

**CLEVELAND METROPOLITAN SCHOOL DISTRICT:**

**LINCOLN WEST  
HIGH SCHOOL**

**2019 COOLING TOWER  
REPLACEMENT PROJECT**



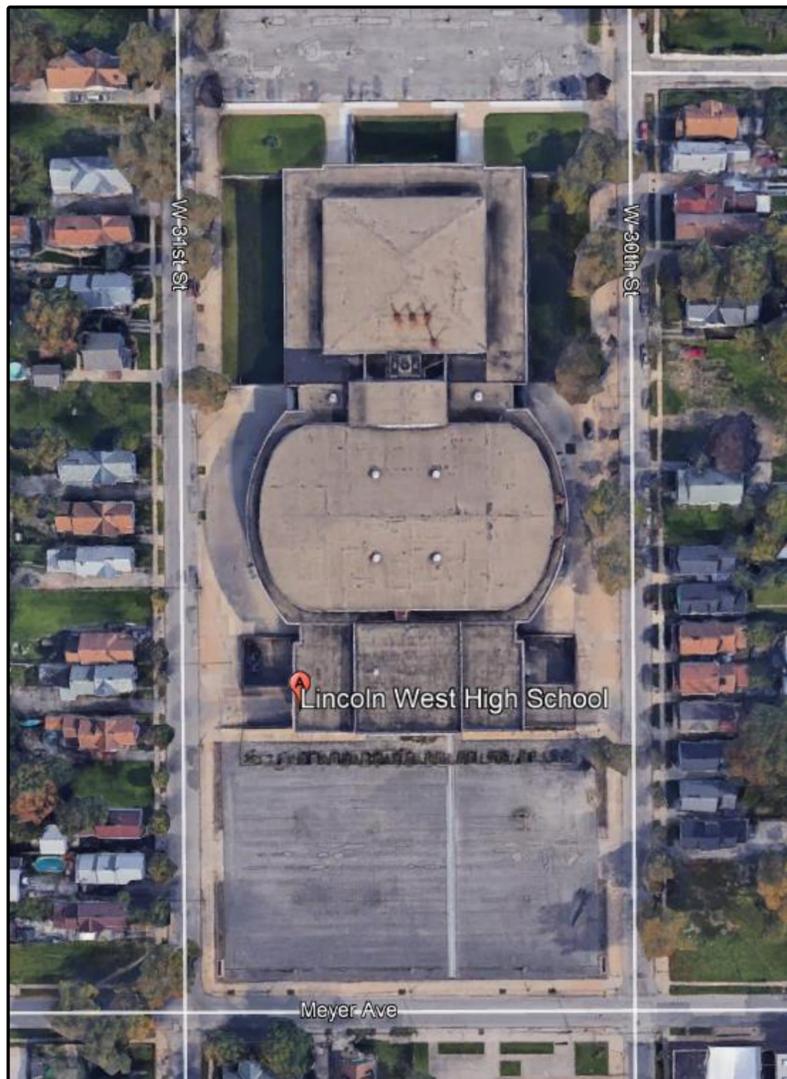
**PROJECT FORMAT OVERVIEW**

EACH DESIGN PROFESSIONAL UTILIZED IN CONTRACTOR'S PROPOSAL HAS THE LIBERTY TO ACT WITH THE OWNER'S BEST INTERESTS IN MIND, BASED ON THE INDIVIDUAL SITUATIONS AND BOUNDARIES PRESENTED BEFORE DESIGN BEGINS AND BASED ON QUALIFIED PROFESSIONAL EXPERIENCE. THE CRITERIA SET FORTH IN THESE SPECIFICATIONS AND DRAWINGS IS INTENDED TO BE A GUIDELINE TO LIMIT THE RISKS OF DISSATISFACTION OVER THE BALANCED TOTAL LIFE OF THIS PROJECT. THE FACILITY AND THE OWNER GENERAL GOALS ARE TO MAKE THE TASKS ASSOCIATED WITH LONG-TERM OWNING/MANAGING THE FACILITY AS EFFECTIVE AND EFFICIENT AS POSSIBLE, INCLUDING THE LIMITATION OF EQUIPMENT/SERVICE PROVIDERS TO THOSE NOTED AS BEING OWNER-PREFERRED AND/OR LISTED WITHIN THESE SPECIFICATIONS.

PROVIDE MATERIALS FOR COMPLETING MECHANICAL AND ASSOCIATED ELECTRICAL INSTALLATIONS AND OTHER FINISHES ACCORDING TO APPLICATIONS REQUIRED USING INDUSTRY STANDARD MEANS-AND-METHODS AND COMMON BEST PRACTICES.

