

August 28, 2023

**ADDENDUM #1**

**TO CONTRACT DOCUMENTS FOR:** Project #CP230811 – IDEXX - Replace Chillers

**ADVERTISEMENT DATE:** July 28, 2023

**PREPARED FOR:** The Curators of the University of Missouri

**CONSULTANT:** RTM Engineering Consultants  
3701 S. Lindbergh Boulevard, Suite 204  
St. Louis, MO 63127  
(618) 737-0207

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The contract documents for the above noted project and the work covered thereby and herein modified.

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**GENERAL:**

- 1) The current estimated ship date for the chillers is February 23, 2024. The manufacturer (JCI/York) is estimating an additional week for consignment and travel time.

**PROJECT MANUAL:**

- 1) No changes.

**DRAWINGS:**

- 1) M000: Reference attached drawing.
  1. Added general note clarifying ceiling work requirements.
  2. Revised “Delivery and Staging Location” plan to indicate clearances required around existing fire hydrant for delivery and staging of new chillers.
- 2) M304: Reference attached drawing. Added location of existing thermostat associated with RTU-1.
- 3) M400: Reference attached drawing. Added section through exterior wall.

Attachments: Three drawings (M000, M304 and M400)

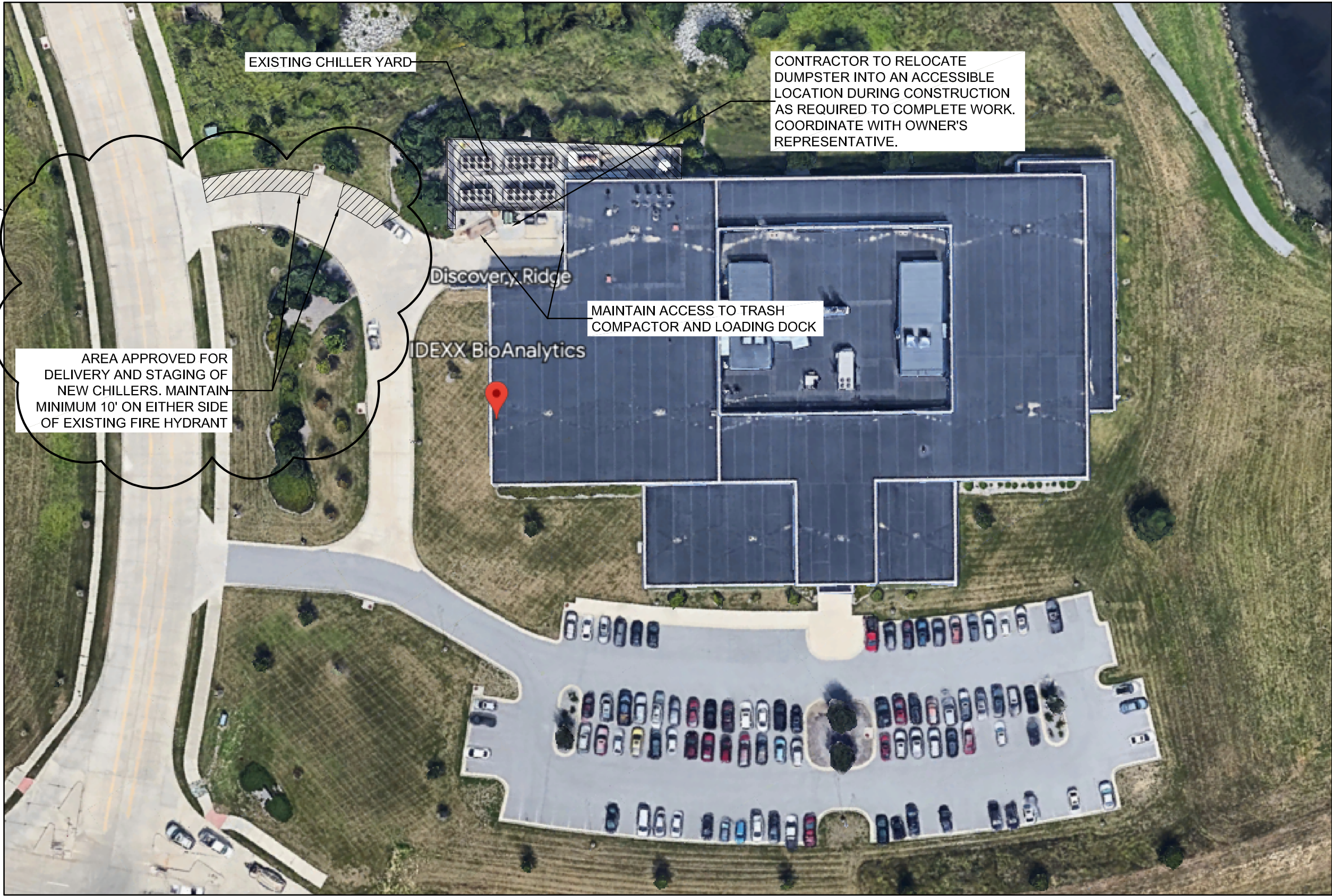
END OF ADDENDUM #1



GENERAL NOTES (APPLICABLE TO ALL SHEETS)

