

Energy Model review updated 6-24-15

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Depth:

Incomplete model review of mechanical systems due to Mechanical schedule being incomplete and inconsistent nomenclature of system names. Cannot take credit for high efficiency systems when efficiencies are not listed in the M-dwgs. Please provide all information to complete review.

- 1) M-500: 5 cooling towers indicated, none on standby. However, model indicates 1 on standby. Clarify.
- 2) M-502: Heating and Ventilating Systems – HV-4-1A,B,C,D, HV-68-1 & 2
 - outdoor air CFM does not align with DOAS-SYS in SV-A.
- 3) M-502: Heating and Ventilating Systems – HV-5-1,2,3,4,5,6,7, HV-68-3,4,5
 - unable to verify these systems are in the model. Identify system names from M-502 with SV-A
- 4) M-502: Factory Assembled & Field Erected Central AC System – AHU-4-1, 2A, 2B
 - missing capacity information, efficiencies.
 - CFM/Fan Power does not align with LOBBY-SYS from SV-A. Clarify.
- 5) M-504: Lobby Fan Coil Units – Type A,B,C
 - Clarify how these are modeled. Included in LOBBY-SYS?
- 6) M-505: Condenser Water Packaged AC Units – missing information.
 - Must use code default information for efficiencies if not included in the drawings.
 - Align unit names from M-505 with SV-A. For example, AC-B1-1, AC-B2-1, AC-B3-1, does not align with BOH-SYS from SV-A.
- 7) M-505: Chilled Water Packaged AC Units –
 - Align unit names from M-505 with SV-A. Unable to identify these systems in model.
- 8) SV-A: Align unit names from M-dwgs. For example, 4-IT-SYS thru 68-IT-SYS, which systems are these?
- 9) M-dwgs: Missing Cogen information. Energy Report Summary includes information about Cogen (i.e. efficiencies) that is not in the M-dwgs. Provide fuel input for Cogen.
 - PS-C/PS-E: Elec-DHW-Heater has varying usage and differing peak demand between baseline and design. Should be identical.
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PLATE AND FRAME HEAT EXCHANGERS																				(ALFA LAVAL AS STD.)		
UNIT NO.	LOCATION	SERVICE	COOLED/HEATED WATER							COOLING/HEATING WATER							OVERALL DIM. LENGTH x WIDTH x HEIGHT (IN.)	OPERATING WEIGHT (LBS.)	HEAT TRANSFER AREA (SQ. FT.)	NUMBER OF PLATES	MODEL No.	REMARKS/COMMENTS
			GPM	INLET TEMP. (°F)	OUTLET TEMP. (°F)	MAX. PRESS. DROP (PSI)	DESIGN PRESS. (PSIG)	FOULING FACTOR	LIQUID CIRCULATED	GPM	INLET TEMP. (°F)	OUTLET TEMP. (°F)	MAX. PRESS. DROP (PSI)	DESIGN PRESS. (PSIG)	FOULING FACTOR	LIQUID CIRCULATED						
PFHX-5-1 THRU PFHX-5-3	5TH FLOOR MER	SECONDARY/TERTIARY CONDENSER WATER	3,500	104	89	10	450	.0005	H2O	3,500	87	102	10	450	.0005	H2O		45,000	15949		TL35-BFS	
PFHX-68-1 THRU PFHX-68-4	68TH FLOOR MER	PRIMARY/SECONDARY CONDENSER WATER	4,500	102	87	12	150	.0005	H2O	4,500	85	100	12	150	.0005	H2O		35,000	18507		TL35-BFG	PROVIDE REVERSING VALVES
PFHX-68-5 THRU PFHX-68-6	68TH FLOOR MER	COGEN HOT WATER	162	150	180	5	150	.0005	H2O	225	220	198	7	150	.0005	H2O		1000	820		AQ4-MFG	
PFHX-68-7 THRU PFHX-68-8	68TH FLOOR MER	CONDENSER WATER FREE COOLING	800	61	47	10	150	.0005	H2O	800	45	59	10	150	.0005	H2O		10,000			AQ8-FS	PROVIDE REVERSING VALVES

NOTES

1. ALL PFHX PERFORMANCE SHALL BE ARI CERTIFIED (ARI STANDARD 400).

2. ALL PFHX'S SHALL BE INSULATED AND PROVIDED WITH SHEETMETAL PROTECTIVE JACKET.

SHELL AND TUBE HEAT EXCHANGERS																						(BELL & GOSSETT AS STD.)			
UNIT NO.	LOCATION	SERVICE	WATER (TUBE SIDE)						STEAM (SHELL SIDE)		WATER (SHELL SIDE)						HEAT TRANSFER AREA (SQ. FT.)	SHELL DIAMETER (IN.)	EFFECTIVE SINGLE LENGTH (FT.)	NUMBER OF PASSES	LIQUID CIRCULATED	CONDENSATE INLET TEMP.	CONDENSATE OUTLET TEMP.	MODEL NO.	REMARKS
			GPM	INLET TEMP. (°F)	OUTLET TEMP. (°F)	MAX. PRESS. DROP (FT. HEAD)	DESIGN PRESS. (PSID)	FOULING FACTOR	STEAM PRESS. (PSID)	STEAM (LBS./HR)	GPM	INLET TEMP. (°F)	OUTLET TEMP. (°F)	MAX. PRESS. DROP (FT. HEAD)	DESIGN PRESS. (PSID)	FOULING FACTOR									
STHX-B-1&2	LEVEL B	LOBBY/BOH HOT WATER	200	160	180			.0005	5	3,100	-	-	-	-	-	-							QSU-20 5-2	(1) STANDBY	
STHX-4-1&2	4TH FLOOR MER	LOW RISE HEATING SYSTEM	900	150	180	2	300	.0005	5	14,000	-	-	-	-	-	-	320	20	5	2	WATER		QSU-20 5-2	(1) STANDBY	
STHX-4-3&4	4TH FLOOR MER	RETAIL HEATING SYSTEM	175	150	180	2	150	.0005	5	2,000	-	-	-	-	-	-	71	10	5	2	WATER		SU-10 5-2	(1) STANDBY	
STHX-68-1&2	68TH FLOOR MER	HIGH RISE HEATING SYSTEM	900	150	180	2	150	.0005	5	14,000	-	-	-	-	-	-	320	20	5	2	WATER		QSU-20 5-2	(1) STANDBY	
STHX-68-3	68TH FLOOR MER	CO-GEN BACKUP	500	150	180			.0005	5	7,800	-	-	-	-	-	-								(1) STANDBY	

EXPANSION TANKS / MAKE-UP PUMPS																	(AMTROL/PACO DOMESTIC AS STD)
TANK NO. ET-	LOCATION	SERVICE	EXPANSION TANKS				MAKE-UP PUMPS										REMARKS
			DIAMETER (IN.)	STRAIGHT SHELL LENGTH (IN.)	CAPACITY (GALLONS)	WORKING PRESS. (PSIG)	TYPE	MODEL	GPM PER PUMP	SUCTION TEMP. °F	DISCHARGE PRESS. (PSIG)	MOTOR RPM	RECEIVER (GALLONS)	MIN. MOTOR HP PER PUMP	PUMP TYPE	SIZE	
ET-1	4TH FLOOR MER	LOW RISE HOT WATER	48	85	480	150	DIAPHRAM	2000L	15	180	40	3500	15	3	DUPLEX	1070 1x1	
ET-2	4TH FLOOR MER	RETAIL HOT WATER	48	72	422	150	DIAPHRAM	1600L	15	180	40	3500	15	3	DUPLEX	1070 1x1	
ET-3	5TH FLOOR MER	SECONDARY CHILLED WATER	48	85	480	150	DIAPHRAM	2000L	15	60	40	3500	15	3	DUPLEX	1070 1x1	
ET-4	68TH FLOOR MER	CHILLED WATER	48	72	422	150	DIAPHRAM	1600L	15	60	40	3500	15	3	DUPLEX	1070 1x1	
ET-5	68TH FLOOR MER	HIGH RISE HOT WATER	48	85	480	150	DIAPHRAM	2000L	15	180	40	3500	15	3	DUPLEX	1070 1x1	
ET-6	4TH FLOOR MER	BASE BUILDING SECONDARY CONDENSER WATER	48	85	480	150	DIAPHRAM	2000L	15	110	40	3500	15	3	DUPLEX	1070 1x1	
ET-7	68TH FLOOR MER	HEAT RECOVERY HOT WATER	24	66	106	150	DIAPHRAM	400L	15	180	40	3500	15	3	DUPLEX	1070 1x1	
ET-8	68TH FLOOR MER	CO-GEN SYSTEM HOT WATER	48	85	480	150	DIAPHRAM	2000L	15	220	40	3500	15	3	DUPLEX	1070 1x1	
ET-9	68TH FLOOR MER	CHW SYSTEM	24	66	106	150	DIAPHRAM	400L	15	60	40	3500	15	3	DUPLEX	1070 1x1	

NOTES

1. PROVIDE AND INSTALL ALL REQUIRED COMPRESSED AIR VALVES, FITTINGS AND GUAGES REQUIRED FOR CHARGING.

ABSORPTION CHILLER																										(YORK AS STD)										
UNIT No.	LOCATION	TONS	CHILLER							CONDENSER							ELECTRICAL					HOT WATER							DISCHARGING WEIGHT (LBS.)	MODEL No.	REMARKS					
			GPM	INLET WATER TEMP. (°F)	OUTLET WATER TEMP. (°F)	MAX. PRESSURE DROP (FT H2O)	WORKING PRESS. (PSIG)	FOULING	MAX. WATER VELOCITY (FPS)	No. OF PASSES	GPM	INLET WATER TEMP. (°F)	OUTLET WATER TEMP. (°F)	MAX. PRESSURE DROP (FT H2O)	WORKING PRESS. (PSIG)	FOULING	MAX. WATER VELOCITY (FPS)	No. OF PASSES	kW/TON	VOLTAGE	PHASE	FREQUENCY	kW	POWER FACTOR	GPM	INLET WATER TEMP. (°F)	OUTLET WATER TEMP. (°F)	MAX. PRESSURE DROP (FT H2O)				WORKING PRESS. (PSIG)	FOULING	MAX. WATER VELOCITY (FPS)	No. OF PASSES	GOP
CH-68-1	68TH FLOOR MER	250	375	58	42	22	150	.0001		3	1250	85	97	27	150	.0005		1	1						540	220	203	11	150	.0001		1	.715	25,000	YIA-HW-3B3-49-C-S-D	(2) PASS ABSORBER

STEAM CONDENSATE PUMPS													(DOMESTIC ITT AS STD)
PUMP NO.	LOCATION	SERVICE	TOTAL STEAM DISCHARGE LBS./HR.	GPM PER PUMP	SECTION TEMP. °F.	DISCHARGE PRESS. (PSIG) PER PUMP	MOTOR RPM	RECEIVER (CONST.)	MIN. MOTOR HP PER PUMP	PUMP TYPE	RECEIVER SIZE (GAL.)	MIN. INLET SIZE (IN.)	MIDEL/REMARKS
CP-1	BASEMENT	MAIN STEAM ROOM	18,700	75	200	40	3,500	CI	3	DUPLEX	75	4	754 CC
CP-2	BASEMENT	AC-B-4	5,500	22	200	40	3,500	CI	2	DUPLEX	23	2	224 CC
CP-3	4ND FLOOR	LOW RISE HEAT SYSTEM	15,000	60	200	40	3,500	CI	3	DUPLEX	52	3	604 CC
CP-4	4ND FLOOR	RETAIL HW SYSTEM	3,750	15	200	40	3,500	CI	1	DUPLEX	14	2	154 CC
CP-68-1	68ND FLOOR	HIGH RISE HEAT SYSTEM	15,000	60	200	40	3,500	CI	3	DUPLEX	52	3	604 CC
CP-68-2	68ND FLOOR	HIGH RISE HEAT SYSTEM	15,000	60	200	40	3,500	CI	3	DUPLEX	52	3	604 CC

PUMPS													(ARMSTRONG AS STD)			
PUMP NO.	LOCATION	SERVICE	GPM	TOTAL DYNAMIC HEAD (FT. H2O)	% EFFICIENCY	SHAFT HP HEAD (FT. H2O)	IMPELLER (INCHES)	B.H.P.	MINIMUM MOTOR H.P.	R.P.M.	WORKING PRESS. (PSIG)	MODEL #	PUMP TYPE	VIBRATION BASE SPEC. TYPE	VIBRATION BASE MIN. STATIC DEFLECTION (INCHES)	REMARKS
CHWP-68-1 & 2	68TH FLOOR MER	CO-GEN SYSTEM (CHW)	500	125					30		150		END SUCTION			(1) STANDBY
HWP-B-1 & 2	LEVEL B	LOBBY/BOH HOT WATER	200	75					15		150		END SUCTION			(1) STANDBY
HWP-4-1&2	4TH FLOOR MER	LOW RISE HOT WATER	900	150					75		300		END SUCTION			(1) STANDBY
HWP-4-3&4	4TH FLOOR MER	RETAIL HOT WATER	175	150					20		300		END SUCTION			(1) STANDBY
HWP-68-1&2	68TH FLOOR MER	HIGH RISE HOT WATER	900	150					75		150		END SUCTION			(1) STANDBY
PCWP-68-1 THRU PCWP-68-4	68TH FLOOR MER	PRIMARY CONDENSER	5000	200					300		150		HORIZONTAL SPLIT CASE			(1) STANDBY
PCWP-68-5 THRU PCWP-68-6	68TH FLOOR MER	PRIMARY CONDENSER	2000	100					100		150		HORIZONTAL SPLIT CASE			(1) STANDBY
SCWP-68-1 THRU SCWP-68-4	68TH FLOOR MER	SECONDARY CONDENSER WATER (HIGH ZONE)	5000	100					250		150		HORIZONTAL SPLIT CASE			(1) STANDBY
TCWP-5-1 THRU TCWP-5-3	5TH FLOOR MER	TERTIARY CONDENSER WATER (LOW ZONE)	3750	100					200		450		HORIZONTAL SPLIT AND/OR VERTICAL SPLIT			(1) STANDBY
HRHWP-68-1 THRU HRHWP-68-2	68TH FLOOR MER	CO-GEN SYSTEM (ABSORPTION)	800	100					60		150		END SUCTION			(1) STANDBY
HRHWP-68-3 THRU HRHWP-68-4	68TH FLOOR MER	CO-GEN SYSTEM (HOT WATER PFHX)	500	100					25		150		END SUCTION			(1) STANDBY

NOTES:

1. ALL PUMPS TO BE PROVIDED WITH PREMIUM EFFICIENCY MOTORS.

MODULAR CHILLERS																					(MULTISTACK AS STANDARD)									
UNIT NO.	LOCATION	TONS	QTY.	TOTAL TONS	CHILLER								CONDENSER								ELECTRICAL						MODEL NO.	REMARKS	MEA NDL	
					GPM	INLET WATER TEMP. °F	OUTLET WATER TEMP. °F	MAX. PRESS. DROP (FT. H2O)	WORKING PRESS. (PSIG)	FOULING FACTOR	MAX. WATER VELOCITY (FPS)	NO. OF PASSES	REFRIGERANT	GPM	INLET WATER TEMP. °F	OUTLET WATER TEMP. °F	MAX. PRESS. DROP (FT. H2O)	WORKING PRESS. (PSIG)	FOULING FACTOR	MAX. WATER VELOCITY (FPS)	NO. OF PASSES	KW	VOLTAGE	PHASE	FREQUENCY	KW/TON				TOTAL FULL LOAD AMPS
CH—68—2	68TH FLOOR MER	60	5	300	450	58	42	—	150	.0001	—	—	410A	500	85	100	—	150	.0005	—	—	250	460	3	60	.74	—	UCW070AFXSACBBX		

