

1 ROOF PLAN  
1/16" = 1'-0"

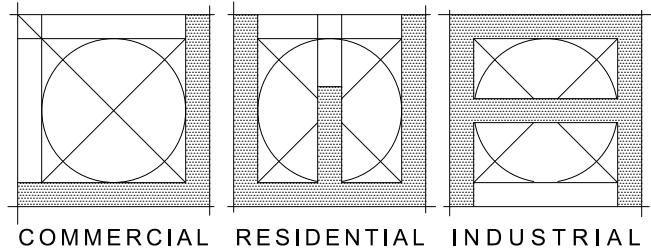
### DEMOLITION NOTES

- ANY AND ALL WORK SHOWN TO BE CARRIED OUT IN ACCORDANCE WITH ALL GOVERNING AND LOCAL CODES.
- DIMENSIONS AND ROOM SIZES MAY VARY DUE TO ACTUAL SITE AND BUILDING CONDITIONS.
- VERIFY ALL DIMENSIONS IN FIELD-BRING ANY INCONSISTENCIES OR DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT.
- CONTRACTOR TO SHORE AND SUPPORT ANY EXISTING CONSTRUCTION TO REMAIN UNTIL ALL NEW CONSTRUCTION AND IMPOSED LOADS ARE IN PLACE.

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JOSEPH W. ANDERSON  
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#### CONSULTANTS:

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ILLINOIS PROF. DESIGN FIRM LICENSE NO. 184-003483

#### OWNER:

#### PROJECT:

WINNEBAGO COUNTY  
JUSTICE BUILDING

## COOLING TOWER REPLACEMENT

#### ADDRESS:

211 S. COURT ST.  
ROCKFORD, IL 61101

#### REVISIONS:

MARK	DATE	DESCRIPTION
-	01-16-23	CD's FOR PERMIT AND CONSTRUCTION
1	----	----
2	----	----
3	----	----
4	----	----
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6	----	----

CAD FILE: A100 ROOF PLAN & NOTES.DWG

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CHK'D BY: -

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PROJECT NUMBER:

22-2338

SHEET TITLE:

ROOF PLAN & NOTES

SHEET NUMBER:

A100

SHEET: - OF -

#### INTERIOR DECK REPAIR

- ROOF INSPECTIONS & REPAIRS TO BE CONDUCTED PER CODE BY A LICENSED ROOFING CONTRACTOR UNDER BUILDING PERMIT.
- STRUCTURAL REPAIRS:  
MATCH EXISTING MATERIALS, SIZES AND METHODS. REPAIR TO ORIGINAL ASSEMBLY. IF ORIGINAL MATERIALS AND METHODS ARE NOT AVAILABLE, CONSULT A STRUCTURAL ENGINEER.
- ALL ROOFING WORK TO BE PERFORMED BY A LICENSED ROOFING CONTRACTOR.
- MATCH EXISTING CONSTRUCTION FOR THICKNESS AND DIMENSION TO THE GREATEST EXTENT POSSIBLE.

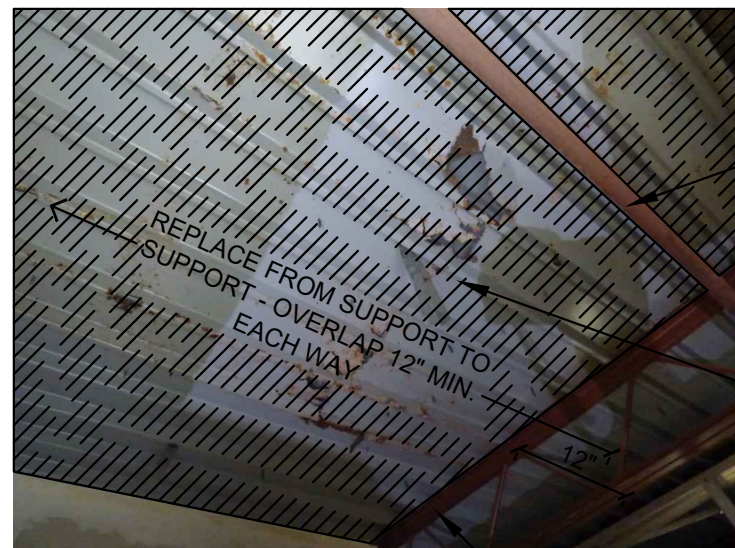


PHOTO 3 - FOR REFERENCE/CONTEXT

EXISTING BAR JOIST BRIDGING TO  
REMAIN

REMOVE COMPROMISED/RUSTED  
AREA OF ROOF DECKING. PATCH  
AND OVERLAP NEW DECKING OVER  
EXISTING AND SUPPORT  
STRUCTURE.

EXISTING BAR JOIST(S) TO REMAIN

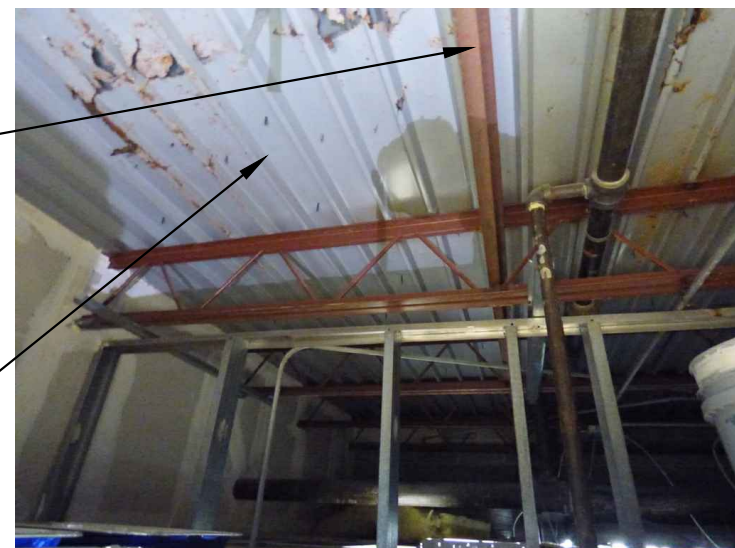


PHOTO 4 - FOR REFERENCE/CONTEXT

### PROJECT DATA

WINNEBAGO COUNTY  
JUSTICE BUILDING

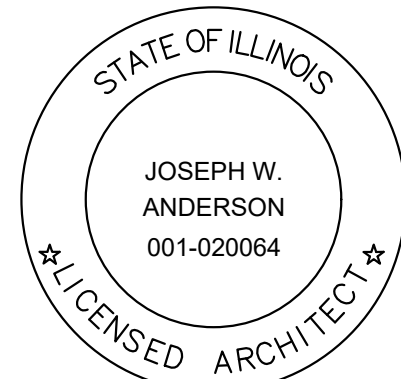
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### SEALS

Joseph W. Anderson  
Licensed Architect, State of Illinois Licence #001-020064  
Expires: 11-30-2024



