Primary Engineering, Inc.
2828 Lake Ave.
Fort Wayne, Indiana 46805
260-424-0444 ph
www.primary-eng.com

Addendum: **1**

Date: **10/14/2024**

Project: **Doermer School of Business**
Building Chillers Replacement - 2024

Comm #: **24636**

The following items shall be incorporated into the specifications and drawings and are considered to be integral to the bid documents for the project. Acknowledgement of receipt of this addendum is required on the bid form.

Item #1: General Clarifications.

A. See attached meeting notes and the sign-in sheet from the pre-bid meeting.

B. Question: Which side is the control panel go for the chiller?
Answer: Control panel on the chiller will be on the south side due to matching the existing piping that is coming from the north. This will match the existing chiller configuration.

C. No contingency is required in the bid. The owner has a separate fund outside of this contract to handle any contingency items.

Item #2: Specification Section 230923, "Instrumentation and Control for HVAC".

A. Add Allerton with Niagara 4 user interface installed by OCS under acceptable manufacturer.

Item #3: Drawing Sheet M001, "MECHANICAL INFORMATION SHEET".

A. Added chiller schedule for both the base bid with 35% EG and the alternate bid with 35% PG as fluid type.

Item #4: Drawing Sheet M101, "MEZZANINE MECHANICAL DEMOLITION PLAN".

A. Revised plan notes for removal of existing ethylene glycol. Pre-testing is not required, a water report was just performed by water sciences.

Item #5: Drawing Sheet M201, "MEZZANINE MECHANICAL PLAN".

A. Revised double box notes for base and alternate bid with the glycol.

Item #6: Drawing Sheet M401, "MECHANICAL DETAIL SHEET".

A. Revised double box note on the new chilled water flow diagram to reflect glycol on base and alternate bid.

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Pre-Bid Meeting Agenda

Date: October 10, 2024

Project Name: Doermer School of Business Building Chillers Replacement - 2024

Project #: 24636

Agenda Items:

- Introductions of Owner Representative, Project Design Team, and Prime Contractors.
  - Carissa Bloom, Project Manager, clbloom@pfw.edu, 260-481-6806
  - Kevin Howard, Construction Observer, howardkt@pfw.edu, 260-481-6797
  - Logan Dant, Primary Engineering, ldant@primary-eng.com, 260-657-0153

- Project Information
  - Bids are due: October 24, 2024 by 11:00am. Room 103 Ginsberg Hall
  - Bids will then be read aloud in Room 114 Ginsberg Hall
  - Submit bid forms in duplicate
  - Review Instructions to Bidders to ensure correct documentation, B-1 through B-8
  - Substantial completion of the project is: April 1, 2026
  - Work can start after the cooling season of 2025, anticipated to be November 3, 2025

- Project scope of work
  - Replace (2) air-cooled chiller on the roof with new. Minimal piping revisions as required for re-connect to new chillers.
  - Base bid is to keep the ethylene glycol and top of system as currently the system is around 30%.
  - Alternate bid is to drain system, flush, and refill with 35% propylene glycol.
  - Refer to addendum #1 for added vendor on the controls work.

- Owner specific requirements
  - Coordinate crane lifts with owner due to building having staff in the building year-round. Owner is willing to work with the contractors on dates so during the work week will be fine. Just needs to be coordinated with the owner. The building tends to be more busy during the weekends due to MBA evening program.

- Procedures for site visits, contact Carissa Bloom.

- Deadline for addendum items and additional manufacturers, Monday October 21, 2024 by noon.

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Pre-bid Meeting Sign-In Sheet

Project: Doermer School of Business Building Chillers Replacement - 2024
Date: October 10, 2024

Name	Firm	Email Address
Eric Pepple	Current	KdWolford@currenthvac.com
Matt Reichhart	G+L	matt@g-lcorp.com
Bobby Elliott	G+L	bobby@g-lcorp.com
Will Davis	PDP	wdavis@pdpmc.com
Carissa Bloom	PFW	clbloom@pfw.edu
Kevin Howard	PFW	howardkt@pfw.edu
Ryan Nix	Service Elec	Rnix@serviceelectric.com
Bobby Jenkins	A. Hattersley	BJenkins@AHattersley.com
Greg Justice	PFW	justiceg@pfw.edu
Logan Dant	PE	ldant@primary-eng.com
Will Terry	PE	wterry@primary-eng.com

AIR COOLED CHILLER SCHEDULE BASE - REVISED 10/14/2024

TAG	MFR.	MODEL	EVAP LOCATION	REFRIG	REFRIG CHARGE (LBS)	CAP (TONS)	FLOW (GPM)	MIN FLOW (GPM)	P.D. (FT)	FLUID TYPE	EWT (DEG F)	LWT (DEG F)	IPLV	EER	ELEC (V/PH)	MCA	MOP	OP. WEIGHT	REMARKS
CHLR-1	TRANE	CGAM130	INTEGRAL	545B	186	121	300	173	17.9	35% EG	55	45	16.66	10.3	460/3	262	350	7,900	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
CHLR-2	TRANE	CGAM130	INTEGRAL	545B	186	121	300	173	17.9	35% EG	55	45	16.66	10.3	460/3	262	350	7,900	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

REMARKS:

1. PROVIDE AND INSTALL WITH WIRING FOR A SINGLE POINT ELECTRICAL CONNECTION WITH TRANSFORMER FOR 120 V CONTROL VOLTAGE (IF NEEDED).
2. PROVIDE AND INSTALL WITH INTEGRAL LCD GRAPHICAL CONTROL INTERFACE AND BACNET/LON INTEGRATION TO BMS.
3. POWER FACTOR SHALL BE MAINTAINED AT 0.9 OR BETTER AT ALL TIMES. PROVIDE FACTORY WIRED CAPACITORS IF REQUIRED.
4. THE CHILLER MANUFACTURER SHALL BE RESPONSIBLE TO VERIFY ALL ELECTRICAL REQUIREMENTS WITH THE BASIS OF DESIGN AND IF ADDITIONAL CIRCUITS, LARGER BREAKERS/WIRES/CONDUITS, ETC. ARE REQUIRED, THESE COSTS SHALL BE BORNE BY THE CHILLER MANUFACTURER.
5. PROVIDE CHILLER WITH NEOPRENE VIBRATION ISOLATORS WITH 1" DEFLECTION MINIMUM WHEN MOUNTED ON STRUCTURE/ROOF.
6. PROVIDE WITH 5 YEAR WARRANTY ON ENTIRE UNIT INCLUDING LABOR, PARTS, AND LOSS OF REFRIGERANT FOR ANY CAUSE.
7. PROVIDE WITH FULLY LOUVERED SIDE PANELS/HAIL GUARDS ON ALL SIDES.
8. WIRING LUGS FOR POWER SHALL BE SIZED FOR FULL LOAD WIRE SIZE AND NOT REDUCED DUE TO DERATE. MFR TO PROVIDE LUGS AS REQUIRED FOR WIRE SIZE SHOWN ON PLANS.
9. UNIT SHALL BE SHIPPED WITH PROTECTION ON ALL EXTERIOR COIL SURFACES TO PREVENT DAMAGE FROM ROCKS, RIGGING, AND HANDLING DURING SHIPPING, HANDLING, AND INSTALLATION.
10. PROVIDE WITH LOW SOUND KIT, COMPRESSOR SOUND ENCLOSURES, AND LOW SOUND CONDENSER FANS.
11. PROVIDE AND INSTALL WITH FACTORY PROVIDED NON FUSED ELECTRICAL DISCONNECT SWITCH FOR FIELD INSTALLATION.
12. PROVIDE WITH (1) TOUCHSCREEN CHILLER SEQUENCER PANEL TO CONTROL ALL CHILLERS FROM A SINGLE BMS CHW SETPOINT. PROVIDE ALL REQUIRED SENSORS, WIRING, PROGRAMMING, AND ONSITE SETUP.