- A. INSTALL H.V.A.C. SYSTEM IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
- B. COORDINATE WORK WITH TRADES. REWORK OF PIPING, DUCTWORK, EQUIPMENT LOCATION, CONDUIT, ETC. AS A RESULT OF POOR PLANNING, COORDINATION OR SCHEDULING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ANY FRAMING REVISIONS, EQUIPMENT LOCATIONS, ADDITION OF CONTROLS, ELECTRICAL CIRCUITING REVISIONS, ETC. THAT RESULT FROM USING EQUIPMENT OTHER THAN INDICATED ON THE DRAWINGS. APPROVAL OF THE SHOP DRAWINGS BY THE ENGINEER WILL NOT WAIVE THE CONTRACTOR OF THIS RESPONSIBILITY.
- D. THE CONTRACTOR SHALL HAVE THE FINAL RESPONSIBILITY FOR SYSTEM START UP AND TURN OVER TO THE OWNER.
- E. ALL ITEMS INCLUDED ON THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. ANY ITEMS THAT ARE UNCLEAR OR FOUND TO BE INCORRECT BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE BID DUE DATE.
- F. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TEMPERATURE CONTROL SYSTEM REQUIREMENTS.
- G. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF EQUIPMENT AND MATERIALS REMOVED. ALL EQUIPMENT AND MATERIALS NOT CLAIMED BY THE OWNER SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTORS.
- H. THE CONTRACTOR SHALL COORDINATE SHUT-DOWN OF CHILLED WATER SYSTEM WITH THE UNIVERSITY. PROVIDE A MINIMUM TWO DAY NOTICE PRIOR TO SYSTEM SHUT-DOWN.
- I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING, FILLING AND VENTING OF ALL HYDRONIC SYSTEMS IMPACTED BY THIS PROJECT.
- J. WHERE PNEUMATIC CONTROLS ARE BEING REMOVED, DISCONNECT AND REMOVE PNEUMATIC TUBING BACK TO CONTROL AIR MAIN AND CAP AIR TIGHT. SOLDER OR COMPRESSION CAPS ONLY. NO CRIMPED TUBING TO BE PERMITTED.
- K. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING TILE/GRID AS REQUIRED TO COMPLETE WORK. CEILING TILES DAMAGED BECAUSE OF CONSTRUCTION WORK SHALL BE REPLACED TO MATCH SURROUNDING CEILING TILES.

AIR COOLED CHILLER SCHEDULE																		CH 1
PLAN MARK	MFR. & MODEL NO.	CAPACITY TONS(NOM.)	WATER TEMP.	FOULING FACTOR	NO. OF COMP.	GPM	REFRIG. TYPE	MAX P.D. IN FT.	% MIN. LOAD	AMBIENT TEMP.	VOLTAGE	MCA	MOP	COMPRESSOR (EA.)	COND. FANS EA.			REMARKS
	YORK													RLA	NO.	FLA	DRIVE	
CH-1	YVAA0254AA	235	43/53	0.0001	2	562	HFC-134A	28.60	10	105°F	460/3/60	468.2	600	190.2/197.9	12	2.4	DIRECT	① ② ③ ④
CH-2	YVAA0254AA	235	43/53	0.0001	2	562	HFC-134A	28.60	10	105°F	460/3/60	468.2	600	190.2/197.9	12	2.4	DIRECT	① ② ③ ④
CH-3	YVAA0161AA	121	43/53	0.0001	2	287	HFC-134A	4.56	10	105°F	460/3/60	261.1	350	105.8	8	2.4	DIRECT	① ② ③ ④
CH-4	YVAA0161AA	121	43/53	0.0001	2	287	HFC-134A	4.56	10	105°F	460/3/60	261.1	350	105.8	8	2.4	DIRECT	① ② ③ ④
REMARKS:																		
① CHILLER SHALL BE OWNER FURNISHED AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL COORDINATE AND ACCEPT CHILLER DELIVERY. CHILLERS THAT ARE NOT INSTALLED IMMEDIATELY SHALL BE STORED ON SITE WHERE DIRECTED BY OWNER.																		
② CHILLER SHALL BE PROVIDED WITH UNIT MOUNTED STARTER, DISCONNECT SWITCH, SUCTION SERVICE VALVES, GAUGES, REMOTE RUN INDICATION AND ALARM CONTACTS, CONTROL TRANSFORMER & FLOW SWITCH.																		
③ CHILLER SHALL BE PROVIDED WITH INTEGRAL EVAPORATOR (FACTORY INSULATED).																		
④ CHILLER SHALL BE PROVIDED WITH NEOPRENE ISOLATORS FOR FIELD INSTALLATION.																		



1  
M000

DELIVERY AND STAGING LOCATION

SCALE: NONE

HEATING SYMBOLS

GV	GATE VALVE	EX	EXPANSION JOINT
CV	CHECK VALVE	FC	FLEXIBLE PIPE CONNECTION
GLV	GLOBE VALVE		DIRECTION OF FLOW
BLV	BALL VALVE	X	ANCHORS
STR	STRAINER		PIPE GUIDES
U	UNION	H	HUMIDISTAT
BC	BALANCING COCK	T	THERMOSTAT
SOC	SHUT-OFF COCK	TN	THERMOSTAT NITE
SLV	SOLENOID VALVE	RS	REMOTE TEMPERATURE SENSOR
BFV	BUTTERFLY VALVE	CO	CARBON MONOXIDE DETECTOR
FS	FLOW SWITCH	CO2	CARBON DIOXIDE DETECTOR
FCV	VALVE W/ SUPERVISORY SWITCH	FM	FLOW METER
	FLOW CONTROL VALVE (GPM INDICATED)		
T&PR	TEMPERATURE AND PRESSURE RELIEF VALVE		
PG	PRESSURE GAUGE	MUW	MAKE - UP WATER LINE
TH	THERMOMETER (TUBE OR DIAL AS INDICATED)	D	DRAIN LINE (OTHER THAN PLUMBING)
PRV	PRESSURE REDUCING VALVE	V	VENT LINE (OTHER THAN PLUMBING)
CS	CIRCUIT SETTER	RS/RL	REFRIGERANT SUCTION/ LIQUID
		G	GAS
MV	MOTORIZED VALVE	CHWS	CHILLED WATER SUPPLY
CV	CONTROL VALVE	CHWR	CHILLED WATER RETURN
TCV	THREE-WAY CONTROL VALVE	CA	COMPRESSED AIR
LPV	LUBRICATED VALVE	HHWS	HEATING HOT WATER SUPPLY
HEV	HOSE END VALVE	HHWR	HEATING HOT WATER RETURN
SWV	STOP AND WASTE VALVE	PC	PUMPED CONDENSATE
TWV	3 - WAY VALVE (MIXING OR BY-PASS AS INDICATED)		
	PETES PLUG		
AV	AIR VENT		
CCR	CONCENTRIC REDUCER		
	TEE (SIDE OUTLET UP)		
	TEE (SIDE OUTLET DOWN)		
	ELBOW (TURNED UP)		
	ELBOW (TURNED DOWN)		
ECR	ECCENTRIC REDUCER		

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS MAY BE USED.