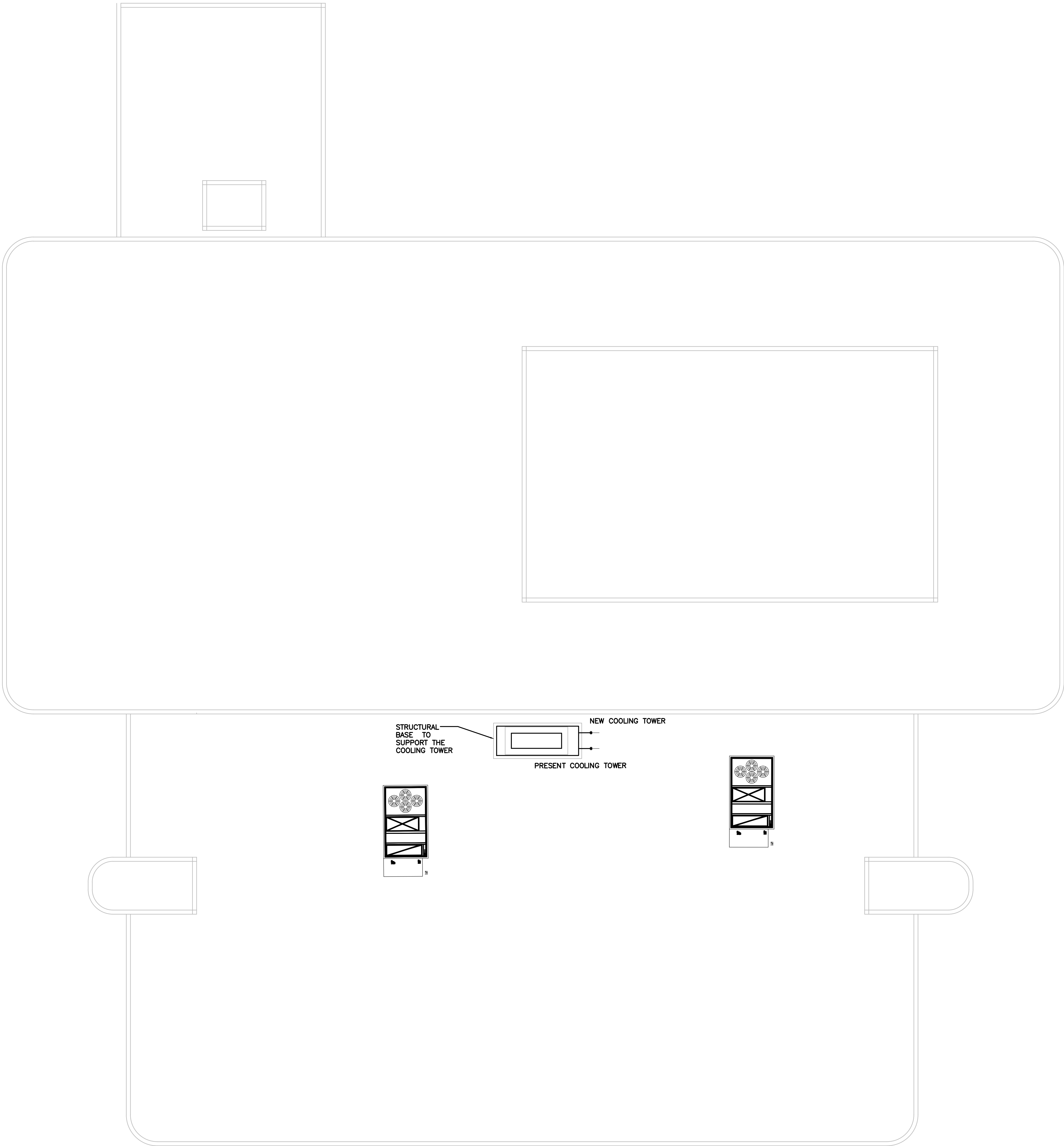
DATE: 01-16-23

#### Compliance Statement - Architect of Record:

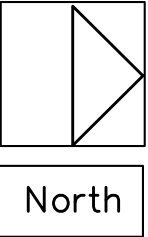
I have prepared, or caused to be prepared under my direct supervision, the attached plans and specifications and state that, to the best of my knowledge and belief and to the extent of my contractual obligation, they comply with the environmental Barriers Act (410ICLS 25) and the Illinois Accessibility Code (97 ILL Adm. Code 400). To the best of my knowledge, I have interpreted and attempted to comply with all ADA standards.

I hereby certify that these plans have been prepared under my direct supervision and, to the best of my knowledge, conform to all applicable codes and regulations per the agencies having jurisdiction.





HVAC — NEW  
PARTIAL PENTHOUSE PLAN  
SCALE: 1/8" = 1'-0"



ISSUE NO	REVISIONS	ISSUE DATE

ISSUE NO	REVISIONS	ISSUE DATE

Proposed Cooling Tower  
Replacement for  
Justice Building  
211 S. Court St.  
Rockford, IL 61101

Project number 222238
Date July 17, 2023
Drawn by Legacy
Checked by J.T.

M1.1

Legacy Designs, Inc.  
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e-mail legacy@legacydesigns.net  
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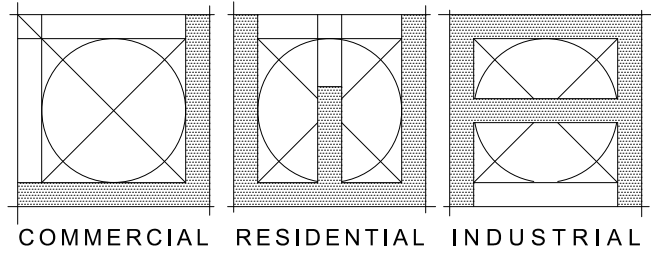
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PROJECT NUMBER:

23-0001

SHEET TITLE:

ROOF PLAN & NOTES

SHEET NUMBER:

A100

SHEET: - OF -

### SCOPE OF WORK NOTES

#### EXTERIOR ROOF/CURB

- ALL ROOFING WORK TO BE PERFORMED BY A LICENSED ROOFING CONTRACTOR.
- MATCH EXISTING CONSTRUCTION FOR THICKNESS AND DIMENSION TO THE GREATEST EXTENT POSSIBLE.
- MECHANICAL ENGINEER AND CONTRACTOR TO VERIFY NEW COOLING SYSTEM IS EQUAL TO OR OF LESSER WEIGHT/LOAD THAN EXISTING SYSTEM.



PHOTO 3 - FOR REFERENCE/CONTEXT

REPLACE EQUIPMENT/ROOF  
CURB AS REQUIRED PER  
MFGR INSTALLATION  
INSTRUCTIONS & CODE.

REMOVE ROOFING MEMBRANE  
AND INSULATION TO THE  
EXTENT REQUIRED TO ACCESS  
METAL DECK FOR  
REPLACEMENT.



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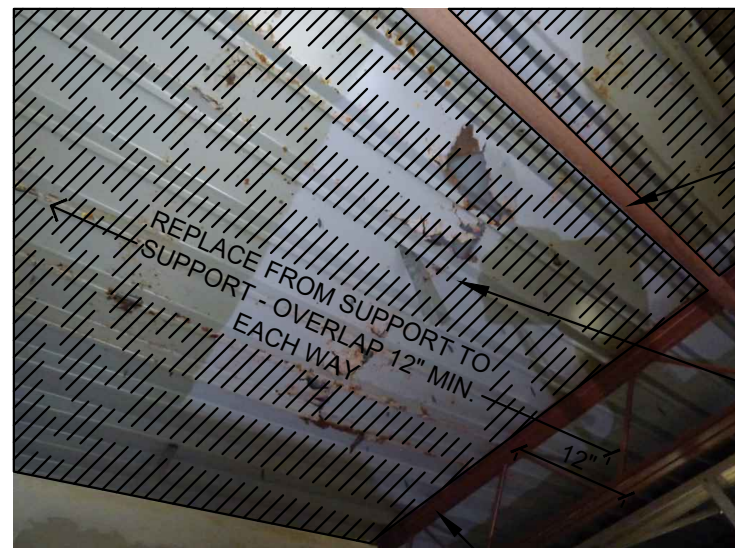


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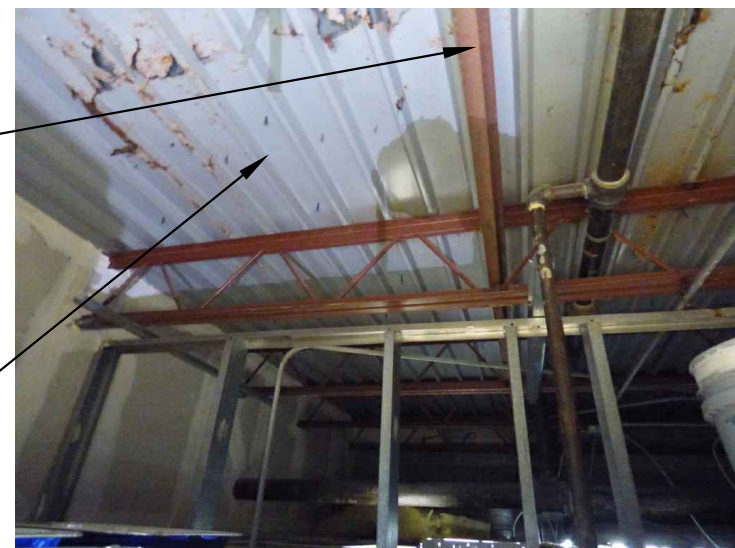


