

GENERAL NOTES:

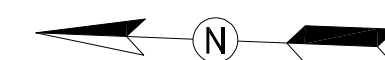
- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.

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 THEN BE RETURNED TO WMATA PLANT MAINTENANCE IN 125 POUND CONTAINERS.
- 2 REMOVE AND DISPOSE OF CHILLED WATER PIPING (CHWS, CHWR), INSULATION, 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), 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 1½" REFRIGERANT RELIEF (VENT) PIPING TO EXTENT SHOWN.
- 5 REMOVE AND DISPOSE OF CHILLER CONTROL PANEL.
- 6 REMOVE AND DISPOSE OF CHILLED WATER PUMPS CWP-1 AND CWP-2. 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, AND CONTROL WIRING. EXISTING VIBRATION SUPPORT, INERTIA PAD, AND EQUIPMENT PAD TO REMAIN.
- 7 REMOVE AND DISPOSE OF CONDENSER WATER PUMPS CDWP-1 AND CDWP-2. 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, AND CONTROL WIRING. EXISTING VIBRATION SUPPORT, INERTIA PAD, 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 EYEWASH STATION. CAP DOMESTIC WATER PIPING. COORDINATE WITH NEW WORK PLAN.
- 11 EXISTING REFRIGERANT MONITORING PANEL SHOWN HERE FOR REFERENCE. COORDINATE WITH WMATA CONTRACT FQ14114.
- 12 REMOVE EXISTING UNIT HEATER AND ASSOCIATED CONTROLS. HANGERS CAN REMAIN AND BE RE-USED. SEE NEW WORK PLAN.

1 MECHANICAL FLOOR PLAN - DEMOLITION  
CWPA6-M-100

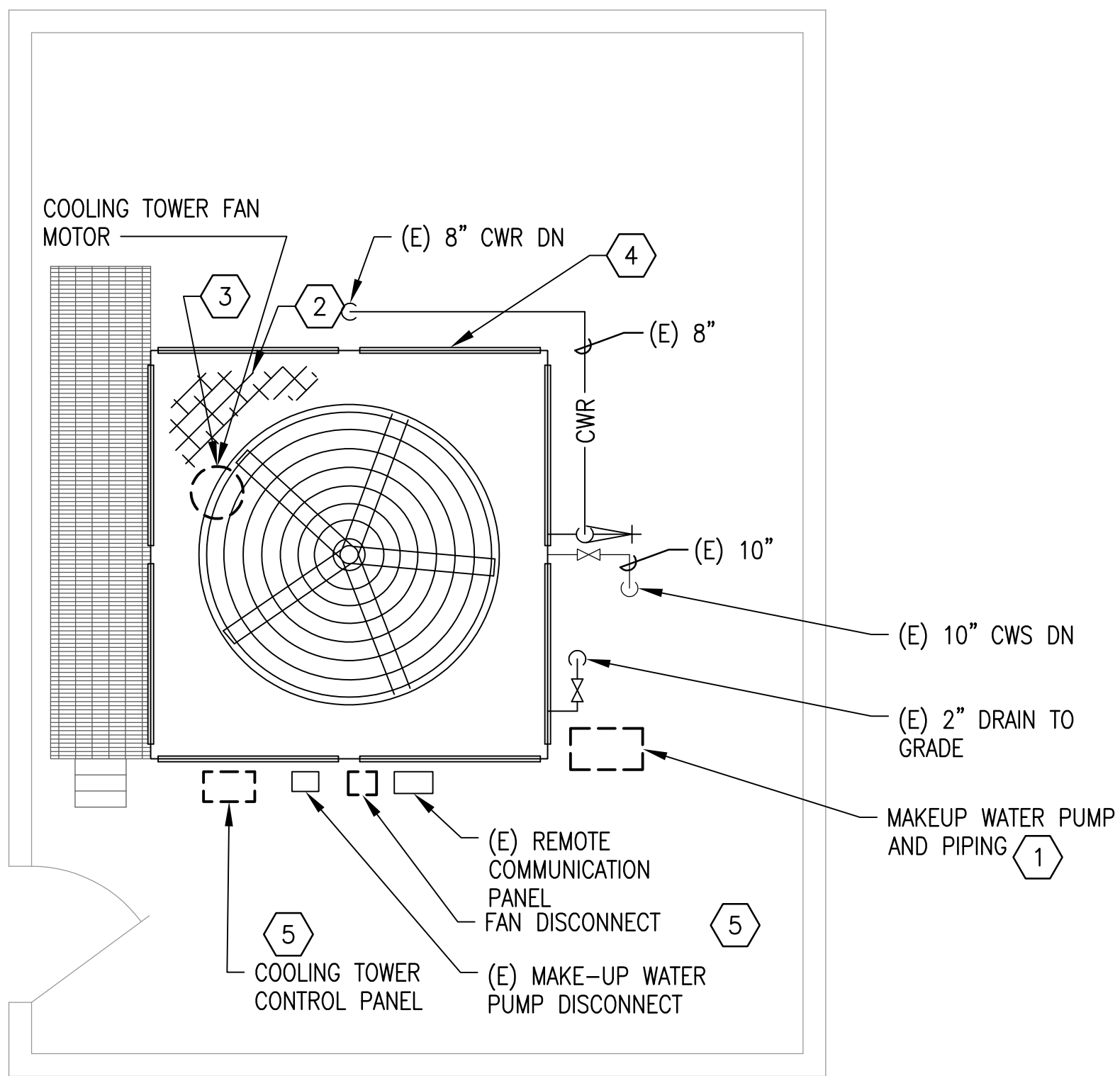
SCALE: 1/4" = 1'-0"



