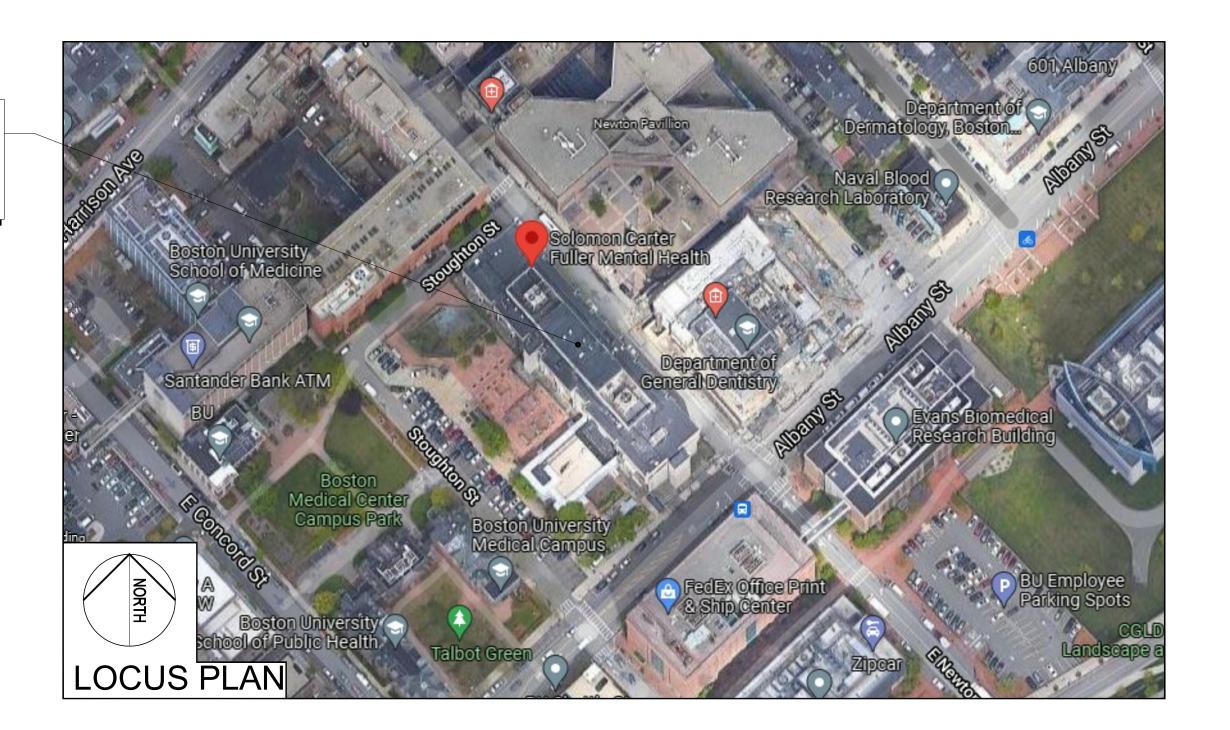
SOLOMON CARTER FULLER
MENTAL HEALTH CENTER
85 E NEWTON ST,
BOSTON, MA 02118



DMH Project No. 2022-031A

MASSACHUSETTS DEPARTMENT OF MENTAL HEALTH



SOLOMON CARTER FULLER MENTAL HEALTH CENTER COOLING TOWER REPLACEMENT

100% CONSTRUCTION DOCUMENTS 01/14/2022

Drawing No.	Description
S-101	ROOF PARTIAL PLAN
S-102	SECTIONS AND DETAILS
D-200	GENERAL PENTHOUSE DEMOLITION PLAN
M-000	MECHANICAL LEGEND, NOTES, & ABBREVIATIONS
MD-200	MECHANICAL PENTHOUSE DEMOLITION PLAN
M-200	MECHANICAL PENTHOUSE PLAN
M-600	MECHANICAL DETAILS
M-601	MECHANICAL DETAILS 2
M-700	MECHANICAL SCHEDULES
E-000	ELECTRICAL LEGEND, NOTES, & ABBREVIATIONS
ED-300	ELECTRICAL POWER PENTHOUSE DEMOLITION PLAN
ED-301	ELECTRICAL DEMOLITION 10TH FLOOR PLAN
E-300	ELECTRICAL POWER PENTHOUSE PLAN
E-301	ELECTRICAL POWER 10TH FLOOR PLAN
E-600	ELECTRICAL DETAILS

OWNER: MASSACHUSETTS DEPARTMENT
OF MENTAL HEALTH

167 LYMAN STREET WESTBOROUGH, MA 01581

STRUCTURAL: LIN ASSOCIATES, INC.

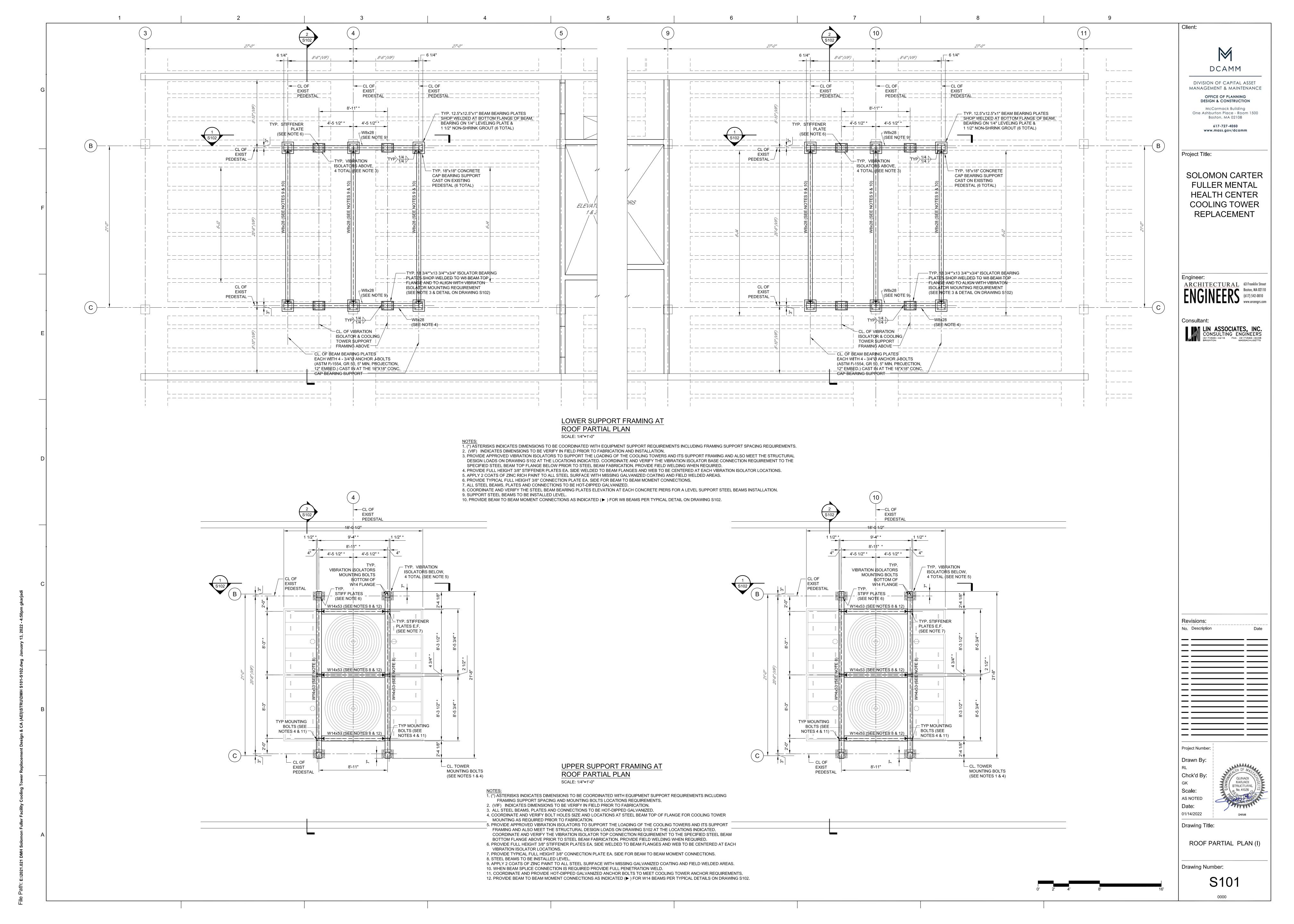
2001 BEACON STREET, SUITE 310 BRIGHTON, MA 02135 ARCHITECTURAL

63 Franklin Street

Boston, MA 02110

(617) 542-0810

STRUCTURAL	MECHANICAL	ELECTRICAL



- A1 STRUCTURAL WORK SHALL CONFORM TO THE NINTH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE-780 CMR (MSBC).
- A2 VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- A3 TYPICAL DETAILS AND NOTES SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF THE STRUCTURAL WORK EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE BY CONTRACT DOCUMENTS.
- A4 USE CURRENT REVISIONS OF REFERENCED STANDARDS.
- A5 INFORMATION ON EXISTING BUILDING SHOWN ON CONTRACT DRAWINGS ARE OBTAINED FROM AVAILABLE EXISTING DRAWINGS PREPARED BY SEVERUD, PERRONE, FISHER, STURM, CONLIN, BANDEL STRUCTURAL ENGINEERS, TITLED CAMPUS CENTER, UNIVERSITY OF MASSACHUSETTS, AMHERST, MASSACHUSETTS" DATED JUNE 7, 1967. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITION AND DIMENSIONS.
- A6 EXAMINE OTHER DISCIPLINE DRAWINGS FOR VARIATIONS OF LOCATIONS AND DIMENSIONS OF OPENINGS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

B STRUCTURAL STEEL

- B1 STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC):" "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES (AISC);" AND "STRUCTURAL WELDING CODE STEEL (AWS D1.1)."
- B2 STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION (AISC)" AND, WHERE REQUIRED, DESIGNED IN ACCORDANCE WITH THE "AISC MANUAL OF STEEL CONSTRUCTION, LRFD, 14TH EDITION" AND WITH THE CITED REFERENCES. THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER REGISTERED IN MASSACHUSETTS TO DESIGN THE CONNECTIONS.
- B3 STRUCTURAL STEEL DETAILS NOT SPECIFICALLY SHOWN SHALL BE TAKEN AS BEING SIMILAR TO THOSE SHOWN FOR THE MOST NEARLY SIMILAR CONDITION AS DETERMINED BY THE DESIGNER.
- B5 ALL STEEL MEMBERS, MISC. STEEL AND ALL CONNECTIONS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
- B5 ALL STEEL MEMBERS, MISC. STEEL AND ALL CONNEC

W8 = 2

- B6 BOLTED CONNECTIONS SHALL BE AS FOLLOWS:
 (A) MINIMUM BOLT DIAMETER 3/4", ASTM A325.
- (B) STANDARD, OVERSIZED OR HORIZONTAL SHORT SLOTTED HOLES.(C) SNUG-TIGHT HIGH-STRENGTH BEARING BOLTS MAY BE USED IN STANDARD HOLES. UNO.
- (C) SNOG-TIGHT HIGH-STRENGTH BEARING BOLTS MAY BE USED IN STANDARD HOLES. UNO.
 (D) BEARING BOLTS SHALL BE DESIGNED ASSUMING THREADS INCLUDED IN THE SHEAR PLANE.
 (E) BEAM SHEAR CONNECTIONS SHALL BE FRAMED TYPE, FLEXIBLE WEB CONNECTIONS IN SINGLE OR DOUBLE SHEAR.
 (F) MINIMUM NUMBER OF BOLTS FOR BEAM SHEAR CONNECTIONS:
 W14 = 3
- F7 MEMBER CONNECTIONS SHALL BE DESIGNED AS FOLLOWS:
- (A) UNLESS OTHERWISE NOTED, CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE REACTIONS, FORCES, AND MOMENTS INDICATED ON THE DRAWINGS; R = KIPS (SHEAR), T = KIPS (TENSION), C = KIPS (COMPRESSION), P = KIPS (TENSION OR COMPRESSION), M = FOOT KIPS (MOMENT). WHERE A MOMENT CONNECTION (►→) IS INDICATED AT THE END OF A MEMBER THE CONNECTION AT THAT END SHALL BE DESIGNED TO RESIST THE FULL BENDING CAPACITY OF THE MEMBER & 2.0 TIMES THE SIMPLE SPAN UNIFORM LOAD BEAM REACTION.
- (B) SIMPLE BEAMS SHALL SUPPORT A REACTION "R" EQUAL TO 1/2 THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM FOR A GIVEN SHAPE SPAN AND GRADE OF STEEL AS SHOWN IN THE AISC MANUAL OF STEEL CONSTRUCTION "TABLES FOR ALLOWABLE LOADS ON BEAMS".
- B7 WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS USING MINIMUM TENSILE STRENGTH (Fu) = 70 ksi, LOW-HYDROGEN ELECTRODES.
- B8 WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIALS BEING WELDED, UNLESS NOTED OTHERWISE, EXCEPT THAT FILLET WELDS SHALL BE A MINIMUM OF 1/4".
- B9 PAINT ALL WELDS AND BARE METAL WITH ANTI CORROSION PAINT SUCH AS ZRC (ZINC RICH PAINT) 2 COATS. AND PAINT WITH AN EPOXY TYPE EXTERIOR GRADE PAINT PER ARCHITECTURAL DRAWINGS AND APPLICABLE SPECIFICATIONS.
- B10 FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR APPROVAL FOR EACH SPECIFIC CASE.
- B11 REPAIR DAMAGED GALVANIZED COATINGS ON GALVANIZED ITEMS WITH GALVANIZED REPAIR PAINT ACCORDING TO ASTM A780 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

