Addendum No.: 5 **Date Of Addendum: 3/5/19**

CT DAS ● Construction Services ● Office of Legal Affairs, Policy, and Procurement

York Correctional Institution Central Plant and Piping Distribution
201 West Main Street, Niantic, CT
BI – JA – 465

Original Bid Due Date / Time: **3/07/19** **2:00 PM EST**

Previous Addendums: Addenda 1, 2, 3, & 4

TO: **Prospective Bid Proposers:**
This Addendum forms part of the "Contract Documents" and modifies or clarifies the original "Contract Documents" for this Project dated 12/21/18. Prospective Bid Proposers **shall** acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form.

Failure to acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form shall subject Bid Proposers to disqualification.

The following clarifications are applicable to drawings and specifications for the project referenced above.

Item 1:

See attached Fan Coil Unit (FCU) schedule for Buildings 5, 7, 8, 9A, 9C, 10, 11, and 12 per the pre-bid response A121.

Item 2:

Section 23 09 23 Building Management System

REPLACE the points list with the attached which incorporates updates released with the pre-bid questions/responses.

Item 3:

Section 23 09 99 Buildings – Sequence of Operation

REPLACE the entire section with the attached to address several pre-bid questions/responses issued with Addendum 4.

SUMMARY OF CHANGES

UPDATED Sequence of Operation for Bldgs 9B, 9C, and 9D, 10A, 11, 12, and 13.

REMOVED Unit heaters and convectors.

ADDED Exhaust fans including EF4-4, 4-5, 4-6, 4-7, & 4-8 (Building 4)

Item 15:

Section 00 01 10 Table of Contents (for all three (3) Project Manual volumes)

UPDATE the page counts in the Addendum 4 Table of Contents for the following Specification section items:

"23 09 23 Building Management System" from "65" to "66"

"23 09 99 Buildings – Sequence of Operation" from "19" to "24"

End of Addendum 5

FAN COIL UNIT SCHEDULES

BLDG	TAG	COOLING COIL					HEATING COIL			
		MBH		WATER			MBH	WATER		
		SENS	TOTAL	GPM	EWT	LWT		GPM	EWT	LWT
5	FCU5-1	8.9	12.6	2.2	45	57	19.1	1.5	180	160
	FCU5-2	7.8	14	2.3	45	57	13	1	180	160
	FCU5-3	22	34	5.3	45	57	45	3	180	160
	FCU5-4	16	27	3.5	45	57	41	3.5	180	160
7	FCU7-1	-	12	1.27	-	-	-	-	-	-
	FCU7-2	-	9	1	-	-	-	-	-	-
8	FCU8-1	24	26	2	45	57	11	2	180	160
	FCU8-2	10	13	2	45	57	5.5	2	180	160
9A	FCU9A-1	-	-	-	-	-	9.4	1	180	160
	FCU9A-2	-	-	-	-	-	9.4	1	180	160
9C	FCU9C-1	8.9	13.7	1.9	45	57	22	2	180	160
	FCU9C-2	8.9	13.7	1.9	45	57	22	2	180	160
	FCU9C-3	5.1	7.9	1.4	45	57	21	1.5	180	160
	FCU9C-4	7	10.8	1.9	45	57	21	2	180	160
	FC9UC-5	7	10.8	1.9	45	57	21	2	180	160
10	FCU10-1	31.4	34.3	11.8	45	57	77.6	2	180	160
11	FC11-1	8.9	12.6	2.2	45	57	19.1	1.5	180	160
	FC11-2	7.8	14	2.3	45	57	13	1	180	160
	FC11-3	22	34	5.3	45	57	45	3	180	160
	FC11-4	16	27	3.5	45	57	41	3.5	180	160
12	FC12-1	16	22	4	45	57	28	1	180	160
	FC12-2	11	15.5	3	45	57	28	1	180	160

	A	B	C	D	E	F	G	H	I	J
1	YORK CORRECTIONAL FACILUTY - BMS POINTS SCHEDULE									
2										
4	THE FOLLOWNG POIINT SCHEDULE IS FOR REFERENCE ONLY. THIS CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL WORK SPECIFIED WITHIN THE CONTRACT DOCUMENTS, SEQUENCES OF OPERATIONS AND WORK ASSOCIATED WITH OTHER TRADES. ANY DISCREPANCY BETWEEN CONTRACT DOCUMENTS SHALL RESOLVE WITH THE MORE COSTLY, COMPLEX OR STRINGENT TAKING PRECEDENT. NOTE THAT SYSTEMS ARE LISTED AS TYPICAL.									
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
7	CP-0-1,2. 3, 4, 5 (TYP 0F 5.)	AHU0-1,2, 3, 4, 5(TYP OF 5)	BLDG. 1 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN. CONTRACTOR IS TO COORDINATE AND VERIFY CONDUIT RUNS PRIOR TO INSTALLATION.	CONTROLLER OFFLINE
8		OUTDOOR AIR DAMPER	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
9		MIXED AIR DAMPER	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
10		FILTER STATUS	AHU0-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
11		MIXED AIR TEMPERATURE SENSOR	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I NEW SENSOR	DEG. F / HI TEMP
12		SPACE HUMIDITY SENSOR	AHU1-1,2, 3, 4, 5(TYP.)			5			F/I NEW SENSOR	% RH / HI RH
13		SUPPLY FAN START / STOP	AHU0-1,2, 3, 4, 5(TYP.)	5				DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON/OFF
14		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU0-1,2, 3, 4, 5(TYP.)		5			DO	F/I NEW SWITCH	STATUS - ON/OFF
15		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU0-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
16		EXHAUST FAN - START / STOP - CT	AHU0-1,2, 3, 4, 5(TYP.)		5			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
17		EXHAUST FAN DAMPER ACTUATOR	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
18		HOT DECK VALVE	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONTRACTOR	% OPEN
19		COLD DECK VALVE	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONTRACTOR	% OPEN
20		HOT DECK SUPPLY TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
21		COLD DECK SUPPLY TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
22		RETURN HUMIDITY	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	% HUM / HI HUM
23		RETURN TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
24		ZONE 1 RETURN TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
25		ZONE 2 RETURN TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
26		ZONE 3 RETURN TEMP	AHU0-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
27		ZONE 1 DAMPER	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
28		ZONE 2 DAMPER	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
29		ZONE 3 DAMPER	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
30	EF0-6	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU0-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
31	EF0-6	EXHAUST FAN - START / STOP - CT	AHU0-1		1			DO	F/I CURRENT TRANSDUCER - HAWKEYE	STATUS
32	EF0-6	EXHAUST FAN DAMPER ACTUATOR	AHU0-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
33		AHU1-1 SMOKE DETECETOR	AHU0-1,2, 3, 4, 5(TYP.)	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
34	EF0-7	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU1-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
35	EF0-7	EXHAUST FAN - START / STOP - CT	AHU0-1,2, 3, 4, 5(TYP.)		1			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
36	EF0-7	EXHAUST FAN DAMPER ACTUATOR	AHU0-1,2, 3, 4, 5(TYP.)				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
37	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
38		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
39		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
40		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
41		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
42		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
43	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	DEG. F / BTU
44		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
45		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
46		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
47		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
48		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
49	CP-HT-0	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
50										
51	CP-1-1,2. 3, 4, 5 (TYP 0F 5.)	AHU1-1,2, 3, 4, 5(TYP OF 5)	BLDG. 1 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN. REFER TO FLOOR PLANS FOR SPECIFIC LOCATION OF AHU CONTROL PANELS.	CONTROLLER OFFLINE
52		OUTDOOR AIR DAMPER	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
53		MIXED AIR DAMPER	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
54		FILTER STATUS	AHU1-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
55		MIXED AIR TEMPERATURE SENSOR	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I NEW SENSOR	DEG. F / HI TEMP
56		SPACE HUMIDITY SENSOR	AHU1-1,2, 3, 4, 5(TYP.)			5			F/I NEW SENSOR	% RH / HI RH
57		SUPPLY FAN START / STOP	AHU1-1,2, 3, 4, 5(TYP.)			5		DO	F/I CURRENT TRANSDUCER - HAWKEYE	ON/OFF
58		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU1-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
59	FAI1-1,2,3,4,5	FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU0-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
60	FAI1-1,2,3,4,5	FAN - START / STOP - CT	AHU0-1,2, 3, 4, 5(TYP.)		5			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
61	FAI1-1,2,3,4,5	FAN DAMPER ACTUATOR	AHU0-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
62		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU1-1,2, 3, 4, 5(TYP.)	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
63		EXHAUST FAN - START / STOP - CT	AHU1-1,2, 3, 4, 5(TYP.)		5			DI	F/I CT - HAWKEYE	CONTROL
64		EXHAUST FAN DAMPER ACTUATOR	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
65		HOT DECK VALVE	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
66		COLD DECK VALVE	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
67		HOT DECK SUPPLY TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
68		COLD DECK SUPPLY TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
69		RETURN HUMIDITY	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	% HUM / HI HUM
70		RETURN TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
71		ZONE 1 RETURN TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
72		ZONE 2 RETURN TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
73		ZONE 3 RETURN TEMP	AHU1-1,2, 3, 4, 5(TYP.)			5		AI	F/I SENSOR	DEG. F / HI TEMP
74		ZONE 1 DAMPER ACTUATOR	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR	% OPEN
75		ZONE 2 DAMPER ACTUATOR	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR	% OPEN
76		ZONE 3 DAMPER ACTUATOR	AHU1-1,2, 3, 4, 5(TYP.)				5	AO	F/I DAMPER ACTUATOR	% OPEN
77		AHU1 THRU 5 SMOKE DETECTOR	AHU1-1,2, 3, 4, 5(TYP.)	5				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
78	EF1-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 8)	AHU1-1 ---- EF-10A (LOC.ATED COLUMN. 1-0.5) AHU1-2 ---- EF1-9 (LOCATED NEAR AHU-2)	8				DI	F/I NEW SWITCH	STATUS - ON/OFF

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
79	EF1-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - START / STOP - CT (TYP. 8)	AHU1-3 ---- EF1-10C (LOCATED AT COLUMN 9.5a AHU1-4 ---- EF1-10D (LOCATED AT COLUMN 13-0,5)		8			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
80	EF1-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN DAMPER ACTUATOR (TYP. 8)	AHU1-5 ---- EF1-10B (LOCATED T COLUMN 4.5A EF1-6 TOILETS A&B (LOCATED MECH MEZZ - COLUMN 3.5-E - NEAR AHU1-1 EF1-6A TOILETS C&D (LOCATED MECH MEZZ - COLUMN 10.5-E - NEAR AHU1-4 EF1-7 TOILETS				8	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
81	AHU1-2	SPACE TEMPERATURE SENSOR LOCATIONS	ZONE 1 - RM 1-101 ZONE 2 - RM 1-109 ZONE 3 - RM 1-113 ZONE 4 - RM 1-112 ZONE 5 - RM 1-115			1		AI	F/I ROOM STAT	DEG. F / HI TEMP
82	MAIN BUILDING MER CHILLED WATER SERVICE (TYPICAL FOR ALL BUILDINGS)	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
83		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
84		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
85		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
86		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
87		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
88	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE (TYPICAL FOR ALL BUILDINGS)	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
89		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
90		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
91		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	PSI
92		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	PSI
93		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1			F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
94	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 8)	AHU2-1 ---- EF-10A (LOC.ATED COLUMN. 1-0.5) AHU2-2 ---- EF1-9 (LOCATED NEAR AHU) AHU2-3 ---- EF1-10C (LOCATED AT COLUMN 8.5a AHU2-4 ---- EF1-10D (LOCATED AT COLUMN 13-0,5) AHU2-5 ---- EF1-10B (LOCATED T COLUMN 4.5A	8				DI	F/I NEW SWITCH	STATUS - ON/OFF
95	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - START / STOP - CT (TYP. 8)			8			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
96	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN DAMPER ACTUATOR (TYP. 8)					8	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
97	CP-HT-1	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
98										
99	CP-2-1,2. 3, 4, 5 (TYP 0F 5.)	AHU2-1,2, 3, 4, 5(TYP OF 5)	BLDG. 2 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
100		OUTDOOR AIR DAMPER	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
101		MIXED AIR DAMPER	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
102		FILTER STATUS	AHU2-1,3,4, 5 (TYP.)	4				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
103		MIXED AIR TEMPERATURE SENSOR	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I NEW SENSOR	DEG. F / HI TEMP

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
104		SPACE HUMIDITY SENSOR	AHU2-1,3, 4, 5(TYP.)			4		DO	F/I CT - HAWKEYE	% RH / HI RH
105		SUPPLY FAN START/STOP	AHU2-1,3,4, 5 (TYP.)		4			DI	F/I NEW SWITCH	ON/OFF
106		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU2-1,3,4, 5 (TYP.)	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
107		EXHAUST FAN - START / STOP - CT	AHU2-1,3,4, 5 (TYP.)		4			DI	F/I CT - HAWKEYE	
108		EXHAUST FAN DAMPER ACTUATOR	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
109		HOT DECK VALVE	AHU2-1,3,4, 5 (TYP.)				4	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
110		COLD DECK VALVE	AHU2-1,3,4, 5 (TYP.)				4	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
111		HOT DECK SUPPLY TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
112		COLD DECK SUPPLY TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
113		RETURN HUMIDITY	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	% HUM / HI HUM
114		RETURN TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
115		ZONE 1 RETURN TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
116		ZONE 2 RETURN TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
117		ZONE 3 RETURN TEMP	AHU2-1,3,4, 5 (TYP.)			4		AI	F/I SENSOR	DEG. F / HI TEMP
118		ZONE 1 DAMPER	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I DAMPER ACTUATOR	% OPEN
119		ZONE 2 DAMPER	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I DAMPER ACTUATOR	% OPEN
120		ZONE 3 DAMPER	AHU2-1,3,4, 5 (TYP.)				4	AO	F/I DAMPER ACTUATOR	% OPEN
121	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 8)	AHU2-1 ---- EF2-10A (LOC.ATED COLUMN. 1-0.5) AHU2-2 ---- EF2-9 (LOCATED NEAR AHU)	8				DI	F/I NEW SWITCH	STATUS - ON/OFF
122	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - START / STOP - CT (TYP. 8)	AHU2-3 ---- EF2-10C (LOCATED AT COLUMN 8.5a AHU2-4 ---- EF2-10D (LOCATED AT COLUMN 13-0,5)		8			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
123	EF2-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN DAMPER ACTUATOR (TYP. 8)	AHU2-5 ---- EF2-10B (LOCATED T COLUMN 4.5A EF2-6 TOILETS A&B (LOCATED MECH MEZZ - COLUMN 3.5-E - NEAR AHU1-1) EF2-6A TOILETS C&D (LOCATED MECH MEZZ - COLUMN 10.5-E - NEAR AHU1-4) EF2-7 TOILETS				8	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
124	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
125		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
126		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
127		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
128		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	PSI
129		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
130	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
131		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
132		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
133		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
134		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
135		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
136	CP-HT-2	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
137										

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
138	CP-3-1,2, 3, 4, 5, 6 (TYP 0F 6.)	AHU3-1,2, 3, 4, 5, 6 (TYP OF 6)	BLDG. 3 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
139		OUTDOOR AIR DAMPER	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
140		MIXED AIR DAMPER	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
141		FILTER STATUS	AHU3-1, 2, 3, 4, 5, 6 (TYP.)	6				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
142		MIXED AIR TEMPERATURE SENSOR	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I NEW SENSOR	DEG. F / HI TEMP
143		SUPPLY FAN START/STOP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)		6			DO	F/I CT - HAWKEYE	ON/OFF
144		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU3-1, 2, 3, 4, 5, 6 (TYP.)	6				DI	F/I NEW SWITCH	STATUS - ON/OFF
145		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU3-1, 2, 3, 4, 5, 6 (TYP.)	6				DI	F/I NEW SWITCH	STATUS - ON/OFF
146		EXHAUST FAN - START / STOP - CT	AHU3-1, 2, 3, 4, 5, 6 (TYP.)		6			DI	F/I CT - HAWKEYE	ON/OFF
147		EXHAUST FAN DAMPER ACTUATOR	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
148		HOT DECK VALVE	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
149		COLD DECK VALVE	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
150		HOT DECK SUPPLY TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
151		COLD DECK SUPPLY TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
152		RETURN HUMIDITY	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	% HUM / HI HUM
153		RETURN TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
154		ZONE 1 RETURN TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
155		ZONE 2 RETURN TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
156		ZONE 3 RETURN TEMP	AHU3-1, 2, 3, 4, 5, 6 (TYP.)			6		AI	F/I SENSOR	DEG. F / HI TEMP
157		ZONE 4 RETURN TEMP	AHU3-4,6 (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
158		ZONE 5 RETURN TEMP	AHU3-5			1		AI	F/I SENSOR	DEG. F / HI TEMP
159		ZONE 1 DAMPER	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
160		ZONE 2 DAMPER	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
161		ZONE 3 DAMPER	AHU3-1, 2, 3, 4, 5, 6 (TYP.)				6	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
162		ZONE 4 DAMPER	AHU3-4,6 (TYP.)				3	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
163		ZONE 5 DAMPER	AHU3-5				1	AO	F/I DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
164	EF3-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 8)	AHU3-1 ---- EF3-10A (LOC.ATED COLUMN. 1-E5) AHU3-2 ---- EF3-10A (LOCATED COLUMN 4.5-A7) AHU3-3 ---- EF3-10C (LOCATED COLUMN 1.3-4.7 AHU3-4 ---- EF3-10D (LOCATED AT AHU3-4 AHU3-5 ---- EF1-11 (LOCATED T COLUMN 8H EF3-6 TOILETS EF3-6A TOILETS EF3-7 TOILETS	8				DI	F/I NEW SWITCH	STATUS - ON/OFF
165	EF3-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN - START / STOP - CT (TYP. 8)			8			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
166	EF3-6, 6A, 7, 9,10A, 10B, 10C, 10D,	EXHAUST FAN DAMPER ACTUATOR (TYP. 8)					8	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
167	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 1 - SMOKE ZONE 3 - UPPER LEVEL LOUNG - 3U-E03	BLDG. 3		1			DO	FURNISH AND INSTALL NEW ELECTRONIC DAMPER ACTUATORS. EXTEND WIRING FROM NEW CONTROLLER TO NEW ACTUATOR AND COMMISSION AS SPECIFIED IN SECTIONS 230923 AND 230999. (TYP. SMOKE DAMPER 1 THRU 11). SMOKE PURGE ZONE 1 - UPPER LEVEL LOUNGE 3U-E03 SMOKE PURGE ZONE 2 - LOWER LEVEL LOUNG 3L-E02 SMOKE PURGE ZONE 3 - INMATE ROOMS E	% OPEN
168	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 2 - SMOKE ZONE 3 - INMATE ROOMS E	BLDG. 3		1			DO		% OPEN
169	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 3 - SMOKE ZONE 2 - LOWER LOUNGE 3L-E02	BLDG. 3		1			DO		% OPEN
170	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 4 - SMOKE ZONE 2 - LOWER LOUNGE 3U-E02	BLDG. 3		1			DO		% OPEN
171	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 5 - AHU3-4 - RETURN DUCT FROM INMATE RROM D AND CORRIDOR - EXHAUST DAMPER LOCATED AT AHU	BLDG. 3		1			DO		% OPEN
172	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 6 - AHU3-4 EXHAUST DAMPER LOCATED AT AHU (EF3-10-0)	BLDG. 3		1			DO		% OPEN
173	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 7 - SMOKE ZONE 1 - LOUNGE 3U-E02	BLDG. 3		1			DO		% OPEN
174	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 8 - SMOKE ZONE 2 - LOWER LOUNGE 3L-E02	BLDG. 3		1			DO		% OPEN
175	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 9 - SUPPLY DUCT TO CORRIDOR	BLDG. 3		1			DO		% OPEN
176	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 10 - SUPPLY DUCT TO INMATE ROOM D	BLDG. 3		1			DO		% OPEN