NOTES:

1. FOULING FACTOR SHALL BE 0.0001.

1

AIR COOLED CHILLER SCHEDULE ALT. - REVISED 10/14/2024

TAG	MFR.	MODEL	EVAP LOCATION	REFRIG	REFRIG CHARGE (LBS)	CAP (TONS)	FLOW (GPM)	MIN FLOW (GPM)	P.D. (FT)	FLUID TYPE	EWT (DEG F)	LWT (DEG F)	IPLV	EER	ELEC (V/PH)	MCA	MOP	OP. WEIGHT	REMARKS
CHLR-1	TRANE	CGAM130	INTEGRAL	545B	186	124	300	173	19.0	35% PG	55	45	17.40	10.3	460/3	262	350	7,900	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
CHLR-2	TRANE	CGAM130	INTEGRAL	545B	186	124	300	173	19.0	35% PG	55	45	17.40	10.3	460/3	262	350	7,900	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

REMARKS:

1. PROVIDE AND INSTALL WITH WIRING FOR A SINGLE POINT ELECTRICAL CONNECTION WITH TRANSFORMER FOR 120 V CONTROL VOLTAGE (IF NEEDED).
2. PROVIDE AND INSTALL WITH INTEGRAL LCD GRAPHICAL CONTROL INTERFACE AND BACNET/LON INTEGRATION TO BMS.
3. POWER FACTOR SHALL BE MAINTAINED AT 0.9 OR BETTER AT ALL TIMES. PROVIDE FACTORY WIRED CAPACITORS IF REQUIRED.
4. THE CHILLER MANUFACTURER SHALL BE RESPONSIBLE TO VERIFY ALL ELECTRICAL REQUIREMENTS WITH THE BASIS OF DESIGN AND IF ADDITIONAL CIRCUITS, LARGER BREAKERS/WIRES/CONDUITS, ETC. ARE REQUIRED, THESE COSTS SHALL BE BORNE BY THE CHILLER MANUFACTURER.
5. PROVIDE CHILLER WITH NEOPRENE VIBRATION ISOLATORS WITH 1" DEFLECTION MINIMUM WHEN MOUNTED ON STRUCTURE/ROOF.
6. PROVIDE WITH 5 YEAR WARRANTY ON ENTIRE UNIT INCLUDING LABOR, PARTS, AND LOSS OF REFRIGERANT FOR ANY CAUSE.
7. PROVIDE WITH FULLY LOUVERED SIDE PANELS/HAIL GUARDS ON ALL SIDES.
8. WIRING LUGS FOR POWER SHALL BE SIZED FOR FULL LOAD WIRE SIZE AND NOT REDUCED DUE TO DERATE. MFR TO PROVIDE LUGS AS REQUIRED FOR WIRE SIZE SHOWN ON PLANS.
9. UNIT SHALL BE SHIPPED WITH PROTECTION ON ALL EXTERIOR COIL SURFACES TO PREVENT DAMAGE FROM ROCKS, RIGGING, AND HANDLING DURING SHIPPING, HANDLING, AND INSTALLATION.
10. PROVIDE WITH LOW SOUND KIT, COMPRESSOR SOUND ENCLOSURES, AND LOW SOUND CONDENSER FANS.
11. PROVIDE AND INSTALL WITH FACTORY PROVIDED NON FUSED ELECTRICAL DISCONNECT SWITCH FOR FIELD INSTALLATION.
12. PROVIDE WITH (1) TOUCHSCREEN CHILLER SEQUENCER PANEL TO CONTROL ALL CHILLERS FROM A SINGLE BMS CHW SETPOINT. PROVIDE ALL REQUIRED SENSORS, WIRING, PROGRAMMING, AND ONSITE SETUP.

NOTES:

1. FOULING FACTOR SHALL BE 0.0001.

CONTROLS POINT LIST SCHEDULE

Point Description	Control Relay/Contactor	Floating Point Control	Solenoid Valve	Pneumatic Transducer	Electrical Transducer	4-20 ma or 0-10 VDC	Pressure Switch	Flow Switch	Space Occupancy Sensor	Current Switch	Over-ride button	Contact Closure	Photocell	Auxiliary Contact	KW Meter Contact	Temperature	Relative Humidity	Set Point Adjustment	Carbon Dioxide Level (ppm)	Carbon Monoxide (ppm)	Lighting Level (Foot candles)	Pressure (in H2O, ft H2O, DP)	Flow Measurement (gpm/cfm)	Electrical Current Flow (amps)	Position Feedback	Trending	Equipment Alarm	Freezestat Alarm	Maintenance Notification	High Limit	Low Limit (Temperature)	Run Time Alarm	Scheduled On/Off	Optimum Start/Stop	Totalization	O.A. Reset	Lead/Lag Control	BACNET software point	Lighting Control Integration	Color Graphics Item
Purdue of Fort Wayne	HARDWARE																																SOFTWARE							
Doermer School of Business	OUTPUT (O)						INPUT (T, D, V, C)																				ALARMS						BMS FUNCTIONS							
	DGTAL			ANALOG			DIGITAL									ANALOG											DGTAL			ANALOG										
Chiller Plant																																								X
Chiller plant enable/disable	X																																							X
Chilled water supply setpoint						X																																		X
Chiller alarm (2)												X																										X		X
Chiller capacity % (2)																																						X		X
Chiller status (2)																																						X		X
Chiller leaving water temp (2)																																						X		X
Existing CHWS loop to building																X															X									X
Existing CHWR loop from building																X																								X
Existing Chilled water pumps (2)						X																		X								X					X	X		X
Glycol Fill Station																																								X
Low level alarm												X																	X											X
Pump status																								X								X								X

GLYCOL FILL STATION SCHEDULE

TAG	MFR.	MODEL	CAPACITY (GAL)	MAX. PRESSURE (PSI)	FLOW RATE (GPM)	MOTOR SIZE (HP)	ELEC (V/PH)	REMARKS
GFS-1	CALIFACTIO	GMP18	18	60	1.6	-	120/1	1, 2

REMARKS:

1. PROVIDE AND INSTALL WITH FULLY PIPED PRESSURE SWITCH, PRESSURE GAUGE, AND LOW LEVEL ALARM SYSTEM.
2. PROVIDE WITH AUXILLARY ALARM CONTACT FOR LOW LEVEL FOR BMS INTEGRATION.

