.0
Total	4.5	54.3									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
											Wall	617	100	16	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-21.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-31

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 10			Mo/Hr: 7 / 10			Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 78 / 68 / 91			OADB: 78			OADB: 4			SADB			Ra Plenum			
											Return			Ret/OA			
											Fn MtrTD			Fn BldTD			
											Fn Frict						
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		Skylite Solar		0		0.00	
Skylite Cond		0		0		0		0		0		Skylite Cond		0		0.00	
Roof Cond		0		0		0		0		0		Roof Cond		0		0.00	
Glass Solar		805		0		805		22		805		37		0		0.00	
Glass/Door Cond		6		0		6		0		6		0		-254		5.20	
Wall Cond		512		0		512		14		512		24		-1,076		22.04	
Partition/Door		0		0		0		0		0		0		0		0.00	
Floor		0		0		0		0		0.00		0		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
Infiltration		0		0		0		0		0		0		0		0.00	
Sub Total ==>		1,323		0		1,323		36		1,323		61		-1,330		27.25	
Internal Loads																	
Lights		382		0		382		10		382		18		0		0.00	
People		0		0		0		0		0		0		0		0.00	
Misc		0		0		0		0		0		0		0		0.00	
Sub Total ==>		382		0		382		10		382		18		0		0.00	
Ceiling Load		3		-3		0		0		3		0		-17		0.00	
Ventilation Load		0		0		750		20		0		0		-2,370		48.56	
Adj Air Trans Heat		0		0		0		0		0		0		0		0	
Dehumid. Ov Sizing						0		0						0		0.00	
Ov/Undr Sizing		1,082				1,082		29		459		21		0		0.00	
Exhaust Heat				-30		-30		-1						0		0.00	
Sup. Fan Heat						119		3						-1,164		23.84	
Ret. Fan Heat				90		90		2						0		0.00	
Duct Heat Pkup				0		0		0						-17		0.36	
Underflr Sup Ht Pkup				0		0		0						0		0.00	
Supply Air Leakage				0		0		0						0		0.00	
Grand Total ==>		2,790		57		3,717		100.00		2,168		100.00		-1,348		-4,881 100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	101	101
Terminal	101	101
Main Fan	101	101
Sec Fan	0	0
Nom Vent	34	34
AHU Vent	34	34
Infil	0	0
MinStop/Rh	101	101
Return	101	101
Exhaust	34	34
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.3	33.3
cfm/ft²	0.90	0.90
cfm/ton	325.46	
ft²/ton	361.62	
Btu/hr-ft²	33.18	-43.58
No. People	0	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.3	3.7	3.1	101	76.7	63.9	72.1	53.9	51.2	53.9
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	0.3	3.7								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	112		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	236	12	5
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.8	34	4.4	53.9
Reheat	-1.8	101	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.9			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-32

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4						SADB	55.0	79.4
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	75.3	69.5
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	78.0	48.1
Envelope Loads				Envelope Loads								Fn MtrTD	0.1	0.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn BldTD	0.3	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn Frict	0.7	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				AIRFLOWS		
Glass Solar	1,306	0	1,306	17	1,588	35	Glass Solar	0	0.00			Diffuser	209	142
Glass/Door Cond	163	0	163	2	50	1	Glass/Door Cond	-919	14.31			Terminal	209	142
Wall Cond	277	0	277	4	291	6	Wall Cond	-493	7.68			Main Fan	209	142
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00			Sec Fan	0	0
Floor	0	0	0	0	0.00	0	Floor	0	0.00			Nom Vent	47	47
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00			AHU Vent	47	47
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00			Infil	0	0
Sub Total ==>	1,745	0	1,745	22	1,928	43	Sub Total ==>	-1,412	-1,412	21.99		MinStop/Rh	142	142
Internal Loads				Internal Loads								Return	209	142
Lights	539	0	539	7	539	12	Lights	0	0.00			Exhaust	47	47
People	3,500	0	3,500	45	1,750	39	People	0	0.00			Rm Exh	0	0
Misc	270	0	270	3	270	6	Misc	0	0.00			Auxiliary	0	0
Sub Total ==>	4,309	0	4,309	55	2,559	57	Sub Total ==>	0	0.00			Leakage Dwn	0	0
Ceiling Load				Ceiling Load								Leakage Ups	0	0
Ventilation Load	0	-15	0	0	15	0	Ventilation Load	-25	0.00			ENGINEERING CKS		
Adj Air Trans Heat	0	0	1,380	18	0	0	Adj Air Trans Heat	0	-3,344	52.07		% OA	22.6	33.3
Dehumid. Ov Sizing	0	0	0	0	0	0	Dehumid. Ov Sizing	0	0.00			cfm/ft²	1.32	0.90
Ov/Undr Sizing	0	0	0	0	0	0	Ov/Undr Sizing	0	0.00			cfm/ton	321.69	
Exhaust Heat	0	-42	-42	-1	0	0	Exhaust Heat	0	0.00			ft²/ton	242.80	
Sup. Fan Heat	0	0	238	3	0	0	OA Preheat Diff.	-1,641	25.56			Btu/hr-ft²	49.42	-40.65
Ret. Fan Heat	0	179	179	2	0	0	RA Preheat Diff.	0	0.00			No. People	7	
Duct Heat Pkup	0	0	0	0	0	0	Additional Reheat	0	0.00					
Underflr Sup Ht Pkup	0	0	0	0	0	0	System Plenum Heat	-25	0.38					
Supply Air Leakage	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	6,069	121	7,809	100.00	4,502	100.00	Grand Total ==>	-1,437	-6,422	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	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F			
Main Clg	0.7	7.8	5.2	201	78.0	63.8	69.2	53.9	50.2	50.2	Floor	158	-3.9	142	53.9	79.4	
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	1	-2.5	47	4.4	53.9	
Total	0.7	7.8									ExFlr	0	-2.5	142	53.9	70.0	
											Roof	0	0.0	0	0.0	0.0	
											Wall	147	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
											Total	-6.4					

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-33

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 18		Mo/Hr: 6 / 19		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 85 / 70 / 90		OADB: 77		OADB: 4						SADB	55.0	78.9			
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	75.3	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	79.0	48.1			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	877	0	877	17	1,066	40	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	109	0	109	2	34	1	-617	11.28	-617	-617	11.28				Cooling	Heating	
Wall Cond	302	0	302	6	317	12	-538	9.84	-538	-538	9.84				Diffuser	122	122
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Terminal	122	122
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Main Fan	122	122
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Sec Fan	0	0
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				Nom Vent	41	41
Sub Total ==>	1,288	0	1,288	25	1,416	54	-1,155	21.13	-1,155	-1,155	21.13				AHU Vent	41	41
Internal Loads				Internal Loads											Infil	0	0
Lights	464	0	464	9	464	18	0	0.00	0	0	0.00				MinStop/Rh	122	122
People	1,000	0	1,000	20	500	19	0	0.00	0	0	0.00	Return	122	122			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	41	41			
Sub Total ==>	1,464	0	1,464	29	964	37	0	0.00	0	0	0.00	Rm Exh	0	0			
Ceiling Load				Ceiling Load								Auxiliary	0	0			
Ventilation Load	0	-13	0	0	13	0	-21	0.00	0	0	0.00	Leakage Dwn	0	0			
Adj Air Trans Heat	0	0	1,188	23	0	0	0	52.64	0	-2,878	52.64	Leakage Ups	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	ENGINEERING CKS					
Ov/Undr Sizing	940	0	940	18	239	9	0	0.00	0	0	0.00				Cooling	Heating	
Exhaust Heat	0	-36	-36	-1	0	0	0	0.00	0	0	0.00				% OA	33.3	33.3
Sup. Fan Heat	0	0	145	3	0	0	-1,413	25.84	0	-1,413	25.84				cfm/ft²	0.90	0.90
Ret. Fan Heat	0	109	109	2	0	0	0	0.00	0	0	0.00				cfm/ton	288.10	
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	-21	0.39	0.39				ft²/ton	320.11	
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				Btu/hr-ft²	37.49	-40.20
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00				No. People	2	
Grand Total ==>	3,706	60	5,098	100.00	2,632	100.00	-1,176	100.00	-1,176	-5,467	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	5.1	3.9	122	79.0	64.6	71.8	53.9	50.2	50.2	Floor	136	-3.3	122	53.9	78.9	
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	1	-2.2	41	4.4	53.9	
											ExFlr	0	-2.1	122	53.9	70.0	
Total	0.4	5.1									Roof	0	0.0	0	0.0	0.0	
											Wall	142	0.0	0	0.0	0.0	
											Ext Door	0	0.0	0	0.0	0.0	
													Total	-5.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-4

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4						SADB	55.0	80.5
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	75.0	69.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	76.9	49.2
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0
Glass Solar	4,541	0	4,541	38	7,192	70	0	0.00	0	0	0.00	AIRFLOWS		
Glass/Door Cond	140	0	140	1	-627	-6	-1,680	17.26	-1,680	-1,680	17.26	Diffuser	480	214
Wall Cond	312	0	312	3	90	1	-475	4.88	-475	-475	4.88	Terminal	480	214
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	480	214
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nom Vent	68	68
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	68	68
Sub Total ==>	4,993	0	4,993	41	6,655	65	-2,155	22.14	-2,155	-2,155	22.14	Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	214	214
Lights	939	0	939	8	939	9	0	0.00	0	0	0.00	Return	445	179
People	2,500	0	2,500	21	1,250	12	0	0.00	0	0	0.00	Exhaust	33	33
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	35	35
Sub Total ==>	3,439	0	3,439	28	2,189	21	0	0.00	0	0	0.00	Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-3	0	0	-22	0	-43	0.00	0	0	0.00	Leakage Ups	0	0
Adj Air Trans Heat	223	0	1,382	11	0	0	-223	49.14	-223	-223	2	ENGINEERING CKS		
Dehumid. Ov Sizing			0	0			0	0.00			0.00	% OA	14.1	31.7
Ov/Undr Sizing	1,265		1,265	10	1,271	12	0	0.00			0.00	cfm/ft²	1.74	0.78
Exhaust Heat		-30	-30	0			0	0.00			0.00	cfm/ton	476.60	
Sup. Fan Heat			478	4			0	0.00			0.00	ft²/ton	273.25	
Ret. Fan Heat		328	328	3			0	0.00			0.00	Btu/hr-ft²	43.92	-35.39
Duct Heat Pkup		0	0	0			0	0.00			0.00	No. People	5	
Underflr Sup Ht Pkup			0	0			0	0.00			0.00			
Supply Air Leakage		0	0	0			0	0.00			0.00			
Grand Total ==>	9,922	295	12,077	100.00	10,316	100.00	-2,420	100.00	-2,420	-9,733	100.00			

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	1.0	12.1	10.0	403	76.9	62.8	66.1	53.9	52.4	58.3	Floor	275	Main Htg	-6.1	214	53.9	80.5
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	1	Preheat	-3.6	68	4.4	53.9
											ExFlr	0	Reheat	-3.7	214	53.9	70.0
Total	1.0	12.1									Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	171	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.7			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-5

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 21		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 89 / 72 / 94		OADB: 78		OADB: 4			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		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00						
Floor	0	0	0	0.00	0	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	0	0	0	0	0	0	0	0.00						
Internal Loads				Internal Loads										
Lights	2,986	0	2,986	9	2,986	19	0	0.00						
People	15,449	0	15,449	48	9,463	61	0	0.00						
Misc	0	0	0	0	0	0	0	0.00						
<i>Sub Total ==></i>	18,435	0	18,435	57	12,449	81	0	0.00						
Ceiling Load	49	-49	0	0	101	1	-137	0.00						
Ventilation Load	0	0	9,538	30	0	0	-18,517	69.75						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0			0	0.00						
Ov/Undr Sizing	2,955		2,955	9	2,903	19	0	0.00						
Exhaust Heat		-233	-233	-1			0	0.00						
Sup. Fan Heat			852	3			-7,896	29.74						
Ret. Fan Heat		639	639	2			0	0.00						
Duct Heat Pkup		0	0	0			-137	0.51						
Underflr Sup Ht Pkup			0	0			0	0.00						
Supply Air Leakage		0	0	0			0	0.00						
Grand Total ==>	21,439	357	32,185	100.00	15,453	100.00	-137	-26,550	100.00					

AIRFLOWS

	Cooling	Heating
Diffuser	719	719
Terminal	719	719
Main Fan	719	719
Sec Fan	0	0
Nom Vent	263	263
AHU Vent	263	263
Infil	0	0
MinStop/Rh	719	719
Return	719	719
Exhaust	263	263
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	36.5	36.5
cfm/ft²	0.82	0.82
cfm/ton	267.89	
ft²/ton	326.24	
Btu/hr-ft²	36.78	-30.34
No. People	39	

COOLING COIL SELECTION

	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	2.7	32.2	20.7	719	80.8	65.7	74.2	53.9	50.4	50.9
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	2.7	32.2								

AREAS

	Gross Total	Glass ft²	(%)
Floor	875		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	
			°F	°F
Main Htg	-12.6	719	53.9	70.2
Aux Htg	0.0	0	0.0	0.0
Preheat	-14.0	263	4.4	53.9
Reheat	-12.4	719	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-26.6			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-6

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 13		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 55		OADB: 4						SADB	55.0	81.2			
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	75.0	69.5			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0			
Envelope Loads				Envelope Loads								Ret/OA	77.1	49.9			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.3	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.7	0.0			
Glass Solar	3,420	0	3,420	37	5,216	72	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	106	0	106	1	-419	-6	-1,265	12.86	-1,265	-1,265	12.86				Diffuser	338	216
Wall Cond	535	0	535	6	327	4	-851	8.65	-851	-851	8.65				Terminal	338	216
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	338	216
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				Nom Vent	66	66
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00				AHU Vent	66	66
Sub Total ==>	4,060	0	4,060	44	5,124	71	-2,116	21.52	-2,116	-2,116	21.52				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	216	216
Lights	986	0	986	11	986	14	0	0.00	0	0	0.00				Return	272	150
People	1,500	0	1,500	16	750	10	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	66	66			
Sub Total ==>	2,486	0	2,486	27	1,736	24	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load	4	-4	0	0	-22	0	-45	0.00	-45	0	0.00	Leakage Dwn	0	0			
Ventilation Load	0	0	1,345	14	0	0	0	47.33	0	-4,656	47.33	Leakage Ups	0	0			
Adj Air Trans Heat	426	0	426	5	426	6	-426	4	-426	-426	4	ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00				% OA	19.5	30.6
Ov/Undr Sizing	392	0	392	4	0	0	0	0.00	0	0	0.00				cfm/ft²	1.17	0.75
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				cfm/ton	436.32	
Sup. Fan Heat	0	0	365	4	0	0	-2,286	23.24	0	0	0.00				ft²/ton	373.32	
Ret. Fan Heat	0	215	215	2	0	0	-307	3.12	0	0	0.00				Btu/hr-ft²	32.14	-34.03
Duct Heat Pkup	0	0	0	0	0	0	-45	0.46	0	0	0.00				No. People	3	
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						
Sub Total ==>	7,368	211	9,290	100.00	7,264	100.00	-2,587	100.00	-2,587	-9,836	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	9.3	7.7	308	77.1	63.0	66.9	53.9	52.6	59.3	Floor	289	Main Htg	-6.3	216	53.9	81.2
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	1	Preheat	-3.5	66	4.4	53.9
											ExFlr	0	Reheat	-3.7	216	53.9	70.0
											Roof	0	Humidif	0.0	0	0.0	0.0
											Wall	223	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.8			
Total	0.8	9.3															

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-7

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 13		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 55		OADB: 4						SADB	55.0	80.8
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	75.0	69.5
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	75.8	70.0
Envelope Loads				Envelope Loads								Ret/OA	77.2	49.8
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00				Fn MtrTD	0.1	0.0
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00				Fn BldTD	0.3	0.0
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00				Fn Frict	0.7	0.0
Glass Solar	3,364	0	3,364	36	5,131	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	104	0	104	1	-412	Glass/Door Cond	-1,244	12.42				Diffuser	334	221
Wall Cond	527	0	527	6	324	Wall Cond	-835	8.34				Terminal	334	221
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	334	221
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	68	68
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	68	68
Sub Total ==>	3,995	0	3,995	43	5,042	Sub Total ==>	-2,079	20.76				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	221	221
Lights	962	0	962	10	962	Lights	0	0.00				Return	265	153
People	1,500	0	1,500	16	750	People	0	0.00				Exhaust	0	0
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	68	68
Sub Total ==>	2,462	0	2,462	26	1,712	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-4	0	0	-22	Ventilation Load	-44	0.00				Leakage Ups	0	0
Adj Air Trans Heat	439	0	1,388	15	0	Adj Air Trans Heat	-439	47.97				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Dehumid. Ov Sizing	0	0.00				% OA	20.4	30.8
Ov/Undr Sizing	519	0	519	6	0	Ov/Undr Sizing	0	0.00				cfm/ft²	1.18	0.78
Exhaust Heat	0	0	0	0	0	Exhaust Heat	0	0.00				cfm/ton	426.39	
Sup. Fan Heat	0	0	368	4	0	Sup. Fan Heat	0	0.00				ft²/ton	360.53	
Ret. Fan Heat	0	215	215	2	0	Ret. Fan Heat	0	0.00				Btu/hr-ft²	33.28	-35.51
Duct Heat Pkup	0	0	0	0	0	Duct Heat Pkup	0	0.00				No. People	3	
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00						
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00						
Grand Total ==>	7,419	212	9,386	100.00	7,173	Grand Total ==>	-2,563	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	7.8	310	77.2	63.1	67.0	53.9	52.6	59.3	Floor	282	-6.4	221	53.9	80.8	
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	1	-3.6	68	4.4	53.9	
											ExFlr	0	-3.8	221	53.9	70.0	
Total	0.8	9.4									Roof	0	0.0	0	0.0	0.0	
											Wall	219	0.0	0	0.0	0.0	
											Ext Door	0	-10.0	0	0.0	0.0	
											Total						

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-8

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4			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												
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	3,420	0	3,420	38	5,417	76	0	0	0.00							
	106	0	106	1	-473	-7	-1,265	-1,265	13.57							
	244	0	244	3	70	1	-371	-371	3.98							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	0	0	0	0	0	0	0	0	0.00							
	3,769	0	3,769	42	5,014	70	-1,636	-1,636	17.55							
Internal Loads				Internal Loads												
	942	0	942	10	942	13	0	0	0.00							
	1,500	0	1,500	17	750	11	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	2,442	0	2,442	27	1,692	24	0	0	0.00							
	4	-4	0	0	-22	0	-43	0	0.00							
	0	0	1,357	15	0	0	0	-4,698	50.40							
	430	0	430	5	430	6	-430	-430	5							
	0	0	0	0	0	0	0	0	0.00							
	442	0	442	5	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	349	4	0	0	0	-2,306	24.74							
	0	203	203	2	0	0	0	-208	2.23							
	0	0	0	0	0	0	0	-43	0.46							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	7,086	199	8,992	100.00	7,114	100.00	-2,109	-9,321	100.00							

AIRFLOWS

	Cooling	Heating
Diffuser	331	212
Terminal	331	212
Main Fan	331	212
Sec Fan	0	0
Nom Vent	67	67
AHU Vent	67	67
Infil	0	0
MinStop/Rh	212	212
Return	264	145
Exhaust	0	0
Rm Exh	67	67
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	20.1	31.4
cfm/ft²	1.20	0.77
cfm/ton	441.46	
ft²/ton	368.33	
Btu/hr-ft²	32.58	-33.77
No. People	3	

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	0.8	9.0	295	77.2	63.1	67.2	53.9	52.6	59.1
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	0.8	9.0							

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	276		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	132	61	46
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.8	212	53.9	79.3
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.5	67	4.4	53.9
Reheat	-3.7	212	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.3			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 13-9

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 13		Mo/Hr: 11 / 12		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 82 / 68 / 82		OADB: 53		OADB: 4			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										
	0	0	0	0	0	0	0	0	0.00					
	0	0	0	0	0	0	0	0	0.00					
	0	0	0	0	0	0	0	0	0.00					
	4,373	0	4,373	37	6,926	74	0	0	0.00					
	135	0	135	1	-604	-6	-1,618	-1,618	16.72					
	338	0	338	3	97	1	-514	-514	5.31					
	0	0	0	0	0	0	0	0	0.00					
	0	0	0	0	0.00	0	0	0	0.00					
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	0	0	0	0	0	0	0	0	0.00					
	4,845	0	4,845	41	6,419	69	-2,131	-2,131	22.02					
Internal Loads				Internal Loads										
	812	0	812	7	812	9	0	0	0.00					
	3,500	0	3,500	30	1,750	19	0	0	0.00					
	406	0	406	3	406	4	0	0	0.00					
	4,718	0	4,718	40	2,968	32	0	0	0.00					
	3	-3	0	0	-19	0	-37	0	0.00					
	0	0	1,455	12	0	0	0	-5,037	52.04					
	0	0	0	0	0	0	0	0	0					
	0	0	0	0	0	0	0	0	0.00					
	0	0	0	0	0	0	0	0	0.00					
	0	-63	-63	-1	0	0	0	0	0.00					
	0	0	431	4	0	0	0	-2,473	25.55					
	0	323	323	3	0	0	0	0	0.00					
	0	0	0	0	0	0	0	-37	0.38					
	0	0	0	0	0	0	0	0	0.00					
	0	0	0	0	0	0	0	0	0.00					
	9,566	257	11,709	100.00	9,369	100.00	-2,168	-9,678	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	436	214
Terminal	436	214
Main Fan	436	214
Sec Fan	0	0
Nom Vent	71	71
AHU Vent	71	71
Infil	0	0
MinStop/Rh	214	214
Return	436	214
Exhaust	71	71
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	16.4	33.3
cfm/ft²	1.83	0.90
cfm/ton	446.44	
ft²/ton	243.91	
Btu/hr-ft²	49.20	-40.66
No. People	7	

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	1.0	11.7	9.0	363	77.0	62.9	66.6	53.9	51.7	55.8
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	1.0	11.7								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	238		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	176	78	44
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-5.9	214	53.9	79.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-3.8	71	4.4	53.9
Reheat	-3.7	214	53.9	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-9.7			

Room Checksums

By Valhalla Engineering Group, LLC

L-102 SECRETARY

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 16		Mo/Hr: Heating Design								
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 86		OADB: 5								
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	Cooling	Heating	
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	57.0	81.7
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Ra Plenum	77.9	66.3
Roof Cond	0	758	758	28	0	0	0	19.68	0	-620	19.68	Return	77.9	66.3
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Ret/OA	82.2	35.7
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	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	0.00	0	0	0.00	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Infiltration	237	0	237	9	106	9	0	19.25	-606	-606	19.25			
Sub Total ==>	237	758	996	36	106	9	0	38.92	-606	-1,226	38.92			
Internal Loads				Internal Loads										
Lights	348	0	348	13	348	31	0	0.00	0	0	0.00			
People	321	0	321	12	178	16	0	0.00	0	0	0.00			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00			
Sub Total ==>	669	0	669	24	526	47	0	0.00	0	0	0.00			
Ceiling Load				Ceiling Load										
Ventilation Load	0	-94	0	0	94	8	-118	0.00	0	0	0.00			
Adj Air Trans Heat	0	0	791	29	0	0	0	64.15	0	-2,020	64.15			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ov/Undr Sizing	413	0	413	15	393	35	0	0.00	0	0	0.00			
Exhaust Heat	0	-118	-118	-4	0	0	148	-4.69	0	0	0.00			
Sup. Fan Heat	0	0	0	0	0	0	-291	9.24	0	0	0.00			
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	240	-7.63	0	0	0.00			
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 ==>	1,414	546	2,751	100.00	1,120	100.00	Grand Total ==>	-724	-3,149	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	58	58
Terminal	58	58
Main Fan	58	58
Sec Fan	0	0
Nom Vent	29	29
AHU Vent	29	29
Infil	9	9
MinStop/Rh	58	58
Return	66	66
Exhaust	38	38
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	252.15	
ft²/ton	444.97	
Btu/hr-ft²	26.97	-30.87
No. People	0.7	7.0/1000 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	0.2	2.8	2.0	58	82.2	67.4	80.5	57.0	51.6	50.6
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	0.2	2.8								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	102		
Part	0		
Int Door	1		
ExFlr	0		
Roof	102	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	58	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.6	29	5.0	57.0
Reheat	-0.8	58	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.2			

Room Checksums

By Valhalla Engineering Group, LLC

L1-100 STORAGE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling		Heating	SADB	0.0	90.0		
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5			Ra Plenum		0.0	65.0	Return	0.0	65.0	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict				
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h									
Envelope Loads				Envelope Loads							AIRFLOWS					
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser		0	553				
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Terminal		0	553				
Roof Cond	0	0	0	0	0	Roof Cond	-5,751	38.67	Main Fan		0	553				
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	Sec Fan		0	0				
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	-1,100	7.40	Nom Vent		0	0				
Wall Cond	0	0	0	0	0	Wall Cond	-8,020	53.93	AHU Vent		0	0				
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Infil		0	0				
Floor	0	0	0	0	0	Floor	0	0.00	MinStop/Rh		0	0				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return		0	553				
Infiltration	0	0	0	0	0	Infiltration	0	0.00	Exhaust		0	0				
Sub Total ==>	0	0	0	0	0	Sub Total ==>	-14,871	100.00	Rm Exh		0	0				
Internal Loads				Internal Loads							ENGINEERING CKS					
Lights	0	0	0	0	0	Lights	0	0.00	% OA		0.0	0.0				
People	0	0	0	0	0	People	0	0.00	cfm/ft²		0.00	0.57				
Misc	0	0	0	0	0	Misc	0	0.00	cfm/ton		0.00					
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00	ft²/ton		0.00					
Ceiling Load				Ceiling Load							Btu/hr-ft²		0.00	-15.36		
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00	No. People		4.8	5.0/1000 ft²				
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0								
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00								
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00								
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00								
Sup. Fan Heat	0	0	0	0	0	RA Preheat Diff.	0	0.00								
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	0	0.00								
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	0	0.00								
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00								
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00								
Grand Total ==>	0	0	0	100.00	0	Grand Total ==>	-14,871	-14,871	100.00							

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION					
	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR °F °F		Leave DB/WB/HR °F °F			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F			
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	Floor	968		Main Htg	-14.9	553	65.0	90.0	
Aux Clg	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	Int Door	1		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	0.0	0.0								Roof	968	0	0	Humidif	0.0	0	0.0	0.0
										Wall	720	20	3	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-14.9			

Room Checksums

By Valhalla Engineering Group, LLC

L1-100A ELEC

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5			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							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00						
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00						
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00						
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	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
<i>Sub Total ==></i>	0	0	0	0	0	<i>Sub Total ==></i>	0	0.00						
Internal Loads				Internal Loads										
Lights	0	0	0	0	0	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>	0	0	0	0	0	<i>Sub Total ==></i>	0	0.00						
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00						
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00						
Adj Air Trans Heat	0	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	0	Exhaust Heat	0	0.00						
Exhaust Heat		0	0	0		OA Preheat Diff.	0	0.00						
Sup. Fan Heat			0	0		RA Preheat Diff.	0	0.00						
Ret. Fan Heat			0	0		Additional Reheat	0	0.00						
Duct Heat Pkup			0	0		System Plenum Heat	0	0.00						
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 ==>	0	0	0	100.00	0	Grand Total ==>	0	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
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	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr-ft²	0.00	0.00
No. People	0.2	5.0/1000 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	0.0	0.0	0.0	0	0.0	0.0	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
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	42		
Part	0		
Int Door	1		
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	0.0	0	0.0	0.0
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
Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-100E TELECOM ROOM

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 7 / 12		Mo/Hr: Heating Design			Cooling			Heating					
Outside Air:		OADB/WB/HR: 83 / 70 / 92		OADB: 83		OADB: 5			SADB			Ra Plenum					
									Return			Ret/OA					
									Fn MtrTD			Fn BldTD					
									Fn Frict								
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		Skylite Solar		0		0.00	
Skylite Cond		0		0		0		0		0		Skylite Cond		0		0.00	
Roof Cond		0		0		0		0		0		Roof Cond		0		0.00	
Glass Solar		4,503		0		4,503		30		4,503		31		0		0.00	
Glass/Door Cond		-211		0		-211		-1		-211		-1		-1,671		40.24	
Wall Cond		21		2		23		0		21		0		-1,277		31.07	
Partition/Door		0		0		0		0		0		0		0		0.00	
Floor		0		0		0		0		0.00		0		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
Infiltration		0		0		0		0		0		0		0		0.00	
<i>Sub Total ==></i>		4,313		2		4,315		29		4,313		30		-2,948		71.31	
Internal Loads																	
Lights		341		0		341		2		341		2		0		0.00	
People		275		0		275		2		138		1		0		0.00	
Misc		10,000		0		10,000		67		10,000		69		0		0.00	
<i>Sub Total ==></i>		10,616		0		10,616		71		10,479		72		0		0.00	
Ceiling Load		-269		269		0		0		-269		-2		43		0.00	
Ventilation Load		0		0		0		0		0		0		0		0.00	
Adj Air Trans Heat		0		0		0		0		0		0		0		0	
Dehumid. Ov Sizing						0		0				0		0		0.00	
Ov/Undr Sizing		0				0		0		0		0		0		0.00	
Exhaust Heat				0		0		0				0		0		0.00	
Sup. Fan Heat				0		0		0				0		0		0.00	
Ret. Fan Heat				0		0		0				0		0		0.00	
Duct Heat Pkup				0		0		0				0		0		0.00	
Underflr Sup Ht Pkup				0		0		0				0		0		0.00	
Supply Air Leakage				0		0		0				0		0		0.00	
<i>Grand Total ==></i>		14,660		271		14,932		100.00		14,523		100.00		-2,905		-4,152	

AIRFLOWS		
	Cooling	Heating
Diffuser	482	145
Terminal	482	145
Main Fan	482	145
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	145	145
Return	482	145
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	4.82	1.45
cfm/ton	387.39	
ft²/ton	80.37	
Btu/hr-ft²	149.32	-41.52
No. People	0.5	5.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	1.2	14.9	14.8	482	76.5	63.3	69.4	57.0	52.7	54.7
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	1.2	14.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	100		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	143	30	21
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-4.2	145	57.0	83.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	-1.3	145	57.0	65.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-4.2			

Room Checksums

By Valhalla Engineering Group, LLC

L1-100F LOCKERS

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 17		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 85		OADB: 5										
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	Coil Peak	Percent Of Total	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	498	498	69	0	0	-407	287.96	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
<i>Sub Total ==></i>	0	498	498	69	0	0	-407	287.96	0	-407	287.96						
Internal Loads					Internal Loads												
Lights	229	0	229	31	229	78	0	0.00	0	0	0.00						
People	0	0	0	0	0	0	0	0.00	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00						
<i>Sub Total ==></i>	229	0	229	31	229	78	0	0.00	0	0	0.00						
Ceiling Load	62	-62	0	0	65	22	-78	0.00	0	0	0.00						
Ventilation Load	0	0	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	0						
Dehumid. Ov Sizing			0	0			0	0.00			0						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00			0						
Exhaust Heat		0	0	0			0	0.00			0						
Sup. Fan Heat		0	0	0			0	0.00			0						
Ret. Fan Heat		0	0	0			0	0.00			0						
Duct Heat Pkup		0	0	0			0	0.00			0						
Underflr Sup Ht Pkup		0	0	0			0	0.00			0						
Supply Air Leakage		0	0	0			0	0.00			0						
Grand Total ==>	291	436	727	100.00	294	100.00	-78	100.00	-141	-141	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	ft² (%)	Capacity	Coil Airflow	Ent	Lvg		
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb
Main Clg	0.1	0.7	0.7	15	77.9	63.8	69.4	57.0	46.3	31.4	Floor	67							
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0							
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1							
Total	0.1	0.7									ExFlr	0							
											Roof	67	0	0					
											Wall	0	0	0					
											Ext Door	0	0	0					

Room Checksums

By Valhalla Engineering Group, LLC

L1-100G TOILET

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: 86 / 71 / 92		OADB: 86		OADB: 5			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							
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser			391			117		
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0.00	Terminal			391			117		
Roof Cond	0	223	223	5	0	0	Roof Cond	0	7.87	Main Fan			391			117		
Glass Solar	3,649	0	3,649	81	3,649	48	Glass Solar	0	0.00	Sec Fan			0			0		
Glass/Door Cond	185	0	185	4	185	2	Glass/Door Cond	-1,810	43.44	Nom Vent			0			0		
Wall Cond	140	97	237	5	140	2	Wall Cond	-651	27.96	AHU Vent			0			0		
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00	Infil			0			0		
Floor	0	0	0	0	0.00	0	Floor	0	0.00	MinStop/Rh			117			117		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return			391			117		
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00	Exhaust			0			0		
Sub Total ==>	3,974	320	4,295	96	3,974	52	Sub Total ==>	-2,461	79.27	Rm Exh			0			0		
Internal Loads				Internal Loads							ENGINEERING CKS							
Lights	184	0	184	4	184	2	Lights	0	0.00	% OA			0.0			0.0		
People	0	0	0	0	0	0	People	0	0.00	cfm/ft²			7.25			2.17		
Misc	0	0	0	0	0	0	Misc	0	0.00	cfm/ton			1,048.81			0.00		
Sub Total ==>	184	0	184	4	184	2	Sub Total ==>	0	0.00	ft²/ton			144.68			0.00		
Ceiling Load	39	-39	0	0	39	1	Ceiling Load	-63	0.00	Btu/hr-ft²			82.94			-77.16		
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0.00	No. People			0.0			0.0/1000 ft²		
Adj Air Trans Heat	0	0	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	3,387	45	Exhaust Heat	0	0.00									
Exhaust Heat		0	0	0			OA Preheat Diff.	0	0.00									
Sup. Fan Heat			0	0			RA Preheat Diff.	0	0.00									
Ret. Fan Heat		0	0	0			Additional Reheat	-1,182	28.36									
Duct Heat Pkup		0	0	0			System Plenum Heat	318	-7.63									
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 ==>	4,198	281	4,479	100.00	7,585	100.00	Grand Total ==>	-2,524	-4,167	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	4.5	4.5	217	77.3	63.6	69.4	57.0	56.3	69.4	Floor	54	Main Htg	-4.2	117	57.0	90.0
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	1	Preheat	0.0	0	0.0	0.0
											ExFlr	0	Reheat	-1.6	117	57.0	70.0
Total	0.4	4.5									Roof	54	Humidif	0.0	0	0.0	0.0
											Wall	127	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-4.2			

Room Checksums

By Valhalla Engineering Group, LLC

L1-100H OFFICE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 13		Mo/Hr: 7 / 13		Mo/Hr: Heating Design							
Outside Air:		OADB/WB/HR: 85 / 70 / 91		OADB: 85		OADB: 5							
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Cooling	Heating			
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens						
Envelope Loads				Envelope Loads							AIRFLOWS		
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00			Diffuser	Cooling	Heating
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00			Terminal	260	80
Roof Cond	0	402	6	0	0	Roof Cond	-729	14.36			Main Fan	260	80
Glass Solar	3,873	0	58	3,873	77	Glass Solar	0	0.00			Sec Fan	0	0
Glass/Door Cond	138	0	2	138	3	Glass/Door Cond	-1,743	34.34			Nom Vent	40	40
Wall Cond	211	63	4	211	4	Wall Cond	-1,436	38.32			AHU Vent	40	40
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00			Infil	12	12
Floor	0	0	0	0.00	0	Floor	0	0.00			MinStop/Rh	80	80
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00			Return	272	92
Infiltration	302	302	5	126	3	Infiltration	-839	16.52			Exhaust	52	52
Sub Total ==>	4,524	466	75	4,348	86	Sub Total ==>	-4,018	103.53			Rm Exh	0	0
Internal Loads				Internal Loads							ENGINEERING CKS		
Lights	410	0	6	410	8	Lights	0	0.00			% OA	15.4	50.0
People	378	0	6	210	4	People	0	0.00			cfm/ft²	2.17	0.67
Misc	0	0	0	0	0	Misc	0	0.00			cfm/ton	467.48	
Sub Total ==>	787	0	12	619	12	Sub Total ==>	0	0.00			ft²/ton	215.66	
Ceiling Load	72	-72	0	72	1	Ceiling Load	-139	0.00			Btu/hr-ft²	55.64	-42.30
Ventilation Load	0	0	1,007	0	0	Ventilation Load	0	55.08			No. People	0.8	7.0/1000 ft²
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	2,436	-47.99					
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	204	-4.03					
Exhaust Heat	-106	-106	-2	0	0	OA Preheat Diff.	0	0.00					
Sup. Fan Heat	0	0	0	0	0	RA Preheat Diff.	-403	7.93					
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	0	0.00					
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	738	-14.53					
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00					
Grand Total ==>	5,383	287	6,677	100.00	5,040	100.00	Grand Total ==>	-1,721	-5,076	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	0.6	6.7	5.8	260	78.1	64.5	72.7	57.0	56.1	68.4	Floor	120		Main Htg	-2.8	80	57.0	90.0
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	1		Preheat	-2.2	40	5.0	57.0
											ExFlr	0		Reheat	-1.1	80	57.0	70.0
Total	0.6	6.7									Roof	120	0	Humidif	0.0	0	0.0	0.0
											Wall	189	29	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	Total	-5.1			

Room Checksums

By Valhalla Engineering Group, LLC

L1-101 STORAGE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES								
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 17		Mo/Hr: Heating Design			Cooling			Heating							
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 85		OADB: 5			SADB			Ra Plenum							
									Return			Ret/OA							
									Fn MtrTD			Fn BldTD							
									Fn Frict										
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		Percent Of Total (%)			
Btu/h		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			
Skylite Cond		0		0		0		0		0		0		0		0.00			
Roof Cond		0		0		0		0		0		0		0		0.00			
Glass Solar		0		0		0		0		0		0		0		0.00			
Glass/Door Cond		0		0		0		0		0		0		0		0.00			
Wall Cond		0		0		0		0		0		0		0		0.00			
Partition/Door		0		0		0		0		0		0		0		0.00			
Floor		0		0		0		0.00		0		0		0		0.00			
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00			
Infiltration		0		0		0		0		0		0		0		0.00			
Sub Total ==>		0		0		0		0		0		0		0		0.00			
Internal Loads				Internal Loads															
Lights		92		0		92		55		92		132		0		0.00			
People		74		0		74		45		37		53		0		0.00			
Misc		0		0		0		0		0		0		0		0.00			
Sub Total ==>		166		0		166		100		129		185		0		0.00			
Ceiling Load		-61		61		0		0		-59		-85		12		0.00			
Ventilation Load		0		0		0		0		0		0		0		0.00			
Adj Air Trans Heat		0		0		0		0		0		0		0		0			
Dehumid. Ov Sizing						0		0				-19		-19		140.89			
Ov/Undr Sizing		0				0		0		0		0		0		0.00			
Exhaust Heat				0		0		0				0		0		0.00			
Sup. Fan Heat				0		0		0				0		0		0.00			
Ret. Fan Heat				0		0		0				-7		52.19					
Duct Heat Pkup				0		0		0				13		-93.09					
Underflr Sup Ht Pkup				0		0		0				0		0		0.00			
Supply Air Leakage				0		0		0				0		0		0.00			
Grand Total ==>		106		61		166		100.00		70		100.00		-7		-13		100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	2	1
Terminal	2	1
Main Fan	2	1
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	1	1
Return	2	1
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	0.09	0.03
cfm/ton	167.62	
ft²/ton	1,947.09	
Btu/hr-ft²	6.16	-0.50
No. People	0.1	5.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.0	0.2	0.1	2	77.9	63.8	69.4	57.0	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
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.2								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	27		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	1	57.0	75.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Reheat	0.0	1	57.0	65.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-102A CLOSET

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 17		Mo/Hr: Heating Design						Cooling	Heating		
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 85		OADB: 5						SADB	57.0	75.0	
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	77.9	66.3	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	77.9	66.3	
Envelope Loads				Envelope Loads								Fn MtrTD	0.0	0.0	
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0	
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	0	0	0.00	Fn Frict	0.0	0.0	
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00	0	0	0.00				
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00	0	0	0.00				
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00	0	0	0.00				
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	0	0	0.00				
Floor	0	0	0	0.00	0	Floor	0	0.00	0	0	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00	0.00	0.00				
Infiltration	0	0	0	0	0	Infiltration	0	0.00	0	0	0.00				
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00	0	0	0.00				
Internal Loads				Internal Loads								AIRFLOWS			
Lights	48	0	48	55	48	Lights	0	0.00	0	0	0.00	Cooling	Heating		
People	39	0	39	45	19	People	0	0.00	0	0	0.00	Diffuser	1	0	
Misc	0	0	0	0	0	Misc	0	0.00	0	0	0.00	Terminal	1	0	
Sub Total ==>	86	0	86	100	67	Sub Total ==>	0	0.00	0	0	0.00	Main Fan	1	0	
												Sec Fan	0	0	
Ceiling Load	-31	31	0	0	-31	Ceiling Load	6	0.00	-10	-10	141.01	Nom Vent	0	0	
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00	0	0	0.00	AHU Vent	0	0	
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0	0	0	0	Infil	0	0	
Dehumid. Ov Sizing			0	0		Ov/Undr Sizing	-10	141.01				MinStop/Rh	0	0	
Ov/Undr Sizing	0		0	0	0	Exhaust Heat	0	0.00				Return	1	0	
Exhaust Heat		0	0	0		OA Preheat Diff.	0	0.00				Exhaust	0	0	
Sup. Fan Heat			0	0		RA Preheat Diff.	0	0.00				Rm Exh	0	0	
Ret. Fan Heat			0	0		Additional Reheat		-4	52.37			Auxiliary	0	0	
Duct Heat Pkup			0	0		System Plenum Heat		6	-93.38			Leakage Dwn	0	0	
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup		0	0.00			Leakage Ups	0	0	
Supply Air Leakage			0	0		Supply Air Leakage		0	0.00			ENGINEERING CKS			
Grand Total ==>	55	31	86	100.00	36	Grand Total ==>	-4	-7	100.00				% OA	0.0	0.0
												cfm/ft²	0.09	0.03	
												cfm/ton	167.62		
												ft²/ton	1,947.07		
												Btu/hr-ft²	6.16	-0.50	
												No. People	0.1	5.0/1000 ft²	

COOLING COIL SELECTION											AREAS			HEATING COIL SELECTION							
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	ft² (%)	Capacity	Coil Airflow	Ent °F	Lvq °F				
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F								°F	gr/lb	MBh	cfm
Main Clg	0.0	0.1	0.1	1	77.9	63.8	69.4	57.0	0.0	0.0	Floor	14					Main Htg	0.0	0	57.0	75.0
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	1					Preheat	0.0	0	0.0	0.0
											ExFlr	0					Reheat	0.0	0	57.0	65.0
											Roof	0	0	0			Humidif	0.0	0	0.0	0.0
											Wall	0	0	0			Opt Vent	0.0	0	0.0	0.0
Total	0.0	0.1									Ext Door	0	0	0			Total	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-103 OPEN OFFICE N

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 15		Mo/Hr: Heating Design						Cooling			Heating		
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 87		OADB: 5						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	Fn MtrTD	Fn BldTD	Fn Frict			
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	539	333			
Skylite Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	539	333			
Roof Cond	0	3,596	3,596	18	0	0	0	0	14.36	0	-3,037	14.36	Main Fan	539	333			
Glass Solar	4,216	0	4,216	22	4,417	42	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Glass/Door Cond	1,440	0	1,440	7	1,396	13	-7,687	-7,687	36.34	0	-7,687	36.34	Nom Vent	167	167			
Wall Cond	132	33	165	1	117	1	-1,687	-2,618	12.38	0	-2,618	12.38	AHU Vent	167	167			
Partition/Door	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	50	50			
Floor	0	0	0	0	0.00	0	0	0	0.00	0	0	0.00	MinStop/Rh	333	333			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	589	383			
Infiltration	1,369	0	1,369	7	645	6	-3,495	-3,495	16.52	-3,495	-3,495	16.52	Exhaust	217	217			
Sub Total ==>	7,157	3,629	10,786	55	6,576	63	-12,869	-16,837	79.60	-12,869	-16,837	79.60	Rm Exh	0	0			
Internal Loads					Internal Loads										ENGINEERING CKS			
Lights	1,707	0	1,707	9	1,707	16	0	0	0.00	0	0	0.00	% OA	30.9	50.0			
People	3,150	0	3,150	16	1,750	17	0	0	0.00	0	0	0.00	cfm/ft²	1.08	0.67			
Misc	0	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	331.57				
Sub Total ==>	4,857	0	4,857	25	3,457	33	0	0	0.00	0	0	0.00	ft²/ton	307.32				
Ceiling Load	463	-463	0	0	420	4	-579	0	0.00	6,279	6,279	-29.69	Btu/hr-ft²	39.05	-42.30			
Ventilation Load	0	0	4,562	23	0	0	0	-11,649	55.08	0	0	0	No. People	7.0	14.0/1000 ft²			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0.00	0	0	0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	852	-4.03	0	0	0.00						
Exhaust Heat	0	-681	-681	-3	0	0	0	0	0.00	0	0	0.00						
Sup. Fan Heat	0	0	0	0	0	0	0	-1,678	7.93	0	0	0.00						
Ret. Fan Heat	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	0.00	1,882	-8.90	0.00						
Underflr Sup Ht Pkup	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	0.00	0	0	0.00						
Grand Total ==>	12,477	2,485	19,523	100.00	10,452	100.00	-7,169	-21,151	100.00	-7,169	-21,151	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	1.6	19.5	14.9	533	80.6	66.1	76.3	57.0	54.0	59.9	Floor	500	-11.8	333	57.0	90.0			
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	1	-9.3	167	5.0	57.0			
											ExFlr	0	-4.7	333	57.0	70.0			
Total	1.6	19.5									Roof	500	0.0	0	0.0	0.0			
											Wall	345	0.0	0	0.0	0.0			
											Ext Door	0	-21.2	0	0.0	0.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-103 OPEN OFFICE S

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 16		Mo/Hr: Heating Design						Cooling			Heating				
Outside Air:		OADB/WB/HR: 87 / 71 / 92			OADB: 86		OADB: 5						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								
	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								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	3,201		3,201	12	1,378	9	-7,856	-7,856	19.36	-7,856	-7,856	19.36								
	3,201	0	3,201	12	1,378	9	-7,856	-7,856	19.36	-7,856	-7,856	19.36								
Internal Loads					Internal Loads															
	3,836	0	3,836	14	3,836	26	0	0	0.00	0	0	0.00								
	6,300	0	6,300	23	3,500	24	0	0	0.00	0	0	0.00								
	0	0	0	0	0	0	0	0	0.00	0	0	0.00								
	10,136	0	10,136	37	7,336	51	0	0	0.00	0	0	0.00								
	943	-943	0	0	1,041	7	-1,302	0	0.00	0	0	0.00								
	0	0	10,671	39	0	0	0	-26,188	64.52	0	0	0								
	0		0	0	0	0	0	0	0	0	0	0								
			0	0			0	0	0.00	0	0	0.00								
	4,987		4,987	18	4,763	33	0	1,914	-4.72	0	0	0.00								
		-1,387	-1,387	-5			0	0	0.00	0	0	0.00								
			0	0			0	-3,772	9.29	0	0	0.00								
		0	0	0			0	0	0.00	0	0	0.00								
		0	0	0			0	-4,689	11.55	0	0	0.00								
			0	0			0	0	0.00	0	0	0.00								
		0	0	0			0	0	0.00	0	0	0.00								
Grand Total ==>	19,268	-2,330	27,609	100.00	14,518	100.00	-9,158	-40,591	100.00	-9,158	-40,591	100.00								

AIRFLOWS		
	Cooling	Heating
Diffuser	749	749
Terminal	749	749
Main Fan	749	749
Sec Fan	0	0
Nom Vent	375	375
AHU Vent	375	375
Infil	112	112
MinStop/Rh	749	749
Return	862	862
Exhaust	487	487
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.67	0.67
cfm/ton	325.69	
ft²/ton	488.54	
Btu/hr-ft²	24.56	-36.11
No. People	14.0	12.5/1000 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	2.3	27.6	17.2	749	82.3	67.5	80.9	57.0	55.8	66.9
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	2.3	27.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	1,124		
Part	0		
Int Door	1		
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	-19.7	749	57.0	81.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-20.9	375	5.0	57.0
Reheat	-10.5	749	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-40.6			

Room Checksums

By Valhalla Engineering Group, LLC

L1-104 COPY/LOCKERS

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 16		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 86		OADB: 5										
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	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	863	863	23	0	0	-705	19.68	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	270		270	7	121	7	-689	19.25	-689	-689	19.25						
<i>Sub Total ==></i>	270	863	1,132	31	121	7	-689	38.92	-689	-1,394	38.92						
Internal Loads					Internal Loads												
Lights	396	0	396	11	396	21	0	0.00	0	0	0.00						
People	365	0	365	10	203	11	0	0.00	0	0	0.00						
Misc	1,024	0	1,024	28	1,024	55	0	0.00	0	0	0.00						
<i>Sub Total ==></i>	1,785	0	1,785	48	1,623	88	0	0.00	0	0	0.00						
Ceiling Load	107	-107	0	0	107	6	-134	0.00	0	0	0.00						
Ventilation Load	0	0	900	24	0	0	-2,297	64.15	0	0	0.00						
Adj Air Trans Heat	0		0	0	0	0	0	0.00	0	0	0.00						
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00						
Ov/Undr Sizing	0		0	0	0	0	168	-4.69	0	0	0.00						
Exhaust Heat		-134	-134	-4			-331	9.24	0	0	0.00						
Sup. Fan Heat			0	0			0	0.00	0	0	0.00						
Ret. Fan Heat			0	0			273	-7.63	0	0	0.00						
Duct Heat Pkup			0	0			0	0.00	0	0	0.00						
Underflr Sup Ht Pkup			0	0			0	0.00	0	0	0.00						
Supply Air Leakage			0	0			0	0.00	0	0	0.00						
Grand Total ==>	2,162	621	3,683	100.00	1,851	100.00	-824	100.00	-824	-3,581	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	cfm	°F	°F	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F				
Main Clg	0.3	3.7	2.9	96	80.8	66.3	77.0	57.0	53.6	58.2	Floor	116	0	0			
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			
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	1	0	0			
											ExFlr	0	0	0			
Total	0.3	3.7									Roof	116	0	0			
											Wall	0	0	0			
											Ext Door	0	0	0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-105 TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 17		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 85		OADB: 5										
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	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	491	491	69	0	0	-401	287.97	0	0	0.00						
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
<i>Sub Total ==></i>	0	491	491	69	0	0	-401	287.97	0	0	0.00						
Internal Loads					Internal Loads												
Lights	225	0	225	31	225	78	0	0.00	0	0	0.00						
People	0	0	0	0	0	0	0	0.00	0	0	0.00						
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00						
<i>Sub Total ==></i>	225	0	225	31	225	78	0	0.00	0	0	0.00						
Ceiling Load	61	-61	0	0	64	22	-76	0.00	0	0	0.00						
Ventilation Load	0	0	0	0	0	0	0	0.00	0	0	0.00						
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00						
Dehumid. Ov Sizing			0	0			0	0.00			0.00						
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00						
Exhaust Heat		0	0	0			0	0.00			0.00						
Sup. Fan Heat		0	0	0			0	0.00			0.00						
Ret. Fan Heat		0	0	0			0	0.00			0.00						
Duct Heat Pkup		0	0	0			0	0.00			0.00						
Underflr Sup Ht Pkup		0	0	0			0	0.00			0.00						
Supply Air Leakage		0	0	0			0	0.00			0.00						
Grand Total ==>	286	430	716	100.00	290	100.00	-76	100.00	-139	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	ft ²	(%)	Capacity	Coil Airflow	Ent °F	Lvg °F	
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F									°F
Main Clg	0.1	0.7	0.7	15	77.9	63.8	69.4	57.0	46.3	31.4	Floor	66		Main Htg	-0.1	4	57.0	85.9	
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	1		Preheat	0.0	0	0.0	0.0	
											ExFlr	0		Reheat	-0.1	4	57.0	70.0	
Total	0.1	0.7									Roof	66	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	-0.1				

Room Checksums

By Valhalla Engineering Group, LLC

L1-106 TOILET

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 17		Mo/Hr: Heating Design						Cooling	Heating			
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 85		OADB: 5						SADB	57.0	85.9		
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	77.9	66.3			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	77.9	66.3			
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	439	439	69	0	Roof Cond	0	287.96				AIRFLOWS					
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				Cooling	Heating				
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	13	4			
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Terminal	13	4			
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	13	4			
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	0	0			
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	0	0			
Sub Total ==>	0	439	439	69	0	Sub Total ==>	0	-358				Infil	0	0			
Internal Loads					Internal Loads										MinStop/Rh	4	4
Lights	201	0	201	31	201	Lights	0	0.00				Return	13	4			
People	0	0	0	0	0	People	0	0.00				Exhaust	0	0			
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	0	0			
Sub Total ==>	201	0	201	31	201	Sub Total ==>	0	0.00				Auxiliary	0	0			
Ceiling Load	55	-55	0	0	57	Ceiling Load	-68	0.00				Leakage Dwn	0	0			
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00				Leakage Ups	0	0			
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ENGINEERING CKS					
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				Cooling	Heating				
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				% OA	0.0	0.0			
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				cfm/ft²	0.23	0.07			
Sup. Fan Heat	0	0	0	0	0	RA Preheat Diff.	0	0.00				cfm/ton	250.47				
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	-40	32.43				ft²/ton	1,106.07				
Duct Heat Pkup	0	0	0	0	0	System Plenum Heat	274	-220.39				Btu/hr-ft²	10.85	-2.11			
Underflr Sup Ht Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				No. People					
Supply Air Leakage	0	0	0	0	0	Supply Air Leakage	0	0.00				0.0	0.0/1000 ft²				
Grand Total ==>	256	384	640	100.00	259	Grand Total ==>	-68	-124									

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
Main Clg	0.1	0.6	0.6	13	77.9	63.8	69.4	57.0	46.3	31.4	Floor	59			Main Htg	-0.1	4	57.0	85.9
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	1			Preheat	0.0	0	0.0	0.0
											ExFlr	0			Reheat	-0.1	4	57.0	70.0
Total	0.1	0.6									Roof	59	0	0	Humidif	0.0	0	0.0	0.0
											Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-0.1			