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03/29/2018

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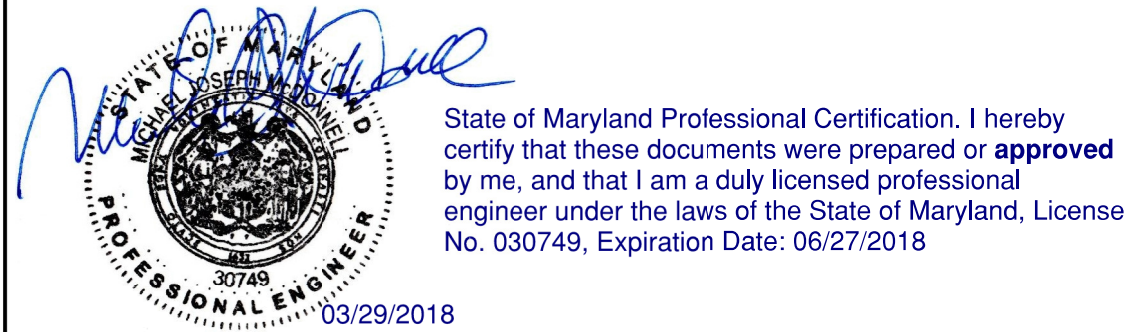


- GENERAL NOTES:
- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
  - B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS
  - C. COOLING TOWER LOCATED AT GRADE ACROSS THE ENTRANCE ROAD TO NIH. ACCESS IS THROUGH NIH SECURITY.
  - D. 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 ABANDONED MAKE-UP WATER SYSTEM. REMOVAL SHALL INCLUDE PUMP, MOTOR, ASSOCIATED PIPING, CONTROLS, AND PIPING SUPPORT.
  - 2 REMOVE AND DISPOSE OF EXISTING COOLING TOWER FILL.
  - 3 REMOVE EXISTING FAN MOTOR, BELT DRIVEN FAN DRIVE ASSEMBLY, BELTS, SHEAVES AND MOUNTING HARDWARE.
  - 4 REMOVE AND DISPOSE OF EXISTING LOUVER.
  - 5 REMOVE COOLING TOWER FAN CONTROLLER, STARTER, AND DISCONNECT.

1 MECHANICAL PLAN - DEMOLITION  
CWP A6-M-101

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



DESIGNED <u>M. MCDONNELL</u> 01/26/18 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 <u>Mark H. Magnusson</u> 03/2018</div><div>MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div></div><div><div>APPROVED <u>Graham Spiller</u> 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 CWPA6 - MEDICAL CENTER (A10) MECHANICAL PLAN - DEMOLITION				
			NUMBER	TITLE	DATE	NUM	DESCRIPTION				M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
DRAWN <u>M. MCDONNELL</u> 01/26/18 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS								
CHECKED <u>D. GHOSAL</u> 03/23/18 DATE															