ABBREVIATIONS

F.F.E.	FINISH FLOOR ELEVATION
A.F.F.	ABOVE FINISH FLOOR
T.E	TOP ELEVATION
B.E	BOTTOM ELEVATION
F.L.	FLOW LINE
INV.	INVERT ELEVATION
C	CENTER LINE
G.C.	GENERAL CONSTRUCTION CONTRACTOR
H.C.	HEATING CONTRACTOR
V.C.	VENTILATION CONTRACTOR
P.C.	PLUMBING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
HWP	HEATING WATER PUMP
CHPP	CHILLED WATER PRIMARY PUMP
CHSP	CHILLED WATER SECONDARY PUMP

MISCELLANEOUS SYMBOLS

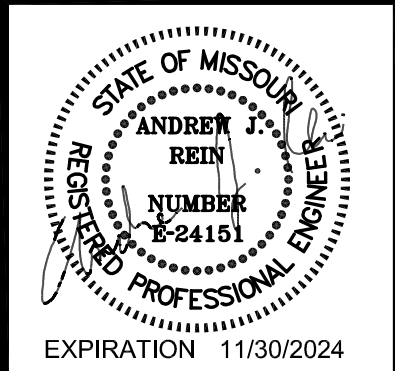
	EQUIPMENT OR PLUMBING FIXTURE DESIGNATION
	(RISER INDICATION P=PLUMBING, K=KITCHEN, A=P=ACID)
	RISER DESIGNATION (RISER NUMBER)
	(DETAIL NUMBER)
	DETAIL DESIGNATION (SHEET NUMBER WHERE DETAIL IS FOUND)
	(SECTION NUMBER)
	SECTION DESIGNATION (SHEET NUMBER WHERE SECTION IS FOUND)
	KEYED NOTES
	REVISIONS
AP	ACCESS PANEL
	NEW CONNECTION

ISSUANCE NO	DESCRIPTION	
	DATE	BIDDING DOCUMENTS
01	7/28/23	
02	8/28/23	ADDENDUM #1

521 W. Main St.  
SUITE 250  
BELLEVILLE, IL 62220  
TEL. 618.420.9279



DATE	07/28/2023
DRAWN	JRS
CHECKED	AJR
APPROVED	AJR
Professional Design Firm #184-003476	



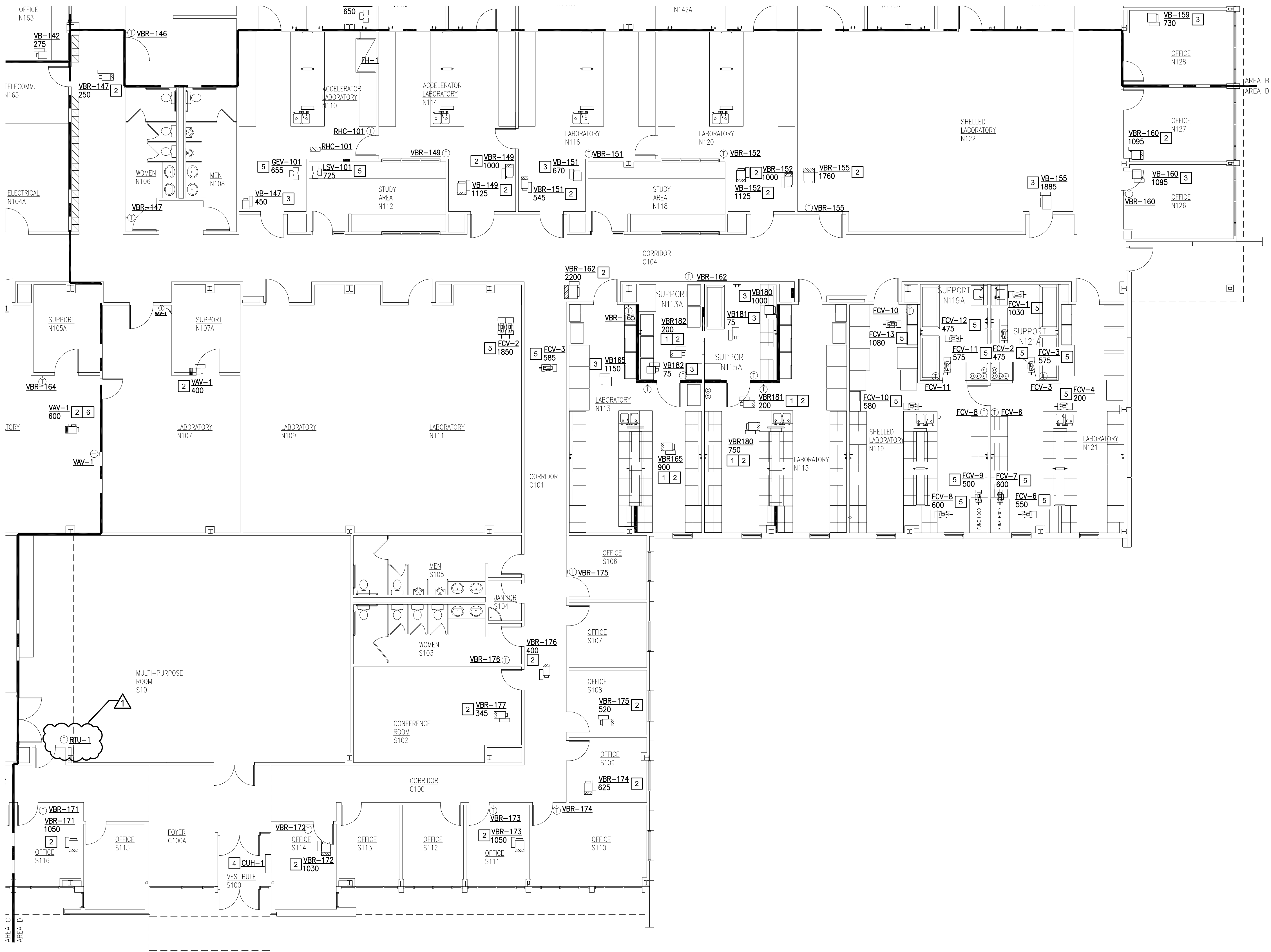
IDEXX - REPLACE CHILLERS  
PROJECT NO: CP230811  
UNIVERSITY OF MISSOURI - COLUMBIA, MISSOURI (MU)  
MECHANICAL SYMBOLS, SCHEDULES AND ABBREVIATIONS

