

1. FOR EQUIPMENT TO BE DEMOLISHED: ALL EXISTING CONDUIT EXCEPT FOR COOLING TOWER AND ALL WIRING SHALL BE REMOVED. PERMISSION TO USE EXISTING CONDUIT (WIRES REMOVED) SHALL BE REQUIRED FROM WMATA ENGINEER.

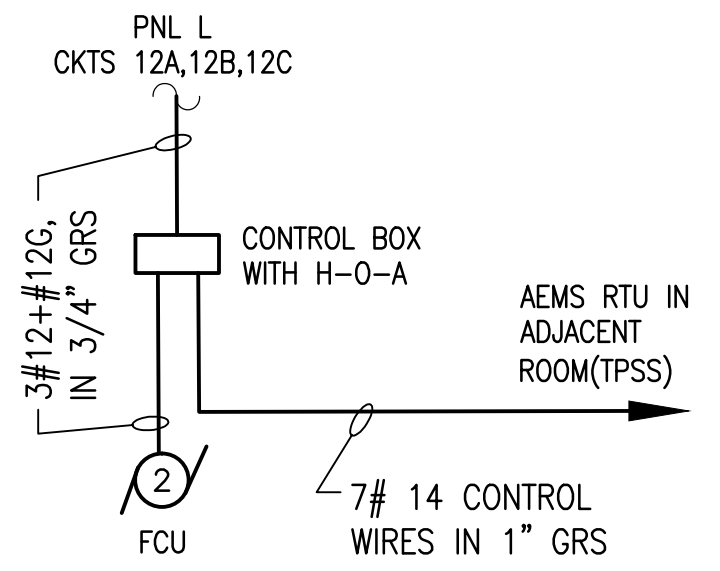
① EXISTING CIRCUIT BREAKER TO BE REMOVED.

**GFP** A Gannett Fleming/Parsons  
JOINT VENTURE

[illegible]

1. PROVIDE NEW CIRCUIT BREAKERS WITH GROUND FAULT PROTECTION IN EXISTING MCC/SWITCHBOARD.

- ① LINE AND LOAD REACTORS FOR EACH VFD SHALL BE MOUNTED IN A SINGLE NEMA 4X ENCLOSURE
- ② RUN NEW RGS FROM VFD'S AND STOP AT CONVENIENT PLACE NEAR MOTOR. CONTINUE WITH LTFC TO MOTOR.



**B ELECTRICAL SINGL LINE DIAGRAM - NEW WORK**  
CWPK1-E-602

[illegible]



PANEL: LA																									
MAIN BUS: 100A 208/120 VOLT ENCLOSURE: NEMA 1							MAIN DEVICE: 50A 3 PHASE, 4 WIRE + GROUND MOUNTING: SURFACE							NEUTRAL BUS: 100% RMS AIC: 10,000A LOCATION: CHILLER ROOM											
LOAD DESCRIPTION	LOAD VA	WIRE CKT/GND	RCWY SIZE	C/B TRIP	PL	CKT NMBR	PHASE KVA			CKT NMBR	C/B TRIP	RCWY SIZE	WIRE GND/CKT	LOAD VA	LOAD DESCRIPTION										
RECEPTS- VENT SHAFT	300	12	12	3/4"	30	1	1	1300			2	1	20	3/4"	10	10	1000	RECEPTACLES							
UNIT HEATER CONTROL POWER	-	12	12	3/4"	30	1	3		600		4	1	20	3/4"	12	12	600	RECEPTACLES							
RECEPTACLES	200	12	12	3/4"	20	1	5			1200	6	1	20	3/4"	12	12	1000	TCC #1 &C.M. #1							
SPARE	-	-	-	-	20	1	7	1000			8	1	20	3/4"	12	12	1000	TCC #2 &C.M. #2							
RECEPTACLES	700	12	12	3/4"	20	1	9		700		10	1	20	3/4"	12	12	-	HONEYWELL CONTROLS							
LIGHTS- FAN SHAFT	700	12	12	3/4"	20	1	11			700	12	1	20	-	-	-	-	SPARE							
LIGHTS- FAN SHAFT	700	12	12	3/4"	20	1	13	1200			14	1	20	3/4"	12	12	500	APPAR.CONTROL PANEL							
HEAT TRACE TAPE	1000	12	12	3/4"	20	1	15		1000		16	1	20	3/4"	12	12	-	AEM & RTU							
HONEYWELL	-	12	12	3/4"	20	1	17		-		18	1	20	3/4"	12	12	-	SWITCHGEAR HEATER							
NEUTRAL SITE GPS	-	12	12	3/4"	20	1	19	-			20	1	20	-	-	-	-	SPARE							
CONDENSER WATER TREATMENT PACKAGE	-	12	12	3/4"	20	1	21		-		22	1	20	3/4"	12	12	-	CHILLER PLANT MONITORING PANEL							
FLOW MONITORING PANEL	-	12	12	3/4"	20	1	23		-		24	1	20	3/4"	12	12	-	INSTANTANEOUS WATER HEATER							
UNIT(FCU) FOR COOLING	-	12	12	3/4"	20	1	25	-			26														
CONDENSER WATER TREATMENT PACKAGE	-	12	12	3/4"	20	1	27		-		28	3	50	1¼"	10	6	-	MAIN							
SPARE	-	-	-	-	20	1	29			-	30														
NOTES:											CONNECTED LOAD: 9,812VA														
											DEMAND LOAD: 9,812VA														

