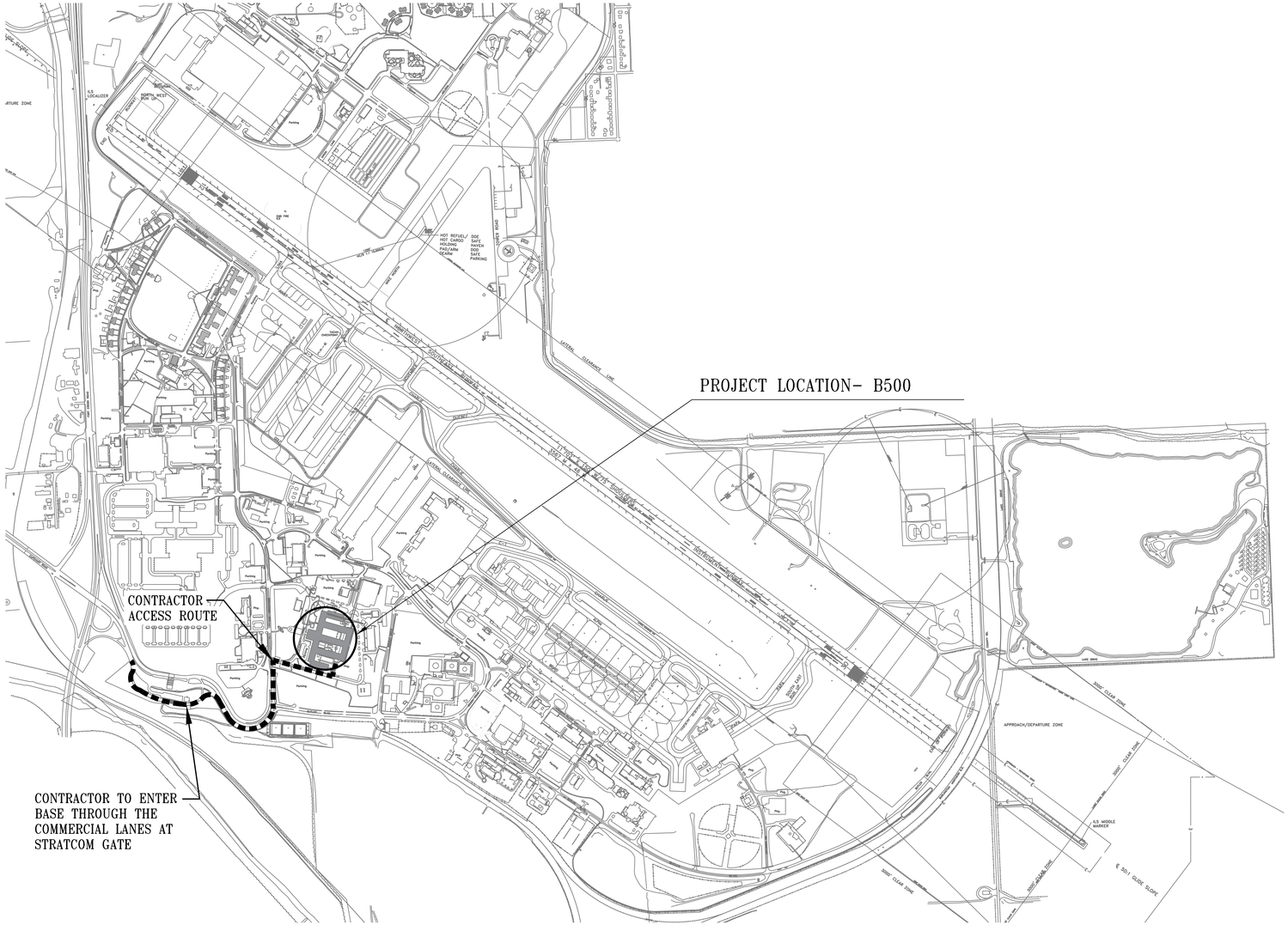
REPAIR CHILLER #2, B500
OFFUTT AIR FORCE BASE, NEBRASKA
PROJECT NO. SGBP 24-0048



LOCATION MAP

INDEX OF SHEETS

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3	M1.0 - B500 HVAC PLANS - BASEMENT
4	M2.0 - B500 MECHANICAL PIPING SCHEMATICS
5	M3.0 - B500 MECHANICAL CONTROL SCHEMATICS
6	ED1.0 - B500 ELECTRICAL DEMOLITION PLANS - BASEMENT
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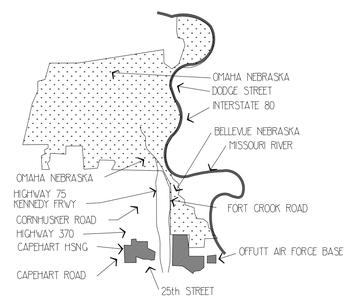

VICINITY MAP

Offutt
Air Force Base

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SIGNATURE	OFFICE
BASE CIVIL ENGINEER	
CHIEF OF ENGINEERING	
CHIEF OF DESIGN	
PROJECT MANAGER	

COORDINATION

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SAFTY	
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DESIGN FIRM

hgm ASSOCIATES INC.
ENGINEERING ARCHITECTURE SURVEYING
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STATE OF NEBRASKA
6-20-25