Room Checksums

By Valhalla Engineering Group, LLC

L1-107 OFFICE

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 16		Mo/Hr: Heating Design										
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 86		OADB: 5										
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	Cooling	Heating				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)						
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	55	55			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	55	55			
Roof Cond	0	721	721	28	0	0	-589	19.68	0	0	0.00	Main Fan	55	55			
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	27	27			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	27	27			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	8	8			
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00	MinStop/Rh	55	55			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	63	63			
Infiltration	226	0	226	9	101	9	-576	19.25	-576	-576	19.25	Exhaust	36	36			
Sub Total ==>	226	721	947	36	101	9	-576	38.92	-576	-1,165	38.92	Rm Exh	0	0			
Internal Loads					Internal Loads										ENGINEERING CKS		
Lights	331	0	331	13	331	31	0	0.00	0	0	0.00	% OA	50.0	50.0			
People	305	0	305	12	170	16	0	0.00	0	0	0.00	cfm/ft²	0.57	0.57			
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ton	252.15				
Sub Total ==>	636	0	636	24	501	47	0	0.00	0	0	0.00	ft²/ton	444.97				
Ceiling Load	90	-90	0	0	90	8	-112	0.00	0	0	0.00	Btu/hr-ft²	26.97	-30.87			
Ventilation Load	0	0	752	29	0	0	0	64.15	0	-1,921	64.15	No. People	0.7	7.0/1000 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	393	0	393	15	373	35	0	-4.69	0	0	0.00						
Exhaust Heat	0	-112	-112	-4	0	0	0	0.00	0	0	0.00						
Sup. Fan Heat	0	0	0	0	0	0	-277	9.24	0	0	0.00						
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	228	-7.63	0	0	0.00						
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 ==>	1,345	519	2,616	100.00	1,065	100.00	-689	100.00	-689	-2,994	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	0.2	2.6	1.9	55	82.2	67.4	80.5	57.0	51.6	50.6	Floor	97		Main Htg	-1.5	55	57.0	81.7
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	1		Preheat	-1.5	27	5.0	57.0
											ExFlr	0		Reheat	-0.8	55	57.0	70.0
Total	0.2	2.6									Roof	97	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	-3.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-108 OFFICE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 16		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 86		OADB: 5						SADB	57.0	81.7
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	Ra Plenum	77.9	66.3
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	77.9	66.3
Envelope Loads				Envelope Loads								Ret/OA	82.2	35.7
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	721	721	28	0	0	-589	19.68	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			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00			
Floor	0	0	0	0.00	0	0.00	0	0.00	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Infiltration	226		226	9	101	9	-576	19.25	-576	-576	19.25			
Sub Total ==>	226	721	947	36	101	9	-576	38.92	-576	-1,165	38.92			
Internal Loads				Internal Loads										
Lights	331	0	331	13	331	31	0	0.00	0	0	0.00	Diffuser	55	55
People	305	0	305	12	170	16	0	0.00	0	0	0.00	Terminal	55	55
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	55	55
Sub Total ==>	636	0	636	24	501	47	0	0.00	0	0	0.00	Sec Fan	0	0
Ceiling Load				Ceiling Load								Nom Vent	27	27
Ventilation Load	0	-90	0	0	90	8	-112	0.00	0	0	0.00	AHU Vent	27	27
Adj Air Trans Heat	0	0	752	29	0	0	0	64.15	0	-1,921	64.15	Infil	8	8
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00	MinStop/Rh	55	55
Ov/Undr Sizing	393		393	15	373	35	0	0.00	0	0	0.00	Return	63	63
Exhaust Heat		-112	-112	-4			0	0.00	0	0	0.00	Exhaust	36	36
Sup. Fan Heat		0	0	0			0	9.24	0	-277	9.24	Rm Exh	0	0
Ret. Fan Heat		0	0	0			0	0.00	0	0	0.00	Auxiliary	0	0
Duct Heat Pkup		0	0	0			0	0.00	0	0	0.00	Leakage Dwn	0	0
Underflr Sup Ht Pkup		0	0	0			0	0.00	0	0	0.00	Leakage Ups	0	0
Supply Air Leakage		0	0	0			0	0.00	0	0	0.00			
Grand Total ==>	1,345	519	2,616	100.00	1,065	100.00	-689	100.00	-689	-2,994	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	55	55
Terminal	55	55
Main Fan	55	55
Sec Fan	0	0
Nom Vent	27	27
AHU Vent	27	27
Infil	8	8
MinStop/Rh	55	55
Return	63	63
Exhaust	36	36
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	252.15	
ft²/ton	444.97	
Btu/hr-ft²	26.97	-30.87
No. People	0.7	7.0/1000 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	0.2	2.6	1.9	55	82.2	67.4	80.5	57.0	51.6	50.6
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	0.2	2.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	97		
Part	0		
Int Door	1		
ExFlr	0		
Roof	97	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	55	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	27	5.0	57.0
Reheat	-0.8	55	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-109 OFFICE

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 16			Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 92			OADB: 86			OADB: 5			SADB			Ra Plenum			
											Return			Ret/OA			
											Fn MtrTD			Fn BldTD			
											Fn Frict						
Space Sens. + Lat.		Plenum Sens. + Lat.		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		Skylite Solar		0		0.00	
Skylite Cond		0		0		0		0		0		Skylite Cond		0		0.00	
Roof Cond		0		0		0		0		0		Roof Cond		0		0.00	
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		0.00		0		Floor		0		0.00	
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		Adjacent Floor		0.00		0.00	
Infiltration		235		235		12		101		9		Infiltration		-576		-576 19.25	
Sub Total ==>		235		0		235		12		101		9		Sub Total ==>		-576 -576 19.25	
Internal Loads																	
Lights		331		0		331		17		331		31		Lights		0 0.00	
People		305		0		305		16		170		16		People		0 0.00	
Misc		0		0		0		0		0		0		Misc		0 0.00	
Sub Total ==>		636		0		636		33		501		47		Sub Total ==>		0 0.00	
Ceiling Load		81		-81		0		0		90		8		Ceiling Load		-112 0 0.00	
Ventilation Load		0		0		783		40		0		0		Ventilation Load		0 -1,921 64.15	
Adj Air Trans Heat		0		0		0		0		0		0		Adj Air Trans Heat		0 0 0	
Dehumid. Ov Sizing						0		0						Ov/Undr Sizing		0 0 0.00	
Ov/Undr Sizing		393				393		20		373		35		Exhaust Heat		140 -4.69	
Exhaust Heat				-102		-102		-5						OA Preheat Diff.		0 0.00	
Sup. Fan Heat				0		0		0						RA Preheat Diff.		-277 9.24	
Ret. Fan Heat				0		0		0						Additional Reheat		0 0.00	
Duct Heat Pkup				0		0		0						System Plenum Heat		-361 12.05	
Underflr Sup Ht Pkup				0		0		0						Underflr Sup Ht Pkup		0 0.00	
Supply Air Leakage				0		0		0						Supply Air Leakage		0 0.00	
Grand Total ==>		1,345		-183		1,945		100.00		1,065		100.00		Grand Total ==>		-689 -2,994 100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	55	55
Terminal	55	55
Main Fan	55	55
Sec Fan	0	0
Nom Vent	27	27
AHU Vent	27	27
Infil	8	8
MinStop/Rh	55	55
Return	63	63
Exhaust	36	36
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	339.14	
ft²/ton	598.48	
Btu/hr-ft²	20.05	-30.87
No. People	0.7	7.0/1000 ft²

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.2	1.9	1.3	55	82.3	67.5	80.9	57.0	56.3	69.1
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
Total	0.2	1.9								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	97		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-1.5	55	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	27	5.0	57.0
Reheat	-0.8	55	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

Room Checksums

By Valhalla Engineering Group, LLC

L1-110 OFFICE

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 16		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 86		OADB: 5						SADB	57.0	81.7
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	Ra Plenum	77.9	66.3
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	77.9	66.3
Envelope Loads				Envelope Loads								Ret/OA	82.2	35.7
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	758	758	28	0	Roof Cond	0	19.68				Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	0	0.00				Diffuser	Cooling	Heating
Wall Cond	0	0	0	0	0	Wall Cond	0	0.00				Terminal	58	58
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	58	58
Floor	0	0	0	0	0.00	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	29	29
Infiltration	237		237	9	106	Infiltration	-606	19.25				AHU Vent	29	29
Sub Total ==>	237	758	996	36	106	Sub Total ==>	-606	38.92				Infil	9	9
Internal Loads				Internal Loads								MinStop/Rh	58	58
Lights	348	0	348	13	348	Lights	0	0.00				Return	66	66
People	321	0	321	12	178	People	0	0.00				Exhaust	38	38
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	0	0
Sub Total ==>	669	0	669	24	526	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	-94	0	0	94	Ventilation Load	-118	0.00				Leakage Ups	0	0
Adj Air Trans Heat	0	0	791	29	0	Adj Air Trans Heat	0	64.15				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	Cooling	Heating
Ov/Undr Sizing	413		413	15	393	Exhaust Heat	148	-4.69				cfm/ft²	50.0	50.0
Exhaust Heat		-118	-118	-4		OA Preheat Diff.	0	0.00				cfm/ton	0.57	0.57
Sup. Fan Heat		0	0	0		RA Preheat Diff.	-291	9.24				ft²/ton	252.15	
Ret. Fan Heat		0	0	0		Additional Reheat	0	0.00				Btu/hr-ft²	444.97	
Duct Heat Pkup		0	0	0		System Plenum Heat	240	-7.63						-30.87
Underflr Sup Ht Pkup		0	0	0		Underflr Sup Ht Pkup	0	0.00				No. People	0.7	7.0/1000 ft²
Supply Air Leakage		0	0	0		Supply Air Leakage	0	0.00						
Grand Total ==>	1,414	546	2,751	100.00	1,120	Grand Total ==>	-724	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	0.2	2.8	2.0	58	82.2	67.4	80.5	57.0	51.6	50.6	Floor	102	Main Htg	-1.5	58	57.0	81.7
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	1	Preheat	-1.6	29	5.0	57.0
											ExFlr	0	Reheat	-0.8	58	57.0	70.0
Total	0.2	2.8									Roof	102	Humidif	0.0	0	0.0	0.0
											Wall	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-3.2			

Room Checksums

By Valhalla Engineering Group, LLC

L1-111 CONFERENCE

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 12			Mo/Hr: 7 / 12		Mo/Hr: Heating Design						Cooling			Heating			
Outside Air:		OADB/WB/HR: 83 / 70 / 92			OADB: 83		OADB: 5						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	Fn MtrTD	Fn BldTD	Fn Frict			
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)							
Envelope Loads					Envelope Loads										AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	885	197				
Skylite Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	885	197				
Roof Cond	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	885	197				
Glass Solar	9,693	0	9,693	43	9,693	57	0	0	0.00	0	0	0.00	Sec Fan	0	0				
Glass/Door Cond	284	0	284	1	284	2	-5,691	-5,691	45.45	-5,691	-5,691	45.45	Nom Vent	99	99				
Wall Cond	369	126	495	2	369	2	-3,002	-4,187	33.44	-3,002	-4,187	33.44	AHU Vent	99	99				
Partition/Door	0	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	30	30				
Floor	0	0	0	0	0.00	0	0	0	0.00	0	0	0.00	MinStop/Rh	197	197				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	914	227				
Infiltration	686	0	686	3	239	1	-2,069	-2,069	16.52	-2,069	-2,069	16.52	Exhaust	128	128				
Sub Total ==>	11,033	126	11,158	49	10,586	62	-10,761	-11,947	95.41	-10,761	-11,947	95.41	Rm Exh	0	0				
Internal Loads					Internal Loads										ENGINEERING CKS				
Lights	1,010	0	1,010	4	1,010	6	0	0	0.00	0	0	0.00	% OA	11.2	50.0				
People	8,000	0	8,000	35	4,900	29	0	0	0.00	0	0	0.00	cfm/ft²	2.99	0.67				
Misc	505	0	505	2	505	3	0	0	0.00	0	0	0.00	cfm/ton	466.59					
Sub Total ==>	9,515	0	9,515	42	6,415	37	0	0	0.00	0	0	0.00	ft²/ton	156.11					
Ceiling Load	141	-141	0	0	141	1	-343	0	0.00	-343	0	0.00	Btu/hr-ft²	76.87	-42.30				
Ventilation Load	0	0	2,287	10	0	0	0	-6,896	55.08	0	-6,896	55.08	No. People	20.0	67.6/1000 ft²				
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing	0	0	0	0	0	0	6,860	6,860	-54.79	6,860	6,860	-54.79							
Ov/Undr Sizing	0	0	0	0	0	0	0	504	-4.03	0	504	-4.03							
Exhaust Heat	0	-207	-207	-1	0	0	0	0	0.00	0	0	0.00							
Sup. Fan Heat	0	0	0	0	0	0	0	-993	7.93	0	-993	7.93							
Ret. Fan Heat	0	0	0	0	0	0	0	0	0.00	0	0	0.00							
Duct Heat Pkup	0	0	0	0	0	0	0	-49	0.40	0	-49	0.40							
Underflr Sup Ht Pkup	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	0.00	0	0	0.00							
Grand Total ==>	20,689	-222	22,754	100.00	17,142	100.00	-4,244	-12,522	100.00	-4,244	-12,522	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	1.9	22.8	17.7	885	77.2	64.1	71.9	57.0	55.5	66.0	Floor	296	-7.0	197	57.0	90.0		
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	1	-5.5	99	5.0	57.0		
											ExFlr	0	-2.8	197	57.0	70.0		
Total	1.9	22.8									Roof	0	0.0	0	0.0	0.0		
											Wall	439	0.0	0	0.0	0.0		
											Ext Door	0	-12.5					

Room Checksums

By Valhalla Engineering Group, LLC

L1-112 MECH

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5			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								
Envelope Loads				Envelope Loads											
Skylite Solar	0	0	0	0	0	0	0	0.00							
Skylite Cond	0	0	0	0	0	0	0	0.00							
Roof Cond	0	0	0	0	0	0	0	0.00							
Glass Solar	0	0	0	0	0	0	0	0.00							
Glass/Door Cond	0	0	0	0	0	-2,226	-2,226	63.39							
Wall Cond	0	0	0	0	0	-1,286	-1,286	36.61							
Partition/Door	0	0	0	0	0	0	0	0.00							
Floor	0	0	0	0	0.00	0	0	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
Infiltration	0	0	0	0	0	0	0	0.00							
Sub Total ==>	0	0	0	0	0	-3,512	-3,512	100.00							
Internal Loads				Internal Loads											
Lights	0	0	0	0	0	0	0	0.00							
People	0	0	0	0	0	0	0	0.00							
Misc	0	0	0	0	0	0	0	0.00							
Sub Total ==>	0	0	0	0	0	0	0	0.00							
Ceiling Load	0	0	0	0	0	0	0	0.00							
Ventilation Load	0	0	0	0	0	0	0	0.00							
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing			0	0				0.00							
Ov/Undr Sizing	0		0	0	0			0.00							
Exhaust Heat		0	0	0				0.00							
Sup. Fan Heat			0	0				0.00							
Ret. Fan Heat			0	0				0.00							
Duct Heat Pkup			0	0				0.00							
Underflr Sup Ht Pkup			0	0				0.00							
Supply Air Leakage			0	0				0.00							
Grand Total ==>	0	0	0	100.00	0	100.00	-3,512	-3,512	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	0	131
Terminal	0	131
Main Fan	0	131
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	131
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	0.00	1.79
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr-ft²	0.00	-48.11
No. People	0.4	5.0/1000 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
Main Clg	0.0	0.0	0.0	0	0.0	0.0	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
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	73		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	153	40	26
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	
			MBh	cfm
Main Htg	-3.5	131	65.0	90.0
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
Total	-3.5			

System Checksums

By Valhalla Engineering Group, LLC

17-AHU-01

Variable Volume Reheat (30% Min Flow Default)

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 13		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 85		OADB: 5			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 <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00						
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00						
Roof Cond	0	7,893	7.893	7	0	Roof Cond	0	7.82						
Glass Solar	21,513	0	21,513	20	24,374	34	Glass Solar	0	0.00					
Glass/Door Cond	2,272	0	2,272	2	1,587	2	Glass/Door Cond	-18,602	17.36					
Wall Cond	995	309	1,304	1	882	1	Wall Cond	-8,053	10.45					
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00						
Floor	0	0	0	0	0.00	0	Floor	0	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00					
Infiltration	7,124	0	7,124	6	2,697	4	Infiltration	-17,889	16.69					
<i>Sub Total ==></i>	<i>31,904</i>	<i>8,202</i>	<i>40,106</i>	<i>36</i>	<i>29,539</i>	<i>41</i>	<i>Sub Total ==></i>	<i>-44,544</i>	<i>52.33</i>					
Internal Loads				Internal Loads										
Lights	10,369	0	10,369	9	10,369	14	Lights	0	0.00					
People	20,138	0	20,138	18	11,622	16	People	0	0.00					
Misc	11,529	0	11,529	10	11,529	16	Misc	0	0.00					
<i>Sub Total ==></i>	<i>42,036</i>	<i>0</i>	<i>42,036</i>	<i>38</i>	<i>33,520</i>	<i>47</i>	<i>Sub Total ==></i>	<i>0</i>	<i>0.00</i>					
Ceiling Load	1,762	-1,762	0	0	1,385	2	Ceiling Load	-3,295	0.00					
Ventilation Load	0	0	23,748	22	0	0	Ventilation Load	0	55.64					
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	15,547	-14.51					
Ov/Undr Sizing	6,991	0	6,991	6	7,458	10	Exhaust Heat	4,359	-4.07					
Exhaust Heat	0	-2,737	-2,737	-2	0	0	OA Preheat Diff.	0	0.00					
Sup. Fan Heat	0	0	0	0	0	0	RA Preheat Diff.	-8,589	8.01					
Ret. Fan Heat	0	0	0	0	0	0	Additional Reheat	-2,779	2.59					
Duct Heat Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00					
Underflr Sup Ht Pkup	0	0	0	0	0	0	Supply Air Leakage	0	0.00					
Supply Air Leakage	0	0	0	0	0	0								
<i>Grand Total ==></i>	<i>82,693</i>	<i>3,704</i>	<i>110,144</i>	<i>100.00</i>	<i>71,902</i>	<i>100.00</i>	<i>Grand Total ==></i>	<i>-32,292</i>	<i>-107,170</i>	<i>100.00</i>				

AIRFLOWS		
	Cooling	Heating
Diffuser	3,461	1,982
Terminal	3,461	1,982
Main Fan	3,461	1,982
Sec Fan	0	0
Nom Vent	853	853
AHU Vent	853	853
Infil	256	256
MinStop/Rh	1,982	1,982
Return	3,717	2,238
Exhaust	1,109	1,109
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	24.6	43.0
cfm/ft²	1.14	0.65
cfm/ton	377.07	
ft²/ton	330.98	
Btu/hr-ft²	36.26	-35.20
No. People	47	

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	9.2	110.1	84.4	3,367	79.6	65.5	75.2	57.0	54.8	63.0
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	9.2	110.1								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	3,038		
Part	0		
Int Door	1		
ExFlr	0		
Roof	1,380	0	0
Wall	1,242	314	25
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-59.3	1,982	57.0	84.8
Aux Htg	0.0	0	0.0	0.0
Preheat	-47.7	853	5.0	57.0
Reheat	-27.0	1,982	57.0	69.6
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-107.0			

System Checksums

By Valhalla Engineering Group, LLC

UH

Unit Heaters

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5						SADB	0.0	90.0
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	0.0	65.0
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	0.0	65.0
Envelope Loads				Envelope Loads								Ret/OA	0.0	65.0
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	-5,751	31.28				Fn Frict	0.0	0.0
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00				AIRFLOWS		
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	-3,326	18.09				Diffuser	0	684
Wall Cond	0	0	0	0	0	Wall Cond	-9,305	50.62				Terminal	0	684
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00				Main Fan	0	684
Floor	0	0	0	0	0	Floor	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				Nom Vent	0	0
Infiltration	0	0	0	0	0	Infiltration	0	0.00				AHU Vent	0	0
Sub Total ==>	0	0	0	0	0	Sub Total ==>	-18,382	100.00				Infil	0	0
Internal Loads				Internal Loads								MinStop/Rh	0	0
Lights	0	0	0	0	0	Lights	0	0.00				Return	0	684
People	0	0	0	0	0	People	0	0.00				Exhaust	0	0
Misc	0	0	0	0	0	Misc	0	0.00				Rm Exh	0	0
Sub Total ==>	0	0	0	0	0	Sub Total ==>	0	0.00				Auxiliary	0	0
Ceiling Load				Ceiling Load								Leakage Dwn	0	0
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00				Leakage Ups	0	0
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0				ENGINEERING CKS		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00				% OA	0.0	0.0
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00				cfm/ft²	0.00	0.63
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00				cfm/ton	0.00	
Sup. Fan Heat	0	0	0	0	0	RA Preheat Diff.	0	0.00				ft²/ton	0.00	
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	0	0.00				Btu/hr-ft²	0.00	-16.97
Duct Heat Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00				No. People	5	
Underflr Sup Ht Pkup	0	0	0	0	0	Supply Air Leakage	0	0.00						
Supply Air Leakage	0	0	0	0	0	Grand Total ==>	-18,382	100.00						
Grand Total ==>	0	0	100.00	0	100.00	Grand Total ==>	-18,382	100.00						

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb								
Main 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			
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			
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	0	0	0	0.0	0.0			
Total	0.0	0.0								0	0	0	0	0.0	0.0			
										Floor	1,083							
										Part	0							
										Int Door	1							
										ExFlr	0							
										Roof	968	0	0					
										Wall	873	60	7					
										Ext Door	0	0	0					
										Total	-18.4							

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-10

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5			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							
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00						
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00						
Roof Cond	0	0	0	0	0	Roof Cond	0	0.00						
Glass Solar	0	0	0	0	0	Glass Solar	0	0.00						
Glass/Door Cond	0	0	0	0	0	Glass/Door Cond	-2,226	63.39						
Wall Cond	0	0	0	0	0	Wall Cond	-1,286	36.61						
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00						
Floor	0	0	0	0	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	0	0	0	0	0	Infiltration	0	0.00						
<i>Sub Total ==></i>	0	0	0	0	0	<i>Sub Total ==></i>	-3,512	100.00						
Internal Loads				Internal Loads										
Lights	0	0	0	0	0	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>	0	0	0	0	0	<i>Sub Total ==></i>	0	0.00						
Ceiling Load	0	0	0	0	0	Ceiling Load	0	0.00						
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00						
Adj Air Trans Heat	0	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	0	Exhaust Heat	0	0.00						
Exhaust Heat		0	0	0		OA Preheat Diff.	0	0.00						
Sup. Fan Heat			0	0		RA Preheat Diff.	0	0.00						
Ret. Fan Heat			0	0		Additional Reheat	0	0.00						
Duct Heat Pkup			0	0		System Plenum Heat	0	0.00						
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 ==>	0	0	0	100.00	0	Grand Total ==>	-3,512	-3,512	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	0	131
Terminal	0	131
Main Fan	0	131
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	131
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	0.00	1.79
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr-ft²	0.00	-48.11
No. People	0	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	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
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	73		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	153	40	26
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-3.5	131	65.0	90.0
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
Total	-3.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-1A

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 15		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 87		OADB: 5			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	3,596	3,596	18	0	0	0	-3,037	14.36							
	4,216	0	4,216	22	4,417	42	0	0	0.00							
	1,440	0	1,440	7	1,396	13	-7,687	-7,687	36.34							
	132	33	165	1	117	1	-1,687	-2,618	12.38							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0.00	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	1,369	0	1,369	7	645	6	-3,495	-3,495	16.52							
	7,157	3,629	10,786	55	6,576	63	-12,869	-16,837	79.60							
Internal Loads					Internal Loads											
	1,707	0	1,707	9	1,707	16	0	0	0.00							
	3,150	0	3,150	16	1,750	17	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	4,857	0	4,857	25	3,457	33	0	0	0.00							
	463	-463	0	0	420	4	-579	0	0.00							
	0	0	4,562	23	0	0	0	-11,649	55.08							
	0	0	0	0	0	0	0	0	0							
	0	0	0	0	0	0	6,279	6,279	-29.69							
	0	0	0	0	0	0	0	852	-4.03							
	-681	-681	-681	-3	0	0	0	0	0.00							
	0	0	0	0	0	0	0	-1,678	7.93							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	1,882	-8.90							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
Grand Total ==>	12,477	2,485	19,523	100.00	10,452	100.00	Grand Total ==>	-7,169	-21,151	100.00						

AIRFLOWS

	Cooling	Heating
Diffuser	539	333
Terminal	539	333
Main Fan	539	333
Sec Fan	0	0
Nom Vent	167	167
AHU Vent	167	167
Infil	50	50
MinStop/Rh	333	333
Return	589	383
Exhaust	217	217
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	30.9	50.0
cfm/ft²	1.08	0.67
cfm/ton	331.57	
ft²/ton	307.32	
Btu/hr-ft²	39.05	-42.30
No. People	7	

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	1.6	19.5	14.9	533	80.6	66.1	76.3	57.0	54.0	59.9
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	1.6	19.5								

AREAS

	Gross Total	Glass	
		ft²	(%)
Floor	500		
Part	0		
Int Door	1		
ExFlr	0		
Roof	500	0	0
Wall	345	129	37
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-11.8	333	57.0	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-9.3	167	5.0	57.0
Reheat	-4.7	333	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-21.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-1B

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 16		Mo/Hr: Heating Design			Cooling		Heating	SADB	57.0	81.4
Outside Air:		OADB/WB/HR: 87 / 71 / 92		OADB: 86		OADB: 5			Ra Plenum		66.3	Return	77.7	66.3
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	82.0	0.0	0.0	0.0		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	935	882			
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	935	882			
Roof Cond	0	2,388	7	0	0	0	-2,083	4.38	Main Fan	935	882			
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0			
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Nom Vent	436	436			
Wall Cond	0	0	0	0	0	0	0	0.00	AHU Vent	436	436			
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	131	131			
Floor	0	0	0	0.00	0	0	0	0.00	MinStop/Rh	882	882			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Return	1,065	1,013			
Infiltration	3,729	3,729	11	1,605	9	-9,152	-9,152	19.22	Exhaust	567	567			
Sub Total ==>	3,729	2,388	6,117	17	1,605	-9,152	-11,235	23.60	Rm Exh	0	0			
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	5,147	0	5,147	15	5,147	0	0	0.00	% OA	46.7	49.5			
People	7,099	0	7,099	20	3,937	0	0	0.00	cfm/ft²	0.62	0.59			
Misc	1,024	0	1,024	3	1,024	0	0	0.00	cfm/ton	316.74				
Sub Total ==>	13,269	0	13,269	37	10,108	0	0	0.00	ft²/ton	511.13				
Ceiling Load	1,135	-1,135	0	0	1,267	-1,682	0	0.00	Btu/hr-ft²	23.48	-31.57			
Ventilation Load	0	0	12,430	35	0	0	-30,505	64.08	No. People	16				
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing			0	0		-29	-29	0.06						
Ov/Undr Sizing	5,203		5,203	15	5,164	2,230	2,230	-4.68						
Exhaust Heat		-1,616	-1,616	-5		0	0	0.00						
Sup. Fan Heat			0	0		-4,394	-4,394	9.23						
Ret. Fan Heat			0	0		-96	-96	0.20						
Duct Heat Pkup			0	0		-3,575	-3,575	7.51						
Underflr Sup Ht Pkup			0	0		0	0	0.00						
Supply Air Leakage			0	0		0	0	0.00						
Grand Total ==>	23,337	-363	35,404	100.00	18,144	-10,862	-47,604	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	3.0	35.4	23.4	934	82.0	67.2	80.1	57.0	55.1	64.1	Floor	1,508	Main Htg	-23.2	882	57.0	81.4
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	1	Preheat	-24.4	436	5.0	57.0
											ExFlr	0	Reheat	-12.4	882	57.0	70.0
Total	3.0	35.4									Roof	343	Humidif	0.0	0	0.0	0.0
											Wall	0	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-47.6			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-2

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES								
Peaked at Time:		Mo/Hr: 7 / 12			Mo/Hr: 7 / 12		Mo/Hr: Heating Design			Cooling			Heating						
Outside Air:		OADB/WB/HR: 83 / 70 / 92			OADB: 83		OADB: 5			SADB			Ra Plenum						
										Return			Ret/OA						
										Fn MtrTD			Fn BldTD						
										Fn Frict									
Space Sens. + Lat.		Plenum Sens. + Lat		Net Total		Percent Of Total (%)		Space Sensible		Percent Of Total (%)		Space Peak		Coil Peak		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		0.00			
Skylite Cond		0		0		0		0		0		0		0		0.00			
Roof Cond		0		0		0		0		0		0		0		0.00			
Glass Solar		9,693		0		9,693		43		57		0		0		0.00			
Glass/Door Cond		284		0		284		1		2		-5,691		-5,691		45.45			
Wall Cond		369		126		495		2		2		-3,002		-4,187		33.44			
Partition/Door		0		0		0		0		0		0		0		0.00			
Floor		0		0		0		0		0		0		0		0.00			
Adjacent Floor		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00			
Infiltration		686		0		686		3		1		-2,069		-2,069		16.52			
Sub Total ==>		11,033		126		11,158		49		62		-10,761		-11,947		95.41			
Internal Loads																			
Lights		1,010		0		1,010		4		6		0		0		0.00			
People		8,000		0		8,000		35		29		0		0		0.00			
Misc		505		0		505		2		3		0		0		0.00			
Sub Total ==>		9,515		0		9,515		42		37		0		0		0.00			
Ceiling Load		141		-141		0		0		1		-343		0		0.00			
Ventilation Load		0		0		2,287		10		0		0		-6,896		55.08			
Adj Air Trans Heat		0		0		0		0		0		0		0		0			
Dehumid. Ov Sizing		0		0		0		0		0		6,860		6,860		-54.79			
Ov/Undr Sizing		0		0		0		0		0		504		504		-4.03			
Exhaust Heat		0		-207		-207		-1		0		0		0		0.00			
Sup. Fan Heat		0		0		0		0		0		-993		-993		7.93			
Ret. Fan Heat		0		0		0		0		0		0		0		0.00			
Duct Heat Pkup		0		0		0		0		0		-49		-49		0.40			
Underflr Sup Ht Pkup		0		0		0		0		0		0		0		0.00			
Supply Air Leakage		0		0		0		0		0		0		0		0.00			
Grand Total ==>		20,689		-222		22,754		100.00		17,142		100.00		-4,244		-12,522		100.00	

AIRFLOWS		
	Cooling	Heating
Diffuser	885	197
Terminal	885	197
Main Fan	885	197
Sec Fan	0	0
Nom Vent	99	99
AHU Vent	99	99
Infil	30	30
MinStop/Rh	197	197
Return	914	227
Exhaust	128	128
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	11.2	50.0
cfm/ft²	2.99	0.67
cfm/ton	466.59	
ft²/ton	156.11	
Btu/hr-ft²	76.87	-42.30
No. People	20	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	1.9	22.8	17.7	885	77.2	64.1	71.9	57.0	55.5	66.0
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	1.9	22.8								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	296		
Part	0		
Int Door	1		
ExFlr	0		
Roof	0	0	0
Wall	439	95	22
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-5.5	99	5.0	57.0
Reheat	-2.8	197	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-12.5			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-3

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 16		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 86		OADB: 5			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	758	758	28	0	0	0	-620	19.68							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	237		237	9	106	9	-606	-606	19.25							
	237	758	996	36	106	9	-606	-1,226	38.92							
Internal Loads					Internal Loads											
	348	0	348	13	348	31	0	0	0.00							
	321	0	321	12	178	16	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	669	0	669	24	526	47	0	0	0.00							
Ceiling Load					Ceiling Load											
	94	-94	0	0	94	8	-118	0	0.00							
Ventilation Load					Ventilation Load											
	0	0	791	29	0	0	0	-2,020	64.15							
Adj Air Trans Heat					Adj Air Trans Heat											
	0		0	0	0	0	0	0	0							
Dehumid. Ov Sizing					Ov/Undr Sizing											
			0	0			0	0	0.00							
	413		413	15	393	35	0	148	-4.69							
Exhaust Heat					OA Preheat Diff.											
		-118	-118	-4				-291	9.24							
Sup. Fan Heat					Additional Reheat											
			0	0				0	0.00							
Ret. Fan Heat					System Plenum Heat											
			0	0				240	-7.63							
Duct Heat Pkup					Underflr Sup Ht Pkup											
			0	0				0	0.00							
Underflr Sup Ht Pkup					Supply Air Leakage											
			0	0				0	0.00							
Supply Air Leakage					Grand Total ==>											
			0	0				-724	-3,149	100.00						
	1,414	546	2,751	100.00	1,120	100.00										

AIRFLOWS		
	Cooling	Heating
Diffuser	58	58
Terminal	58	58
Main Fan	58	58
Sec Fan	0	0
Nom Vent	29	29
AHU Vent	29	29
Infil	9	9
MinStop/Rh	58	58
Return	66	66
Exhaust	38	38
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	252.15	
ft²/ton	444.97	
Btu/hr-ft²	26.97	-30.87
No. People	1	

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	0.2	2.8	58	82.2	67.4	80.5	57.0	51.6	50.6
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	0.2	2.8							

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	102		
Part	0		
Int Door	1		
ExFlr	0		
Roof	102	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	58	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.6	29	5.0	57.0
Reheat	-0.8	58	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-4

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15			Mo/Hr: 7 / 16		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 87 / 71 / 92			OADB: 86		OADB: 5			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											
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	235		235	12	101	9	-576	-576	19.25							
	235	0	235	12	101	9	-576	-576	19.25							
Internal Loads					Internal Loads											
	331	0	331	17	331	31	0	0	0.00							
	305	0	305	16	170	16	0	0	0.00							
	0	0	0	0	0	0	0	0	0.00							
	636	0	636	33	501	47	0	0	0.00							
	81	-81	0	0	90	8	-112	0	0.00							
	0	0	783	40	0	0	0	-1,921	64.15							
	0		0	0	0	0	0	0	0							
			0	0			0	0	0.00							
	393		393	20	373	35	0	140	-4.69							
		-102	-102	-5				0	0.00							
			0	0				-277	9.24							
		0	0	0				0	0.00							
		0	0	0				-361	12.05							
			0	0				0	0.00							
		0	0	0				0	0.00							
Grand Total ==>	1,345	-183	1,945	100.00	1,065	100.00	Grand Total ==>	-689	-2,994	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	55	55
Terminal	55	55
Main Fan	55	55
Sec Fan	0	0
Nom Vent	27	27
AHU Vent	27	27
Infil	8	8
MinStop/Rh	55	55
Return	63	63
Exhaust	36	36
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	339.14	
ft²/ton	598.48	
Btu/hr-ft²	20.05	-30.87
No. People	1	

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	0.2	1.9	1.3	55	82.3	67.5	80.9	57.0	56.3	69.1
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
Total	0.2	1.9								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	97		
Part	0		
Int Door	1		
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	55	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	27	5.0	57.0
Reheat	-0.8	55	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-5

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 16		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 86		OADB: 5						SADB	57.0	81.7
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	Ra Plenum	77.9	66.3
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	77.9	66.3
Envelope Loads				Envelope Loads								Ret/OA	82.2	35.7
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	721	721	28	0	Roof Cond	0	19.68				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	0.00	Floor	0	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00						
Infiltration	226		226	9	101	Infiltration	-576	19.25						
<i>Sub Total ==></i>	226	721	947	36	101	<i>Sub Total ==></i>	-576	38.92						
Internal Loads				Internal Loads										
Lights	331	0	331	13	331	Lights	0	0.00						
People	305	0	305	12	170	People	0	0.00						
Misc	0	0	0	0	0	Misc	0	0.00						
<i>Sub Total ==></i>	636	0	636	24	501	<i>Sub Total ==></i>	0	0.00						
Ceiling Load	90	-90	0	0	90	Ceiling Load	-112	0.00						
Ventilation Load	0	0	752	29	0	Ventilation Load	0	64.15						
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	393		393	15	373	Exhaust Heat		140						
Exhaust Heat		-112	-112	-4		OA Preheat Diff.		0						
Sup. Fan Heat			0	0		RA Preheat Diff.		-277						
Ret. Fan Heat			0	0		Additional Reheat		0						
Duct Heat Pkup			0	0		System Plenum Heat		228						
Underflr Sup Ht Pkup			0	0		Underflr Sup Ht Pkup		0						
Supply Air Leakage			0	0		Supply Air Leakage		0						
Grand Total ==>	1,345	519	2,616	100.00	1,065	Grand Total ==>	-689	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	55	55
Terminal	55	55
Main Fan	55	55
Sec Fan	0	0
Nom Vent	27	27
AHU Vent	27	27
Infil	8	8
MinStop/Rh	55	55
Return	63	63
Exhaust	36	36
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	252.15	
ft²/ton	444.97	
Btu/hr-ft²	26.97	-30.87
No. People	1	

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	0.2	2.6	1.9	55	82.2	67.4	80.5	57.0	51.6	50.6
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	0.2	2.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	97		
Part	0		
Int Door	1		
ExFlr	0		
Roof	97	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	55	57.0	81.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	27	5.0	57.0
Reheat	-0.8	55	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-6

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 16		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 86 / 71 / 92			OADB: 86		OADB: 5			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							
Envelope Loads					Envelope Loads										
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0	721	721	28	0	0	0	-589	19.68						
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	226		226	9	101	9	-576	-576	19.25						
	226	721	947	36	101	9	-576	-1,165	38.92						
Internal Loads					Internal Loads										
	331	0	331	13	331	31	0	0	0.00						
	305	0	305	12	170	16	0	0	0.00						
	0	0	0	0	0	0	0	0	0.00						
	636	0	636	24	501	47	0	0	0.00						
	90	-90	0	0	90	8	-112	0	0.00						
	0	0	752	29	0	0	0	-1,921	64.15						
	0		0	0	0	0	0	0	0						
			0	0			0	0	0.00						
	393		393	15	373	35	0	140	-4.69						
		-112	-112	-4				0	0.00						
			0	0				-277	9.24						
		0	0	0				0	0.00						
		0	0	0				228	-7.63						
			0	0				0	0.00						
		0	0	0				0	0.00						
Grand Total ==>	1,345	519	2,616	100.00	1,065	100.00	Grand Total ==>	-689	-2,994	100.00					

AIRFLOWS		
	Cooling	Heating
Diffuser	55	55
Terminal	55	55
Main Fan	55	55
Sec Fan	0	0
Nom Vent	27	27
AHU Vent	27	27
Infil	8	8
MinStop/Rh	55	55
Return	63	63
Exhaust	36	36
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	50.0	50.0
cfm/ft²	0.57	0.57
cfm/ton	252.15	
ft²/ton	444.97	
Btu/hr-ft²	26.97	-30.87
No. People	1	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.2	2.6	1.9	55	82.2	67.4	80.5	57.0	51.6	50.6
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	0.2	2.6								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	97		
Part	0		
Int Door	1		
ExFlr	0		
Roof	97	0	0
Wall	0	0	0
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Aux Htg	0.0	0	0.0	0.0
Preheat	-1.5	27	5.0	57.0
Reheat	-0.8	55	57.0	70.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3.0			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-7

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 7 / 14		Mo/Hr: 7 / 13		Mo/Hr: Heating Design			Cooling		Heating	SADB	57.0	89.9
Outside Air:		OADB/WB/HR: 86 / 71 / 92		OADB: 85		OADB: 5			Ra Plenum		66.3	Return	77.3	66.3
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict <td colspan="2"></td> </th></th>	Fn BldTD <th>Fn Frict <td colspan="2"></td> </th>	Fn Frict <td colspan="2"></td>		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	78.1	0.0	0.0	0.0		
Envelope Loads				Envelope Loads							AIRFLOWS			
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser		491	202		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00	Terminal		491	202		
Roof Cond	0	1,164	10	0	0	Roof Cond	-1,464	15.60	Main Fan		491	202		
Glass Solar	6,989	0	60	7,603	80	Glass Solar	0	0.00	Sec Fan		0	0		
Glass/Door Cond	386	0	3	262	3	Glass/Door Cond	-3,553	37.86	Nom Vent		40	40		
Wall Cond	371	158	5	337	4	Wall Cond	-2,087	33.14	AHU Vent		40	40		
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00	Infil		12	12		
Floor	0	0	0	0.00	0	Floor	0	0.00	MinStop/Rh		202	202		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	Return		503	214		
Infiltration	334	334	3	126	1	Infiltration	-839	8.94	Exhaust		52	52		
Sub Total ==>	8,080	1,322	81	8,328	88	Sub Total ==>	-6,479	95.54	Rm Exh		0	0		
Internal Loads				Internal Loads							ENGINEERING CKS			
Lights	823	0	7	823	9	Lights	0	0.00	% OA		8.2	19.8		
People	378	0	3	210	2	People	0	0.00	cfm/ft²		2.04	0.84		
Misc	0	0	0	0	0	Misc	0	0.00	cfm/ton		508.10			
Sub Total ==>	1,200	0	10	1,032	11	Sub Total ==>	0	0.00	ft²/ton		249.59			
Ceiling Load	175	-175	0	145	2	Ceiling Load	-279	0.00	Btu/hr-ft²		48.08	-38.94		
Ventilation Load	0	0	10	0	0	Ventilation Load	0	29.79	No. People		1			
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0						
Dehumid. Ov Sizing			0			Ov/Undr Sizing	2,436	-25.96						
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	204	-2.18						
Exhaust Heat		-128	-1			OA Preheat Diff.	0	0.00						
Sup. Fan Heat		0	0			RA Preheat Diff.	-403	4.29						
Ret. Fan Heat		0	0			Additional Reheat	-1,227	13.08						
Duct Heat Pkup		0	0			System Plenum Heat	1,367	-14.57						
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 ==>	9,455	1,018	100.00	9,506	100.00	Grand Total ==>	-4,322	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft²	Glass (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	1.0	11.6	10.6	470	78.1	64.3	71.3	57.0	56.1	68.4	Floor	241	Main Htg	-7.2	202	57.0	89.9
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	1	Preheat	-2.2	40	5.0	57.0
											ExFlr	0	Reheat	-2.8	202	57.0	70.0
Total	1.0	11.6									Roof	241	Humidif	0.0	0	0.0	0.0
											Wall	315	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	Total	-9.4			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-8

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 12		Mo/Hr: 7 / 12		Mo/Hr: Heating Design						Cooling	Heating				
Outside Air:		OADB/WB/HR: 83 / 70 / 92		OADB: 83		OADB: 5						SADB	57.0	83.7			
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	Ra Plenum	76.5	66.3			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	76.5	66.3			
Envelope Loads				Envelope Loads								Ret/OA	76.5	66.3			
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	4,503	0	4,503	30	4,503	31	0	0.00	0	0	0.00	AIRFLOWS					
Glass/Door Cond	-211	0	-211	-1	-211	-1	-1,671	40.24	-1,671	-1,671	40.24				Diffuser	482	145
Wall Cond	21	2	23	0	21	0	-1,277	31.07	-1,290	-1,290	31.07				Terminal	482	145
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				Main Fan	482	145
Floor	0	0	0	0	0.00	0	0	0.00	0	0	0.00				Sec Fan	0	0
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 ==>	4,313	2	4,315	29	4,313	30	-2,948	71.31	-2,961	-2,961	71.31				Infil	0	0
Internal Loads				Internal Loads											MinStop/Rh	145	145
Lights	341	0	341	2	341	2	0	0.00	0	0	0.00				Return	482	145
People	275	0	275	2	138	1	0	0.00	0	0	0.00	Exhaust	0	0			
Misc	10,000	0	10,000	67	10,000	69	0	0.00	0	0	0.00	Rm Exh	0	0			
Sub Total ==>	10,616	0	10,616	71	10,479	72	0	0.00	0	0	0.00	Auxiliary	0	0			
Ceiling Load	-269	269	0	0	-269	-2	43	0.00	0	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	0	0	0	ENGINEERING CKS					
Dehumid. Ov Sizing			0	0			0	0.00	0	0	0.00				% OA	0.0	0.0
Ov/Undr Sizing	0		0	0	0	0	0	0.00	0	0	0.00				cfm/ft²	4.82	1.45
Exhaust Heat		0	0	0			0	0.00	0	0	0.00				cfm/ton	387.39	
Sup. Fan Heat		0	0	0			0	0.00	0	0	0.00				ft²/ton	80.37	
Ret. Fan Heat		0	0	0			0	0.00	-1,456	35.07					Btu/hr-ft²	149.32	-41.52
Duct Heat Pkup		0	0	0			0	0.00	265	-6.37					No. People	1	
Underflr Sup Ht Pkup		0	0	0			0	0.00	0	0	0.00						
Supply Air Leakage		0	0	0			0	0.00	0	0	0.00						
Grand Total ==>	14,660	271	14,932	100.00	14,523	100.00	-2,905	100.00	-4,152	-4,152	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	1.2	14.9	14.8	482	76.5	63.3	69.4	57.0	52.7	54.7	Floor	100		Main Htg	-4.2	145	57.0	83.7	
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	1		Preheat	0.0	0	0.0	0.0	
											ExFlr	0		Reheat	-1.3	145	57.0	65.0	
Total	1.2	14.9									Roof	0	0	Humidif	0.0	0	0.0	0.0	
											Wall	143	30	21	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-4.2			

Zone Checksums

By Valhalla Engineering Group, LLC

ZONE 17-9

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling		Heating	SADB	0.0	90.0	
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 5			Ra Plenum		0.0	65.0	Return	0.0	65.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	0.0	0.0	0.0	0.0			
Envelope Loads				Envelope Loads							AIRFLOWS				
Skylite Solar	0	0	0	0	0	0	0	0.00	Diffuser	0	0	553			
Skylite Cond	0	0	0	0	0	0	0	0.00	Terminal	0	0	553			
Roof Cond	0	0	0	0	0	0	0	0.00	Main Fan	0	0	553			
Glass Solar	0	0	0	0	0	0	0	0.00	Sec Fan	0	0	0			
Glass/Door Cond	0	0	0	0	0	0	-1,100	7.40	Nom Vent	0	0	0			
Wall Cond	0	0	0	0	0	0	-8,020	53.93	AHU Vent	0	0	0			
Partition/Door	0	0	0	0	0	0	0	0.00	Infil	0	0	0			
Floor	0	0	0	0.00	0	0	0	0.00	MinStop/Rh	0	0	0			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	Return	0	0	553			
Infiltration	0	0	0	0	0	0	0	0.00	Exhaust	0	0	0			
Sub Total ==>	0	0	0	0	0	0	-14,871	100.00	Rm Exh	0	0	0			
Internal Loads				Internal Loads							ENGINEERING CKS				
Lights	0	0	0	0	0	0	0	0.00	% OA	0.0	0.0	0.0			
People	0	0	0	0	0	0	0	0.00	cfm/ft²	0.00	0.55	0.00			
Misc	0	0	0	0	0	0	0	0.00	cfm/ton	0.00	0.00	0.00			
Sub Total ==>	0	0	0	0	0	0	0	0.00	ft²/ton	0.00	0.00	0.00			
Ceiling Load	0	0	0	0	0	0	0	0.00	Btu/hr-ft²	0.00	-14.72	0.00			
Ventilation Load	0	0	0	0	0	0	0	0.00	No. People	5	0.00	0.00			
Adj Air Trans Heat	0	0	0	0	0	0	0	0							
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00							
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00							
Exhaust Heat	0	0	0	0	0	0	0	0.00							
Sup. Fan Heat	0	0	0	0	0	0	0	0.00							
Ret. Fan Heat	0	0	0	0	0	0	0	0.00							
Duct Heat Pkup	0	0	0	0	0	0	0	0.00							
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00							
Supply Air Leakage	0	0	0	0	0	0	0	0.00							
Grand Total ==>	0	0	0	100.00	0	100.00	-14,870	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	cfm	°F	°F	°F	°F	gr/lb		ft²	(%)	MBh	cfm	°F	°F		
Main Clg	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	Main Htg	-14.9	553	65.0	90.0	
Aux Clg	0.0	0.0	0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0	Preheat	0.0	0	0.0	0.0	
Total	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	Humidif	0.0	0	0.0	0.0	
												Opt Vent	0.0	0	0.0	0.0	
												Total	-14.9				

Acoustic Analysis Report

Prepared by Joe Dezman

Date February 01, 2023

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE

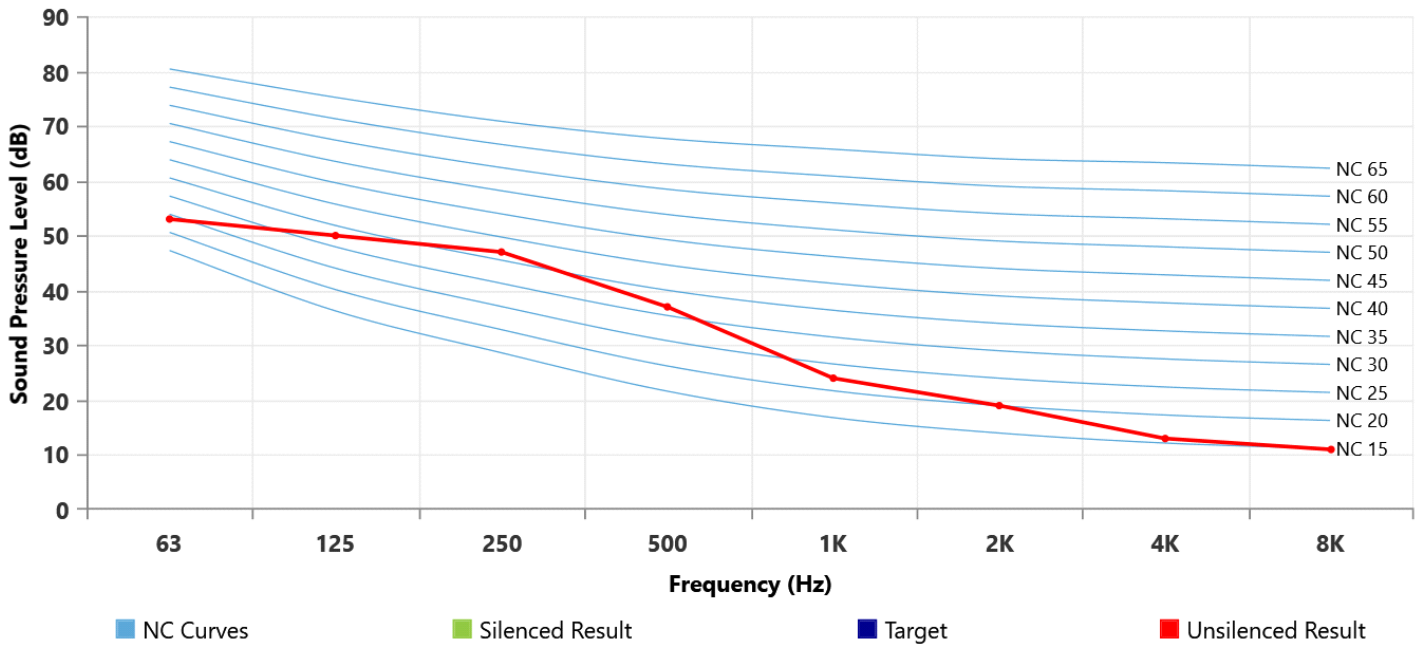
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	47	42	36	29	22	13	4	0	
Straight Duct - 10ft 14.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	53	50	47	37	24	19	13	11	
Target:									
Current:	NC 37 (RC 27 / 41 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

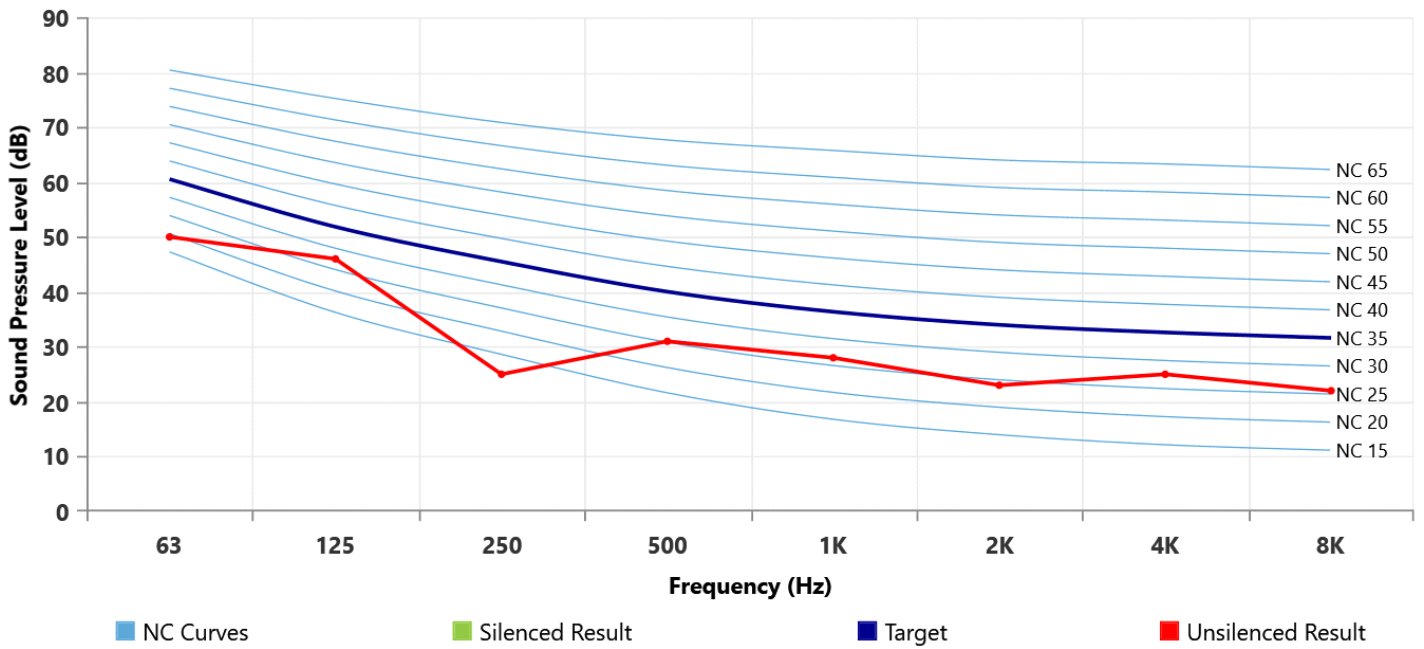


AHU-1 SUPPLY/DISCHARGE L1-103 OPEN OFFICE SOUTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - BRANCH TO L1-103 OFFICE	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.) - BRANCH TO L1-103 OFFICE	65	61	57	51	44	36	28	18	
Straight Duct - 5ft 10.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-01B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO WEST SIDE OFFICE	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO WEST SIDE OFFICE	34	29	22	15	7	0	0	0	
Straight Duct - 3ft 10.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - SPLIT TO RGDS	-6	-6	-6	-6	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO RGDS	27	23	17	11	4	0	0	0	
Straight Duct - 1ft 10.00Ø	0	0	-2	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 SOUTH - OPEN OFFICE	-8	-9	-10	-11	-12	-13	-14	-15	Room effect
Sum	50	46	25	31	28	23	25	22	
Target:	NC 35								
Current:	NC 28 (RC 27 (N) / 35 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