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
177	SMOKE PURGE - AHU3-4 (0NLY)	SMK DAMPER 11 - AHU3-4 - RETURN DUCT FROM ZONES 1, 2, 3 CORRIDOR, INMATE RMS D	BLDG. 3		1			DO		% OPEN
178	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
179		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
180		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
181		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	PSI
182		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
183		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
184	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
185		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
186		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
187		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
188		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
189		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
190	CP-HT-3	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
191										
192	CP-4-4-1, 2, 3 (TYP OF 3.)	AHU4-1, 2, 3 (TYP. OF 3)	BLDG. 4 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
193		OUTDOOR AIR DAMPER	AHU4-1, 2, 3 (TYP.)				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
194		MIXED AIR DAMPER	AHU4-1, 2, 3 (TYP.)				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
195		FILTER STATUS	AHU4-1, 2, 3 (TYP.)	3				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
196		MIXED AIR TEMPERATURE SENSOR	AHU4-1, 2, 3 (TYP.)			3		AI	F/I NEW SENSOR	DEG. F / HI TEMP
197		SUPPLY FAN START/STOP	AHU4-1, 2, 3 (TYP.)		3			DO	F/I CT - HAWKEYE	ON/OFF
198		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU4-1, 2, 3 (TYP.)	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
199		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU4-1, 2, 3 (TYP.)	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
200		EXHAUST FAN - START / STOP - CT	AHU4-1, 2, 3 (TYP.)		3			DI	F/I CT - HAWKEYE	STATUS - ON/OFF
201		EXHAUST FAN DAMPER ACTUATOR	AHU4-1, 2, 3 (TYP.)				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
202		HOT DECK VALVE	AHU4-1, 2, 3 (TYP.)				3	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
203		COLD DECK VALVE	AHU4-1, 2, 3 (TYP.)				3	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
204		HOT DECK SUPPLY TEMP	AHU4-1, 2, 3 (TYP.)			3		AI	F/I SENSOR	DEG. F / HI TEMP
205		COLD DECK SUPPLY TEMP	AHU4-1, 2, 3 (TYP.)			3		AI	F/I SENSOR	DEG. F / HI TEMP
206		RETURN HUMIDITY	AHU4-1, 2, 3 (TYP.)			3		AI	F/I SENSOR	% HUM / HI HUM
207		RETURN TEMP	AHU4-1, 2, 3 (TYP.)			3		AI	F/I SENSOR	DEG. F / HI TEMP
208		ZONE 1 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
209		ZONE 2 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
210		ZONE 3 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
211		ZONE 4 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
212		ZONE 5 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP
213		ZONE 6 RETURN TEMP	AHU4-1, 2, (TYP.)			2		AI	F/I SENSOR	DEG. F / HI TEMP

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
214		ZONE 1 DAMPER	AHU4-1, 2, 3 (TYP.)				3	AO	F/I DAMPER ACTUATOR	% OPEN
215		ZONE 2 DAMPER	AHU4-1, 2, 3 (TYP.)				3	AO	F/I DAMPER ACTUATOR	% OPEN
216		ZONE 3 DAMPER	AHU4-1, 2, 3 (TYP.)				3	AO	F/I DAMPER ACTUATOR	% OPEN
217		ZONE 4 DAMPER	AHU4-1, 2, (TYP.)				2	AO	F/I DAMPER ACTUATOR	% OPEN
218		ZONE 5 DAMPER	AHU4-1, 2, (TYP.)				2	AO	F/I DAMPER ACTUATOR	% OPEN
219		ZONE 6 DAMPER	AHU4-1, 2, (TYP.)				2	AO	F/I DAMPER ACTUATOR	% OPEN
220		TU4-1	GROUP ROOM 4-108					N/A	REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT CONTROLLER. FURNISH AND INSTALL (F/I) NEW ELECTRONIC REHEAT VALVES. F/I WIRING TO REHEAT VALVE. REPLACE EXISTING WALL SENSOR AS INDICATED. EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK CONNECTED TO NEAREST MASTER (IP LEVEL) CONTROLLER.	
221		TU4-2	INMATE PROPERTY 4-120					N/A		
222		TU4-3	GROUP RROM 4-105					N/A		
223		TU4-3-2	CENTRAL CLINIC 4-158					N/A		
224		TU4-3-3	CONFERENCE 4-145					N/A		
225		TU4-4	PHARMACY 4-122					N/A		
226		TU4-5	SOCIAL WORKER 4-105					N/A		
227		TU4-6	CORRIDOR 4-159					N/A		
228		TU4-7	HEAD NURSE 4-157					N/A		
229		TU4-8	LAB 4-151					N/A		
230		TU4-9	MN SURGUERY 4-149					N/A		
231		TU4-10	EXAM 3 4-125					N/A		
232		TU4-11	EXAM 4 4-128					N/A		
233		TU4-12	EXAM CORRIDOR 4-139A					N/A		
234		TU4-13	DR. OFF. #4 4-131					N/A		
235		TU4-14	HEAD PHYCH NURSE 4-134					N/A		
236		TU4-15	MENTAL HEALTH DR. 4-144					N/A		
237		TU4-17	HEALTH SERVICE DR. 4-148					N/A		
238		MANUAL EF FAN CONTROL PANEL LOCATED AT NURSES STATION (TYP. 6)	THIS SYSTEM WILL REMAIN IN PLACE. REPLACE PNUEMATIC OUTPUT FROM THE PANEL RELAY TO THE DAMPER ACTUATOR. REPLACE THE EXISTING PNUEMATIC ACTUATOR WITH AN ELECTRONIC ACTUATOR.							
239		EF4-9 MANUAL CONTROL	ROOM 4-901	1	1		1		REPLACE THE EXISTING PNEUMATIC DAMPER ACTUATOR WITH A NEW ELECTRONIC ACTUATOR. EXTEND WIRING FROM THE EXISTING RELAY TO NEW DAMPER.	
240		EF4-10 MANUAL CONTROL	ROOM 4-902	1	1		1			
241		EF4-11 MANUAL CONTROL	ROOM 4-903	1	1		1			
242		EF4-12 MANUAL CONTROL	ROOM 4-904	1	1		1			
243		EF4-13 MANUAL CONTROL	ROOM 4-905	1	1		1			
244		EF4-14 MANUAL CONTROL	ROOM 4-906	1	1		1			
245	EF4-3, 7, 8	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 8)	AHU4-1 ----EF4-7 (LOC.ATED AT AHU)	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
246	EF4-3, 7, 8	EXHAUST FAN - START / STOP - CT (TYP. 8)	AHU4-2 ----EF4-8 (LOCATED AT UNIT)		3			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
247	EF4-3, 7, 8	EXHAUST FAN DAMPER ACTUATOR (TYP. 8)	AHU4-3 ---- EF4-3 (LOCATED AT UNIT) NOTE - EF4-3 AND SF OF UNIT SERVED BY EXISTING				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
248	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
249		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE	DEG. F / BTU
250		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
251		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
252		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
253		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
254	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
255		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	DEG. F / BTU
256		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	GPM / BTU
257		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
258		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
259		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW DEVICE WITHIN THE MAIN BUILDING MER / WATER SERVICE ENTRANCE	PSI
260	CP-HT-4	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
261										
262	CP-5-AHU5-1	AHU5-1	BLDG. 5 GYMNASIUM MECHANICAL MEZZ					BACnet	FURNISH AND INTALL A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
263		OUTDOOR AIR DAMPER	AHU5-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
264		MIXED AIR DAMPER	AHU5-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
265		FILTER STATUS	AHU5-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
266		MIXED AIR TEMPERATURE SENSOR	AHU5-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
267		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU5-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
268		SUPPLY FAN - START / STOP - CT	AHU5-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON/OFF
269		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU5-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
270		EXHAUST FAN - START / STOP - CT	AHU5-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
271		EXHAUST FAN DAMPER ACTUATOR	AHU5-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
272		HOT DECK VALVE	AHU5-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
273		COLD DECK VALVE	AHU5-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
274		HOT DECK SUPPLY TEMP	AHU5-1			1		AI	F/I SENSOR	DEG. F / HI TEMP
275		COLD DECK SUPPLY TEMP	AHU5-1			1		AI	F/I SENSOR	DEG. F / HI TEMP
276		RETURN HUMIDITY	AHU5-1			1		AI	F/I SENSOR	% HUM / HI HUM
277		RETURN TEMP	AHU5-1			1		AI	F/I SENSOR	DEG. F / HI TEMP
278		AHU5-1 VFD - START / STOP	AHU5-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
279		AHU5-1 VFD - STATUS	AHU5-1	1				DI		STATUS ON / OFF
280										
281		AHU5-1 VFD - SPEED CONTROL	AHU5-1				1	AO		SPEED OUIPUT
282		AHU5-1 VFD - SPEED READING	AHU5-1			1		AI		SPEED READING
283		AHU4-3 STATIC PRESSURE SENSOR	AHU4-3					AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
284	EF5-1,2,4	EXHAUST FAN - STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU5-1 ----EF5-1 (LOC.ATED AT AHU)	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
285	EF5-1,2,4	EXHAUST FAN - START / STOP - CT	EF5-2 TOILETS		3			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
286	EF5-1,2,4	EXHAUST FAN DAMPER ACTUATOR	EF5-4 --- MECH ROOM 5-118 NOTE: AHU5-1 SF SERVED BY EXISTING VFD				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
287	EF5-1, 2, 4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU5-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
288	EF5-1, 2, 4	EXHAUST FAN - START / STOP - CT	AHU5-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
289	EF5-1, 2, 4	EXHAUST FAN DAMPER ACTUATOR	AHU5-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
290	FCU-5-1, 2, 3, 4 (TYP 4)	SUPPLY AIR TEMP	FCU-5-1, 2, 3, 4 (TYP 4)			4		AI	F/I NEW DAMPER ACTUATOR	DEG. F / HI TEMP
291	FCU-5-1, 2, 3, 4 (TYP 4)	MIXED AIR TEMP	FCU-5-1, 2, 3, 4 (TYP 4)			4		AI	F/I NEW TEMP SENSOR	DEG. F / HI TEMP
292	FCU-5-1, 2, 3, 4 (TYP 4)	FREEZ STATS	FCU-5-1, 2, 3, 4 (TYP 4)	4				DI	F/I NEW FREEZSTAT	STATUS
293	FCU-5-1, 2, 3, 4 (TYP 4)	FILTER STATUS	FCU-5-1, 2, 3, 4 (TYP 4)	4				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	STATUS
294	FCU-5-1, 2, 3, 4 (TYP 4)	FAN START / STOP	FCU-5-1, 2, 3, 4 (TYP 4)		4			DO	F/1 NEW CT FOR S/S	CONTROL
295	FCU-5-1, 2, 3, 4 (TYP 4)	FAN STATUS	FCU-5-1, 2, 3, 4 (TYP 4)	4				DI	F/1 NEW CT FOR STATUS	ON / OFF
296	FCU-5-1, 2, 3, 4 (TYP 4)	OUTDOOR AIR DAMPER	FCU-5-1, 2, 3, 4 (TYP 4)				4	AO	F/1 NEW DAMPER ACTUATOR - EXISTING DAMPER TO REMAIN	% OPEN
297	FCU-5-1, 2, 3, 4 (TYP 4)	COOLING COIL VALVE	FCU-5-1, 2, 3, 4 (TYP 4)				4	AO	F/1 NEW COOLING VALVE	% OPEN
298	FCU-5-1, 2, 3, 4 (TYP 4)	HEATING COIL VALVE	FCU-5-1, 2, 3, 4 (TYP 4)				4	AO	F/1 NEW HEATING VALVE	% OPEN
299		CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
300		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
301	MAIN BUILDING MER	CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
302	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
303		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
304		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
305	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
306		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
307		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
308		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
309		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
310		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
311	CP-HT-5	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
312										
313	CP-6--1	AHU6-1	BLDG. 6 GYMNASIUM MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
314		OUTDOOR AIR DAMPER	AHU6-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
315		MIXED AIR DAMPER	AHU6-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
316		FILTER STATUS	AHU6-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
317		MIXED AIR TEMPERATURE SENSOR	AHU6-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
318		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU6-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
319		SUPPLY FAN - START / STOP - CT	AHU6-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON/OFF
320	EF6-4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU6-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
321	EF6-4	EXHAUST FAN - START / STOP - CT	AHU6-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
322	EF6-4	EXHAUST FAN DAMPER ACTUATOR	AHU6-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
323		HOT WATER VALVE	AHU6-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
324		CHILLED WATER VALVE	AHU6-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
325		RETURN HUMIDITY	AHU6-1			1		AI	F/I SENSOR	% HUM / HI HUM
326		AHU6-1 VFD - START / STOP	AHU6-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
327		AHU6-1 VFD - STATUS	AHU6-1	1				DI		STATUS ON / OFF
328		AHU6-1 VFD - SPEED CONTROL	AHU6-1				1	AO		SPEED OUIPUT
329		AHU6-1 VFD - SPEED READING	AHU6-1			1		AI		SPEED READING
330		AHU6-1 STATIC PRESSURE SENSOR	AHU6-1					AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
331		SUPPLY AIR SMOKE DETECTOR	AHU6-1	1					WIRE TO EXISTING SMOKE DETECTOR.	STATUS
332		RETURN AIR SMOKE DETECTOR	AHU6-1	1					WIRE TO EXISTING SMOKE DETECTOR.	STATUS
333		TU6-1	COUNSELOR 6-108						TU-1 THROUGH 16: REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT CONTROLLER. EXISTING REHEAT VALVES SHALL REMAIN AND BE REUSED. F/I WIRING TO EXISTING VALVE. REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION	
334		TU6-2	COUNSELOR 6-109							
335		TU6-3	COUNSELOR 6-116							
336		TU6-4	TESTING CLASSROOM 6-145							
337		TU6-5	INMATE WAITING 6-144							
338		TU6-6	TESTING CLASSROOM 6-147							
339		TU6-8	SECRETARY 6-121							
340		TU6-9	D. WARDEN PROGRAMS 6-122							
341		TU6-10	D. WARDEN OPS. 6-124							

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
342		TU6-11	ASSEMBLY (NORTH) 6-101						REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION. EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK CONNECTED TO NEAREST MASTER (IP LEVEL) CONTROLLER.	
343		TU6-12	ASSEMBLY (SOUTH) 6-101							
344		TU6-13	SHIFT CAPTAIN 6-102							
345		TU6-14	CONFERENCE 6-141							
346		TU6-15	WORK AREA 6-137							
347		TU6-16	INMATE RECORDS 6-135							
348	EF6-2	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU6-2	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
349	EF6-2	EXHAUST FAN - START / STOP - CT	AHU6-2		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
350	EF6-2	EXHAUST FAN DAMPER ACTUATOR	AHU6-2				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
351	EF6-4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF6-4	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
352	EF6-4	EXHAUST FAN - START / STOP - CT	EF6-4		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
353	EF6-4	EXHAUST FAN DAMPER ACTUATOR	EF6-4				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
354	EF6-4	INTAKE FAN DAMPER ACTUATOR	EF6-4				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
355	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
356		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
357		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
358		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
359		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
360		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
361	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
362		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
363		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
364		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
365		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
366		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
367	CP-HT-6	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
368										
369	CP-7-1	AHU7-1	BLDG. 7 GYMNASIUM					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
370		OUTDOOR AIR DAMPER	AHU7-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
371		MIXED AIR DAMPER	AHU7-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
372		FILTER STATUS	AHU7-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
373		MIXED AIR TEMPERATURE SENSOR	AHU7-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
374		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU7-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
375		SUPPLY FAN - START / STOP - CT	AHU7-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
376	EF7-4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU7-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
377	EF7-4	EXHAUST FAN - START / STOP - CT	AHU7-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
378	EF7-4	EXHAUST FAN DAMPER ACTUATOR	AHU7-1 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
379		HOT WATER VALVE	AHU7-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
380		CHILLED WATER VALVE	AHU7-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
381		RETURN HUMIDITY	AHU7-1			1		AI	F/I SENSOR	% HUM / HI HUM
382		AHU7-1 VFD - START / STOP	AHU7-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
383		AHU7-1 VFD - STATUS	AHU7-1	1				DI		STATUS ON / OFF
384		AHU7-1 VFD - SPEED CONTROL	AHU7-1				1	AO		SPEED OUIPUT
385		AHU7-1 VFD - SPEED READING	AHU7-1			1		AI		SPEED READING
386		SUPPLY AIR SMOKE DETECTOR	AHU7-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
387		RETURN AIR SMOKE DETECTOR	AHU7-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
388	FCU7-1, 2,(TYP.)	SUPPLY AIR TEMP	FCU7-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
389	FCU7-1, 2,(TYP.)	MIXED AIR TEMP	FCU7-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
390	FCU7-1, 2,(TYP.)	FREEZ STATS	FCU7-1, 2,(TYP.)	2				DI	F/I NEW SENSOR	STATUS
391	FCU7-1, 2,(TYP.)	FILTER STATUS	FCU7-1, 2,(TYP.)	2				DI	F/I NEW SWITCH	STATUS
392	FCU7-1, 2,(TYP.)	FAN START / STOP	FCU7-1, 2,(TYP.)	2				DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
393	FCU7-1, 2,(TYP.)	FAN STATUS	FCU7-1, 2,(TYP.)		2			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
394	FCU7-1, 2,(TYP.)	OUTDOOR AIR DAMPER	FCU7-1, 2,(TYP.)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	DEG. F / HI TEMP
395	FCU7-1, 2,(TYP.)	COOLING COIL VALVE	FCU7-1, 2,(TYP.)				2	AO	F/1 NEW COOLING VALVE	% OPEN
396	FCU7-1, 2,(TYP.)	HEATING COIL VALVE	FCU7-1, 2,(TYP.)				2	AO	F/1 NEW HEATING VALVE	% OPEN
397										
398	CP-7-2	MAU7-1	BLDG. 7					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS	CONTROLLER OFFLINE
399	MAU7-1	OUTDOOR AIR DAMPER	AHU7-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
400	MAU7-1	MIXED AIR DAMPER	AHU7-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
401	MAU7-1	FILTER STATUS	AHU7-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
402	MAU7-1	MIXED AIR TEMPERATURE SENSOR	AHU7-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
403	MAU7-1	MAU7-1 SMOKE DETECETOR	MAU7-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
404	MAU7-1	SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU7-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
405	MAU7-1	SUPPLY FAN - START / STOP - CT	AHU7-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
406	EF7-2, 3, 4, 5	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF7-2, 3, 4, 5	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
407	EF7-2, 3, 4, 5	EXHAUST FAN - START / STOP - CT	EF7-2, 3, 4, 5		4			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
408	EF7-2, 3, 4, 5	EXHAUST FAN DAMPER ACTUATOR	EF7-2, 3, 4, 5				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
409	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
410		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
411		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
412		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
413		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
414		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
415	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
416		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
417		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
418		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
419		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
420		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
421	CP-HT-7	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
422										