RETURN, EXHAUST AND VENTILATION (SUPPLY) FANS																							(TWIN CITY FAN BLOWER) (UNLESS OTHERWISE NOTED)			
FAN NO.	LOCATION	SERVICE	CFM	STATIC PRESS (INCHES H2O)	MAX. OUTLET VELOCITY (FPM)	DISCHARGE DIRECTION	ARRANGEMENT	FAN R.P.M.	FAN ROTATION	WIDTH AND INLET	WHEEL DIAMETER (INCHES)	ACCESS DOOR LOCATION (° CLOCK)	UNIT		B.H.P.	MIN. MOTOR H.P.	MOTOR R.P.M.	MOTOR LOCATION	VOLTS	PHASE	HERTZ	ON EMERGENCY POWER	VIBRATION BASE SPECIFICATION TYPE	VIBRATION BASE MIN. STATIC DEFLECTION (INCHES)	CLASS	REMARKS
													TYPE	SIZE												
F-5-1A&B	5TH FLOOR MER	B LEVEL RAMP AND LOADING DOCK SUPPLY	22,500	2.0	2298		4	1192		N/A			TCVX	420532	10.59	15	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
F-5-2A&B	5TH FLOOR MER	B LEVEL GARAGE SUPPLY	10,000	2.5	2298		4	1775		N/A			TCVX	280534	6.15	7.5	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
TX-4-1	4TH FLOOR MER	MEN'S LOW RISE TOILET EXHAUST 1	10,500	2.0	1442		9	1096		SWSI			QSL	270	4.72	7.5	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-4-2	4TH FLOOR MER	WOMEN'S LOW RISE TOILET EXHAUST 2	16,500	2.0	1238		9	750		SWSI			QSL	365	7.28	10	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-4-3	4TH FLOOR MER	MEN'S LOW/MID RISE TOILET EXHAUST 3	22,000	2.0	1650		9	846		SWSI			QSL	365	10.06	15	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-4-4	4TH FLOOR MER	B LEVEL TOILET EXHAUST	5,000	2.0	1238		9	1419		SWSI			QSL	200	2.44	3	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-4-5	4TH FLOOR MER	B3-B1 LEVEL TOILET EXHAUST AND LOW RISE JC EXHAUST	3,600	2.0	1324		9	1796		SWSI			QSL	165	8.88	15	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-69-1	69TH FLOOR MER	WOMEN'S MID RISE TOILET EXHAUST 4	20,000	2.0	1500		9	806		SWSI			QSL	365	8.88	15	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-68-1	68TH FLOOR MER	MEN'S HIGH RISE TOILET EXHAUST 5	12,000	2.0	1648		9	728		SWSI			QSL	270	5.57	7.5	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-68-2	68TH FLOOR MER	WOMEN'S HIGH RISE TOILET EXHAUST 6	12,000	2.0	1648		9	1167		SWSI			QSL	270	5.57	7.5	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
TX-69-4	69TH FLOOR MER	HIGH RISE JC EXHAUST	1600	2.0	1524		10	1864		SWSI			BCV	135	.78	1	1725		460	3	60					
EF-4-1	4TH FLOOR MER	B LEVEL SWITCHGEAR EXHAUST	5,400	2.0	1692		4	1715		N/A			TCVX	240630	2.56	5	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
EF-4-2	4TH FLOOR MER	B LEVEL BOH SPACES RETURN/SMOKE PURGE	15,000	2.0	2093		4	1192		N/A			TCVX	3606	7.27	10	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-4-3	4TH FLOOR MER	FUEL OIL PUMPS	2,400	2.0	1067		9	1812		SWSI			QSL	150	1.17	1.5	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-4-4	4TH FLOOR MER	SKADDEN LAUNDRY EXHAUST	2,400	2.0	1067		9	1812		SWSI			QSL	150	1.17	1.5	1725		460	3	60					
EF-4-8	4TH FLOOR MER	SECURITY CONSOLE ROOM AND VISITOR CENTER EXHAUST	1,500	1.5	667		9	1466		SWSI			QSL	150	.59	1	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
EF-5-1A&B	5TH FLOOR MER	B LEVEL GARAGE EXHAUST	10,000	2.5	2297		4	1742		N/A			TCVX	280535	6.13	7.5	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-2	5TH FLOOR MER	B LEVEL MECHANICAL ROOM EXHAUST	10,000	2.0	2297		4	1742		N/A			TCVX	280535	5.0	7.5	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
EF-68-1&2	68TH FLOOR MER	CO-GEN SYSTEM	23,000	1.5	2349		4	1197		N/A			TCVX	420530	8.53	15	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
EF-A	TYP OFFICE FLOOR (4-64)	LARGE ELEC CLOSET	400	0.75	905		4	747		SWSI			TL	900S	0.32	1	1725		115	1	60					SPEED CONTROL SWITCH (PROVIDE ALT. PRICE)
EF-B	TYP OFFICE FLOOR (4-64)	SMALL ELEC CLOSET	400	0.75	905		4	747		SWSI			TL	900S	0.32	1	1725		115	1	60					SPEED CONTROL SWITCH (PROVIDE ALT. PRICE)
SP-4-1&2	4TH FLOOR MER	3 STAIR "C" PRESSURIZATION	25,000	3.0	2553		4	1220		N/A			TCVX	420735	18.67	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-5-1&2	5TH FLOOR MER	5 STAIR "E" PRESSURIZATION	3,000	2.0	1333		9	1969		SWSI			QSLSH	150	1.49	2	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-5-3&4	5TH FLOOR MER	6 STAIR "T" PRESSURIZATION	3,000	2.0	1333		9	1969		SWSI			QSLSH	150	1.49	2	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-5-5&6	5TH FLOOR MER	4 STAIR "D" PRESSURIZATION	3,000	2.0	1333		9	1969		SWSI			QSLSH	150	1.49	2	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-5-7&8	5TH FLOOR MER	3A STAIR "A" PRESSURIZATION B LEVELS	3,000	2.0	1333		9	1969		SWSI			QSLSH	150	1.49	2	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-68-1&2	68TH FLOOR MER	STAIR "B" PRESSURIZATION	25,000	3.0	2553		4	1199		N/A			TCVX	420736	18.71	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-69-1&2	69TH FLOOR MER	STAIR "A" PRESSURIZATION (HIGH RISE)	25,000	3.0	2553		4	1199		N/A			TCVX	420736	18.71	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SP-70-1&2	70TH FLOOR MER	STAIR "C" PRESSURIZATION (HIGH RISE)	25,000	3.0	2553		4	1199		N/A			TCVX	420736	18.71	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SX-5-1	5TH FLOOR MER	GEN EXH/SMOKE PURGE SOUTH	43,000 GX / SX 22,000	3.0	2667		4	2667		N/A			TCVX	540530	29.9	40	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SX-4-1	4TH FLOOR MER	GEN EXH/SMOKE PURGE CELLAR LEVELS	3,000 GX / SX 11,000	1.5	1939		4	1161		N/A			TCVX	320635	3.96	5	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SX-69-1	69TH FLOOR MER	GEN EXH/SMOKE PURGE NORTH	18,000 GX / SX 22,000	3.5	3070		4	1696		N/A			TCVX	360634	19.19	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
SX-69-2	69TH FLOOR MER	GEN EXH/SMOKE PURGE SOUTH	43,000 GX / SX 22,000	3.0	3070		4	1163		N/A			TCVX	468740	37.59	50	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
RSF-4-1&2	4TH FLOOR MER	LOBBY RETURN/SMOKE EXH	37,500	1.5	2939		4	1141		N/A			TCVX	480435	15.58	20	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-3	ANNEX MER	B-LEVEL WET GARBAGE EXHAUST	2000	1.5	889		9	1552		SWSI			QSL	150	.73	1	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS
EF-5-4A&B	ANNEX MER	B LEVEL LOADING DOCK AND RAMP EXHAUST	12000	2.0	1675		4	1208		N/A			TCVX	360531	5.91	7.5	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
F-5-4A&B	ANNEX MER	GARAGE SUPPLY AIR SW AND NW TOWER	25,000	2	2553		4	1175		N/A			TCVX	420535	12.11	15	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-5A&B	ANNEX MER	GARAGE EXHAUST AIR SW AND NW TOWER	22,500	2	2298		4	1192		N/A			TCVX	420532	10.59	15	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-6	ANNEX MER	RETAIL AND ANNEX GX/SX	10,000 GX / SX 40,000	2	2481		4	1141		N/A			TCVX	540332	19.58	25	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-7	ANNEX MER	LOADING DOCK EXHAUST AIR SW TOWER	18,000	2	2093		4	1192		N/A			TCVX	360635	7.27	10	1725		460	3	60	Y				PROVIDE WITH VFD AND SOUND TRAPS
EF-5-10	ANNEX MER	LOADING DOCK BOH GX/SX	1000 GX / SX 5,000	2	2042		4	1807		N/A			TCVX	210742	2.6	5	1725		460	3	60					
TX-5-1	ANNEX MER	ANNEX AND RETAIL TOILET EXHAUST	5,000	2.0	1238		9	1144		SWSI			QSL	200	2.44	3	1725		460	3	60					PROVIDE WITH VFD AND SOUND TRAPS

REFER TO ALTERNATES 23000.4 ON M-002 FOR MORE INFORMATION

REFER TO ALTERNATES 23000.2 ON M-002 FOR MORE INFORMATION

RETURN, EXHAUST AND VENTILATION (SUPPLY) FANS CONT.																							(TWIN CITY FAN BLOWER) (UNLESS OTHERWISE NOTED)				
FAN NO.	LOCATION	SERVICE	CFM	STATIC PRESS (INCHES H2O)	MAX. OUTLET VELOCITY (FPM)	DISCHARGE DIRECTION	ARRANGEMENT	FAN R.P.M.	FAN ROTATION	WIDTH AND INLET	WHEEL DIAMETER (INCHES)	ACCESS DOOR LOCATION (O' CLOCK)	UNIT		B.H.P.	MIN. MOTOR H.P.	MOTOR R.P.M.	MOTOR LOCATION	VOLTS	PHASE	HERTZ	ON EMERGENCY POWER	VIBRATION BASE MIN.	VIBRATION BASE SPECIFICATION TYPE	ENTRY DEFLECTION (INCHES)	CLASS	REMARKS
													TYPE	SIZE													
F-5-5	5TH FLOOR MER	WEST MER SUPPLY	21,000	2.0	2931		4	1465		N/A			TCVX	3686	12.34	15	1725		460	3	60						
F-5-6	5TH FLOOR MER	EAST MER SUPPLY	20,000	2.0	3528		4	1751		N/A			TCVX	3284	12.71	15	1725		460	3	60						
EF-4-5	4TH FLOOR MER	NORTH MER EXH	6000	1	1378		4	1143		N/A			TCVX	2887	1.52	2	1725		460	3	60						
EF-4-6	4TH FLOOR MER	NORTH MER EXH	6000	1	1378		4	1143		N/A			TCVX	2887	1.52	2	1725		460	3	60						
EF-4-7	4TH FLOOR MER	SOUTH MER EXH	23000	2.0	2349		4	1131		N/A			TCVX	4285	11.39	15	1725		460	3	60						
EF-5-9	5TH FLOOR MER	NORTH MER EXH	5000	.5	882		4	673		N/A			TCVX	3286	.62	1	1725		460	3	60						



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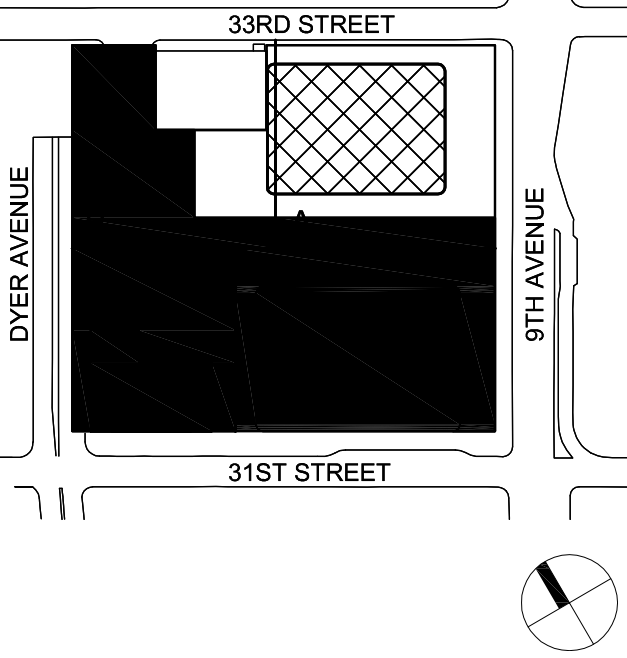
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Key Plan:



Seal & Signature:

5	24 APR 2015	ISSUED FOR 60% CD
4	19 DEC 2014	ISSUED FOR CD CONFIRMATION
3	15 NOV 2013	ISSUED FOR CD PROGRESS PRICING
2	12 JUL 2013	ISSUED FOR 50% DESIGN DEVELOPMENT
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CONSTANT / VARIABLE VOLUME BOXES

(TITUS TYPE 'DES' AS STD)

BOX SIZES (SEE DWGS)	MAXIMUM SET POINT CFM RANGE		MIN. SET POINT OF CFM SHOWN ON PLANS	MIN. SP @ MAX. CFM	INLET AND OUTLET SIZES		BOXES WITH HEATING COIL						SOUND TRAP		REMARKS
	LOW	HIGH			IN	OUT	ENTERING AIR TEMP. (°F)	LEAVING AIR TEMP. (°F)	ENTERING WATER TEMP. (°F)	LEAVING WATER TEMP. (°F)	No. OF ROWS	GPM	MAX. COIL PRESSURE DROP (PSIG)	MIN. SP @ MAX. CFM (BOX + COIL)	
7	90	500	65	0.14	7"ø	12x10	55	VARIES	140	VARIES	1	SEE NOTES	.10	.19	3HL 12x12x36 .01
8	245	800	120	0.20	8"ø	12x10	55	VARIES	140	VARIES	1	SEE NOTES	.10	.27	3HL 18x12x36 .01
10	385	1000	195	0.12	10"ø	14x12.5	55	VARIES	140	VARIES	1	SEE NOTES	.10	.19	3HL 18x12x36 .02
12	550	1500	280	0.15	12"ø	16x15	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 24x12x60 .04
14	880	2000	400	0.16	14"ø	20x17.5	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 24x12x60 .06
16	1000	2500	530	0.15	16"ø	24x18	55	VARIES	140	VARIES	1	SEE NOTES	.10	.22	5HL 30x12x60 .06

NOTES:

- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. HEATING PERFORMANCE OF ALL COILS SHALL BE BASED ON 2.0 GPM FLOW RATE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- V = VARIABLE VOLUME
VR = VARIABLE VOLUME WITH HEATING COIL
C = CONSTANT VOLUME
CR = CONSTANT VOLUME WITH HEATING COIL
- EACH VAV BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL BOXES SHALL BE PROVIDED WITH BOTTOM ACCESS DOOR. FOR INTERNAL ACCESS TO CONTROLS & TO HEATING COIL.

CONSTANT VOLUME REGULATORS

(TITUS TYPE AQCV/DQCV AS STD.)

BOX SIZES (SEE DWGS)	CFM RANGE		DAMPER SIZE (IN)	MIN. SP @ MAX. CFM	DISCHARGE NC RATING FOR 1" INLET PRESSURE	RADIATED NC RATING FOR 2" WD INLET PRESSURE	REMARKS
	LOW	HIGH					
F	250	500	14x8	0.155	26	35	
H	435	1000	18x10	0.172	22	37	
K	725	2000	20x14	0.165	22	38	
M	970	3500	22x16	0.165	25	43	
N	1220	5000	24x18	0.165	26	44	
P	1860	6000	30x20	0.162	24	42	
R	2750	8000	40x20	0.152	24	42	
R	8001	10,000	40x20	0.210	25	43	

NOTES:

- THE MECHANICAL CONTRACTOR SHALL PROVIDE A PLENUM LENGTH OF 5'-0" OF STRAIGHT DUCT RUN DOWN STREAM OF EACH CVR.