MECHANICAL SYMBOL SCHEDULE

PIPING SYMBOLS

- AUTOMATIC FLOW CONTROL VALVE
- AIR SEPARATOR
- AV — AUTOMATIC AIR VENT
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DOUBLE CHECK BACKFLOW PREVENTER
- FM — FLOW METER
- GAS OUTLET TURRET
- GAS COCK
- GATE VALVE
- GLOBE VALVE
- HOSE THREAD END WITH CAP
- INLINE PIPE DROP
- INLINE PUMP
- INLINE PIPE RISE
- MANUAL FLOW CONTROL VALVE
- MV — MANUAL AIR VENT
- M — METER
- P&T RELIEF VALVE
- P&T PORT
- PIPE BREAK
- PIPE CAP
- PIPE DROP
- PIPE RISE
- T — PIPE THERMOMETER
- P — PRESSURE GAUGE
- PRESSURE INDEPENDENT CONTROL VALVE
- PRESSURE REDUCING VALVE
- PRESSURE REGULATING VALVE
- STRAINER
- STRAINER WITH BLOWDOWN
- T — STEAM TRAP
- TS — TEMPERATURE SENSOR
- THERMOSTATIC MIXING VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- UNION

MECHANICAL SYMBOLS

- BACKDRAFT DAMPER
- SFD — COMBINATION SMOKE/FIRE DAMPER
- M — CONTROL DAMPER ACTUATOR
- DOUBLE WALL DUCTWORK
- DUCT CAP
- DUCT MOUNTED COIL
- DUCTWORK WITH DUCT LINER
- DUCTWORK WITHOUT DUCT LINER
- FAN POWERED VAV BOX WITH REHEAT
- FD — FIRE DAMPER
- FD — FIRE DAMPER
- FLEXIBLE DUCT
- INLINE PUMP
- MV — MANUAL AIR VENT
- OPPOSED BLADE BALANCE DAMPER
- RETURN/EXHAUST/ TRANSFER AIR GRILLE
- SHUTOFF VAV BOX WITH REHEAT
- SINGLE BLADE BALANCE DAMPER
- STRAINER
- STRAINER WITH BLOWDOWN
- SUPPLY AIR DIFFUSER
- TS — TEMPERATURE SENSOR
- T — THERMOMETER
- UNIT HEATER
- P — WALL MOUNTED PRESSURE GAUGE

MECHANICAL LINE TYPES

- EXISTING DUCT TO REMAIN
- NEW SUPPLY DUCT
- NEW RETURN DUCT
- NEW OUTSIDE AIR DUCT
- NEW EXHAUST DUCT
- DUCT TO BE REMOVED
- HWS — HOT WATER SUPPLY PIPE
- HWR — HOT WATER RETURN PIPE
- CHWS — CHILLED WATER SUPPLY PIPE
- CHWR — CHILLED WATER RETURN PIPE
- GLY — GLYCOL PIPE
- LPSS — LOW PRESSURE STEAM SUPPLY
- LPSR — LOW PRESSURE STEAM RETURN
- HPSS — HIGH PRESSURE STEAM SUPPLY
- HPSR — HIGH PRESSURE STEAM RETURN
- STR — STEAM CONDENSATE
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN

GENERAL LINE TYPES

- EXISTING TO REMAIN LINE WEIGHT
- EXISTING TO BE DEMOLISHED LINE TYPE AND WEIGHT
- NEW DUCT LINE WEIGHT
- NEW PIPING LINE WEIGHT
- NEW EQUIPMENT LINE WEIGHT

ABBREVIATIONS

ACCU	AIR COOLED CONDENSING UNIT
A.F.F	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLER
AS	AIR SEPARATOR
ADS	AIR DIRT SEPARATOR
B	BOILER
CF	CEILING FAN
CHLR	CHILLER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENSATE DRAIN
CUH	CABINET UNIT HEATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DIFFUSER
DC	DUCT COIL
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ET	EXPANSION TANK
F	FURNACE
FD	FIRE DAMPER
FM	FLOW METER
FTR	FINNED TUBE RADIATION
HPSR	HIGH PRESSURE STEAM RETURN
HPSS	HIGH PRESSURE STEAM SUPPLY
HVAC	HEATING VENTILATING AND COOLING UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
L	LOUVER
LPSR	LOW PRESSURE STEAM RETURN
LPSS	LOW PRESSURE STEAM SUPPLY
LRP	LINEAR RADIANT PANEL
MAU	MAKE-UP AIR UNIT
OA	OUTSIDE AIR
OAC	OPENING ABOVE CEILING
P	PUMP
RA	RETURN AIR
RAD	RADIANT HEATER
REL	RELIEF AIR
RET	RETURN AIR
RC	ROOF CAP
RF	RELIEF FAN
RG	RETURN GRILLE
RTU	ROOFTOP UNIT
RV	RELIEF VENT
SA	SUPPLY AIR
SFD	SMOKE FIRE DAMPER
SR	SUPPLY REGISTER
TG	TRANSFER GRILLE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX

GENERAL SYMBOLS

- EXTENT OF DEMOLITION
- TIE-IN OF NEW TO EXISTING

MECHANICAL CONTROL SYMBOLS

- S CO2 — CARBON DIOXIDE SENSOR
- S — CARBON MONOXIDE SENSOR
- P — DUCT OR PIPE PRESSURE SENSOR
- T — SECURITY TYPE THERMOSTAT
- TP — PNEUMATIC THERMOSTAT
- T — THERMOSTAT
- TE — THERMOSTAT (LINE VOLTAGE)
- T THC — THERMOSTAT WITH HUMIDISTAT AND CO2 SENSOR
- H — HUMIDISTAT
- DP — DIFFERENTIAL PRESSURE SENSOR

GENERAL DEMOLITION NOTES

1. ALL EXISTING PENETRATIONS FROM DUCT/ PIPE/ WIRE/ CONDUIT THAT IS REMOVED SHALL BE PATCHED BY PROPER TRADES TO MATCH SURROUNDINGS UNLESS PENETRATION IS TO BE REUSED. PATCH ALL FLOOR AND WALL PENETRATIONS TO MAINTAIN FIRE RATED CONSTRUCTION.
2. ALL ROOF PENETRATIONS NOT BEING REUSED SHALL BE PATCHED TO MAINTAIN EXISTING ROOF WARRANTY. EXISTING CURBS TO BE ABANDONED SHALL BE CAPPED WITH ALUMINUM HOOD PAINTED WITH "N.I.S." (NOT IN SERVICE). INSULATE CAVITY BELOW CAP WITH TIGHT FITTING 3" FOAM BOARD WRAPPED WITH SHEET METAL.
3. ALL PIPE SHALL BE REMOVED TO WITHIN AREAS THAT ARE INACCESSIBLE SUCH AS WALL CAVITIES AND BELOW SLAB. IN FINISHED SPACES REMOVE BELOW SURFACE, CAP WATER TIGHT, AND PATCH SURFACE TO MATCH SURROUNDINGS.
4. ALL PATCHING OF WALLS SHALL MATCH MATERIALS AND WHEN COMPLETE SHALL NOT LOOK LIKE A PATCH.
5. TOOTH-IN NEW BRICK/ BLOCK WITH FULL UNITS, DO NOT CUT FILLER PIECES.
6. PRIOR TO CUTTING EXISTING SLAB ON GRADE, CONTRACTOR SHALL VERIFY EXISTENCE OF EXISTING UTILITIES SUCH AS PIPING, CONDUIT, WIRE, ETC. BY MEANS OF GROUND PENETRATING RADAR TO LOCATE AND DETERMINE DEPTH OF BURY. TAKE PRECAUTIONS TO DE-ENERGIZE POWER TO CIRCUITS AND CAREFULLY CUT AND REMOVE SLAB. ANY UTILITIES THAT WERE LOCATED AND SUBSEQUENTLY DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER.