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
423	CP-8-1	AHU8-1	BLDG. 8 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
424		OUTDOOR AIR DAMPER	AHU8-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
425		MIXED AIR DAMPER	AHU8-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
426		FILTER STATUS	AHU8-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
427		MIXED AIR TEMPERATURE SENSOR	AHU8-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
428		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU8-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
429		SUPPLY FAN - START / STOP - CT	AHU8-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
430	EF8-4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU8-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
431	EF8-4	EXHAUST FAN - START / STOP - CT	AHU8-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
432	EF8-4	EXHAUST FAN DAMPER ACTUATOR	AHU8-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
433		HOT WATER VALVE	AHU8-1				6	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
434		CHILLED WATER VALVE	AHU8-1				6	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
435		RETURN HUMIDITY	AHU8-1			6		AI	F/I SENSOR	% HUM / HI HUM
436		AHU7-1 VFD - START / STOP	AHU8-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
437		AHU7-1 VFD - STATUS	AHU8-1	1				DI		STATUS ON / OFF
438		AHU7-1 VFD - SPEED CONTROL	AHU8-1				1	AO		SPEED OUIPUT
439		AHU7-1 VFD - SPEED READING	AHU8-1			1		AI		SPEED READING
440		SUPPLY AIR SMOKE DETECTOR	AHU8-1	1					WIRE TO EXISTING SMOKE DETECTOR.	STATUS
441		AHU8-1 STATIC PRESSURE SENSOR	AHU8-1			1		AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
442		RETURN AIR SMOKE DETECTOR	AHU8-1	1					WIRE TO EXISTING SMOKE DETECTOR.	STATUS
443	FCU8-1, 2,(TYP.)	SUPPLY AIR TEMP	FCU8-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
444	FCU8-1, 2,(TYP.)	MIXED AIR TEMP	FCU8-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
445	FCU8-1, 2,(TYP.)	FREEZ STATS	FCU8-1, 2,(TYP.)	2				DI	F/I NEW SENSOR	STATUS
446	FCU8-1, 2,(TYP.)	FILTER STATUS	FCU8-1, 2,(TYP.)	2				DI	F/I NEW PRESSURE DIFFERENTIAL SWITCH	STATUS
447	FCU8-1, 2,(TYP.)	FAN START / STOP	FCU8-1, 2,(TYP.)		2			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
448	FCU8-1, 2,(TYP.)	FAN STATUS	FCU8-1, 2,(TYP.)	2				DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
449	FCU8-1, 2,(TYP.)	OUTDOOR AIR DAMPER	FCU8-1, 2,(TYP.)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	DEG. F / HI TEMP
450	FCU8-1, 2,(TYP.)	COOLING COIL VALVE	FCU8-1, 2,(TYP.)				2		F/1 NEW COOLING VALVE	% OPEN
451	FCU8-1, 2,(TYP.)	HEATING COIL VALVE	FCU8-1, 2,(TYP.)				2		F/1 NEW HEATING VALVE	% OPEN
452	MAU8-1	OUTDOOR AIR DAMPER	AHU8-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
453	MAU8-1	MIXED AIR DAMPER	AHU8-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
454	MAU8-1	FILTER STATUS	AHU8-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
455	MAU8-1	MIXED AIR TEMPERATURE SENSOR	AHU8-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
456	MAU8-1	MAU7-1 SMOKE DETECETOR	AHU8-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
457	MAU8-1	SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU8-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
458	MAU8-1	SUPPLY FAN - START / STOP - CT	AHU8-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
459	EF8-2, 3, 4, 5	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF8-2, 3, 4, 5	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
460	EF8-2, 3, 4, 5	EXHAUST FAN - START / STOP - CT	EF8-2, 3, 4, 5		4			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
461	EF8-2, 3, 4, 5	EXHAUST FAN DAMPER ACTUATOR	EF8-2, 3, 4, 5				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
462		TU8-1	CHAPEL 137					MSTP	TU-1 THROUGH TU-17: REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT CONTROLLER. EXISTING REHEAT VALVES SHALL REMAIN AND BE REUSED	
463		TU8-2	CHAPEL 137					MSTP		
464		TU8-3	FISCAL CLERK 167					MSTP		
465		TU8-4	SECRETARY 162					MSTP		
466		TU8-5	WARDEN 161					MSTP		
467		TU8-6	WARDEN CONFERENCE 160					MSTP		

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
468		TU8-8	BUSINESS MANAGGER 140					MSTP	~~EXISTING REHEAT VALVES SHALL REMAIN AND BE REUSED.~~ F/I WIRING TO EXISTING VALVE. REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION. EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK CONNECTED TO NEAREST MASTER (IP LEVEL) CONTROLLER.	
469		TU8-10	WAITING 100					MSTP		
470		TU8-12	VISITATION 114					MSTP		
471		TU8-13	ATTORNEY/CLIENT 111					MSTP		
472		TU8-14	VISITATION 114					MSTP		
473		TU8-15	VISITATION 114					MSTP		
474		TU8-17	GUARD STATION 119					MSTP		
475	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
476		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
477		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
478		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
479		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
480		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
481	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
482		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
483		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
484		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
485		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
486		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
487	CP-HT-8	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
488										
489	CP-9A-1, 2 (TYP. OF 2)	AHU9A-1, 2 (TYP. OF 2)	BLDG. 9A MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
490										
491		OUTDOOR AIR DAMPER	AHU9A-1, 2 (TYP)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
492		MIXED AIR DAMPER	AHU9A-1, 2 (TYP)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
493		FILTER STATUS	AHU9A-1, 2 (TYP)	2				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
494		MIXED AIR TEMPERATURE SENSOR	AHU9A-1, 2 (TYP)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
495		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9A-1, 2 (TYP)	2				DI	F/I NEW SWITCH	STATUS - ON/OFF
496		SUPPLY FAN - START / STOP - CT	AHU9A-1, 2 (TYP)		2			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
497		HOT WATER VALVE	AHU9A-1, 2 (TYP)				2	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
498		CHILLED WATER VALVE	AHU9A-1, 2 (TYP)				2	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
499		RETURN HUMIDITY	AHU9A-1, 2 (TYP)			2		AI	F/I SENSOR	% HUM / HI HUM
500		AHU9A-1 VFD - START / STOP	AHU9A-1, 2 (TYP)		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
501		AHU9A-1 VFD - STATUS	AHU9A-1, 2 (TYP)	1				DI		STATUS ON / OFF
502		AHU9A-1 VFD - SPEED CONTROL	AHU9A-1, 2 (TYP)				1	AO		SPEED OUIPUT
503		AHU9A-1 VFD - SPEED READING	AHU9A-1, 2 (TYP)			1		AI		SPEED READING
504		AHU9A-1 VFD - BYPASS CONTACT	AHU9A-1, 2 (TYP)					N/A		STATUS
505		AHU9A-1 STATIC PRESSURE SENSOR	AHU9A-1, 2 (TYP)					AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
506		SUPPLY AIR SMOKE DETECTOR	AHU9A-1, 2 (TYP)	1				AI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
507		RETURN AIR SMOKE DETECTOR	AHU9A-1, 2 (TYP)	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
508		TU9A-1	STADD DINING 9A-101					MSTP	REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT	
509		TU9A-2	STADD DINING 9A-100					MSTP	CONTROLLERS.	
510	HX9A-1	HOT WATER BYPASS VALVE - BUILDING SIDE	HX9A-1				1	AO	FURNISH ONLY VALVE. INSTALLED NY MECHANCIAL	% OPEN
511	HX9A-1	HOT WATER DIFFFRENTIAL PRESSURE	HX9A-1			1		AI	F/I NEW SENSOR	DIFF. PRES. / OUT OF RANGE
512	HX9A-1	HOT WATER SUPPLY TEMPERATURE	HX9A-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
513	HX9A-1	HOT WATER RETURN TEMPERATURE	HX9A-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
514	HX9A-1	HOT WATER BYPASS VALVE - MTHW LOOP SIDE	HX9A-1				1	AO	FURNISH ONLY VALVE. INSTALLED BY MECHANCIAL	% OPEN
515	HX9A-1	HOT WATER PUMP SET COMMON ALARM	HX9A-1	1				DI	WIRE TO DRY CONTACT. PROVIDE ALARM AT BMS	NORMAL / ALARM
516	FCU9A-1, 2,(TYP.)	SUPPLY AIR TEMP	FCU9A-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
517	FCU9A-1, 2,(TYP.)	MIXED AIR TEMP	FCU9A-1, 2,(TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
518	FCU9A-1, 2,(TYP.)	FREEZ STATS	FCU9A-1, 2,(TYP.)	2				DI	F/I NEW SENSOR	STATUS
519	FCU9A-1, 2,(TYP.)	FILTER STATUS	FCU9A-1, 2,(TYP.)	2				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	STATUS
520	FCU9A-1, 2,(TYP.)	FAN START / STOP	FCU9A-1, 2,(TYP.)		2			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
521	FCU9A-1, 2,(TYP.)	FAN STATUS	FCU9A-1, 2,(TYP.)	2				DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
522	FCU9A-1, 2,(TYP.)	OUTDOOR AIR DAMPER	FCU9A-1, 2,(TYP.)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
523	FCU9A-1, 2,(TYP.)	COOLING COIL VALVE	FCU9A-1, 2,(TYP.)				2	AO	F/1 NEW COOLING VALVE	% OPEN
524	FCU9A-1, 2,(TYP.)	HEATING COIL VALVE	FCU9A-1, 2,(TYP.)				2	AO	F/1 NEW HEATING VALVE	% OPEN
525	MAU9A-1,2,3,4,5	OUTDOOR AIR DAMPER	MAU9A-1,2,3,4,5				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
526	MAU9A-1,2,3,4,5	MIXED AIR DAMPER	MAU9A-1,2,3,4,5				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
527	MAU9A-1,2,3,4,5	FILTER STATUS	MAU9A-1,2,3,4,5	5				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
528	MAU9A-1,2,3,4,5	MIXED AIR TEMPERATURE SENSOR	MAU9A-1,2,3,4,5			5		AI	F/I NEW SENSOR	DEG. F / HI TEMP
529	MAU9A-1,2,3,4,5	MAU7-1 SMOKE DETECETOR	MAU9A-1,2,3,4,5	5				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
530	MAU9A-1,2,3,4,5	SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	MAU9A-1,2,3,4,5	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
531	MAU9A-1,2,3,4,5	SUPPLY FAN - START / STOP - CT	MAU9A-1,2,3,4,5		5			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
532	EF9A-7,8,9,10,11	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF9A-7,8,9,10,11	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
533	EF9A-7,8,9,10,11	EXHAUST FAN - START / STOP - CT	EF9A-7,8,9,10,11		5			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON / OFF
534	EF9A-7,8,9,10,11	EXHAUST FAN DAMPER ACTUATOR	EF9A-7,8,9,10,11				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
535	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
536		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
537		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
538		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
539		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
540		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
541	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
542		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
543		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
544		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
545		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
546		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
547	CP-HT-9A	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
548										

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
549	CP-9B-1	AHU9B-1	BLDG. 9B MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
550		OUTDOOR AIR DAMPER	AHU9B-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
551		MIXED AIR DAMPER	AHU9B-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
552		FILTER STATUS	AHU9B-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
553		MIXED AIR TEMPERATURE SENSOR	AHU9B-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
554		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9B-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
555		SUPPLY FAN - START / STOP - CT	AHU9B-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON . OFF
556	EF9B-1	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9B-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
557	EF9B-1	EXHAUST FAN - START / STOP - CT	AHU9B-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	ON . OFF
558	EF9B-1	EXHAUST FAN DAMPER ACTUATOR	AHU9B-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
559		HOT WATER VALVE	AHU9B-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
560		CHILLED WATER VALVE	AHU9B-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
561		RETURN HUMIDITY	AHU9B-1			1		AI	F/I SENSOR	% HUM / HI HUM
562		AHU9B-1 VFD - START / STOP	AHU9B-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
563		AHU9B-1 VFD - STATUS	AHU9B-1	1				DI		STATUS ON / OFF
564		AHU9B-1 VFD - SPEED CONTROL	AHU9B-1				1	AO		SPEED OUIPUT
565		AHU9B-1 VFD - SPEED READING	AHU9B-1			1		AI		SPEED READING
566		AHU9B-1 VFD - BYPASS CONTACT	AHU9B-1					N/A		STATUS
567		AHU9B-1 STATIC PRESSURE SENSOR	AHU9B-1					AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
568		SUPPLY AIR SMOKE DETECTOR	AHU9B-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
569		RETURN AIR SMOKE DETECTOR	AHU9B-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
570		TU9B-1	LIFE SKILLS 9B-116					MSTP	TU-1 THROUGH 4, 7, 17 AND 8:	
571		TU9B-2	COMPUTER LAB 9B-122					MSTP	REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT	
572		TU9B-3	VESTIBULE 9B-129					MSTP	CONTROLLER.	
573		TU9B-4	ELECTRONICS 9B-137					MSTP	EXISTING REHEAT VALVES SHALL REMAIN AND BE REUSED.	
574		TU9B-7	PRE-VOCATIONAL 9B-144					MSTP	F/I WIRING TO EXISTING VALVE.	
575		TU9B-17	SMALL ENGINE 9B-150					MSTP	REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION.	
576		TU9-8	SMALL ENGINE 9B-151					MSTP	EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK	
577	EF9B-2	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	RM 9B 124	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
578	EF9B-2	EXHAUST FAN - START / STOP - CT	RM 9B 124		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
579	EF9B-2	EXHAUST FAN DAMPER ACTUATOR	RM 9B 124				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
580	EF9B-2	INTAKE FAN DAMPER ACTUATOR	RM 9B 124				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
581	EF9B-3	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	RM 9B 135	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
582	EF9B-3	EXHAUST FAN - START / STOP - CT	RM 9B 135		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
583	EF9B-3	EXHAUST FAN DAMPER ACTUATOR	RM 9B 135				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
584	EF9B-3	INTAKE FAN DAMPER ACTUATOR	RM 9B 135				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
585	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
586		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
587		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
588		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
589		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
590		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
591	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
592		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
593		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
594		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
595		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
596		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
597	CP-HT-9B	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
598										
599	CP-9C-1, 2, 3, 4 (TYP. OF 4)	AHU9C-1, 2, 3, 4 (TYP. OF 4)	BLDG. 9C MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
600		OUTDOOR AIR DAMPER (2)	AHU9C-1, 2, 3, 4 (TYP)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
601		FILTER STATUS	AHU9C-1, 2, 3, 4 (TYP)	4				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
602		MIXED AIR TEMPERATURE SENSOR	AHU9C-1, 2, 3, 4 (TYP)			4		AI	F/I NEW SENSOR	DEG. F / HI TEMP
603		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9C-1, 2, 3, 4 (TYP)	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
604		SUPPLY FAN - START / STOP - CT	AHU9C-1, 2, 3, 4 (TYP)		4			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
605	EF9C-1	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9C-1, 2, 3, 4 (TYP)	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
606	EF9C-1	EXHAUST FAN - START / STOP - CT	AHU9C-1, 2, 3, 4 (TYP)		4			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
607	EF9C-1	EXHAUST FAN DAMPER ACTUATOR	AHU9C-1, 2, 3, 4 (TYP)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
608		HOT WATER VALVE	AHU9C-1, 2, 3, 4 (TYP)				4	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
609		CHILLED WATER VALVE	AHU9C-1, 2, 3, 4 (TYP)				4	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
610		RETURN HUMIDITY	AHU9C-1, 2, 3, 4 (TYP)			4		AI	F/I SENSOR	% HUM / HI HUM
611		AHU9C-1 VFD - START / STOP	AHU9C-1, 2, 3, 4 (TYP)		4			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
612		AHU9C-1 VFD - STATUS	AHU9C-1, 2, 3, 4 (TYP)	4				DI		STATUS ON / OFF
613		AHU9C-1 VFD - SPEED CONTROL	AHU9C-1, 2, 3, 4 (TYP)				4	AO		SPEED OUIPUT
614		AHU9C-1 VFD - SPEED READING	AHU9C-1, 2, 3, 4 (TYP)			4		AI		SPEED READING
615										STATUS
616		AHU9C-1 STATIC PRESSURE SENSOR	AHU9C-1, 2, 3, 4 (TYP)			4		AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
617		SUPPLY AIR SMOKE DETECTOR	AHU9C-1, 2, 3, 4 (TYP)	4				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
618		RETURN AIR SMOKE DETECTOR	AHU9C-1, 2, 3, 4 (TYP)	4				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
619		TU9C-1	COMPUTER LAB 9C-100					MSTP	YU-1 THROUGH 5:	
620		TU9C-2	COMPUTER LAB 9C-110					MSTP	REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT	
621		TU9C-3	WORK ROOM 9C-134					MSTP	CONTROLLER.	