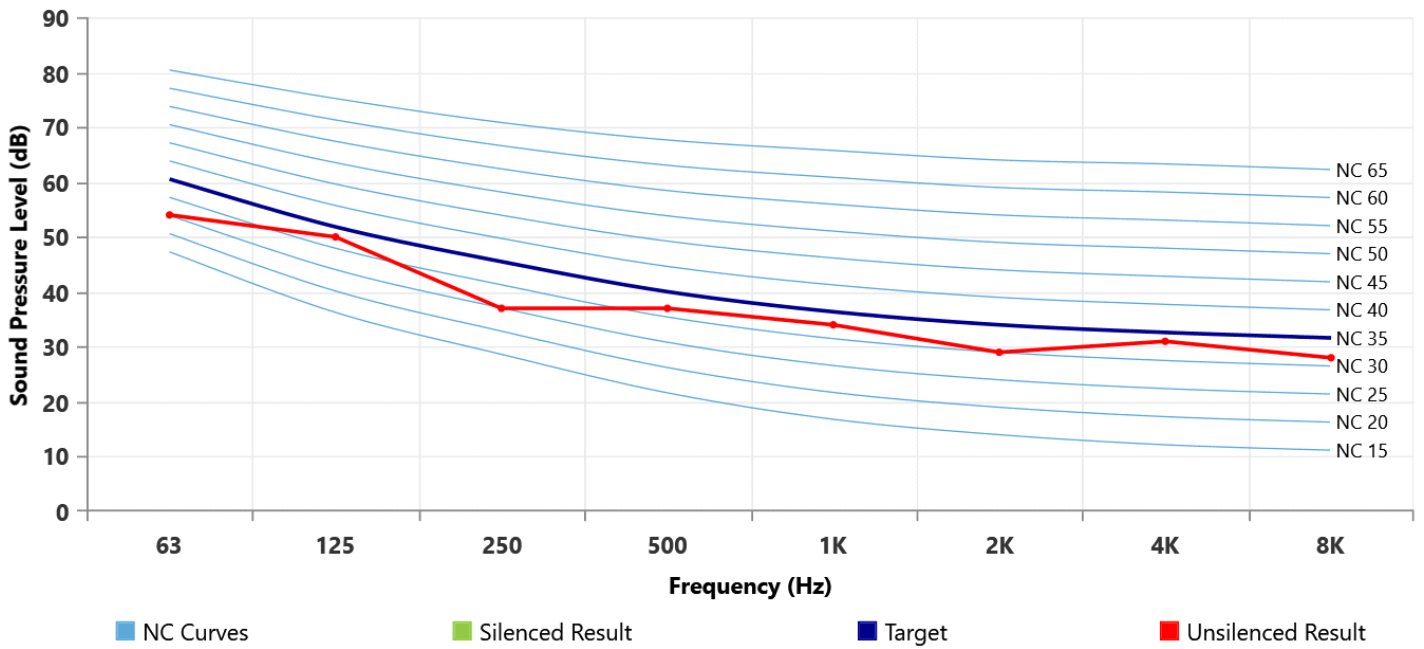


AHU-1 SUPPLY/DISCHARGE L1-103 NORTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - BRANCH TO N OPEN OFFICE	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - BRANCH TO N OPEN OFFICE	52	47	42	36	28	20	10	0	
Straight Duct - 2ft 8.00Ø	-1	-1	-3	0	0	0	0	0	
17-TU-01A	0	46	33	16	0	0	0	0	
Straight Duct - 1ft 12.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction	-6	-6	-6	-6	-5	-5	-5	-5	
Junction (regen.)	20	16	10	4	0	0	0	0	
Straight Duct - 4ft 10.00w x 10.00h	-2	-2	-1	-1	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 NORTH - OPEN OFFICE	-5	-6	-7	-8	-9	-10	-11	-12	Room effect
Sum	54	50	37	37	34	29	31	28	
Target:	NC 35								
Current:	NC 33 (RC 33 (HF) / 41 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

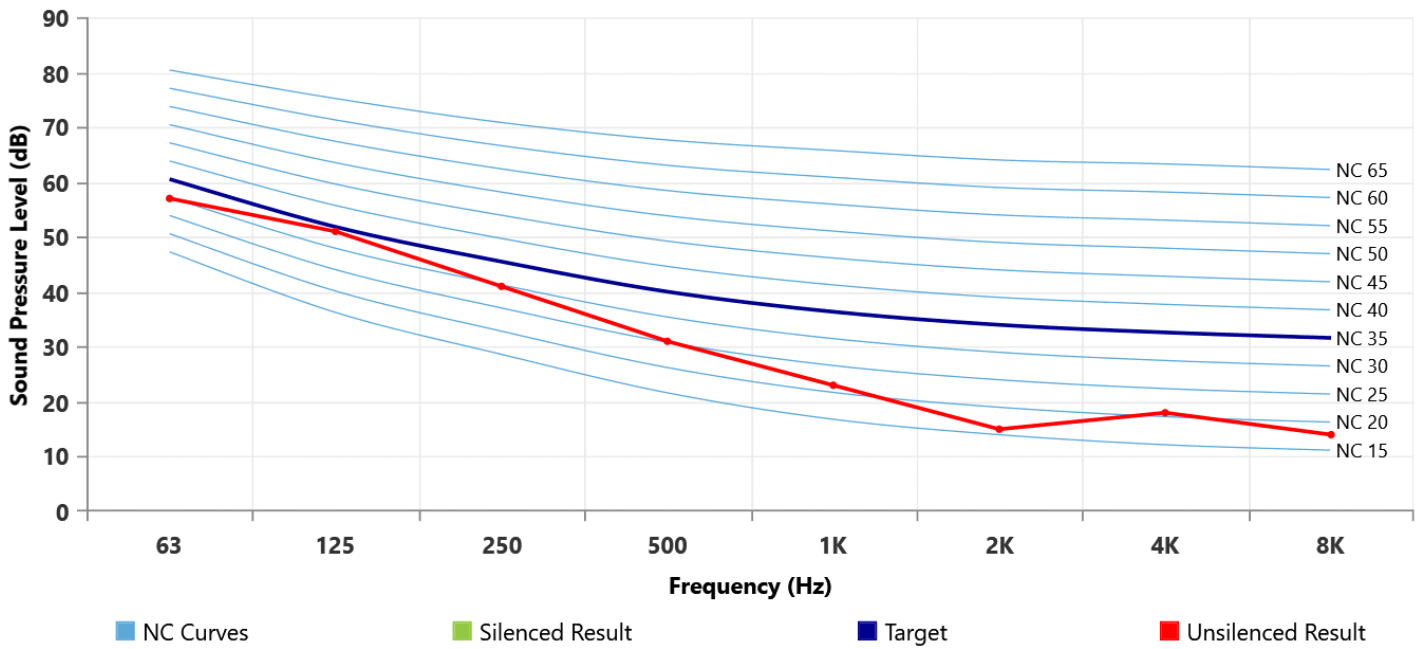


AHU-1 SUPPLY/DISCHARGE L1-111 CONF ROOM

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - SPLIT TO CONF RM	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - SPLIT TO CONF RM	63	58	51	44	35	25	14	1	
Straight Duct - 1ft 8.00Ø	0	0	-2	0	0	0	0	0	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	71	68	64	59	53	46	39	30	
Straight Duct - 3ft 8.00Ø	-1	-2	-3	-5	-7	-7	-5	-4	
17-TU-02	0	47	38	18	0	0	0	0	
Straight Duct - 5ft 14.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.)	31	26	20	14	6	0	0	0	
Straight Duct - 1ft 10.00w x 10.00h	0	0	0	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-111 - CONF ROOM	-5	-6	-7	-7	-8	-9	-10	-11	Room effect
Sum	57	51	41	31	23	15	18	14	
Target:	NC 35								
Current:	NC 34 (RC < 25 / 38 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

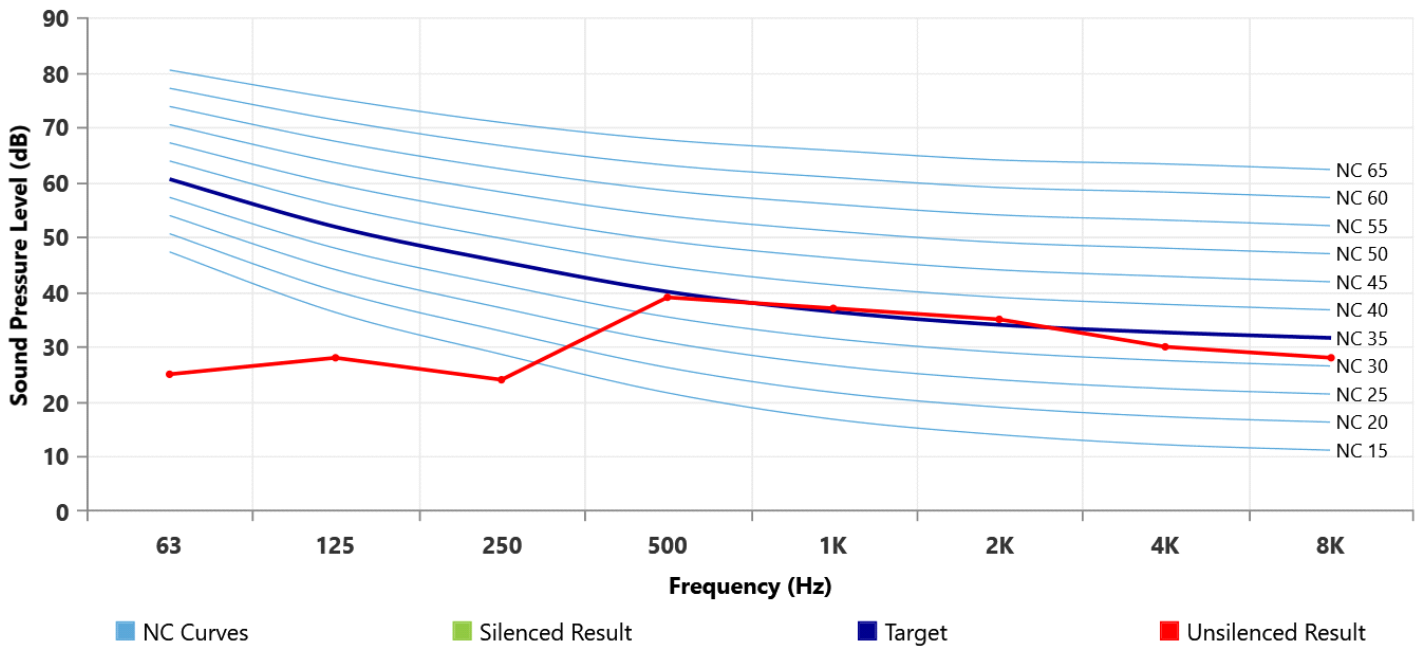


AHU-1 SUPPLY/DISCHARGE L1-110 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - split to office	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - split to office	29	25	21	15	8	1	0	0	
Straight Duct - 4ft 4.00Ø	-1	-1	-6	0	0	0	0	0	
17-TU-3	0	41	22	0	0	0	0	0	
Junction - TRANS TO 6X6	-2	-2	-2	-2	0	0	0	0	
Straight Duct - 4ft 6.00w x 6.00h	-2	-2	-1	-1	0	0	0	0	
End Reflection	-17	-11	-6	-2	-1	0	0	0	
Junction	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.)	2	0	0	0	0	0	0	0	
L1-110 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	25	28	24	39	37	35	30	28	
Target:	NC 35	**TARGET NOT MET**							
Current:	NC 36	(RC 37 (HF) / 42 dBA)							

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE L1-109 OFFICE

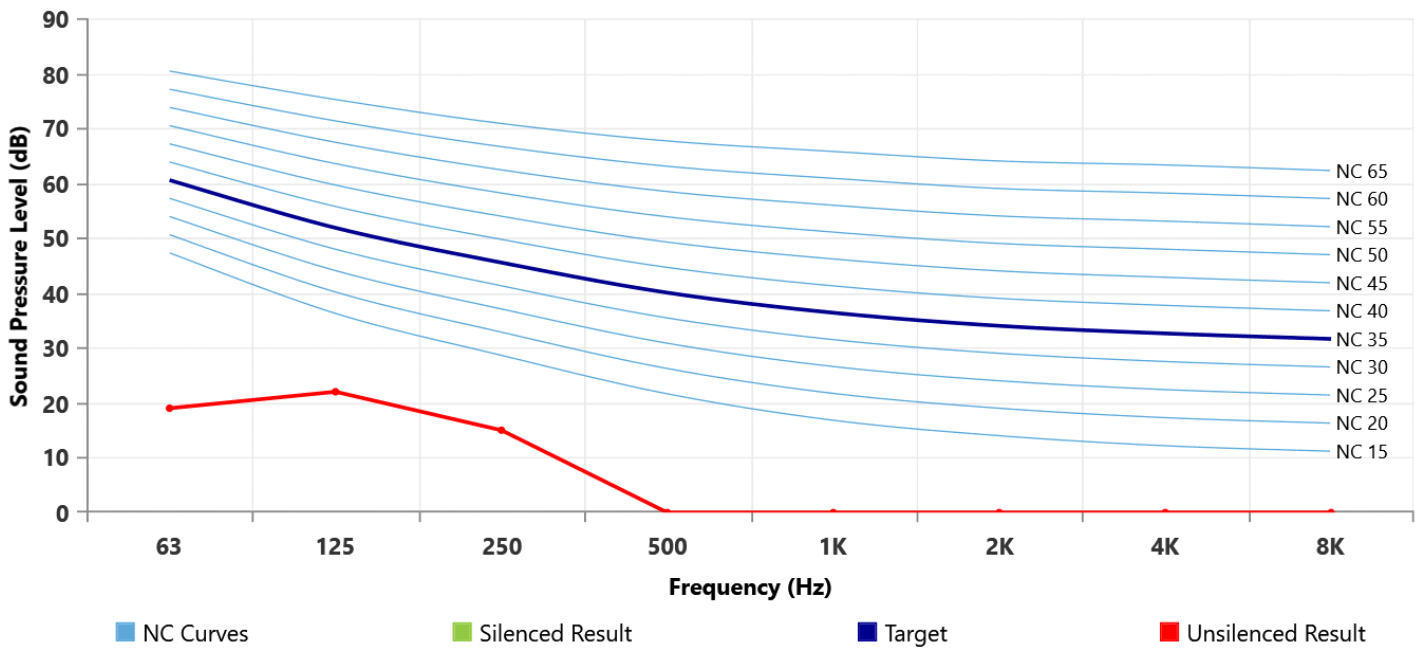
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SPLIT TO OFFICE	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - SPLIT TO OFFICE	36	33	29	24	19	12	5	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 4.00Ø	30	26	22	16	10	2	0	0	
Straight Duct - 3ft 4.00Ø	-1	-2	-3	-5	-6	-7	-7	-4	
17-TU-4	0	41	22	0	0	0	0	0	
Straight Duct - 2ft 12.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
End Reflection	-13	-8	-3	-1	0	0	0	0	
Junction	-6	-6	-6	-6	-6	-6	-6	-6	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-109 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	19	22	15	0	0	0	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / 11 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE L1-108 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	47	42	36	29	22	13	4	0	
Straight Duct - 10ft 14.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

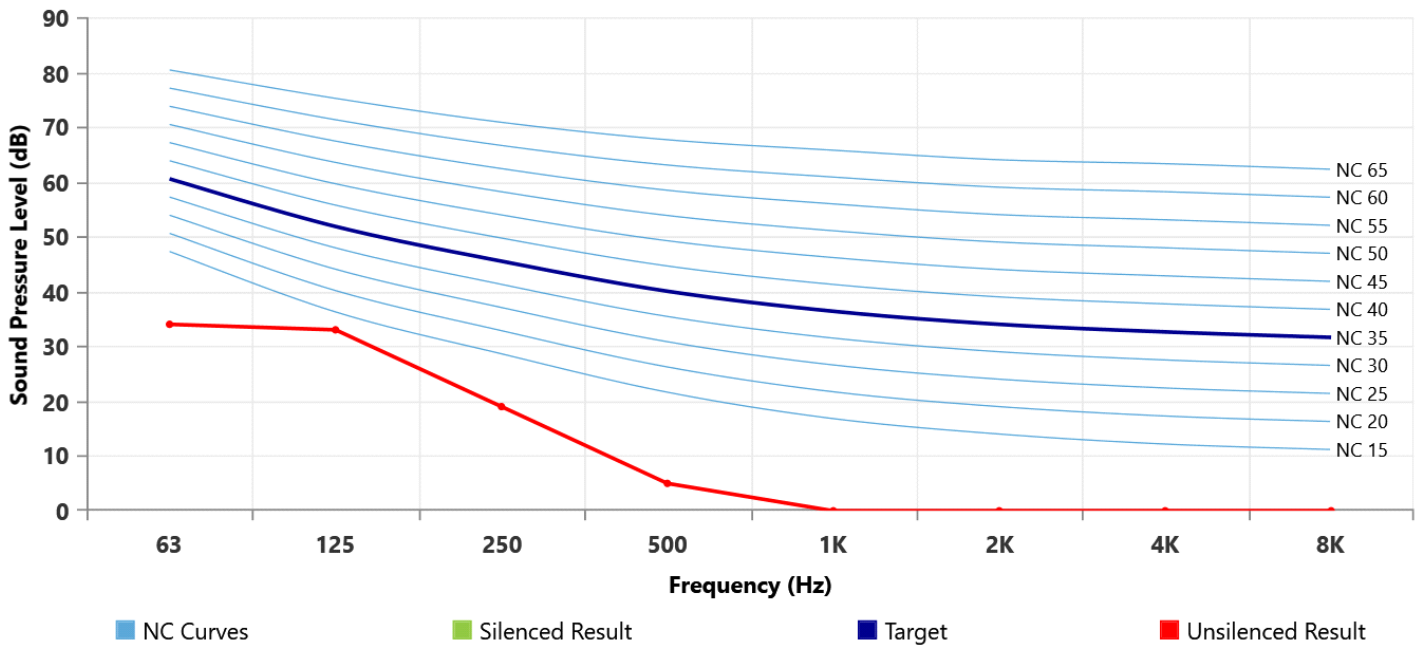
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - SPLIT TO OFFICE	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - SPLIT TO OFFICE	35	32	28	23	18	11	4	0	
Straight Duct - 4ft 4.00Ø	-1	-1	-6	0	0	0	0	0	
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 4.00Ø	30	26	22	16	10	2	0	0	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	
17-TU-5	0	41	22	0	0	0	0	0	
Junction - TRANS TO 6X6	-2	-2	-2	-2	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-108 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	34	33	19	5	0	0	0	0	

Target: NC 35

Current: NC < 15 (RC < 25 / 19 dBA)



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED

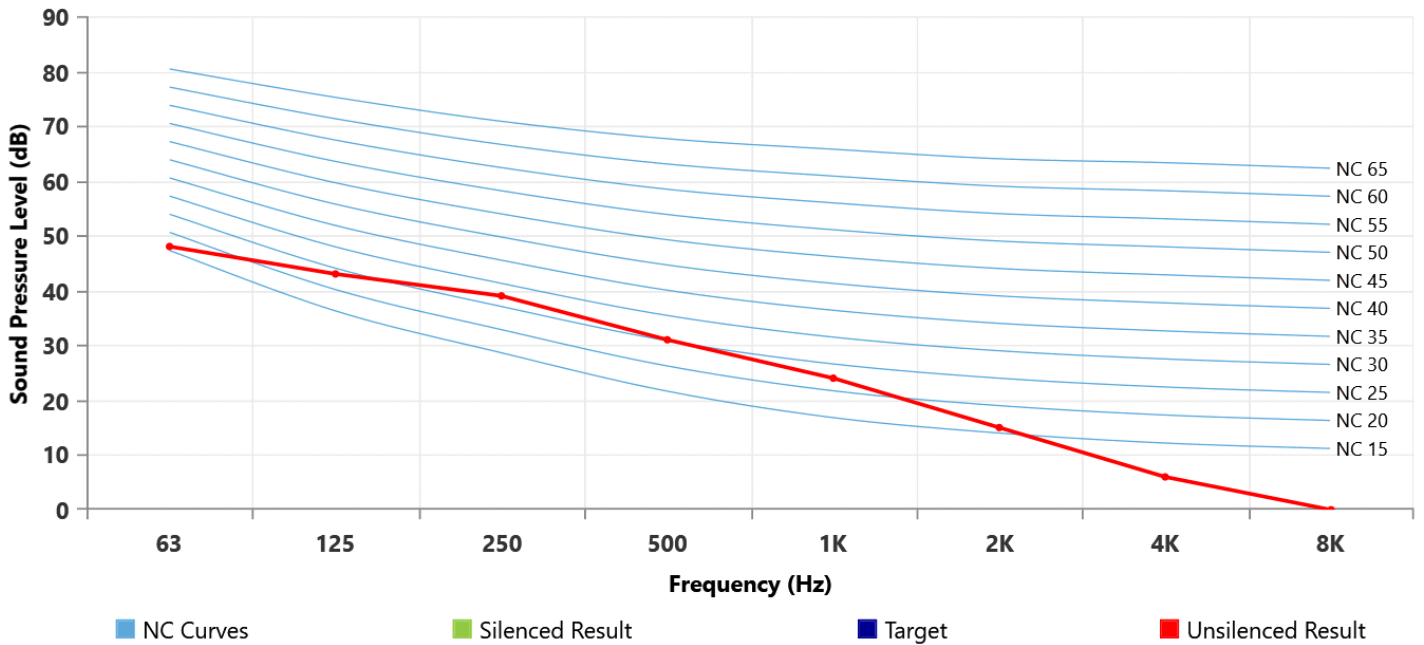
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	47	42	36	29	22	13	4	0	
Straight Duct - 10ft 14.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	48	43	39	31	24	15	6	0	
Target:									
Current: NC 27 (RC < 25 / 34 dBA)									



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

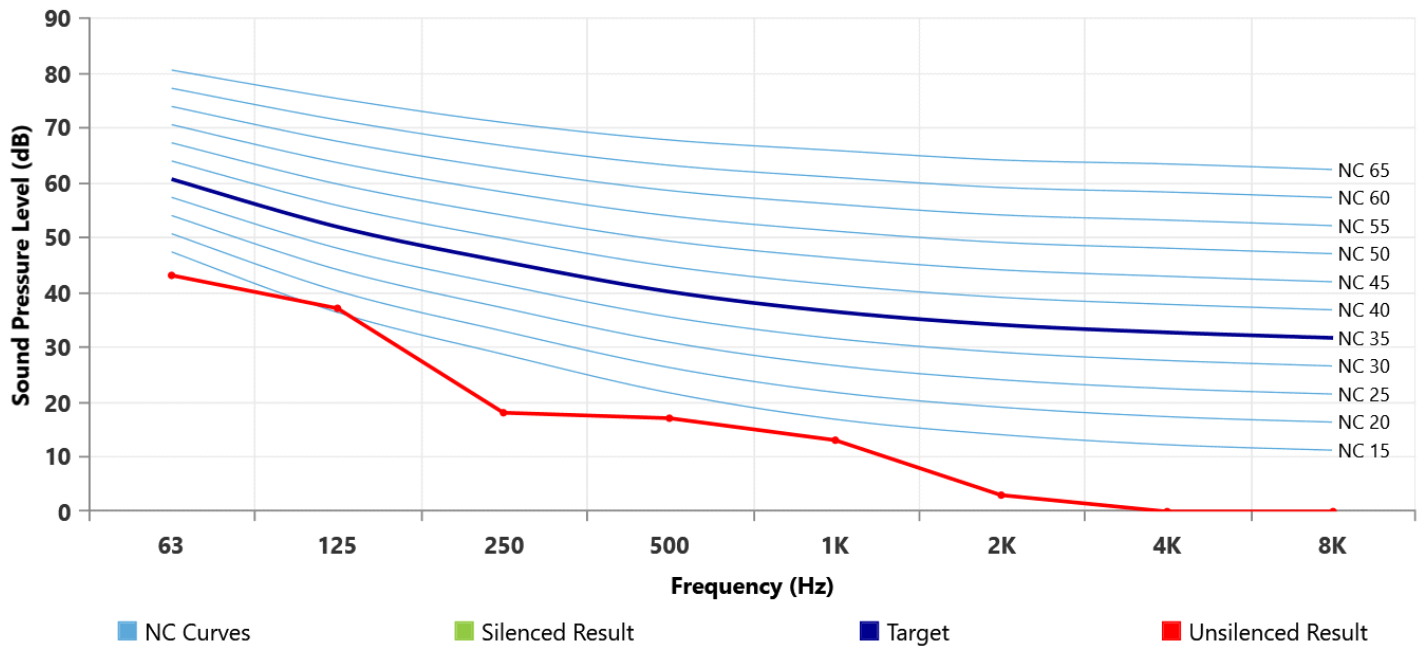


AHU-1 RADIATED L1-103 OPEN OFFICE SOUTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - BRANCH TO L1-103 OFFICE	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.) - BRANCH TO L1-103 OFFICE	65	61	57	51	44	36	28	18	
Straight Duct - 5ft 10.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-01B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO WEST SIDE OFFICE	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO WEST SIDE OFFICE	34	29	22	15	7	0	0	0	
Straight Duct - 3ft 10.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - SPLIT TO RGDS	-6	-6	-6	-6	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO RGDS	27	23	17	11	4	0	0	0	
Straight Duct - 1ft 10.00Ø	0	0	-2	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 SOUTH - OPEN OFFICE	-8	-9	-10	-11	-12	-13	-14	-15	Room effect
Sum	43	37	18	17	13	3	0	0	
Target:	NC 35								
Current:	NC 16 (RC < 25 / 24 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

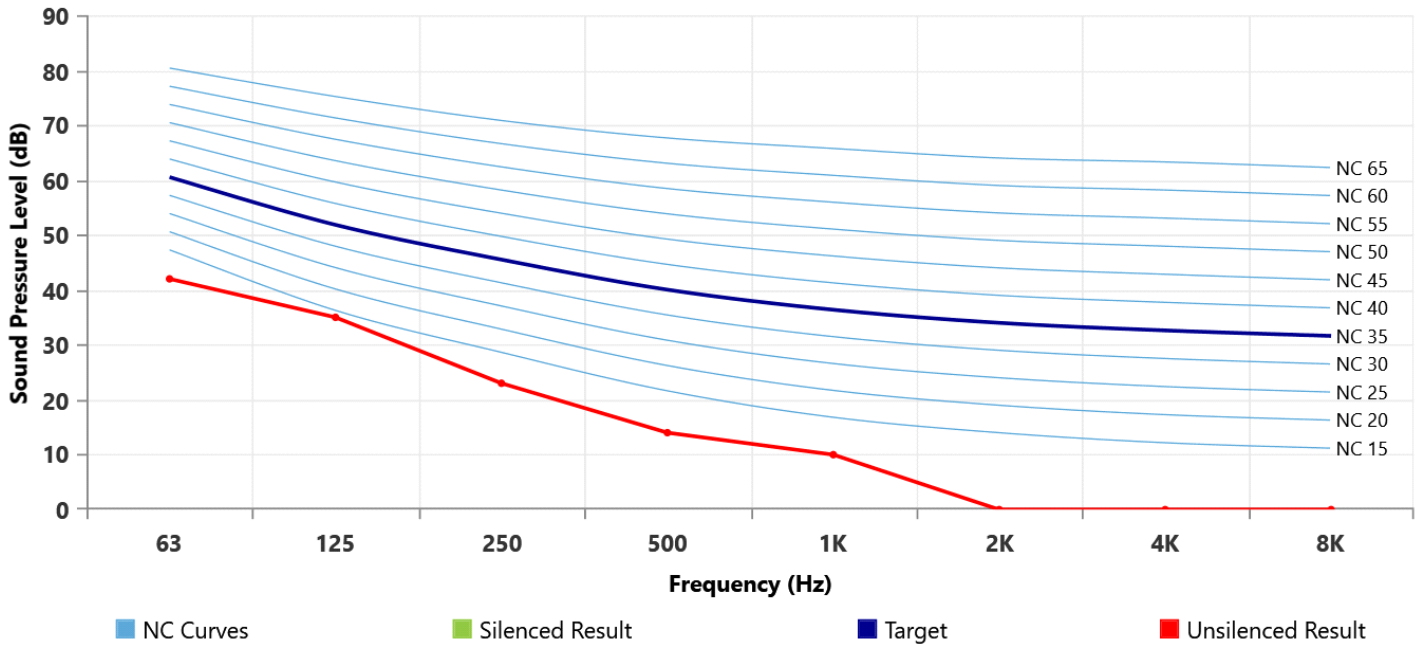


AHU-1 RADIATED L1-103 NORTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - BRANCH TO N OPEN OFFICE	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - BRANCH TO N OPEN OFFICE	52	47	42	36	28	20	10	0	
Straight Duct - 2ft 8.00Ø	-1	-1	-3	0	0	0	0	0	
17-TU-01A	0	40	30	23	13	0	0	0	
Straight Duct - 1ft 12.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction	-6	-6	-6	-6	-5	-5	-5	-5	
Junction (regen.)	20	16	10	4	0	0	0	0	
Straight Duct - 4ft 10.00w x 10.00h	-2	-2	-1	-1	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 NORTH - OPEN OFFICE	-5	-6	-7	-8	-9	-10	-11	-12	Room effect
Sum	42	35	23	14	10	0	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / 22 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

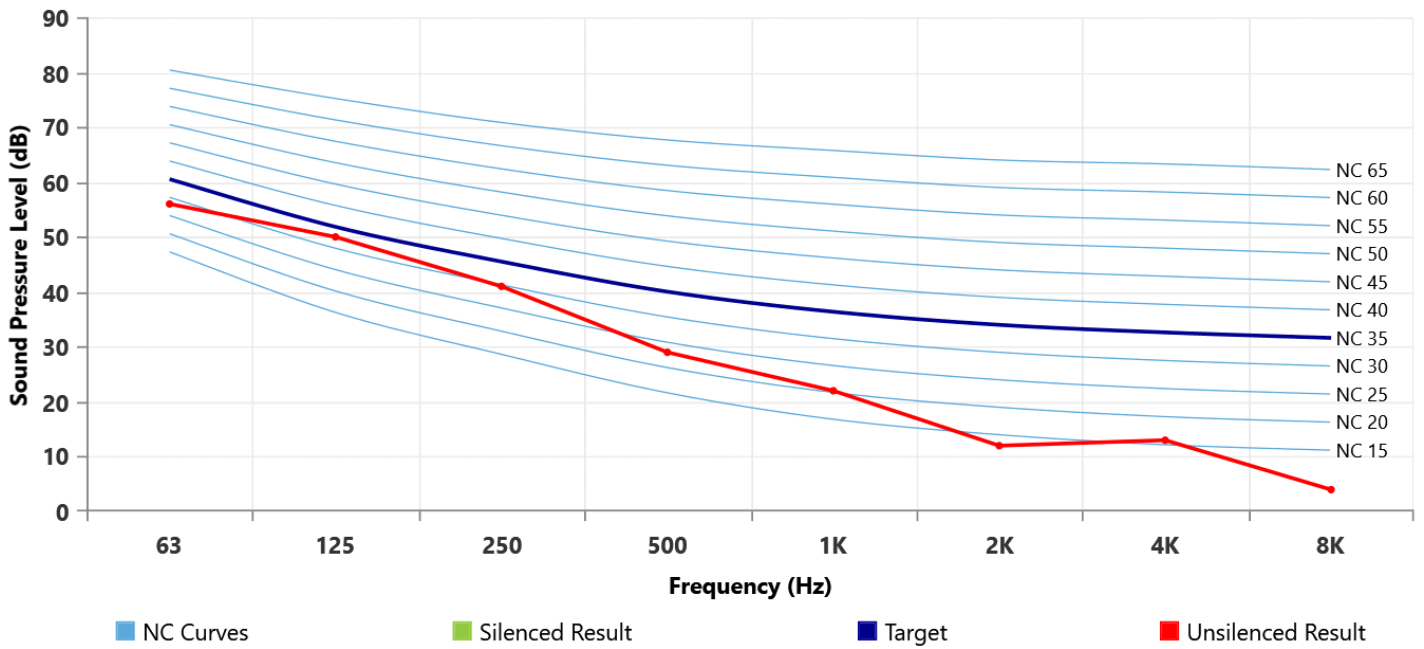


AHU-1 RADIATED L1-111 CONF ROOM

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - SPLIT TO CONF RM	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - SPLIT TO CONF RM	63	58	51	44	35	25	14	1	
Straight Duct - 1ft 8.00Ø	0	0	-2	0	0	0	0	0	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	71	68	64	59	53	46	39	30	
Straight Duct - 3ft 8.00Ø	-1	-2	-3	-5	-7	-7	-5	-4	
17-TU-02	0	44	36	28	18	11	0	0	
Straight Duct - 5ft 14.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.)	31	26	20	14	6	0	0	0	
Straight Duct - 1ft 10.00w x 10.00h	0	0	0	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-111 - CONF ROOM	-5	-6	-7	-7	-8	-9	-10	-11	Room effect
Sum	56	50	41	29	22	12	13	4	
Target:	NC 35								
Current:	NC 33 (RC < 25 / 38 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

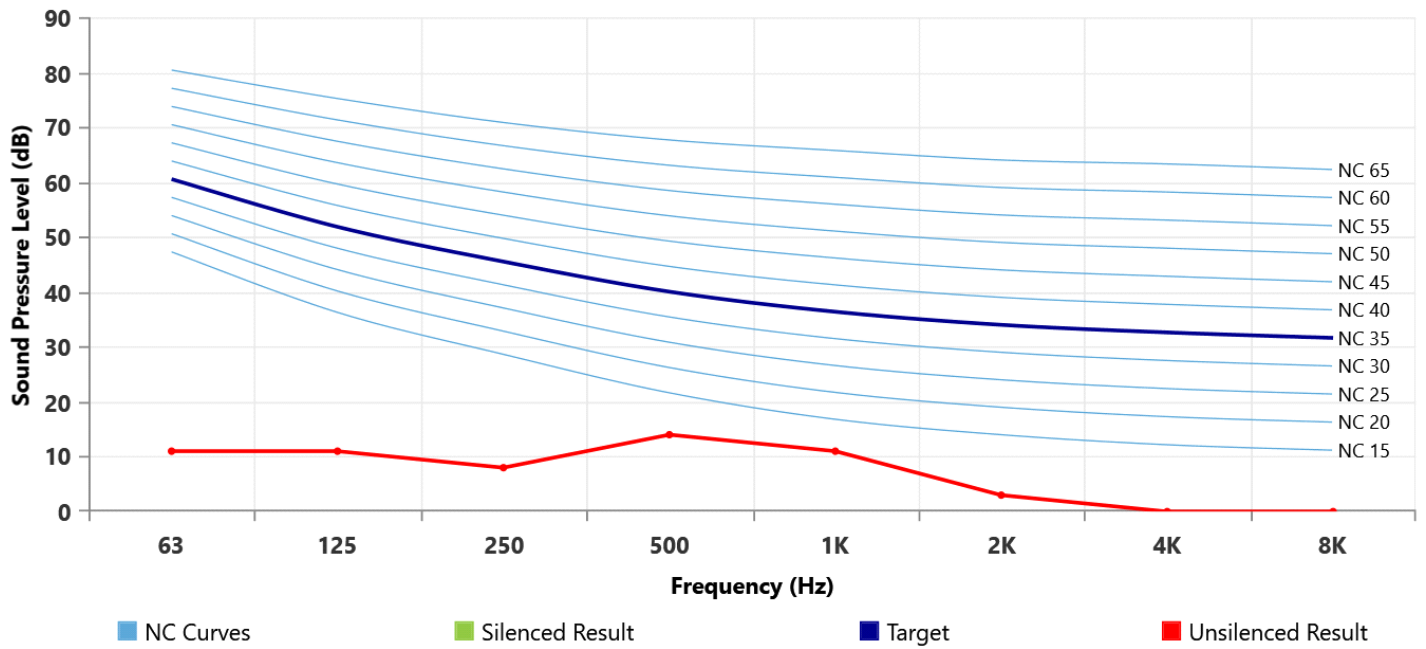


AHU-1 RADIATED L1-110 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - split to office	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - split to office	29	25	21	15	8	1	0	0	
Straight Duct - 4ft 4.00Ø	-1	-1	-6	0	0	0	0	0	
17-TU-3	0	24	19	12	0	0	0	0	
Junction - TRANS TO 6X6	-2	-2	-2	-2	0	0	0	0	
Straight Duct - 4ft 6.00w x 6.00h	-2	-2	-1	-1	0	0	0	0	
End Reflection	-17	-11	-6	-2	-1	0	0	0	
Junction	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.)	2	0	0	0	0	0	0	0	
L1-110 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	11	11	8	14	11	3	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / 15 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
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 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED L1-109 OFFICE

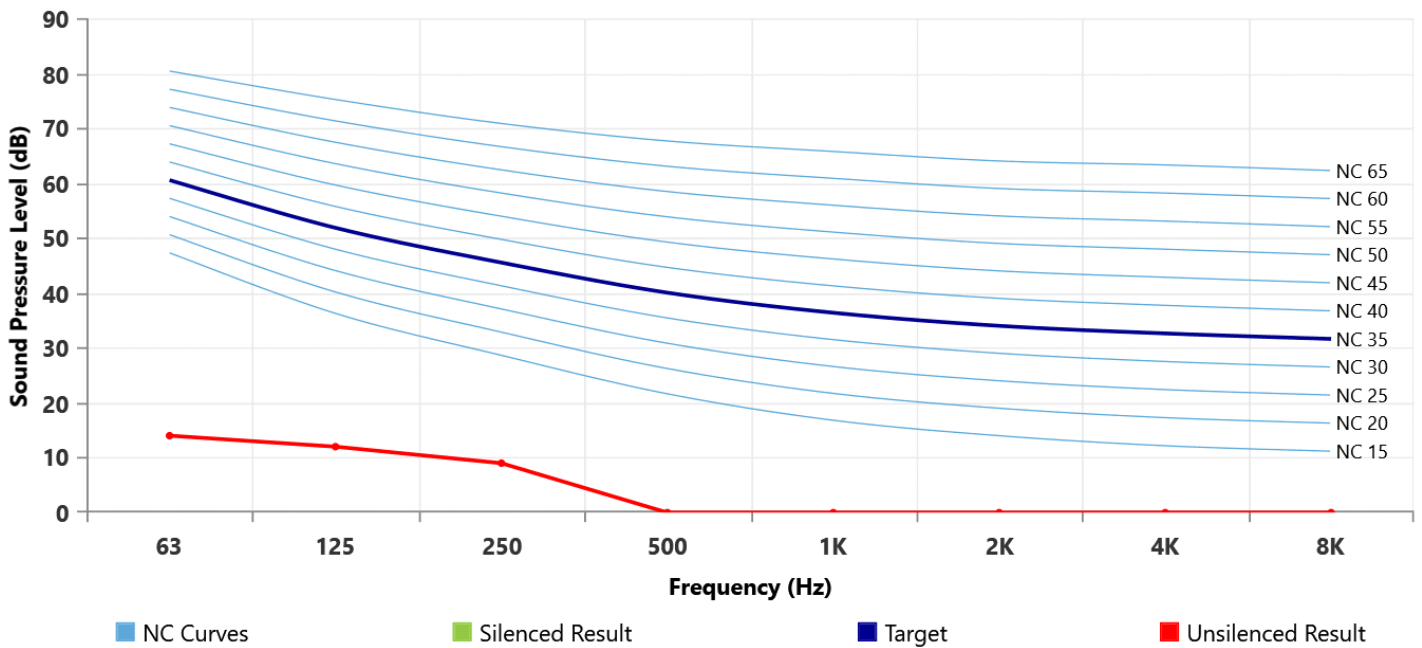
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SPLIT TO OFFICE	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - SPLIT TO OFFICE	36	33	29	24	19	12	5	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 4.00Ø	30	26	22	16	10	2	0	0	
Straight Duct - 3ft 4.00Ø	-1	-2	-3	-5	-6	-7	-7	-4	
17-TU-4	0	24	19	12	0	0	0	0	
Straight Duct - 2ft 12.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
End Reflection	-13	-8	-3	-1	0	0	0	0	
Junction	-6	-6	-6	-6	-6	-6	-6	-6	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-109 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	14	12	9	0	0	0	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / dBA < 10)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED L1-108 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	55	51	46	40	33	25	17	8	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	42	37	31	24	16	8	0	0	
Straight Duct - 19ft 24.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	35	29	23	16	8	0	0	0	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN/TRANS	-1	-1	-1	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN/TRANS	42	35	28	20	11	1	0	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 4ft 14.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 14.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 14.00h	48	43	37	30	22	14	4	0	
Straight Duct - 8ft 14.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	47	42	36	29	22	13	4	0	
Straight Duct - 10ft 14.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

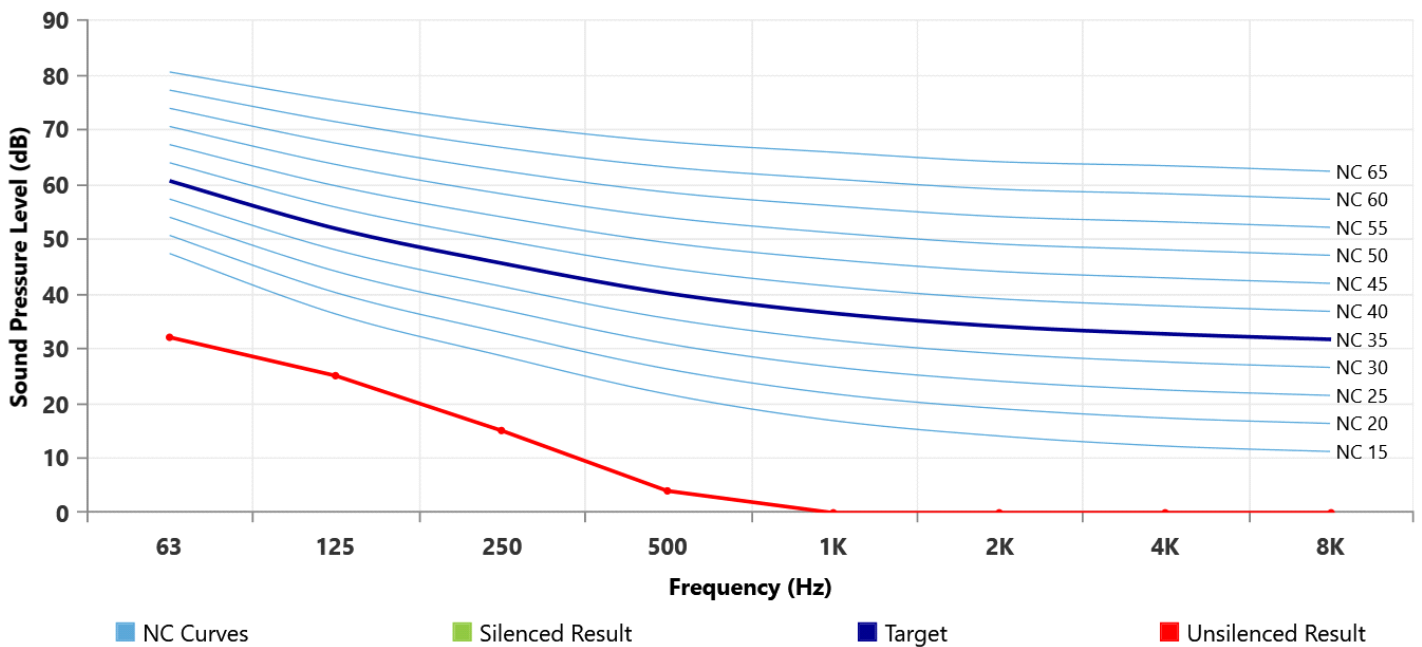
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - SPLIT TO OFFICE	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - SPLIT TO OFFICE	35	32	28	23	18	11	4	0	
Straight Duct - 4ft 4.00Ø	-1	-1	-6	0	0	0	0	0	
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 4.00Ø	30	26	22	16	10	2	0	0	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	
17-TU-5	0	24	19	12	0	0	0	0	
Junction - TRANS TO 6X6	-2	-2	-2	-2	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-108 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	32	25	15	4	0	0	0	0	

Target: NC 35

Current: NC < 15 (RC < 25 / 13 dBA)



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE

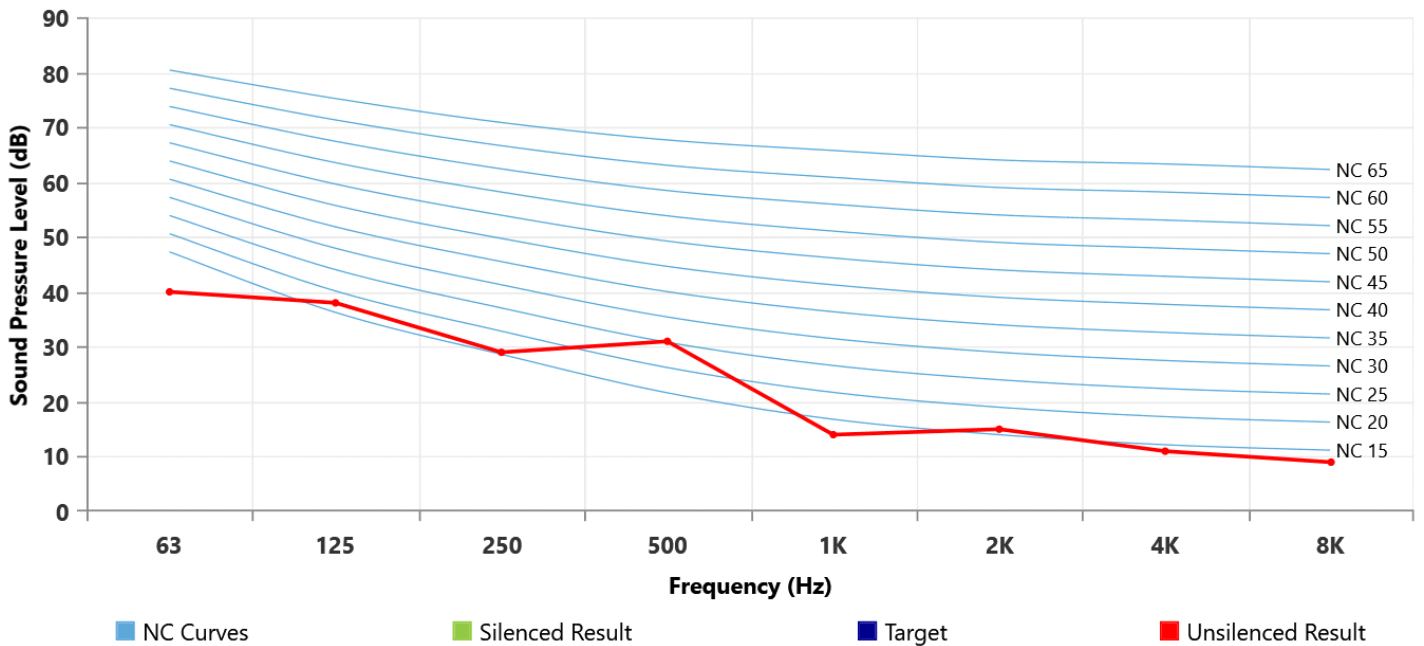
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	16	11	5	0	0	0	0	0	
Junction	0	0	0	0	0	0	0	0	
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	40	38	29	31	14	15	11	9	
Target:									
Current: NC 25 (RC < 25 / 30 dBA)									



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE L1-103 OPEN OFFICE SOUTH

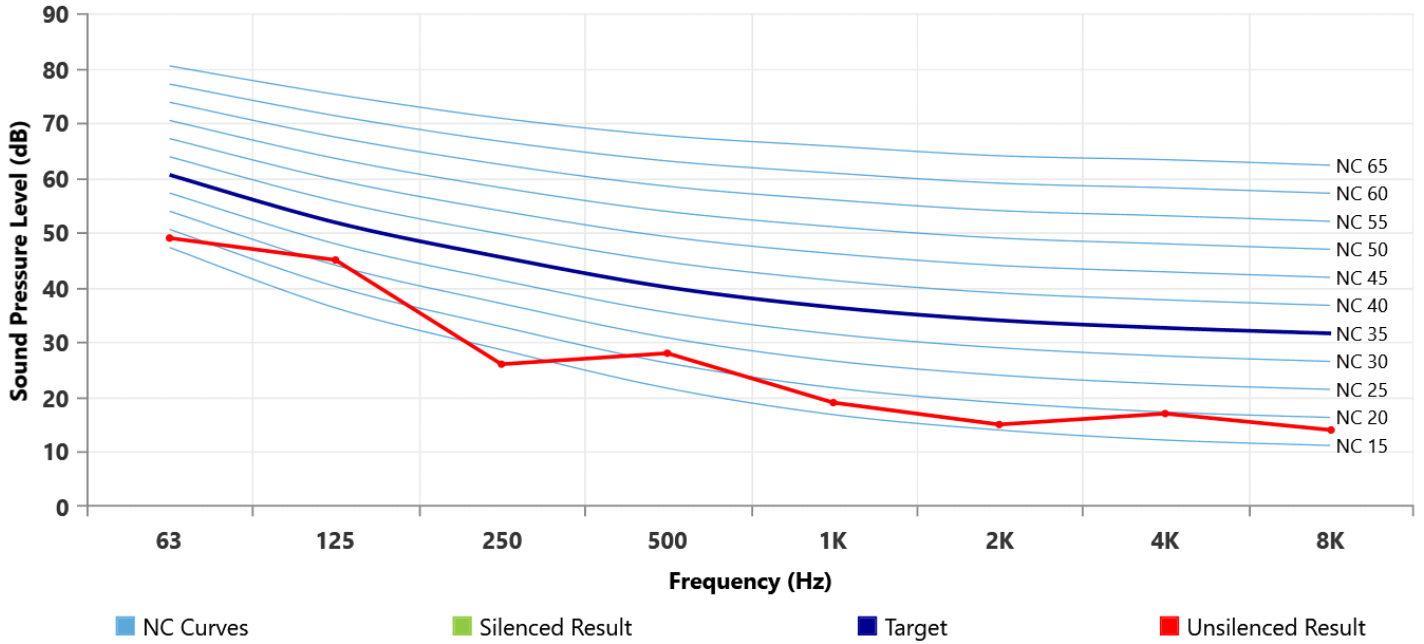
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - SPLIT TO OPEN OFFICE SOUTH	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - SPLIT TO OPEN OFFICE SOUTH	25	20	14	8	0	0	0	0	
Straight Duct - 2ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 - OPEN OFFICE SOUTH	-12	-13	-14	-15	-16	-17	-18	-19	Room effect
Sum	49	45	26	28	19	15	17	14	
Target:	NC 35								

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Current:	NC 26	(RC < 25 / 32 dBA)							



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE L1-102 SECRETARY

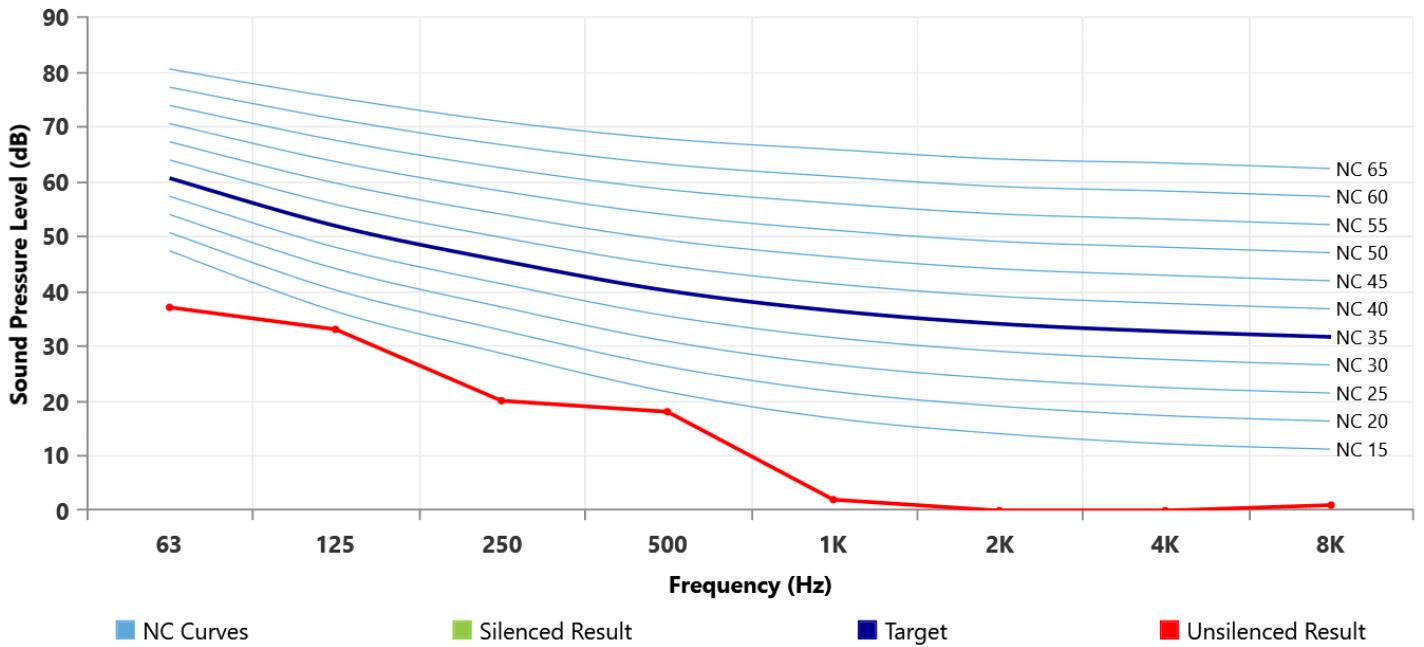
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - SPLIT TO SECRETARY	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO SECRETARY	19	15	10	5	0	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 2ft 6.00w x 6.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-102 - SECRETARY	-6	-7	-8	-9	-10	-11	-12	-13	Room effect
Sum	37	33	20	18	2	0	0	1	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / 20 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE L1-106 TOILET