Designer	Project Manager
WJG	WJG
Drafter	Date
TLS2	6-20-25

REVISION	BY/DATE

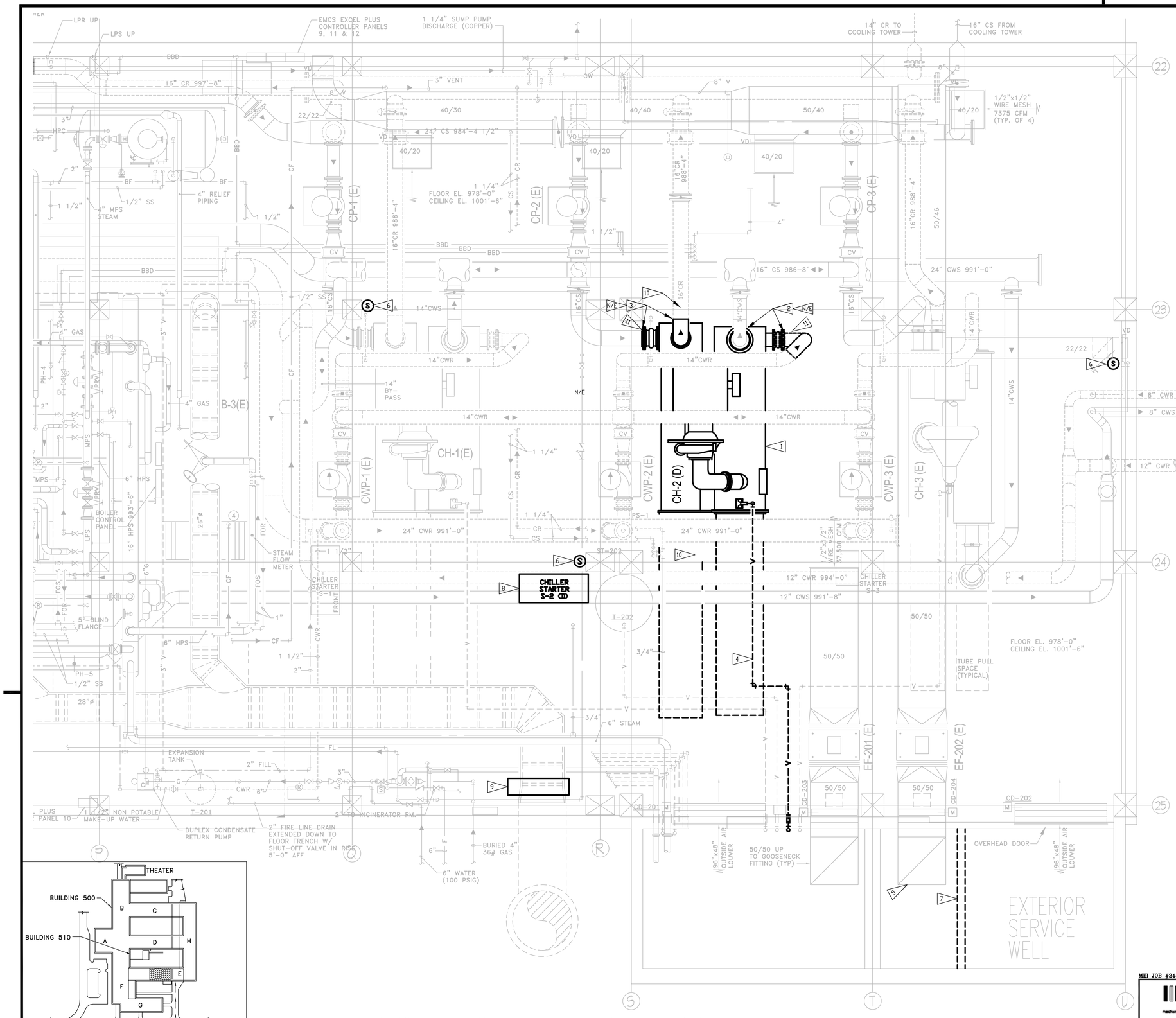
SHEET TITLE
COVER SHEET & LOCATION PLAN

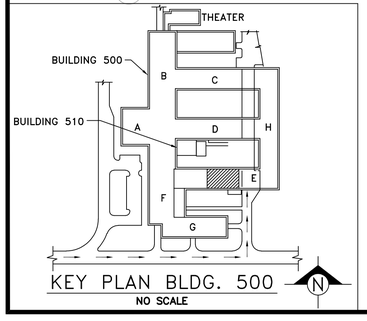
SHEET 1 OF 7

PROJECT TITLE
REPAIR CHILLER #2
B500

Project Number
SGBP-24-0048

Drawing Number OFF-B-6527
Facility Number 500





KEY PLAN BLDG. 500

NO SCALE

1 MD1.0 B500 - HVAC DEMOLITION PLAN - BASEMENT

1/4" = 1'-0"

GENERAL NOTES

1. DO NOT ROUTE DUCTWORK, PIPING OR LOCATE EQUIPMENT ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
2. MECHANICAL ITEMS SHOWN LIGHT AND / OR INDICATED WITH (E) ARE EXISTING. MECHANICAL ITEMS SHOWN DARK AND/OR INDICATED WITH (D) ARE TO BE DEMOLISHED. ALL ITEMS SHOWN DARK ARE NEW.
3. EXISTING DRAWINGS ARE BASED ON APPROXIMATIONS FROM FIELD OBSERVATIONS AND EXISTING DRAWINGS (FURNISHED BY OTHERS). DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT LOCATION OF ALL EXISTING EQUIPMENT, DUCTWORK AND PIPING. EQUIPMENT, DUCTWORK AND PIPING DISCOVERED ON SITE TO BE REMOVED BUT NOT INDICATED ON PLANS TO BE IDENTIFIED BY CONTRACTOR AND REMOVED AS DIRECTED BY ENGINEER.
4. SPACE IS LIMITED. COORDINATE PIPE ROUTING WITH STRUCTURE AND ALL OTHER TRADES. OFFSET AND EXTEND PIPING AS REQUIRED TO AVOID CONFLICTS.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING PIPING AS NECESSARY TO AVOID CONFLICTS WITH EXISTING STRUCTURE AND WITH ALL TRADES OF NEW WORK.
6. ALL WORK SHALL CONFORM TO BUILDING STANDARDS. COORDINATE ALL WORK WITH GOVERNMENT REPRESENTATIVE.
7. PLAN WORK TO MINIMIZE SHUT DOWNS. COORDINATE ALL REQUIRED SHUT-DOWNS WITH GOVERNMENT REPRESENTATIVE.
8. MAINTAIN ALL CODE AND MANUFACTURER'S RECOMMENDED CLEARANCES AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE AND STRAINER ACCESS.
9. REPAIR EXISTING BUILDING CONSTRUCTION DAMAGED DURING DEMOLITION PHASE AND INSTALLATION OF NEW MATERIALS TO MATCH EXISTING CONDITIONS.
10. CONTRACTOR TO DOCUMENT ALL EXISTING DAMAGE PRIOR TO START OF WORK. ALL DAMAGE AT END OF PROJECT NOT DOCUMENTED BY CONTRACTOR WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIX.

TEMPERATURE CONTROL NOTES

1. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF CONTROLS WITH EQUIPMENT SUPPLIERS AND TEMPERATURE CONTROL CONTRACTOR.
2. SCOPE OF WORK INCLUDES INTEGRATION OF NEW CHILLER AND REFRIGERANT DETECTION SYSTEM INTO EXISTING BUILDING MANAGEMENT SYSTEM. PROVIDE NEW WIRING, RELAYS, SENSORS, ETC FOR COMPLETE SYSTEM OPERATION.
3. PROVIDE COMPLETE PROGRAMMING AND UPDATING OF SYSTEM GRAPHICS.
4. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. CONTROL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTROLS SYSTEM ARCHITECTURE SHOWING THE SYSTEMS CONTROL RISER FOR APPROVAL PRIOR TO START OF WORK

T.A.B. NOTES

1. BALANCE PUMP FLOW TO FLOW INDICATED ON PLANS. NOTIFY ENGINEER IF ACTUAL WATER FLOW DIFFERS MORE THEN 5% FROM INDICATED.

FLAG NOTES

N/E — LIMIT OF DEMOLITION. FIELD VERIFY EXISTING SIZE AND LOCATION PRIOR TO NEW WORK.

1 — DEMOLISH EXISTING CHILLER. REFRIGERANT TO BE RECOVERED AND TURNED OVER TO THE OWNER. CHILLER TO BE DISASSEMBLED SUCH THAT COMPONENTS CAN BE REMOVED THROUGH EXISTING SERVICE WELL AND WITH CRANE BELOW 150 FEET IN HEIGHT.

2 — DEMOLISH EXISTING CHILLED WATER PIPING, INSULATION, AND HANGERS BACK TO LOCATION SHOWN ON PLAN. REMAINING PIPING TO BE PREPARED FOR CONNECTION TO NEW.

3 — DEMOLISH EXISTING CONDENSER WATER PIPING AND HANGERS BACK TO LOCATION SHOWN ON PLAN. REMAINING PIPING TO BE PREPARED FOR CONNECTION TO NEW.

4 — DEMOLISH EXISTING CHILLER VENT PIPING TO EXTERIOR TERMINATION.