MU PROJECT: CP230811  
RTM PROJECT: 23.UMC.BR023

DRAWING NO

M000





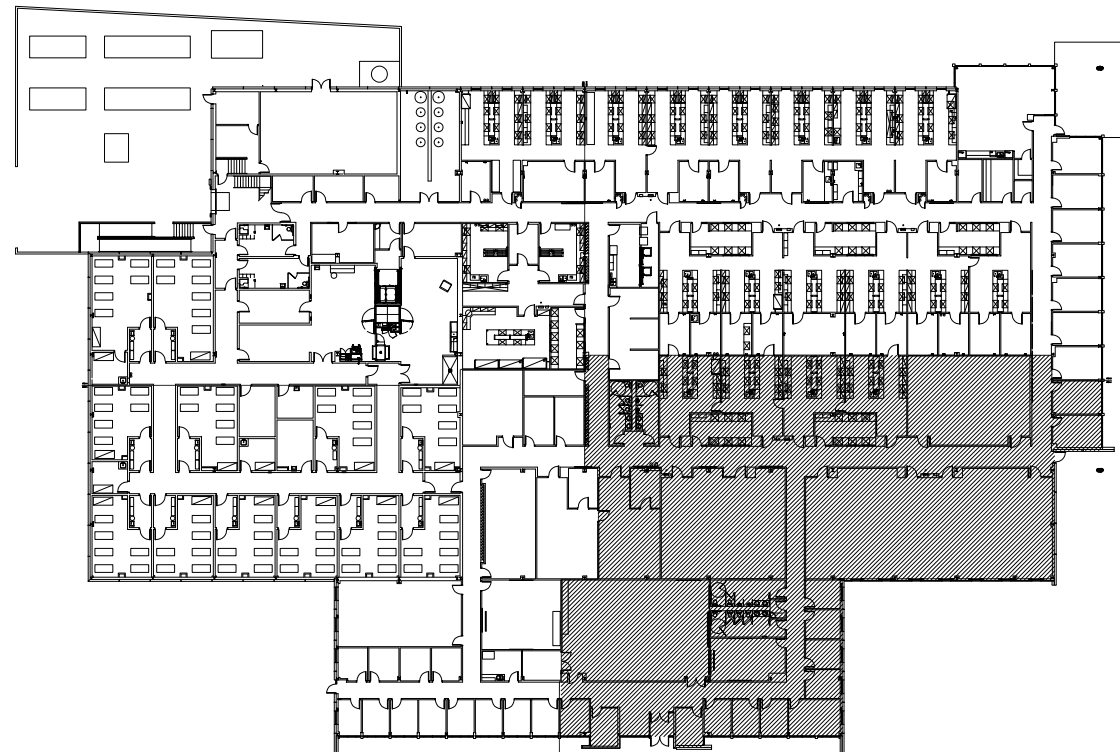
 **1** **FIRST FLOOR TEMPERATURE CONTROL PLAN - AREA D**  
M304 SCALE: 1/8" = 1'-0"

**GENERAL NOTES**

1. ONCE WORK HAS BEGUN ON VAV BOX, WORK SHALL BE CONTINUOUS UNTIL VAV BOX IS BACK ON LINE (IN ORDER TO LIMIT DOWNTIME), MAXIMUM TIME OF OUTAGE NOT TO EXCEED 4 HOURS.
2. CONTROL CONTRACTOR SHALL WORK ON SUPPLY BOX AND ASSOCIATED RETURN EXHAUST BOX SIMULTANEOUSLY. INTENT IS TO RE-ESTABLISH PRESSURE RELATIONSHIPS QUICKLY.

**KEYED NOTES (THIS SHEET ONLY)**

- 1 EXISTING CONTROLLER TO REMAIN FOR REUSE, PROVIDE NEW FC BUS. REFER TO FC BUS SCHEMATIC DIAGRAM ON SHEET M500 FOR REQUIRED WORK.
- 2 REFER TO VAV BOX CONTROL DIAGRAM WITH REHEAT DETAIL A/M500 FOR REQUIRED WORK.
- 3 REFER TO VAV BOX CONTROL DIAGRAM WITH REHEAT AND EXHAUST DETAIL C/M500 FOR REQUIRED WORK.
- 4 REFER TO CUH/UH DETAIL ON FM501 FOR REQUIRED WORK
- 5 PROVIDE NEW BUS CABLING FROM PCI TO EACH PHOENIX VALVE ROOM CONTROLLER. REMOVE EXISTING PHOENIX ROUTER, THEN SPLICE NEW BUS TO EXISTING NETWORK BUS AT THE FORMER ROUTER LOCATION.
- 6 CONTRACTOR TO VERIFY BOX NUMBER.