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JUSTICE BUILDING

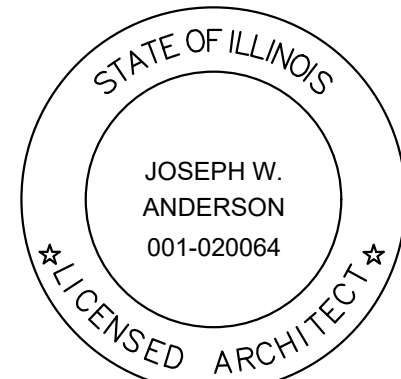
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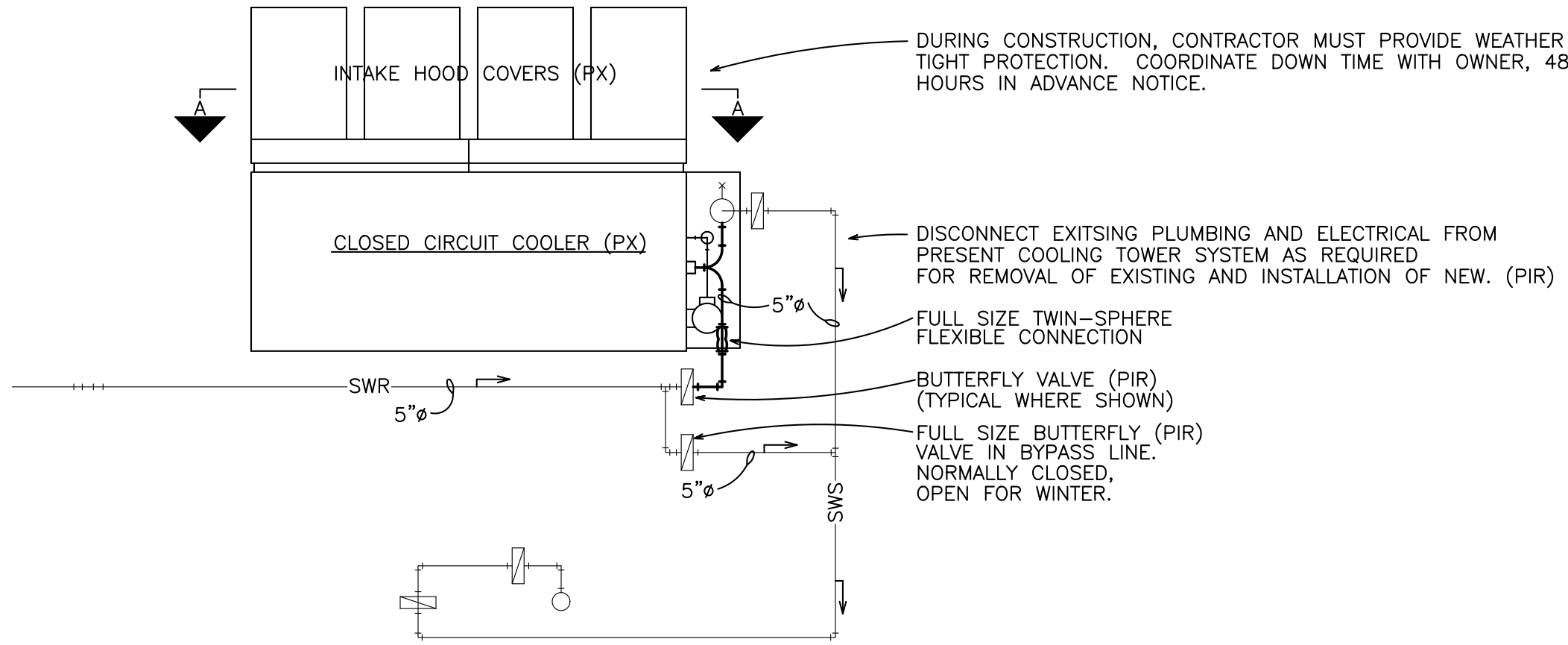
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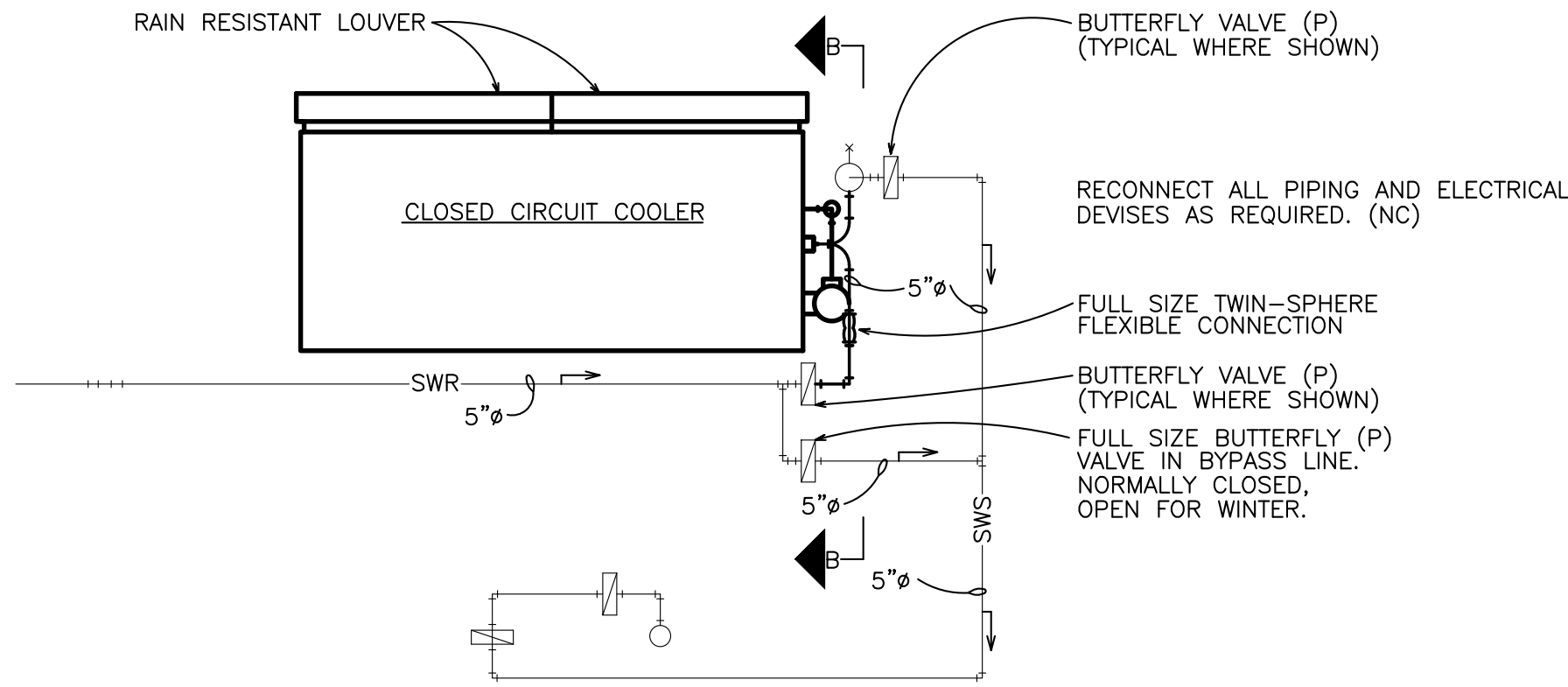
REMOVE (PX) EXISTING COOLING TOWER. PORTION OF WALL TO BE REMOVED, AS NEEDED FOR COOLING TOWER INSTALLATION.  
SIDING SHOULD BE REMOVED WITH THE INTENT TO REUSE. (PXN-PN)  
"EDGEBROOK" SIGN SHALL BE REMOVED BY OWNER.  
(UNDER ALTERNATE BID - PROVIDE NEW SIDING ON NORTH PENT HOUSE WALL.)