C STRUCTURAL DESIGN LOADS

- C1 STRUCTURAL DESIGN LOAD: CONFORMING TO MASSACHUSETTS STATE BUILDING CODE (780 CMR), NINTH EDITION.
- C2 DEAD LOADS

 (A) WEIGHT OF BUILDING COMPONENTS

 ACTUAL WEIGHT
- (A) WEIGHT OF BUILDING COMPONENTS ACTUAL WEIGHT
- C3 LIVE LOADS
 TWELFTH FLOOR MECHANICAL
 (A) TYPICAL125 PS
- (D) SNOW LOAD IMPORTANCE FACTOR Is =1.1 WITH RISK CATEGORY III
 (E) THERMAL FACTOR Ct = 1.0
 (F) UNBALANCED, DRIFTING, AND SLIDING SNOW PER MSBC
- C5 WIND LOAD

 (A) ULTIMATE DESIGN WIND SPEED, Vult = 139 MPH
 - (A) OLTHWATE DESIGN WIND SPEED, Vull = 139 MPH
 (B) NOMINAL DESIGN WIND SPEED, Vasd = 107.7 MPH
 (C) RISK CATEGORY III
 - (D) WIND EXPOSURE B
 (E) INTERNAL PRESSURE COEFFICENT GCpi = +/- 0.18
 (F) DESIGN WIND PRESSURE FOR EXTERIOR COMPONENTS AND CLADDING:

	WIND PRE	SSURE (PS	F)
BLDG.	EFFECTIVE	WIND AREA (SF)
SURFACE	0-10	100 ² -1000	500 ³ -1000
1	+21.6,-53.1	+17.1,-48.6	_
2	+21.6,-89.1	+17.1,-57.6	_
3	+21.6,-134.1	+17.1,-57.6	_
4	+53.1,-57.6	_	+39.6,-44.1
5	+53.1,-71.1	_	+39.6,-44.1

NOTES:

1. FOR BUILDING SURFACE SEE FIGS 30.4-1 AND 30.4-2A ASCE 7-10
2. INTERPOLATE BETWEEN 10 SF AND 100 SF

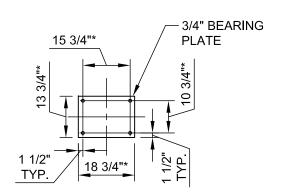
- 3. INTERPOLATE BETWEEN 10 SF AND 500 SFC6 SEISMIC LOAD
- (B) SITE CLASS "D" (ASSUMED),

(A) EARTHQUAKE DESIGN FACTORS

(D) SEISMIC DESIGN CATEGORY,

- (C) MCE SPECTRAL RESPONSE ACCELERATION,

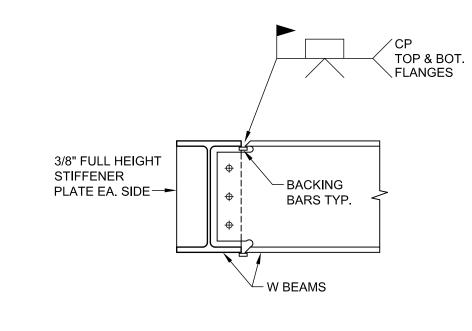
 SMs.......
 SM1.......



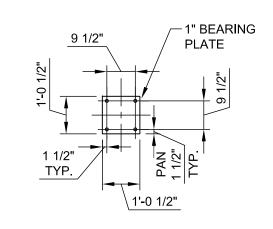
NOTES:

1. (*) ASTERISKS INDICATES DIMENSIONS TO BE
COORDINATED AND VERIFY WITH THE BEARING
PLATE SIZE, HOLES SIZE & SPACING REQUIREMENTS
FOR THE 1" DIA. ANCHOR BOLTS OF THE VIBRATION
ISOLATOR MOUNTING PRIOR TO FABRICATION.

ISOLATOR MOUNTING
BEARING PLATE DETAIL
SCALE: N.T.S.



BEAM TO BEAM MOMENT
CONNECTION DETAIL
SCALE: N.T.S.



BEAM BEARING PLATE DETAIL

SCALE: N.T.S.

Engineer:

ARCHITECTURAL

Boston, MA 02110

(617) 542-0810

www.arcengrs.com

Consultant:

Client:

Project Title:

DCAMM

DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE

OFFICE OF PLANNING

DESIGN & CONSTRUCTION

McCormack Building

One Ashburton Place - Room 1500

Boston, MA 02108

617-727-4050

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SOLOMON CARTER

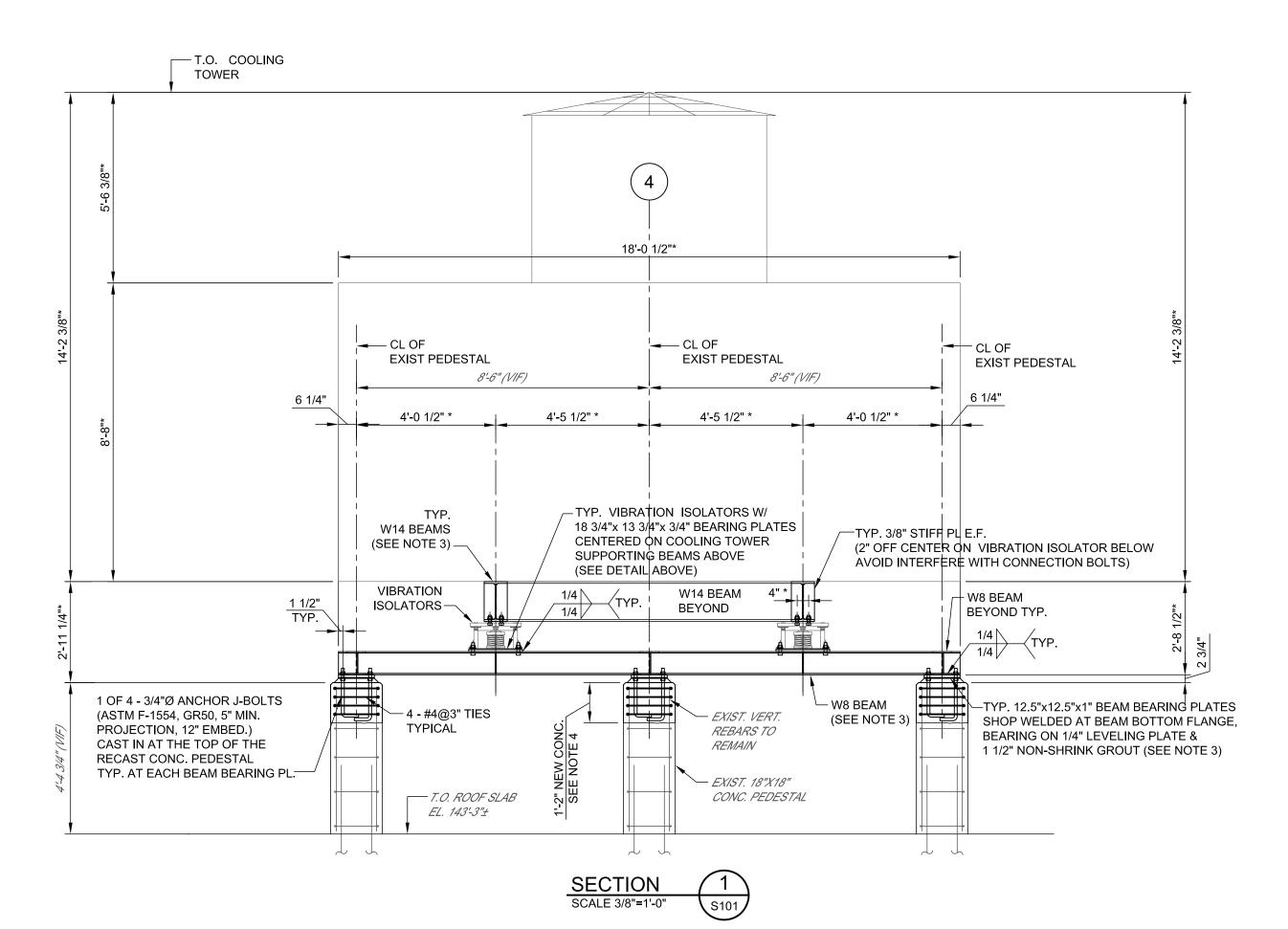
FULLER MENTAL

HEALTH CENTER

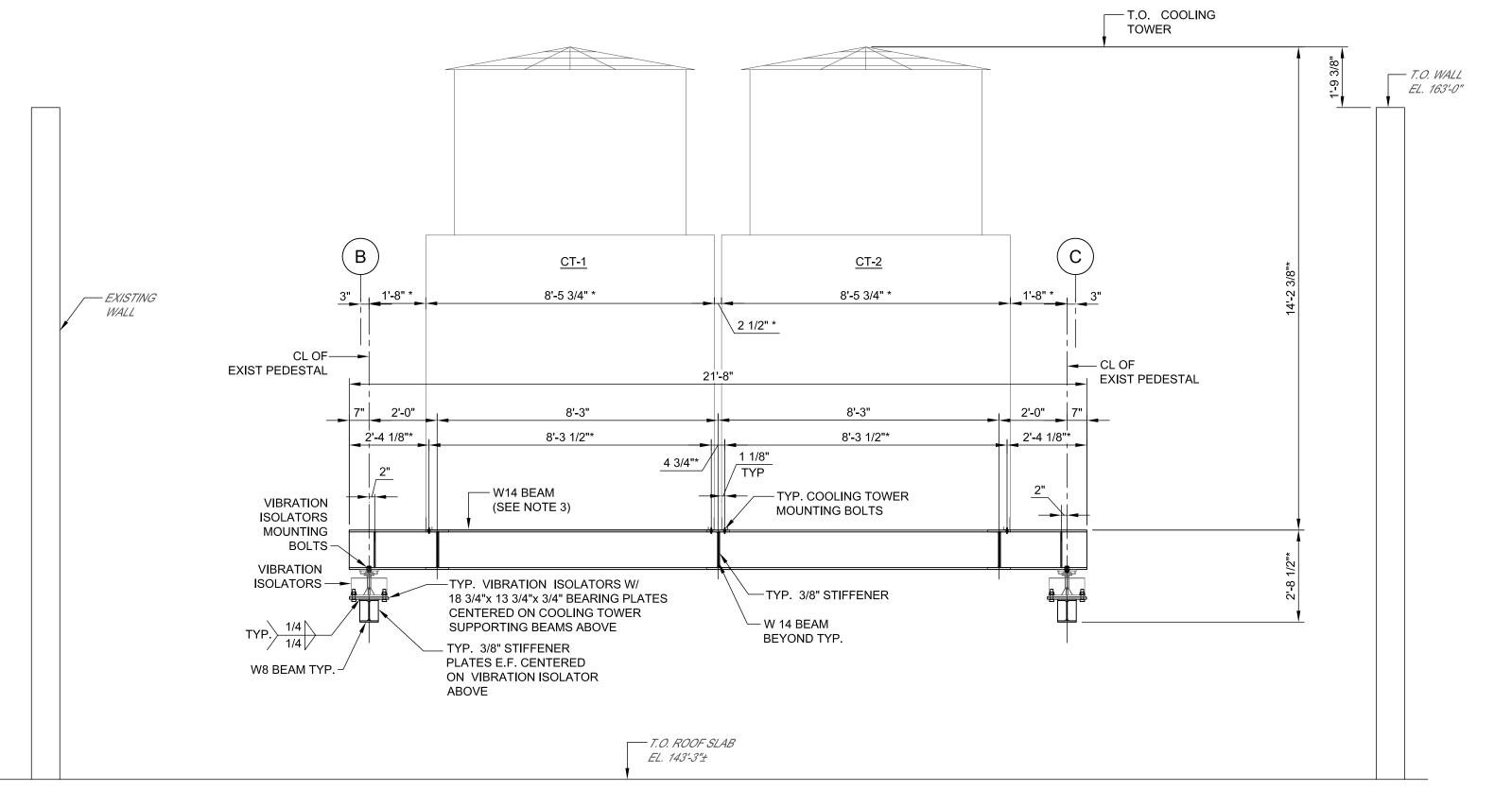
COOLING TOWER

REPLACEMENT

LIN ASSOCIATES, INC.
CONSULTING ENGINEERS
(617)566-4216 FAX. (617)566-6038
BRIGHTON FAX. (617)566-6038



NOTES:
1. (*) ASTERISKS INDICATES DIMENSIONS TO BE COORDINATED WITH EQUIPMENT SUPPORT REQUIREMENTS.
2. (VIF) INDICATES DIMENSIONS TO BE VERIFY IN FIELD.
3. SUPPORT STEEL BEAMS TO BE INSTALLED LEVEL.
4. REMOVE THE TOP 14" OF THE EXISTING CONCRETE PEDESTAL WHILE PRESERVING ALL OF THE EXISTING VERTICAL REBARS (DO NOT CUT) AND RECAST THE TOP OF 18"X18" CONCRETE PEDESTAL FOR NEW BEARING WITH CAST-IN #4 TIES AND ANCHOR BOLTS TO THE SAME TOP OF CONCRETE ELEVATIONS FOR ALL OF THE PEDESTAL TO ALLOW FOR A LEVEL STEEL SUPPORT BEAMS INSTALLATION.



SECTION 2 SCALE 3/8"=1'-0" S101

NOTES:

1. (*) ASTERISKS INDICATES DIMENSIONS TO BE COORDINATED WITH EQUIPMENT SUPPORT REQUIREMENTS INCLUDING FRAMING SPACING AND MOUNTING BOLTS LOCATIONS.

2. (VIF) INDICATES DIMENSIONS TO BE VERIFY IN FIELD.

3. SUPPORT STEEL BEAMS TO BE INSTALLED LEVEL.

Revisions:

No. Description

Date

Project Number:

Drawn Bv:

Drawn By:
RL
Chck'd By:
GK
Scale:
AS NOTED
Date:
01/14/2022

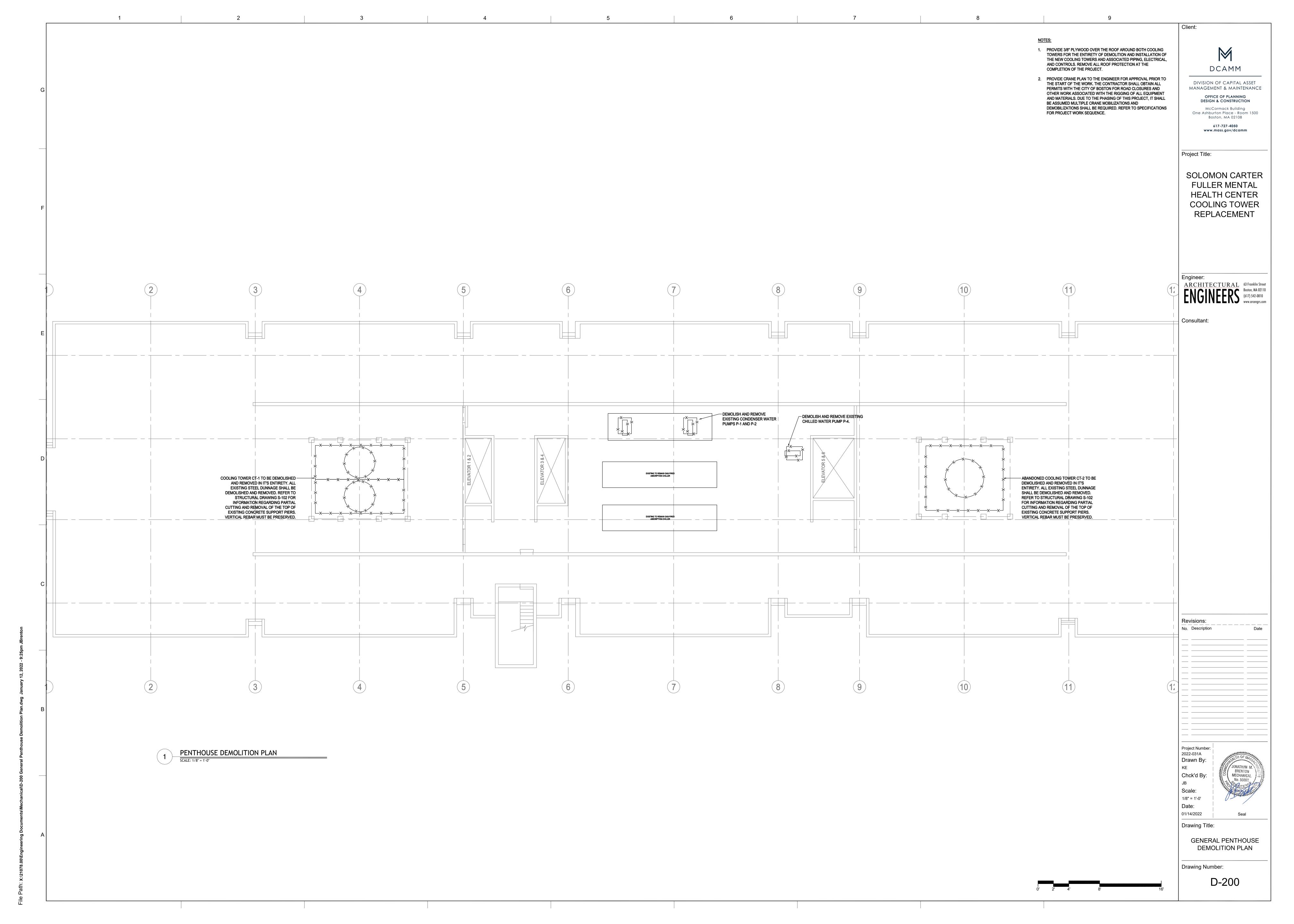
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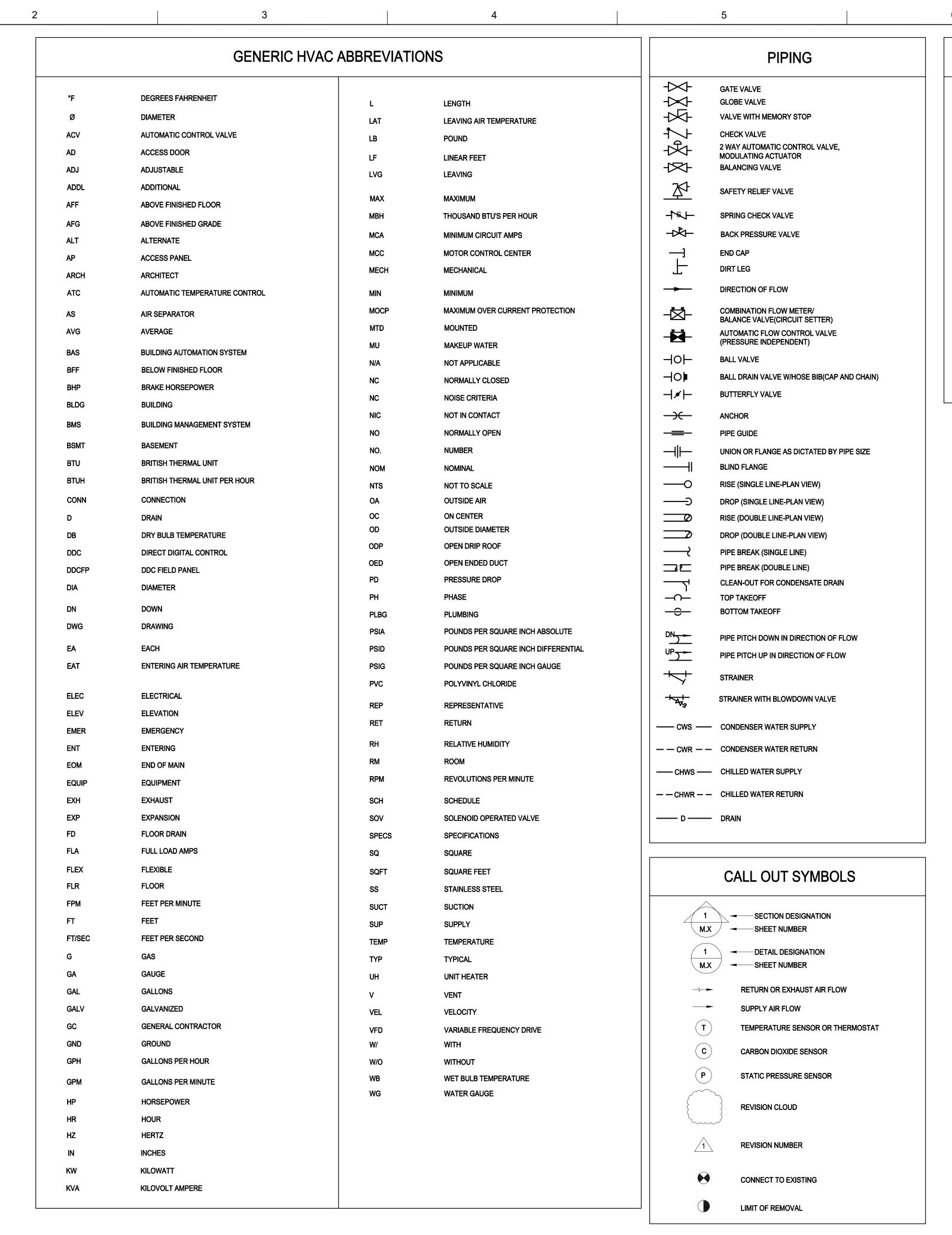
SECTIONS AND DETAILS

Drawing Number:

S102

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EQUIPMENT ----- NEW WORK EXISTING WORK TO REMAIN XXXX EXISTING WORK TO BE DEMOLISHED EQUIPMENT REQUIRING ELECTRICAL CONNECTION **COOLING TOWER**

EQUIPMENT NOT REQUIRING ELECTRICAL CONNECTION

HEAT EXCHANGER

AIR/DIRT SEPARATOR

MECHANICAL NOTES

- THIS CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL OTHER FEATURES OF BUILDING CONSTRUCTION WHICH MAY EFFECT HIS WORK AND BE GOVERNED BY THESE SPECIFICATIONS, INCLUDING DIVISION 1.
- PRIOR TO FABRICATION OF DUCTWORK, CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ENGINEER OF ANY CONFLICT ENCOUNTERED.
- CONTRACTOR SHALL COORDINATE LOCATION OF ALL DUCTWORK WITH LIGHTING AND THE WORK OF ALL OTHER TRADES. PROVIDE LOCATIONS IN COORDINATION DRAWINGS.
- MOUNT THERMOSTATS AT 54" MAXIMUM ABOVE THE FINISHED FLOOR.
- ALL WALL PENETRATIONS IN FULL HEIGHT PARTITIONS FOR DUCTWORK OR PIPING SHALL BE SEALED TO PREVENT ANY SOUND TRANSMISSION.
- 6. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL PARTS, LABOR, EQUIPMENT, MATERIALS, HOISTING, TRANSPORTATION, SUPERVISION, TESTING, ADJUSTING AND BALANCING, AS REQUIRED TO INSURE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THESE DRAWINGS.
- SUBSTITUTIONS SHALL NOT PROVIDE LESS EFFICIENT EQUIPMENT RESULTING IN HIGHER
- CLEARANCE SHALL BE MAINTAINED FOR ALL EQUIPMENT AS RECOMMENDED BY THE

POWER REQUIREMENTS.