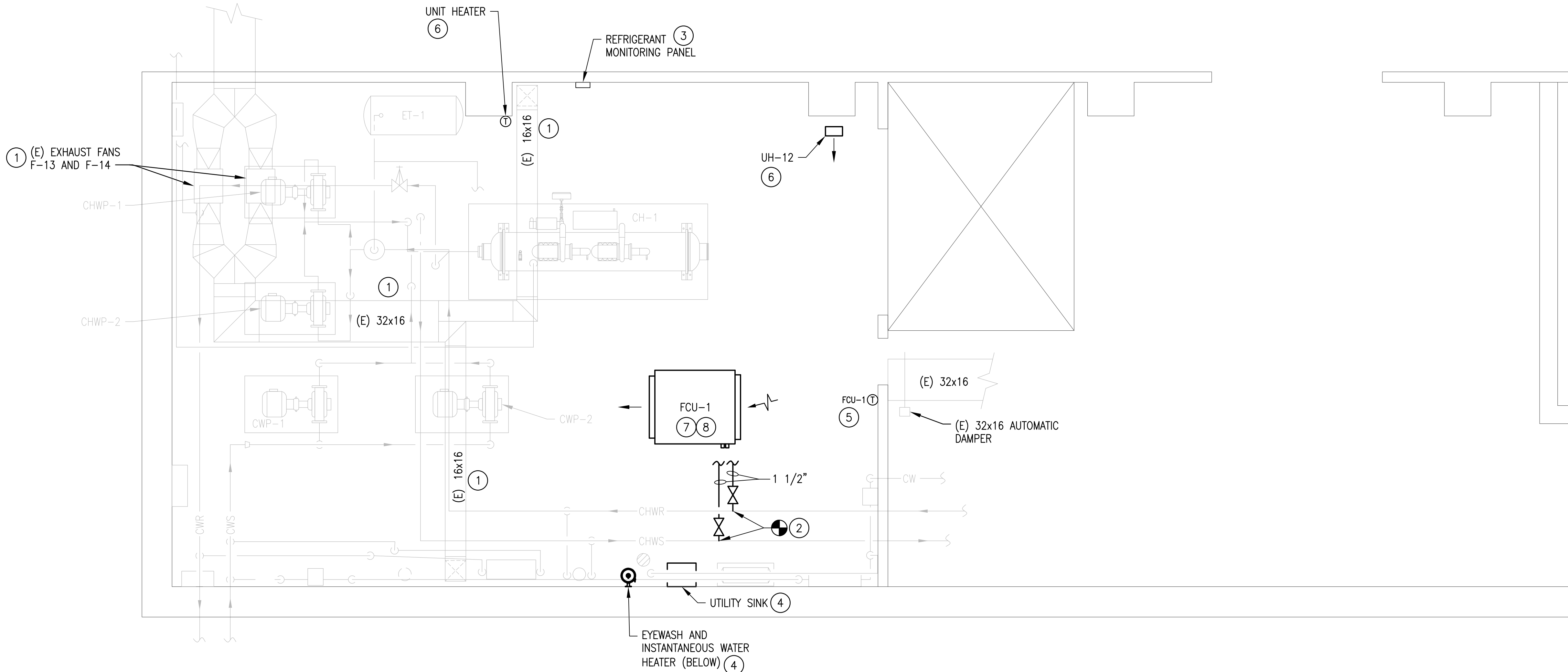


<div>DESIGNED <u>M. McDONNELL</u> <u>01/26/18</u> DATE</div> <div>DRAWN <u>M. McDONNELL</u> <u>01/26/18</u> DATE</div> <div>CHECKED <u>D. GHOSAL</u> <u>03/23/18</u> DATE</div>	REFERENCE DRAWINGS		REVISIONS			<div><div>M metro</div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div>APPROVED <u>Mark H. Magnusson</u> <u>03/2018</u> MARK MAGNUSSEN DATE MANAGER, ENV. PLANNING AND COMP</div><div>APPROVED <u>Graham Spiller</u> <u>03/2018</u> GRAHAM SPILLER DATE GFP DEPUTY PROGRAM MANAGER</div></div>	REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA6 - MEDICAL CENTER (A10) MECHANICAL PLAN - NEW WORK				
	NUMBER	TITLE	DATE	NUM	DESCRIPTION		M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
			03/30/2018	0	FINAL CONTRACT DRAWINGS		M1304	FQ-18102	1/4" = 1'-0"	CWPA6-M-102	57 of 173



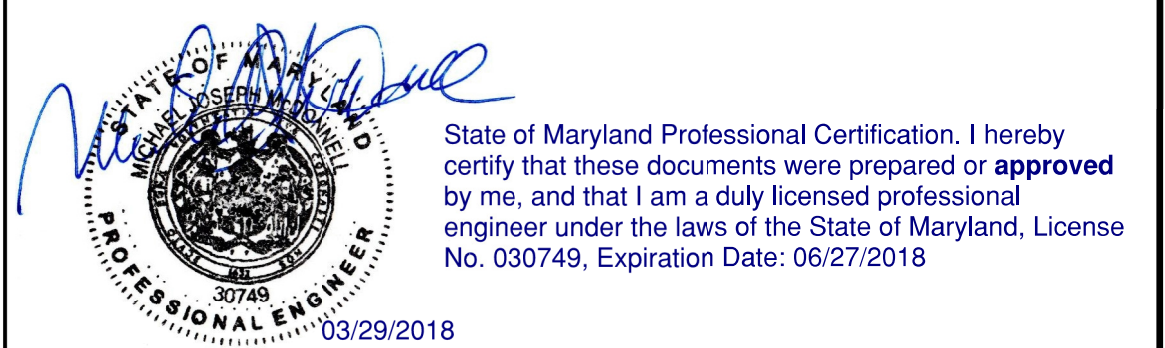
- GENERAL NOTES:
- A. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE LOCATION OF NEW EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING WITH EXISTING PRIOR TO INSTALLATION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
  - B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
  - 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 LOCATIONS OF VALVES, STRAINERS, INSTRUMENTATION, AND EQUIPMENT AS REQUIRED BY MANUFACTURER FOR EASE OF MAINTENANCE.