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
622		TU9C-4	INMATE BREAK AREA 9C-126					MSTP	FURNISH AND INSTALL (F/I) NEW ELECTRONIC REHEAT VALVES. F/I WIRING TO REHEAT VALVE. REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION. EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK	
623		TU9C-5	INMATE BREAK AREA 9C-127					MSTP	CONNECTED TO NEAREST MASTER (IP LEVEL) CONTROLLER.	
624	EF9C-3	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	RM 9C 122A	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
625	EF9C-3	EXHAUST FAN - START / STOP - CT	RM 9C 122A		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
626	EF9C-3	EXHAUST FAN DAMPER ACTUATOR	RM 9C 122A				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
627	EF9C-3	INTAKE FAN DAMPER ACTUATOR	RM 9C 122A				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
628	EF9C-4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	RM 9C 124	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
629	EF9C-4	EXHAUST FAN - START / STOP - CT	RM 9C 124		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
630	EF9C-4	EXHAUST FAN DAMPER ACTUATOR	RM 9C 124				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
631	EF9C-4	INTAKE FAN DAMPER ACTUATOR	RM 9C 124				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
632	FCU9C-1, 2,3,4 (TYP.)	SUPPLY AIR TEMP	FCU9C-1, 2,3,4 (TYP.)			4		AI	F/I NEW SENSOR	DEG. F / HI TEMP
633	FCU9C-1, 2,3,4 (TYP.)	MIXED AIR TEMP	FCU9C-1, 2,3,4 (TYP.)			4		AI	F/I NEW SENSOR	DEG. F / HI TEMP
634	FCU9C-1, 2,3,4 (TYP.)	FREEZ STATS	FCU9C-1, 2,3,4 (TYP.)	4				DI	F/I NEW SENSOR	STATUS
635	FCU9C-1, 2,3,4 (TYP.)	FILTER STATUS	FCU9C-1, 2,3,4 (TYP.)	4				DI	F/I NEW PRESSURE DIFFERENTIALSWITCH	STATUS
636	FCU9C-1, 2,3,4 (TYP.)	FAN START / STOP	FCU9C-1, 2,3,4 (TYP.)		4			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
637	FCU9C-1, 2,3,4 (TYP.)	FAN STATUS	FCU9C-1, 2,3,4 (TYP.)	4				DI	F/I NEW SWITCH	ON / OFF
638	FCU9C-1, 2,3,4 (TYP.)	OUTDOOR AIR DAMPER	FCU9C-1, 2,3,4 (TYP.)				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	DEG. F / HI TEMP
639	FCU9C-1, 2,3,4 (TYP.)	COOLING COIL VALVE	FCU9C-1, 2,3,4 (TYP.)				4	AO	F/1 NEW COOLING VALVE	% OPEN
640	FCU9C-1, 2,3,4 (TYP.)	HEATING COIL VALVE	FCU9C-1, 2,3,4 (TYP.)				4	AO	F/1 NEW HEATING VALVE	% OPEN
641	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
642		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
643		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
644		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
645		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
646		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
647	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
648		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
649		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
650		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
651		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
652		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
653	CP-HT-9C	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
654										

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
655	CP-9D-1, 2, 3 (TYP. OF 3)	AHU9D-1, 2, 3 (TYP. OF 3)	BLDG. 9D MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
656		OUTDOOR AIR DAMPER	AHU9D-1, 2, 4 (TYP)				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
657		FILTER STATUS	AHU9D-1, 2, 4 (TYP)	3				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
658		SUPPLY AIR TEMPERATURE SENSOR	AHU9D-1, 2, 4 (TYP)			3		AI	F/I NEW SENSOR	DEG. F / HI TEMP
659		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU9D-1, 2, 4 (TYP)	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
660		SUPPLY FAN - START / STOP - CT	AHU9D-1, 2, 4 (TYP)		3			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
661	EF9D-2, 5, 7	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF9D-2, 5, 7	3				DI	F/I NEW SWITCH	STATUS - ON/OFF
662	EF9D-2, 5, 7	EXHAUST FAN - START / STOP - CT	EF9D-2, 5, 7		3			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
663	EF9D-2, 5, 7	EXHAUST FAN DAMPER ACTUATOR	EF9D-2, 5, 7				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
664	TEF9D-1,2,4,5	EXHAUST FAN DAMPER ACTUATOR	TEF9D-1,2,4,5				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
665		HOT WATER VALVE	AHU9D-1, 2, 4 (TYP)				3	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
666		AHU9D-1 VFD - START / STOP	AHU9D-1, 2, 4 (TYP)		3			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
667		AHU9D-1 VFD - STATUS	AHU9D-1, 2, 4 (TYP)	3				DI		STATUS ON / OFF
668		AHU9D-1 VFD - SPEED CONTROL	AHU9D-1, 2, 4 (TYP)				3	AO		SPEED OUIPUT
669		AHU9D-1 VFD - SPEED READING	AHU9D-1, 2, 4 (TYP)			3		AI		SPEED READING
670								N/A		STATUS
671		AHU9D-1 STATIC PRESSURE SENSOR	AHU9D-1, 2, 4 (TYP)			3		AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
672		SUPPLY AIR SMOKE DETECTOR	AHU9D-1, 2, 4 (TYP)	3				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
673		SUPPLY AIR SMOKE DETECTOR	AHU9D-1 ONLY	3				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
674	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
675		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
676		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
677		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
678		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
679		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
680	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
681		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
682		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
683		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
684		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
685		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
686	CP-HT-9D	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
687										
688	CP-10-1	AHU10-1	BLDG. 10 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
689		OUTDOOR AIR DAMPER	AHU10-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
690		FILTER STATUS	AHU10-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	SP - CHNG FLT.
691		MIXED AIR TEMPERATURE SENSOR	AHU10-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
692		RETURN AIR TEMPERATURE SENSOR	AHU10-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
693		SUPPLY AIR TEMPERATURE SENSOR	AHU10-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
694		SUPPLY AIR LOW LIMIT SWITCH	AHU10-1	1				DI	F/I NEW SWITCH	NORMAL / ALARM
695		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH	AHU10-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
696		SUPPLY FAN - START / STOP - CT	AHU10-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
697	EF10-1, 2, 3, 6, 7	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 5)	EF10-1, 2, 3, 6, 7	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
698	EF10-1, 2, 3, 6, 7	EXHAUST FAN - START / STOP - CT (TYP. 5)	EF10-1, 2, 3, 6, 7		5			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
699	EF10-1, 2, 3, 6, 7	EXHAUST FAN DAMPER ACTUATOR(TYP. 5)	EF10-1, 2, 3, 6, 7				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
700		HOT WATER VALVE	AHU10-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
701		CHILLED WATER VALVE	AHU10-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
702		SUPPLY AIR SMOKE DETECTOR	AHU10-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
703		RETURN AIR SMOKE DETECTOR	AHU10-1	1				DI	WIRE TO EXISTING SMOKE DETECTOR.	STATUS
704	FCU10-1	SUPPLY AIR TEMP	FCU10-1 - ROOM 115			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
705	FCU10-1	MIXED AIR TEMP	FCU10-1 - ROOM 115			1		AI	F/I NEW SMOKE DETECOR - COORDINATE WITH FAS PROVIDER	DEG. F / HI TEMP
706	FCU10-1	LOW LIMIT SWITCH	FCU10-1 - ROOM 115	1				DI	F/I NEW SWITCH	STATUS
707	FCU10-1	FILTER STATUS	FCU10-1 - ROOM 115	1				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	CLEAN / DIRTY
708	FCU10-1	FAN START / STOP	FCU10-1 - ROOM 115		1			DO	F/1 NEW CT FOR S/S	CONTROL
709	FCU10-1	FAN STATUS	FCU10-1 - ROOM 115	1				DI	F/1 NEW CT FOR STATUS	ON / OFF
710	FCU10-1	OUTDOOR AIR DAMPER	FCU10-1 - ROOM 115				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
711	FCU10-1	COOLING COIL VALVE	FCU10-1 - ROOM 115				1	AO	F/1 NEW COOLING VALVE	% OPEN
712	FCU10-1	HEATING COIL VALVE	FCU10-1 - ROOM 115				1	AO	F/1 NEW HEATING VALVE	% OPEN
713		EMERGENCY GENERATOR ROOM COMBUSTION DAMPERS	CENTRAL PLANT - COL. 11-D.8						F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
714	SF10-4, 5, 8, 9, 10, 11	COMB. INTAKE FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP. 6)	SF10-4, 5, 8, 9, 10, 11	6				DI	F/I NEW SWITCH	STATUS - ON/OFF
715	SF10-4, 5, 8, 9, 10, 11	COMB. INTAKE FAN - START / STOP - CT (TYP. 6)	SF10-4, 5, 8, 9, 10, 11		6			DO	F/I CURRENT TRANSDUCER - HAWKEYE	STATUS - ON/OFF
716	SF10-4, 5, 8, 9, 10, 11	EXHAUST FAN DAMPER ACTUATOR (TYP. 6)	SF10-4, 5, 8, 9, 10, 11				6	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
717										
718	CP-HT-10	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
719										
720	CP-10A	AHU10A-1,2 (TYP. OF 2)	BLDG. 10A UNITS LOCATED ON ROOF REFER TO DRAWING M764 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANELAS SHOWN ON M764 TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
721		OUTDOOR AIR DAMPER	AHU10A-1,2 (TYP.)				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
722		FILTER STATUS	AHU10A-1,2 (TYP.)	2				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
723		SUPPLY AIR TEMPERATURE SENSOR	AHU10A-1,2 (TYP.)			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
724		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU10A-1,2 (TYP.)	2				DI	F/I NEW SWITCH	STATUS - ON/OFF
725		SUPPLY FAN - START / STOP - CT	AHU10A-1,2 (TYP.)		2			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
726		ROOM TEMP SENSOR	AHU10A-1 - RM 10A-109 AHU10A-2 - RM 10A-119			2		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	HI TEMP
727		HOT WATER VALVE	AHU10A-1,2 (TYP.)				2	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
728		DX COOLING CONTACT	AHU10A-1,2 (TYP.)		2			DO	F/I WIRING, PROGRAMMING AND COMMISSIONING FOR DX COIL	CONTROL
729		SUPPLY AIR SMOKE DETECETOR	AHU10A-1,2 (TYP.)	2				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
730		RETURN AIR SMOKE DETECETOR	AHU10A-1,2 (TYP.)	2				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
731	MAU10A-1	OUTDOOR AIR DAMPER	AHU10-1				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
732	MAU10A-1	FILTER STATUS	AHU10-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
733	MAU10A-1	SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU10-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
734	MAU10A-1	SUPPLY FAN - START / STOP - CT	AHU10-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
735	EF10A-1, 2, 3, 4	EXHAUST FAN - START / STOP - CT	EF10A-1, 2, 3, 4		4			DO	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
736	EF10A-1, 2, 3, 5	EXHAUST FAN - STATUS - CT	EF10A-1, 2, 3, 5	4				DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
737	EF10A-1, 2, 3, 4	EXHAUST FAN DAMPER ACTUATOR	EF10A-1, 2, 3, 4				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
738	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
739		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
740		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
741		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
742		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
743		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
744	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
745		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
746		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
747		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
748		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
749		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
750	CP-HT-10A	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
751										
752	CP-11-1	AHU11-1	BLDG. 11 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
753		OUTDOOR / MIXED / EXHAUST AIR DAMPER	AHU11-1				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
754		FILTER STATUS	AHU11-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
755		SUPPLY AIR TEMPERATURE SENSOR	AHU11-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
756		MIXED AIR TEMPERATURE SENSOR	AHU11-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
757		RETURN AIR TEMPERATURE SENSOR	AHU11-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
758		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU11-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
759		SUPPLY FAN - START / STOP - CT	AHU11-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
760		EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU11-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
761		EXHAUST FAN - START / STOP - CT	AHU11-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
762		ROOM TEMP SENSOR	AHU11-1 - RM 11-100			1		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	HI TEMP
763		HOT WATER VALVE	AHU11-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
764		CHILLED WATER VALVE	AHU11-1		1			DO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	CONTROL
765		SUPPLY AIR SMOKE DETECETOR	AHU11-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
766		RETURN AIR SMOKE DETECETOR	AHU11-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
767		AHU11-1 VFD - START / STOP	AHU11-1		1			DO		COMMAND
768		AHU11-1 VFD - STATUS	AHU11-1	1				DI		STATUS ON / OFF
769		AHU11-1 VFD - SPEED CONTROL	AHU11-1				1	AO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	SPEED OUIPUT

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
770		AHU11-1 VFD - SPEED READING	AHU11-1			1		AI		SPEED READING
771		AHU11-1 VFD - BYPASS CONTACT	AHU11-1	1				N/A		STATUS
772		AHU11-1 STATIC PRESSURE SENSOR	AHU11-1	1				AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
773		SUPPLY AIR LOW LIMIT SWITCH	AHU11-1	1				DI	F/I NEW SWITCH - INTERLOCK WITH FAN STARTER	NORMAL / ALARM
774		SUPPLY AIR SMOKE DETECETOR	AHU11-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	NOMAL / ALARM
775		RETURN AIR SMOKE DETECETOR	AHU11-2	2				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	NOMAL / ALARM
776	FCU11-1,2,3,4	SUPPLY AIR TEMP	FCU11-1,2,3,4			4		AI	F/I NEW TEMP SENSOR	DEG. F / HI TEMP
777	FCU11-1,2,3,4	FREEZ STATS	FCU11-1,2,3,4	4				DI	F/I NEW FREEZSTAT	STATUS
778	FCU11-1,2,3,4	FILTER STATUS	FCU11-1,2,3,4	4				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	STATUS
779	FCU11-1,2,3,4	FAN START / STOP	FCU11-1,2,3,4		4			DO	F/1 NEW CT FOR S/S	CONTROL
780	FCU11-1,2,3,4	FAN STATUS	FCU11-1,2,3,4	4				DI	F/1 NEW CT FOR STATUS	ON / OFF
781	FCU11-1,2,3,4	OUTDOOR AIR DAMPER	FCU11-1,2,3,4				4	AO	F/1 NEW DAMPER ACTUATOR - EXISTING DAMPER TO REMAIN	DEG. F / HI TEMP
782	FCU11-1,2,3,4	HOT WATER VALVE	FCU11-1,2,3,4				4	AO	F/1 NEW COOLING VALVE	% OPEN
783	FCU11-1,2,3,4	CHILLED WATER VALVE	FCU11-1,2,3,4		4			DO	F/1 NEW HEATING VALVE	% OPEN
784	FCU11-1,2,3,4	ROOM TEMP SENSOR	FC11-1 - RM 11-100 FC11-2 - RM 11-111 FC11-3 - RM 11-102 FC11-4 - RM 11-105			4		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	HI TEMP
785	EF11-1,2,3,4	EXHAUST FAN - START / STOP - CT	EF11-1,2,3,4		4			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
786	EF11-1,2,3,4	EXHAUST FAN DAMPER ACTUATOR	EF11-1,2,3,4				4	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
787	EF11-1,2,3,4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF11-1,2,3,4	4				DI	F/I NEW SWITCH	STATUS - ON/OFF
788	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
789		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
790		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
791		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
792		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
793		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
794	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
795		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
796		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
797		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
798		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
799		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
800	CP-HT-11	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
801										
802	CP-12-1 (SERVES ROOM 118 - DINING AREA)	AHU12-1	BLDG. 12 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
803		OUTDOOR / MIXED / EXHAUST AIR DAMPER	AHU12-1				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
804		FILTER STATUS	AHU12-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
805		SUPPLY AIR TEMPERATURE SENSOR	AHU12-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
806		MIXED AIR TEMPERATURE SENSOR	AHU12-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
807		RETURN AIR TEMPERATURE SENSOR	AHU12-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
808		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU12-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
809		SUPPLY FAN - START / STOP - CT	AHU12-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
810		ROOM TEMP SENSOR (LOCATED IN INMATE DINING AREA ROOM 12-118)	AHU12-1			1		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	HI TEMP
811		HOT WATER VALVE	AHU12-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
812		CHILLED WATER VALVE	AHU12-1				1	AO	FURNISH PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
813		SUPPLY AIR SMOKE DETECETOR	AHU12-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	NOMAL / ALARM
814		RETURN AIR SMOKE DETECETOR	AHU12-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	NOMAL / ALARM
815		AHU12-1 VFD - START / STOP	AHU12-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
816		AHU12-1 VFD - STATUS	AHU12-1	1				DI		STATUS ON / OFF
817		AH12-1 VFD - SPEED CONTROL	AHU12-1				1	AO		SPEED OUIPUT
818		AHU12-1 VFD - SPEED READING	AHU12-1			1		AI		SPEED READING
819		AHU12-1 VFD - BYPASS CONTACT	AHU12-1					N/A		STATUS
820		AHU12-1 STATIC PRESSURE SENSOR	AHU12-1			1		AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
821		RETURN DUCT SMOKE DAMPTER	AHU12-1		1			DO	CONNECT TO EXISTING SMK. DPR.	CONTROL
822		SUPPLY DUCT SMOKE DAMPTER	AHU12-1		1			DO	CONNECT TO EXISTING SMK. DPR.	CONTROL
823		OUTDOOR AIR DAMPER	AHU12-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
824		MIXED AIR DAMPER	AHU12-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
825		EXHAUST AIR DAMPER	AHU12-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
826	FCU12-1,2	FCU-1 SERVES ROOM 115 / FCU-2 SERVES ROOM 105								
827	FCU12-1,2	SUPPLY AIR TEMP	FCU12-1,2			2		AI	F/I NEW SENSOR	DEG. F / HI TEMP
828	FCU12-1,2	FREEZ STATS	FCU12-1,2	2				DI	F/I NEW SENSOR	STATUS
829	FCU12-1,2	FILTER STATUS	FCU12-1,2	2				DI	F/I NEW DIFFERENTIAL PRESSURE SWITCH	STATUS
830	FCU12-1,2	FAN START / STOP	FCU12-1,2		2			DO	F/I NEW CURRENT TRANSDUCER	CONTROL
831	FCU12-1,2	FAN STATUS	FCU12-1,2	2				DI	F/I NEW CURRENT TRANSDUCER	ON / OFF
832	FCU12-1,2	OUTDOOR AIR DAMPER	FCU12-1,2				2	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	DEG. F / HI TEMP
833	FCU12-1,2	HOT WATER VALVE	FCU12-1,2				2	AO	F/1 NEW COOLING VALVE	% OPEN
834	FCU12-1,2	CHILLED WATER VALVE	FCU12-1,2				2	AO	F/1 NEW HEATING VALVE	% OPEN
835	FCU12-1,2	ROOM TEMP SENSOR	FCU12-1,2			2		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	HI TEMP
836	EF12-1, 2, 3. 4, 5	EXHAUST FAN - START / STOP - CT	EF12-1, 2, 3. 4, 5		5			DI	F/I CURRENT TRANSDUCER - HAWKEYE	
837	EF12-1, 2, 3. 4, 5	EXHAUST FAN DAMPER ACTUATOR	EF12-1, 2, 3. 4, 5				5	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
838	EF12-1, 2, 3. 4, 5	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF12-1, 2, 3. 4, 5	5				DI	F/I NEW SWITCH	STATUS - ON/OFF
839	MAU12-1	OUTDOOR AIR DAMPER	MAU12-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
840	MAU12-1	MIXED AIR DAMPER	MAU12-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
841	MAU12-1	FILTER STATUS	MAU12-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
842	MAU12-1	MIXED AIR TEMPERATURE SENSOR	MAU12-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
843	MAU12-1	MAU7-1 SMOKE DETECETOR	MAU12-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
844	MAU12-1	SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	MAU12-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
845	MAU12-1	SUPPLY FAN - START / STOP - CT	MAU12-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	START / STOP
846	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
847		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
848		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
849		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
850		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
851		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
852	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
853		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
854		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
855		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
856		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
857		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
858	CP-HT-12	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
859										
860	CP-13-1	AHU13-1	BLDG. 13 MECHANICAL MEZZ REFER TO DRAWINGS M750 THRU M769 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
861		OUTDOOR / MIXED / EXHAUST AIR DAMPER	AHU13-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
862		FILTER STATUS	AHU13-1	1				DI	F/I NEW DIFFERENTIAL PRESSURE TRANSMITTER	SP - CHNG FLT.
863		SUPPLY AIR TEMPERATURE SENSOR	AHU13-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
864		MIXED AIR TEMPERATURE SENSOR	AHU13-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
865		RETURN AIR TEMPERATURE SENSOR	AHU13-1			1		AI	F/I NEW SENSOR	DEG. F / HI TEMP
866		SUPPLY FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU13-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
867		SUPPLY FAN - START / STOP - CT	AHU13-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
868	EF13-1	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	AHU13-1	1				DI	F/I NEW SWITCH	STATUS - ON/OFF
869	EF13-1	EXHAUST FAN - START / STOP - CT	AHU13-1		1			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
870	EF13-1	EXHAUST FAN DAMPER ACTUATOR	AHU13-1				1	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
871		ROOM TEMP SENSOR	AHU13-1			1		AI	FI NEW ROOM SENSOR, WIRE TO NEW CONTROLLER	DEG. F / HI TEMP
872		HOT WATER VALVE	AHU13-1				1	AO	FURNISH NEW PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
873		CHILLED WATER VALVE	AHU13-1		1			DO	FURNISH NEW PICV - INSTALLED BY MECHANICAL CONT.	% OPEN
874		SUPPLY AIR SMOKE DETECETOR	AHU13-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
875		RETURN AIR SMOKE DETECETOR	AHU13-1	1				DI	REUSE EXISTING SMK DET. - INTERLOCK WITH FAS	STATUS
876		AHU13-1 VFD - START / STOP	AHU13-1		1			DO	WIRE TO EXISTING VFD, SET VFD PARAMETERS AS REQUIRED.	COMMAND
877		AHU13-1 VFD - STATUS	AHU13-1	1				DI		STATUS ON / OFF
878		AHU13-1 VFD - SPEED CONTROL	AHU13-1				1	AO		SPEED OUIPUT
879		AHU13-1 VFD - SPEED READING	AHU13-1			1		AI		SPEED READING
880		AHU13-1 VFD - BYPASS CONTACT	AHU13-1		1			N/A		STATUS
881		AHU13-1 STATIC PRESSURE SENSOR	AHU13-1			1		AI	INSTALL NEW SPT 2/3 DOWN LONGEST MAIN DUCT.	SP-IN.
882		SUPPLY AIR LOW LIMIT SWITCH	AHU13-1	1				DI	F/I NEW SWITCH - INTERLOCK WITH FAN STARTER	NORMAL / ALARM
883		TU13-1	RM-13-108						TU-1 THROUGH TU-16: REPLACE EXISTING CONTROLLER WITH NEW TERMINAL UNIT CONTROLLER. EXISTING REHEAT VALVES SHALL REMAIN AND BE REUSED. F/I WIRING TO EXISTING VALVE. REPLACE EXISTING WALL SENSOR AS INDICATED IN NOTES SECTION. EXTEND NEW CONTROLLER COMMUNICATION SUBNETWORK CONNECTED TO NEAREST MASTER (IP LEVEL) CONTROLLER.	
884		TU13-2	RM-13-109							
885		TU13-3	RM-13-116							
886		TU13-4	RM-13-145							
887		TU13-5	RM-13-144							
888		TU13-6	RM-13-147							
889		TU13-7	RM-13-148							
890		TU13-8	RM-13-121							
891		TU13-9	RM-13-122							
892		TU13-10	RM-13-124							
893		TU13-11	RM-13-101W							
894		TU13-12	RM-13-101E							