GENERAL MECHANICAL NOTES

1. DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AND FITTINGS SHALL BE ADDED AS REQUIRED TO COORDINATE WITH OBSTRUCTIONS AND OTHER TRADES.
2. COORDINATE ALL WORK WITH OTHERS TRADES AND EXISTING WORK TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL J-BOXES TO PREVENT OBSTRUCTIONS.
3. DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO DIMENSIONED DRAWINGS.
4. ALL GRILLES, DIFFUSERS, AND REGISTERS SHALL HAVE A VOLUME CONTROL DAMPER UNLESS NOTED OTHERWISE. DAMPER SHALL BE IN AN ACCESSIBLE LOCATION.
5. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLATION METHODS.
6. DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIALS, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE WITH OTHER TRADES.
7. ALL THERMOSTATS/HUMIDITY SENSORS WITH ADJUSTMENT BUTTONS/ SLIDERS/ KNOBS/ DISPLAYS, ETC. SHALL BE MOUNTED WITH THE TOP OF THE DEVICE NO MORE THAN 48" AFF, IN COMPLIANCE WITH LOCAL AND FEDERAL ADA WHEELCHAIR REACH DISTANCE GUIDELINES. PROVIDE ADDITIONAL SURFACE RACEWAY, BOXES, CONDUIT, ETC AS REQUIRED TO OFFSET AROUND EXISTING DEVICES IN RENOVATION WORK.
8. ALL DUCT SIZES LISTED ARE FOR INTERIOR FREE AREA. ANY DUCTS DESIGNATED OR SPECIFIED TO BE DOUBLE WALL OR INTERNALLY LINED SHALL HAVE OUTER DIMENSIONS ENLARGED TO ACCOMMODATE THE LINER OR INTERSTITIAL INSULATION.

IF THE WHEEL PRINTED BELOW IS NOT SHOWN IN COLOR, THIS SET OF PRINTS IS NOT REPRESENTING ALL LINE TYPES CORRECTLY. CONTACT PRIMARY ENGINEERING FOR DIRECTIONS ON HOW TO OBTAIN A FULL COLOR SET OF PRINTS

1 ADDENDUM #1 10-14-2024

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PURDUE UNIVERSITY FORT WAYNE

CERTIFICATION:

LOGAN DANT REGISTERED PE12300220 STATE OF INDIANA PROFESSIONAL ENGINEER

DATE: 09/20/2024

COMM: 24636

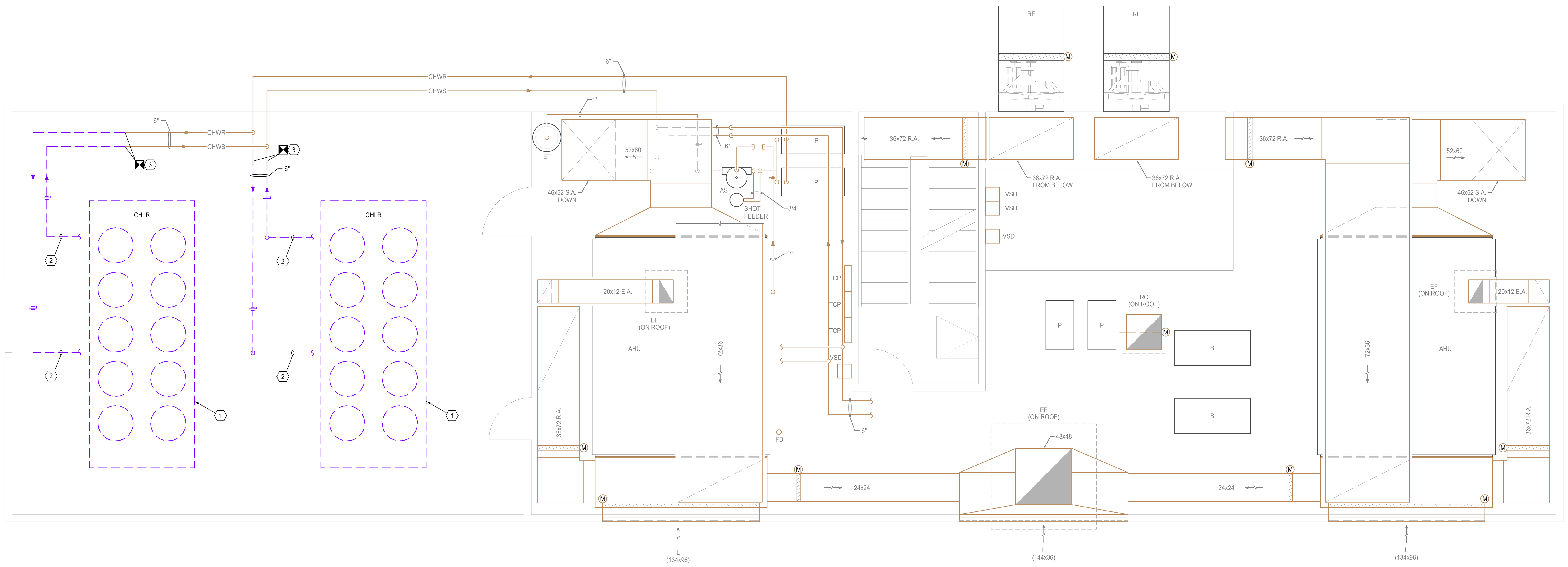
FILE: 636M001

TITLE:

MECHANICAL INFORMATION SHEET

SHEET:

M001



MEZZANINE MECHANICAL DEMOLITION PLAN

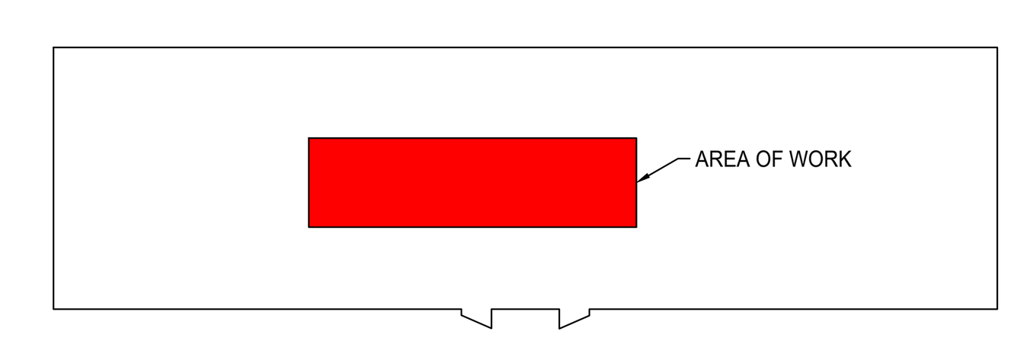
SCALE: 1/4" = 1'-0"

MECHANICAL DEMOLITION PLAN NOTES

1. REMOVE EXISTING CHILLER COMPLETE INCLUDING ALL ASSOCIATED PIPING, WIRING, CONTROLS, ETC. EXISTING STRUCTURAL SUPPORTS TO REMAIN.
2. REMOVE EXISTING PIPING COMPLETE INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS.
3. CONTRACTOR SHALL FULLY EVACUATE GLYCOL SYSTEM IN ITS ENTIRETY AND SAVE FOR REUSE.