DEMOLITION DEFINITIONS:

CERTAIN ABBREVIATIONS OF SYMBOLS, WHEN APPLIED TO PRESENT (OR EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE FOLLOWING MEANINGS:

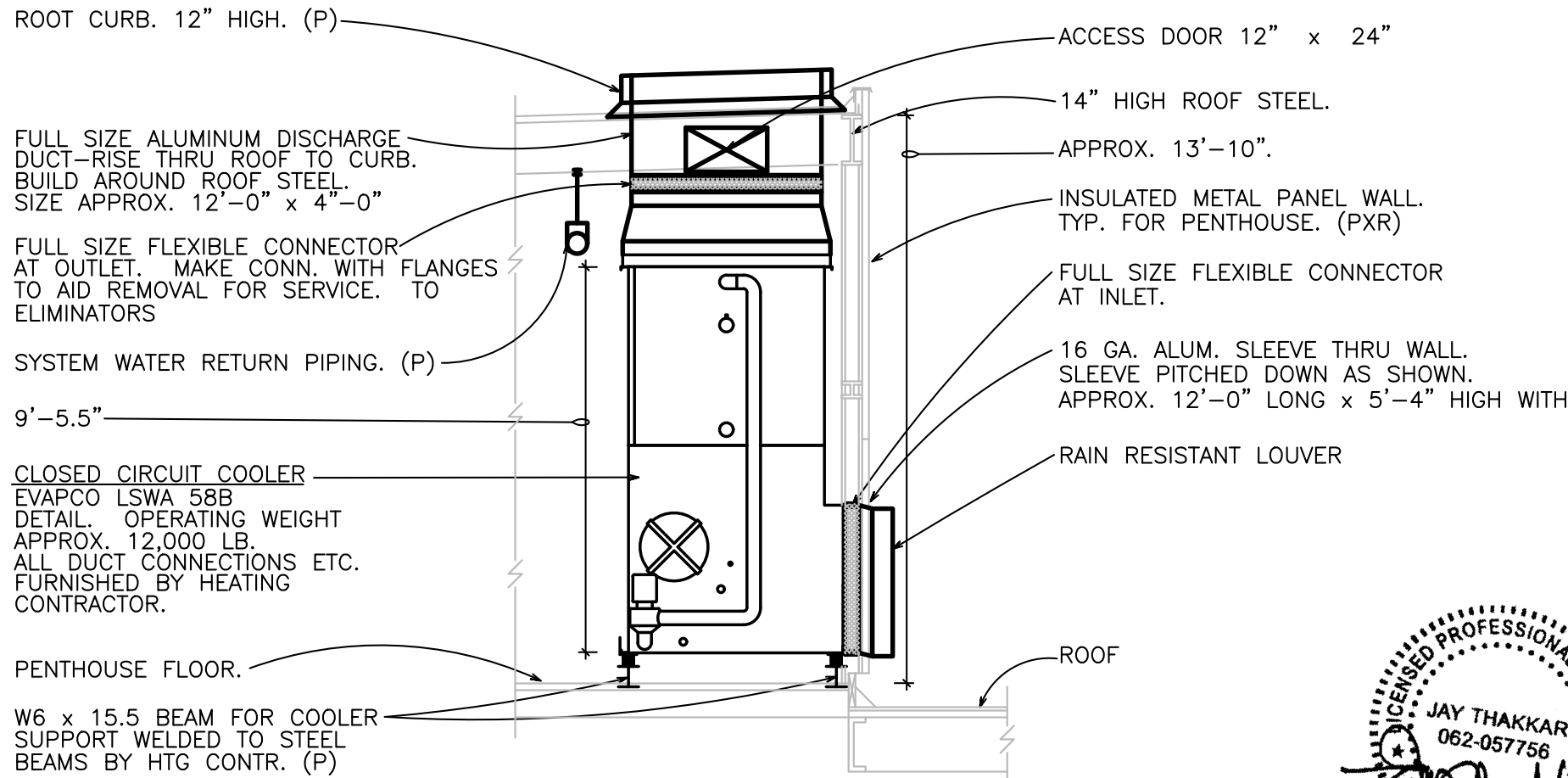
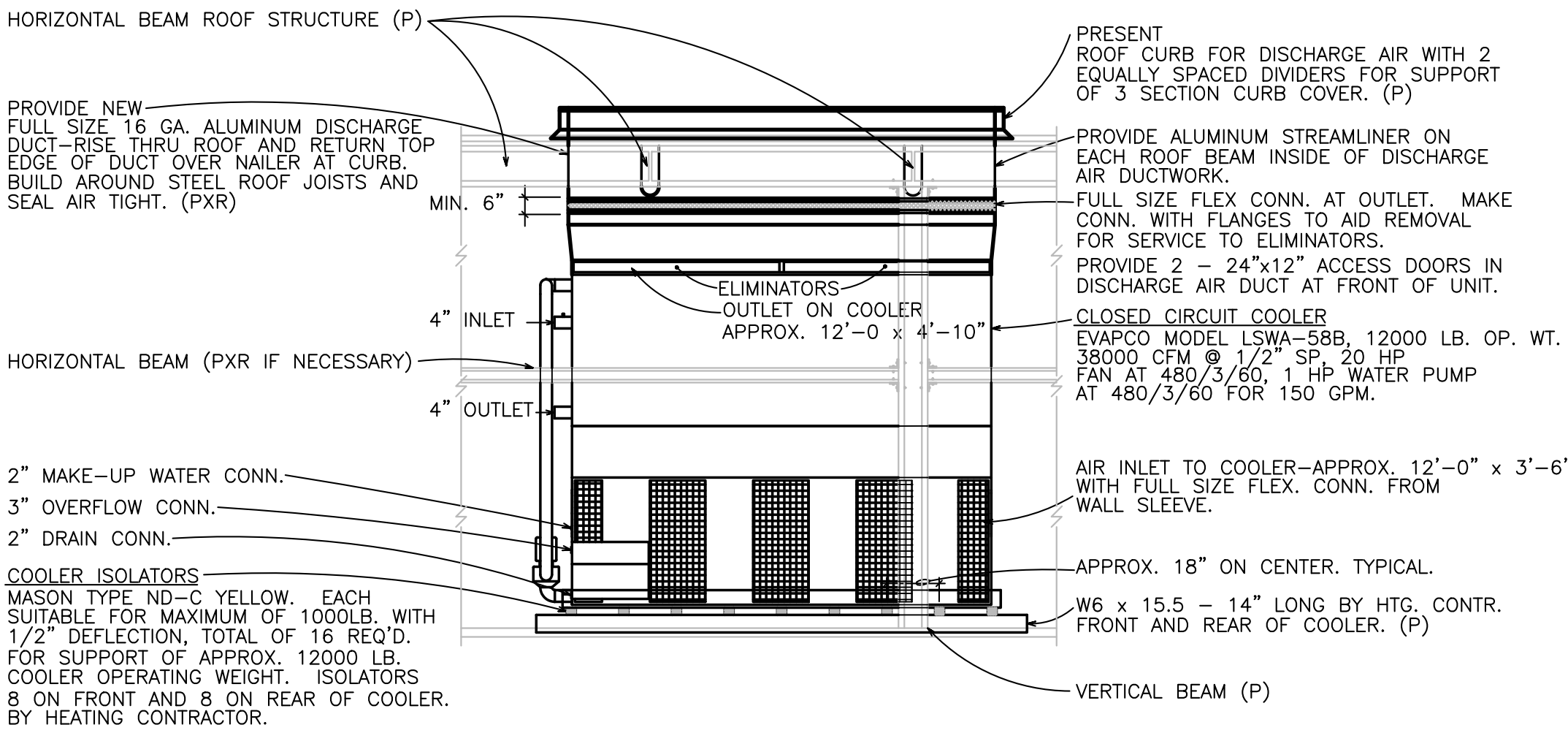
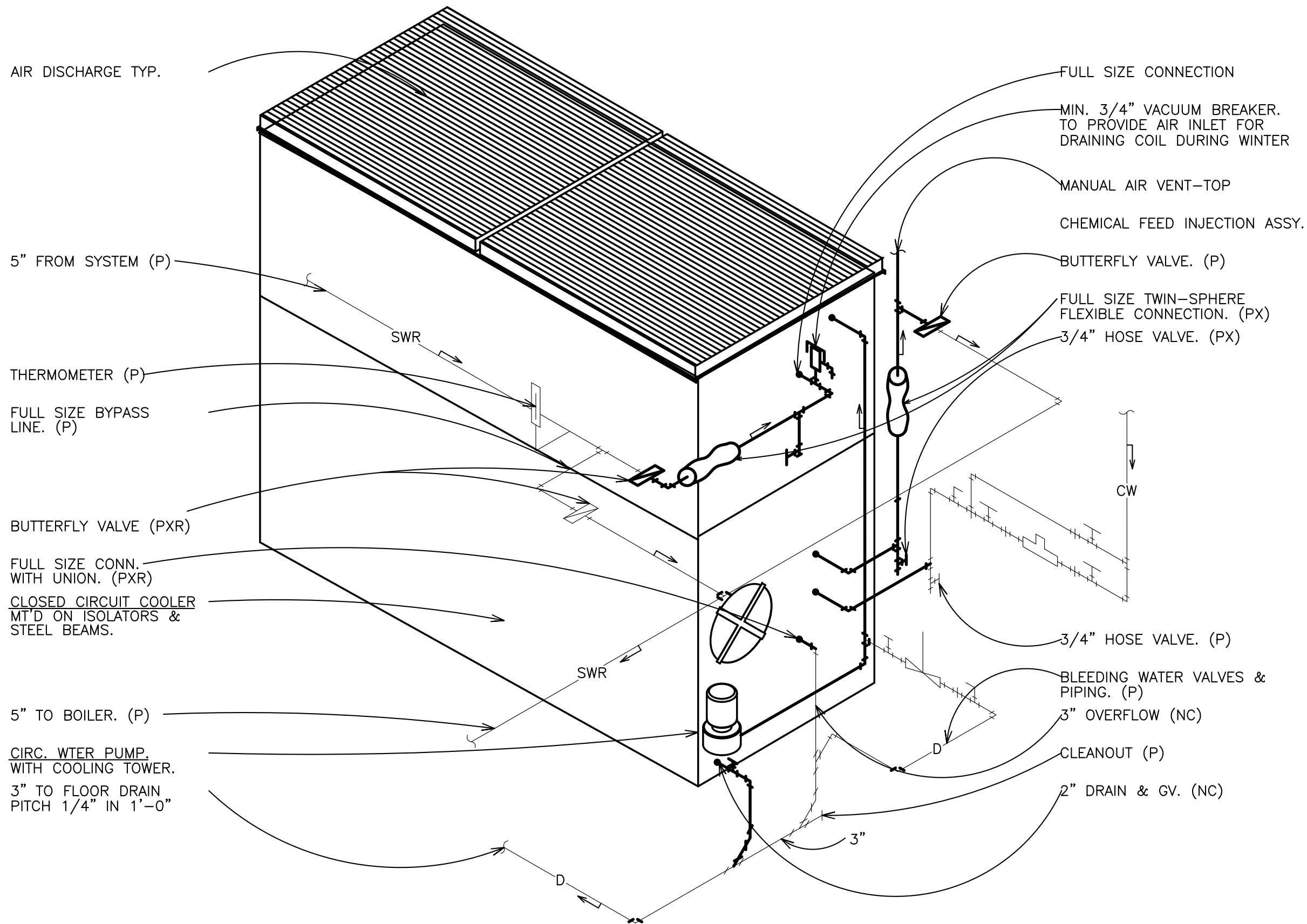
- NC NEW CONNECTION TO PRESENT PIPING, DEVICE, MANHOLE, SEWER, DUCT, WIRING, EQUIPMENT, ETC. INSTALL, TEST, COVER, PAINT, ETC., SAME AS NEW WORK. IF IN SEWER MANHOLE, PROVIDE FLOW CHANNEL IN BOTTOM.
- VL VERIFY EXACT LOCATION IN FIELD. THIS NOTE APPLIES TO ALL PRESENT OR EXISTING UTILITIES AND CONSTRUCTION WHETHER CALLED FOR OR NOT.
- P TO REMAIN UNCHANGED. IF CHANGE CANNOT BE AVOIDED, CHANGE "P" TO "PXR", AT NO INCREASE IN CONTRACT PRICE. VERIFY LOCATION.
- PX TO BE COMPLETELY REMOVED, INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTS, WIRING, BASES, ETC. OF EVERY KIND. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC. TO EQUAL ORIGINAL CONDITION. REMOVED MATERIALS MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR DIRECTED BY ARCHITECT.
- PX-DO SAME AS "PX", EXCEPT REMOVED INTACT, AS FAR AS PRACTICAL, MATCH MARKED AND OTHERWISE IDENTIFIED AS REQUIRED AND DELIVERED TO OWNER OUTSIDE OF BUILDING.
- PXR SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED, SAME AS NEW WORK, IN ORIGINAL POSITION. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ARCHITECT, AT NO INCREASE IN CONTRACT PRICE.
- PXS SAME AS "PX" EXCEPT THAT FOLLOWING CALLED FOR NEW DEVICE SHALL BE SUBSTITUTED.
- PXN-A-B SAME AS "PXR" EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED SAME AS NEW WORK, IN NEW POSITION MARKED "PN" WITH SAME LETTER. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED ARCHITECT, AT NO INCREASE IN CONTRACT PRICE.
- PN-A-B COMPLETELY REINSTALL DEVICE, LINE OR DUCT, REMOVED AT "PXN" IN INDICATED NEW LOCATION, SAME AS NEW WORK.
- PIO SAME AS "PX", EXCEPT LEFT IN PLACE, WITH OPEN, UNSEALED OR UNINSULATED, ENDS. SECTIONS WHICH INTERFERE WITH NEW WORK REMOVED SAME AS "PX".
- PIC SAME AS "PX" EXCEPT LEFT IN PLACE, WITH CAPPED, SEALED OR INSULATED ENDS. SECTIONS WHICH INTERFERE WITH NEW WORK REMOVED SAME AS "PX".
- PIR TO REMAIN IN PLACE, BUT ENTIRE INSTALLATION INCLUDING VALVES, TRIM, ELECTRIC STARTERS AND DISCONNECTS CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND MODIFIED AS CALLED FOR. TESTED SAME AS NEW WORK. DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC. TO EQUAL ORIGINAL CONDITION. IF CHANGE CANNOT BE AVOIDED, CHANGE "PIR" TO "PXR" OR PROVIDE NEW DEVICE WITHOUT INCREASE IN CONTRACT PRICE.
- PIE SAME AS "PIR" EXCEPT RECONNECTED TO NEW ELECTRICAL WIRING OR EQUIPMENT, AS CALLED FOR; PROVIDED WITH NEW STARTERS, DISCONNECTS AND OTHER MEANS OF CONTROL.
- PCL SAME AS "PIR" EXCEPT TO BE CLEANED AND FREED OF ALL DEBRIS, STOPPAGES, ETC.
- PRG LINE TO REMAIN SAME AS "PIR", EXCEPT REGRADED, CLEANED, TESTED TO CONFORM TO REQUIREMENTS FOR NEW LINES. DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC. TO EQUAL ORIGINAL CONDITION.
- PIP SAME AS "PIR" EXCEPT RECONNECTED TO NEW PIPING OR EQUIPMENT, AS CALLED FOR ; PROVIDED WITH NEW MANUAL AND/OR AUTOMATIC VALVES AND OTHER MEANS OF CONTROL.