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
895		TU13-13	RM-13-102							
896		TU13-14	RM-13-141							
897		TU13-15	RM-13-137							
898		TU13-16	RM-13-135							
899	CV13-1, 2, 3, 4	CONVECTOR	CV13-1, 2, 3, 4					STAND ALONE	F/I LOCAL THERMOSTAT IN SAME LOCATION AS EXISTING.	N/A - STAND ALONE
900	EF13-2.3.4	EXHAUST FAN STATUS - DIFFERENTIAL PRESSURE SWITCH (TYP.)	EF13-2.3.4	3				`	F/I NEW SWITCH	STATUS - ON/OFF
901	EF13-2.3.4	EXHAUST FAN - START / STOP - CT	EF13-2.3.4		3			DI	F/I CURRENT TRANSDUCER - HAWKEYE	CONTROL
902	EF13-2.3.4	EXHAUST FAN DAMPER ACTUATOR	EF13-2.3.4				3	AO	F/I NEW ELECTRONIC DAMPER ACTUATOR / EXISTING DAMPER REMAINS	% OPEN
903	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
904		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
905		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
906		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
907		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
908		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
909	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
910		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
911		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
912		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
913		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
914		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
915	CP-HT-13	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
916										
917	CP-22-1	BUILDING 22 HOT WATER LOOP	BLDG. 22 MECHANICAL MEZZ REFER TO DRAWING M736 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
918	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
919		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
920		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
921		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
922		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
923		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
924		HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
925		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
926	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
927		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
928		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
929		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
930	CP-HT-23	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
931										
932	CP-23-1	BUILDING 22 HOT WATER LOOP	BLDG. 23 MECHANICAL MEZZ REFER TO DRAWING M737 FOR PANEL AND EQUIPMENT LOCATION AS WELL AS CABLE ROUTING					BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
933	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
934		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
935		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
936		CHILLED WATER SUPPLY PRESSURE	CHWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
937		CHILLED WATER RETURN PRESSURE	CHWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
938		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
939	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
940		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
941		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
942		HOT WATER SUPPLY PRESSURE	HWSP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
943		HOT WATER RETURN PRESSURE	HWRP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
944		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1		AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
945	CP-HT-25	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
946										

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
947	CP-10-0 CHILLER / CONDENSER WATER SYSTEMS	CENTRAL MECHANICAL PLANT - CHILLER SYSTEMS BALANCE OF PLANT (BOP)	BLDG. 10 MECHANICAL ROOM REFER TO DRAWINGS M750 THRU M769 THROUGH M769 FOR PANEL AND EQUIPMENT LOCATIONS AS WELL AS CABLE ROUTING. REFER TO DRAWING M301, M204, M907, M202, M904, M302 AND M206 FOR ADDITIONAL PLANT DETAIL.	AI	DO	DI	AO	BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN. CONTRACTOR IS TO COORDINATE AND VERIFY CONDUIT RUNS PRIOR TO INSTALLATION.	PANEL OFFLINE
948		CHILLER CONTROL PANEL (INTEGRATION - TYP.3)						BACnet	INTEGRATE TO EQUIPMENT PROVIDED CONTROLLER	CONTROLLER OFFLINE
949		CHILLER 1, 2 AND 3 CHILLED WATER SUPPLY TEMP		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CHWS-T / OUT OF RANGE
950		CHILLER 1, 2 AND 3 CHILLED WATER RETURN TEMP		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CHWR-T / OUT OF RANGE
951		CHILLER 1, 2 AND 3 CHILLED WATER BTU (SUPPLY WATER FLOW)		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CHWR-BTU / OUT OF RANGE
952		CHILLER 1, 2 AND 3 CHILLED WATER SUPPLY PRESSURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	BTU
953		CHILLER 1, 2 AND 3 CONDENSER WATER SUPPLY TEMP		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CWS-T / OUT OF RANGE
954		CHILLER 1, 2 AND 3 CONDENSER WATER RETURN TEMP		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CWS-R / OUT OF RANGE
955		CHILLER 1, 2 AND 3 CONDENSER WATER BTU (RETURN WATER FLOW)		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CWR-BTU / OUT OF RANGE
956		CHILLER 1, 2 AND 3 CONDENSER WATER RETURN PRESSURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	CWS-T / OUT OF RANGE
957		CHILLER 1, 2 AND 3 SUPPLY VALVE (MOV) CONTROL					3	DO	FURNSH ONLY, WIRE PROGRAMING AND CX., INSTALLED BY MECHANICAL	CHWS-VLV / FAILURE
958		CHILLER 1, 2 AND 3 SUPPLY VALVE (MOV) STATUS		3				DI	WIRE TO VALVE PROVIDED CONTACT AND PROGRAM POINT INTO BMS / OWS	OPEN/CLOSED
959		CHILLER 1, 2 AND 3 RETURN VALVE (MOV) CONTROL					3	DO	FURNSH ONLY, WIRE PROGRAMING AND CX., INSTALLED BY MECHANICAL	CHWR-VLV / FAILURE
960		CHILLER 1, 2 AND 3 RETURN VALVE (MOV) STATUS		3				DI	WIRE TO VALVE PROVIDED CONTACT AND PROGRAM POINT INTO BMS / OWS	OPEN/CLOSED
961		COMMON CHILLED WATER SUPPLY TEMP.		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	LO TEMP
962		COMMON CHILLED WATER RETURN TEMP.		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	LO TEMP
963		COMMON CHILLED WATER BTU SUPPLY WATER FLOW)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	BTU
964		COMMON CHILLED WATER SUPPLY PRESSURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	HI PRESS.
965		COMMON CHILLED WATER RETURN SUPPLY PRESSURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	HI PRESS.
966		COMMON CHILLED WATERDIFFERENTIAL PRESSURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	OUT OF RANGE
967		COMMON CONDENSER WATER SUPPLY TEMP.		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	TEMP / LO TEMP
968		COMMON CONDENSER WATER RETURN TEMP.		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	TEMP / LO TEMP
969		COMMON CONDENSER WATER BTU (RETURN WATER FLOW)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY MECHANICAL CONTRACTOR	BTU
970		SAND FILTER COMMON ALARM		1				AI	WIRE TO PANEL AND PROGRAM INTO BMS. DRY CONTACT F/I BY OTHERS	NORMAL / ALARM
971		CONDENSER WATER MAKE UP FLOW TRANSMITTER				1		AI	FURNISH FLOW TRANSMITTER, WIRE AND COMMISSION.	GPM / LOW FLOW
972		CHILLED WATER EXPANSION TANK PRESSURE TRANSMITTER				1		AI	WIRE TO SENSOR AND PROGRAM INTO BMS. SENSOR F/I BY OTHERS	HI PRESS.
973		CHILLED WATER EXPANSION TANK FLOW TRANSMITTER				1		AI	FURNISH FLOW TRANSMITTER, WIRE AND COMMISSION.	GPM / LOW FLOW

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
974		CONDENSER WATER SIDE STREAM FILTER COMMON ALARM		1				DI	WIRE TO PANEL AND PROGRAM INTO BMS. DRY CONTACT F/I BY OTHERS	ALARM
975		OUTDOOR AIR TEMP.		1				AI	F/I OUTDOOR AIR AND HUMIDITY SENSOR. VALUE TO BE GLOBAL DATA POINT.	DEG, F / HI TEMP
976		OUTDOOR AIR HUM.		1				AI		% HUM, / HI HUMIDY
977										
978	CP-10-2 COOLING TOWER SYSTEM	CENTRAL MECHANICAL PLANT - COOLING TOWER SYSTEMS	BLDG. 10 MECHANICAL ROOM	AI	AO	DI	DO	BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
979		COOLING TOWER 1, 2 AND 3 CW RETURN SUPPLY VALVE (MOV) CONTROL					3	DO	FURNSH ONLY, WIRE PROGRAMING AND CX., INSTALLED BY MECHANICA	OPEN/CLOSED
980		COOLING TOWER 1, 2 AND 3 SUPPLY VALVE (MOV) STATUS				3		DI	WIRE TO VALVE PROVIDED CONTACT	OPEN/CLOSED
981		COOLING TOWER 1, 2 AND 3 VIBRATION SENSOR		3				DI	WIRE TO VIBRATION SENSOR AND PROGRAM INTO BMS. SENSOR IS F/1 BY CT PROVIDER	VIBRATION HI LIMIT
982		COOLING TOWER 1, 2 AND 3 CONDENSER WATER TRANSMITTERS		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	TEMP / LO TEMP
983		COOLING TOWER 1, 2 AND 3 CONDENSER WATER TRANSMITTERS					3	AO	FURNSH ONLY, WIRE PROGRAMING AND CX., INSTALLED BY MECHANICA	POSITION / ALARM
984										
985	CP-10-3 BOILER SYSTEMS	CENTRAL MECHANICAL PLANT - BOILER SYSTEMS BALANCE OF PLANT (BOP)	BLDG. 10 MECHANICAL ROOM REFER TO DRAWING M763 FOR PANEL AND EQUIPMENT LOCATIONS AS WELL AS CABLE ROUTING. REFER TO DRAWING M301, M204, M907, M202, M904, M302 AND M206 FOR ADDITIONAL DETAIL.	AI	AO	DI	DO	BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
986		BOILER MASTER PANEL (INTEGRATION)						BACnet		PANEL OFFLINE ALM.
987		BOILER 1, 2 AND 3 SUPPLY TEMPERATURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HWS-T / HI TEMP ALM.
988		BOILER 1, 2 AND 3 RETURN TEMPERATURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HWR-T / HI TEMP ALM.
989		BOILER 1, 2 AND 3 SUPPLY PRESSURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HWS-P / HI PRESS ALM.
990		BOILER 1, 2 AND 3 RETURN PRESSURE		3				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HWR-P / HI PRESS ALM.
991		BOILER 1, 2 AND 3 HOT WATER RETURN FLOW (GPM / BTU)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-BTU / LOW/NO FLOWALM.
992		BOILER 1, 2 AND 3 RETURN VALVE (MOV) CONTROL					3	DO	FURNSH ONLY, WIRE PROGRAMING AND CX., INSTALLED BY MECHANICA	
993		BOILER 1, 2 AND 3 RETURN VALVE (MOV) STATUS				3		DI	WIRE TO VALVE PROVIDED CONTACT	OPEN/CLOSED
994		COMMON HOT WATER SUPPLY TEMPERATURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-T / HI TEMP ALM.
995		COMMON HOT WATER SUPPLY PRESSURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-P / HI PRESS ALM.
996		COMMON HOT WATER SUPPLY FLOW (GPM / BTU)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-BTU / LOW/NO FLOWALM.
997		COMMON HOT WATER RETURN, TEMPERATURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-T / HI TEMP ALM.
998		COMMON HOT WATER RETURN PRESSURE		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-P / HI PRESS ALM.
999		COMMON HOT WATER DIFFERENTIAL PRESSURE (TRANSMITTER)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	HW-DP / OUT OF RANGE
1000		HOT WATER EXPANSION TANK PRESSURE TRANSMITTER				1		AI	WIRE TO SENSOR AND PROGRAM INTO BMS. SENSOR F/I BY OTHERS	HI PRESS.
1001		HOT WATER EXPANSION TANK FLOW TRANSMITTER				1		AI	FURNISH FLOW TRANSMITER, INSTALLED BY MECH,	GPM / LOW FLOW
1002		MAIN GAS SUPPLY FLOW (CFH)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	CFH / LOW - HI - FLOW

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
1003		MAIN GAS SUPPLY PRESSURE (PSI)		1				AI	F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI / LOW-HI PRESSURE
1004										
1005	CP-10-4 LOOP CONTROLS	CENTRAL MECHANICAL PLANT - MAIN BLDG. CHILLED AND HOT WATER MEDUIM WATER LOOP	BLDG. 10 MECHANICAL ROOM REFER TO DRAWING M763 FOR PANEL AND EQUIPMENT LOCATIONS AS WELL AS CABLE ROUTING. REFER TO DRAWING M301, M204, M907, M202, M904, M302 AND M206 FOR ADDITIONAL DETAIL.	AI	AO	DI	DO	BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
1006	MAIN BUILDING MER CHILLED WATER SERVICE	CHILLED WATER SUPPLY TEMPERATURE	MAIN BLDG. MER CHW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
1007		CHILLLED WATER RETURN TEMPERATURE	MAIN BLDG. MER CHW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
1008		CHILLED WATER RETURN FLOW	MAIN BLDG. MER CHW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
1009		CHILLED WATER SUPPLY PRESSURE	CHWSP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1010		CHILLED WATER RETURN PRESSURE	CHWRP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1011		CHILLED WATER DIFFERENTIAL PRESSURE	CHWDP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1012	MAIN BUILDING MER MEDIUM TEMPERATURE HOT WATER SERVICE	HOT WATER SUPPLY TEMPERATURE	MAIN BLDG. MER HW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
1013		HOT WATER RETURN TEMPERATURE	MAIN BLDG. MER HW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	DEG. F / BTU
1014		HOT WATER RETURN FLOW	MAIN BLDG. MER HW BTU			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	GPM / BTU
1015		HOT WATER SUPPLY PRESSURE	HWSP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1016		HOT WATER RETURN PRESSURE	HWRP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1017		HOT WATER DIFFFRENTIAL PRESSURE	HWDP			1			F/I NEW SENSOR, WIRE, PROGRAMMING AND Cx -WELDOLET BY OTHERS	PSI
1018	CP-HT-10	HEAT TRACE PANEL (PROVIDED BY OTHERS - INTEGRATED BY THIS CONTRACTOR)	MAIN BLDG. MER					BACnet	PROVIDE COMMUNCATION WIRE, INTEGRATE BACNET	NORMAL / ALARM
1019										
1020	CP-10-5 VFDs	CENTRAL MECHANICAL PLANT - VARIABLE FREQUENCY DRIVES	BLDG. 10 MECHANICAL ROOM REFER TO DRAWING M763 FOR PANEL AND EQUIPMENT LOCATIONS AS WELL AS CABLE ROUTING. REFER TO DRAWING M301, M204, M907, M202, M904, M302 AND M206 FOR ADDITIONAL DETAIL.	AI	AO	DI	DO	BACnet	FURNISH AND INTALL (F/I) A NEW CONTROL PANEL TO CONNECT POINTS AND DEVICES AS LISTED HEREIN.	CONTROLLER OFFLINE
1021	TOTAL OF 9 VFDS 3 VFDS - CHILLED WATER PUMP 3 VFDS CT FANS 3 VFDS HOT WATER PUMPS	VARIABLE FREQUENCY DRIVE POINTS (3-CHW-VFD, 3 CTFAN VFD, 3-HW VFD						BACNET	INTEGRATE NEW VFS INTO BMS, PROGRAM FOR A MINIMUM OF 15 INT. POINTS	
1022		START/STOP			9			AO	WIRE TO TERMINAL FOR POINT ON NEW VFD, PROGRAM, COMMISION AND PROVIDE GRAPHICS	
1023		STATUS		9				AI	WIRE TO TERMINAL FOR POINT ON NEW VFD, PROGRAM, COMMISION AND PROVIDE GRAPHICS	
1024		VFD SPEED OUTPUT					9	DO	WIRE TO TERMINAL FOR POINT ON NEW VFD, PROGRAM, COMMISION AND PROVIDE GRAPHICS	

	A	B	C	D	E	F	G	H	I	J
5				POINTS						
6	PANEL / SYSTEM	SYSTEM / POINT NAME	DEVICE / EQUIP. LOCATION / AREA SERVED	DI	DO	AI	AO	PROTOCOL/ POINT TYPE	SCOPE	OWS DISPLAY / ALARM
1025		VFD SPEED FEEDBACK				9		DI	WIRE TO TERMINAL FOR POINT ON NEW VFD, PROGRAM, COMMISION AND PROVIDE GRAPHICS	
1026		BYPASS INDICATION					9	DI	WIRE TO TERMINAL FOR POINT ON NEW VFD, PROGRAM, COMMISION AND PROVIDE GRAPHICS	
1027										
1028	INTEGRATED SYSTEMS	GAS LEAK DETECTION								
1029		REFRIGERANT LEAK DETECTION PANEL (INTEGRATION)						BACnet	INTEGRATE TO 3RD PARTY SYSTEM	
1030		FUEL OIL PUMP SKID (INTEGRATION)						BACnet	INTEGRATE TO 3RD PARTY SYSTEM	
1031		REMOTE DIALER						BACnet	INTEGRATE TO 3RD PARTY SYSTEM	
1032		CHILLED AND HOT WATER VFDS						BACnet	INTEGRATE TO 3RD PARTY SYSTEM	
1033		VARIABLE FREQUENCY DRIVE (TYPICAL)						BACnet	INTEGRATE TO EXISTING AND NEW VFDS	
1034		START/STOP			1			DO	EXTEND POINT WIRE AND PROVIDE PROGRAMMING, AND COMMISSIONING AS SPECIFIED.	
1035		STATUS		1				DI		
1036		VFD SPEED OUTPUT					1	AO		
1037		VFD SPEED FEEDBACK				1		AI		

The following Sequences are provided for reference only. This contractor shall verify that all components, programming, devices and commissioning required to achieve these sequences are included in their scope of work. These sequences are based on the existing equipment controls and operations. This contractor shall ensure proper operation using these sequences during commissioning.

