2025 MULTI-CAMPUS CHILLER REPLACEMENT FOR

CYPRESS-FAIRBANKS RFP NO.: 25-03-5755-R-RFP

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REGISTERED ARCHITECT SUSAN F. WISNIEWSKI TX 24614 STATE OF TEXAS
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COVER SHEET

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Sheet No. G1.01

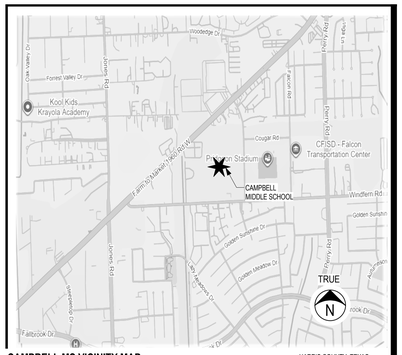
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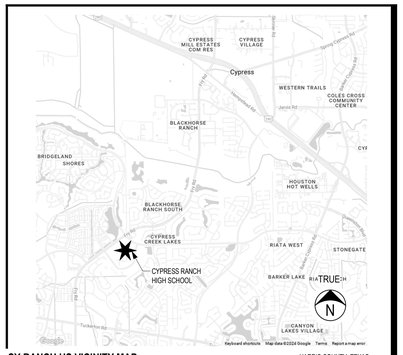
AB	ANCHOR BOLT
AC	AIR CONDITIONER
ACC	ACCESSIBLE
ACMU	ARCHITECTURAL CONCRETE MASONRY UNIT
ADA	AMERICANS WITH DISABILITES ACT / ADA STANDARDS FOR ACCESSIBLE DESIGN (LATEST VERSION)
ADJ	ADJUSTABLE
ADH	ADHESIVE/ADHERE
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
B	BEYOND
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BOD	BOTTOM OF DECK
BOM	BOTTOM OF MASONRY
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRK	BRICK
BW	BOTH WAYS
BWD	BASE, WOOD
C/C	CENTER TO CENTER
CFMF	COLD-FORMED METAL FRAMING
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED
CH	CHANNEL
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTRD	CENTERED
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
COS	CONCRETE SEALED
CTRL	CONTROL
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DTL	DETAIL
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENGR	ENGINEER
EQ	EQUAL (EQUALLY)
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDC	FIRE DEPARTMENT CONNECTION
FIN FLR	FINISHED FLOOR
FLR	FLOOR
FR	FRAME
FRT	FIRE RETARDANT TREATED
FRTW	FIRE RETARDANT TREATED WOOD
FV	FIELD VERIFY
GA	GAGE OR GAUGE
GALV	GALVANIZED
GEN	GENERAL
GYP	GYPSUM
HB	HOSE BIB
HM	HOLLOW METAL
HO	HOLD OPEN
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATING, VENTILATION, & A/C
IDF	INTERMEDIATE DISTRIBUTION FRAME
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
JT	JOINT
MAS	MASONRY
MAX	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OCD	OVERHEAD COILING DOOR
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OHD	OVERHEAD
OPP	OPPOSITE
PERIM	PERIMETER
PERP	PERPENDICULAR
PNT	PAINT
PREFIN	PREFINISHED
PREP	PREPARATION
PW	PLYWOOD
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RR	RESTROOM
RTU	ROOFTOP UNIT
SB	SPLASH BLOCK
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE
TAS	TEXAS ACCESSIBILITY STANDARDS (LATEST VERSION)
TH	THRESHOLD
TLT	TOILET
TOC	TOP OF CURB
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TR	TREATED
TRIM	METAL FLASHINGS AND COPINGS
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VEST	VESTIBULE
W/	WITH
WIN	WITHIN
W/O	WITHOUT
WD	WOOD
WH	WATER HEATER / WALL HYDRANT
WT	WEIGHT

(NOT ALL ABBREVIATIONS MAY BE USED)

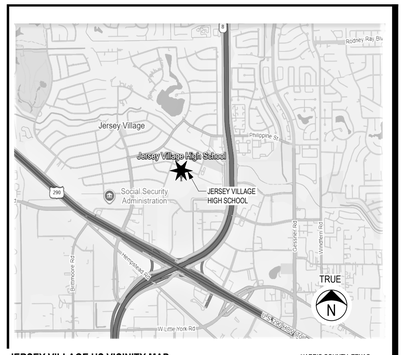
ABBREVIATIONS



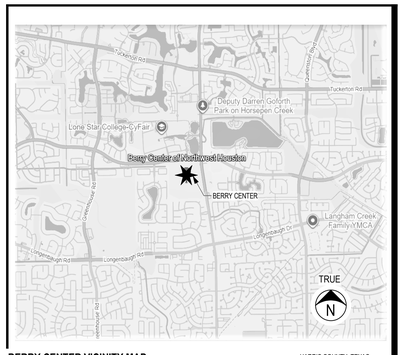
CAMPBELL MS VICINITY MAP — HARRIS COUNTY, TEXAS



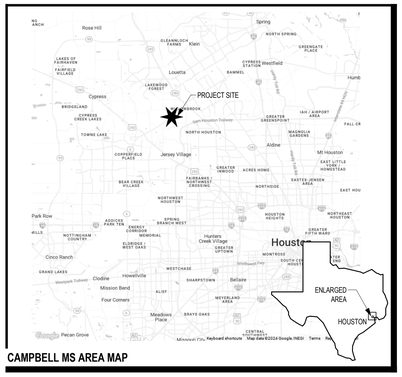
CY RANCH HS VICINITY MAP — HARRIS COUNTY, TEXAS



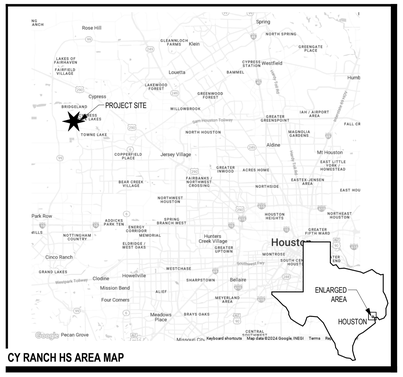
JERSEY VILLAGE HS VICINITY MAP — HARRIS COUNTY, TEXAS



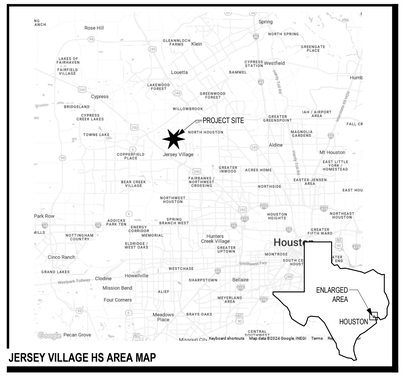
BERRY CENTER VICINITY MAP — HARRIS COUNTY, TEXAS



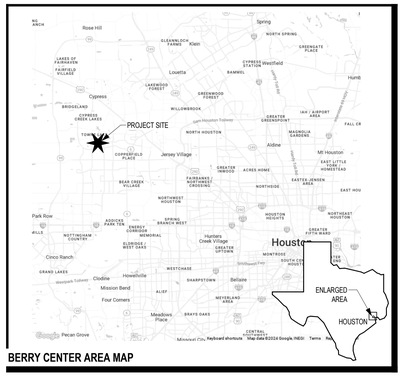
CAMPBELL MS AREA MAP



CY RANCH HS AREA MAP



JERSEY VILLAGE HS AREA MAP



BERRY CENTER AREA MAP

INDEX OF SHEETS

SHEET INDEX	
GENERAL	
G1.01	COVER SHEET
G1.02	GENERAL DATA

SHEET INDEX	
CAMPBELL GENERAL	
G2.01-CA	MASTER SITE PHASING PLAN
CAMPBELL ARCHITECTURAL	
A0.01-CA	MASTER PLAN - FIRST FLOOR
A1.01-CA	AREA A1 - FIRST FLOOR PLAN AND ROOF PLAN
CAMPBELL MECHANICAL	
M0.00-CA	MECHANICAL COMPOSITE PLAN
M0.01-CA	MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD
M2.01-CA	MECHANICAL ENLARGED PLAN - SERVICE YARD
M3.01-CA	MECHANICAL PIPING DIAGRAMS, LEGENDS, SCHEDULES, AND DETAILS
CAMPBELL ELECTRICAL	
E0.00-CA	ELECTRICAL COMPOSITE PLAN
E1.01-CA	ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD
E2.01-CA	ELECTRICAL ENLARGED PLAN - SERVICE YARD
E3.01-CA	ELECTRICAL ONELINES
E4.01-CA	ELECTRICAL DETAILS AND SCHEDULES

SHEET INDEX	
CY RANCH GENERAL	
G2.01-CR	MASTER SITE PHASING PLAN
CY RANCH ARCHITECTURAL	
A0.01-CR	MASTER PLAN - FIRST FLOOR AND AREA 'H1' FIRST FLOOR DEMO PLAN
A1.01-CR	AREA A1 - FIRST FLOOR PLAN
CY RANCH MECHANICAL	
M0.00-CR	MECHANICAL COMPOSITE PLAN
M0.01-CR	MECHANICAL ENLARGED DEMO PLAN - SERVICE YARD
M2.01-CR	MECHANICAL ENLARGED PLAN - SERVICE YARD
M3.01-CR	MECHANICAL PIPING DIAGRAM
M4.01-CR	MECHANICAL SCHEDULES, LEGENDS, AND DETAILS
BERRY CENTER ELECTRICAL	
E0.01-BC	ELECTRICAL COMPOSITE PLAN - SECOND FLOOR
CY RANCH ELETRICAL	
E0.00-CA	ELECTRICAL COMPOSITE PLAN
E1.01-CR	ELECTRICAL ENLARGED DEMO PLAN - SERVICE YARD
E2.01-CR	ELECTRICAL ENLARGED PLAN - SERVICE YARD
E3.01-CR	ELECTRICAL ONELINES
E4.01-CR	ELECTRICALPANEL SCHEDULES AND DETAILS

SHEET INDEX	
JERSEY VILLAGE GENERAL	
G2.01-JV	PHASING COMPOSITE SITE PLAN
JERSEY VILLAGE ARCHITECTURAL	
A0.01-JV	1ST FLOOR COMPOSITE PLAN
A1.01-JV	AREA 'Q1' 1ST FLOOR PLAN
JERSEY VILLAGE MECHANICAL	
M0.00-JV	MECHANICAL COMPOSITE PLAN
M0.01-JV	MECHANICAL ENLARGED DEMO PLAN - SERVICE YARD
M2.01-JV	MECHANICAL ENLARGED PLAN - SERVICE YARD
M3.01-JV	MECHANICAL PIPING DIAGRAMS
M4.01-JV	MECHANICAL LEGENDS, SCHEDULES, AND DETAILS
JERSEY VILLAGE ELECTRICAL	
E0.00-JV	ELECTRICALCOMPOSITE PLAN
E1.01-JV	ELECTRICAL ENLARGED DEMO PLAN - SERVICE YARD
E2.01-JV	ELECTRICAL ENLARGED PLAN - SERVICE YARD
E3.01-JV	ELECTRICAL ONELINES
E4.01-JV	ELECTRICAL DETAILS AND SCHEDULES

SHEET INDEX	
BERRY CENTER GENERAL	
G2.01-BC	MASTER SITE PHASING PLAN
BERRY CENTER STRUCTURE	
S1.0-BC	ELEVATIONS AND DETAILS
BERRY CENTER ARCH DEMOLITION	
AD1.01-BC	AREA A2 - DEMOLITION PLAN - SECOND FLOOR
BERRY CENTER ARCH	
A0.01-BC	MASTER PLAN - FIRST FLOOR
A0.02-BC	MASTER PLAN - SECOND FLOOR
A1.01-BC	AREA E1 - FIRST FLOOR PLAN
A1.02-BC	AREA E2 - SECOND FLOOR
A1.03-BC	SECTIONS AND DETAILS
BERRY CENTER MECHANICAL	
M0.00-BC	MECHANICAL COMPOSITE PLAN - SECOND FLOOR
M0.01-BC	MECHANICAL DEMO ENLARGED PLAN - SECOND FLOOR - SERVICE YARD
M0.02-BC	MECHANICAL DEMO ROOF PLAN - SECOND FLOOR - SERVICE YARD
M2.01-BC	MECHANICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD
M2.02-BC	MECHANICAL ROOF PLAN - SECOND FLOOR - SERVICE YARD
M3.01-BC	MECHANICAL PIPING DIAGRAMS
M4.01-BC	MECHANICAL SCHEDULES, LEGENDS, AND DETAILS
BERRY CENTER ELECTRICAL	
E0.00-BC	ELECTRICAL COMPOSITE PLAN - FIRST FLOOR
E1.01-BC	ELECTRICAL DEMO ENLARGED PLAN - SECOND FLOOR - SERVICE YARD
E2.01-BC	ELECTRICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD
E3.01-BC	ELECTRICAL DEMOLITION ONELINE

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FOR
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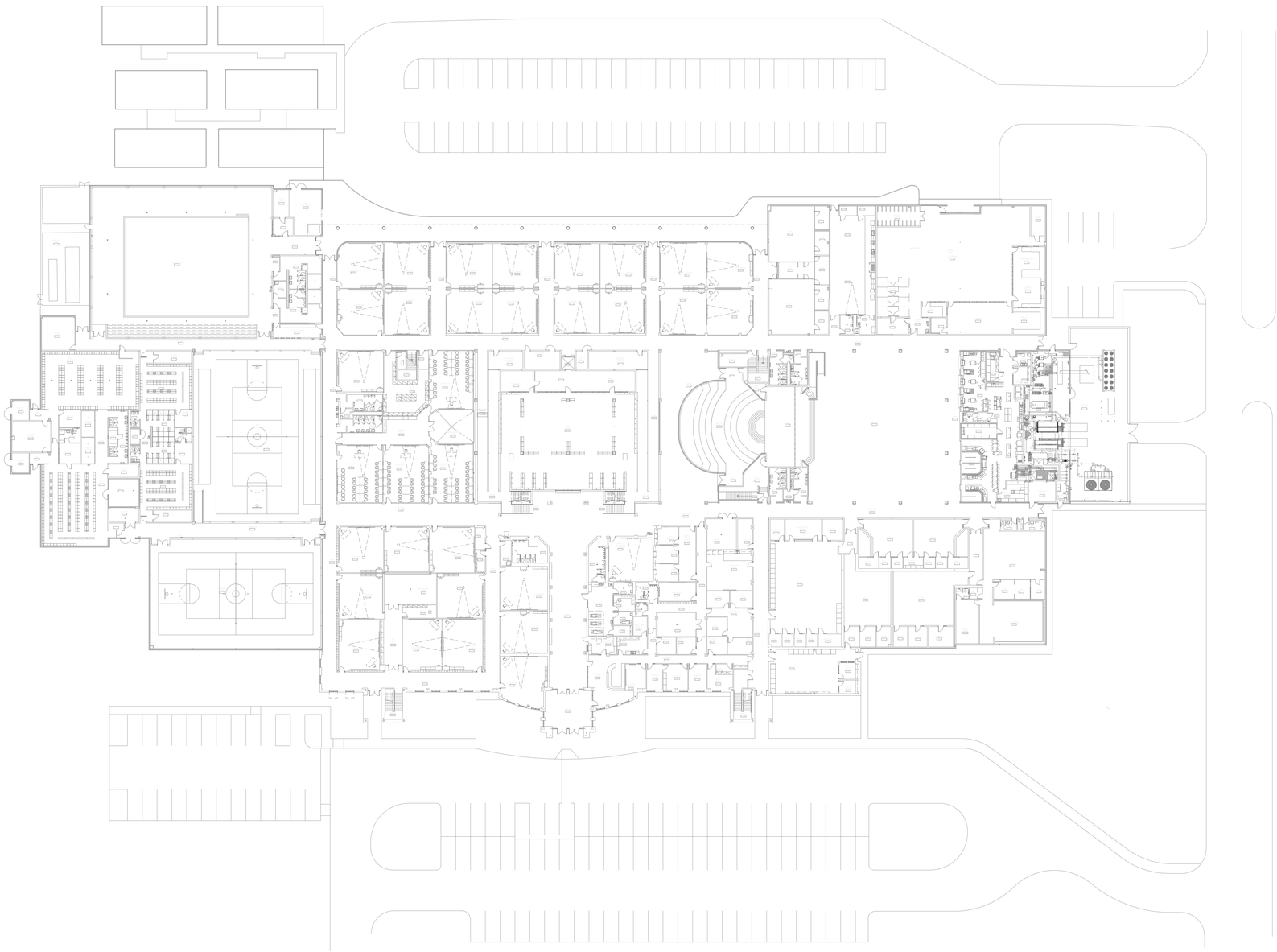
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GENERAL DATA

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CAMPBELL MS

1. THE EXISTING CHILLED WATER PLANT CONSISTS OF (2) WATER COOLED CHILLERS, 250 TONS EACH AND (1) 191-TON AIR COOLED CHILLER.
2. THE PROJECT SCOPE AT CAMPBELL M.S. INCLUDES REPLACEMENT OF (1) 250 TON WATER COOLED CHILLERS. THE REMAINING OPERATING PLANT CAPACITY IS 441 TONS AND HAS SHOWN TO DELIVER ADEQUATE COOLING TO THE BUILDING TO MAINTAIN THE DISTRICT'S STANDARD TEMPERATURE AND HUMIDITY SETPOINTS OF 75°F AND 50-55% RH.
3. IN ADDITION, THE PROJECT ALSO INCLUDES REPLACING THE (1) CONDENSER WATER PUMP ASSOCIATED WITH CHILLER BEING REPLACED, ADDING MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND ADDING SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS SHOULD THE DISTRICT NEED THEM IN THE FUTURE. REFER TO THE DRAWINGS FOR ADDITIONAL SCOPE INCLUDED IN THE PROJECT.
4. THE CHILLED WATER PLANT, EXCLUDING THE CHILLER BEING REPLACED, SHALL REMAIN IN **FULL** OPERATION THROUGHOUT THE ENTIRE DURATION OF THE PROJECT AND MAINTAIN THE DISTRICT'S COOLING AND DEHUMIDIFICATION SETPOINTS (LISTED ABOVE) IN THE ENTIRE CAMPUS.
5. IF A PLANT SHUTDOWN IS REQUIRED TO EXECUTE ANY PORTION OF THE PROJECT SCOPE, SHUTDOWNS SHALL BE COORDINATED, SCHEDULED, AND ACCEPTED BY THE OWNER, ARCHITECT, AND ENGINEER A MINIMUM OF 1 WEEK PRIOR TO THE PLANT BEING DISABLED.
6. DURING ANY PLANT SHUTDOWN GREATER THAN 8 HOURS IN DURATION , THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT TO MAINTAIN 80°F AND 60% RH IN THE FOLLOWING LOCATIONS:
   A. LIBRARY
   B. COMPETITION
   C. GYMNASIUM
   D. AUXILIARY GYMNASIUM
   E. LOCKER ROOMS
   F. BAND
   G. CHOIR
   H. ORCHESTRA
   I. ADMINISTRATION (COMPLETE SUITE)
   J. SCIENCE CLASSROOM (EACH)
   K.
7. IN ADDITION, DURING PERIODS OF TIME WHEN THE PLANT IS SHUT DOWN AND UTILIZING TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT, THE CONTRACTOR SHALL MONITOR AND LOG BUILDING TEMPERATURE AND HUMIDITY EVERY 2 HOURS FOR EACH LOCATION LISTED. DIGITAL LOGS SHALL BE PROVIDED TO OWNER, ARCHITECT AND ENGINEER UPON COMPLETION OF EACH SCHEDULED PLANT SHUT FOR REVIEW AND ACCEPTANCE.

1 MASTER SITE PHASING PLAN
1" = 30'-0"

NOTES - GENERAL PHASING SCOPE SUMMARY
12" = 1'-0"

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MASTER SITE PHASING PLAN

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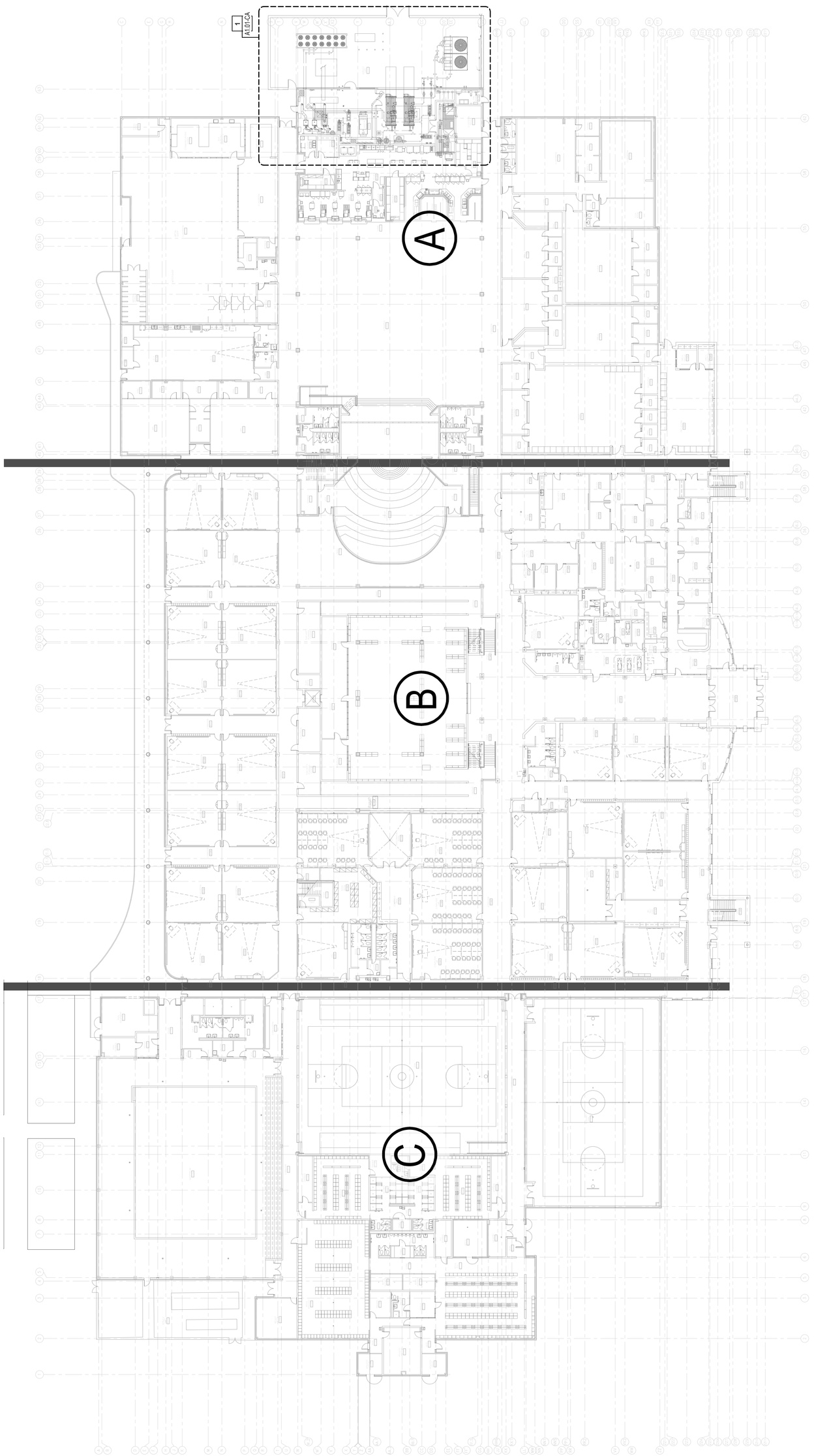
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MASTER PLAN - FIRST FLOOR

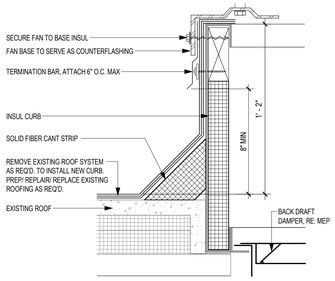
THE MASTER FLOOR PLAN SHOWS THE OVERALL BUILDING CONFIGURATION AND THE RELATIONSHIP OF THE PLAN AREAS WHERE FLOOR LEVEL INTERIOR FINISHES, ELEVATIONS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND CONSTRUCTION REQUIREMENTS. MASTER PLAN LEGENDS ALSO APPLY TO 18" SCALE FLOOR PLAN AREA.

MASTER FLOOR PLAN



1 MASTER PLAN - FIRST FLOOR
1" = 20'-0"

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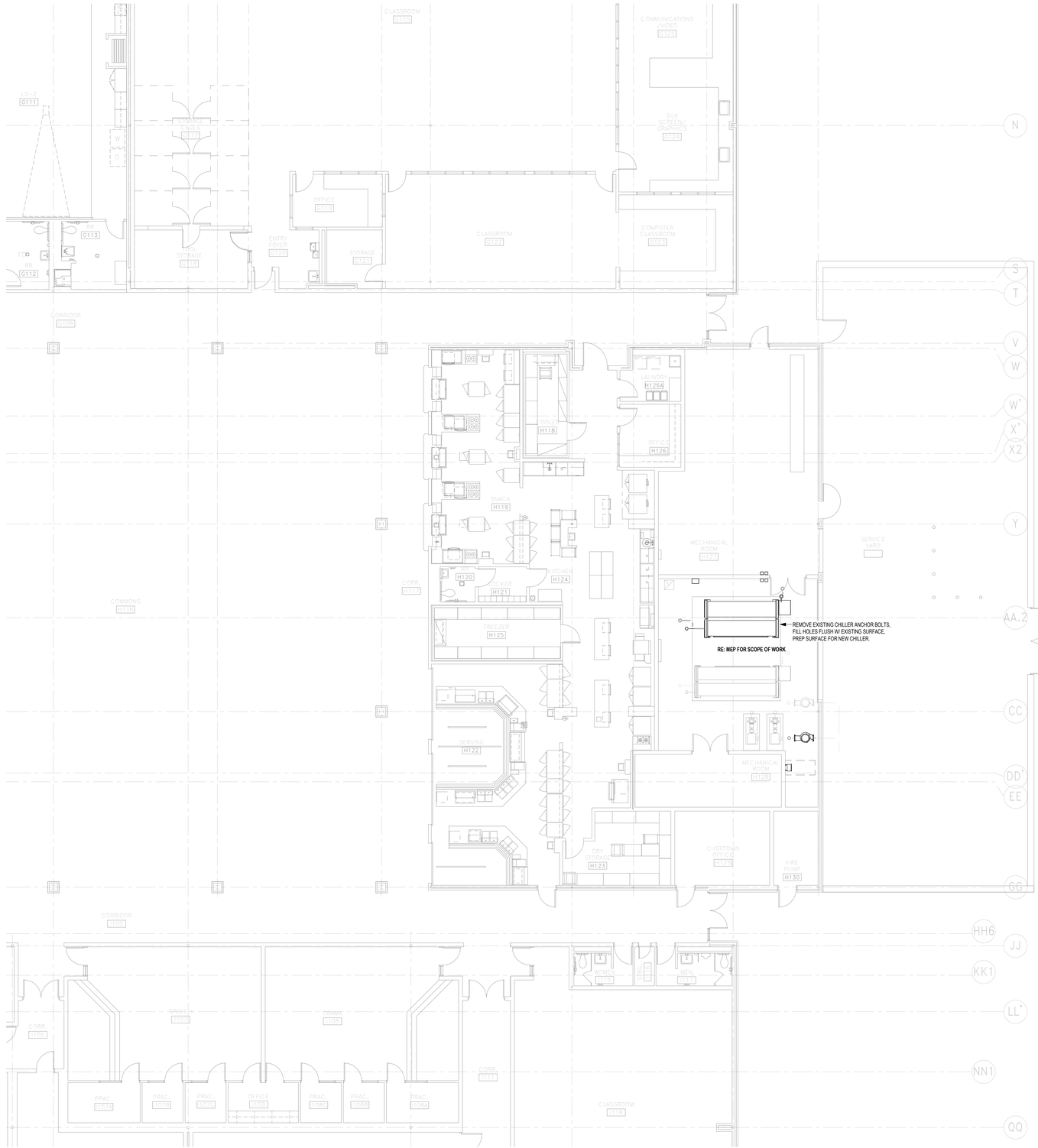


3 TYP EXHAUST FAN MOUNTING CURB DETAIL
3" = 1'-0"

REMOVE EXISTING ROOF CURB AND INSTALL NEW ROOF CURB PER EXISTING OPENING SIZE, RE: 3/A1.01-CA & MEP

NOTE:
1. **RE: MEP FOR ROOF PRESSURE RELIEF VALVE SCOPE OF WORK**

2 ROOF PLAN
1/8" = 1'-0"



1 AREA A1 - 1ST FLOOR PLAN
1/8" = 1'-0"

PLAN N

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AREA A1 - FIRST FLOOR PLAN AND ROOF PLAN

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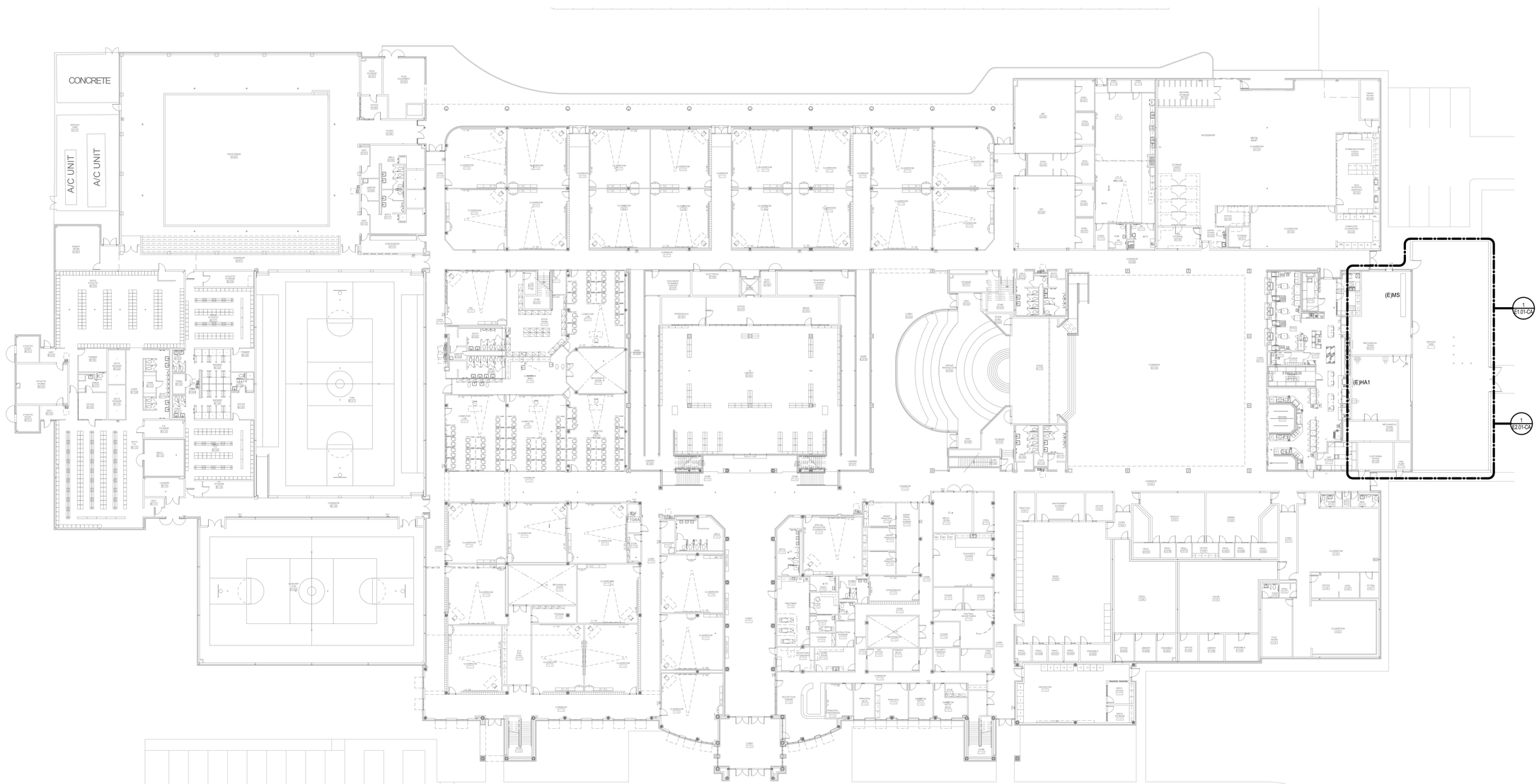
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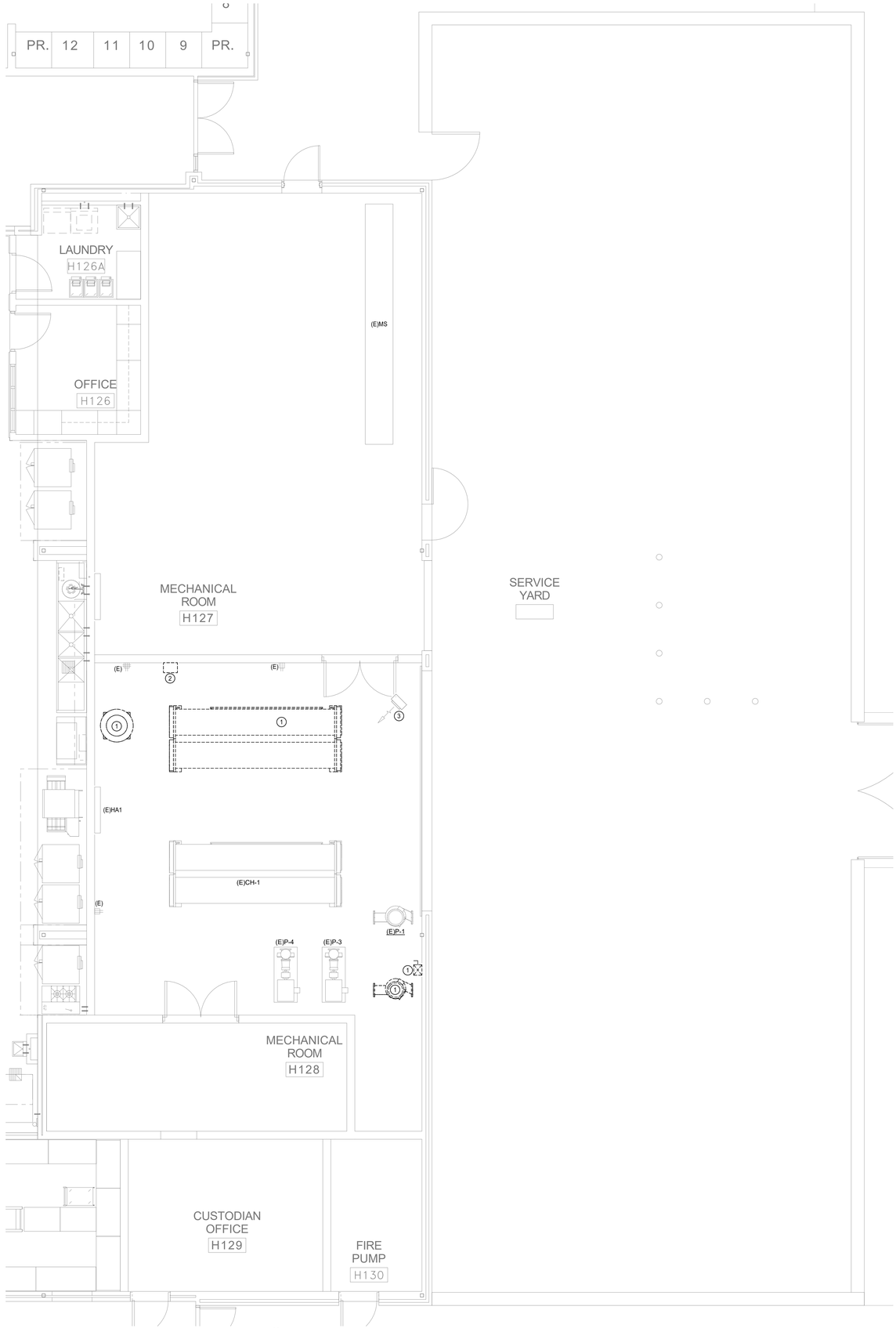
1 **ELECTRICAL COMPOSITE PLAN**
Scale: 1" = 20'-0"

ELECTRICAL COMPOSITE PLAN

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01818-08-01	E0.00-CA
Drw By: AW / Chk By: JZ	
Date: 08/11/2025	

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1 **DEMO ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

ELECTRICAL KEYED NOTES E1.01

1.	DISCONNECT EXISTING EQUIPMENT TO BE DEMOLISHED. PULL CONDUCTORS AND CONDUIT BACK TO SOURCE. DISCONNECT AND REMOVE ASSOCIATED DISCONNECTS, STARTERS, OR VFDS. FLIP BREAKER OFF AND INDICATE AS SPARE.
2.	DISCONNECT ELECTRICAL TO EXISTING REFRIGERANT MONITORING SYSTEM, PRESERVE CONDUCTORS AND CONDUIT FOR CONNECTION OF REPLACEMENT SYSTEM.
3	DISCONNECT EXISTING EQUIPMENT. PRESERVE EXISITNG CONDUIT AND CONDUCTORS FOR RECONNECTION.

ELECTRICAL DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING \(E)' ARE EXISTING TO REMAIN.
6. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES, CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY THE DISTRICT'S REPRESENTITIVE PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

LINE TYPE LEGEND

	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED

Salas O'Brien
salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CAMPBELL MIDDLE SCHOOL
11415 BOBCAT ROAD, HOUSTON, TEXAS 77064

STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
08/11/25

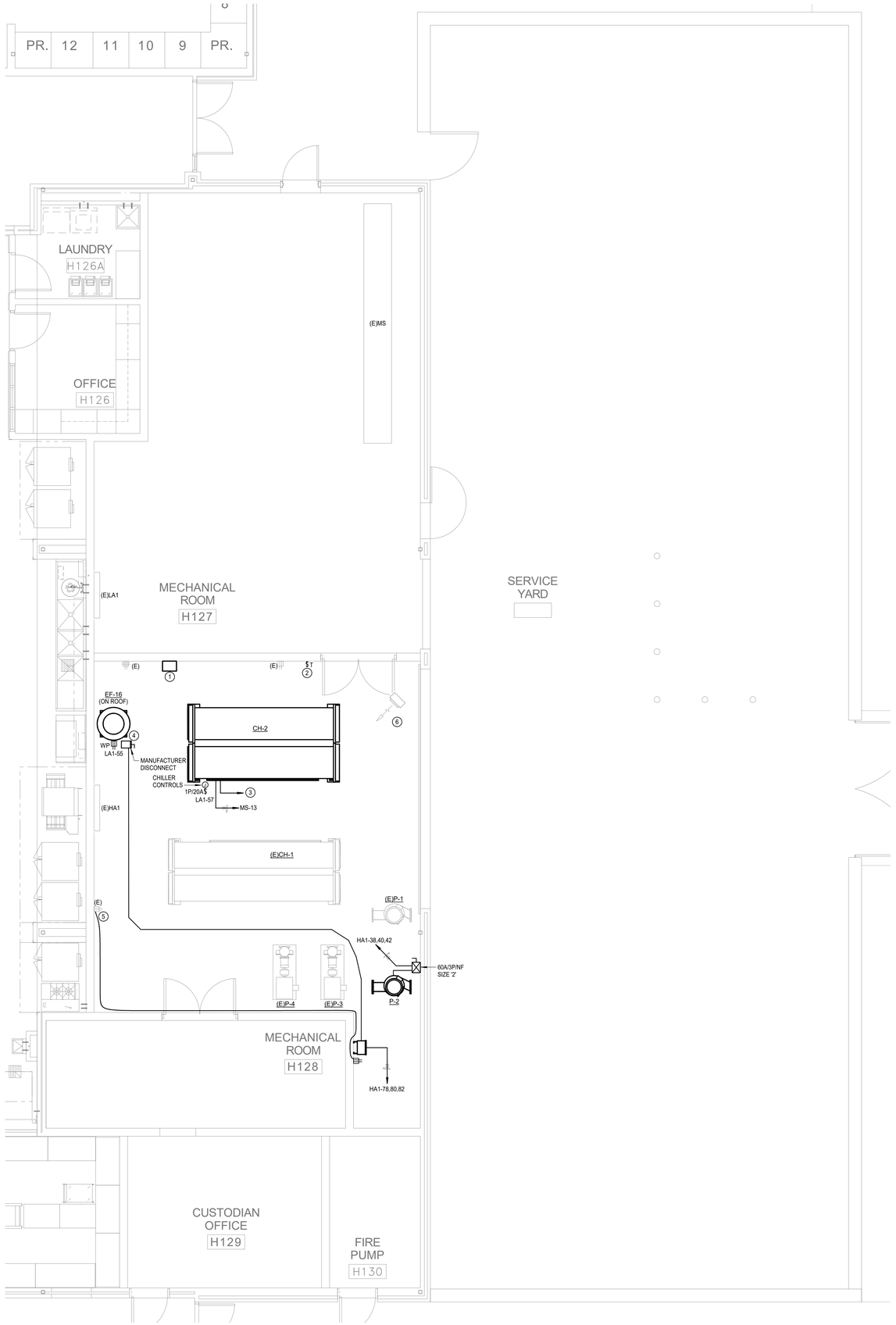
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ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-01	Sheet No. E1.01-CA
Drw By: AW Chk By: JZ	
Date: 08/11/2025	

8/8/2025 11:01:29 AM
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ELECTRICAL KEYED NOTES E2.01

1	CONNECT NEW REFRIGERANT MONITORING SYSTEM TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
2	TIMER SWITCH FURNISHED BY DIVISION 23, INSTALLED BY DIVISION 26. VERIFY EXACT LOCATION AND MAKE FINAL CONNECTION TO FAN.
3	ROUTE 2"C WITH PULLSTRING ALONG HOMERUN BACK TO BMCS SYSTEM. COORDINATE FINAL ROUTING WITH DIVISION 26.
4	MOUNT RECEPTACLE AND DISCONNET FOR ROOFTOP EQUIPMENT ON A MAPA MPD-30/60 PEDESTAL. REFER TO ROOFTOP DISCONNECT AND RECEPTACLE DEATIL FOR FURTHER REQUIREMENTS.
5	EXTEND NEW 2#10 AND 1#10G. FROM EXISTING RECEPTACLE TO NEW RECEPTACLE.
6	RECONNECT EXISTING EQUIPMENT TO PRESERVED EXISITNG CONDUIT AND CONDUCTORS.

ELECTRICAL GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.

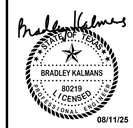
LINE TYPE LEGEND
EXISTING ITEM TO REMAIN
NEW ITEM
ITEM TO BE REMOVED

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salasobrien.com 281-664-1900
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ELECTRICAL ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-01	Sheet No. E2.01-CA
Drw By: AW / Chk By: JZ	
Date: 08/11/2025	

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1 **ELECTRICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

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ELECTRICAL GENERAL NOTES

1. ALL EMPTY CONDUITS SHALL HAVE PULL STRING.
2. EACH CONDUIT SHALL BE LIMITED TO (3) CIRCUITS MAXIMUM.
3. NO MORE THAN THREE SINGLE PHASE CIRCUITS AND NO MORE THAN SIX CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. WHEN FOUR, FIVE, OR SIX CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY, THEIR CURRENT CARRYING AMPACITIES SHALL BE DERATED AS REQUIRED BY THE NEC FOR NON-DIVERSIFIED LOADS. THE INSTALLED WIRE SIZE SHALL HAVE A NOMINAL AMPACITY RATING OF 125% OF THAT REQUIRED OR SPECIFIED WHEN FOUR OR MORE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY. NEUTRAL CONDUCTORS SHALL BE CONSIDERED A CURRENT CARRYING CONDUCTOR IN ALL NON-LINEAR LOADED CIRCUITS AS REQUIRED BY THE NEC.
4. ALL LIGHTING, RECEPTACLE, AND EQUIPMENT BRANCH CIRCUITS CONDUITS SHALL CONTAIN A GROUND WIRE. USING THE CONDUIT SYSTEM AS THE ONLY GROUND PATH IS NOT ACCEPTABLE.
5. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO PROVIDE NEW FILLER PLATES TO COVER EXPOSED BUS BARS FOR ANY MODIFIED EQUIPMENT.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

PROVIDE NETA CERTIFIED TESTING, CLEANING AND MAINTENANCE FOR EXISTING SWITCHBOARDS AND MOTOR CONTROL CENTERS, WHICH SHALL INCLUDE: CHECKING FOR SHORT CIRCUITS AND CONTINUITY OF CIRCUITS, INSULATION RESISTANCE TESTING, CHECKING CIRCUIT BREAKERS OPERATION, GROUND FAULT INTERRUPTER TESTING, THERMAL INFRARED SCAN OF SWITCHBOARD UNDER FULL LOAD, CHECKING ALL BOLTED CONNECTIONS FOR HIGH RESISTANCE, PERFORMING GROUND RESISTANCE TESTING, AND CHECKING LOW VOLTAGE CONTROLS WIRING/DEVICES AND INSTRUMENT TRANSFORMERS FOR PROPER OPERATION. CONTRACTOR SHALL PROVIDE A COMPLETE WRITTEN REPORT INDICATING ANY DEFICIENCIES IN RELATION TO EACH COMPONENT'S INTENDED FUNCTION AND RECOMMENDATIONS FOR RESOLVING ANY DEFICIENCY.

ALL CONDUCTORS TO BE COPPER THHN/THWN 90 DEG. C. INSULATION TYPE UNLESS SPECIFICALLY NOTED OTHERWISE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

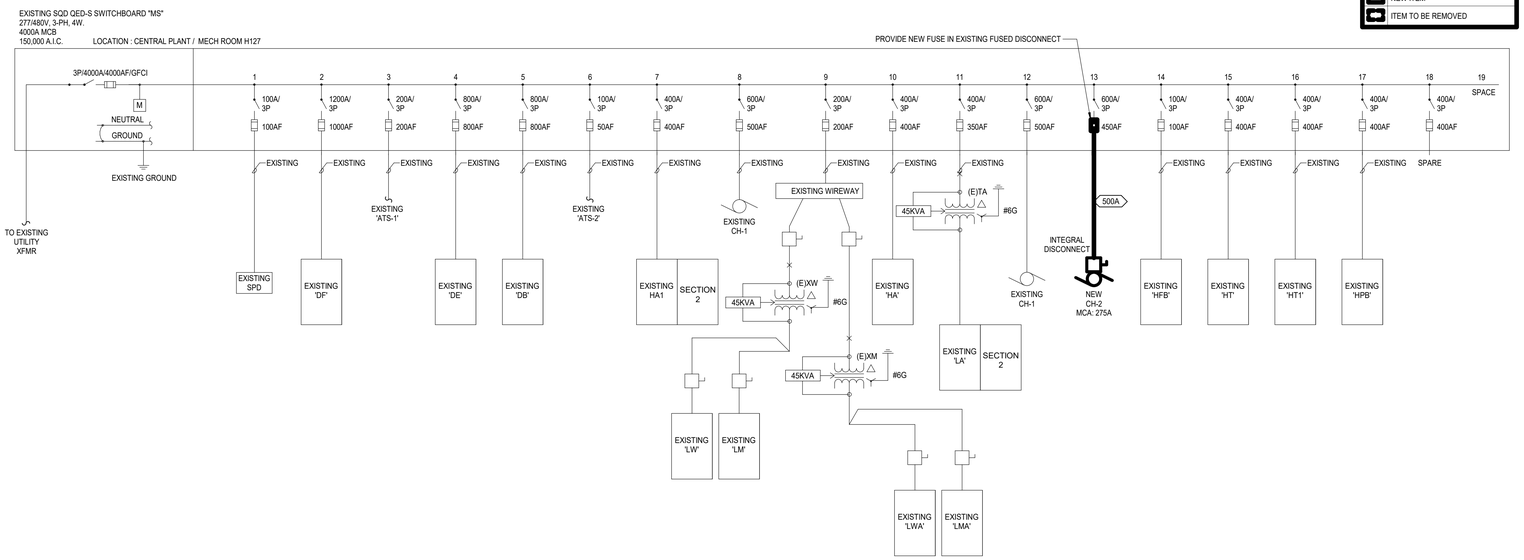
OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE

FEEDER SCHEDULE

AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
500A	2	(3) #250KCMIL	#2	3"C

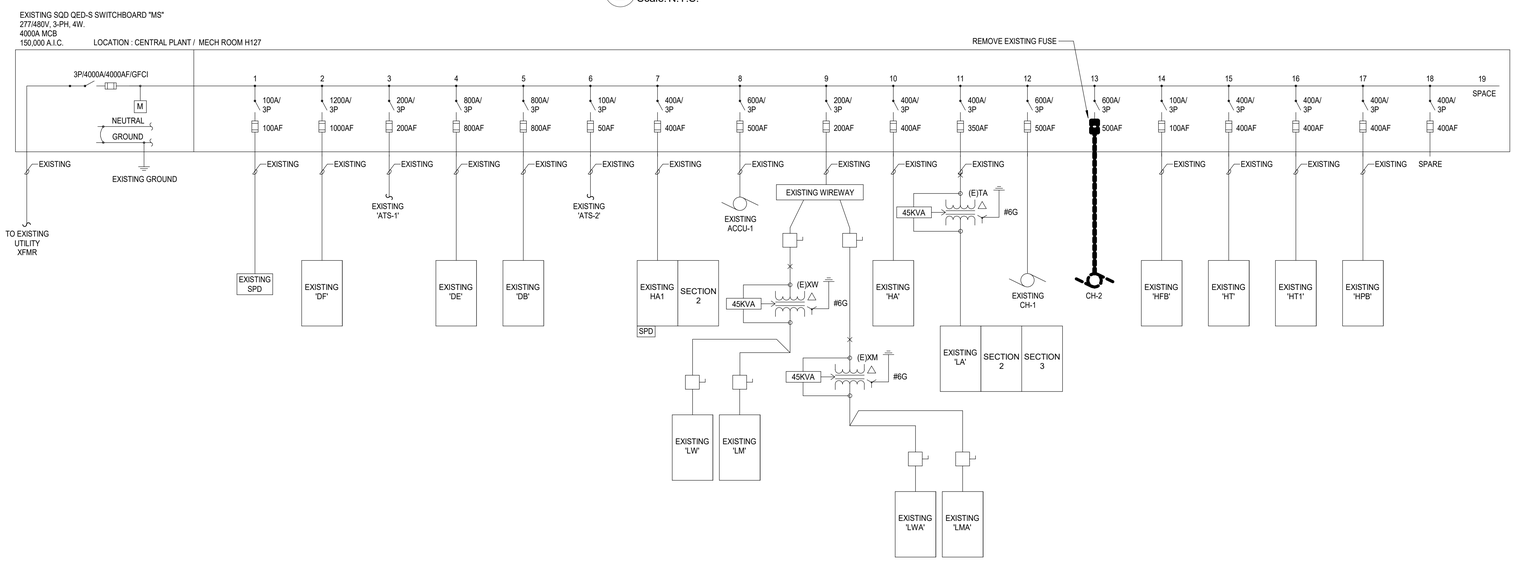
ELECTRICAL LOAD ANALYSIS SWITCHBOARD MS

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1132.5
ADDED HVAC EQUIPMENT	229.1
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1368.7 kVA
TOTAL A	1646.3 A



2 ELECTRICAL NEW ONE-LINE DIAGRAM

Scale: N.T.S.