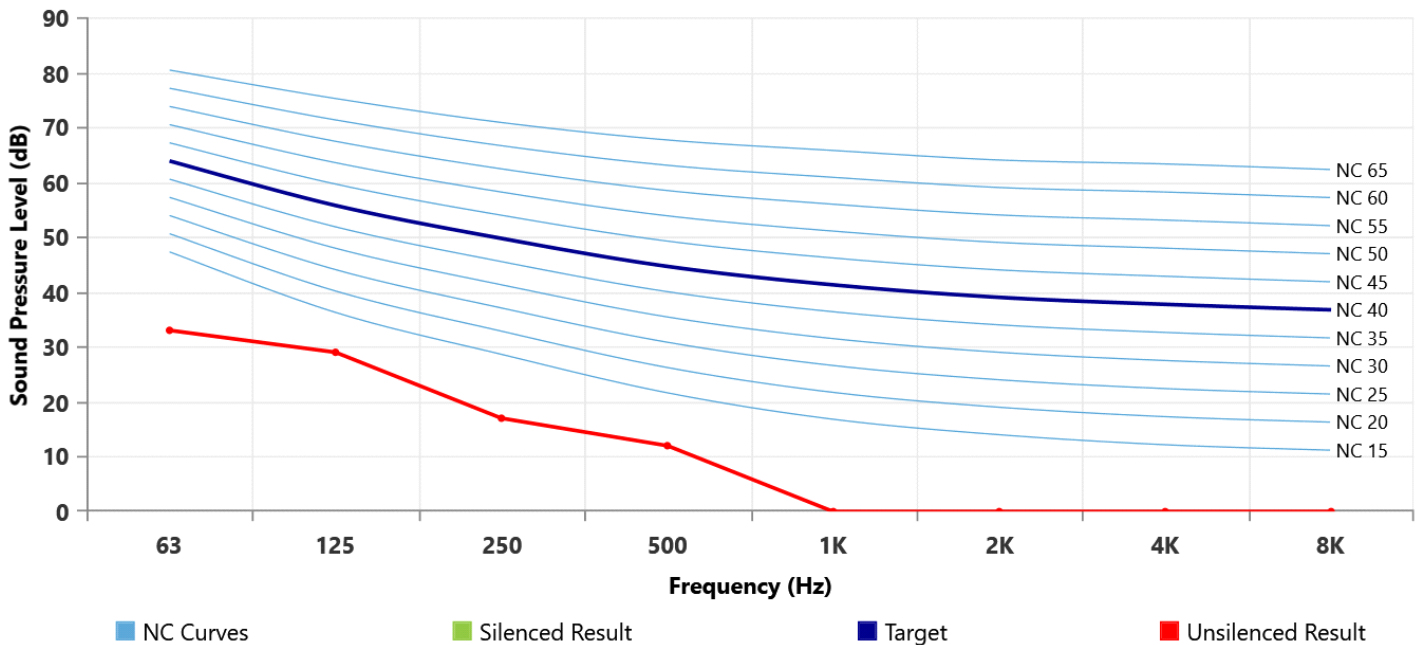
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - SPLIT TO TOILET	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO TOILET	16	11	6	0	0	0	0	0	
Straight Duct - 1ft 6.00w x 6.00h	0	0	0	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-106 - TOILET	-2	-3	-4	-5	-6	-7	-8	-8	Room effect
Sum	33	29	17	12	0	0	0	0	
Target:	NC 40								
Current:	NC < 15 (RC < 25 / 16 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE L1-104 COPY/LOCKERS

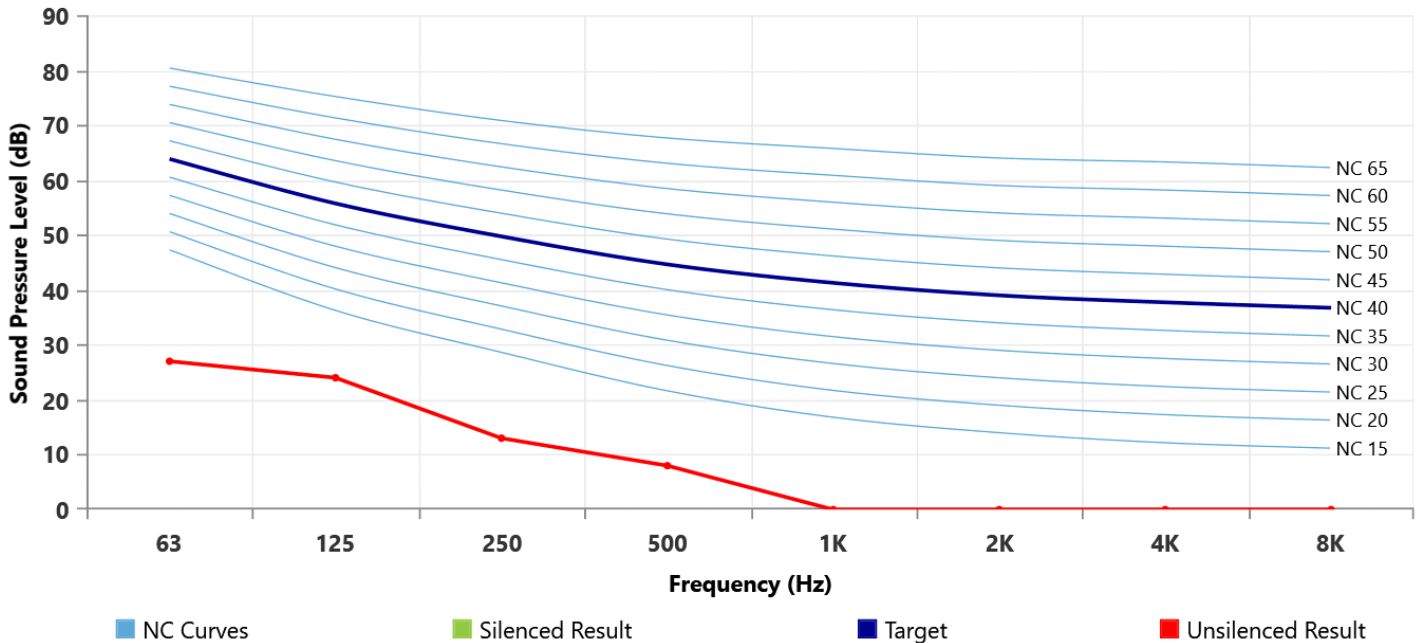
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	83	82	80	90	88	85	81	79	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	47	34	18	0	0	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	16	11	5	0	0	0	0	0	
Junction - SPLIT TO COPY/LOCKERS	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO COPY/LOCKERS	12	7	0	0	0	0	0	0	
Straight Duct - 4ft 6.00w x 6.00h	-2	-2	-1	-1	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-104 - COPY/LOCKERS	-4	-4	-5	-6	-7	-8	-9	-10	Room effect
Sum	27	24	13	8	0	0	0	0	
Target:	NC 40								
Current:	NC < 15 (RC < 25 / 12 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED - SOUTH SIDE

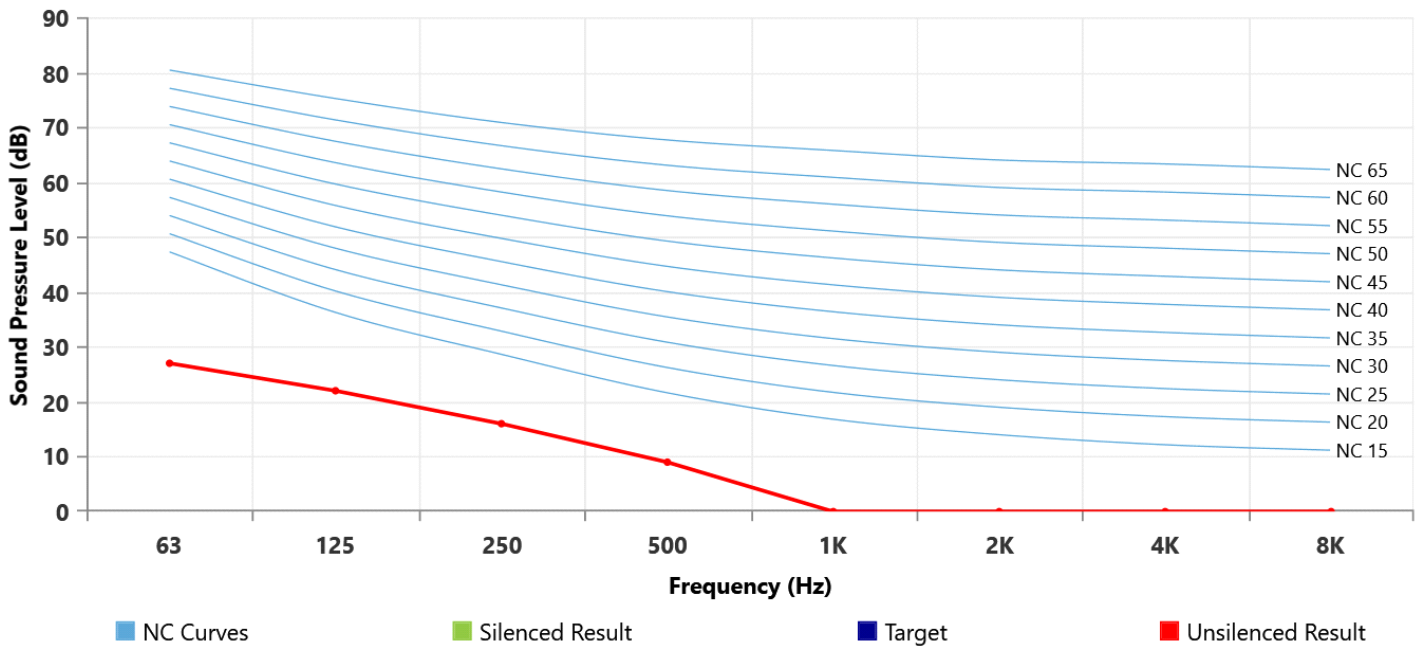
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	16	11	5	0	0	0	0	0	
Junction	0	0	0	0	0	0	0	0	
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	27	22	16	9	0	0	0	0	
Target:									
Current: NC < 15 (RC < 25 / 13 dBA)									



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED - SOUTH SIDE L1-103 OPEN OFFICE SOUTH

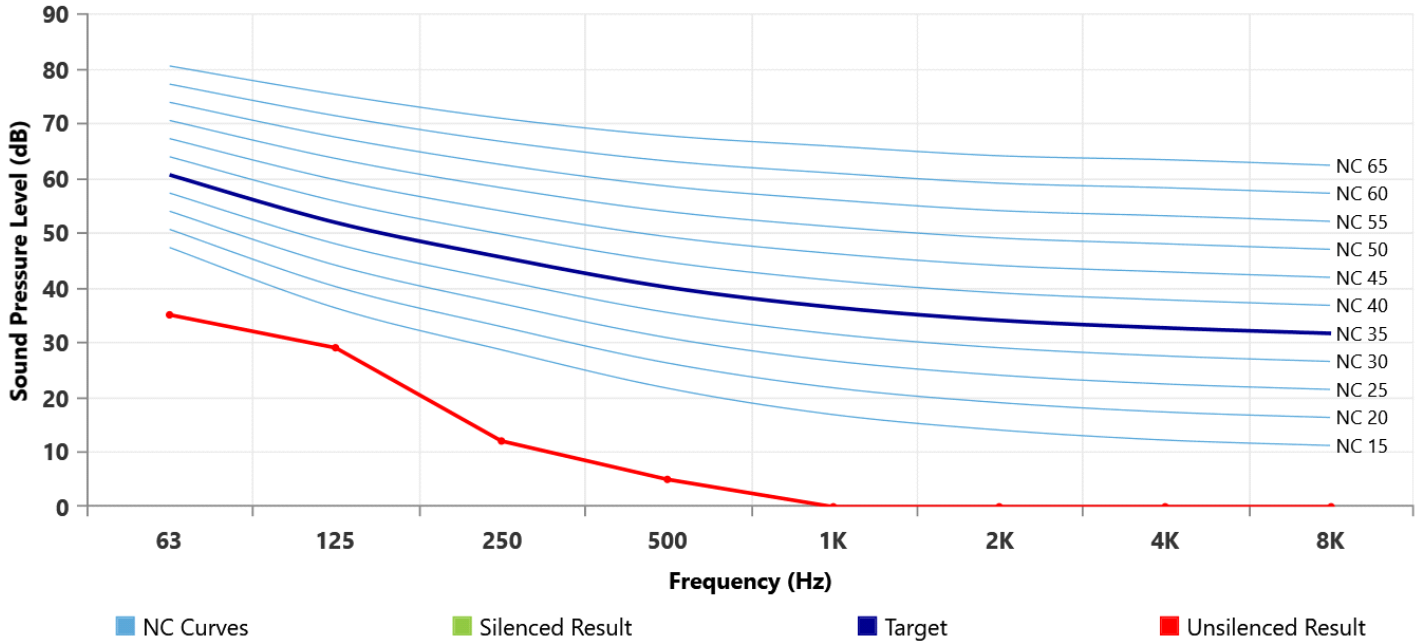
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - SPLIT TO OPEN OFFICE SOUTH	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - SPLIT TO OPEN OFFICE SOUTH	25	20	14	8	0	0	0	0	
Straight Duct - 2ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
L1-103 - OPEN OFFICE SOUTH	-12	-13	-14	-15	-16	-17	-18	-19	Room effect
Sum	35	29	12	5	0	0	0	0	
Target:	NC 35								

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Current:	NC < 15	(RC < 25 / 15 dBA)							



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED - SOUTH SIDE L1-102 SECRETARY

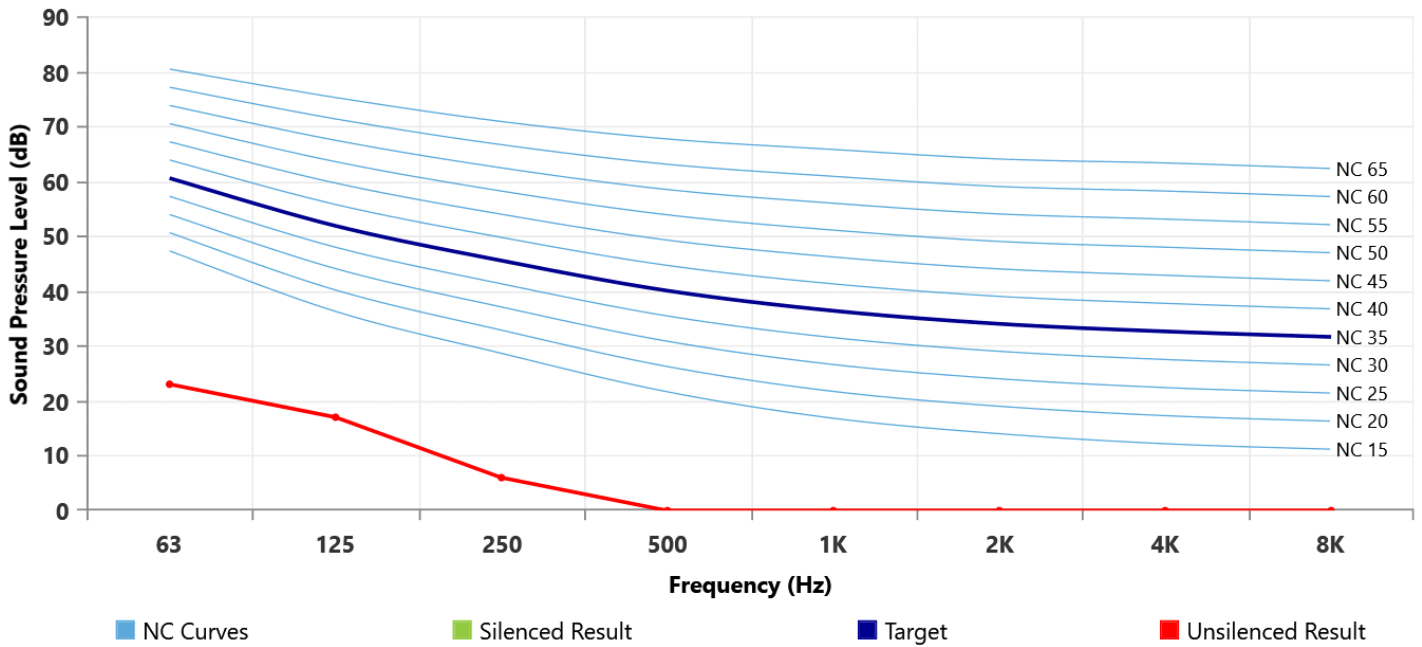
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - SPLIT TO SECRETARY	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO SECRETARY	19	15	10	5	0	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 2ft 6.00w x 6.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-102 - SECRETARY	-6	-7	-8	-9	-10	-11	-12	-13	Room effect
Sum	23	17	6	0	0	0	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / dBA < 10)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED - SOUTH SIDE L1-106 TOILET

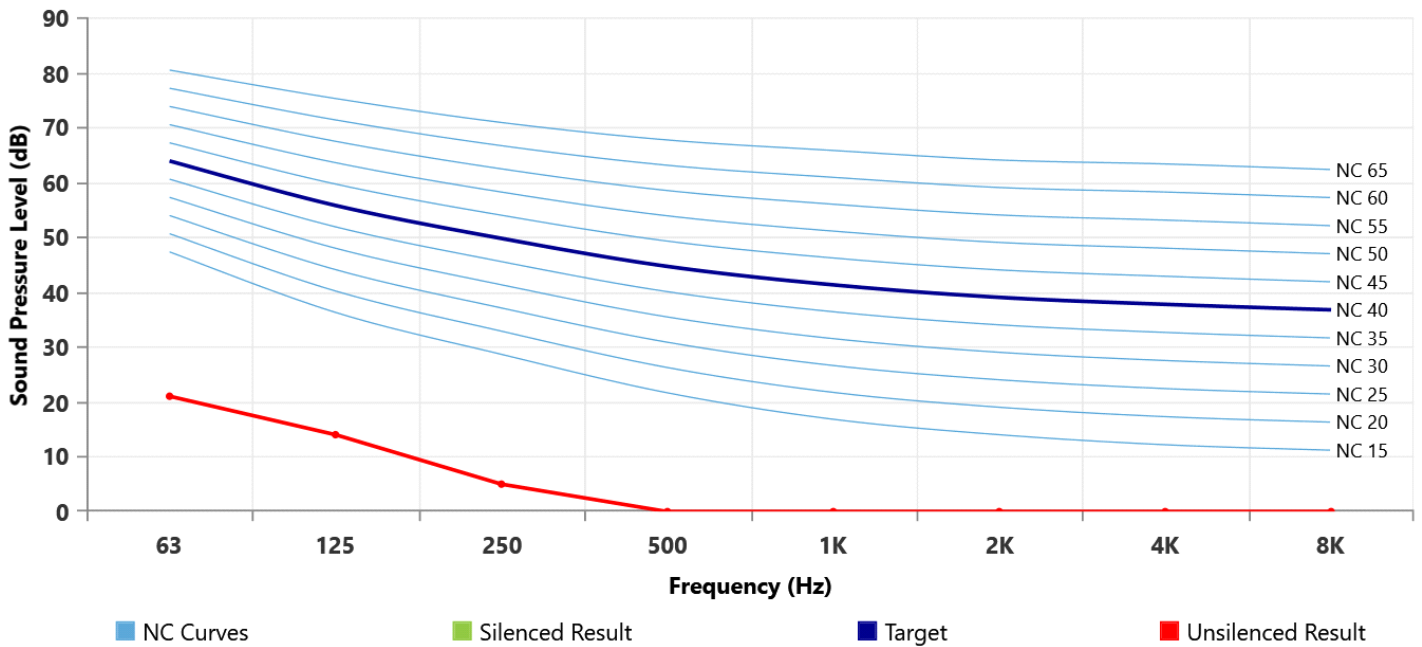
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - SPLIT TO TOILET	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO TOILET	16	11	6	0	0	0	0	0	
Straight Duct - 1ft 6.00w x 6.00h	0	0	0	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-106 - TOILET	-2	-3	-4	-5	-6	-7	-8	-8	Room effect
Sum	21	14	5	0	0	0	0	0	
Target:	NC 40								
Current:	NC < 15 (RC < 25 / dBA < 10)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RADIATED - SOUTH SIDE L1-104 COPY/LOCKERS

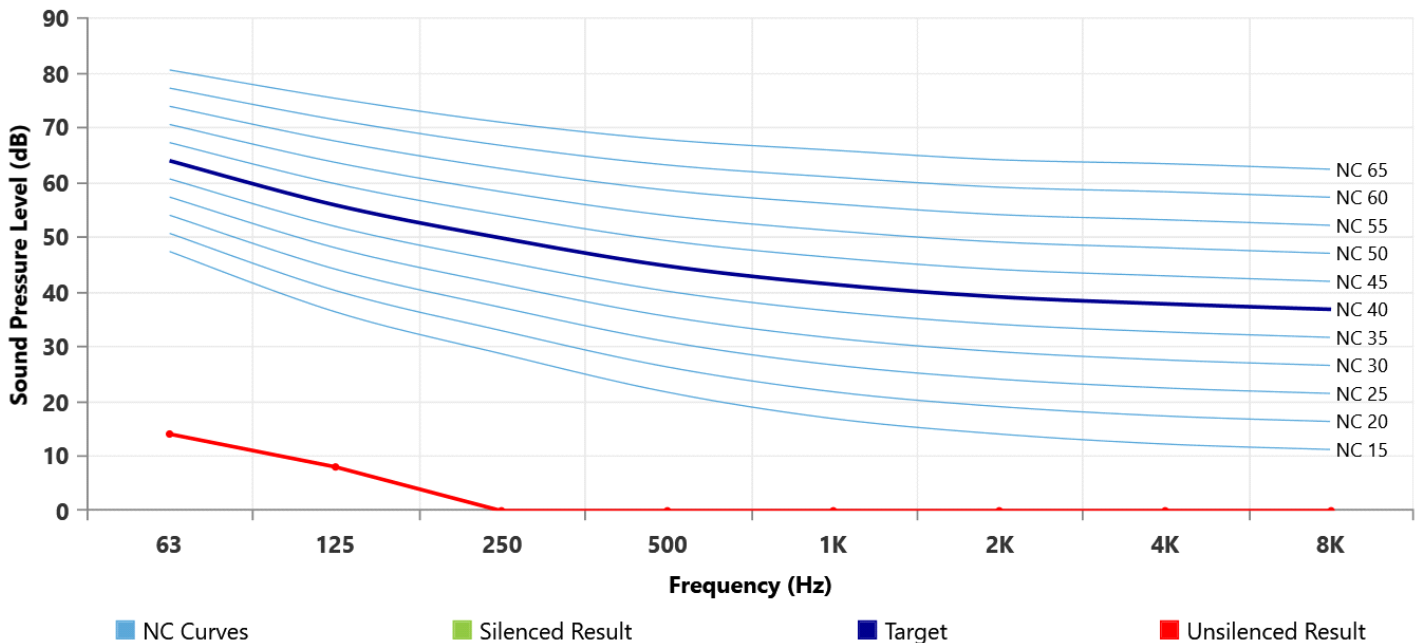
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 SUPPLY/DISCHARGE	0	0	0	0	0	0	0	0	
Junction - TRANS TO 24X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 24X12	57	51	43	35	26	16	4	0	
Straight Duct - 1ft 24.00w x 14.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 2ft 24.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 24.00w x 14.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 24.00w x 14.00h	64	59	53	47	39	31	22	11	
Straight Duct - 8ft 24.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Junction - SOUTH SIDE SPLIT	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SOUTH SIDE SPLIT	54	51	46	40	34	27	19	10	
Straight Duct - 5ft 14.00Ø	-1	-1	-8	0	0	0	0	0	
17-TU-1B	0	43	33	28	21	13	0	0	
Junction - TRANS TO 24X10	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - TRANS TO 24X10	45	41	36	30	24	16	8	0	
Junction - SPLIT TO OPN OFFICE MID	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - SPLIT TO OPN OFFICE MID	24	19	13	6	0	0	0	0	
Straight Duct - 2ft 24.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - TRANS TO 14X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 14X10	23	17	9	0	0	0	0	0	
Straight Duct - 5ft 14.00w x 10.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	31	25	19	12	3	0	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - CONT OF MAIN	31	25	19	13	5	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	31	26	20	13	5	0	0	0	
Straight Duct - 24ft 10.00w x 8.00h	-10	-10	-6	-4	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	26	22	16	9	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 3ft 10.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 16ft 10.00w x 8.00h	-6	-6	-4	-2	-2	-2	-2	-2	
Junction - CONT OF MAIN	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - CONT OF MAIN	16	11	5	0	0	0	0	0	
Junction - SPLIT TO COPY/LOCKERS	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO COPY/LOCKERS	12	7	0	0	0	0	0	0	
Straight Duct - 4ft 6.00w x 6.00h	-2	-2	-1	-1	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	
L1-104 - COPY/LOCKERS	-4	-4	-5	-6	-7	-8	-9	-10	Room effect
Sum	14	8	0	0	0	0	0	0	
Target:	NC 40								
Current:	NC < 15 (RC < 25 / dBA < 10)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RETURN/INTAKE

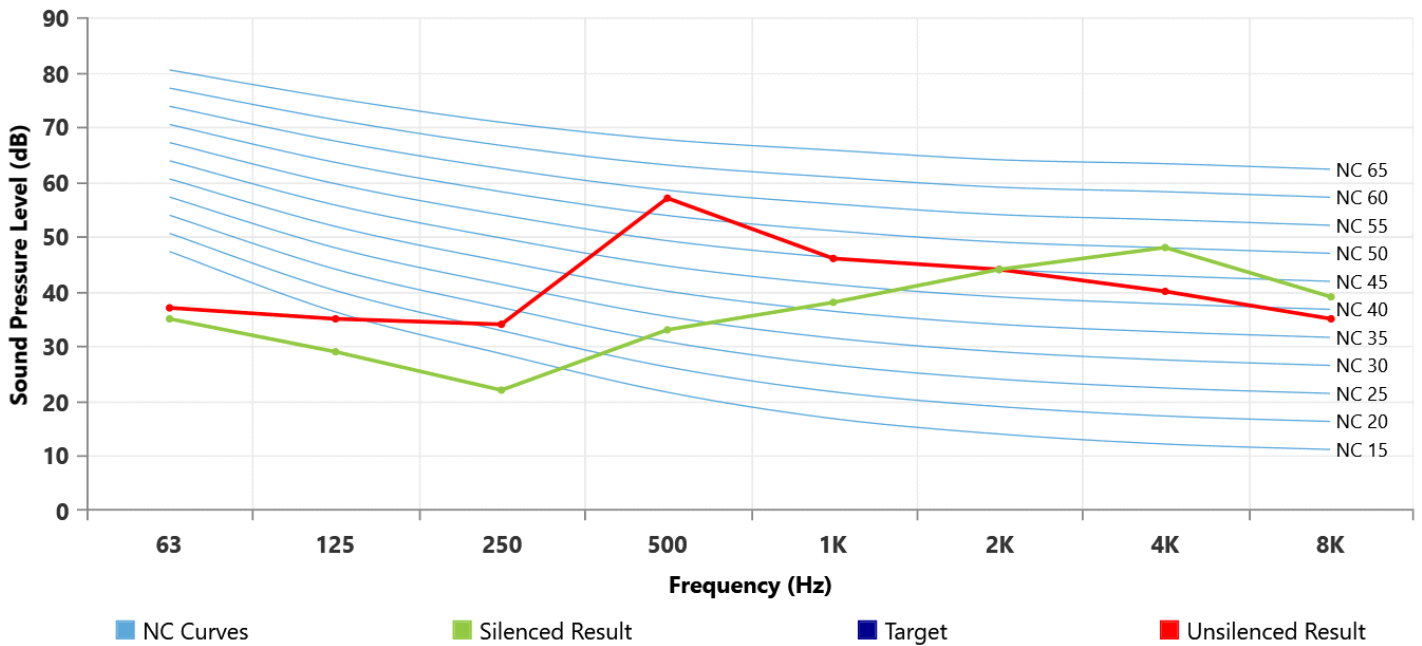
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	34	28	21	14	5	0	0	0	
Straight Duct - 6ft 40.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	25	19	11	2	0	0	0	
Junction - TRANS TO 30x10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30x10	34	28	21	12	3	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	38	32	26	18	10	1	0	0	
Straight Duct - 3ft 30.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-2	-2	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	26	19	12	5	0	0	0	
Straight Duct - 3ft 30.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.)	20	14	7	0	0	0	0	0	
Elbow - 30.00w x 10.00h	0	-1	-8	-4	-3	-3	-3	-3	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 30.00w x 10.00h	15	9	1	0	0	0	0	0	
Junction - TRANS TO 18X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 18X10	25	19	11	2	0	0	0	0	
Straight Duct - 2ft 18.00w x 10.00h	-1	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-5	-5	-5	-4	-4	-4	-4	-4	
Junction (regen.) - CONT OF MAIN	30	25	19	12	4	0	0	0	
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	35	29	22	33	38	44	48	39	
Target:									
Current: NC 50 (RC 38 / 51 dBA)									



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

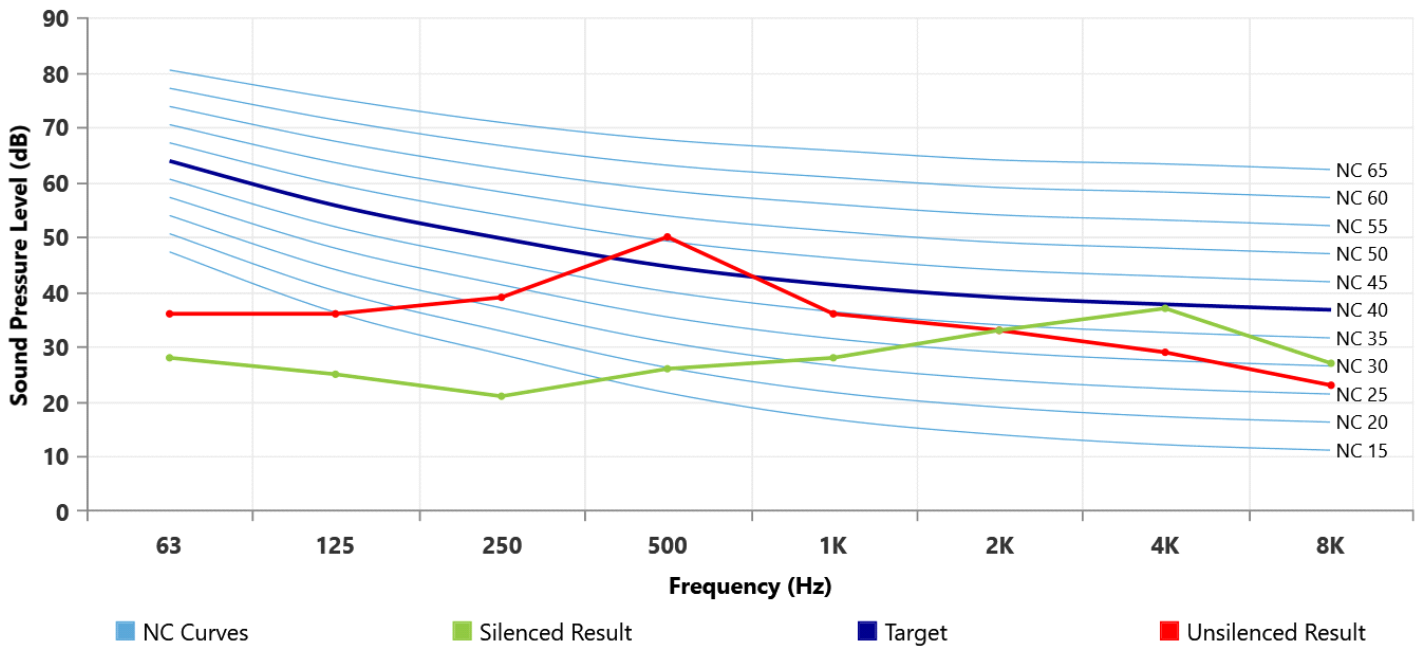


AHU-1 RETURN/INTAKE L1-104 COPY/LOCKERS

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - SPLIT TO SECRETARY	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT TO SECRETARY	45	41	36	30	23	15	7	0	
Straight Duct - 10ft 14.00w x 12.00h	-4	-2	-1	-1	-1	-1	-1	-1	
Junction - SPLIT TO COPY/LOCKERS	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.) - SPLIT TO COPY/LOCKERS	29	25	20	15	8	1	0	0	
Straight Duct - 3ft 8.00w x 6.00h	-1	-1	0	0	0	0	0	0	
Junction	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.)	16	12	6	0	0	0	0	0	
L1-104 - COPY/LOCKERS	-5	-6	-7	-8	-9	-10	-10	-11	Room effect
Sum	28	25	21	26	28	33	37	27	
Target:	NC 40								
Current:	NC 39 (RC 29 (HF) / 40 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

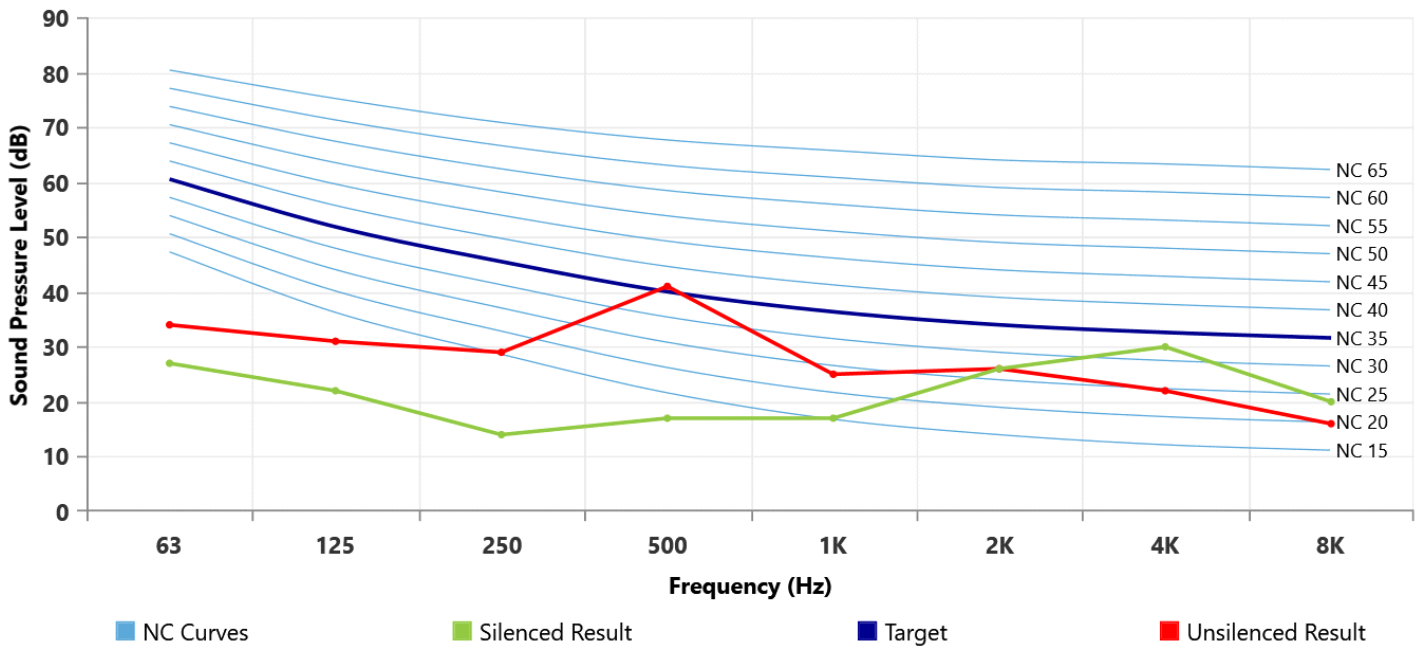


AHU-1 RETURN/INTAKE L1-103 OPEN OFFICE SOUTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - SPLIT TO OPEN OFFICE	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - SPLIT TO OPEN OFFICE	34	30	25	19	12	5	0	0	
Straight Duct - 1ft 8.00w x 8.00h	0	0	0	0	0	0	0	0	
Elbow - 8.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 8.00w x 8.00h	27	22	16	9	1	0	0	0	
Straight Duct - 1ft 8.00w x 8.00h	0	0	0	0	0	0	0	0	
L1-103 - OPEN OFFICE SOUTH	-12	-13	-14	-15	-16	-17	-18	-19	Room effect
Sum	27	22	14	17	17	26	30	20	
Target:	NC 35								
Current:	NC 32 (RC < 25 / 33 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

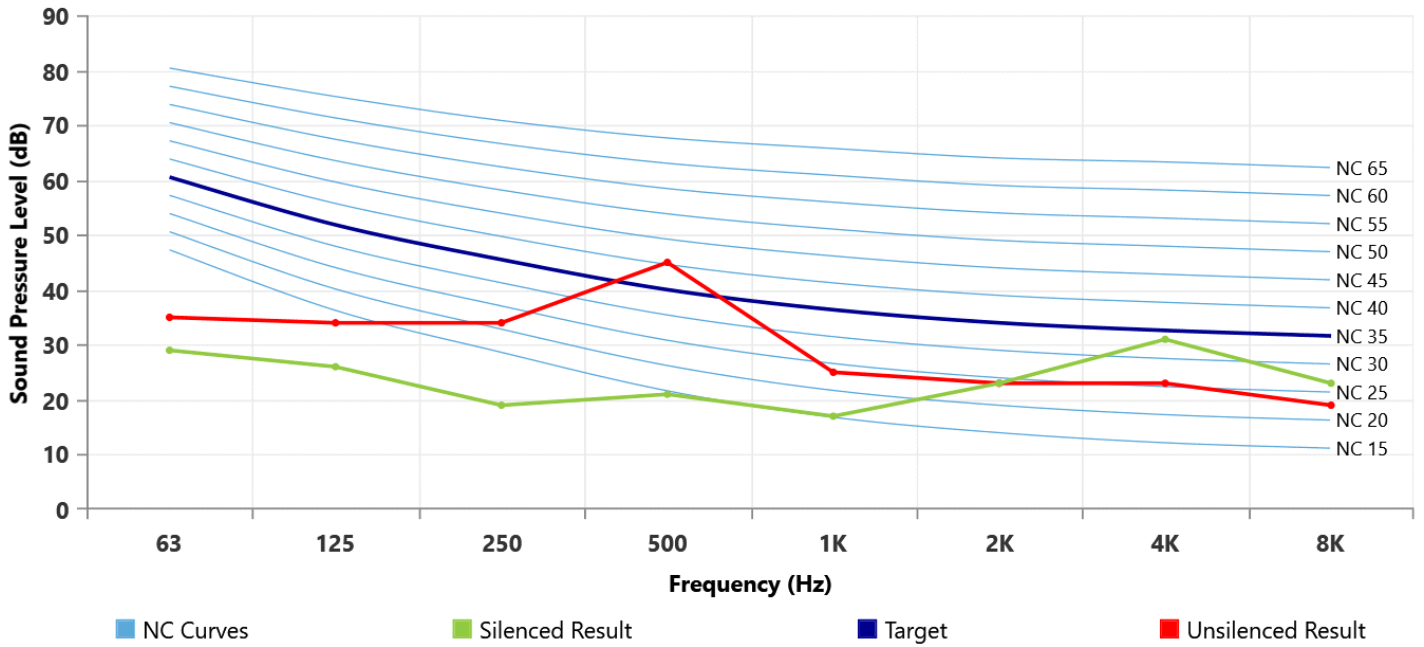


AHU-1 RETURN/INTAKE L1-108 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - SPLIT TO OFFICES	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - SPLIT TO OFFICES	32	27	22	16	9	1	0	0	
Straight Duct - 2ft 10.00w x 8.00h	-1	0	0	0	0	0	0	0	
Elbow - 10.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 10.00w x 8.00h	26	21	15	8	0	0	0	0	
Straight Duct - 4ft 10.00w x 8.00h	-1	-1	0	0	0	0	0	0	
Junction - SPLIT TO OFFICE	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.) - SPLIT TO OFFICE	13	9	4	0	0	0	0	0	
Straight Duct - 2ft 6.00w x 6.00h	-1	0	0	0	0	0	0	0	
Elbow - 6.00w x 6.00h	0	0	0	-1	-5	-8	-4	-3	
Straight Duct - 3ft 6.00w x 6.00h	-1	-1	0	0	0	0	0	0	
L1-108 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	29	26	19	21	17	23	31	23	
Target:	NC 35								
Current:	NC 33 (RC < 25 / 33 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

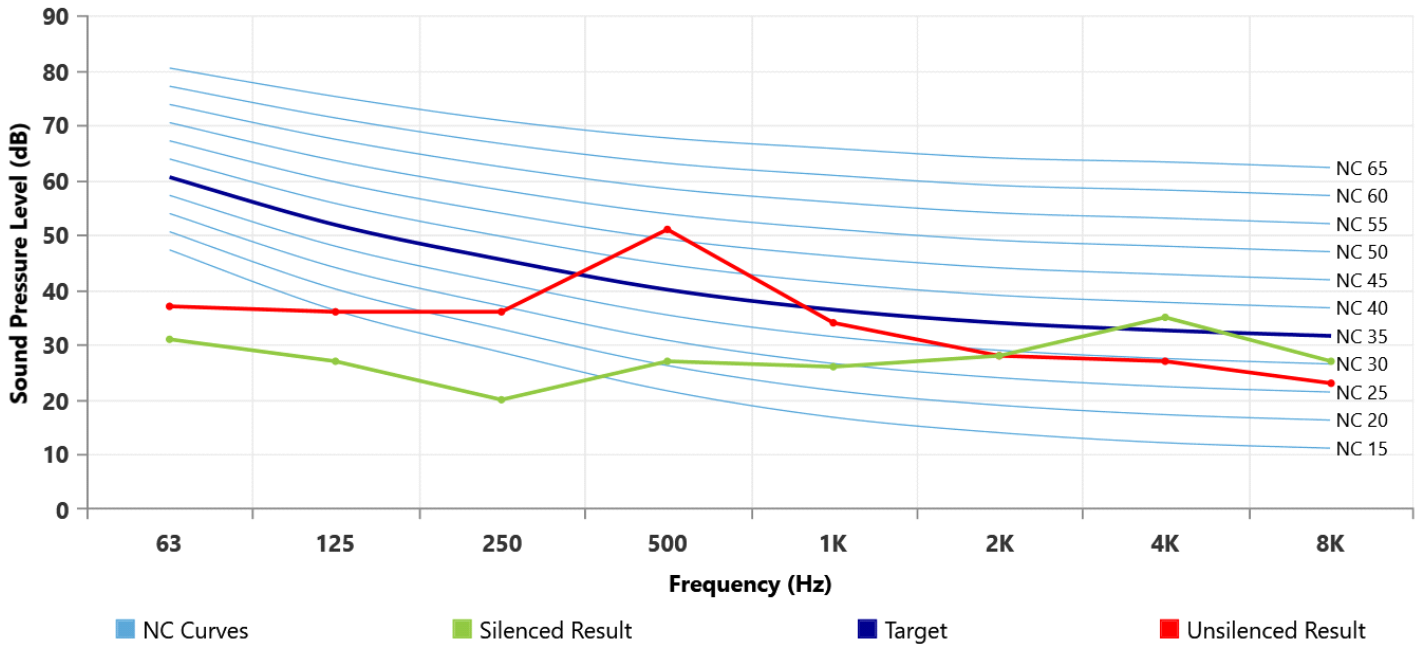


AHU-1 RETURN/INTAKE L1-109 OFFICE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - SPLIT TO OFFICE	-10	-10	-10	-10	-10	-10	-10	-10	
Junction (regen.) - SPLIT TO OFFICE	18	14	10	5	0	0	0	0	
Straight Duct - 2ft 8.00w x 6.00h	-1	0	0	0	0	0	0	0	
Elbow - 8.00w x 6.00h	0	0	0	-1	-5	-8	-4	-3	
Straight Duct - 2ft 8.00w x 6.00h	-1	0	0	0	0	0	0	0	
L1-109 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	31	27	20	27	26	28	35	27	
Target:	NC 35	**TARGET NOT MET**							
Current:	NC 37	(RC 27 (HF) / 38 dBA)							

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

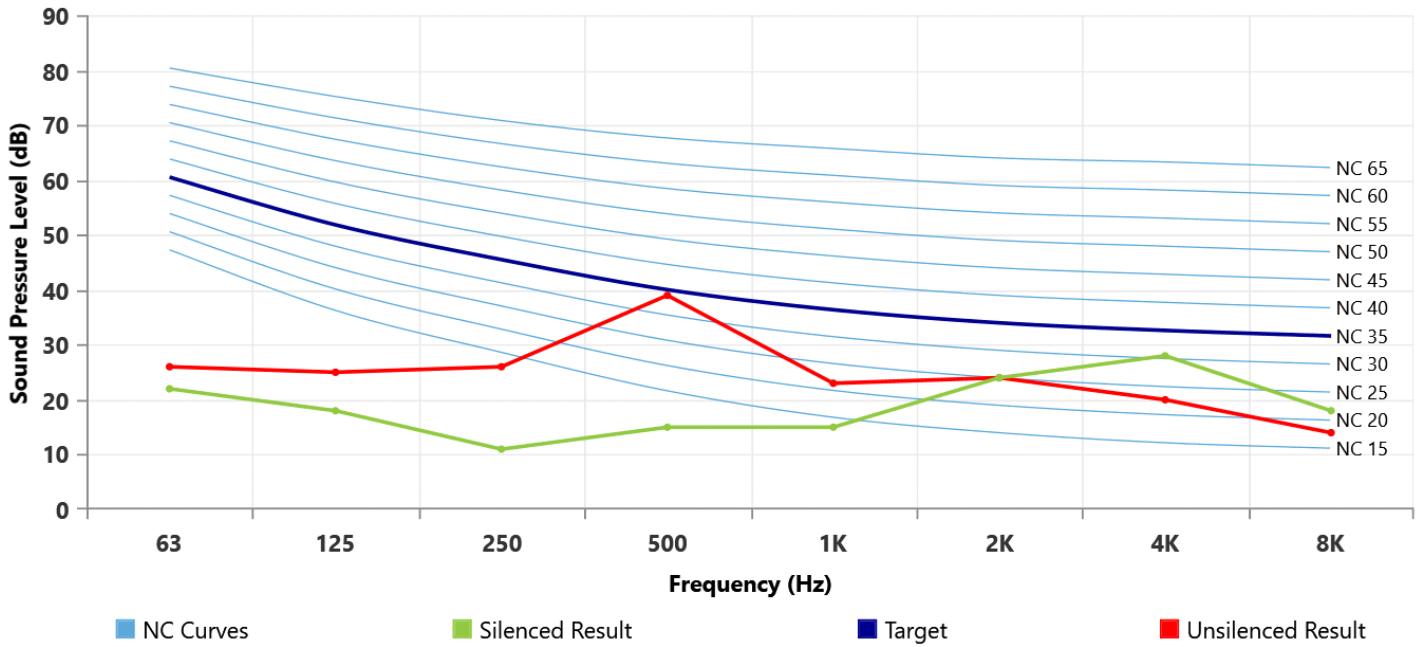


AHU-1 RETURN/INTAKE L1-103 OPEN OFFICE MID

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	34	28	21	14	5	0	0	0	
Straight Duct - 6ft 40.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Junction - SPLIT TO OPEN OFFICE MID	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - SPLIT TO OPEN OFFICE MID	29	25	19	12	5	0	0	0	
Straight Duct - 3ft 8.00w x 8.00h	-1	-1	0	0	0	0	0	0	
Elbow - 8.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 8.00w x 8.00h	27	22	16	9	1	0	0	0	
Straight Duct - 2ft 8.00w x 8.00h	-1	0	0	0	0	0	0	0	
L1-103 - OPEN OFFICE MID	-12	-13	-14	-15	-16	-17	-18	-19	Room effect
Sum	22	18	11	15	15	24	28	18	
Target:	NC 35								
Current:	NC 30 (RC < 25 / 31 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RETURN/INTAKE L1-110 OFFICE

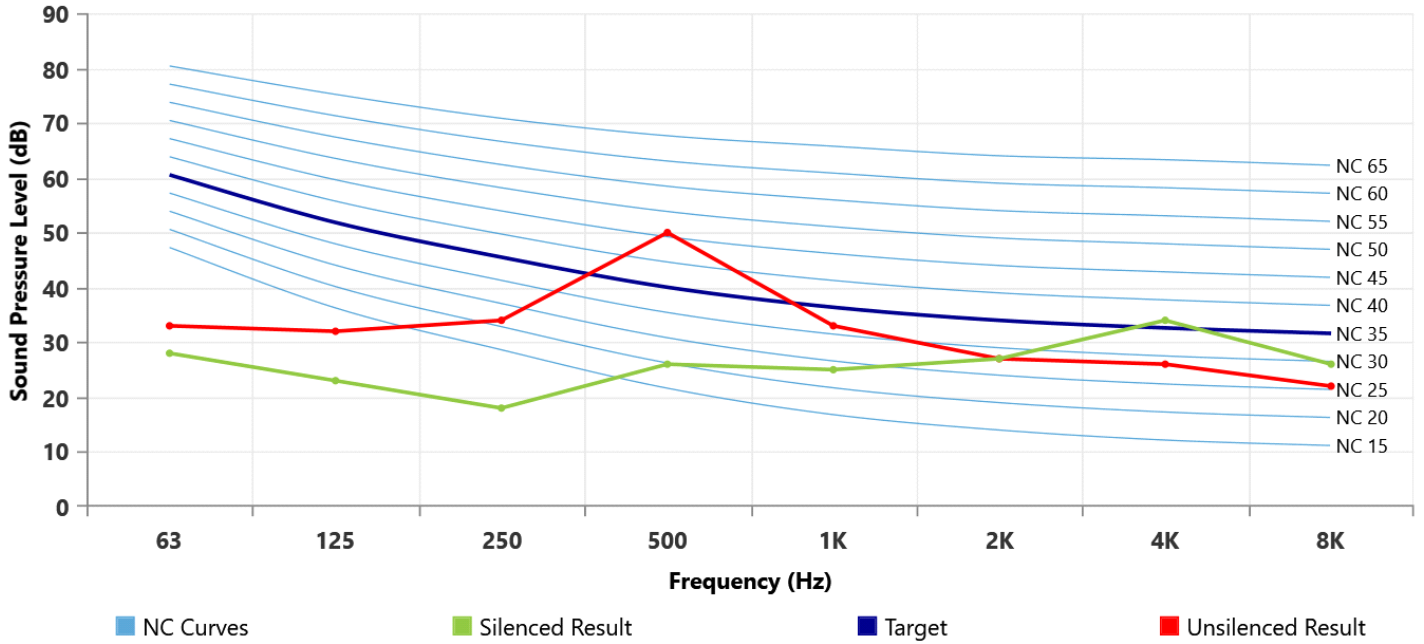
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	34	28	21	14	5	0	0	0	
Straight Duct - 6ft 40.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	25	19	11	2	0	0	0	
Junction - TRANS TO 30x10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30x10	34	28	21	12	3	0	0	0	
Junction - SPLIT TO OFFICE	-10	-10	-10	-10	-10	-10	-10	-10	
Junction (regen.) - SPLIT TO OFFICE	21	18	14	9	3	0	0	0	
Straight Duct - 3ft 6.00w x 6.00h	-1	-1	0	0	0	0	0	0	
Elbow - 6.00w x 6.00h	0	0	0	-1	-5	-8	-4	-3	
Straight Duct - 2ft 6.00w x 6.00h	-1	0	0	0	0	0	0	0	
L1-110 - OFFICE	-3	-4	-5	-6	-7	-8	-9	-9	Room effect
Sum	28	23	18	26	25	27	34	26	
Target:	NC 35	**TARGET NOT MET**							

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Current:	NC 36	(RC 26 (HF) / 37 dBA)							



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RETURN/INTAKE L1-103 OPEN OFFICE NORTH

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	34	28	21	14	5	0	0	0	
Straight Duct - 6ft 40.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	25	19	11	2	0	0	0	
Junction - TRANS TO 30x10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30x10	34	28	21	12	3	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	38	32	26	18	10	1	0	0	
Straight Duct - 3ft 30.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - SPLIT OPEN OFFICE NORTH	-6	-6	-5	-5	-5	-5	-5	-5	
Junction (regen.) - SPLIT OPEN OFFICE NORTH	32	27	22	15	8	0	0	0	
Straight Duct - 5ft 12.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