BUILDINGS - SEQUENCE OF OPERATION

BUILDING 1

AHU1-1 (AHU1-2, AHU1-3, AHU1-4, and AHU1-5 Typical) EF1-X (Typical)

The occupied and unoccupied mode of operation is manually selected from the BMS.

Normal operation is for the air handling unit to operate 24 hours a day, 7 days a week in the occupied mode.

During the occupied mode, the supply fan operates continuously and the intake air damper opens to its minimum position, as field verified.

During the unoccupied mode both fan remain off and the intake air damper closes.

Normal Operation:

Each zone temperature sensor will modulate its respective zone mixing dampers to maintain the zone temperature setpoint (adj.), by mixing air from the hot and cold decks. Some zones have space temperature sensor and some zones have return air temperature sensor, as shown in the Points Schedule.

The hot deck temperature setpoint will be reset by the zone sensor with the greatest demand for heating the hot deck temp sensor will modulate the hot water valve to maintain the required hot deck temperature.

The cold deck temperature setpoint will be reset by the zone sensor with the greatest demand for cooling. The cold deck temp sensor will modulate the intake air damper and the mixing air damper in sequence with the chilled water valve to maintain the required cold deck temperature.

Whenever the supply fan is operating the intake air damper opens to its minimum position, as field verified. On an initial call for cooling from the cold deck temp sensor, the intake air damper will be modulated beyond its minimum position to maintain cold deck setpoint.

Once the intake air damper is fully open and there is a continued call for cooling from the cold deck temp sensor, the chilled water valve will be modulated open to maintain the cold deck setpoint.

The position of the intake air damper is subject to the mixed air low limit temperature setpoint as sensed by the mixed air temp sensor.

Exhaust fan EF1-X will remain off and the exhaust air damper will remain closed until the intake air damper is fully open, at which time EF1-X will start and the exhaust air damper will open fully. When the intake air damper is not fully open, EF1-X will remain off and the exhaust air damper will remain closed.

Modulation of the intake air damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing dampers are allowed to modulate. When the outside temperature is above 55 degrees, the enthalpy content of the outside is compared to the enthalpy content of the return air. The intake air damper will be returned to and remain at a position to admit only its minimum amount of outside air for ventilation purpose and EF3-1 will stop and the exhaust air damper will close.

An outside air temperature switchover setpoint is provided. This set point is manually adjustable from the BMS. When the outside air temperature is above this setpoint, the hot water valve is not allowed to open. When the outside air temperature is below this setpoint, the chilled water valve is not allowed to open. Therefore, the unit cannot operate with mechanical heating and mechanical cooling at the same time. This setpoint will be set at 60 degree(adjustable).

Upon sensing an air temperature of less than 35 degree entering the cooling coil, the freezestat will stop the supply fan, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The BMS need to be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply fan and all exhaust fans connected to this system upon activation by the building fire alarm system.

TOILET EXHAUST FANS EF1-6A, 6B, 6C AND EF1-7

The toilet exhaust fans operate continuously. When the exhaust fan starts, it's respective exhaust damper opens. The fans may be started and stopped from the BMS. Fan status will be monitored by the BMS and an alarm will be indicated if the fan stops.

MEZZ. EXHAUST FANS EF1-9 & 10

When the relative humidity exceeds 60%(adjustable), as sensed by exhaust duct humidity sensor, the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and outside air intake damper will open.

BUILDING 2

AHU2-1 (AHU2-2, AHU2-3, AHU2-4, and AHU2-5 Typical) EF2-X (Typical)

The occupied and unoccupied mode of operation is manually selected from the BMS.

Normal operation is for the air handling unit to operate 24 hours a day, 7 days a week in the occupied mode.

During the occupied mode, the supply fan operates continuously and the intake air damper opens to its minimum position, as field verified.

During the unoccupied mode both fan remain off and the intake air damper closes.

Normal Operation:

Each zone temperature sensor will modulate its respective zone mixing dampers to maintain the zone temperature setpoint (adj.), by mixing air from the hot and cold decks.

Some zones have space temperature sensor and some zones have return air temperature sensor, as shown in the points schedule.

The hot deck temperature setpoint will be reset by the zone sensor with the greatest demand for heating. The hot deck temp sensor will modulate the hot water valve to maintain the required hot deck temperature.

The cold deck temperature setpoint will be reset by the zone sensor with the greatest demand for cooling. The cold deck temp sensor will modulate the intake air damper in sequence with the chilled water valve to maintain the required cold deck temperature.

Whenever the supply fan is operating the intake air damper opens to its minimum position, as field verified. On an initial call for cooling from the cold deck temp sensor, the intake air damper will be modulated beyond its minimum position to maintain the cold deck setpoint.

Once the intake air damper is fully open and there is a continued call for cooling from the cold deck temp sensor, the chilled water valve will be modulated open to maintain the cold deck setpoint.

The position of the intake air damper is subject to the mixed air low limit temperature setpoint as sensed by the mixed air temp sensor.

Exhaust fan EF2-X will remain off and the exhaust damper will remain closed until the intake air damper is fully open, at which time EF2-1 will start and the exhaust air damper will open fully. When the intake air damper is not fully open, EF2-X will remain off and the exhaust air damper will remain closed.

Modulation of the intake air damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing dampers are allowed to modulate. When the outside temperature above 55 degrees, the enthalpy content of the outside is compared to the enthalpy content of the return air. When the enthalpy content of the outside air exceeds the enthalpy content of the return air, the intake air damper will be returned to and remain at a position to admit only a minimum amount of outside air for ventilation purpose and EF3-X will stop and the exhaust air damper will close.

An outside air temperature switchover setpoint is provided. This setpoint is manually adjustable from the BMS. When the outside air temperature is above this setpoint, the hot water valve is not allowed to open. When the outside air temperature is below this setpoint, the chilled water valve is not allowed to open. Therefore, the unit cannot operate with mechanical heating and mechanical cooling at the same time. This setpoint will be set at 60 degree(adjustable).

Upon sensing an air temperature of less than 35 degree entering the cooling coil, the freezestat will stop the supply fan, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The BMS need to be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply fan and EF2-X upon activation by the building fire alarm system.

TOILET EXHAUST FANS EF2-6A, 6B, 6C and EF2-7

The toilet exhaust fans operate continuously. When the exhaust fan starts, it's respective exhaust damper opens. The fans may be started and stopped from the BMS. Fan status will be monitored by the BMS and an alarm will be indicated if the fan stops.

MEZZ. EXHAUST FANS EF2-9 & EF2-10

When the relative humidity exceeds 60%(adjustable), as sensed by exhaust duct humidity sensor the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and outside air intake damper will open.

BUILDING 3

AHU3-1 (AHU3-2, AHU3-3, AHU3-4, AHU3-5 and AHU3-6 Typical) EF3-X (Typical)

The occupied and unoccupied mode of operation is manually selected from the BMS.

Normal operation is for the air handling unit to operate 24 hours a day, 7 days a week in the occupied mode.

During the occupied mode, the supply fan operates continuously and the intake air damper opens to its minimum position as field verified.

During the unoccupied mode both fans remain off and the intake air damper closes

Each zone temperature sensor will modulate its respective zone mixing dampers to maintain the zone temperature setpoint, by mixing air from the hot and cold decks.

The hot deck temperature setpoint will be reset by the zone sensor with the greatest demand for heating. the hot deck temp sensor will modulate the hot water valve to maintain the required hot deck temperature.

The cold deck temperature setpoint will be reset by the zone sensor with the greatest demand for cooling. the cold deck temp sensor will modulate the intake air damper and the mixing air damper in sequence with the chilled water valve to maintain the required cold deck temperature.

Whenever the supply fan is operating the intake air damper opens to a minimum position.

On an initial call for cooling from the cold deck temp sensor, the intake air damper will be modulated beyond its minimum position to maintain the cold deck setpoint.

Once the intake air damper is fully open and there is a continued call for cooling from the cold deck temp sensor, the chilled water valve will be modulated open to maintain the cold deck setpoint.

The position of the intake air damper is subject to a mixed air low limit temperature as sensed by the mixed air temp sensor.

Exhaust fan EF3-X will remain off and the exhaust damper will remain closed until the inside air damper is fully open, at which time EF3-X will start and the exhaust air damper will open fully. When the intake air damper is not fully open, EF3-X will remain off and the exhaust air damper will remain closed.

Modulation of the intake air damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing dampers are allowed to modulate. When the outside temperature above 55 degrees, the enthalpy content of the outside is compared to the enthalpy content of the return air. When the enthalpy content of the outside air exceeds the enthalpy content of the returned air, the intake air damper will be returned to and remain at a position to admit only its minimum amount of outside air for ventilation purpose and EF3-X will stop and the exhaust air damper will close.

An outside air temperature switchover setpoint is provided. This set point is manually adjustable from the BMS. When the outside air temperature is above this setpoint, hot water valve is not allowed to open. When the outside air temperature is below this setpoint, the chilled water valve is not allowed to open. Therefore, the unit cannot operate with mechanical heating and mechanical cooling at the same time. This setpoint will be set at 60 degree(adjustable).

Upon sensing an air temperature of less than 35 degree entering the cooling coil the freeze stat will stop the supply fan, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The BMS need to be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply fan and EF3-1 upon activation by the building fire alarm system.

EXHAUST FAN EF3-5

Exhaust fan EF3-5 is interlocked with both AHU3-5 and AHU3-6. Before EF3-5 will start, both AHU-5 and AHU-6 must be operating on 100% outside air. When EF3-5 start, the exhaust dampers for AHU3-6 will open.

SMOKE PURGE CYCLE (AHU3-4 ONLY)

AHU3-4 is provided with a smoke purge cycle. The smoke purge system consists of AHU3-4 supply fan, EF3-4 exhaust fan and smoke dampers SD1 thru SD11.

The smoke purge area is divided into three smoke zones;

Smoke Zone 1 = Upper level lounge 3U-E03

Smoke Zone 2 = Lower level lounge 3L-E03

Smoke Zone 3 = Inmate room area ‘E’

Relays are activated by the building fire alarm system to indicate which of the three smoke zone are in alarm.

If no smoke zones are in alarm, the air handling unit will operate normally and all smoke damper will be open. Note, SD3 & 4 will open to their normal operation position of 10%(adjustable).

1. When smoke zone 1, or smoke zones 1 and 3, are activated the following will occur;

    a) AHU3-4 supply fan will start regardless of the position of the ‘HAND-OFF-AUTO’ switch on the fan’s magnetic starter and regardless of the status of low temperature thermostat and regardless of the status of the duct smoke detectors.

    b) EF3-4 exhaust fan will start regardless of the position of the ‘HAND-OFF-AUTO’ switch on the fan’s magnetic starter and regardless of the status of the duct smoke detectors.

    c) The outside air damper and the exhaust air damper will fully open and the return air damper will fully close.

d) Smoke damper positions will be as follows;

SD #1 = Open
SD #2 = Closed
SD #3 = Closed
SD #4 = Open
SD #5 = Closed
SD #6 = Closed
SD #7 = Closed
SD #8 = Open
SD #9 = 20% Open
SD #10 = Closed
SD #11 = Closed

e) The hot deck hot water valve will be commanded fully open.

2. When smoke zone 2, or smoke zones 2 and 3, are activated the following will occur;

a) AHU3-4 supply fan will start regardless of the position of the 'HAND-OFF-AUTO' switch on the fan's magnetic starter and regardless of the status of low temperature thermostat and regardless of the status of the duct smoke detectors.

b) EF3-4 exhaust fan will start regardless of the position of the 'HAND-OFF-AUTO' switch on the fan's magnetic starter and regardless of the status of the duct smoke detectors.

c) The outside air damper and the exhaust air damper will fully open and the return air damper will fully close.

d) Smoke damper positions will be as follows;

SD #1 = Open
SD #2 = Closed
SD #3 = Closed
SD #4 = Open
SD #5 = Closed
SD #6 = Closed
SD #7 = Closed
SD #8 = Open
SD #9 = 20% Open
SD #10 = Closed
SD #11 = Closed

e) The hot deck hot water valve will be commanded fully open.

3. When smoke zone 3, is activated the following will occur;

a) AHU3-4 supply fan will start regardless of the position of the 'HAND-OFF-AUTO' switch on the fan's magnetic starter and regardless of the status of low temperature thermostat and regardless of the status of the duct smoke detectors.

b) EF3-4 exhaust fan will start regardless of the position of the 'HAND-OFF-AUTO' switch on the fan's magnetic starter and regardless of the status of the duct smoke detectors.

c) The outside air damper and the exhaust air damper will fully open and the return air damper will fully close.

d) Smoke damper positions will be as follows;

SD #1 = Closed
SD #2 = Open
SD #3 = Closed
SD #4 = Closed
SD #5 = Closed

SD #6 = Closed
SD #7 = Open
SD #8 = Open
SD #9 = 20% Open
SD #10 = Closed
SD #11 = Closed

e) The hot deck hot water valve will be commanded fully open.

TOILET EXHAUST FANS EF3-6 & 7 AND EF1-6

The toilet exhaust fans operate continuously. When the exhaust fan starts, it's respective exhaust damper opens. The fans may be started and stopped from the BMS. Fan status will be monitored by the BMS and an alarm will be indicated if the fan stops.

MEZZ. EXHAUST FANS EF3-10 & 11

When the relative humidity exceeds 60%(adjustable), as sensed by space humidity sensor the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and outside air intake damper will open.

BUILDING 4

AHU4-1 (AHU4-2 Typical) EX4-X (Typical)

The occupied and unoccupied modes of operation is manually selected from the BMS.

During the occupied mode, the supply fan operates continuously and the intake air damper opens to its minimum position, as field verified.

During the unoccupied mode both fans remain off and the intake air damper closes.

Each zone temperature sensor will modulate its respective zone mixing damper to maintain the zone temp setpoint (adj.), by mixing air from the hot and cold decks.

The hot deck temperature setpoint will be reset by the zone sensor with the greatest demand for heating. The hot deck temp sensor will modulate the hot water valve to maintain the required hot deck temperature.

The cold deck temperature setpoint will be reset by the zone sensor with the greatest demand for cooling. The cold deck temp sensor will modulate the intake air damper, the mixing air damper & the exhaust air damper in sequence with the chilled water valve to maintain the required cold deck temperature.

On an initial call for cooling form the cold deck temp sensor, the intake damper will be modulated beyond its minimum position to maintain the cold deck setpoint.

Once the intake air damper is fully open and there is a continued call for cooling from the cold deck temp sensor. The chilled water valve will be modulated open to maintain the cold deck setpoint.

The position of the intake air damper is subject to a mixed air low limit temperature as sensed by the mixed air temp sensor.

When the intake air damper is modulated beyond its minimum position, EF4-X is started. When the intake air damper is at, or below, it's minimum position EF4-X is stopped.

Modulation of Intake Air Damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing dampers are allowed to modulate. When the outside air temperature is above 55 degrees, the enthalpy content of the outside air is compared to the return air. When the enthalpy content of the outside air exceeds the enthalpy content of return air, the intake air damper will be returned to and remain at a position to admit only a minimum amount of outside air for ventilation purposes and EF4-X will stop.

An outside air temperature switchover setpoint is provided. This set point is manually adjustable from the BMS. When the outside air temperature is above this setpoint, the hot water valve is not allowed to open. When the outside air temperature is below this setpoint, the chilled water valve is not allowed to open. Therefore, the unit cannot operate with mechanical heating and mechanical cooling at the same time. This setpoint will be set at 60 degrees (adjustable).

The return duct humidity will modulate the humidifier to maintain a setpoint of 40% RH (adjustable) in the return air stream.

Upon sensing an air temperature of less than 35 degrees entering the cooling coil, the freeze stat will stop the fans, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control will stop supply fan and EF4-1(2) upon activation by the building fire alarm system.

AIR HANDING UNIT AHU4-3, EF4-3

Occupied and unoccupied modes of operation will be time scheduled through the BMS.

During the occupied mode a start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the both supply fan AHU4-3 and the return fan EF4-3, to maintain a constant supply duct static pressure as sensed by the static pressure tip located in the supply duct as shown on the drawing. Both fans operate continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck control sensor, will be reset from outside air temperature as indicated on the reset schedule. The supply air temperature will be maintained by modulating the heating valve in sequence with the outside, return & exhaust dampers and the chilled water valve.

On a call for heating, the cold water valve will be closed, the outside air damper will be at its minimum position, as field verified, and the hot water valve will be modulated open.

On a call for cooling, the chilled water valve and the hot water valve will be closed, the outside air damper will start to modulate open beyond its minimum position while the return air damper modulates closed and the exhaust air damper modulates open.

Modulation of mixing dampers is subject to a mix air low limit temperature as sensed by the cold deck temp sensor. Once the unit is operating on 100% outside air and there is a continued call for cooling, the cold water valve will be modulated.

Modulation of the mixing damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing damper is allowed to modulate. When the outside air temperature is above 55 degrees, the enthalpy content of the outside air is compared to the enthalpy content of the return air. When the enthalpy content of the outside air exceeds the enthalpy content of the return air, the mixing damper will be return to and remain at a position to admit only a minimum amount of the outside air for ventilation purpose.

Unoccupied Mode:

The supply and return fan will stop, the return air damper will open fully and the outside air and exhaust air dampers will close.

The supply and return fans will be cycled on 100% return air if any one of the terminal unit space temperature sensors, sense a space temperature of bellow 55 degree (adjustable). The speed of the fans will be controlled for 90 degrees (adjustable) while the fans are operating during the unoccupied cycle to provide heat.

An optimal start process will index the system to a warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the fans operate continuously on 100% return air.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fans, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply and return fan upon activation by the building fire alarm system.