1 ELECTRICAL EXISTING/DEMO ONE-LINE DIAGRAM

Scale: N.T.S.

LINE TYPE LEGEND

	EXISTING ITEM TO REMAIN
	NEW ITEM
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Salas O'Brien
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Houston
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ELECTRICAL ONELINES

Job No. 01818-08-01
Sheet No. E3.01-CA
Drw By: AW Chk By: JZ
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8/8/2025 10:32:34 AM
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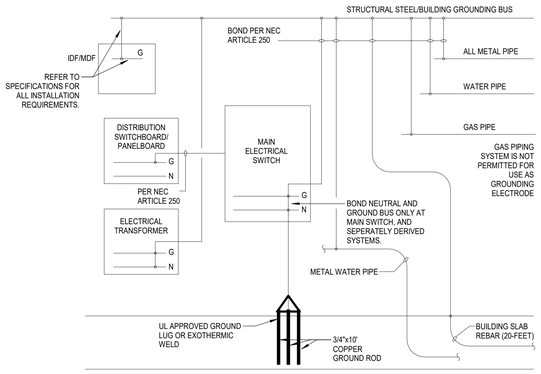
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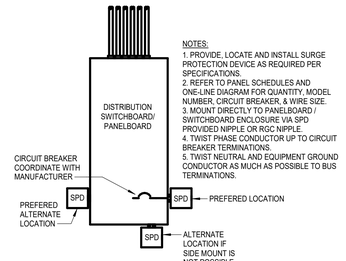
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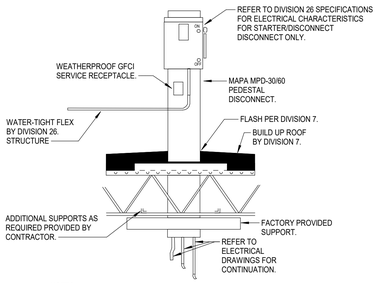


2 SYSTEM GROUNDING DETAIL
Scale: N.T.S.



NOTES:
1. PROVIDE, LOCATE AND INSTALL SURGE PROTECTION DEVICE AS REQUIRED PER SPECIFICATIONS.
2. REFER TO PANEL SCHEDULES AND ONE-LINE DIAGRAM FOR QUANTITY, MODEL NUMBER, CIRCUIT BREAKER, & WIRE SIZE.
3. MOUNT DIRECTLY TO PANELBOARD / SWITCHBOARD ENCLOSURE VIA SPD PROVIDED NIPPLE OR RGC NIPPLE.
4. TWIST PHASE CONDUCTOR UP TO CIRCUIT BREAKER TERMINATIONS.
5. TWIST NEUTRAL AND EQUIPMENT GROUND CONDUCTOR AS MUCH AS POSSIBLE TO BUS TERMINATIONS.

1 SURGE PROTECTION DEVICE DETAIL
Scale: N.T.S.



NOTES:
1. WATER TIGHT FLEX CONDUIT SHALL NOT RESTRICT FAN FROM ROTATING. ON HINGE SUB-BASE FOR SERVICE TO DAMPERS AND DUCT CONNECTION. REFER TO DIVISION 26.

3 ROOFTOP DISCONNECT AND RECEPTACLE
Scale: N.T.S.

SYMBOL SCHEDULE

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
SWITCHES	
$ 1P/XXA	LINE VOLTAGE SINGLE POLE SWITCH
$ 2P/XXA	LINE VOLTAGE 2-POLE SWITCH RATED FOR XX AMPACITY
RECEPTACLES AND OUTLETS	
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
MOTOR CONTROLLERS AND EQUIPMENT	
	MOTOR, MAKE FINAL MOTOR CONNECTION
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH AS REQUIRED
	MOTOR STARTER
	VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26
ELECTRICAL EQUIPMENT	
	ELECTRICAL DISTRIBUTION OR PANELBOARD
	DRY TYPE TRANSFORMER
CIRCUITING	
	CONDUIT
- - - - -	CONDUIT BELOW FLOOR, SLAB, OR GRADE
SUBSCRIPTS AND ABBREVIATIONS	
WP	INDICATES WEATHERPROOF
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
1-L	REFER TO ONE-LINE DIAGRAM

GENERAL NOTES:
-ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF. REFER TO SPECIFICATIONS FOR THE MINIMUM NEMA RATING

Existing Branch Panel: LA1

Location: MECHANICAL H127 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10,000
Supply From: TA | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 250A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	HWH BOILER	(E)	20	1	0.5 / 0.7			1	20	(E)	RECEPTACLES RM 1717	2	
--	3	SPARE	--	20	1		0.0 / 0.7		1	20	(E)	RECEPTACLES RM 1717	4	
--	5	SPARE	--	20	1			0.0 / 0.7	1	20	(E)	RECEPTACLES RM 1715. 1716	6	
--	7	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	8	--
--	9	SPARE	--	20	1		0.0 / 1.0		1	20	(E)	UH-2	10	
--	11	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	12	--
--	13	SPARE	--	20	1	0.0 / 0.5			1	20	(E)	EF-16	14	
--	15	SPARE	--	20	1		0.0 / 0.6		1	20	(E)	CP1	16	
--	17	SPARE	--	20	1			0.0 / 0.6	1	20	(E)	CP2	18	
--	19	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	20	--
--	21	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	22	--
--	23	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	24	--
	25	RECEPTACLES RM 1717	(E)	20	1	0.7 / 0.7			1	20	(E)	RECEPTACLES RM 1717	26	
	27	RECEPTACLES RM 1717	(E)	20	1		0.7 / 0.7		1	20	(E)	RECEPTACLES RM 1717	28	
	29	BOILER	(E)	20	1			0.5 / 0.0	1	--	--	SPACE	30	--
	31	AHU-15 DISCONNECT	(E)	20	1	0.5 / 0.0			1	--	--	SPACE	32	--
	33	P-1/P-2	(E)	20	1		0.5 / 0.0		1	--	--	SPACE	34	--
--	35	SPACE	--	--	1			0.0 / 0.0	1	--	--	SPACE	36	--
--	37	SPARE	--	20	1	0.0 / 0.0			1	20	--	SPARE	38	--
--	39	SPARE	--	20	1		0.0 / 0.0		1	20	--	SPARE	40	--
--	41	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	42	--
--	43	SPARE	--	20	1	0.0 / 0.7			1	20	(E)	RECEPTACLES 1803	44	
--	45	SPARE	--	20	1		0.0 / 0.7		1	20	(E)	RECEPTACLES 1802	46	
--	47	SPARE	--	20	1			0.0 / 0.7	1	20	(E)	RECEPTACLES 1801	48	
--	49	SPARE	--	20	1	0.0 / 0.7			1	20	(E)	RECEPTACLES 1800	50	
--	51	SPARE	--	20	1		0.0 / 0.7		1	20	(E)	RECEPTACLES 1804	52	
--	53	SPARE	--	20	1			0.0 / 0.7	1	20	(E)	RECEPTACLES 1805	54	
1	55	**ROFFTOP MAINTENANCE RECEPTACLE**	**#12**	**20**	**1**	0.2 / 0.0			2	50	--	SPARE	56	
1	57	**CHILLER 2 CONTROLS**	**#12**	**20**	**1**		0.0 / 0.0						58	--
--	59	SPARE	--	50	2			0.0 / 0.0	2	50	--	SPARE	60	--
	61					0.0 / 0.0							62	
--	63	SPARE	--	50	2		0.0 / 1.0		2	20	(E)	DRYER RRM 1713	64	
	65							0.0 / 1.0					66	
--	67	SPARE	--	50	2	0.0 / 0.7			1	20	(E)	RECEPTACLES 1812	68	
	69						0.0 / 0.7		1	20	(E)	RECEPTACLES 1814	70	
--	71	SPARE	--	50	2			0.0 / 0.7	1	20	(E)	RECEPTACLES 1815	72	
	73					0.0 / 0.0			1	--	--	SPACE	74	--
--	75	SPARE	--	20	1		0.0 / 0.0		1	--	--	SPACE	76	--
--	77	SPARE	--	20	1			0.0 / 0.0	1	--	--	SPACE	78	--
--	79	SPARE	--	20	1	0.0 / 0.0							80	
--	81	SPARE	--	20	1		0.0 / 0.0		3	30	(E)	EXISTING TVSS	82	
--	83	SPARE	--	20	1			0.0 / 0.0					84	
			Total Load:			6.0 kVA	7.4 kVA	5.0 kVA						
			Total Amps:			51 A	63 A	42 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	6.7 kVA	100.00%	6.7 kVA		
Receptacles	11.7 kVA	92.74%	10.9 kVA	**Total Conn. Load:**	18.4 kVA
				Total Est. Demand:	17.6 kVA
				Total Conn. Current:	51 A
				Total Est. Demand Current:	49 A

Notes:
NEW WORK IN BOLD
1 - PROVIDE NEW BREAKER IN EXISTING SPACE

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE

Existing Branch Panel: HA1

Location: MECHANICAL H127 | **Volts:** 277/480 Wye | **A.I.C. Rating:** 18,000
Supply From: MS | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 400A MLO

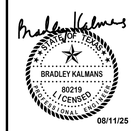
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1					3.0 / 3.0							2	
	3	AHU-15	(E)	20	3		3.0 / 3.0		3	20	(E)	P-7	4	
	5							3.0 / 3.0					6	
	7					3.0 / 3.0							8	
	9	AHU-16	(E)	20	3		3.0 / 3.0		3	20	(E)	P-6	10	
	11							3.0 / 3.0					12	
	13					3.0 / 7.5							14	
	15	B-3	(E)	20	3		3.0 / 7.5		3	60	(E)	P-5	16	
	17							3.0 / 7.5					18	
	19					3.9 / 7.5							20	
	21	B-2	(E)	30	3		3.9 / 7.5		3	60	(E)	P-3	22	
	23							3.9 / 7.5					24	
	25					3.0 / 7.5							26	
	27	B-1	(E)	20	3		3.0 / 7.5		3	70	(E)	P-4	28	
	29							3.0 / 7.5					30	
	31					2.1 / 0.2							32	
	33	SF-5	(E)	15	3		2.1 / 0.2		3	50	(E)	P-1	34	
	35							2.1 / 0.2					36	
	37					2.1 / 5.0							38	
	39	SF-20	(E)	15	3		2.1 / 5.0		**3**	**60**	**#6**	**P-2**	40	**1**
	41							2.1 / 5.0					42	
	43					2.1 / 2.1							44	
	45	SF-4	(E)	15	3		2.1 / 2.1		3	15	(E)	EF-11	46	
	47							2.1 / 2.1					48	
	49					7.6 / 2.1							50	
	51	SHOP AIR COMPRESSOR	(E)	30	3		7.6 / 2.1		3	15	(E)	SF-3	52	
	53							7.6 / 2.1					54	
	55					7.5 / 2.1							56	
	57	CT-1	(E)	60	3		7.5 / 2.1		3	15	(E)	EF-19	58	
	59							7.5 / 2.1					60	
	61					7.5 / 0.0							62	
	63	CT-2	(E)	60	3		7.5 / 0.0		3	30	--	SPARE	64	--
	65							7.5 / 0.0					66	
--	67					0.0 / 2.0			1	20	(E)	EXTERIOR LIGHTING	68	
--	69	SPARE	--	20	3		0.0 / 3.9						70	
	71							0.0 / 3.9	3	20	(E)	FLY PIPE HOIST	72	
	73					0.0 / 3.9							74	
--	75	SPARE	--	20	3		0.0 / 0.0		1	20	--	SPARE	76	--
	77							0.0 / 0.5					78	
	79					0.0 / 0.5			**3**	**20**	**#12**	**EF-16**	80	**1**
--	81	SPARE	--	20	3		0.0 / 0.5						82	
	83							0.0 / 0.0	1	--	--	SPACE	84	--
			Total Load:			91.2 kVA	89.2 kVA	89.2 kVA						
			Total Amps:			329 A	322 A	322 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1.5 kVA	100.00%	1.5 kVA		
Lighting	2.0 kVA	125.00%	2.5 kVA	**Total Conn. Load:**	269.7 kVA
Miscellaneous	251.3 kVA	100.00%	251.3 kVA	**Total Est. Demand:**	270.2 kVA
Motor	14.9 kVA	100.00%	14.9 kVA	**Total Conn. Current:**	324 A
				Total Est. Demand Current:	325 A

Notes:
NEW WORK IN BOLD
1 - REPLACE EXISTING BREAKER WITH NEW BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE



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ELECTRICAL DETAILS AND SCHEDULES

Job No. 01818-08-01
Sheet No. E4.01-CA
Drw By: KW Chk By: JZ
Date: 08/11/2025

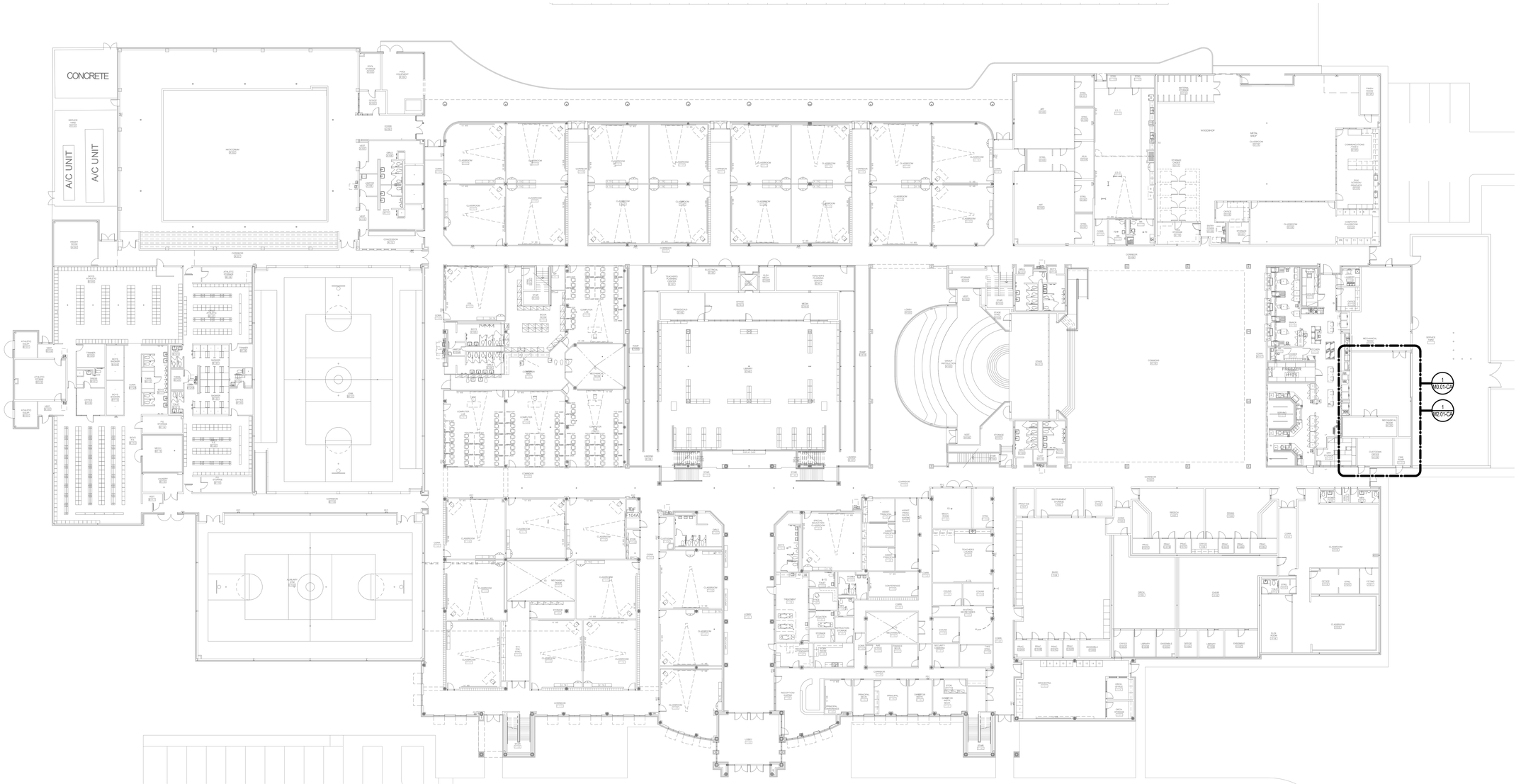
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Registration: F-4111
Project No: 2550-00809-00

Revision / Date



1 MECHANICAL COMPOSITE PLAN
Scale: 1" = 20'-0"

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CAMPBELL MIDDLE SCHOOL
11415 BOBCAT ROAD, HOUSTON, TEXAS 77064

STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
08/11/25

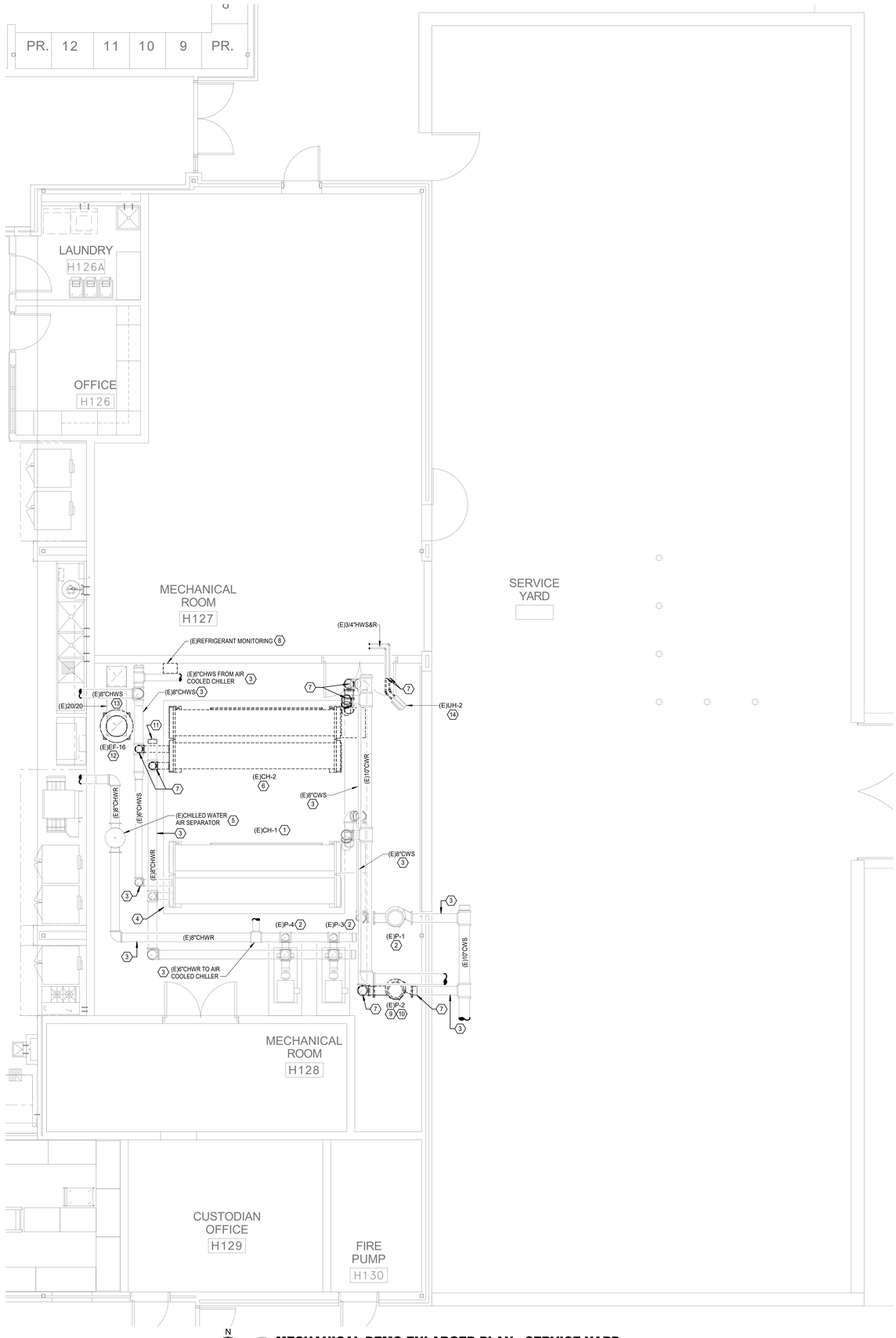
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MECHANICAL COMPOSITE PLAN

Job No.	Sheet No.
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Drw By: BB / Chk By: VP	
Date: 08/11/2025	

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N

1 **MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

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Houston
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Project No: 2550-00809-00

SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

MECHANICAL DEMOLITION GENERAL NOTES

1	OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO CHILLERS, VALVES, CONTROLS, AND PUMPS.
2	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
3	ALL MECHANICAL SYSTEMS SHOWN ARE FROM EXISTING DRAWINGS AND PRELIMINARY FIELD WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS AND SIZES OF MECHANICAL SYSTEMS PRIOR TO START OF WORK.
4	REMOVE ALL UNUSED OR ABANDONED HANGER AND SUPPORTS OF DEMOLISHED EQUIPMENT AND MATERIAL.
5	CONTRACTOR SHALL UPDATE BMCS GRAPHICS FOR ALL MECHANICAL EQUIPMENT BEING REMOVED FROM PROJECT.

MECHANICAL KEYED NOTES

1	EXISTING WATER COOLED CHILLER AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
2	EXISTING PUMP, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
3	EXISTING PIPING TO REMAIN.
4	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN.
5	EXISTING AIR SEPARATOR TO REMAIN.
6	REMOVE EXISTING WATER COOLED CHILLER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES.
7	REMOVE EXISTING PIPING AND ALL ASSOCIATED APPURTENANCES BACK TO POINT INDICATED.
8	REMOVE EXISTING REFRIGERANT MONITORING STATION AND ALL ASSOCIATED APPURTENANCES.
9	REMOVE EXISTING PUMP, CONTROLS, AND ALL ASSOCIATED APPURTENANCES.
10	REMOVE EXISTING PUMP AT EXISTING FLANGE JUST INSIDE EXTERIOR WALL.
11	REMOVE EXISTING BLIND FLANGE.
12	REMOVE EXISTING FAN, ROOF CURB, CONTROLS, AND ALL ASSOCIATED APPURTENANCES. EXISTING ROOF PENETRATION TO REMAIN AND BE REUSED. CONTRACTOR SHALL PRESERVE OPENING FOR DURATION OF CONSTRUCTION.
13	EXISTING DUCTWORK TO REMAIN.
14	EXISTING HOT WATER UNIT HEATER SHALL BE REMOVED FOR CHILLER REPLACEMENT. CONTRACTOR SHALL PRESERVE EXISTING HOT WATER UNIT HEATER FOR DURATION OF CHILLER REPLACEMENT.

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CAMPBELL MIDDLE SCHOOL
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PROFESSIONAL ENGINEER
08/11/25

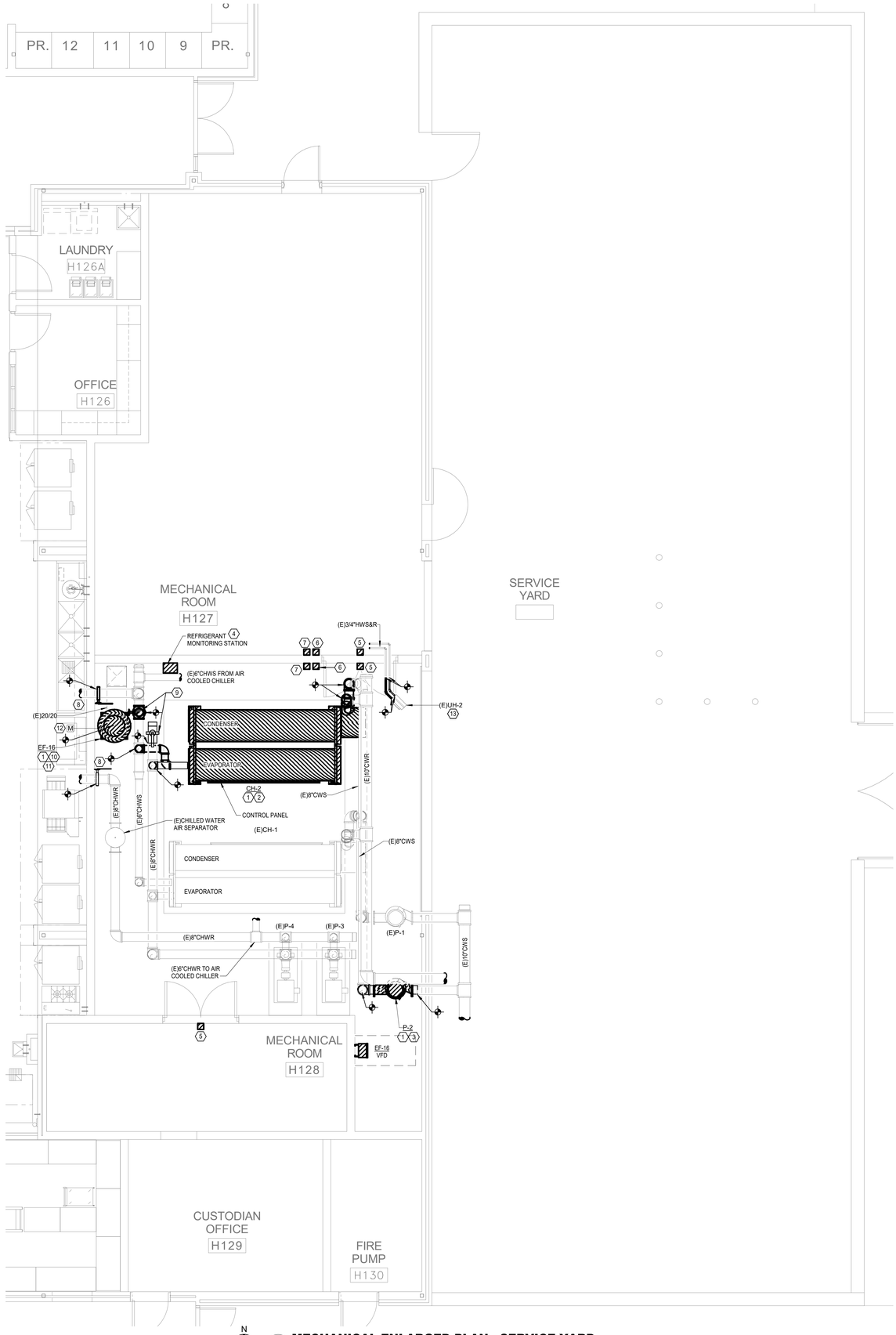
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MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-01	Sheet No. M0.01-CA
Drw By: BB / Chk By: VP	
Date: 08/11/2025	

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1 **MECHANICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

TEPORARY BMCS CONNECTION:

CONTRACTOR SHALL PROVIDE TEMPORARY BMCS CONNECTION FOR TEMPORARY CHILLERS. CONTRACTOR SHALL COORDINATE TEMPORARY BMCS CONNECTION LOCATION WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.

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salasobrien.com 281-664-1900
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Registration: F-4111
Project No: 2550-00809-00

MECHANICAL GENERAL NOTES

1	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
2	MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

MECHANICAL KEYED NOTES

1	VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADE NOT TO OBSTRUCT.
2	PROVIDE COPPER REFRIGERANT RELIEF PIPING FROM CHILLER PRESSURE RELIEF VALVES THROUGH THE ROOF. FOLLOW EXISTING ROUTING AND REUSE EXISTING PENETRATION. SIZE RELIEF PIPE AS RECOMMENDED BY MANUFACTURER. REFER TO DETAIL.
3	PROVIDE NEW VERTICAL INLINE PUMP. REFER TO DETAIL.
4	PROVIDE NEW REFRIGERANT MONITORING STATION TO MONITOR ANY AND ALL REFRIGERANTS UTILIZED IN CENTRAL. ESTABLISH CONTROLS REQUIRED FOR AUDIO/VISUAL ALARMS AND EMERGENCY PURGE VENTILATION TO ACTIVATE ALL CHILLERS TO SHUT DOWN UPON DETECTION OF REFRIGERANT LEAKS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5	PROVIDE AUDIO/VISUAL ALARM ABOVE DOOR.
6	PROVIDE BREAK-GLASS TYPE OFF-ONLY EMERGENCY CONTROL BUTTON.
7	PROVIDE BREAK-GLASS TYPE EMERGENCY PURGE VENTILATION BUTTON.
8	PROVIDE ISOLATION VALVE AT LOCATION SHOWN.
9	PROVIDE ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION.
10	MODIFY EXISTING ROOF PENETRATION TO ACCOMMODATE NEW FAN.
11	PROVIDE FAN WITH ROOF CURB. REFER TO DETAIL.
12	PROVIDE NEW MOTORIZED DAMPER. MODIFY EXISTING DUCTWORK AND INSULATION AS REQUIRED. AFFECTED DUCTWORK SHALL BE SEALED AND RE-INSULATED TO MATCH EXISTING.
13	REINSTALL EXISTING HOT WATER UNIT HEATER AT EXISTING LOCATION. CONTRACTOR SHALL INSTALL NEW HOT WATER PIPING AS INDICATED.

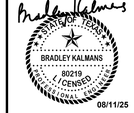
VENTILATION CALCULATIONS
(CENTRAL PLANT)

REFRIGERANT CLASSIFICATION - A1/B1

1. 0.5 CFM / SQFT X (856 SQFT) = 430 CFM
   REQUIRED: 430 CFM
   PROVIDED: 500 CFM
2. CHILLER AT 1,012 LBS. OF REFRIGERANT
   100 X (1,012 LBS) (R1RIGERANT CHARGE LBS) = 3,181 CFM
   REQUIRED: 3,181 CFM
   PROVIDED: 3,185 CFM

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
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MECHANICAL ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-01	Sheet No. M2.01-CA
Drw By: BB Chk By: VP	
Date: 08/11/2025	

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SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
# A	REVISION TAG
	NEW EQUIPMENT
PIPING	
–CWS&R–	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CWS–	CONDENSER WATER SUPPLY
–CWR–	CONDENSER WATER RETURN
–CHWS&R–	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CHWS–	CHILLED WATER SUPPLY
–CHWR–	CHILLED WATER RETURN
–HWS&R–	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–HWS–	HOT WATER FOR HYDRONIC HEATING SUPPLY
–HWR–	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILIARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
G.C.	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

Salas O'Brien
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Houston
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Houston, TX 77064

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Project No: 2550-00809-00

WATER COOLED CHILLER - MAGNETIC CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001)			CONDENSER (FF=0.00025)			CURRENT CHARAC.			MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
		LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	ENTERING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	V	P	F				
CH-2	250	42	500	20.0	86	750	20.0	480	3	60	DAIKIN	0.6566	0.35	(1,2,3,4)
CH-2											TRANE	0.6032	0.3677	

REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CONDENSER WITH MARINE WATER BOX AND HINGED BARREL HEAD.
5. PROVIDE 2 PASSES FOR EVAPORATOR. REFER TO DRAWINGS FOR MORE INFORMATION.
6. PROVIDE 2 PASSES FOR CONDENSER. REFER TO DRAWINGS FOR MORE INFORMATION.

PUMP

TAG	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC.			MANUFACTURER	MODEL NUMBER	REMARKS
							V	P	F			
P-2	CONDENSER WATER	VERTICAL INLINE	750	60.00	20	1800	480	3	60	ARMSTRONG	4300	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PROVIDE WITH MOTOR STARTER. REFER TO ELECTRICAL.
2. PROVIDE WITH GAUGE TAPPINGS.

FAN SCHEDULE

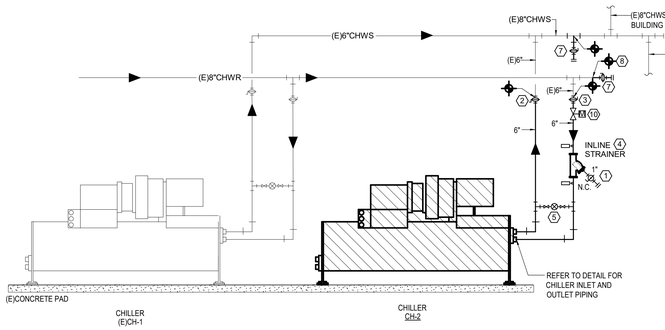
TAG	LOCATION	CFM	EXT. STATIC PRESSURE (IN.W.C.)	MAX RPM	HORSE POWER	CURRENT CHAR			LOCALLY SWITCHED	INTERLOCK WITH	FAN TYPE	DRIVE TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
						V	P	F							
EF-16	CENTRAL PLANT	3,185	0.50	1,299	2	480	3	60	TIMER	REFRIGERANT MONITOR	ROOF MOUNTED	DIRECT	COOK	ACED	(1,2,3,4,5)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

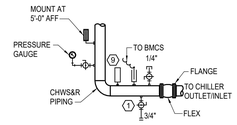
REMARKS:
1. PROVIDE WITH DISCONNECT.
2. PROVIDE WITH ROOF CURB AND BIRD SCREEN.
3. PROVIDE WITH LOW LEAKAGE MOTORIZED DAMPER THAT SHALL CLOSE WHEN UNIT IS NOT OPERATING. PROVIDED BY BMCS INSTALLED IN DUCTWORK BY MECHANICAL CONTRACTOR.
4. PROVIDE WITH TWO SPEED CONTROLLER. FIRST SPEED SHALL BE A CONSTANT MINIMUM FLOW OF 500 CFM FOR GENERAL EXHAUST AND SECOND SPEED SHALL BE AS SCHEDULED FOR PURGE. GENERAL EXHAUST (SPEED 1) SHALL BE CONTROLLED BY NO HOLD 60 MINUTE TIMER SWITCH AND PURGE (SPEED 2) SHALL BE ACTIVATED BY A PUSH BUTTON.
5. PROVIDE VARIABLE FREQUENCY DRIVE (VFD).

MECHANICAL KEYED NOTES

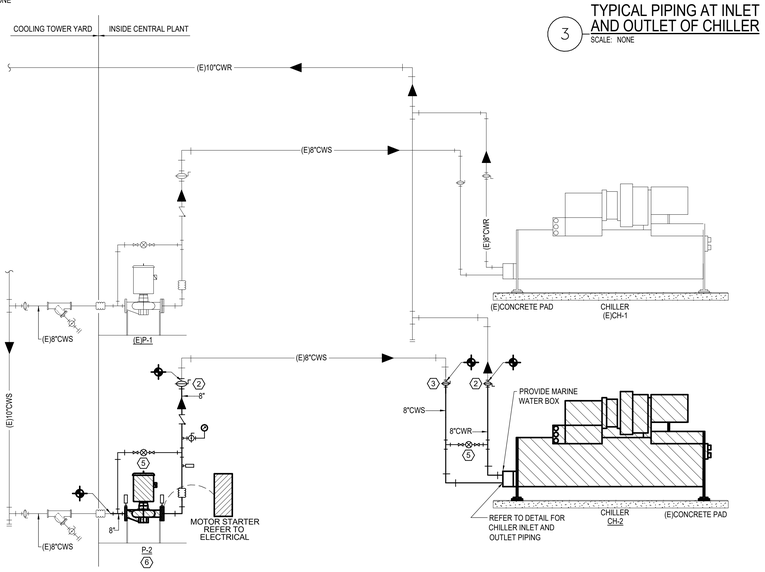
1. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE OR AT SIZED INDICATED.
2. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE. REFER TO SPECIFICATIONS.
3. PROVIDE ISOLATION VALVE.
4. PROVIDE NEW INLINE STRAINER AT LOCATION SHOWN.
5. PROVIDE DIFFERENTIAL PRESSURE SWITCH.
6. PROVIDE INLINE PUMP. REFER TO DETAIL FOR MORE INFORMATION.
7. PROVIDE 8" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CONNECTION.
8. CONTRACTOR SHALL REMOVE EXISTING FLANGE AND CONNECT TEMPORARY CONNECTION AS INDICATED.
9. PROVIDE PETE'S PLUG. (TYPICAL)
10. PROVIDE MOTORIZED ISOLATION VALVE.



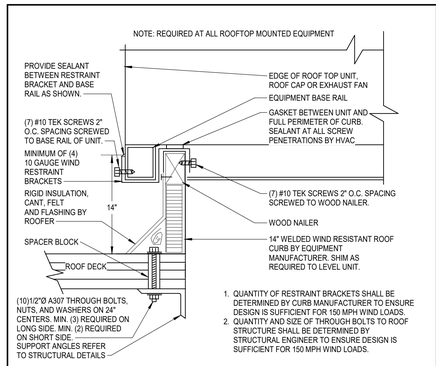
2 PARTIAL CHILLED WATER PIPING DIAGRAM
SCALE: NONE



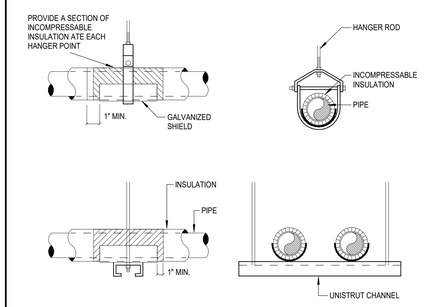
3 TYPICAL PIPING AT INLET AND OUTLET OF CHILLER
SCALE: NONE



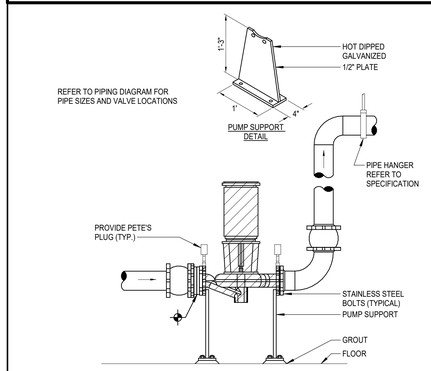
1 PARTIAL CONDENSER WATER PIPING DIAGRAM
SCALE: NONE



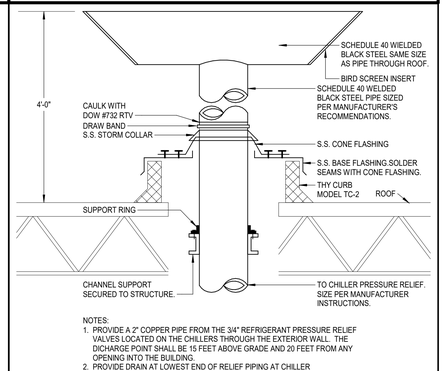
7 WIND RESISTANT ROOF CURB
SCALE: NONE



5 PIPE HANGERS
SCALE: NONE



6 VERTICAL INLINE PUMP SUPPORT
SCALE: NONE

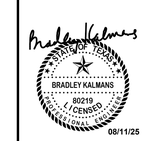


NOTES:
1. PROVIDE A 2" COPPER PIPE FROM THE 3/4" REFRIGERANT PRESSURE RELIEF VALVES LOCATED ON THE CHILLERS THROUGH THE EXTERIOR WALL. THE DICHARGE POINT SHALL BE 15 FEET ABOVE GRADE AND 20 FEET FROM ANY OPENING INTO THE BUILDING.
2. PROVIDE DRAIN AT LOWEST END OF RELIEF PIPING AT CHILLER

4 CHILLER PRESSURE RELIEF PIPE
SCALE: NONE

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CAMPBELL MIDDLE SCHOOL
11415 BOBCAT ROAD, HOUSTON, TEXAS 77064



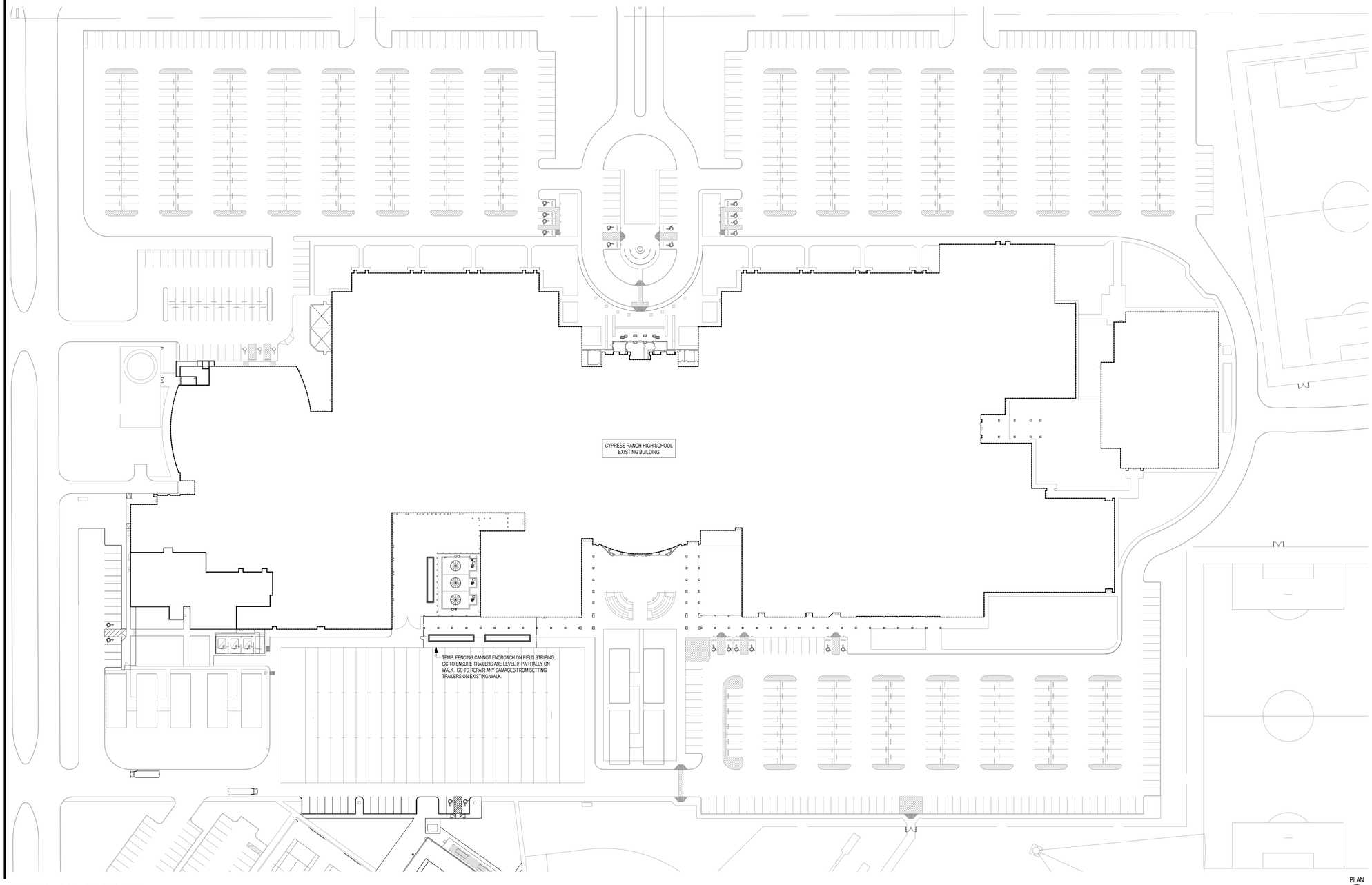
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MECHANICAL PIPING DIAGRAMS, LEGENDS, SCHEDULES, AND DETAILS

Job No. 01818-08-01	Sheet No. M3.01-CA
Drw By: BB Chk By: VP	
Date: 08/11/2025	

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Autodesk Docs://CYPRESS-FAIRBANKS ISD - CHILLER REPLACEMENTS CAMPBELL MS/CFISD - CAMPBELL MS_MEPT_R23.rvt

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1 MASTER SITE PHASING PLAN
1" = 50'-0"

PLAN N

CY RANCH HS

1. THE EXISTING CHILLED WATER PLANT CONSISTS OF (4) WATER COOLED CHILLERS, (3) 1,100 TON MACHINES AND (1) 300 TON MACHINE. CURRENTLY TWO OF THE 1,100 WATER COOLED CHILLERS ARE NOT OPERATIONAL, CH-1 AND CH-3. WHILE THE CONNECTED CAMPUSES ARE FUNCTIONING ON THE REDUCED CAPACITY OF 1,400 TONS, THE EXISTING CHILLED WATER SYSTEM STRUGGLES AT TIMES TO MAINTAIN SUPPLY WATER TEMPERATURE. THE EXISTING CHILLED WATER CENTRAL PLANT SUPPLIES COOLING TO CY-RANCH H.S., SMITH M.S. AND WARNER E.S.

2. THE PROJECT SCOPE AT THE CY-RANCH H.S. CENTRAL PLANT INCLUDES THE REPLACEMENT OF ALL (4) WATER COOLED CHILLERS. IN ADDITION, THE PROJECT SCOPE INCLUDES REPLACING THE (4) PRIMARY CHILLED WATER PUMPS, (3) VERTICAL TURBINE CONDENSER WATER PUMPS, ADDING MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND ADDING SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS FOR THE USE WITH THE RENTAL CHILLERS AND FOR FUTURE USE SHOULD THE DISTRICT NEED THEM. REFER TO THE DRAWINGS FOR ADDITIONAL SCOPE INCLUDED IN THE PROJECT.

3. THE (3) CAMPUSES CONNECTED TO THIS CHILLED WATER CENTRAL PLANT WILL BE OCCUPIED AND FULLY UTILIZED THROUGHOUT THE CHILLER REPLACEMENT PROJECT. THEREFORE, THE PROJECT SHALL INCLUDE RENTAL AIR COOLED CHILLERS, TEMPORARY PUMPS, TEMPORARY HOSES WITH MEANS TO MANIFOLD PIPING INTO A SINGLE TAP IN CENTRAL PLANT, TEMPORARY ELECTRICAL WIRING, ANY OTHER EQUIPMENT, AND COMPONENTS REQUIRED TO DELIVER A FULLY FUNCTIONING TEMPORARY CHILLED WATER PLANT INCLUDING INSTALLATION OF ALL RENTAL EQUIPMENT. THE RENTAL EQUIPMENT SHALL HAVE A MINIMUM DELIVERED CAPACITY OF **1,400 TONS** TO ENSURE THE ALL FACILITIES CONNECTED TO THIS PLANT ARE MAINTAINED AT THE DISTRICT'S STANDARD TEMPERATURE AND HUMIDITY SETPOINTS OF 75°F AND 50-55% RH.

4. **PHASE 1:** INSTALLATION OF THE MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND THE INSTALLATION OF THE CHILLED WATER SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS.

5. **PHASE 2:** INSTALLATION OF ALL RENTAL CHILLED WATER EQUIPMENT. THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE DISCONNECTED OR REMOVED PRIOR TO DEMONSTRATING THE RENTAL CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING BUILDING SETPOINTS FOR A PERIOD OF 48 HOURS. UPON COMPLETION OF THE 48 HOUR DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE RENTAL CHILLED WATER PLANT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH REPLACING ANY OF THE EXISTING EQUIPMENT. ANY OF THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE REMOVED PRIOR TO RECEIVING THE NEW CHILLED WATER EQUIPMENT AT THE JOB SITE. LOCATION OF THE RENTAL CHILLED WATER EQUIPMENT SHALL BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO INSTALLATION.

6. **PHASE 3:** INSTALLATION OF THE NEW CH-1 AND CH-3 AND ASSOCIATED PRIMARY PUMPS. IN ADDITION, THIS PHASE SHALL INCLUDE THE REPLACEMENT OF THE (3) CONDENSER WATER PUMPS. UPON COMPLETION OF THE INSTALLATION OF ALL EQUIPMENT IN THIS PHASE, THE NEW CHILLERS CH-1 AND CH-3 SHALL BE PUT IN SERVICE TO DELIVER ADDITIONAL COOLING CAPACITY TO THE (3) CONNECTED CAMPUSES. THE RENTAL CHILLED WATER EQUIPMENT SHALL REMAIN CONNECTED AND IN USE.

7. **PHASE 4:** INSTALLATION OF THE NEW CH-2 AND CH-4 AND ASSOCIATED PRIMARY PUMPS.

8. **PHASE 5:** DEMONSTRATION THAT ALL THE NEW CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING THE BUILDING SETPOINTS FOR A PERIOD OF ONE (1) WEEK. UPON COMPLETION OF THE ONE (1) WEEK DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE NEW CHILLED WATER EQUIPMENT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.

9. **LAST PHASE:** REMOVAL OF RENTAL CHILLED WATER EQUIPMENT FROM THE SITE.

10. IF A PLANT SHUTDOWN IS REQUIRED TO PREPARE FOR RENTAL CHILLER CONNECTION TO THE BUILDING AND ITS OPERATION OR TO EXECUTE ANY PORTION OF THE PROJECT SCOPE. SHUTDOWNS SHALL BE COORDINATED, SCHEDULED, AND ACCEPTED BY THE OWNER, ARCHITECT, AND ENGINEER A MINIMUM OF 1 WEEK PRIOR TO THE PLANT BEING DISABLED.

11. DURING ANY PLANT SHUTDOWN GREATER THAN 8 HOURS IN DURATION, THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT TO MAINTAIN 80°F AND 60% RH AT CY-RANCH H.S., SMITH M.S. AND WARNER E.S. IN THE FOLLOWING LOCATIONS:
    A. LIBRARY
    B. COMPETITION GYMNASIUM
    C. AUXILIARY GYMNASIUM
    D. LOCKER ROOMS
    E. BAND
    F. CHOIR
    G. ORCHESTRA
    H. ADMINISTRATION (COMPLETE SUITE)
    I. SCIENCE CLASSROOM (EACH)

12. IN ADDITION, DURING PERIODS OF TIME WHEN THE PLANT IS SHUT DOWN AND UTILIZING TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT, THE CONTRACTOR SHALL MONITOR AND LOG BUILDING TEMPERATURE AND HUMIDITY EVERY 2 HOURS FOR EACH LOCATION LISTED. DIGITAL LOGS SHALL BE PROVIDED TO OWNER, ARCHITECT AND ENGINEER UPON COMPLETION OF EACH SCHEDULED PLANT SHUT FOR REVIEW AND ACCEPTANCE.