GENERAL HVAC DEMOLITION NOTES

- THE DEMOLITION PLAN IS INTENDED TO PROVIDE THE CONTRACTOR WITH A GENERAL KNOWLEDGE OF THE EXISTING CONDITIONS WITHIN THE PROJECT AREA. EXISTING EQUIPMENT, STRUCTURE, DUCTWORK, ETC. LOCATED ON DRAWING WERE DERIVED FROM EXISTING DRAWINGS AND LIMITED FIELD OBSERVATIONS. THIS DRAWING MAY NOT BE ALL INCLUSIVE OF SERVICES THAT EXIST IN THE PROJECT AREA. CONTRACTOR SHALL VERIFY SERVICES AND LOCATIONS PRIOR TO ANY DEMOLITION WORK. ANY DEVIATIONS IMPACTING WORK SHOWN ON THESE DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO BEGINNING DEMOLITION. BEGINNING OF DEMOLITION SHALL SIGNIFY CONTRACTORS ACCEPTANCE OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR NOT.
- CONTRACTOR SHALL PERFORM A SURVEY TO FIELD-VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO PROCUREMENT OR FABRICATION. FIELD CONDITIONS SHALL GOVERN. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT. COST OF REROUTING DUCTWORK OR PIPING DUE TO CONFLICTS WITH EXISTING CONDITIONS SHALL BE PAID BY CONTRACTOR.
- CONTRACTOR SHALL NOT REUSE EQUIPMENT UNLESS DIRECTED TO DO SO.
- PROPERLY REMOVE AND DISPOSE OF ALL EXISTING TO BE REMOVED HVAC DUCTWORK AND AIR DISTRIBUTION DEVICES. CONSULT WITH OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
- PATCH HOLES LEFT IN WALLS AND FLOORS AFTER REMOVAL OF EXISTING DUCTWORK, CONDUIT, ETC. TO MATCH NEW OR EXISTING CONSTRUCTION AND FIRE RATING. THIS INCLUDES ANY EXISTING OPENINGS IN RATED WALLS OR FLOORS.
- PROVIDE TEMPORARY CONSTRUCTION FILTERS FOR ALL AIR DISTRIBUTION DEVICE LOCATED WITHIN SCOPE OF WORK.
- SAFE-OFF EQUIPMENT PRIOR TO DEMOLITION. DEMO AND REMOVE DUCTWORK AND EQUIPMENT DASHED IN AREA OF WORK TO EXTENTS SHOWN. INCLUDING BUT NOT LIMITED TO DUCTWORK, EQUIPMENT, INSULATION, HANGERS, SUPPORTS, ELECTRICAL, AND CONTROLS. CAP, REPAIR INSULATION, AND PREPARE FOR NEW CONNECTIONS. REMOVE EQUIPMENT ASSOCIATED BRANCH PNEUMATIC AIR TUBING TO BE CAPPED AT MAIN LINE TAKE-OFFS. PNEUMATIC AIR TUBING TO BE REMOVED SHALL BE DONE WITH EXTREME CARE.



Client:

DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE OFFICE OF PLANNING DESIGN & CONSTRUCTION

> One Ashburton Place - Room 1500 Boston, MA 02108 617-727-4050

McCormack Building

www.mass.gov/dcamm

Project Title:

SOLOMON CARTER **FULLER MENTAL HEALTH CENTER COOLING TOWER** REPLACEMENT

ARCHITECTURAL 63 Franklin Street

Consultant:

No. Description Project Number: 2022-031A

Revisions:

JONATHAN M.

MECHANICAL No. 50892

Drawn By: Chck'd By: Scale: NTS Date:

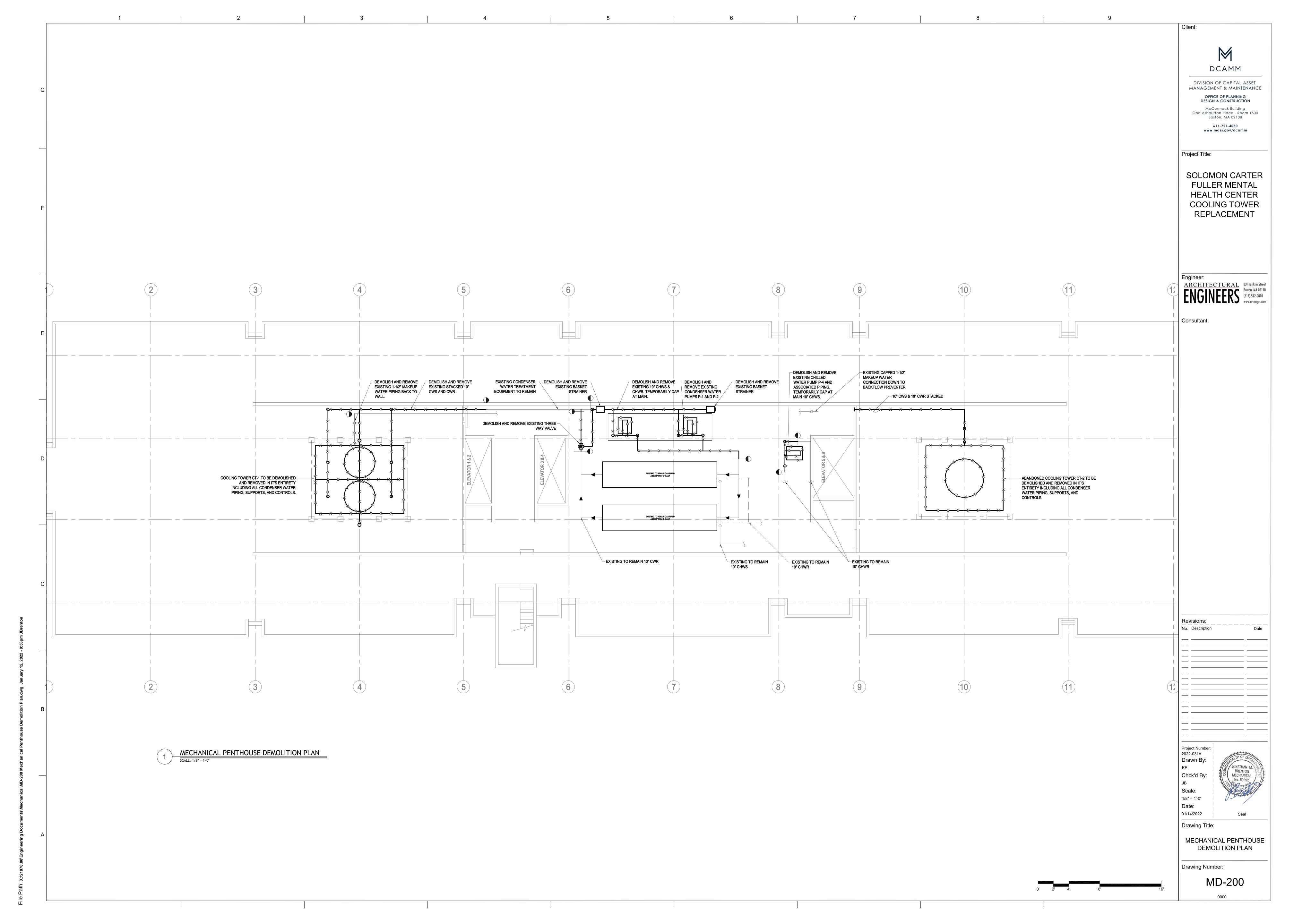
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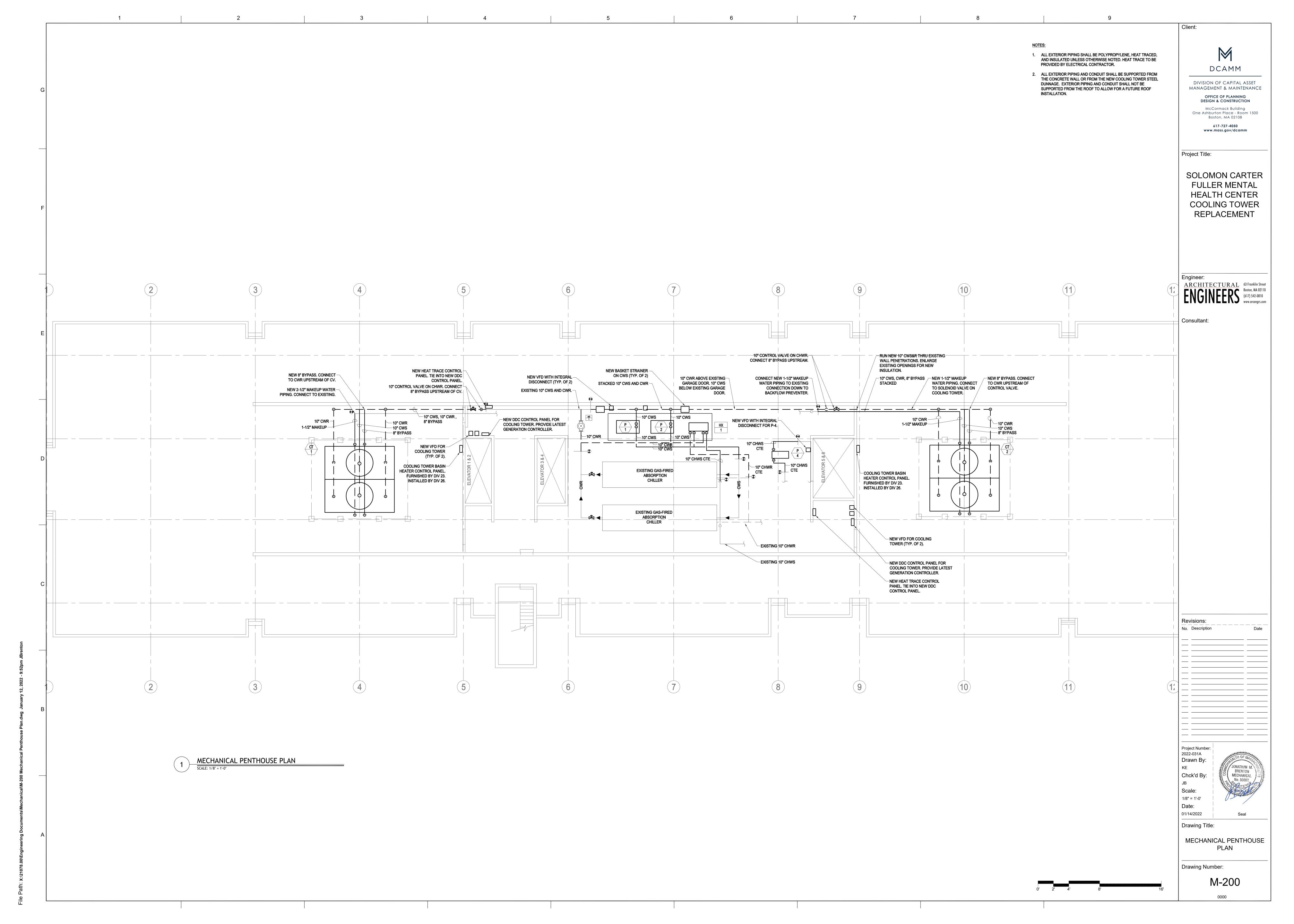
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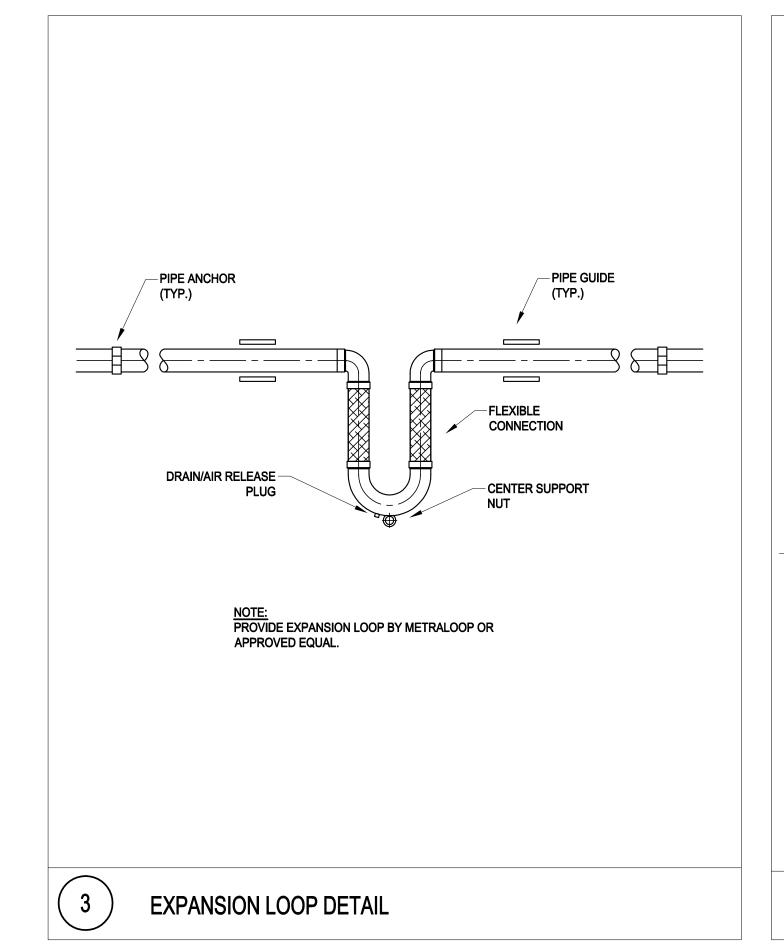
MECHANICAL LEGEND, NOTES, & ABBREVIATIONS

