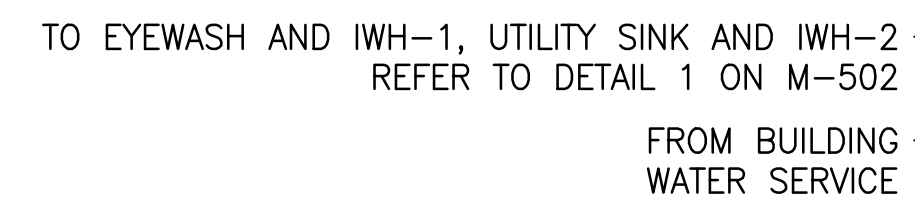
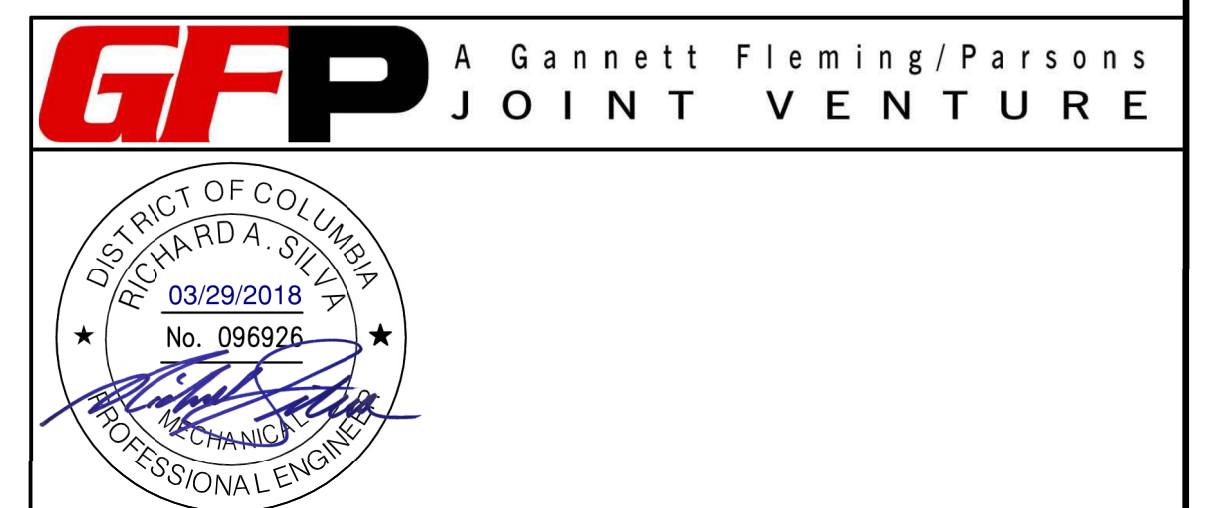


1. REFER TO REFERENCE DRAWING DD-ME-HVAC-007, 008, 009 FOR WATER TREATMENT CONNECTION TO SYSTEM LOOPS.
2. ALL GATE VALVES ARE SHOWN DIAGRAMMATICALLY. REFER TO SPECIFICATIONS FOR USE OF NON-RISING AND OS&Y GATE VALVES.



SCALE: NOT TO SCALE

[illegible]

CHILLER SCHEDULE																					
PLANT	STATION	DESIGNATION	CAPACITY (TONS)	EVAPORATOR					CONDENSER					COMPRESSOR/CHILLER ELECTRICAL						BASIS OF DESIGN	
				GPM	PASSES	EWT (°F)	LWT (°F)	PD FT H ₂ O	GPM	PASSES	EWT (°F)	LWT (°F)	PD FT H ₂ O	VOLT	PH	HZ	RLA	LRA	MOCp		MCA
CWPD2	FEDERAL CENTER SW (D04)	CH-1	330	607	2	55.0	42.0	12.0	990	2	85.0	94.3	19.0	460	3	60	298	164	450	335	DAINKIN WMC060DD
CWPD2	FEDERAL CENTER SW (D04)	CH-2	330	607	2	55.0	42.0	12.0	990	2	85.0	94.3	19.0	460	3	60	298	164	450	335	DAINKIN WMC060DD

NOTES:

1. PROVIDE WITH SPRING TYPE VIBRATION ISOLATION.
2. PROVIDE WITH CHILLED WATER FLOW INDICATOR.
3. WATER-COOLED, SEMI-HERMETIC OIL-FREE CENTRIFUGAL COMPRESSOR WATER CHILLER.
4. TWO MAGNETIC BEARING, COMPLETELY OIL-FREE CENTRIFUGAL COMPRESSORS ON EACH CHILLER.
5. CHILLERS SHALL BE CHARGED WITH REFRIGERANT R-134A.
6. MOTORS SHALL BE LIQUID REFRIGERANT COOLED WITH INTERNAL THERMAL SENSING DEVICES IN THE STATOR WINDINGS.
7. THE CHILLER SHALL BE EQUIPPED WITH AN INTEGRATED VARIABLE FREQUENCY DRIVE (VFD) TO AUTOMATICALLY REGULATE COMPRESSOR SPEED IN RESPONSE TO COOLING LOAD AND THE COMPRESSOR PRESSURE LIFT REQUIREMENT, OPERATIN CONTROLS AND EQUIPMENT PROTECTION CONTROLS.
8. CHILLER CONTROLS SHALL COORDINATE COMPRESSOR SPEED AND GUIDE VANE POSITION TO OPTIMIZE CHILLER EFFICIENCY.
9. CHILLER SHALL BE EQUIPPED WITH MICROTECH II CONTROLLER OR EQUIVALENT AND SHALL INCLUDE REMOTE COMMUNICATIONS CARDS WITH MODBUS RTU CAPABILITY, TO CONNECT THE I/O POINTS TO CHILLER PLANT MONITORING PANEL.
10. CHILLER CAPACITY BASED ON WATER.
11. CHILLER TOTAL OPERATING WEIGHT 13079 LB
12. CHILLER DIMENSIONS 171.96 IN X 55.17 IN (FOOT PRINT)
13. PROVIDE EACH CHILLER WITH SINGLE POINT POWER CONNECTION.

PUMP SCHEDULE															
ITEM NO.	SERVICE	TYPE	GPM	FT HEAD	INLET (IN)	OUTLET (IN)	IMPELLER DIA (IN)	OPERATING WEIGHT (LB)	FOOTPRINT (IN)	MOTOR					BASIS OF DESIGN
										RPM	HP	VOLTS	PH	HZ	
CWP-1	CONDENSER WATER	CENTRIFUGAL	990	80	6	5	10.20	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-6X5X11.5
CWP-2	CONDENSER WATER	CENTRIFUGAL	990	80	6	5	10.20	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-6X5X11.5
CWP-3	CONDENSER WATER	CENTRIFUGAL	990	80	6	5	10.20	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-6X5X11.5
CWP-4	CONDENSER WATER	CENTRIFUGAL	990	80	6	5	10.20	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-6X5X11.5
CHWP-1	CHILLED WATER	CENTRIFUGAL	607	125	4	3	12.60	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-4X3X13L
CHWP-2	CHILLED WATER	CENTRIFUGAL	607	125	4	3	12.60	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-4X3X13L
CHWP-3	CHILLED WATER	CENTRIFUGAL	607	125	4	3	12.60	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-4X3X13L
CHWP-4	CHILLED WATER	CENTRIFUGAL	607	125	4	3	12.60	731	19X48	1780	30	460	3	60	ARMSTRONG 4030-4X3X13L

NOTES:

1. PROVIDE WITH INVERTER DUTY, VFD COMPATIBLE MOTOR.
2. PROVIDE WITH SPRING TYPE VIBRATION ISOLATION.
3. PROVIDE WITH SUCTION DIFFUSER WITH INTEGRAL STRAINER, AT PUMP INLET. PROVIDE ECCENTRIC REDUCER/INCREASER AT PUMP INLET/OUTLET.

UNIT HEATER SCHEDULE															
DESIGNATION	LOCATION	TYPE	kW	ELECTRICAL DATA					HORIZ. AIR THROW (FT)	WIDTH (IN)	HEIGHT (IN)	DEPTH (IN)	WEIGHT (LB)	BASIS OF DESIGN	NOTES
				MOTOR HP	VOLTS	PH	AMPS	RPM							
UH-2	CWPD2	ELECTRIC, SUSPENDED	10.0	1/30	480	3	12	1600	18	19.00	21.75	8.50	36.00	BERKO HUHA01048	1-4
UH-3	CWPD2	ELECTRIC, SUSPENDED	10.0	1/30	480	3	12	1600	18	19.00	21.75	8.50	36.00	BERKO HUHA01048	1-4


NOTES:

1. UNIT INSTALLED MOTOR STARTER.
2. DISCONNECT: FACTORY INSTALLED.
3. WALL/CEILING MOUNTED BRACKET.
4. WALL MOUNT THERMOSTAT KIT, SET POINT 50°F.

EXISTING COOLING TOWER SCHEDULE															
DESIGNATION	SERVICE	TYPE	GPM	EWT (°F)	LWT (°F)	AMB. AIR WET BULB TEMP	FAN							OPERATING WEIGHT (LBS)	BASIS OF DESIGN
							NO.	CFM (EACH)	NO. OF MOTORS	HP	V	PH	HZ		
(E) CT-1	CONDENSER WATER	AXIAL	990	95.0	85.0	78.0	1	103700	1	20	460	3	60	18890	BAC 3412C-MM
(E) CT-2	CONDENSER WATER	AXIAL	990	95.0	85.0	78.0	1	103700	1	20	460	3	60	18890	BAC 3412C-MM

NOTES:

1. SEPARATE STARTER PANELS FURNISHED FOR FIELD MOUNTING.
2. PROVIDE DIRECT DRIVE FAN WITH INVERTER DUTY MOTORS.
3. COOLING TOWER FAN MOTORS SHALL BE RATED VFD COMPATIBLE.
4. PROVIDE WITH NEW LOUVERS FOR EXISTING COOLING TOWERS.
5. PROVIDE WITH NEW PLASTIC FILL FOR EXISTING COOLING TOWERS.