UNDER AND ALTERNATE BID, CONTRACTOR SHALL FULLY EVACUATE CHILLED WATER SYSTEM IN ITS ENTIRETY. APPROXIMATE SYSTEM VOLUME = 730 GALLONS. DISPOSE OF THIS MATERIAL IN ACCORDANCE WITH ALL LOCAL/FEDERAL REQUIREMENTS. FLUSH SYSTEM WITH CLEAN WATER AND CIRCULATE TO REMOVE ALL RESIDUAL GLYCOL AND PUMP OUT AND DISPOSE OF THIS VOLUME ALSO. PROVIDE NEW PRE-MIXED 35% PROPYLENE GLYCOL. ALL CHEMICAL TREATMENT SHALL BE PERFORMED BY WATER SCIENCES (260-485-4655).

ADDENDUM #1 10-14-2024



KEYPLAN

SCALE: N.T.S.

IF THE WHEEL PRINTED BELOW IS NOT SHOWN IN COLOR, THIS SET OF PRINTS IS NOT REPRESENTING ALL LINE TYPES CORRECTLY. CONTACT PRIMARY ENGINEERING FOR DIRECTIONS ON HOW TO OBTAIN A FULL COLOR SET OF PRINTS

SCALE: 1/16" = 1'-0" (0, 16, 32, 48)
SCALE: 3/32" = 1'-0" (0, 8, 16, 24, 32)
SCALE: 1/8" = 1'-0" (0, 8, 16, 24)
SCALE: 1/4" = 1'-0" (0, 4, 8, 12)
SCALE: 1/2" = 1'-0" (0, 2, 4, 6)
SCALE: 3/4" = 1'-0" (0, 2, 4)
SCALE: 1" = 1'-0" (0, 1, 2, 3)

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PURDUE UNIVERSITY FORT WAYNE

CERTIFICATION:

LOGAN DANT REGISTERED PE12300220 STATE OF INDIANA PROFESSIONAL ENGINEER

DATE: 09/20/2024

COMM: 24636

FILE: 636M101

TITLE:

MEZZANINE MECHANICAL DEMOLITION PLAN

SHEET:

M101

MECHANICAL PLAN NOTES

1. PROVIDE AND INSTALL NEW CHILLER ON TO EXISTING STRUCTURAL PLATFORM. CENTER NEW CHILLER OVERTOP OF EXISTING (2) STRUCTURAL BEAMS. PROVIDE AND INSTALL NEW VIBRATION ISOLATORS.
2. ALL EXTERIOR CHILLED WATER PIPING SHALL BE WELDED AND PAINTED WITH (2) COATS OF RUST INHIBITING PAINT. INSULATE AND JACKET PER SPECIFICATIONS. JACKETING SHALL BE VICTORY CLAD VC700 SERIES WITH 2" OF OVERLAP ON ALL JOINTS AND SEAMS.
3. PROVIDE AND INSTALL STAINLESS STEEL DB SERIES DURA-BLOK ROOFTOP SUPPORTS. REFER TO MANUFACTURER FOR EXACT SPACING REQUIREMENTS. COORDINATE HEIGHT OF SUPPORTS WITH THE HEIGHT OF THE EXISTING PIPING.
4. MOUNT NEW CONTROLS INSIDE EXISTING TCP AS REQUIRED FOR NEW CHILLER CONTROLS. REFER TO POINTS LIST ON SHEET M001 FOR MORE INFORMATION.

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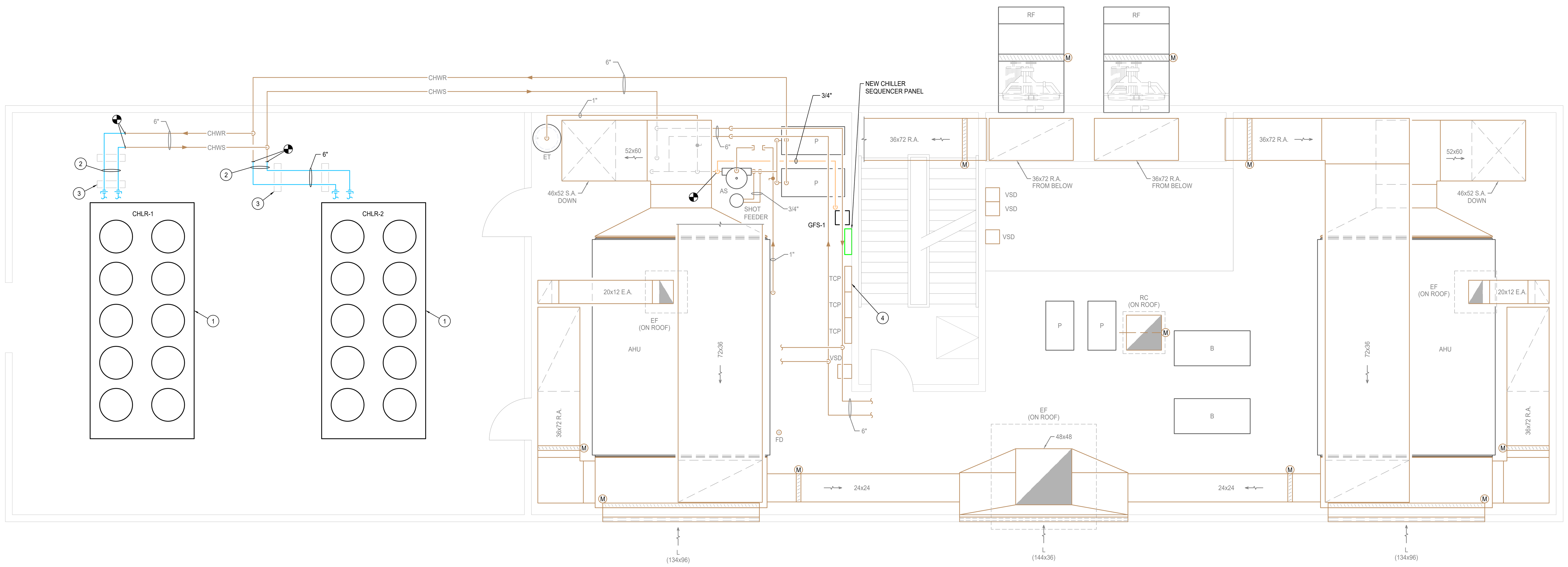
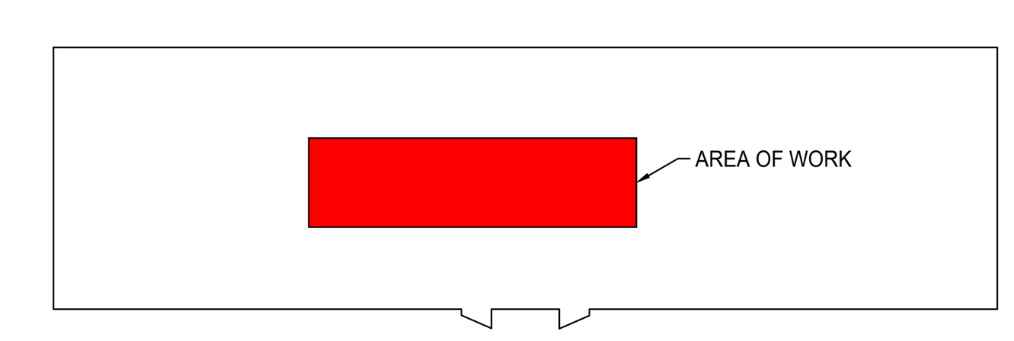
- CRANE SHALL BE SCHEDULED SUCH THAT NO LOADS ARE MOVED ABOVE THE OCCUPIED BUILDING DURING OPERATIONAL HOURS. COORDINATE EXACT DATE AND TIME WITH THE OWNER AT LEAST 1 WEEK IN ADVANCE.
- FILL SYSTEM WITH SALVAGED 30% E.G. AND ADD GLYCOL AS REQUIRED TO REACH 35% E.G.
- UNDER AN ALTERNATE BID, CONTRACTOR SHALL FULLY EVACUATE CHILLED WATER SYSTEM IN ITS ENTIRETY. APPROXIMATE SYSTEM VOLUME = 730 GALLONS. DISPOSE OF THIS MATERIAL IN ACCORDANCE WITH ALL LOCAL/FEDERAL REQUIREMENTS. FLUSH SYSTEM WITH CLEAN WATER AND CIRCULATE TO REMOVE ALL RESIDUAL GLYCOL AND PUMP OUT AND DISPOSE OF THIS VOLUME ALSO. PROVIDE NEW PRE-MIXED 35% PROPYLENE GLYCOL. ALL CHEMICAL TREATMENT SHALL BE PERFORMED BY WATER SCIENCES (260-485-4655).