COOLING TOWER SCHEDULE

UNIT MARK	CAPACITY-DESIGN										FAN DATA							MANUFACTURER	MODEL	NOTES
	CAPACITY BTU/H	NOM. TONS	FLUID	FLOW GPM	EWT	LWT	WB TEMP	COIL PD (PSI)	EVAP-WATER RATE (GPM)	BLEED FLOW (GPM)	OPERATING WEIGHT	FAN QUAN.	MOTORS	HP	CFM	VOLTS	PHASE			
CT-1	1,500,000	100	WATER	300	99	89	77.7	5.0	3.2	3.2	12,690	4	1	20	38,000	460	3	BALTIMORE AIR COIL	VF1-048-41	1,2,3

- NOTES:
- B.A.C. REPRESENTATIVE SHALL BE PRESENT DURING INSTALLATION, COORDINATE WITH B.A.C. REPRESENTATIVE.
  - COOLING TOWER SHALL BE EQUIPPED WITH SPRING ISOLATION, FROM MANUFACTURER.
  - CONTRACTOR TO PROVIDE HORIZONTAL, RAIN RESISTANT LOUVER AT COOLING TOWER INLET. SIMILAR TO GREENHECK MODEL EHH-501.
  - APPROVED EQUAL FROM EVAPCO OR MARLEY. ALL OTHER SUBSTITUTIONS MUST BE APPROVED BY ENGINEER 48 HOURS PRIOR TO BID DUE DATE TO BE CONSIDERED.