5 — REMOVE EXISTING EXHAUST GOOSENECK TERMINAL AS REQUIRED TO PROVIDE CLEARANCE IN EQUIPMENT WELL AND SAVE FOR REINSTALLATION.

6 — EXISTING REFRIGERANT DETECTION SYSTEM TO BE REPLACED. DEMOLISH ALL DETECTORS, CONTROL PANELS, AND ANNUNCIATORS. CONDUIT MAY BE REUSED AT CONTRACTORS DISCRETION. SEE 1/M3.0 FOR FULL CONTROL SYSTEM MODIFICATIONS.

7 — REMOVE AND REINSTALL EXISTING OVERHEAD GANTRY CRANE AS REQUIRED TO PROVIDE ACCESS INTO PIT. CONTRACTOR SHALL DOCUMENT EXITING CONDITIONS OF EQUIPMENT PRIOR TO REMOVAL AND RETURN TO EXISTING CONDITIONS AT THE END OF THE PROJECT.

8 — DEMOLISH EXISTING CHILLER COMPRESSOR STARTER AND HOUSEKEEPING PAD.

9 — DEMOLISH UNUSED EXISTING HOUSEKEEPING PAD.

10 — REMOVE EXISTING CONDENSER HEAD SERVICE GANTRY CRANE AS NECESSARY FOR REMOVAL OF EXISTING CHILLER AND INSTALLATION OF NEW UNIT.

11 — REMOVE EXISTING CONTROL COMPONENTS AS NECESSARY FOR CHILLER AND PIPING REPLACEMENT INCLUDING, BUT NOT LIMITED TO, DIFFERENTIAL PRESSURE TRANSDUCERS, FLOW SWITCHES, TEMPERATURE SENSORS, WIRING, AND TUBING AND SAVE FOR REINSTALLATION.

MEI JOB #24428

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Offutt Air Force Base

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CHIEF OF DESIGN	
PROJECT MANAGER	
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PROFESSIONAL MECHANICAL ENGINEER
ANDREW R. PULLMANN
E-16357
STATE OF NEBRASKA
06/20/2025

Designer	Project Manager
ARP	WJG
Drafter	Date
ARP	06-20-25

REVISION	BY/DATE

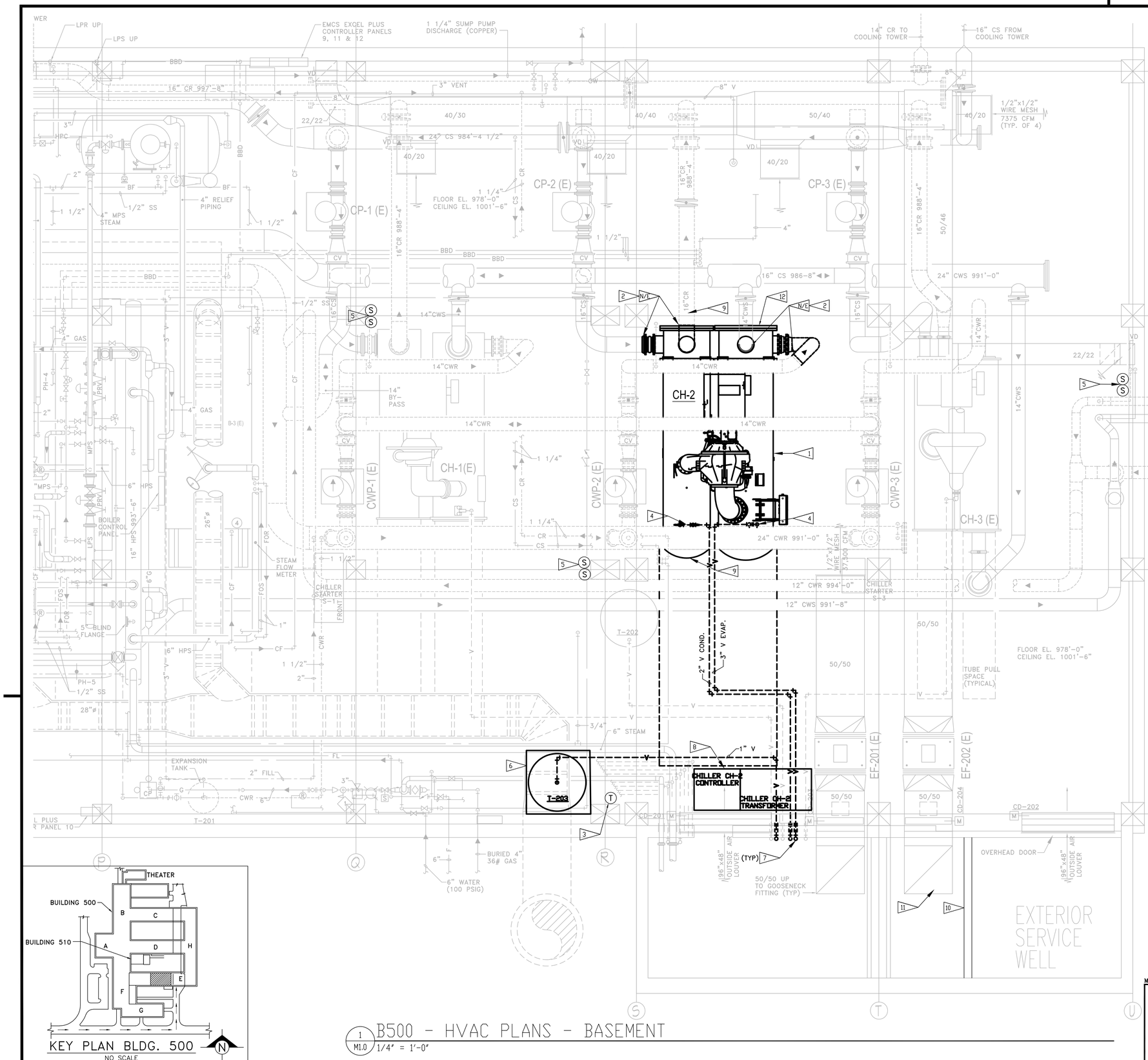
SHEET TITLE
MD1.0
B500 - HVAC DEMOLITION PLAN - BASEMENT

SHEET 2 OF 7

PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number: SGBP-24-0048

Drawing Number: OFF-B-6527 | Facility Number: B500



KEY PLAN BLDG. 500

NO SCALE

1 M1.0 B500 - HVAC PLANS - BASEMENT

1/4" = 1'-0"

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T.A.B. NOTES

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FLAG NOTES

N/E — CONNECT NEW TO EXISTING. FIELD VERIFY EXISTING SIZE AND LOCATION PRIOR TO NEW WORK.

1 — SET CHILLER ON EXISTING SLAB. LOCATE CHILLER TO PROVIDE ADEQUATE TUBE PULL ON THE END OF THE UNIT AND MAINTAIN MANUFACTURER RECOMMENDED SERVICE CLEARANCES.

2 — EXTEND EXISTING PIPING TO NEW UNIT CONNECTIONS. PROVIDE NEW FLEXIBLE CONNECTIONS AT FINAL CONNECTION TO CHILLER.