MEZZANINE MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

1 ADDENDUM #1 10-14-2024



KEYPLAN
SCALE: N.T.S.

0 16 32 48 SCALE: 1/16" = 1'-0"
0 8 16 24 32 SCALE: 3/32" = 1'-0"
0 8 16 24 SCALE: 1/8" = 1'-0"
0 4 8 12 SCALE: 1/4" = 1'-0"
0 2 4 6 SCALE: 1/2" = 1'-0"
0 2 4 SCALE: 3/4" = 1'-0"
0 1 2 3 SCALE: 1" = 1'-0"

IF THE WHEEL PRINTED BELOW IS NOT SHOWN IN COLOR, THIS SET OF PRINTS IS NOT REPRESENTING ALL LINE TYPES CORRECTLY. CONTACT PRIMARY ENGINEERING FOR DIRECTIONS ON HOW TO OBTAIN A FULL COLOR SET OF PRINTS

PRIMARY ENGINEERING INC
Indianapolis
www.primary-eng.com
Fort Wayne
2828 Lake Ave.
Fort Wayne, Indiana 46805
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Doermer School of Business
Building Chillers Replacement - 2024

3000 E. Coliseum Blvd.,
Fort Wayne, Indiana 46805

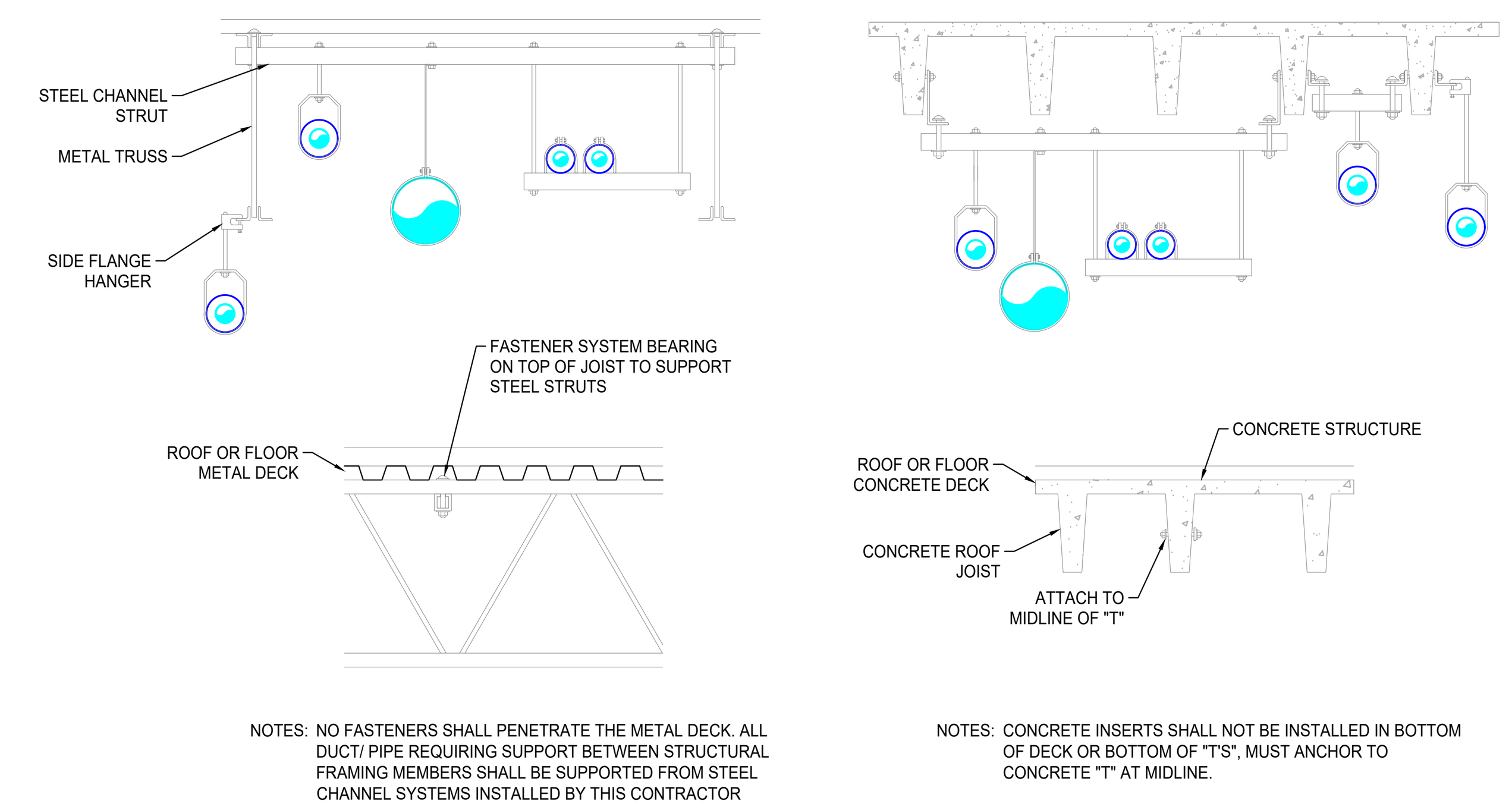
PURDUE UNIVERSITY FORT WAYNE

CERTIFICATION:
LOGAN DANT REGISTERED PE12300220 STATE OF INDIANA PROFESSIONAL ENGINEER

DATE: 09/20/2024
COMM: 24636
FILE: 636M201

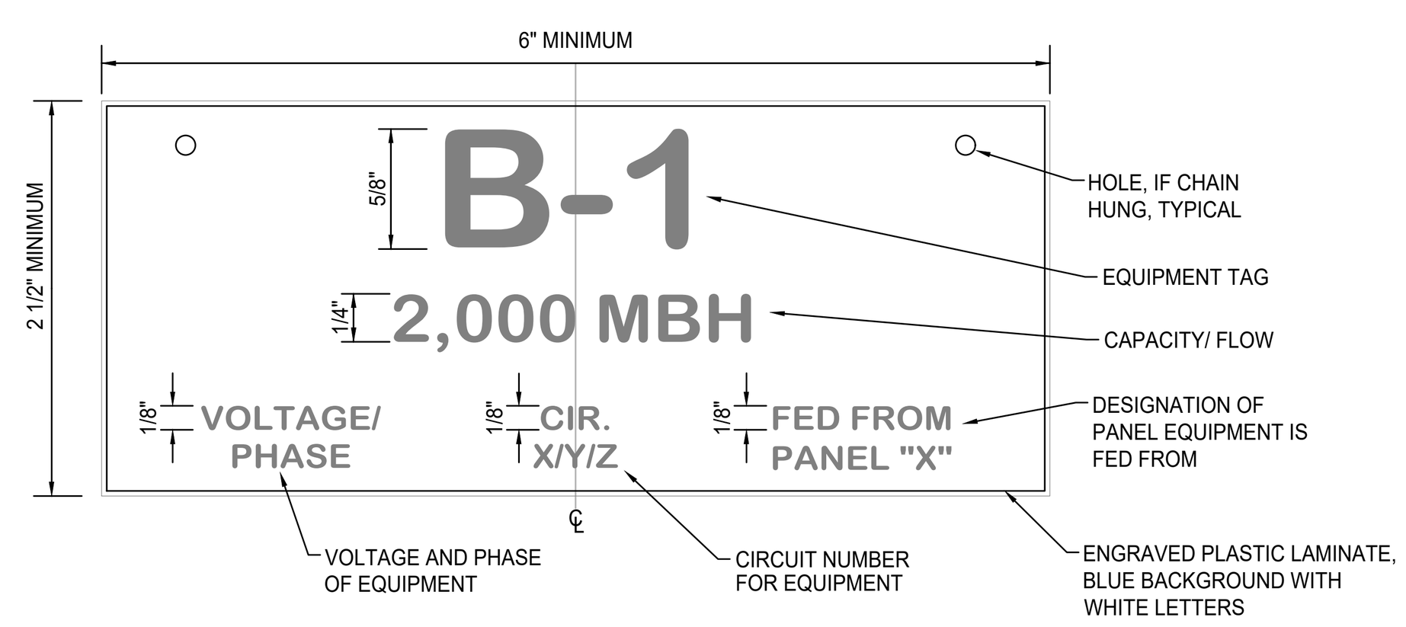
TITLE:
MEZZANINE MECHANICAL PLAN

SHEET:
M201



TYPICAL INTERMEDIATE DUCT/PIPE HANGER SUPPORT FRAMING DETAIL

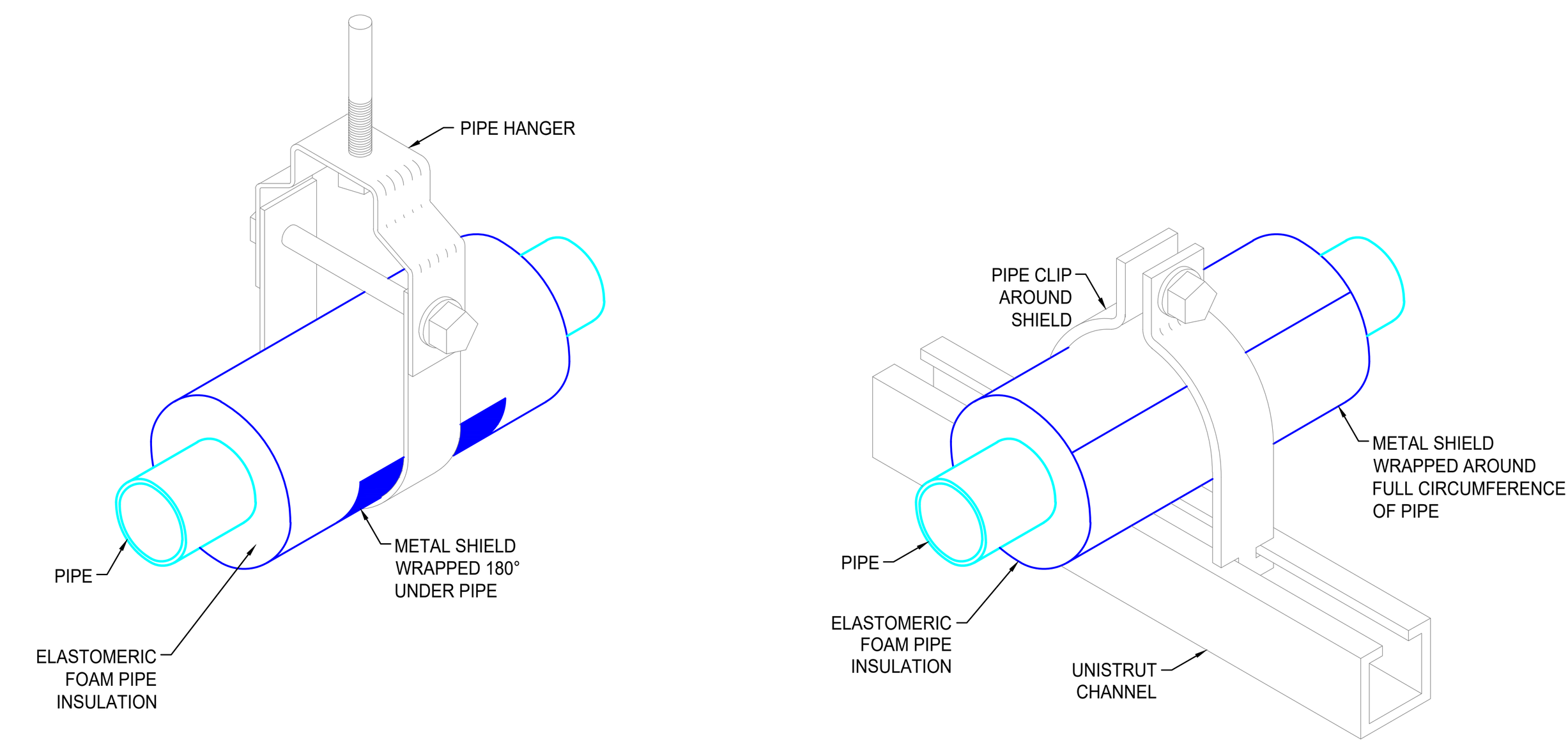
SCALE: NTS



* INSTALL TAG ON FRONT FACE OF EQUIPMENT LOCATED IN EQUIPMENT ROOMS. IN FINISHED SPACES INSTALL TAG ON INTERIOR OF EQUIPMENT UNDER SERVICE ACCESS DOOR/PANELS IN A CONCEALED LOCATION.