- KEYNOTES:
- 1 VENTILATION SYSTEM TO BE PROVIDED UNDER SEPARATE WMATA CONTRACT. FANS AND DUCTWORK SHOWN FOR REFERENCE ONLY. REFER TO WMATA CONTRACT FQ14114.
  - 2 PROVIDE 1½" CHWS AND CHWR BRANCH TO FCU-1. WET TAP INTO EXISTING 8" CHWS AND CHWR PIPING.
  - 3 EXISTING REFRIGERANT MONITORING PANEL. SHOWN HERE FOR REFERENCE.
  - 4 PROVIDE AND INSTALL NEW EYEWASH, UTILITY SINK, FAUCET, AND INSTANTANEOUS WATER HEATER, INCLUDING PIPING, WIRING, AND SUPPORTS. WATER SUPPLY SHALL BE FIELD ROUTED TO CONNECT UPSTREAM OF THE EXISTING MAKE-UP WATER BACKFLOW PREVENTERS. PROVIDE INLINE ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE TYPE BACKFLOW PREVENTER AT AN ACCESSIBLE LOCATION. FIELD ROUTE UTILITY SINK DRAINAGE PIPING ALONG FLOOR SLAB TO NEARBY FLOOR DRAIN. PROVIDE PIPING ALONG FLOOR SLAB WITH NON-SLIP PIPE COVER WHERE THERE IS A TRIP HAZARD. EYEWASH DRAINAGE SHALL BE STRAIGHT TO FLOOR. REFER TO DETAIL 1 ON DRAWING M-502.
  - 5 PROVIDE AND INSTALL NEW SPACE THERMOSTAT AND INTEGRATE WITH NEW FCU-1.
  - 6 PROVIDE AND INSTALL NEW UNIT HEATER INCLUDING WIRING, RE-USE EXISTING SUPPORT, AND WALL-MOUNTED THERMOSTAT.
  - 7 PROVIDE AND INSTALL NEW THERMOSTATICALLY CONTROLLED FAN COIL UNIT (FCU-1) INCLUDING PIPING, VALVES, WIRING, AND SUPPORTS. CHWS TO THE UNIT SHALL BE TAPPED FROM THE CHWS MAIN AS INDICATED; CHWR SHALL BE TAPPED INTO THE CHWR MAIN AS INDICATED. CHWS AND CHWR PIPING SHALL BE FIELD ROUTED. UNIT SHALL BE MOUNTED AT A MINIMUM 8'-0" AFF. FIELD COORDINATE FINAL MOUNTING ELEVATION WITH OTHER TRADES.
  - 8 PRIMARY CONDENSATE DRAINAGE FROM FCU-1 SHALL BE FIELD ROUTED DOWN TO AND ALONG FLOOR SLAB TO A NEARBY FLOOR DRAIN. OVERFLOW CONDENSATE DRAINAGE FROM FCU-1 SHALL BE FIELD ROUTED TO DISCHARGE AT VISIBLE LOCATION. DRAINAGE RISERS DOWN TO FLOOR SHALL BE MOUNTED FLUSH WITH STRUCTURAL COLUMN(S). PROVIDE PIPING ALONG FLOOR SLAB WITH NON-SLIP PIPE COVER WHERE THERE IS A TRIP HAZARD.