DESIGNED <u>B. VISWANATHAN</u> 07/26/17 DATE	REFERENCE DRAWINGS		REVISIONS				<div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div>APPROVED <i>Mark H. Magnusson</i> 03/2018 MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP DATE</div><div>APPROVED <i>Gabe Spiller</i> 03/2018 GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER DATE</div></div> <td colspan="6">REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPD2 - FEDERAL CENTER SW (D04) MECHANICAL EQUIPMENT SCHEDULES - SHEET 1 OF 2</td>	REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPD2 - FEDERAL CENTER SW (D04) MECHANICAL EQUIPMENT SCHEDULES - SHEET 1 OF 2					
	NUMBER	TITLE	DATE	NUM	DESCRIPTION			M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.	
			03/30/2018	0	FINAL CONTRACT DRAWINGS			M1304	FQ-18102	NONE	CWPD2-M-600	82 of 173	
DRAWN <u>K. STOCKINGER</u> 07/26/17 DATE													
CHECKED <u>R. SILVA</u> DATE													

CHILLED WATER PLANT SEQUENCE OF OPERATION:

GENERAL FOR CHILLER PLANT CWP2 – FEDERAL CENTER SW (D04)

THE CHILLER PLANT CONSISTS OF TWO (2) CHILLERS WITH TWO (2) VARIABLE CAPACITY COMPRESSORS EACH, TWO (2) COOLING TOWERS WITH ONE (1) VARIABLE SPEED FAN EACH, TWO (2) DUTY CHILLED WATER PUMP, TWO (2) STANDBY CHILLED WATER PUMP, TWO (2) DUTY CONDENSER WATER PUMP, AND TWO (2) STANDBY CONDENSER WATER PUMP.

THE CHILLER PLANT IS DESIGNED FOR CONSTANT FLOW (GPM) FOR CHILLED WATER AND CONDENSER WATER.

CHILLED WATER PUMPS CHWP–1, CHWP–2 AND CONDENSER WATER PUMPS CWP–1, CWP–2 ARE ASSOCIATED WITH CH–1, CT–1. CHILLED WATER PUMPS CHWP–3, CHWP–4 AND CONDENSER WATER PUMPS CWP–3, CWP–4 ARE ASSOCIATED WITH CH–2, CT–2.

THE CHILLER PLANT OPERATION SHALL BE PROGRAMMABLE.

DURING THE COOLING SEASON, THE CHILLERS OPERATE CONTINUOUSLY DURING DAY AND NIGHT IN AUTOMATIC MODE.

THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT (42°F) IS SET TO THE CHILLER PLANT DESIGN TEMPERATURE AND THE SETPOINT TEMPERATURE CAN BE MANUALLY RESET BY THE OPERATOR. THE ENTERING CONDENSER WATER TEMPERATURE SHALL BE 85°F.

THE CHILLED WATER SYSTEM ENABLE POINT IS CONTROLLED EITHER MANUALLY BY THE OPERATOR OR PROGRAMMABLE. IF THE CHILLED WATER SYSTEM ENABLE POINT IS ON AND THERE IS A CALL FOR COOLING (I.E. THE CHILLED WATER RETURN TEMPERATURE EXCEEDS 55°F):

1. CHILLED WATER PUMP (CHWP–1, CHWP–3 OR CHWP–2, CHWP–4) AND CONDENSER WATER PUMP (CWP–1, CWP–3 OR CWP–2, CWP–4), WHICH ARE MANUALLY SELECTED BY THE PLANT OPERATOR, SHALL START. THE PUMPS SHALL OPERATE FOR CONSTANT WATER FLOW. THE ASSOCIATED VARIABLE FREQUENCY DRIVES SHALL BE UTILIZED TO ADJUST PUMP SPEED FOR DESIGN FLOW RATE AND SET.
2. THE CHILLER START OR STOP POINT SHALL TURN ON.
3. AFTER CHILLED WATER AND CONDENSER WATER FLOW ARE VERIFIED VIA FLOW SWITCHES, THE CHILLER SHALL OPERATE UNDER ITS OPERATING AND SAFETY CONTROLS. THE CHILLER’S INTEGRATED VARIABLE FREQUENCY DRIVE SHALL ADJUST ITS CAPACITY IN ORDER TO MAINTAIN THE CHILLER’S CHILLED WATER SUPPLY TEMPERATURE SETPOINT.

THE CHILLER STOP SEQUENCE SHALL INITIALLY STOP THE CHILLER. AFTER A TIME DELAY (ADJUSTABLE), THE CONDENSER WATER PUMP AND THE CHILLED WATER PUMP SHALL STOP.