NOTES - GENERAL PHASING SCOPE SUMMARY
12" = 1'-0"

TEMPORARY CHILLER TRAILER

LEGEND - PHASING ANNOTATIONS
1/4" = 1'-0"

Revision / Date

Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CY RANCH HIGH SCHOOL
10700 FRY ROAD, CYPRESS, TEXAS 77433

SUSAN F. WIRA
REGISTERED ARCHITECT
Tx 24614
STATE OF TEXAS
08/11/2025

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MASTER SITE PHASING PLAN

Job No. 01818-08-02
Drawn By: PR
Date: 08/11/2025
Sheet No. G2.01-CR

8/8/2025 1:15:17 PM
Autodesk Docs://CYPRESS-FAIRBANKS ISD - CHILLER REPLACEMENTS CAMPBELL MS/01818-08-02_Cy Ranch HS Chiller_ARCH_v23.rvt

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GENERAL NOTES:

1. REFER TO THE PROJECT MANUAL FOR GOVERNING JOB REQUIREMENTS AND MATERIAL SPECIFICATIONS. THE FOLLOWING NOTES ARE SUPPLEMENTAL TO THE ABOVE REQUIREMENTS.
2. ALL DIMENSIONS ASSOCIATED WITH EXISTING STRUCTURES SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
3. DO NOT CHANGE THE SIZE NOR SPACING OF STRUCTURAL ELEMENTS WITHOUT THE APPROVAL OF THE ENGINEER.
4. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
5. DETAILS SHOWN AS TYPICAL APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
6. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
7. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SPECIFICALLY STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED BRACING OF THE BUILDING AND OTHER STRUCTURES REQUIRED FOR CONSTRUCTION AND WIND LOADS UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED (INCLUDING BRACING REQUIRED TO RESIST WIND AND SEISMIC LOADS DURING CONSTRUCTION).
8. THE DESIGN IS BASED ON 2021 INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK AND HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER'S APPROVAL.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE AND COORDINATE THEIR WORK WITH THE WORK OF OTHERS.
12. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SLEEVES, BLOCKOUTS, INSERTS, CURBS, OPENINGS AND SLAB DEPRESSIONS THAT ARE REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS. VERIFY SIZE AND LOCATION OF OPENINGS PRIOR TO BEGINNING WORK. FOR DIMENSIONS NOT SHOWN, SEE MECHANICAL, ELECTRICAL, CIVIL AND ARCHITECTURAL DRAWINGS.
13. VERIFY SIZE AND LOCATION OF EQUIPMENT PADS WITH MECHANICAL AND/OR ELECTRICAL CONTRACTOR AND EQUIPMENT MANUFACTURER.
14. THE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITY, LENGTH OR FIT OF MATERIALS.
15. CONTRACTOR SHALL COMPARE STRUCTURAL, ARCHITECTURAL, AND MEP DRAWINGS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
16. CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MATERIALS WHOSE WEIGHT EXCEEDS THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON STRUCTURALLY SUPPORTED FLOOR OR ROOF FRAMING.
17. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH THEY BELIEVE MAY RESULT IN INSTABILITY OR DISTRESS IN THE STRUCTURE.
18. REFER TO SECTION 014533 OF THE PROJECT SPECIFICATIONS FOR QUALITY ASSURANCE PLAN AND SPECIAL INSPECTION REQUIREMENTS.

IMPORTANT REMODEL NOTES:

1. THE PLANS AND SECTIONS DO NOT NECESSARILY SHOW ALL LOCATIONS WHERE TYPICAL DETAILS APPLY. REFER TO THE ARCHITECTURAL AND MEP DRAWINGS FOR THE FINISHED SCOPE AND REFER TO THE STRUCTURAL DRAWINGS AND NOTES FOR DIRECTION ON HOW TO ACHIEVE THAT FINISHED SCOPE UNDER THE EXISTING CONDITIONS.
2. DO NOT PROVIDE NEW OPENINGS IN EXISTING WALLS UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
3. DO NOT DEMOLISH ANY WALLS, INTERIOR OR EXTERIOR, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
4. AT DEMOLITION OF EXISTING BUILDING COMPONENTS, THE CONTRACTOR SHALL NOT STOCKPILE DEBRIS SUCH THAT IT EXCEEDS THE DESIGN VALUES NOTED ON THESE GENERAL NOTES.

CAST-IN-PLACE CONCRETE NOTES:

1. REFER TO THE PROJECT SPECIFICATIONS FOR CONCRETE MIX DESIGN REQUIREMENTS.
2. CONCRETE CYLINDERS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS FOR EACH DAYS POUR. THE CONCRETE SLUMP, TEMPERATURE, AND AIR CONTENT SHALL BE MEASURED EVERY TIME A SET OF CYLINDERS IS MADE.
3. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE AMERICAN CONCRETE INSTITUTE STANDARDS "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR CONCRETE CONSTRUCTION FOR BUILDINGS" (ACI 301). IF NOT NOTED, IT SHALL BE ASSUMED THAT CONCRETE REINFORCEMENT SHALL BE SPLICED WITH A TYPE B SPLICE PER ACI 318.
4. COVER FOR ALL REINFORCEMENT SHALL MEET THE COVERAGE REQUIREMENTS AS SHOWN IN THE LATEST ACI 318, AS NOTED BELOW OR AS SHOWN ON THE DETAILS. COVER DIMENSIONS SHOWN ON THE DETAILS CONTROL OVER THE ACI 318 OR THOSE NOTED BELOW:
   A. CAST AGAINST FORMED SURFACES: 1 1/2"
   B. TOP OF SLABS: 1 1/2"
5. REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60. ANY BAR MAY BE FIELD BENT ONE TIME WITHOUT NOTIFYING THE ENGINEER, U.N.O. ON THE CONSTRUCTION DOCUMENTS. REINFORCEMENT SMALLER THAN #4 BARS SHALL BE COLD BENT. REINFORCEMENT GREATER THAN A #4 BAR SHALL BE BENT WITH HEAT IN THE FIELD. HEATING SHALL BE CONTROLLED BY TEMPERATURE INDICATING CRAYONS AND SHALL REACH A MAXIMUM TEMPERATURE OF 1500 DEG FAHRENHEIT. REINFORCEMENT SHALL NOT BE ARTIFICIALLY COOLED UNTIL TEMPERATURE HAS REDUCED NATURALLY TO BELOW 600 DEG FAHRENHEIT. BENDS SHALL BE GRADUAL AND CARE SHALL BE TAKEN TO PREVENT HEATING OR CRACKING OF CONCRETE. IF REINFORCEMENT MUST BE FIELD BENT MORE THAN ONCE, THE CONTRACTOR SHALL ISSUE AN RFI INDICATING WHICH BARS NEED TO BE FIELD BENT.
6. PROVIDE 1" x 1" CHAMFER AT ALL EXPOSED CORNERS UNLESS NOTED OTHERWISE.

STEEL NOTES:

1. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION.
2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY.
3. ANY CONNECTIONS WITHOUT WELD SYMBOLS SHALL BE AT A MINIMUM WELDED ALL AROUND WITH THE MINIMUM FILLET, FLARE BEVEL OR BUTT WELD SIZE.
4. WELDS THAT ARE INDICATED AS FIELD WELDS MAY BE SHOP WELDED AT THE CONTRACTOR'S OPTION.
5. WELDING ELECTRODE MATERIAL SHALL BE MATCHED TO THE BASE METAL PER TABLE 3.1 OF AWS D1.1 AND SHALL BE A MINIMUM E70XX (Fu = 70 KSI).
6. STRUCTURAL STEEL AT M-, S-, AND L-SHAPES SHALL CONFORM TO ASTM A572/A572M GRADE 50. STRUCTURAL STEEL AT C-SHAPES AND MC-SHAPES SHALL CONFORM TO ASTM A992/A992M GRADE 50. STRUCTURAL STEEL AT PLATES AND BARS (UP TO 4-INCHES THICK), SHALL CONFORM TO ASTM A572/A572M GRADE 50. STRUCTURAL HSS SQUARE AND RECTANGULAR SECTIONS SHALL CONFORM TO ASTM A500 GRADE B (46 KSI YIELD STRESS). STRUCTURAL HSS ROUND SECTIONS SHALL CONFORM TO ASTM A500/A500M GRADE C (46 KSI YIELD STRESS). STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B (35 KSI YIELD STRESS).
7. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE MASONRY UNIT (CMU) WALL NOTES:

1. REFER TO THE ARCHITECTURAL DRAWINGS OR SPECIFICATIONS FOR TYPES OF MASONRY OTHER THAN CONCRETE MASONRY, SUCH AS BRICK. THESE NOTES DO NOT APPLY TO 4" VENEER CMU.
2. MORTAR REQUIRED FOR THE REPAIR OF EXISTING CMU WALLS SHALL CONFORM TO TABLE 1 OF ASTM C270, TYPE S. THE MORTAR MIX DESIGN (BY VOLUME) SHALL BE SUBMITTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.
3. ALL GROUT REQUIRED FOR EXISTING CMU WALLS SHALL BE A FINE CONCRETE GROUT SHALL CONFORM TO ASTM C476 WITH A SLUMP OF 8 TO 11 INCHES. GROUT MAY BE EITHER READY MIXED OR JOB MIXED, AND SHALL BE BASED ON A MIX DESIGN (BY VOLUME) APPROVED BY THE ENGINEER.
4. WHEN MIXING MORTAR AND GROUT, CONTAINERS OF KNOWN VOLUME SHALL BE USED. MEASUREMENT USING SHOVELS SHALL NOT BE ALLOWED. IF MEASUREMENT BY SHOVELING IS DISCOVERED, THE ENGINEER MAY REQUIRE ALL WALLS PRIOR TO THAT DISCOVERY TO BE TESTED PER ASTM C 1314 BY CUTTING 3 MASONRY PRISMS AND 3 GROUT CORES OUT OF THE WALL FOR EVERY 5,000 SQUARE FEET OF WALL, AND MAY REQUIRE ANY AREA OF WALL TESTING BELOW THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, f'm, TO BE REPLACED AT NO COST TO THE OWNER.

POST INSTALLED ANCHORS FOR CONCRETE AND CMU CONSTRUCTION

1. ADHESIVE ANCHORS WITH THREADED ROD AND REINFORCEMENT:
   DUE TO THE DIFFERENT CAPACITIES OF VARIOUS PRODUCTS, ALL SUBSTITUTION REQUESTS SHALL BE SENT TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO ITS USE.
   A. IN CONCRETE: ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC 308.
      1. HILTI HIT-HY 200 SAFE SET (ICC-ES ESR-3187), HILTI INC. IS THE BASIS OF DESIGN.
         1. ALTERNATE PRODUCTS:
            a. HIT-RE 500V3 SAFE SET (ICC-ES ESR-3814), HILTI INC.
   B) IN GROUTED CONCRETE MASONRY:
      1. HILTI HIT HY-270 (ICC-ES ESR-4143), HILTI INC. IS THE BASIS OF DESIGN.
   C) IN UNGROUTED CONCRETE MASONRY: NOT PERMITTED
   D) THREADED ANCHOR ROD SHALL BE (UNO): HAS-V-36 BY HILTI OR APPROVED EQUAL.

DESIGN LOADS:

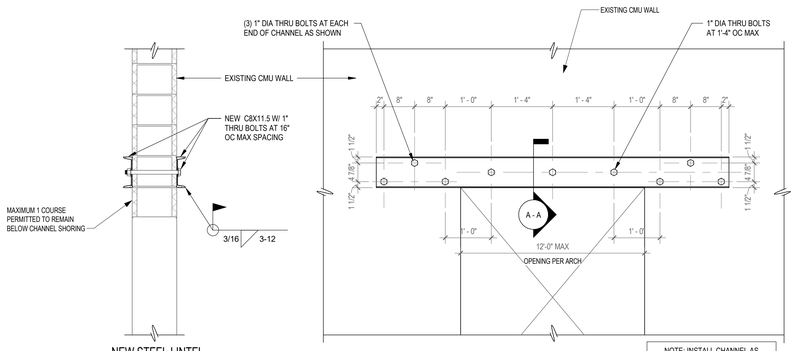
THE FOLLOWING DESIGN LOADS WERE USED FOR THIS BUILDING BASED ON THE 2021 INTERNATIONAL BUILDING CODE:

1. FLOOR LIVE LOADS: NO NEW FRAMING IN SCOPE
2. ROOF LIVE LOAD: NO NEW FRAMING IN SCOPE
3. ROOF SNOW LOAD: NO NEW FRAMING IN SCOPE
4. WIND DESIGN DATA:
   A. BASIC WIND SPEED (3 SECOND GUST): 139 MPH
   B. RISK CATEGORY:III
   C. WIND EXPOSURE CATEGORY: B
   D. INTERNAL PRESSURE COEFFICIENTS: +/-0.18
   E. ALL NEW COMPONENTS AND CLADDING: NO EXTERIOR BUILDING ENVELOPE WORK IN SCOPE
5. EARTHQUAKE DESIGN DATA:
   A. SEISMIC IMPORTANCE FACTOR, Ie: 1.25
   B. MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss=0.057, S1: 0.039
   C. DESIGN SPECTRAL RESPONSE ACCELERATIONS: SDS=0.107, SD1: 0.093
   D. SITE CLASS: D
   E. SEISMIC DESIGN CATEGORY: A
   F. DESIGN BASE SHEAR: 0.01 x WEIGHT OF BUILDING
   G. ANALYSIS PROCEDURE USED: GENERAL LATERAL STABILITY FOR SEISMIC DESIGN CATEGORY A
6. FLOOD HAZARD INFORMATION:
   1. THIS BUILDING IS NOT DESIGNED FOR FLOOD LOADS.
7. RAIN INTENSITY (15-MINUTE DURATION/100-YEAR RETURN PERIOD): NOT APPLICABLE

DELEGATED DESIGN:

THE FOLLOWING IS A CONDENSED LIST OF THE REQUIRED DELEGATED DESIGN ITEMS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL OF THE REQUIREMENTS IN THE SPECIFICATIONS INCLUDING ITEMS THAT REQUIRE DELEGATED DESIGN ARE COMPLETED.

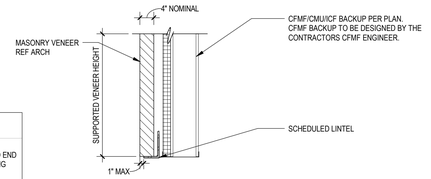
1. ALL EXTERIOR EQUIPMENT, PIPING, DUCTWORK, CURBS, EQUIPMENT TIE-DOWNS, AND ASSOCIATED CONNECTIONS TO BUILDING STRUCTURE SHALL BE INSTALLED TO RESIST WIND LOADS AS REQUIRED BY THE MECHANICAL ENGINEER.



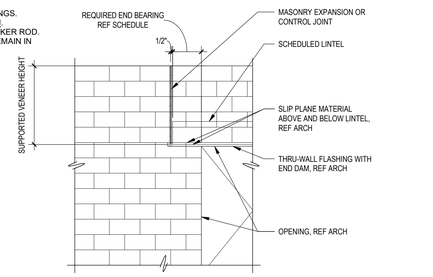
5 TYPICAL DETAIL - TEMPORARY CMU SHORING BEAM
3/4" = 1'-0"

LOOSE LINTEL SCHEDULE		
MINIMUM ANGLE SIZE (LLV)	MAX CLEAR SPAN/ CLEAR OPENING FOR LOOSE LINTELS SUPPORTING UP TO 10' - 0" VENEER	REQUIRED END BEARING
1 - L7x4x3/8	8'-0"	7-1/2"

NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
2. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. PROVIDE 3/8" GAP IN MORTAR AT ENDS OF ANGLE. FORM GAP W/ BACKER ROD.
4. SHORING SHALL BE PROVIDED FOR LINTELS, AND SHORING SHALL REMAIN IN PLACE FOR A PERIOD OF 7-DAYS.

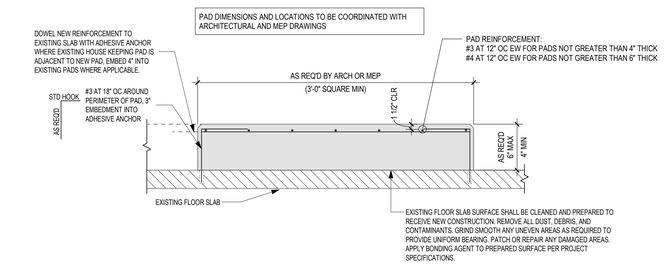


TYPICAL SECTION AT LOOSE LINTEL

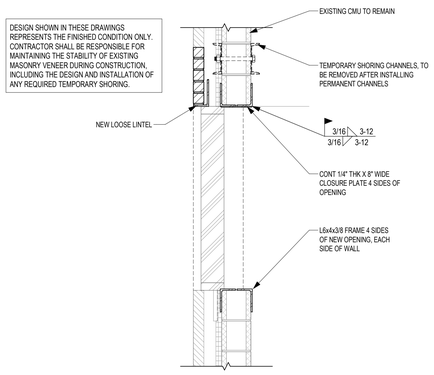


TYPICAL ELEVATION AT LOOSE LINTEL

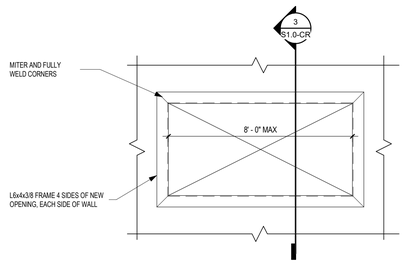
4 STRUCTURAL LOOSE LINTEL DETAIL
3/4" = 1'-0"



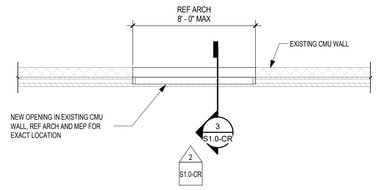
6 TYPICAL HOUSE KEEPING PAD
3/4" = 1'-0"



3 SECTION AT NEW OPENING FOR LOUVER
3/4" = 1'-0"



2 ELEVATION AT NEW OPENING FOR LOUVER
3/8" = 1'-0"



1 PARTIAL WALL PLAN - AREA H
1/4" = 1'-0"

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STRUCTURAL DETAILS

Job No.	Sheet No.
01818-08-02	S1.0-CR
Drawn By: RCM	
Date: 08/11/2025	

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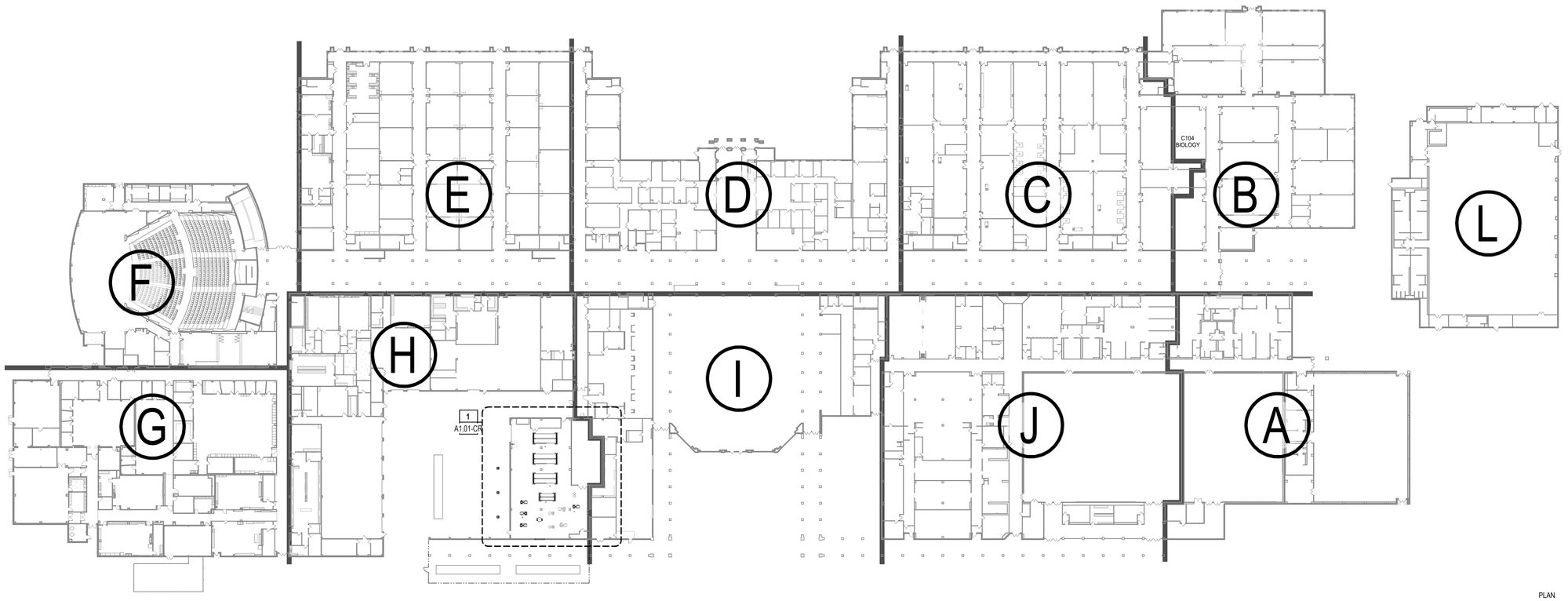
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THE MASTER FLOOR PLAN SHOWS THE OVERALL BUILDING CONFIGURATION AND THE RELATIONSHIP OF THE PLAN AREAS WHICH FOLLOW. REFER TO LARGER SCALE FLOOR PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND CONSTRUCTION REQUIREMENTS. MASTER PLAN LEGENDS ALSO APPLY TO 1/8" SCALE FLOOR PLAN AREAS.

MASTER FLOOR PLAN



2 AREA 'H1' FIRST FLOOR DEMO PLAN
1/8" = 1'-0"



1 MASTER PLAN - FIRST FLOOR
1" = 40'-0"

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Revision / Date

REGISTERED ARCHITECT
SUSAN F. WISA
TX 24611
STATE OF TEXAS
06/11/2025

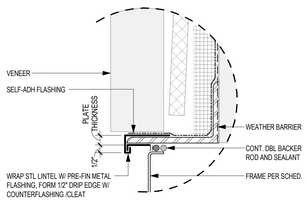
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MASTER PLAN - FIRST FLOOR AND AREA 'H1' FIRST FLOOR DEMO PLAN

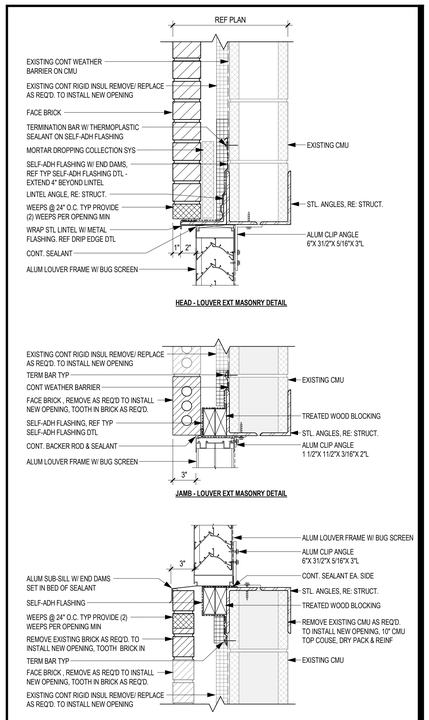
Job No.	Sheet No.
01818-08-02	A0.01-CR
Drawn By: PR	
Date: 06/11/2025	

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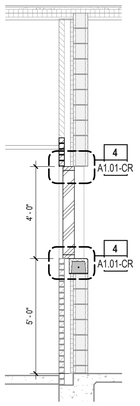


5 TYP DRIP EDGE DTL
3" = 1'-0"

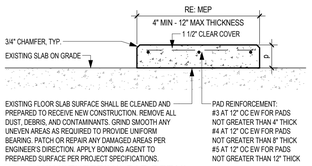


LOUVER - EXT MASONRY DETAILS (L.E.M.)

4 A3 - EXT LOUVER MASONRY DETAILS
1 1/2" = 1'-0"

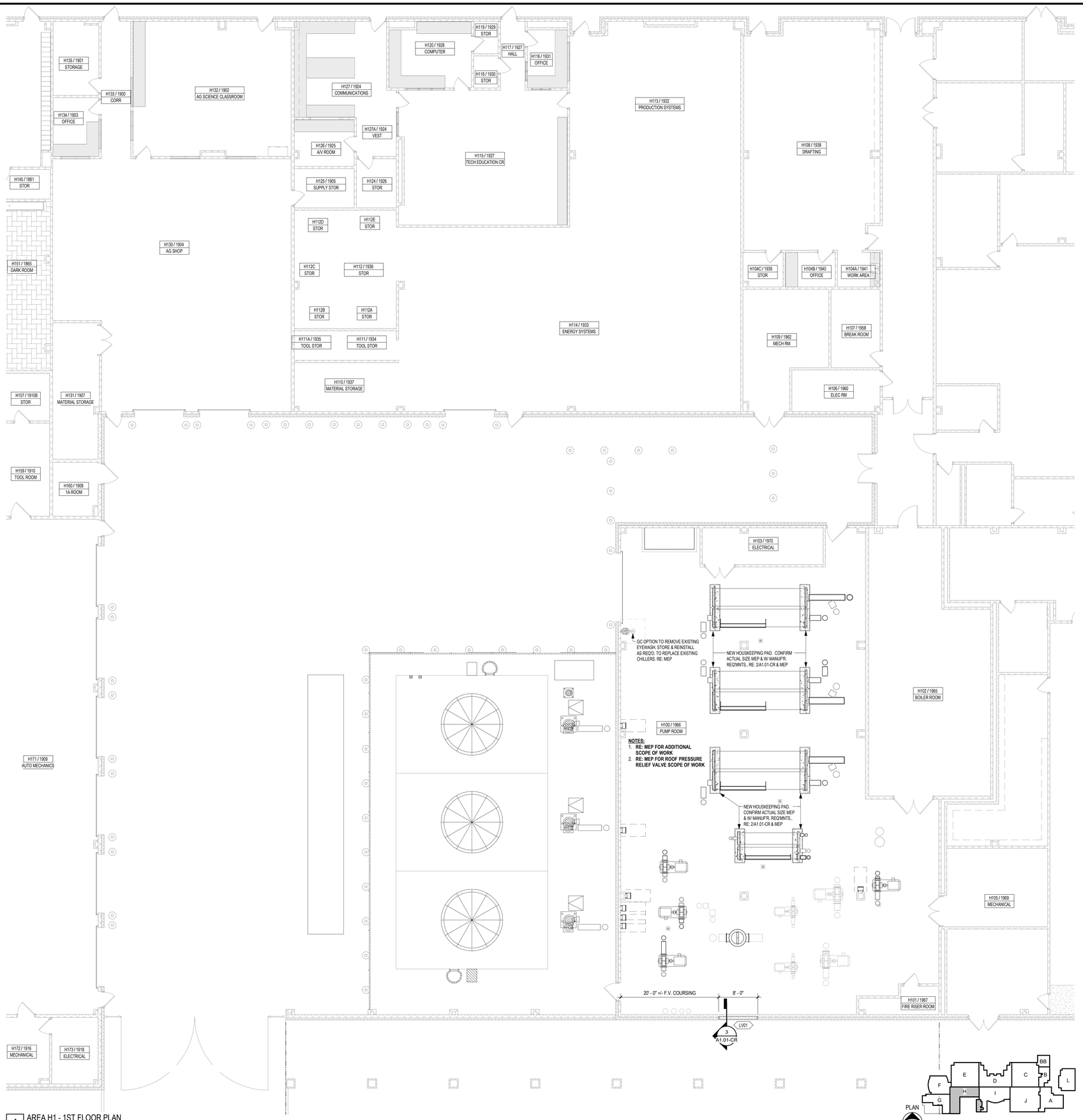


3 BRK/ CMU - H100 @ LVR
3/8" = 1'-0"



2 HOUSEKEEPING PAD DETAIL
3/4" = 1'-0"

A3 - LOUVER SCHEDULE			
Mark	FR WDTH	FR HT	Comments
L-01	8' - 0"	4' - 0"	



1 AREA H1 - 1ST FLOOR PLAN
1/8" = 1'-0"

KEY PLAN - FIRST FLOOR
N.T.S.

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AREA A1 - FIRST FLOOR PLAN

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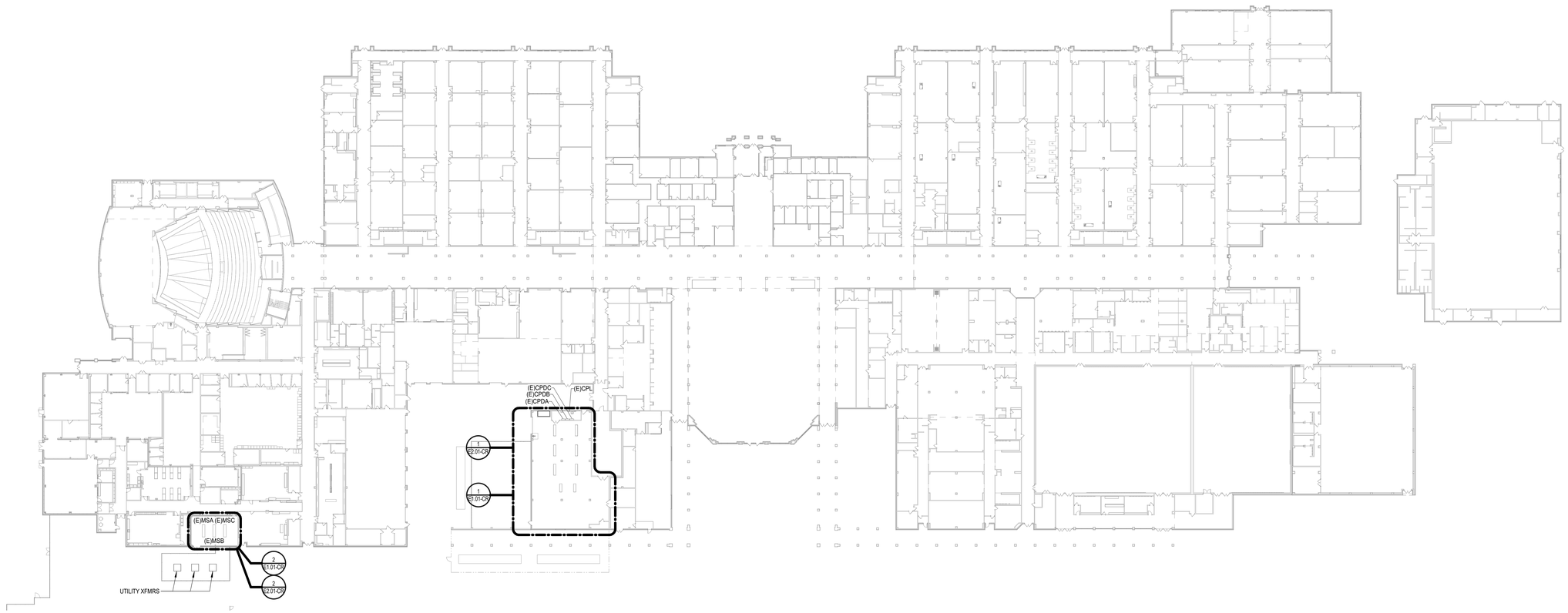
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Project No: 2550-00809-00

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N

1 **ELECTRICAL COMPOSITE PLAN**
Scale: 1" = 40'-0"

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ELECTRICAL COMPOSITE PLAN

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Drw By: AW Chk By: JZ	
Date: 08/11/2025	

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ELECTRICAL KEYED NOTES E1.01

1	DISCONNECT EXISTING EQUIPMENT TO BE DEMOLISHED. PULL CONDUCTORS BACK TO SOURCE. DEMOLISH EXISTING ABOVE GROUND CONDUIT AND PRESERVE EXISTING UNDERGROUND CONDUIT FOR RE-USE. DISCONNECT AND REMOVE ASSOCIATED, DISCONNECTS STARTERS OR VFDS. FLIP BREAKER OFF AND INDICATE AS SPARE.
2	DISCONNECT EXISTING EQUIPMENT TO BE DEMOLISHED. PULL CONDUCTORS AND CONDUIT BACK TO SOURCE. DISCONNECT AND REMOVE ASSOCIATED DISCONNECTS, STARTERS, OR VFDS. FLIP BREAKER OFF AND INDICATE AS SPARE.
3	DISCONNECT ELECTRICAL TO EXISTING REFRIGERANT MONITORING SYSTEM, PRESERVE CONDUCTORS AND CONDUIT FOR CONNECTION OF REPLACEMENT SYSTEM.
4	DISCONNECT ELECTRICAL TO EXISTING CHEMICAL TREATMENT PRESERVE CONDUCTORS AND CONDUIT FOR CONNECTION OF REPLACEMENT SYSTEM.

ELECTRICAL DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.
6. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

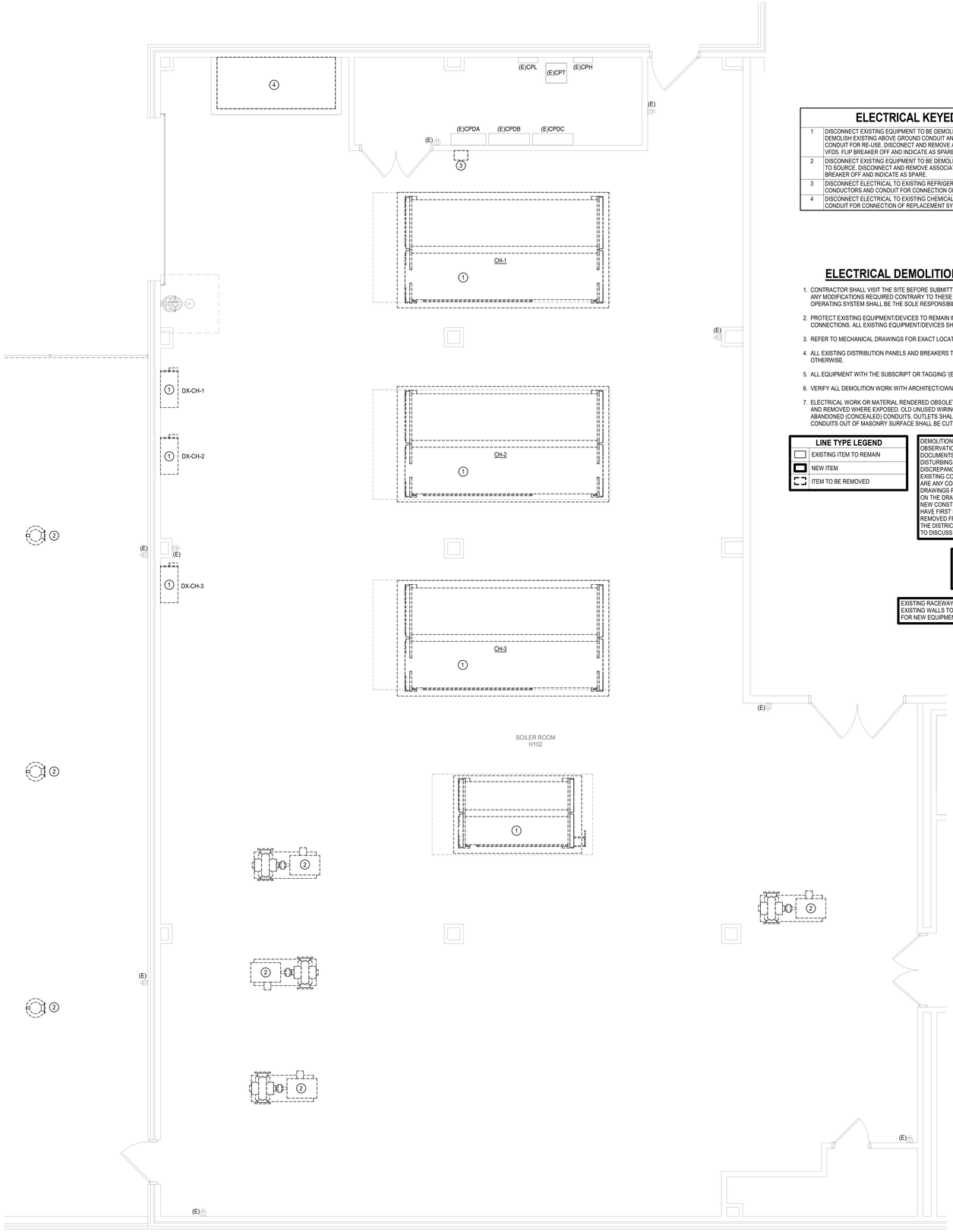
LINE TYPE LEGEND

- EXISTING ITEM TO REMAIN
- NEW ITEM
- ITEM TO BE REMOVED

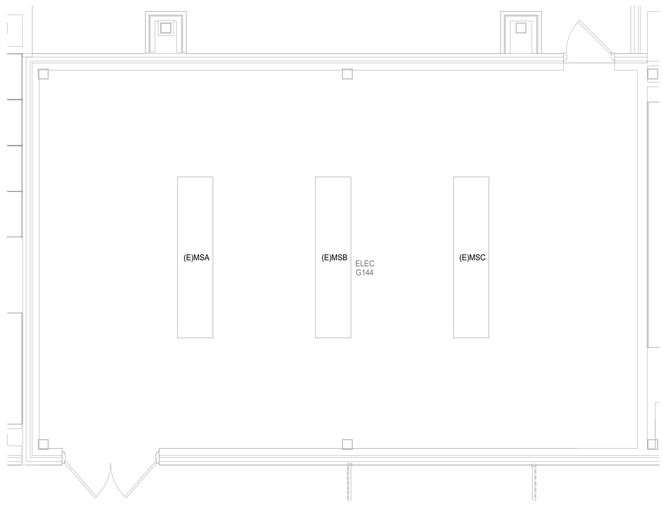
DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY THE DISTRICT'S REPRESENTITIVE PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES, CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.



N 1 **ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"



N 2 **ELECTRICAL DEMO ENLARGED PLAN - ELECTRICAL ROOM**
Scale: 1/4" = 1'-0"

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Project: 2025 MULTICAMPUS CHILLER REPLACEMENT
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ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-02	Sheet No. E1.01-CR
Drw By: AW Chk By: JZ	
Date: 08/11/2025	

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LINE TYPE LEGEND	
	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED

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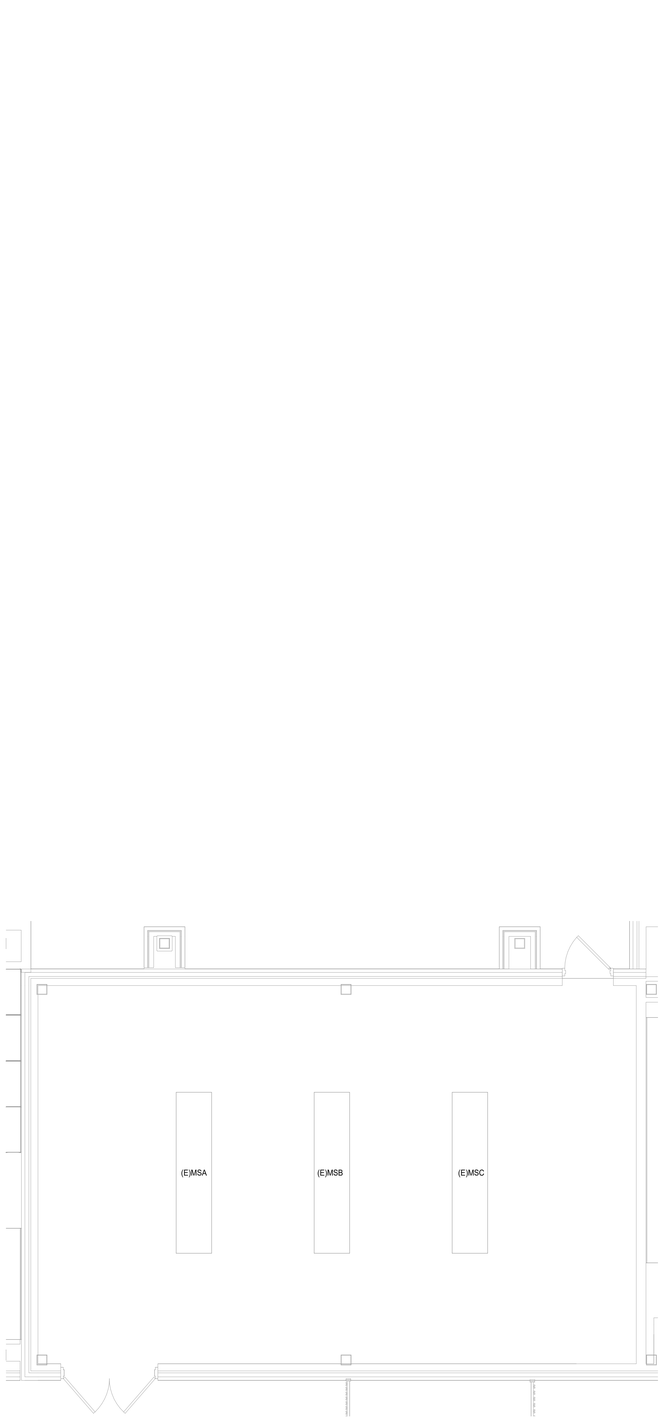
ELECTRICAL GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.

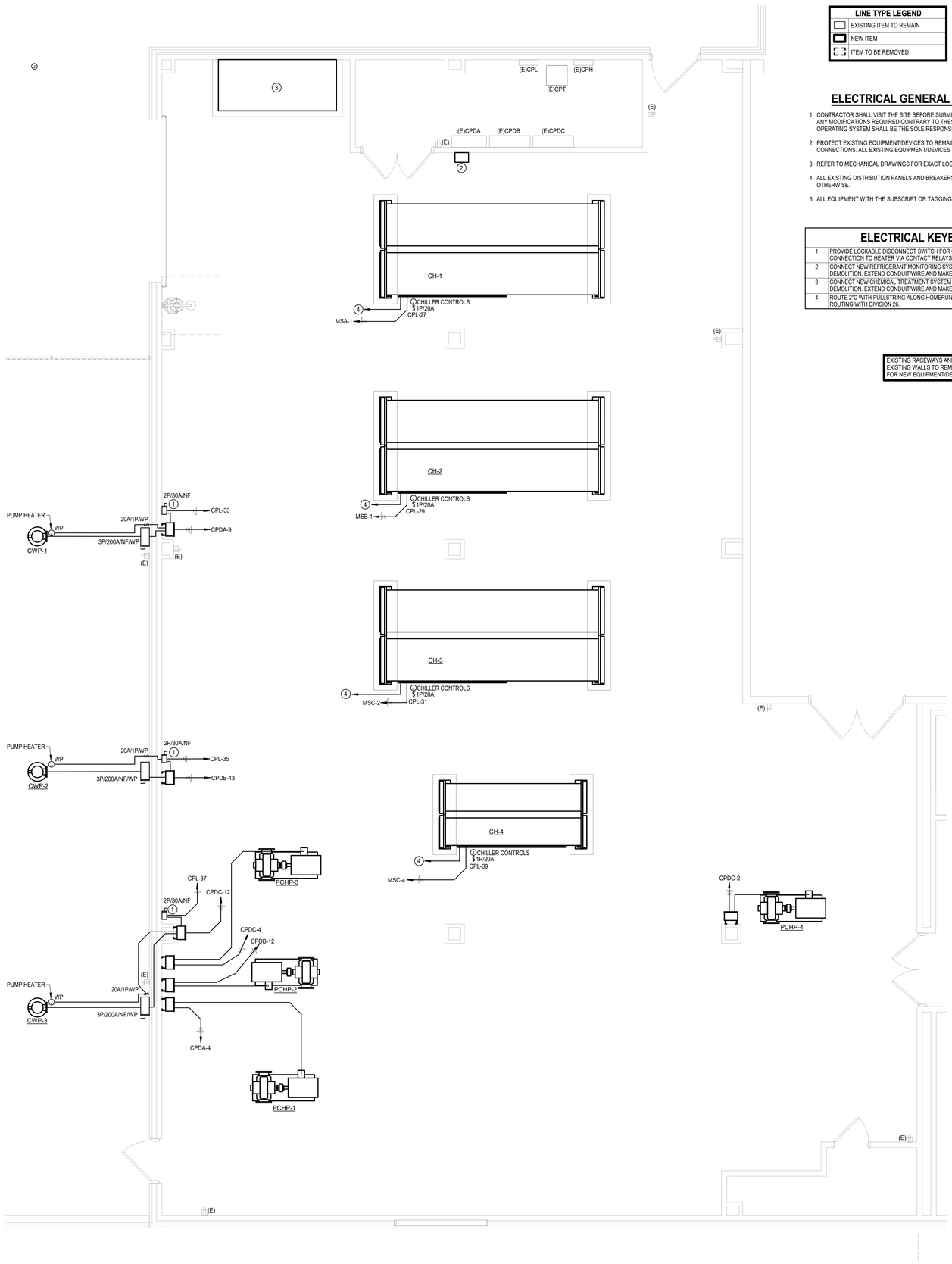
ELECTRICAL KEYED NOTES E2.01

1	PROVIDE LOCKABLE DISCONNECT SWITCH FOR CONNECTION OF 120V PUMP HEATER. MAKE FINAL CONNECTION TO HEATER VIA CONTACT RELAYS LOCATED IN VFD.
2	CONNECT NEW REFRIGERANT MONITORING SYSTEM TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
3	CONNECT NEW CHEMICAL TREATMENT SYSTEM TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
4	ROUTE 2"C WITH PULLSTRING ALONG HOMERUN BACK TO BMCS SYSTEM. COORDINATE FINAL ROUTING WITH DIVISION 26.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.



N 2 **ELECTRICAL ENLARGED PLAN - ELECTRICAL ROOM**
Scale: 1/4" = 1'-0"



N 1 **ELECTRICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

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ELECTRICAL ENLARGED PLAN - SERVICE YARD

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ELECTRICAL GENERAL NOTES

1. ALL EMPTY CONDUITS SHALL HAVE PULL STRING.
2. EACH CONDUIT SHALL BE LIMITED TO (3) CIRCUITS MAXIMUM.
3. NO MORE THAN THREE SINGLE PHASE CIRCUITS AND NO MORE THAN SIX CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. WHEN FOUR, FIVE, OR SIX CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY, THEIR CURRENT CARRYING AMPACITIES SHALL BE DERATED AS REQUIRED BY THE NEC FOR NON-DIVERSIFIED LOADS. THE INSTALLED WIRE SIZE SHALL HAVE A NOMINAL AMPACITY RATING OF 125% OF THAT REQUIRED OR SPECIFIED WHEN FOUR OR MORE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY. NEUTRAL CONDUCTORS SHALL BE CONSIDERED A CURRENT CARRYING CONDUCTOR IN ALL NON-LINEAR LOADED CIRCUITS AS REQUIRED BY THE NEC.
4. ALL LIGHTING, RECEPTACLE, AND EQUIPMENT BRANCH CIRCUITS CONDUITS SHALL CONTAIN A GROUND WIRE. USING THE CONDUIT SYSTEM AS THE ONLY GROUND PATH IS NOT ACCEPTABLE.
5. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO PROVIDE NEW FILLER PLATES TO COVER EXPOSED BUS BARS FOR ANY MODIFIED EQUIPMENT.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

PROVIDE NETA CERTIFIED TESTING, CLEANING AND MAINTENANCE FOR EXISTING SWITCHBOARDS AND MOTOR CONTROL CENTERS, WHICH SHALL INCLUDE: CHECKING FOR SHORT CIRCUITS AND CONTINUITY OF CIRCUITS, INSULATION RESISTANCE TESTING, CHECKING CIRCUIT BREAKERS OPERATION, GROUND FAULT INTERRUPTER TESTING, THERMAL INFRARED SCAN OF SWITCHBOARD UNDER FULL LOAD, CHECKING ALL BOLTED CONNECTIONS FOR HIGH RESISTANCE, PERFORMING GROUND RESISTANCE TESTING, AND CHECKING LOW VOLTAGE CONTROLS WIRING/DEVICES AND INSTRUMENT TRANSFORMERS FOR PROPER OPERATION. CONTRACTOR SHALL PROVIDE A COMPLETE WRITTEN REPORT INDICATING ANY DEFICIENCIES IN RELATION TO EACH COMPONENT'S INTENDED FUNCTION AND RECOMMENDATIONS FOR RESOLVING ANY DEFICIENCY.

ALL CONDUCTORS TO BE COPPER THHN/THWN 90 DEG. C. INSULATION TYPE UNLESS SPECIFICALLY NOTED OTHERWISE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE

ELECTRICAL KEYED NOTES E3.01

1	PROVIDE NEW ABOVE GROUND CONDUIT AND RE-USE EXISTING UNDERGROUND CONDUIT.
2	EXISTING FUSED DISCONNECT IS THE PROPOSED POWER SOURCE FOR A TEMPORARY CHILLER PROVIDED DURING CONSTRUCTION. COORDINATE WITH DIVISION 23 TO PROVIDE 1000A FUSES FOR USE WITH THE TEMPORARY CHILLER. CONTRACTOR TO COORDINATE WITH DIVISION 23 TO MAKE THE CONNECTIONS AND PROVIDE A TEMPORARY FEEDER TO THE TEMPORARY CHILLERS PROVIDED. WHERE POSSIBLE USE EXISTING OR NEW CONDUCTORS AND/OR CONDUIT FOR THE TEMPORARY CHILLER.