 **KEYPLAN - AREA D**  
SCALE: NTS

ISSUANCE	NO	DATE	DESCRIPTION	
			BIDDING DOCUMENTS	ADDENDUM #1
	01	7/28/23		
	02	8/28/23		

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BELLEVILLE, IL 62220  
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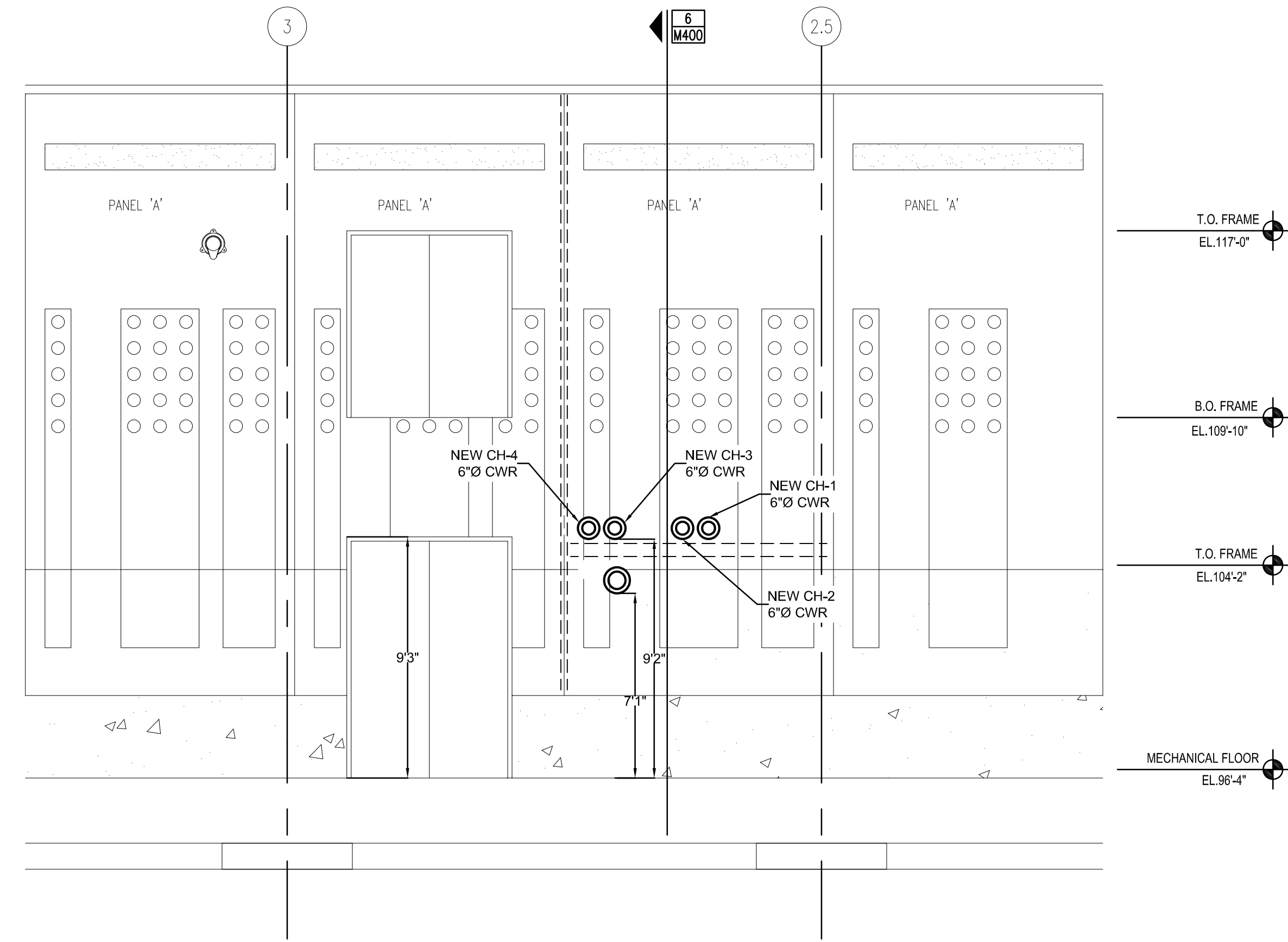
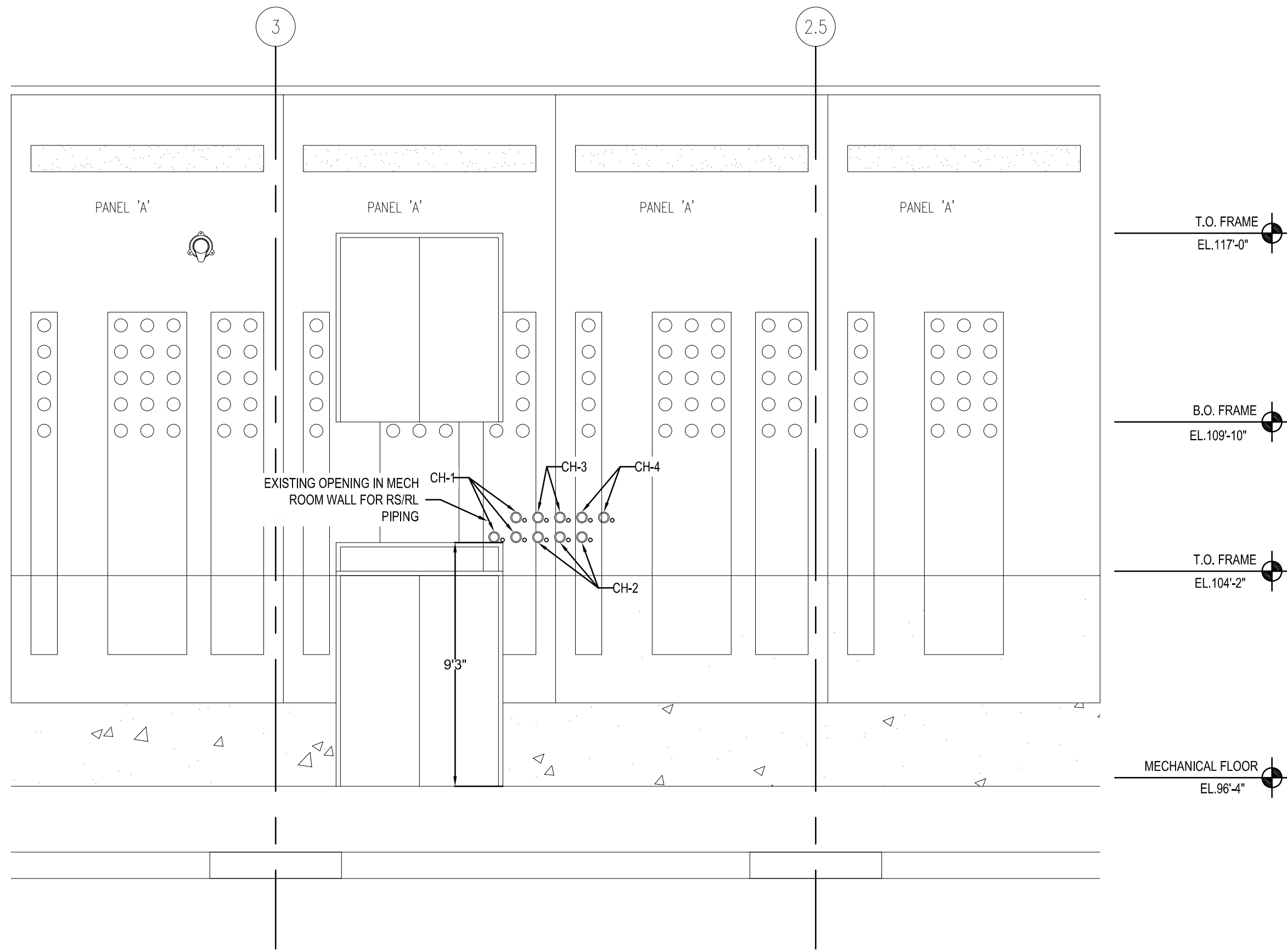
DATE	DRAWN	JRS		CHECKED	AJR	APPROVED	AJR	Professional Design Firm #184-003476
		07/28/2023						