FAN POWERED TERMINAL UNITS

(TITUS TYPE DTQS STD)

BOX SIZES (SEE DWGS)	MAX. SET POINT CFM RANGE OF VALVE 49°F EAT		MINIMUM SET POINT CFM OF VALVE	SET POINT OF FAN	HIGH OFFICE TRADING	MIN. MOTOR H.P. HIGH SPEED	DISCHARGE S.P. OF FPTU (INCLUDING HEATING COIL)	INLET SIZES	BOXES WITH HEATING COIL						SOUND TRAP		REMARKS		
	LOW	HIGH							ENTERING AIR TEMP. (°F)	LEAVING AIR TEMP. (°F)	ENTERING WATER TEMP. (°F)	LEAVING WATER TEMP. (°F)	GPM	MAX. COIL PRESSURE DROP (PSIG)	MIN. SP. @ BOX & MAX. CFM (COIL & BOX)	ELECTRICAL CHAR. (VOLTS/PHASE HERTZ)		IAC TYPE AND DIMENSIONS (WxHxL)	PRESS DROP INCH. WG.
2	145	335	145	150	400 535	1/6	.40	8"ø	60	VARIES	170	140	SEE NOTE 2	.66	.08	277/1/60	3HL 12x12x36	.01	
3	200 336	480 900	160 260	401	1050 1150	1/4	.40	8"ø 10"ø	60	VARIES	170	140	SEE NOTE 2	.20	.26	277/1/60	3HL 18x12x36	.03	
5	801	1130	375	951	1350 1600	1/3	.40	12"ø	60	VARIES	170	140	SEE NOTE 2	.43	.16	277/1/60	5HL 24x12x60	.04	
6	1131	1350	470	1351	1650 2000	3/4	.40	14"ø	60	VARIES	170	140	SEE NOTE 2	.93	.22	277/1/60	5HL 24x12x60	.06	

NOTES:

- REFER TO FLOOR PLANS FOR ACTUAL QUANTITY OF FAN POWERED BOXES WITH AND WITHOUT HOT WATER HEATING COILS AND UNIT LEFT/RIGHT HAND ARRANGEMENT.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. COILS ON FLOORS 15 THRU 69 SHALL HAVE 2.5 GPM FLOW RATE.
- KEY TO SYMBOL: FAN CFM
(MAX. VALVE CFM)
(MIN. VALVE CFM)
- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- FAN POWERED TERMINAL UNITS BASED ON MAXIMUM OF 1.5 INCHES INLET STATIC PRESSURE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- FPB = FAN POWERED BOX
FPBH = FAN POWERED BOX WITH HEATING COIL
- EACH FPB BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL FANS PROVIDED WITH THE FPB'S SHALL BE SET TO PROVIDE A MINIMUM ESP OF .4 INCH W.G AT THE MAXIMUM AIRFLOW RATES NOTED IN THE SCHEDULE.



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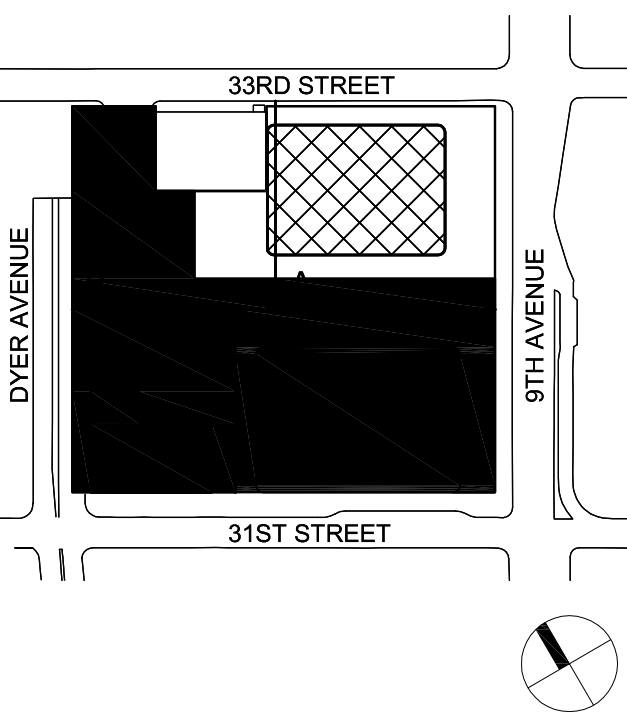
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CONDENSER WATER PACKAGED AIR CONDITIONING UNITS

UNIT No.	LOCATION	SERVICE	SENSE CAPACITY (BTU/H)	TOTAL CAPACITY (BTU/H)	ENTER AIR TEMP. (°F)		FAN SECTION				COOLING COIL						CONTROL VALVES		FILTER		HUMID.		REHEAT	ELECTRICAL				W.B. BASE SPEC. TYPE	W.B. BASE MIN. STATIC PRESS. (PSI)	MODEL NUMBER	REMARKS
					DB	WB	CFM	EXT. S.P. (IN.)	MIN. MOTOR HP	NO. OF FANS	ENT (°F)	UNIT (°F)	FACE AREA (SQ. FT)	NO. OF ROWS	FACE VELOCITY (FPM)	GPM	P.D. (FT)	WORKING PRESS. (PSI)	VALVE TYPE	SIZE	SIZE	KEFF.		LBS./HR	KW	KW	TOTAL FLA				
AC-B-1 THRU AC-B-2	CELLAR B LEVEL	SWITCHGEAR ROOM	200,000								87	102												8.0	460	3	60				
AC-B-3	CELLAR B LEVEL	CELLAR B LEVEL MER	300,000								87	102												12.0	460	3	60				
AC-B-4	CELLAR B LEVEL	DOCK MASTER OFFICE	18,000								87	102												2.5	460	3	60				
AC-B-5	CELLAR B LEVEL	ELEVATOR LOBBY	18,000								87	102												2.5	460	3	60				
AC-B-6	CELLAR B LEVEL	WET GARAGE	18,000								87	102												2.5	460	3	60				
AC-B-7	CELLAR B LEVEL	DOCK ACCESS OFFICE	18,000								87	102												2.5	460	3	60				
AC-4-3	4TH FLOOR ANNEX	4TH FLOOR ANNEX	243,000				8,750				87	102												58.4	460	3	60				
AC-1-1	TENANT LOBBY LEVEL MER	TENANT LOBBY	243,000				8,750				87	102												58.4	460	3	60				REFER TO ALTERNATES 23000.4 ON M-502 FOR MORE INFORMATION
AC-B-1 THRU AC-B-7	TENANT FLOOR MER	TENANT FLOORS 6 THRU 87	1,217,000				25,000				87	102												188.3	460	3	60				
AC-B1-1	CELLAR B-1 LEVEL	B-1 LEVEL BOH SPACES	50,000				3,000				87	102												3.4	460	3	60				
AC-B2-1	CELLAR B-2 LEVEL	B-2 LEVEL BOH SPACES	50,000				3,000				87	102												3.4	460	3	60				
AC-B3-1	CELLAR B-3 LEVEL	B-3 LEVEL BOH SPACES	50,000				3,000				87	102												3.4	460	3	60				
AC-1-1	GROUND FLOOR	VISITOR CENTER	36,000				1,500				87	102												3.4	460	3	60				
AC-2-1	LEVEL 2	SECURITY CONSOLE	36,000				1,500				87	102												3.4	460	3	60				
AC-4-1	LEVEL 4	SECURITY BACK ROOM	50,000				3,000				87	102												3.4	460	3	60				

CHILLED WATER PACKAGED AIR CONDITIONING UNITS

(LEIBERT AS STD.)

UNIT No.	LOCATION	SERVICE	SENSE CAPACITY (BTU/H)	TOTAL CAPACITY (BTU/H)	ENTER AIR TEMP. (°F)		FAN SECTION				COOLING COIL						CONTROL VALVES		FILTER		HUMID.		REHEAT		ELECTRICAL				W.B. BASE SPEC. TYPE	W.B. BASE MIN. STATIC PRESS. (IN. Hg)	MODEL NUMBER	REMARKS
					DB	WB	CFM	EXT. S.P. (IN.)	MIN. MOTOR HP	NO. OF FANS	ENT (°F)	UNIT (°F)	FACE AREA (SQ. FT)	NO. OF ROWS	FACE VELOCITY (FPM)	GPM	P.D. (FT)	WORKING PRESS. (PSI)	VALVE TYPE	SIZE	SIZE	ΔEFF.	LBS./HR	KW	KW	TOTAL FLA	VOLTS	PHASE				
AC-4-1 & 2	4TH FLOOR CORE	PARKING ELEVATORS	60,000	-	80	67	5,000	0.5	5	1	44	58	11.7	4	450	15	7	300	2-WAY	4"	60	-	-	-	8.0	460	3	60	SEE SPEC	SEE SPEC	CW 38U	(1 ACT, 1 STBY)
AC-20-1 & 2	20TH FLOOR CORE	LOW RISE BANK A ELEVATOR MACHINE ROOM (1-4)	60,000	-	80	67	5,000	0.5	5	1	44	58	11.7	4	450	15	7	300	2-WAY	4"	60	-	-	-	8.0	460	3	60	SEE SPEC	SEE SPEC	CW 38U	(1 ACT, 1 STBY)
AC-31-1 & 2	31ST FLOOR CORE	LOW RISE BANK B ELEVATOR MACHINE ROOM (7-12)	90,000	-	80	67	12,500	0.5	10	2	44	58	25	6	450	25	7	300	2-WAY	4"	60	-	-	-	11	460	3	60	SEE SPEC	SEE SPEC	CW 76	(1 ACT, 1 STBY)
AC-43-1 & 2	43TH FLOOR CORE	MID RISE BANK C ELEVATOR MACHINE ROOM (13-18)	120,000	-	80	67	12,500	0.5	15	2	44	58	18	6	450	30	5	300	2-WAY	4"	60	-	-	-	15	460	3	60	SEE SPEC	SEE SPEC	CW 89	(1 ACT, 1 STBY)
AC-53-1 & 2	53RD FLOOR CORE	MID RISE BANK D ELEVATOR MACHINE ROOM (19-24)	180,000	-	80	67	16,000	0.5	15	3	44	58			450	55	13	300	2-WAY	4"	60	-	-	-	25	460	3	60	SEE SPEC	SEE SPEC	CW 114	(1 ACT, 1 STBY)
AC-63-1 & 2	63RD FLOOR CORE	HIGH RISE BANK E ELEVATOR MACHINE ROOM (25-30)	180,000	-	80	67	16,000	0.5	15	3	44	58			450	55	13	300	2-WAY	4"	60	-	-	-	25	460	3	60	SEE SPEC	SEE SPEC	CW 114	(1 ACT, 1 STBY)
AC-70-1 & 2	70TH FLOOR CORE	HIGH RISE BANK F ELEVATOR MACHINE ROOM (31-36)	180,000	-	80	67	16,000	0.5	15	3	44	58			450	55	13	300	2-WAY	4"	60	-	-	-	25	460	3	60	SEE SPEC	SEE SPEC	CW 114	(1 ACT, 1 STBY)
AC-71-1 & 2	71ST FLOOR CORE	SERVICE ELEVATOR MACHINE ROOM (36,36,37)	180,000	-	80	67	16,000	0.5	15	3	44	58			450	55	13	300	2-WAY	4"	60	-	-	-	25	460	3	60	SEE SPEC	SEE SPEC	CW 114	(1 ACT, 1 STBY)

NOTES:

- EACH V-CUBE TYPE A.C. UNIT IS A UNITARY PIECE OF EQUIPMENT INCORPORATING THE FAN REFRIGERANT CIRCUIT COILS, CONTROLS, FILTERS, ABSORBERS, ACCESS SECTIONS AND RETURN AIR PLENUM SECTION.
- UNIT LEAVING TEMPERATURE IS NET TEMPERATURE LEAVING AC UNIT DISCHARGE PLENUM (INCLUDES COIL LEAVING TEMP. PLUS INTERNAL HEAT GAIN).
- THE EXTERNAL S.P. INDICATED FOR THE LOCAL TENANT FLOOR UNITS IS AT THE OUTPUT AT THE UNIT DISCHARGE PLENUM. THE FOLLOWING CRITERIA FOR THE EXTERNAL COMPONENTS SHALL BE USED IN DETERMINING THE TOTAL STATIC PRESSURE REQUIREMENT OF THE AC UNIT:
 - THE SUPPLY AIR DUCTWORK LOSS SHALL BE 2.0 IN H₂O AT DISCHARGE OF A.C. UNIT.
 - THE RETURN AIR DUCTWORK LOSS SHALL BE 0.50 IN H₂O.
 - THE ASSOCIATED LOSSES (N) FOR ALL A/C COMPONENTS AND DISCHARGE PLENUM SHALL BE ESTABLISHED BY THE AC UNIT MANUFACTURER.

- MINIMUM EFFICIENCY CRITERIA (EER) OF A.C. UNIT (UTILIZING ARI 210/240-94 OR ARI 340/360-2000) IS TO BE AS FOLLOWS:
< 5.4 TONS =12.1 EER > 5.4 TO 11.25 TONS =11.5 EER > 11.25 TO 20 TONS =11 EER > 20 TONS =11 EER
MANUFACTURER SHALL PROVIDE HIGHEST EFFICIENCY UNITS AVAILABLE. ENERGY EFFICIENCY RATING SHALL BE PROVIDED IN THE REQUIRED SUBMITTAL INFORMATION SECTION.
- ALL A.C. UNIT COIL HEADERS TO BE PROVIDED WITH GROOVED CONNECTION TO ACCEPT GROOVED TYPE COUPLING.
- CONTRACTOR TO PROVIDE ONE SPARE COMPRESSOR OF EACH SIZE AND TYPE FOR BUILDING ENGINEERS STOCK.
- ALL V-CUBE UNITS TO BE MOUNTED ON HAZON INDUSTRIES TYPE "SUPER-W" NEOPRENE VIBRATION PADS, 3/4" THICK WITH 0.15 INCH MINIMUM STATIC DEFLECTION.
- ALL FILTER PRESSURE DROPS ARE BASED ON A MAXIMUM FACE VELOCITY OF 350 FPM.