CLOSED CIRCUIT COOLER PIPING DIAGRAM

SCALE: NONE

SECTION A-A

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

SECTION B-B

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

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Replacement for  
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222238  
July 17, 2023  
Project number  
Date  
Drawn by  
Checked by  
Legacy J.T.

M1.2

COOLING TOWER/CHILLER SEQUENCE OF OPERATION

ALTHOUGH THIS PROJECT ENTAILS THE REPLACEMENT OF COOLING TOWER ONLY, THE SEQUENCE OF OPERATION TAKES INTO CONSIDERATION OF TOTAL COOLING CYCLES WITH A CHILLER.

- DEMAND RUN CONDITIONS**
- THE ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) SHALL ENABLE THE CHILLER BASED ON A CALL FOR COOLING:  
A CALL FOR COOLING SHALL BE DEFINED BY THE FOLLOWING METHOD:  
A) THE EMCS SHALL CALCULATE THE NUMBER OF COOLING COIL VALVES THAT ARE OPEN. IF 15% (ADJ) OF THE VALVES ARE BEING COMMANDED OPEN, THE CHILLER SHALL BE ENABLED, SUBJECT TO RESTRICTIONS BASED ON THE OUTDOOR AIR TEMPERATURE SCHEDULE. THE CALL FOR COOLING SHALL BE DISABLED WHEN LESS THAN 5% (ADJ) OF THE COOLING VALVES ARE OPEN.
  - CHILLER SHALL HAVE A MINIMUM ENABLE TIME OF 30 MINUTES (ADJ.) AND MINIMUM OFF TIME OF 15 MINUTES (ADJ.).
  - CHILLER SHALL REMAIN DISABLE UNTIL:  
A.) THE CHW & CW PUMP STATUS ARE VERIFIED TO BE ON.  
B.) THE CHW & CW FLOW SWITCHES INDICATE WATER FLOW (INTERNAL TO THE CHILLER, IF ANY).
  - CHILLER SHALL REMAIN ENABLED WHEN THE OAT IS GREATER THAN 70°F \*ADJ.) AND ANY DEPENDENT EQUIPMENT IS IN THE OCCUPIED MODE.  
  
5. IF THE STATUS HAS NOT BEEN PROVED AFTER THE CHILLER HAS BEEN ENABLED FOR 1 MINUTE (ADJ.), AN ALARM WILL BE ISSUED.
  - IF THE STATUS INDICATES THAT THE CHILLER IS STILL ON WHEN IT HAS BEEN COMMANDED OFF FOR 1 MINUTE (ADJ.), AN ALARM WILL BE ISSUED.

- CHILLED WATER SYSTEM START/STOP DELAYS**
- ON A CALL FOR COOLING, THE LEAD CONDENSER AND CHILLED WATER PUMPS WILL START WITH A TWO MINUTES (ADJ) DELAY BEFORE THE CHILLER IS ENABLED.
  - ON A CALL FOR A CHILLER TO DISABLE, THE LEAD CONDENSER AND CHILLED WATER PUMPS WILL CONTINUE TO BE ENABLED FOR 5 MINUTES (ADJ) AFTER CHILLER HAS BEEN DISABLED.

- CHILLED WATER SYSTEM ALARMS**
- THE EMCS WILL ISSUE AN ALARM IF THE CONDENSER WATER SUPPLY TEMP GOES ABOVE 90°F (ADJ) OR BELOW 60°F (ADJ) AFTER THE SYSTEM HAS BEEN ENABLED FOR 30 MINUTES (ADJ).
  - THE EMCS WILL ISSUE AN ALARM IF THE CHILLED WATER SUPPLY TEMP GOES ABOVE 59°F (ADJ) AFTER THE SYSTEM HAS BEEN ENABLED FOR 30 MINUTES (ADJ).
  - THE EMCS WILL ISSUE AN ALARM IF THE ALARM POINT ON EITHER CHILLER IS ENABLED WHILE IT IS RUNNING.
  - THE EMCS WILL ISSUE AN ALARM IF THE CONDENSER WATER FILTER UNIT IS IN ALARM.
  - THE EMCS WILL ISSUE AN ALARM IF EITHER COOLING TOWER WATER SENSORS INDICATE A LOW WATER CONDITION.

- CHILLED WATER TEMPERATURE SETPOINT RESET (ENTHALPY)**
- THE CHILLED WATER RESET PROGRAM WILL ADJUST THE CHILLED WATER SYSTEM SUPPLY TEMPERATURE ACCORDING TO THE FOLLOWING RESET SCHEDULE:

- TEMPERATURE CONTROL SHALL BE ACCOMPLISHED BY MODULATING THE REMOTE SETPOINT SIGNAL TO DELIVER DESIRED SYSTEM SUPPLY WATER TEMPERATURE.

- CHWP PUMP START/STOP CONTROL**
- PUMPS SHALL RUN ON A CALL FOR COOLING AND RUN FOR 2 MINUTES (ADJ) BEFORE THE CHILLER IS ENABLED.
  - THE EMCS WILL ISSUE A PUMP FAILURE ALARM AND DISABLE THE UNIT IF THE PUMP HAS BEEN COMMANDED ON FOR 1 MINUTE (ADJ) AND THE PUMP STATUS SIGNAL INDICATE THE PUMP IS NOT OPERATING.
  - EMCS WILL ISSUE A PUMP OVERRIDDEN ALARM IF THE PUMP STATUS SIGNAL INDICATES THE PUMP IS ON, BUT THE PUMP HAS BEEN COMMANDED OFF FOR 1 MINUTE (ADJ).
  - THE PUMP SHALL HAVE INDIVIDUAL MINIMUM ON TIME AND MINIMUM OFF TIMES INITIALLY SET TO 15 MINUTES (AJ).

- CONDENSER WATER TEMPERATURE CONTROL**
- DURING MECHANICAL COOLING, THE COOLING TOWER BYPASS VALVE AND TOWER FAN SPEEDS SHALL BE STAGED ON OR OFF TO MAINTAIN THE CONDENSER WATER TEMPERATURE SETPOINT. THE EXISTING CONDENSER WATER TEMPERATURE SETPOINT SHALL BE CONFIRMED, DOCUMENTED AND REUSED IN THE NEW CONTROL SEQUENCE.
  - THE COOLING TOWER BYPASS VALVE SHALL BE ALLOWED TO MODULATE TO MAINTAIN CONDENSER WATER TEMPERATURE
  - COOLING TOWER FAN SPEEDS SHALL BE STAGED IN THE FOLLOWING MANNER:

- STAGE # AND DESCRIPTIONSTAGE UPSTAGE DOWN**
- LEAD COOLING TOWER FAN CWS TEMP IS > 1 DEG F (ADJ)  
ABOVE CW SETPOINT AND STAGE 2 HAS BEEN ON FOR 3 MINUTES (ADJ)CWS TEMP IS 1 DEG F (ADJ) BELOW CW SETPOINT AND STAGE 2 HAS BEEN ACTIVE FOR A MINIMUM OF 3 MINUTES (ADJ).
  - LAG COOLING TOWER FAN  
N/CWS TEMP IS 1 DEG F (ADJ) BELOW CW SETPOINT AND STAGE 3 HAS BEEN ACTIVE FOR A MINIMUM OF 3 MINUTES (ADJ).
  - IF ANY OF THE ABOVE STAGES ARE UNAVAILABLE, THE EMCS SHALL PROCEED TO THE NEXT STAGE IN SEQUENCE.
  - IF THE EMCS DETECTS A COOLING TOWER FAN OPERATING WHEN IT HAS NOT BEEN COMMANDED ON, (FAN IN HAND OR MANUAL BYPASS), AN ALARM SHALL BE GENERATED AT THE OWS.
  - IF A TOWER FAN HAS BEEN COMMANDED ON AND STATUS IS NOT CONFIRMED WITHIN 60 (ADJ) SECONDS, A FAN FAILURE ALARM REQUIRING MANUAL RESET SHALL BE ISSUED.