**IDEXX - REPLACE CHILLERS**  
**PROJECT NO: CP230811**  
**UNIVERSITY OF MISSOURI - COLUMBIA, MISSOURI (MU)**  
**FIRST FLOOR TEMPERATURE CONTROL PLAN - AREA D**

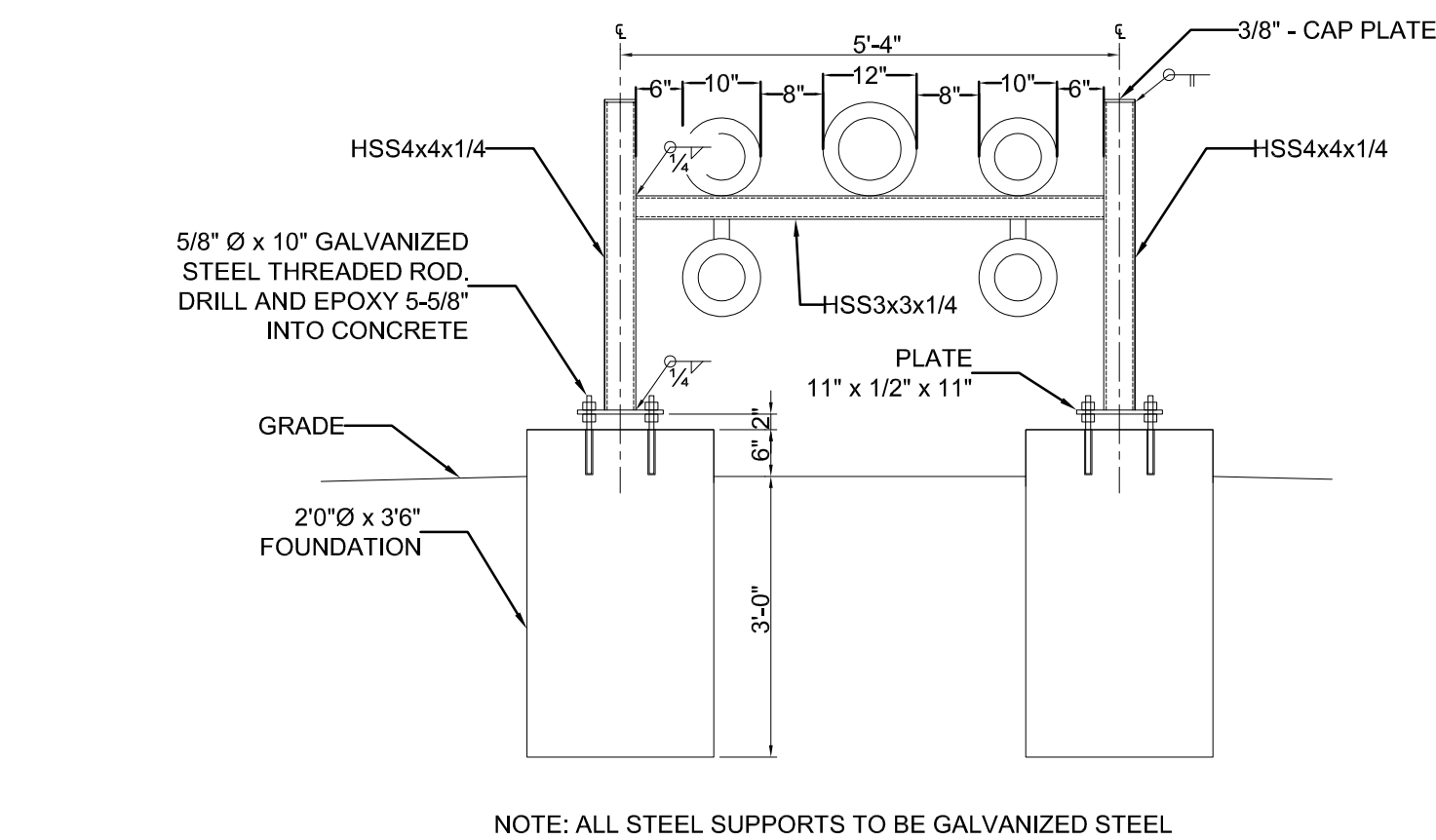
MU PROJECT: CP230811  
RTM PROJECT: 23.UMC.BR023