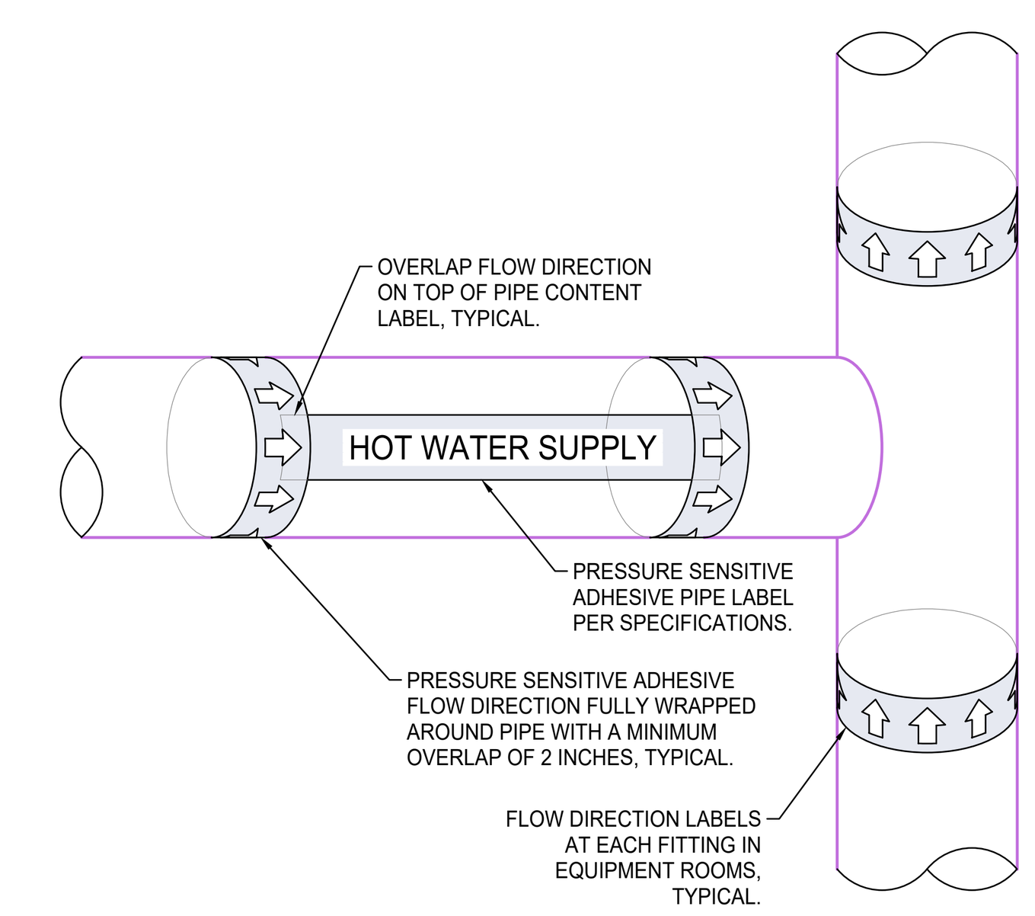
TYPICAL EQUIPMENT TAG DETAIL

SCALE: NTS



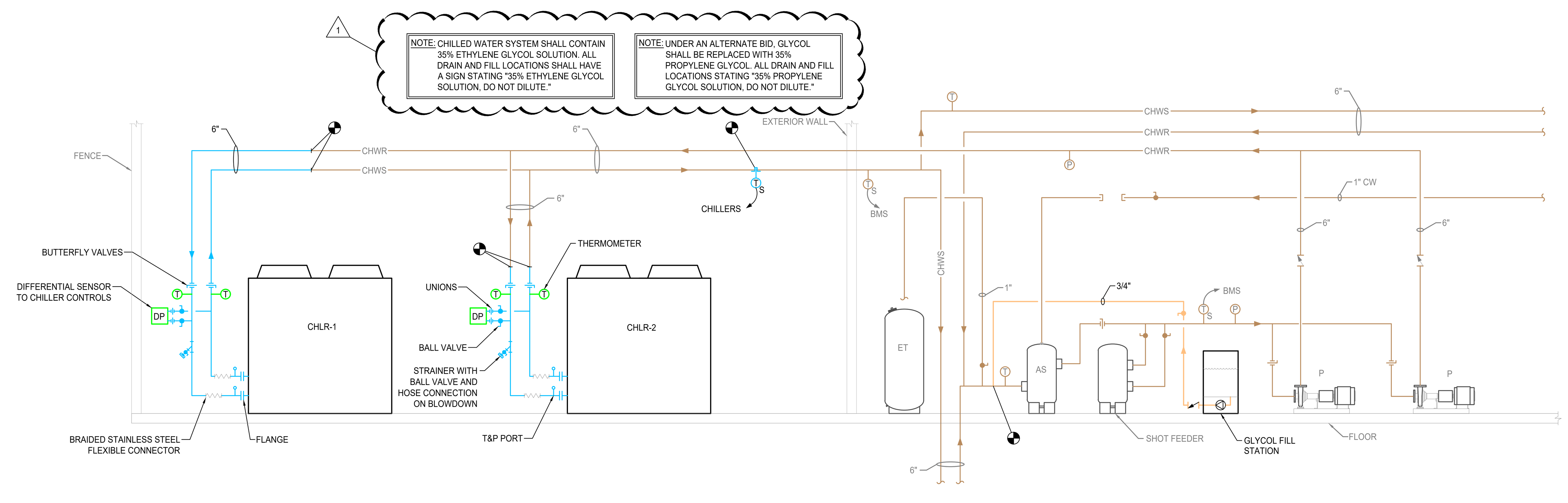
TYPICAL PIPE SUPPORT DETAIL FOR INSULATED PIPE

NOT TO SCALE



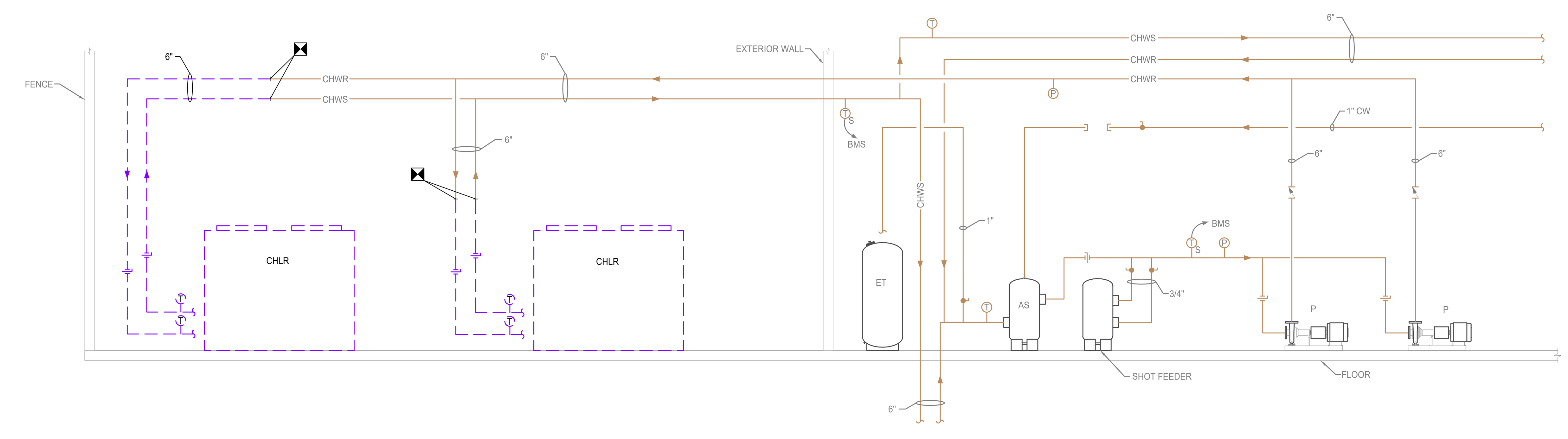
PIPE LABEL DETAIL

SCALE: NTS



CHILLED WATER FLOW DIAGRAM

SCALE: NTS



CHILLED WATER DEMOLITION FLOW DIAGRAM

SCALE: NTS

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DATE: 09/20/2024
COMM: 24636
FILE: 636M401

TITLE:
MECHANICAL DETAIL SHEET

SHEET:
M401