3 — PROVIDE ADDITIONAL SPACE TEMPERATURE SENSOR FOR CHILLER ROOM VENTILATION SYSTEM. EXISTING SPACE TEMPERATURE SETPOINTS AND CONTROL SEQUENCE FOR SPACE TEMPERATURE CONTROL TO REMAIN.

4 — EXTEND CHILLER CONDENSER AND EVAPORATOR VENTS TO EXTERIOR OF BUILDING. VENTS SERVING SAME CHILLER COMPONENTS TO BE MANIFOLDED AND SIZED PER ASHRAE STANDARD 15 TABLE E-1 AND MANUFACTURER REQUIREMENTS FOR TOTAL CAPACITY.

5 — PROVIDE R515B AND R134A REFRIGERANT SENSORS TO ALARM PANEL. SEE M3.0 FOR FULL SYSTEM REQUIREMENTS.

6 — PROVIDE 4" CONCRETE PAD BELOW REFRIGERANT STORAGE TANK.

7 — EXTEND VENTS UP OUT OF SERVICE PIT AND TERMINATE WITH TWO 90 DEGREE FITTINGS. OUTLET TO BE A MINIMUM OF 20'-0" FROM INTAKE LOUVER.

8 — LOCATE NEW CHILLER COMPRESSOR STARTERS ON NEW 4" HOUSEKEEPING PAD. PAD SHALL EXTEND 6" BEYOND CABINET IN ALL DIMENSIONS.

9 — RECONSTRUCT CONDENSER HEAD SERVICE GANTRY. CENTER GANTRY BEAM ON CONDENSER HEAD LIFT POINT.

10 — RECONSTRUCT OVERHEAD GANTRY CRANE FOR SERVICE WELL AND RETURN TO EXISTING CONDITIONS.

11 — REINSTALL EXHAUST GOOSENECK AFTER CHILLER INSTALLATION AND RETURN TO PRE-CONSTRUCTION CONDITIONS.

12 — EVAPORATOR SHELL, CHILLED WATER MARINE BOX, AND ALL SURFACES BELOW ROOM TEMPERATURE TO BE COMPLETELY INSULATED WITH CLOSE CELL ELECTROMETRIC INSULATION ACCORDING TO THE SPECIFICATIONS.

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DESIGN FIRM

hgm ASSOCIATES INC.
ENGINEERING ARCHITECTURE SURVEYING
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PROFESSIONAL MECHANICAL ENGINEER
ANDREW R. PULLMANN
E-16357
STATE OF NEBRASKA
06/20/2025

Designer	Project Manager
ARP	WJG
Drafter: ARP	Date: 06-20-25

REVISION	BY/DATE

SHEET TITLE
M1.0
B500 - HVAC PLANS - BASEMENT

SHEET 3 OF 7

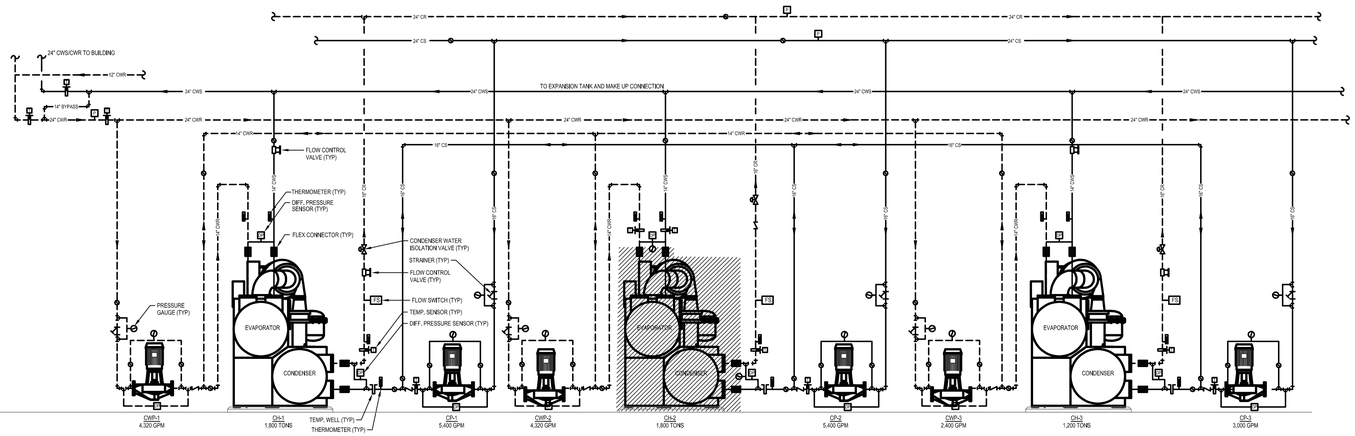
PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number: SGBP-24-0048