DRAWING NO  
**M304**

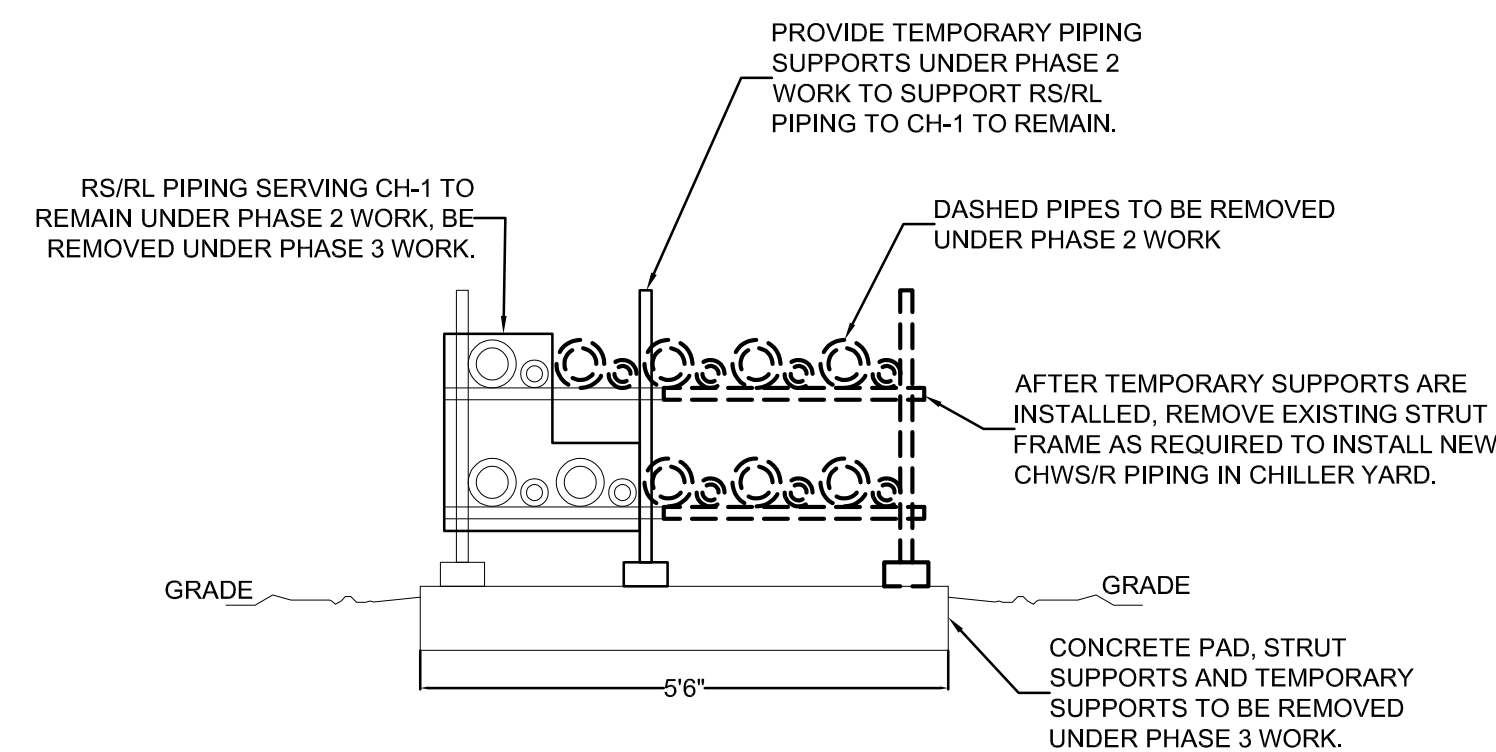


1 NORTHWEST BUILDING ELEVATION AT MECHANICAL ROOM - EXISTING  
M400 SCALE: 1/4" = 1'-0"

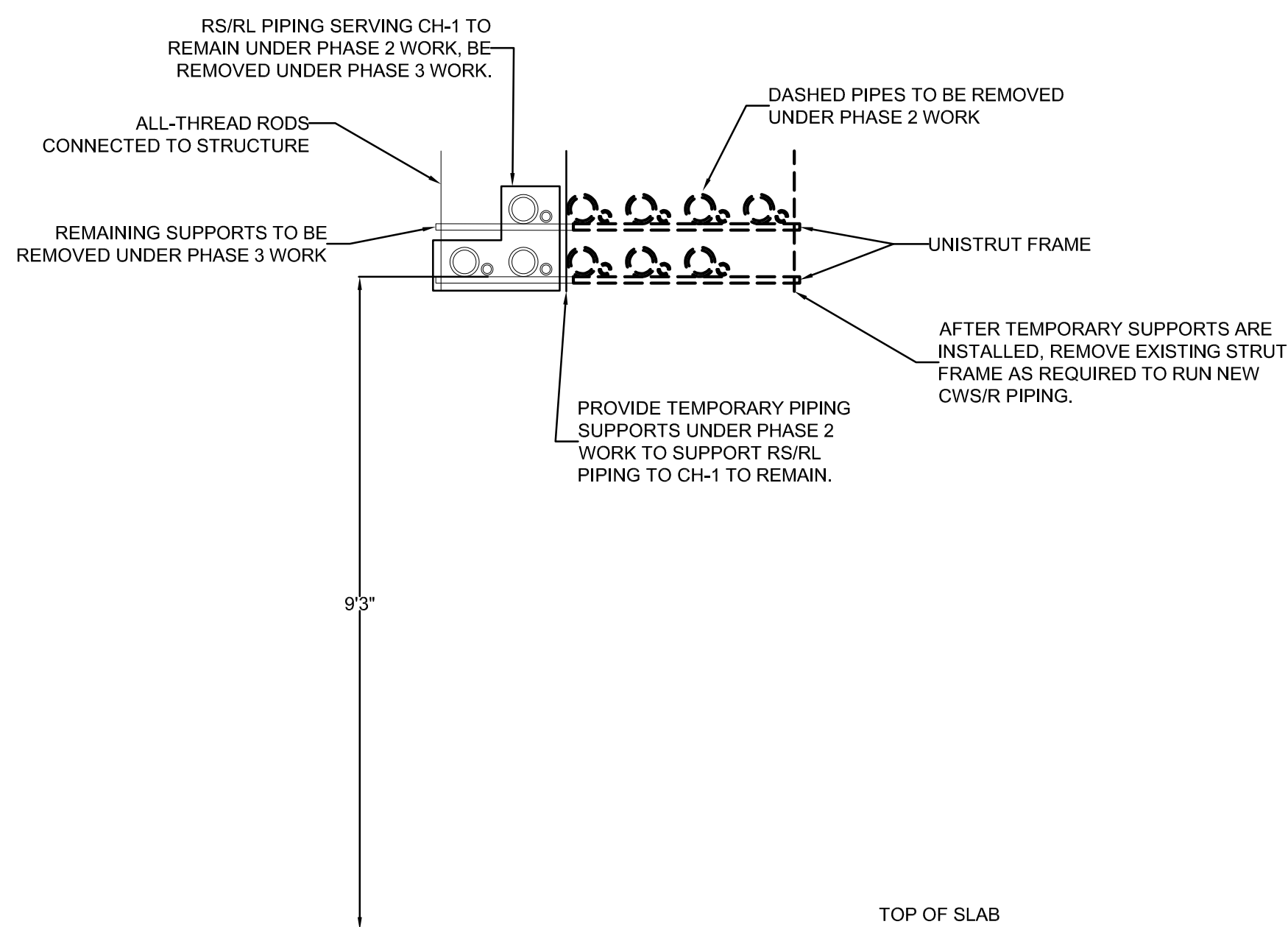
2 NORTHWEST BUILDING ELEVATION AT MECHANICAL ROOM - NEW WORK  
M400 SCALE: 1/4" = 1'-0"