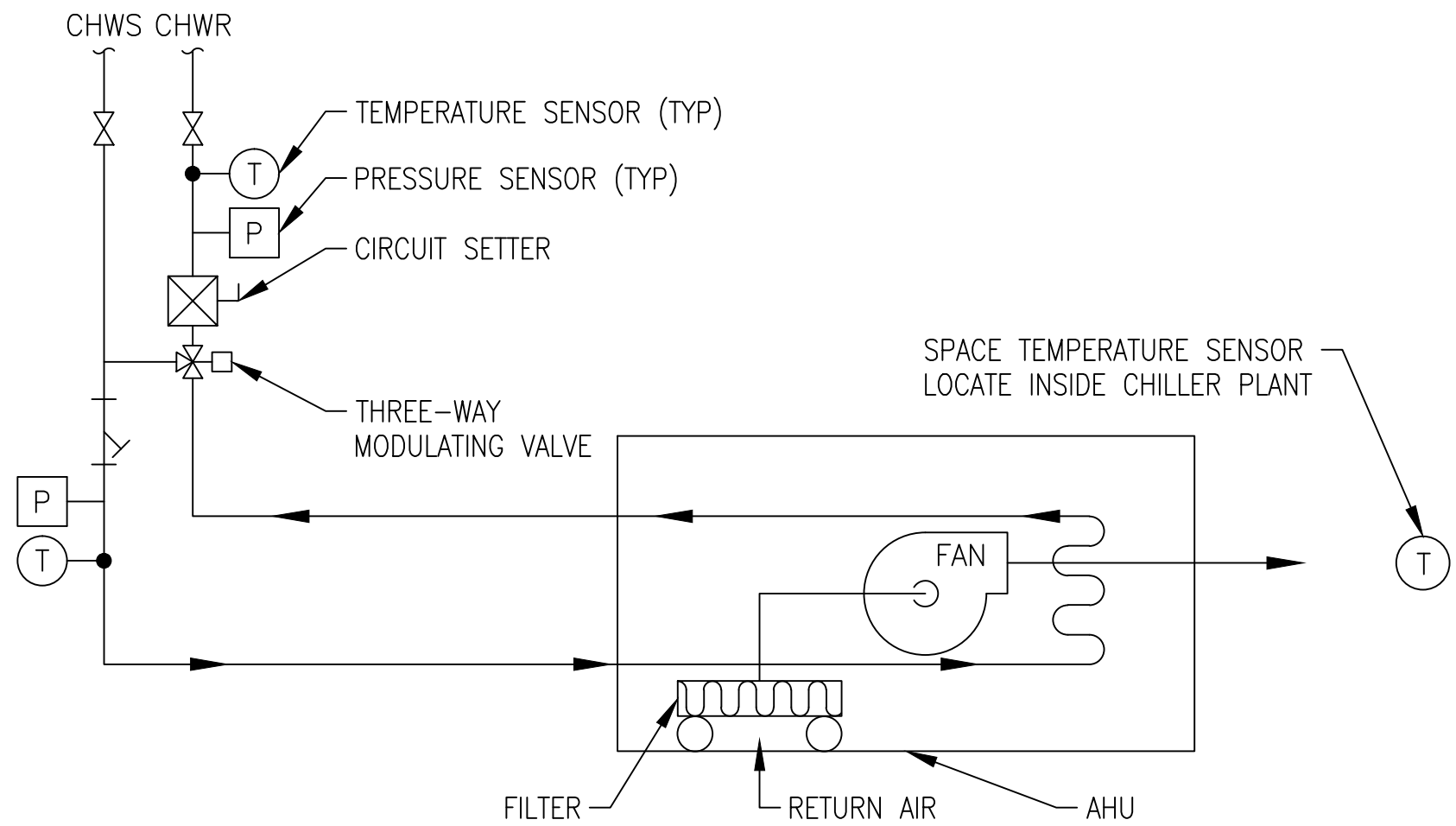
THE CORRESPONDING COOLING TOWER SHALL BE ENABLED WHEN THE CONDENSER WATER PUMP IS OPERATING. WHEN THE CONDENSER WATER SUPPLY TEMPERATURE INCREASES FROM THE SET POINT (TYPICALLY 85°F, ADJUSTABLE), THE COOLING TOWER FAN SHALL START AT LOW SPEED. THE FAN SPEED SHALL BE INCREASED OR DECREASED BY THE VARIABLE FREQUENCY DRIVE IN ORDER TO MAINTAIN THE CONDENSER WATER SUPPLY TEMPERATURE SETPOINT.

THE COOLING TOWER CONTROL PANEL SHALL CONTROL THE OPERATION OF THE COOLING TOWER BASED ON THE SEQUENCE.

THE DESIRED STATE OF THE PUMPS (I.E. ON OR OFF) SHALL BE CONFIRMED FROM THEIR ASSOCIATED VARIABLE FREQUENCY DRIVES. AN ALARM STATUS SHALL BE GENERATED IF THE STATUS DEVIATES FROM START OR STOP CONTROL.