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE						
LOBBY-SYS	VAVS		1.000	15781.0		290.						
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
62730.	42.477	2.1	62730.	18.531	0.9	0.051	3260.596	0.584	0.000	0.00	0.37	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
G-LOBBY-E		26808.	0.	0.000	0.500	845.	0.00	0.00	752.78	-1592.42	-1100.22	1.0
G-LOBBY-S		18556.	0.	0.000	0.500	962.	0.00	0.00	521.05	-1102.22	-761.53	1.0
G-ELEV-LOBBY		4992.	0.	0.000	0.500	157.	0.00	0.00	140.19	-296.55	-204.89	1.0
G-LOBBY-N		12373.	0.	0.000	0.500	1226.	0.00	0.00	347.44	-734.96	-507.79	1.0

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE						
BOH-SYS	PVAVS		1.000	33301.7		243.						
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
35955.	27.333	2.4	35955.	10.128	0.9	0.072	1692.748	0.627	0.000	0.20	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B1-BOH		2253.	0.	0.000	0.350	322.	0.00	0.00	63.25	-148.40	-92.45	1.0
B1-CORR		904.	0.	0.000	0.350	54.	0.00	0.00	25.40	-59.59	-37.12	1.0
B-CORR-1		3154.	0.	0.000	0.350	189.	0.00	0.00	88.56	-207.77	-129.43	1.0
B-LOCKERS		1199.	0.	0.000	0.350	171.	0.00	0.00	33.66	-78.98	-49.20	1.0

NAME		TYPE		MULTIPLIER		(SQFT)		PEOPLE					
6-DOAS-SYS		HVSYS		1.000		4500.0		0.					
SUPPLY FAN (CFM)		ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
4500.		3.510	2.4	0.	0.000	0.0	1.000	0.000	0.000	-518.402	0.00	0.37	
ZONE NAME			SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
6-DOAS-ZONE			4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	1.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1													
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL													
REPORT- SV-A SYSTEM DESIGN PARAMETERS 6-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY													

SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE					
6-FLR-SYS		PVAVS		1.000		19992.3		143.					
SUPPLY FAN (CFM)		ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
17654.		17.820	3.1	0.	0.000	0.0	0.255	1061.632	0.598	0.000	0.20	0.20	
ZONE NAME			SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
6-OFC-CORE			4877.	0.	0.000	0.350	1244.	0.00	0.00	136.96	-321.32	-200.17	1.0
6-OFC-W			2081.	0.	0.000	0.350	531.	0.00	0.00	58.42	-137.07	-85.39	1.0
6-OFC-S			3275.	0.	0.000	0.350	835.	0.00	0.00	91.97	-215.79	-134.42	1.0
6-OFC-E			2277.	0.	0.000	0.350	581.	0.00	0.00	63.93	-149.99	-93.44	1.0
6-OFC-N			2713.	0.	0.000	0.350	692.	0.00	0.00	76.17	-178.71	-111.33	1.0
6-CORR			505.	0.	0.000	0.350	129.	0.00	0.00	14.17	-33.25	-20.71	1.0
6-RESTRMS			871.	0.	0.000	0.350	222.	0.00	0.00	24.46	-57.40	-35.76	1.0
6-ELEV-LOBBY			1055.	0.	0.000	0.350	269.	0.00	0.00	29.63	-69.52	-43.31	1.0
6-PLENUM			0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1													
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL													
REPORT- SV-A SYSTEM DESIGN PARAMETERS 7-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY													

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
7-DOAS-SYS	HVSYS	1.000	54000.0	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
54000.	42.124	2.4	0.	0.000	0.0	1.000	0.000	0.000	-6220.818	0.00	0.37	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
7-DOAS-ZONE		4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	12.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 7-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
7-FLR-SYS	PVAVS	1.000	299908.0	2142.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
256404.	258.811	3.1	0.	0.000	0.0	0.211	14795.139	0.597	0.000	0.20	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
7-OFC-CORE		8377.	0.	0.000	0.350	1768.	0.00	0.00	235.24	-551.90	-343.81	12.0
7-OFC-W		2081.	0.	0.000	0.350	439.	0.00	0.00	58.42	-137.07	-85.39	12.0
7-OFC-S		3422.	0.	0.000	0.350	722.	0.00	0.00	96.08	-225.42	-140.42	12.0
7-OFC-E		2343.	0.	0.000	0.350	494.	0.00	0.00	65.80	-154.38	-96.17	12.0
7-OFC-N		2713.	0.	0.000	0.350	572.	0.00	0.00	76.17	-178.71	-111.33	12.0
7-CORR		505.	0.	0.000	0.350	107.	0.00	0.00	14.17	-33.25	-20.71	12.0
7-RESTRMS		871.	0.	0.000	0.350	184.	0.00	0.00	24.46	-57.40	-35.76	12.0
7-ELEV-LOBBY		1055.	0.	0.000	0.350	223.	0.00	0.00	29.63	-69.52	-43.31	12.0
7-PLENUM		0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	12.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 19-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

19-DOAS-SYS													
SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE							
19-DOAS-SYS	HVSYS		1.000	9000.0		0.							
	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
	9000.	7.021	2.4	0.	0.000	0.0	1.000	0.000	0.000	-1036.803	0.00	0.37	
	ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
19-DOAS-ZONE			4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	2.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1													
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL													
REPORT- SV-A	SYSTEM DESIGN PARAMETERS					19-FLR-SYS			WEATHER FILE- NEW YORK CENTRAL NY				
SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE							
19-FLR-SYS	PVAVS		1.000	49985.5		357.							
	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
	44001.	44.415	3.1	0.	0.000	0.0	0.205	2523.036	0.597	0.000	0.20	0.20	
	ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
19-OFC-CORE			8377.	0.	0.000	0.350	1717.	0.00	0.00	235.24	-551.90	-343.81	2.0
19-OFC-W			2678.	0.	0.000	0.350	549.	0.00	0.00	75.21	-176.44	-109.92	2.0
19-OFC-S			3415.	0.	0.000	0.350	700.	0.00	0.00	95.88	-224.95	-140.13	2.0
19-OFC-E			2386.	0.	0.000	0.350	489.	0.00	0.00	67.00	-157.20	-97.93	2.0
19-OFC-N			2713.	0.	0.000	0.350	556.	0.00	0.00	76.17	-178.71	-111.33	2.0
19-CORR			504.	0.	0.000	0.350	103.	0.00	0.00	14.16	-33.23	-20.70	2.0
19-RESTRMS			871.	0.	0.000	0.350	179.	0.00	0.00	24.46	-57.40	-35.76	2.0
19-ELEV-LOBBY			1056.	0.	0.000	0.350	216.	0.00	0.00	29.65	-69.57	-43.34	2.0
19-PLENUM			0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	2.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1													
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL													

REPORT- SV-A SYSTEM DESIGN PARAMETERS			21-DOAS-SYS				WEATHER FILE- NEW YORK CENTRAL NY																
SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE															
21-DOAS-SYS		HVSYS		1.000		40500.0		0.															
SUPPLY FAN (CFM)		ELEC (KW)		DELTA-T (F)		RETURN FAN (CFM)		ELEC (KW)		DELTA-T (F)		OUTSIDE AIR RATIO		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		HEATING CAPACITY (KBTU/HR)		COOLING EIR (BTU/BTU)		HEATING EIR (BTU/BTU)	
40500.		31.593		2.4		0.		0.000		0.0		1.000		0.000		0.000		-4665.614		0.00		0.37	
ZONE NAME		SUPPLY FLOW (CFM)		EXHAUST FLOW (CFM)		FAN (KW)		MINIMUM FLOW RATIO		OUTSIDE AIR FLOW (CFM)		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		EXTRACTION RATE (KBTU/HR)		HEATING CAPACITY (KBTU/HR)		ADDITION RATE (KBTU/HR)		MULTIPLIER	
21-DOAS-ZONE		4500.		0.		0.000		1.000		4500.		0.00		0.00		0.00		-267.30		-218.70		9.0	
1 DOE 2.1E				MANHATTAN WEST				DOE-2.1E-121				Thu Apr 23 10:07:01 2015SDL RUN 1											
Alnp1: 1200 kW:250 TR				SIM: VIRIDIAN ENERGY & ENVIRONMENTAL																			
REPORT- SV-A SYSTEM DESIGN PARAMETERS			21-FLR-SYS				WEATHER FILE- NEW YORK CENTRAL NY																
SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE															
21-FLR-SYS		PVAVS		1.000		223754.0		1598.															
SUPPLY FAN (CFM)		ELEC (KW)		DELTA-T (F)		RETURN FAN (CFM)		ELEC (KW)		DELTA-T (F)		OUTSIDE AIR RATIO		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		HEATING CAPACITY (KBTU/HR)		COOLING EIR (BTU/BTU)		HEATING EIR (BTU/BTU)	
195236.		197.070		3.1		0.		0.000		0.0		0.207		11264.032		0.597		0.000		0.20		0.20	
ZONE NAME		SUPPLY FLOW (CFM)		EXHAUST FLOW (CFM)		FAN (KW)		MINIMUM FLOW RATIO		OUTSIDE AIR FLOW (CFM)		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		EXTRACTION RATE (KBTU/HR)		HEATING CAPACITY (KBTU/HR)		ADDITION RATE (KBTU/HR)		MULTIPLIER	
21-OFC-CORE		8378.		0.		0.000		0.350		1743.		0.00		0.00		235.24		-551.91		-343.81		9.0	
21-OFC-W		2622.		0.		0.000		0.350		545.		0.00		0.00		73.62		-172.73		-107.60		9.0	
21-OFC-E		2316.		0.		0.000		0.350		482.		0.00		0.00		65.04		-152.59		-95.06		9.0	
21-OFC-N		2708.		0.		0.000		0.350		563.		0.00		0.00		76.05		-178.42		-111.14		9.0	
21-CORR		505.		0.		0.000		0.350		105.		0.00		0.00		14.17		-33.25		-20.71		9.0	
21-RESTRMS		775.		0.		0.000		0.350		161.		0.00		0.00		21.76		-51.05		-31.80		9.0	
21-ELEV-LOBBY		997.		0.		0.000		0.350		207.		0.00		0.00		28.01		-65.71		-40.93		9.0	
21-OFC-S		3392.		0.		0.000		0.350		706.		0.00		0.00		95.25		-223.47		-139.21		9.0	
21-PLENUM		0.		0.		0.000		0.000		0.		0.00		0.00		0.00		0.00		0.00		9.0	
1 DOE 2.1E				MANHATTAN WEST				DOE-2.1E-121				Thu Apr 23 10:07:01 2015SDL RUN 1											

Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 30-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE						
30-DOAS-SYS	HVSYS		1.000	4500.0		0.						
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
4500.	3.510	2.4	0.	0.000	0.0	1.000	0.000	0.000	-518.402	0.00	0.37	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
30-DOAS-ZONE		4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	1.0

1	DOE	2.1E	MANHATTAN	WEST	DOE-2.1E-121	Thu Apr 23 10:07:01	2015SDL	RUN	1
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Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 30-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE							
30-FLR-SYS	PVAVS		1.000	23339.7		167.							
	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
	20090.	20.278	3.1	0.	0.000	0.0	0.224	1178.581	0.597	0.000	0.20	0.20	
	ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
30-RESTRMS			830.	0.	0.000	0.350	186.	0.00	0.00	23.31	-54.68	-34.07	1.0
30-OFC-N			2324.	0.	0.000	0.350	521.	0.00	0.00	65.26	-153.12	-95.39	1.0
30-OFC-CORE			7644.	0.	0.000	0.350	1712.	0.00	0.00	214.65	-503.60	-313.71	1.0
30-OFC-W			2634.	0.	0.000	0.350	590.	0.00	0.00	73.96	-173.53	-108.10	1.0
30-OFC-E			2336.	0.	0.000	0.350	523.	0.00	0.00	65.60	-153.91	-95.88	1.0
30-CORR			504.	0.	0.000	0.350	113.	0.00	0.00	14.16	-33.23	-20.70	1.0
30-ELEV-LOBBY			566.	0.	0.000	0.350	127.	0.00	0.00	15.90	-37.31	-23.24	1.0
30-OFC-S			3250.	0.	0.000	0.350	728.	0.00	0.00	91.27	-214.13	-133.40	1.0
30-PLENUM			0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.0

Alnpl: 1200 kW:250 TR
 REPORT- SV-A SYSTEM DESIGN PARAMETERS

SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 31-DOAS-SYS

WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
31-DOAS-SYS	HVSYS	1.000	9000.0	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
9000.	7.021	2.4	0.	0.000	0.0	1.000	0.000	0.000	-1036.803	0.00	0.37	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
31-DOAS-ZONE		4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	2.0

Alnpl: 1200 kW:250 TR
 REPORT- SV-A SYSTEM DESIGN PARAMETERS

SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 31-FLR-SYS

WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
31-FLR-SYS	PVAVS	1.000	46495.2	332.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
40780.	41.163	3.1	0.	0.000	0.0	0.221	2367.923	0.597	0.000	0.20	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
31-RESTRMS		830.	0.	0.000	0.350	183.	0.00	0.00	23.31	-54.69	-34.07	2.0
31-OFC-N		2598.	0.	0.000	0.350	574.	0.00	0.00	72.94	-171.13	-106.61	2.0
31-OFC-CORE		7644.	0.	0.000	0.350	1689.	0.00	0.00	214.65	-503.61	-313.72	2.0
31-OFC-W		2637.	0.	0.000	0.350	583.	0.00	0.00	74.06	-173.75	-108.24	2.0
31-OFC-E		2331.	0.	0.000	0.350	515.	0.00	0.00	65.46	-153.58	-95.67	2.0
31-CORR		532.	0.	0.000	0.350	118.	0.00	0.00	14.93	-35.04	-21.83	2.0
31-ELEV-LOBBY		566.	0.	0.000	0.350	125.	0.00	0.00	15.90	-37.31	-23.24	2.0
31-OFC-S		3251.	0.	0.000	0.350	719.	0.00	0.00	91.29	-214.19	-133.43	2.0
31-PLENUM		0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 33-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
33-DOAS-SYS	HVSYS	1.000	40500.0	0.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
40500.	31.593	2.4	0.	0.000	0.0	1.000	0.000	0.000	-4665.614	0.00	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
33-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	9.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 33-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
33-FLR-SYS	PVAVS	1.000	214284.9	1531.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
187503.	189.264	3.1	0.	0.000	0.0	0.216	10787.981	0.598	0.000	0.20	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
33-RESTRMS	801.	0.	0.000	0.350	173.	0.00	0.00	22.49	-52.76	-32.87	9.0
33-OFC-N	2561.	0.	0.000	0.350	553.	0.00	0.00	71.91	-168.72	-105.11	9.0
33-OFC-CORE	8226.	0.	0.000	0.350	1777.	0.00	0.00	230.98	-541.91	-337.58	9.0
33-OFC-W	2640.	0.	0.000	0.350	570.	0.00	0.00	74.14	-173.94	-108.35	9.0
33-OFC-E	2304.	0.	0.000	0.350	498.	0.00	0.00	64.70	-151.80	-94.56	9.0
33-CORR	532.	0.	0.000	0.350	115.	0.00	0.00	14.95	-35.08	-21.85	9.0
33-ELEV-LOBBY	566.	0.	0.000	0.350	122.	0.00	0.00	15.90	-37.31	-23.24	9.0
33-OFC-S	3203.	0.	0.000	0.350	692.	0.00	0.00	89.94	-211.00	-131.45	9.0

33-PLENUM 0. 0. 0.000 0.000 0. 0.00 0.00 0.00 0.00 0.00 0.00 1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 42-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE						
42-DOAS-SYS		HVSYS		1.000		4500.0		0.						
SUPPLY FAN (CFM)		ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)		ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
4500.		3.510	2.4	0.		0.000	0.0	1.000	0.000	0.000	-518.402	0.00	0.37	
ZONE NAME		SUPPLY FLOW (CFM)		EXHAUST FLOW (CFM)		FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
42-DOAS-ZONE		4500.		0.		0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 42-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE						
42-FLR-SYS	PVAVS		1.000	22455.2		160.						
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
19579.	19.763	3.1	0.	0.000	0.0	0.230	1155.787	0.597	0.000	0.20	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
42-OFC-E		2382.	0.	0.000	0.350	548.	0.00	0.00	66.89	-156.93	-97.76	1.0
42-RESTRMS		801.	0.	0.000	0.350	184.	0.00	0.00	22.49	-52.76	-32.87	1.0
42-OFC-CORE		7381.	0.	0.000	0.350	1698.	0.00	0.00	207.26	-486.26	-302.91	1.0
42-OFC-W		2644.	0.	0.000	0.350	608.	0.00	0.00	74.25	-174.21	-108.53	1.0
42-CORR		533.	0.	0.000	0.350	123.	0.00	0.00	14.96	-35.10	-21.87	1.0
42-ELEV-LOBBY		334.	0.	0.000	0.350	77.	0.00	0.00	9.39	-22.03	-13.72	1.0
42-OFC-N		2438.	0.	0.000	0.350	561.	0.00	0.00	68.46	-160.62	-100.06	1.0
42-OFC-S		3065.	0.	0.000	0.350	705.	0.00	0.00	86.07	-201.93	-125.79	1.0

42-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.0
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1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 43-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
43-DOAS-SYS	HVSYS	1.000	40500.0	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
40500.	31.593	2.4	0.	0.000	0.0	1.000	0.000	0.000	-4665.614	0.00	0.37	
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
43-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	9.0	