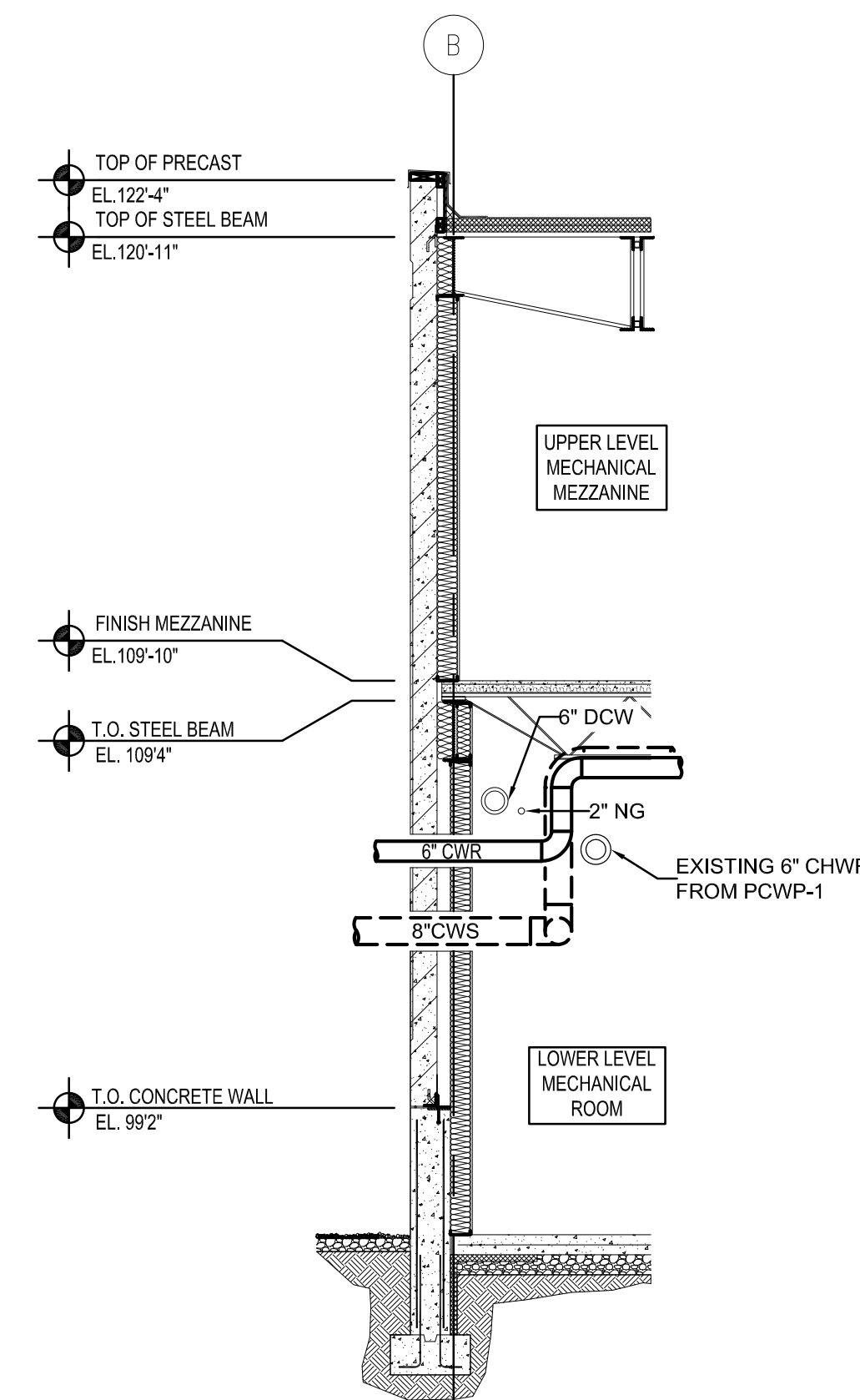
3 NEW PIPE SUPPORTS - PHASE 2 WORK  
M400 SCALE: 1/2" = 1'-0"



4 EXISTING PIPE SUPPORTS - PHASE 2 WORK  
M400 SCALE: 1/2" = 1'-0"



5 EXISTING PIPING SUPPORTS IN MECH ROOM - PHASE 2  
M400 SCALE: 1/2" = 1'-0"



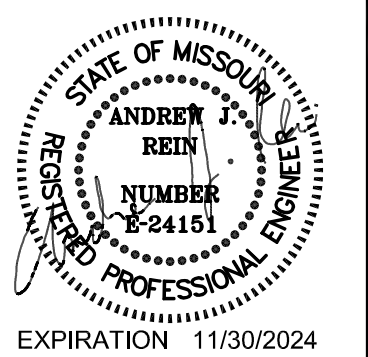
6 SECTION THROUGH EXTERIOR WALL - NEW WORK  
M400 SCALE: 1/4" = 1'-0"

ISSUANCE	NO	DATE	DESCRIPTION
	01	7/28/23	BIDDING DOCUMENTS
	02	8/28/23	ADDENDUM #1

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07/28/2023	JRS	AJR	AJR	#184-003476



IDEXX - REPLACE CHILLERS  
PROJECT NO: CP230811  
UNIVERSITY OF MISSOURI - COLUMBIA, MISSOURI (MU)

MECHANICAL SECTIONS

MU PROJECT: CP230811  
RTM PROJECT: 23.UMC.BR023

DRAWING NO

M400