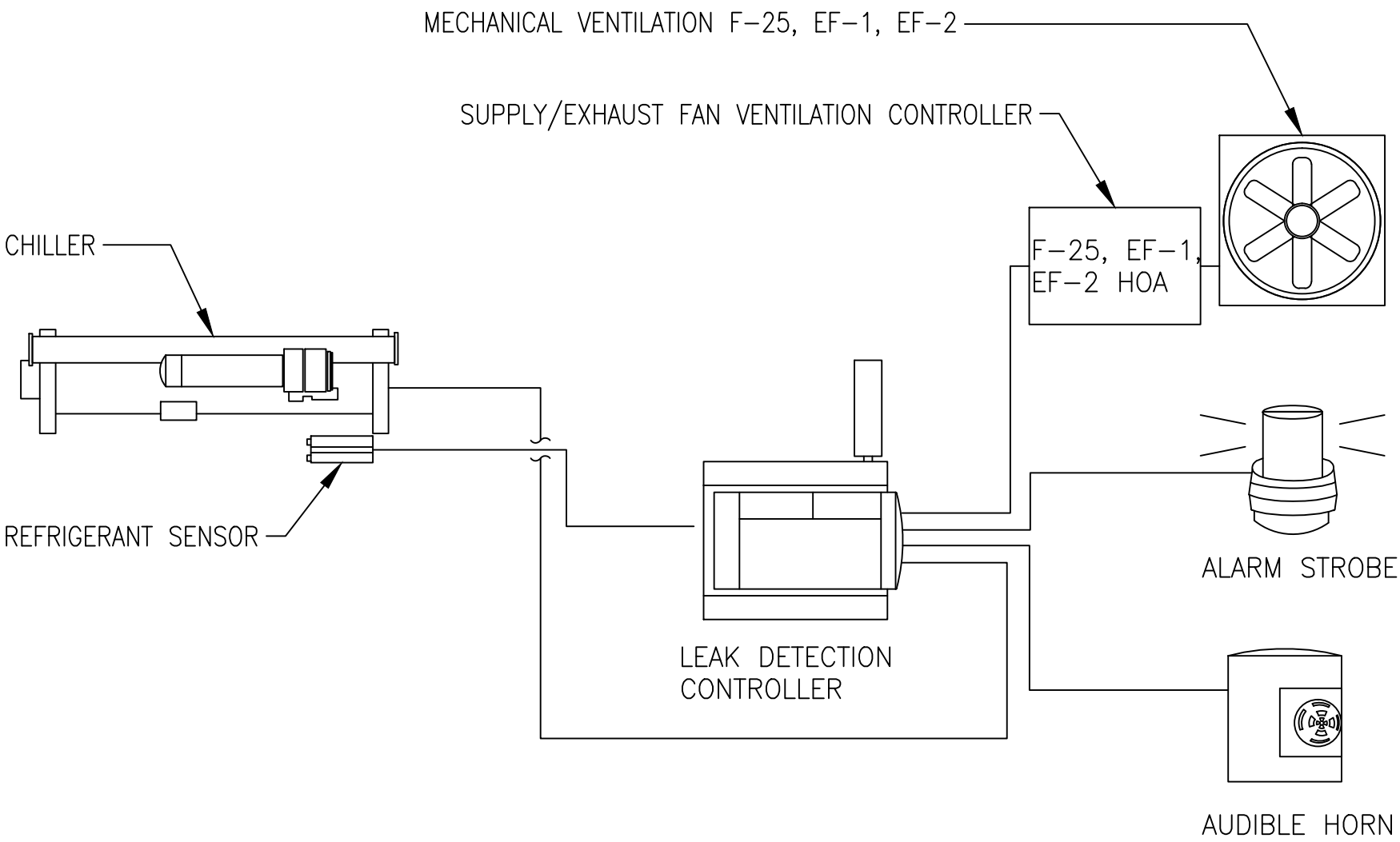
CHILLER EMERGENCY SHUTDOWN:

CHILLER EMERGENCY SHUTDOWN SHALL BE ENABLED THROUGH THE CHILLER MONITORING PANEL.



AIR HANDLING UNIT (AHU–1) SEQUENCE OF OPERATION:

THE AHU FAN AND THE CHILLED WATER FLOW CONTROL VALVE SHALL BE CONTROLLED BY THE SPACE TEMPERATURE SENSOR VIA THE PRODUCTIVITY 3000, PAC AT THE CHILLER PLANT MONITORING PANEL. WHEN THE SPACE TEMPERATURE RISES ABOVE 82°F, THE FCU FAN SHALL BE STARTED. THE THREE WAY VALVE SHALL CONTROL THE CHILLED WATER FLOW TO MAINTAIN THE SPACE SETPOINT TEMPERATURE OF 80°F. WHEN THE SPACE TEMPERATURE FALLS BELOW 78°F, THE AHU FAN SHALL TURN OFF. UPON ACTIVATION OF THE SUPPLY FAN (F–25) AND EXHAUST FANS (EF–1, EF–2), THE AHU SHALL SHUT DOWN.