Drawing Number	Facility Number
OFF-B-6527	B500

MECHANICAL SYMBOLS

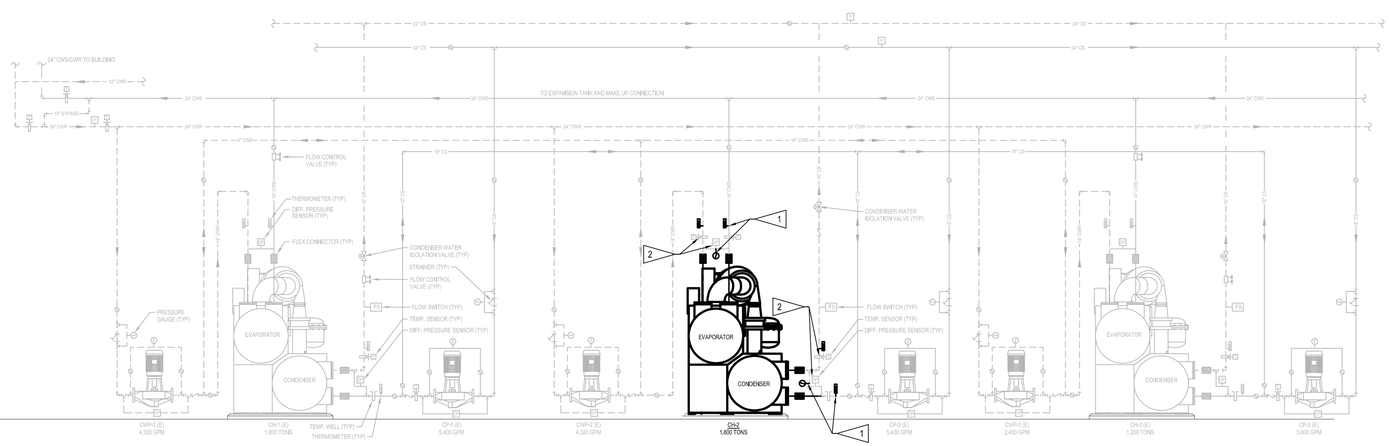
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
TYPICAL PIPING			
	PIPE TEE / PIPE ELBOW		UNION
	ELBOW DN / ELBOW UP		STRAINER WITH BLOWDOWN
	ISOLATION VALVE (BALL OR BUTTERFLY)		CHECK VALVE (ARROW INDICATES FLOW)
	BALANCING VALVE		AUTOMATIC CONTROL VALVE TWO-WAY / THREE WAY
	GATE VALVE		PRESSURE REGULATING VALVE (PRV)
	GLOBE VALVE		PRESSURE GAUGE
P.S.T.	PRESSURE/TEMPERATURE TEST PORT		THERMOMETER
HYDRONIC HVAC PIPING			
HWS	HOT WATER SUPPLY PIPING	HPLS	HEAT PUMP LOOP PIPING SUPPLY PIPING
HWR	HOT WATER RETURN PIPING	HPLR	HEAT PUMP LOOP RETURN PIPING
CWS	CHILLED WATER SUPPLY PIPING	GWS	GLYCOL WATER SUPPLY PIPING
CWR	CHILLED WATER RETURN PIPING	GWR	GLYCOL WATER RETURN PIPING
CS	CONDENSER WATER SUPPLY PIPING		AIR VENT
CR	CONDENSER WATER RETURN PIPING	CD	COIL CONDENSATE DRAIN (SLOPE TO DRAIN)
HVAC			
	SIDEWALL SUPPLY REGISTER OR GRILLE (NECK SIZE (IN) TAG / AIRFLOW (CFM))		SENSOR
	SIDEWALL RETURN OR EXHAUST REGISTER OR GRILLE (NECK SIZE (IN) TAG / AIRFLOW (CFM))		THERMOSTAT
	SUPPLY AIR REGISTER (NECK SIZE (IN) TAG / AIRFLOW (CFM))		HUMIDISTAT
	SUPPLY AIR, OUTSIDE AIR OR MIXED AIR DUCT END OR RISER UP / RISER DN		MOTORIZED CONTROL DAMPER WITH ACTUATOR
		B.D.D.	BACKDRAFT DAMPER
		V.D.	VOLUME DAMPER
		F.D.	FIRE DAMPER WITH SLEEVE AND ACCESS DOOR
		S.D.	SMOKE DAMPER WITH SLEEVE AND ACCESS DOOR
	RETURN AIR, EXHAUST AIR OR RELIEF AIR DUCT END OR RISER UP / RISER DN	F.S.D.	FIRE/SMOKE DAMPER WITH SLEEVE AND ACCESS DOOR
		S.A.	SUPPLY AIR
12/8	RECTANGULAR DUCTWORK (WIDTH/DEPTH(IN)) (FIRST NUMBER IS SIDE SHOWN)	R.A.	RETURN AIR
		E.A.	EXHAUST AIR
		R.F.A.	RELIEF AIR
12"Ø	ROUND DUCTWORK (DIAMETER(IN)) (SPIRAL DUCT IN EXPOSED AREAS)	O.A.	OUTSIDE AIR
		M.A.	MIXED AIR
	TURNING VANES		



CHILLED WATER RISER DIAGRAM - DEMOLITION

NO SCALE

2
M2.0



CHILLED WATER RISER DIAGRAM - NEW WORK

NO SCALE

1
M2.0

FLAG NOTES

1 PROVIDE NEW ANALOGUE THERMOMETERS AND PRESSURE GAUGES IN SAME LOCATION AS EXISTING.

2 REMOVE EXISTING DIGITAL CONTROLS AS NECESSARY FOR NEW CHILLER AND PIPING INSTALLATION. IF SENSORS ARE LOCATED IN REMOVED PIPING, PROVIDE NEW THREADED OLET IN NEW PIPING FOR SENSOR INSTALLATION IN NEW PIPING.

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E-16357
STATE OF NEBRASKA
06/20/2025

Designer	Project Manager
ARP	WJG
Drafter: ARP	Date: 06-20-25

REVISION	BY/DATE

SHEET TITLE
M2.0
B500 - MECHANICAL PIPING SCHEMATICS

SHEET 4 OF 7

PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number: SGBP-24-0048

Drawing Number: OFF-B-6527

Facility Number: B500

EXISTING EXHAUST FAN SEQUENCE OF OPERATIONS

EF-201:

IF OUTSIDE AIR SUPPLY FAN SF-1 (LOCATED NEAR COLUMN 25L-M) IS "OFF"; EF-201 SHALL BE "OFF" AND OUTSIDE AIR DAMPERS CD-201, CD-202, AND CD-203 SHALL BE FULLY CLOSED.

IF SF-1 IS RUNNING: THE OUTSIDE AIR DAMPERS CD-201 AND CD-202 SHALL OPEN TO FULL OPEN POSITION.

IF SPACE TEMPERATURE IS BELOW 78 DEG F AND SPACE STATIC PRESSURE IS BELOW 0.03 INCHES WC; EXHAUST FAN EF-202 SHALL NORMALLY BE "OFF" AND EXHAUST DAMPER CD-204 SHALL BE FULLY CLOSED.

IF SPACE TEMPERATURE IS ABOVE 78 DEG F AND SPACE STATIC PRESSURE IS ABOVE 0.03 INCHES WC; EXHAUST FAN EF-201 SHALL START AND EXHAUST DAMPER CD-203 SHALL OPEN. EXHAUST FAN MOTOR SPEED SHALL BE CONTROLLED FROM BOTH SPACE TEMPERATURE SENSOR TS-201 THRU CONTROLLER C-201 AND SPACE STATIC PRESSURE SENSOR SPS-201 THRU CONTROLLER C-202 THRU HIGH SIGNAL SELECTOR SS-201 INPUT TO FAN VFD. THE SPEED OF EF-201 SHALL BE MODULATED AT MINIMUM SPEED AT A SPACE TEMPERATURE OF 78 DEG F AND SPACE STATIC PRESSURE OF 0.03 INCHES WC TO FULL SPEED AT SPACE TEMPERATURE OF 82 DEG F OR SPACE STATIC PRESSURE OF 0.07 INCHES WC AS DETERMINED BY HIGH SIGNAL SELECTOR SS-201 FROM SIGNAL INPUT FROM CONTROLLERS C-201 AND C-202.

EF-202

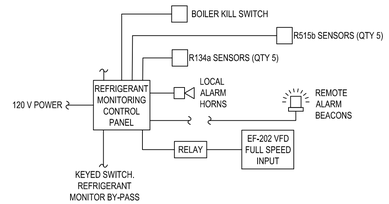
THE EXHAUST FAN EF-202 SHALL NORMALLY BE "OFF" AND EXHAUST DAMPER CD-204 FULLY CLOSED WHEN THE SPACE TEMPERATURE IS BELOW 78 DEG F.

WHEN SPACE TEMPERATURE RISES ABOVE 82 DEG F; EF-202 SHALL BE STARTED AND EXHAUST DAMPER CD-204 FULLY OPENED. EXHAUST FAN SPEED SHALL BE CONTROLLED FROM INPUT FROM SPACE TEMPERATURE SENSOR TS-202 AND TS-202B THRU CONTROLLER C-203 INPUT TO THE FAN VFD WITH SPEED OVERRIDE FROM A REFRIGERANT LEAK ALARM.

THE SPEED OF EF-202 SHALL NORMALLY BE MODULATED FROM MINIMUM SPEED WHEN THE SPACE TEMPERATURE IS 82 DEG F AND AT FULL SPEED WHEN THE SPACE TEMPERATURE IS 86 DEG F OR HIGHER.

IF A REFRIGERANT LEAK IS DETECTED; REGARDLESS OF SPACE TEMPERATURE; EXISTING SUPPLY FAN SF-1 OR EF-201 OPERATION; EF-202 SHALL GO TO FULL SPEED AND THE OUTSIDE AIR DAMPERS CD-201 AND CD-202 SHALL OPEN TO FULL OPEN POSITION.