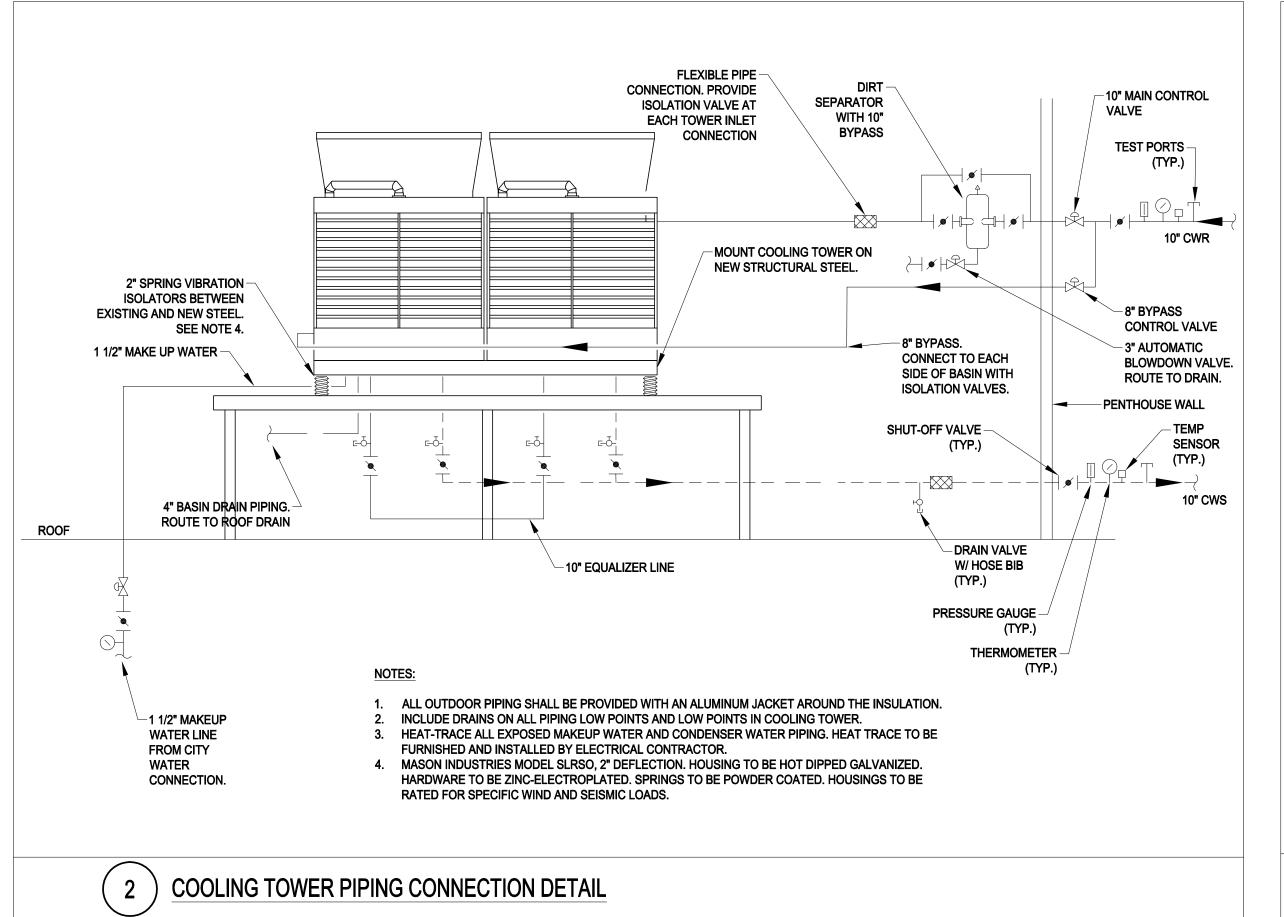
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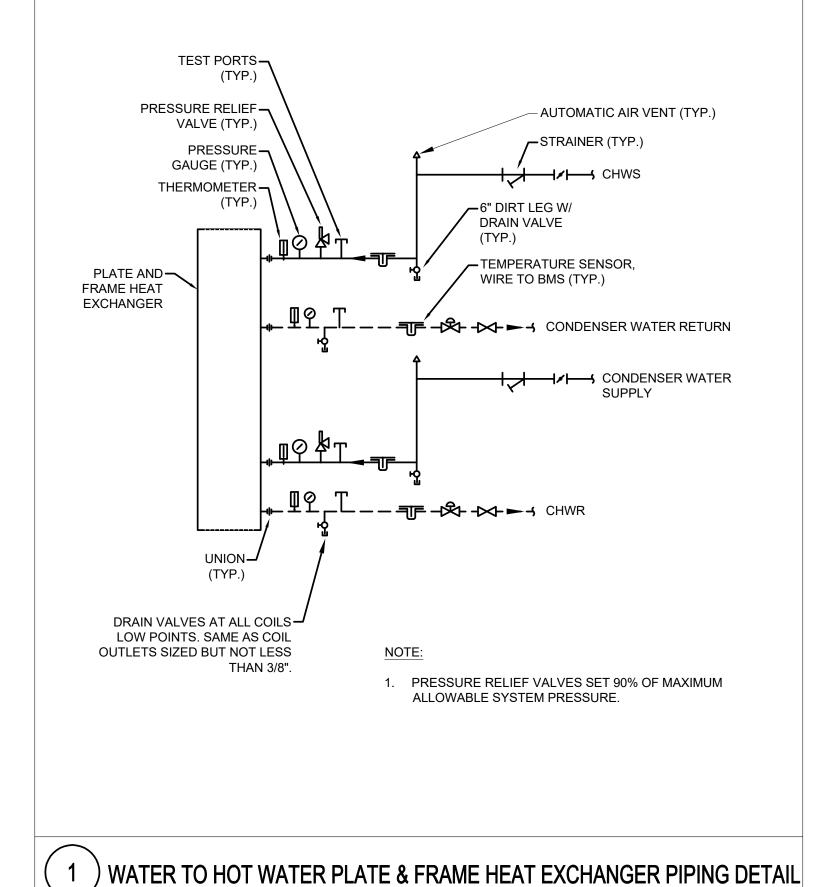
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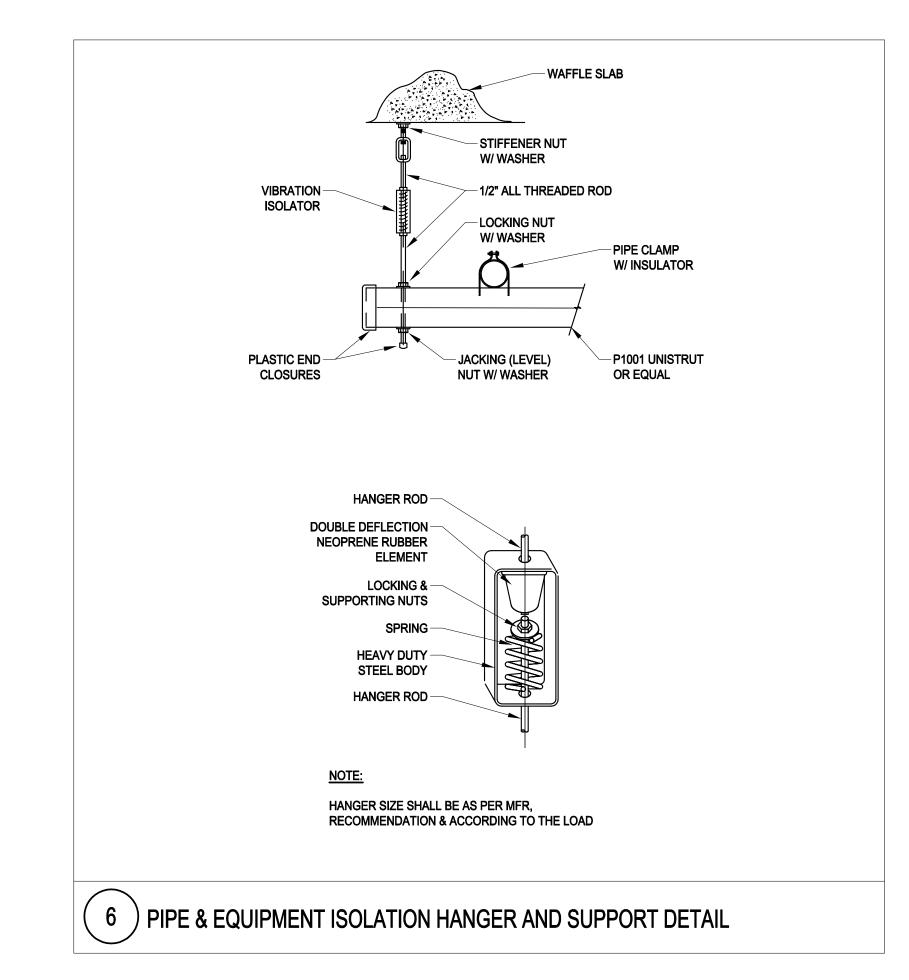