MECHANICAL REFRIGERANT ALARM SYSTEM SEQUENCE OF OPERATION:

NORMAL OPERATION:

1. PROVIDE A LOCAL HAND–OFF–AUTOMATIC (HOA) SWITCH INSIDE THE CHILLER PLANT FOR FAN TEST AND INCIDENTAL FAN OPERATION. THE LOCAL FAN HOA SWITCH SHALL INTEGRATE WITH A 1–HOUR TIMER (ADJUSTABLE).
2. IN AUTOMATIC MODE, EF–1, EF–2, AND F–25 SHALL OPERATE FOR REFRIGERANT LEAK PURGING AS DESCRIBED IN THE SEQUENCE.
3. F–25 AND EF–1, EF–2 SHALL BE INTERLOCKED WITH THE ASSOCIATED EXHAUST AIR MOTORIZED DAMPERS. AS THE FANS ARE CALLED FOR OPERATION, THE DAMPER END LIMIT SWITCHES SHALL BE PROVED OPEN BEFORE THE FANS ARE ENERGIZED.
4. F–25, EF–1, AND EF–2 SHALL BE INTERLOCKED AND OPERATE WHEN THE INSIDE SPACE TEMPERATURE OF THE SPACE REACHES 90°F.
5. DURING NORMAL OPERATION, TWO–SPEED FANS SHALL OPERATE AT LOW–SPEED MINIMUM FLOW OF 1,000 CFM (NOMINAL).

REFRIGERANT LEAK PURGING OPERATION:

1. REFRIGERANT INFRARED GAS SENSOR SHALL MONITOR FOR R–134A LEVELS.
2. WHEN 250 PPM IS DETECTED, THE FIRST ALARM LEVEL (LOW) SHALL STAGE THE MECHANICAL VENTILATION. F–25 AND EF–1, EF–2 SHALL BE SET TO RUN AT LOW–SPEED MINIMUM FLOW OF 1,000 CFM (NOMINAL), AND THE WARNING STROBE LIGHT (AMBER) SHALL BE ACTIVATED.
3. WHEN 500 PPM IS DETECTED, THE SECOND ALARM LEVEL (HIGH) SHALL STAGE THE MECHANICAL VENTILATION. F–25 AND EF–1, EF–2 SHALL BE SET TO RUN AT MAXIMUM EXHAUST FLOW OF 5,000 CFM (NOMINAL), AND THE WARNING STROBE LIGHT (AMBER) AND AUDIBLE ALARM HORN SHALL BE ACTIVATED.
4. ALARM STATUS SHALL BE CONTINUOUSLY COMMUNICATED VIA THE REMOTE COMMUNICATIONS SOFTWARE.

GENERAL:

1. PROVIDE NEW SUPPLY FAN AND EXHAUST FAN VENTILATION CONTROLLER FOR F–25 AND EF–1, EF–2. VENTILATION CONTROLLER SHALL BE PROVIDED WITH INPUT AND OUTPUT FOR OPERATION WITH THE REFRIGERANT MONITORING PANEL AND THERMOSTAT, PER THE SEQUENCE OF OPERATION.

ALARM CONDITIONS:

GENERAL:

SEND ALL EQUIPMENT STATUS AND ALARM CONDITIONS TO CHILLER PLANT CONTROL PANEL WITHIN THE CHILLER PLANT. REFER TO CHILLER SPECIFICATION 15625 FOR ALL THE CHILLER, PUMP RELATED ANALOG POINT, STATUS POINT, CONTROL POINT, AND ALARM POINT REQUIREMENTS. PROVIDE CAPABILITY FOR THE CONTROL POINTS TO BE CONNECTED TO THE AEMS SYSTEM. IN ADDITION TO THE ABOVE, ALSO PROVIDE THE FOLLOWING:

HAND/OFF/AUTO:

CHILLER PLANT AHU
CHILLER PLANT EXHAUST/SUPPLY FANS
CHILLER PLANT UNIT HEATERS

EQUIPMENT STATUS WITH VISUAL INDICATING LAMPS (ON/OFF/FAULT):

CHILLER PLANT AHU
CHILLER PLANT EXHAUST/SUPPLY FANS
CHILLER PLANT UNIT HEATERS

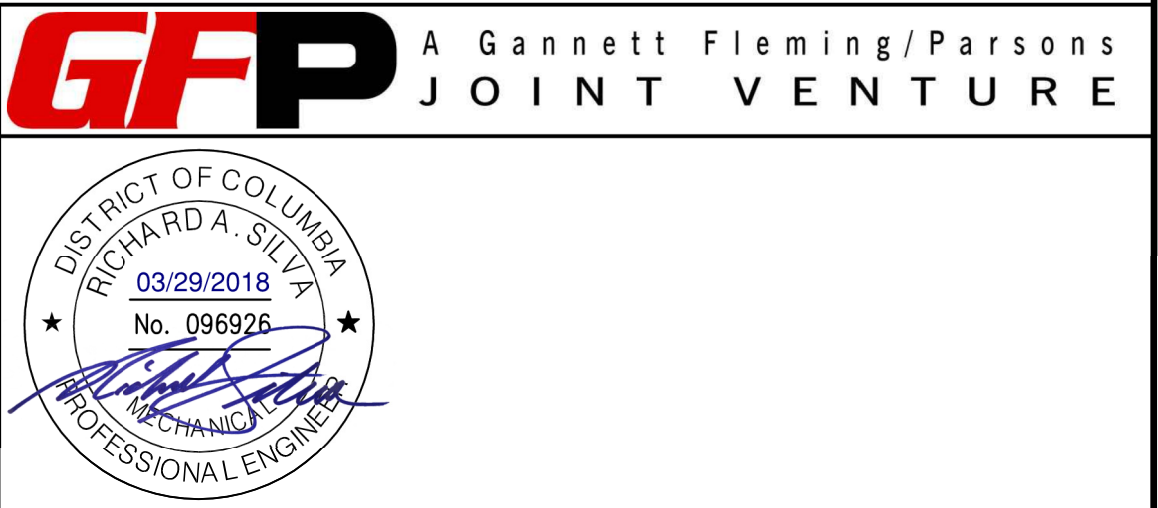
ALARMS:

FAN FAILURE ALARM (AHU, EXHAUST/SUPPLY FANS): INITIATE AN ALARM UPON SENSING A LOSS OF POWER FROM THE CURRENT SENSOR WHEN THE UNITS ARE COMMANDED TO RUN.

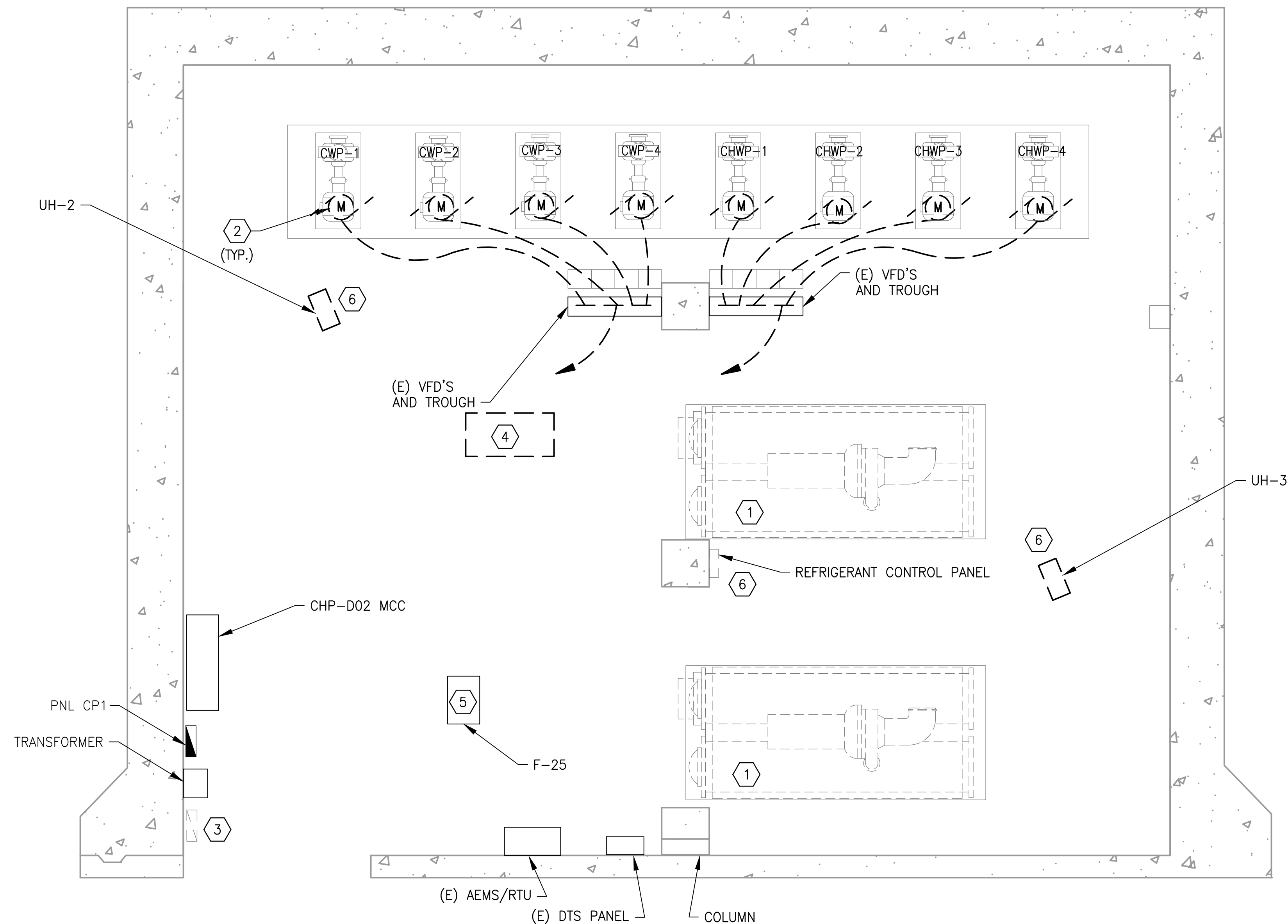
HIGH TEMPERATURE ALARM: INITIATE AN ALARM WHEN THE SPACE TEMPERATURE RISES ABOVE SETPOINT. INITIAL SET POINT SHALL BE 90 DEG F (ADJUSTABLE).