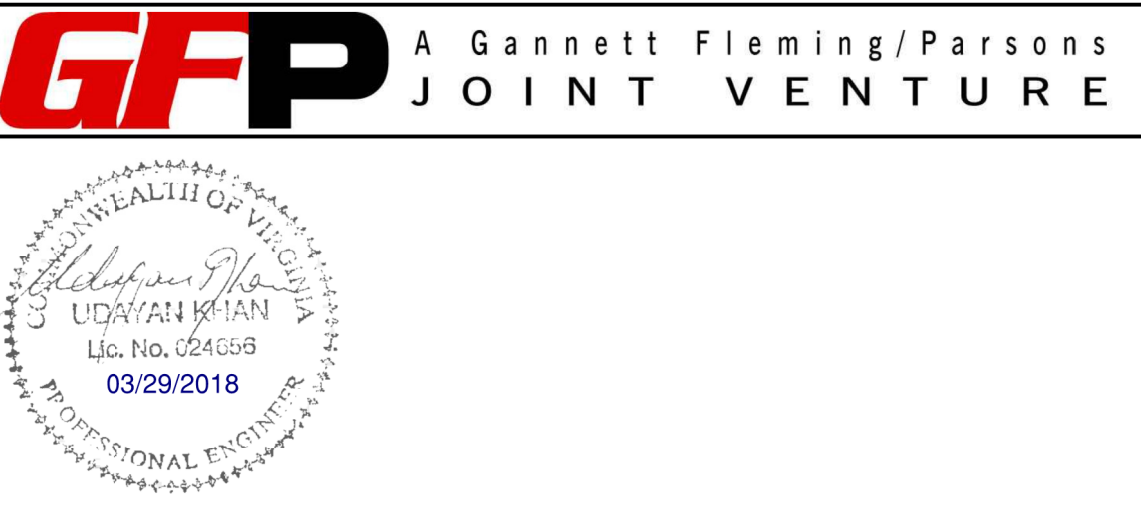
MOTOR CONTROL CENTER: CHILLER 800 AMPS, 480/277V, 3Ø, 4W, GND BUS										LOCATION: CHILLER PLANT AVAILABLE SHORT CIRCUIT: 28,000 AMPS RMS SYM ENCLOSURE TYPE: NEMA 12									
SEC. NO.	ITEM NO.	CIRCUIT BREAKER			MCP CONTIN. RATING AMP.	CONNECTED LOAD KVA	HP OR KW	DESCRIPTION	CONTROL DIAGRAM DWG NO.	ELEVATION									
		POLES	FRAMES AMP.	TRIP AMP.						SECTION 1	SECTION 2	SECTION 3	SECTION 4						
1	1A	3	—	—	—	—	—	MAIN LUGS		<div><div></div><div>1A2A3A4A 1B2B3B4B 1C2C3C4C 1D2D3D4D 1E2E3E4E</div><div>MANUFACTURER: CULTER-HAMMER FREEDOM SERIES 2100</div></div>									
	1B	—	—	—	—	—	—	SPACE											
	1C	—	—	—	—	—	—	SPACE											
2	1D	3	100	80	—	—	25HP	CHILLER WATER PUMP FEEDER											
	2A	3	100	100	—	—	—	480 V WELDER											
	2B	—	—	—	—	—	—	SPACE											
	2C	3	100	80	—	—	25HP	CHILLER WATER PUMP FEEDER											
	2D	3	100	80	—	—	25HP	CHILLER WATER PUMP FEEDER											
	2E	3	100	80	—	—	25HP	CHILLER WATER PUMP FEEDER											
3	2F	—	—	—	—	—	—	SPACE											
	3A	3	100	50	—	—	—	TOWER FAN CHILLER #1											
	3B	3	100	60	—	—	20HP	COOLING TOWER 1B FAN											
	3C	3	100	60	—	—	20HP	COOLING TOWER 1A FAN											
	3D	3	100	7	—	100	2HP	FAN #21											
4	3F	3	100	7	—	100	2HP	FAN #22											
	3E	—	—	—	—	—	—	SPACE											
	4A	3	100	100	—	—	30HP	CONDENSER WATER PUMP											
	4B	3	100	100	—	—	30HP	CONDENSER WATER PUMP											
	4C	3	100	100	—	—	30HP	CONDENSER WATER PUMP											
	4D	3	100	100	—	—	30HP	CONDENSER WATER PUMP											
	4E	—	—	—	—	—	—	SPACE											
	4F	—	—	—	—	—	—	SPACE											

