

AIR-COOLED CHILLER SCHEDULE (WATER)																															
MARK	MECHANICAL COOLING MODE											SINGLE POINT ELECTRICAL DATA						PHYSICAL INFORMATION		"DAIKIN" MODEL No.	SOUND POWER (dB) (PER AHRI 370)								REMARKS		
	TYPE	DERATED CAPACITY (TONS)	AMBIENT TEMP (°F)	FLOW (GPM)	PRESS DROP (FT. H2O)	EWT (°F)	LWT (°F)	EER (BTU/W-h)	IPLV (BTU/W-h)	REFRIGERANT	REFRIGERANT MASS (LBS)	MCA	FLA	MOCP	VOLTS	PHASE	STARTER TYPE	DIMENSIONS (L x W x H)	OPERATING WEIGHT (LBS)		HZ	63	125	250	500	1000	2000	4000		8000	OVERALL
																					HZ	HZ	HZ	HZ	HZ	HZ	HZ	HZ		HZ	
CH-1	SCREW	351.2	95	650	8.5	57	44	10.11	17.68	RS13A	505	679	594.6	800	460	3	VFD	448 x 88 x 100	23,357	AWV022B	76	72	69	72	71	70	61	51	75		
NOTES: 1. FURNISH WITH SOUND ATTENUATING COMPRESSOR BLANKETS. 2. PROVIDE SINGLE POINT POWER FUSED DISCONNECT SWITCH BY UNIT MANUFACTURER. 3. 20A GFI RECEPTACLE PROVIDED AND INSTALLED BY UNIT MANUFACTURER AND WIRED BY DIV 26.																															

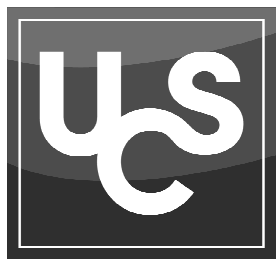
VARIABLE SPEED DRIVE SCHEDULE								
MARK	SYSTEM SERVED	HP	V/PH/Hz	MIN SHORT CIRCUIT CURRENT RATING (AMPS)	INPUT SIGNAL	BYPASS	EMERGENCY POWER	REMARKS
VSD - CHWP-1	CHWP-1	15	460/3/60	65,000	4-20 MA	NO	NO	
VSD - CHWP-2	CHWP-2	15	460/3/60	65,000	4-20 MA	NO	NO	
<div>NOTES: 1. VSDs SHALL BE PROVIDED BY MECHANICAL. VSDs SHALL BE INSTALLED AND WIRED TO EQUIPMENT MOTORS BY ELECTRICAL CONTRACTOR. 2. ALL REQUIRED LOW VOLTAGE TEMPERATURE CONTROLS WIRING SHALL BE PROVIDED AND INSTALLED BY THE TC CONTRACTOR.</div>								

PUMP SCHEDULE												
MARK	LOCATION	SYSTEM SERVED	TYPE	PUMP			MOTOR			ELECTRICAL V/PH/Hz	"BELL & GOSSETT" MODEL No.	REMARKS
				GPM	FT. HEAD	MINIMUM % EFFICIENCY	HP	BHP	RPM			
CHWP-1	BOILER ROOM	CHILLED WATER SYSTEM	END SUCTION	660	60	85	15	11.7	1,760	460/3/60	E-1510-4BD	
CHWP-2	BOILER ROOM	CHILLED WATER SYSTEM	END SUCTION	660	60	85	15	11.7	1,760	460/3/60	E-1510-4BD	
<div>NOTES:</div> <div>1. PERFORMANCE BASED ON WATER, UNLESS NOTED OTHERWISE.</div> <div>2. PUMPS SHALL BE NON-OVERLOADING.</div>												

EXPANSION TANK SCHEDULE											
MARK	SYSTEM SERVED	TYPE	SYSTEM VOLUME (GAL)	FILL PRESSURE (PSIG)	MAX TANK PRESSURE (PSIG)	PRV SETPOINT (PSIG)	TANK ACCEPTANCE (GAL)	DIMENSIONS (IN.)		"BELL & GOSSETT" MODEL No.	REMARKS
								DIA.	HEIGHT		
ET-1	CHILLED WATER SYSTEM	BLADDER	4,600	16	50	55	26.5	24	43	B200V	
<div>NOTES:</div> <div>1. PERFORMANCE BASED ON WATER, UNLESS NOTED OTHERWISE.</div>											