LOW TEMPERATURE ALARM: INITIATE AN ALARM WHEN THE SPACE TEMPERATURE FALLS BELOW SETPOINT. INITIAL SETPOINT SHALL BE 45 DEG F (ADJUSTABLE).

UNIT COMMON ALARM: INITIATE AN ALARM UPON RECEIVING A COMMON ALARM FROM THE UNIT FACTORY CONTROLS OF THE AHU. THIS INCLUDES THE FILTER CHANGE ALARM.



DESIGNED K. STOCKINGER 07/26/17 DATE			REFERENCE DRAWINGS		REVISIONS			<div><div><div>M</div><div>metro</div></div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div><div>APPROVED <i>Mark H. Magnusen</i> 03/2018</div><div>MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div></div><div><div>APPROVED <i>Gabe Spiller</i> 03/2018</div><div>GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div><div>DATE</div></div></div>		REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWP22 - FEDERAL CENTER SW (D04) MECHANICAL SEQUENCE OF OPERATION				
			NUMBER	TITLE	DATE	NUM	DESCRIPTION			M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
DRAWN K. STOCKINGER 07/26/17 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS							
CHECKED R. SILVA 03/23/18 DATE														



- KEYNOTES:**
- 1 EXISTING CHILLER STARTER EQUIPMENT TO BE DEMOLISHED.
 - 2 EXISTING PUMP MOTORS TO BE DEMOLISHED BY MECHANICAL.
 - 3 EXISTING PANEL CP2 TO BE DEMOLISHED.
 - 4 EXISTING AHU TO BE DEMOLISHED.
 - 5 EXISTING F-25 FAN TO BE DEMOLISHED.
 - 6 EXISTING UH AND REFRIGERANT CONTROL PANEL TO BE DEMOLISHED.
- SHEET NOTES:**
- 1. ALL SHOWN EQUIPMENT IS EXISTING TO REMAIN UNLESS SHOWN OTHERWISE.
 - 2. REMOVE AND DISPOSE OF DEMOLISHED EQUIPMENT ALONG WITH ASSOCIATED CONDUITS AND WIRING.

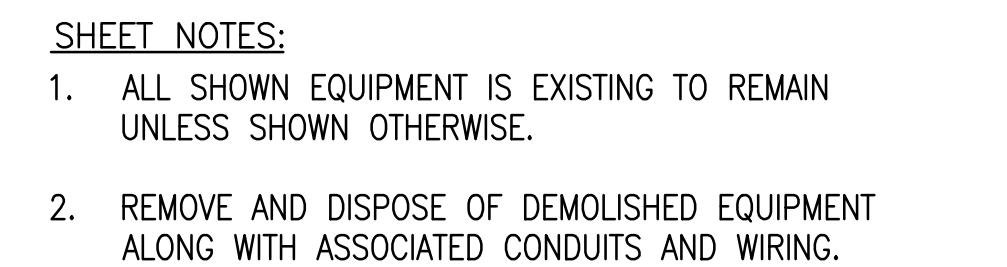
1 ELECTRICAL PLAN - DEMOLITION (CHILLER ROOM)
CWP2-E-100

SCALE: 1/4" = 1'-0"

GFP A Gannett Fleming/Parsons
JOINT VENTURE

DISTRICT OF COLUMBIA
UDAYAN KHAN
No. 8758
03/29/2018
LICENSED
PROFESSIONAL ENGINEER

DESIGNED <u>B. IDILBI</u> 09/30/17 DATE			REFERENCE DRAWINGS		REVISIONS			<div><div><div>M</div><div>metro</div></div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div><div>APPROVED <i>Mark H. Magnusson</i> 03/2018</div><div>MARK MAGNUSSON MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div><div>APPROVED <i>Gabe Spiller</i> 03/2018</div><div>GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div><div>DATE</div></div></div>				REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWP2D - FEDERAL CENTER SW(D04) ELECTRICAL PLAN - DEMOLITION				
			NUMBER	TITLE	DATE	NUM	DESCRIPTION									
DRAWN <u>J. ZHU</u> 09/30/17 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS									
CHECKED <u>D. KHAN</u> 03/23/18 DATE																



DESIGNED <u>B. IDILBI</u> 09/30/17 DATE			REFERENCE DRAWINGS		REVISIONS			<div><div>M</div><div>metro</div></div> <div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div> <div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div> <div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div> <div>APPROVED <u>Mark H. Magnusson</u> 03/2018 DATE MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div> <div>APPROVED <u>Graham Spiller</u> 03/2018 DATE GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div>		REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPD2 - FEDERAL CENTER SW(D04) ELECTRICAL PLAN - DEMOLITION						
			NUMBER	TITLE	DATE	NUM	DESCRIPTION			M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.		
DRAWN <u>J. ZHU</u> 09/30/17 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS									
CHECKED <u>D. KHAN</u> 03/23/18 DATE																