IF EF-202 IS "OFF"; THE OUTSIDE AIR DAMPERS CD-201 AND CD-202 CONTROL SHALL BE AS INDICATED FOR EF-201 SEQUENCE OF OPERATION AND CD-204 SHALL BE FULLY CLOSED



REFRIGERANT CONTROL PANEL

REFRIGERANT VENTILATION CALCULATION

ROOM VOLUME: 169,009 CUBIC FEET
REFRIGERANTS PRESENT (LARGEST QUANTITY)
R134a - 3,600 LBS (EXISTING)
R515b - 3,137 LBS

ASHRAE STANDARD 34 ALLOWABLE REFRIGERATN CONCENTRATIONS
R134a - 13 LB/1000 CF
R515b - 18 LB/1000 CF

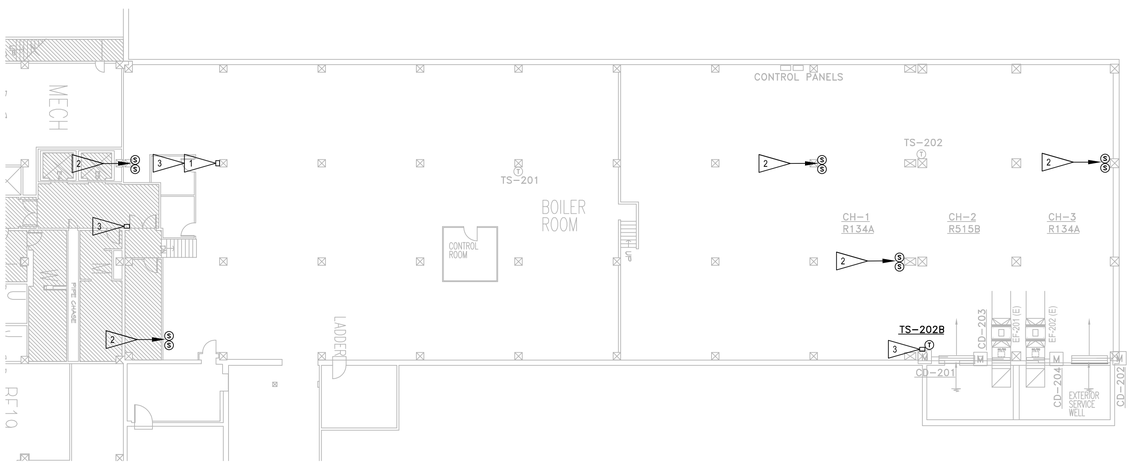
INSTALLED
R134A - 21 LB/1000 CF
R515B - 18.5 LB/1000 CF

REQUIRED VENTILATION
6,948 CFM

EXISTING VENTILATION EF-202
37,500 CFM

FLAG NOTES

1. INSTALL REFRIGERANT MONITORING PANEL IN SAME LOCATION OF DEMOLISHED UNIT.
2. PROVIDE REFRIGERANT SENSORS FOR BOTH R134A AND R515B. INSTALL SENSORS AT 12" A.F.F.
3. PROVIDE VISUAL AND AUDIBLE ALARM AT ENTRY TO MECHANICAL ROOM, AT CONTROL PANEL, AND IN LOWER MECHANICAL ROOM NEAR CHILLERS.



1 M3.0 B500 - REFRIGERANT MONITORING PLAN - BASEMENT

NOT TO SCALE

CENTRIFUGAL CHILLER SCHEDULE

GENERAL	PLAN TAG	CH-2
	MANUFACTURER	YORK
	MODEL NUMBER	YKU2U9K7_DEH
	SERVES	CHILLED WATER SYSTEM
	CONFIGURATION	TWO PASS, SINGLE COMPRESSOR
	MAXIMUM SIZE (LxWxH) (IN.)	20'-3" X 11'-5" X 11'-7"
	MAXIMUM WEIGHT (LBS.)	80,524
	NOMINAL TONNAGE	1,800 (6)
	REFRIGERANT	R515B (3,137 LB CHARGE)
	REMARKS	(3) (4) (5)
CHILLED WATER	ENTERING WATER TEMPERATURE (ºF)	52.0
	LEAVING WATER TEMPERATURE (ºF)	42.0
	WATER FLOW (GPM)	4,320
	PRESSURE DROP (FEET)	19.5
CONDENSER WATER	ENTERING WATER TEMPERATURE (ºF)	85.0
	LEAVING WATER TEMPERATURE (ºF)	95.0
	WATER FLOW (GPM)	5400
	PRESSURE DROP (FEET)	12.2
PERFORM-ANCE DATA	MAXIMUM KW PER TON	0.5744
	MAXIMUM IPLV	-
	MAXIMUM NPLV	0.3686
MOTOR	VOLTS	4,160
	PHASE	3
	RLA	1,224
	STARTER	(2)
	REMARKS	(1)
REMARKS (X)	1) UNIT HAS TWO CIRCUITS. CIRCUIT 1 (CHILLER) - 4160V/3PH MOCP=300. CIRCUIT 2 (OIL PUMP) - 460V/3PH FLA = 3.6. 2) PROVIDE WITH FREESTANDING SOLID STATE STARTER AND CONTROLLER WITH UNDER/OVER VOLTAGE AND PHASE LOSS PROTECTION. 3) PROVIDE WITH BOLT TOGETHER CONSTRUCTION FOR RETROFIT INSTALLATION WITH DRIVELINE, CONDENSER, AND EVAPORATOR SECTIONS MANUFACTURE TO PROVIDE SUPERVISION OF REASSEMBLY. 4) PROVIDE WITH BACNET MS/PT COMMUNICATION 5) PROVIDE WITH MARINE TYPE WATER BOX WITH HINGES ON BOTH ENDS. 6) CHILLER SHALL HAVE PART LOAD CAPACITY DOWN TO 20% TOTAL COOLING CAPACITY.	

TANK SCHEDULE

PLAN TAG	T-203
BASIS OF DESIGN MANUFACTURER	WHEELER TANK
MODEL NUMBER	-
SERVES	R515B STORAGE
CONFIGURATION	VERTICAL
MAX. WEIGHT (LBS)	-
SIZE (H x DIA) (IN.)	96" X 60"
TANK CAPACITY (GALLON)	600
MAX PRESSURE (PSI)	300
REMARKS	(1) (2) (3)
REMARKS	1. TANK SHALL BE CONSTRUCTED ACCORDING TO ASME PRESSURE VESSEL CODE. 2. PROVIDE WITH BASE RING. 3. PROVIDE WITH LEVEL INDICATOR, TOP RELIEF VENT, BOTTOM DRAIN, AND FILL PORTS.