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 43-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
43-FLR-SYS	PVAVS	1.000	204259.6	1459.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
181499.	183.203	3.1	0.	0.000	0.0	0.223	10651.702	0.597	0.000	0.20	0.20	
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
43-OFC-E	2341.	0.	0.000	0.350	522.	0.00	0.00	65.73	-154.22	-96.07	9.0	
43-RESTRMS	942.	0.	0.000	0.350	210.	0.00	0.00	26.46	-62.07	-38.67	9.0	
43-OFC-CORE	7381.	0.	0.000	0.350	1646.	0.00	0.00	207.26	-486.26	-302.91	9.0	
43-OFC-W	2646.	0.	0.000	0.350	590.	0.00	0.00	74.30	-174.32	-108.60	9.0	
43-CORR	561.	0.	0.000	0.350	125.	0.00	0.00	15.75	-36.95	-23.02	9.0	
43-ELEV-LOBBY	666.	0.	0.000	0.350	149.	0.00	0.00	18.71	-43.90	-27.34	9.0	
43-OFC-N	2566.	0.	0.000	0.350	572.	0.00	0.00	72.07	-169.08	-105.33	9.0	

43-OFC-S	3063.	0.	0.000	0.350	683.	0.00	0.00	86.00	-201.78	-125.70	9.0
43-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	9.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 52-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
52-DOAS-SYS	HVSYS	1.000	4500.0	0.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
4500.	3.510	2.4	0.	0.000	0.0	1.000	0.000	0.000	-518.402	0.00	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
52-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 52-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
52-FLR-SYS	PVAVS	1.000	21759.8	155.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
19427.	19.609	3.1	0.	0.000	0.0	0.232	1147.072	0.598	0.000	0.20	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
52-RESTRMS	1080.	0.	0.000	0.350	250.	0.00	0.00	30.31	-71.12	-44.30	1.0
52-OFC-E	2309.	0.	0.000	0.350	536.	0.00	0.00	64.83	-152.11	-94.76	1.0
52-OFC-CORE	6863.	0.	0.000	0.350	1592.	0.00	0.00	192.70	-452.11	-281.64	1.0
52-OFC-W	2648.	0.	0.000	0.350	614.	0.00	0.00	74.35	-174.43	-108.66	1.0
52-CORR	505.	0.	0.000	0.350	117.	0.00	0.00	14.17	-33.25	-20.71	1.0
52-ELEV-LOBBY	666.	0.	0.000	0.350	154.	0.00	0.00	18.69	-43.86	-27.32	1.0
52-OFC-N	2435.	0.	0.000	0.350	565.	0.00	0.00	68.39	-160.45	-99.95	1.0

52-OFC-S	2922.	0.	0.000	0.350	678.	0.00	0.00	82.05	-192.50	-119.92	1.0
52-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.0

1 DOE 2.1E
Alnp1: 1200 kw:250 TR
REPORT- SV-A SYSTEM DESIGN PARAMETERS

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
53-DOAS-SYS

DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
53-DOAS-SYS	HVSYS	1.000	9000.0	0.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
9000.	7.021	2.4	0.	0.000	0.0	1.000	0.000	0.000	-1036.803	0.00	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
53-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	2.0

1 DOE 2.1E
Alnp1: 1200 kw:250 TR
REPORT- SV-A SYSTEM DESIGN PARAMETERS

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
53-FLR-SYS

DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
53-FLR-SYS	PVAVS	1.000	44101.8	315.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
40136.	40.513	3.1	0.	0.000	0.0	0.224	2354.192	0.597	0.000	0.20	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
53-RESTRMS	1015.	0.	0.000	0.350	227.	0.00	0.00	28.50	-66.88	-41.66	2.0
53-OFC-E	2272.	0.	0.000	0.350	509.	0.00	0.00	63.79	-149.66	-93.23	2.0
53-OFC-CORE	7148.	0.	0.000	0.350	1601.	0.00	0.00	200.73	-470.94	-293.37	2.0
53-OFC-W	2648.	0.	0.000	0.350	593.	0.00	0.00	74.35	-174.45	-108.67	2.0
53-CORR	693.	0.	0.000	0.350	155.	0.00	0.00	19.47	-45.69	-28.46	2.0
53-ELEV-LOBBY	699.	0.	0.000	0.350	157.	0.00	0.00	19.63	-46.05	-28.69	2.0

53-OFC-N	2552.	0.	0.000	0.350	572.	0.00	0.00	71.66	-168.13	-104.73	2.0
53-OFC-S	3040.	0.	0.000	0.350	681.	0.00	0.00	85.37	-200.30	-124.78	2.0
53-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	2.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 55-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
55-DOAS-SYS	HVSYS	1.000	31500.0	0.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
31500.	24.572	2.4	0.	0.000	0.0	1.000	0.000	0.000	-3628.811	0.00	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
55-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	7.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 55-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
55-FLR-SYS	PVAVS	1.000	158761.2	1134.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
143294.	144.640	3.1	0.	0.000	0.0	0.220	8385.469	0.597	0.000	0.20	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
55-RESTRMS	1010.	0.	0.000	0.350	222.	0.00	0.00	28.36	-66.54	-41.45	7.0
55-OFC-E	2547.	0.	0.000	0.350	560.	0.00	0.00	71.51	-167.77	-104.51	7.0
55-OFC-CORE	7386.	0.	0.000	0.350	1625.	0.00	0.00	207.40	-486.60	-303.13	7.0
55-OFC-W	2649.	0.	0.000	0.350	583.	0.00	0.00	74.39	-174.53	-108.72	7.0
55-CORR	694.	0.	0.000	0.350	153.	0.00	0.00	19.47	-45.69	-28.46	7.0
55-ELEV-LOBBY	699.	0.	0.000	0.350	154.	0.00	0.00	19.63	-46.06	-28.69	7.0

55-OFC-N	2501.	0.	0.000	0.350	550.	0.00	0.00	70.24	-164.79	-102.66	7.0
55-OFC-S	2984.	0.	0.000	0.350	657.	0.00	0.00	83.80	-196.61	-122.48	7.0
55-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	7.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 62-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
62-DOAS-SYS	HVSYS	1.000	4500.0	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
4500.	3.510	2.4	0.	0.000	0.0	1.000	0.000	0.000	-518.402	0.00	0.37	
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
62-DOAS-ZONE	4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	1.0	

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 62-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
62-FLR-SYS	PVAVS	1.000	21758.0	155.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
19665.	19.849	3.1	0.	0.000	0.0	0.229	1160.111	0.598	0.000	0.20	0.20	
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER	
62-RESTRMS	1010.	0.	0.000	0.350	231.	0.00	0.00	28.36	-66.54	-41.45	1.0	
62-OFC-E	2205.	0.	0.000	0.350	505.	0.00	0.00	61.92	-145.27	-90.49	1.0	
62-OFC-CORE	7386.	0.	0.000	0.350	1691.	0.00	0.00	207.40	-486.60	-303.13	1.0	
62-OFC-W	2650.	0.	0.000	0.350	607.	0.00	0.00	74.41	-174.59	-108.76	1.0	
62-CORR	694.	0.	0.000	0.350	159.	0.00	0.00	19.47	-45.69	-28.46	1.0	

62-ELEV-LOBBY	344.	0.	0.000	0.350	79.	0.00	0.00	9.67	-22.69	-14.13	1.0
62-OFC-N	2449.	0.	0.000	0.350	561.	0.00	0.00	68.77	-161.33	-100.50	1.0
62-OFC-S	2927.	0.	0.000	0.350	670.	0.00	0.00	82.18	-192.81	-120.11	1.0
62-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 63-DOAS-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE							
63-DOAS-SYS	HVSYS		1.000	22500.0		0.							
	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
	22500.	17.551	2.4	0.	0.000	0.0	1.000	0.000	0.000	-2592.008	0.00	0.37	
	ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
63-DOAS-ZONE			4500.	0.	0.000	1.000	4500.	0.00	0.00	0.00	-267.30	-218.70	5.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 63-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE							
63-FLR-SYS	PVAVS		1.000	111174.0		794.							
	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
	99808.	100.745	3.1	0.	0.000	0.0	0.225	5870.813	0.597	0.000	0.20	0.20	
	ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
63-RESTRMS			1010.	0.	0.000	0.350	227.	0.00	0.00	28.36	-66.54	-41.45	5.0
63-OFC-E			2125.	0.	0.000	0.350	478.	0.00	0.00	59.67	-140.00	-87.21	5.0
63-OFC-CORE			7535.	0.	0.000	0.350	1695.	0.00	0.00	211.59	-496.41	-309.24	5.0
63-OFC-W			2651.	0.	0.000	0.350	596.	0.00	0.00	74.43	-174.63	-108.79	5.0
63-CORR			694.	0.	0.000	0.350	156.	0.00	0.00	19.47	-45.69	-28.46	5.0

63-ELEV-LOBBY	698.	0.	0.000	0.350	157.	0.00	0.00	19.61	-46.00	-28.66	5.0
63-OFC-N	2391.	0.	0.000	0.350	538.	0.00	0.00	67.15	-157.53	-98.14	5.0
63-OFC-S	2858.	0.	0.000	0.350	643.	0.00	0.00	80.24	-188.26	-117.27	5.0
63-PLENUM	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	5.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 69-FLR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
69-FLR-SYS	PVAVS	1.000	8143.0	58.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
10116.	10.211	3.1	0.	0.000	0.0	0.067	462.080	0.635	0.000	0.20	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
68-CORR	3919.	0.	0.000	0.350	157.	0.00	0.00	110.05	-232.80	-160.84	1.0
69-CORR	2388.	0.	0.000	0.350	143.	0.00	0.00	67.07	-141.87	-98.02	1.0
69-OFC	165.	0.	0.000	0.350	26.	0.00	0.00	4.64	-9.82	-6.78	1.0
69-LOCKERS	986.	0.	0.000	0.350	141.	0.00	0.00	27.70	-58.59	-40.48	1.0
69-WORKSHOP	1846.	0.	0.000	0.350	166.	0.00	0.00	51.83	-109.64	-75.75	1.0
RF-CORR	811.	0.	0.000	0.350	49.	0.00	0.00	22.77	-48.17	-33.28	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS EMR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
EMR-SYS	TPFC	1.000	6814.1	1.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
9859.	0.001	2.3	0.	0.000	0.0	0.020	0.000	0.000	0.000	0.00	0.37
ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	

NAME	(CFM)	(CFM)	(KW)	RATIO	(CFM)	(KBTU/HR)	(SHR)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULTIPLIER
19-EMR	770.	0.	0.578	1.000	15.	27.99	0.67	17.46	-41.17	-42.18	2.0
30-EMR	1280.	0.	0.961	1.000	26.	46.50	0.67	29.03	-68.43	-70.12	1.0
42-EMR	1813.	0.	1.362	1.000	36.	65.44	0.68	40.44	-96.92	-99.31	1.0
52-EMR	1392.	0.	1.046	1.000	28.	50.82	0.67	31.57	-74.42	-76.26	1.0
62-EMR	1264.	0.	0.949	1.000	25.	46.23	0.67	28.66	-67.58	-69.25	1.0
RF-EMR	1359.	0.	1.021	1.000	27.	50.31	0.67	30.82	-72.67	-74.46	1.0
RF2-EMR	1212.	0.	0.910	1.000	24.	44.03	0.67	27.48	-64.78	-66.38	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS B-NETWORK-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
B-NETWORK-SYS	PVAVS	1.000	1467.2	0.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
3668.	2.153	1.8	0.	0.000	0.0	0.020	94.921	0.868	0.000	0.28	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B-NETWORK	3668.	0.	0.000	0.020	73.	0.00	0.00	67.34	-217.88	-198.07	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS B-SWICHGR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
B-SWICHGR-SYS	PVAVS	1.000	3270.2	1.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
8176.	4.798	1.8	0.	0.000	0.0	0.020	211.568	0.868	0.000	0.28	0.20
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B-SWITCHGEAR	8176.	0.	0.000	0.020	164.	0.00	0.00	150.10	-485.62	-441.48	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 4-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
4-IT-SYS	PVAVS	1.000	666.8	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
1667.	0.978	1.8	0.	0.000	0.0	0.020	42.976	0.871	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
4-IT		1667.	0.	0.000	0.020	33.	0.00	0.00	30.60	-99.02	-90.01	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 5-ELEC-GEN-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
5-ELEC-GEN-SYS	PVAVS	1.000	12980.3	3.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
32451.	19.044	1.8	0.	0.000	0.0	0.020	870.321	0.846	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
5-ELEC-GEN		32451.	0.	0.000	0.020	649.	0.00	0.00	595.80	-1927.58	-1752.34	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 5-MEETME-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
5-MEETME-SYS	PVAVS	1.000	1173.2	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
2933.	1.721	1.8	0.	0.000	0.0	0.020	79.462	0.840	0.000	0.28	0.20	

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
5-MEETME	2933.	0.	0.000	0.020	59.	0.00	0.00	53.85	-174.21	-158.38	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 6-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE
6-IT-SYS	PVAVS	1.000	5169.5	1.

SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
31017.	18.202	1.8	0.	0.000	0.0	0.020	773.065	0.893	0.000	0.28	0.20

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
6-IT	31017.	0.	0.000	0.020	620.	0.00	0.00	569.47	-1842.41	-1674.92	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 7-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE
7-IT-SYS	PVAVS	1.000	2034.1	0.

SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
5085.	2.984	1.8	0.	0.000	0.0	0.020	130.994	0.871	0.000	0.28	0.20

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
7-IT	424.	0.	0.000	0.020	8.	0.00	0.00	7.78	-25.17	-22.88	12.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 19-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE
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19-IT-SYS	PVAVS	1.000	339.0	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
848.	0.497	1.8	0.	0.000	0.0	0.020	21.887	0.870	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
19-IT		424.	0.	0.000	0.020	8.	0.00	0.00	7.78	-25.17	-22.88	2.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1 Alnp1: 1200 kw:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL REPORT- SV-A SYSTEM DESIGN PARAMETERS 21-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY												
SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
21-IT-SYS	PVAVS	1.000	1525.7	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
3814.	2.238	1.8	0.	0.000	0.0	0.020	98.697	0.869	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
21-IT		424.	0.	0.000	0.020	8.	0.00	0.00	7.78	-25.17	-22.89	9.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1 Alnp1: 1200 kw:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL REPORT- SV-A SYSTEM DESIGN PARAMETERS 30-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY												
SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
30-IT-SYS	PVAVS	1.000	275.6	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
689.	0.404	1.8	0.	0.000	0.0	0.020	17.854	0.868	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
30-IT		689.	0.	0.000	0.020	14.	0.00	0.00	12.65	-40.93	-37.20	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 31-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
31-IT-SYS	PVAVS	1.000	551.2	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
1378.	0.809	1.8	0.	0.000	0.0	0.020	35.717	0.867	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
31-IT		689.	0.	0.000	0.020	14.	0.00	0.00	12.65	-40.93	-37.20	2.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 33-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
33-IT-SYS	PVAVS	1.000	1865.1	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
4663.	2.736	1.8	0.	0.000	0.0	0.020	121.412	0.865	0.000	0.28	0.20	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
33-IT		518.	0.	0.000	0.020	10.	0.00	0.00	9.51	-30.77	-27.98	9.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS 42-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE								
42-IT-SYS	PVAVS	1.000	207.2	0.								
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
518.	0.304	1.8	0.	0.000	0.0	0.020	13.506	0.864	0.000	0.28	0.20	

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
42-IT	518.	0.	0.000	0.020	10.	0.00	0.00	9.51	-30.77	-27.98	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kw:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 43-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (BTU/BTU)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
43-IT-SYS	PVAVS	1.000	1865.1	0.	4663.	2.736	1.8	0.	0.000	0.0	0.020	121.687	0.863	0.000	0.28	0.20	

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
43-IT	518.	0.	0.000	0.020	10.	0.00	0.00	9.51	-30.77	-27.98	9.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kw:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 52-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE	SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (BTU/BTU)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
52-IT-SYS	PVAVS	1.000	207.2	0.	518.	0.304	1.8	0.	0.000	0.0	0.020	13.534	0.863	0.000	0.28	0.20	