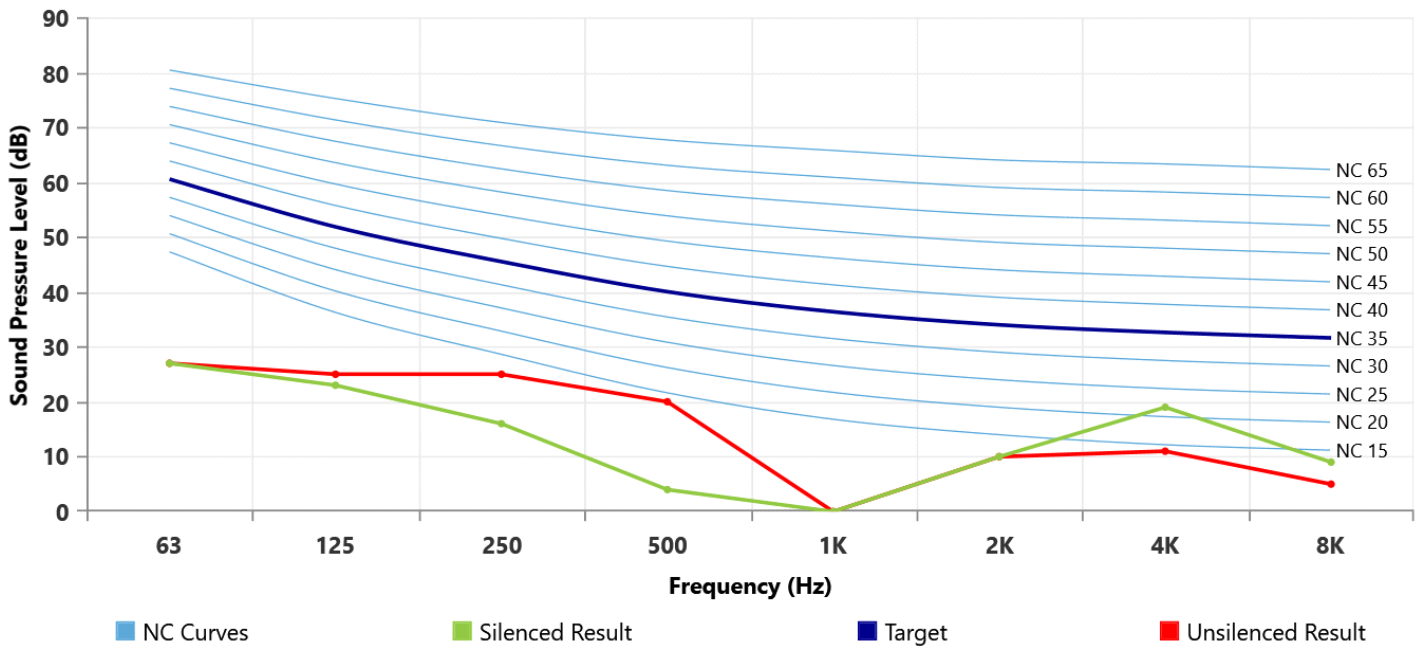
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Straight Duct - 2ft 12.00w x 10.00h	-1	0	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	
Straight Duct - 2ft 12.00w x 10.00h	-1	0	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	
Straight Duct - 3ft 12.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	
Straight Duct - 3ft 12.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	
Straight Duct - 5ft 12.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	29	23	17	10	2	0	0	0	
Straight Duct - 9ft 12.00w x 10.00h	-3	-2	-1	-1	-1	-1	-1	-1	
Junction - SPLIT OPEN OFFICE NORTH	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - SPLIT OPEN OFFICE NORTH	27	22	16	9	2	0	0	0	
L1-103 NORTH - OPEN OFFICE	-5	-6	-7	-8	-9	-10	-11	-12	Room effect
Sum	27	23	16	4	0	10	19	9	
Target:	NC 35								
Current:	NC 22 (RC < 25 / 21 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-1 RETURN/INTAKE L1-111 CONF ROOM

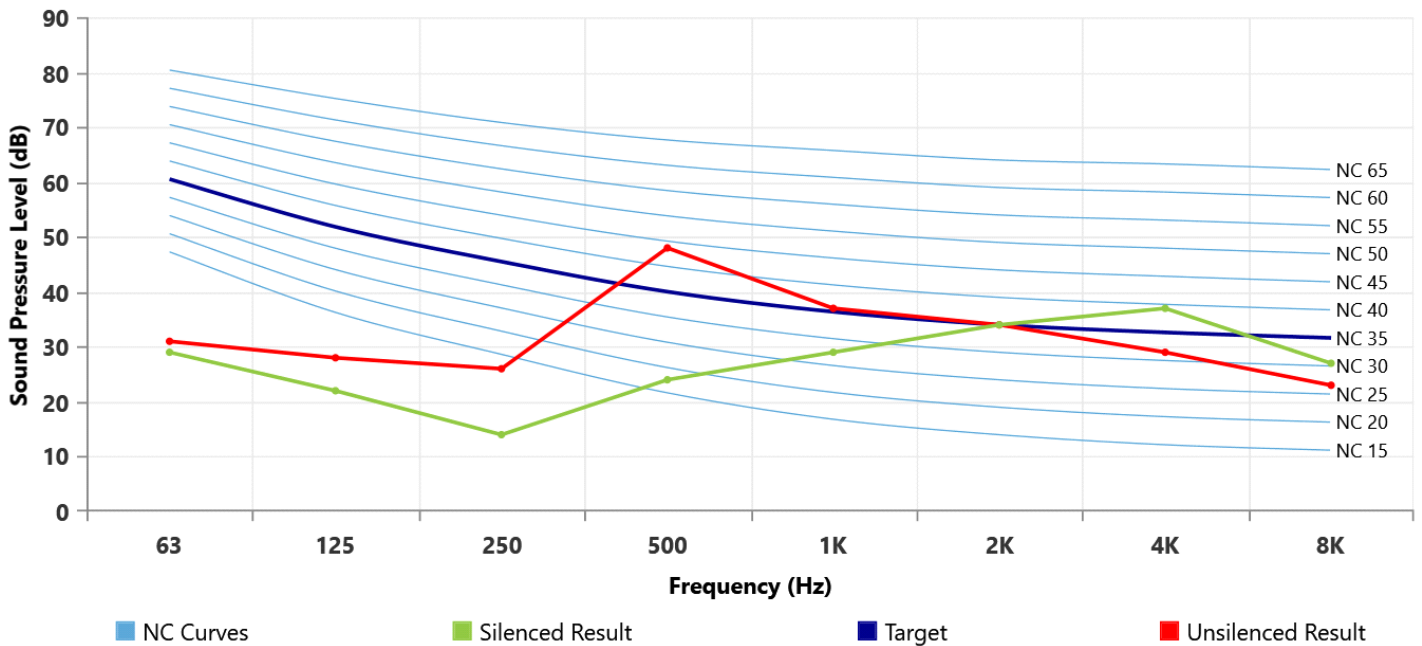
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-1 RETURN/INTAKE	75	73	75	85	74	68	63	58	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	54	49	42	35	27	18	9	0	
Silencer	-15	-15	-25	-28	-33	-20	-13	-11	RSP96/125
Silencer (regen.)	56	43	44	49	55	61	65	56	
Straight Duct - 25ft 40.00w x 10.00h	-10	-5	-3	-1	-1	-1	-1	-1	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	48	43	38	31	23	15	6	0	
Straight Duct - 15ft 40.00w x 10.00h	-6	-3	-2	-1	-1	-1	-1	-1	
Elbow - 40.00w x 10.00h	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 40.00w x 10.00h	43	38	31	24	15	6	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	41	36	29	22	14	5	0	0	
Straight Duct - 1ft 40.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	37	32	25	18	9	0	0	0	
Straight Duct - 3ft 40.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	34	28	21	14	5	0	0	0	
Straight Duct - 6ft 40.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Junction - CONT OF MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	25	19	11	2	0	0	0	
Junction - TRANS TO 30x10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30x10	34	28	21	12	3	0	0	0	
Junction - CONT OF MAIN	-1	-1	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	38	32	26	18	10	1	0	0	
Straight Duct - 3ft 30.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction - CONT OF MAIN	-2	-2	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT OF MAIN	31	26	19	12	5	0	0	0	
Straight Duct - 3ft 30.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Junction	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.)	20	14	7	0	0	0	0	0	
Elbow - 30.00w x 10.00h	0	-1	-8	-4	-3	-3	-3	-3	

PROJECT:
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Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 30.00w x 10.00h	15	9	1	0	0	0	0	0	
Junction - TRANS TO 18X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 18X10	25	19	11	2	0	0	0	0	
Straight Duct - 2ft 18.00w x 10.00h	-1	0	0	0	0	0	0	0	
Junction	-5	-5	-5	-4	-4	-4	-4	-4	
Junction (regen.)	30	25	19	12	4	0	0	0	
L1-111 - CONF ROOM	-6	-7	-8	-9	-9	-10	-11	-12	Room effect
Sum	29	22	14	24	29	34	37	27	
Target:	NC 35	**TARGET NOT MET**							
Current:	NC 39	(RC 29 (HF) / 40 dBA)							



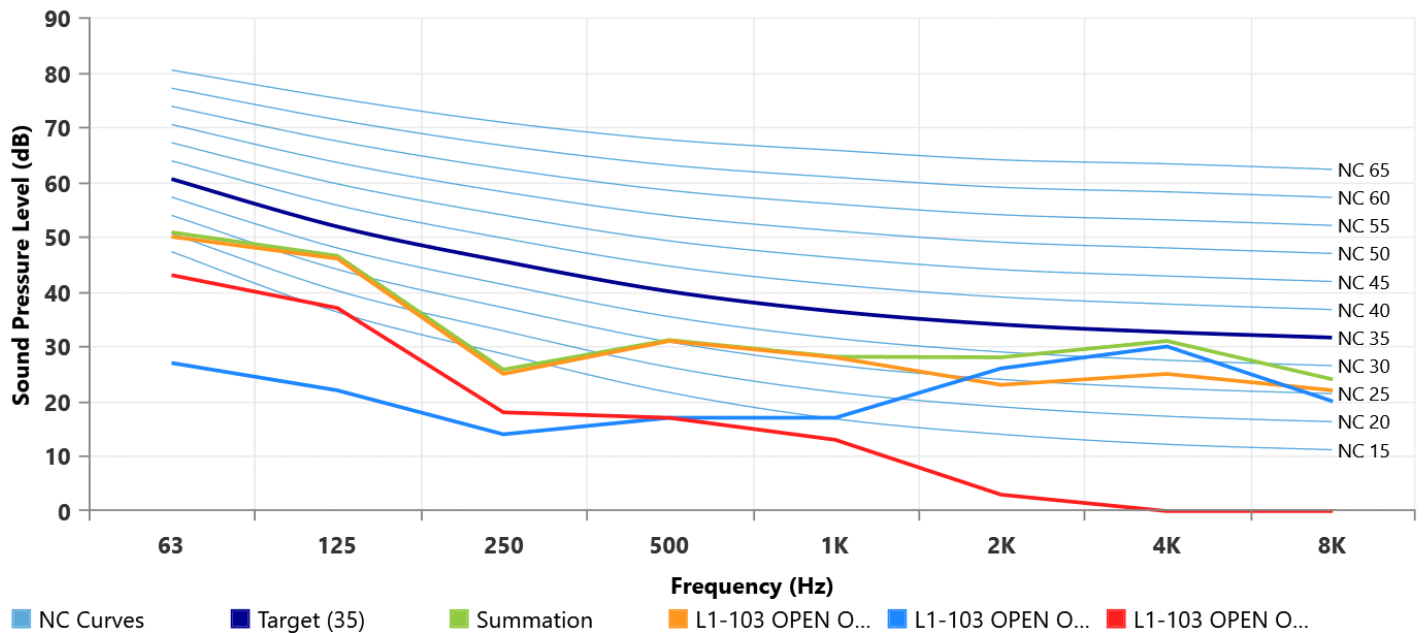
PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-103 OPEN OFFICE SOUTH

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-103 OPEN OFFICE SOUTH	50	46	25	31	28	23	25	22
AHU-1 RETURN/INTAKE L1-103 OPEN OFFICE SOUTH	27	22	14	17	17	26	30	20
AHU-1 RADIATED L1-103 OPEN OFFICE SOUTH	43	37	18	17	13	3	0	0
Sum	51	47	26	31	28	28	31	24
Target:	NC 35							
Current:	NC 33 (RC 29 / 37 dBA)							



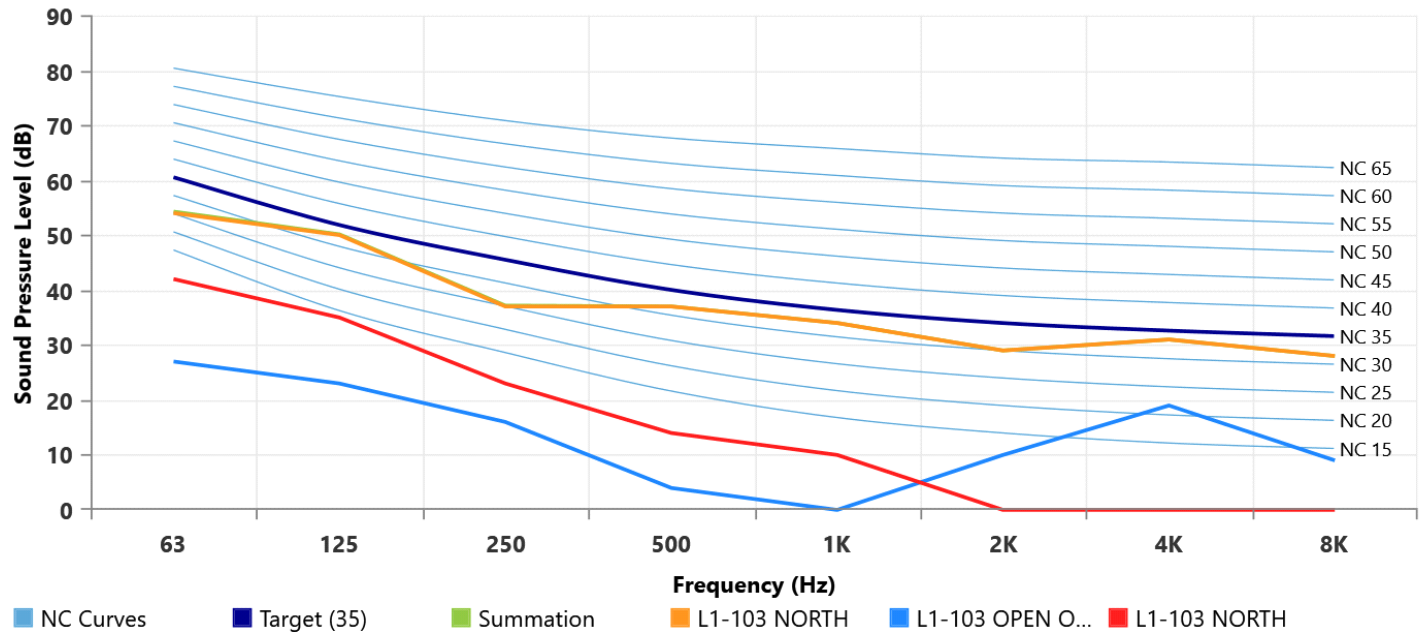
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 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-103 OPEN OFFICE NORTH

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-103 NORTH	54	50	37	37	34	29	31	28
AHU-1 RETURN/INTAKE L1-103 OPEN OFFICE NORTH	27	23	16	4	0	10	19	9
AHU-1 RADIATED L1-103 NORTH	42	35	23	14	10	0	0	0
Sum	54	50	37	37	34	29	31	28
Target:	NC 35							
Current:	NC 33		(RC 33 / 41 dBA)					



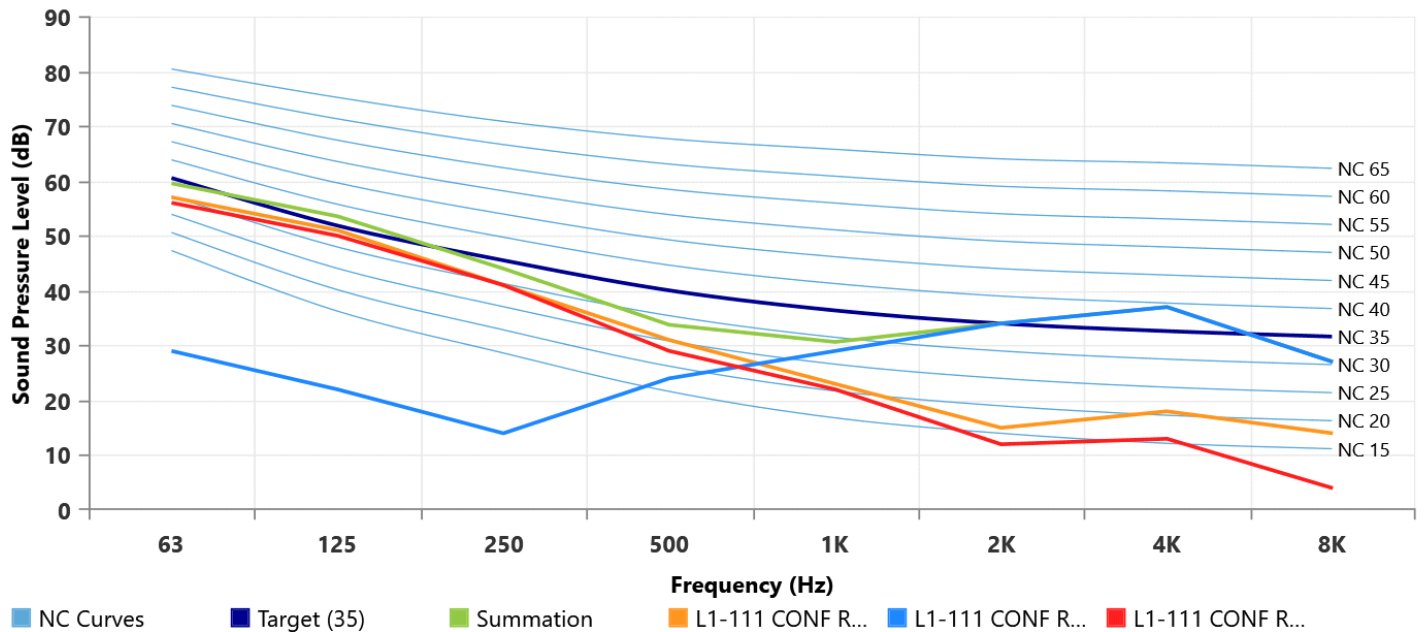
PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
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REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-111 CONF ROOM

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-111 CONF ROOM	57	51	41	31	23	15	18	14
AHU-1 RETURN/INTAKE L1-111 CONF ROOM	29	22	14	24	29	34	37	27
AHU-1 RADIATED L1-111 CONF ROOM	56	50	41	29	22	12	13	4
Sum	60	54	44	34	31	34	37	27
Target:	NC 35	**TARGET NOT MET**						
Current:	NC 39	<i>(RC 33 / 44 dBA)</i>						



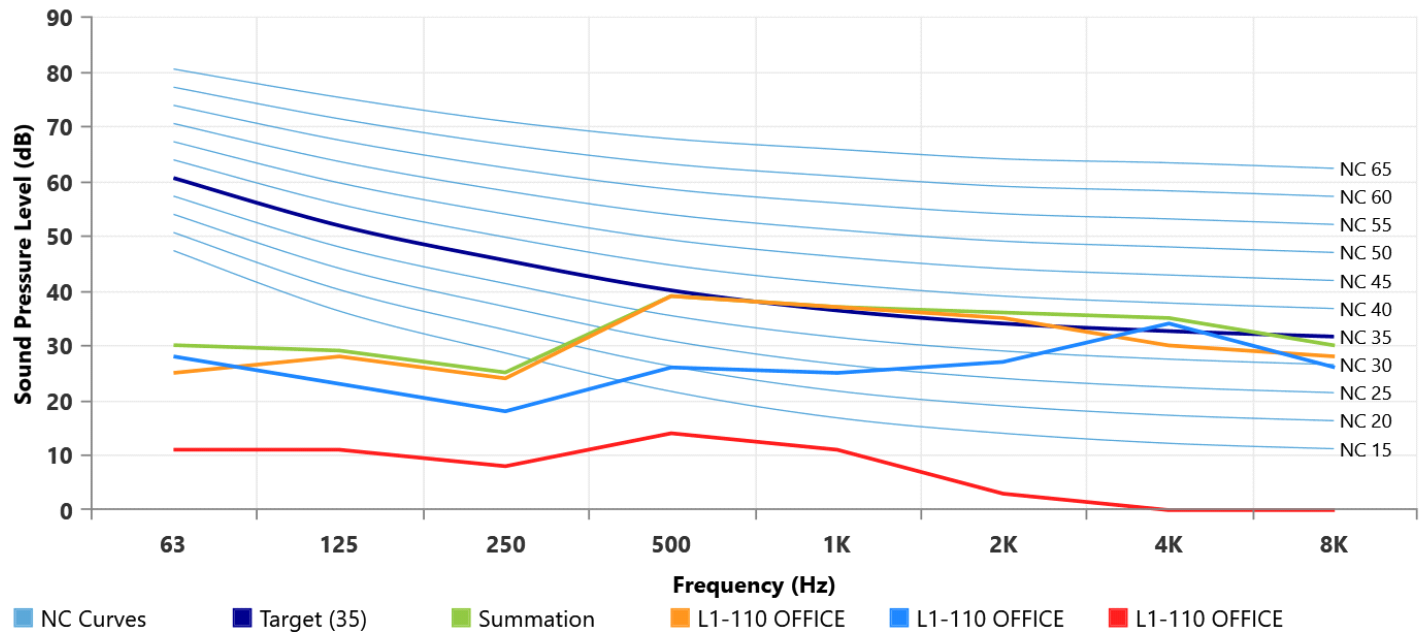
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 LOCATION:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-110 OFFICE

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-110 OFFICE	25	28	24	39	37	35	30	28
AHU-1 RETURN/INTAKE L1-110 OFFICE	28	23	18	26	25	27	34	26
AHU-1 RADIATED L1-110 OFFICE	11	11	8	14	11	3	0	0
Sum	30	29	25	39	37	36	35	30
Target:	NC 35	**TARGET NOT MET**						
Current:	NC 37	<i>(RC 37 / 43 dBA)</i>						



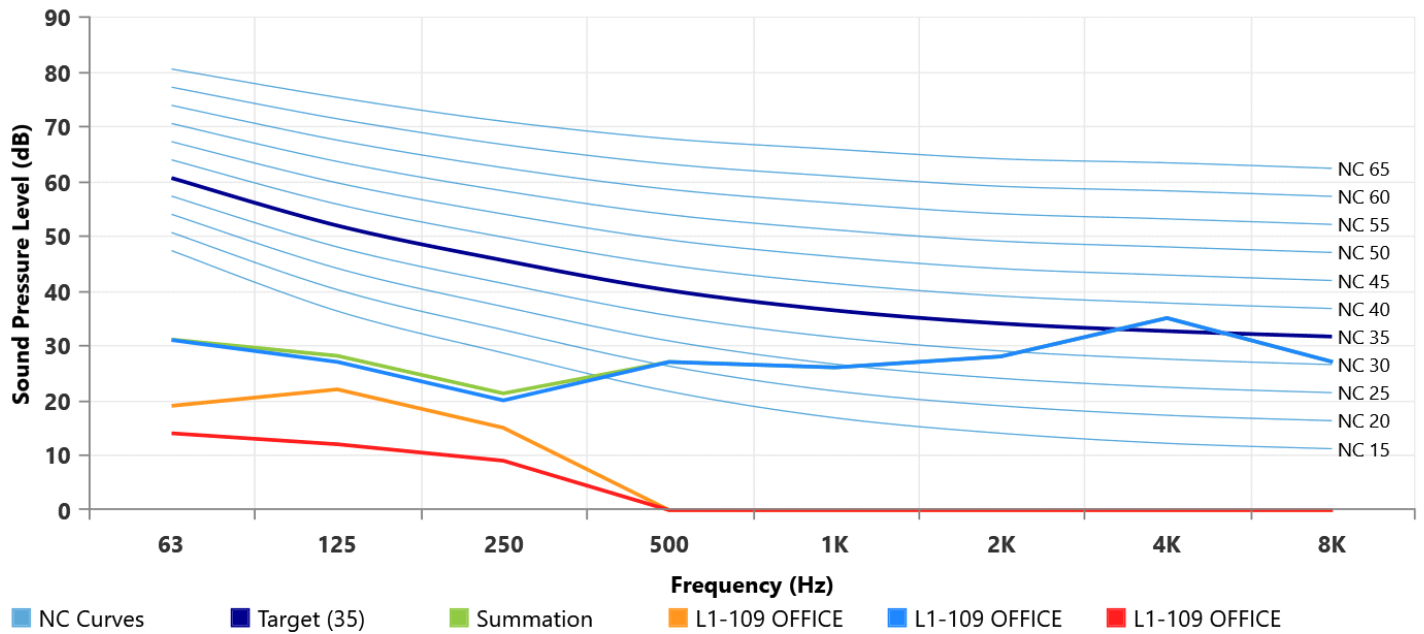
PROJECT:
 LOCATION:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-109 OFFICE

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-109 OFFICE	19	22	15	0	0	0	0	0
AHU-1 RETURN/INTAKE L1-109 OFFICE	31	27	20	27	26	28	35	27
AHU-1 RADIATED L1-109 OFFICE	14	12	9	0	0	0	0	0
Sum	31	28	21	27	26	28	35	27
Target:	NC 35	**TARGET NOT MET**						
Current:	NC 37	<i>(RC 27 / 38 dBA)</i>						



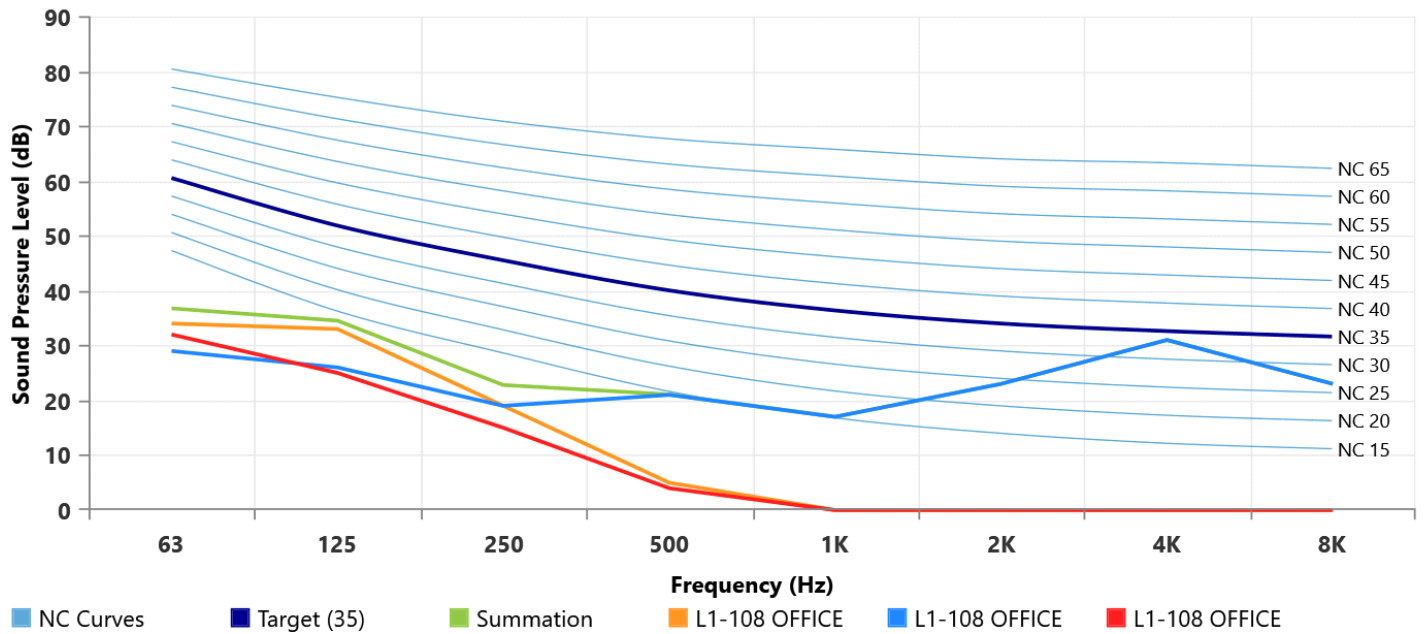
PROJECT:
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 CONTRACTOR:



L1-108 OFFICE

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 SUPPLY/DISCHARGE L1-108 OFFICE	34	33	19	5	0	0	0	0
AHU-1 RETURN/INTAKE L1-108 OFFICE	29	26	19	21	17	23	31	23
AHU-1 RADIATED L1-108 OFFICE	32	25	15	4	0	0	0	0
Sum	37	35	23	21	17	23	31	23
Target:	NC 35							
Current:	NC 33 (RC < 25 / 33 dBA)							



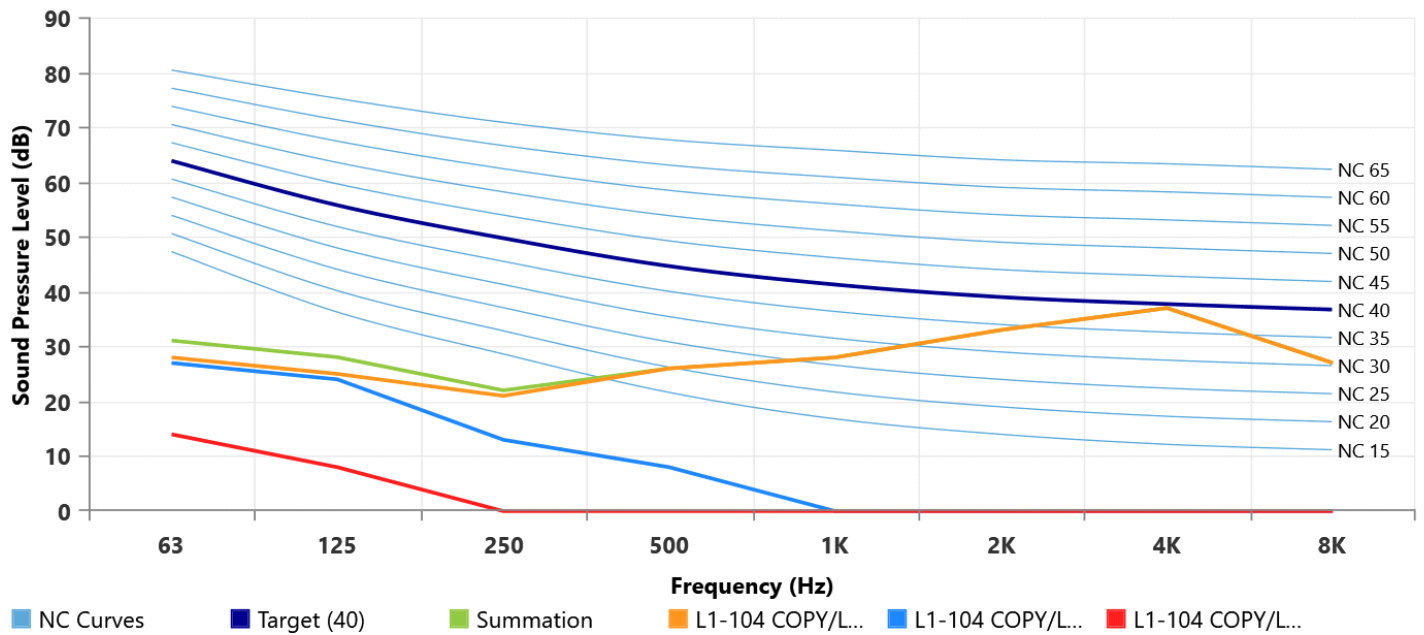
PROJECT:
 LOCATION:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



L1-104 COPY/LOCKERS

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-1 RETURN/INTAKE L1-104 COPY/LOCKERS	28	25	21	26	28	33	37	27
AHU-1 SUPPLY/DISCHARGE - SOUTH SIDE L1-104 COPY/LOCKERS	27	24	13	8	0	0	0	0
AHU-1 RADIATED - SOUTH SIDE L1-104 COPY/LOCKERS	14	8	0	0	0	0	0	0
Sum	31	28	22	26	28	33	37	27
Target:	NC 40							
Current:	NC 39 (RC 29 / 40 dBA)							



Acoustic Analysis Report

Prepared by Joe Dezman

Date February 01, 2023

PROJECT:
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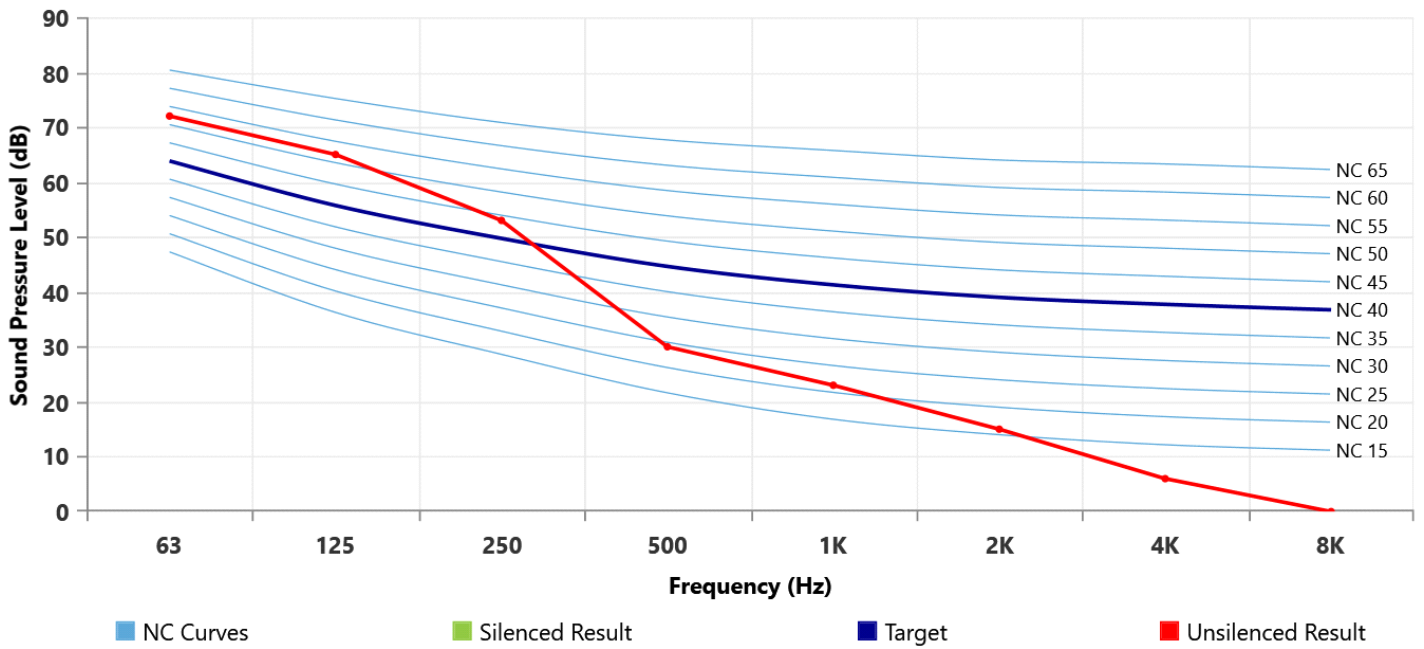


AHU-12 - NORTH SUPPLY/DISCHARGE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - branch to Conf Room	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - branch to Conf Room	40	36	31	26	19	12	4	0	
Receiver	-1	-1	-2	-3	-4	-5	-6	-7	Room effect
Sum	72	65	53	30	23	15	6	0	
Target:	NC 40	**TARGET NOT MET**							
Current:	NC 52	(RC < 25 / 52 dBA)							

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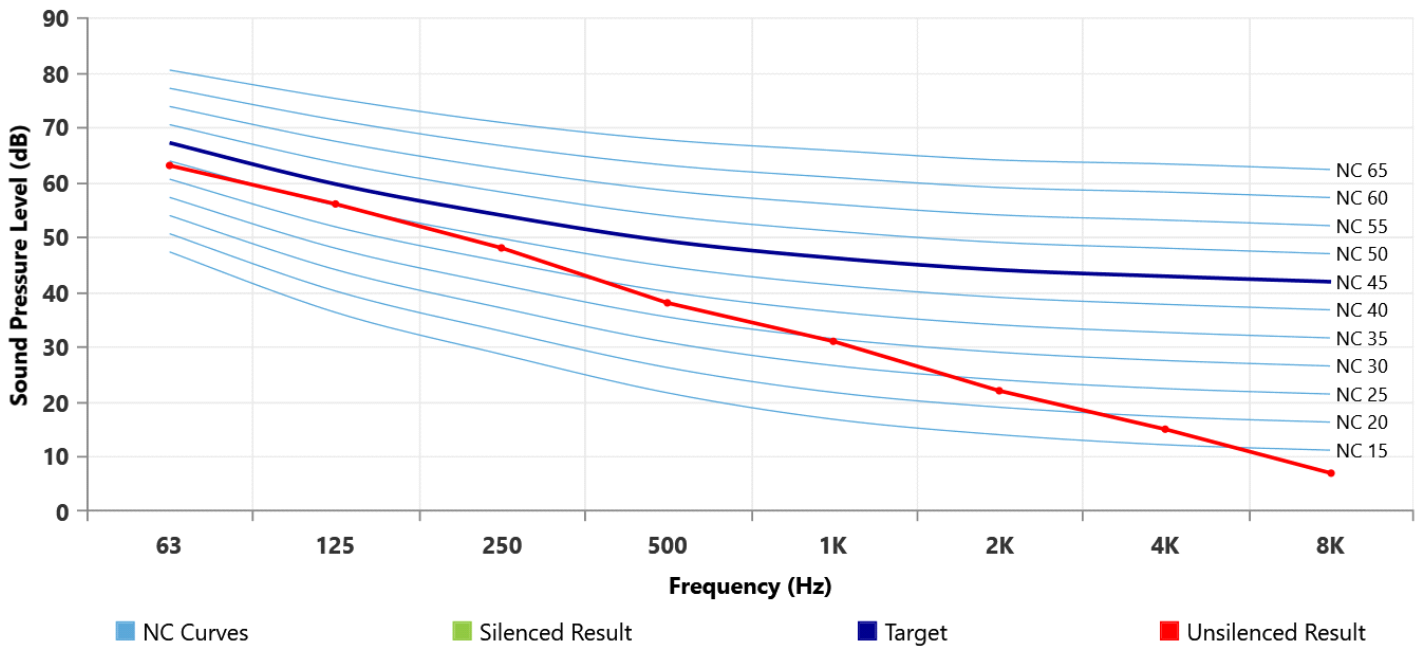


AHU-12 - NORTH SUPPLY/DISCHARGE C9-56 CLEAN STORAGE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - branch to clean storage/lobby	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - branch to clean storage/lobby	59	55	50	44	37	29	20	10	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	63	60	56	52	46	39	32	23	
Straight Duct - 2ft 6.00Ø	-1	-1	-2	-3	-4	-5	-4	-3	
1-TU-12-19	0	45	36	20	0	0	0	0	
Junction - trans to 6"x10"	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 6"x10"	36	31	24	17	8	0	0	0	
Junction - branch to c9-56	-4	-4	-4	-4	-3	-3	-3	-3	
Junction (regen.) - branch to c9-56	26	22	18	14	8	2	0	0	
RM C9-56 - CLEAN STORAGE	-4	-5	-6	-7	-8	-9	-10	-11	Room effect
Sum	63	56	48	38	31	22	15	7	
Target:	NC 45								
Current:	NC 40	(RC 30 (LF) / 44 dBA)							

PROJECT:
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 CONTRACTOR:



AHU-12 - NORTH SUPPLY/DISCHARGE C9-59 PREFUNC/COLLAB

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - BRANCH TO CORR/WORK SPACE	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - BRANCH TO CORR/WORK SPACE	46	41	36	29	22	14	5	0	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	43	39	33	26	18	10	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-3	-6	-12	-12	-8	-5	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	

PROJECT:
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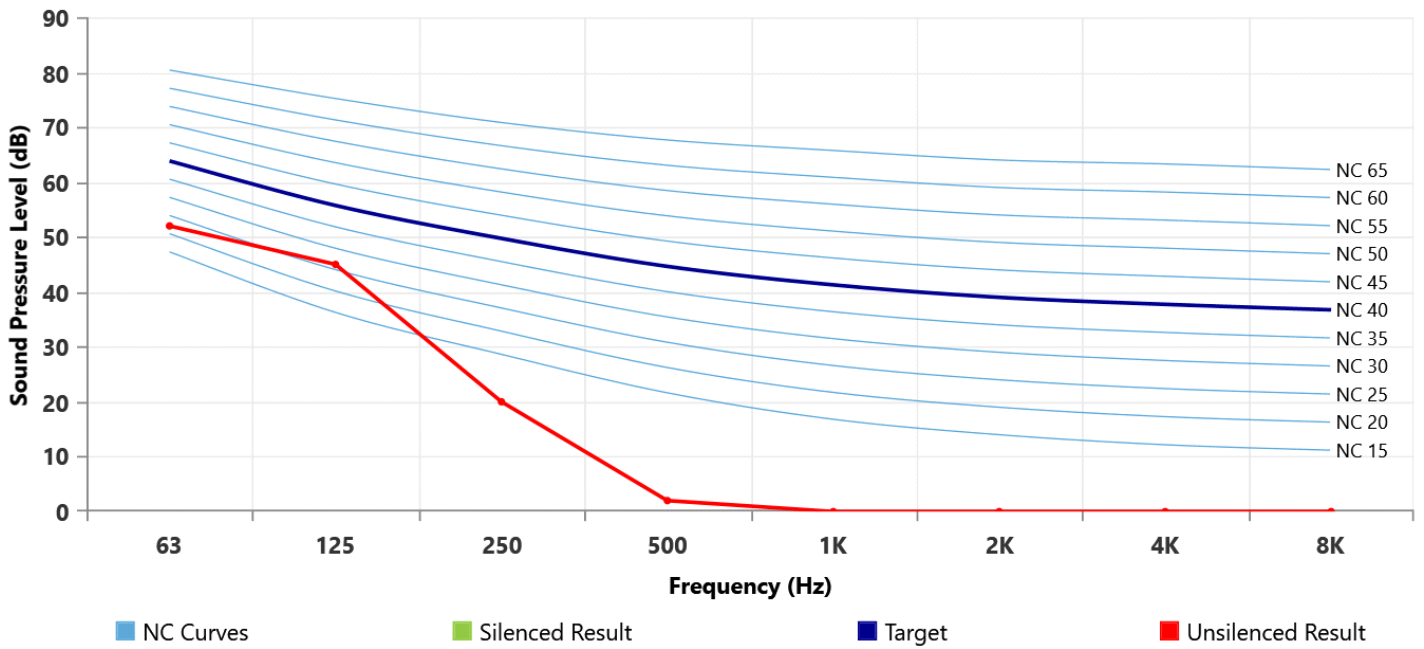
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 14.00w x 10.00h	43	39	33	26	18	10	0	0	
Straight Duct - 1ft 14.00w x 10.00h	0	0	-1	-2	-4	-4	-3	-2	
End Reflection	-11	-6	-3	-1	0	0	0	0	
Junction	0	0	0	0	0	0	0	0	
Junction (regen.)	47	43	37	30	22	13	3	0	
Straight Duct - 2ft 12.00Ø	-1	-1	-3	0	0	0	0	0	
Elbow- 1" Lined - 12.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 12.00Ø	50	46	40	34	27	18	9	0	
Elbow- 1" Lined - 12.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 12.00Ø	50	46	40	34	27	18	9	0	
Straight Duct - 2ft 12.00Ø	0	-1	-2	-3	-4	-4	-3	-2	
1-TU-12-20	0	44	35	19	0	0	0	0	
Junction - TRANS TO 20X8	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 20X8	47	43	38	32	26	19	10	1	
Straight Duct - 2ft 20.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 20.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Straight Duct - 2ft 20.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 20.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Straight Duct - 4ft 20.00w x 8.00h	-1	-2	-3	-8	-17	-17	-11	-7	
Elbow- 1" Lined - 20.00w x 8.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	39	34	28	21	13	4	0	0	
Straight Duct - 1ft 16.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - BRANCH TO COLLAB	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.) - BRANCH TO COLLAB	28	24	19	14	7	0	0	0	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	18	13	7	0	0	0	0	0	
Straight Duct - 2ft 8.00Ø	-2	-3	-6	-12	-11	-13	-7	-5	
RM C9-59 - PREFUNC/COLLAB	0	-1	-2	-2	-3	-4	-5	-6	Room effect
Sum	52	45	20	2	0	0	0	0	
Target:	NC 40								
Current:	NC 26 (RC < 25 / 31 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
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 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-12 - NORTH SUPPLY/DISCHARGE C9-60 CONF RM

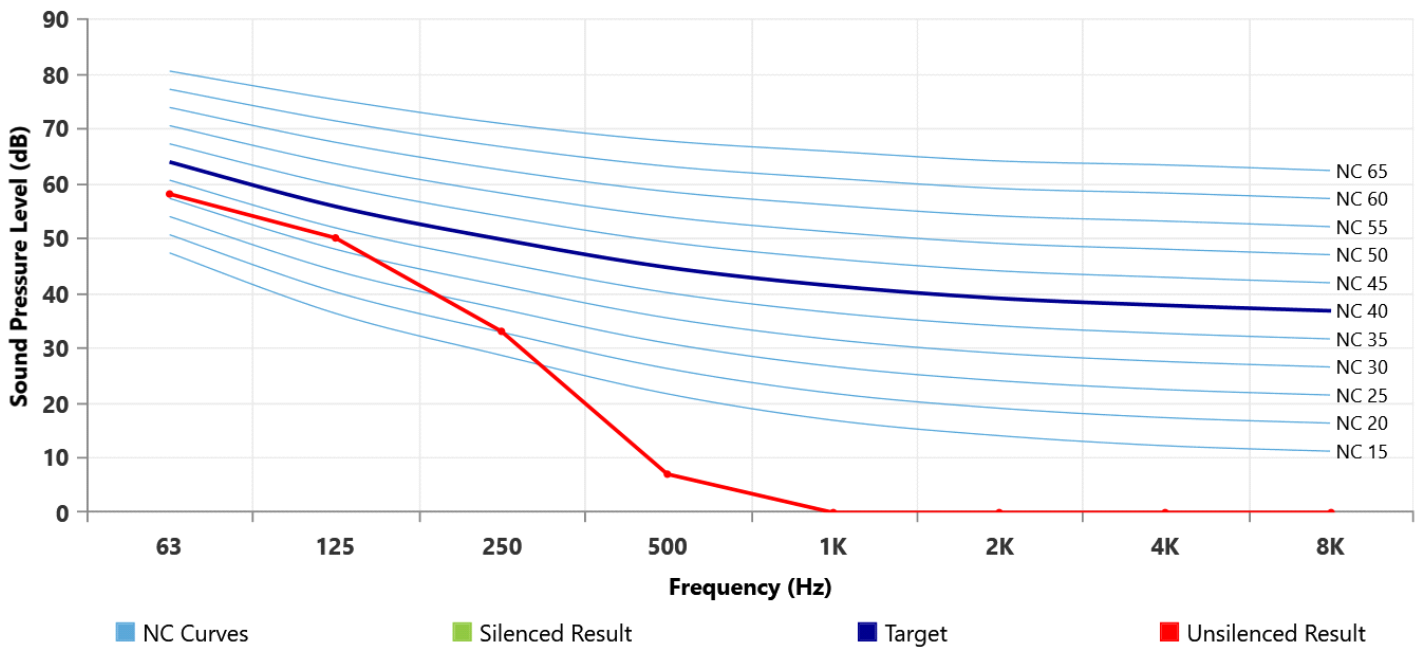
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - branch to Conf Room	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - branch to Conf Room	40	36	31	26	19	12	4	0	
Straight Duct - 3ft 8.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Junction - trans to 6" round	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - trans to 6" round	51	46	40	33	25	16	5	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	

PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-12-21	0	43	34	18	0	0	0	0	
Straight Duct - 1ft 10.00w x 10.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 10.00h	19	13	6	0	0	0	0	0	
Straight Duct - 2ft 10.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.)	20	15	9	2	0	0	0	0	
Straight Duct - 3ft 6.00Ø	-3	-4	-6	-13	-16	-19	-11	-7	
RM C9-60 - CONF RM	-1	-1	-2	-3	-4	-5	-6	-7	Room effect
Sum	58	50	33	7	0	0	0	0	
Target:	NC 40								
Current:	NC 33 (RC < 25 / 36 dBA)								



PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

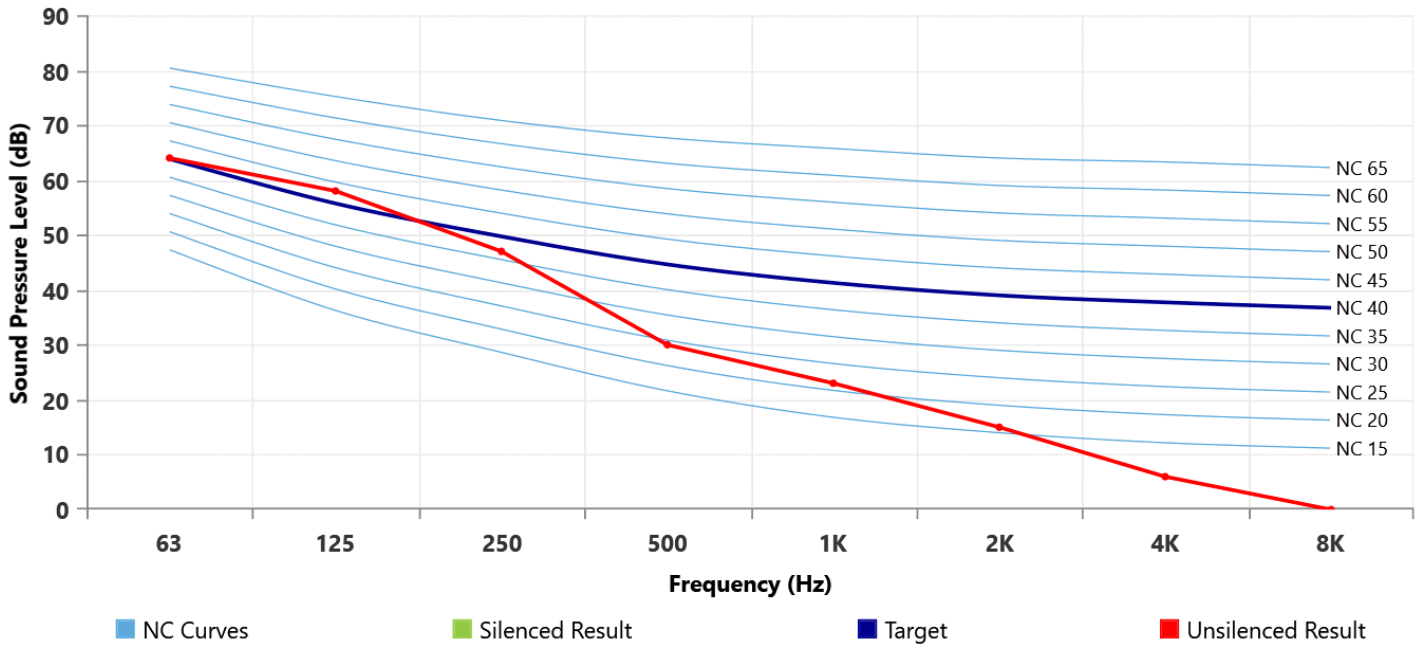


AHU-12 - NORTH RADIATED

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - branch to Conf Room	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - branch to Conf Room	40	36	31	26	19	12	4	0	
Receiver	-1	-1	-2	-3	-4	-5	-6	-7	Room effect
Sum	64	58	47	30	23	15	6	0	
Target:	NC 40	**TARGET NOT MET**							
Current:	NC 43	(RC < 25 / 45 dBA)							

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
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PROJECT:
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 ENGINEER:
 CONTRACTOR:

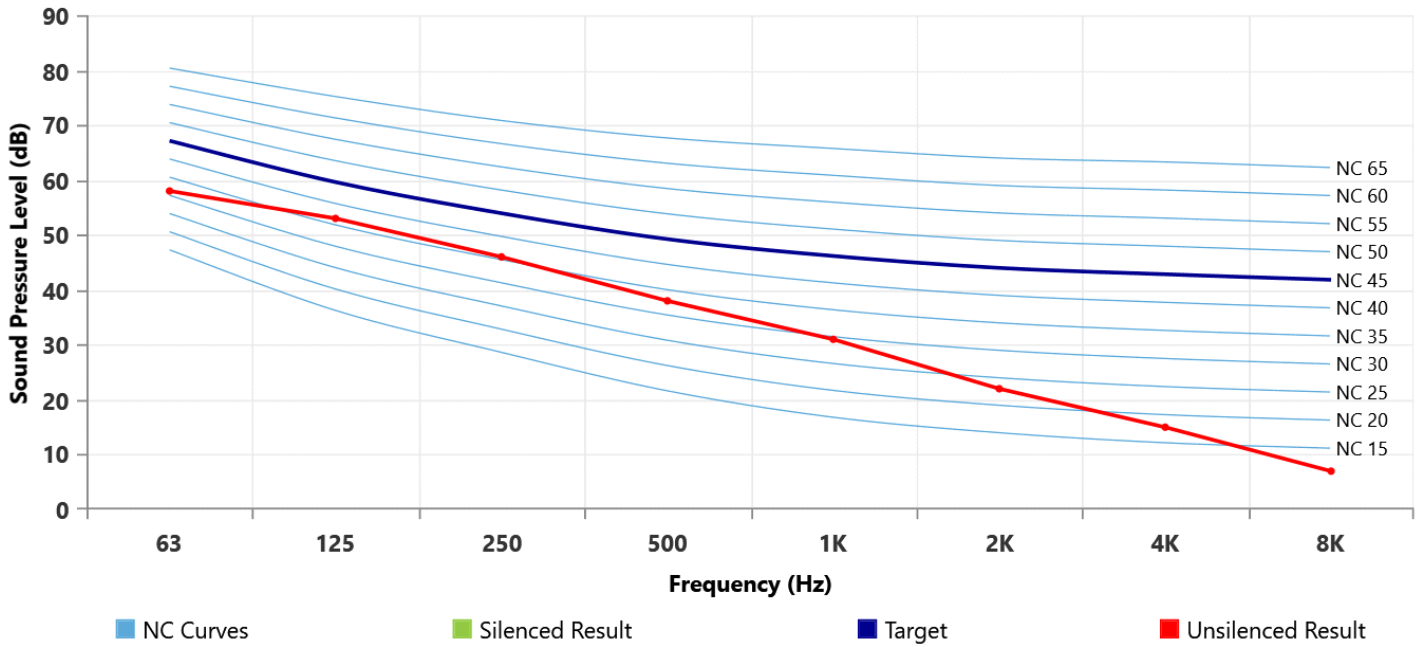


AHU-12 - NORTH RADIATED C9-56 CLEAN STORAGE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - branch to clean storage/lobby	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - branch to clean storage/lobby	59	55	50	44	37	29	20	10	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	63	60	56	52	46	39	32	23	
Straight Duct - 2ft 6.00Ø	-1	-1	-2	-3	-4	-5	-4	-3	
1-TU-12-19	0	41	36	25	13	0	0	0	
Junction - trans to 6"x10"	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 6"x10"	36	31	24	17	8	0	0	0	
Junction - branch to c9-56	-4	-4	-4	-4	-3	-3	-3	-3	
Junction (regen.) - branch to c9-56	26	22	18	14	8	2	0	0	
RM C9-56 - CLEAN STORAGE	-4	-5	-6	-7	-8	-9	-10	-11	Room effect
Sum	58	53	46	38	31	22	15	7	
Target:	NC 45								
Current:	NC 36 (RC 30 (LF) / 42 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-12 - NORTH RADIATED C9-59 PREFUNC/COLLAB