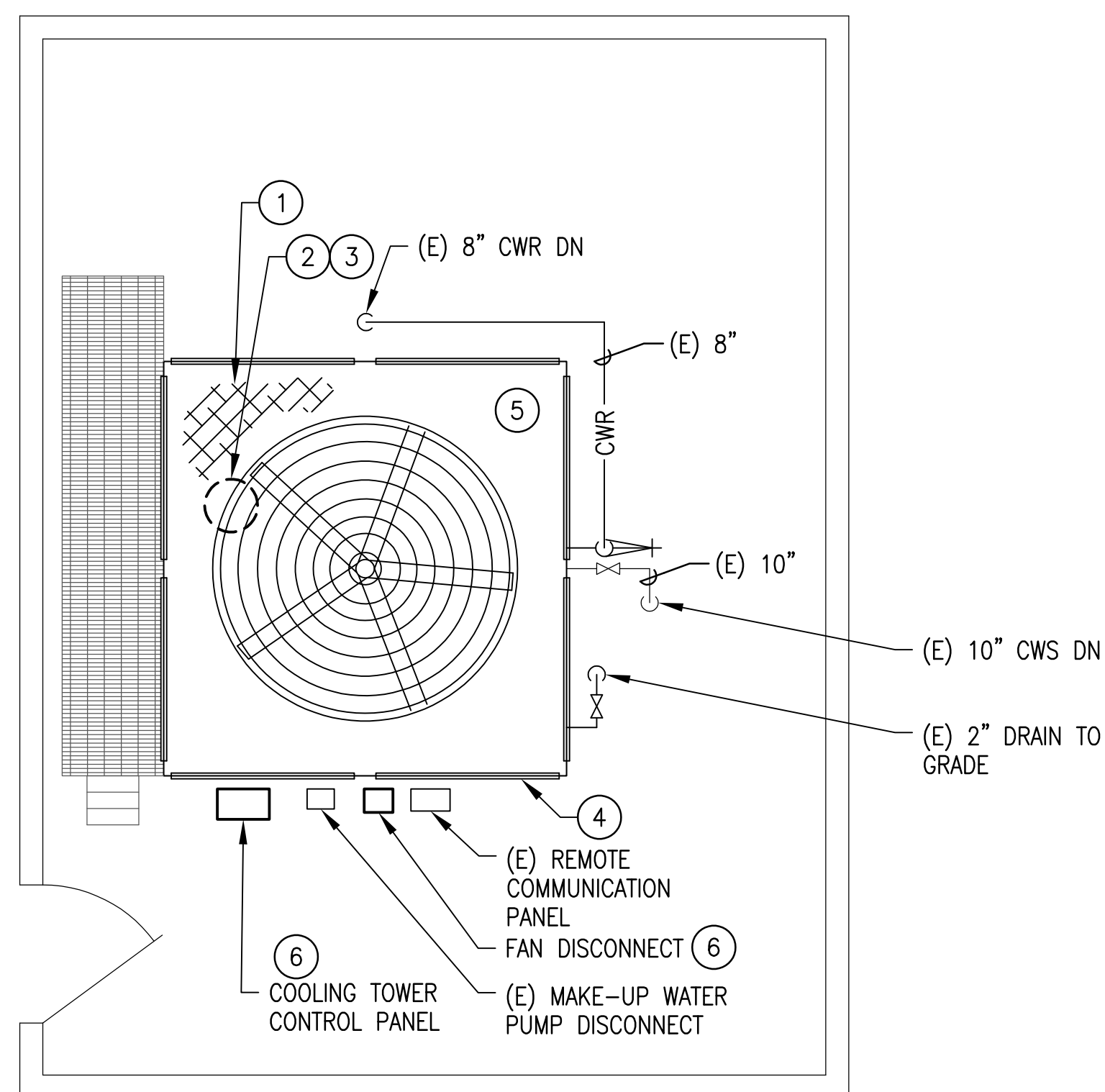


1 MECHANICAL FLOOR PLAN - NEW WORK  
CWPA6-M-103

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



DESIGNED <u>M. MCDONNELL</u> 01/26/18 DATE			REFERENCE DRAWINGS		REVISIONS			WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP  APPROVED <u>Mark H. Magnusson</u> 03/2018 MARK MAGNUSSON DATE MANAGER, ENV. PLANNING AND COMP				REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA6 - MEDICAL CENTER (A10) MECHANICAL PLAN - NEW WORK  M NO. CONTRACT NO. SCALE DRAWING NO. SHEET NO. M1304 FQ-18102 1/4" = 1'-0" CWPA6-M-103 58 of 173			
			NUMBER	TITLE	DATE	NUM	DESCRIPTION								
DRAWN <u>M. MCDONNELL</u> 01/26/18 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS	APPROVED <u>Graham Spiller</u> 03/2018 GRAHAM SPILLER DATE GFP DEPUTY PROGRAM MANAGER							
CHECKED <u>D. GHOSAL</u> 03/23/18 DATE															



GENERAL NOTES:

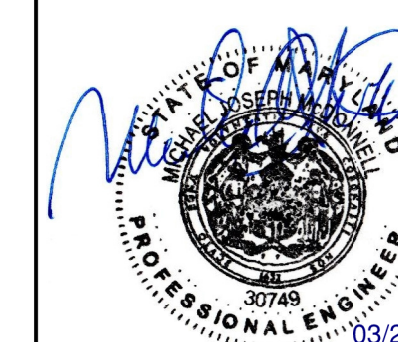
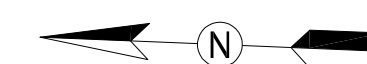
- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. COOLING TOWER FAN MODULATION SHALL BE INTEGRATED WITH THE CHILLER CONTROL PANEL.

KEYNOTES:

- 1 PROVIDE AND INSTALL NEW PLASTIC FILL IN THE COOLING TOWER. COORDINATE WITH COOLING TOWER MANUFACTURER FOR EXACT PART. THE NEW FILL DIMENSION AND TYPE SHALL MATCH EXISTING.
- 2 PROVIDE AND INSTALL NEW DIRECT DRIVE FAN MOTOR, DRIVE ASSEMBLY, AND MOUNTING HARDWARE. FAN MOTOR SHALL BE INVERTER DUTY RATED. COORDINATE WITH COOLING TOWER MANUFACTURER FOR EXACT PARTS.
- 3 PROVIDE AND INSTALL NEW VARIABLE FREQUENCY DRIVE CONTROLLER FOR COOLING TOWER FAN. VFD SHALL BE LOCATED INSIDE A NEMA 4X ENCLOSURE.
- 4 PROVIDE AND INSTALL NEW LOUVER GRILLES ON COOLING TOWER. COORDINATE WITH COOLING TOWER MANUFACTURER FOR EXACT PART. THE LOUVER DIMENSION SHALL MATCH EXISTING.
- 5 PROVIDE SUMP PUMP. FIELD COORDINATE EXACT LOCATION OF SUMP PUMP.
- 6 PROVIDE AND INSTALL NEW DISCONNECT AND CONTROLS.