FEEDER SCHEDULE

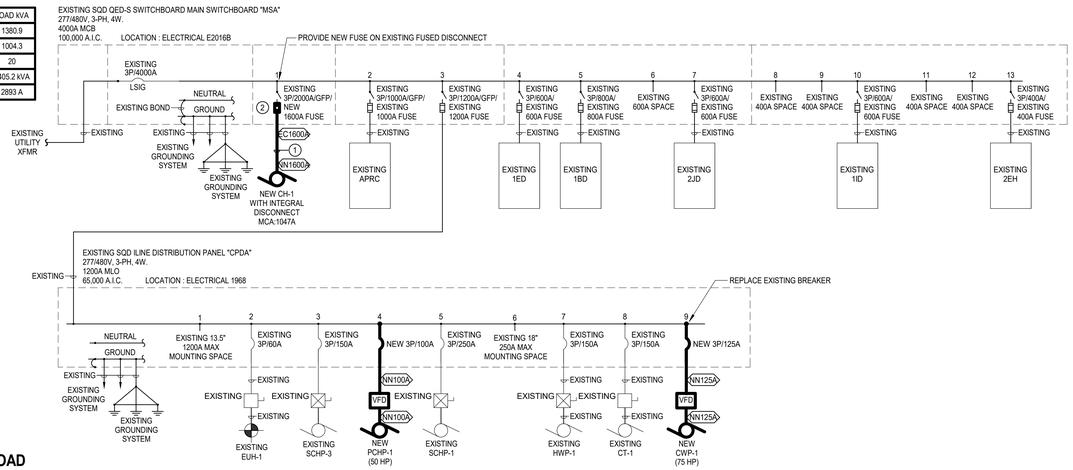
AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
EC500A	2	(3) #250KCMIL	#2	RE-USE EXISTING
EC1600A	5	(3) #400KCMIL	#4/0	RE-USE EXISTING
NN40A	1	(3) #8	#10	1"C
NN100A	1	(3) #3	#8	1-1/4"C
NN125A	1	(3) #1/0	#6	2"C
NN500A	2	(3) #250KCMIL	#2	3"C
NN1600A	5	(3) #400KCMIL	#4/0	3"C

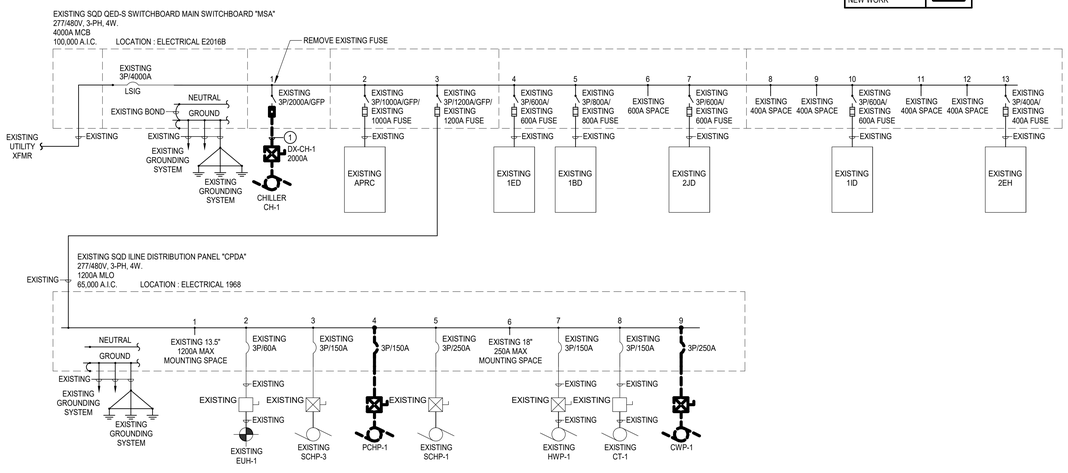
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LINETYPE LEGEND	
EXISTING TO REMAIN	———
DEMOLITION	- - - -
NEW WORK	———

ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSA

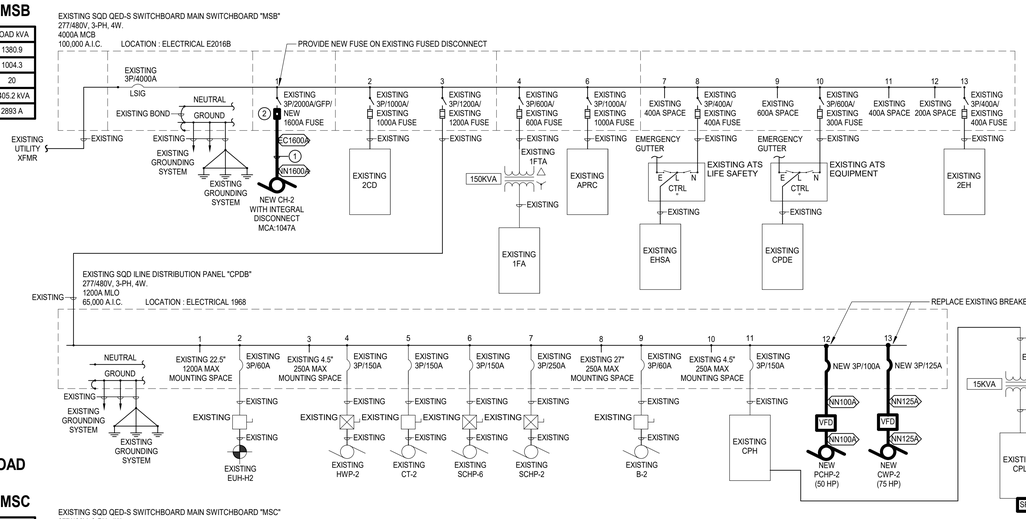
LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1380.9
ADDED HVAC EQUIPMENT	1004.3
LARGEST MOTOR kVA*0.25	20
TOTAL kVA	2405.2 kVA
TOTAL A	2893 A

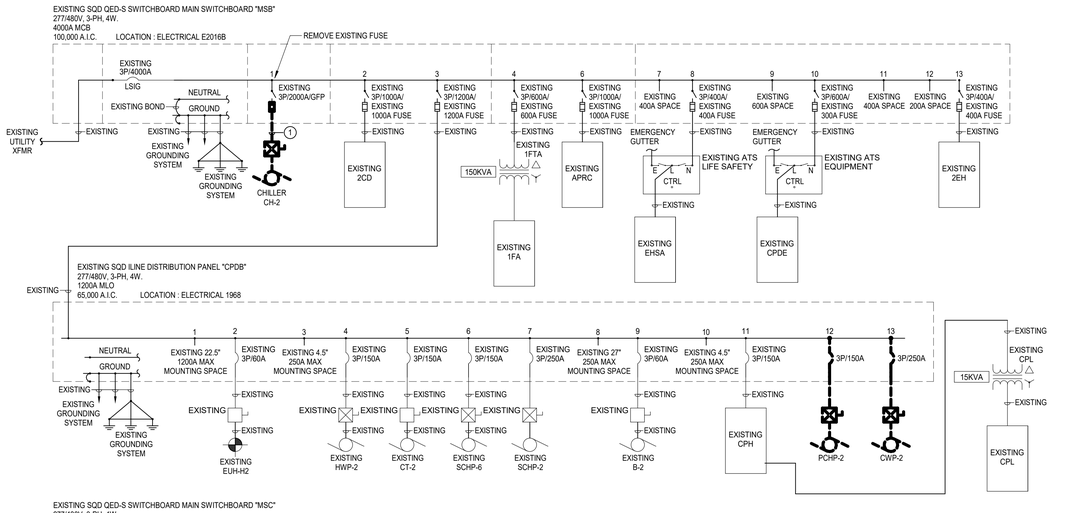




ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSB

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1380.9
ADDED HVAC EQUIPMENT	1004.3
LARGEST MOTOR kVA*0.25	20
TOTAL kVA	2405.2 kVA
TOTAL A	2893 A





ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSC

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1380.9
ADDED HVAC EQUIPMENT	1280.4
LARGEST MOTOR kVA*0.25	20
TOTAL kVA	2681.3 kVA
TOTAL A	3225.1 A

2 **ELECTRICAL NEW ONELINE**
Scale: 12" = 1'-0"

1 **ELECTRICAL DEMOLITION ONELINE**
Scale: 12" = 1'-0"

Revision / Date

Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CY RANCH HIGH SCHOOL
10700 FRY ROAD, CYPRESS, TEXAS 77433

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ELECTRICAL ONELINES

Job No.	Sheet No.
01818-08-02	E3.01-CR
Drw By: AW / Chk By: JZ	
Date: 08/11/2025	

8/8/2025 10:53:01 AM
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Project No: 2550-00809-00

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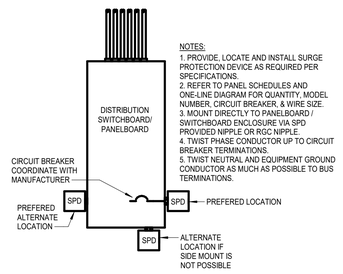
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SYMBOL SCHEDULE

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
SWITCHES	
$ 1P/XXA	LINE VOLTAGE SINGLE POLE SWITCH
$ 2P/XXA	LINE VOLTAGE 2-POLE SWITCH RATED FOR XX AMPACITY
RECEPTACLES AND OUTLETS	
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
MOTOR CONTROLLERS AND EQUIPMENT	
	MOTOR, MAKE FINAL MOTOR CONNECTION
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH AS REQUIRED
	MOTOR STARTER
	VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26
ELECTRICAL EQUIPMENT	
	ELECTRICAL DISTRIBUTION OR PANELBOARD
	DRY TYPE TRANSFORMER
CIRCUITING	
	CONDUIT
	CONDUIT BELOW FLOOR, SLAB, OR GRADE
SUBSCRIPTS AND ABBREVIATIONS	
WP	INDICATES WEATHERPROOF
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
1-L	REFER TO ONE-LINE DIAGRAM

GENERAL NOTES:
-ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF. REFER TO SPECIFICATIONS FOR THE MINIMUM NEMA RATING

2 SYSTEM GROUNDING DETAIL
Scale: 12" = 1'-0"



NOTES:
1. PROVIDE, LOCATE AND INSTALL SURGE PROTECTION DEVICE AS REQUIRED PER SPECIFICATIONS.
2. REFER TO PANEL SCHEDULES AND ONE-LINE DIAGRAM FOR QUANTITY, MODEL NUMBER, CIRCUIT BREAKER, & WIRE SIZE.
3. MOUNT DIRECTLY TO PANELBOARD / SWITCHBOARD ENCLOSURE VIA SPD PROVIDED NIPPLE OR RGC NIPPLE.
4. TWIST PHASE CONDUCTOR UP TO CIRCUIT BREAKER TERMINATIONS.
5. TWIST NEUTRAL AND EQUIPMENT GROUND CONDUCTOR AS MUCH AS POSSIBLE TO BUS TERMINATIONS.

1 SURGE PROTECTION DEVICE DETAIL
Scale: 12" = 1'-0"

Existing Branch Panel: CPL

Location: ELECTRICAL H103 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: CPT **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 50A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
--	1	SPARE	--	30	2	0.0 / 0.9		1	20	(E) RECEPTACLES ROOM 1966	2	
	3					0.0 / 0.9		1	20	(E) RECEPTACLES ROOM 1966	4	
--	5	SPARE	--	30	2		0.0 / 0.2	1	20	(E) BOILER CONTROLS	6	
	7					0.0 / 0.3		1	20	(E) COOLING TOWER CONTROLS	8	
	9	RECEPTACLES ROOM 1966	(E)	20	1		0.9 / 1.2	1	20	(E) HEAT TRACE WATER PIPING	10	
	11	DDC CONTROLS	(E)	20	1		0.3 / 0.5	1	20	(E) WATER SOFTENER	12	
	13	DDC CONTROLS	(E)	20	1	0.3 / 0.9		1	20	(E) SUMP PUMP (1/3 HP) 1966	14	
	15	RECEPTACLES ROOM 1969	(E)	20	1		0.5 / 0.2	1	20	(E) GFUH-1 (1/3 HP)	16	
	17	CIRC PUMP (1/6 HP)	(E)	20	1			0.5 / 0.2	1	20	(E) GFUH-2 (1/3 HP)	18	
	19	TOWER ISOLATION VALVE	(E)	20	1	0.2 / 0.7		1	20	(E) SF-H1 (1/4 HP)	20	
	21	TOWER ISOLATION VALVE	(E)	20	1		0.2 / 0.0	1	20	-- SPARE	22	--
	23	EH-H1 (1/8 HP)	(E)	20	1			0.5 / 0.0	1	20	-- SPARE	24	--
	25	EH-H2 (1/8 HP)	(E)	20	1	0.5 / 0.5		1	20	(E) EH-H3 (1/8 HP)	26	
1	27	**CHILLER 1 CONTROLS**	**#12**	**20**	**1**		0.5 / 0.5	1	20	(E) EH-H4 (1/8 HP)	28	
1	29	**CHILLER 2 CONTROLS**	**#12**	**20**	**1**			0.5 / 0.5	1	20	(E) CIRC PUMP (1/6 HP)	30	
1	31	**CHILLER 3 CONTROLS**	**#12**	**20**	**1**	0.5 / 0.5		1	20	(E) WATER HEATER CONTROL	32	
1	33	**CWP-1 Pump Heater**	**#12**	**20**	**1**		0.5 / 0.3	1	20	(E) EH-H15	34	
1	35	**CWP-2 Pump Heater**	**#12**	**20**	**1**			0.0 / 1.4	1	20	(E) B-3 (12 A)	36	
1	37	**CWP-3 Pump Heater**	**#12**	**20**	**1**	0.5 / 0.0						38	
1	39	**CHILLER 4 CONTROLS**	**#12**	**20**	**1**		0.5 / 0.0	**3**	**30**	**#10**	**SPDL**	40	**2**
--	41	SPACE	--	--	1		0.0 / 0.0					42	
			Total Load:			5.7 kVA	6.1 kVA	4.6 kVA					
			Total Amps:			48 A	52 A	38 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	13.7 kVA	100.00%	13.7 kVA		
Receptacles	2.7 kVA	100.00%	2.7 kVA	**Total Conn. Load:**	16.4 kVA
				Total Est. Demand:	16.4 kVA
				Total Conn. Current:	45 A
				Total Est. Demand Current:	45 A

Notes:
NEW WORK IN BOLD
1 - PROVIDE NEW BREAKER TO REPLACE EXISTING BREAKER
2 - PROVIDE NEW BREAKER IN EXISTING SPACE

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE

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ELECTRICAL PANEL SCHEDULES AND DETAILS

Job No. 01818-08-02
Drw By: AW Chk By: JZ
Date: 08/11/2025
Sheet No. E4.01-CR

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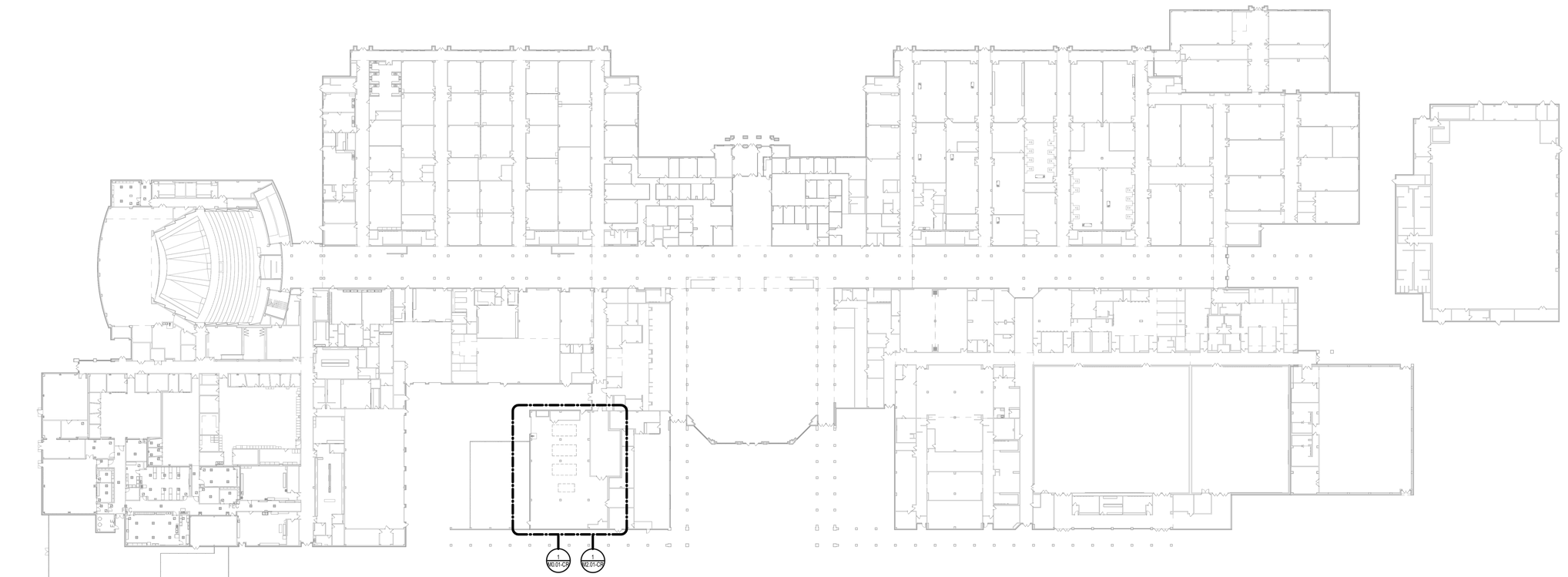
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Project No: 2550-00809-00

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Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
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N
1 **MECHANICAL COMPOSITE PLAN**
Scale: 1" = 40'-0"

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MECHANICAL COMPOSITE PLAN

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Drw By: BB Chk By: VP
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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

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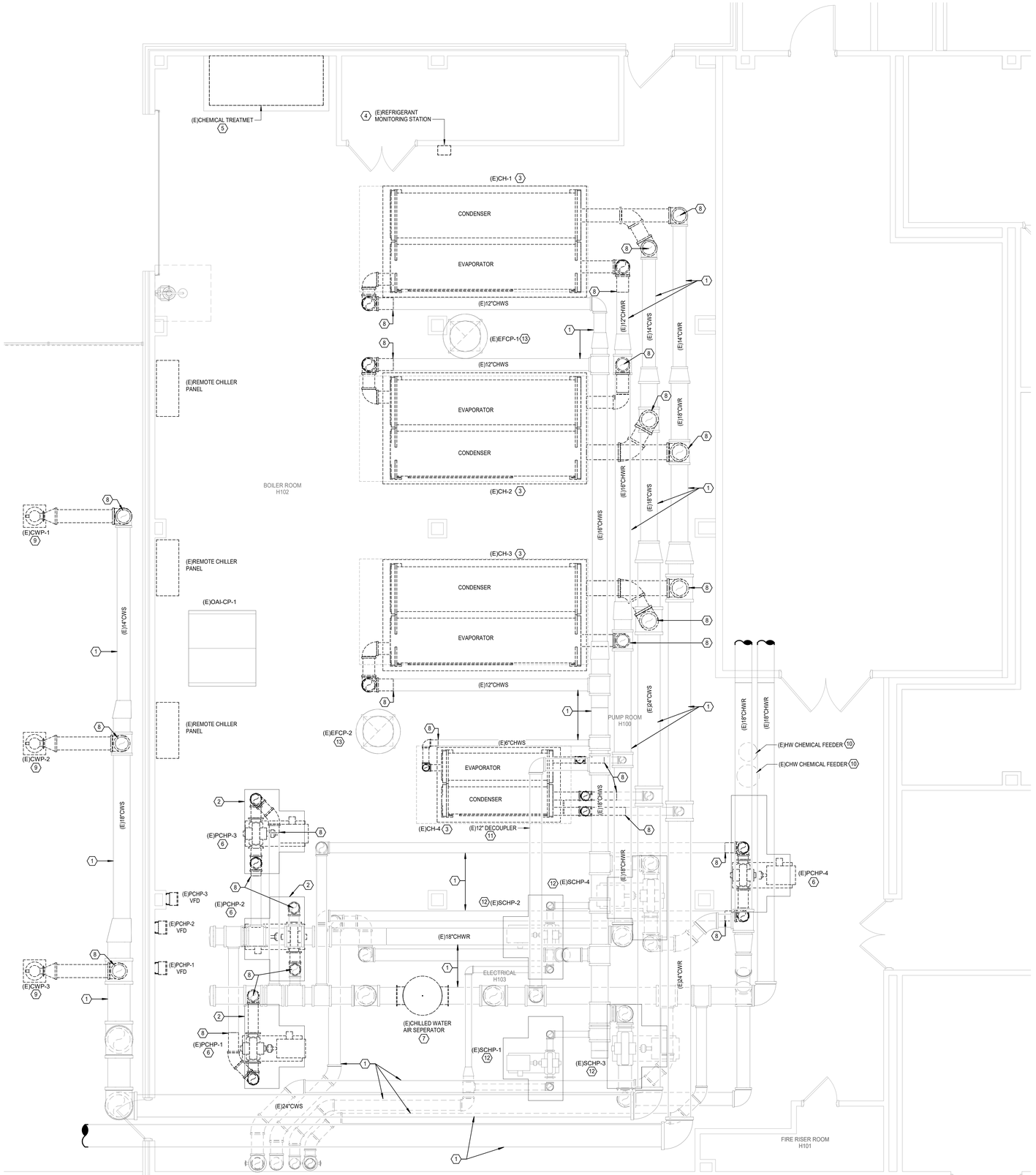
SYMBOL LEGEND	
	POINT OF CONNECTION TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

MECHANICAL DEMOLITION GENERAL NOTES

1	OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO CHILLERS, VALVES, CONTROLS, AND PUMPS.
2	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
3	ALL MECHANICAL SYSTEMS SHOWN ARE FROM EXISTING DRAWINGS AND PRELIMINARY FIELD WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS AND SIZES OF MECHANICAL SYSTEMS PRIOR TO START OF WORK.
4	REMOVE ALL UNUSED OR ABANDONED HANGER AND SUPPORTS OF DEMOLISHED EQUIPMENT AND MATERIAL.
5	CONTRACTOR SHALL UPDATE BMCS GRAPHICS FOR ALL MECHANICAL EQUIPMENT BEING REMOVED FROM PROJECT.

MECHANICAL KEYED NOTES

1	EXISTING PIPING TO REMAIN.
2	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN.
3	REMOVE EXISTING WATER COOLED CHILLER, CONTROLS, CONCRETE HOUSE KEEPING PAD, AND ALL ASSOCIATED APPURTENANCES.
4	REMOVE EXISTING REFRIGERANT MONITORING STATION AND ALL ASSOCIATED APPURTENANCES.
5	REMOVE EXISTING COOLING TOWER CHEMICAL TREATMENT.
6	REMOVE EXISTING PUMP, CONTROLS, INTERIA BASE, AND ALL ASSOCIATED APPURTENANCES.
7	REMOVE EXISTING AIR SEPARATOR AND ALL ASSOCIATED APPURTENANCES.
8	REMOVE EXISTING PIPING AND ALL ASSOCIATED APPURTENANCES BACK TO POINT INDICATED.
9	REMOVE EXISTING PUMP, CONTROLS, BASE PLATE, AND ALL ASSOCIATED APPURTENANCES.
10	EXISTING CHILLED WATER CHEMICAL FEEDER TO REMAIN.
11	EXISTING DECOUPLER TO REMAIN.
12	EXISTING PUMP, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
13	EXISTING EXHAUST PURGE FAN, CONTROLS, DUCTWORK, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.



N

1 **MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

Revision / Date

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MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-02	Sheet No. M0.01-CR
Drw By: BB Chk By: VP	
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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

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MECHANICAL GENERAL NOTES

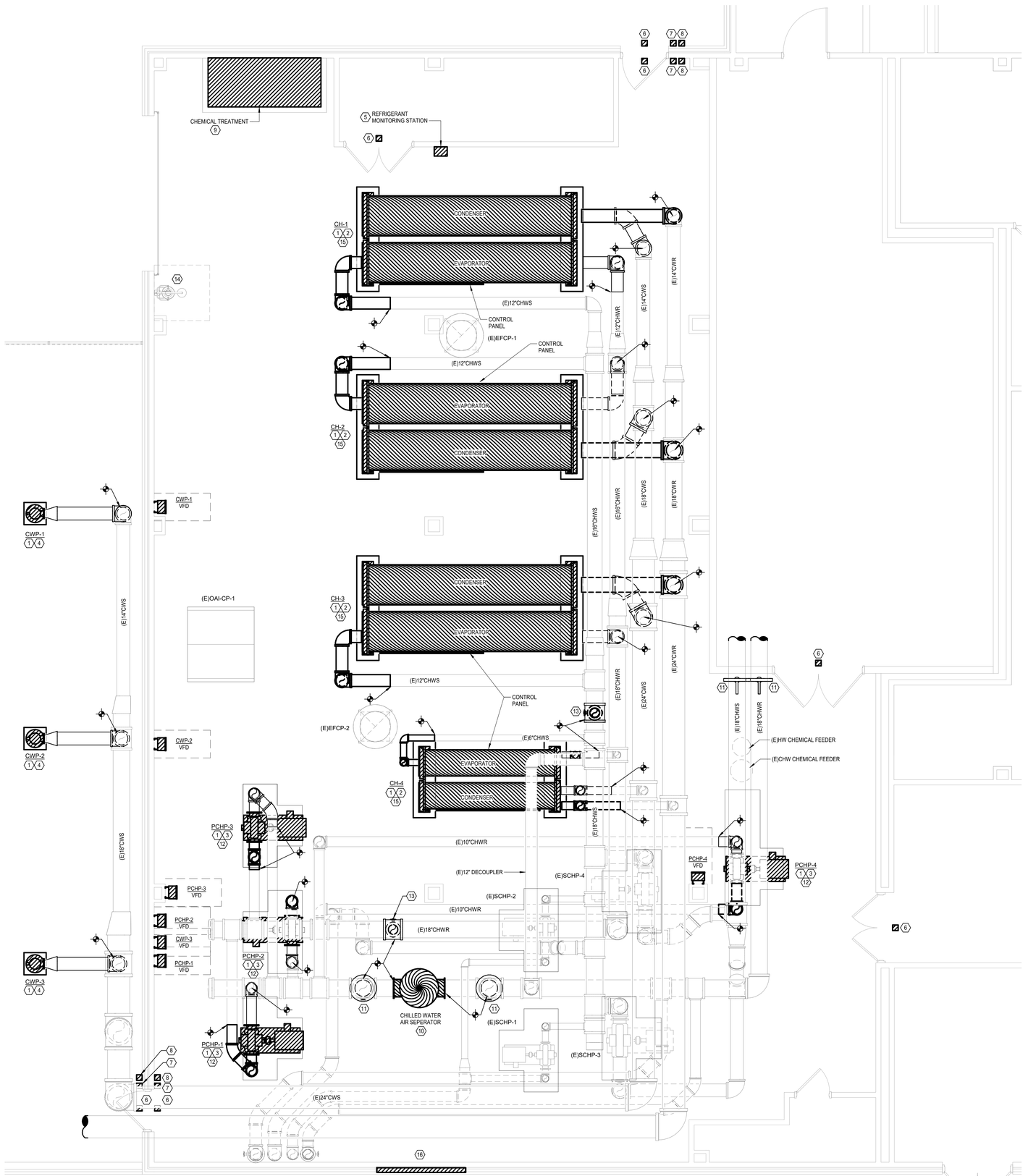
1	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
2	MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

MECHANICAL KEYED NOTES

1	VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADE NOT TO OBSTRUCT.
2	PROVIDE COPPER REFRIGERANT RELIEF PIPING FROM CHILLER PRESSURE RELIEF VALVES THROUGH THE ROOF. FOLLOW EXISTING ROUTING AND REUSE EXISTING PENETRATION. SIZE RELIEF PIPE AS RECOMMENDED BY MANUFACTURER. REFER TO DETAIL.
3	PROVIDE WITH INERTIA BASE. REFER TO SPECIFICATIONS.
4	MOUNT NEW VERTICAL TURBINE PUMP ON EXISTING CONCRETE SUMP AND REUSE EXISTING OPENING FOR INSTALLATION. MODIFY EXISTING OPENING AS REQUIRED TO ALLOW NEW PUMP TO BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. MANUFACTURER SHALL PROVIDE NEW HOT DIPPED GALVANIZED BASE PLATE. CONTRACTOR SHALL HAVE BASE PLATE HOT DIPPED GALVANIZED. CONTRACTOR SHALL VERIFY EXISTING SUMP DEPTH PRIOR TO BID.
5	PROVIDE NEW REFRIGERANT MONITORING STATION TO MONITOR ANY AND ALL REFRIGERANTS UTILIZED IN CENTRAL. ESTABLISH CONTROLS REQUIRED FOR AUDIO/VISUAL ALARMS AND EMERGENCY PURGE VENTILATION TO ACTIVATE ALL CHILLERS TO SHUT DOWN UPON DETECTION OF REFRIGERANT LEAKS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
6	PROVIDE AUDIO/VISUAL ALARM ABOVE DOOR.
7	PROVIDE BREAK-GLASS TYPE OFF-ONLY EMERGENCY CONTROL BUTTON.
8	PROVIDE BREAK-GLASS TYPE EMERGENCY PURGE VENTILATION BUTTON.
9	PROVIDE NEW CHEMICAL TREATMENT FOR COOLING TOWER. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
10	AIR SEPARATOR SHALL BE SUPPORTED FROM GROUND. REFER TO MANUFACTURER FOR INSTALLATION INSTRUCTIONS. REFER TO DETAIL FOR SUPPORTING OF AIR SEPARATOR. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW AIR SEPARATOR.
11	PROVIDE ISOLATION VALVE AT LOCATION SHOWN.
12	PROVIDE WITH PUMP PAN. REFER TO DETAIL.
13	PROVIDE 10" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION.
14	REMOVE AND REINSTALL EMERGENCY SHOWER AS NEEDED FOR CHILLER REMOVAL AND REPLACEMENT.
15	PROVIDE 0'-8" ON EITHER SIDE OF BASE/FEET X (0'-10" TALL X CHILLER BASE WIDTH CONCRETE PAD UNDER CHILLER FOOTINGS AS SHOWN. COORDINATE WITH CHILLER MANUFACTURER FOR SUPPORTING EQUIPMENT.
16	PROVIDE 96"X48" WIND-DRIVEN RAIN RESISTANT INTAKE LOUVER, RUSKIN MODEL HZ700MD OR APPROVED EQUIVALENT. LOUVER SHALL BE COMPLETELY BLANKED OFF/COVERED, SEALED, AND INSULATED. COORDINATE FINAL LOUVER HEIGHT WITH OWNER AND ARCHITECT.

TEPORARY BMCS CONNECTION:

CONTRACTOR SHALL PROVIDE TEMPORARY BMCS CONNECTION FOR TEMPORARY CHILLERS. CONTRACTOR SHALL COORDINATE TEMPORARY BMCS CONNECTION LOCATION WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.



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1 **MECHANICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

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MECHANICAL ENLARGED PLAN - SERVICE YARD

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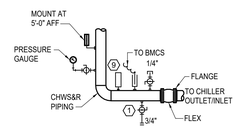
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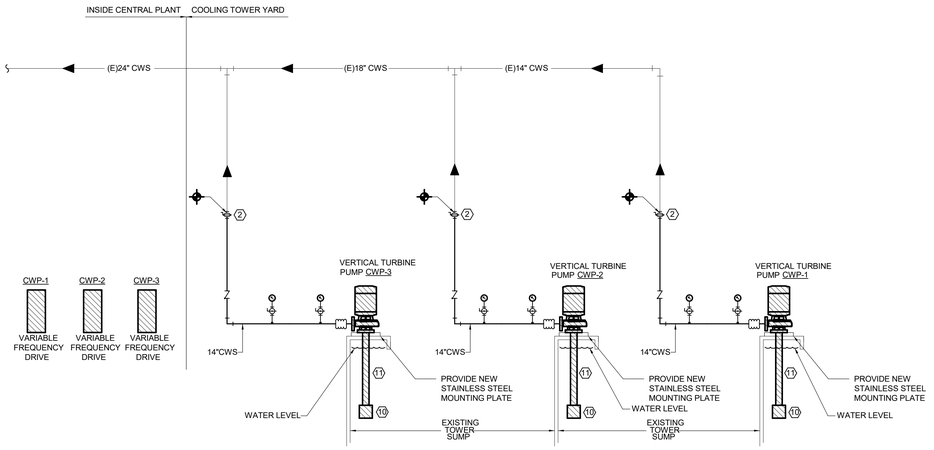
Registration: F-4111
Project No: 2550-00809-00

MECHANICAL KEYED NOTES

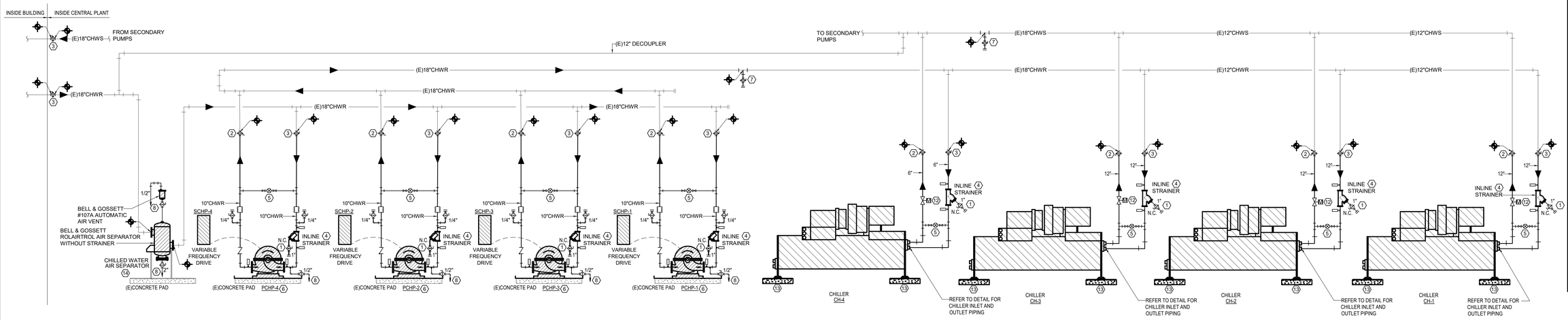
1. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE OR AT SIZED INDICATED.
2. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE. REFER TO SPECIFICATIONS.
3. PROVIDE ISOLATION VALVE.
4. PROVIDE NEW INLINE STRAINER AT LOCATION SHOWN.
5. PROVIDE DIFFERENTIAL PRESSURE SWITCH.
6. PROVIDE PUMP PAN. REFER TO DETAIL.
7. PROVIDE 12" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CONNECTION.
8. ROUTE TYPE "L" COPPER DRAIN AT SIZED INDICATED TO NEAREST FLOOR DRAIN.
9. PROVIDE PETE'S PLUG. (TYPICAL)
10. PUMP BELL WITH STAINLESS STEEL STRAINER.
11. COORDINATE PUMP LENGTH WITH EXISTING CONCRETE SUMP.
12. PROVIDE MOTORIZED ISOLATION VALVE.
13. PROVIDE 0'-8" ON EITHER SIDE OF BASE/FEET X 0'-10" TALL X CHILLER BASE WIDTH CONCRETE PAD UNDER CHILLER FOOTINGS AS SHOWN. COORDINATE WITH CHILLER MANUFACTURER FOR SUPPORTING EQUIPMENT.
14. AIR SEPARATOR SHALL BE SUPPORTED FROM GROUND. REFER TO MANUFACTURER FOR INSTALLATION INSTRUCTIONS. REFER TO DETAIL FOR SUPPORTING OF AIR SEPARATOR. MODIFY EXISTING PIPING TO ACCOMMODATE NEW AIR SEPARATOR.



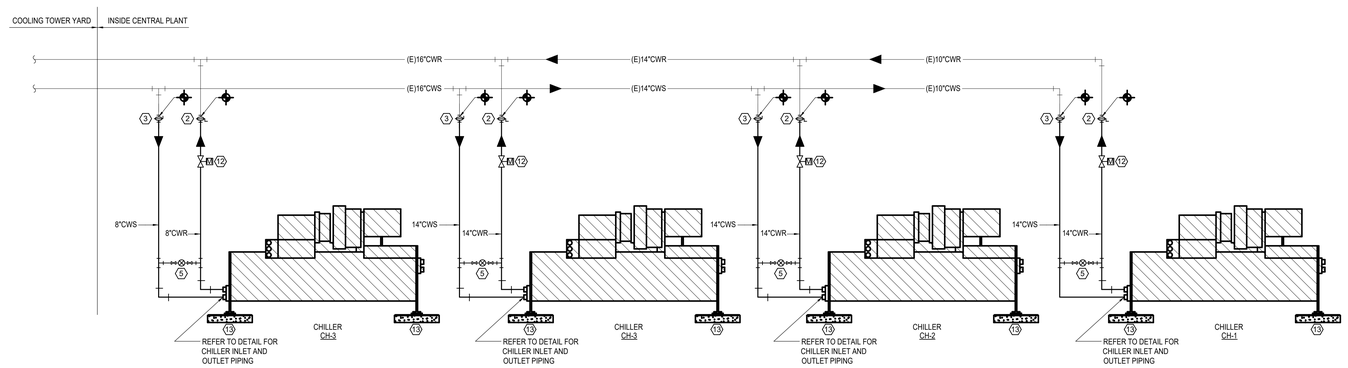
4 TYPICAL PIPING AT INLET AND OUTLET OF CHILLER
SCALE: NONE



3 PARTIAL CONDENSER WATER PIPING DIAGRAM
SCALE: NONE



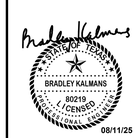
2 PARTIAL CHILLED WATER PIPING DIAGRAM
SCALE: NONE



1 PARTIAL CONDENSER WATER PIPING DIAGRAM
SCALE: NONE

Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
CY RANCH HIGH SCHOOL
10700 FRY ROAD, CYPRESS, TEXAS 77433

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MECHANICAL PIPING DIAGRAMS

Job No. 01818-08-02	Sheet No. M3.01-CR
Drw By: RB / Chk By: VP	
Date: 08/11/2025	

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salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

WATER COOLED CHILLER - MAGNETIC CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001)			CONDENSER (FF=0.00025)			CURRENT CHARAC.			MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
		LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	ENTERING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	V	P	F				
CH-1	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	DAIKIN	0.5993	0.3393	(1,2,3,4,5,6)
CH-2	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	DAIKIN	0.5993	0.3393	(1,2,3,4,5,6)
CH-3	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	DAIKIN	0.5993	0.3393	(1,2,3,4,5,6)
CH-4	300	42	450	20.0	86	900	20.0	480	3	60	DAIKIN	0.6545	0.3779	(1,2,3,4,5,6)
CH-4											TRANE	0.5748	0.3787	

REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CONDENSER WITH HINGED BARREL HEAD.
5. PROVIDE 3 PASSES ON EVAPORATOR. REFER TO DRAWINGS.
6. PROVIDE 2 PASSES ON CONDENSER. REFER TO DRAWINGS.

WATER COOLED CHILLER - CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001)			CONDENSER (FF=0.00025)			CURRENT CHARAC.			MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
		LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	ENTERING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	V	P	F				
CH-1	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	TRANE	0.5939	0.3694	(1,2,3,4,5,6)
CH-2	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	TRANE	0.5939	0.3694	(1,2,3,4,5,6)
CH-3	1100	42	1,650	25.0	86	2,750	20.0	480	3	60	TRANE	0.5939	0.3694	(1,2,3,4,5,6)

REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CONDENSER WITH HINGED BARREL HEAD.
5. PROVIDE 3 PASSES ON EVAPORATOR. REFER TO DRAWINGS.
6. PROVIDE 2 PASSES ON CONDENSER. REFER TO DRAWINGS.

PUMP

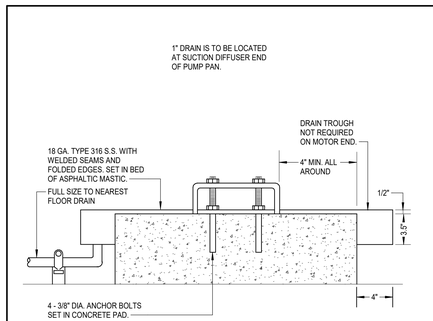
TAG	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC.			MANUFACTURER	MODEL NUMBER	REMARKS
							V	P	F			
PCHP-1	CHILLED WATER	HORIZONTAL SPLIT CASE	1,650	75.00	50	1800	480	3	60	ARMSTRONG	4600	(1,2,4)
PCHP-2	CHILLED WATER	HORIZONTAL SPLIT CASE	1,650	75.00	50	1800	480	3	60	ARMSTRONG	4600	(1,2,4)
PCHP-3	CHILLED WATER	HORIZONTAL SPLIT CASE	1,650	75.00	50	1800	480	3	60	ARMSTRONG	4600	(1,2,4)
PCHP-4	CHILLED WATER	HORIZONTAL SPLIT CASE	450	65.00	15	1800	480	3	60	ARMSTRONG	4600	(1,2,4)
CWP-1	CONDENSING WATER	VERTICAL TURBINE	2,750	75.00	75	1800	480	3	60	TACO	VT	(1,3)
CWP-3	CONDENSING WATER	VERTICAL TURBINE	2,750	75.00	75	1800	480	3	60	TACO	VT	(1,3)
CWP-2	CONDENSING WATER	VERTICAL TURBINE	2,750	75.00	75	1800	480	3	60	TACO	VT	(1,3)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

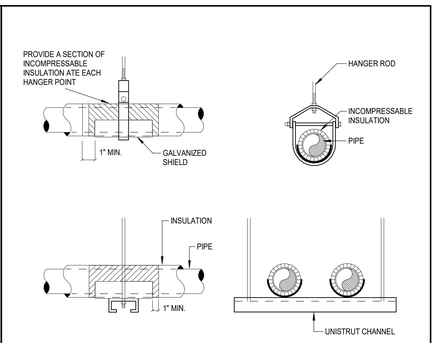
REMARKS:
1. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
2. PROVIDE WITH BACK PULL OUT.
3. PROVIDE PUMP MOTOR WITH INTERNAL HEATER FOR PREVENTION OF CONDENSATION.
4. PROVIDE WITH INERTIA BASE. REFER TO SPECIFICATIONS.

SYMBOL LEGEND

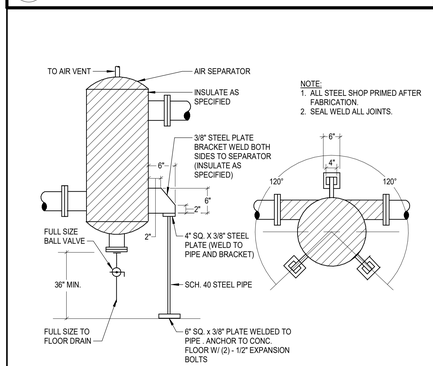
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
1	REVISION TAG
	NEW EQUIPMENT
PIPING	
–CWS&R–	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CWS–	CONDENSER WATER SUPPLY
–CWR–	CONDENSER WATER RETURN
–CHWS&R–	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CHWS–	CHILLED WATER SUPPLY
–CHWR–	CHILLED WATER RETURN
–HWS&R–	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–HWS–	HOT WATER FOR HYDRONIC HEATING SUPPLY
–HWR–	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
— AD —	AUXILIARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
— RL —	REFRIGERANT LIQUID LINE
— HG —	REFRIGERANT HOT GAS LINE
— RS —	REFRIGERANT SUCTION LINE
—O	ELBOW UP
—O	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
—O—	TEE DOWN
—O—	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
PRV	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
G.C.	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED



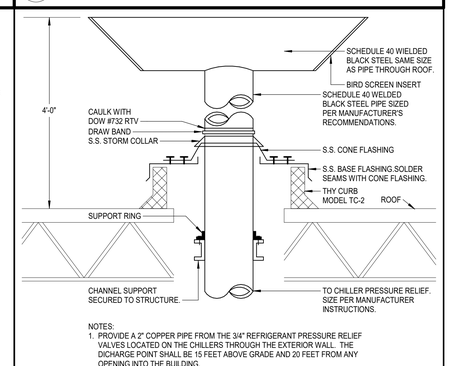
4 **PUMP PAN**
SCALE: NONE



2 **PIPE HANGERS**
SCALE: NONE



3 **FLOOR MOUNTED AIR SEPARATOR**
SCALE: NONE



NOTES:
1. PROVIDE A 2" COPPER PIPE FROM THE 3/4" REFRIGERANT PRESSURE RELIEF VALVES LOCATED ON THE CHILLERS THROUGH THE EXTERIOR WALL. THE DISCHARGE POINT SHALL BE 15 FEET ABOVE GRADE AND 20 FEET FROM ANY OPENING INTO THE BUILDING.
2. PROVIDE DRAIN AT LOWEST END OF RELIEF PIPING AT CHILLER

1 **CHILLER PRESSURE RELIEF PIPE**
SCALE: NONE

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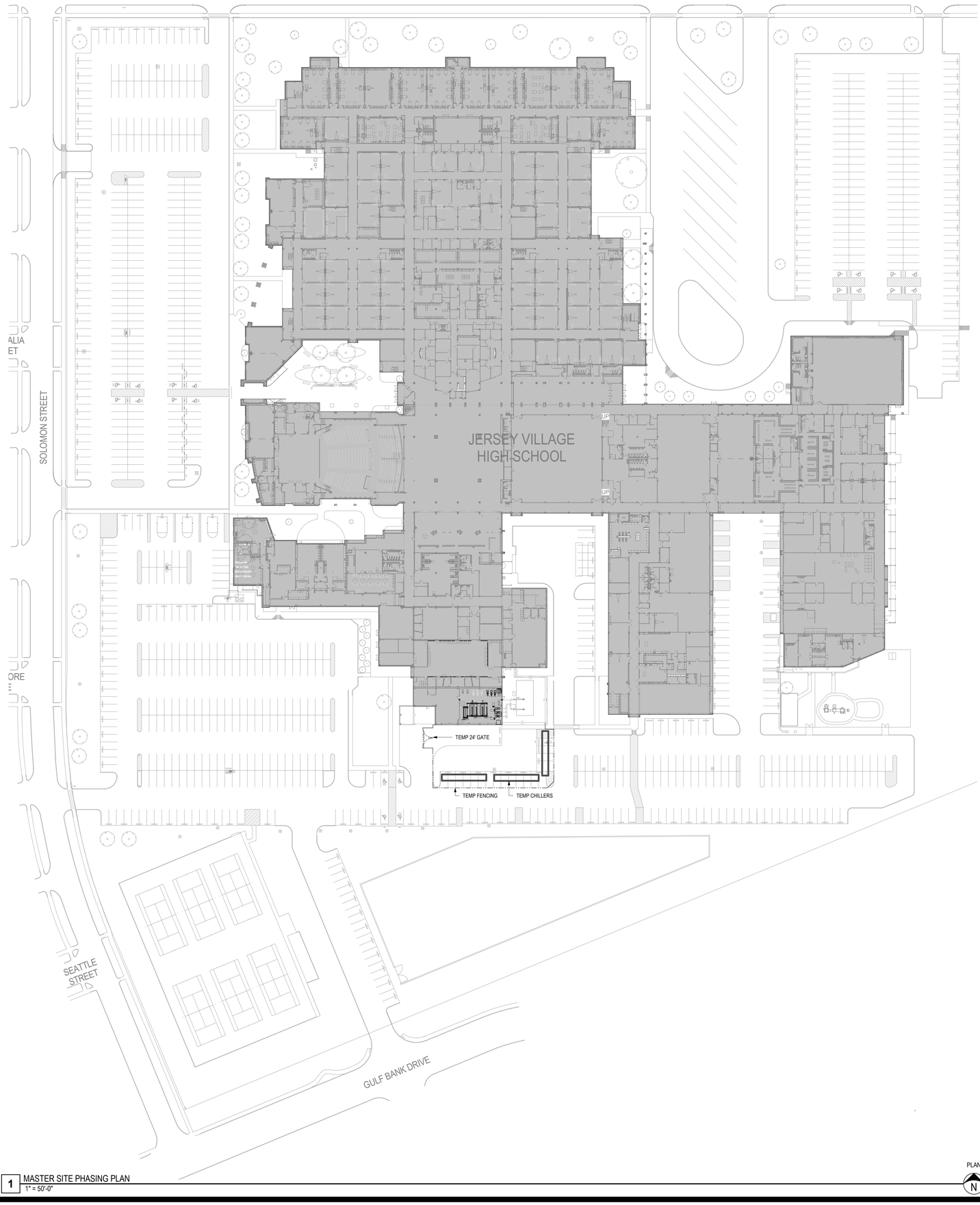
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MECHANICAL SCHEDULES, LEGENDS, AND DETAILS

Job No. 01818-08-02
Sheet No. M4.01-CR
Drw By: BB Chk By: VP
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1 MASTER SITE PHASING PLAN
1" = 50'-0"

PLAN N

JERSEY VILLAGE HS

1. THE EXISTING CHILLED WATER PLANT CONSISTS OF (3) WATER COOLED CHILLERS, (2) 650 TON MACHINES AND (1) 211 TON MACHINE.
2. THE PROJECT SCOPE AT JERSEY VILLAGE H.S. INCLUDES THE REPLACEMENT OF ALL (3) WATER COOLED CHILLERS. IN ADDITION, THE PROJECT SCOPE INCLUDES REPLACING THE (3) CONDENSER WATER PUMPS, (3) PRIMARY CHILLED WATER PUMPS, ADDING MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND ADDING SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS FOR THE USE WITH THE RENTAL CHILLERS AND FOR FUTURE USE SHOULD THE DISTRICT NEED THEM. REFER TO THE DRAWINGS FOR ADDITIONAL SCOPE INCLUDED IN THE PROJECT.
3. THE CAMPUS WILL BE OCCUPIED AND FULLY UTILIZED THROUGHOUT THE CHILLER REPLACEMENT PROJECT. THEREFORE, THE PROJECT SHALL INCLUDE RENTAL AIR COOLED CHILLERS, TEMPORARY PUMPS, TEMPORARY HOSES WITH MEANS TO MANIFOLD PIPING INTO A SINGLE TAP IN CENTRAL PLANT, TEMPORARY ELECTRICAL WIRING, ANY OTHER EQUIPMENT, AND COMPONENTS REQUIRED TO DELIVER A FULLY FUNCTIONING TEMPORARY CHILLED WATER PLANT INCLUDING INSTALLATION OF ALL RENTAL EQUIPMENT. THE RENTAL EQUIPMENT SHALL HAVE A MINIMUM DELIVERED CAPACITY OF **1,500 TONS** TO ENSURE THE ENTIRE BUILDING IS MAINTAINED AT THE DISTRICT'S STANDARD TEMPERATURE AND HUMIDITY SETPOINTS OF 75°F AND 50-55% RH.
4. **PHASE 1:** INSTALLATION OF THE MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND THE INSTALLATION OF THE CHILLED WATER SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS.
5. **PHASE 2:** INSTALLATION OF ALL RENTAL CHILLED WATER EQUIPMENT. THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE DISCONNECTED OR REMOVED PRIOR TO DEMONSTRATING THE RENTAL CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING BUILDING SETPOINTS FOR A PERIOD OF 48 HOURS. UPON COMPLETION OF THE 48 HOUR DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE RENTAL CHILLED WATER PLANT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH REPLACING ANY OF THE EXISTING EQUIPMENT. ANY OF THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE REMOVED PRIOR TO RECEIVING THE NEW CHILLED WATER EQUIPMENT AT THE JOB SITE. LOCATION OF THE RENTAL CHILLED WATER EQUIPMENT SHALL BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO INSTALLATION.
6. **PHASE 3:** INSTALLATION OF NEW CHILLED WATER SYSTEM EQUIPMENT.
7. **PHASE 4:** DEMONSTRATION THAT THE NEW CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING THE BUILDING SETPOINTS FOR A PERIOD OF A ONE (1) WEEK. UPON COMPLETION OF THE ONE (1) WEEK DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE NEW CHILLED WATER EQUIPMENT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.
8. **LAST PHASE:** REMOVAL OF RENTAL CHILLED WATER EQUIPMENT FROM THE SITE.
9. IF A PLANT SHUTDOWN IS REQUIRED TO PREPARE FOR RENTAL CHILLER CONNECTION TO THE BUILDING AND ITS OPERATION OR TO EXECUTE ANY PORTION OF THE PROJECT SCOPE, SHUTDOWNS SHALL BE COORDINATED, SCHEDULED, AND ACCEPTED BY THE OWNER, ARCHITECT, AND ENGINEER A MINIMUM OF 1 WEEK PRIOR TO THE PLANT BEING DISABLED.
10. DURING ANY PLANT SHUTDOWN GREATER THAN 8 HOURS IN DURATION, THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT TO MAINTAIN 80°F AND 60% RH IN THE FOLLOWING LOCATIONS:
    A. LIBRARY
    B. COMPETITION GYMNASIUM
    C. AUXILIARY GYMNASIUM
    D. LOCKER ROOMS
    E. BAND
    F. CHOIR
    G. ORCHESTRA
    H. ADMINISTRATION (COMPLETE SUITE)
    I. SCIENCE CLASSROOM (EACH)
11. IN ADDITION, DURING PERIODS OF TIME WHEN THE PLANT IS SHUT DOWN AND UTILIZING TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT, THE CONTRACTOR SHALL MONITOR AND LOG BUILDING TEMPERATURE AND HUMIDITY EVERY 2 HOURS FOR EACH LOCATION LISTED. DIGITAL LOGS SHALL BE PROVIDED TO OWNER, ARCHITECT AND ENGINEER UPON COMPLETION OF EACH SCHEDULED PLANT SHUT FOR REVIEW AND ACCEPTANCE.