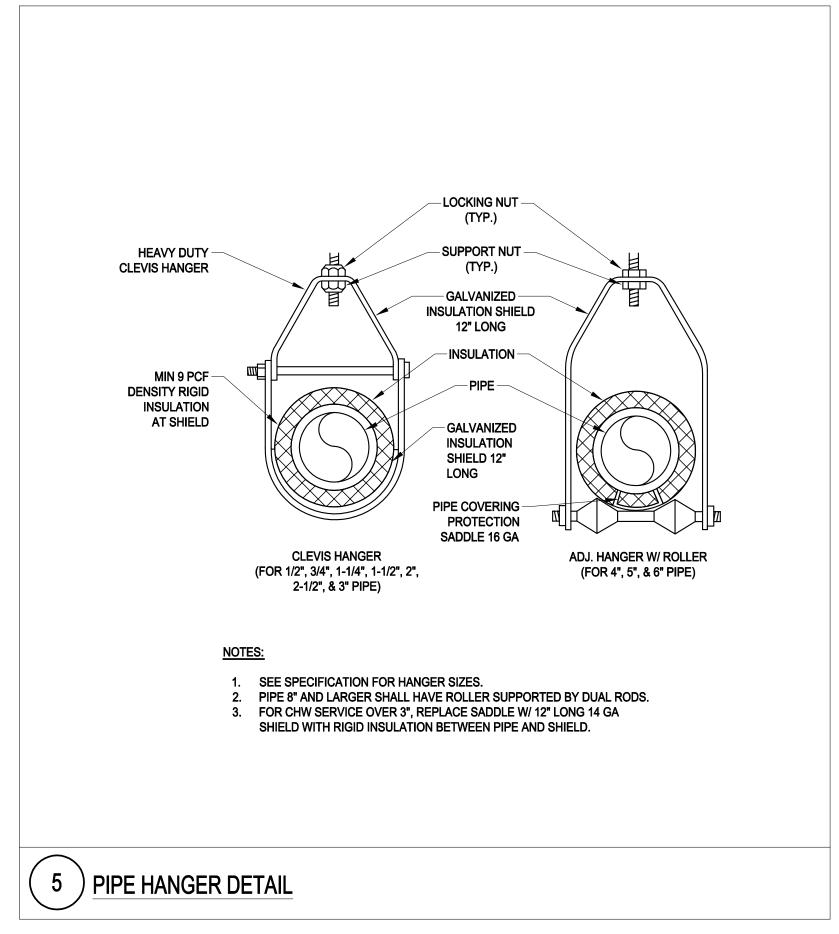


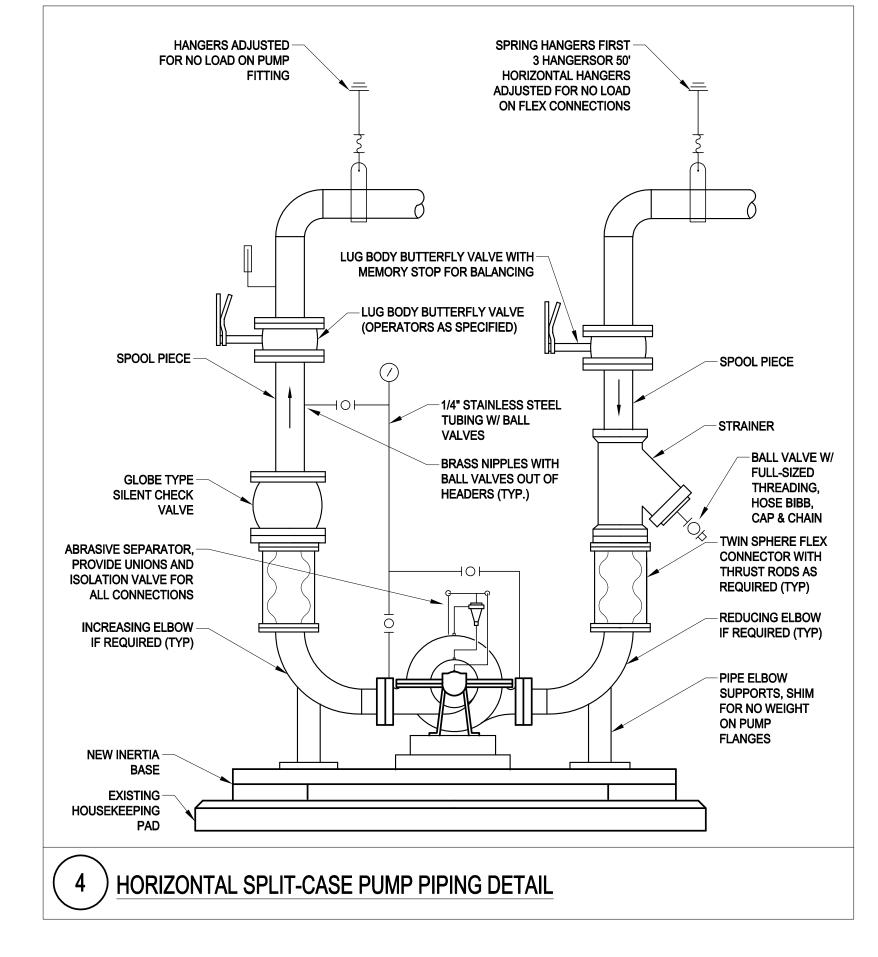














Project Title:

SOLOMON CARTER
FULLER MENTAL
HEALTH CENTER
COOLING TOWER
REPLACEMENT

Engineer:

ARCHITECTURAL
Boston, MA 02110
(617) 542-0810
www.arcengrs.com

Consultant:

Revisions:

No. Description

Date

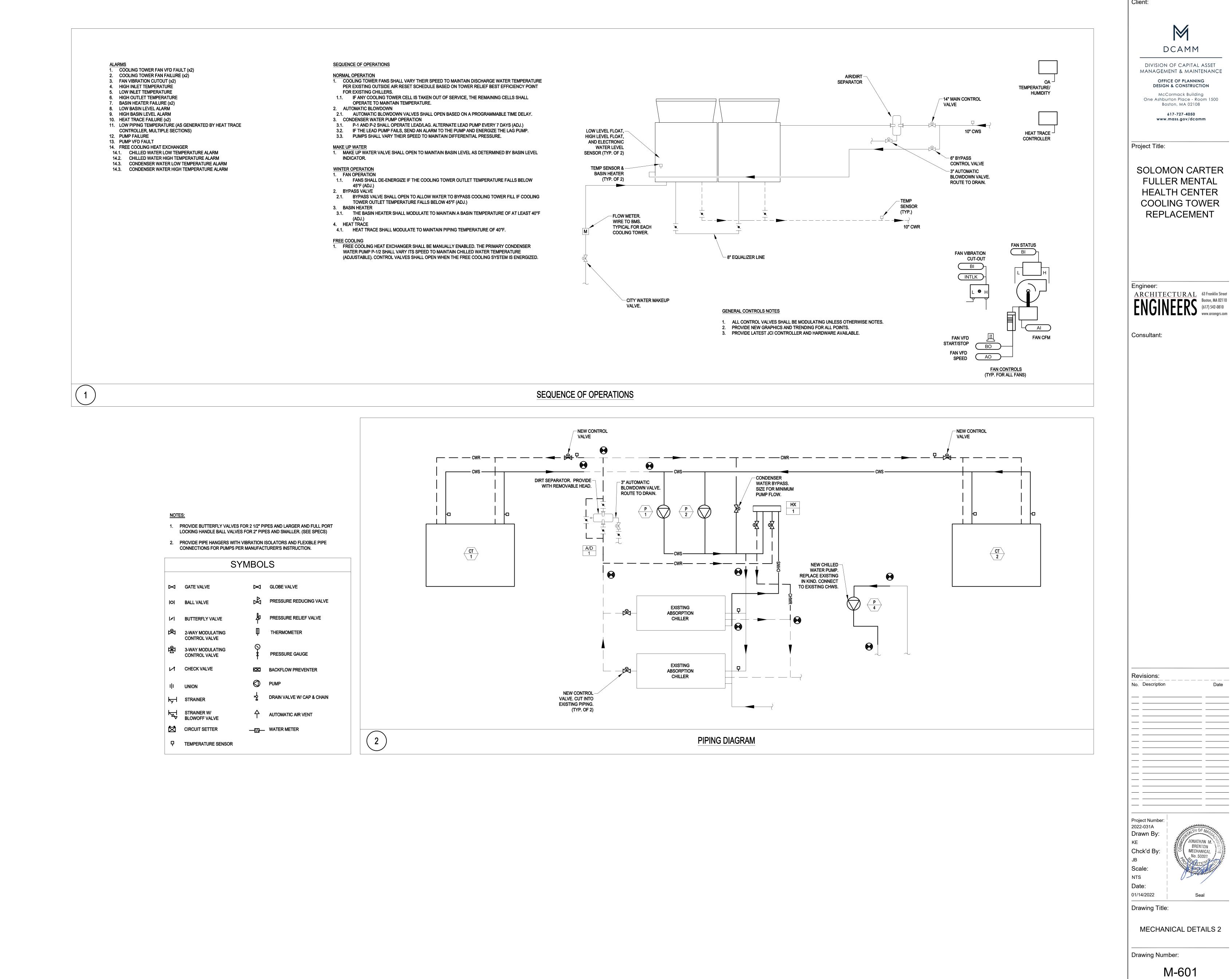
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2022-031A
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KE
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JB
Scale:
NTS
Date:
01/14/2022
Seal

Drawing Title:

MECHANICAL DETAILS 1

Drawing Number:

M-600



DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE DESIGN & CONSTRUCTION

SOLOMON CARTER **FULLER MENTAL HEALTH CENTER COOLING TOWER**

OPEN CELL	COOLING '	TOWER SCHEDU	JLI

0. 1. 011.		O 1011LI	OOHEDOL														
SYMBOL	LOCATION	STYLE	NOMINAL	AIRFLOW (CFM)	OUTDOOR WB	FLUID (WATER)				WEIGHT (L	В)		ELECTRIC	AL		MANUFACTURER /	
STMBOL	LOCATION	SITLE	CAPACITY (TONS)	AIRFLOW (OFW)	TEMP (°F)	ENT (°F)	LVG (°F)	GPM	FLUID P.D. (PSI)	SHIPPING	OPERATING	HEAVIEST SECTION	FAN MOTOR HP	V	PH	HZ	MODEL NUMBER
CT-1	WEST ROOF	INDUCED DRAFT, CROSSFLOW	750	85,629	77.8	95	85	1,800	3.75	19,795	34,075	9,343	2 x 20 HP	480	3	60	BAC SERIES 3000
CT-2	EAST ROOF	INDUCED DRAFT, CROSSFLOW	750	85,629	77.8	95	85	1,800	3.75	19,795	34,075	9,343	2 x 20 HP	480	3	60	BAC SERIES 3000

NOTES:

1. MOUNT ON NEW DUNNAGE.

2. CONNECT TO NEW BUILDING BMS.

3. PROVIDE (2) 9kW ELECTRIC BASIN HEATERS PER TOWER TO MAINTAIN 40°F BASIN TEMP.

4. PROVIDE JE PREMIER SERIES CONSTRUCTION.

5. DIRECT DRIVE MOTOR

6. LOW SOUND FAN LOW SOUND FAN
 PROVIDE EQUALIZER PIPING BETWEEN EACH SECTION WITH A STAINLESS STEEL ISOLATION VALVE.
 PROVIDE PREFABRICATED PIPING ARRANGEMENT BETWEEN TOWER SECTIONS.
 PROVIDE WEIR DAMS.
 STANDARD FILL.
 PROVIDE VELOCITY RECOVERY STACKS FOR EACH TOWER.

12. PROVIDE COMBINED INLET SHIELDS 13. PROVIDE VIBRATION CUTOUT SWITCH

14. PROVIDE EXTENDED LUBRICATION LINES. 15. PROVIDE ELECTRIC WATER LEVEL CONTROL.

16. PROVIDE SIDE OUTLET DEPRESSED SUMP BOX. 17. PROVIDE LOW AND HIGH LEVEL ALARM FLOAT SWITCHES.

18. PROVIDE MOTOR REMOVAL SYSTEM. 19. PROVIDE EXTERNAL PLATFORM AND LADDER PACKAGE.

20. PROVIDE ACCESS DOOR PLATFORM AND LADDER.

21. PROVIDE HANDRAILS PACKAGE. 22. PROVIDE INTERNAL WALKWAY.

23. PROVIDE INTERNAL SERVICE PLATFORM AND LADDER PACKAGE.

DI	IMID	SCH	IEDI	Ш

PUIVIP SCH	IEDOLE																				
SYMBOL	SERVICE	LOCATION	TYPE	FLUI	FLUID		HEAD (FT.)	EFFICIENCY	NOL HP	PUMP RPM	IMP. DIA. (IN.)	NPSH (FT.)	ELECTRICAI		ELECTRICAL		ELEC			MANUFACTURER / MODEL NUMBER	REMARKS
STMBOL	SERVICE	LOCATION	ITPE	TYPE	TEMP.	- GPM		HEAD (F1.) EFFICIENCY NOL HP		PUWIF KPIWI	IIVIF . DIA. (IIV.)	Will : Birk: (III.)		٧	PH	WANDFACTURER / WODEL NOWDER	REWARRS				
P-1	CONDENSER WATER	PENTHOUSE	VERTICAL SPLIT-CASE	WATER	85	1,800	50	71%	37.52	1160	11.25	8	40	480	3	TACO TC100813	PROVIDE WITH WALL-MOUNTED VFD				
P-2	CONDENSER WATER	PENTHOUSE	VERTICAL SPLIT-CASE	WATER	85	1,800	50	71%	37.52	1160	11.25	8	40	480	3	TACO TC100813	PROVIDE WITH WALL-MOUNTED VFD				
P-4	CHILLED WATER	2ND FLOOR MECHANICAL	HORIZONTAL SPLIT-CASE	WATER	42	920	120	81%	45.55	1760	11.00	14	50	460	3	TACO HS060512	PROVIDE WITH WALL-MOUNTED VFD				

PROVIDE 300# FITTINGS
 CONNECT TO NEW BUILDING MANAGEMENT SYSTEM

PLATE AND FRAME HEAT EXCHANGER

Ī	SYMBOL	LOCATION	NUMBER OF	CO	LD SIDE (CON	DENSER WAT	ER)	ŀ	HOT SIDE (CH	IILLED WATE	R)	OPERATING WEIGHT	MANUFACTURER / MODEL NUMBER	REMARKS
	STMBOL	LOCATION	PLATES	GPM	EWT (°F)	LWT (°F)	ΔP (PSI)	GPM	EWT (°F)	LWT (°F)	ΔP (PSI)	(LBS.)	MANUFACTURER/ MODEL NUMBER	
Ī	HX-1	PENTHOUSE	-	450	41	51	6.4	451	54	44	6.4	3,330	ALFA LAVAL AQ6-FG	-

1. 304 SS PLATES. 6", 300# FLANGED CONNECTIONS.
 INSULATE HEAT EXCHANGER LEAVING NAMEPLATE DATA VISIBLE.