1 MECHANICAL PLAN - NEW WORK  
CWPA6-M-104

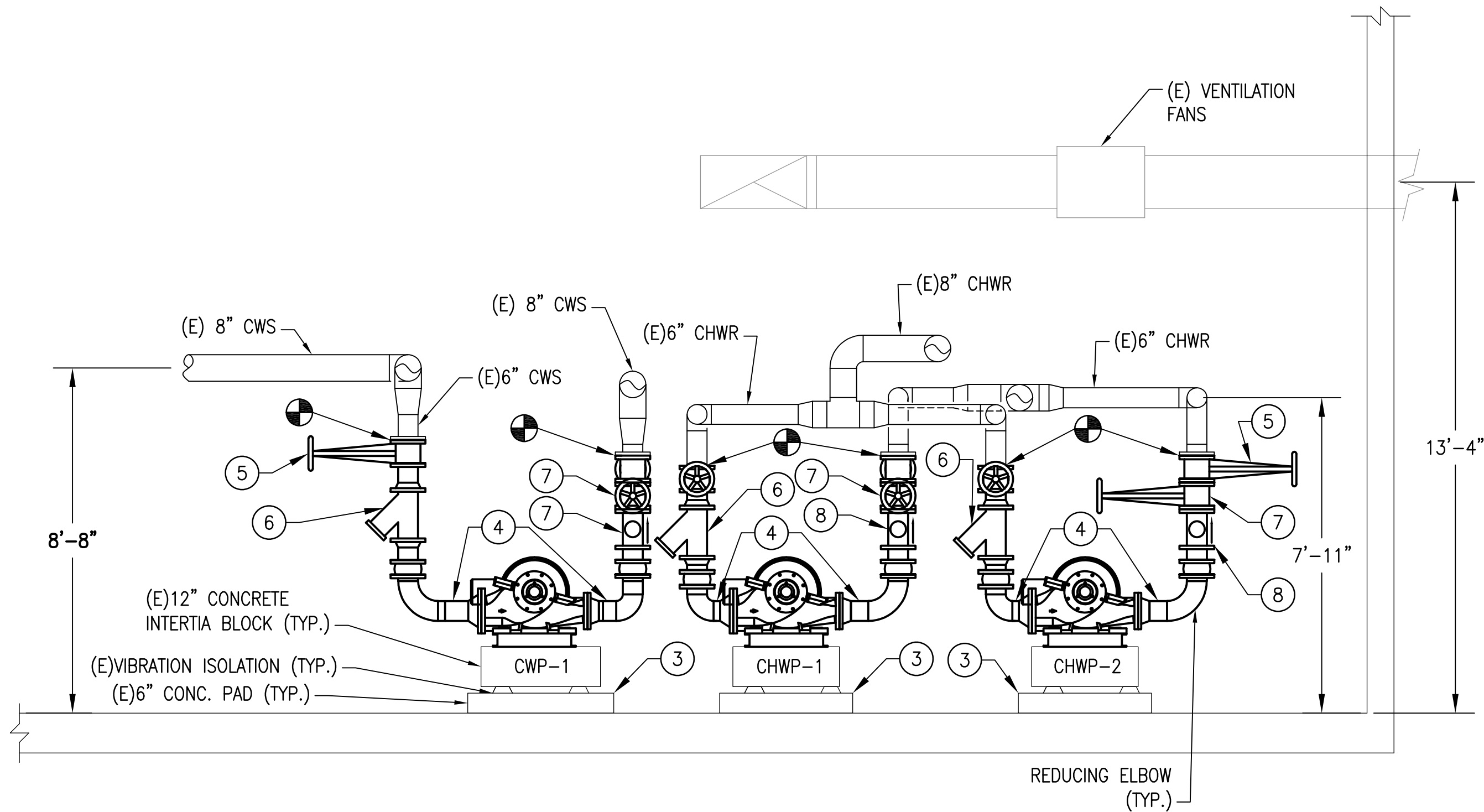
SCALE: 1/4" = 1'-0"