EF4-4, EF4-5, EF4-6:

When AHU4-1 is operating, EF4-6 will start and run continuously. When AHU4-2 is operating, EF4-5 will start and run continuously. When AHU4-3 is operating in the occupied mode, EF4-4 will start and run continuously when the exhaust fan tarts, its respective exhaust damper shall open.

EF4-7, EF4-8:

When the relative humidity exceeds 60% (adj.). as sensed by the Return air humidity sensor, the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and intake air damper will open.

AIR TEMINAL UNIT (With reheat coil)

On a call for cooling from the space temperature sensor, the unit controller will be reset to increase the CFM through the terminal unit up to the unit's maximum CFM rating. On a call for no cooling from the space temperature sensor, the unit controller will be reset to decrease the CFM through the terminal unit down to the unit's minimum CFM rating.

On a call from heating from the space sensor, the unit controller will maintain the minimum CFM flow through the terminal unit while the reheat valve V-a is modulated to maintain space temperature.

During the morning warm up of AHU4-3, the flow through the terminal unit will be increased to its maximum CFM rating.

TOILET EXHAUST FANS EF4-4, 5 & 6

When AHU4-1 is operating, EF4-6 will start and run continuously. When AHU4-2 is operating, EF4-5 will start and run continuously. When AHU4-3 is operating in the occupied mode, EF4-4 will start and run continuously. When the exhaust fan starts, it's respective exhaust damper opens.

MEZZ. EXHAUST FANS EF3-10 & 11

When the relative humidity exceeds 60%(adjustable), as sensed by exhaust duct humidity sensor the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and outside air intake damper will open.

MECH/ELEC ROOM 4-152 VENTILATION

When the space temperature as sensed by the hot deck temp sensor rises above 85 degrees (adjustable), the damper located in the wall will open.

MECH/ELEC ROOM 4-121 VENTILATION

When the space temperature as sensed by the cold deck temp sensor rises above 85 degrees (adjustable), the damper located in the wall will open.

BUILDING-4 ADDITIONAL: DESCRIPTION OF OPERATION

The exhaust fan (single speed) is manually started and stopped from a switch located at the nurse's station when the fan starts, the exhaust damper is fully open. After a 2-minute delay (adjustable) commanded from the BMS. After the programmed delay, power is applied to Room Pressure Monitor to operate. The room pressure monitor monitors room pressure by measuring the amount of air flow from the corridor to the room. Upon detecting a low flow condition an audible and visual alarm will be activated on room pressure monitor.

When the exhaust fan is stopped, the exhaust damper closes fully and the room pressure monitor is disabled.

BUILDING 5

AIR HANDLING UNIT AHU5-1:

Occupied and unoccupied modes of operation will be time scheduled through BMS.

OCCUPIED MODE

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the supply fan AHU5-1, to maintain a constant fan speed during the occupied cycle. The supply fan operates continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temp sensor, will be reset from space temperature as sensed by the mixed air temp sensor, to maintain a heating setpoint of 70 degrees (adjustable), and a cooling setpoint of 78 degrees (adjustable), in the space.

The supply air temperature will be maintained by modulating the hot water valve in sequence with the outside, return & exhaust damper and chilled water valve.

On a call for heating, the chilled water valve will be closed, the outside air damper will be at it's minimum position and the hot water valve will modulated open. On a call for cooling, the chilled water valve and the hot water valve will be closed, the outside air damper will start to modulate open beyond it's minimum position while the return air damper modulates closed and exhaust damper modulate open.

When the outside air damper and exhaust damper modulate open beyond minimum position, exhaust fan EF-5-1 will be started.

Modulation of mixing dampers is subject to a mix air low limit temperature as sensed by the cold deck temp sensor. Once the unit operating on 100% outside air and there is a continued call for cooling the chilled water valve will be modulated open.

Modulation of the mixing damper is subject to a dry bulb economizer. Whenever the outside temperature is below 68 degree (adjustable), the mixing dampers are allowed to modulate, and EF5-1 is allowed to start and stop. When the outside air temperature above 68 degrees the damper will be return to and remain at a position to admit only a minimum amount of air for ventilation purpose, and EF5-1 will remain off.

UNOCCUPIED MODE

The supply fan will run continuously at a reduced speed, the return air damper will open fully and the outside air damper and exhaust air damper will close. EF5-1 will remain off during the unoccupied cycle. The chilled water valve will be modulated to maintain a lower unoccupied space temperature as sensed by the mixed air temperature sensor.

An optional start process will index the system to warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the supply fan operates continuously on 100% return air at it's occupied cycle speed, EF5-1 remain off.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fans, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan and EF5-1 upon activation by the building fire alarm system.

FAN COIL UNTIL FC5-1 (FC5-2, 3 & 4 TYPICAL)

Occupied and unoccupied cycles of corporation will be times schedule through FMS.

Occupied cycle

The fan coil until start and operate continuously. The outside air damper will open fully to admit a fix amount of outside air. The space temperature sensor hot deck temp sensor will modulate in sequence with the chilled water valve to maintain the desired space temperature (adj.).

Unoccupied cycle

The fan coil unit will be cycle on 100% return air and the hot water valve will modulate to maintain the unoccupied heating setpoint. Cooling will not operate.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fans, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Note, FC5-1 and FC5-2 share a common outside air damper. FC5-3 and FC5-4 share a common outside air damper.

MECHANICAL ROOM EXHAUST FAN EF5-4:

When the space temperature as sensed by the mixed air temp sensor rises above 85 degrees (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and exhaust air damper opens. When the exhaust fan stops, the outside air intake damper and the exhaust air damper close.

BUILDING 6

AIR HANDLING UNIT AHU6-1, EF6-1:

Occupied and unoccupied modes of operation will be time scheduled through BMS.

OCCUPIED MODE

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of both the supply fan AHU6-1 and the return fan EF6-1, to maintain a constant supply duct static pressure as sensed by the static pressure tip located in the supply duct as shown on the drawing. Both fans operate continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temp sensor, will be reset from outside air temperature as indicated on reset schedule. The supply air temperature will be maintained by modulating the heating valve in sequence with the outside, return & exhaust dampers and chilled water valve.

On a call for heating, the chilled water valve will be closed, the outside air damper will be at it’s minimum position and the hot water valve will be modulated open.

On a call for cooling, the chilled water valve and the hot water valve will be closed, the outside air damper will start to modulate open beyond its minimum position while the return air damper modulates closed and the exhaust air damper modulates open.

Modulation of mixing dampers is subject to a mix air ow limit temperature as sensed by the cold deck temp sensor. Once the unit operating on 100% outside air and there is a continued call for cooling hot water valve will be modulated open.

Modulation of the mixing damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing damper are allowed to modulate. When the outside air temperature is above 55 degrees, the enthalpy content of the outside air is compared to the enthalpy content

of the return air. When the enthalpy content of the outside air exceeds the enthalpy content of the return air, the mixing damper will be return to and remain at a position to admit only a minimum amount of the outside air for ventilation purpose.

UNOCCUPIED MODE:

The supply and return fan will stop, the return air damper will open fully and outside air and exhaust air dampers will close.

The supply and return fans will be cycled on 100% return air if any one of the terminal unit space temperature sensors, sense a space temperature of bellow 55 degree (adjustable). The speed of the fans will be controlled for 90 degrees (adjustable) while the fans are operating during the unoccupied cycle to provide heat.

An optimal start process will index the system to a warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the fans operate continuously on 100% return air.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fans, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat S-1 must be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply and return fan upon activation by the building fire alarm system.

AIR TEMINAL UNIT (With reheat coil)

On a call for cooling from the space temperature sensor, the unit controller will be reset to increase the CFM through the terminal unit up to the unit's maximum CFM rating.

On a call for no cooling from, the unit controller will be reset to decrease the CFM through the terminal unit down to the unit's minimum CFM rating.

On a call from heating from, the unit controller will maintain the minimum CFM flow through the terminal unit while the reheat valve V-a is modulated to maintain space temperature.

During the morning warm up of the flow through the terminal unit will be increased to its maximum CFM rating.

TOILET EXHAUST FANS EF6-2:

When AHU6-1 is indexed to occupied mode, the exhaust fan will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU6-1 is indexed to the occupied mode the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

MECHANICAL MEZZ EXHAUST FAN EF6-4:

When the space humidity as sensed by return duct humidity sensor rises above 60 percent (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and the exhaust air damper opens. When the exhaust fan stops, the outside air intake damper opens and the exhaust air damper close.

BUILDING- 7

AIR HANDLING UNIT AHU7-1 EF7-4:

Occupied and unoccupied modes of operation will be time scheduled through BMS.

Occupied mode:

A start command will be sent to the variable frequency drive, which will ramp up to speed and control speed of supply fan AHU7-1, to maintain a constant fan speed during the occupied cycle. The supply fan operates continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temp sensor, will be reset from space temperature sensed by the mixed air temp sensor, to maintain heating setpoint of 70 degrees (adjustable), and cooling set of 78 degrees (adjustable), in the space.

The supply air temperature will be maintained by modulating the heating valve in sequence with the outside return and exhaust damper and the chilled water valve.

On a call for heating the chilled water valve will be closed, the outside air damper will be at it's minimum position and hot water valve will be modulated open.

On a call for cooling the hot water valve and the chilled water valve will be closed, the outside air damper will start to modulate open beyond it's minimum position while the return air damper modulate closed and exhaust damper modulates open. When the outside air damper and exhaust damper modulate open beyond minimum position, exhaust fan EF7-4 will be started.

Modulation of the mixing damper is subject to a mixed air low limit temperature as sensed by the cold deck temp sensor. Once the unit is operating on 100% outside air and there is a continued call for cooling, the chilled water valve will modulate open.

Modulation of the mixing damper is subject to a dry bulb economizer. Whenever the outside temperature is below 68 degree (adjustable), the mixing dampers are allowed to modulate, and EF7-4 is allowed to start and stop. When the outside air temperature above 68 degrees the damper will be return to and remain at a position to admit only a minimum amount of air for ventilation purpose, and EF7-4 will remain off.

Unoccupied Mode:

The supply fan will run continuously at a reduced speed, the return air damper will open fully and the outside air damper and exhaust air damper will close. EF7-4 will remain off during the unoccupied cycle. The chilled water valve will be modulated to maintain a lower unoccupied space temperature as sensed by The mixed air temp sensor.

An optional start process will index the system to warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the supply fan operates continuously on 100% return air at it's occupied cycle speed, EF7-4 remain off.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open the hot water. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan and EF5-1 upon activation by the building fire alarm system.

FAN COIL UNTIL FC7-1 (FC7-2 TYPICAL)

Occupied and unoccupied cycles of corporation will be times schedule through BMS.

Occupied cycle:

The fan coil until start and operate continuously.

Outside air damper will open fully to admit a fix amount of outside air. The space temperature sensor the hot deck sensor will modulate the hot water valve in sequence with the chilled water valve to maintain the desired space temperature.

Unoccupied cycle:

The fan coil unit will be cycle on 100% return air and the hot water valve will modulate to maintain the unoccupied heating setpoint. Cooling will not operate.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fan, close the outside damper and fully open the hot water valve. An alarm will also be indicated BMS. The freeze stat must be manually reset before the system can be restarted.

MAKE-UP AIR HANDLING UNIT MAU7-1 & HOOD FAN EF7-1

Occupied Cycle:

Whenever the kitchen hood exhaust fan, EF7-1 is manually started, exhaust damper opens fully and MAU7-1 will be indexed to the occupied cycle. MAU7-1 supply fan will start and run continuously. Outside air damper will open fully to admit 100% outside air.

The face and bypass damper will come under control of temperature hot deck sensor located in the fan discharge. The face & bypass damper will be modulated to maintain a constant supply air temperature of 55 degrees (adjustable).

Unoccupied Cycle:

When exhaust fan EF7-1 is manually stopped, the exhaust damper closes, MAU7-1 stops, and the make-up air unit outside air damper closes. MAU7-1 remains off during the unoccupied cycle.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the supply fan, close the outside air damper and fully open the chilled water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan upon activation by the building fire alarm system.

TOILET EXHAUST FANS EF7-2 AND EF7-3:

Whenever AHU7-1, FC7-1 or FC7-2 is operating in the occupied mode. EF7-2 will start and run continuously. When EF7-2 starts, the exhaust damper will open fully. When AHU7-1, FC7-1 and FC7-2 are not operating in the occupied mode, EF7-2 will remain off and the exhaust damper will remain close.

Whenever MAU7-1 is operating in the occupied mode, EF7-3 will start and run continuously. When EF7-3 starts, the exhaust damper will open fully. When MAU7-1 is not operating in the occupied mode EF7-3 will remain off and the exhaust damper remain closed.

MEZZ. EXHAUST FAN EF7-5

When the relative humidity exceeds 60%(adjustable), as sensed by exhaust duct humidity sensor the exhaust fan will be started. When the exhaust fan starts, the exhaust damper and outside air intake damper will open.

BUILDING 8

AIR HANDLING UNIT AHU8-1 EF-8:

Occupied and unoccupied cycles of operation will be time scheduled through BMS.

Occupied Mode:

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of both the supply fan AHU8-1 and the return fan EF8-1, to maintain a constant supply duct static pressure as sensed by the static pressure tip located in the supply duct as shown on the drawing. Both fans operate continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temp sensor, will be reset from outside air temperature as indicate by the rese schedule the supply air temperature sensor will be maintained by modulating heating valve in sequence with the outside, return & exhaust damper and chilled water valve. On a call for heating, the chilled water valve will be closed, the outside air damper will be at its minimum position and the hot water valve will be Modulated open. On a call for cooling the chilled water and hot water valve will be closed, the outside air damper will start to modulate open beyond its minimum position while the return air damper modulates closed and exhaust Modulation of mixing dampers is subject to a mix air ow limit temperature as

sensed by the cold deck temperature sensor. Once the unit operating on 100% outside air and there is a continued call for cooling cold water valve will be modulated open.

Modulation of the mixing damper is subject to an enthalpy and temperature comparison. Whenever the outside air temperature is below 55 degrees, the mixing damper are allowed to modulate. When the outside air temperature is above 55 degrees, the enthalpy content of the outside air is compared to the enthalpy content of the return air. When the enthalpy content of the outside air exceeds the enthalpy content of the return air, the mixing damper will be return to and remain at a position to admit only a minimum amount of the outside air for ventilation purpose.

Unoccupied Mode:

The supply and return fan will stop, the return air damper will open fully and outside air and exhaust air dampers will close.

The supply and return fans will be cycled on 100% return air if any one of the terminal unit space temperature sensors, sense a space temperature of bellow 55 degree (adjustable). The speed of the fans will be controlled for 90 degrees (adjustable) while the fans are operating during the unoccupied cycle to provide heat.

An optimal start process will index the system to a warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the fans operate continuously on 100% return air.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fans, close the outside air damper and fully open hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply and return fan upon activation by the building fire alarm system.

AIR TEMINAL UNIT (Without reheat coil)

On a call for cooling from the space temperature sensor, the unit controller will be reset to increase the CFM through the terminal unit up to the unit's maximum CFM rating. On a call for no cooling from space temperature sensor, the unit controller will be reset to decrease the CFM through the terminal unit down to the unit's maximum CFM rating.

AIR TEMINAL UNIT (With reheat coil)

On a call for cooling from the space temperature sensor, the unit controller will be reset to increase the CFM through the terminal unit up to the unit's maximum CFM rating. On a call for no cooling from the space temperature sensor, the unit controller will be reset to decrease the CFM through the terminal unit down to the unit's minimum CFM rating.

On a call from heating from space heating temperature sensor, the unit controller will maintain the minimum CFM flow through the terminal unit while the reheat valve V-a is modulated to maintain space temperature.

During the morning warm up of AHU4-3, the flow through the terminal unit will be increased to its maximum CFM rating.

FAN COIL UNTIL FC8-1

Occupied and unoccupied cycles of corporation will be times schedule through BMS.

Occupied cycle

The fan coil until start and operate continuously.

Outside air damper will open fully to admit a fix amount of outside air.

The space temperature sensor hot deck temp sensor will modulate the hot water valve in sequence with chilled water valve to maintain the desired space temperature.

Unoccupied cycle

The fan coil unit will be cycle on 100% return air and the heating hot water valve will modulate to maintain the unoccupied heating setpoint. Cooling will not operate.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil, the freeze stat will stop the fan, close the outside damper and fully open the hot water valve. An alarm will also be indicated BMS. The freeze stat must be manually reset before the system can be restarted.

FAN COIL UNTIL FC8-2

Occupied and unoccupied cycles of corporation will be times schedule through BMS.

Occupied cycle

The fan coil until start and operate continuously.

The space temperature sensor Hot water deck temp sensor will modulate the hot valve in sequence hot water valve to maintain the desired space temperature.

Unoccupied cycle

The fan coil unit will be cycle and the hot water valve will modulate to maintain the lower unoccupied heating setpoint. Cooling will not operate.

TOILET EXHAUST FANS EF8-2 & 3:

When AHU8-1 is indexed to occupied mode, the exhaust fan will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU8-1 is indexed to the occupied mode the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

MECHANICAL ROOM EXHAUST FAN EF8-5

When the space temperature as sensed by hot deck temp sensor rises above 55 degrees (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and exhaust air damper opens. When the exhaust fan stops, the intake and exhaust dampers close.

BUILDING 9A

AIR HANDLING UNIT AHU9A-1, AHU9A-2,

Occupied and unoccupied cycles of operation will be time scheduled through the BMS.

Occupied cycles:

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the supply fan AHU9A-1, to maintain a constant supply duct static pressure tip located in the supply duct as shown on the drawing. The supply fan operations continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temperature sensor, will be reset from outside air temperature as indicated on the reset schedule shown on the heating valve chilled water valve in sequence with the outside & return dampers and chilled water . On a call for heating, hot water valve will be closed, the outside air damper will be at its minimum position and chilled water valve will be modulated open, on a call for cooling, chilled water valve and hot water valve will be closed, the outsider air damper will start modulate open beyond its minimum position while the return air damper modulates closed. Modulation of mixing dampers is subject to a mixed air low limit temperature as sensed by the cold deck temperature sensor. Once the unit is operating on 100% outside air and there is a continued call for Cooling, hot water valve will modulated open.

Modulation of the mixing dampers is subject to a dry bulb economizer. Whenever the outside air temperature is below 68 degrees (adjustable), the mixing damper are allowed to modulate. When the outside air

temperature is above 68 degrees the mixing dampers will be returned to and remain at a position to admit only a minimum amount of outside air for ventilation purposes.

Unoccupied cycle:

The supply fan will run continuously at a reduced speed; the return air damper will open fully and the outside air damper and exhaust air damper will close. EF9A-4 will remain off during the unoccupied cycle. Chilled water valve will be modulated to maintain a lower unoccupied space temperature as sensed by the mixed air temperature sensor.

An optional start process will index the system to warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the supply fan operates continuously on 100% return air at it's occupied cycle speed, EF9A-4 remain off.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open the chilled water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan upon activation by the building fire alarm system.