ELECTRICAL EQUIPMENT SCHEDULE		
ITEM	QTY	DESCRIPTION
1	2	MCC BUCKET TO MATCH EXISTING WITH 60AT/100AF BREAKER
2	4	MCC BUCKET TO MATCH EXISTING WITH 80AT/100AF BREAKER
3	4	MCC BUCKET TO MATCH EXISTING WITH 100AT/100AF BREAKER
4	1	AC DISTRIBUTION PANEL, 100A, 208/120V AC
5	4	REACTOR/FILTER 480V, 3PH, 27A, 20HP, 60HZ, NEMA 4X ENCLOSURE
6	8	REACTOR/FILTER 480V, 3PH, 34A, 25HP, 60HZ, NEMA 4X ENCLOSURE
7	8	REACTOR/FILTER 480V, 3PH, 40A, 30HP, 60HZ, NEMA 4X ENCLOSURE
8	2	VFD,480V, 3PH, 20HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND REACTOR/FILTERS
9	4	VFD,480V, 3PH, 25HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND REACTOR/FILTERS
10	4	VFD,480V, 3PH, 30HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND REACTOR/FILTERS
11	LOT	#1 AWG RHW-2 WIRE (VFD RATED)
12	LOT	#1 AWG RHW-2 WIRE
13	LOT	#2 AWG RHW-2 WIRE (GND)
14	LOT	#3 AWG RHW-2 WIRE (VFD RATED)
15	LOT	#3 AWG RHW-2 WIRE
16	LOT	#4 AWG RHW-2 WIRE (VFD RATED)
17	LOT	#4 AWG RHW-2 WIRE
18	LOT	#8 AWG RHW-2 WIRE (GND)
19	LOT	#10 AWG RHW-2 WIRE (GND)
20	LOT	#12 AWG RHW-2 WIRE
21	LOT	#4/0 RHW-2 WIRE
22	LOT	3/4" GRS CONDUIT
23	LOT	1" GRS CONDUIT
24	LOT	1-1/2" GRS CONDUIT
25	LOT	1-1/2" LTFC

26	LOT	2-1/2" GRS CONDUIT
27	LOT	4" GRS CONDUIT
28	2	SWBD POWER CIRCUIT BREAKER TO MATCH EXISTING 450AT/800AF

SHEET NOTE:

1. PROVIDE 20A SINGLE POLE, CIRCUIT BREAKER TO MATCH EXISTING AND WIRE NEW LOAD.
2. PROVIDE NEW, 20A, 3POLE, CIRCUIT BREAKER AND INSTALL IT IN PANEL L CKTS 12A,12B,12C. WIRE FCU CONTROL BOX TO IT.



DESIGNED B. IDILIBI 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>APPROVED <i>Mark H. Magnusson</i> 03/2018 MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div><div>APPROVED <i>Gabe Spiller</i> 03/2018 GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div><div>DATE</div></div> <th colspan="5">REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPK1 - CLARENDON (K02) ELECTRICAL EQUIPMENT AND PANEL SCHEDULE</th>		REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPK1 - CLARENDON (K02) ELECTRICAL EQUIPMENT AND PANEL SCHEDULE						
			NUMBER	TITLE	DATE	NUM	DESCRIPTION			M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.		
DRAWN J. ZHU 09/30/17 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS									
CHECKED D. KHAN 03/23/18 DATE																