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ENGINEERING ARCHITECTURE SURVEYING
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PROFESSIONAL MECHANICAL ENGINEER
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STATE OF NEBRASKA
06/20/2025

Designer	Project Manager
ARP	WJG
Drafter: ARP	Date: 06-20-25

REVISION	BY/DATE

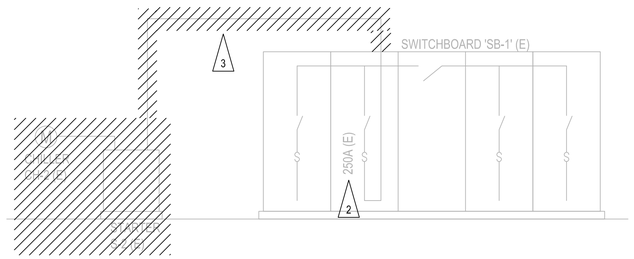
SHEET TITLE
M3.0
B500 - MECHANICAL SCHEDULES AND CONTROL SCHEMATICS

SHEET 5 OF 7

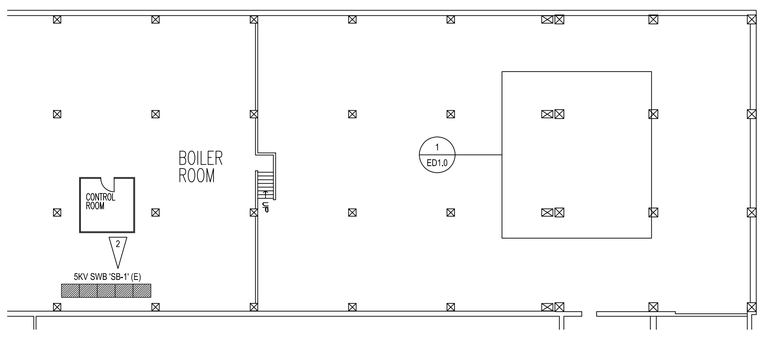
PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number: SGBP-24-0048

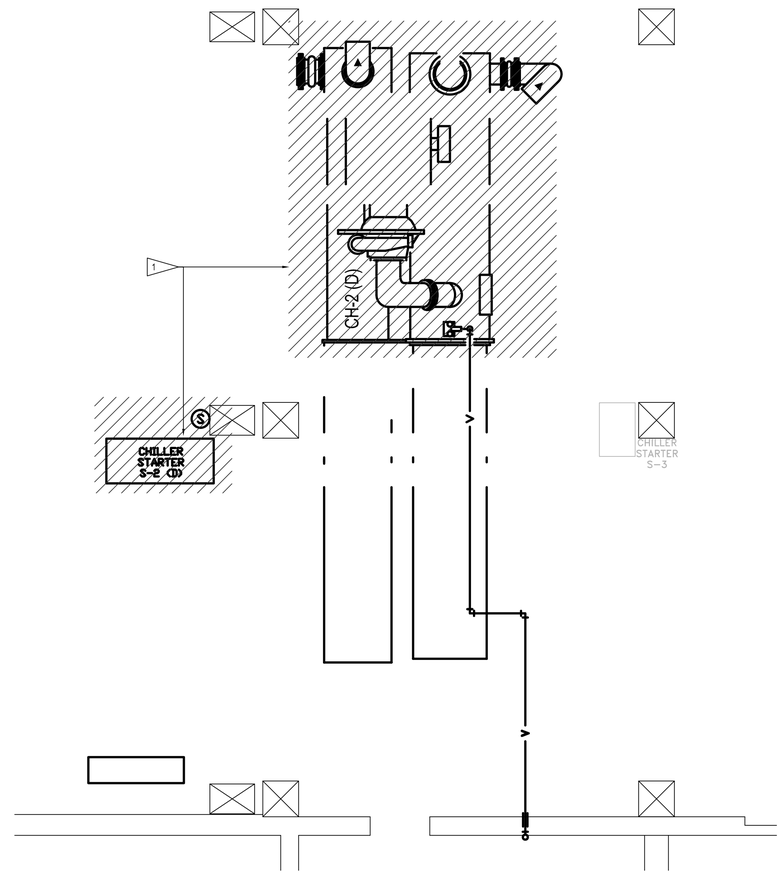
Drawing Number: OFF-B-6527 | Facility Number: B500



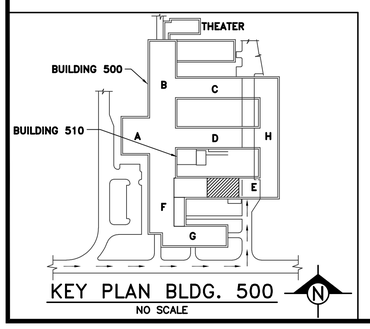
3 ED1.0 ELECTRICAL RISER - DEMOLITION
NOT TO SCALE



2 ED1.0 ELECTRICAL DEMOLITION PLANS - BASEMENT
1/16" = 1'-0"



1 ED1.0 ENLARGED CHILLER DEMOLITION PLANS
1/4" = 1'-0"



KEY PLAN BLDG. 500
NO SCALE

DEMOLITION NOTES

1. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL FIXTURES, DEVICES AND EQUIPMENT REMOVED.
2. WHERE EXISTING CIRCUITS ARE NOT REUSED, REMOVE CONDUCTORS AND ASSOCIATED ACCESSIBLE RACEWAYS BACK TO THE SOURCE. ABANDON CONCEALED CONDUITS IN WALLS WHICH ARE NOT REMOVED.
3. DEMOLITION DRAWINGS INDICATE FIXTURES, DEVICES AND MAJOR PIECES OF EQUIPMENT WHICH ARE TO BE REMOVED OR RECONNECTED. REMOVE INDICATED ITEMS AND ASSOCIATED ITEMS NOT INDICATED BUT WHICH MUST BE REMOVED TO ACCOMMODATE REMODELING. SEE PROJECT MANUAL "WORK IN EXISTING BUILDINGS" FOR ADDITIONAL INFORMATION.
4. SEE MECHANICAL DRAWINGS FOR ADDITIONAL ELECTRICAL DEMOLITION ITEMS. DISCONNECT AND REMOVE ELECTRICAL DEVICES, EQUIPMENT AND ASSOCIATED WIRING AS REQUIRED TO ACCOMMODATE NEW WORK.
5. POWER TO EXISTING AREAS NOT BEING REMODELED SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM OUTAGES NECESSARY FOR RECONNECTION OF EXISTING CIRCUITS. COORDINATE AND SCHEDULE OUTAGES WITH THE OWNER.
6. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED OR AS REQUIRED TO ALLOW THE OWNER TO OCCUPY THE SPACE.

FLAG NOTES

1. REMOVE ELECTRICAL CONNECTIONS FROM EXISTING CHILLER, STARTER, OIL PUMP, AND ACCESSORIES.
2. REMOVE EXISTING 250A FUSES FROM SWITCHBOARD.
3. REMOVE ALL EXISTING WIRING BACK TO SWITCHBOARD. LEAVE EXISTING CONDUIT AS REQUIRED FOR NEW CIRCUIT FEEDER.