AIR TERMINAL UNIT (With Reheat Coil and Parallel Fan)

On a call for cooling from the space temperature sensor, the unit controller will be reset to increase the CFM through the terminal unit up to the unit's maximum CFM rating. On a call for no cooling from the space temperature sensor, the unit controller will be reset to decrease the CFM through the terminal unit down to the unit's minimum CFM rating.

On a call from heating from the space temperature sensor, the unit controller will maintain the minimum CFM flow through the terminal unit from the primary fan system and start the terminal unit parallel fan to recirculate return air from above the celling. On continued call for heat, the reheat valve V-a is modulated to maintain space temperature.

During the unoccupied cycle the heating setpoint for the terminal unit is lower and parallel fan and reheat coil will be cycled to maintain the lower unoccupied setpoint.

During the morning warm up of AHU4-3, the flow through the terminal unit will be increased to it's maximum CFM rating.

AIR HANDLING UNIT AHU9A-1, 9A-2

Occupied cycle:

Whenever anyone of the five kitchen hood exhaust fans, EF9A-1 through EF9A-5 is manually started, AHU9A-2 will be indexed to the occupied Cycle.

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the supply fan AHU9A-2.the frequency drive. The supply fan operates continuously during the occupied cycle, as long as any one of the five hood fans is operating.

When started in the occupied cycle, the outsider air damper will open filly and the return air damper will close fully. The system will operate using 100% outside air.

The supply air temperature, as sensed by the hot deck temp sensor, will be reset from space temperature as sensed by the cold deck temp sensor, the supply air temperature will be maintained by modulating the heating valve.

Unoccupied cycle:

Whenever the all of the five kitchen hood exhaust fans, EF9A-1 through EF9A-1 are manually stopped, AHU9A-2 will be induced to the unoccupied cycle.

The supply fan will stop, the return air damper will open full the outside air damper will close. Upon a call for heating from space temperature sensor the hot deck temp sensor, the supply fan will be cycled on full heat and 100% return air to maintain to the lower unoccupied temperature setting.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open fully hot water valve. Air alarm will also be indicated at the FMS, The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop the supply fan upon activation by the building fire alarm system.

FAN COIL UNTIL FC9A-1 (FC9A-2 Typical)

Occupied and unoccupied cycles of corporation will be times schedule through BMS.

Occupied cycle:

The fan coil until start and operate continuously.

The space temperature sensor hot deck sensor will modulate hot water valve in sequence with chilled water valve to maintain the desired space temperature.

Unoccupied cycle:

The fan coil unit will be cycle and HOT WATER VALVE will modulate to maintain the lower unoccupied heating setpoint. Cooling will not operate.

KITCHEN HOOD FANS

The kitchen hood fans consist of an exhaust fan and an associated make-up air handing unit. They are interlocked in pairs as follows:

EF9A-1---MAU9A-1
EF9A-2---MAU9A-2
EF9A-3---MAU9A-3
EF9A-4---MAU9A-4
EF9A-5---MAU9A-5

The exhaust fan is started and stopped manually via a local on/off switch. When the exhaust fan is started, it's associated make-up air unit is interlocked to start. When exhaust fan starts, the exhaust damper open fully. When the make-up air unit starts, outside air damper opens fully and the heating valve comes under control of temperature sensor hot deck temp sensor located in the heating coil discharge. the hot water valve will be modulated to maintain a constant supply air temperature of 90 degrees (adjustable).

When the exhaust fan is manually stopped, the exhaust damper closes, the associated make-up air unit stops, and the make-up air unit outside air damper closes.

The exhaust fans are interlocked with the kitchen hood fire suppression system.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open the hot water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan upon activation by the building fire alarm system.

TOILET EXHAUST FANS EF8-2 & 3:

When AHU8-1 is indexed to occupied mode, the exhaust fan will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU8-1 is indexed to the occupied mode the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

EXHAUST FANS EF9A-7, 8 & 9

These exhaust fans are manually started and stopped via a local wall switch. When the fan starts, it's respective exhaust damper opens.

ELECTRICAL ROOM EXHAUST FAN EF9A-10

When the space temperature as sensed by hot deck temp sensor rises above 85 degree (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and the exhaust air damper opens. When the exhaust fan stops, the intake and exhaust dampers close.

MECHANICAL ROOM EXHAUST FAN EF9A-11

When the space temperature as sensed by hot deck temp sensor rises above 85 degree (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and the exhaust air damper opens. When the exhaust fan stops, the intake and exhaust dampers close

CORRIDOR 9A-101 HEAT AND VENTILATION (CORRIDOR 9A-100 Typical)

On a call for cooling from two stage thermostats, exhaust fan EF9A-1 will start, exhaust damper and outside air intake damper will open. Unit heaters UH-3 & 4 will be off. As the space temperature decrease EF9A-1 will stop, the intake and exhaust dampers will close and unit UH-3 & 4 will remain off.

On a call for heating from aqua stat, unit heater UH-3 & 4 will be cycled on, subject to their respective strap-on aqua stat. EF9A-1 will be off. Note, EF9A-2 and UH9A-1 & 2 serve corridor 9A-100.

BUILDING 9B

AIR HANDLING UNIT AHU9B-1, AHU9B-2,

Occupied and unoccupied cycles of operation will be time scheduled through the BMS.

Occupied and unoccupied cycles of operation will be time scheduled through the BMS.

Occupied cycles:

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the supply fan AHU9A-1, to maintain a constant supply duct static pressure tip located in the supply duct as shown on the drawing. The supply fan operations continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temperature sensor, will be reset from outside air temperature as indicated on the reset schedule shown on the heating valve chilled water valve in sequence with the outside & return dampers and chilled water . On a call for heating, hot water valve will be closed, the outside air damper will be at its minimum position and chilled water valve will be modulated open, on a call for cooling, chilled water valve and hot water valve will be closed, the outsider air damper will start modulate open beyond its minimum position while the return air damper modulates closed. Modulation of mixing dampers is subject to a mixed air low limit temperature as sensed by the cold deck temperature sensor. Once the unit is operating on 100% outside air and there is a continued call for Cooling, hot water valve will modulated open.

Modulation of the mixing dampers is subject to a dry bulb economizer. Whenever the outside air temperature is below 68 degrees (adjustable), the mixing damper are allowed to modulate. When the outside air temperature is above 68 degrees the mixing dampers will be returned to and remain at a position to admit only a minimum amount of outside air for ventilation purposes.

Unoccupied cycle:

Both the supply and exhaust fans will stop; the return air damper will open fully and the outside air damper and exhaust air damper will close. The supply and exhaust fans will remian off during the unoccupied cycle.

An optional start process will index the system to warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the supply and exhaust fans operates continuously on 100% return air.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open the chilled water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan upon activation by the building fire alarm system.

MECHANICAL ROOM EXHAUST FAN EF9B-2

When the space temperature as sensed by hot deck temp sensor rises above 85 degree (adjustable), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper opens and the exhaust air damper opens. When the exhaust fan stops, the intake and exhaust dampers close

TOILET EXHAUST FANS EF9B-1, 5, 6, 7 AND 8

When AHU9B-2 is indexed to the occupied mode, the exhaust fans will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU9b-1 is indexed to the unoccupied mode, the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

TOILET EXHAUST FANS EF9B-4 AND 9

When AHU9B-1 is indexed to the occupied mode, the exhaust fans will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU9b-1 is indexed to the unoccupied mode, the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

BUILDING 9C

AIR HANDLING UNIT AHU9C-1, AHU9C-2,

Occupied and unoccupied cycles of operation will be time scheduled through the BMS.

Occupied and unoccupied cycles of operation will be time scheduled through the BMS.

Occupied cycles:

A start command will be sent to the variable frequency drive, which will ramp up to speed and control the speed of the supply fan AHU9A-1, to maintain a constant supply duct static pressure tip located in the supply duct as shown on the drawing. The supply fan operations continuously during the occupied cycle.

The supply air temperature, as sensed by the hot deck temperature sensor, will be reset from outside air temperature as indicated on the reset schedule shown on the heating valve chilled water valve in sequence with the outside & return dampers and chilled water . On a call for heating, hot water valve will be closed, the outside air damper will be at its minimum position and chilled water valve will be modulated open, on a call for cooling, chilled water valve and hot water valve will be closed, the outsider air damper will start modulate open beyond its minimum position while the return air damper modulates closed. Modulation of mixing dampers is subject to a mixed air low limit temperature as sensed by the cold deck temperature sensor. Once the unit is operating on 100% outside air and there is a continued call for Cooling, hot water valve will modulated open.

Modulation of the mixing dampers is subject to a dry bulb economizer. Whenever the outside air temperature is below 68 degrees (adjustable), the mixing damper are allowed to modulate. When the outside air temperature is above 68 degrees the mixing dampers will be returned to and remain at a position to admit only a minimum amount of outside air for ventilation purposes.

Unoccupied cycle:

Both the supply and exhaust fans will stop; the return air damper will open fully and the outside air damper and exhaust air damper will close. The supply and exhaust fans will remian off during the unoccupied cycle.

An optional start process will index the system to warm up mode prior to the scheduled occupancy time based on space temperature and outside air temperature. During the warm up mode, the supply and exhaust fans operates continuously on 100% return air.

Upon sensing a leaving air temperature of less than 35 degrees from the heating coil. The freeze stat will stop the supply fan, close the outside air damper and fully open the chilled water valve. An alarm will also be indicated at the BMS. The freeze stat must be manually reset before the system can be restarted.

Fire alarm control relays will stop supply fan upon activation by the building fire alarm system.

MAKE UP AIR UNIT MAU9D-1 AND EXHAUST FAN EF9D-6

EF9D-6 is manually started and stopped by indexing an existing selector switch with shall remain and be reused. When EF9D-6 starts, the exhaust air damper closes. The fan will be started and the VFD will begin to ramp to control CFM When MAU9D-1 starts the outside air damper opens fully and the return air damper closes fully, the system operated using 100% outside air. The supply air temperature will be controlled to maintain a constant 85F (adj.). by modulating the hot water valve.

When EF9d-6 is stopped, MAU9D-1 will sop and the outside air damper will close and the return damper will open.

Upon sensing a leaving air temperature of less that 35F (adj.) from the heating coil, the low temperature limit will stop the supply fan, close the outside air damper and fully open the heating coil control valve. An alarm will also be indicated at the operator work station. The low limit temperature sensor must be manually reset.

Fir alarm control relay (existing) wil stop MAU9d-1 fan upon activation by the building fire alarm system.

ELETRIC ROOM EXHAUST FANS EF9C-3

When space temperature thermostat senses a rise above 85F (adj.), the exhaust fan will be started. When the exhaust fan starts, the outside air intake damper and exhaust dampers open. When the exhaust fan stops the outdoor air and exhaust air dampers close fully.

TOILET EXHAUST FANS EF9D-1, 2, 3, 4, 5 AND 7

When AHU9C-1 or AHU9C-2 is indexed to the occupied mode, the exhaust fans will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU9C-1 or AHU9C-2 is indexed to the unoccupied mode, the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

TOILET EXHAUST FANS EF9C-4

When AHU9C-3 or AHU9C-4 is indexed to the occupied mode, the exhaust fans will start and operate continuously. When the exhaust fan starts, the exhaust damper opens fully. When AHU9C-1 or AHU9C-2 is indexed to the unoccupied mode, the exhaust fan will stop and remain off. When the exhaust fan stops, the exhaust damper closes.

BUILDING 10A

AIR HANDLING UNIT 10A-1

Unit will be indexed occ/unocc by optimal start program in the BMS.

Occupied cycle:

Unit supply fan shall run subject to the low temperature thermostat shutdown interlock. The outside air damper shall open fully and the room thermostat shall modulate the hating coil control calve to maintain space temperature set point (adj.). if the space temperature gets to be above 76F the outside air damper will close and the D/X coil will be indexed on with the heating valve fully closed.

Unoccupied cycle:

Unit will cycle on with the outside air damper closed to maintain setback setpoint.

EF10A-1 will start and run continuously in occupied mode and will stop in the unoccupied mode.

AIR HANDLING UNIT 10A-2 (Roof Top Unit)

Unit will be indexed occ/unocc by optimal start program in the BMS.

Occupied cycle:

Unit supply fan shall run subject to the low temperature thermostat and smoke detector (existing to remain) shutdown interlock. The outside air damper will open to its minimum position and the room thermostat will modulate the heating coil control valve to maintain an adjustable space temperature setpoint.

Unoccupied cycle:

Unit will cycle on with the outside air damper closed only to maintain setback setpoint.

MAKEUP AIR UNIT 10A-1

100 percent outdoor air make-up unit (MAU10-1) will be interlocked to run when the paint booth exhaust fan is energized, locally switched (existing switch to remain and be reused). When the paint booth exhaust fan is switched on, the outside air damper will open and the fan will run continuously. The discharge air sensor will modulate the heating coil control valve to maintain the discharge air at 90F (adj..). When the outside air temperature is above 65F (adj.) the heating coil control valve will remain closed.

EF10A-4 will run continuously. In the event that the fan fails, current sensor will initiate an alarm as the operator work station.

BUILDING 11

AIR HANDLING UNIT AHU11-1

The system will be indexed occ/unocc by the BMS optimal start program.

Occupied cycle: (Warm up / Cool Down):

The unit supply fan will be energized, subject to low temperature and smoke detector permissive, and the vfd will be commanded to ramp up and the modulated to maintain the scheduled CFM setpoint. The heating / cooling coil valves and the outside air/return air dampers will be modulated to maintain the discharge air temperature reset set point (adj.). Modulating the mixing dampers is subject to enthalpy economizer. When below 68F, outside air temperature ef11-1 will start when outside air dampers are at 100%. EF11-1 will be off above 68F outside air temperature.

In the heating mde the average space temperature will reset the discharge air temperature by modulating the heating coik controld valve to maintain the following schedule (adj.):

Space 75F	Discharge 55F
Space 65F	Discharge 95F

In the cooldown mode the average space temperature will reset the discharge air temperature by modulating the coolin coil control valve or the economizer dampers as required for the following schedule (adj.)

Space 85F	Discharge 55F
Space 75F	Discharge 65F

In the unoccupied mode the fans will run with the FVD setback to scheduled CFM and the outside air dampers will remain closed. If the space temperature falls below setpoint, the heating coil control valve will modulate open to maintain the setback space setpoint (adj.)

FAN COIL UNTIL FC11-1, FC11-2, 3

Occupied and unoccupied cycles of corporation will be times schedule through FMS.

Occupied cycle

The unit fan will start and run continuously subject to the low temperature thermostat permissive. The outdoor air damper will open and the heating coil and cooling coil control valves will be modulated in sequence to maintain space temperature setpoints (adj.).

If the low temperature thermostats limit is exceeded, the fan will shit down, the outside air damper wil close and the heating coil valve will go full open to the coil. An alarm will be sent to the operatire work station upon fan failure to start.

Unoccupied cycle

The outdoor air damper will remain closed; the heating coil control valve will be modulated and the fan will cycled to maintain setback space temperature setpoint (adj.)

EF11-2, 3 will start and run continuously in the occupied mode only

BUILDING 12

AIR HANDLING UNIT AHU12-1

The system will be indexed occ/unocc by the BMS optimal start program.

The system will be indexed occ/unocc by the BMS optimal start program.

Occupied cycle: (Warm up / Cool Down):

The unit supply fan will be energized, subject to low temperature and smoke detector permissive, and the vfd will be commanded to ramp up and the modulated to maintain the scheduled CFM setpoint. The heating / cooling coil valves and the outside air/return air dampers will be modulated to maintain the discharge air temperature reset set point (adj.). Modulating the mixing dampers is subject to enthalpy economizer. When below 68F, outside air temperature EF12-5 will start when outside air dampers are at 100%. EF12-5 will be off above 68F outside air temperature.

In the heating mode the average space temperature will reset the discharge air temperature by modulating the heating coil control valve to maintain the following schedule (adj.):

Space 75F	Discharge 55F
Space 65F	Discharge 95F

In the cooldown mode the average space temperature will reset the discharge air temperature by modulating the cooling coil control valve or the economizer dampers as required for the following schedule (adj.)

Space 85F	Discharge 55F
Space 75F	Discharge 65F

In the unoccupied mode the fans will run with the FVD setback to scheduled CFM and the outside air dampers will remain closed. If the space temperature falls below setpoint, the heating coil control valve will modulate open to maintain the setback space setpoint (adj.)

EF12-2, EF12-4 Control:

The fans will start and the dampers will open in the occupied mode. In the unoccupied mode the dampers will close and the fans will be de-energized.

FAN COIL UNTIL FC12-1, 2

Occupied and unoccupied cycles of corporation will be times schedule through FMS.

Occupied cycle

The unit fan will start and run continuously subject to the low temperature thermostat permissive. The outdoor air damper will open and the heating coil and cooling coil control valves will be modulated in sequence to maintain space temperature set points (adj.).

If the low temperature thermostats limit is exceeded, the fan will shut down, the outside air damper will close and the heating coil valve will go full open to the coil. An alarm will be sent to the operator work station upon fan failure to start.

Unoccupied cycle

The outdoor air damper will remain closed; the heating coil control valve will be modulated and the fan will cycled to maintain setback space temperature setpoint (adj.)

MAKEUP AIR UNIT MAU12-1

100 percent outdoor air make-up unit (MAU11-1) will be interlocked to run when the paint booth exhaust fan is energized, locally switched (existing switch to remain and be reused). When the paint booth exhaust fan is switched on, the outside air damper will open and the fan will run continuously. The discharge air sensor will modulate the heating coil control valve to maintain the discharge air at 90F (adj..). When the outside air temperature is above 65F (adj.) the heating coil control valve will remain closed.

EF12-1 will start and the damper will open in the occupied mode and the reverse sequence in the unoccupied.

BUILDING 13

AIR HANDLING UNIT AHU13-1

The system will be indexed occ/unocc by the BMS optimal start program.

Occupied cycle: (Warm up / Cool Down):

The unit supply and return fans will be energized, subject to low temperature and smoke detector permissive, and the VFD will be commanded to ramp up and the modulated to maintain the scheduled CFM setpoint. The outdoor air/return air dampers will modulate in economizer cycle subject to the enthalpy control program.

In the heating mode the average space temperature will reset the discharge air temperature by modulating the heating coil control valve to maintain the following schedule (adj.):

Space 75F	Discharge 55F
Space 65F	Discharge 95F

In the cooldown mode the average space temperature will reset the discharge air temperature by modulating the cooling coil control valve or the economizer dampers as required for the following schedule (adj.)

Space 85F	Discharge 55F
Space 75F	Discharge 65F

In the unoccupied mode the fans will run with the FVD setback to scheduled CFM and the outside air dampers will remain closed. If the space temperature falls below setpoint, the heating coil control valve will modulate open to maintain the setback space setpoint (adj.)

Terminal Unit (TU13-1 thru TU13-16)

The space temperature sensor will control the damper actuator. When the space temperature rises above its setpoint the damper will open and when the setpoint is reached the damper will return to the minimum position. During morning warm-up the damper will go fully open.

EF13-2 and EF13-4 Control:

In the occupied mode the exhaust fans will be energized and their respective dampers will open.