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - BRANCH TO CORR/WORK SPACE	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - BRANCH TO CORR/WORK SPACE	46	41	36	29	22	14	5	0	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 14.00w x 10.00h	43	39	33	26	18	10	0	0	
Straight Duct - 3ft 14.00w x 10.00h	-1	-1	-3	-6	-12	-12	-8	-5	
Elbow- 1" Lined - 14.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	

PROJECT:
 LOCATION:
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 REVISION:

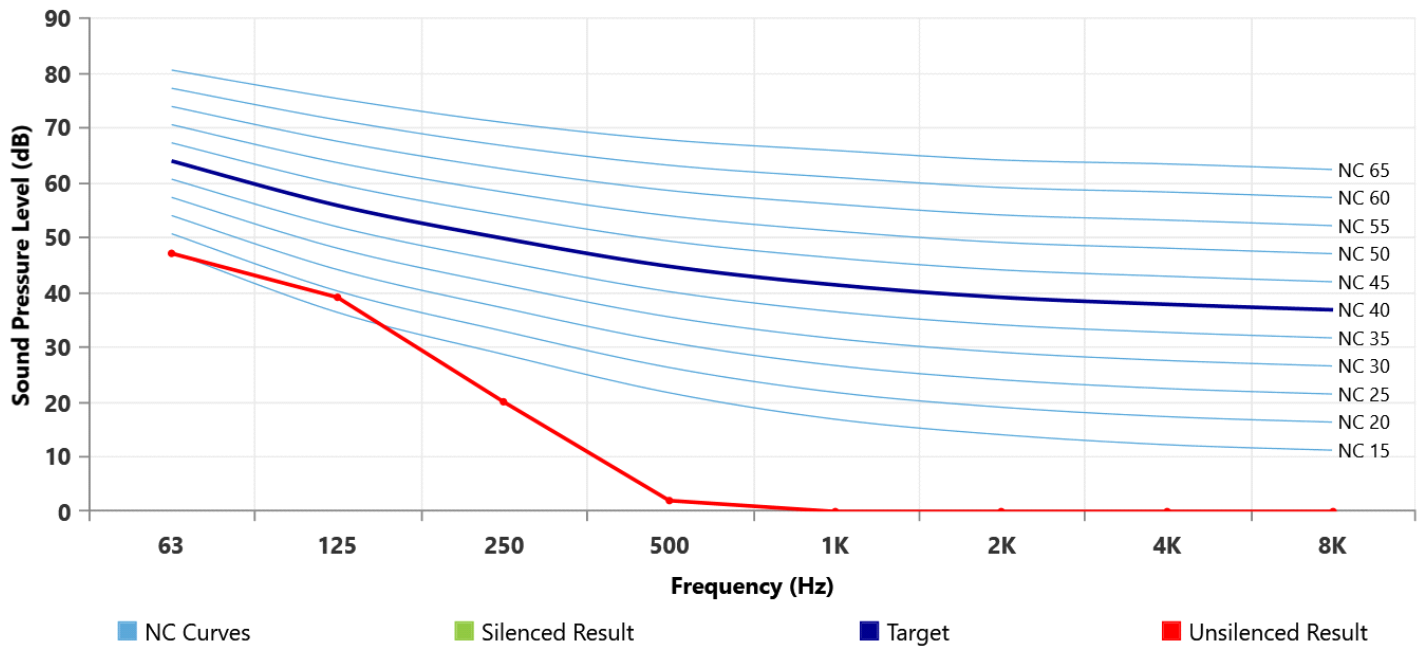
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 14.00w x 10.00h	43	39	33	26	18	10	0	0	
Straight Duct - 1ft 14.00w x 10.00h	0	0	-1	-2	-4	-4	-3	-2	
End Reflection	-11	-6	-3	-1	0	0	0	0	
Junction	0	0	0	0	0	0	0	0	
Junction (regen.)	47	43	37	30	22	13	3	0	
Straight Duct - 2ft 12.00Ø	-1	-1	-3	0	0	0	0	0	
Elbow- 1" Lined - 12.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 12.00Ø	50	46	40	34	27	18	9	0	
Elbow- 1" Lined - 12.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 12.00Ø	50	46	40	34	27	18	9	0	
Straight Duct - 2ft 12.00Ø	0	-1	-2	-3	-4	-4	-3	-2	
1-TU-12-20	0	40	35	24	13	0	0	0	
Junction - TRANS TO 20X8	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 20X8	47	43	38	32	26	19	10	1	
Straight Duct - 2ft 20.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 20.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Straight Duct - 2ft 20.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 20.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Straight Duct - 4ft 20.00w x 8.00h	-1	-2	-3	-8	-17	-17	-11	-7	
Elbow- 1" Lined - 20.00w x 8.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 20.00w x 8.00h	39	34	28	21	13	4	0	0	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	39	34	28	21	13	4	0	0	
Straight Duct - 1ft 16.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - BRANCH TO COLLAB	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.) - BRANCH TO COLLAB	28	24	19	14	7	0	0	0	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	18	13	7	0	0	0	0	0	
Straight Duct - 2ft 8.00Ø	-2	-3	-6	-12	-11	-13	-7	-5	
RM C9-59 - PREFUNC/COLLAB	0	-1	-2	-2	-3	-4	-5	-6	Room effect
Sum	47	39	20	2	0	0	0	0	
Target:	NC 40								
Current:	NC 19 (RC < 25 / 25 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT:
 LOCATION:
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 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-12 - NORTH RADIATED C9-60 CONF RM

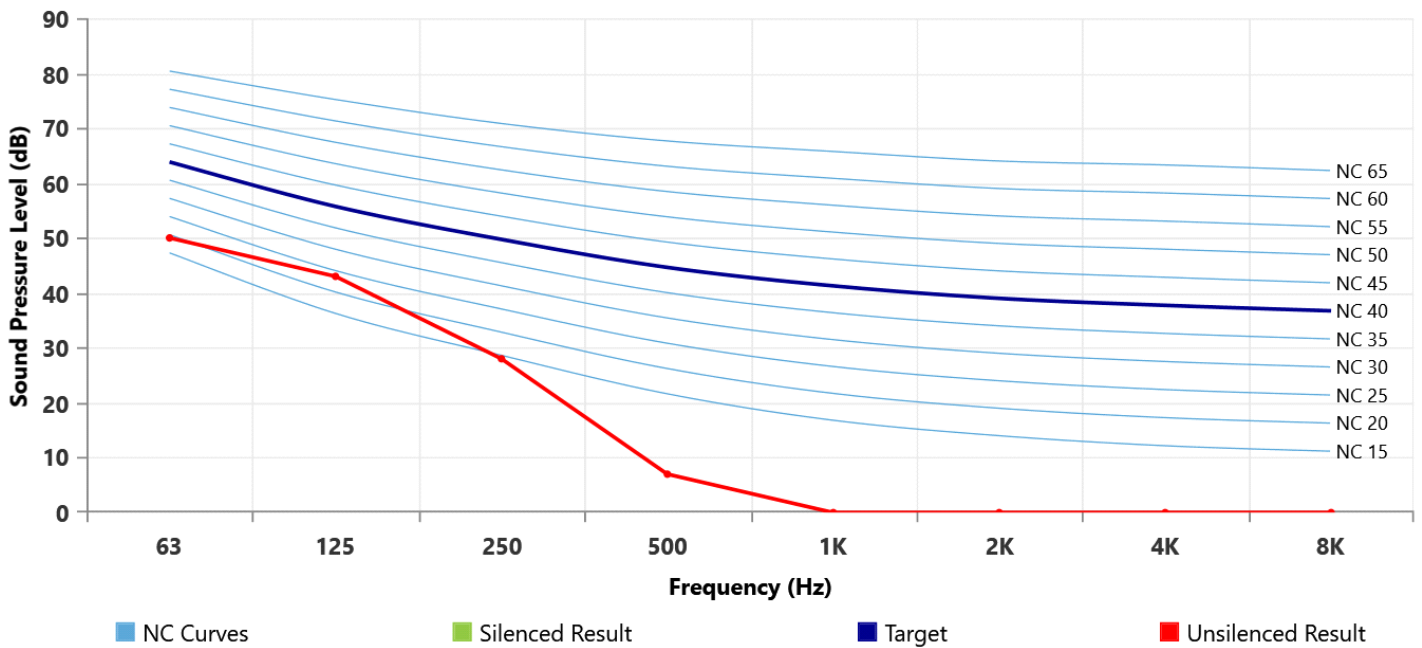
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 36.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Elbow- 1" Lined - 36.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 4ft 38.00w x 14.00h	0	-1	-2	-6	-12	-10	-8	-7	
Elbow- 1" Lined - 36.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 36.00w x 14.00h	65	60	54	47	39	31	21	10	
Straight Duct - 5ft 36.00w x 14.00h	0	-1	-3	-7	-15	-13	-10	-8	
Junction - assume branch towards N is the main	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - assume branch towards N is the main	53	49	44	38	32	24	16	7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 5ft 20.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Straight Duct - 4ft 20.00w x 12.00h	-1	-1	-3	-7	-14	-13	-10	-7	
Elbow- 1" Lined - 20.00w x 12.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 20.00w x 12.00h	45	40	33	26	18	9	0	0	
Junction - CONTINUATION OF BRANCH MAIN	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONTINUATION OF BRANCH MAIN	55	51	47	42	36	29	22	13	
Junction - TRANS TO 16X10	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X10	46	41	34	27	19	10	0	0	
Elbow- 1" Lined - 16.00w x 10.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 16.00w x 10.00h	49	44	38	32	24	16	6	0	
Straight Duct - 2ft 16.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction - branch to Conf Room	-5	-5	-5	-5	-5	-5	-5	-5	
Junction (regen.) - branch to Conf Room	40	36	31	26	19	12	4	0	
Straight Duct - 3ft 8.00w x 8.00h	-1	-1	-1	0	0	0	0	0	
Junction - trans to 6" round	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - trans to 6" round	51	46	40	33	25	16	5	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	

PROJECT:
 LOCATION:
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REP NAME:
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 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-12-21	0	39	33	23	11	0	0	0	
Straight Duct - 1ft 10.00w x 10.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 10.00h	19	13	6	0	0	0	0	0	
Straight Duct - 2ft 10.00w x 10.00h	-1	-1	-1	0	0	0	0	0	
Junction	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.)	20	15	9	2	0	0	0	0	
Straight Duct - 3ft 6.00Ø	-3	-4	-6	-13	-16	-19	-11	-7	
RM C9-60 - CONF RM	-1	-1	-2	-3	-4	-5	-6	-7	Room effect
Sum	50	43	28	7	0	0	0	0	
Target:	NC 40								
Current:	NC 24 (RC < 25 / 29 dBA)								



PROJECT:
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 CONTRACTOR:



AHU-12 - SOUTH SUPPLY/DISCHARGE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 38.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 4ft 38.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 5ft 38.00w x 14.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction - assume branch towards N is the main	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - assume branch towards N is the main	59	54	49	42	34	26	17	7	
Straight Duct - 8ft 38.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-6	-11	-10	-10	-10	-10	-10	
Elbow (regen.) - 38.00w x 14.00h	54	49	43	35	27	18	8	0	
Junction - TRANS TO 30X14	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30X14	59	53	47	39	31	22	11	0	
Straight Duct - 2ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Straight Duct - 20ft 30.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Straight Duct - 11ft 30.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Junction - SPLIT TO C9-C06	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.) - SPLIT TO C9-C06	59	54	49	42	35	27	18	8	
Straight Duct - 1ft 26.00w x 12.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 4ft 26.00w x 12.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 3ft 26.00w x 12.00h	-1	-1	-1	0	0	0	0	0	

PROJECT:
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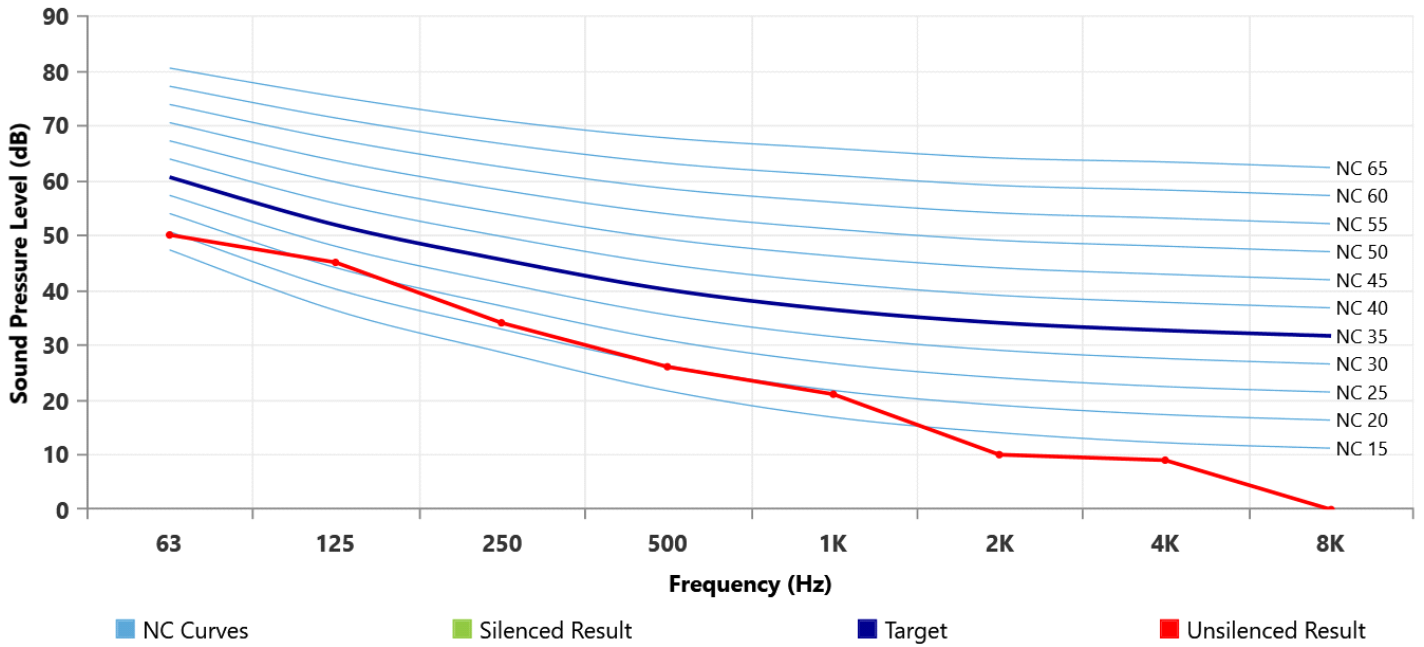
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow- 1" Lined - 26.00w x 12.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 3ft 26.00w x 12.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 5ft 26.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction	-11	-11	-11	-11	-11	-11	-11	-11	
Junction (regen.)	58	54	50	44	38	30	22	13	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	60	57	53	48	42	35	28	19	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	60	57	53	48	42	35	28	19	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	
1-TU-12-1 - SUPPLY/DISCHARGE	0	45	37	20	0	0	0	0	
Junction - TRANS TO 10X8	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 10X8	24	18	11	3	0	0	0	0	
Junction - SPLIT TO NURSES STATN	-4	-4	-4	-4	-3	-3	-3	-3	
Junction (regen.) - SPLIT TO NURSES STATN	22	17	12	5	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
C9-64 - NURSES STATION	-8	-9	-10	-10	-11	-12	-13	-14	Room effect
Sum	50	45	34	26	21	10	9	0	
Target:	NC 35								
Current:	NC 26 (RC < 25 / 32 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
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ENGINEER:
CONTRACTOR:



PROJECT:
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 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-12 - SOUTH SUPPLY/DISCHARGE C9-50 MEETING RM

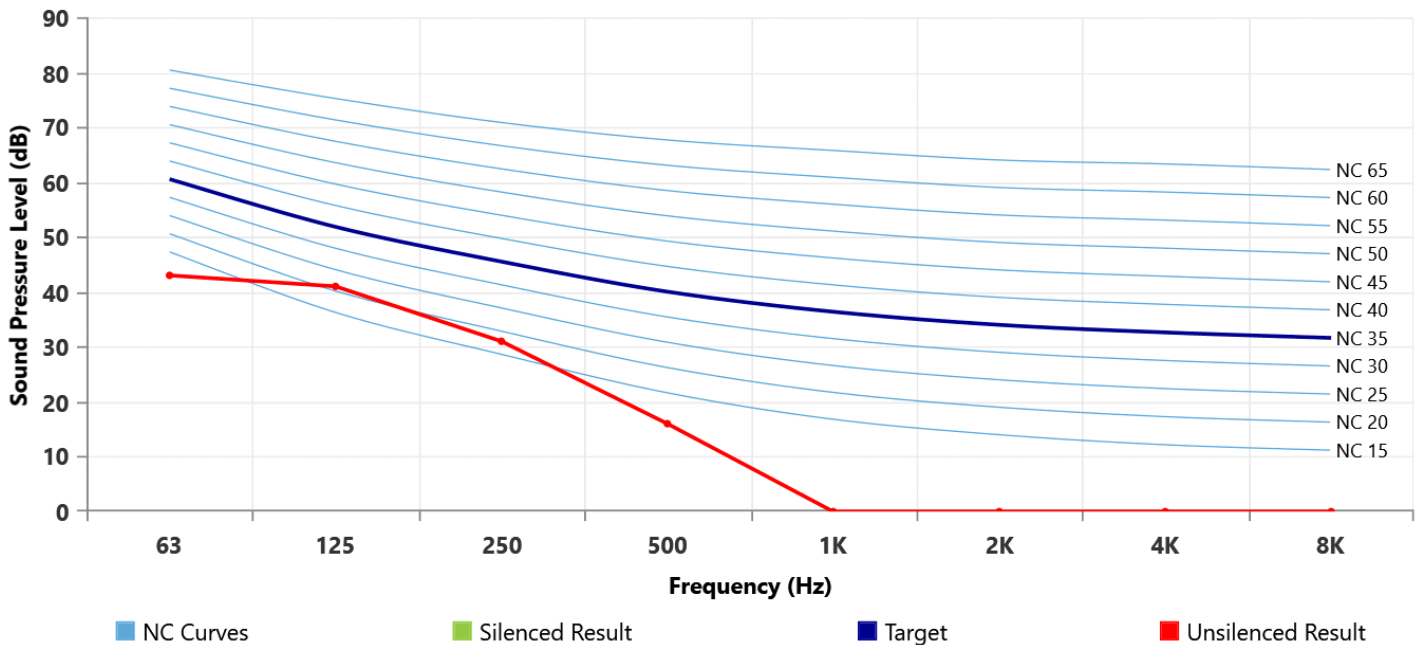
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - SUPPLY	90	88	91	87	81	81	78	76	
Straight Duct - 3ft 38.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 4ft 38.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 5ft 38.00w x 14.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction - assume branch towards N is the main	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - assume branch towards N is the main	59	54	49	42	34	26	17	7	
Straight Duct - 8ft 38.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-6	-11	-10	-10	-10	-10	-10	
Elbow (regen.) - 38.00w x 14.00h	54	49	43	35	27	18	8	0	
Junction - TRANS TO 30X14	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30X14	59	53	47	39	31	22	11	0	
Straight Duct - 2ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Straight Duct - 20ft 30.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - BRANCH TO MTG RM	-12	-12	-11	-11	-11	-11	-11	-11	
Junction (regen.) - BRANCH TO MTG RM	43	40	36	32	27	22	15	9	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Straight Duct - 1ft 8.00w x 4.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Straight Duct - 4ft 8.00w x 4.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Junction - TRANS TO 6" ROUND	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 6" ROUND	26	22	16	9	2	0	0	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	

PROJECT:
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Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-12-18	0	52	40	20	0	0	0	0	SUPPLY/DISCHARGE
Junction - TRANS TO 8X6	-1	-1	-1	-1	0	0	0	0	
Junction - split to corridor	-3	-3	-3	-3	-2	-2	-2	-2	
Junction (regen.) - split to corridor	8	3	0	0	0	0	0	0	
Straight Duct - 1ft 8.00w x 6.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 8.00w x 6.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 8.00w x 6.00h	6	0	0	0	0	0	0	0	
Junction - trans to 12x6	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 12.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	
C9-50 - MEETING RM	-7	-8	-9	-10	-11	-12	-13	-14	Room effect
Sum	43	41	31	16	0	0	0	0	
Target:	NC 35								
Current:	NC 21 (RC < 25 / 27 dBA)								



PROJECT:
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 ENGINEER:
 CONTRACTOR:



AHU-12 - SOUTH RADIATED

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RADIATED	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 38.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 4ft 38.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 5ft 38.00w x 14.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction - assume branch towards N is the main	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - assume branch towards N is the main	59	54	49	42	34	26	17	7	
Straight Duct - 8ft 38.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-6	-11	-10	-10	-10	-10	-10	
Elbow (regen.) - 38.00w x 14.00h	54	49	43	35	27	18	8	0	
Junction - TRANS TO 30X14	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30X14	59	53	47	39	31	22	11	0	
Straight Duct - 2ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Straight Duct - 20ft 30.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Straight Duct - 11ft 30.00w x 14.00h	-4	-4	-3	-2	-1	-1	-1	-1	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Junction - SPLIT TO C9-C06	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.) - SPLIT TO C9-C06	59	54	49	42	35	27	18	8	
Straight Duct - 1ft 26.00w x 12.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 4ft 26.00w x 12.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 3ft 26.00w x 12.00h	-1	-1	-1	0	0	0	0	0	

PROJECT:
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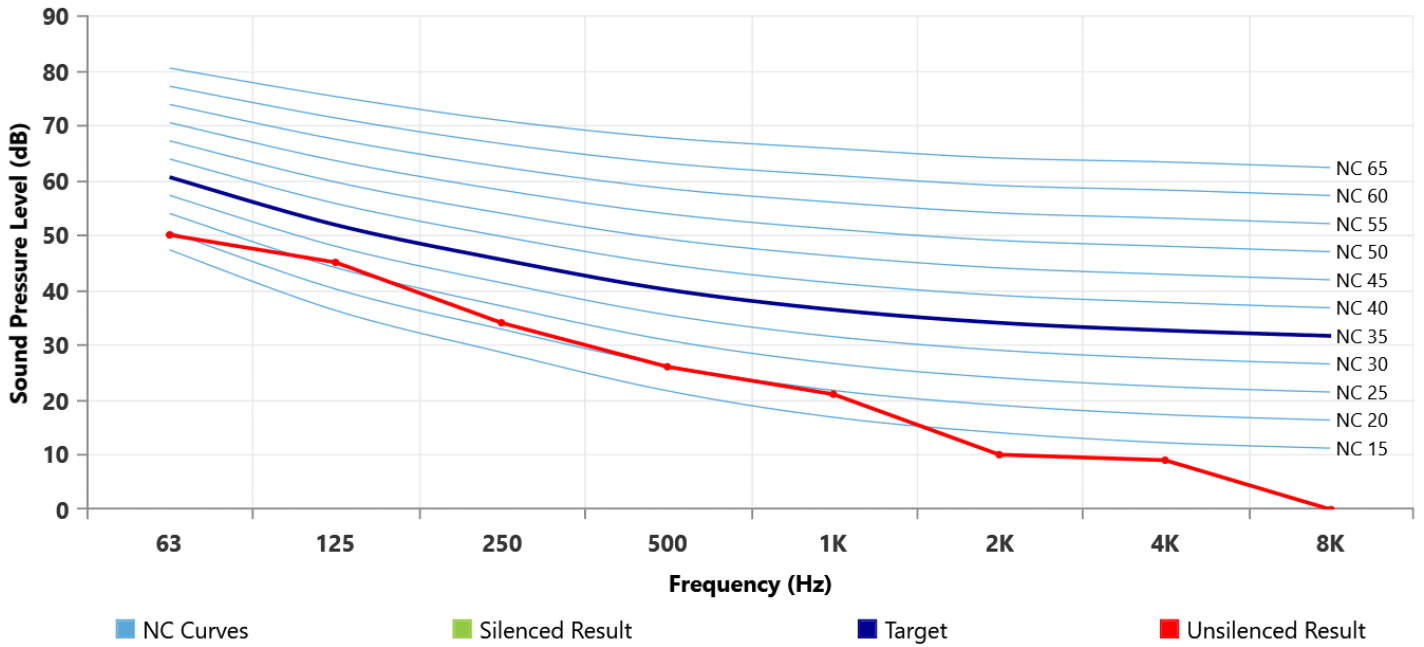
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow- 1" Lined - 26.00w x 12.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 3ft 26.00w x 12.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 26.00w x 12.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 26.00w x 12.00h	57	52	46	39	31	23	13	3	
Straight Duct - 5ft 26.00w x 12.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction	-11	-11	-11	-11	-11	-11	-11	-11	
Junction (regen.)	58	54	50	44	38	30	22	13	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	60	57	53	48	42	35	28	19	
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 6.00Ø	60	57	53	48	42	35	28	19	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	
1-TU-12-1 - RADIATED	0	41	37	26	14	0	0	0	
Junction - TRANS TO 10X8	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 10X8	24	18	11	3	0	0	0	0	
Junction - SPLIT TO NURSES STATN	-4	-4	-4	-4	-3	-3	-3	-3	
Junction (regen.) - SPLIT TO NURSES STATN	22	17	12	5	0	0	0	0	
Straight Duct - 2ft 10.00Ø	-1	-2	-6	-11	-9	-11	-4	-4	
C9-64 - NURSES STATION	-8	-9	-10	-10	-11	-12	-13	-14	Room effect
Sum	50	45	34	26	21	10	9	0	
Target:	NC 35								
Current:	NC 26 (RC < 25 / 32 dBA)								

PROJECT:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-12 - SOUTH RADIATED C9-50 MEETING RM

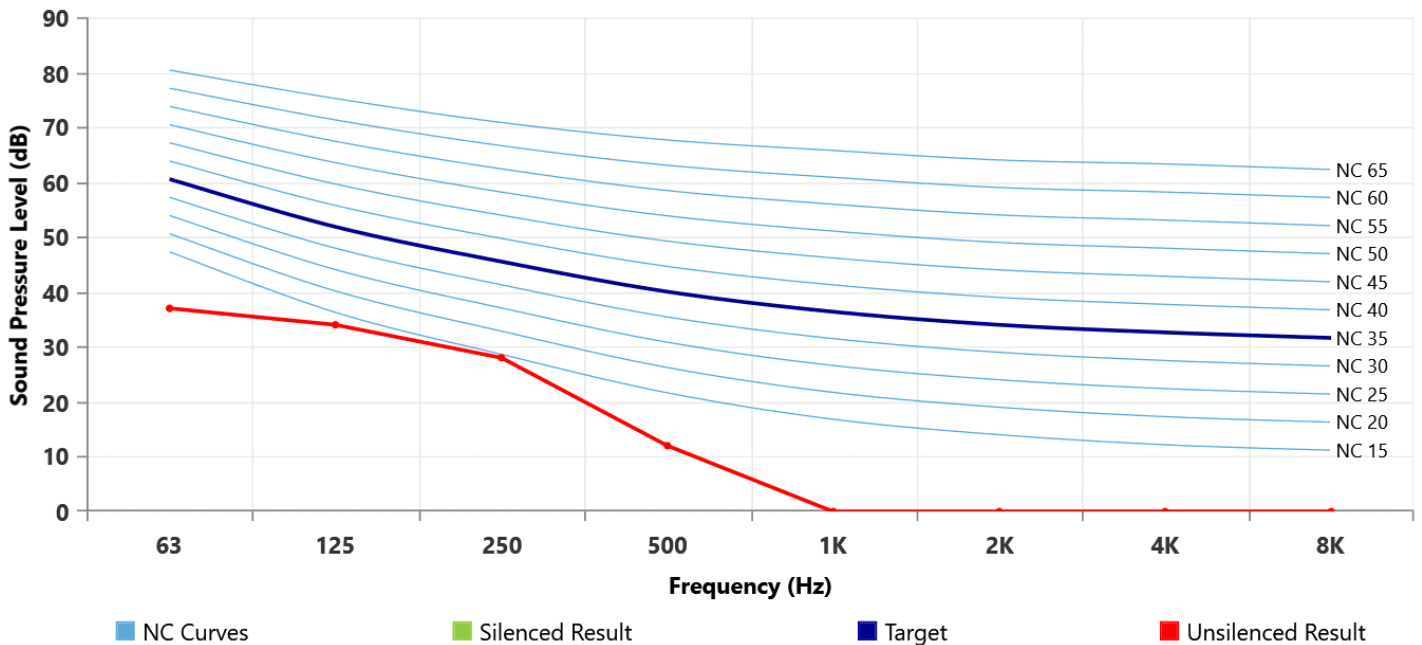
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RADIATED	82	81	85	79	72	70	68	64	
Straight Duct - 3ft 38.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-3	-6	-6	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 4ft 38.00w x 14.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 38.00w x 14.00h	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 38.00w x 14.00h	63	58	52	45	37	28	19	8	
Straight Duct - 5ft 38.00w x 14.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Junction - assume branch towards N is the main	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - assume branch towards N is the main	59	54	49	42	34	26	17	7	
Straight Duct - 8ft 38.00w x 14.00h	-3	-3	-2	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 38.00w x 14.00h	-1	-6	-11	-10	-10	-10	-10	-10	
Elbow (regen.) - 38.00w x 14.00h	54	49	43	35	27	18	8	0	
Junction - TRANS TO 30X14	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 30X14	59	53	47	39	31	22	11	0	
Straight Duct - 2ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 30.00w x 14.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 30.00w x 14.00h	62	57	51	44	37	28	18	8	
Straight Duct - 20ft 30.00w x 14.00h	-8	-8	-5	-3	-2	-2	-2	-2	
Junction - BRANCH TO MTG RM	-12	-12	-11	-11	-11	-11	-11	-11	
Junction (regen.) - BRANCH TO MTG RM	43	40	36	32	27	22	15	9	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Straight Duct - 1ft 8.00w x 4.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Straight Duct - 4ft 8.00w x 4.00h	-2	-2	-1	-1	0	0	0	0	
Elbow- 1" Lined - 8.00w x 4.00h	0	0	0	-1	-3	-6	-6	-6	
Elbow (regen.) - 8.00w x 4.00h	24	19	14	7	0	0	0	0	
Junction - TRANS TO 6" ROUND	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 6" ROUND	26	22	16	9	2	0	0	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-3	0	0	0	0	0	

PROJECT:
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Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-12-18	0	43	39	25	15	0	0	0	RADIATED
Junction - TRANS TO 8X6	-1	-1	-1	-1	0	0	0	0	
Junction - split to corridor	-3	-3	-3	-3	-2	-2	-2	-2	
Junction (regen.) - split to corridor	8	3	0	0	0	0	0	0	
Straight Duct - 1ft 8.00w x 6.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 8.00w x 6.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 8.00w x 6.00h	6	0	0	0	0	0	0	0	
Junction - trans to 12x6	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 12.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	
C9-50 - MEETING RM	-7	-8	-9	-10	-11	-12	-13	-14	Room effect
Sum	37	34	28	12	0	0	0	0	
Target:	NC 35								
Current:	NC < 15 (RC < 25 / 22 dBA)								



PROJECT:
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 ENGINEER:
 CONTRACTOR:

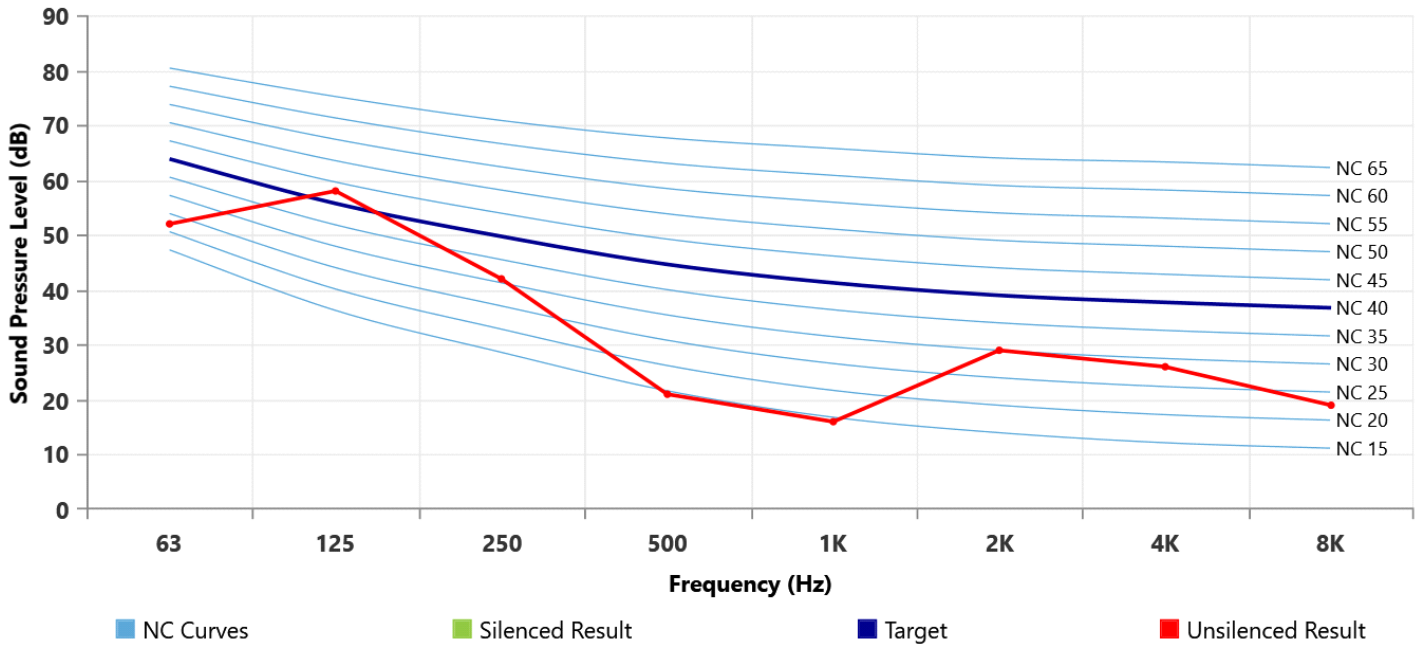


AHU-12 - NORTH RETURN/INTAKE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - NORTH BRANCH MAIN	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.) - NORTH BRANCH MAIN	48	44	38	32	25	17	9	0	
Straight Duct - 1ft 16.00w x 12.00h	0	0	0	0	0	0	0	0	
Junction - BRANCH TO COLLAB	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - BRANCH TO COLLAB	37	32	26	20	12	4	0	0	
Straight Duct - 2ft 16.00w x 12.00h	-1	0	0	0	0	0	0	0	
Elbow - 16.00w x 12.00h	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - 16.00w x 12.00h	31	25	18	11	3	0	0	0	
Straight Duct - 2ft 16.00w x 12.00h	-1	0	0	0	0	0	0	0	
Elbow - 16.00w x 12.00h	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - 16.00w x 12.00h	31	25	18	11	3	0	0	0	
Straight Duct - 6ft 16.00w x 12.00h	-2	-1	-1	0	0	0	0	0	
Junction - TRANS TO 16X8	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 16X8	39	33	26	18	9	0	0	0	
Straight Duct - 2ft 16.00w x 8.00h	-1	0	0	0	0	0	0	0	
Elbow - 16.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 16.00w x 8.00h	44	39	33	26	19	10	1	0	
Elbow - 16.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 16.00w x 8.00h	44	39	33	26	19	10	1	0	
Straight Duct - 2ft 16.00w x 8.00h	-1	0	0	0	0	0	0	0	
Elbow - 16.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 16.00w x 8.00h	44	39	33	26	19	10	1	0	
Straight Duct - 1ft 16.00w x 8.00h	0	0	0	0	0	0	0	0	
Elbow - 16.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 16.00w x 8.00h	44	39	33	26	19	10	1	0	
Straight Duct - 1ft 16.00w x 8.00h	0	0	0	0	0	0	0	0	
Elbow - 16.00w x 8.00h	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - 16.00w x 8.00h	44	39	33	26	19	10	1	0	
Junction	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.)	36	32	26	20	14	6	0	0	
RM C9-59 - PREFUNC/COLLAB	-4	-5	-6	-7	-8	-8	-9	-10	Room effect
Sum	52	58	42	21	16	29	26	19	
Target:	NC 40	**TARGET NOT MET**							
Current:	NC 43	(RC < 25 / 43 dBA)							

PROJECT:
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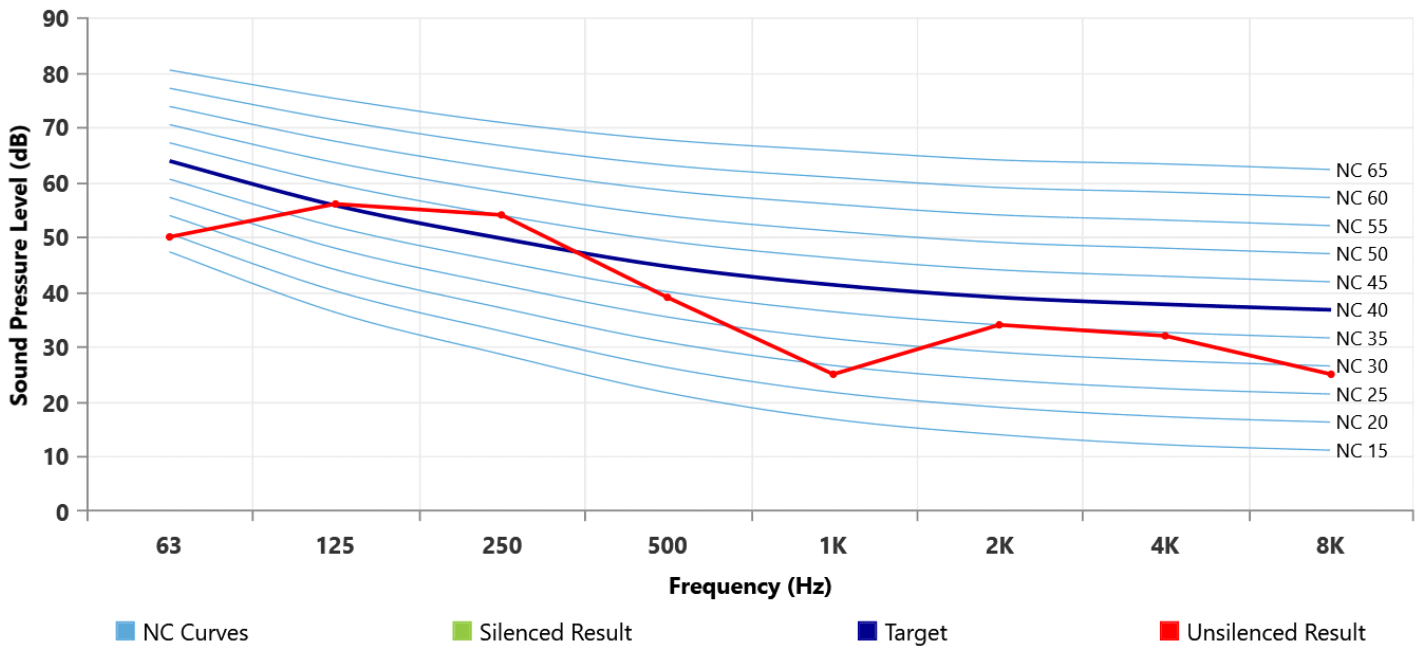


AHU-12 - NORTH RETURN/INTAKE C9-60 CONF RM

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - NORTH BRANCH MAIN	-6	-6	-6	-6	-6	-6	-6	-6	
Junction (regen.) - NORTH BRANCH MAIN	48	44	38	32	25	17	9	0	
Straight Duct - 1ft 16.00w x 12.00h	0	0	0	0	0	0	0	0	
Junction - branch to clean storage	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.) - branch to clean storage	31	27	22	16	10	2	0	0	
Straight Duct - 4ft 12.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	19	13	6	0	0	0	0	0	
Straight Duct - 4ft 12.00w x 10.00h	-1	-1	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	19	13	6	0	0	0	0	0	
Straight Duct - 2ft 12.00w x 10.00h	-1	0	0	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	19	13	6	0	0	0	0	0	
Straight Duct - 1ft 12.00w x 10.00h	0	0	0	0	0	0	0	0	
Junction - cont of main	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - cont of main	16	10	3	0	0	0	0	0	
Straight Duct - 5ft 12.00w x 10.00h	-2	-1	-1	0	0	0	0	0	
Elbow - 12.00w x 10.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 12.00w x 10.00h	13	7	0	0	0	0	0	0	
RM C9-60 - CONF RM	-8	-9	-10	-11	-12	-13	-13	-14	Room effect
Sum	50	56	54	39	25	34	32	25	
Target:	NC 40	**TARGET NOT MET**							
Current:	NC 45	(RC 33 (MF) / 47 dBA)							

PROJECT:
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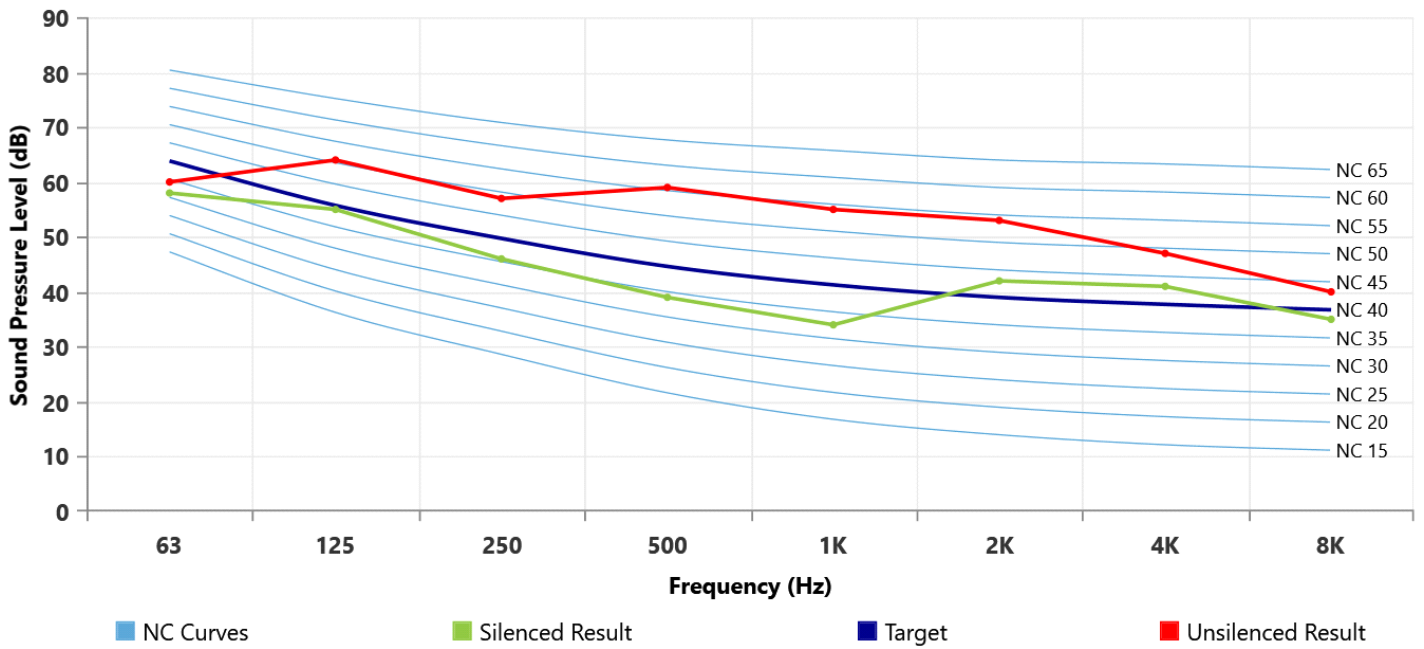


AHU-12 - SOUTH RETURN/INTAKE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Silencer	-11	-10	-18	-23	-23	-15	-10	-6	RSP60/232
Silencer (regen.)	53	38	43	49	54	60	60	49	
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - main heads south	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - main heads south	51	46	40	33	25	16	6	0	
Junction - trans to 30x14	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 30x14	54	48	41	33	24	14	3	0	
Elbow - 30.00w x 14.00h	0	-1	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	25	15	5	
Straight Duct - 1ft 30.00w x 14.00h	0	0	0	0	0	0	0	0	
Junction - CONT DOWN CORRIDOR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORRIDOR	59	54	48	41	33	25	15	4	
Straight Duct - 5ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow - 30.00w x 14.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	24	15	4	
Straight Duct - 16ft 30.00w x 14.00h	-5	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT DOWN CORRIDOR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORRIDOR	58	53	47	40	32	24	14	4	
Junction - CONT DOWN CORR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORR	56	51	45	38	30	21	12	1	
Junction - CONT DOWN CORR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORR	54	48	42	35	27	18	9	0	
TBD - TBD	-4	-5	-6	-7	-8	-8	-9	-10	Room effect
Sum	58	55	46	39	34	42	41	35	
Target:	NC 40	**TARGET NOT MET**							
Current:	NC 43	(RC 38 (HF) / 48 dBA)							

PROJECT:
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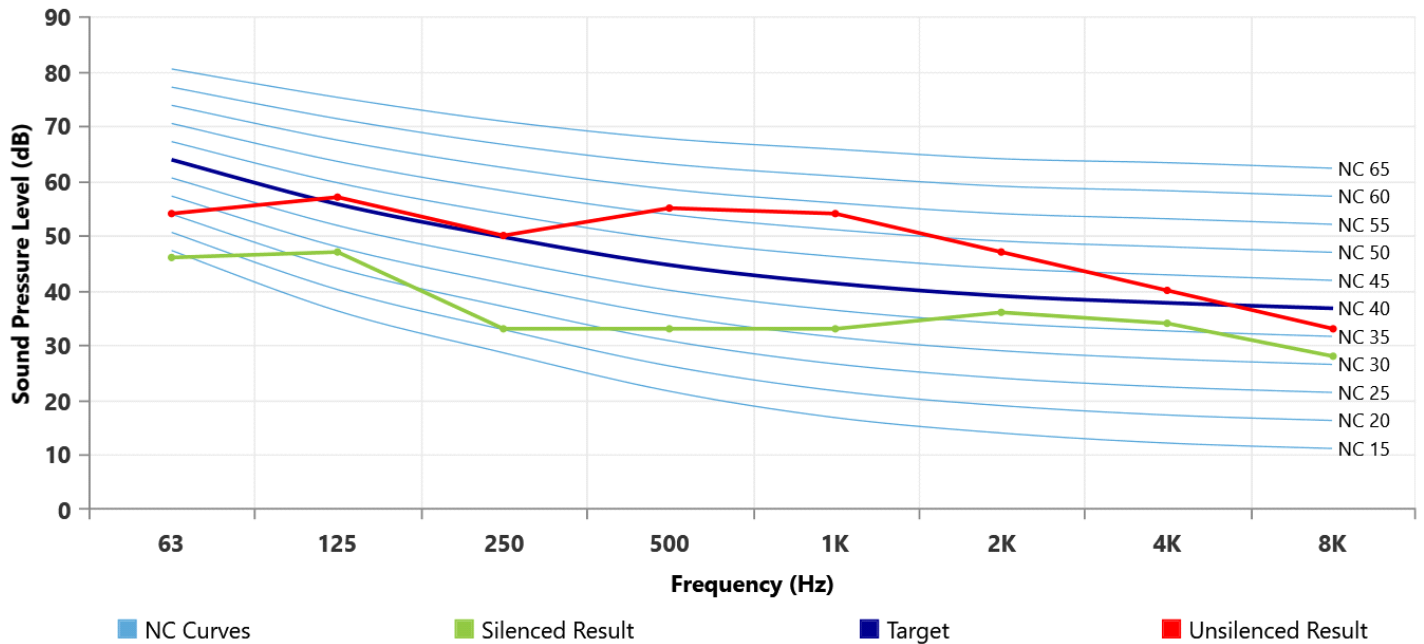
PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



AHU-12 - SOUTH RETURN/INTAKE C9-54 ELEV LOBBY

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Silencer	-11	-10	-18	-23	-23	-15	-10	-6	RSP60/232
Silencer (regen.)	53	38	43	49	54	60	60	49	
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - main heads south	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - main heads south	51	46	40	33	25	16	6	0	
Junction - trans to 30x14	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 30x14	54	48	41	33	24	14	3	0	
Elbow - 30.00w x 14.00h	0	-1	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	25	15	5	
Straight Duct - 1ft 30.00w x 14.00h	0	0	0	0	0	0	0	0	
Junction - corridor return grille	-6	-6	-6	-6	-6	-6	-6	-6	
C9-54 - ELEV LOBBY	-13	-14	-15	-15	-16	-17	-18	-19	Room effect
Sum	46	47	33	33	33	36	34	28	
Target:	NC 40								
Current:	NC 37 (RC 34 (HF) / 41 dBA)								



PROJECT:
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 ENGINEER:
 CONTRACTOR:

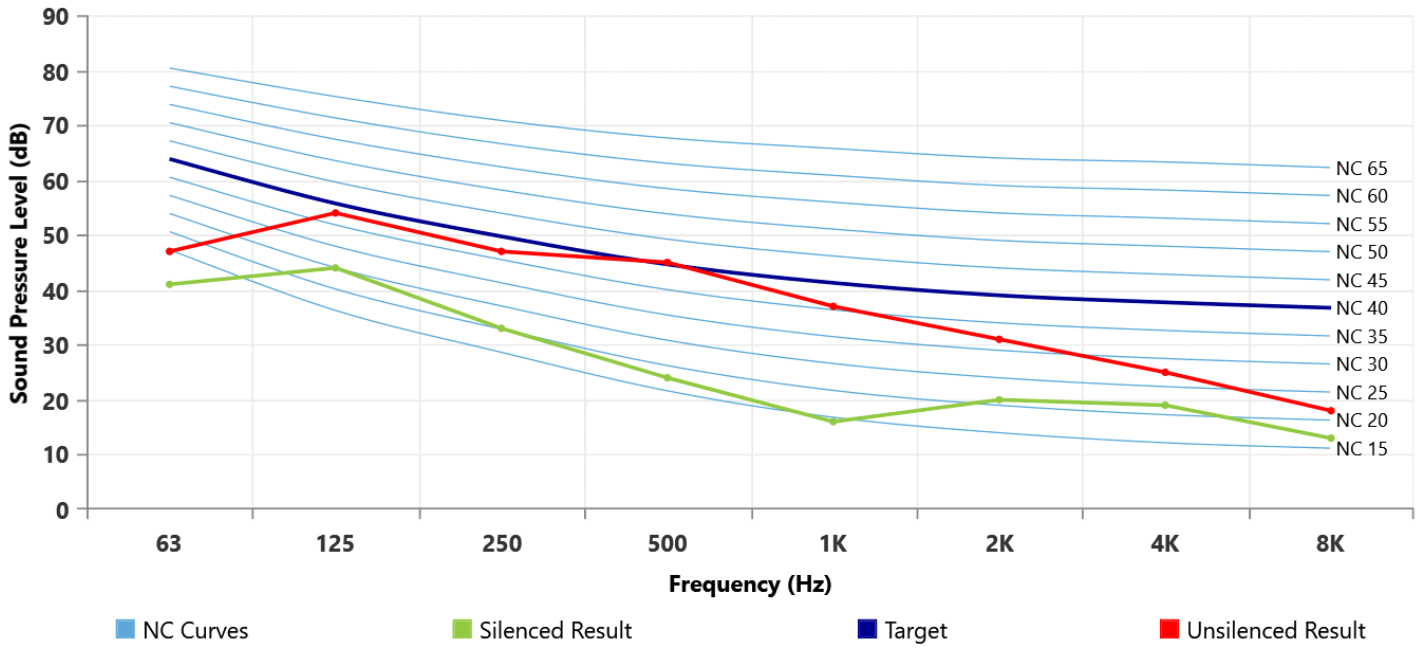


AHU-12 - SOUTH RETURN/INTAKE C9-64 NURSE STATION

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Silencer	-11	-10	-18	-23	-23	-15	-10	-6	RSP60/232
Silencer (regen.)	53	38	43	49	54	60	60	49	
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - main heads south	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - main heads south	51	46	40	33	25	16	6	0	
Junction - trans to 30x14	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 30x14	54	48	41	33	24	14	3	0	
Elbow - 30.00w x 14.00h	0	-1	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	25	15	5	
Straight Duct - 1ft 30.00w x 14.00h	0	0	0	0	0	0	0	0	
Junction - CONT DOWN CORRIDOR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORRIDOR	59	54	48	41	33	25	15	4	
Straight Duct - 5ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow - 30.00w x 14.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	24	15	4	
Straight Duct - 16ft 30.00w x 14.00h	-5	-3	-2	-1	-1	-1	-1	-1	
Junction - BRANCH TO NURSES STATN	-8	-8	-8	-8	-8	-8	-8	-8	
Junction (regen.) - BRANCH TO NURSES STATN	41	38	34	29	24	19	12	5	
Elbow - 14.00w x 6.00h	0	0	0	-1	-2	-3	-3	-3	
Elbow (regen.) - 14.00w x 6.00h	13	7	0	0	0	0	0	0	
Straight Duct - 1ft 14.00w x 6.00h	0	0	0	0	0	0	0	0	
Elbow - 14.00w x 6.00h	0	0	0	-1	-2	-3	-3	-3	
Elbow (regen.) - 14.00w x 6.00h	13	7	0	0	0	0	0	0	
Straight Duct - 2ft 14.00w x 6.00h	-1	0	0	0	0	0	0	0	
Elbow - 14.00w x 6.00h	0	0	0	-1	-2	-3	-3	-3	
Elbow (regen.) - 14.00w x 6.00h	13	7	0	0	0	0	0	0	
Straight Duct - 2ft 14.00w x 6.00h	-1	0	0	0	0	0	0	0	
Junction - TRANS TO 12X12	0	0	0	0	0	0	0	0	
Junction (regen.) - TRANS TO 12X12	5	0	0	0	0	0	0	0	
Elbow - 12.00w x 12.00h	0	0	-1	-2	-3	-3	-3	-3	
C9-64 - NURSES STATION	-9	-10	-10	-11	-12	-13	-14	-15	Room effect
Sum	41	44	33	24	16	20	19	13	
Target:	NC 40								
Current:	NC 25 (RC < 25 / 31 dBA)								