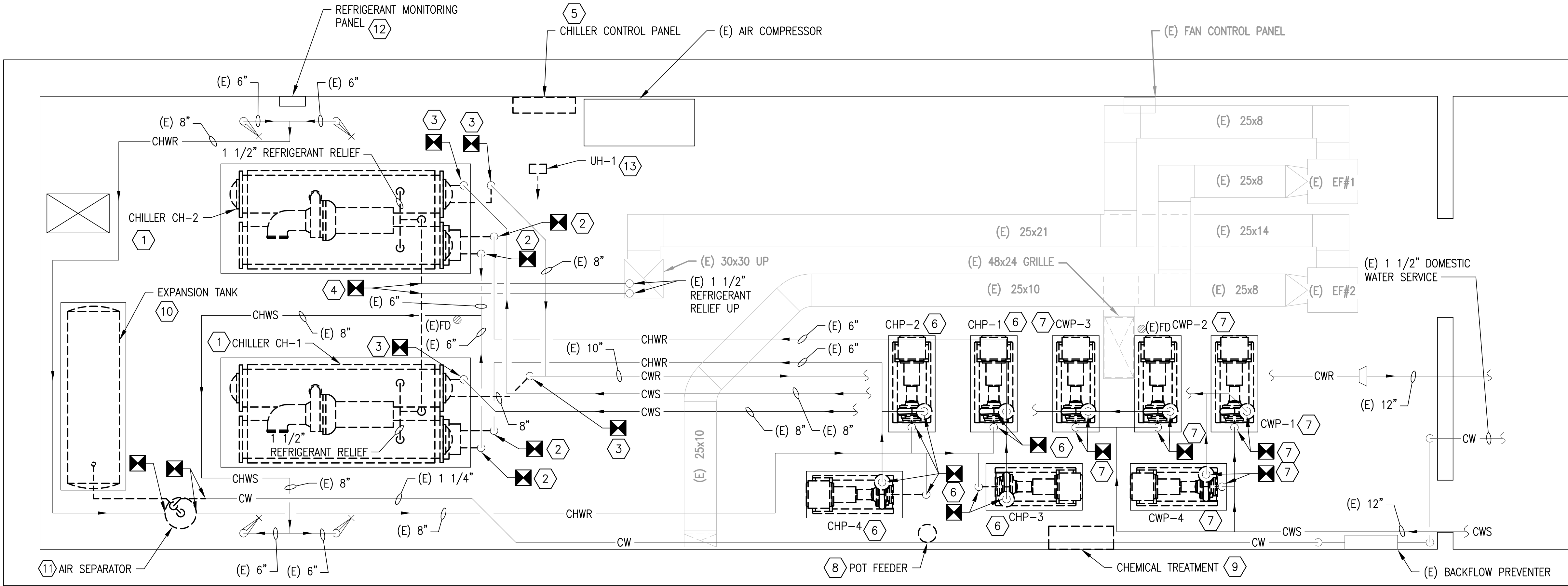


GENERAL NOTES:

- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.

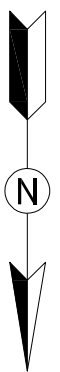
KEYNOTES:

- 1 REMOVE AND DISPOSE OF CHILLER, CHILLER SUPPORT, STARTER, WIRING, CONDUIT, JUNCTION AND PULL BOXES, DISCONNECT, AEMS SENSORS, AND CONTROLS. REMOVAL SHALL INCLUDE R-134a EVACUATION BY A CERTIFIED COMPANY. RECOVERED REFRIGERANT SHALL BE CLEANED AND RETURNED TO WMATA PLANT MAINTENANCE IN 125 POUND BULLET CONTAINERS.
- 2 REMOVE AND DISPOSE OF CHILLED WATER PIPING (CHWS, CHWR), SUPPORT, TEMPERATURE AND PRESSURE GAUGES. REMOVE PIPING TO AND FROM CHILLER INCLUDING ISOLATION VALVES. EXACT DEMOLITION POINT SHALL BE FIELD COORDINATED BY CONTRACTOR TO ACCOMMODATE NEW PIPING CONNECTIONS.
- 3 REMOVE AND DISPOSE OF CONDENSER WATER PIPING (CWR, CWS), INSULATION, TEMPERATURE AND PRESSURE GAUGES. REMOVE CONDENSER WATER SUPPLY PIPING FROM THE CHILLER UP TO AND INCLUDING THE ISOLATION VALVE. REMOVE CONDENSER WATER RETURN PIPING FROM VERTICAL ELBOW TO CHILLER. EXACT DEMOLITION POINT SHALL BE FIELD COORDINATED BY CONTRACTOR TO ACCOMMODATE NEW PIPING CONNECTIONS.
- 4 REMOVE EXISTING 1 1/2" REFRIGERANT RELIEF (VENT) PIPING TO EXTENT SHOWN.
- 5 REMOVE AND DISPOSE OF CHILLER CONTROL PANEL.
- 6 REMOVE AND DISPOSE OF CHILLED WATER PUMPS CHP-1, CHP-2, CHP-3 AND CHP-4. REMOVE PIPING AND VALVES INCLUDING THE ISOLATION VALVES, STRAINERS, CHECK VALVES AND BALANCING VALVES UP TO THE PIPE CONNECTION FLANGES. REMOVAL SHALL INCLUDE PUMP, MOTOR, CONTROL AND POWER WIRING AND SPRING ISOLATORS. EXISTING INERTIA BASE AND EQUIPMENT PAD TO REMAIN.
- 7 REMOVE AND DISPOSE OF CONDENSER WATER PUMPS CWP-1, CWP-2, CWP-3 AND CWP-4. REMOVE PIPING AND VALVES INCLUDING THE ISOLATION VALVES, STRAINERS, CHECK VALVES AND BALANCING VALVES UP TO THE PIPE CONNECTION FLANGES. REMOVAL SHALL INCLUDE PUMP, MOTOR, CONTROL AND POWER WIRING. SPRING ISOLATORS. EXISTING INERTIA BASE AND EQUIPMENT PAD TO REMAIN.
- 8 REMOVE AND DISPOSE OF CHEMICAL POT FEEDER & ACCESSORIES FOR CHILLED WATER AND CONDENSER WATER SYSTEM.
- 9 REMOVE AND DISPOSE OF EXISTING CONDENSER WATER TREATMENT SYSTEM (INCLUDING VALVES, PIPING, SUPPORTS, CHEMICAL DRUMS, METERING PUMPS, AND RELATED ELECTRICAL/CONTROL ACCESSORIES).
- 10 REMOVE AND DISPOSE OF EXISTING EXPANSION TANK. TANK SUPPORT SHALL REMAIN AND BE REUSED.
- 11 REMOVE AND DISPOSE OF EXISTING AIR SEPRARTOR. EQUIPMENT SUPPORT SHALL REMAIN AND BE REUSED.
- 12 EXISTING REFRIGERANT MONITORING PANEL. SHOWN HERE FOR REFERENCE. COORDINATE WITH WMATA CONTRACT FQ14114.
- 13 REMOVE AND DISPOSE OF UNIT HEATER INCLUDING WIRING, CONDUIT, JUNCTION AND PULL BOX AND ASSOCIATED THERMOSTAT. REUSE EXISTING SUPPORT.