- COOLING TOWER FAN LEAD/LAG CONTROL**
- EACH WEEK THE COOLING TOWER FANS SHALL BE CYCLED BETWEEN LEAD AND LAG POSITIONS TO PROVIDE FOR MORE EVEN OPERATING HOURS. LEAD/LAG CYCLING WILL TAKE PLACE AT 5:30 PM (ADJ) ON TUESDAY (ADJ). LEAD COOLING TOWER FAN WILL BE DESIGNATED AS THE UNIT WITH THE FEWEST RUN HOURS. RUN TIME HOURS SHALL BE RESET TO ZERO ANNUALLY ON JANUARY FIRST.
  - EACH COOLING TOWER FAN WILL HAVE A MINIMUM ON AND OFF TIME OF 15 MINUTES (ADJ). THE MINIMUM ON TIME WILL BE SUSPENDED IF A COOLING TOWER FAN FAILURE IS RECOGNIZED.
  - DURING COOLING TOWER FAN CHANGEOVER, THE LAG COOLING TOWER FAN WILL BE STARTED AND THE RUN STATUS CONFIRMED FOR 30 SECONDS (ADJ) BEFORE THE LEAD COOLING TOWER FAN IS DISABLED.
  - SHOULD A COOLING TOWER FAN BE IN THE LEAD POSITION AND BE ENABLED TO RUN AND ITS STATUS INDICATES THAT IT HAS NOT RUN FOR 60 CONTINUOUS SECONDS (ADJ):  
A. THE LEAD COOLING TOWER FAN WILL BE DISABLED.  
B. THE LEAD COOLING TOWER FAN SHALL BE CYCLED TO THE LAG AND THE LAG COOLING TOWER FAN SHALL BE CYCLED TO THE LEAD.
  - THE NEW LEAD COOLING TOWER FAN SHALL BE ENABLED AND A COOLING TOWER FAN FAILURE ALARM WILL BE SENT TO THE HEAD-END INTERFACE.
  - THE EMCS WILL SEND A COOLING TOWER FAN OVERRIDE ALARM IF THE COOLING TOWER FAN STATUS INDICATES THAT IT IS RUNNING BUT THE COOLING TOWER FAN HAS NOT BEEN COMMANDED ON DURING THE PREVIOUS 5 MINUTES (ADJ).
  - IF BOTH FANS ARE RUNNING DURING THE SWITCH TIME, THE LEAD AND LAG WILL BE SWITCHED WITHOUT REQUIRING THE RUN STATUS CONFIRMATION.
  - THE EMCS WILL HAVE THE CAPACITY ON THE FRONT END TO LOCK OUT A FAN, PREVENTING IT FROM STARTING, IN CASE OF REPAIRS, SERVICE, ETC.

- CW PUMP LEAD/LAG CONTROL**
- EACH WEEK THE PUMPS SHALL BE CYCLED BETWEEN LEAD, LAG, AND STANDBY POSITIONS TO PROVIDE FOR MORE EVEN OPERATING HOURS. LEAD/LAG CYCLING WILL TAKE PLACE AT 5:00 AM (ADJ) ON MONDAYS (ADJ). LEAD PUMP WILL BE DESIGNATED AS THE UNIT WITH THE FEWEST RUN HOURS, THE LAG PUMP WILL BE DESIGNATED AS THE UNIT WITH THE SECOND FEWEST RUN HOURS, STANDBY PUMP WILL BE DESIGNATED AS THE UNIT WITH THE MOST RUN HOURS. RUN TIME HOURS SHALL BE RESET TO ZERO ANNUALLY ON JANUARY FIRST.
  - DURING PUMP CHANGEOVER, THE LAG PUMP SHALL BE STARTED AND THE RUN STATUS CONFIRMED FOR 30 SECONDS (ADJ) BEFORE THE LEAD PUMP IS DISABLED.
  - SHOULD A PUMP BE IN THE LEAD POSITION AND BE ENABLED TO RUN, AND ITS STATUS INDICATES THAT IT HAS NOT RUN FOR 60 CONTINUOUS SECONDS (ADJ):  
A. THE LEAD PUMP WILL BE DISABLED.  
B. THE LEAD PUMP SHALL BE CYCLED TO THE STANDBY, THE STANDBY PUMP WILL BE CYCLED TO THE LAG, AND THE LAG PUMP SHALL BE CYCLED TO THE LEAD.
  - THE NEW LEAD PUMP SHALL BE ENABLED AND A PUMP FAILURE ALARM WILL BE SENT TO THE HEAD-END INTERFACE. THIS ALARM MUST BE MANUALLY RESET BEFORE THE CYCLING OF LEAD/LAG PUMPS WILL BE RE-ENABLED.

HVAC NOTES

GENERAL

- THE PROJECT DRAWINGS AND SPECIFICATIONS ARE BASED ON THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI) DOCUMENTATIONS FORMAT. SPECIFICATIONS AND DRAWINGS CONTENTS ARE ARRANGED BY TOPIC AND CATAGORY AND ARE NOT INTENDED TO AWARD DIVISION OF WORK.
- THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED FIRE PROTECTION, PLUMBING, HVAC ELECTRICAL AND SPECIAL SYSTEMS SHALL BE COMPLETE IN ALL RESPECTS; OPERATION,TESTED, ADJUSTED, CALIBRATED., APPROVED BY THE AUTHORITY HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
- THE TRADE SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS, AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM OF A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
- THE DRAWINGS ARE DIAGRAMATIC AND INDICATE THE GENERAL ARRANGEMENTS OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT AT NO ADDITIONAL COST.
- PERFORM ALL WORK IN COMPLIANCE WITH THE SPECIFICATIONS, APPLICABLE CODES, ORDINANCE AND THE REGULATORY AGENCIES AND JURISDICTION.THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE THE SPECIFICATIONS MUST BE FOLLOWED.
- INSTALL ALL EQUIPMENT IN ACCESSIBLE LOCATIONS. WHERE EQUIPMENT MUST BE INSTALL ABOVE AND INACCESSIBLE CEILING OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED AND THE LOCATIONS SHALL BE COORDINATED WITH THE ENGINEER/OWNER.
- WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. CARRY AS PART OF THE BID THE LARGER QUANTITY AND /OR MORE EXPENSIVE ITEM(S).
- BEFORE INSTALLATION, COORDINATE THE WORK WITH OWNER--FURNISHED EQUIPMENT, INCLUDING RQUIRED SERVICE CONNECTIONS, FACTORY START UPS AND INSTALLATION OF FIELD DEVICES.
- PROVIDE THE REQUIRED/SPECIFIED SLEEVES AND SEALS FOR PIPES OR CONDUIT PENETRATING ROOF PER SPECIFICATIONS.
- PROVIDE MEP COORDINATION DRAWINGS AS REQUIRED BY THE SPECIFICATIONS.
- ENCLOSED CONTROLLER SHALL BE PROVIDED BY THE CONTRACTOR PROVIDING THE EQUIPMENT REQUIRING AN ENCLOSED CONTROLLER. REQUIREMENTS ARE SPECIFIED UNDER DIVISION 23 "ENCLOSED CONTROLLERS". MOTOR EFFICIENCIES SHALL BE AS INDICATED IN THE SPECIFICATIONS.
- PROVIDE PIPING DUCTWORK, CONDUIT AND ALL OTHER ACCESSORIES AS REQUIRED FOR PROPER AND PROFESSIONAL SYSTEMS INSTALLATION.
- TEST AND BALANCE COOLING TOWER SYSTEMS. PROVIDE ADDITIONAL TESTS AS REQUIRED BY THE SPECIFICATIONS. PROVIDE PRE-DEMOLITION TESTING ON COOLING TOWER FOR EXISTING CONDENSER WATER FLOW RATE (GPM).
- DO NOT INSTALL PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, ELEVATOR MACHINE ROOMS OR SHAFTS.
- PROVIDE ADDITIONAL TRANSITIONSAND OFFSETS IN ALL PIPING OR CONDUIT FOR COORDINATION WITH BUILDING STRUCTURE AND CONSTRUCTION.
- NO MECHANICAL OR ELECTRICAL SYSTEM COMPONENTS MAY BE SUPPORTED FROM STRUCTURE BRACED FRAMES.
- INSTALL SYSTEMS WITH A MINIMUM 3" CLEARANCE ABOVE LIGHTS.