MICROBUBBLE AIR/DIRT SEPARATOR SCHEDULE												
MARK	LOCATION	SYSTEM	TYPE	INLET/OUTLET SIZE (INCHES)	SYSTEM FLOW (GPM)	VELOCITY (FPS)	PRESS. DROP CLEAN (FT. WG)	MAX FLOW (GPM)	MAX PRESS. DROP CLEAN (FT. WG)	OPERATING WEIGHT (LBS)	"BELL & GOSSETT" MODEL No.	REMARKS
AS-1	BOILER ROOM	CHILLED WATER	STANDARD	8	660	4.2	1.1	980	5	655	CRSN-8F	
<div>NOTES: 1. PERFORMANCE BASED ON WATER, UNLESS NOTED OTHERWISE.</div>												

Project Title

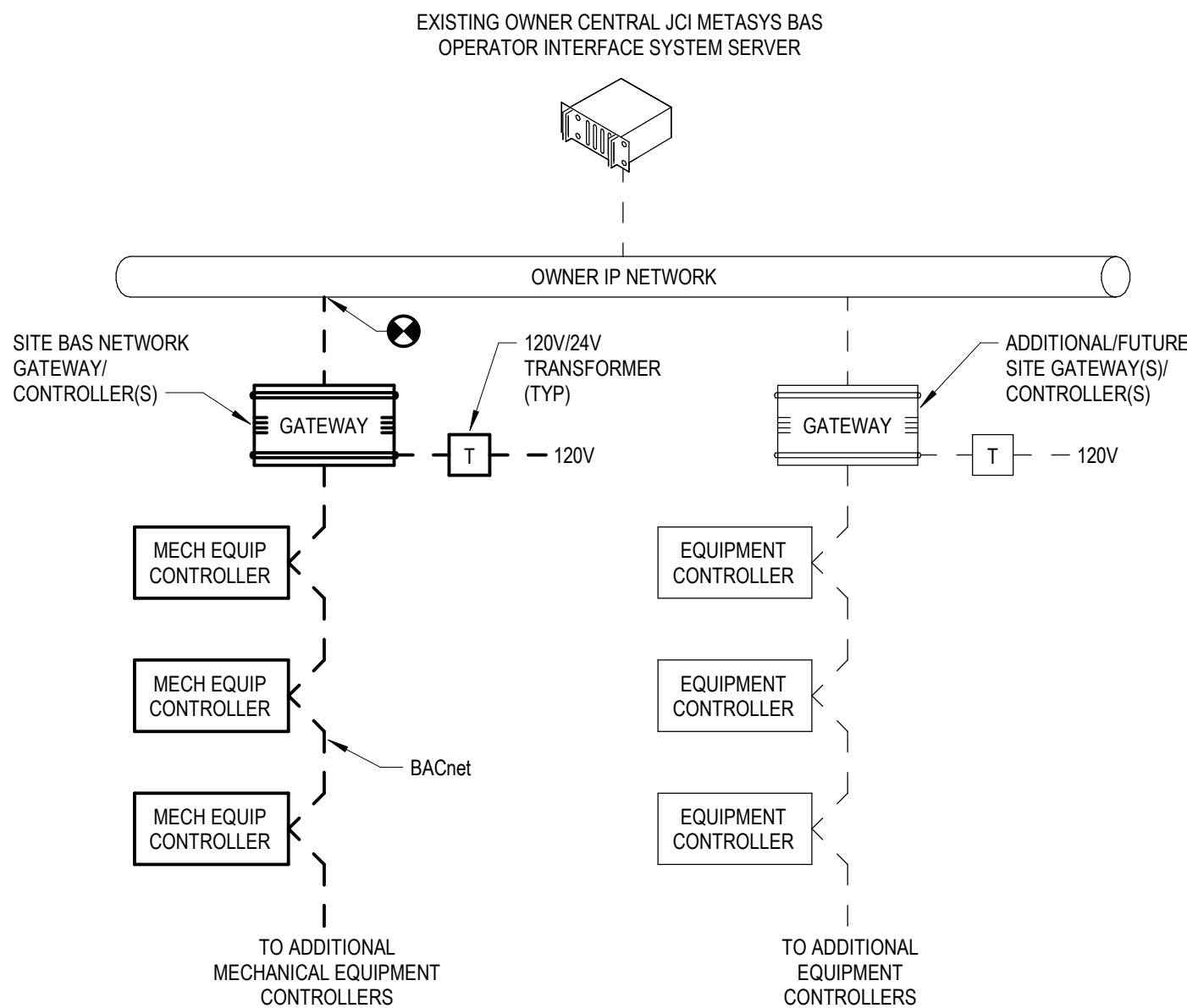


Utica Community Schools

Stevenson High School
Chiller Replacement

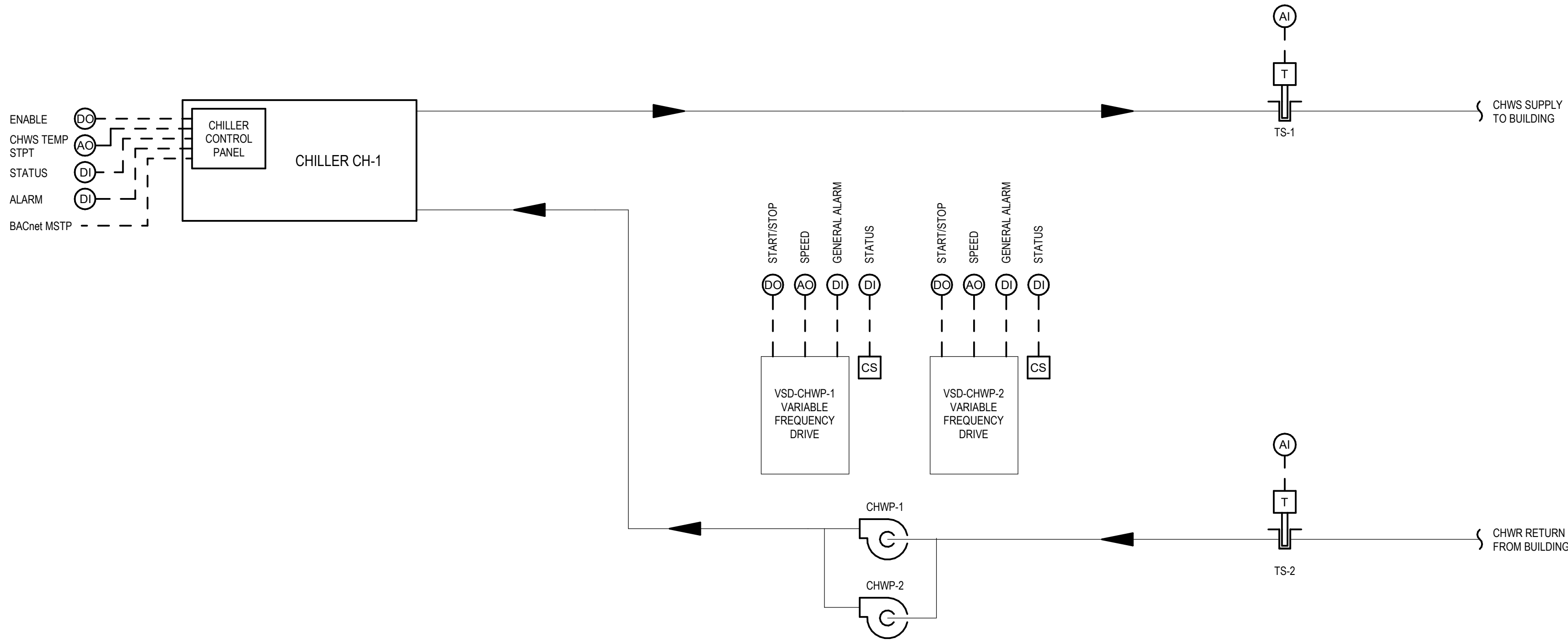
39701 Dodge Park Rd,
Sterling Heights, MI 48313