1 MECHANICAL FLOOR PLAN - DEMOLITION  
CWPK2-M-100

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



**GFP** A Gannett Fleming/Parsons  
JOINT VENTURE



	REFERENCE DRAWINGS		REVISIONS		
	NUMBER	TITLE	DATE	NUM	DESCRIPTION
DESIGNED	M. MCDONNELL	01/26/18			
		DATE	03/30/2018	0	FINAL CONTRACT DRAWINGS
DRAWN	M. MCDONNELL	01/26/18			
		DATE			
CHECKED	D. GHOSAL	03/23/18			
		DATE			



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP

APPROVED *Mark H. Magnusson* 03/2018  
MARK MAGNUSSEN  
MANAGER, ENV. PLANNING AND COMP

APPROVED *Gabe Spiller* 03/2018  
GRAHAM SPILLER  
GFP DEPUTY PROGRAM MANAGER

REPLACEMENT OF CHILLERS  
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS  
CWPK2 - BALLSTON (K04)  
MECHANICAL PLAN - DEMOLITION

M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	1/4" = 1'-0"	CWPK2-M-100	150 of 173

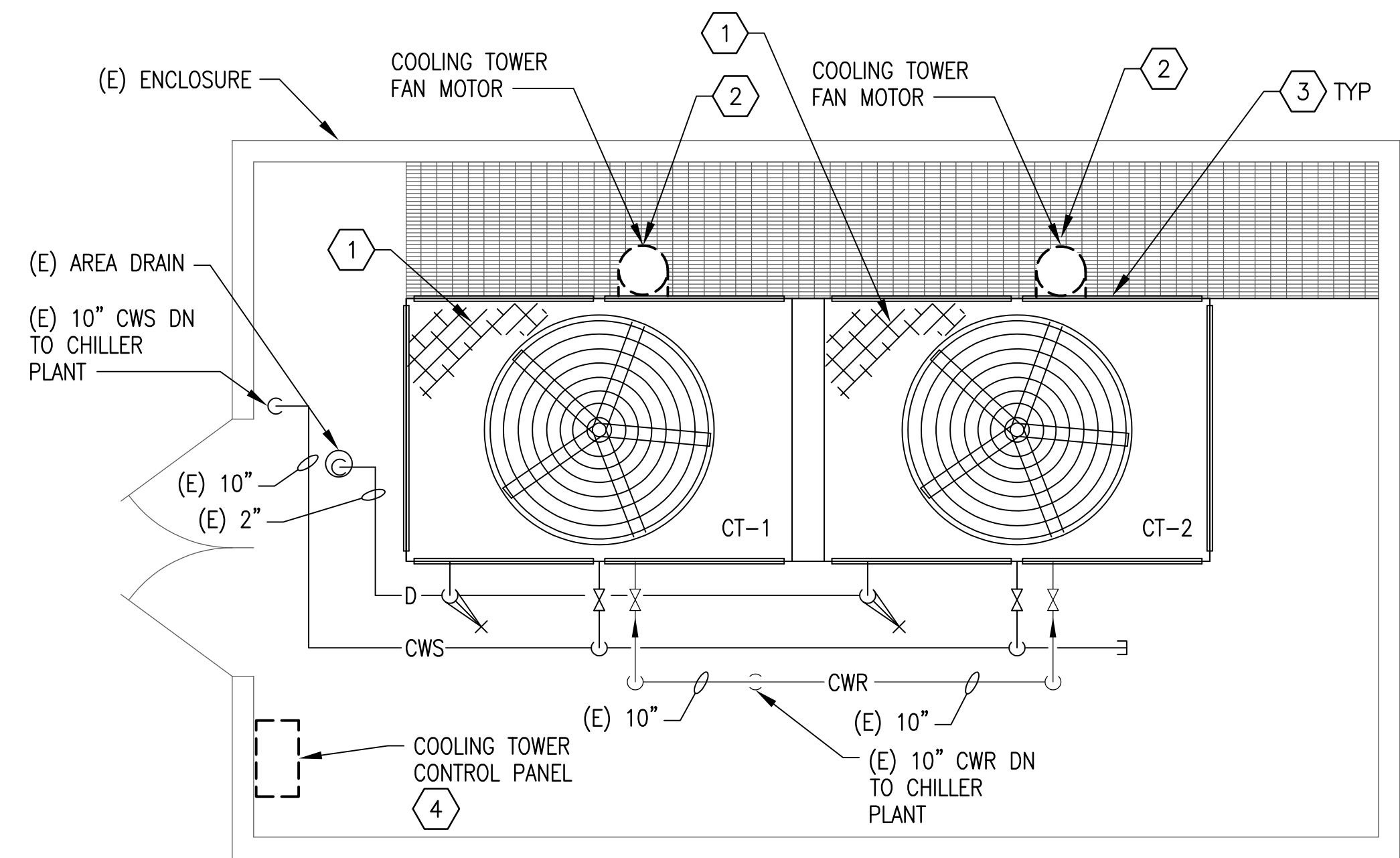
GENERAL NOTES:

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.

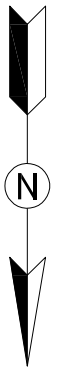
B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.

C. ALL COOLING TOWER COMPONENTS THAT ARE REMOVED ARE TO BE REPLACED IN KIND. INSTALLING CONTRACTOR SHALL COORDINATE WITH COOLING TOWER MANUFACTURER PRIOR TO REMOVAL.

- KEYNOTES:
- 1 REMOVE AND DISPOSE OF EXISTING COOLING TOWER FILL.
  - 2 REMOVE EXISTING FAN MOTOR, BELT DRIVEN FAN DRIVE ASSEMBLY, BELTS, SHEAVES AND MOUNTING HARDWARE.
  - 3 REMOVE AND DISPOSE OF EXISTING LOUVER.
  - 4 REMOVE DISCONNECT AND CONTROLS.



1 MECHANICAL PLAN - DEMOLITION  
CWPk2-M-101  
SCALE: 1/4" = 1'-0"



**GFP** A Gannett Fleming/Parsons  
JOINT VENTURE



<div>DESIGNED <u>M. MCDONNELL</u> 01/26/18 DATE</div> <div>DRAWN <u>M. MCDONNELL</u> 01/26/18 DATE</div> <div>CHECKED <u>D. GHOSAL</u> 03/23/18 DATE</div>	REFERENCE DRAWINGS		REVISIONS			<div><div>M</div>metro</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 MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div> <div>DATE</div> <div>APPROVED <u>Graham Spiller</u> 03/2018 GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div> <div>DATE</div>	REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPk2 - BALLSTON (K04) MECHANICAL PLAN - DEMOLITION				
	NUMBER	TITLE	DATE	NUM	DESCRIPTION		<div>M NO.</div> <div>M1304</div>	<div>CONTRACT NO.</div> <div>FQ-18102</div>	<div>SCALE</div> <div>1/4" = 1'-0"</div>	<div>DRAWING NO.</div> <div>CWPk2-M-101</div>	<div>SHEET NO.</div> <div>151 of 173</div>
			03/30/2018	0	FINAL CONTRACT DRAWINGS						

