MTU Points List

										Start/Stop/Status/VFD			Temperature Sensors						Damper Actuators							Htg Valves and Actuators				Cooling	VAV				Boilers/hot water				Other/misc.		
	Building (built 1985)	Equip.	Description	Serves	HP SAF/RAF or pump	CFM or gpm/ head	% OA	Clg Tons (ea)	Qty	Start/ Stop (thru VFD where applicable)	Status (thru VFD where applicable)	VFD speed control*2	DA Temp	RA Temp.	MA Temp.	HD Temp.	CD Temp.	Space Temp.	Min OA dmp	OA dmp	OA dmp w/end switch for 100% OA units	RA dmp	Exh or relief air dmp	Multi Zone dmp	F&B dmp	Pre htg valve and act.	Htg coil valve and act.	Reheat valve act.	Zone reset valve and act.	Clg Ctrl (stgs)	VAV w/o reheat*3	VAV w/ reheat *4	Hi Pres. limit (direct wired and alarm)	Stat. pres *1	Enbl/ Dsbl.	HWS Temp	HWR Temp	HW Blr Bacnet/L ON	Low Limit (direct wired and alarm)	LONstats	Other
1	Food Service	MUAU	100% OA	Kitchen	7.5	14000	100%		1	1	1		1								1					1	1												1		
2	Food Service	MUAU	100% OA	Bakery	5	7500	100%		1	1	1		1								1					1	1												1		
3	Food Service	AHU	AHU	Dining	5	7500	30%		1	1	1		1	1	1					1		1	1		1	1	1												1		
4	Food Service	AHU	AHU	Staff	3	5000	30%		1	1	1		1	1	1					1		1	1		1		1												1		
5	Food Service	Pump	Coil pump	HW coils	0.5				4	4	4																														
6	School	AHU	HV-3	Library/ Offices	1.5	3000	10%		1	1	1		1	1	1			1		1		1	1		1		1												1		
7	School	AHU	HV-1	Classrooms	3	6550	100%		1	1	1		1					1			1		2			1	1												1		
8	School	AHU	HV-2	Classrooms	1.5	3200	30%		1	1	1		1	1	1			1		1		1	1				1												1		
9	School	AHU	Aud. AHU	Auditorium	7.5	9000	30%		1	1	1		1	1	1			1		1		1	1				1												1		
10		Pump	Coil pump	HW coil pumps	0.5				4	4	4																														
11	School	Pump		FTR and Conv	1.5	84/35			**2**	2	2																		1												
12	School	Ex fans	Roof Ex. Fans	Misc areas	fract.				**5**	5																															
13	School	Air Cond	RTU	Misc Offices	**2**			4	3																															3	
14	School	Air Cond	Split Systems	Misc Offices				2	10																															10	
	School	AHU	Ceiling Hung	Misc Offices	2	1600	30%	3	1	1	1		1	1	1			1		1		1	1				1												1		
15	Vocational	UH	NEW 25 gas fired UH	Wood shop, auto shop					25	5*5								5																							
16	Vocational	AHU	100% OA	Shop area	7.5	12690	100%		4	4	4		4					4			4				4		4												4		
17	Vocational	Ex fans	Roof Ex. Fans	Shop area summer vent.	fract.				10	2																															
18	Field House	AHU	(2)AHU	Gym	2	6300	30%		2	2	2		2	2	2			2		2		2	2			2	2												2		
19	Field House	AHU	(3) zone Multizone AHU	Lobby/office	5	5430	45%		1	2	2		1	1	1	1		3		1		1	1			1	1												1		
20	Field House	Ex.Fan	(5) Exhaust Fans	Building					5	5																															
21	Housing unit D, E	AHU	(5) zone MZ	Common area make up air	5	6650	17%		2	2	2		2	2	2	2		10		2		2	2	10			2	6*6													
22	Housing unit D, E	Pump	(6) zone pumps	FTR zones	fract.				6	12	12																		12							12	12				
23	Housing unit D, E	Ex.Fan	(3) Ex. Fan a	Building	Fract.	120 to 1730			3	6	6																														
24	Housing unit A, B, C	AHU	(6) zone MZ	Cells	5	10760	50%		3	3	3		3	3	3			18		3		3	3	18		3	3	3*6											3		
25	Housing unit A, B, C	Ex.Fan	(4) exhaust fans	Cells	fract.	825 to 1580			4	12	12																														
26	Housing Unit F	AHU	AHU	Cells ventilation	5	6100	100%		1	1	1		1					1			1		1			1	1												1		
27	Housing Unit F	AHU	(5) zone MZ	Day room	5	7000	17%		1	1	1		1	1	1	1		4		1		1	1	5			1												1		
28	Housing Unit F	Pump	(6) zone pumps	FTR zones	Fract.				1	6	6																		6							6	6				
29	Housing Unit F	Ex.Fan	(5) exhaust fans	Cells	Fract.	730 to 3100			5	5	5																														
30	Administration	AHU	AHU	Building	3	2785			1	1	1		1	1	1			2		1		1	1			1	1														
31	Administration	Pump	FTR	Building	(1)/ ¾				1	1	1																		1							1			1		
32	Administration	Ex.Fan	roof						1																																
33	Each Building	Heating	Hot water sensors	Heating supply and return					18																											18	18				
34	Each Building	Domestic hot water	Sensors	Domestic hot water					18																											18	18				
35	Maintenance	UH	Heating	(6) UH					6	2*5																										1	1				
36	Maintenance	Pump		Domestic Hot water	2				2	2	2																														
37	Maintenance	Water heater	Domestic hot water	Showers, sinks kitchen					4		4																									1	1				
38	Maintenance	Boiler	Heating	all buildings					4																											1	1	4			
39	Maintenance	Pump	Heating	all buildings	50				3			3																													
40	Maintenance	Water Meter		Boiler feed	Provide analog input for meter				1																																1
41	OA temp								3									3																							
42	(10) points to be added									10	10							10																							
										101	93	3	24	16	16	4	0	67	0	16	8	16	19	33	7	12	24	0	20	0	0	0	0	0	0	58	57	4	22	13	1

Total Points	636
Total Estimated Cost	**$ 617,922**

Notes:

*1 Static pressure sensors to be located in the traditional 2/3 of longest duct run.
*2 VFD to include start/stop(thru VFD), status,(thru VFD) speed control
*3 VAV w/o reheat: to include space sensor, controller, actuators and connections to VAV box(inputs, etc.)
*4 VAV w reheat: see *3 above, provide valve and actuator
*5 Enable/disable based on zones. Install single temperature non setback thermostats.
*6 FTR valve for 3 zones in day room