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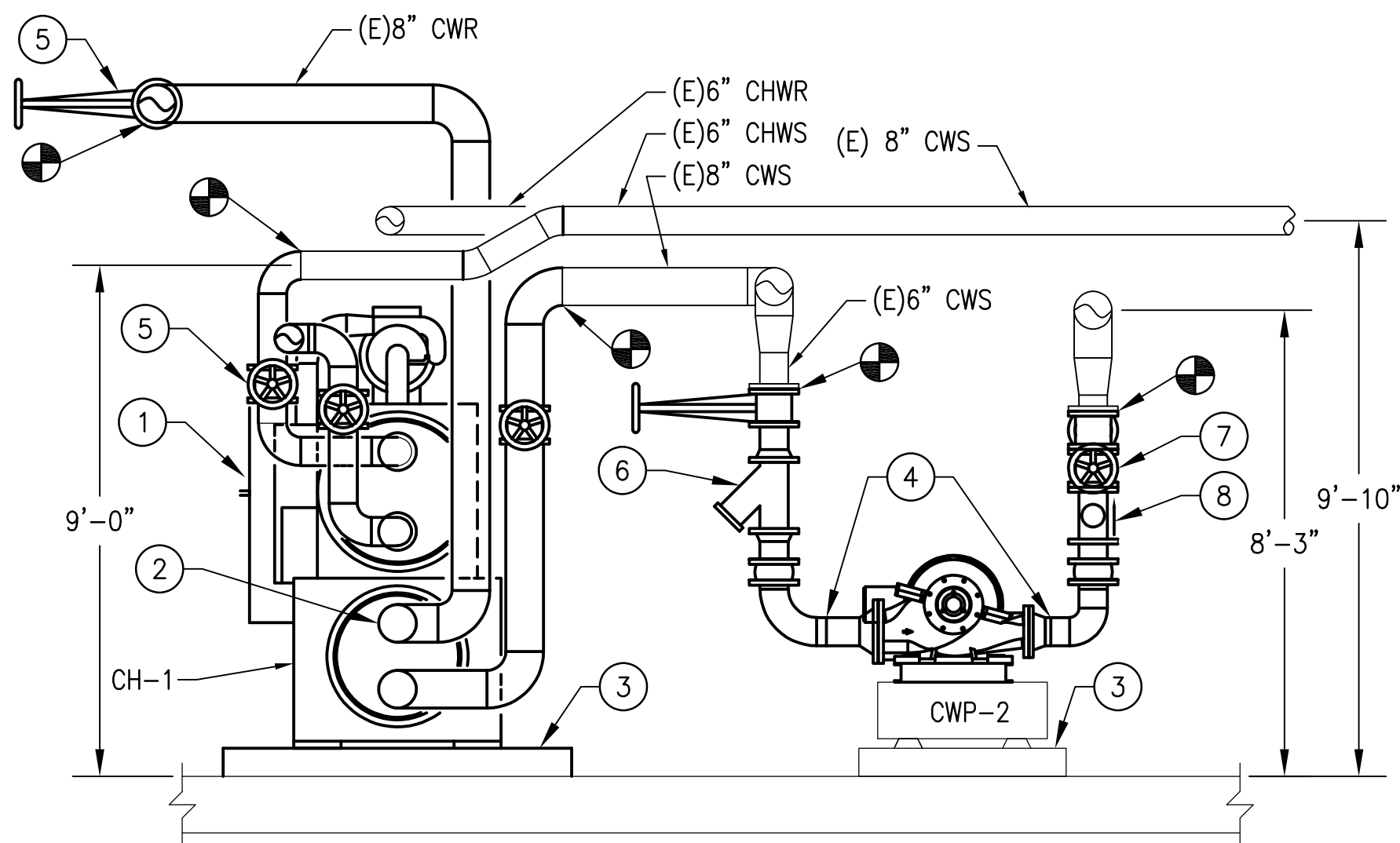
			REFERENCE DRAWINGS		REVISIONS			<div><div><div>M</div><div>metro</div></div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div><div>APPROVED <i>Mark H. Magnusson</i> 03/2018</div><div>DATE</div><div>MARK MAGNUSSEN</div><div>MANAGER, ENV. PLANNING AND COMP.</div></div><div><div>APPROVED <i>Graham Spiller</i> 03/2018</div><div>DATE</div><div>GRAHAM SPILLER</div><div>GFR DEPUTY PROGRAM MANAGER</div></div></div>		REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA6 - MEDICAL CENTER (A10) MECHANICAL PLAN - NEW WORK				
DESIGNED	M. MCDONNELL	01/26/18	NUMBER	TITLE	DATE	NUM	DESCRIPTION	M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.		
		DATE			03/30/2018	0	FINAL CONTRACT DRAWINGS	M1304	FQ-18102	1/4" = 1'-0"	CWPA6-M-104	59 of 173		
DRAWN	M. MCDONNELL	01/26/18												
		DATE												
CHECKED	D. GHOSAL	03/23/18												
		DATE												





**A** SECTION - NEW WORK  
CWPA6-M-300

SCALE: 3/8" = 1'-0"



**B** SECTION - NEW WORK  
CWPA6-M-300

SCALE: 3/8" = 1'-0"

**GENERAL NOTES:**

- 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.
- REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- REFER TO CHILLER PIPING SCHEMATIC FOR ALL VALVES. FOR CLARITY, ALL VALVES ARE NOT SHOWN ON THIS PLAN.
- INSTALL ALL EQUIPMENT AND COMPONENTS PER MANUFACTURER'S RECOMMENDATION WITH CLEARANCE FOR MAINTENANCE AND OPERATION OF EQUIPMENT.
- PROVIDE PRESSURE GAUGES AT INTAKE AND DISCHARGE PIPING OF OF EACH PUMP PUMP.

**KEYNOTES:**

- PROVIDE AND INSTALL CHILLER, ANCHOR AND SUPPORT.
- 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.
- REUSE EXISTING EQUIPMENT PAD, SPRING ISOLATOR AND INERTIA PAD. REPAIR AND MODIFY AS REQUIRED TO FIT NEW INSTALLATION.
- PROVIDE AND INSTALL ALL APPROPRIATE PIPE FITTINGS FOR CONNECTION TO PUMPS.
- PROVIDE GATE VALVE FOR SHUTOFF (TYP).
- PROVIDE STRAINER AT PUMP INTAKE (TYP).
- PROVIDE BALANCING VALVE AT DISCHARGE OF PUMP (TYP).
- PROVIDE CHECK VALVE AT DISCHARGE OF PUMP (TYP).