NOTES - GENERAL PHASING SCOPE SUMMARY
1/4" = 1'-0"

TEMPORARY CHILLER TRAILER

LEGEND - PHASING ANNOTATIONS
1/4" = 1'-0"

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FOR
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JERSEY VILLAGE HIGH SCHOOL CHILLER
7600 Solomon St, Jersey Village, TX 77040

REGISTERED ARCHITECT
SUSAN F. WIATT
TX 24618
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06/11/2025

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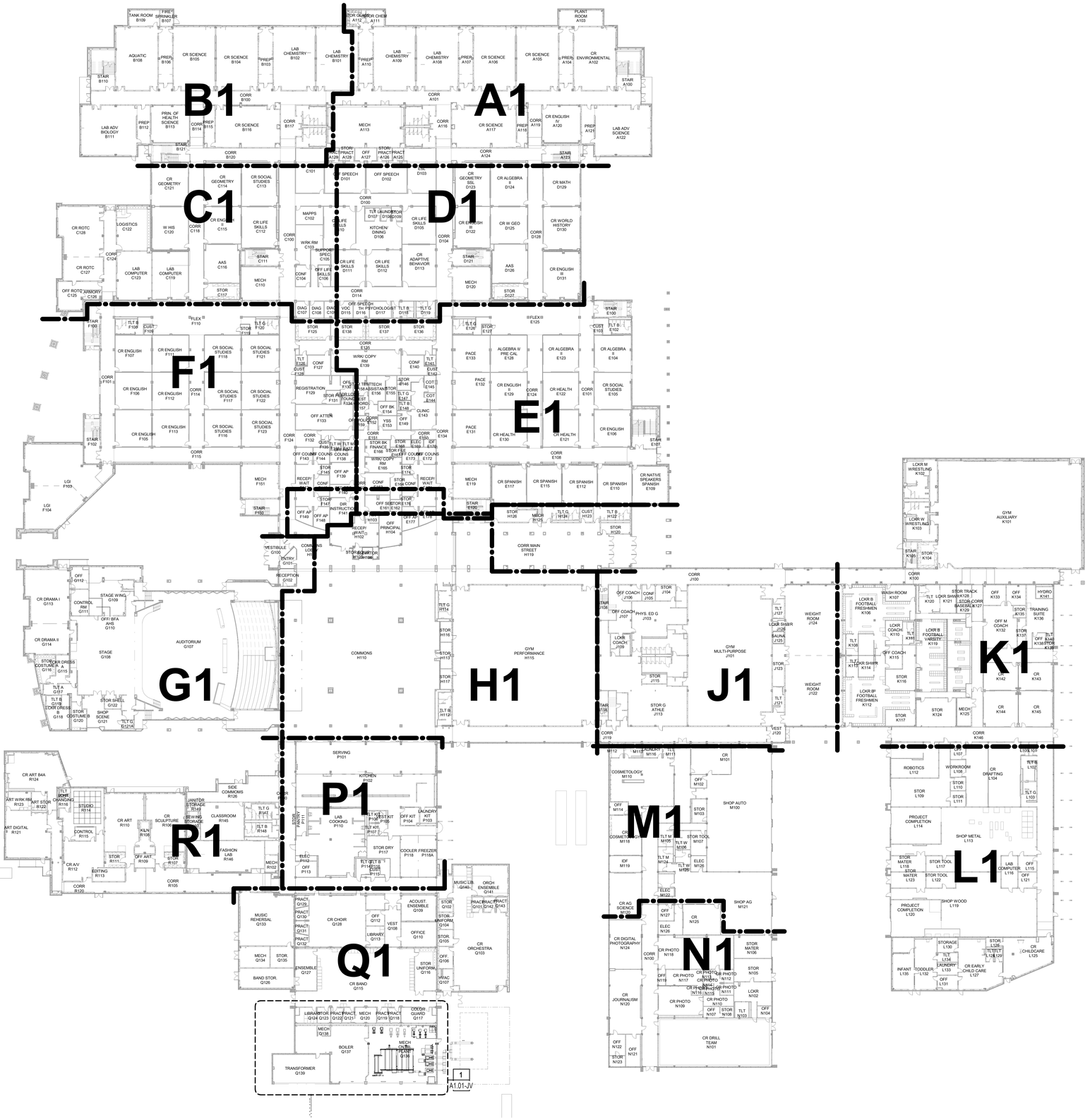
PHASING COMPOSITE SITE PLAN

PACKAGE VOLUME C

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Drawn By: PR	
Date: 06/11/2025	

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1 1ST FLOOR COMPOSITE PLAN
1/32" = 1'-0"

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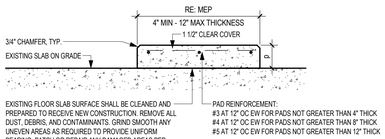
1ST FLOOR COMPOSITE PLAN

PACKAGE VOLUME C

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2 HOUSEKEEPING PAD DETAIL
3/4" = 1'-0"

1 AREA 'Q1' - FLOOR PLAN
1/8" = 1'-0"

PLAN N

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AREA 'Q1' 1ST FLOOR PLAN

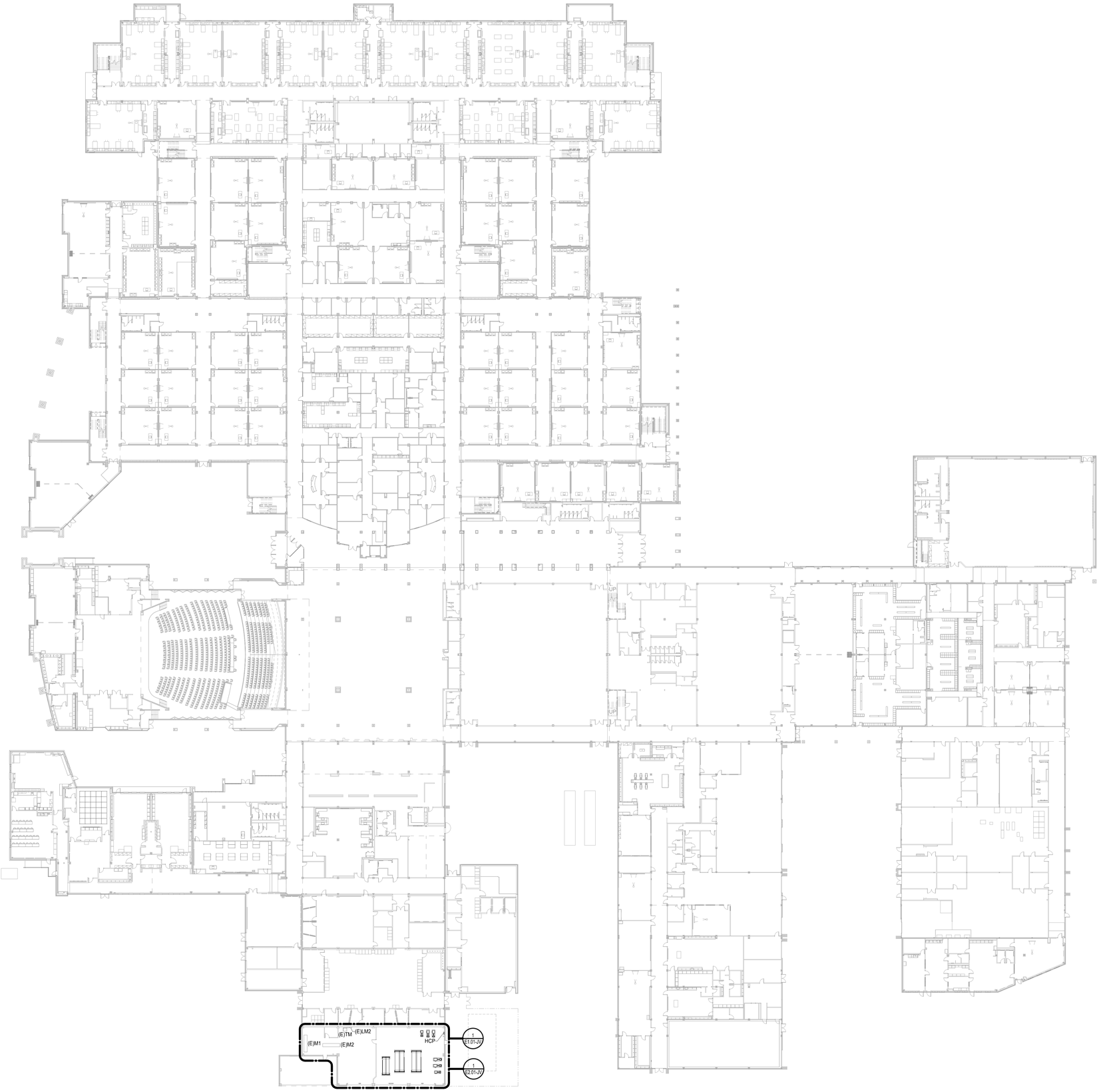
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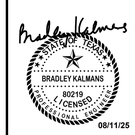


N

1 **ELECTRICAL COMPOSITE PLAN**
Scale: 1" = 30'-0"

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ELECTRICAL DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.
6. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY THE DISTRICT'S REPRESENTITIVE PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

ELECTRICAL KEYED NOTES - E1.01

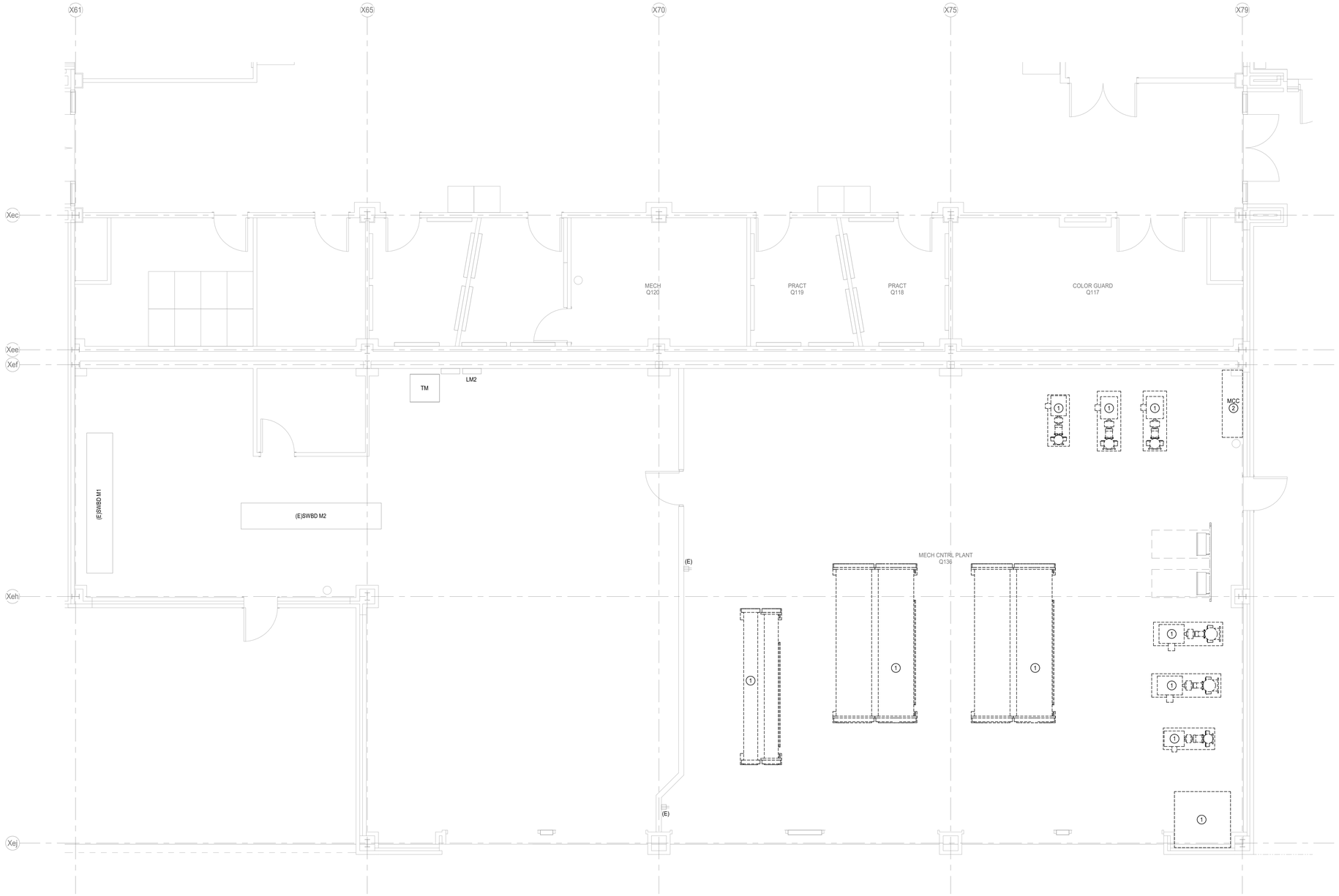
1	DISCONNECT EXISTING EQUIPMENT TO BE DEMOLISHED. PULL CONDUCTORS AND CONDUIT BACK TO SOURCE. DISCONNECT AND REMOVE ASSOCIATED DISCONNECTS, STARTERS, OR VFDS. FLIP BREAKER OFF AND INDICATE AS SPARE.
2	DISCONNECT AND REMOVE EXISTING MOTOR CONTROL CENTER 'MCC'. FIELD VERIFY EXISTING BRANCH CIRCUITS TO REMAIN ACTIVE AND EXTEND CONDUIT/WIRE TO NEW PANEL 'HCP'.

Salas O'Brien
salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

LINE TYPE LEGEND

	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED



N

1 **ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

Revision / Date

Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
JERSEY VILLAGE HIGH SCHOOL CHILLER
7600 Solomon St, Jersey Village, TX 77040

BRADLEY KALMANS
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ELECTRICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-02	Sheet No. E1.01-JV
Drw By: AW Chk By: JZ	
Date: 08/11/2025	

8/8/2025 10:28:56 AM
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ELECTRICAL KEYED NOTES - E2.01

1	CONNECT NEW CHEMICAL TREATMENT SYSTEM TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
2	PROVIDE A NEW UNISTRUT RACK AND MOUNT NEW VFD TO NEW UNISTRUT RACK. REFER TO UNISTRUT MOUNTED RACK DETAIL FOR MORE INFORMATION.
3	EXTEND NEW 2#10 AND 1#10G. FROM EXISTING RECEPTACLE TO NEW RECEPTACLE.
4	ROUTE 2"C WITH PULLSTRING ALONG HOMERUN BACK TO BMCS SYSTEM. COORDINATE FINAL ROUTING WITH DIVISION 26.

ELECTRICAL GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.

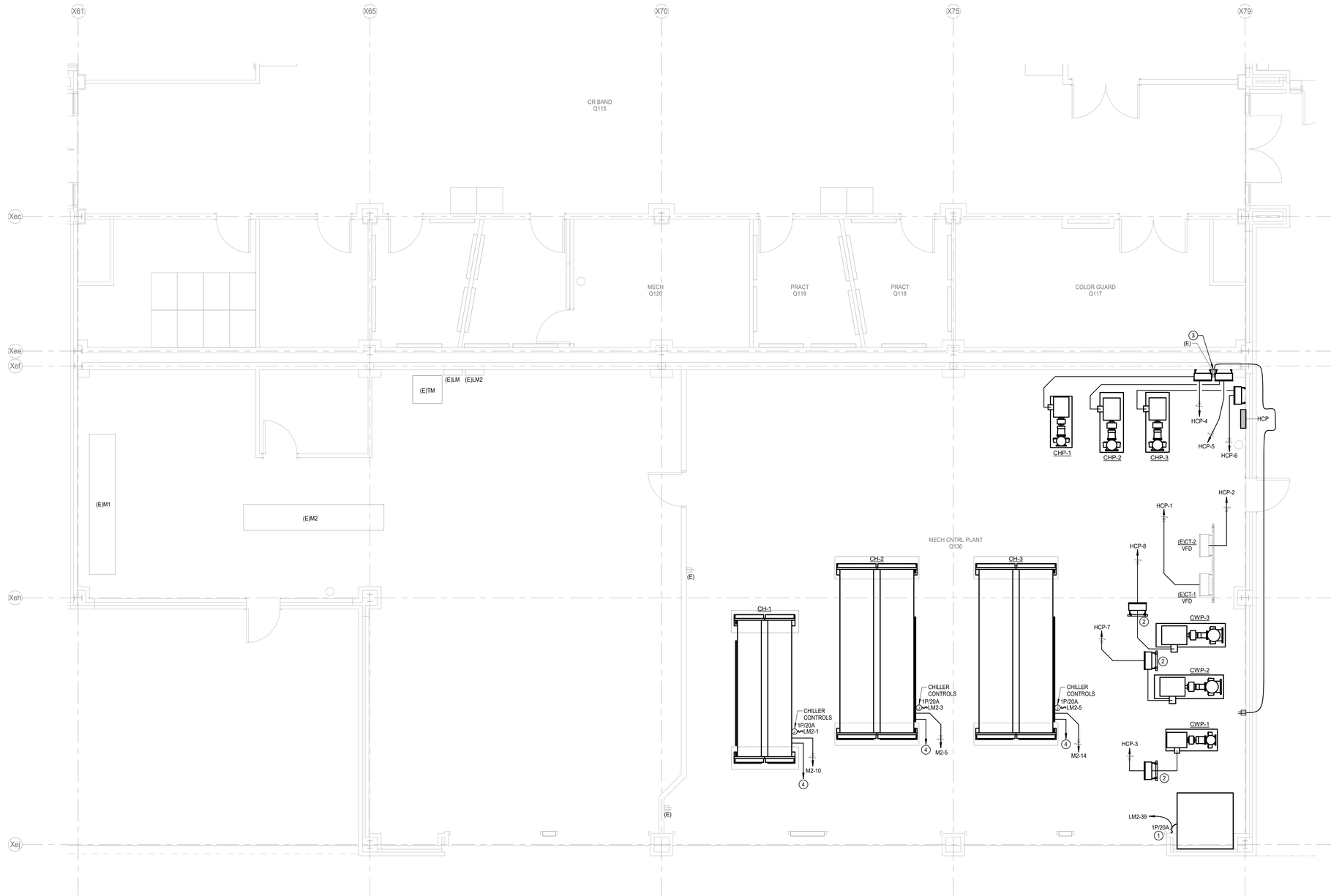
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Salas O'Brien
salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

LINE TYPE LEGEND

	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED



N

1 **ELECTRICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

Revision / Date

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ELECTRICAL ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-02	Sheet No. E2.01-JV
Drw By: AW Chk By: JZ	
Date: 08/11/2025	

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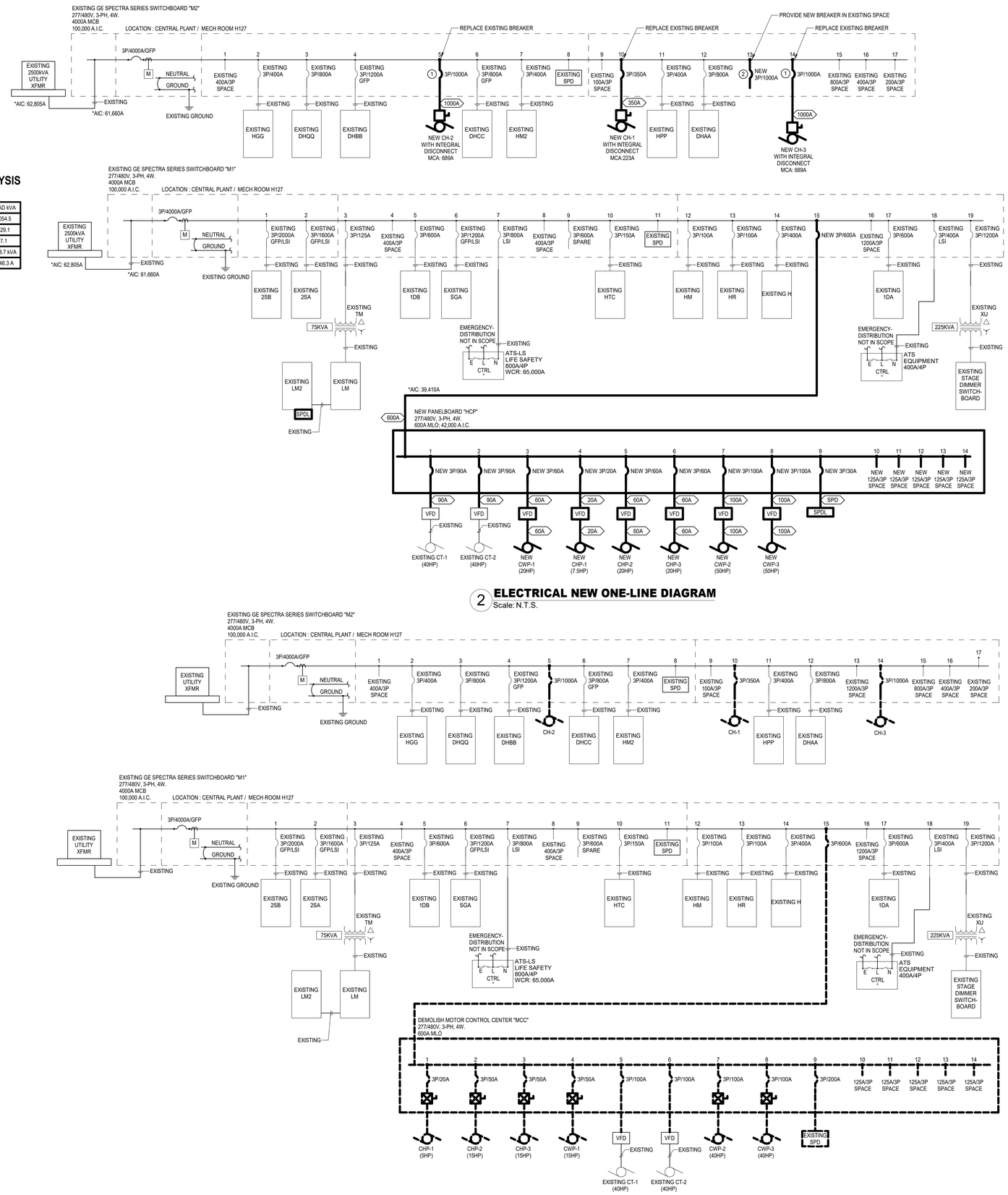
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ELECTRICAL LOAD ANALYSIS SWITCHBOARD M2

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1054.5
ADDED HVAC EQUIPMENT	229.1
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1368.7 kVA
TOTAL A	1646.3 A

ELECTRICAL LOAD ANALYSIS SWITCHBOARD M1

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	1054.5
ADDED HVAC EQUIPMENT	229.1
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1368.7 kVA
TOTAL A	1646.3 A



2 ELECTRICAL NEW ONE-LINE DIAGRAM
Scale: N.T.S.

1 ELECTRICAL EXISTING/DEMO ONE-LINE DIAGRAM
Scale: N.T.S.

LINE TYPE LEGEND

———	EXISTING ITEM TO REMAIN
———	NEW ITEM
- - -	ITEM TO BE REMOVED

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ELECTRICAL GENERAL NOTES

1. ALL EMPTY CONDUITS SHALL HAVE PULL STRING.
2. EACH CONDUIT SHALL BE LIMITED TO (3) CIRCUITS MAXIMUM.
3. NO MORE THAN THREE SINGLE PHASE CIRCUITS AND NO MORE THAN SIX CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. WHEN FOUR, FIVE, OR SIX CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY, THEIR CURRENT CARRYING AMPACITIES SHALL BE DERATED AS REQUIRED BY THE NEC FOR NON-DIVERSIFIED LOADS. THE INSTALLED WIRE SIZE SHALL HAVE A NOMINAL AMPACITY RATING OF 125% OF THAT REQUIRED OR SPECIFIED WHEN FOUR OR MORE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY. NEUTRAL CONDUCTORS SHALL BE CONSIDERED A CURRENT CARRYING CONDUCTOR IN ALL NON-LINEAR LOADED CIRCUITS AS REQUIRED BY THE NEC.
4. ALL LIGHTING, RECEPTACLE, AND EQUIPMENT BRANCH CIRCUITS CONDUITS SHALL CONTAIN A GROUND WIRE. USING THE CONDUIT SYSTEM AS THE ONLY GROUND PATH IS NOT ACCEPTABLE.
5. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO PROVIDE NEW FILLER PLATES TO COVER EXPOSED BUS BARS FOR ANY MODIFIED EQUIPMENT.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

PROVIDE NETA CERTIFIED TESTING, CLEANING AND MAINTENANCE FOR EXISTING SWITCHBOARDS AND MOTOR CONTROL CENTERS, WHICH SHALL INCLUDE: CHECKING FOR SHORT CIRCUITS AND CONTINUITY OF CIRCUITS, INSULATION RESISTANCE TESTING, CHECKING CIRCUIT BREAKERS OPERATION, GROUND FAULT INTERRUPTER TESTING, THERMAL INFRARED SCAN OF SWITCHBOARD UNDER FULL LOAD, CHECKING ALL BOLTED CONNECTIONS FOR HIGH RESISTANCE, PERFORMING GROUND RESISTANCE TESTING, AND CHECKING LOW VOLTAGE CONTROLS WIRING/DEVICES AND INSTRUMENT TRANSFORMERS FOR PROPER OPERATION. CONTRACTOR SHALL PROVIDE A COMPLETE WRITTEN REPORT INDICATING ANY DEFICIENCIES IN RELATION TO EACH COMPONENT'S INTENDED FUNCTION AND RECOMMENDATIONS FOR RESOLVING ANY DEFICIENCY.

ALL CONDUCTORS TO BE COPPER THHN/THWN 90 DEG. C. INSULATION TYPE UNLESS SPECIFICALLY NOTED OTHERWISE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

FEEDER SCHEDULE

AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
20A	1	(3) #12	#12	3/4"C
60A	1	(3) #6	#10	1"C
90A	1	(3) #2	#8	1-1/4"C
100A	1	(3) #3	#8	1-1/4"C
350A	1	(3) #500	#2	3-1/2"C
600A	2	(4) #350KCMIL	#1/0	3"C
1000A	3	(3) #400KCMIL	#2/0	3"C
SPD	1	(5)#10	N/A	1"C

ELECTRICAL KEYED NOTES - E3.01

1	NEW BREAKER IS THE PROPOSED POWER SOURCE FOR A TEMPORARY CHILLER PROVIDED DURING CONSTRUCTION. COORDINATE WITH DIVISION 23 TO ENSURE THIS BREAKER IS SIZED/CAN BE ADJUSTED TO MEET THE MOCP REQUIREMENTS FOR THE PERMANENT CHILLER AND THE TEMPORARY CHILLER. CONTRACTOR TO COORDINATE WITH DIVISION 23 TO MAKE THE CONNECTIONS AND PROVIDE A TEMPORARY FEEDER TO THE TEMPORARY CHILLERS PROVIDED. WHERE POSSIBLE USE EXISTING OR NEW CONDUCTORS AND/OR CONDUIT FOR THE TEMPORARY CHILLER.
2	NEW BREAKER IS THE PROPOSED POWER SOURCE FOR A TEMPORARY CHILLER PROVIDED DURING CONSTRUCTION. COORDINATE WITH DIVISION 23 TO ENSURE THIS BREAKER IS SIZED/CAN BE ADJUSTED TO MEET THE MOCP REQUIREMENTS FOR THE TEMPORARY CHILLER. CONTRACTOR TO COORDINATE WITH DIVISION 23 TO MAKE THE CONNECTIONS AND PROVIDE A TEMPORARY FEEDER TO THE TEMPORARY CHILLERS PROVIDED. WHERE POSSIBLE USE EXISTING OR NEW CONDUCTORS AND/OR CONDUIT FOR THE TEMPORARY CHILLER.

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ELECTRICAL ONELINES

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Date: 08/11/2025
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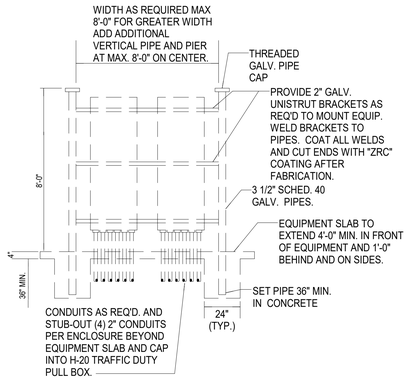
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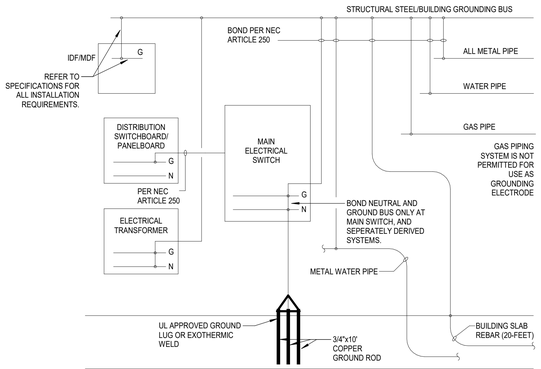
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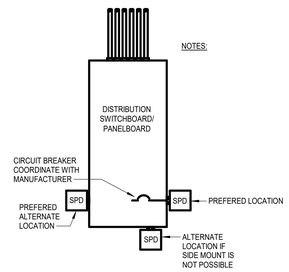
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JERSEY VILLAGE HIGH SCHOOL CHILLER
7600 Solomon St, Jersey Village, TX 77040



3 ELECTRICAL UNISTRUT EQUIPMENT RACK DETAIL
Scale: N.T.S.



2 SYSTEM GROUNDING DETAIL
Scale: N.T.S.



1 SURGE PROTECTION DEVICE DETAIL
Scale: N.T.S.

SYMBOL SCHEDULE

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
SWITCHES	
$1P/XXA	LINE VOLTAGE SINGLE POLE SWITCH
$2P/XXA	LINE VOLTAGE 2-POLE SWITCH RATED FOR XX AMPACITY
RECEPTACLES AND OUTLETS	
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
MOTOR CONTROLLERS AND EQUIPMENT	
	MOTOR, MAKE FINAL MOTOR CONNECTION
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH AS REQUIRED
	MOTOR STARTER
	VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26
ELECTRICAL EQUIPMENT	
	ELECTRICAL DISTRIBUTION OR PANELBOARD
	DRY TYPE TRANSFORMER
CIRCUITING	
	CONDUIT
	CONDUIT BELOW FLOOR, SLAB, OR GRADE
SUBSCRIPTS AND ABBREVIATIONS	
WP	INDICATES WEATHERPROOF
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
1-L	REFER TO ONE-LINE DIAGRAM

GENERAL NOTES:
-ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF. REFER TO SPECIFICATIONS FOR THE MINIMUM NEMA RATING

Existing Branch Panel: LM2

Location: BOILER Q137 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: LM **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 225A MLO

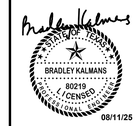
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
2	1	**CHILLER 1 CONTROLS**	#12	20 1	0.3 / 0.6			1	20 (E)	SF - R1	2	
2	3	**CHILLER 2 CONTROLS**	#12	20 1		0.3 / 0.6		1	20 (E)	SF - R2	4	
2	5	**CHILLER 3 CONTROLS**	#12	20 1			0.3 / 0.6	1	20 (E)	SF - R3	6	
	7	CT-1 CONTROLS	(E)	20 1	0.3 / 0.6			1	20 (E)	SF - R4	8	
	9	CT-2 CONTROLS	(E)	20 1		0.3 / 0.6		1	20 (E)	SF - R5	10	
	11	BR-1 PUMP	(E)	20 2			1.0 / 0.3	1	20 (E)	BAS	12	
	13				1.0 / 0.3			1	20 (E)	BAS	14	
	15	BR-1 CONTROL	(E)	20 2		0.3 / 0.4		1	20 (E)	WATER TREATMENT	16	
	17						0.3 / 0.4	1	20 (E)	WATER SOFTENER	18	
	19	BR-2 PUMP	(E)	20 3	0.2 / 0.3			1	20 (E)	BAS	20	
	21					0.2 / 0.3		1	20 (E)	BAS	22	
	23						0.2 / 0.3	1	20 (E)	BAS	24	
	25	BR-2 CONTROL	(E)	20 2	0.3 / 0.5			1	20 (E)	TRAP PRIMER	26	
	27					0.3 / 1.0					28	
	29	BR-3 PUMP	(E)	20 3			0.2 / 1.0	3	20 (E)	BR-4 PUMP	30	
	31				0.2 / 1.0						32	
	33					0.2 / 0.3					34	
	35	BR-3 CONTROL	(E)	20 2			0.3 / 0.3	2	20 (E)	BR-4 CONTROL	36	
	37				0.3 / 0.0						38	
1	39	**CHEM FEEDER**	#12	20 1		0.3 / 0.0		3	30 #10	SPDL	40	2
--	41	SPARE	--	20 1			0.0 / 0.0				42	
			Total Load:		5.7 kVA	4.9 kVA	5.0 kVA					
			Total Amps:		48 A	41 A	42 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	15.6 kVA	100.00%	15.6 kVA		
				Total Conn. Load:	15.6 kVA
				Total Est. Demand:	15.6 kVA
				Total Conn. Current:	43 A
				Total Est. Demand Current:	43 A

Notes:
NEW WORK IN BOLD
1 - PROVIDE NEW BREAKER IN EXISTING SPACE
2 - PROVIDE NEW BREAKER TO REPLACE EXISTING BREAKER(S)

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE



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ELECTRICAL DETAILS AND SCHEDULES

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Sheet No. E4.01-JV
Drw By: AW Chk By: JZ
Date: 08/11/2025

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salasobrien.com 281-664-1900
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Project No: 2550-00809-00



N

1 **MECHANICAL COMPOSITE PLAN**
Scale: 1" = 30'-0"

Revision / Date

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MECHANICAL COMPOSITE PLAN

Job No. 01818-08-02	Sheet No. M0.00-JV
Drw By: BB Chk By: VP	
Date: 08/11/2025	

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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

Salas O'Brien
salasobrien.com 281-664-1900
Houston
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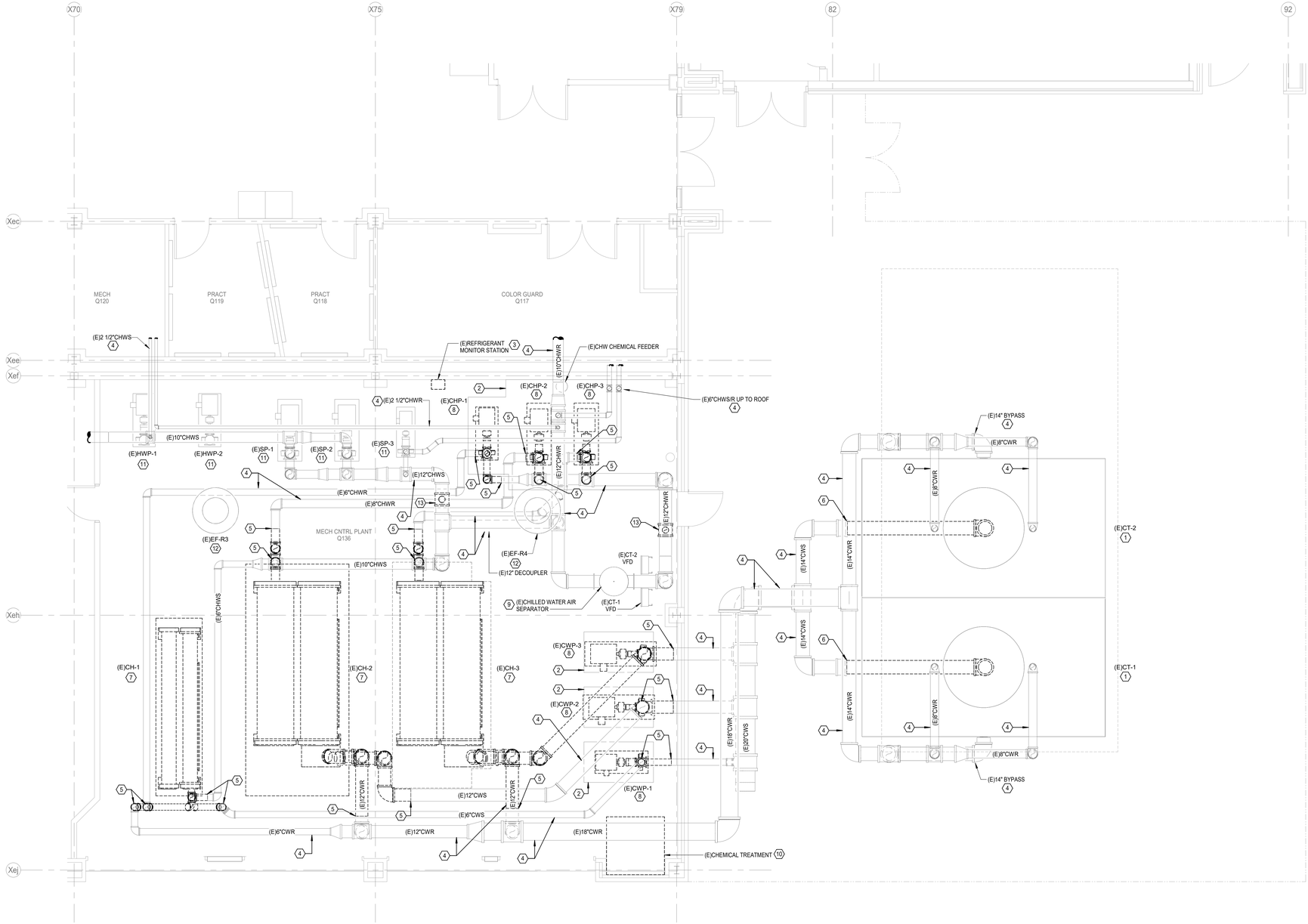
SYMBOL LEGEND	
	POINT OF CONNECTION TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

MECHANICAL DEMOLITION GENERAL NOTES

1	OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO CHILLERS, VALVES, CONTROLS, AND PUMPS.
2	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
3	ALL MECHANICAL SYSTEMS SHOWN ARE FROM EXISTING DRAWINGS AND PRELIMINARY FIELD WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS AND SIZES OF MECHANICAL SYSTEMS PRIOR TO START OF WORK.
4	REMOVE ALL UNUSED OR ABANDONED HANGER AND SUPPORTS OF DEMOLISHED EQUIPMENT AND MATERIAL.
5	CONTRACTOR SHALL UPDATE BMCS GRAPHICS FOR ALL MECHANICAL EQUIPMENT BEING REMOVED FROM PROJECT.

MECHANICAL KEYED NOTES

1	EXISTING COOLING TOWER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
2	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN.
3	REMOVE EXISTING REFRIGERANT MONITORING STATION AND ALL ASSOCIATED APPURTENANCES.
4	EXISTING PIPING TO REMAIN.
5	REMOVE EXISTING PIPING AND ALL ASSOCIATED APPURTENANCES BACK TO POINT INDICATED.
6	REMOVE EXISTING CONDENSER WATER PIPING BACK TO EXISTING FLANGE AS INDICATED.
7	REMOVE EXISTING WATER COOLED CHILLER, CONTROLS, CONCRETE HOUSEKEEPING PAD, AND ALL ASSOCIATED APPURTENANCES.
8	REMOVE EXISTING PUMP, CONTROLS, INTERIA BASE, PUMP PAN, AND ALL ASSOCIATED APPURTENANCES.
9	EXISTING AIR SEPARATOR TO REMAIN.
10	REMOVE EXISTING COOLING TOWER CHEMICAL TREATMENT.
11	EXISTING PUMP, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
12	EXISTING EXHAUST PURGE FAN, CONTROLS, DUCTWORK, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
13	REMOVE EXISTING 6" Ø TEMPORARY CHILLER TAP. PATCH AND SEAL MAIN PIPING AS SPECIFIED.



N

1 MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD
Scale: 1/4" = 1'-0"

Revision / Date

Project:
2025 MULTICAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
JERSEY VILLAGE HIGH SCHOOL CHILLER
7600 Solomon St, Jersey Village, TX 77040

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MECHANICAL DEMO ENLARGED PLAN - SERVICE YARD

Job No. 01818-08-02	Sheet No. M0.01-JV
Drw By: BB / Chk By: VP	
Date: 08/11/2025	

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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

Salas O'Brien
salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

TEPORARY BMCS CONNECTION:

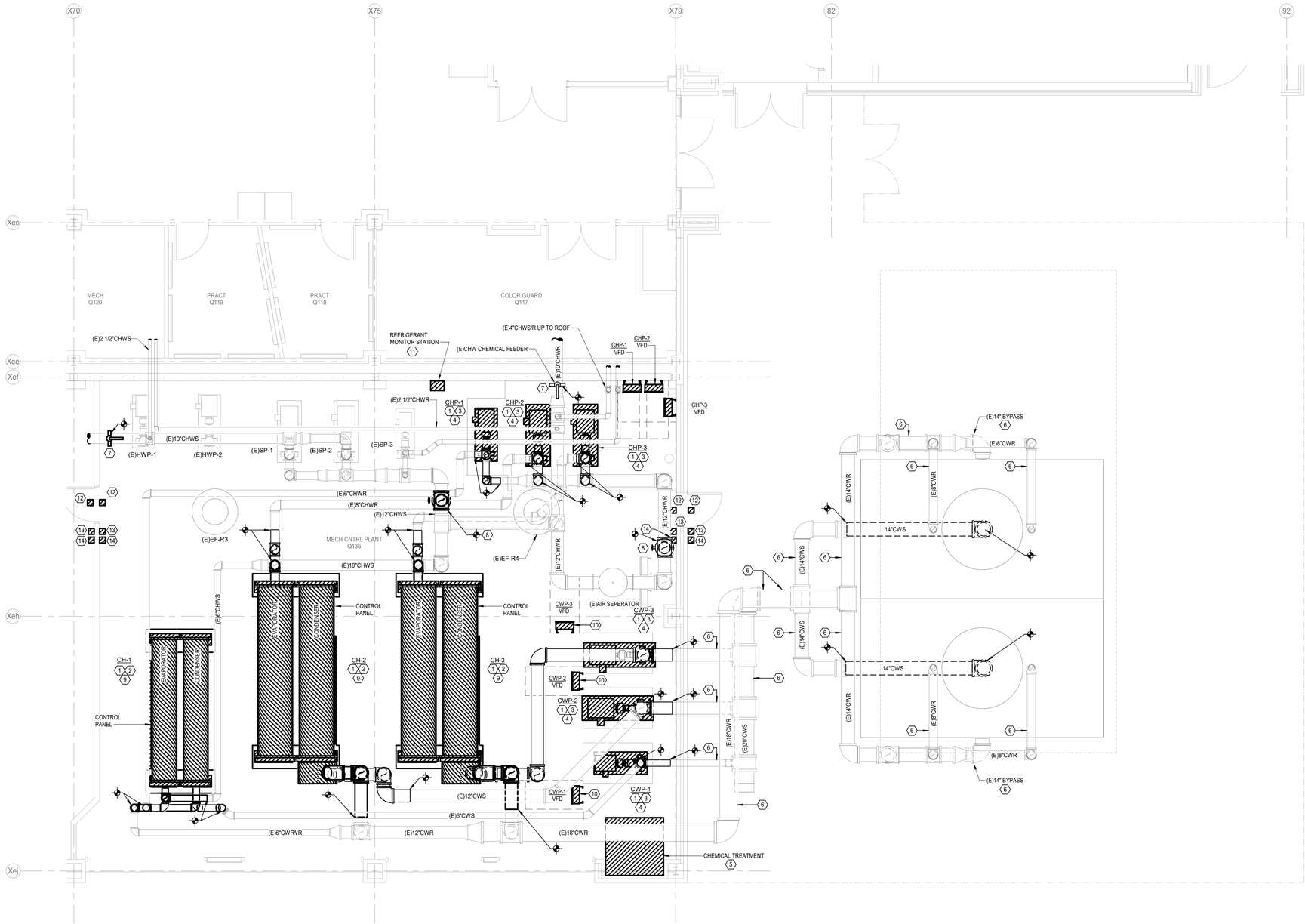
CONTRACTOR SHALL PROVIDE TEMPORARY BMCS CONNECTION FOR TEMPORARY CHILLERS. CONTRACTOR SHALL COORDINATE TEMPORARY BMCS CONNECTION LOCATION WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.

MECHANICAL GENERAL NOTES

1	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
2	MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

MECHANICAL KEYED NOTES

1	VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADE NOT TO OBSTRUCT.
2	PROVIDE COPPER REFRIGERANT RELIEF PIPING FROM CHILLER PRESSURE RELIEF VALVES THROUGH THE ROOF. FOLLOW EXISTING ROUTING AND REUSE EXISTING PENETRATION. SIZE RELIEF PIPE AS RECOMMENDED BY MANUFACTURER. REFER TO DETAIL.
3	PROVIDE WITH PUMP PAN. REFER TO DETAIL.
4	PROVIDE WITH INERTIA BASE. REFER TO SPECIFICATIONS.
5	PROVIDE NEW CHEMICAL TREATMENT FOR COOLING TOWER. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
6	CONTRACTOR SHALL SAND, PRIME, AND REPAINT ALL EXTERIOR CONDENSER WATER PIPING. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7	PROVIDE ISOLATION VALVE AT LOCATION SHOWN.
8	PROVIDE 12" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION.
9	PROVIDE 0'-8" ON EITHER SIDE OF BASE/FEET X 0'-10" TALL X CHILLER BASE WIDTH CONCRETE PAD UNDER CHILLER FOOTINGS AS SHOWN. COORDINATE WITH CHILLER MANUFACTURER FOR SUPPORTING EQUIPMENT.
10	MOUNTED VARIABLE FREQUENCY DRIVE (VFD) ON UNISTRUT RACK AT LOCATION SHOWN.
11	PROVIDE NEW REFRIGERANT MONITORING STATION TO MONITOR ANY AND ALL REFRIGERANTS UTILIZED IN CENTRAL. ESTABLISH CONTROLS REQUIRED FOR AUDIO/VISUAL ALARMS AND EMERGENCY PURGE VENTILATION TO ACTIVATE ALL CHILLERS TO SHUT DOWN UPON DETECTION OF REFRIGERANT LEAKS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
12	PROVIDE AUDIO/VISUAL ALARM ABOVE DOOR.
13	PROVIDE BREAK-GLASS TYPE OFF-ONLY EMERGENCY CONTROL BUTTON.
14	PROVIDE BREAK-GLASS TYPE EMERGENCY PURGE VENTILATION BUTTON.