DIRT SEPARATOR

		/1 \				
SYMBOL	SERVICE	FLOW RATE (GPM)	PIPE SIZE (IN)	OPERATING WEIGHT (LBS)	MANUFACTURER / MODEL #	REMARKS
A/D-1	CONDENSER WATER LOOP	1,800	10	-	ORIVAL OR-10	SEE NOTES

1. CARBON STEEL CONSTRUCTION.

2. PROVIDE REMOVABLE HEAD. 3. PROVIDE 2-WAY DRAIN VALVE WITH AUTOMATIC FLUSH CYCLE. Client:



DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE OFFICE OF PLANNING DESIGN & CONSTRUCTION

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SOLOMON CARTER **FULLER MENTAL HEALTH CENTER COOLING TOWER** REPLACEMENT

ARCHITECTURAL

Boston, MA 02110
(617) 542-0810
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Consultant:

Revisions: No. Description

Drawn By: Chck'd By:

NTS 01/14/2022

Drawing Title:

MECHANICAL SCHEDULES

Drawing Number:

M-700

MECHANICAL No. 50892

		MECH	ANIC	CAL,	/PLU	JMB	ING E	QUIP	MENT COO	RD	INA	TIC	N SC	CHEDULE
EQUIP. TAG	EQUIDA4ENT	LOCATION	EL	ECTRIC	AL DATA		DANIEL	CKT DDK	FFFDFD		COI	NECTIO	NC NC	DEALA DICC
	EQUIPMENT	LOCATION	МОСР	MCA	VOLTS	PH	PANEL	CKT. BRK.	FEEDER	Sm [3	₩ ~	WP D	REMARKS
P-1	PUMP	PENTHOUSE	125	48.0	480	3	МСС	125-3P	2#1/01#46.11/2#6			v v		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
F-1	FUMF	PENTHOUSE	123	46.0	460	3	MCC	125-36	3#1/0,1#6G;1-1/2" C			x x		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
P-2	HEAT PUMP	PENTHOUSE	125	48.0	480	3	MCC	125-3P	2#1/0 1#46.1 1/2"6			хх		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
Γ-2	HEAT FUNT	PENTHOUSE	123	40.0	460	3	MCC	123-36	3#1/0,1#6G;1-1/2" C			^ ^		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
P-4	HEAT PUMP	PENTHOUSE	125	55.0	480	3	MCC	125-3P	3#1/0,1#6G;1-1/2" C			хх		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
Γ-4	HEAT FUNT	PENTHOUSE	123	35.0	460	3	MCC	125-36	3# 1/0,1#6G;1-1/2 C			^ ^		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
CT-1	COOLING TOWER	PENTHOUSE	44	22.0	480	3	MCC	50-3P	3#6,#10G; 1" C			хх		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
C1-1	COOLING TOWER	PENTHOUSE	44	22.0	460	3	MCC	30-31	3#6,#10G; 1 C			^ ^		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
CT-1	COOLING TOWER	PENTHOUSE	44	22.0	480	3	МСС	50-3P	3#6,#10G; 1" C			хх		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
CI-I	COOLING TOWER	TENTHOUSE	44	22.0	460		NCC .	30-31	3#8,#100,1 C			^ ^		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
CT-2	COOLING TOWER	PENTHOUSE	44	22.0	480	3	мсс	50-3P	3#6,#10G; 1" C			$\mathbf{x} \mid \mathbf{x}$		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
C1-2	COOLINO TOWER	TENTHOUSE	44	22.0	400		700	30-31	3#0,#100,1 C			^ ^		VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.
CT-2	COOLING TOWER	PENTHOUSE	44	22.0	480	3	мсс	50-3P	3#6,#10G; 1" C			х х		PROVIDE WIRING AS SHOWN TO DISCONNECT SWITCH,
C1-2	COOLII TO TOTTER	TEITHIOOSE	-7-7	22.0	00		,,,,,	30-01	0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					VFD, AND MAKE FINAL CONNECTION TO THE EQUIPMENT.

	Location: SWITCH GEAR ROOM Supply From: Mounting: SURFACE Enclosure:	Volts: 480Y/27 Phases: 3 Wires: 4	(1		A.I.C. Rating Mains Type Mains Rating MCB Rating	e: MCB j: 1200.0 A
	E EXISTING BUCKET WITH NEW BUCKET WITH A BREAKER W OR USE IN EXISTING MOTOR CONTROL CENTER.	ITH RATING AS SHOWN. THE E	BUCKET AND BR	EAKER SHALL B	E UL	
CKT 41	Circuit Description EXISTING LOAD	# of Poles	Frame Size	Trip Rating	Load	Remarks
42	EXISTING LOAD	3				
43	EXISTING LOAD	3				
44	EXISTING LOAD EXISTING LOAD	3				
45 46	EXISTING LOAD EXISTING LOAD	3 3				
47	EXISTING LOAD	3				
48	EXISTING LOAD	3				
49	EXISTING LOAD	3				
50 51	EXISTING LOAD EXISTING LOAD	3 3				
52	EXISTING LOAD EXISTING LOAD	3				
53	EXISTING LOAD	3				
54	EXISTING LOAD	3				
55 56	EXISTING LOAD EXISTING LOAD	3				
56	EXISTING LOAD EXISTING LOAD	3 3				
59	EXISTING LOAD	3				<u> </u>
60	EXISTING LOAD	3				
61	EXISTING LOAD	3				
62 63	EXISTING LOAD EXISTING LOAD	3 3				
64	EXISTING LOAD EXISTING LOAD	3				
65	EXISTING LOAD	3				
66	EXISTING LOAD	3				
67	EXISTING LOAD EXISTING LOAD	3				
68 69	EXISTING LOAD EXISTING LOAD	3 3				1
70	EXISTING LOAD	3				<u> </u>
71	EXISTING LOAD	3				
72	EXISTING LOAD	3				
73 74	EXISTING LOAD EXISTING LOAD	3 3				<u> </u>
75	EXISTING LOAD EXISTING LOAD	3				
76	EXISTING LOAD	3				
77	EXISTING LOAD	3				
78 79	EXISTING LOAD	3				
80	EXISTING LOAD EXISTING LOAD	3 3				
81	EXISTING LOAD	3				
82	EXISTING LOAD	3				
83	EXISTING LOAD	3				
84 85	EXISTING LOAD P1	3	125.0 A	125.0 A		NOTE 1
86	P2	3 3	125.0 A	125.0 A		NOTE 1
87	EXISTING LOAD	3		0.07.		
88	P4	3	125.0A	125.0 A		NOTE 1
89 90	EXISTING LOAD	3				
90	EXISTING LOAD EXISTING LOAD	3 3				
92	EXISTING LOAD	3				
93	CT-1	3	50.0A	50.0A		NOTE 1
94	CT-2	3	50.0A	50.0A		NOTE 1
95 96	EXISTING LOAD EXISTING LOAD	3 3				
97	EXISTING LOAD	3				<u> </u>
98	EXISTING LOAD	3				
99	EXISTING LOAD	3				
100	CT-1 CT-2	3	50.0A	50.0A		NOTE 1 NOTE 1
101 102	BASIN HEAT CONTROL PANEL	3 3	50.0A 15.0A	50.0A 15.0A		INOILI
103	BASIN HEAT CONTROL PANEL	3	15.0A	15.0A		
104	EXISTING LOAD	3				
105	EXISTING LOAD	3				
106 107	EXISTING LOAD EXISTING LOAD	3 3				
101	EMOTINO LOND	<u> </u>				
			То	tal Conn. Load:		
				Total Amps:		-

Switchboard: MCC

	EXISTING	PA	NELE	30A	RD SCHEDUL	.E					
PANEL:	# L-10W LOCATION: MAI	N SWITC	H BOARD	MAINS 100 ENCLOSURE							
	ROOM			BREAKER: 60 AMP 3 POLE NEMA 1							
SERVIC	DE: <u>VOLT:</u> 120/208 <u>PHASE:</u> 3 V	VIRE: 4		SURFACE MOUNTED							
				TOP SU	JRFACE MOUNTED						
		BRE	AKER			BRI	EAKER				
CKT	DESCRIPTION	TRIP	POLES	СКТ	DESCRIPTION	TRIP	POLES				
1				2	EXISTING LOAD	20	1				
3	EXISTING LOAD	60	3	4	EXISTING LOAD	20	1				
5				6	EXISTING LOAD	20	1				
7	EXISTING LOAD	30	2	8	EXISTING LOAD	20	1				
9	EXISTING LOAD	↓		10	EXISTING LOAD	20	1				
11	EXISTING LOAD	30	2	12	EXISTING LOAD	20	1				
13	EXISTING LOAD	40	2	14	EXISTING LOAD	20	1				
15	EXISTING LOAD	40	2	16	DDC CONTROL PANEL	20	1				
17	EXISTING LOAD	20	1	18	EXISTING LOAD	50	1				
19	WATER LEVEL COOLER	20	1	20	EXISTING LOAD	20	1				
21	WATER LEVEL COOLER	20	1	22	EXISTING LOAD	20	1				
23	HEAT TRACE PANEL	30	2	24	EXISTING LOAD	20	1				
25	HEAT TRACE PANEL	30		26	EXISTING LOAD	20	1				
27	HEAT TRACE PANEL	30	2	28	EXISTING LOAD	20	1				
29	IILAT TRACE PANEL	30		30	EXISTING LOAD	20	1				

ELI	ECT	RIC	AL	LE	GE	NI

LIGHT OUTLET & FIXTURE. LETTER REFERS TO FIXTURE SCHEDULE:

LIGHTING FIXTURE, CAPITAL LETTER INDICATES FIXTURE
TYPE, NUMERAL INDICATED CIRCUIT NUMBER AND SMALLER LETTER
a,b SWITCH CONTROL (EXR INDICATED EXISTING FIXTURE RELOCATED)

EMERGENCY LIGHTING UNIT (ELU)

SINGLE POLE SWITCH

LOW VOLTAGE SWITCH, SEE DETAIL THIS SHEET 20A, 1 POLE MOTOR RATED TOGGLE SWITCH

20A, 3 POLE MOTOR RATED TOGGLE SWITCH

COMBINATION MOTOR STARTER/DISCONNECT SWITCH

VARIABLE FREQUENCY DRIVE

DUPLEX - 20A, 125V, GROUNDING TYPE

DUPLEX - 20A, 125V, GROUND FAULT INTERRUPTER TYPE

CR CARD READER

DL DOOR LOCK

HOMERUN TO PANELBOARD; 2#12 & #12G IN 1/2"C. TO 20A.1P CIRCUIT BREAKER (TYPICAL UNLESS NOTED OTHERWISE)

TEL/DATA OUTLET

SMOKE DETECTOR, PHOTOELECTRIC TYPE - "D" INDICATES DUCT SMOKE DETECTOR

FIRE ALARM AUDIO/VISUAL DEVICE, WALL MTD 80" AFF

FIRE ALARM STROBE, WALL MTD 80" AFF.