PROJECT:
LOCATION:
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:

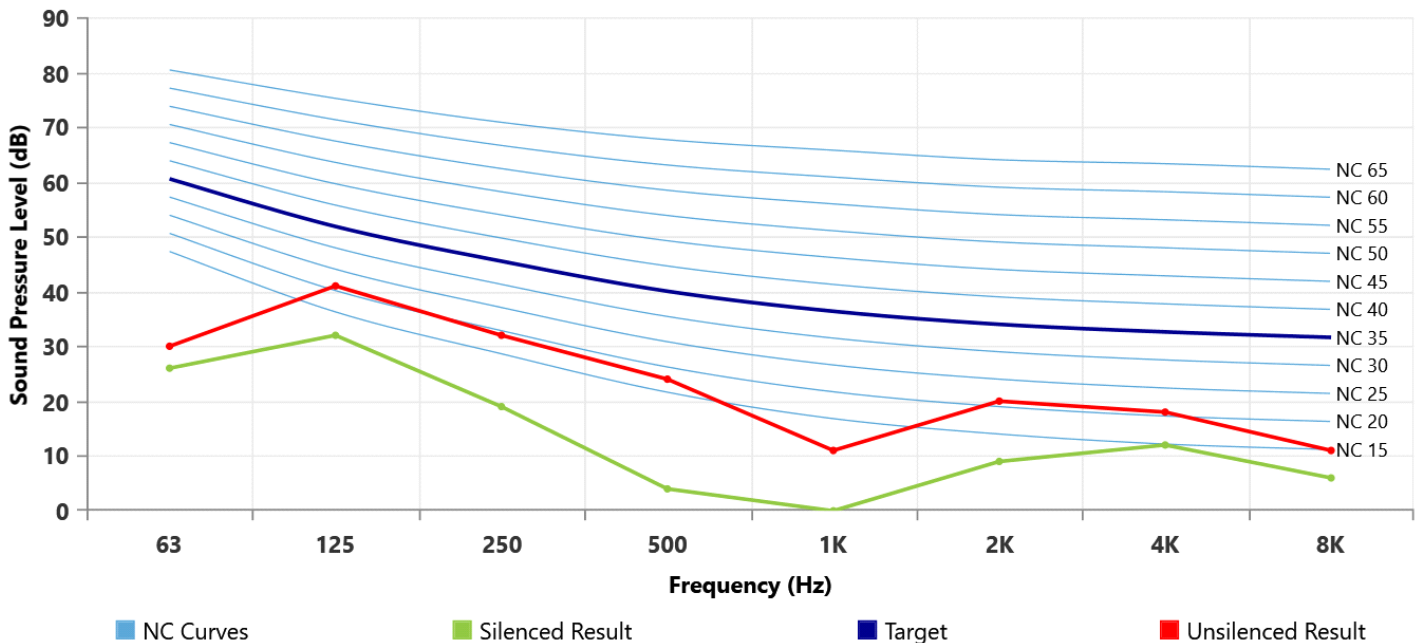


PROJECT:
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 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction (regen.) - branch to c9-46 linen	25	20	14	7	0	0	0	0	
Straight Duct - 6ft 10.00w x 8.00h	-2	-1	-1	0	0	0	0	0	
Elbow - 10.00w x 8.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 10.00w x 8.00h	23	17	11	4	0	0	0	0	
Straight Duct - 2ft 10.00w x 8.00h	-1	0	0	0	0	0	0	0	
Junction - branch to c9-c07 corr	-2	-2	-2	-2	-2	-2	-2	-2	
Junction (regen.) - branch to c9-c07 corr	19	14	8	1	0	0	0	0	
Straight Duct - 8ft 10.00w x 8.00h	-3	-1	-1	-1	-1	-1	-1	-1	
Junction	-4	-4	-4	-4	-4	-4	-4	-4	
Junction (regen.)	12	7	1	0	0	0	0	0	
C9-47 - OFFICE/GRP RM	-8	-9	-10	-11	-12	-13	-13	-14	Room effect
Sum	26	32	19	4	0	9	12	6	
Target:	NC 35								
Current:	NC 15 (RC < 25 / 19 dBA)								



PROJECT:
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 ENGINEER:
 CONTRACTOR:

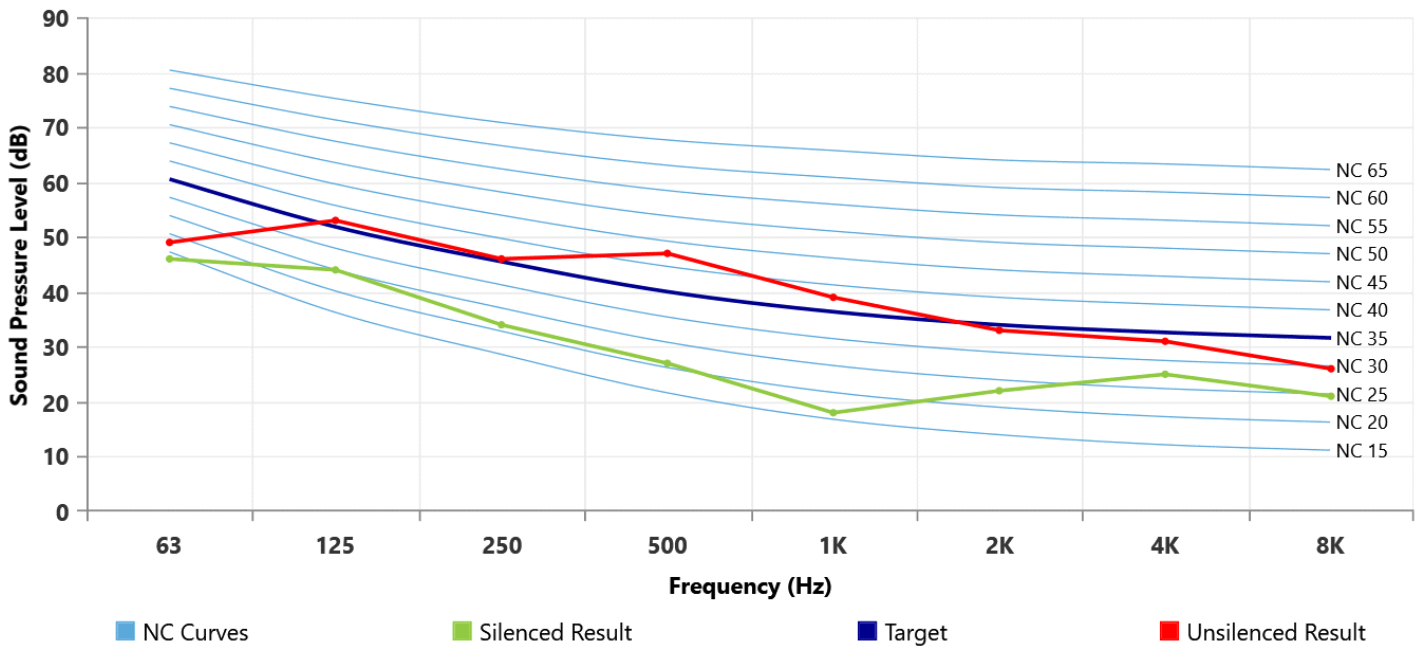


AHU-12 - SOUTH RETURN/INTAKE C9-50 MEETING RM

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
AHU-12 - RETURN	75	80	80	81	80	74	68	62	SOUND FOR RF-12
Silencer	-11	-10	-18	-23	-23	-15	-10	-6	RSP60/232
Silencer (regen.)	53	38	43	49	54	60	60	49	
Straight Duct - 4ft 44.00w x 14.00h	-1	-1	0	0	0	0	0	0	
Junction - main heads south	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - main heads south	51	46	40	33	25	16	6	0	
Junction - trans to 30x14	0	0	0	0	0	0	0	0	
Junction (regen.) - trans to 30x14	54	48	41	33	24	14	3	0	
Elbow - 30.00w x 14.00h	0	-1	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	25	15	5	
Straight Duct - 1ft 30.00w x 14.00h	0	0	0	0	0	0	0	0	
Junction - CONT DOWN CORRIDOR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORRIDOR	59	54	48	41	33	25	15	4	
Straight Duct - 5ft 30.00w x 14.00h	-1	-1	-1	0	0	0	0	0	
Elbow - 30.00w x 14.00h	0	0	-1	-5	-8	-4	-3	-3	
Elbow (regen.) - 30.00w x 14.00h	59	54	48	41	33	24	15	4	
Straight Duct - 16ft 30.00w x 14.00h	-5	-3	-2	-1	-1	-1	-1	-1	
Junction - CONT DOWN CORRIDOR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORRIDOR	58	53	47	40	32	24	14	4	
Junction - CONT DOWN CORR	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - CONT DOWN CORR	56	51	45	38	30	21	12	1	
Junction - BRANCH TO MTG RM	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - BRANCH TO MTG RM	37	34	30	26	22	16	11	4	
Straight Duct - 1ft 12.00w x 6.00h	0	0	0	0	0	0	0	0	
Elbow - 12.00w x 6.00h	0	0	0	-1	-5	-8	-4	-3	
Straight Duct - 1ft 12.00w x 6.00h	0	0	0	0	0	0	0	0	
C9-50 - MEETING RM	-7	-8	-9	-10	-11	-12	-13	-13	Room effect
Sum	46	44	34	27	18	22	25	21	
Target:	NC 35								
Current:	NC 28 (RC < 25 / 33 dBA)								

PROJECT:
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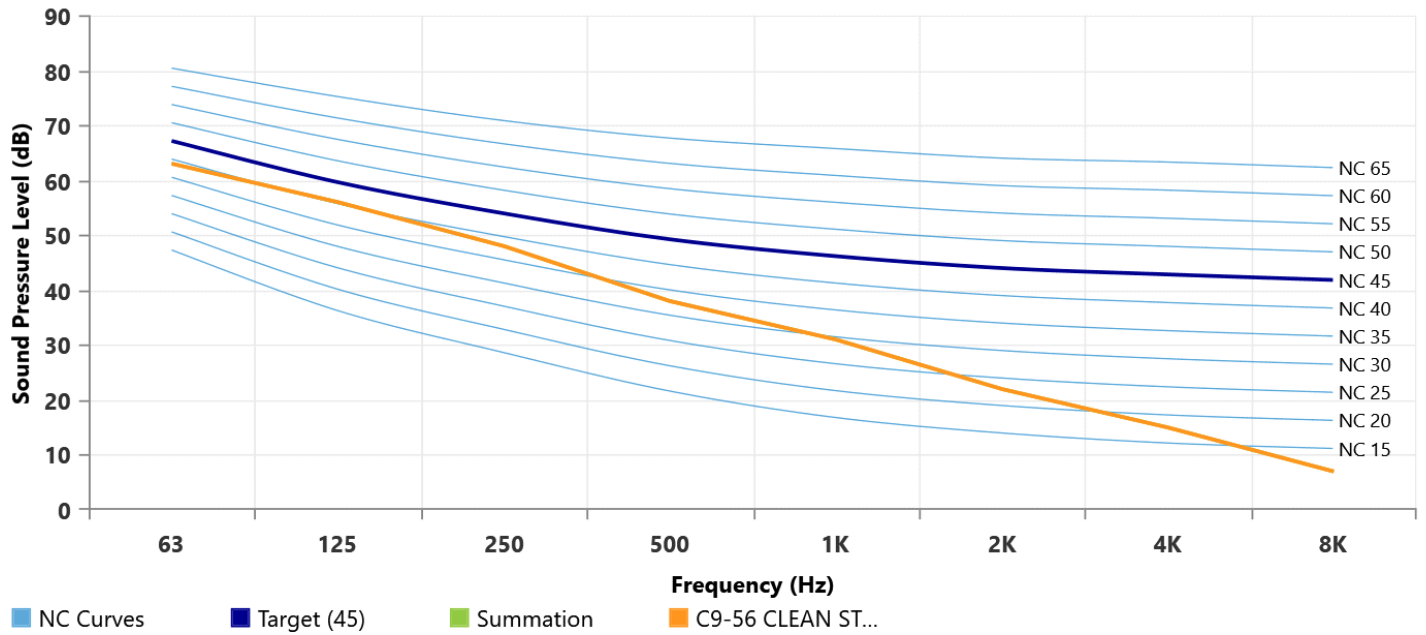
PROJECT:
 LOCATION:
 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



C9-56 CLEAN STOR

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-12 - NORTH SUPPLY/DISCHARGE C9-56 CLEAN STORAGE	63	56	48	38	31	22	15	7
Sum	63	56	48	38	31	22	15	7
Target:	NC 45							
Current:	NC 40 (RC 30 / 44 dBA)							



Acoustic Analysis Report

Project AHU-13-Reno 9th Flr Mental Health Project

Prepared by Ricky Ledford

Date February 01, 2023

PROJECT: AHU-13-RENO 9TH FLR MENTAL
HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
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ENGINEER:
CONTRACTOR:



AHU-13 SUPPLY/DISCHARGE

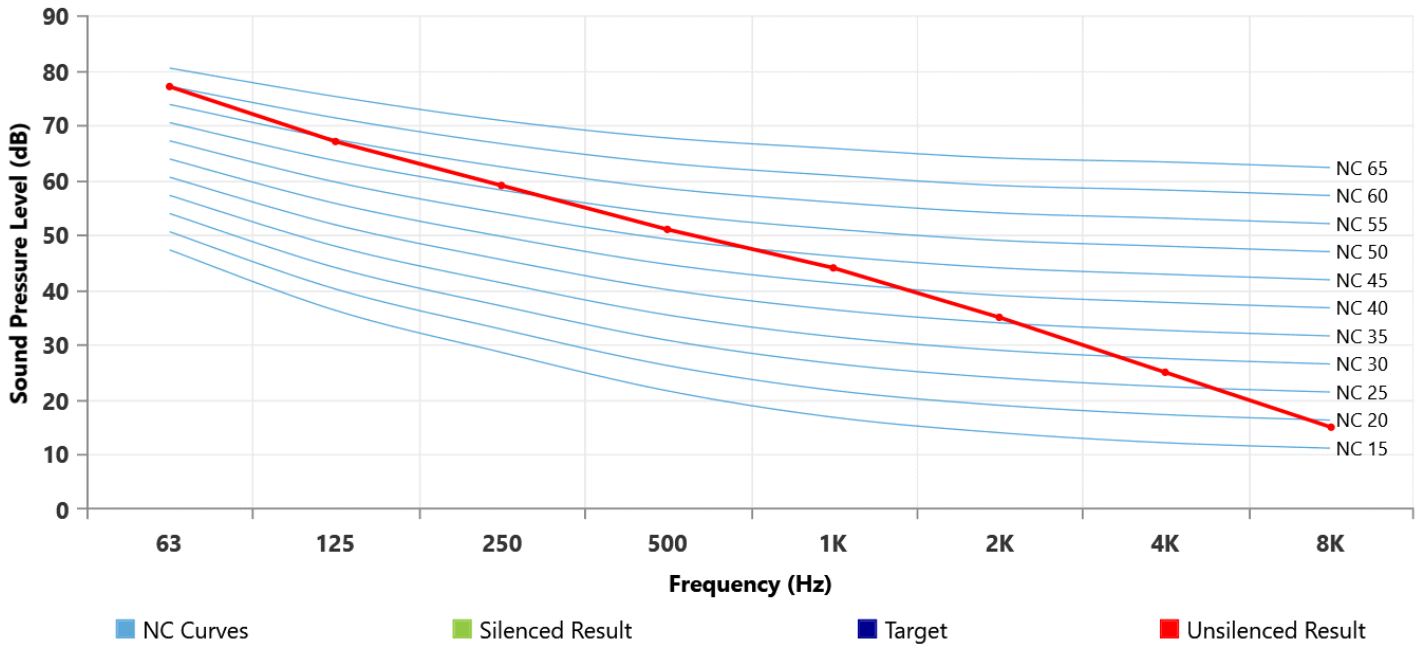
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	34	24	13	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Junction - 1-TU-13-13 thru 15 Branch A	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - 1-TU-13-13 thru 15 Branch A	65	60	54	48	40	32	22	12	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Final Segment of 48x18 , Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk segmented, 45° down
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 1ft 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk segmented, 45° level
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 2ft 40.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk, 90°
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Elbow- 1" Lined - 40.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk, 45° up
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 1ft 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk, 45° level

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
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 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	77	67	59	51	44	35	25	15	
Target:									
Current: NC 60 (RC 43 / 56 dBA)									



PROJECT: AHU-13-RENO 9TH FLR MENTAL
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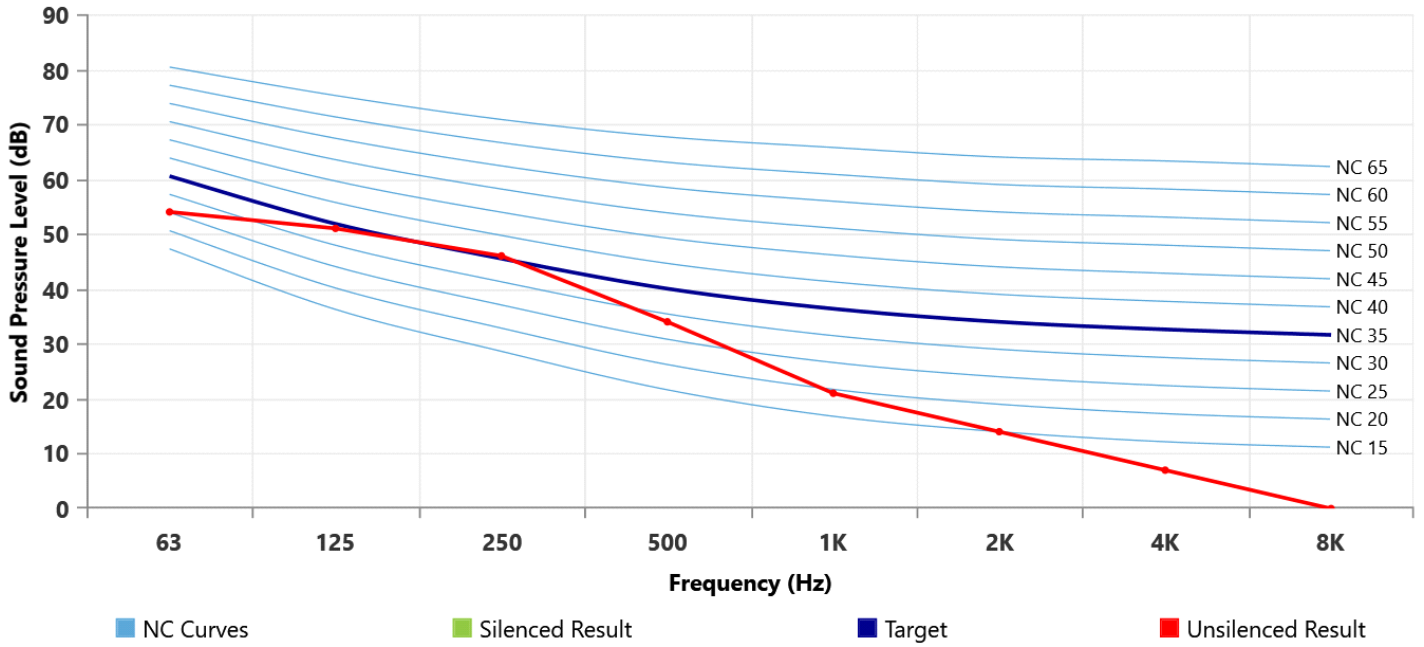


AHU-13 SUPPLY/DISCHARGE C9-03 GROUP COUNSELING *4"Ø boot*

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - SPLIT TO GROUP COUNSELING	-18	-18	-18	-18	-18	-18	-18	-18	
Junction (regen.) - SPLIT TO GROUP COUNSELING	57	54	51	47	42	37	30	23	
Straight Duct - 2ft 4.00Ø	-1	-1	-2	-3	-4	-5	-5	-3	Inlet to 1-TU-13-16
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-6	-11	-10	-10	Inlet 45° to 1-TU-13-16
Elbow (regen.) - 4.00Ø	53	51	47	42	37	30	23	15	
1-TU-13-16 - 1-TU-13-16	0	50	38	18	0	0	0	0	Closest TU to AHU-13
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	Low Press 1-TU-13-16
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	Low Press 1-TU-13-16
Straight Duct - 1ft 9.00w x 9.00h	-1	-1	0	0	0	0	0	0	Low Press 1-TU-13-16
Receiver - Diffuser for 1-TU-13-16	-2	-3	-4	-5	-6	-7	-7	-8	Room effect
Sum	54	51	46	34	21	14	7	0	
Target:	NC 35	**TARGET NOT MET**							
Current:	NC 36	(RC < 25 / 40 dBA)							

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PROJECT: AHU-13-RENO 9TH FLR MENTAL
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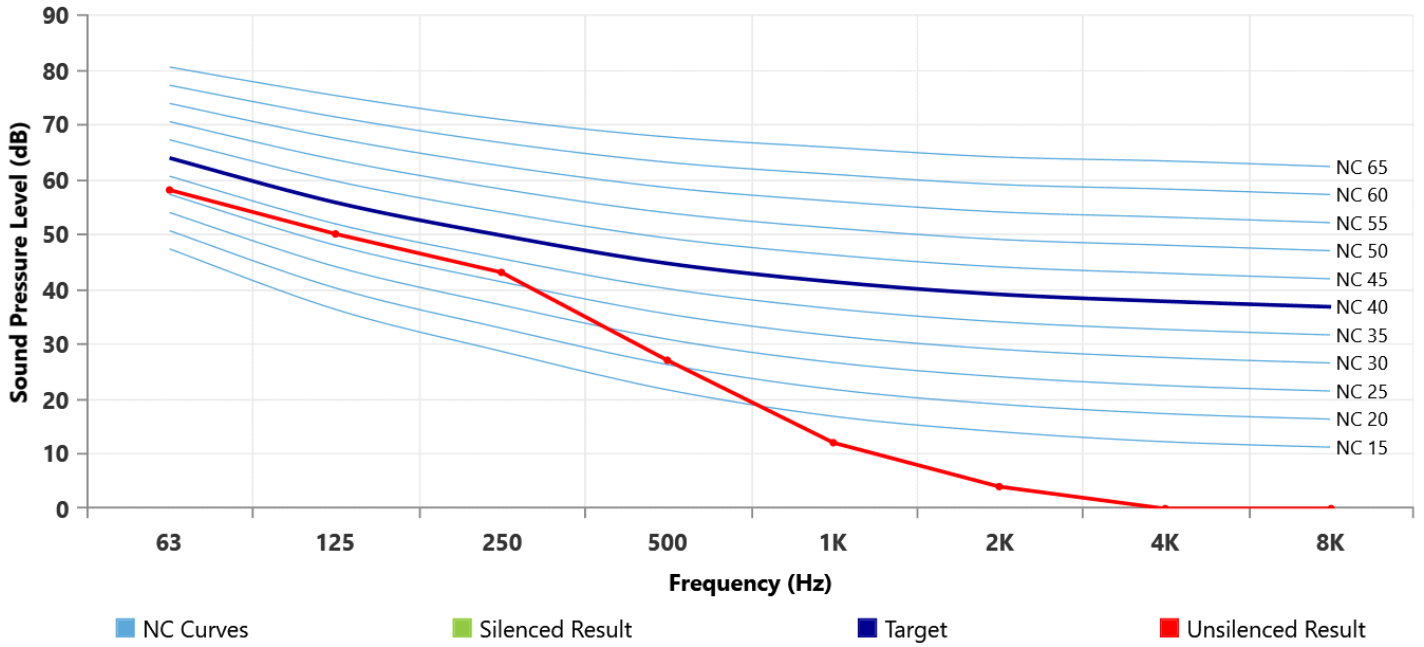


AHU-13 SUPPLY/DISCHARGE C9-C02 CORRIDOR 4"x4" boot

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - SPLIT TO CORRIDOR	-18	-18	-18	-18	-18	-18	-18	-18	
Junction (regen.) - SPLIT TO CORRIDOR	55	53	50	46	41	35	29	22	
Elbow- 1" Lined - 4.00w x 4.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-17
Elbow (regen.) - 4.00w x 4.00h	44	41	37	32	26	19	11	2	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet 1-TU-13-17
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	45° Down
Elbow (regen.) - 4.00Ø	49	46	42	37	31	25	17	9	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet 1-TU-13-17
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-16
1-TU-13-17 - 1-TU-13-17	0	48	33	14	0	0	0	0	Belongs to 1-AHU-13
Straight Duct - 1ft 12.00w x 8.00h	0	0	0	0	0	0	0	0	Low Pressure from 1-TU-13-17
Elbow- 1" Lined - 12.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	Low Pressure from 1-TU-13-17
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Low Pressure Vertical Transition from 1-TU-13-17
Receiver - Diffuser for 1-TU-13-17	-2	-2	-3	-4	-5	-6	-7	-8	Room effect
Sum	58	50	43	27	12	4	0	0	
Target:	NC 40								
Current:	NC 33 (RC < 25 / 38 dBA)								

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PROJECT: AHU-13-RENO 9TH FLR MENTAL
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AHU-13 SUPPLY/DISCHARGE C9-08 MEN'S BARIATRIC 61"x81" boot

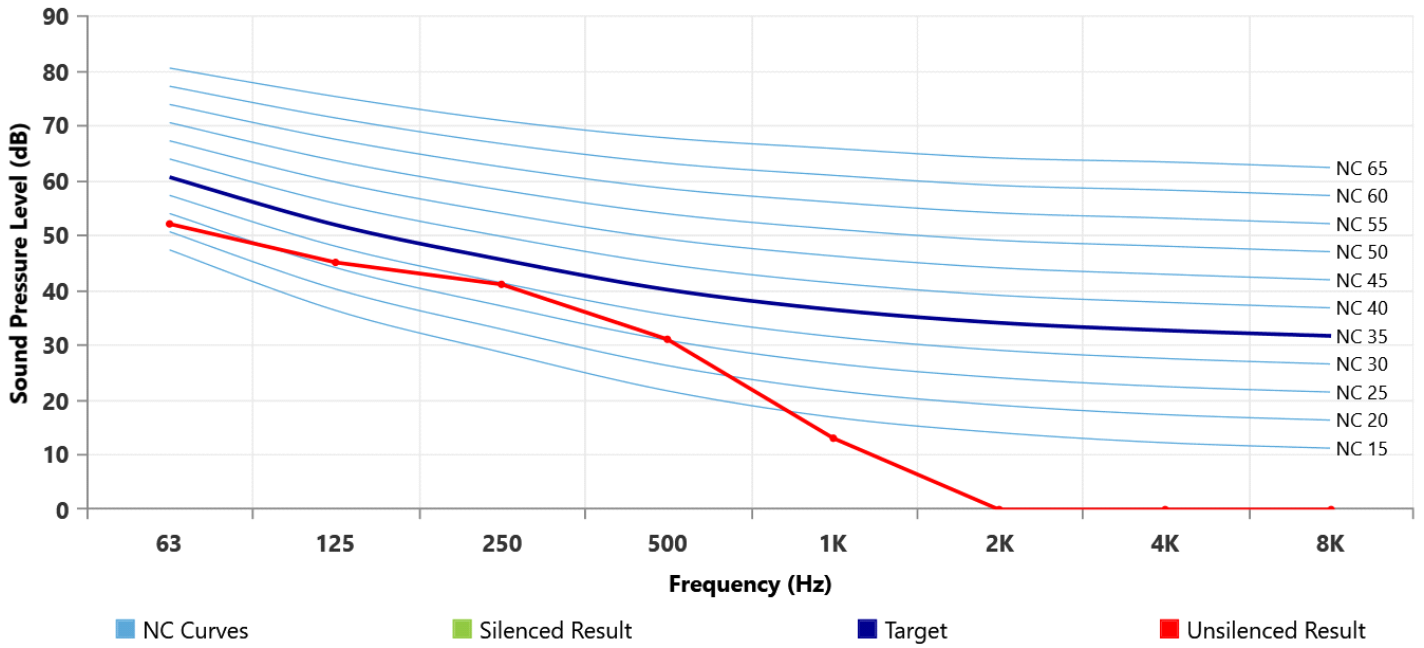
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO MENS BARIATRIC	-13	-13	-13	-13	-13	-13	-13	-13	
Junction (regen.) - SPLIT TO MENS BARIATRIC	53	50	47	42	37	31	24	17	
Straight Duct - 4ft 6.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19
Elbow (regen.) - 6.00w x 8.00h	42	38	32	26	19	11	3	0	
Straight Duct - 2ft 6.00w x 8.00h	-1	-1	-1	0	0	0	0	0	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19 - 45°
Elbow (regen.) - 6.00Ø	57	54	50	45	39	32	24	16	
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19 - 45°
Elbow (regen.) - 6.00Ø	57	54	50	45	39	32	24	16	
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-19
1-TU-13-19 - 1-TU-13-19	0	43	34	18	0	0	0	0	Belongs to 1-AHU-13
Junction - Low Press from Belongs to 1-TU-13-19	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - Low Press from Belongs to 1-TU-13-19	19	14	8	1	0	0	0	0	
Straight Duct - 1ft 6.00w x 8.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-6	-11	-10	-10	
Elbow (regen.) - 6.00w x 8.00h	19	14	8	1	0	0	0	0	
Straight Duct - 5ft 6.00w x 8.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-6	-11	-10	-10	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 6.00w x 8.00h	19	14	8	1	0	0	0	0	
Straight Duct - 1ft 6.00w x 8.00h	0	0	0	0	0	0	0	0	
Receiver - Diffuser for 1-TU-13-19	-6	-6	-7	-8	-9	-10	-11	-12	Room effect
Sum	52	45	41	31	13	0	0	0	
Target:	NC 35								
Current:	NC 30 (RC < 25 / 35 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-13 SUPPLY/DISCHARGE C9-07 OFFICE

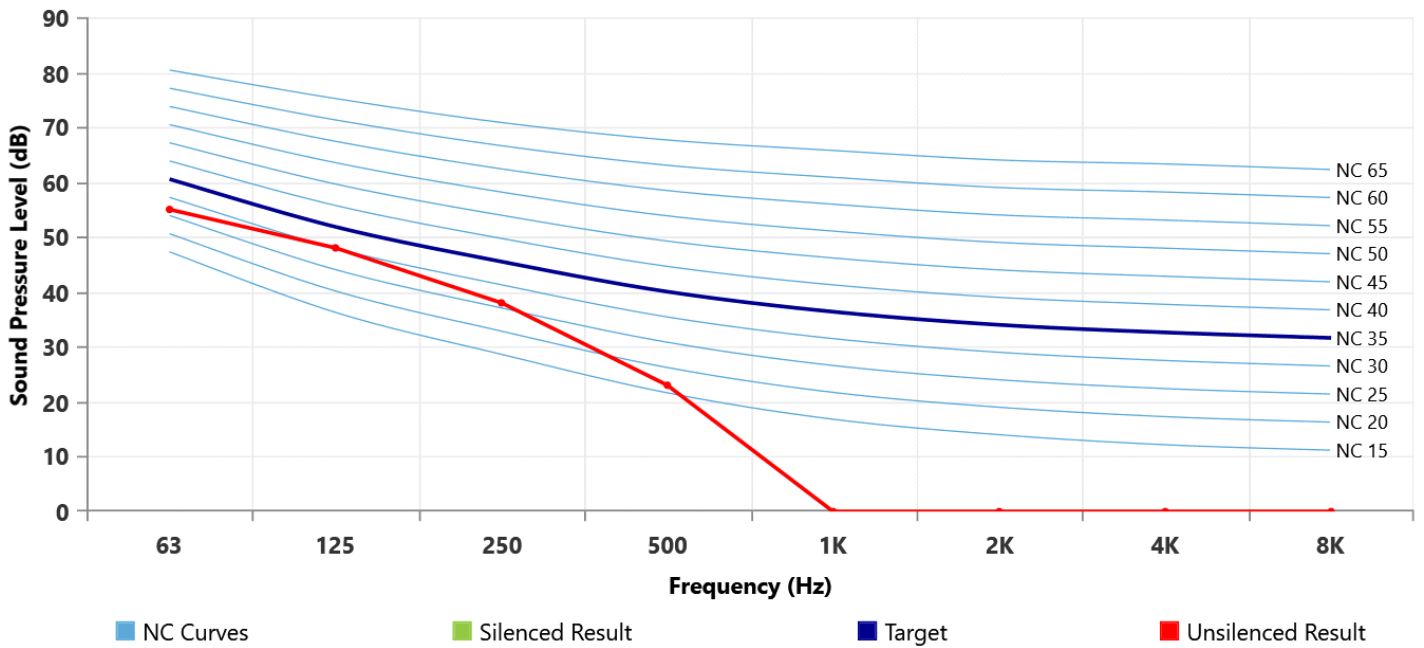
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO OFFICE	-14	-14	-14	-14	-14	-14	-14	-14	
Junction (regen.) - SPLIT TO OFFICE	47	45	42	38	34	29	24	18	
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-18, 45° down
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 1ft 6.00w x 6.00h	0	0	0	0	0	0	0	0	Inlet to 1-TU-13-18
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-18, 45° level off
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-2	-3	-4	-5	-4	-3	Inlet to 1-TU-13-18, transition from square to round
1-TU-13-18	0	46	30	12	0	0	0	0	
Straight Duct - 1ft 12.00w x 8.00h	0	0	0	0	0	0	0	0	Low Press from 1-TU-13-18
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Low Press from 1-TU-13-18
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 3ft 6.00w x 6.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	Low Press from 1-TU-13-18
Receiver - Diffuser for 1-TU-13-18	-2	-3	-4	-4	-5	-6	-7	-8	Room effect
Sum	55	48	38	23	0	0	0	0	

Target: NC 35

Current: NC 30 (RC < 25 / 35 dBA)

PROJECT: AHU-13-RENO 9TH FLR MENTAL
HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-13 SUPPLY/DISCHARGE C9-01 EAST SUNROOM

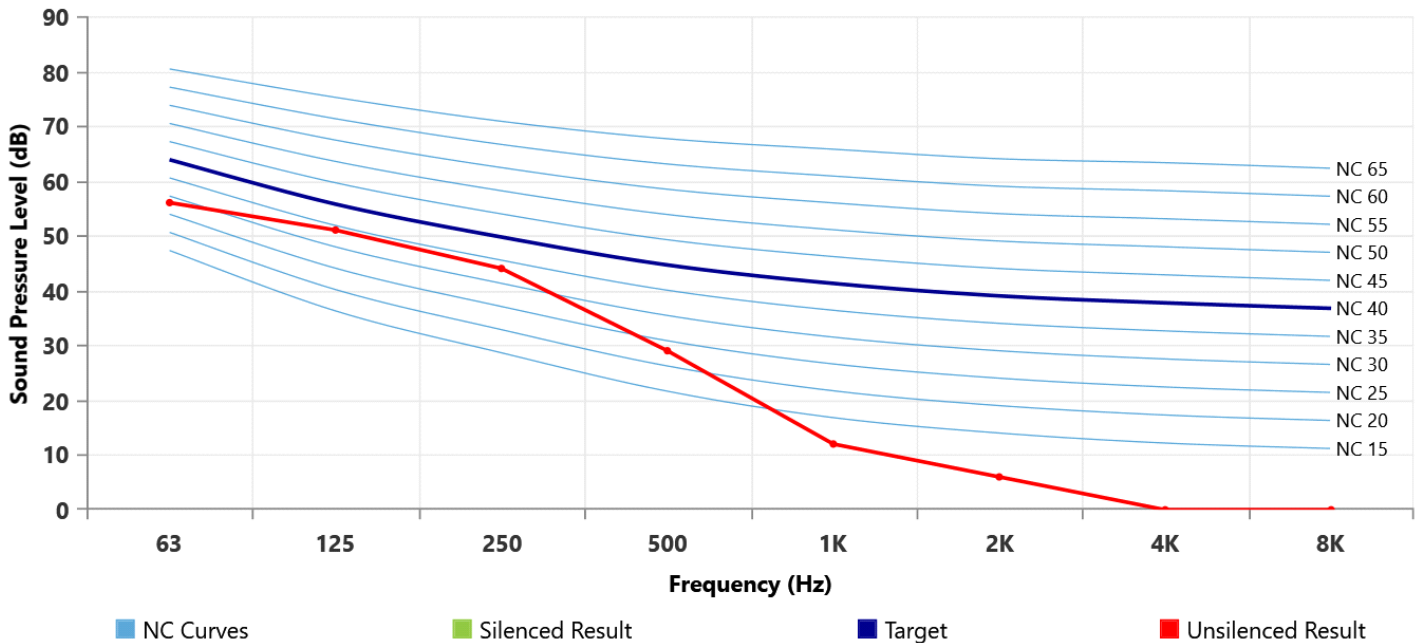
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	34	24	13	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO SUNROOM	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.) - SPLIT TO SUNROOM	63	59	54	48	41	34	25	16	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15 Sub-branch
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	1-TU-13-13 thru 15, 30° down
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-3	-6	-6	-6	-6	-6	1-TU-13-13 thru 15, 30° level
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-3	-6	-6	-6	-6	-6	1-TU-13-13 thru 15, 25° horiz
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Junction - 1-TU-13-15	-7	-7	-7	-7	-7	-7	-7	-7	Segment of 16x12 sub branch
Junction (regen.) - 1-TU-13-15	63	60	55	49	42	35	26	16	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	66	63	59	54	48	41	33	24	
Straight Duct - 1ft 8.00Ø	0	-1	-1	-2	-2	-2	-2	-1	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-13-15	0	47	36	18	0	0	0	0	
Straight Duct - 3ft 12.00w x 10.00h	-1	-1	-1	0	0	0	0	0	Final segment of 16x12 sub branch
Elbow- 1" Lined - 12.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 12.00w x 10.00h	40	35	29	23	15	6	0	0	
Straight Duct - 6ft 12.00w x 10.00h	-2	-2	-2	-1	-1	-1	-1	-1	
Junction	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.)	35	30	25	19	12	4	0	0	
Straight Duct - 5ft 10.00w x 8.00h	-2	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	30	25	19	12	5	0	0	0	
C9-01 - EAST SUNROOM	-5	-6	-6	-7	-8	-9	-10	-11	Room effect
Sum	56	51	44	29	12	6	0	0	
Target:	NC 40								
Current:	NC 34 (RC < 25 / 39 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-13 RADIATED

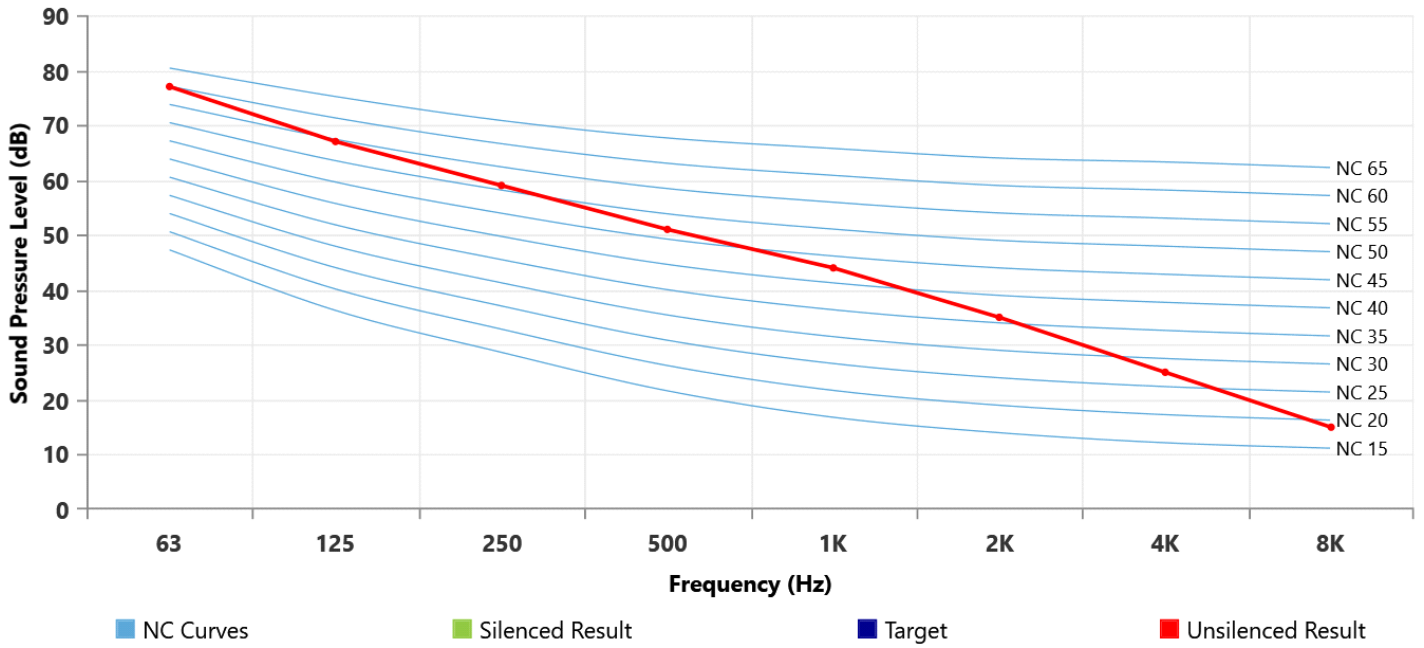
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	34	24	13	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Junction - 1-TU-13-13 thru 15 Branch A	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - 1-TU-13-13 thru 15 Branch A	65	60	54	48	40	32	22	12	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Final Segment of 48x18 , Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk segmented, 45° down
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 1ft 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk segmented, 45° level
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 2ft 40.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk, 90°
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Elbow- 1" Lined - 40.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk, 45° up
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 1ft 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk
Elbow- 1" Lined - 40.00w x 18.00h	0	-1	-6	-11	-10	-10	-10	-10	Main Trunk, 45° level

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 40.00w x 18.00h	69	64	58	51	43	34	25	14	
Straight Duct - 0ft 40.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	77	67	59	51	44	35	25	15	
Target:									
Current: NC 60 (RC 43 / 56 dBA)									



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

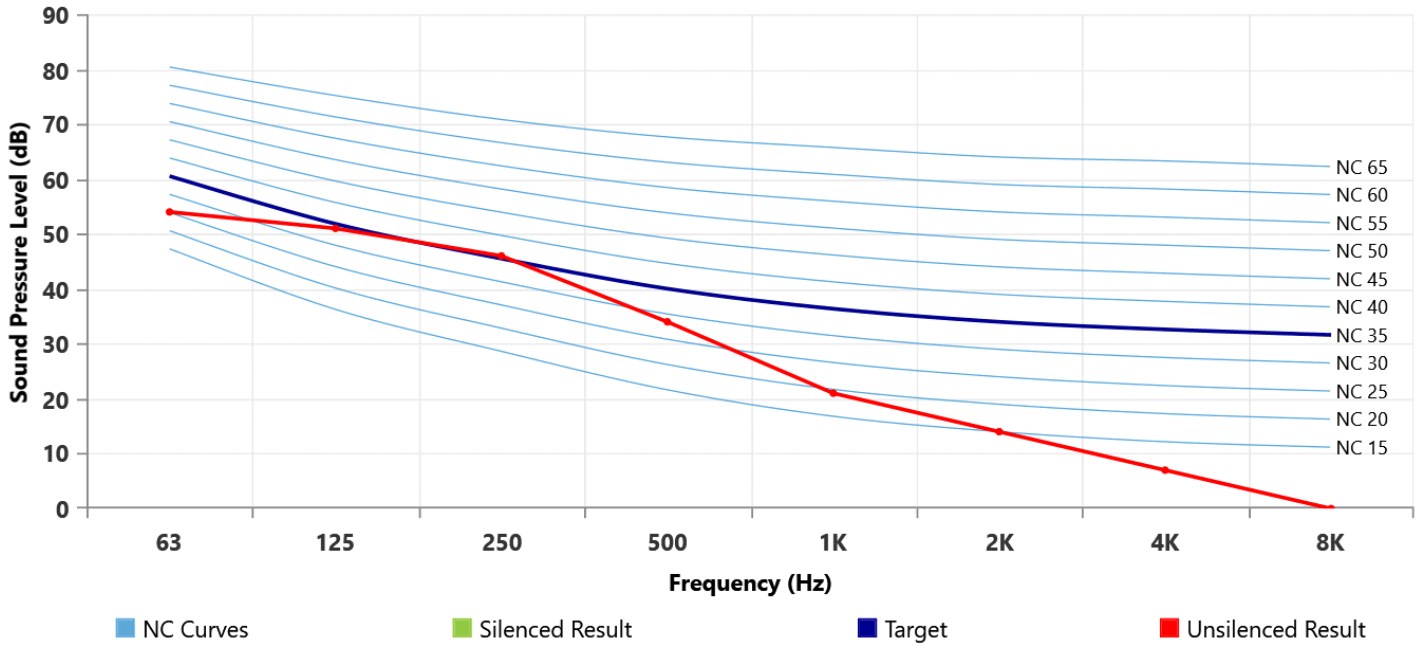


AHU-13 RADIATED C9-03 GROUP COUNSELING 4"Ø boot

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - SPLIT TO GROUP COUNSELING	-18	-18	-18	-18	-18	-18	-18	-18	
Junction (regen.) - SPLIT TO GROUP COUNSELING	57	54	51	47	42	37	30	23	
Straight Duct - 2ft 4.00Ø	-1	-1	-2	-3	-4	-5	-5	-3	Inlet to 1-TU-13-16
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-6	-11	-10	-10	Inlet 45° to 1-TU-13-16
Elbow (regen.) - 4.00Ø	53	51	47	42	37	30	23	15	
1-TU-13-16 - 1-TU-13-16	0	50	38	18	0	0	0	0	Closest TU to AHU-13
Straight Duct - 4ft 10.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	Low Press 1-TU-13-16
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	Low Press 1-TU-13-16
Straight Duct - 1ft 9.00w x 9.00h	-1	-1	0	0	0	0	0	0	Low Press 1-TU-13-16
Receiver - Diffuser for 1-TU-13-16	-2	-3	-4	-5	-6	-7	-7	-8	Room effect
Sum	54	51	46	34	21	14	7	0	
Target:	NC 35	**TARGET NOT MET**							
Current:	NC 36	(RC < 25 / 40 dBA)							

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

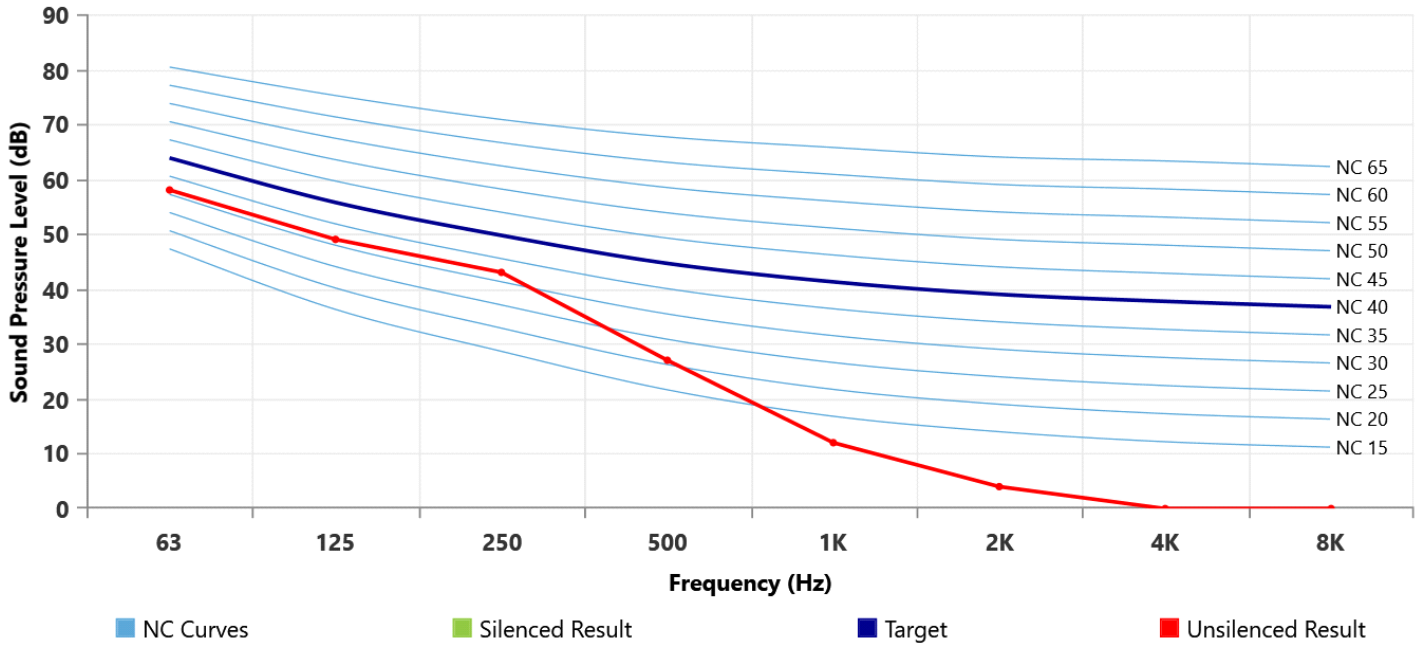


AHU-13 RADIATED C9-C02 CORRIDOR 4'x4' boot

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - SPLIT TO CORRIDOR	-18	-18	-18	-18	-18	-18	-18	-18	
Junction (regen.) - SPLIT TO CORRIDOR	55	53	50	46	41	35	29	22	
Elbow- 1" Lined - 4.00w x 4.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-17
Elbow (regen.) - 4.00w x 4.00h	44	41	37	32	26	19	11	2	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet 1-TU-13-17
Elbow- 1" Lined - 4.00Ø	0	0	0	-1	-3	-6	-6	-6	45° Down
Elbow (regen.) - 4.00Ø	49	46	42	37	31	25	17	9	
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet 1-TU-13-17
Straight Duct - 1ft 4.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-16
1-TU-13-17 - 1-TU-13-17	0	35	31	20	11	0	0	0	Belongs to 1-AHU-13
Straight Duct - 1ft 12.00w x 8.00h	0	0	0	0	0	0	0	0	Low Pressure from 1-TU-13-17
Elbow- 1" Lined - 12.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	Low Pressure from 1-TU-13-17
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Low Pressure Vertical Transition from 1-TU-13-17
Receiver - Diffuser for 1-TU-13-17	-2	-2	-3	-4	-5	-6	-7	-8	Room effect
Sum	58	49	43	27	12	4	0	0	
Target:	NC 40								
Current:	NC 32 (RC < 25 / 38 dBA)								

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-13 RADIATED C9-08 MEN'S BARIATRIC 61"x81" boot

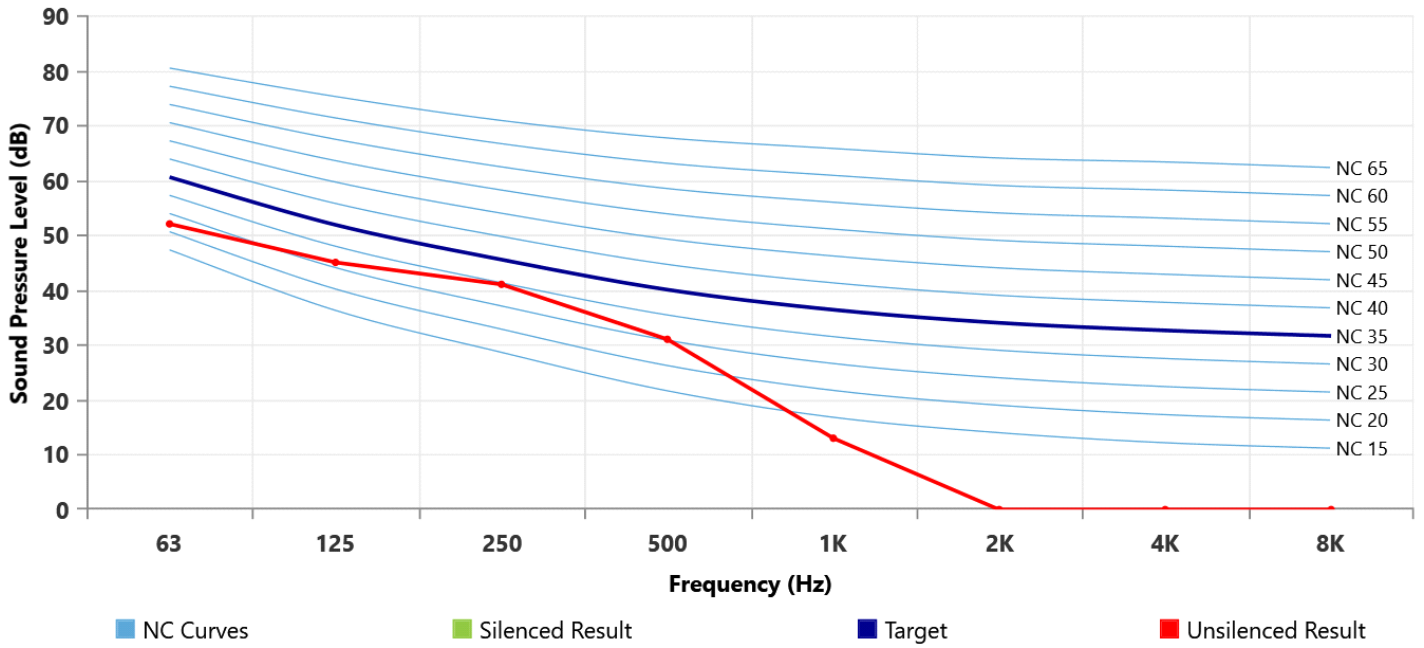
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO MENS BARIATRIC	-13	-13	-13	-13	-13	-13	-13	-13	
Junction (regen.) - SPLIT TO MENS BARIATRIC	53	50	47	42	37	31	24	17	
Straight Duct - 4ft 6.00w x 8.00h	-2	-2	-1	-1	0	0	0	0	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19
Elbow (regen.) - 6.00w x 8.00h	42	38	32	26	19	11	3	0	
Straight Duct - 2ft 6.00w x 8.00h	-1	-1	-1	0	0	0	0	0	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19 - 45°
Elbow (regen.) - 6.00Ø	57	54	50	45	39	32	24	16	
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-19
Elbow- 1" Lined - 6.00Ø	0	0	0	-1	-3	-6	-6	-6	Inlet to 1-TU-13-19 - 45°
Elbow (regen.) - 6.00Ø	57	54	50	45	39	32	24	16	
Straight Duct - 1ft 6.00Ø	0	-1	-1	-2	-2	-2	-2	-1	Inlet to 1-TU-13-19
1-TU-13-19 - 1-TU-13-19	0	39	34	23	11	0	0	0	Belongs to 1-AHU-13
Junction - Low Press from Belongs to 1-TU-13-19	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.) - Low Press from Belongs to 1-TU-13-19	19	14	8	1	0	0	0	0	
Straight Duct - 1ft 6.00w x 8.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-6	-11	-10	-10	
Elbow (regen.) - 6.00w x 8.00h	19	14	8	1	0	0	0	0	
Straight Duct - 5ft 6.00w x 8.00h	-2	-2	-1	-1	-1	-1	-1	-1	
Elbow- 1" Lined - 6.00w x 8.00h	0	0	0	-1	-6	-11	-10	-10	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow (regen.) - 6.00w x 8.00h	19	14	8	1	0	0	0	0	
Straight Duct - 1ft 6.00w x 8.00h	0	0	0	0	0	0	0	0	
Receiver - Diffuser for 1-TU-13-19	-6	-6	-7	-8	-9	-10	-11	-12	Room effect
Sum	52	45	41	31	13	0	0	0	
Target:	NC 35								
Current:	NC 30 (RC < 25 / 35 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