N

1 **MECHANICAL ENLARGED PLAN - SERVICE YARD**
Scale: 1/4" = 1'-0"

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MECHANICAL ENLARGED PLAN - SERVICE YARD

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Drw By: BB Chk By: VP	
Date: 08/11/2025	

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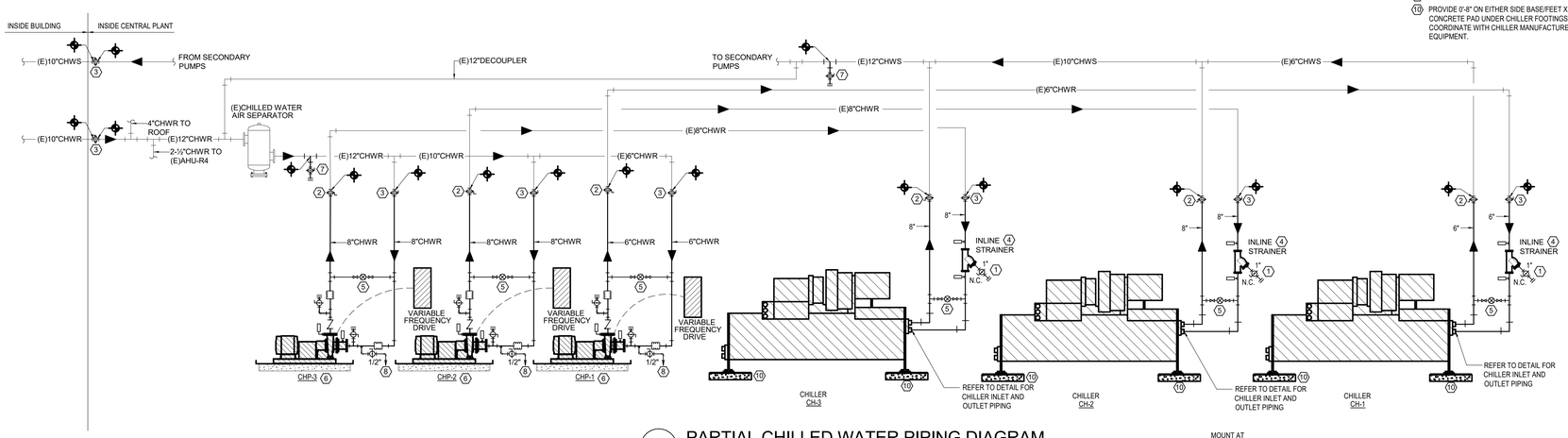
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MECHANICAL KEYED NOTES

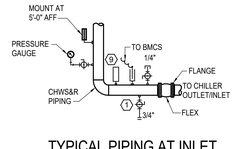
1. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE OR AT SIZED INDICATED.
2. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE. REFER TO SPECIFICATIONS.
3. PROVIDE ISOLATION VALVE.
4. PROVIDE NEW INLINE STRAINER AT LOCATION SHOWN.
5. PROVIDE DIFFERENTIAL PRESSURE SWITCH.
6. PROVIDE PUMP PAN. REFER TO DETAIL.
7. PROVIDE 12" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CONNECTION.
8. ROUTE TYPE "L" COPPER DRAIN AT SIZED INDICATED TO NEAREST FLOOR DRAIN.
9. PROVIDE PETE'S PLUG. (TYPICAL)
10. PROVIDE 0'-8" ON EITHER SIDE BASE/FEET X 0'-10" TALL X CHILLER BASE WIDTH CONCRETE PAD UNDER CHILLER FOOTINGS AS SHOWN. COORDINATE WITH CHILLER MANUFACTURER FOR SUPPORTING EQUIPMENT.

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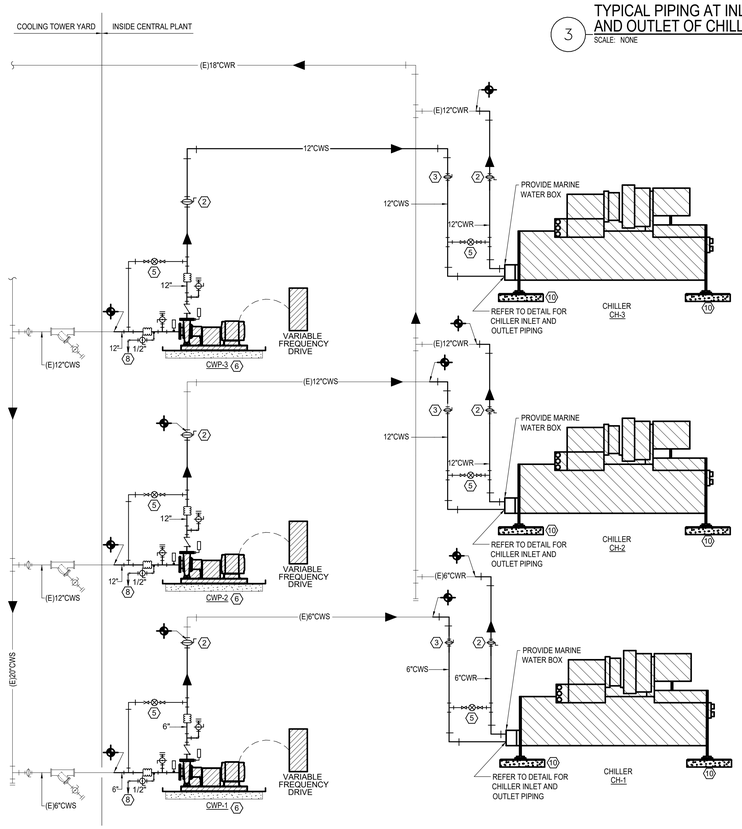
Registration: F-4111
Project No: 2550-00809-00



2 PARTIAL CHILLED WATER PIPING DIAGRAM
SCALE: NONE



3 TYPICAL PIPING AT INLET AND OUTLET OF CHILLER
SCALE: NONE



1 PARTIAL CONDENSER WATER PIPING DIAGRAM
SCALE: NONE

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MECHANICAL PIPING DIAGRAMS

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Drw By: BB / Chk By: VP	
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SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
PIPING	
–CWS&R–	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CWS–	CONDENSER WATER SUPPLY
–CWR–	CONDENSER WATER RETURN
–CHWS&R–	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CHWS–	CHILLED WATER SUPPLY
–CHWR–	CHILLED WATER RETURN
–HWS&R–	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–HWS–	HOT WATER FOR HYDRONIC HEATING SUPPLY
–HWR–	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILIARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
G.C.	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

WATER COOLED CHILLER - CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001)			CONDENSER (FF=0.00025)			CURRENT CHARAC.			MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
		LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP.(FT.)	ENTERING WATER TEMP.(°F)	GPM	PRESSURE DROP.(FT.)	V	P	F				
CH-2	650	42	975	20.0	86	1,950	20.0	480	3	60	TRANE	0.5829	0.3761	(1,2,3,4,5,6)
CH-3	650	42	975	20.0	86	1,950	20.0	480	3	60	TRANE	0.5829	0.3761	(1,2,3,4,5,6)

REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CONDENSER WITH MARINE WATER BOX AND HINGED BARREL HEAD.
5. PROVIDE 2 PASSES FOR EVAPORATOR. REFER TO DRAWINGS FOR MORE INFORMATION.
6. PROVIDE 2 PASSES FOR CONDENSER. REFER TO DRAWINGS FOR MORE INFORMATION.

WATER COOLED CHILLER - MAGNETIC CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001)			CONDENSER (FF=0.00025)			CURRENT CHARAC.			MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
		LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	ENTERING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	V	P	F				
CH-1	211	42	320	20.0	86	635	20.0	480	3	60	DAIKIN	0.6554	0.3561	(1,2,3,5,6)
CH-1											TRANE	0.5973	0.3832	
CH-2	650	42	975	20.0	86	1,950	20.0	480	3	60	DAIKIN	0.5919	0.3478	(1,2,3,4,5,6)
CH-3	650	42	975	20.0	86	1,950	20.0	480	3	60	DAIKIN	0.5919	0.3478	(1,2,3,4,5,6)

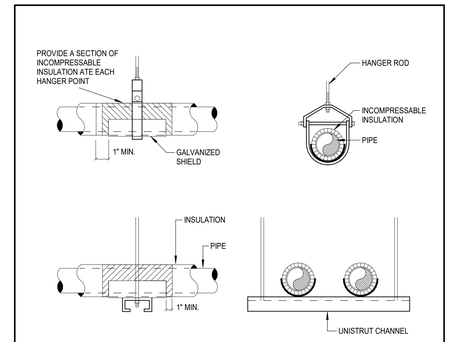
REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CONDENSER WITH MARINE WATER BOX AND HINGED BARREL HEAD.
5. PROVIDE 2 PASSES FOR EVAPORATOR. REFER TO DRAWINGS FOR MORE INFORMATION.
6. PROVIDE 2 PASSES FOR CONDENSER. REFER TO DRAWINGS FOR MORE INFORMATION.

PUMP

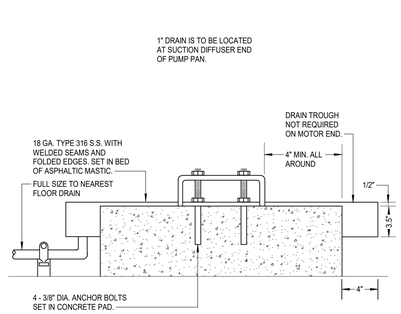
TAG	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC.			MANUFACTURER	MODEL NUMBER	REMARKS
							V	P	F			
CHP-1	CHILLED WATER	HORIZONTAL END SUCTION	320	45.00	7.5	1800	480	3	60	ARMSTRONG	4030	(1,2,3)
CHP-2	CHILLED WATER	HORIZONTAL END SUCTION	975	45.00	20.0	1800	480	3	60	ARMSTRONG	4030	(1,2,3)
CHP-3	CHILLED WATER	HORIZONTAL END SUCTION	975	45.00	20.0	1800	480	3	60	ARMSTRONG	4030	(1,2,3)
CWP-1	CONDENSER WATER	HORIZONTAL END SUCTION	635	70.00	20.0	1800	480	3	60	ARMSTRONG	4030	(1,3)
CWP-2	CONDENSER WATER	HORIZONTAL END SUCTION	1,950	70.00	50.0	1800	480	3	60	ARMSTRONG	4030	(1,3)
CWP-3	CONDENSER WATER	HORIZONTAL END SUCTION	1,950	70.00	50.0	1800	480	3	60	ARMSTRONG	4030	(1,3)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

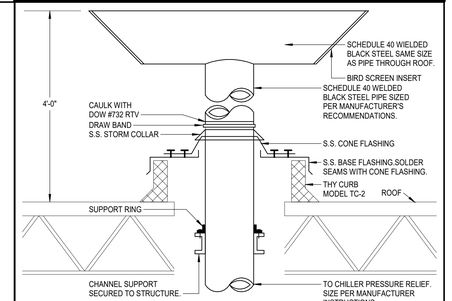
REMARKS:
1. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
2. PROVIDE SUCTION DIFFUSER AT PUMP INLET.
3. PROVIDE WITH BACK PULL OUT.



2 PIPE HANGERS
SCALE: NONE



3 PUMP PAN
SCALE: NONE



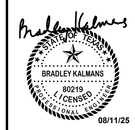
NOTES:
1. PROVIDE A 2" COPPER PIPE FROM THE 3/4" REFRIGERANT PRESSURE RELIEF VALVES LOCATED ON THE CHILLERS THROUGH THE EXTERIOR WALL. THE DICHARGE POINT SHALL BE 15 FEET ABOVE GRADE AND 20 FEET FROM ANY OPENING INTO THE BUILDING.
2. PROVIDE DRAIN AT LOWEST END OF RELIEF PIPING AT CHILLER

1 CHILLER PRESSURE RELIEF PIPE
SCALE: NONE

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salasobrien.com 281-664-1900
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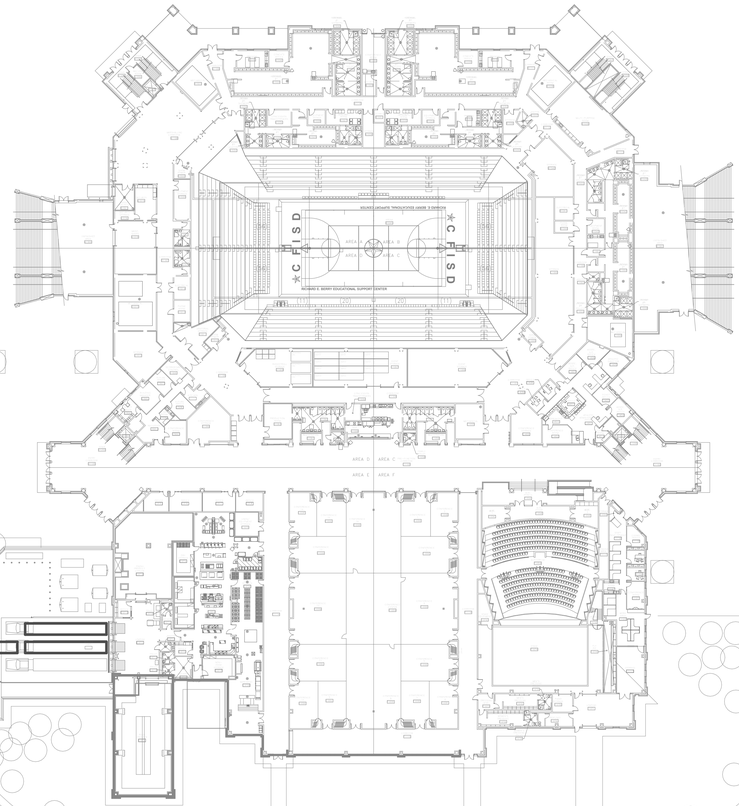
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MECHANICAL LEGENDS, SCHEDULES, AND DETAILS

Job No. 01818-08-02	Sheet No. M4.01-JV
Drw By: BB Chk By: VP	
Date: 08/11/2025	

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NOTE: LOADING DOCK IS SLOPED. GC TO ENSURE TRAILERS ARE LEVEL

NOTE: GC TO REPAIR ALL SOD, LANDSCAPING & CONCRETE TO ORIGINAL CONDITIONS IF DAMAGED DUE TO CONSTRUCTION

GC LAYDOWN SPACE AND OFFICE. GC TO RETURN SPACE TO ORIGINAL CONDITIONS AFTER CONSTRUCTION

BERRY CENTER

1. THE EXISTING CHILLED WATER PLANT CONSISTS OF (3) WATER COOLED CHILLERS, (2) 525 TON MACHINES AND (1) 375 TON MACHINE.
2. THE PROJECT SCOPE AT THE BERRY CENTER INCLUDES THE REPLACEMENT OF ALL (3) WATER COOLED CHILLERS. IN ADDITION, THE PROJECT SCOPE INCLUDES REPLACING THE (3) PRIMARY CHILLED WATER PUMPS, ADDING MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND ADDING SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS FOR THE USE WITH THE RENTAL CHILLERS AND FOR FUTURE USE SHOULD THE DISTRICT NEED THEM. REFER TO THE DRAWINGS FOR ADDITIONAL SCOPE INCLUDED IN THE PROJECT.
3. THE FACILITY WILL BE OCCUPIED AND FULLY UTILIZED THROUGHOUT THE CHILLER REPLACEMENT PROJECT. THEREFORE, THE PROJECT SHALL INCLUDE RENTAL AIR COOLED CHILLERS, TEMPORARY PUMPS, TEMPORARY HOSES WITH MEANS TO MANIFOLD PIPING INTO A SINGLE TAP IN CENTRAL PLANT, TEMPORARY ELECTRICAL WIRING, ANY OTHER EQUIPMENT, AND COMPONENTS REQUIRED TO DELIVER A FULLY FUNCTIONING TEMPORARY CHILLED WATER PLANT INCLUDING INSTALLATION OF ALL RENTAL EQUIPMENT. THE RENTAL EQUIPMENT SHALL HAVE A MINIMUM DELIVERED CAPACITY OF **1,500 TONS** TO ENSURE THE ENTIRE BUILDING IS MAINTAINED AT THE DISTRICT'S STANDARD TEMPERATURE AND HUMIDITY SETPOINTS OF 75°F AND 50-55% RH.
4. **PHASE 1:** INSTALLATION OF THE MAIN SUPPLY AND RETURN CHILLED WATER MANUAL SHUT OFF VALVES AND THE INSTALLATION OF THE CHILLED WATER SUPPLY AND RETURN PIPING TAPS WITH VALVES AND FLANGES FOR TEMPORARY CHILLER CONNECTIONS. IN ADDITION, THIS PHASE SHALL INCLUDE REMOVAL AND REINSTALLATION OF NEW REFRIGERANT LINES ASSOCIATED WITH EXISTING COOLER AND FREEZER SYSTEM.
5. **PHASE 2:** INSTALLATION OF ALL RENTAL CHILLED WATER EQUIPMENT. THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE DISCONNECTED OR REMOVED PRIOR TO DEMONSTRATING THE RENTAL CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING BUILDING SETPOINTS FOR A PERIOD OF 48 HOURS. UPON COMPLETION OF THE 48 HOUR DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE RENTAL CHILLED WATER PLANT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH REPLACING ANY OF THE EXISTING EQUIPMENT. ANY OF THE EXISTING CHILLED WATER EQUIPMENT SHALL NOT BE REMOVED PRIOR TO RECEIVING THE NEW CHILLED WATER EQUIPMENT AT THE JOB SITE. LOCATION OF THE RENTAL CHILLED WATER EQUIPMENT SHALL BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO INSTALLATION.
6. **PHASE 3:** INSTALLATION OF NEW CHILLED WATER SYSTEM EQUIPMENT.
7. **PHASE 4:** DEMONSTRATION THAT THE NEW CHILLED WATER EQUIPMENT IS FUNCTIONING AND CAPABLE OF MAINTAINING THE BUILDING SETPOINTS FOR A PERIOD OF A ONE (1) WEEK. UPON COMPLETION OF THE ONE (1) WEEK DEMONSTRATION PERIOD THE CONTRACTOR SHALL REQUEST ACCEPTANCE OF THE NEW CHILLED WATER EQUIPMENT'S PERFORMANCE FROM THE OWNER, ARCHITECT AND ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.
8. **PHASE 5:** REMOVAL OF RENTAL CHILLED WATER EQUIPMENT FROM THE SITE.
9. IF A PLANT SHUTDOWN IS REQUIRED TO PREPARE FOR RENTAL CHILLER CONNECTION TO THE BUILDING AND ITS OPERATION OR TO EXECUTE ANY PORTION OF THE PROJECT SCOPE. SHUTDOWNS SHALL BE COORDINATED, SCHEDULED, AND ACCEPTED BY THE OWNER, ARCHITECT, AND ENGINEER A MINIMUM OF 1 WEEK PRIOR TO THE PLANT BEING DISABLED.
10. DURING ANY PLANT SHUTDOWN GREATER THAN 8 HOURS IN DURATION, THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT TO MAINTAIN 80°F AND 60% RH IN THE FOLLOWING LOCATIONS:
    MAIN BLDG:
    A. **AV PRODUCTION RM 1513**
    B. **AV STORAGE RM 1528**
    C. **RM 1717**
    D. **RM 118**
    E. **ALL ROOMS IN 2100**
    F. **THEATER BOOTH RM 2105, 2103, 2102, & 2101**
    G. **SHOW POWER RM 1519**
    H. **CONFERENCE B RM 1716**
    I. **ZONE 3606**
    J. **KITCHEN RM 1304**
    K. **KITCHEN RM 1307**
    STADIUM (NOT SHOWN)
    L. **PA RM 4906**
    M. **RM 5905**
    N. **5914**
11. IN ADDITION, DURING PERIODS OF TIME WHEN THE PLANT IS SHUT DOWN AND UTILIZING TEMPORARY COOLING AND DEHUMIDIFICATION EQUIPMENT, THE CONTRACTOR SHALL MONITOR AND LOG BUILDING TEMPERATURE AND HUMIDITY EVERY 2 HOURS FOR EACH LOCATION LISTED. DIGITAL LOGS SHALL BE PROVIDED TO OWNER, ARCHITECT AND ENGINEER UPON COMPLETION OF EACH SCHEDULED PLANT SHUT FOR REVIEW AND ACCEPTANCE.

NOTES - GENERAL PHASING SCOPE SUMMARY
12" = 1'-0"

TEMPORARY CHILLER TRAILER

LEGEND - PHASING ANNOTATIONS
1/4" = 1'-0"

PLAN N

1 MASTER SITE PHASING PLAN
1" = 40'-0"

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
BERRY CENTER
8877 BARKER CYPRESS RD, CYPRESS, TEXAS 77433



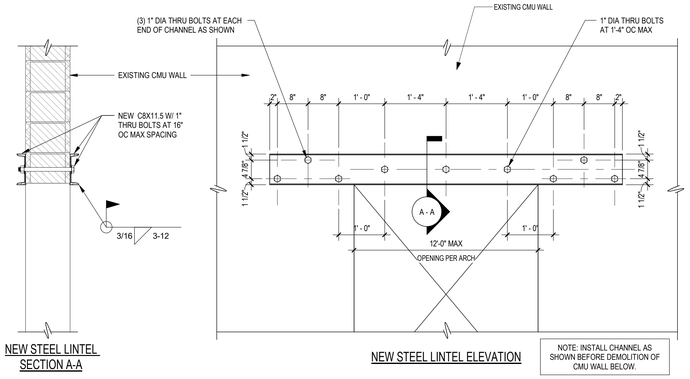
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MASTER SITE PHASING PLAN

Job No.	Sheet No.
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NEW STEEL LINTEL SECTION A-A

NEW STEEL LINTEL ELEVATION

NOTE: INSTALL CHANNEL AS SHOWN BEFORE DEMOLITION OF CMU WALL BELOW.

6 STRUCTURAL DETAIL 2
3/4" = 1'-0"

GENERAL NOTES:

1. REFER TO THE PROJECT MANUAL FOR GOVERNING JOB REQUIREMENTS AND MATERIAL SPECIFICATIONS. THE FOLLOWING NOTES ARE SUPPLEMENTAL TO THE ABOVE REQUIREMENTS.
2. ALL DIMENSIONS ASSOCIATED WITH EXISTING STRUCTURES SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
3. DO NOT CHANGE THE SIZE NOR SPACING OF STRUCTURAL ELEMENTS WITHOUT THE APPROVAL OF THE ENGINEER.
4. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
5. DETAILS SHOWN AS TYPICAL APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
6. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
7. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SPECIFICALLY STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED BRACING OF THE BUILDING AND OTHER STRUCTURES REQUIRED FOR CONSTRUCTION AND WIND LOADS UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED (INCLUDING BRACING REQUIRED TO RESIST WIND AND SEISMIC LOADS DURING CONSTRUCTION).
8. THE DESIGN IS BASED ON 2021 INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK AND HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER'S APPROVAL.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE AND COORDINATE THEIR WORK WITH THE WORK OF OTHERS.
12. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SLEEVES, BLOCKOUTS, INSERTS, CURBS, OPENINGS AND SLAB DEPRESSIONS THAT ARE REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS. VERIFY SIZE AND LOCATION OF OPENINGS PRIOR TO BEGINNING WORK. FOR DIMENSIONS NOT SHOWN, SEE MECHANICAL, ELECTRICAL, CIVIL AND ARCHITECTURAL DRAWINGS.
13. VERIFY SIZE AND LOCATION OF EQUIPMENT PADS WITH MECHANICAL AND/OR ELECTRICAL CONTRACTOR AND EQUIPMENT MANUFACTURER.
14. THE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITY, LENGTH OR FIT OF MATERIALS.
15. CONTRACTOR SHALL COMPARE STRUCTURAL, ARCHITECTURAL, AND MEP DRAWINGS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
16. CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MATERIALS WHOSE WEIGHT EXCEEDS THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON STRUCTURALLY SUPPORTED FLOOR OR ROOF FRAMING.
17. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH THEY BELIEVE MAY RESULT IN INSTABILITY OR DISTRESS IN THE STRUCTURE.
18. REFER TO SECTION 014533 OF THE PROJECT SPECIFICATIONS FOR QUALITY ASSURANCE PLAN AND SPECIAL INSPECTION REQUIREMENTS.

IMPORTANT REMODEL NOTES:

1. THE PLANS AND SECTIONS DO NOT NECESSARILY SHOW ALL LOCATIONS WHERE TYPICAL DETAILS APPLY. REFER TO THE ARCHITECTURAL AND MEP DRAWINGS FOR THE FINISHED SCOPE AND REFER TO THE STRUCTURAL DRAWINGS AND NOTES FOR DIRECTION ON HOW TO ACHIEVE THAT FINISHED SCOPE UNDER THE EXISTING CONDITIONS.
2. DO NOT PROVIDE NEW OPENINGS IN EXISTING WALLS UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
3. DO NOT DEMOLISH ANY WALLS, INTERIOR OR EXTERIOR, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
4. AT DEMOLITION OF EXISTING BUILDING COMPONENTS, THE CONTRACTOR SHALL NOT STOCKPILE DEBRIS SUCH THAT IT EXCEEDS THE DESIGN VALUES NOTED ON THESE GENERAL NOTES.

CAST-IN-PLACE CONCRETE NOTES:

1. REFER TO THE PROJECT SPECIFICATIONS FOR CONCRETE MIX DESIGN REQUIREMENTS.
2. CONCRETE CYLINDERS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS FOR EACH DAYS POUR. THE CONCRETE SLUMP, TEMPERATURE, AND AIR CONTENT SHALL BE MEASURED EVERY TIME A SET OF CYLINDERS IS MADE.
3. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE AMERICAN CONCRETE INSTITUTE STANDARDS "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR CONCRETE CONSTRUCTION FOR BUILDINGS" (ACI 301). IF NOT NOTED, IT SHALL BE ASSUMED THAT CONCRETE REINFORCEMENT SHALL BE SPLICED WITH A TYPE B SPLICE PER ACI 318.
4. COVER FOR ALL REINFORCEMENT SHALL MEET THE COVERAGE REQUIREMENTS AS SHOWN IN THE LATEST ACI 318, AS NOTED BELOW OR AS SHOWN ON THE DETAILS. COVER DIMENSIONS SHOWN ON THE DETAILS CONTROL OVER THE ACI 318 OR THOSE NOTED BELOW:
   A. CAST AGAINST FORMED SURFACES: 1 1/2"
   B. TOP OF SLABS: 1 1/2"
5. REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60. ANY BAR MAY BE FIELD BENT ONE TIME WITHOUT NOTIFYING THE ENGINEER, U.N.O. ON THE CONSTRUCTION DOCUMENTS. REINFORCEMENT SMALLER THAN #4 BARS SHALL BE COLD BENT. REINFORCEMENT GREATER THAN A #4 BAR SHALL BE BENT WITH HEAT IN THE FIELD. HEATING SHALL BE CONTROLLED BY TEMPERATURE INDICATING CRAYONS AND SHALL REACH A MAXIMUM TEMPERATURE OF 1500 DEG FAHRENHEIT. REINFORCEMENT SHALL NOT BE ARTIFICIALLY COOLED UNTIL TEMPERATURE HAS REDUCED NATURALLY TO BELOW 600 DEG FAHRENHEIT. BENDS SHALL BE GRADUAL AND CARE SHALL BE TAKEN TO PREVENT HEATING OR CRACKING OF CONCRETE. IF REINFORCEMENT MUST BE FIELD BENT MORE THAN ONCE, THE CONTRACTOR SHALL ISSUE AN RFI INDICATING WHICH BARS NEED TO BE FIELD BENT.
6. PROVIDE 1" x 1" CHAMFER AT ALL EXPOSED CORNERS UNLESS NOTED OTHERWISE.

STEEL NOTES:

1. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION.
2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY.
3. ANY CONNECTIONS WITHOUT WELD SYMBOLS SHALL BE AT A MINIMUM WELDED ALL AROUND WITH THE MINIMUM FILLET, FLARE BEVEL OR BUTT WELD SIZE.
4. WELDS THAT ARE INDICATED AS FIELD WELDS MAY BE SHOP WELDED AT THE CONTRACTOR'S OPTION.
5. WELDING ELECTRODE MATERIAL SHALL BE MATCHED TO THE BASE METAL PER TABLE 3.1 OF AWS D1.1 AND SHALL BE A MINIMUM E70XX (Fu = 70 KSI).
6. STRUCTURAL STEEL AT W-, S-, AND L-SHAPES SHALL CONFORM TO ASTM A572/A572M GRADE 50. STRUCTURAL STEEL AT C-SHAPES AND MC-SHAPES SHALL CONFORM TO ASTM A992/A992M GRADE 50. STRUCTURAL STEEL AT PLATES AND BARS (UP TO 4-INCHES THICK), SHALL CONFORM TO ASTM A572/572M GRADE 50. STRUCTURAL HSS SQUARE AND RECTANGULAR SECTIONS SHALL CONFORM TO ASTM A500 GRADE B (46 KSI YIELD STRESS). STRUCTURAL HSS ROUND SECTIONS SHALL CONFORM TO ASTM A500/A500M GRADE C (46 KSI YIELD STRESS). STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B (35 KSI YIELD STRESS).
7. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE MASONRY UNIT (CMU) WALL NOTES:

1. REFER TO THE ARCHITECTURAL DRAWINGS OR SPECIFICATIONS FOR TYPES OF MASONRY OTHER THAN CONCRETE MASONRY, SUCH AS BRICK. THESE NOTES DO NOT APPLY TO 4" VENEER CMU.
2. MORTAR REQUIRED FOR THE REPAIR OF EXISTING CMU WALLS SHALL CONFORM TO TABLE 1 OF ASTM C270, TYPE S. THE MORTAR MIX DESIGN (BY VOLUME) SHALL BE SUBMITTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.
3. ALL GROUT REQUIRED FOR EXISTING CMU WALLS SHALL BE A FINE CONCRETE GROUT SHALL CONFORM TO ASTM C476 WITH A SLUMP OF 8 TO 11 INCHES. GROUT MAY BE EITHER READY MIXED OR JOB MIXED, AND SHALL BE BASED ON A MIX DESIGN (BY VOLUME) APPROVED BY THE ENGINEER.
4. WHEN MIXING MORTAR AND GROUT, CONTAINERS OF KNOWN VOLUME SHALL BE USED. MEASUREMENT USING SHOVELS SHALL NOT BE ALLOWED. IF MEASUREMENT BY SHOVELING IS DISCOVERED, THE ENGINEER MAY REQUIRE ALL WALLS PRIOR TO THAT DISCOVERY TO BE TESTED PER ASTM C 1314 BY CUTTING 3 MASONRY PRISMS AND 3 GROUT CORES OUT OF THE WALL FOR EVERY 5,000 SQUARE FEET OF WALL, AND MAY REQUIRE ANY AREA OF WALL TESTING BELOW THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, f'm, TO BE REPLACED AT NO COST TO THE OWNER.

POST INSTALLED ANCHORS FOR CONCRETE AND CMU CONSTRUCTION

1. ADHESIVE ANCHORS WITH THREADED ROD AND REINFORCEMENT:
   DUE TO THE DIFFERENT CAPACITIES OF VARIOUS PRODUCTS, ALL SUBSTITUTION REQUESTS SHALL BE SENT TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO ITS USE.
   A. IN CONCRETE: ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC 308.
      1. HILTI HIT-HY 200 SAFE SET (ICC-ES ESR-3187), HILTI INC. IS THE BASIS OF DESIGN.
         1. ALTERNATE PRODUCTS:
            a. HIT-RE 500V3 SAFE SET (ICC-ES ESR-3814), HILTI INC.
   B) IN GROUTED CONCRETE MASONRY:
      1. HILTI HIT HY-270 (ICC-ES ESR-4143), HILTI INC. IS THE BASIS OF DESIGN.
   C) IN UNGROUTED CONCRETE MASONRY: NOT PERMITTED
   D) THREADED ANCHOR ROD SHALL BE (UNO): HAS-V-36 BY HILTI OR APPROVED EQUAL.

DESIGN LOADS:

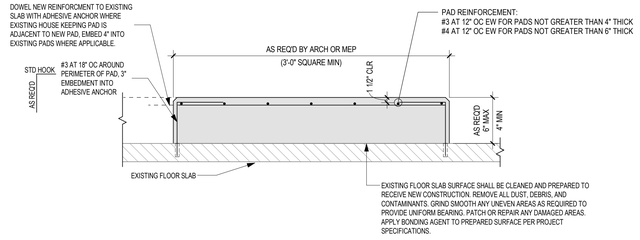
THE FOLLOWING DESIGN LOADS WERE USED FOR THIS BUILDING BASED ON THE 2021 INTERNATIONAL BUILDING CODE:

1. FLOOR LIVE LOADS: NO NEW FRAMING IN SCOPE
2. ROOF LIVE LOAD: NO NEW FRAMING IN SCOPE
3. ROOF SNOW LOAD: NO NEW FRAMING IN SCOPE
4. WIND DESIGN DATA:
   A. BASIC WIND SPEED (3 SECOND GUST): 139 MPH
   B. RISK CATEGORY=III
   C. WIND EXPOSURE CATEGORY: B
   D. INTERNAL PRESSURE COEFFICIENTS: +/- 0.18
   E. ALL NEW COMPONENTS AND CLADDING: NO EXTERIOR BUILDING ENVELOPE WORK IN SCOPE
5. EARTHQUAKE DESIGN DATA:
   A. SEISMIC IMPORTANCE FACTOR, Ie: 1.25
   B. MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss=0.067, S1: 0.039
   C. DESIGN SPECTRAL RESPONSE ACCELERATIONS: SDS=0.107, SD1: 0.093
   D. SITE CLASS: D
   E. SEISMIC DESIGN CATEGORY: A
   F. DESIGN BASE SHEAR: 0.01 x WEIGHT OF BUILDING
   G. ANALYSIS PROCEDURE USED: GENERAL LATERAL STABILITY FOR SEISMIC DESIGN CATEGORY A
6. FLOOD HAZARD INFORMATION:
   1. THIS BUILDING IS NOT DESIGNED FOR FLOOD LOADS.
7. RAIN INTENSITY (15-MINUTE DURATION/100-YEAR RETURN PERIOD): NOT APPLICABLE

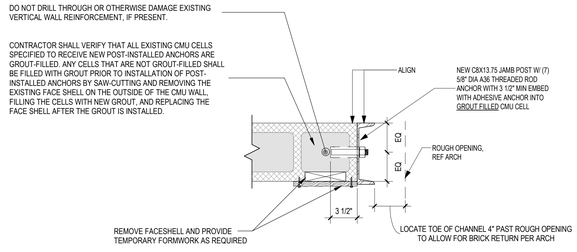
DELEGATED DESIGN:

THE FOLLOWING IS A CONDENSED LIST OF THE REQUIRED DELEGATED DESIGN ITEMS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL OF THE REQUIREMENTS IN THE SPECIFICATIONS INCLUDING ITEMS THAT REQUIRE DELEGATED DESIGN ARE COMPLETED.

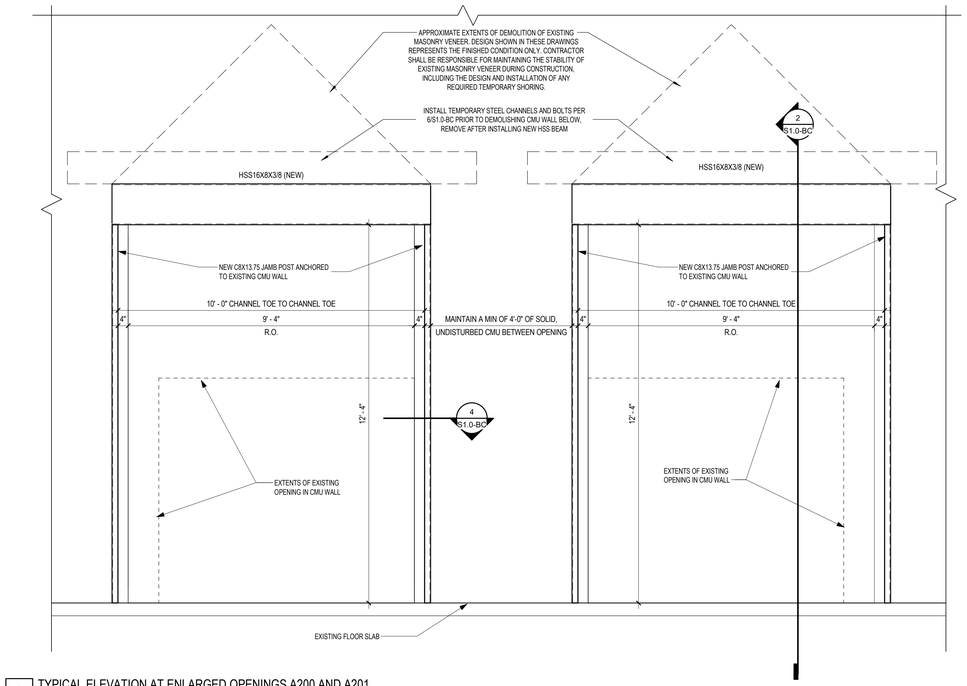
1. ALL EXTERIOR EQUIPMENT, PIPING, DUCTWORK, CURBS, EQUIPMENT TIE-DOWNS, AND ASSOCIATED CONNECTIONS TO BUILDING STRUCTURE SHALL BE INSTALLED TO RESIST WIND LOADS AS REQUIRED BY THE MECHANICAL ENGINEER.
2. COLD FORMED METAL STUDS, EXTERIOR CANOPIES



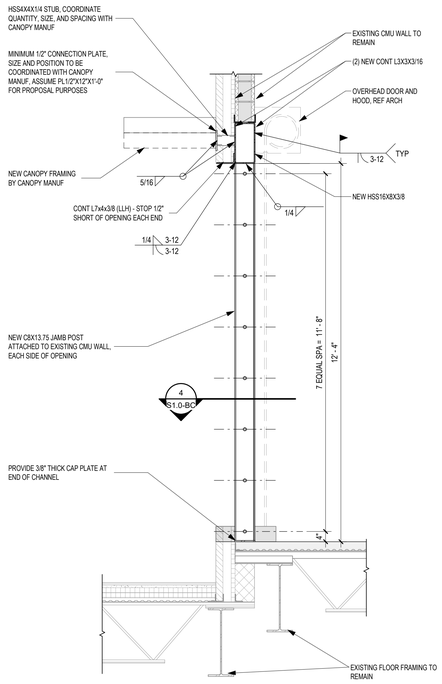
5 TYPICAL HOUSE KEEPING PAD
3/4" = 1'-0"



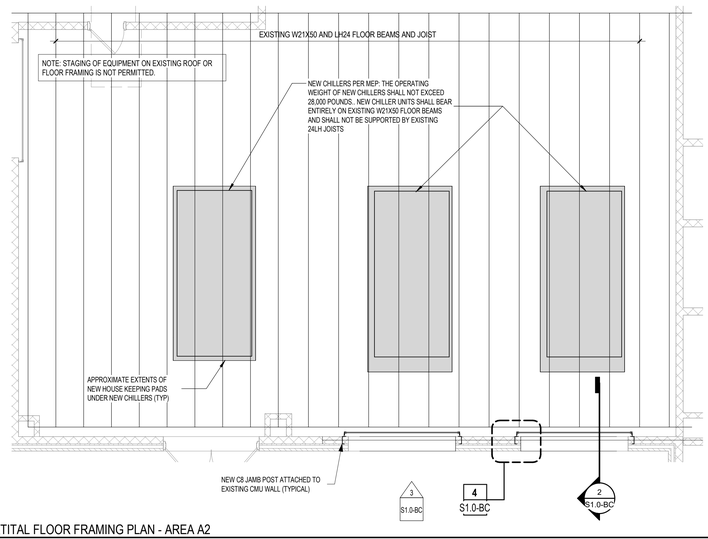
4 JAMB DETAIL
1 1/2" = 1'-0"



3 TYPICAL ELEVATION AT ENLARGED OPENINGS A200 AND A201
1/2" = 1'-0"



2 TYPICAL SECTION AT ENLARGED OPENINGS A200 AND A201
1/2" = 1'-0"



1 PARTITAL FLOOR FRAMING PLAN - AREA A2
3/16" = 1'-0"

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
BERRY CENTER
8877 BARKER CYPRESS RD, CYPRESS, TEXAS 77433

IEG
Innovative Engineering Group
www.iegengineers.com
817.410.2656
TBPELS Firm No. F-5923
STATE OF TEXAS
R. CRAIG McKEE
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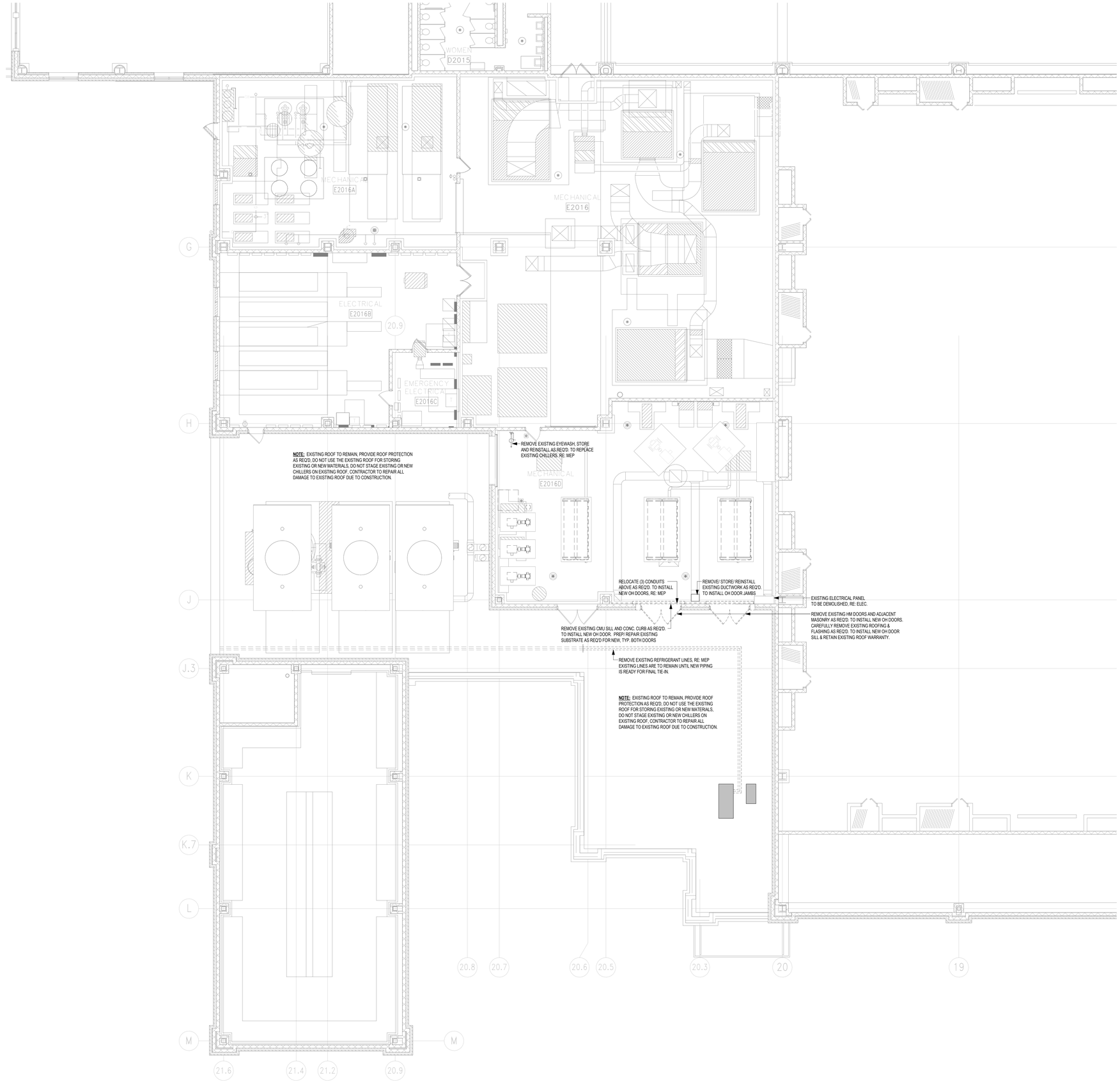
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ELEVATIONS AND DETAILS

Job No.	Sheet No.
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Drawn By: Author	
Date: 08/11/2025	

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1 AREA 'E2' - 2ND FLOOR DEMO PLAN
1/8" = 1'-0"

A. BIDDERS SHALL VISIT SITE AND BE FAMILIAR WITH EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO EXISTING DIMENSIONS, EQUIPMENT, LOCATIONS, SIZES, QUANTITIES, AND MATERIALS.

B. EXISTING ELECTRICAL POWER SERVING THE EXISTING FACILITY SHALL REMAIN ON LINE. DISRUPTIONS REQUIRED FOR CONSTRUCTION TO BE COORDINATED WITH THE OWNER REPRESENTATIVE ASSIGNED TO THIS SPECIFIC PROJECT.

C. EXISTING DRAIN LINES SERVING THE EXISTING FACILITY SHALL REMAIN FUNCTIONAL. ANY DISRUPTIONS REQUIRED FOR NEW TIE-INS DURING CONSTRUCTION MUST BE COORDINATED WITH THE OWNER REPRESENTATIVE ASSIGNED TO THIS SPECIFIC PROJECT.

D. CONTRACTOR SHALL COORDINATE EXACT SIZES AND LOCATIONS FOR MECHANICAL, PLUMBING, ELECTRICAL, AND TECHNOLOGY PENETRATIONS REQUIRED FOR NEW WORK WITH EACH RESPECTIVE TRADE.

E. CONTRACTOR SHALL KEEP OPENINGS TO THE EXTERIOR TEMPORARILY COVERED FOR PROTECTION FROM WATER.

F. CONTRACTOR SHALL KEEP OPENINGS TEMPORARILY COVERED FOR PEDESTRIAN SAFETY.

G. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION.

H. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, AND PLUMBING SHEETS FOR ADDITIONAL PENETRATIONS AND OTHER RELATED DEMOLITION OR EQUIPMENT REMOVAL.

I. EXISTING CONSTRUCTION IS SHOWN BASED ON OWNER FURNISHED PLANS, OWNER FURNISHED SURVEYS, AND ONSITE OBSERVATIONS. DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS WILL BE REPORTED TO THE ARCHITECT/ENGINEER/PROJECT MANAGER AND ANY ADDITIONAL DIRECTION, IF NECESSARY, SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.

J. EXISTING CONSTRUCTION ADJACENT TO DEMOLITION WORK WILL BE PATCHED AND REPAIRED TO MATCH ORIGINAL CONDITION.

K. DEMOLITION WORK TIMES SHALL BE COORDINATED WITH THE OWNER REPRESENTATIVE ASSIGNED TO THIS SPECIFIC PROJECT.

L. THIS EXISTING FACILITY SHALL REMAIN FUNCTIONAL DURING THE COURSE OF THE DEMOLITION WORK. CONTRACTOR WILL MAINTAIN DUST BARRIERS, BARRICADES, PEDESTRIAN PROTECTION, WATER PROTECTION, AND SAFETY DEVICES IN PLACE AT ALL TIMES DURING AND AFTER DEMOLITION UNTIL NEW WORK IS INSTALLED AND ACCEPTED BY OWNER.

M. CONTRACTOR SHALL MAINTAIN SITE DRAINAGE DEVICES AND COMPONENTS DURING THE COURSE OF DEMOLITION AND UP UNTIL NEW WORK IS IN PLACE AND ACCEPTED BY OWNER. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING SUB-SURFACE DRAINAGE.

N. REFER TO ROOF PLAN AND MECHANICAL, ELECTRICAL, PLUMBING, TECHNOLOGY AND ANY OTHER DISCIPLINES' DRAWINGS FOR ADDITIONAL REQUIRED DEMOLITION NOT SPECIFICALLY COVERED BY ARCHITECTURAL DEMOLITION PLANS, ESPECIALLY WORK RELATED TO MODIFICATIONS TO EXISTING H.V.A.C. SYSTEMS.

O. DEMOLITION, AS NOTED, CONSISTS OF COMPLETE REMOVAL OF THE LISTED ITEMS, RELATED FASTENERS, AND ATTACHMENT MATERIALS LEAVING A CLEAN SURFACE READY TO RECEIVE NOTED MATERIALS OR SCHEDULED FINISHES.

P. UNLESS NOTED OTHERWISE, OR OWNER EXPRESSES A DESIRE TO RETAIN DEMOLISHED ITEMS BEFORE THEY ARE REMOVED FROM THE SITE, ALL DEMOLISHED MATERIALS NOT RETAINED BY OWNER SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT CONTRACTOR'S SOLE EXPENSE. DISPOSAL SHALL COMPLY WITH ALL CODES AND LAWS, INCLUDING LOCAL, STATE AND FEDERAL LAWS. DURING DEMOLITION, CONTRACTOR SHALL CAREFULLY REMOVE ANY ITEMS FROM THE EXISTING CONSTRUCTION THAT THE OWNER HAS EXPRESSED A DESIRE TO RETAIN AND, IF NECESSARY, TEMPORARILY PROTECT AND STORE THE ITEMS AT THE SITE. THE OWNER MAY REMOVE RETAINED ITEMS FROM THE SITE OR, AS A PART OF THIS CONTRACT AND AT NO ADDITIONAL COST, IF REQUESTED BY OWNER, THE CONTRACTOR SHALL DELIVER OWNER-RETAINED ITEMS TO A LOCAL LOCATION SELECTED BY THE OWNER AND OFFLOAD AND PLACE THE ITEMS FOR STORAGE AS DIRECTED BY THE OWNER.

Q. DEMOLITION SHALL FOLLOW THE CONSTRUCTION SCHEDULE PROVIDED IN THE SPECIFICATIONS.

R. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO SEPARATE STUDENTS, SCHOOL STAFF, AND VISITORS FROM DEMOLITION AND CONSTRUCTION EFFORTS, ACTIVITIES AND WORK, AS MAY BE NECESSARY TO PROTECT THEIR HEALTH AND SAFETY.

S. ADDITIONAL MATERIALS, WHERE CONSTRUCTION ADJOINS EXISTING, EVEN THOUGH IT MAY NOT BE SPECIFICALLY IDENTIFIED IN THE DEMOLITION PLANS, WILL BE REMOVED AS REQUIRED TO COMPLETE THE CONSTRUCTION. THESE MATERIALS TYPICALLY INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, MATERIALS PROJECTING BEYOND THE FACE OF THE WALL, SUCH AS BRICK SILLS AND ROOF FLASHINGS, GUTTERS, AND TRIMS. REFER TO WALL SECTIONS FOR SPECIFIC CONDITIONS.

T. INVESTIGATE EXISTING CONSTRUCTION SUBJECT TO DEMOLITION TO DETERMINE IF IT IS INTENDED AS STRUCTURE-BEARING. COORDINATE WITH CONSTRUCTION SEQUENCE AND PROVIDE SHORING AND ANY OTHER TEMPORARY SUPPORT FOR ANY FEATURES CARRYING STRUCTURAL LOAD TO PREVENT ANY CHANGE IN STRUCTURAL INTEGRITY UNTIL NEW OR REPLACEMENT STRUCTURAL SUPPORT IS IN PLACE.

U. REFER TO TECHNOLOGY SHEETS FOR DEMOLITION OF TECHNOLOGY AND TECHNOLOGY-RELATED ITEMS.

DEMOLITION GENERAL NOTES

EXISTING PARTITION TO BE REMOVED. INCLUDING BASE, DOORS, WINDOWS, OUTLETS, DEVICES, SWITCHES, CHALKTACK BOARDS, POWER POLES, WALL CAPS AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE PARTITION. CONTRACTOR WILL VERIFY ELECTRICAL, MECHANICAL & PLUMBING IN EXISTING WALLS & TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR & CLEAN ALL ADJACENT WALLS AND PREPARE TO RECEIVE NEW PARTITION WALLS AS SHOWN ON FLOOR PLANS.