FIRE ALARM AUDIO/VISUAL DEVICE, CEILING MTD

FIRE ALARM CONTROL PANEL

FIRE ALARM ISOLATION MODULE

FIRE ALARM MONITOR MODULE ММ

FLOW SWITCH

TAMPER SWITCH

SYSTEM, CARBON MONOXIDE SENSOR W/SOUNDER BASE

ABBREVIATIONS

AFF ABOVE FINISHED FLOOR

ELECTRICAL CONTRACTOR

EMERGENCY LIGHTING UNIT EXISTING TO REMAIN

EXISTING TO BE REMOVED

GROUND FAULT INTERRUPTER

MASSACHUSETTS ELECTRICAL CODE

NOT TO SCALE UNSHIELDED TWISTED PAIR

UNLESS OTHERWISE NOTED

WEATHER PROOF

NOT IN CONTRACT

PLUMBING FIXTURE

BASIN PROBE

AUTOMATIC DOOR OPENER WATER LEVEL CONTROLLER

BASIN HEATER

Revisions:

Client:

Project Title:

DCAMM

DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE

> OFFICE OF PLANNING DESIGN & CONSTRUCTION

McCormack Building One Ashburton Place - Room 1500

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SOLOMON CARTER

FULLER MENTAL

HEALTH CENTER

COOLING TOWER

REPLACEMENT

ARCHITECTURAL
Boston, MA 02110
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Consultant:

No. Description

NICOLA D. FERZACCA III ELECTRICAL No. 43208

Project Number: Drawn By: Chck'd By:

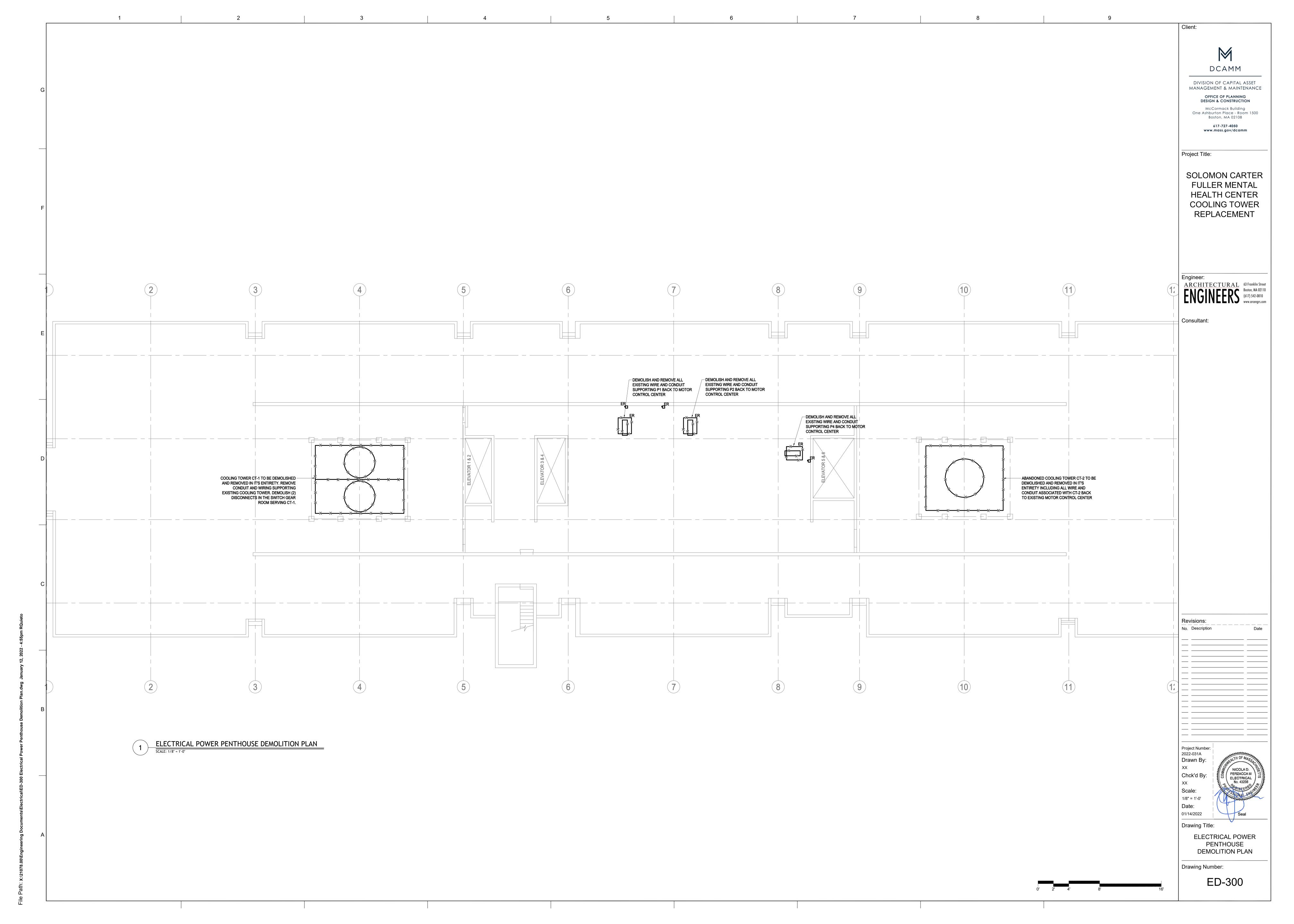
Drawing Title:

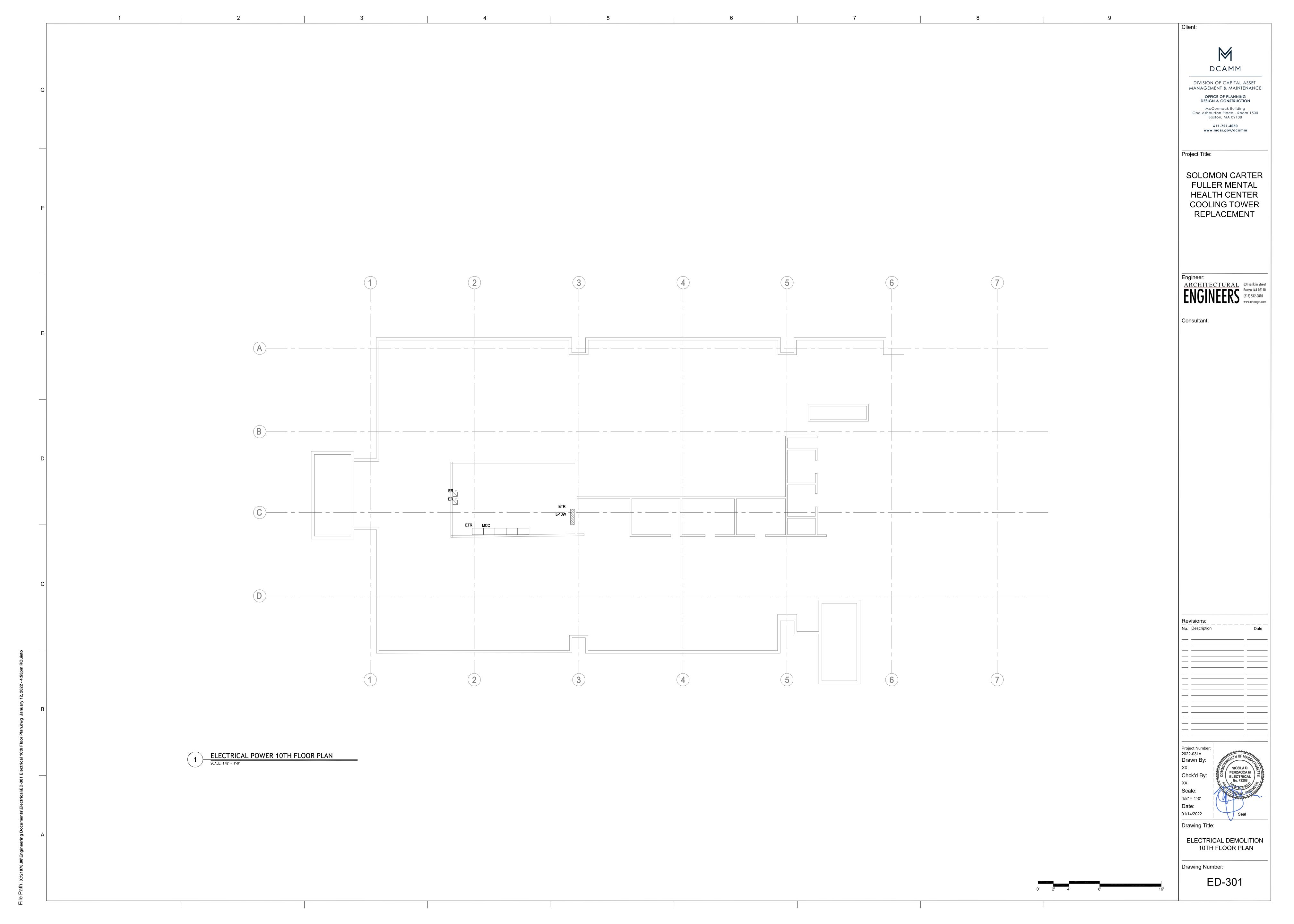
ELECTRICAL LEGEND, NOTES, & ABBREVIATIONS

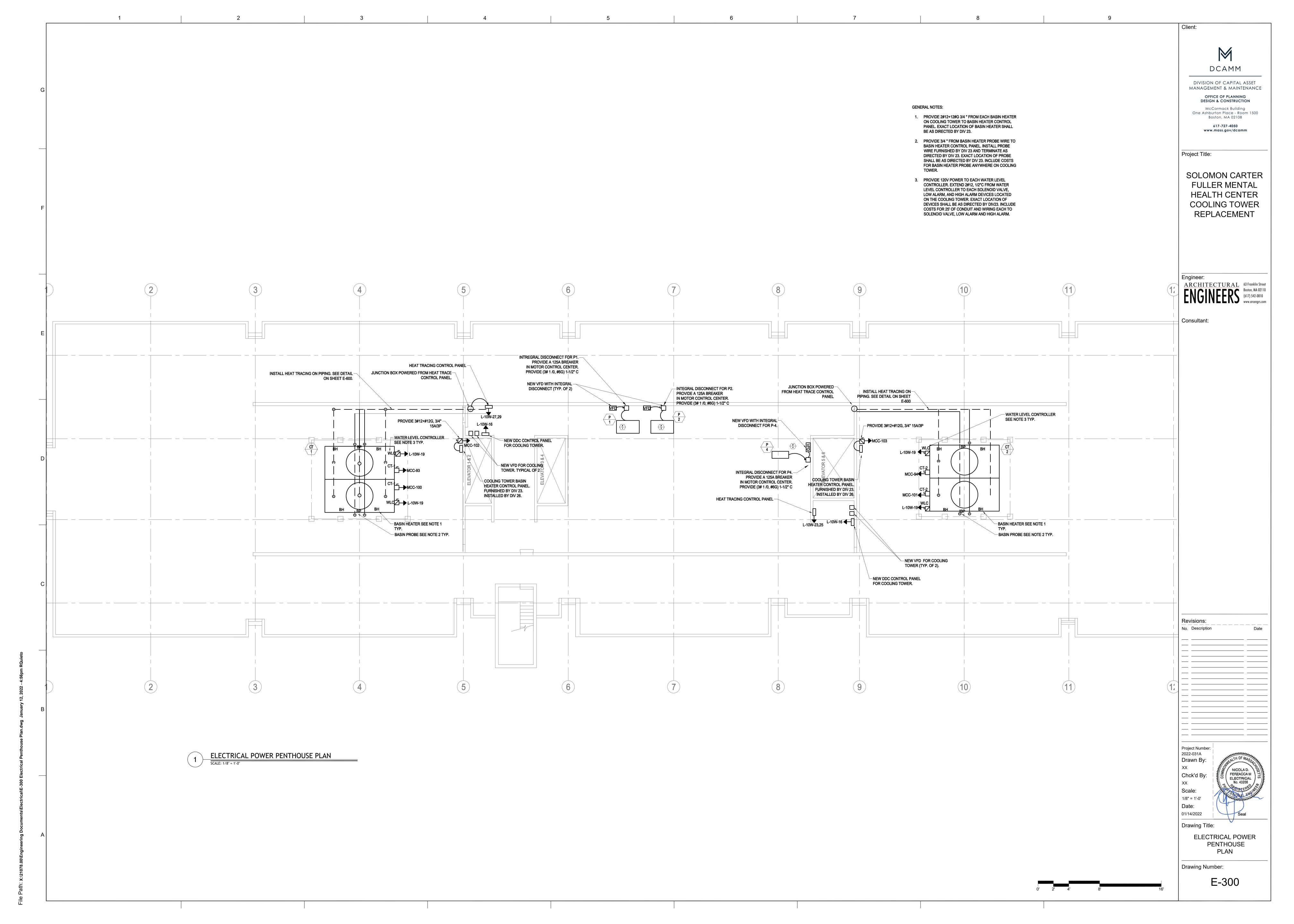
Drawing Number:

E-000

30 2.00.000 20.00







DCAMM DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE OFFICE OF PLANNING DESIGN & CONSTRUCTION McCormack Building One Ashburton Place - Room 1500 Boston, MA 02108 617-727-4050 www.mass.gov/dcamm Project Title: SOLOMON CARTER **FULLER MENTAL HEALTH CENTER** COOLING TOWER
REPLACEMENT Engineer:

ARCHITECTURAL
Boston, MA 02110
(617) 542-0810
www.arcengrs.com Consultant: ELECTRICAL POWER 10TH FLOOR PLAN

SCALE: 1/8" = 1'-0" Chck'd By: 01/14/2022 Drawing Title: ELECTRICAL POWER 10TH FLOOR PLAN Drawing Number: E-301