AHU-13 RADIATED C9-07 OFFICE

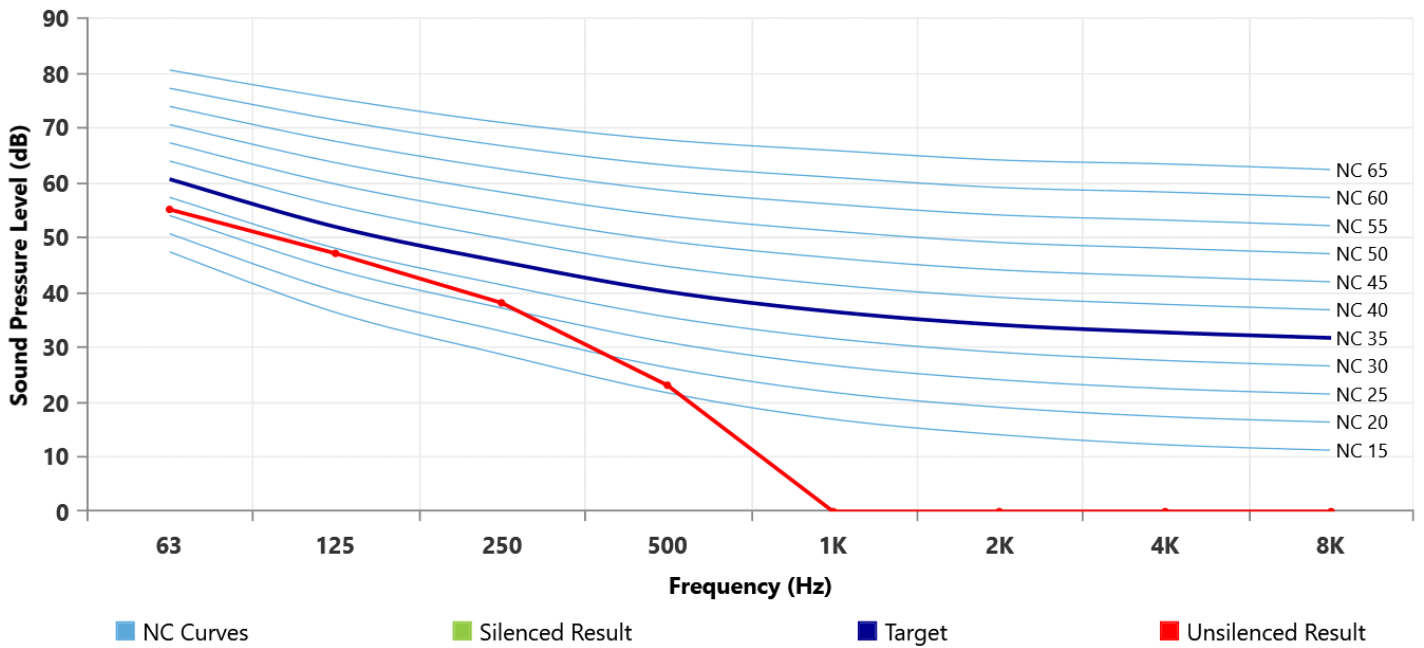
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO OFFICE	-14	-14	-14	-14	-14	-14	-14	-14	
Junction (regen.) - SPLIT TO OFFICE	47	45	42	38	34	29	24	18	
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-18, 45° down
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 1ft 6.00w x 6.00h	0	0	0	0	0	0	0	0	Inlet to 1-TU-13-18
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Inlet to 1-TU-13-18, 45° level off
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-1	-1	-2	-3	-4	-5	-4	-3	Inlet to 1-TU-13-18, transition from square to round
1-TU-13-18	0	32	28	18	0	0	0	0	
Straight Duct - 1ft 12.00w x 8.00h	0	0	0	0	0	0	0	0	Low Press from 1-TU-13-18
Elbow- 1" Lined - 6.00w x 6.00h	0	0	0	-1	-6	-11	-10	-10	Low Press from 1-TU-13-18
Elbow (regen.) - 6.00w x 6.00h	11	6	0	0	0	0	0	0	
Straight Duct - 3ft 6.00w x 6.00h	-1	-1	-1	0	0	0	0	0	
Straight Duct - 2ft 6.00Ø	-2	-3	-5	-11	-14	-17	-10	-6	Low Press from 1-TU-13-18
Receiver - Diffuser for 1-TU-13-18	-2	-3	-4	-4	-5	-6	-7	-8	Room effect
Sum	55	47	38	23	0	0	0	0	

Target: NC 35

Current: NC 29 (RC < 25 / 35 dBA)

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

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ENGINEER:
CONTRACTOR:



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



AHU-13 RADIATED C9-01 EAST SUNROOM

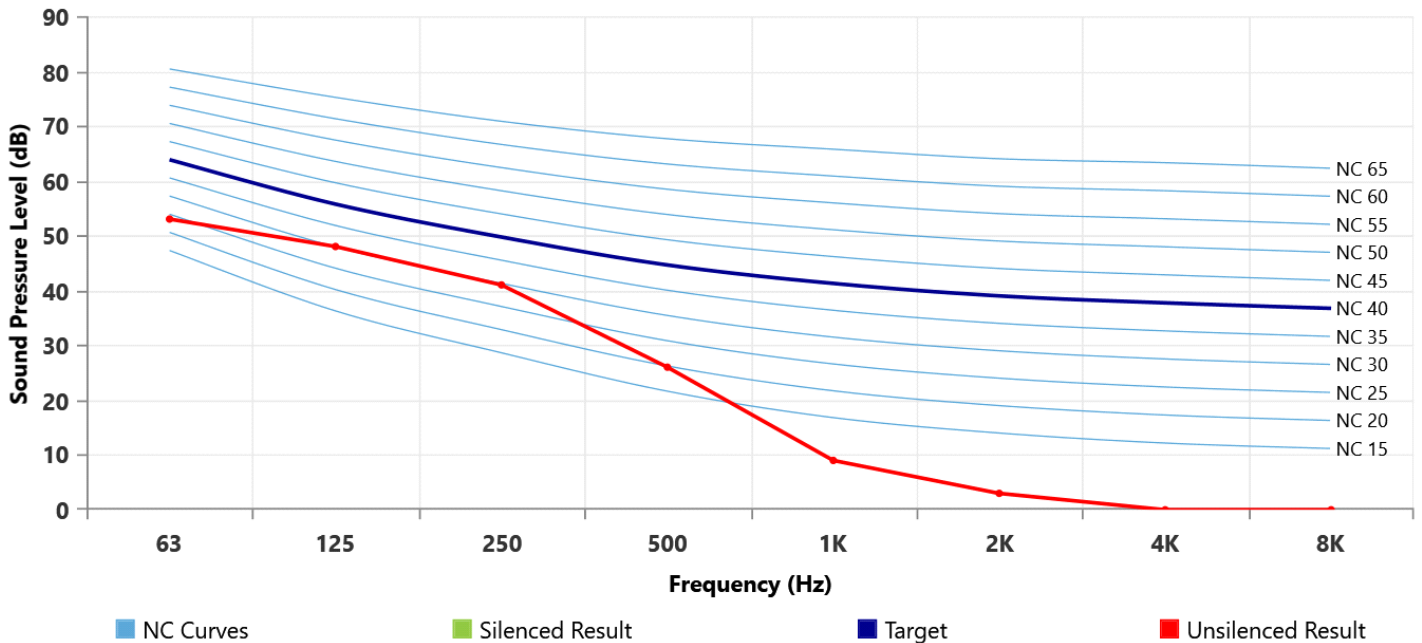
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - 1-AHU-13	0	0	0	0	0	0	0	0	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	UP
Elbow- 1" Lined - 48.00w x 18.00h	0	-1	-3	-6	-6	-6	-6	-6	
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-3	-6	-6	-6	-6	-6	-6	45° Feeder
Elbow (regen.) - 48.00w x 18.00h	71	65	59	52	45	36	26	16	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	36	26	15	
Elbow- 1" Lined - 48.00w x 18.00h	-1	-6	-11	-10	-10	-10	-10	-10	Main Trunk 45° Feeder
Elbow (regen.) - 48.00w x 18.00h	70	65	59	52	44	35	26	15	
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	70	65	59	52	44	35	26	15	
Straight Duct - 4ft 48.00w x 18.00h	-2	-1	-1	-1	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	35	25	14	
Straight Duct - 2ft 48.00w x 18.00h	-1	-1	0	0	0	0	0	0	Main Trunk segmented
Junction - CONT OF MAIN	0	0	0	0	0	0	0	0	
Junction (regen.) - CONT OF MAIN	69	64	58	51	43	34	24	13	
Straight Duct - 1ft 48.00w x 18.00h	0	0	0	0	0	0	0	0	Main Trunk segmented
Junction - SPLIT TO SUNROOM	-7	-7	-7	-7	-7	-7	-7	-7	
Junction (regen.) - SPLIT TO SUNROOM	63	59	54	48	41	34	25	16	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15 Sub-branch
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-6	-11	-10	-10	-10	-10	1-TU-13-13 thru 15, 30° down
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-3	-6	-6	-6	-6	-6	1-TU-13-13 thru 15, 30° level
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Straight Duct - 2ft 16.00w x 12.00h	-1	-1	-1	0	0	0	0	0	1-TU-13-13 thru 15
Elbow- 1" Lined - 16.00w x 12.00h	0	-1	-3	-6	-6	-6	-6	-6	1-TU-13-13 thru 15, 25° horiz
Elbow (regen.) - 16.00w x 12.00h	59	55	49	43	36	28	19	9	
Junction - 1-TU-13-15	-7	-7	-7	-7	-7	-7	-7	-7	Segment of 16x12 sub branch
Junction (regen.) - 1-TU-13-15	63	60	55	49	42	35	26	16	
Elbow- 1" Lined - 8.00Ø	0	0	-1	-3	-6	-6	-6	-6	
Elbow (regen.) - 8.00Ø	66	63	59	54	48	41	33	24	
Straight Duct - 1ft 8.00Ø	0	-1	-1	-2	-2	-2	-2	-1	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
1-TU-13-15	0	42	33	25	15	0	0	0	
Straight Duct - 3ft 12.00w x 10.00h	-1	-1	-1	0	0	0	0	0	Final segment of 16x12 sub branch
Elbow- 1" Lined - 12.00w x 10.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 12.00w x 10.00h	40	35	29	23	15	6	0	0	
Straight Duct - 6ft 12.00w x 10.00h	-2	-2	-2	-1	-1	-1	-1	-1	
Junction	-3	-3	-3	-3	-3	-3	-3	-3	
Junction (regen.)	35	30	25	19	12	4	0	0	
Straight Duct - 5ft 10.00w x 8.00h	-2	-1	-1	0	0	0	0	0	
Elbow- 1" Lined - 10.00w x 8.00h	0	0	-1	-6	-11	-10	-10	-10	
Elbow (regen.) - 10.00w x 8.00h	30	25	19	12	5	0	0	0	
C9-01 - EAST SUNROOM	-8	-9	-9	-10	-11	-12	-13	-14	Room effect
Sum	53	48	41	26	9	3	0	0	
Target:	NC 40								
Current:	NC 30 (RC < 25 / 36 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



AHU-13 RETURN/INTAKE

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	53	48	41	33	25	15	5	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO DAY ROOM</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>SPLIT TO DAY ROOM</i>	50	44	37	30	21	12	1	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	48	42	35	27	18	9	0	0	
Junction - <i>TRANS TO 50X20</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X20</i>	49	43	36	28	19	9	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	50	44	37	30	21	11	1	0	
Straight Duct - <i>1ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>5ft 50.00w x 20.00h</i>	-1	-1	0	0	0	0	0	0	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

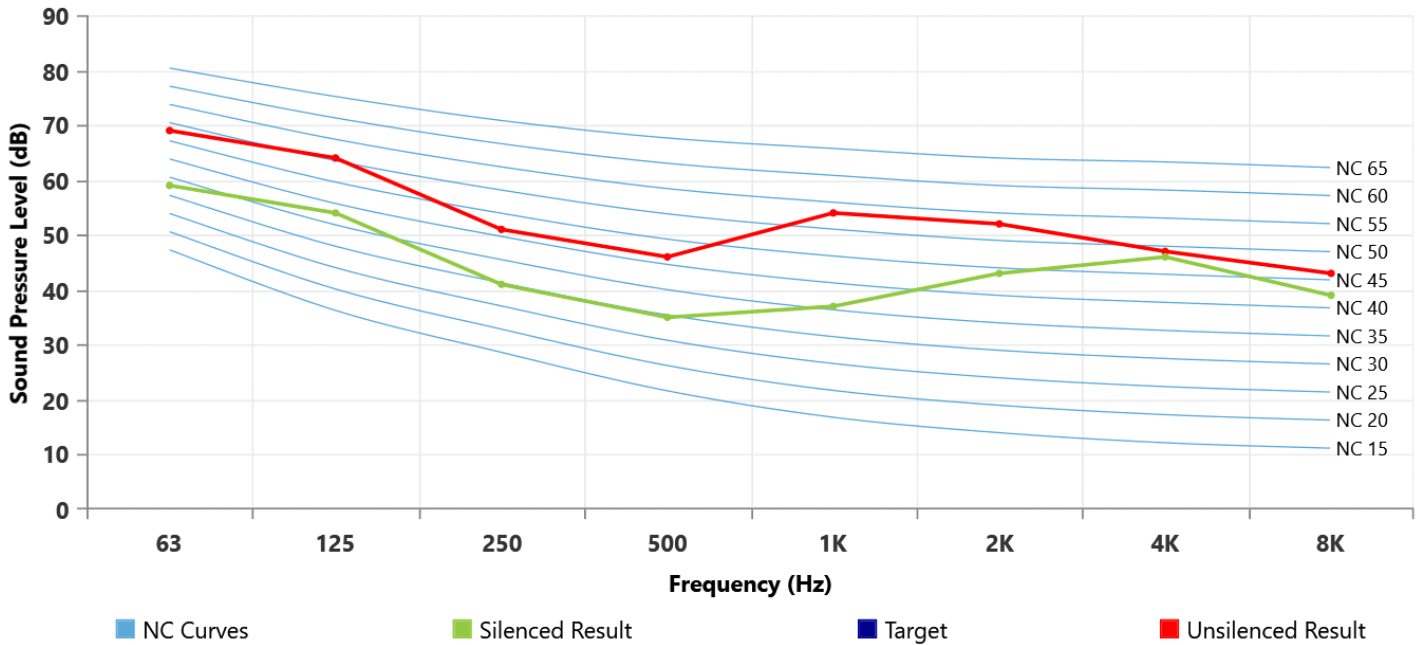
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	49	43	36	28	20	10	0	0	
Straight Duct - <i>6ft 50.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	47	41	34	26	18	8	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>TRANS TO 50X18</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X18</i>	48	42	35	27	18	8	0	0	
Straight Duct - <i>19ft 50.00w x 18.00h</i>	-4	-3	-2	-1	-1	-1	-1	-1	
Receiver	0	0	0	0	0	0	0	0	Room effect
Sum	59	54	41	35	37	43	46	39	

Target:

Current: NC 48 (RC 38 / 50 dBA)



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:

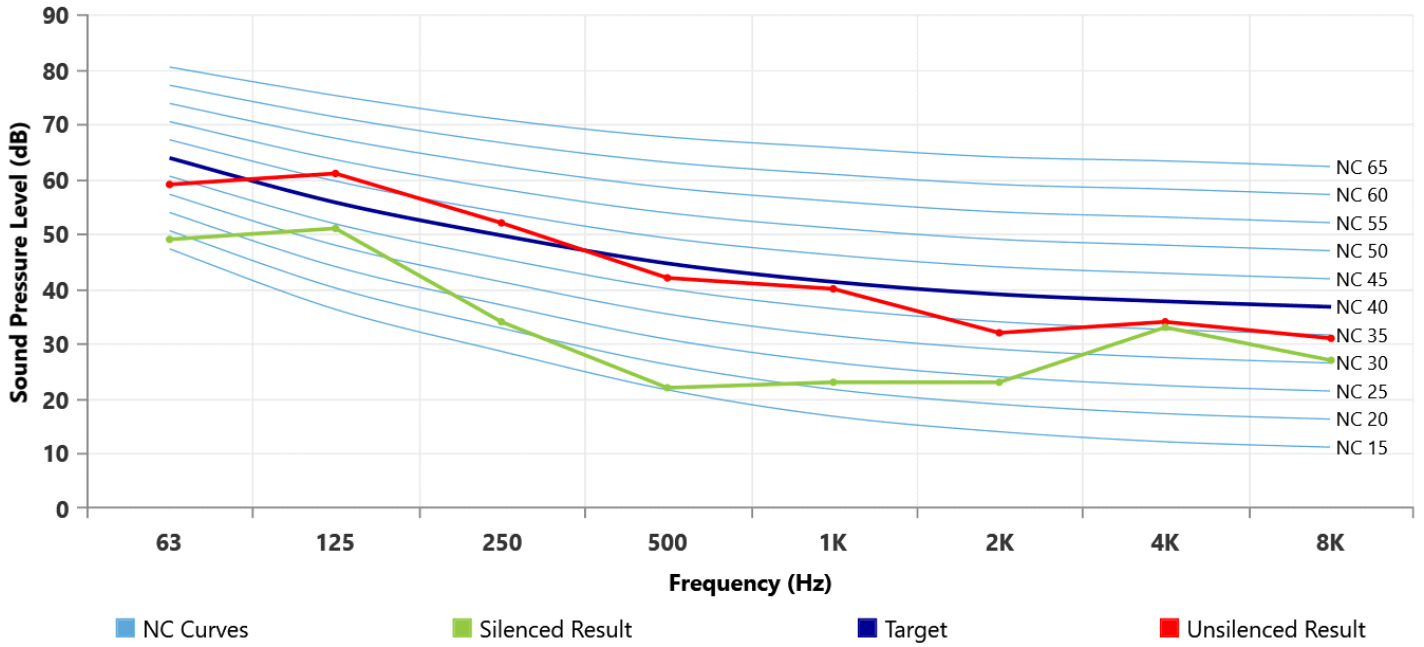


AHU-13 RETURN/INTAKE C9-01 EAST SUNROOM

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>SPLIT TO DAY ROOM NORTH</i>	-9	-9	-9	-9	-9	-9	-9	-9	
Junction (regen.) - <i>SPLIT TO DAY ROOM NORTH</i>	46	42	36	31	24	16	8	0	
Elbow - <i>24.00w x 6.00h</i>	0	0	0	-1	-5	-8	-4	-3	
Elbow (regen.) - <i>24.00w x 6.00h</i>	39	34	28	21	13	4	0	0	
Straight Duct - <i>1ft 24.00w x 6.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>24.00w x 6.00h</i>	0	0	0	-1	-5	-8	-4	-3	
Elbow (regen.) - <i>24.00w x 6.00h</i>	39	34	28	21	13	4	0	0	
Straight Duct - <i>2ft 24.00w x 6.00h</i>	-1	0	0	0	0	0	0	0	
C9-01 - <i>EAST SUNROOM</i>	-10	-11	-12	-13	-14	-14	-15	-16	Room effect
Sum	49	51	34	22	23	23	33	27	
Target:	NC 40								
Current:	NC 35 (RC < 25 / 38 dBA)								

PROJECT: AHU-13-RENO 9TH FLR MENTAL
HEALTH PROJECT
LOCATION: WILKES-BARRE, PA
DATE: FEBRUARY 1, 2023
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

REP NAME:
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 ENGINEER:
 CONTRACTOR:

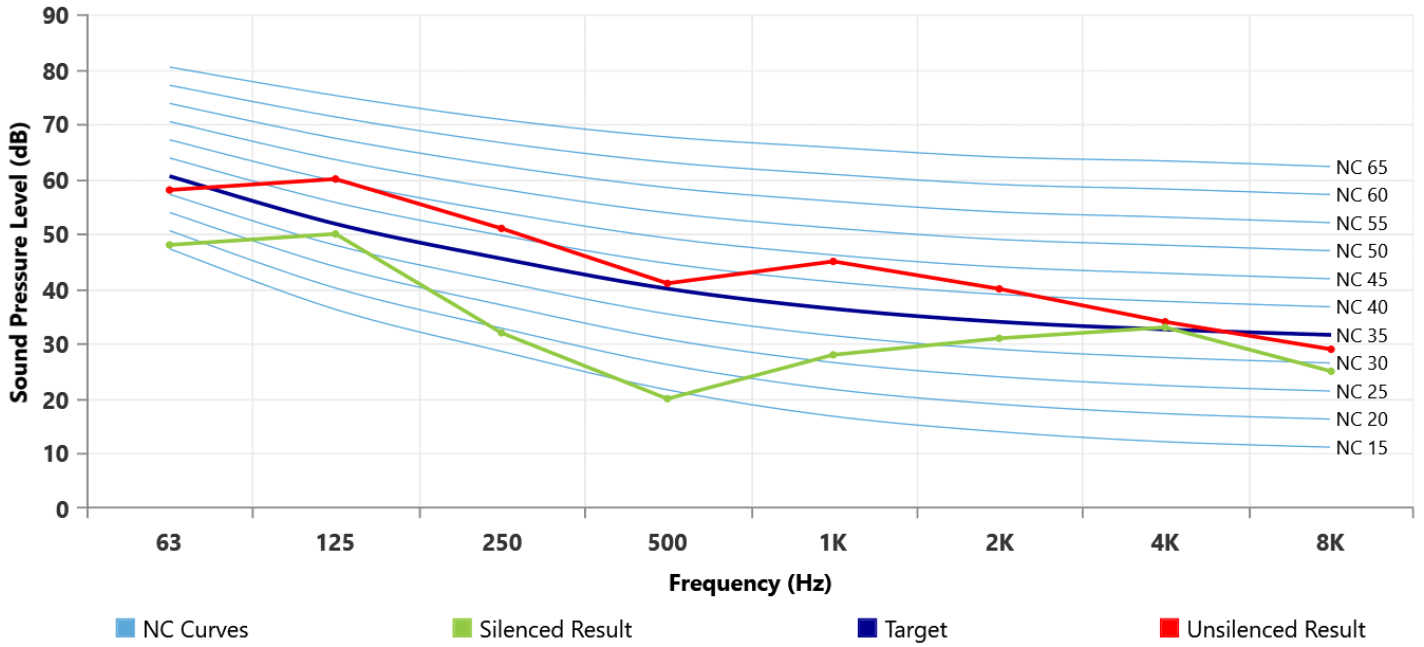


AHU-13 RETURN/INTAKE C9-03 GROUP COUNSELING

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	53	48	41	33	25	15	5	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO DAY ROOM</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>SPLIT TO DAY ROOM</i>	50	44	37	30	21	12	1	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO GROUP COUNSELING</i>	-12	-12	-12	-12	-12	-12	-12	-12	
Junction (regen.) - <i>SPLIT TO GROUP COUNSELING</i>	31	27	23	18	13	7	1	0	
Elbow - <i>12.00w x 6.00h</i>	0	0	0	-1	-2	-3	-3	-3	
Elbow (regen.) - <i>12.00w x 6.00h</i>	0	0	0	0	0	0	0	0	
Straight Duct - <i>2ft 12.00w x 6.00h</i>	-1	0	0	0	0	0	0	0	
Elbow - <i>12.00w x 6.00h</i>	0	0	0	-1	-2	-3	-3	-3	
Elbow (regen.) - <i>12.00w x 6.00h</i>	0	0	0	0	0	0	0	0	
C9-13 - <i>GROUP COUNSELING</i>	-6	-7	-8	-9	-10	-11	-12	-13	Room effect
Sum	48	50	32	20	28	31	33	25	
Target:	NC 35								
Current:	NC 35 (RC 26 (HF) / 39 dBA)								

PROJECT: AHU-13-RENO 9TH FLR MENTAL
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LOCATION: WILKES-BARRE, PA
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ENGINEER:
CONTRACTOR:

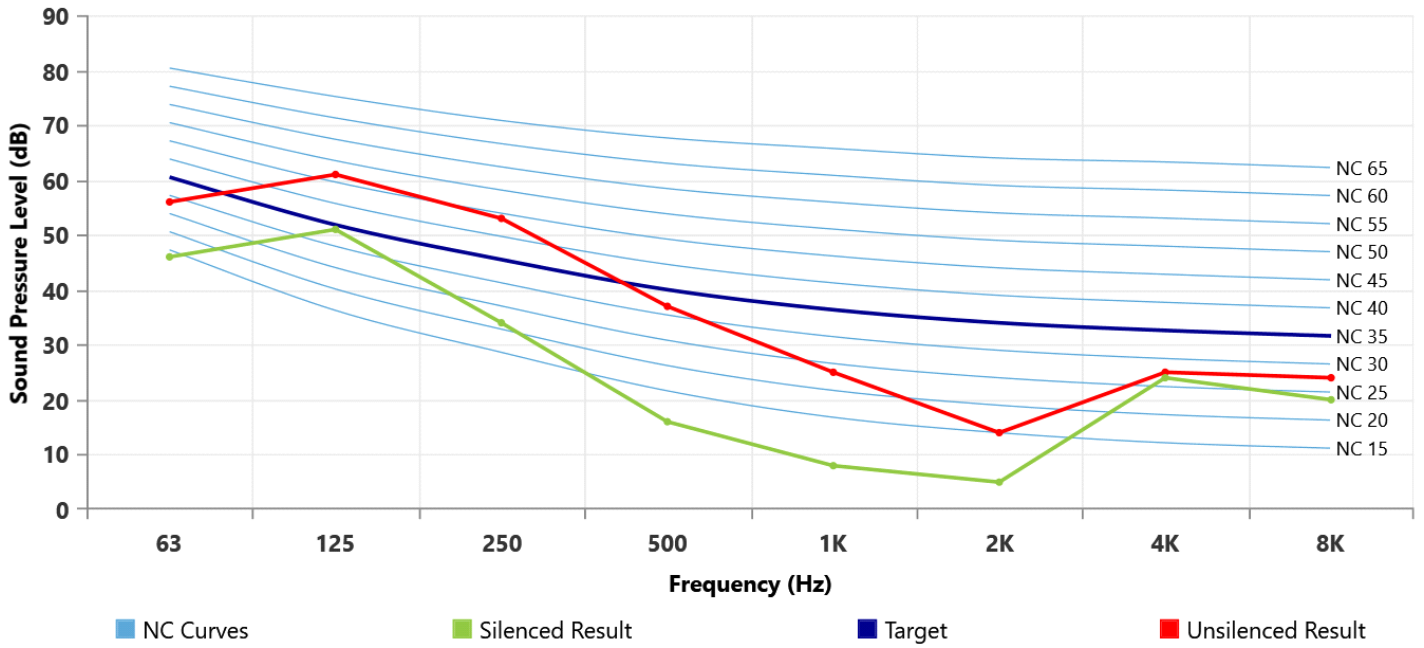


PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
 REVISION:

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 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Elbow - 8.00w x 6.00h	0	0	0	-1	-5	-8	-4	-3	
Elbow (regen.) - 8.00w x 6.00h	1	0	0	0	0	0	0	0	
C9-07 - OFFICE	-2	-3	-4	-5	-5	-6	-7	-8	Room effect
Sum	46	51	34	16	8	5	24	20	
Target:	NC 35								
Current:	NC 34 (RC < 25 / 36 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



AHU-13 RETURN/INTAKE C9-C01 CORRIDOR

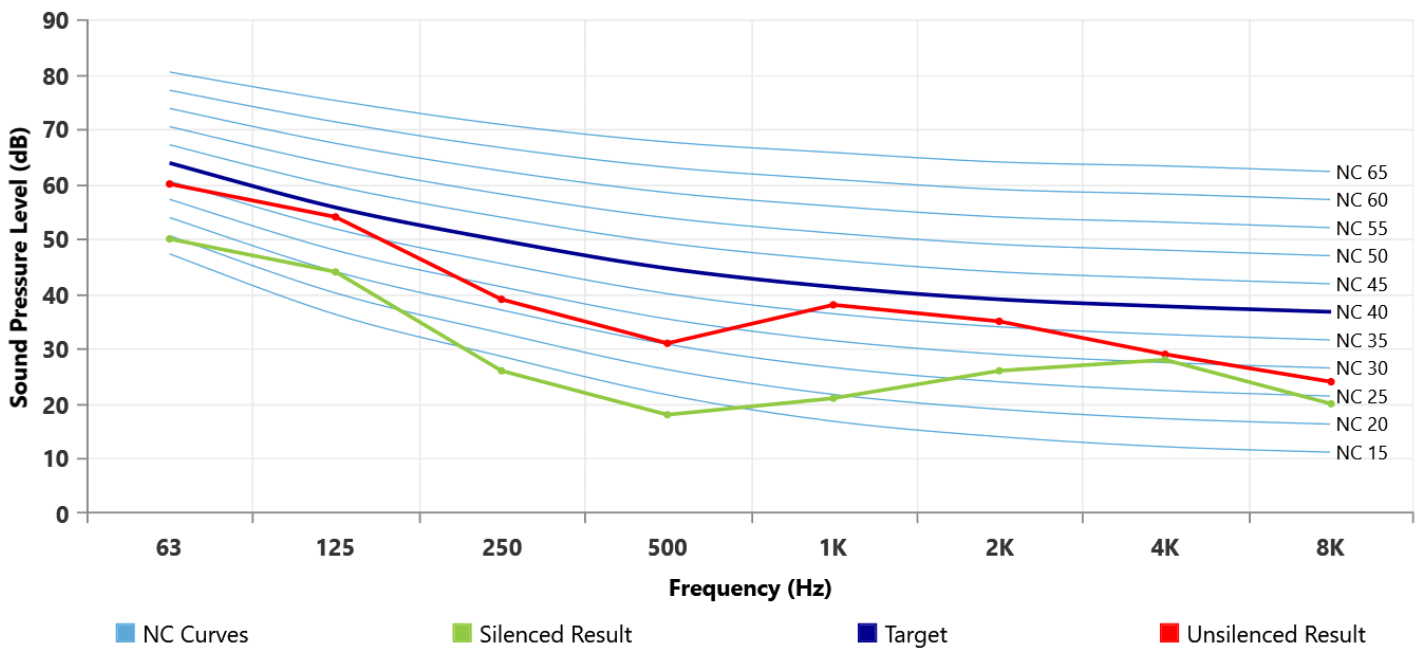
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	53	48	41	33	25	15	5	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO DAY ROOM</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>SPLIT TO DAY ROOM</i>	50	44	37	30	21	12	1	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	48	42	35	27	18	9	0	0	
Junction - <i>TRANS TO 50X20</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X20</i>	49	43	36	28	19	9	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	50	44	37	30	21	11	1	0	
Straight Duct - <i>1ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>5ft 50.00w x 20.00h</i>	-1	-1	0	0	0	0	0	0	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - <i>SPLIT TO CORR</i>	-10	-10	-10	-10	-10	-10	-10	-10	
Junction (regen.) - <i>SPLIT TO CORR</i>	33	30	26	21	15	9	3	0	
Straight Duct - <i>2ft 12.00w x 12.00h</i>	-1	0	0	0	0	0	0	0	
C9-C01 - <i>CORRIDOR</i>	-4	-5	-6	-7	-8	-9	-10	-11	Room effect
Sum	50	44	26	18	21	26	28	20	
Target:	NC 40								
Current:	NC 30 (RC < 25 / 34 dBA)								



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
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 ENGINEER:
 CONTRACTOR:



AHU-13 RETURN/INTAKE C9-04 MEN'S

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	53	48	41	33	25	15	5	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO DAY ROOM</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>SPLIT TO DAY ROOM</i>	50	44	37	30	21	12	1	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	48	42	35	27	18	9	0	0	
Junction - <i>TRANS TO 50X20</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X20</i>	49	43	36	28	19	9	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	50	44	37	30	21	11	1	0	
Straight Duct - <i>1ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>5ft 50.00w x 20.00h</i>	-1	-1	0	0	0	0	0	0	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
 LOCATION: WILKES-BARRE, PA
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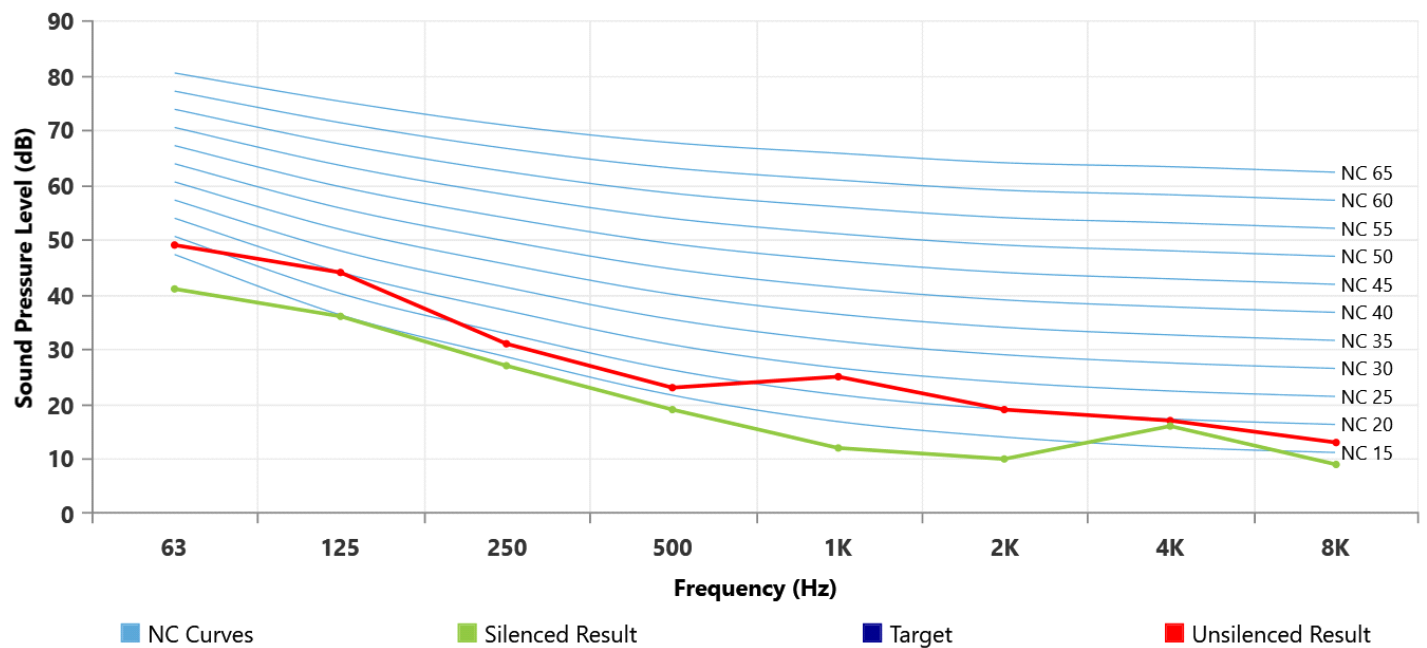
REP NAME:
 REP OFFICE:
 ENGINEER:
 CONTRACTOR:



Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	49	43	36	28	20	10	0	0	
Straight Duct - <i>6ft 50.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Junction - <i>SPLIT TO MEN'S</i>	-13	-13	-13	-13	-13	-13	-13	-13	
Junction (regen.) - <i>SPLIT TO MEN'S</i>	44	40	35	29	22	14	6	0	
Straight Duct - <i>1ft 8.00w x 6.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>8.00w x 6.00h</i>	0	0	0	-1	-5	-8	-4	-3	
Elbow (regen.) - <i>8.00w x 6.00h</i>	43	39	34	28	21	13	4	0	
Straight Duct - <i>2ft 8.00w x 6.00h</i>	-1	0	0	0	0	0	0	0	
Junction - <i>TRANS TO 18X8</i>	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - <i>TRANS TO 18X8</i>	30	26	22	16	10	3	0	0	
C9-04 - <i>MEN'S ROOM</i>	-9	-9	-10	-11	-12	-13	-14	-15	Room effect
Sum	41	36	27	19	12	10	16	9	

Target:

Current: NC 19 (RC < 25 / 25 dBA)



PROJECT: AHU-13-RENO 9TH FLR MENTAL
 HEALTH PROJECT
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 DATE: FEBRUARY 1, 2023
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 ENGINEER:
 CONTRACTOR:



AHU-13 RETURN/INTAKE C9-08 MENS BARIATRIC

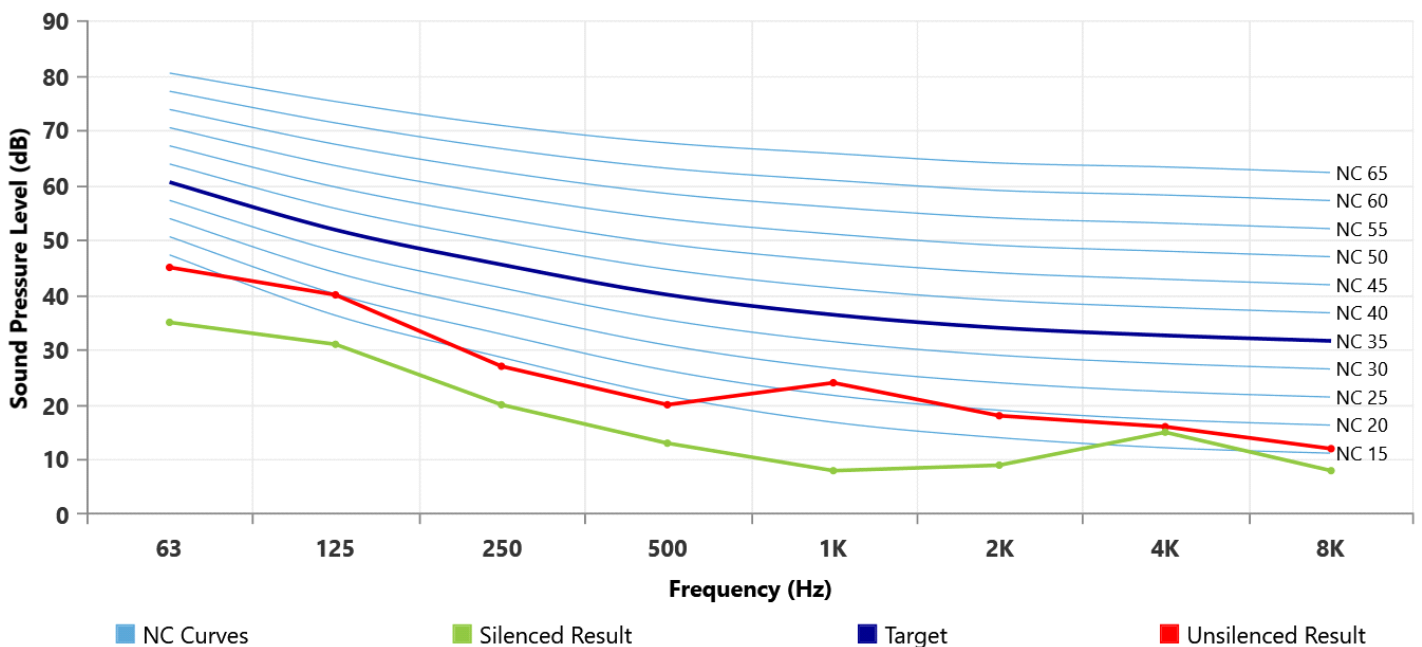
Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source - <i>RF-13</i>	80	84	84	82	81	77	72	68	
Straight Duct - <i>6ft 54.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Silencer	-11	-10	-19	-22	-19	-13	-10	-8	RSP48/325
Silencer (regen.)	60	47	49	53	59	66	70	61	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>54.00w x 20.00h</i>	0	-1	-5	-8	-4	-3	-3	-3	
Elbow (regen.) - <i>54.00w x 20.00h</i>	55	49	42	35	26	16	6	0	
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	53	48	41	33	25	15	5	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>SPLIT TO DAY ROOM</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>SPLIT TO DAY ROOM</i>	50	44	37	30	21	12	1	0	
Straight Duct - <i>1ft 54.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	48	42	35	27	18	9	0	0	
Junction - <i>TRANS TO 50X20</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X20</i>	49	43	36	28	19	9	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	50	44	37	30	21	11	1	0	
Straight Duct - <i>1ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Elbow - <i>50.00w x 20.00h</i>	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Elbow - <i>50.00w x 20.00h</i>	-1	-5	-8	-4	-3	-3	-3	-3	
Elbow (regen.) - <i>50.00w x 20.00h</i>	50	44	37	29	21	11	0	0	
Straight Duct - <i>5ft 50.00w x 20.00h</i>	-1	-1	0	0	0	0	0	0	

PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
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 ENGINEER:
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Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Junction - <i>CONT OF MAIN</i>	-1	-1	-1	-1	-1	-1	-1	-1	
Junction (regen.) - <i>CONT OF MAIN</i>	49	43	36	28	20	10	0	0	
Straight Duct - <i>6ft 50.00w x 20.00h</i>	-1	-1	-1	0	0	0	0	0	
Junction - <i>CONT OF MAIN</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>CONT OF MAIN</i>	47	41	34	26	18	8	0	0	
Straight Duct - <i>2ft 50.00w x 20.00h</i>	0	0	0	0	0	0	0	0	
Junction - <i>TRANS TO 50X18</i>	0	0	0	0	0	0	0	0	
Junction (regen.) - <i>TRANS TO 50X18</i>	48	42	35	27	18	8	0	0	
Straight Duct - <i>19ft 50.00w x 18.00h</i>	-4	-3	-2	-1	-1	-1	-1	-1	
Junction - <i>SPLIT TO MENS</i>	-13	-13	-13	-13	-13	-13	-13	-13	
Junction (regen.) - <i>SPLIT TO MENS</i>	36	33	28	23	17	10	3	0	
Elbow - <i>12.00w x 4.00h</i>	0	0	0	-1	-5	-8	-4	-3	
Elbow (regen.) - <i>12.00w x 4.00h</i>	26	21	15	9	1	0	0	0	
Straight Duct - <i>2ft 12.00w x 4.00h</i>	-1	0	0	0	0	0	0	0	
Junction - <i>TRANS TO 18XX6</i>	-1	-1	-1	-1	0	0	0	0	
Junction (regen.) - <i>TRANS TO 18XX6</i>	15	11	5	0	0	0	0	0	
C9-08 - <i>MEN'S BARIATRIC</i>	-9	-10	-10	-11	-12	-13	-14	-15	Room effect
Sum	35	31	20	13	8	9	15	8	
Target:	NC 35								
Current:	NC 18 (RC < 25 / 21 dBA)								



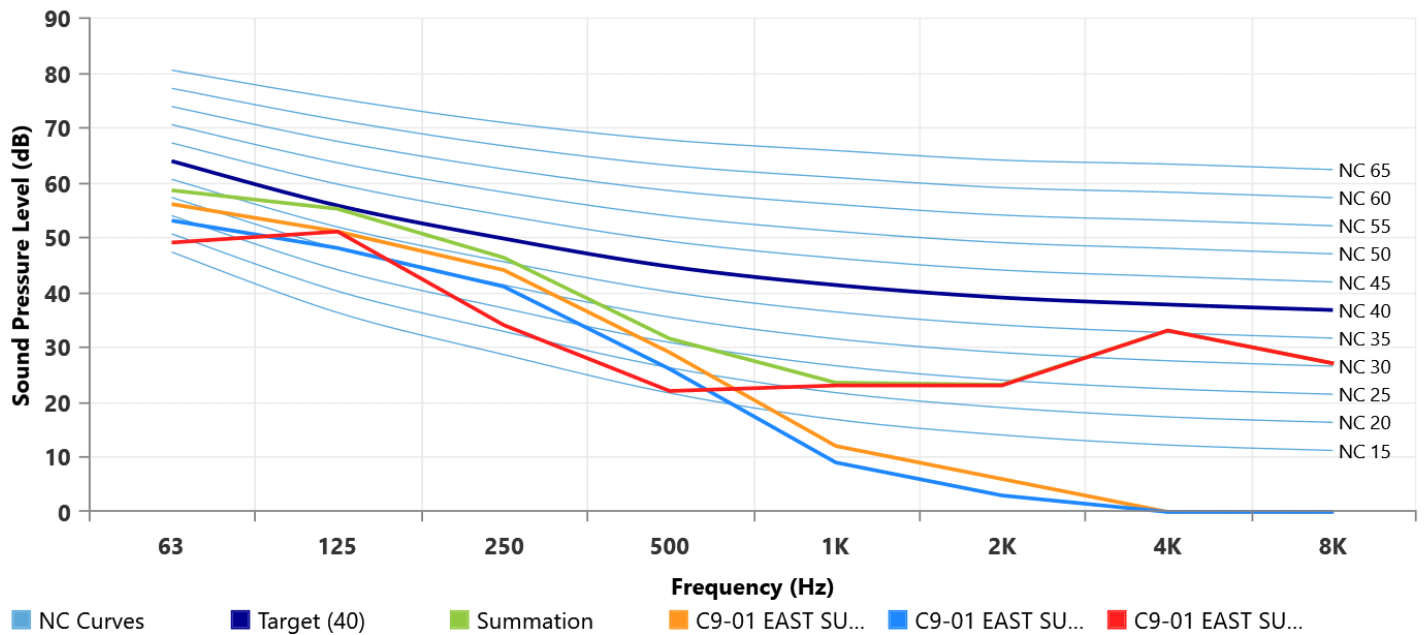
PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
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C9-01 EAST SUNROOM

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-13 SUPPLY/DISCHARGE C9-01 EAST SUNROOM	56	51	44	29	12	6	0	0
AHU-13 RADIATED C9-01 EAST SUNROOM	53	48	41	26	9	3	0	0
AHU-13 RETURN/INTAKE C9-01 EAST SUNROOM	49	51	34	22	23	23	33	27
Sum	59	55	46	32	24	23	33	27
Target:	NC 40							
Current:	NC 39 (RC 26 / 43 dBA)							



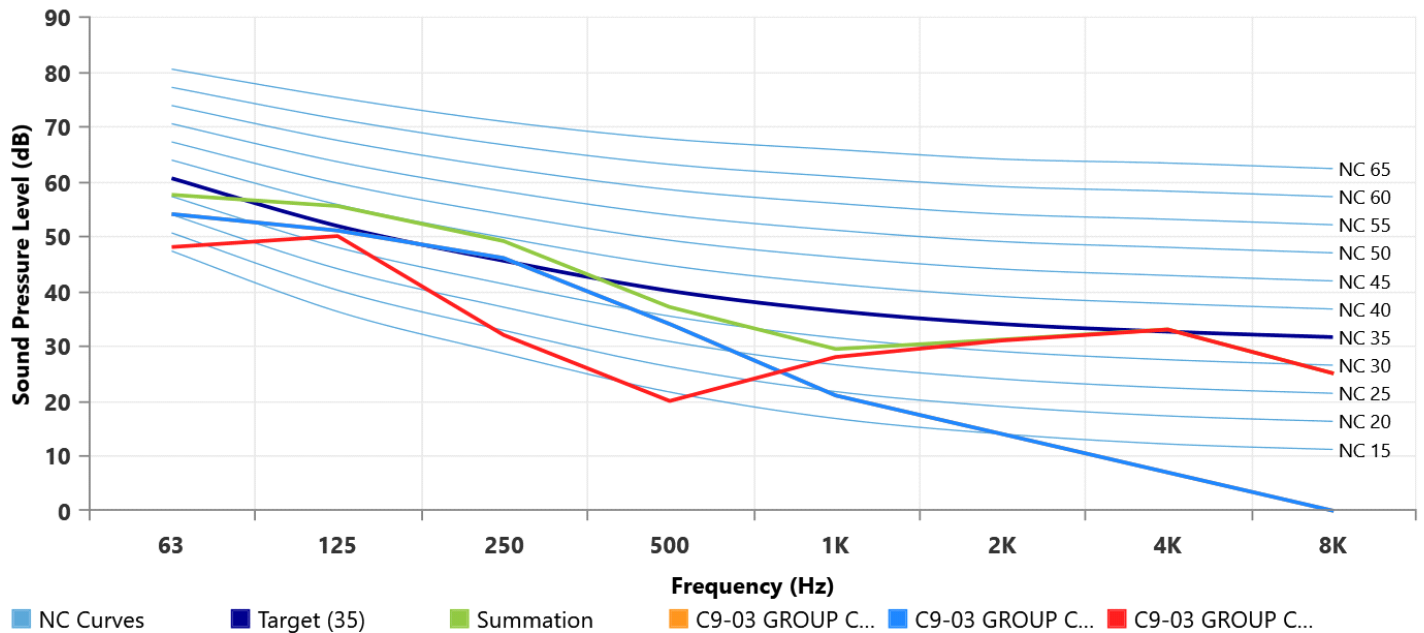
PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
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C9-03 GROUP COUNSELING ROOM

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-13 SUPPLY/DISCHARGE C9-03 GROUP COUNSELING	54	51	46	34	21	14	7	0
AHU-13 RADIATED C9-03 GROUP COUNSELING	54	51	46	34	21	14	7	0
AHU-13 RETURN/INTAKE C9-03 GROUP COUNSELING	48	50	32	20	28	31	33	25
Sum	58	55	49	37	29	31	33	25
Target:	NC 35	**TARGET NOT MET**						
Current:	NC 39	<i>(RC 32 / 44 dBA)</i>						



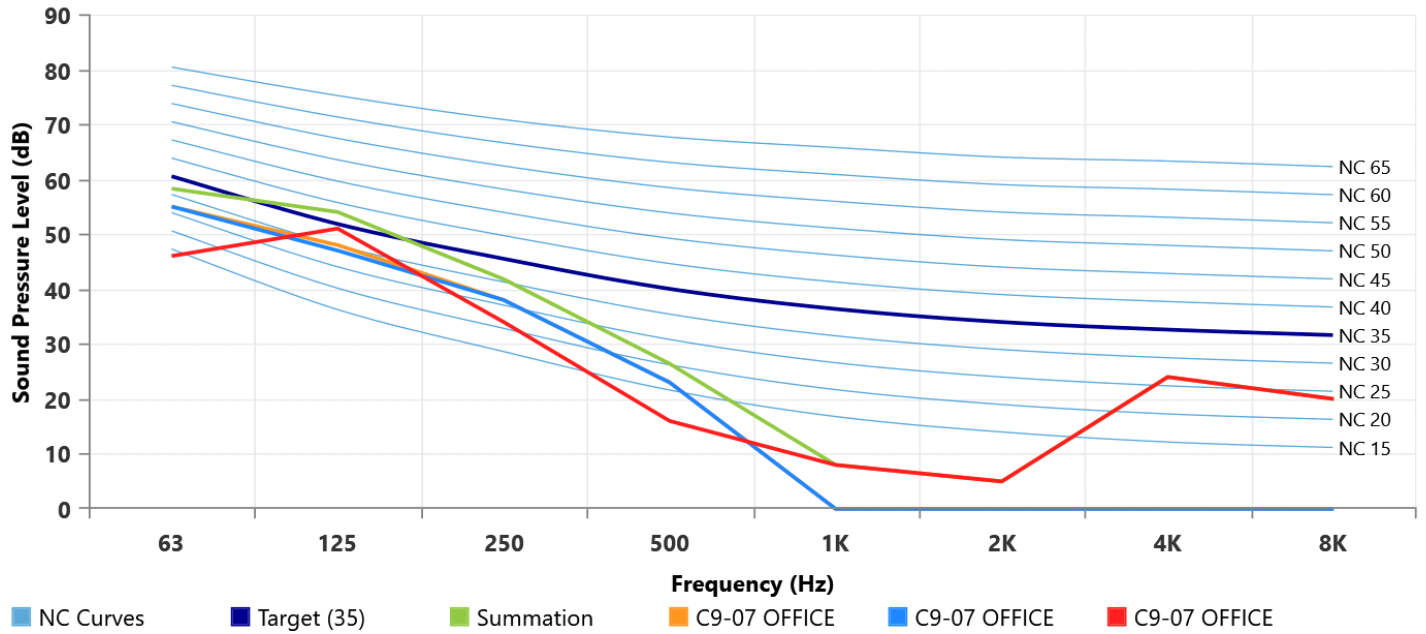
PROJECT: AHU-13-RENO 9TH FLR MENTAL HEALTH PROJECT
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C9-07 OFFICE

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-13 SUPPLY/DISCHARGE C9-07 OFFICE	55	48	38	23	0	0	0	0
AHU-13 RADIATED C9-07 OFFICE	55	47	38	23	0	0	0	0
AHU-13 RETURN/INTAKE C9-07 OFFICE	46	51	34	16	8	5	24	20
Sum	58	54	42	26	8	5	24	20
Target:	NC 35	**TARGET NOT MET**						
Current:	NC 38	<i>(RC < 25 / 40 dBA)</i>						



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C9-08 MEN'S BARIATRIC

Path	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
AHU-13 SUPPLY/DISCHARGE C9-08 MEN'S BARIATRIC	52	45	41	31	13	0	0	0
AHU-13 RADIATED C9-08 MEN'S BARIATRIC	52	45	41	31	13	0	0	0
AHU-13 RETURN/INTAKE C9-08 MENS BARIATRIC	35	31	20	13	8	9	15	8
Sum	55	48	44	34	17	9	15	8
Target:	NC 35							
Current:	NC 33 (RC < 25 / 39 dBA)							