EXISTING DOOR, FRAME, AND HARDWARE TO BE REMOVED UNLESS OTHERWISE NOTED.

EXISTING ITEM TO BE REMOVED AS NOTED.

EXISTING WALL / PARTITION TO REMAIN.

EXISTING DOOR, FRAME, AND HARDWARE TO REMAIN.

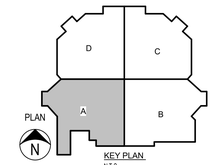
DEMOLITION LEGEND

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STATE OF TEXAS
06/11/2025

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KEY PLAN
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AREA A2 - DEMOLITION PLAN - SECOND FLOOR

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01818-08-04	AD1.01-BC
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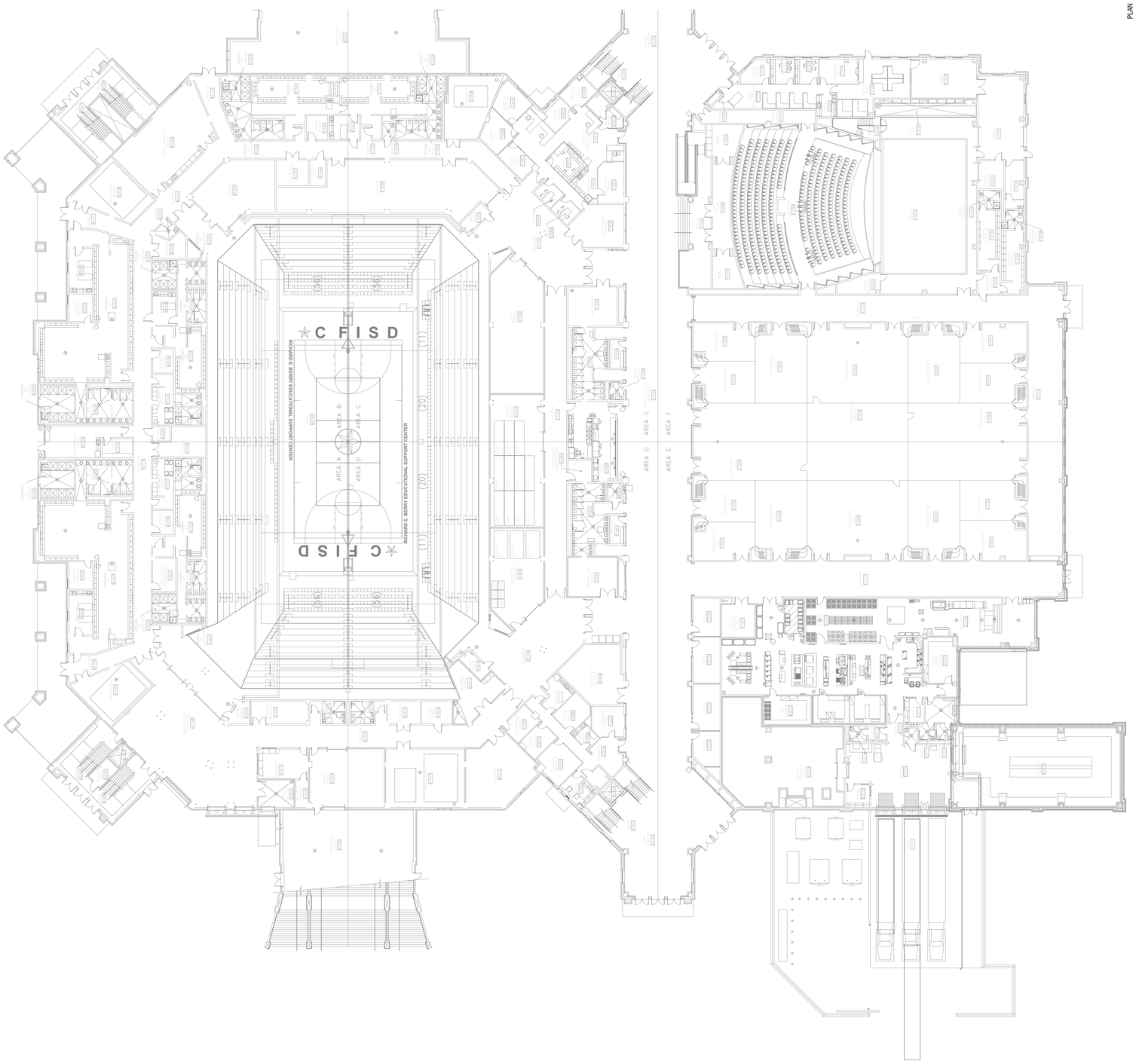
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MASTER PLAN - FIRST FLOOR

Job No.	Sheet No.
0100824.004	A0.01-BC
Drawn By:	
PR	
Date:	
08/11/2025	

THE MASTER FLOOR PLAN SHOWS THE OVERALL BUILDING CONFIGURATION AND THE RELATIONSHIP OF THE PLAN AREAS WITHIN EACH FLOOR. REFER TO ENLARGED FLOOR PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND CONSTRUCTION REQUIREMENTS. MASTER PLAN LEGENDS ALSO APPLY TO 1/8" SCALE FLOOR PLAN AREAS.

MASTER FLOOR PLAN



PLAN N

1 MASTER PLAN - FIRST FLOOR
3/64" = 1'-0"

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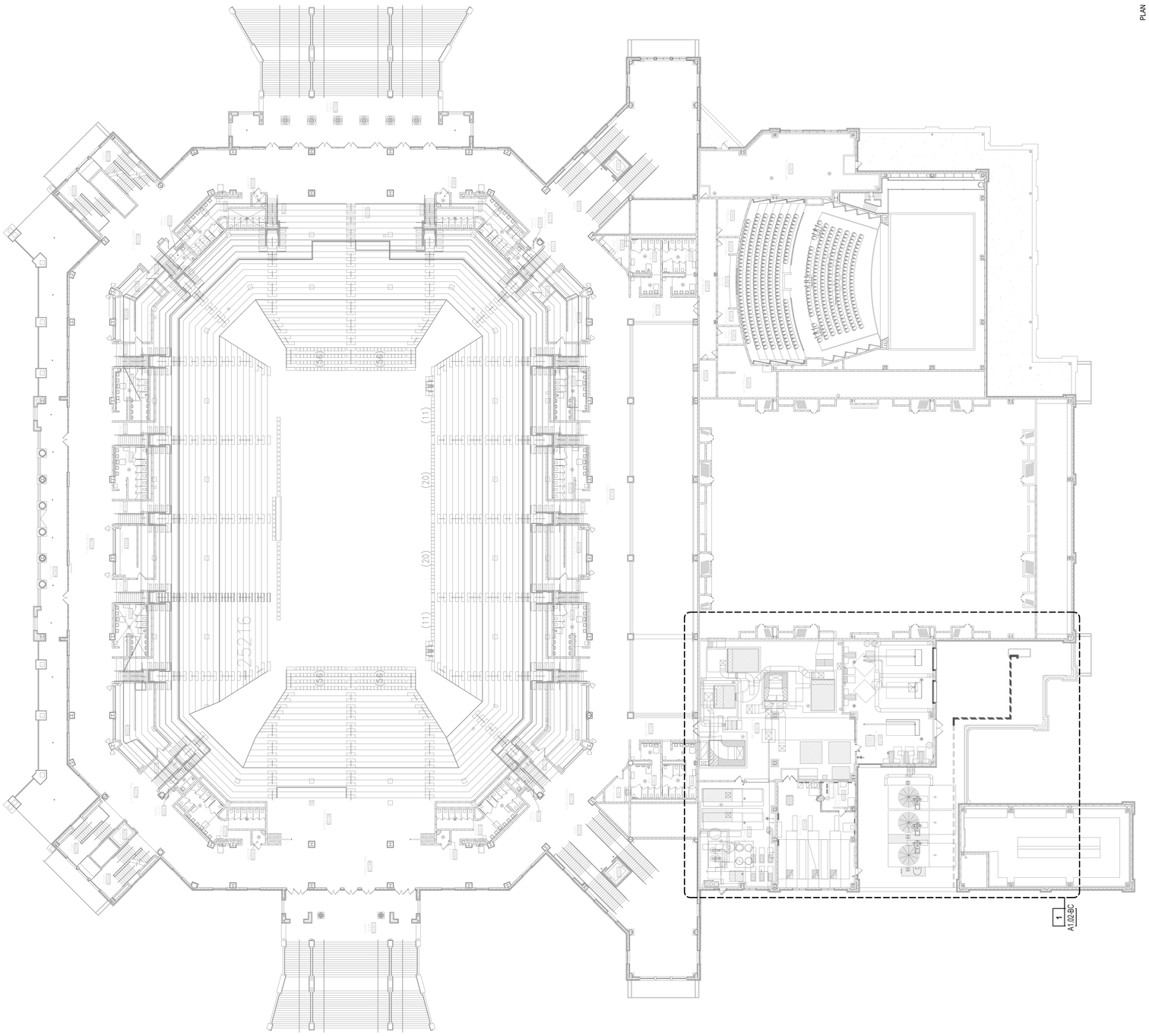
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Job No.	0180482404
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Sheet No.	A0.02-BC

MASTER PLAN - SECOND FLOOR

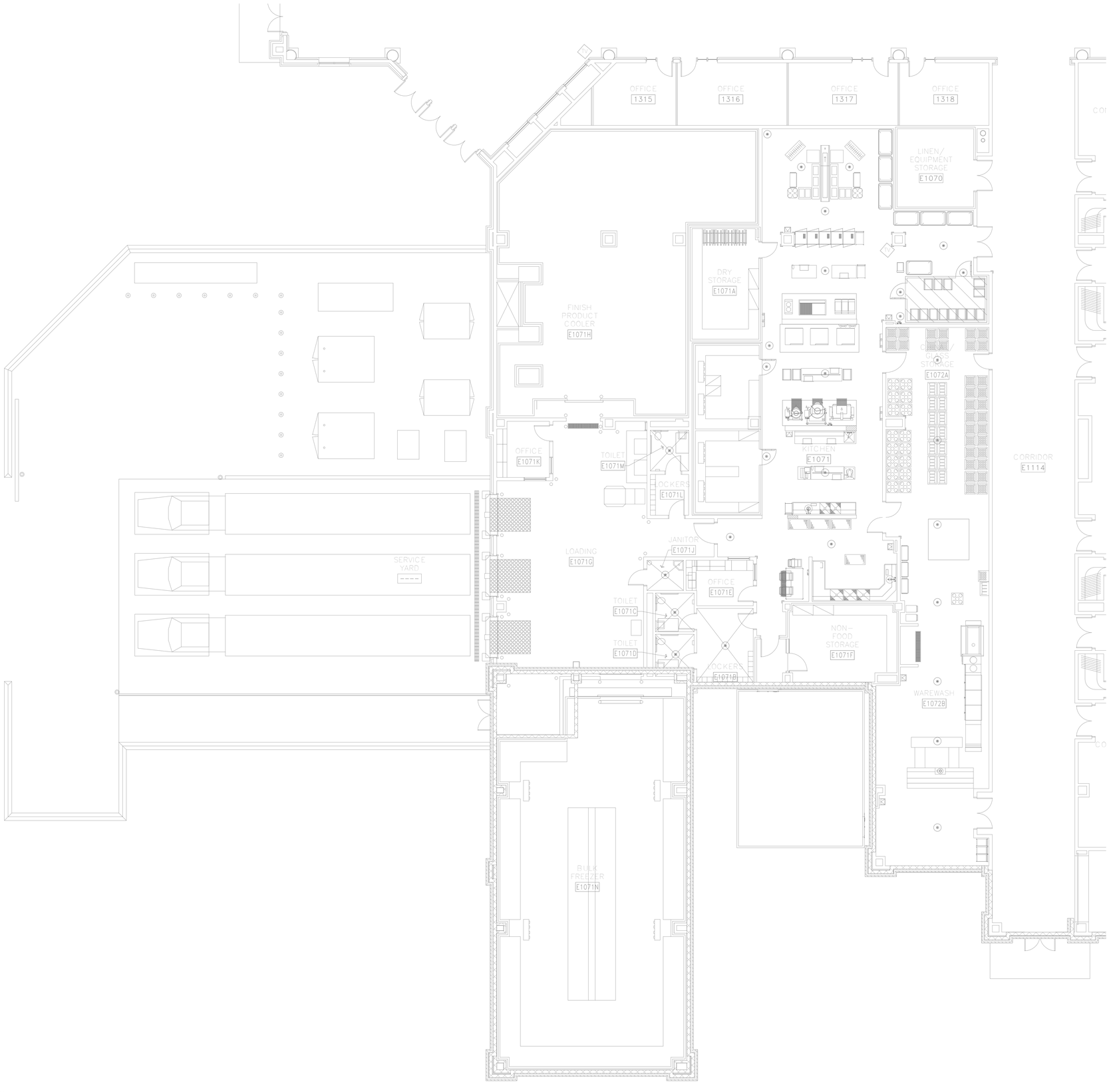
THE MASTER FLOOR PLAN SHOWS THE OVERALL BUILDING CONFIGURATION AND THE RELATIONSHIP OF THE PLAN AREAS WHERE FULL INTERIOR FINISHES, FURNITURE, EQUIPMENT AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND CONSTRUCTION REQUIREMENTS. MASTER PLAN LEGENDS ALSO APPLY TO 1/8" SCALE FLOOR PLAN AREAS.

MASTER FLOOR PLAN



1 MASTER PLAN - SECOND FLOOR
3/64" = 1'-0"

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1 AREA E1 - 1ST FLOOR PLAN SHEET SHOWN FOR REFERENCE ONLY
1/8" = 1'-0"

1) THE CONTRACT DOCUMENTS ARE COMPRISED OF BOTH THE DRAWINGS AND THE SPECIFICATIONS.

2) ALL ARCHITECTURAL FLOOR PLAN DIMENSIONS SHOWN ARE TO FACE OF C.F.M.F., MASONRY OR CONCRETE, U.N.O.

4) SEE SPECIFICATIONS ADDITIONAL MASONRY REQUIREMENTS.

5) SEE PLUMBING PLANS AND ENLARGED FLOOR PLANS FOR LOCATIONS OF FIXTURES.

6) REF. DOOR SCHEDULES AND DETAILS FOR MASONRY ROUGH OPENING SIZES.

7) VERIFY ALL MASONRY OPENINGS WITH MANUFACTURERS' PRODUCTS

GENERAL FLOOR PLAN NOTES

S01.01 SPECIAL OPENING NUMBER (ROLLING DOOR)

1 / A1.1 CALLOUT REFERENCE

1 / A101 SIM WALL SECTION REFERENCE

XXX' - X" FIN FLOOR ELEVATION REFERENCE

1-01 / ROOM ROOM NUMBER & NAME

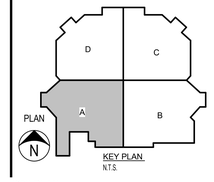
FLOOR PLAN LEGEND

REF. TYP. CONST. DTLS. FOR ADDITIONAL INFO.

MASONRY VENEER

STANDARD CMU

PARTITION LEGEND



KEY PLAN

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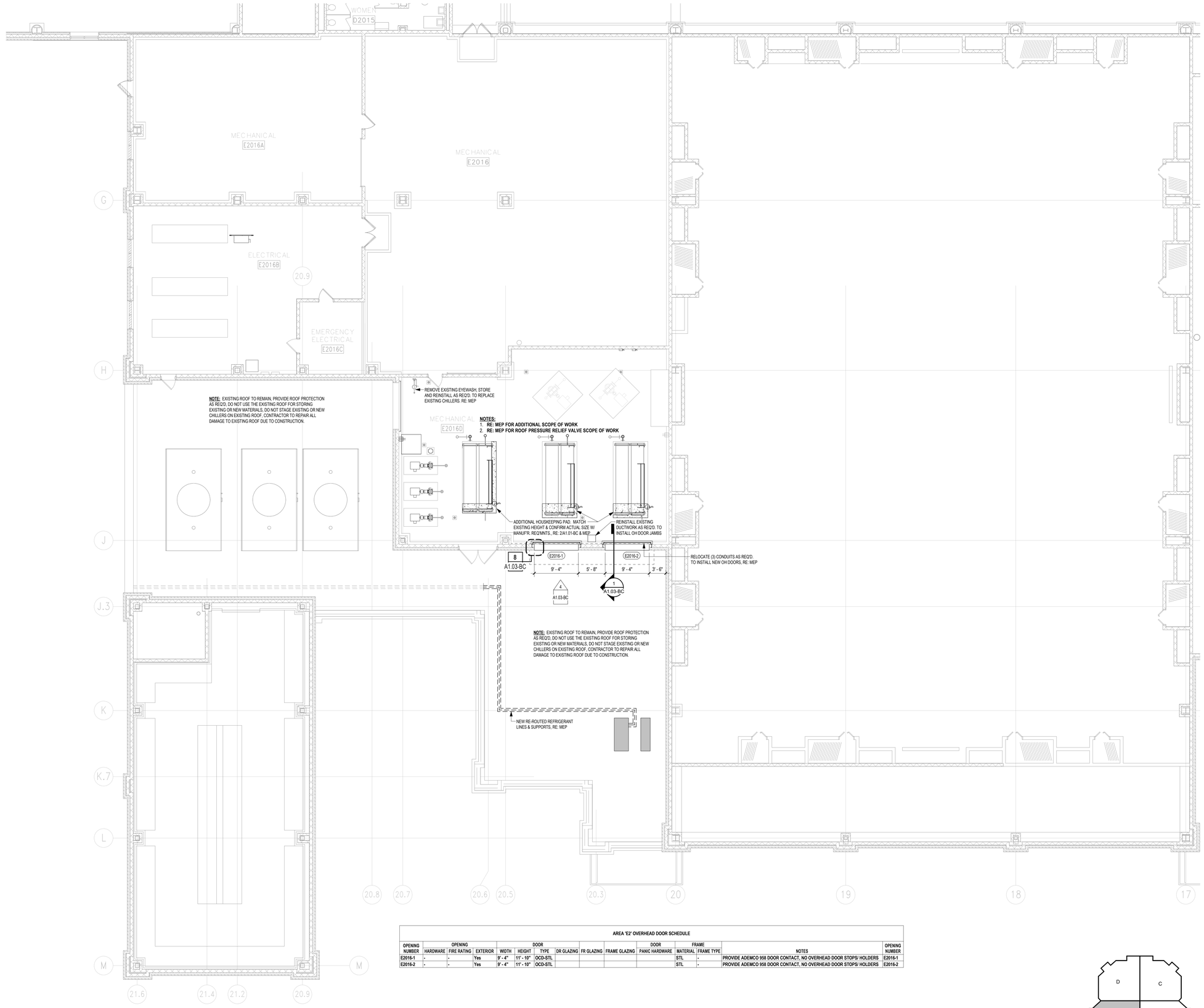
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AREA E1 - FIRST FLOOR PLAN

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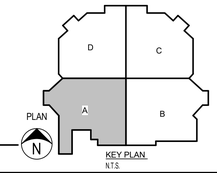
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AREA 'E2' OVERHEAD DOOR SCHEDULE

OPENING NUMBER	OPENING HARDWARE	OPENING FIRE RATING	OPENING EXTERIOR	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR DR GLAZING	DOOR FR GLAZING	FRAME GLAZING	DOOR PANIC HARDWARE	FRAME MATERIAL	FRAME FRAME TYPE	NOTES	OPENING NUMBER
E2016-1	-	-	Yes	9' -4"	11' - 10"	OCD-STL					STL	-	PROVIDE ADEMCO 958 DOOR CONTACT, NO OVERHEAD DOOR STOPS/ HOLDERS	E2016-1
E2016-2	-	-	Yes	9' -4"	11' - 10"	OCD-STL					STL	-	PROVIDE ADEMCO 958 DOOR CONTACT, NO OVERHEAD DOOR STOPS/ HOLDERS	E2016-2

1 AREA E2 - 2ND FLOOR PLAN
1/8" = 1'-0"



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AREA E2 - SECOND FLOOR

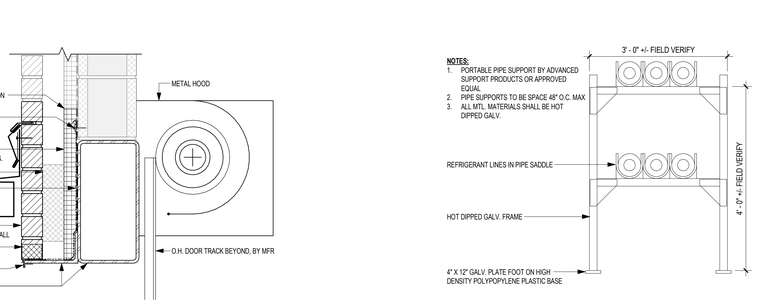
Job No.	Sheet No.
01818-08-04	A1.02-BC
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Date: 08/11/2025	

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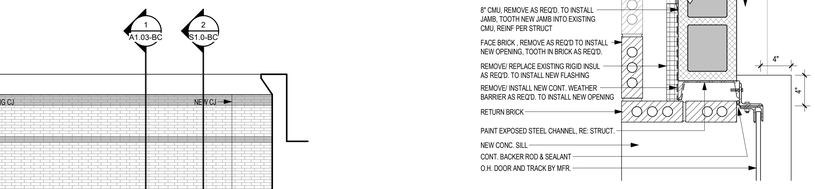
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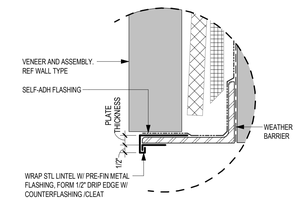


8 A3_OH DOOR-HD-CMU-BRK
1 1/2" = 1'-0"

7 CANOPY HANGER SUPPORT
3/4" = 1'-0"



6 A3_OH DOOR-JMB-CMU-BRK
1 1/2" = 1'-0"



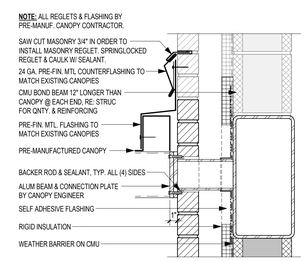
5 TYP DRIP EDGE DTL
3" = 1'-0"

NOTE: MATCH EXISTING BRICK COURSING, BOND, & PROTRUSIONS. RETURN BRICK TO BE FLUSH @ NEW OH DOOR JAMB OPENINGS

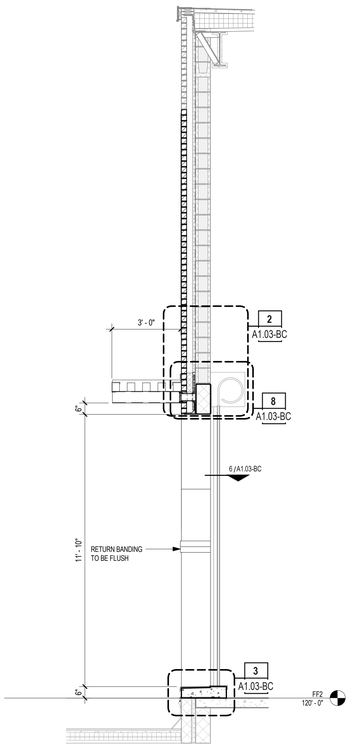
4 AREA 'E2' - SOUTH ELEVATION
3/16" = 1'-0"



3 TYP. OCD RECESSED SILL
1 1/2" = 1'-0"



2 CANOPY BOTTOM TUBE SUPPORT
1 1/2" = 1'-0"



1 BRK-MAS - E2016D @ OH DR - S
3/8" = 1'-0"

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SECTIONS AND DETAILS

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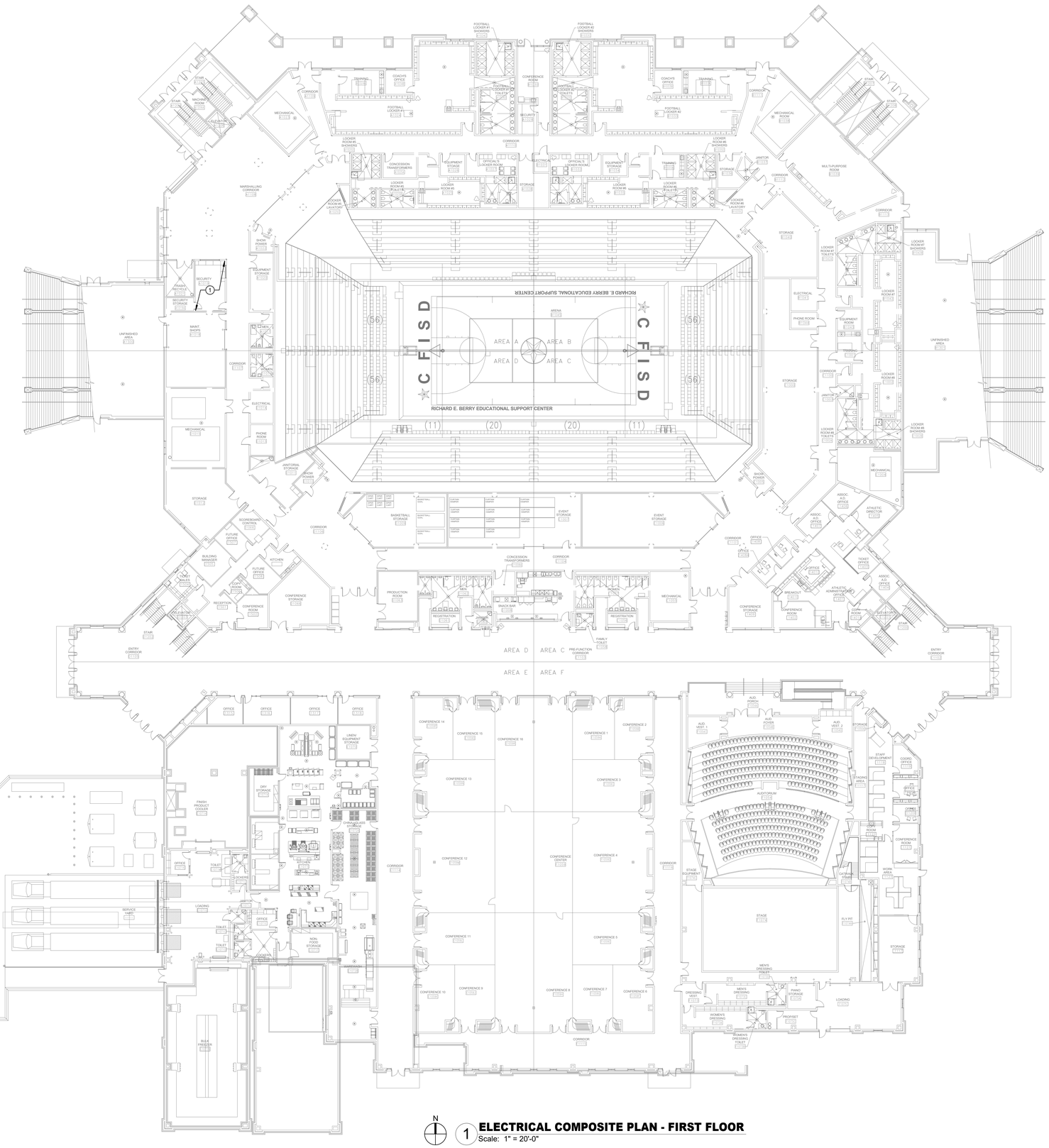
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ELECTRICAL KEYED NOTES

1	EXISTING INTRUSION PANEL LOCATED IN THIS ROOM.



N

1 **ELECTRICAL COMPOSITE PLAN - FIRST FLOOR**
Scale: 1" = 20'-0"

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Drw By: AW / Chk By: JZ	
Date: 08/11/2025	

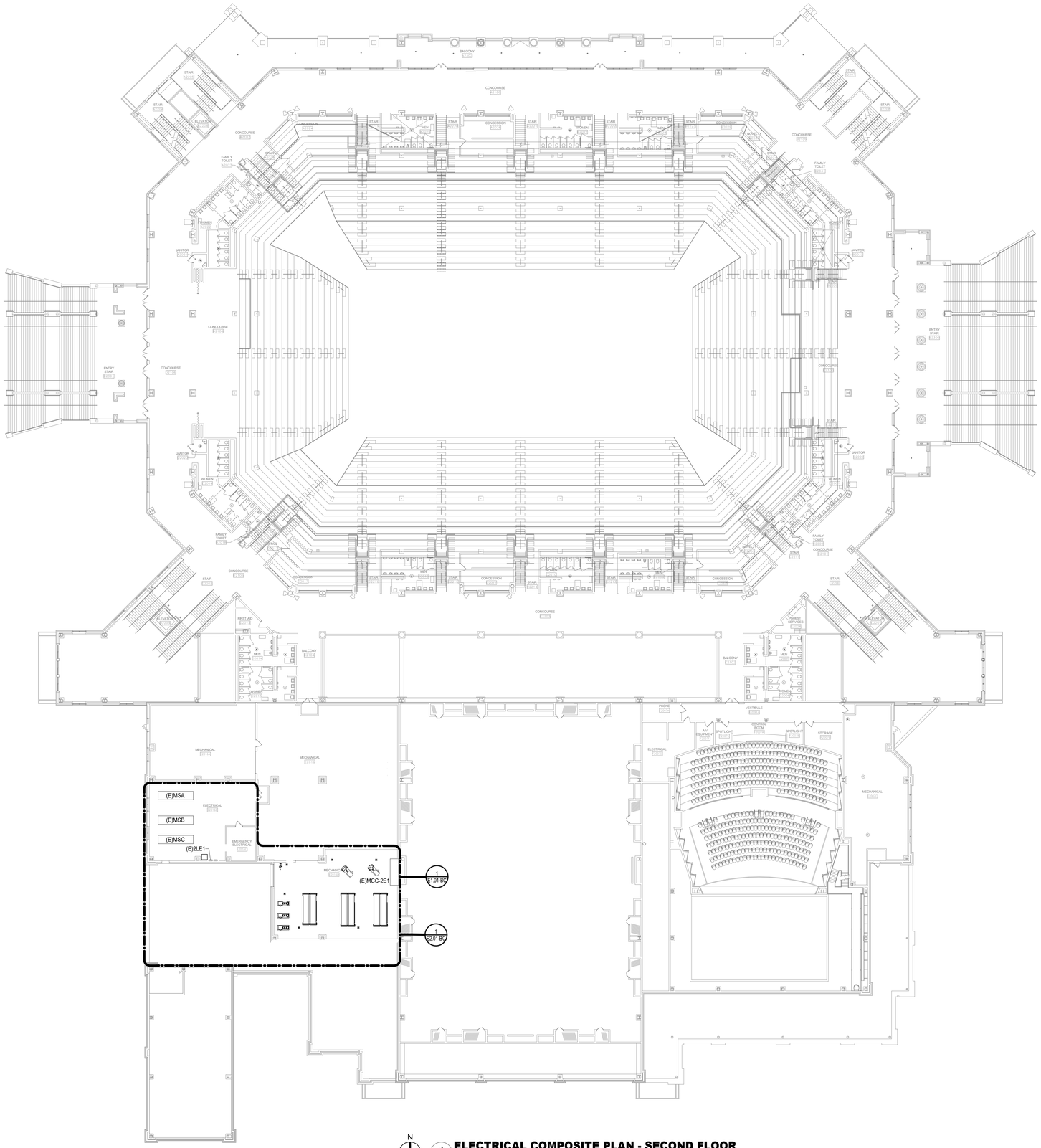
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1 **ELECTRICAL COMPOSITE PLAN - SECOND FLOOR**
Scale: 1" = 20'-0"

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ELECTRICAL COMPOSITE PLAN - SECOND FLOOR

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ELECTRICAL DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.
6. VERIFY ALL DEMOLITION WORK WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK.
7. ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.

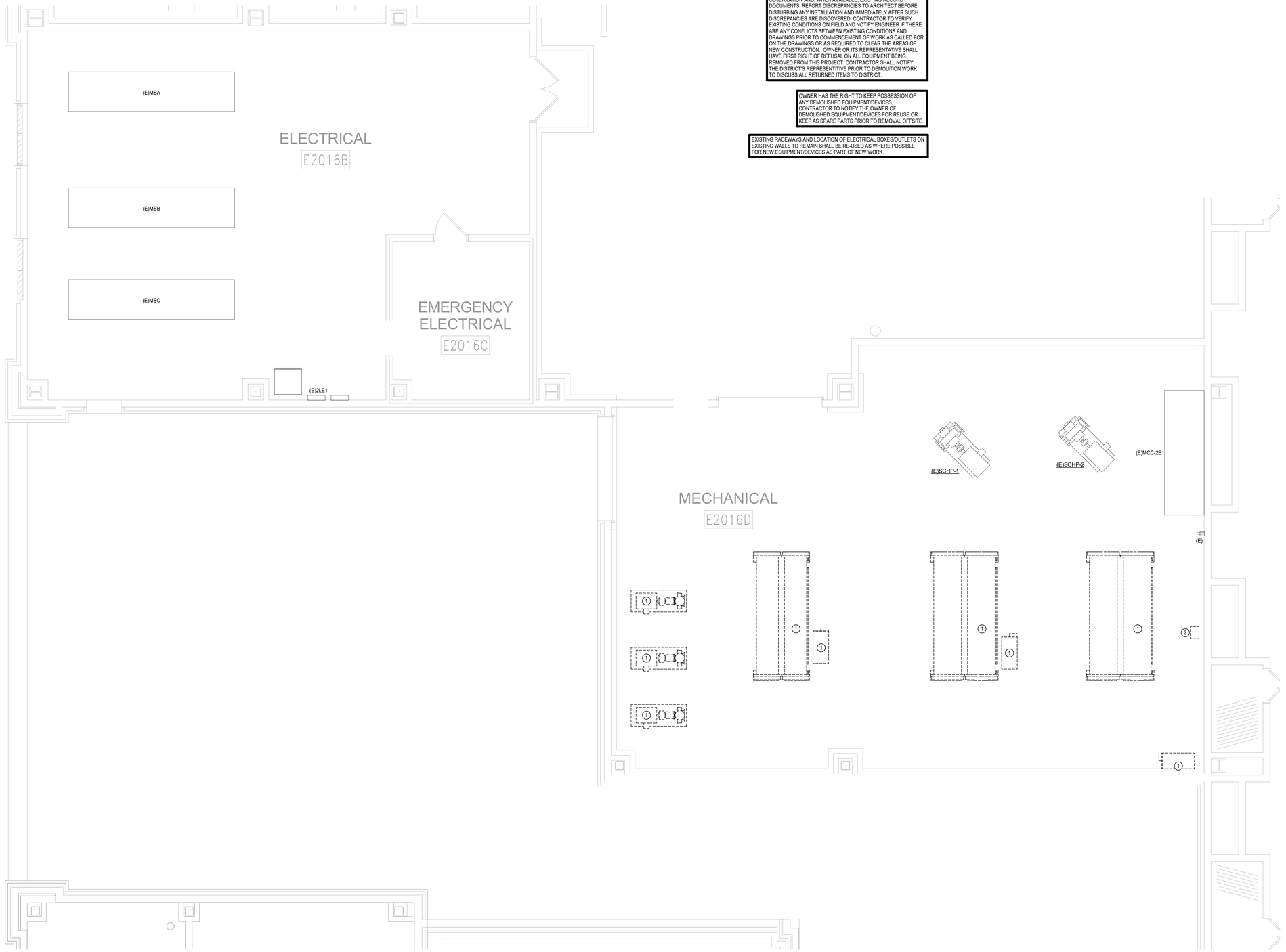
DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION. OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR SHALL NOTIFY THE DISTRICT'S REPRESENTITIVE PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS TO DISTRICT.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES, CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.

ELECTRICAL KEYED NOTES

1	DISCONNECT EXISTING EQUIPMENT TO BE DEMOLISHED. PULL CONDUCTORS AND CONDUIT BACK TO SOURCE. DISCONNECT AND REMOVE ASSOCIATED DISCONNECTS, STARTERS, OR VFDS. FLIP BREAKER OFF AND INDICATE AS SPARE.
2	DISCONNECT ELECTRICAL TO EXISTING REFRIGERANT MONITORING SYSTEM. PRESERVE CONDUCTORS AND CONDUIT FOR CONNECTION OF REPLACEMENT SYSTEM.



N

1 **ELECTRICAL ENLARGED DEMO PLAN - SECOND FLOOR - SERVICE YARD**
Scale: 1/4" = 1'-0"

LINE TYPE LEGEND

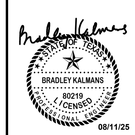
	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED

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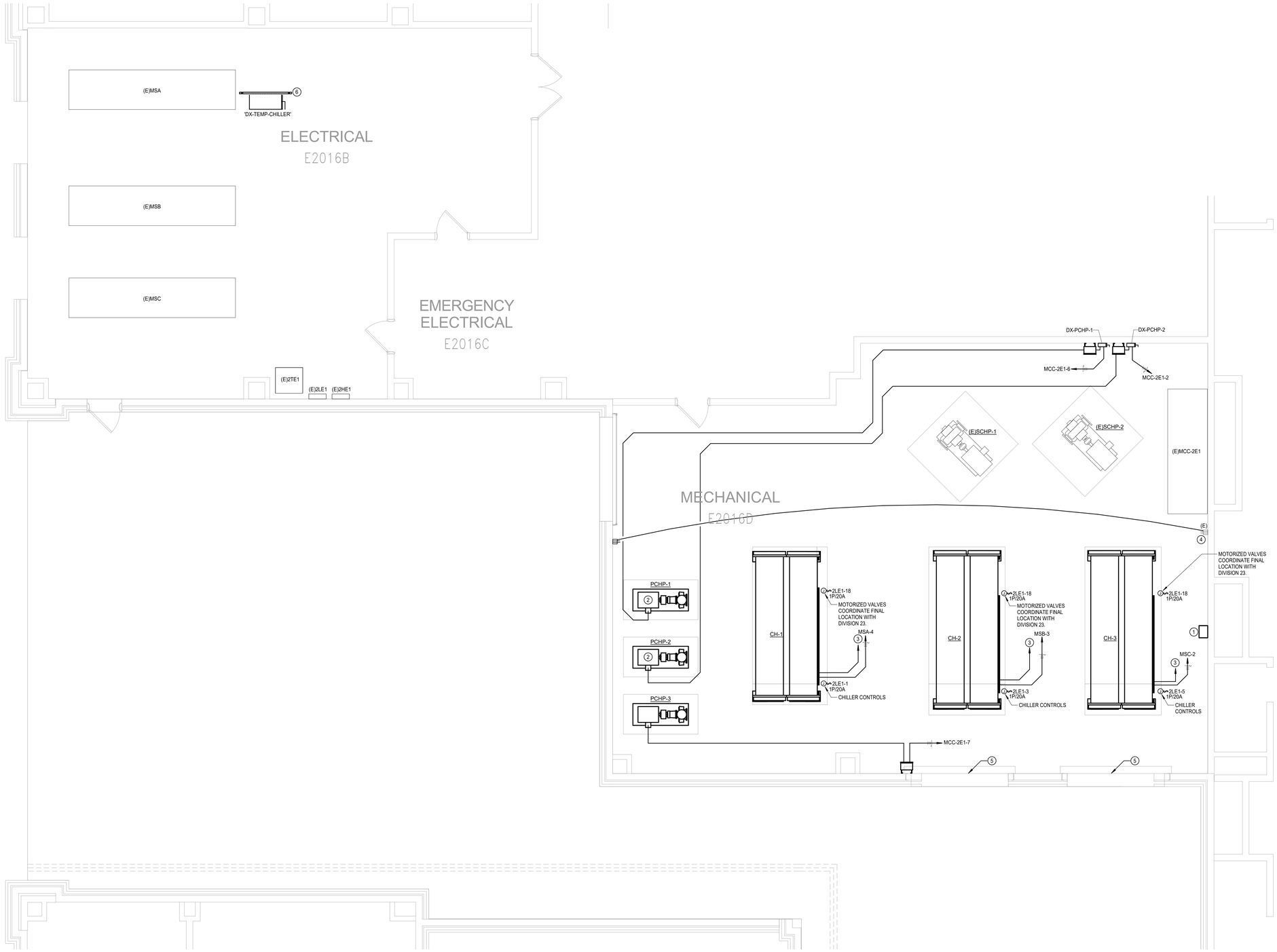
ELECTRICAL GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID AND VERIFY EXISTING CONDITIONS. ANY MODIFICATIONS REQUIRED CONTRARY TO THESE DOCUMENTS FOR A COMPLETE AND OPERATING SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. PROTECT EXISTING EQUIPMENT/DEVICES TO REMAIN IN PLACE. MAINTAIN EXISTING POWER CONNECTIONS. ALL EXISTING EQUIPMENT/DEVICES SHALL REMAIN FULLY FUNCTIONAL.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT AND SCHEDULES.
4. ALL EXISTING DISTRIBUTION PANELS AND BREAKERS TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL EQUIPMENT WITH THE SUBSCRIPT OR TAGGING '(E)' ARE EXISTING TO REMAIN.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS WHERE POSSIBLE FOR NEW EQUIPMENT/DEVICES AS PART OF NEW WORK.

ELECTRICAL KEYED NOTES

1	CONNECT NEW REFRIGERANT MONITORING SYSTEM TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
2	PER NEC 430.102(B) EXCEPTION (1) ALL LOCATIONS WITHIN LINE OF SITE OF THE MOTOR ARE IMPRACTICABLE. THE MOTOR DISCONNECTING MEANS SHALL BE A LOCKABLE DISCONNECT COMPLYING WITH NEC 110.25.
3	ROUTE 2*C WITH PULLSTRING ALONG HOMERUN BACK TO BMCS SYSTEM. COORDINATE FINAL ROUTING WITH DIVISION 26.
4	EXTEND NEW 2#10 AND 1#10G. FROM EXISTING RECEPTACLE TO NEW RECEPTACLE.
5	CONTRACTOR TO PROVIDE AND INSTALL ADEMCO 958 CONTACTS AT LOCATIONS INDICATED. CONTACTS SHALL CONNECT NEW INTRUSION DEVICES TO EXISTING INTRUSION PANEL LOCATED IN SECURITY A1019. CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING AND PERIPHERAL DEVICES TO CONNECT NEW CONTACTS TO INTRUSION PANEL.
6	MOUNT EQUIPMENT TO UNISTRUT RACK REFER TO RACK MOUNTING DETAIL FOR MORE INFORMATION.



N

1 ELECTRICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD
Scale: 1/4" = 1'-0"

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Houston
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Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

LINE TYPE LEGEND

	EXISTING ITEM TO REMAIN
	NEW ITEM
	ITEM TO BE REMOVED

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
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ELECTRICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD

Job No. 01818-08-04
Sheet No. E2.01-BC
Drw By: AW Chk By: JZ
Date: 08/11/2025

8/8/2025 10:33:35 AM
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OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

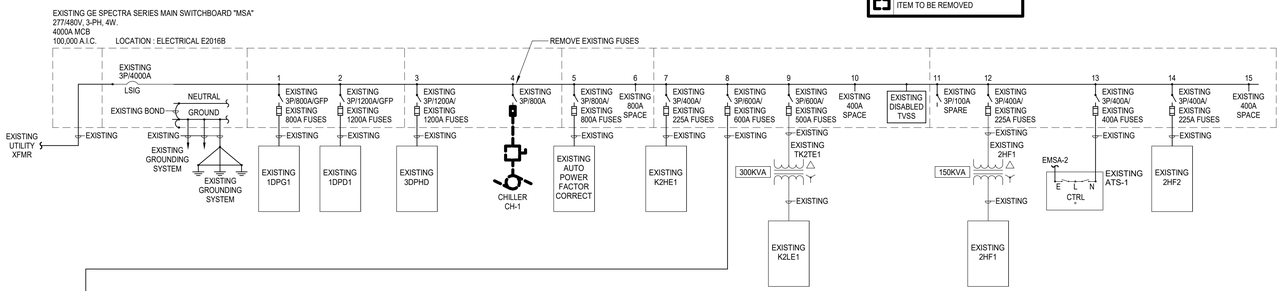
DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

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salasobrien.com 281-664-1900
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LINE TYPE LEGEND
- EXISTING ITEM TO REMAIN
- NEW ITEM
- ITEM TO BE REMOVED



1 **ELECTRICAL DEMOLITION ONELINE**
Scale: N.T.S.

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ELECTRICAL GENERAL NOTES

1. ALL EMPTY CONDUITS SHALL HAVE PULL STRING.
2. EACH CONDUIT SHALL BE LIMITED TO (3) CIRCUITS MAXIMUM.
3. NO MORE THAN THREE SINGLE PHASE CIRCUITS AND NO MORE THAN SIX CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. WHEN FOUR, FIVE, OR SIX CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY, THEIR CURRENT CARRYING AMPACITIES SHALL BE DERATED AS REQUIRED BY THE NEC FOR NON-DIVERSIFIED LOADS. THE INSTALLED WIRE SIZE SHALL HAVE A NOMINAL AMPACITY RATING OF 125% OF THAT REQUIRED OR SPECIFIED WHEN FOUR OR MORE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY. NEUTRAL CONDUCTORS SHALL BE CONSIDERED A CURRENT CARRYING CONDUCTOR IN ALL NON-LINEAR LOADED CIRCUITS AS REQUIRED BY THE NEC.
4. ALL LIGHTING, RECEPTACLE, AND EQUIPMENT BRANCH CIRCUITS CONDUITS SHALL CONTAIN A GROUND WIRE. USING THE CONDUIT SYSTEM AS THE ONLY GROUND PATH IS NOT ACCEPTABLE.
5. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO PROVIDE NEW FILLER PLATES TO COVER EXPOSED BUS BARS FOR ANY MODIFIED EQUIPMENT.

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND, WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING ANY INSTALLATION AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

PROVIDE NETA CERTIFIED TESTING, CLEANING AND MAINTENANCE FOR EXISTING SWITCHBOARDS AND MOTOR CONTROL CENTERS. WHICH SHALL INCLUDE: CHECKING FOR SHORT CIRCUITS AND CONTINUITY OF CIRCUITS, INSULATION RESISTANCE TESTING, CHECKING CIRCUIT BREAKERS OPERATION, GROUND FAULT INTERRUPTER TESTING, THERMAL INFRARED SCAN OF SWITCHBOARD UNDER FULL LOAD, CHECKING ALL BOLTED CONNECTIONS FOR HIGH RESISTANCE, PERFORMING GROUND RESISTANCE TESTING, AND CHECKING LOW VOLTAGE CONTROLS WIRING/DEVICES AND INSTRUMENT TRANSFORMERS FOR PROPER OPERATION. CONTRACTOR SHALL PROVIDE A COMPLETE WRITTEN REPORT INDICATING ANY DEFICIENCIES IN RELATION TO EACH COMPONENT'S INTENDED FUNCTION AND RECOMMENDATIONS FOR RESOLVING ANY DEFICIENCY.

ALL CONDUCTORS TO BE COPPER THHN/THWN 90 DEG. C. INSULATION TYPE UNLESS SPECIFICALLY NOTED OTHERWISE.

EXISTING RACEWAYS AND LOCATION OF ELECTRICAL BOXES/OUTLETS ON EXISTING WALLS TO REMAIN SHALL BE RE-USED AS PRACTICAL FOR NEW DEVICES AS PART OF NEW WORK.

OWNER HAS THE RIGHT TO KEEP POSSESSION OF ANY DEMOLISHED EQUIPMENT/DEVICES. CONTRACTOR TO NOTIFY THE OWNER OF DEMOLISHED EQUIPMENT/DEVICES FOR REUSE OR KEEP AS SPARE PARTS PRIOR TO REMOVAL OFFSITE.

FEEDER SCHEDULE

AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
40A	1	(3) #8	#10	1"C
70A	1	(3) #4	#8	1-1/4"C
800A	3	(3) #300KCMIL	#1/0	3"C
1600A	5	(4) #400KCMIL	#4/0	3"C

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salasobrien.com 281-664-1900
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064

Registration: F-4111
Project No: 2550-00809-00

ELECTRICAL KEYED NOTES

1	PROVIDE NEW BUCKET WITH NEW CIRCUIT BREAKER AND ALL INSTALLATION ACCESSORIES. MAKE ALL FINAL CONNECTIONS.
2	EXISTING FUSED DISCONNECT IS THE PROPOSED POWER SOURCE FOR A TEMPORARY CHILLER PROVIDED DURING CONSTRUCTION. COORDINATE WITH DIVISION 23 TO PROVIDE 1000A FUSES FOR USE WITH THE TEMPORARY CHILLER. CONTRACTOR TO COORDINATE WITH DIVISION 23 TO MAKE THE CONNECTIONS AND PROVIDE A TEMPORARY FEEDER TO THE TEMPORARY CHILLERS PROVIDED. WHERE POSSIBLE USE EXISTING OR NEW CONDUCTORS AND/OR CONDUIT FOR THE TEMPORARY CHILLER.
3	NEW FUSED DISCONNECT IS THE PROPOSED POWER SOURCE FOR A TEMPORARY CHILLER PROVIDED DURING CONSTRUCTION. COORDINATE WITH DIVISION 23 TO ENSURE THE FUSE INSTALLED IS SIZED TO MEET THE MOCP REQUIREMENTS FOR THE TEMPORARY CHILLER. CONTRACTOR TO COORDINATE WITH DIVISION 23 TO MAKE THE CONNECTIONS AND PROVIDE A TEMPORARY FEEDER TO THE TEMPORARY CHILLERS PROVIDED. WHERE POSSIBLE USE EXISTING OR NEW CONDUCTORS AND/OR CONDUIT FOR THE TEMPORARY CHILLER.

ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSA

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	894.5
ADDED HVAC EQUIPMENT	410
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1311.6 kVA
TOTAL A	1577.6 A

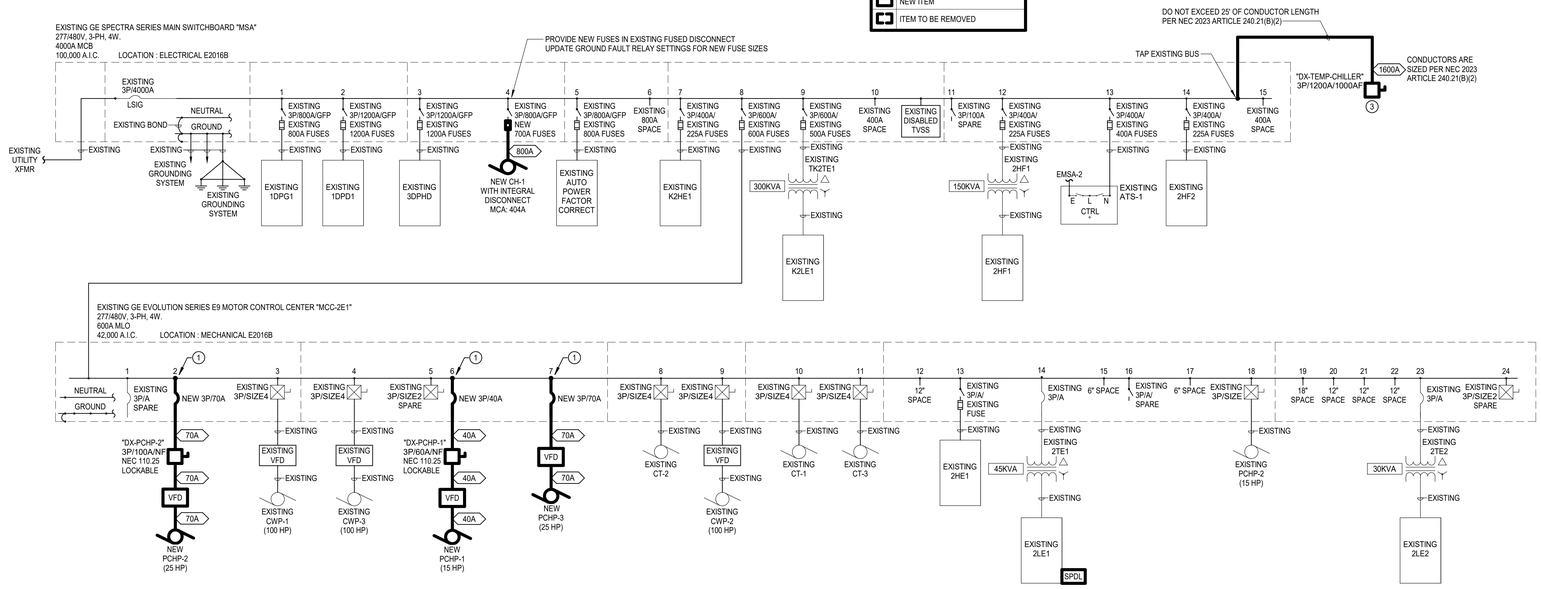
ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSB

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	670.9
ADDED HVAC EQUIPMENT	457.3
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1135.3 kVA
TOTAL A	1365.6 A

ELECTRICAL LOAD ANALYSIS SWITCHBOARD MSC

LOAD DESCRIPTION	LOAD kVA
EXISTING LOAD	670.9
ADDED HVAC EQUIPMENT	457.3
LARGEST MOTOR kVA*0.25	7.1
TOTAL kVA	1135.3 kVA
TOTAL A	1365.6 A

LINE TYPE LEGEND
- EXISTING ITEM TO REMAIN
- NEW ITEM
- ITEM TO BE REMOVED



1 **ELECTRICAL NEW ONELINE**
Scale: N.T.S.

Revision / Date

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ELECTRICAL NEW ONELINE

Job No. 01818-08-04
Sheet No. E3.02-BC
Drw By: AW Chk By: JZ
Date: 08/11/2025

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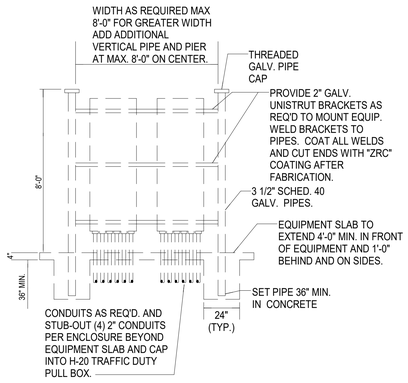
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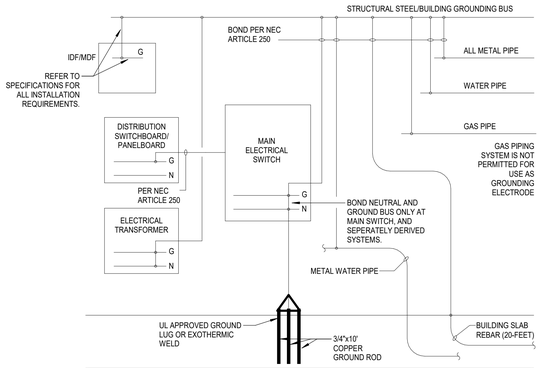
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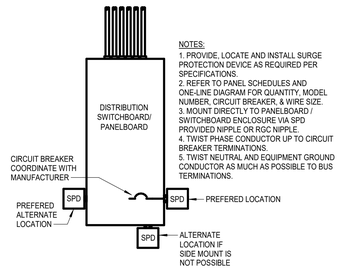
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3 **ELECTRICAL UNISTRUT EQUIPMENT RACK DETAIL**
Scale: N.T.S.



2 **SYSTEM GROUNDING DETAIL**
Scale: N.T.S.



1 **SURGE PROTECTION DEVICE DETAIL**
Scale: N.T.S.

SYMBOL SCHEDULE

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
SWITCHES	
$ 1P/XXA	LINE VOLTAGE SINGLE POLE SWITCH
$ 2P/XXA	LINE VOLTAGE 2-POLE SWITCH RATED FOR XX AMPACITY
RECEPTACLES AND OUTLETS	
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
MOTOR CONTROLLERS AND EQUIPMENT	
	MOTOR, MAKE FINAL MOTOR CONNECTION
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH AS REQUIRED
	MOTOR STARTER
	VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26
ELECTRICAL EQUIPMENT	
	ELECTRICAL DISTRIBUTION OR PANELBOARD
	DRY TYPE TRANSFORMER
CIRCUITING	
	CONDUIT
	CONDUIT BELOW FLOOR, SLAB, OR GRADE
SUBSCRIPTS AND ABBREVIATIONS	
WP	INDICATES WEATHERPROOF
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
1-L	REFER TO ONE-LINE DIAGRAM

GENERAL NOTES:
-ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF. REFER TO SPECIFICATIONS FOR THE MINIMUM NEMA RATING

Existing Branch Panel: 2LE1

Location: ELECTRICAL E2016B
Supply From: 2TE1
Mounting: Surface
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Enclosure: Type 1
Mains: 225A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	C	Breaker	Wire	Circuit Description	CKT	Note
2	1	**CHILLER #1 CONTROLS**	#12	20 1	0.0 / 0.5			1	20 (E)	DOMESTIC HOT WATER RETURN PUMP GFWH-2	2	
2	3	**CHILLER #2 CONTROLS**	#12	20 1		0.0 / 0.5		1	20 (E)	DOMESTIC HOT WATER RETURN PUMP GFWH-1	4	
2	5	**CHILLER #3 CONTROLS**	#12	20 1			0.0 / 0.5	1	20 (E)	B-1 CONT.	6	
	7	2 REC	(E)	20 1	0.4 / 0.5			1	20 (E)	B-2 CONT.	8	
	9	BAS CONT	(E)	20 1		0.5 / 0.5		1	20 (E)	WATER SOFTENER	10	
	11	2 REC	(E)	20 1			0.4 / 0.5	1	20 (E)	FCU 5 & FCU-4 (1/2 HP)	12	
	13	ROLL UP DOOR	(E)	20 1	0.5 / 0.5			1	20 (E)	DDC CONTROLLER	14	
	15	ROLL UP DOOR	(E)	20 1		0.5 / 0.5		1	20 (E)	DDC CONTROLLER	16	
	17	ROLL UP DOOR	(E)	20 1			0.5 / 0.6	**1**	**20**	**#12 CHILLER MOTORIZED VALVES**	18	**2**
	19	2 REC	(E)	20 1	0.4 / 0.5			1	20 (E)	GFWH-1 IGNITOR & CONTROL POWER	20	
	21	WOMEN'S HAND DRYER	(E)	20 1		1.0 / 0.5		1	20 (E)	GFWH-1 IGNITOR & CONTROL POWER	22	
	23	WOMEN'S HAND DRYER	(E)	20 1			1.0 / 0.5	1	20 (E)	GFWH-2 IGNITOR & CONTROL POWER	24	
	25	MEN'S HAND DRYER	(E)	20 1	1.0 / 0.5			1	20 (E)	GFWH-2 IGNITOR & CONTROL POWER	26	
	27	MEN'S HAND DRYER	(E)	20 1		1.0 / 0.0		1	20 --	SPARE	28	--
	29	TF-14 (1/2 HP)	(E)	20 1			1.2 / 0.5	1	20 (E)	HWCP-1 (2/5 HP)	30	
	31	EF-19 1/4 HP)	(E)	20 1	0.5 / 0.5			1	20 (E)	HWCP-1 (2/5 HP)	32	
	33	TF-6 (1/2 HP)	(E)	20 1		1.2 / 0.5		1	20 (E)	TF-2 (1/2 HP)	34	
	35	TF-16 (1/2 HP)	(E)	20 1			1.2 / 0.0	1	20 --	SPARE	36	--
	37	TF-1 (1/2 HP)	(E)	20 1	1.2 / 0.2						38	
--	39	SPARE	--	20 1		0.0 / 0.2		**3**	**30**	**#10 SPDL**	40	**1**
	41	CHEMICAL TREATMENT	(E)	20 1			0.5 / 0.2				42	
				Total Load:	7.1 kVA	6.9 kVA	7.5 kVA					
				Total Amps:	59 A	57 A	63 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Miscellaneous	20.4 kVA	100.00%	20.4 kVA		
Receptacles	1.1 kVA	100.00%	1.1 kVA	**Total Conn. Load:**	21.5 kVA
				Total Est. Demand:	21.5 kVA
				Total Conn. Current:	60 A
				Total Est. Demand Current:	60 A

Notes:
NEW WORK IN BOLD
1 - PROVIDE NEW BREAKER IN EXISTING SPACE
2 - PROVIDE NEW BREAKER TO REPLACE EXISTING BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE

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ELECTRICAL DETAILS AND SCHEDULES

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8/8/2025 11:13:54 AM
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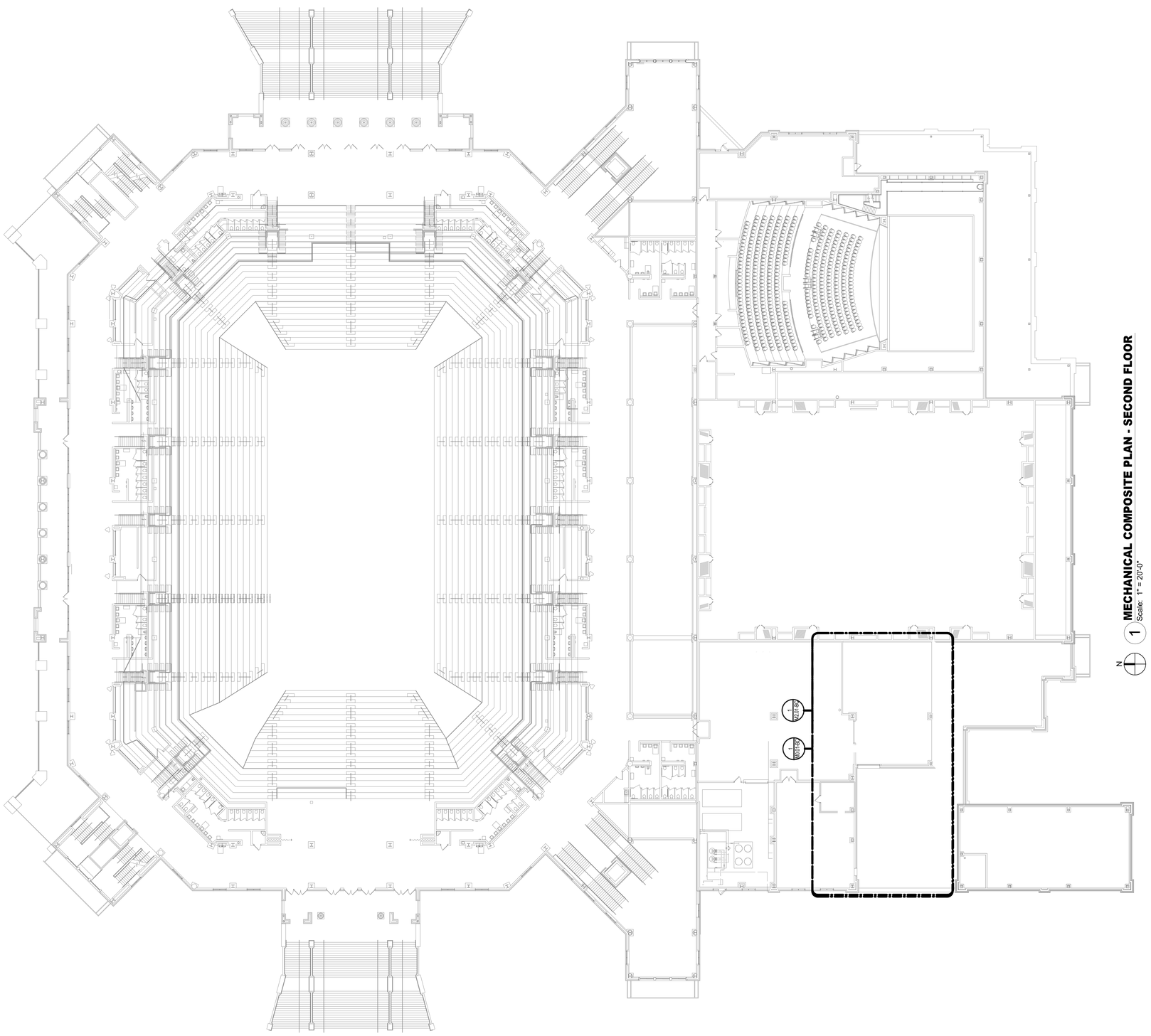
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MECHANICAL COMPOSITE
PLAN - SECOND FLOOR

Job No. 2350-00809-04
Sheet No. M0.00-BC
Drw By: BB
Chk By: VP
Date: 08/11/2025



1 MECHANICAL COMPOSITE PLAN - SECOND FLOOR
Scale: 1" = 20'-0"

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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

Salas O'Brien
salasobrien.com 281-664-1900
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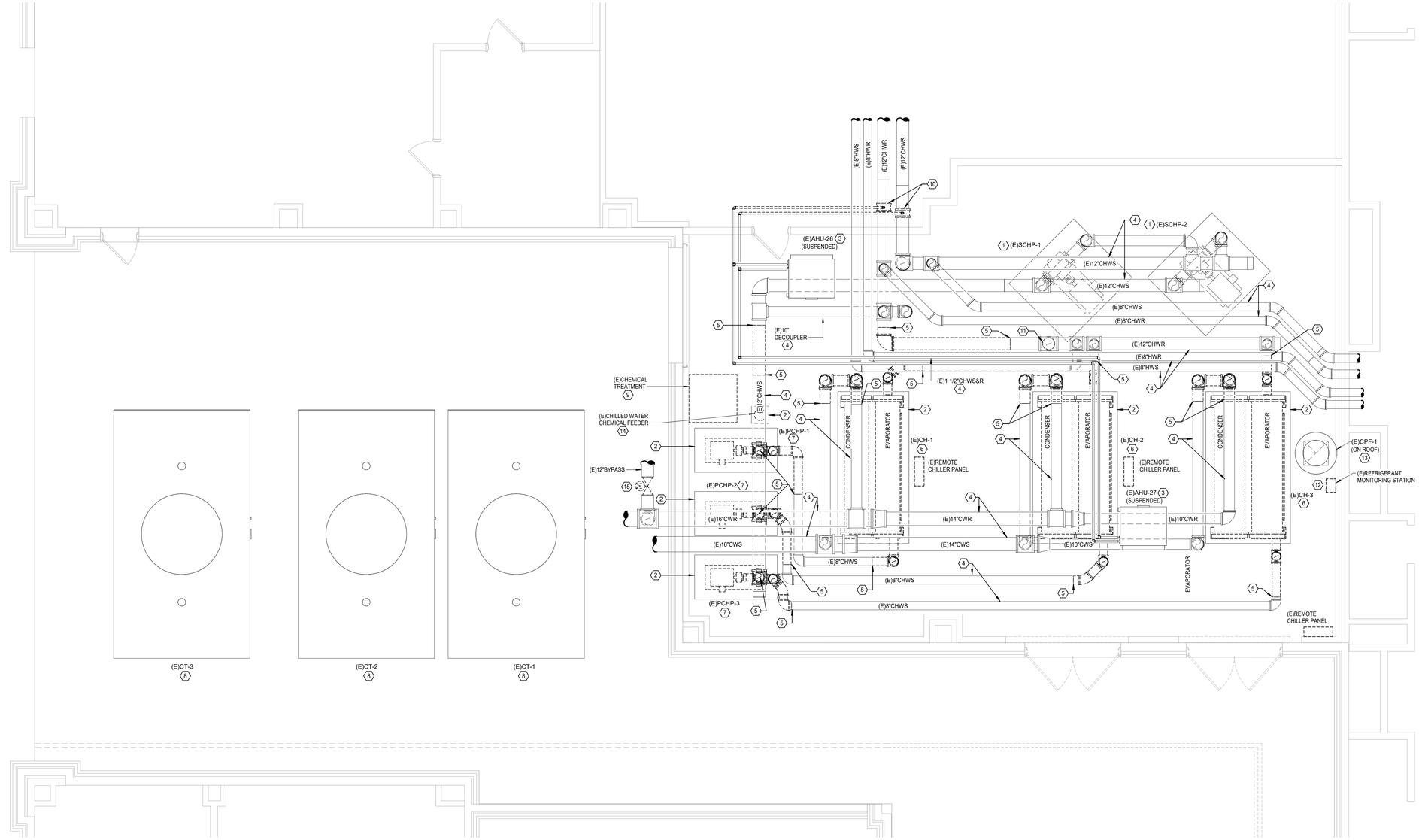
SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

MECHANICAL DEMOLITION GENERAL NOTES

1	OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO CHILLERS, VALVES, CONTROLS, AND PUMPS.
2	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
3	ALL MECHANICAL SYSTEMS SHOWN ARE FROM EXISTING DRAWINGS AND PRELIMINARY FIELD WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS AND SIZES OF MECHANICAL SYSTEMS PRIOR TO START OF WORK.
4	REMOVE ALL UNUSED OR ABANDONED HANGER AND SUPPORTS OF DEMOLISHED EQUIPMENT AND MATERIAL.
5	CONTRACTOR SHALL UPDATE BMCS GRAPHICS FOR ALL MECHANICAL EQUIPMENT BEING REMOVED FROM PROJECT.

MECHANICAL KEYED NOTES

1	EXISTING PUMP, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
2	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN.
3	EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
4	EXISTING PIPING TO REMAIN.
5	REMOVE EXISTING PIPING AND ALL ASSOCIATED APPURTENANCES BACK TO POINT INDICATED.
6	REMOVE EXISTING WATER COOLED CHILLER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES.
7	REMOVE EXISTING PUMP, CONTROLS, INTERIA BASE, AND ALL ASSOCIATED APPURTENANCES.
8	EXISTING COOLING TOWER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
9	REMOVE EXISTING COOLING TOWER CHEMICAL TREATMENT.
10	REMOVE EXISTING PIPING AND ALL ASSOCIATED APPURTENANCES BACK TO POINT INDICATED. PATCH, SEAL, AND INSULATE MAIN PIPING AS SPECIFIED.
11	EXISTING TEMPORARY CHILLER TAP TO REMAIN. CONTRACTOR SHALL REMOVE EXISTING FLANGE.
12	REMOVE EXISTING REFRIGERANT MONITORING STATION AND ALL ASSOCIATED APPURTENANCES.
13	EXISTING EXHAUST PURGE FAN, CONTROLS, DUCTWORK, AND ALL ASSOCIATED APPURTENANCES TO REMAIN.
14	REMOVE EXISTING CHEMICAL FEEDER AND ALL ASSOCIATED APPURTENANCES.
15	REMOVE EXISTING COOLING TOWER MOTORIZED BYPASS VALVE.



N

1 **MECHANICAL ENLARGED DEMO PLAN - SECOND FLOOR - SERVICE YARD**
Scale: 1/4" = 1'-0"

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
BERRY CENTER
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MECHANICAL DEMO ENLARGED PLAN - SECOND FLOOR - SERVICE YARD

Job No. 01818-08-04	Sheet No. M0.01-BC
Drw By: BB / Chk By: VP	
Date: 08/11/2025	

8/8/2025 10:33:40 AM
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CONTRACTOR SHALL PROVIDE DEHUMIDIFICATION DURING THE ENTIRE CONSTRUCTION SCHEDULE. THE SCOPE IS TO MAINTAIN ACCEPTABLE HUMIDITY LEVELS WITHIN THE BUILDING. THE REMOVAL OF EXCESS HUMIDITY FROM THE AIR THROUGHOUT THE BUILDING. PROVIDE MOISTURE CONTROL RENTAL EQUIPMENT AND SOLUTION FOR PREVENTING THE LONG-TERM EFFECTS OF MOISTURE LEVELS THAT CAN DAMAGE INTERIOR BUILDING MATERIALS, BOOKS, AND ELECTRONIC EQUIPMENT.

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

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Registration: F-4111
Project No: 2550-00809-00

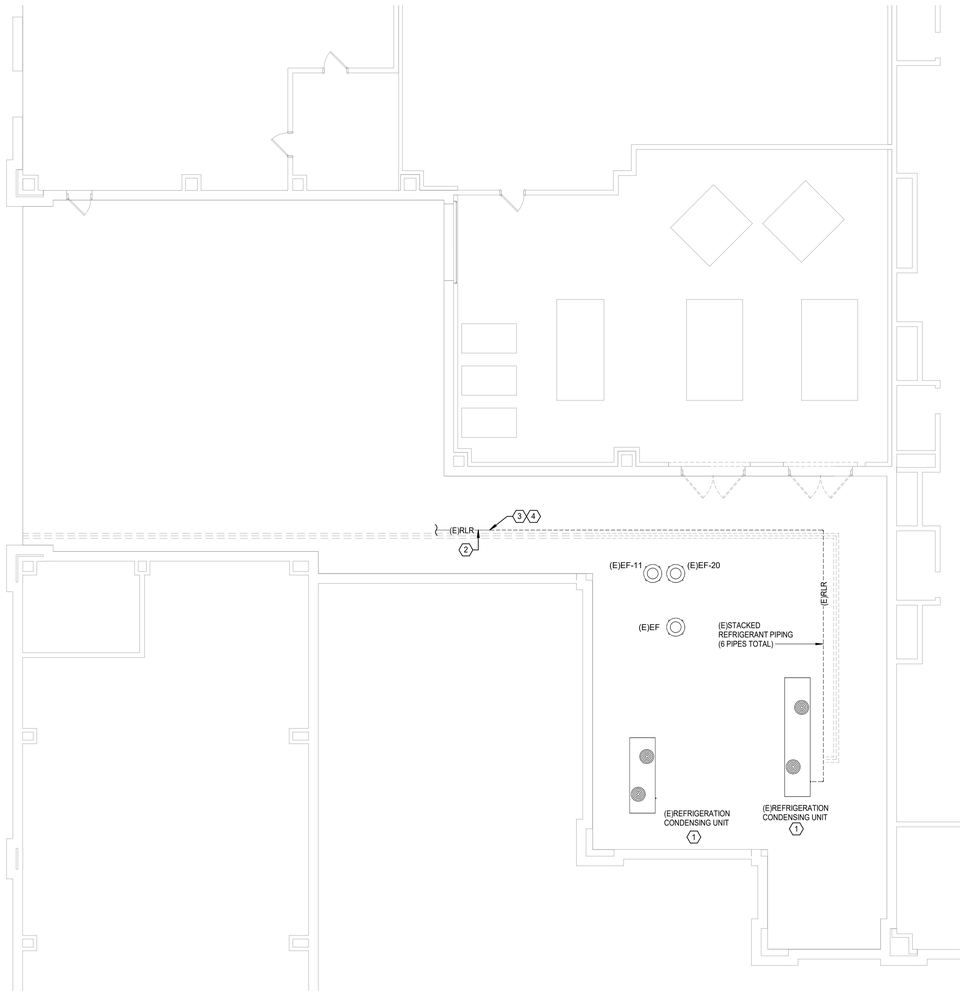
SYMBOL LEGEND	
⌖	POINT OF CONNECTION TO EXISTING
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED

MECHANICAL DEMOLITION GENERAL NOTES

1	OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO CHILLERS, VALVES, CONTROLS, AND PUMPS.
2	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
3	ALL MECHANICAL SYSTEMS SHOWN ARE FROM EXISTING DRAWINGS AND PRELIMINARY FIELD WORK. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS AND SIZES OF MECHANICAL SYSTEMS PRIOR TO START OF WORK.
4	REMOVE ALL UNUSED OR ABANDONED HANGER AND SUPPORTS OF DEMOLISHED EQUIPMENT AND MATERIAL
5	CONTRACTOR SHALL UPDATE BMCS GRAPHICS FOR ALL MECHANICAL EQUIPMENT BEING REMOVED FROM PROJECT.

MECHANICAL KEYED NOTES

1	EXISTING REFRIGERATION CONDENSING UNIT TO REMAIN.
2	EXISTING REFRIGERANT PIPING TO REMAIN.
3	REMOVE EXISTING REFRIGERANT PIPING AND ALL ASSOCIATED PIPE SUPPORTS BACK TO POINT INDICATED.
4	CONTRACTOR SHALL DOCUMENT EXISTING REFRIGERANT PIPING SIZES BEFORE DEMOLITION.



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1 **MECHANICAL DEMO ROOF PLAN - SECOND FLOOR - SERVICE YARD**
Scale: 1/8" = 1'-0"

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MECHANICAL DEMO ROOF PLAN - SECOND FLOOR - SERVICE YARD

Job No. 01818-08-04	Sheet No. M0.02-BC
Drw By: BB Chk By: VP	
Date: 08/11/2025	

8/8/2025 10:33:41 AM
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CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED POWER GENERATING EQUIPMENT.

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TEPORARY BMCS CONNECTION:

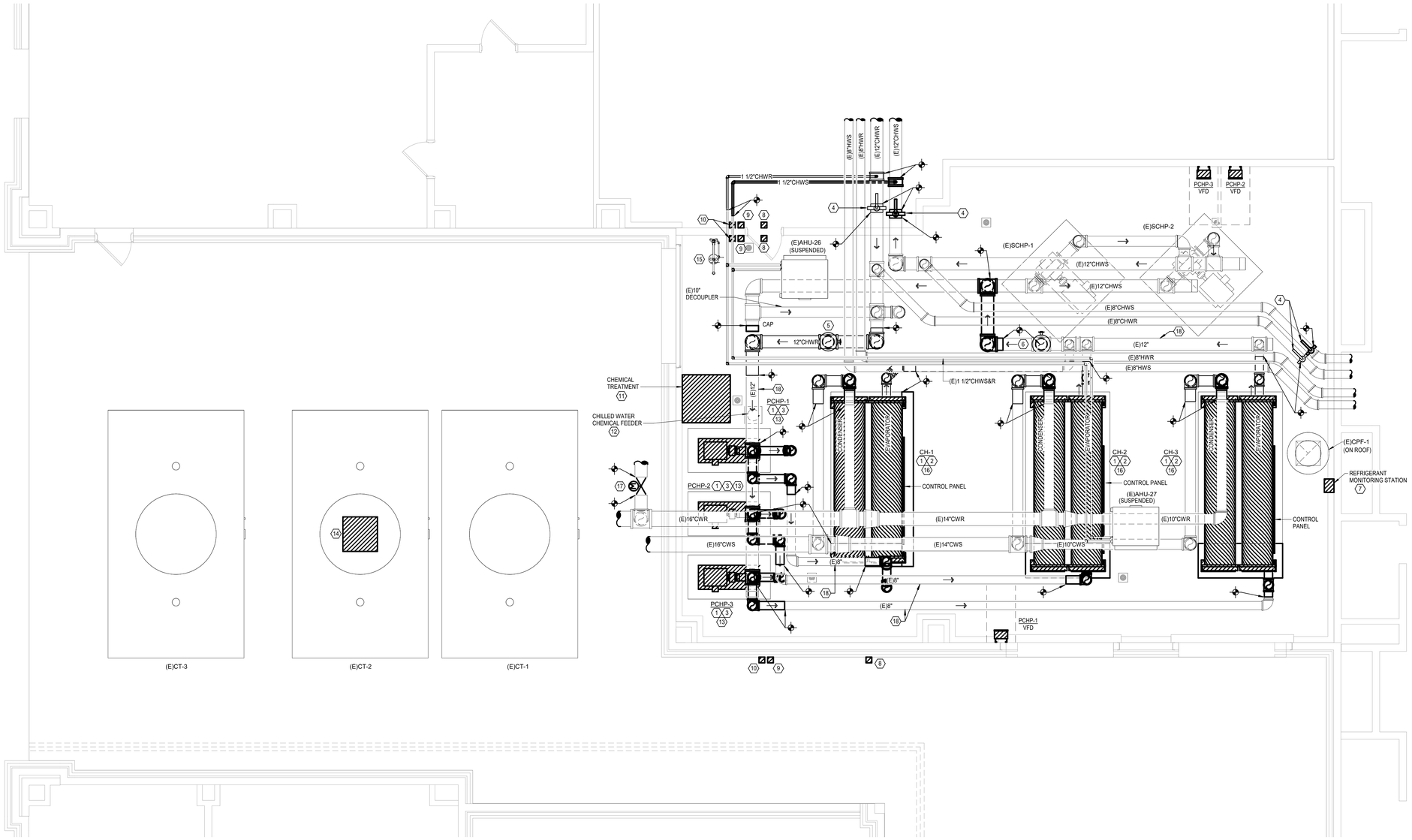
CONTRACTOR SHALL PROVIDE TEMPORARY BMCS CONNECTION FOR TEMPORARY CHILLERS. CONTRACTOR SHALL COORDINATE TEMPORARY BMCS CONNECTION LOCATION WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.

MECHANICAL GENERAL NOTES

1	THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.
2	MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

MECHANICAL KEYED NOTES

1	VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADE NOT TO OBSTRUCT.
2	PROVIDE COPPER REFRIGERANT RELIEF PIPING FROM CHILLER PRESSURE RELIEF VALVES THROUGH THE ROOF. FOLLOW EXISTING ROUTING AND REUSE EXISTING PENETRATION. SIZE RELIEF PIPE AS RECOMMENDED BY MANUFACTURER. REFER TO DETAIL.
3	PROVIDE WITH INERTIA BASE. REFER TO SPECIFICATIONS.
4	PROVIDE ISOLATION VALVE AT LOCATION SHOWN.
5	PROVIDE 12" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION.
6	PROVIDE NEW 12" ISOLATION VALVE AND BLIND FLANGE FOR EXISTING TEMPORARY CONNECTION.
7	PROVIDE NEW REFRIGERANT MONITORING STATION TO MONITOR ANY AND ALL REFRIGERANTS UTILIZED IN CENTRAL. ESTABLISH CONTROLS REQUIRED FOR AUDIO/VISUAL ALARMS AND EMERGENCY PURGE VENTILATION TO ACTIVATE ALL CHILLERS TO SHUT DOWN UPON DETECTION OF REFRIGERANT LEAKS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
8	PROVIDE AUDIO/VISUAL ALARM ABOVE DOOR.
9	PROVIDE BREAK-GLASS TYPE OFF-ONLY EMERGENCY CONTROL BUTTON.
10	PROVIDE BREAK-GLASS TYPE EMERGENCY PURGE VENTILATION BUTTON.
11	PROVIDE NEW CHEMICAL TREATMENT FOR COOLING TOWER. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
12	PROVIDE CHEMICAL FEEDER SUPPORT. REFER TO DETAIL.
13	PROVIDE WITH PUMP PAN. REFER TO DETAIL.
14	CONTRACT SHALL REPAIR LEAK AT COOLING TOWER OUTLET FLANGE. CONTRACTOR SHALL REMOVE REQUIRED PIPING TO REPAIR LEAK. EXISTING GASKET AND FLANGE SHALL BE REPLACED. CONTRACTOR SHALL REINSTALL ALL REMOVED PIPING.
15	REMOVE AND REINSTALL EMERGENCY SHOWER AS NEEDED FOR CHILLER REMOVAL AND REPLACEMENT.
16	MODIFY EXISTING CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE NEW WATER COOLED CHILLER.
17	PROVIDE NEW COOLING TOWER BYPASS VALVE AT LOCATION SHOWN. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW VALVE.
18	REFER TO PIPING DIAGRAM FOR PIPE SIZES AND FLOW OF EXISTING PIPING.



N

1 **MECHANICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD**
Scale: 1/4" = 1'-0"

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MECHANICAL ENLARGED PLAN - SECOND FLOOR - SERVICE YARD

Job No. 01818-08-04	Sheet No. M2.01-BC
Drw By: BB Chk By: VP	
Date: 08/11/2025	

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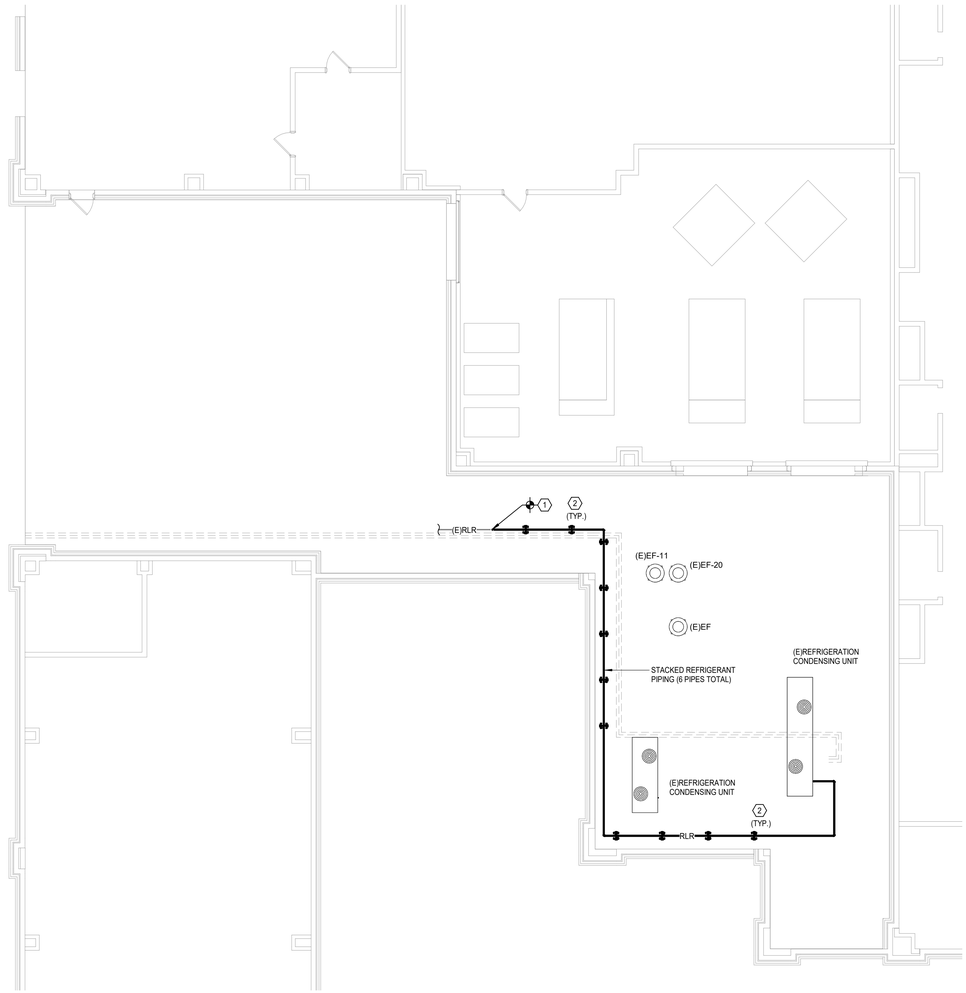
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MECHANICAL GENERAL NOTES

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2	MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

MECHANICAL KEYED NOTES

1	CONNECT NEW REFRIGERANT PIPING AT EXISTING SIZE.
2	PROVIDE PHP MODEL PSL ON ROOF WITH STACKABLE AND FULLY ADJUSTABLE HEIGHT THROUGHOUT PIPE RUN EVERY 6'-0" ON CENTER AND EVERY CHANGE IN DIRECTION.



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1 **MECHANICAL ROOF PLAN - SECOND FLOOR - SERVICE YARD**
Scale: 1/8" = 1'-0"

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MECHANICAL ROOF PLAN - SECOND FLOOR - SERVICE YARD

Job No. 01815-08-04	Sheet No. M2.02-BC
Drw By: BB Chk By: VP	
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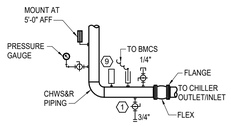
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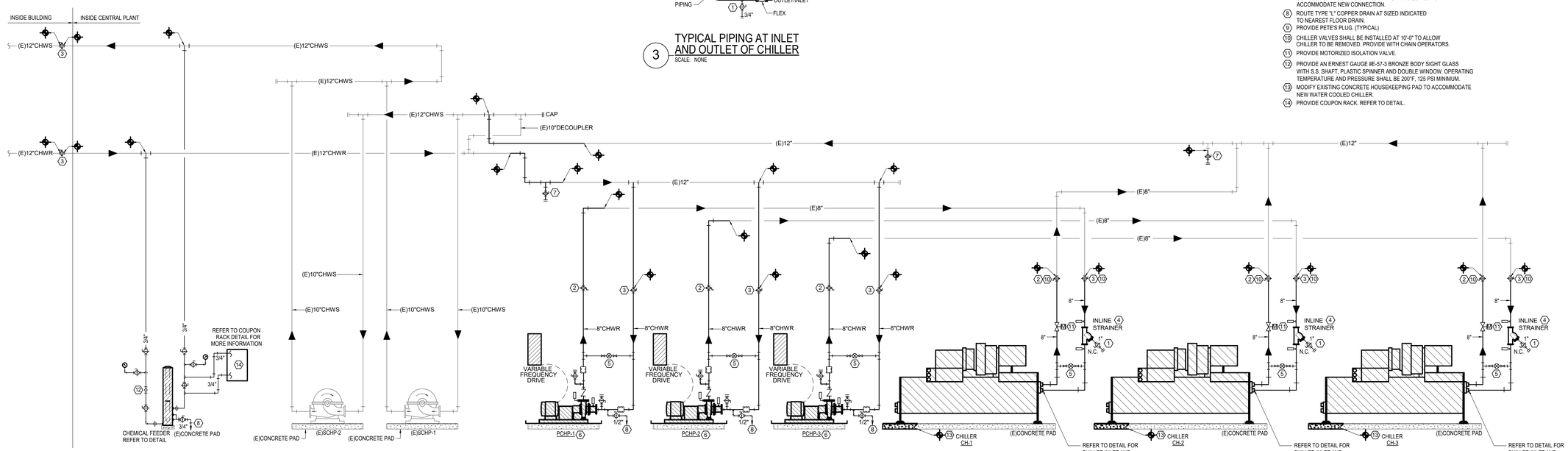
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MECHANICAL KEYED NOTES

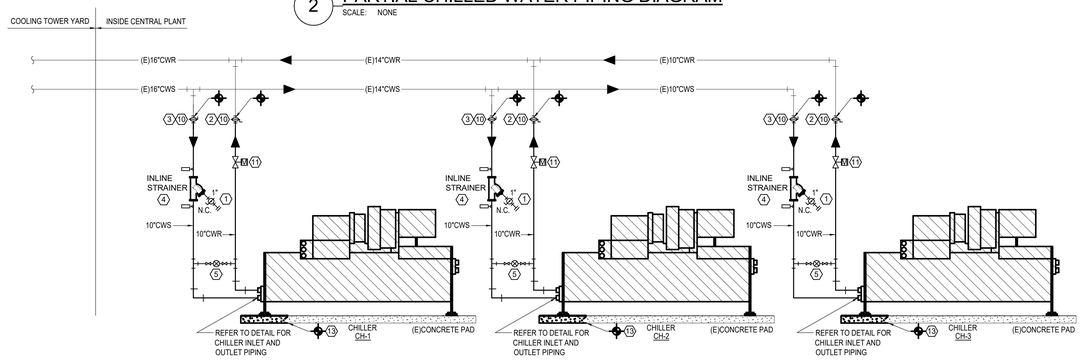
1. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE OR AT SIZED INDICATED.
2. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE. REFER TO SPECIFICATIONS.
3. PROVIDE ISOLATION VALVE.
4. PROVIDE NEW INLINE STRAINER AT LOCATION SHOWN.
5. PROVIDE DIFFERENTIAL PRESSURE SWITCH.
6. PROVIDE PUMP PAN. REFER TO DETAIL.
7. PROVIDE 12" ISOLATION VALVE AND BLIND FLANGE FOR TEMPORARY CONNECTION. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CONNECTION.
8. ROUTE TYPE "L" COPPER DRAIN AT SIZED INDICATED TO NEAREST FLOOR DRAIN.
9. PROVIDE PETE'S PLUG. (TYPICAL)
10. CHILLER VALVES SHALL BE INSTALLED AT 10'-0" TO ALLOW CHILLER TO BE REMOVED. PROVIDE WITH CHAIN OPERATORS.
11. PROVIDE MOTORIZED ISOLATION VALVE.
12. PROVIDE AN ERNEST GAUGE #E-57-3 BRONZE BODY SIGHT GLASS WITH S.S. SHAFT, PLASTIC SPINNER AND DOUBLE WINDOW. OPERATING TEMPERATURE AND PRESSURE SHALL BE 200°F, 125 PSI MINIMUM.
13. MODIFY EXISTING CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE NEW WATER COOLED CHILLER.
14. PROVIDE COUPON RACK. REFER TO DETAIL.



3 TYPICAL PIPING AT INLET AND OUTLET OF CHILLER
SCALE: NONE



2 PARTIAL CHILLED WATER PIPING DIAGRAM
SCALE: NONE



1 PARTIAL CONDENSER WATER PIPING DIAGRAM
SCALE: NONE

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MECHANICAL PIPING DIAGRAMS

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Date: 08/11/2025	

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SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	REVISION TAG
	NEW EQUIPMENT
PIPING	
–CWS&R–	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CWS–	CONDENSER WATER SUPPLY
–CWR–	CONDENSER WATER RETURN
–CHWS&R–	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–CHWS–	CHILLED WATER SUPPLY
–CHWR–	CHILLED WATER RETURN
–HWS&R–	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
–HWS–	HOT WATER FOR HYDRONIC HEATING SUPPLY
–HWR–	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILIARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
G.C.	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

Salas O'Brien
salasobrien.com 281-664-1900
Houston
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Houston, TX 77064

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WATER COOLED CHILLER - MAGNETIC CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001) LEAVING WATER TEMP.(°F)	EVAPORATOR (FF=0.0001) GPM	EVAPORATOR (FF=0.0001) PRESSURE DROP (FT.)	CONDENSER (FF=0.00025) ENTERING WATER TEMP.(°F)	CONDENSER (FF=0.00025) GPM	CONDENSER (FF=0.00025) PRESSURE DROP (FT.)	CURRENT CHARAC. V	CURRENT CHARAC. P	CURRENT CHARAC. F	MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
CH-1	375	42	640	20.0	86	1,125	20.0	480	3	60	DAIKIN	0.6495	0.3602	(1,2,3,4,5,6,7)
CH-1											TRANE	0.6016	0.3667	
CH-2	525	42	900	20.0	86	1,575	20.0	480	3	60	DAIKIN	0.6082	0.3452	(1,2,3,4,5,6,7)
CH-3	525	42	900	20.0	86	1,575	20.0	480	3	60	DAIKIN	0.6082	0.3452	(1,2,3,4,5,6,7)

REMARKS:
1. CHILLER SHALL MEET OR EXCEED BOTH ABOVE SCHEDULED FULL-LOAD AND PART-LOAD DESIGN EFFICIENCIES, AND MINIMUM AHRI STANDARDIZED FULL-LOAD AND PART-LOAD EFFICIENCIES INDICATED IN IECC 2015. COMPLY BY PATH A OR BY PATH B AS REQUIRED BY IECC 2015.
2. CHILLERS SHALL MEET OR EXCEED CAPACITY AT SCHEDULED WATER TEMPERATURES.
3. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE CHILLER WITH SPRING ISOLATORS. REFER TO SPECIFICATIONS.
5. PROVIDE CONDENSER WITH HINGED BARREL HEAD.
6. PROVIDE 3 PASSES ON THE EVAPORATOR. REFER TO DRAWINGS.
7. PROVIDE 2 PASSES ON THE CONDENSER. REFER TO DRAWINGS.

WATER COOLED CHILLER - CENTRIFUGAL WITH VFD

MARK	ACTUAL CAPACITY (TONS)	EVAPORATOR (FF=0.0001) LEAVING WATER TEMP.(°F)	EVAPORATOR (FF=0.0001) GPM	EVAPORATOR (FF=0.0001) PRESSURE DROP (FT.)	CONDENSER (FF=0.00025) ENTERING WATER TEMP.(°F)	CONDENSER (FF=0.00025) GPM	CONDENSER (FF=0.00025) PRESSURE DROP (FT.)	CURRENT CHARAC. V	CURRENT CHARAC. P	CURRENT CHARAC. F	MANUFACTURER	MINIMUM KW/TON	MINIMUM NPLV	REMARKS
CH-2	525	42	900	20.0	86	1,575	20.0	480	3	60	TRANE	0.6091	0.3819	(1,2,3,4,5,6,7)
CH-3	525	42	900	20.0	86	1,575	20.0	480	3	60	TRANE	0.0691	0.3819	-

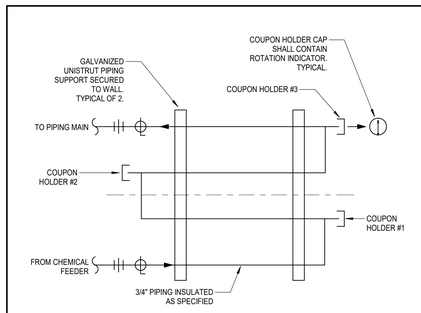
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5. PROVIDE CONDENSER WITH HINGED BARREL HEAD.
6. PROVIDE 3 PASSES ON THE EVAPORATOR. REFER TO DRAWINGS.
7. PROVIDE 2 PASSES ON THE CONDENSER. REFER TO DRAWINGS.

PUMP

TAG	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC. V	CURRENT CHARAC. P	CURRENT CHARAC. F	MANUFACTURER	MODEL NUMBER	REMARKS
PCHP-1	CHILLED WATER	HORIZONTAL END SUCTION	640	60.00	15	1800	480	3	60	ARMSTRONG	4030	(1,2,3)
PCHP-2	CHILLED WATER	HORIZONTAL END SUCTION	900	60.00	25	1800	480	3	60	ARMSTRONG	4030	(1,2,3)
PCHP-3	CHILLED WATER	HORIZONTAL END SUCTION	900	60.00	25	1800	480	3	60	ARMSTRONG	4030	(1,2,3)

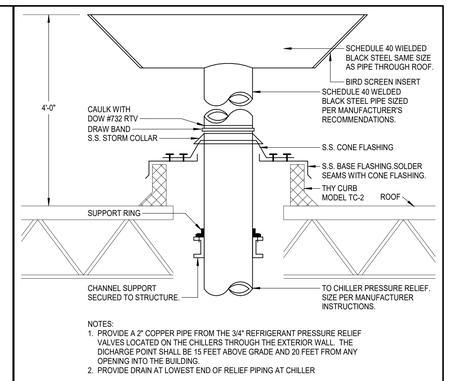
GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
2. PROVIDE SUCTION DIFFUSER AT PUMP INLET.
3. PROVIDE WITH BACK PULL OUT.



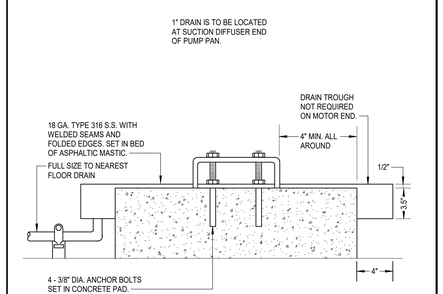
PROVIDE ONE COUPON RACK PER THIS DETAIL FOR THE CHILLED WATER SYSTEM AND ONE FOR HOT WATER SYSTEM

4 COUPON RACK DETAIL
SCALE: NONE

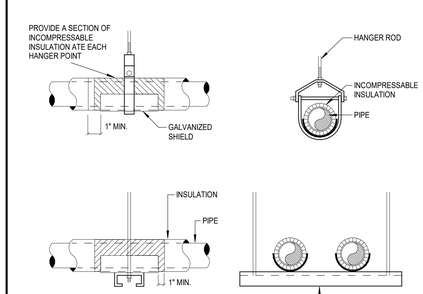


NOTES:
1. PROVIDE A 2" COPPER PIPE FROM THE 3/4" REFRIGERANT PRESSURE RELIEF VALVES LOCATED ON THE CHILLERS THROUGH THE EXTERIOR WALL. THE DICHARGE POINT SHALL BE 15 FEET ABOVE GRADE AND 20 FEET FROM ANY OPENING INTO THE BUILDING.
2. PROVIDE DRAIN AT LOWEST END OF RELIEF PIPING AT CHILLER

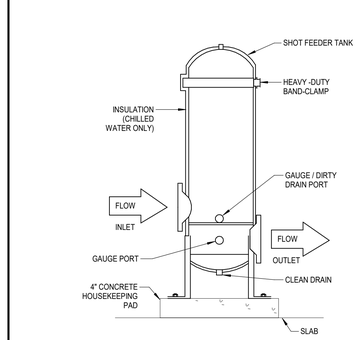
2 CHILLER PRESSURE RELIEF PIPE
SCALE: NONE



5 PUMP PAN
SCALE: NONE



3 PIPE HANGERS
SCALE: NONE



CHILLED AND HOT WATER CHEMICAL FEEDER TANK SUPPORT
1
SCALE: NONE

Revision / Date

Project:
2025 MULTI-CAMPUS CHILLER REPLACEMENT
FOR
CYPRESS-FAIRBANKS ISD
BERRY CENTER
8877 BARKER CYPRESS RD, CYPRESS, TEXAS 77433

BRADLEY KALMANS
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LICENSED
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MECHANICAL SCHEDULES, LEGENDS, AND DETAILS

Job No. 01818-08-04
Sheet No. M4.01-BC
Drw By: BB
Chk By: VP
Date: 08/11/2025

8/8/2025 11:03:32 AM
Autodesk Docs://CYPRESS-FAIRBANKS ISD - CHILLER REPLACEMENTS CAMPBELL MS/CFISD - BERRY CENTER, MEP7 - R23.rvt