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
52-IT	518.	0.	0.000	0.020	10.	0.00	0.00	9.51	-30.77	-27.98	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kw:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS 53-IT-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE	53-IT-SYS	PVAVS	1.000	617.5	0.
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1	SUPPLY FAN	ELEC	DELTA-T	RETURN FAN	ELEC	DELTA-T	OUTSIDE AIR	COOLING CAPACITY	SENSIBLE	HEATING CAPACITY	COOLING EIR	HEATING EIR	DOE-2.1E-121	Thu Apr 23 10:07:01 2015	SDL RUN	1
	(CFM)	(KW)	(F)	(CFM)	(KW)	(F)	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)				
	1544.	0.906	1.8	0.	0.000	0.0	0.020	40.206	0.864	0.000	0.28	0.20				
53-IT	ZONE NAME		SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	DOE-2.1E-121	Thu Apr 23 10:07:01 2015	SDL RUN	1
			(CFM)	(CFM)	(KW)	RATIO	(CFM)	(KBTU/HR)	(SHR)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)				
			772.	0.	0.000	0.020	15.	0.00	0.00	14.17	-45.85	-41.68				
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1																
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL																
REPORT- SV-A	SYSTEM DESIGN PARAMETERS						55-IT-SYS			WEATHER FILE- NEW YORK CENTRAL NY						

SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE								
55-IT-SYS		PVAVS		1.000		2162.2		0.								
SUPPLY FAN	ELEC	DELTA-T	RETURN FAN	ELEC	DELTA-T	OUTSIDE AIR	COOLING CAPACITY	SENSIBLE	HEATING CAPACITY	COOLING EIR	HEATING EIR					
(CFM)	(KW)	(F)	(CFM)	(KW)	(F)	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)					
5406.	3.172	1.8	0.	0.000	0.0	0.020	140.907	0.864	0.000	0.28	0.20					
ZONE NAME		SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	DOE-2.1E-121	Thu Apr 23 10:07:01 2015	SDL RUN	1	
		(CFM)	(CFM)	(KW)	RATIO	(CFM)	(KBTU/HR)	(SHR)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)					
		772.	0.	0.000	0.020	15.	0.00	0.00	14.18	-45.87	-41.70					7.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1																
Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL																
REPORT- SV-A	SYSTEM DESIGN PARAMETERS						62-IT-SYS			WEATHER FILE- NEW YORK CENTRAL NY						

SYSTEM NAME		SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE								
62-IT-SYS		PVAVS		1.000		308.9		0.								
SUPPLY FAN	ELEC	DELTA-T	RETURN FAN	ELEC	DELTA-T	OUTSIDE AIR	COOLING CAPACITY	SENSIBLE	HEATING CAPACITY	COOLING EIR	HEATING EIR					
(CFM)	(KW)	(F)	(CFM)	(KW)	(F)	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)					
772.	0.453	1.8	0.	0.000	0.0	0.020	20.210	0.861	0.000	0.28	0.20					
ZONE NAME		SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	DOE-2.1E-121	Thu Apr 23 10:07:01 2015	SDL RUN	1	
		(CFM)	(CFM)	(KW)	RATIO	(CFM)	(KBTU/HR)	(SHR)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)					
		772.	0.	0.000	0.020	15.	0.00	0.00	14.18	-45.87	-41.70					1.0
1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1																

Alnpl: 1200 kW:250 TR			SIM: VIRIDIAN ENERGY & ENVIRONMENTAL					WEATHER FILE- NEW YORK CENTRAL NY																
REPORT- SV-A SYSTEM DESIGN PARAMETERS			63-IT-SYS																					
SYSTEM NAME			SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE															
63-IT-SYS			PVAVS		1.000		989.3		0.															
SUPPLY FAN (CFM)			ELEC (KW)		DELTA-T (F)		RETURN FAN (CFM)		ELEC (KW)		DELTA-T (F)		OUTSIDE AIR RATIO		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		HEATING CAPACITY (KBTU/HR)		COOLING EIR (BTU/BTU)		HEATING EIR (BTU/BTU)	
2473.			1.451		1.8		0.		0.000		0.0		0.020		64.760		0.861		0.000		0.28		0.20	
ZONE NAME			SUPPLY FLOW (CFM)		EXHAUST FLOW (CFM)		FAN (KW)		MINIMUM FLOW RATIO		OUTSIDE AIR FLOW (CFM)		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		EXTRACTION RATE (KBTU/HR)		HEATING CAPACITY (KBTU/HR)		ADDITION RATE (KBTU/HR)		MULTIPLIER	
63-IT			495.		0.		0.000		0.020		10.		0.00		0.00		9.08		-29.38		-26.71		5.0	
1 DOE 2.1E			MANHATTAN WEST					DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1																
Alnpl: 1200 kW:250 TR			SIM: VIRIDIAN ENERGY & ENVIRONMENTAL																					
REPORT- SV-A SYSTEM DESIGN PARAMETERS			68-IT-SYS					WEATHER FILE- NEW YORK CENTRAL NY																
SYSTEM NAME			SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE															
68-IT-SYS			PVAVS		1.000		197.9		0.															
SUPPLY FAN (CFM)			ELEC (KW)		DELTA-T (F)		RETURN FAN (CFM)		ELEC (KW)		DELTA-T (F)		OUTSIDE AIR RATIO		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		HEATING CAPACITY (KBTU/HR)		COOLING EIR (BTU/BTU)		HEATING EIR (BTU/BTU)	
495.			0.290		1.8		0.		0.000		0.0		0.020		13.579		0.833		0.000		0.28		0.20	
ZONE NAME			SUPPLY FLOW (CFM)		EXHAUST FLOW (CFM)		FAN (KW)		MINIMUM FLOW RATIO		OUTSIDE AIR FLOW (CFM)		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		EXTRACTION RATE (KBTU/HR)		HEATING CAPACITY (KBTU/HR)		ADDITION RATE (KBTU/HR)		MULTIPLIER	
68-IT			495.		0.		0.000		0.020		10.		0.00		0.00		9.08		-29.38		-26.71		1.0	
1 DOE 2.1E			MANHATTAN WEST					DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1																
Alnpl: 1200 kW:250 TR			SIM: VIRIDIAN ENERGY & ENVIRONMENTAL																					
REPORT- SV-A SYSTEM DESIGN PARAMETERS			ELEC-SYS					WEATHER FILE- NEW YORK CENTRAL NY																
SYSTEM NAME			SYSTEM TYPE		ALTITUDE MULTIPLIER		FLOOR AREA (SQFT)		MAX PEOPLE															
ELEC-SYS			PVAVS		1.000		25093.1		5.															
SUPPLY FAN (CFM)			ELEC (KW)		DELTA-T (F)		RETURN FAN (CFM)		ELEC (KW)		DELTA-T (F)		OUTSIDE AIR RATIO		COOLING CAPACITY (KBTU/HR)		SENSIBLE (SHR)		HEATING CAPACITY (KBTU/HR)		COOLING EIR (BTU/BTU)		HEATING EIR (BTU/BTU)	
62733.			14.726		0.7		0.		0.000		0.0		0.020		1523.477		0.806		0.000		0.31		0.37	

ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
5-ELEC	4588.	0.	0.000	1.000	92.	0.00	0.00	84.23	-272.51	-247.73	1.0
6-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	1.0
7-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	12.0
19-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	2.0
21-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	9.0
30-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	1.0
31-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	2.0
33-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	9.0
42-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	1.0
43-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	9.0
52-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	1.0
53-ELEC	942.	0.	0.000	1.000	19.	0.00	0.00	17.30	-55.98	-50.89	2.0
55-ELEC	808.	0.	0.000	1.000	16.	0.00	0.00	14.83	-47.98	-43.62	7.0
62-ELEC	808.	0.	0.000	1.000	16.	0.00	0.00	14.83	-47.98	-43.62	1.0
63-ELEC	808.	0.	0.000	1.000	16.	0.00	0.00	14.83	-47.98	-43.62	5.0
68-ELEC	808.	0.	0.000	1.000	16.	0.00	0.00	14.83	-47.98	-43.62	1.0
69-BMS	659.	0.	0.000	1.000	13.	0.00	0.00	12.10	-39.14	-35.58	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS MECH-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
MECH-SYS	PVAVS	1.000	91889.8	18.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
78179.	18.352	0.7	0.	0.000	0.0	0.020	2237.288	0.734	0.000	0.31	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B1-MER	358.	0.	0.000	1.000	7.	0.00	0.00	6.57	-21.26	-19.33	1.0

B-MER-2	2687.	0.	0.000	1.000	54.	0.00	0.00	49.32	-159.58	-145.07	1.0
B-MER-1	3774.	0.	0.000	1.000	75.	0.00	0.00	69.29	-224.16	-203.78	1.0
2-MECH	543.	0.	0.000	1.000	11.	0.00	0.00	9.98	-32.28	-29.34	1.0
4-MECH	11406.	0.	0.000	1.000	228.	0.00	0.00	209.42	-677.53	-615.94	1.0
5-PUMP	2793.	0.	0.000	1.000	56.	0.00	0.00	51.29	-165.93	-150.84	1.0
6-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.72	-21.74	-19.76	1.0
7-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.72	-21.74	-19.76	12.0
19-MECH	367.	0.	0.000	1.000	7.	0.00	0.00	6.73	-21.78	-19.80	2.0
21-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.72	-21.74	-19.76	9.0
30-MECH	367.	0.	0.000	1.000	7.	0.00	0.00	6.73	-21.78	-19.80	1.0
31-MECH	619.	0.	0.000	1.000	12.	0.00	0.00	11.37	-36.79	-33.44	2.0
33-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.73	-21.76	-19.78	9.0
42-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.71	-21.72	-19.75	1.0
43-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.71	-21.72	-19.75	9.0
52-MECH	366.	0.	0.000	1.000	7.	0.00	0.00	6.71	-21.72	-19.75	1.0
53-MECH	718.	0.	0.000	1.000	14.	0.00	0.00	13.18	-42.63	-38.76	2.0
55-MECH	407.	0.	0.000	1.000	8.	0.00	0.00	7.47	-24.18	-21.98	7.0
62-MECH	407.	0.	0.000	1.000	8.	0.00	0.00	7.47	-24.18	-21.98	1.0
63-MECH	407.	0.	0.000	1.000	8.	0.00	0.00	7.47	-24.18	-21.98	5.0
68-MECH	32182.	0.	0.000	1.000	644.	0.00	0.00	590.86	-1911.61	-1737.83	1.0

1 DOE 2.1E
MANHATTAN WEST
DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kw:250 TR
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

REPORT- SV-A SYSTEM DESIGN PARAMETERS
STORAGE-SYS
WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE		ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)		MAX PEOPLE						
STORAGE-SYS	PVAVS		1.000	33101.6		0.						
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
20787.	4.880	0.7	0.	0.000	0.0	0.020	677.754	0.692	0.000	0.31	0.37	
ZONE	SUPPLY FLOW		EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	

NAME	(CFM)	(CFM)	(KW)	RATIO	(CFM)	(KBTU/HR)	(SHR)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULTIPLIER
B1-STORAGE	1076.	0.	0.000	1.000	22.	0.00	0.00	19.76	-63.93	-58.12	1.0
B-STORAGE-2	1595.	0.	0.000	1.000	32.	0.00	0.00	29.28	-94.74	-86.13	1.0
B-BIKE-STOR	1203.	0.	0.000	1.000	24.	0.00	0.00	22.09	-71.46	-64.96	1.0
B-STORAGE	1634.	0.	0.000	1.000	33.	0.00	0.00	29.99	-97.04	-88.22	1.0
B-PACKAGE	365.	0.	0.000	1.000	7.	0.00	0.00	6.70	-21.68	-19.71	1.0
4-STORAGE	377.	0.	0.000	1.000	8.	0.00	0.00	6.92	-22.39	-20.36	1.0
21-STORAGE	349.	0.	0.000	1.000	7.	0.00	0.00	6.40	-20.71	-18.83	9.0
30-STORAGE	80.	0.	0.000	1.000	2.	0.00	0.00	1.48	-4.78	-4.34	1.0
31-STORAGE	391.	0.	0.000	1.000	8.	0.00	0.00	7.18	-23.23	-21.12	2.0
33-STORAGE	141.	0.	0.000	1.000	3.	0.00	0.00	2.59	-8.37	-7.61	9.0
42-STORAGE	141.	0.	0.000	1.000	3.	0.00	0.00	2.59	-8.37	-7.61	1.0
43-STORAGE	546.	0.	0.000	1.000	11.	0.00	0.00	10.02	-32.43	-29.48	9.0
52-STORAGE	263.	0.	0.000	1.000	5.	0.00	0.00	4.83	-15.63	-14.21	1.0
53-STORAGE	223.	0.	0.000	1.000	4.	0.00	0.00	4.09	-13.22	-12.02	2.0
68-STORAGE	976.	0.	0.000	1.000	20.	0.00	0.00	17.92	-57.99	-52.71	1.0
69-STORAGE	1997.	0.	0.000	1.000	40.	0.00	0.00	36.66	-118.62	-107.83	1.0
RF-STORAGE	533.	0.	0.000	1.000	11.	0.00	0.00	9.78	-31.64	-28.76	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS STAIR-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE							
STAIR-SYS	PVAVS	1.000	51133.8	365.							
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
25751.	6.045	0.7	0.	0.000	0.0	0.020	883.280	0.679	0.000	0.31	0.37
ZONE NAME	SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B1-VEST	1378.	0.	0.000	1.000	28.	0.00	0.00	25.30	-81.84	-74.40	1.0
B1-STAIR	106.	0.	0.000	1.000	2.	0.00	0.00	1.94	-6.28	-5.71	1.0

B-STAIR	329.	0.	0.000	1.000	7.	0.00	0.00	6.04	-19.55	-17.77	1.0
G-STAIR	558.	0.	0.000	1.000	11.	0.00	0.00	10.24	-33.13	-30.11	1.0
2-STAIR	335.	0.	0.000	1.000	7.	0.00	0.00	6.14	-19.88	-18.07	1.0
3-STAIR	335.	0.	0.000	1.000	7.	0.00	0.00	6.15	-19.90	-18.09	1.0
4-STAIR	445.	0.	0.000	1.000	9.	0.00	0.00	8.16	-26.41	-24.01	1.0
5-STAIR	325.	0.	0.000	1.000	6.	0.00	0.00	5.96	-19.29	-17.54	1.0
6-STAIR	330.	0.	0.000	1.000	7.	0.00	0.00	6.05	-19.59	-17.81	1.0
7-STAIR	330.	0.	0.000	1.000	7.	0.00	0.00	6.05	-19.59	-17.81	12.0
19-STAIR	329.	0.	0.000	1.000	7.	0.00	0.00	6.04	-19.56	-17.78	2.0
21-STAIR	330.	0.	0.000	1.000	7.	0.00	0.00	6.05	-19.58	-17.80	9.0
30-STAIR	329.	0.	0.000	1.000	7.	0.00	0.00	6.04	-19.56	-17.78	1.0
31-STAIR	329.	0.	0.000	1.000	7.	0.00	0.00	6.05	-19.56	-17.78	2.0
33-STAIR	334.	0.	0.000	1.000	7.	0.00	0.00	6.13	-19.83	-18.03	9.0
42-STAIR	334.	0.	0.000	1.000	7.	0.00	0.00	6.14	-19.86	-18.05	1.0
43-STAIR	334.	0.	0.000	1.000	7.	0.00	0.00	6.14	-19.86	-18.05	9.0
52-STAIR	334.	0.	0.000	1.000	7.	0.00	0.00	6.14	-19.86	-18.05	1.0
53-STAIR	334.	0.	0.000	1.000	7.	0.00	0.00	6.14	-19.86	-18.05	2.0
55-STAIR	361.	0.	0.000	1.000	7.	0.00	0.00	6.63	-21.46	-19.51	7.0
62-STAIR	361.	0.	0.000	1.000	7.	0.00	0.00	6.63	-21.46	-19.51	1.0
63-STAIR	360.	0.	0.000	1.000	7.	0.00	0.00	6.60	-21.37	-19.43	5.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS STAIR-SYS WEATHER FILE- NEW YORK CENTRAL NY
----- (CONTINUED) -----