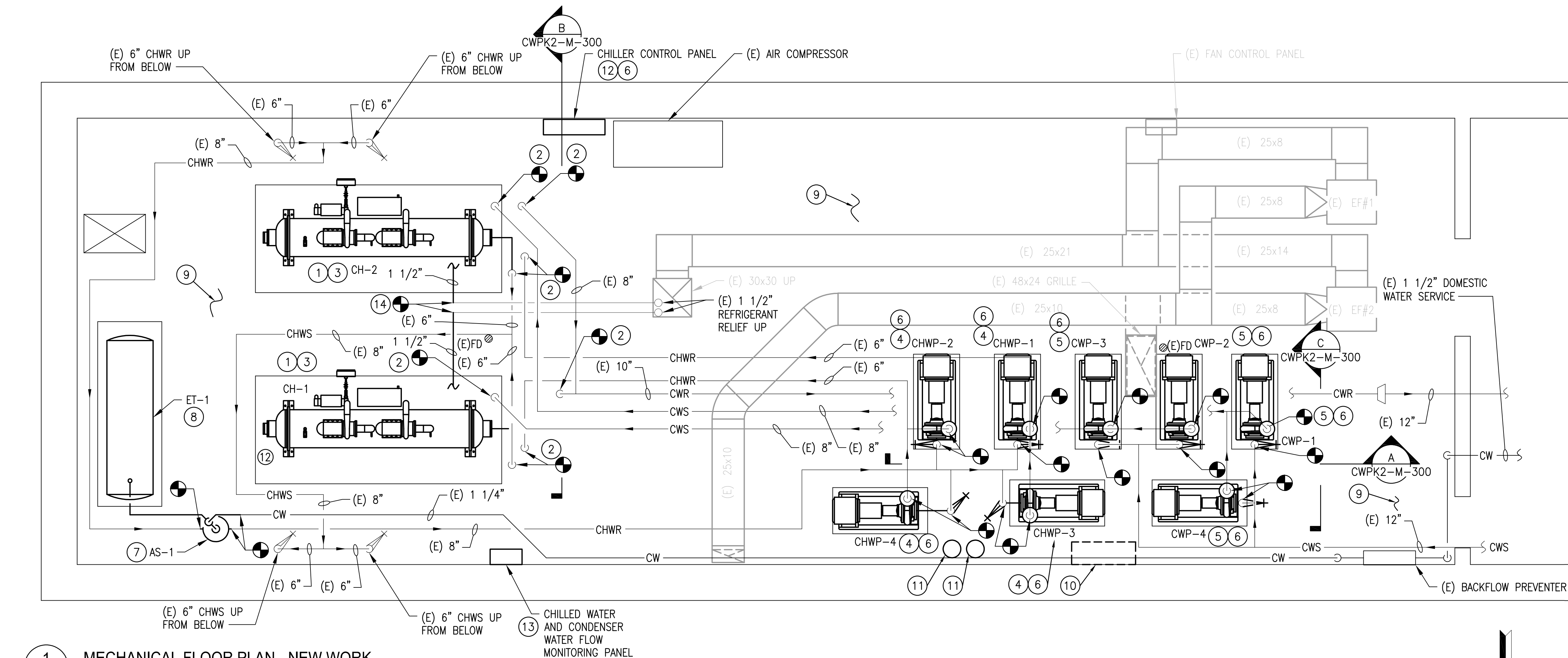


GENERAL NOTES:

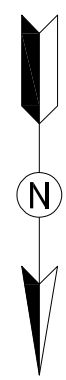
- A. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE LOCATION OF NEW EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING WITH EXISTING PRIOR TO INSTALLATION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. REFER TO CHILLER PIPING SCHEMATIC FOR ALL VALVES. FOR CLARITY, ALL VALVES ARE NOT SHOWN ON THIS PLAN.
- D. INSTALL ALL EQUIPMENT AND COMPONENTS PER MANUFACTURER'S RECOMMENDATION WITH CLEARANCE FOR MAINTENANCE AND OPERATION OF EQUIPMENT. PROVIDE ACCESS CLEARANCE AT ALL LOCATIONS OF VALVES, STRAINERS, INSTRUMENTATION, AND EQUIPMENT AS REQUIRED BY MANUFACTURER FOR EASE OF MAINTENANCE.

KEYNOTES:

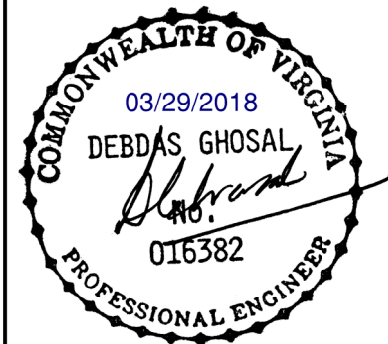
- ① PROVIDE AND INSTALL CHILLER, CORRESPONDING VIBRATION ISOLATION, ANCHOR AND SUPPORT.
- ② PROVIDE AND INSTALL ALL PIPING, FITTINGS, VALVES, PIPING INSULATION AND INSTRUMENTATION FOR CONNECTION TO CHILLER. PROVIDE A VICTAULIC COUPLING CONNECTION PIECE AT EACH PIPE CONNECTION TO CHILLER FOR EASE OF MAINTENANCE.
- ③ REUSE EXISTING EQUIPMENT PAD. REPAIR AND MODIFY AS REQUIRED TO FIT NEW INSTALLATION.
- ④ PROVIDE AND INSTALL CHILLED WATER PUMPS, CHWP-1, CHWP-2, CHWP-3 AND CHWP-4. INSTALLATION SHALL INCLUDE PUMP, INVERTER DUTY RATED MOTOR FOR VFD APPLICATION, VIBRATION SUPPORT, PIPING, ISOLATION VALVES, TRIPLE DUCT VALVES, STRAINER/SUCTION DIFFUSER, FLEXIBLE CONNECTORS, ECCENTRIC REDUCERS AND CORRESPONDING INSTRUMENTATION & CONTROLS. INSULATE PUMPS AND PIPING.
- ⑤ PROVIDE AND INSTALL CONDENSER WATER PUMPS, CWP-1, CWP-2, CWP-3 CWP-4. INSTALLATION SHALL INCLUDE PUMP, INVERTER DUTY RATED MOTOR FOR VFD APPLICATION, VIBRATION SUPPORT, PIPING, ISOLATION VALVES, TRIPLE DUTY VALVES, STRAINER/SUCTION DIFFUSER, FLEXIBLE CONNECTORS, ECCENTRIC REDUCERS AND CORRESPONDING INSTRUMENTATION & CONTROLS. INSULATE PUMPS AND PIPING.
- ⑥ INTEGRATE PUMP VFD DRIVES WITH CHILLER CONTROL PANEL. REFER TO ELECTRICAL DRAWINGS FOR EXACT LOCATION OF VFD's.
- ⑦ PROVIDE AND INSTALL AIR SEPARATOR, CORRESPONDING PIPING AND SUPPORTS. INSULATE AIR SEPARATOR AND PIPING.
- ⑧ PROVIDE AND INSTALL EXPANSION TANK AND CORRESPONDING PIPING. REUSE EXISTING SUPPORT.
- ⑨ CONTRACTOR SHALL PAINT CHILLER PLANT FLOORS AND EQUIPMENT PADS WITH BATTLE SHIP GREY OR EQUAL. THE SAFETY LINES AND TRIPPING HAZARD SHALL BE PAINTED YELLOW OR RED.
- ⑩ A. COORDINATE WITH OTHER WMATA CONTRACT INSTALLING WATER TREATMENT SYSTEM.
- B. PROVIDE AND INSTALL A NEW WMATA CHILLED WATER SYSTEM LOOP. THE LOOP SHALL INCLUDE PIPING, VALVES, HACH INDUCTIVE CONDUCTIVITY SENSOR - 3725E2T, FLOW SWITCH GEM SENSORS FS-500 170231, AND CONVERTIBLE DIGITAL PH SENSOR HACH DPC1R2A. REFER TO REFERENCE DRAWING DD-ME-HVAC-007.
- C. PROVIDE AND INSTALL A NEW WMATA CONDENSER WATER SYSTEM LOOP. THE LOOP SHALL INCLUDE PIPING, VALVES, HACH INDUCTIVE CONDUCTIVITY SENSOR - 3725E2T, FLOW SWITCH GEM SENSORS FS-500 170231. REFER TO REFERENCE DRAWING DD-ME-HVAC-008.
- ⑪ PROVIDE AND INSTALL CHEMICAL POT FEEDING FOR CONDENSER WATER AND CHILLED WATER SYSTEM. FEEDING POT SHALL BE NEPTUNE VTF-5HF.
- ⑫ PROVIDE AND INSTALL ONE CHILLER PLANT CONTROL PANEL (CPCP). REFER TO REFERENCE DRAWINGS DD-ME-HVAC-009 FOR CPCP DETAILS. PANEL SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR.
- ⑬ PROVIDE AND INSTALL CHILLED WATER AND CONDENSER WATER FLOW MONITORING SYSTEM. PROVIDE AND INSTALL COMMUNICATIONS WIRING IN RIGID CONDUIT FROM FLOW MONITORING PANEL TO CHILLER PLANT CONTROL PANEL, UTILIZING BELDEN 89842 MULTI-CONDUCTOR; LOW CAPACITANCE COMPUTER TO COMPUTER POINT OF SERVICE (POS) CABLE OR EQUIVALENT. INSTALL 48" ABOVE FINISHED FLOOR.
- ⑭ PROVIDE AND INSTALL REFRIGERANT VENT/RELIEF PIPING FROM CHILLER (AS PER MANUFACTURER'S INSTRUCTIONS). FIELD VERIFY AND CONNECT NEW 2" REFRIGERANT RELIEF PIPING FROM CHILLER TO EXISTING REFRIGERANT RELIEF MAIN.



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



**GFP** A Gannett Fleming/Parsons  
JOINT VENTURE



	REFERENCE DRAWINGS		REVISIONS	
	NUMBER	TITLE	DATE	DESCRIPTION
DESIGNED	M. MCDONNELL	01/26/18	03/30/2018	0
DRAWN	M. MCDONNELL	01/26/18		
CHECKED	D. GHOSAL	03/23/18		

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GRAHAM SPILLER  
GFP DEPUTY PROGRAM MANAGER

REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPK2 - BALLSTON (K04) MECHANICAL PLAN - NEW WORK				
M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	1/4" = 1'-0"	CWPK2-M-102	152 of 173