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ENGINEERING ARCHITECTURE SURVEYING
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E-11987
06/20/2025
STATE OF NEBRASKA

Designer	Project Manager
SMF	WJG
Drafter	Date
SMF	06-20-25

REVISION	BY/DATE

SHEET TITLE
ED1.0
B500 - ELECTRICAL DEMOLITION PLANS - BASEMENT

SHEET 6 OF 7

PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number
SGBP-24-0048

Drawing Number
OFF-B-6527

Facility Number
B500

GENERAL NOTES

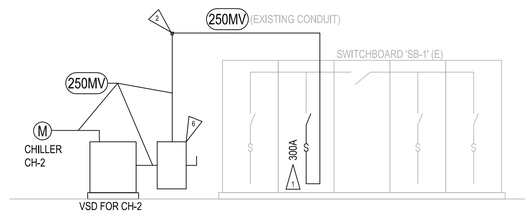
1. MINIMUM SIZE FOR BRANCH CIRCUIT CONDUITS SHALL BE 3/4." MINIMUM DATA/COMMUNICATIONS CONDUIT SIZE SHALL BE 1." SEE DRAWINGS FOR AREAS WHERE LARGER CONDUITS ARE REQUIRED.
2. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
3. PROVIDE A GREEN INSULATED GROUND WIRE IN ALL LIGHTING AND POWER BRANCH CIRCUITS.

FLAG NOTES

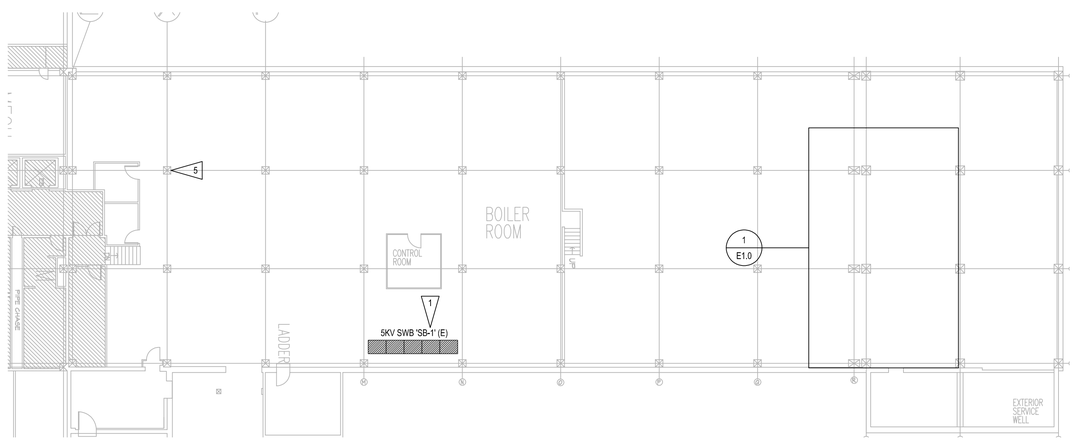
1. REPLACE EXISTING 250A FUSES WITH NEW 300A FUSES (CS-3/300E) IN EXISTING SWITCHGEAR CABINET.
2. INTERCEPT EXISTING CONDUIT IN NEW JUNCTION BOX AND EXTEND TO NEW VSD/STARTER LOCATION.
3. INTERCEPT EXISTING WIRE/CONDUIT IN NEW JUNCTION BOX AND EXTEND TO NEW OIL PUMP. RE-USE EXISTING CIRCUIT BREAKER.
4. INTERCEPT EXISTING WIRE/CONDUIT IN NEW JUNCTION BOX AND EXTEND TO NEW CHILLER CONTROL PANEL. RE-USE EXISTING CIRCUIT BREAKER. PROVIDE CONTROL CABLE BETWEEN CONTROL PANEL AND MOTOR STARTER PER MANUFACTURER'S INSTRUCTIONS.
5. PROVIDE 120V CONNECTION TO NEW REFRIGERANT MONITORING CONTROL PANEL AND CIRCUIT BACK TO NEAREST 120/208V PANEL WITH A NEW 20/1 CIRCUIT BREAKER AND 2#12,#12G-1/2"C.
6. PROVIDE 4160V 400/3, N.F. DISCONNECT SWITCH AT CHILLER VSD.

FEEDER SCHEDULE

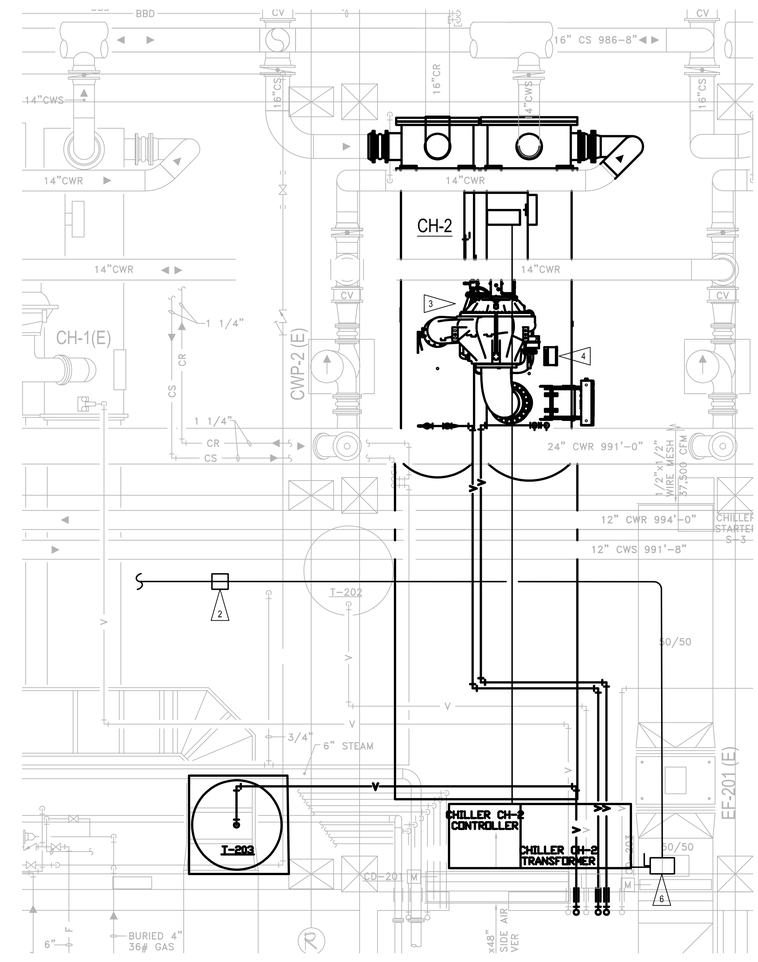
MARK	WIRE AND CONDUIT
250MV	3-#4/0 EPR SHIELDED, 133% 5KV, 1-#4 600V G - 3-1/2"C



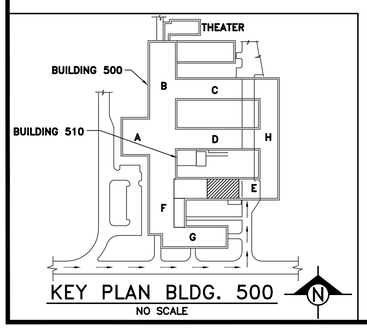
3 E1.0 ELECTRICAL RISER - NEW
NOT TO SCALE



2 E1.0 ELECTRICAL PLANS - BASEMENT
1/16" = 1'-0"



1 E1.0 ENLARGED CHILLER PLANS
1/4" = 1'-0"



KEY PLAN BLDG. 500
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SHEET TITLE
E1.0
B500 – ELECTRICAL PLANS – BASEMENT

SHEET 7 OF 7

PROJECT TITLE
REPAIR CHILLER #2, B500

Project Number: SGBP-24-0048

Drawing Number	Facility Number
OFF-B-6527	B500