68-STAIR	357.	0.	0.000	1.000	7.	0.00	0.00	6.55	-21.18	-19.26	1.0
69-STAIR	196.	0.	0.000	1.000	4.	0.00	0.00	3.59	-11.61	-10.56	1.0
RF-STAIR	231.	0.	0.000	1.000	5.	0.00	0.00	4.24	-13.70	-12.46	1.0
RF2-STAIR	219.	0.	0.000	1.000	4.	0.00	0.00	4.02	-13.02	-11.84	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1

Alnpl: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
REPORT- SV-A SYSTEM DESIGN PARAMETERS PARKING-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE
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PARKING-SYS	PSZ		1.000		53499.9		11.					
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	
30000.	14.671	1.5	27000.	7.728	0.9	1.000	2195.896	1.000	-3858.529	0.31	0.37	
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO	OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	MULTIPLIER
B-PARKING		30000.	0.	0.000	1.000	30000.	0.00	0.00	1134.00	-1782.00	-2268.00	1.0

1 DOE 2.1E MANHATTAN WEST DOE-2.1E-121 Thu Apr 23 10:07:01 2015SDL RUN 1
 Alnp1: 1200 kW:250 TR SIM: VIRIDIAN ENERGY & ENVIRONMENTAL
 REPORT- SV-A SYSTEM DESIGN PARAMETERS LOADING-SYS WEATHER FILE- NEW YORK CENTRAL NY

SYSTEM NAME	SYSTEM TYPE	ALTITUDE MULTIPLIER	FLOOR AREA (SQFT)	MAX PEOPLE	
LOADING-SYS	PSZ	1.000	13412.2	96.	
SUPPLY FAN (CFM)	ELEC (KW)	DELTA-T (F)	RETURN FAN (CFM)	ELEC (KW)	DELTA-T (F)
58000.	14.453	0.8	52000.	19.073	1.1
OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)
1.000	4175.132	1.000	-7512.784	0.31	0.37
ZONE NAME		SUPPLY FLOW (CFM)	EXHAUST FLOW (CFM)	FAN (KW)	MINIMUM FLOW RATIO
B-LOADING		58000.	0.	0.000	1.000
OUTSIDE AIR FLOW (CFM)	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)
58000.	0.00	0.00	2192.40	-3445.20	-3132.00
					1.0

REPORT- PS-C

EQUIPMENT PART LOAD OPERATION

WEATHER FILE- NEW YORK CENTRAL NY

EQUIPMENT	HOURS AT PERCENT PART LOAD RATIO												TOTAL HOURS	ANNUAL LOAD (MBTU)	FALSE LOAD (MBTU)	ELEC USED (KWH)	THERMAL USED (MBTU)
	0 --	10 --	20 --	30 --	40 --	50 --	60 --	70 --	80 --	90 --	100 -	110+					
HW-BOILER	429	508	1019	490	138	37	5	3	2	0	0		2631	38248.5	0.0	0.	38248.5
	429	508	1019	490	138	37	5	3	2	0	0						
ELEC-DHW-HEATER	5880	2880	0	0	0	0	0	0	0	0	0		8760	2286.7	0.0	881739.	0.0
	5880	2880	0	0	0	0	0	0	0	0	0						
OPEN-REC-CHLR	37	9	18	4	0	0	0	0	0	0	0		68	35.8	8.7	1579.	0.0
	37	9	18	4	0	0	0	0	0	0	0						
ABSOR1-CHLR	1826	472	504	564	126	16	0	0	0	0	0		3508	2123.5	0.0	8251.	3081.1
	1826	472	504	564	126	16	0	0	0	0	0						
COOLING-TWR	6900	767	413	247	230	168	34	1	0	0	0		8760	6788.9	0.0	174455.	0.0
	6960	737	403	230	227	168	34	1	0	0	0						
GTURB-GEN	0	0	0	0	0	0	0	0	0	8760	0		8760	29808.5	0.0	0.	99330.2
	0	0	0	0	0	0	0	0	0	8760	0						

HOT LOOP CIRCULATION PUMP ELECTRICAL USE = 173973. KWH
COLD LOOP CIRCULATION PUMP ELECTRICAL USE = 21561. KWH
CONDENSER WATER PUMP ELECTRICAL USE = 100464. KWH
TOWER OR CONDENSER FAN ELECTRICAL USE = 73990. KWH

NOTES TO TABLE

- 1) THE FIRST PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS
THE HOURLY LOAD DIVIDED BY THE HOURLY OPERATING CAPACITY
- 2) THE SECOND PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS
THE HOURLY LOAD DIVIDED BY THE TOTAL INSTALLED CAPACITY

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 1

REPORT- PS-D

PLANT LOADS SATISFIED

WEATHER FILE- NEW YORK CENTRAL NY

HEATING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
HW-BOILER	38248.5	68.1
ELEC-DHW-HEATER	2286.7	4.1
GTURB-GEN	15603.6	27.8
	=====	=====
LOAD SATISFIED	56138.8	100.0
TOTAL LOAD ON PLANT	56138.9	

COOLING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
OPEN-REC-CHLR	35.8	1.1
ABSOR1-CHLR	2123.5	63.5
COOLING-TWR	1187.1	35.5
	=====	=====
LOAD SATISFIED	3346.3	100.0
TOTAL LOAD ON PLANT	3346.3	

ELECTRICAL LOADS	KWH SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
GTURB-GEN	8733889.0	28.6
ELECTRICITY	21785686.0	71.4
	=====	=====
LOAD SATISFIED	30519576.0	100.0
TOTAL LOAD ON PLANT	30519542.0	

TOWER ABOVE DESIGN TEMPERATURE OF 88.F 0 HOURS

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 1

REPORT- PS-D PLANT LOADS SATISFIED

WEATHER FILE- NEW YORK CENTRAL NY

----- (CONTINUED) -----

SUMMARY OF LOADS MET

TYPE OF LOAD	TOTAL LOAD (MBTU)	LOAD SATISFIED (MBTU)	TOTAL OVERLOAD (MBTU)	PEAK OVERLOAD (MBTU)	HOURS OVERLOADED
-----	-----	-----	-----	-----	-----
HEATING LOADS	56138.9	56138.8	0.000	0.000	0
COOLING LOADS	3346.3	3346.3	0.000	0.000	0
ELECTRICAL LOADS	104162.3	104162.4	0.000	0.000	0

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 1

REPORT- PS-E MONTHLY ENERGY END-USE SUMMARY

WEATHER FILE- NEW YORK CENTRAL NY

OELECTRICAL END-USES IN KWH

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 AREA LIGHTS	696250.	641409.	736935.	709590.	695989.	709535.	709803.	722987.	695789.	696109.	682170.	709464.	8406031.
MAX KW	1517.1	1517.1	1513.8	1512.3	1512.3	1512.3	1512.3	1512.3	1512.3	1513.0	1517.1	1517.1	1517.1
DAY/HR	4/18	2/18	1/18	1/10	3/10	1/10	1/10	2/10	1/10	29/18	1/18	1/18	
0MISC EQUIPMT	775476.	707679.	801056.	773169.	775476.	773169.	785193.	791340.	763453.	775476.	753737.	781624.	9256847.
MAX KW	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0
DAY/HR	4/10	1/10	1/10	1/10	3/10	1/10	1/10	2/10	1/10	1/10	1/10	1/10	
0 SPACE COOL	89421.	123381.	230027.	212852.	312219.	517668.	666318.	593557.	411682.	208193.	216267.	113630.	3695214.
MAX KW	1086.5	1291.0	1671.3	2276.8	1756.9	1780.3	2247.8	2775.3	1805.6	1213.1	1417.1	1108.2	2775.3
DAY/HR	19/14	23/14	16/13	28/ 4	28/17	2/16	13/16	17/16	3/16	1/15	18/13	16/15	
0 HEAT REJECT	31.	316.	2598.	5554.	19000.	29030.	42369.	37729.	26517.	8998.	2257.	56.	174454.
MAX KW	2.3	40.5	40.5	82.1	82.1	82.1	82.1	82.1	82.1	43.3	40.5	5.8	82.1
DAY/HR	26/14	2/10	15/19	28/11	12/12	2/12	1/10	2/10	2/13	18/14	6/16	14/22	
0PUMPS & MISC	262164.	279330.	368372.	142284.	126160.	99037.	118816.	111923.	92868.	150647.	312978.	308235.	2372815.
MAX KW	1099.6	1092.2	1125.4	1074.8	1042.9	307.3	401.0	514.8	591.1	674.6	1086.0	1097.2	1125.4
DAY/HR	18/13	6/13	16/14	8/ 9	6/ 8	22/15	13/16	17/16	20/ 5	30/12	18/ 9	11/13	
0 VENT FANS	406460.	372846.	426607.	406418.	377908.	418735.	433558.	430714.	391561.	381231.	379301.	409558.	4834897.
MAX KW	1018.7	1019.1	1026.8	1073.2	1166.5	1199.7	1226.8	1281.2	1149.5	1050.1	1024.5	1018.7	1281.2
DAY/HR	27/10	2/10	16/13	28/18	10/17	22/16	21/18	17/16	7/17	1/17	2/10	15/10	
0DOMHOT WATER	80812.	75201.	83454.	79639.	77634.	70644.	68979.	66432.	64080.	68287.	69874.	76698.	881733.
MAX KW	108.6	111.9	112.2	110.6	104.3	98.1	92.7	89.3	89.0	91.8	97.0	103.1	112.2
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
0 EXT LIGHTS	3302.	2762.	2996.	2899.	2802.	2472.	2690.	2939.	2899.	2996.	3084.	3439.	35280.
MAX KW	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
0 EXT MISC	71859.	65843.	75136.	72448.	71859.	72448.	72883.	74112.	71219.	71859.	69990.	72678.	862336.
MAX KW	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8
DAY/HR	4/ 7	1/ 7	1/ 7	1/ 7	3/ 7	1/ 7	1/ 7	2/ 7	1/ 7	1/ 7	1/ 7	1/ 7	
0 TOTAL KWH	2385775.	2268767.	2727179.	2404853.	2459048.	2692738.	2900608.	2831734.	2520068.	2363797.	2489658.	2475382.	30519604.

OFUEL END-USES IN MBTU

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 SPACE HEAT	9376.9	6961.9	5850.2	2003.8	490.0	0.0	0.0	0.0	11.4	1308.8	4615.4	7630.1	38248.5
MAX MBTU	54.692	37.225	26.110	20.226	14.748	0.000	0.000	0.000	11.377	20.737	28.364	38.765	54.692
DAY/HR	23/ 8	6/ 8	1/ 8	8/ 9	4/22	0/ 0	0/ 0	0/ 0	20/ 8	23/14	27/ 8	27/ 5	
0 TOTAL MBTU	9376.9	6961.9	5850.2	2003.8	490.0	0.0	0.0	0.0	11.4	1308.8	4615.4	7630.1	38248.5

EQUIPMENT	HOURS AT PERCENT PART LOAD RATIO												TOTAL	ANNUAL	FALSE	ELEC	THERMAL
	0 --	10 --	20 --	30 --	40 --	50 --	60 --	70 --	80 --	90 --	100 -	110+	HOURS	LOAD	LOAD	USED	USED
														(MBTU)	(MBTU)	(KWH)	(MBTU)
HW-BOILER	1909	818	583	363	183	91	22	9	3	0	1		3982	674.3	0.0	0.	674.3
	1909	818	583	363	183	91	22	9	3	0	1						
DHW-HEATER	8760	0	0	0	0	0	0	0	0	0	0		8760	254.0	0.0	0.	254.0
	8760	0	0	0	0	0	0	0	0	0	0						

HOT LOOP CIRCULATION PUMP ELECTRICAL USE = 2383. KWH
COLD LOOP CIRCULATION PUMP ELECTRICAL USE = 0. KWH
CONDENSER WATER PUMP ELECTRICAL USE = 0. KWH
TOWER OR CONDENSER FAN ELECTRICAL USE = 0. KWH

NOTES TO TABLE
1) THE FIRST PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS
THE HOURLY LOAD DIVIDED BY THE HOURLY OPERATING CAPACITY

2) THE SECOND PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS
THE HOURLY LOAD DIVIDED BY THE TOTAL INSTALLED CAPACITY

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 2

REPORT- PS-D

PLANT LOADS SATISFIED

WEATHER FILE- NEW YORK CENTRAL NY

HEATING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
HW-BOILER	674.3	72.6
DHW-HEATER	254.0	27.4
	=====	=====
LOAD SATISFIED	928.4	100.0
TOTAL LOAD ON PLANT	928.4	

ELECTRICAL LOADS	KWH SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
ELECTRICITY	598268.3	100.0
	=====	=====
LOAD SATISFIED	598268.3	100.0
TOTAL LOAD ON PLANT	598264.9	

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 2

REPORT- PS-D PLANT LOADS SATISFIED

WEATHER FILE- NEW YORK CENTRAL NY

----- (CONTINUED) -----

SUMMARY OF LOADS MET

TYPE OF LOAD	TOTAL LOAD (MBTU)	LOAD SATISFIED (MBTU)	TOTAL OVERLOAD (MBTU)	PEAK OVERLOAD (MBTU)	HOURS OVERLOADED
-----	-----	-----	-----	-----	-----
HEATING LOADS	928.4	928.4	0.000	0.000	0
ELECTRICAL LOADS	2041.9	2041.9	0.000	0.000	0

1 DOE 2.1E
Alnpl: 1200 kW:250 TR

MANHATTAN WEST
SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

DOE-2.1E-121 Thu Apr 23 10:07:01 2015PDL RUN 2

REPORT- PS-E

MONTHLY ENERGY END-USE SUMMARY

WEATHER FILE- NEW YORK CENTRAL NY

OELECTRICAL END-USES IN KWH

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 AREA LIGHTS	18505.	16714.	18505.	17908.	18505.	17908.	18505.	18505.	17908.	18505.	17908.	18505.	217886.
MAX KW	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
DAY/HR	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	
0MISC EQUIPMT	5508.	4975.	5508.	5330.	5508.	5330.	5508.	5508.	5330.	5508.	5330.	5508.	64847.
MAX KW	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
DAY/HR	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	
0 SPACE COOL	9022.	9126.	13426.	15397.	27733.	30658.	38436.	35827.	29666.	22123.	12324.	8696.	252434.
MAX KW	49.0	51.0	73.8	95.7	142.9	99.1	147.0	156.9	110.7	88.2	63.7	49.0	156.9
DAY/HR	1/ 6	23/13	13/16	28/14	30/14	27/14	24/15	17/15	4/14	17/14	6/14	1/ 6	
0PUMPS & MISC	465.	377.	334.	230.	133.	0.	0.	0.	0.	261.	333.	416.	2550.
MAX KW	1.9	1.4	1.5	0.7	0.6	0.0	0.0	0.0	0.1	0.6	1.0	1.3	1.9
DAY/HR	23/ 6	7/ 6	7/ 6	18/ 6	1/ 6	0/ 0	0/ 0	0/ 0	20/ 2	26/ 6	27/ 9	11/ 6	
0 VENT FANS	4827.	4363.	4775.	4329.	4993.	5062.	6037.	6026.	5547.	5221.	4687.	4686.	60552.
MAX KW	14.4	18.8	17.3	18.2	24.1	19.3	24.8	28.2	25.3	25.3	22.8	15.8	28.2
DAY/HR	19/14	18/14	15/13	28/14	30/14	22/15	25/16	17/15	4/14	9/15	2/14	24/14	
0DOMHOT WATER	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
0 TOTAL KWH	38327.	35555.	42548.	43195.	56871.	58958.	68485.	65866.	58452.	51618.	40583.	37811.	598269.