RENOVATION

- THIS PROJECT INVOLVES THE ADDITION TO AN EXISTING FACILITY; BEFORE SUBMITTING THE BID, CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH THE PROJECT IS TO BE COMPLETED.
- CONTRACTORS SHALL BE HELD RESPONSIBLE FOR ASSUMPTIONS, OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO BECOMEFULLY FAMILIAR WITHTHE EXISTING CONDITIONS.
- IT IS NOT THE INTENT OF THESE DOCUMENTS TO SHOW EVERY DEVICE, APPURTENANCE, PIPE, WIRE OR CONDUIT TO BE REMOVED. MEP EQUIPMENT, UNITS, AND SYSTEMS NOT BEING REUSED, SHALL BE REMOVED IN THEIR ENTIERY INCLUDING ASSOCIATED HANGERS, SUPPORTS, BASES, PADS, PIPES, DUCTS, CONDUITS, WIRES, INSTALLATION, AND CONTROLS BACK TO THE POINT OF ORIGIN.
- EQUIPMENT, PIPING, OR CONDUIT SHALL NOT BE ABANDONED IN~ PLACE UNLESS SPECIFICALLY SO NOTED.
- PROPERLY DISPOSE OF DEMOLISHED EQUIPMENT IN COMPLIANCE WITH CODES, REGULATIONS, AND STANDARDS. TURN OVER TO THE OWNER EQUIPMENT WHERE INDICATED. INVENTORY, SALVAGE AND TURN OVER OR DISPOSE OF EQUIPMENT AT DIRECTION OF OWNER.
- RELOCATE EXISTING EQUIPMENT, DEVICES, PIPING, WIRING, AND RELATED SYSTEMS AS REQUIRED FOR CONSTRUCTION PURPOSES. ALL EXISTING SYSTEMS SHALL BE FULLY OPERATIONAL, INCLUDING RECONNECTION TO SERVICE AND UPGRADED SYSTEMS. ALL EXISTING TO REMAIN/RELOCATED EQUIPMENT SHALL BE PROTECTED DURING CONSTRUCTION.
- SYSTEMS SERVE OCCUPIED AND ADJACENT AREAS AND ARE TO REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. PROVIDE TEMPORARY CONNECTIONS AND SYSTEM MODIFICATIONS AS REQUIRED FOR CONSTRUCTION AND PHASING PURPOSES TO MAINTAIN SYSTEM OPERATION TO OCCUPIED AND ADJACENT SPACES.
- INCLUDE ALL WORK REQUIRED TO ALLOW PHASED CONSTRUCTION WHEN NECESSARY TO MAINTAIN SYSTEM OPERATION TO OCCUPIED AREAS. COORDINATE WITH GENERAL CONTRACTOR/CONSTRUCTION MANGER FOR PHASING REQUIREMENTS.
- ALL EXISTING EQUIPMENT, FIXTURES, AND DEVICES TO BE REMOVED AND RELOCATED SHALL BE FIELD VERIFIED FOR EXACT QUANTITY AND CONDITION. KEEP AN ACCURATE RECORD OF STORED EQUIPMENT AND ITS CONDITION.
- RE-BALANCE NEW AND EXISTING MECHANICAL SYSTEMS ASSOCIATED WITH THE COOLING TOWER AND CONDENSER WATER FLOW TO ACHIEVE FLOW INDICATED IN COOLING TOWER SCHEDULE. PERFORM PRE-DEMO TESTING ON COOLING TOWER FOR EXISTING CONDENSER WATER FLOW RATE (GPM).
- SYSTEMS REQUIRING TO REMAIN IN OPERATION DURING DEMOLITION SHALL BE CAREFULLY PROTECTED FROM DAMAGE AND CONTAMINATION BY THE CONSTRUCTION PROCESS.

DEMOLITION

- ALL SYSTEMS INDICATED TO BE REMOVED/REPLACE TO BE REMOVED BACK TO THE POINT OF OF SOURCE UNLESS OTHERWISE NOTED. SYSTEM LINES SHOWN ARE STRICTLY DIAGRAMMATIC TO SHOW GENERAL DISTRIBUTION TO AREAS SERVED. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ENTIRE SYSTEM AND SHALL VISIT SITE PRIOR TO BID FOR EXTENT OF WORK. CONTRACTOR SHALL VERIFY SYSTEMS THAT MUST REMAIN ACTIVE TO ADJACENT SPACES.
- FIELD VERIFY SYSTEM LAYOUT AND LOCATIONS OF MISCELLANEOUS SYSTEMS.
- MAINTAIN OPERATIONS OF SYSTEMS SERVING ADJACENT AREAS. CAP ACTIVE PIPES AND DUCT.
- ALL TEMPERATURE CONTROL SYSTEMS FOR ALL SYSTEMS TO BE REMOVED/REPLACED /REFURBISHED SHALL BE REMOVED PRIOR TO REMOVAL OF HVAC AND OTHER TRADE SYSTEMS. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM OWNER PRIOR TO ANY DEMOLITION. FAILURE TO DO SO WILL RESULT IN REPAIR AT NO COST TO OWNER. ALL EXISTING CONTROLLERS TO BE REMOVED SHALL BE TURN OVER OR DISPOSE OF AT DIRECTION OF OWNER.
- ALL SYSTEMS TO BE REMOVED/REPLACE SHALL INCLUDE REMOVAL OF ALL BUT NOT LIMITED TO ASSOCIATED HANGERS, SUPPORTS, POWER, BASES, INSULATION, CONTROLS, AND PIPING.
- REMOVE ALL ABANDONED PIPES ENTIRELY.
- INCLUDE NECESSARY CUT AND PATCH OF BUILDING CONSTRUCTION IN CONJUNCTION WITH NEW REQUIREMENTS.

HVAC

- PROVIDE THROTTLING VALVES AND SHUTOFF VALVES AS SPECIFIED IN ADDITION TO THOSE INDICATED ON THE DOCUMENTS.
- PROVIDE AN AUTOMATIC TEMPERATURE CONTROL SYSTEM COMPLETE IN ALL REGARDS, ALL ZONES, VAV'S AND SYSTEMS SHALL BE THERMOSTATICALLY CONTROLLED. REVIEW THE PLANS AND SPECIFICATIONS OF ALL MEP TRADES FOR A COMPLETE SCOPE OF THE WORK.
- INDOOR PIPING SHALL BE SUPPORTED FROM STRUCTURE ABOVE. TO MAXIMIZE HEAD ROOM AND CEILING CLEARANCE, INSTALL TIGHT TO THE BOTTOM OF BEAMS WHEN RUNNING PERPENDICULAR TO BEAM. INSTALL PIPING TIGHT TO FLOOR SLAB WHEN RUNNING PARALLEL TO BEAM. PROVIDE ALL NECESSARY FITTINGS AND TRANSITIONS.
- PROVIDE AIR VENTS AT ALL HIGH POINTS AND DRAINS AT LOW POINTS.



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**Proposed Cooling Tower  
Replacement for  
Justice Building**  
211 S. Court St.  
Rockford, IL 61101

222238  
July 17, 2023  
Legacy J.T.  
  
Project number  
Date  
Drawn by  
Checked by

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