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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

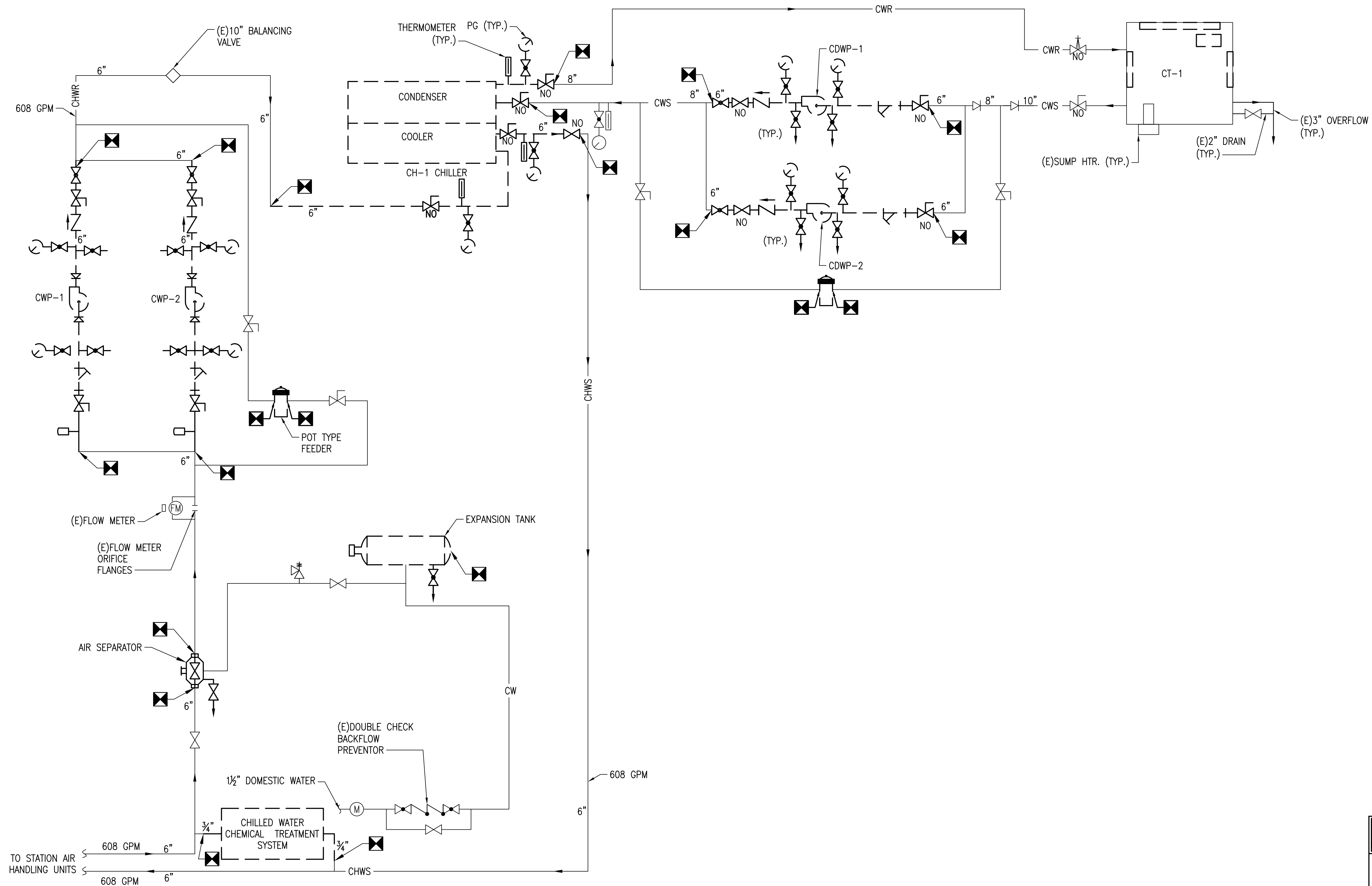
**DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES  
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP**

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

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

**REPLACEMENT OF CHILLERS  
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS  
CWPA6 - MEDICAL CENTER (A10)  
MECHANICAL SECTIONS**

M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	3/8" = 1'-0"	CWPA6-M-300	60 of 173



**1 MECHANICAL FLOW DIAGRAM - DEMOLITION**  
 CWP6-M-500 NOT TO SCALE

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			NUMBER	TITLE	DATE	NUM	DESCRIPTION							
					03/30/2018	0	FINAL CONTRACT DRAWINGS							
M NO.		CONTRACT NO.		SCALE		DRAWING NO.		SHEET NO.						
M1304		FQ-18102		1/4" = 1'-0"		CWP6-M-500		61 of 173						