0FUEL END-USES IN MBTU

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 SPACE HEAT	197.6	122.4	70.5	31.1	12.9	0.0	0.0	0.0	0.0	26.5	61.0	152.3	674.3
MAX MBTU	1.082	0.792	0.817	0.370	0.241	0.000	0.000	0.000	0.000	0.337	0.556	0.751	1.082
DAY/HR	23/ 6	7/ 6	7/ 6	18/ 6	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	26/ 6	27/ 9	11/ 6	
0DOMHOT WATER	23.8	22.4	24.8	23.6	22.6	20.2	19.3	18.4	17.7	19.1	19.9	22.3	254.1
MAX MBTU	0.032	0.033	0.033	0.033	0.030	0.028	0.026	0.025	0.025	0.026	0.028	0.030	0.033
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
0 TOTAL MBTU	221.4	144.7	95.3	54.7	35.5	20.2	19.3	18.4	17.7	45.6	80.9	174.5	928.4

REPORT- PS-C

EQUIPMENT PART LOAD OPERATION

WEATHER FILE- NEW YORK CENTRAL NY

EQUIPMENT	HOURS AT PERCENT PART LOAD RATIO												TOTAL	ANNUAL	FALSE	ELEC	THERMAL											
	0	--	10	--	20	--	30	--	40	--	50	--	60	--	70	--	80	--	90	--	100	-	110+	-----	(MBTU)	(MBTU)	(KWH)	(MBTU)
HW-BOILER	2827		192		372		903		528		162		54		7		3		2		0		5050	44300.1	0.0		0.	44300.1
	2827		192		372		903		528		162		54		7		3		2		0							
ELEC-DHW-HEATER	5748		1049		1314		524		125		0		0		0		0		0		0		8760	2186.3	0.0	852345.		0.0
	5748		1049		1314		524		125		0		0		0		0		0		0							
OPEN-CENT-CHLR	1076		951		316		227		201		685		880		985		995		720		0		7036	71725.5	0.0	2960972.		0.0
	2944		1276		1307		729		434		238		83		19		4		2		0							
ABSORG-CHLR	0		0		28		181		268		498		329		351		175		4026		0		5856	11823.8	0.0	28386.		10589.3
	0		0		28		181		268		498		329		351		175		4026		0							
COOLING-TWR	2499		990		1112		1180		1042		1017		723		167		25		5		0		8760	104805.2	0.0	1671169.		0.0
	4782		1627		561		471		339		433		456		91		0		0		0							

HOT LOOP CIRCULATION PUMP ELECTRICAL USE = 152851. KWH
 COLD LOOP CIRCULATION PUMP ELECTRICAL USE = 555492. KWH
 CONDENSER WATER PUMP ELECTRICAL USE = 1009922. KWH
 TOWER OR CONDENSER FAN ELECTRICAL USE = 661196. KWH

NOTES TO TABLE

- 1) THE FIRST PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS THE HOURLY LOAD DIVIDED BY THE HOURLY OPERATING CAPACITY
- 2) THE SECOND PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS THE HOURLY LOAD DIVIDED BY THE TOTAL INSTALLED CAPACITY

HEATING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
HW-BOILER	44300.1	95.3
ELEC-DHW-HEATER	2186.3	4.7
ABSORG-CHLR	0.1	0.0
	=====	=====
LOAD SATISFIED	46486.5	100.0
TOTAL LOAD ON PLANT	46486.7	
COOLING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
OPEN-CENT-CHLR	71725.5	85.8
ABSORG-CHLR	11823.8	14.2
	=====	=====
LOAD SATISFIED	83549.3	100.0
TOTAL LOAD ON PLANT	83549.1	
ELECTRICAL LOADS	KWH SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
ELECTRICITY	30745132.0	100.0
	=====	=====
LOAD SATISFIED	30745132.0	100.0
TOTAL LOAD ON PLANT	30745144.0	

TOWER ABOVE DESIGN TEMPERATURE OF 88.F 5 HOURS
MAXIMUM TOWER EXIT TEMPERATURE = 90.F

SUMMARY OF LOADS MET

TYPE OF LOAD	TOTAL LOAD (MBTU)	LOAD SATISFIED (MBTU)	TOTAL OVERLOAD (MBTU)	PEAK OVERLOAD (MBTU)	HOURS OVERLOADED
-----	-----	-----	-----	-----	-----
HEATING LOADS	46486.7	46486.5	0.000	0.000	0
COOLING LOADS	83549.1	83549.3	0.000	0.000	0
ELECTRICAL LOADS	104932.2	104932.2	0.000	0.000	0

REPORT- PS-E MONTHLY ENERGY END-USE SUMMARY

WEATHER FILE- NEW YORK CENTRAL NY

OELECTRICAL END-USES IN KWH

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 AREA LIGHTS	856395.	787154.	901044.	867980.	855814.	867857.	871197.	885377.	852614.	856070.	837668.	870644.	10309814.
MAX KW	1807.4	1807.4	1803.3	1797.3	1797.3	1797.3	1797.3	1797.3	1797.3	1799.8	1807.4	1807.4	1807.4
DAY/HR	4/18	2/18	17/18	1/10	3/10	1/10	1/10	2/10	1/10	26/18	1/18	1/18	
0MISC EQUIPMT	775476.	707679.	801056.	773169.	775476.	773169.	785193.	791340.	763453.	775476.	753737.	781624.	9256847.
MAX KW	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0	1586.0
DAY/HR	4/10	1/10	1/10	1/10	3/10	1/10	1/10	2/10	1/10	1/10	1/10	1/10	
0 SPACE COOL	158394.	187177.	295646.	140327.	186493.	349206.	490566.	423887.	257022.	109637.	216898.	189466.	3004718.
MAX KW	1037.5	1276.7	1485.4	1087.3	1410.7	1405.1	1936.5	2448.4	1444.4	923.8	1283.3	1169.6	2448.4
DAY/HR	14/14	23/13	16/13	28/16	28/18	23/18	23/18	17/16	3/16	27/13	18/14	16/15	
0 HEAT REJECT	79886.	83940.	121782.	79986.	125488.	215024.	286704.	254800.	165862.	74096.	95877.	87692.	1671138.
MAX KW	308.8	478.4	603.1	561.8	635.1	635.1	708.5	781.8	635.1	474.6	506.9	385.9	781.8
DAY/HR	14/14	1/15	16/12	27/14	28/16	2/15	12/15	17/14	3/13	1/16	10/12	15/13	
0PUMPS & MISC	67177.	60571.	68823.	60687.	55536.	49049.	57789.	54320.	44833.	59536.	64810.	66364.	709495.
MAX KW	146.4	151.2	166.5	132.0	150.9	128.4	155.7	186.2	126.0	130.5	158.9	143.8	186.2
DAY/HR	23/ 8	23/13	16/12	28/17	28/17	23/17	23/18	17/15	3/16	30/14	18/14	16/15	
0 VENT FANS	341794.	309584.	342393.	322938.	317549.	361248.	380303.	373634.	333888.	316093.	303441.	340278.	4043142.
MAX KW	748.9	749.7	750.3	824.3	974.0	1011.6	1032.8	1100.6	948.6	809.8	759.6	748.4	1100.6
DAY/HR	27/10	2/10	17/10	28/18	10/16	22/16	21/18	17/16	7/17	1/16	2/10	15/10	
0DOMHOT WATER	74821.	71935.	84789.	80268.	71947.	71182.	66084.	65551.	62691.	63490.	66221.	73365.	852344.
MAX KW	369.4	382.8	383.9	377.5	352.0	326.5	304.4	290.4	289.2	300.6	322.1	346.8	383.9
DAY/HR	4/13	1/13	1/13	1/13	3/13	1/13	1/13	2/13	1/13	1/13	1/13	1/13	
0 EXT LIGHTS	3302.	2762.	2996.	2899.	2802.	2472.	2690.	2939.	2899.	2996.	3084.	3439.	35280.
MAX KW	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
0 EXT MISC	71859.	65843.	75136.	72448.	71859.	72448.	72883.	74112.	71219.	71859.	69990.	72678.	862336.
MAX KW	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8
DAY/HR	4/ 7	1/ 7	1/ 7	1/ 7	3/ 7	1/ 7	1/ 7	2/ 7	1/ 7	1/ 7	1/ 7	1/ 7	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
0 TOTAL KWH	2429104.	2276646.	2693666.	2400702.	2462964.	2761654.	3013409.	2925960.	2554481.	2329253.	2411726.	2485551.	30745114.

REPORT- PS-E MONTHLY ENERGY END-USE SUMMARY

WEATHER FILE- NEW YORK CENTRAL NY

------(CONTINUED)-----

OFUEL END-USES IN MBTU

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 SPACE HEAT	10071.2	7812.7	7059.8	2687.7	671.6	0.0	0.0	0.0	15.1	1810.2	5651.4	8520.5	44300.2
MAX MBTU	52.177	35.728	27.775	22.325	17.431	0.000	0.000	0.000	15.088	21.702	27.176	36.236	52.177
DAY/HR	23/ 8	6/ 8	4/10	7/ 9	4/22	0/ 0	0/ 0	0/ 0	20/ 8	23/14	27/ 8	11/14	
0 SPACE COOL	0.0	0.0	0.0	1166.7	1332.0	1422.3	1505.6	1494.9	1364.3	1234.7	1068.8	0.0	10589.3
MAX MBTU	0.000	0.000	0.000	2.093	2.253	2.165	2.287	2.372	2.192	2.061	2.059	0.000	2.372
DAY/HR	0/ 0	0/ 0	0/ 0	28/14	31/15	29/20	24/14	17/16	3/15	18/19	8/ 7	0/ 0	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
0 TOTAL MBTU	10071.2	7812.7	7059.8	3854.4	2003.6	1422.3	1505.6	1494.9	1379.4	3044.8	6720.2	8520.5	54889.4

REPORT- PS-C EQUIPMENT PART LOAD OPERATION WEATHER FILE- NEW YORK CENTRAL NY

EQUIPMENT	HOURS AT PERCENT PART LOAD RATIO													TOTAL	ANNUAL	FALSE	ELEC	THERMAL										
														HOURS	LOAD	LOAD	USED	USED										
	0	--	10	--	20	--	30	--	40	--	50	--	60	--	70	--	80	--	90	--	100	-	110+	-----	-----	-----	-----	
HW-BOILER	1424		579		580		396		219		108		56		24		1		4		1		1	3392	423.4	0.0	0.	423.4
	1424		579		580		396		219		108		56		24		1		4		1		1					
DHW-HEATER	8760		0		0		0		0		0		0		0		0		0		0		0	8760	242.9	0.0	0.	242.9
	8760		0		0		0		0		0		0		0		0		0		0		0					

HOT LOOP CIRCULATION PUMP ELECTRICAL USE = 1320. KWH
 COLD LOOP CIRCULATION PUMP ELECTRICAL USE = 0. KWH
 CONDENSER WATER PUMP ELECTRICAL USE = 0. KWH
 TOWER OR CONDENSER FAN ELECTRICAL USE = 0. KWH

NOTES TO TABLE

- 1) THE FIRST PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS THE HOURLY LOAD DIVIDED BY THE HOURLY OPERATING CAPACITY
- 2) THE SECOND PART LOAD ENTRY FOR EACH PIECE OF EQUIPMENT IS THE HOURLY LOAD DIVIDED BY THE TOTAL INSTALLED CAPACITY

HEATING LOADS	MBTU SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
HW-BOILER	423.4	63.5
DHW-HEATER	242.9	36.5
	=====	=====
LOAD SATISFIED	666.3	100.0
TOTAL LOAD ON PLANT	666.3	

ELECTRICAL LOADS	KWH SUPPLIED	PCT OF TOTAL LOAD
-----	-----	-----
ELECTRICITY	427507.8	100.0
	=====	=====
LOAD SATISFIED	427507.8	100.0
TOTAL LOAD ON PLANT	427494.9	

SUMMARY OF LOADS MET

TYPE OF LOAD	TOTAL LOAD (MBTU)	LOAD SATISFIED (MBTU)	TOTAL OVERLOAD (MBTU)	PEAK OVERLOAD (MBTU)	HOURS OVERLOADED
-----	-----	-----	-----	-----	-----
HEATING LOADS	666.3	666.3	0.000	0.000	0
ELECTRICAL LOADS	1459.0	1459.1	0.000	0.000	0

ANYEC: NYSECCC code compliance for EN1 SIM: VIRIDIAN ENERGY & ENVIRONMENTAL

REPORT- PS-E MONTHLY ENERGY END-USE SUMMARY

WEATHER FILE- NEW YORK CENTRAL NY

0ELECTRICAL END-USES IN KWH

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 AREA LIGHTS	18505.	16714.	18505.	17908.	18505.	17908.	18505.	18505.	17908.	18505.	17908.	18505.	217886.
MAX KW	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
DAY/HR	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	
0MISC EQUIPMT	5508.	4975.	5508.	5330.	5508.	5330.	5508.	5508.	5330.	5508.	5330.	5508.	64847.
MAX KW	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
DAY/HR	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	1/ 9	
0 SPACE COOL	301.	344.	2286.	3563.	13108.	18256.	24493.	21694.	16783.	8183.	2757.	171.	111940.
MAX KW	27.8	30.8	37.5	50.9	92.3	60.4	97.6	100.8	61.2	40.8	30.8	30.8	100.8
DAY/HR	23/ 9	1/13	13/16	28/14	30/14	27/14	24/15	17/15	4/15	17/14	1/10	24/14	
0PUMPS & MISC	305.	239.	207.	145.	45.	0.	0.	0.	0.	115.	182.	268.	1506.
MAX KW	1.2	0.9	0.8	0.5	0.4	0.0	0.0	0.0	0.1	0.4	0.7	0.9	1.2
DAY/HR	23/ 9	6/24	7/ 6	7/ 9	1/ 7	0/ 0	0/ 0	0/ 0	20/ 2	10/ 7	27/ 9	11/ 9	
0 VENT FANS	2297.	2031.	2245.	2184.	2722.	2979.	3570.	3386.	2927.	2521.	2224.	2243.	31329.
MAX KW	5.4	5.8	6.7	7.8	12.4	10.1	13.1	13.3	11.4	9.6	7.8	5.3	13.3
DAY/HR	23/ 6	18/14	16/13	28/14	31/14	22/15	25/16	17/15	4/15	17/15	2/14	24/14	
0DOMHOT WATER	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	1/ 1	1/ 1	1/ 1	1/ 1	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 2	1/ 1	1/ 1	
0 TOTAL KWH	26916.	24303.	28751.	29130.	39888.	44473.	52076.	49093.	42949.	34832.	28402.	26695.	427508.

0FUEL END-USES IN MBTU

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
0 SPACE HEAT	138.2	84.9	43.4	14.9	3.0	0.0	0.0	0.0	0.0	9.1	31.7	98.2	423.4
MAX MBTU	0.673	0.522	0.458	0.243	0.120	0.000	0.000	0.000	0.000	0.174	0.399	0.482	0.673
DAY/HR	23/ 9	6/23	7/ 6	7/ 9	5/ 9	0/ 0	0/ 0	0/ 0	0/ 0	26/ 9	27/ 9	11/ 9	
0DOMHOT WATER	21.6	21.1	25.3	23.8	20.5	20.4	18.2	18.0	17.2	17.3	18.5	21.0	242.9
MAX MBTU	0.131	0.136	0.136	0.134	0.124	0.115	0.106	0.101	0.101	0.105	0.113	0.122	0.136
DAY/HR	4/13	1/13	1/13	1/13	3/13	1/13	1/13	2/13	1/13	1/13	1/13	1/13	
0 TOTAL MBTU	159.8	106.0	68.7	38.8	23.4	20.4	18.2	18.0	17.2	26.3	50.2	119.2	666.3