Key Plan



BUILDING AUTOMATION SYSTEM NETWORK RISER DIAGRAM

- NOTES:
- THE MECHANICAL SYSTEMS CONTROLS CONTRACTOR (MSCC) SHALL PROVIDE A NEW BUILDING AUTOMATION SYSTEM (BAS) CONTROLLER/GATEWAY DEVICE OR DEVICES, POWER SUPPLIES, AND NEMA 1 ENCLOSURES AS NECESSARY TO INTEGRATE ALL FIELD DEVICES AND DEVICE NETWORKS TO THE OWNER CENTRAL BAS OPERATOR INTERFACE SYSTEM (OIS) SERVER.
 - MSCC SHALL PROVIDE ETHERNET/IP DATA CONNECTION(S) AND LOCATE DEVICE(S) AS NECESSARY IN COORDINATION WITH THE ELECTRICAL/TECHNOLOGY CONTRACTOR AND THE OWNER.



CHILLED WATER SYSTEM CONTROL DIAGRAM

- NOTES:
- CHILLER TO BE PROVIDED WITH PACKAGED DDC CONTROLS. MECHANICAL SYSTEMS CONTROLS CONTRACTOR (MSCC) TO FIELD INSTALL, WIRE, AND TERMINATE IN THE PACKAGED UNIT DDC CONTROLLER. ANY APPLICABLE SENSORS OR DEVICES AS NECESSARY PER THE UNIT MANUFACTURER'S REQUIREMENTS FOR A COMPLETE SYSTEM.
 - ALL OTHER SYSTEM COMPONENTS SHALL BE PROVIDED WITH CUSTOM DDC CONTROLS BY THE MSCC.
 - IN THE SYSTEM WRITTEN SEQUENCE OF OPERATION, "ADJ." DENOTES THAT THE REFERENCED POINT SHALL BE MADE AVAILABLE AT THE BUILDING AUTOMATION SYSTEM (BAS) FRONT END INTERFACE AND SHALL BE ADJUSTABLE VIA OVERRIDE BY THE BAS SYSTEM OPERATOR. ALL SYSTEM PHYSICAL ANALOG AND DIGITAL OUTPUT POINTS SHALL BE MADE ADJUSTABLE VIA OVERRIDE AT THE BAS FRONT END.
 - CONTRACTOR SHALL COORDINATE WITH OWNER FOR DESIRED "POINTS" OF CONNECTIONS FOR CHILLED WATER SYSTEM TIED TO BACNET SYSTEM.
 - THE CHILLED WATER (CHW) SYSTEM SHALL INCLUDE A SCHEDULE SET TO ALIGN WITH THE BUILDING AIR HANDLING UNIT OCCUPIED OPERATION TIME SCHEDULES.
 - DURING SCHEDULED OCCUPIED TIME PERIODS, WHEN THE OUTSIDE AIR TEMPERATURE RISES ABOVE 60°F (ADJ.), THE CHW SYSTEM SHALL BE ENABLED. THE CHW SYSTEM SHALL BE DISABLED WHEN THE OUTSIDE AIR TEMPERATURE FALLS 5°F BELOW THE SYSTEM ENABLE SETPOINT.
 - WHEN THE CHW SYSTEM IS ENABLED, THE LEAD PUMP SHALL START, AND THE CHILLER SHALL BE ENABLED.
 - LEAD PUMP SHALL MODULATE SPEED TO MAINTAIN SYSTEM REQUIREMENTS.
 - IF THE CHILLER FAILS TO START WHEN ENABLED, AN ALARM SHALL BE ANNUNCIATED IN THE BAS.
 - IF A PUMP FAILS TO START WHEN ENABLED, AN ALARM SHALL BE ANNUNCIATED IN THE BAS AND THE STANDBY PUMP SHALL START AND OPERATE PER THE FAILED PUMP SEQUENCE.

- SEQUENCE OF OPERATION
- THE BAS SHALL DESIGNATE THE LEAD PUMP AND STANDBY PUMP. PUMP DESIGNATIONS SHALL ROTATE EVERY 4 WEEKS.
 - THE BAS SHALL INCLUDE A COMMON CHW SYSTEM SUPPLY TEMPERATURE SETPOINT (44°F ADJ.). THE BAS SHALL COMMUNICATE THE CHW SUPPLY TEMPERATURE SETPOINT TO THE PACKAGED CHILLER CONTROL PANELS VIA ANALOG OUTPUTS.

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Drawing Scale

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