THESE SCHEMATIC DRAWINGS SHOW INTENDED CONFIGURATION OF EQUIPMENT AND MATERIALS WHERE NOTED ALONG WITH EXISTING CONFIGURATIONS FOR REFERENCE TO NEW WORK AND DEMOLITION SCOPES. COORDINATE REMOVAL OF EXISTING AND INSTALLATION OF NEW EQUIPMENT, FIXTURES AND FURNISHINGS WITH INFRASTRUCTURE ALREADY IN-PLACE. CONTRACTOR IS HIGHLY ENCOURAGED TO FIELD VERIFY ALL COUNTS, MEASUREMENTS, DIMENSIONS AND PATHS. DESIGNS AND WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF NATIONAL, STATE & LOCAL CODES AND BEST PRACTICES.

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8	SI.02	JACE CONTROLLER WIRING DIAGRAM (PUBLISHED IN ADDENDUM)



**PROJECT SITE LOCATION – 3020 W. 30<sup>th</sup> STREET, CLEVELAND, OHIO 44109**  
NO SCALE

**MECHANICAL SYSTEMS – GENERAL NOTES**

(APPLIES TO ALL DRAWINGS)

**(1) GENERAL HVAC INTENT:**  
GENERAL INTENT IS TO DESIGN AND PROPERLY INSTALL A FULLY-FUNCTIONAL AND COMPLIANT HVAC SYSTEM TO CORRESPOND DIRECTLY TO NOTED/DESIGNED UPDATES TO THE BUILDING. IT IS EXPECTED THAT A SYSTEM TO REPLACE THE EXISTING ITEMS WHERE NOTED AS A BASIS-OF-DESIGN AND BE COMPLETELY COORDINATED WITH ACCOMPANYING DOCUMENTED SCOPES OF WORK.

**(2) DESIGN CRITERIA:**  
PROPOSERS SHOULD REFER TO OVERALL SPECIFICATIONS AND ACCOMPANYING OWNER'S PROJECT REQUIREMENTS (OPR) DOCUMENTS PUBLISHED FOR DESIGN INTENT AND GUIDELINES. ALL PUBLISHED MECHANICAL INFORMATION IS BASED ON EXISTING RECORDS AND LIMITED SITE OBSERVATION. IT IS REQUIRED THAT PROPOSERS FIELD VERIFY MECHANICAL INFRASTRUCTURE WHICH IS IMPACTED BY THE PROJECT SCOPE AND PROVIDE DESIGNS TAKING FIELD CONDITIONS INTO ACCOUNT.

**(3) DESIGN & CONSTRUCTION COORDINATION:**  
PROPOSERS TO IDENTIFY AND COORDINATE REMOVALS OF EXISTING EQUIPMENT AND COMPLETE IMPLEMENTATION OF NEW HVAC SYSTEM. THIS COORDINATION/CONSTRUCTION INCLUDES, BUT IS NOT LIMITED TO:  
- MAIN HVAC EQUIPMENT (COOLING TOWERS, CHILLERS, PUMPS, ETC.)  
- CENTRAL & LOCAL VENTILATION EQUIPMENT (OUTSIDE AIR, EXHAUST AIR, RELIEF AIR, ETC.)  
- AUXILIARY HEATING-ONLY EQUIPMENT WHERE APPLICABLE  
- EXHAUST FLUES & CONDENSATE DRAINAGE  
- INTERFACE TO SYSTEMS INTEGRATION COMPONENTS FOR NEW PACKAGED HVAC CONTROL SYSTEMS  
- HVAC ELECTRIC POWER SYSTEMS  
- HVAC LOW-VOLTAGE SYSTEM COMPONENTS (UNITARY CONTROLS, INTERFACE TO FIRE ALARM/SECURITY SYSTEMS, ETC.)  
- EVALUATION/USE OF SUBSTRATE COMPONENTS IN PROPER CONDITION (STRUCTURAL STEEL SUPPORTS, ROOFS, CEILING/FLOORS, MISC. SUPPORTS, ETC.). COORDINATE NOTED NEW STRUCTURAL STEEL SCOPE WITH ALLOWANCE.

**(4) MAIN EQUIPMENT LOCATIONS – GENERAL NOTES:**  
COORDINATED WITH ESTABLISHED PROJECT GUIDELINES. PROPERLY DESIGN/LOCATE NEW HVAC EQUIPMENT FOR FUNCTIONALITY, SAFETY, ACOUSTICAL PERFORMANCE AND SERVICING AND MAKE PREPARATIONS FOR ALL ASSOCIATED WORK REQUIRED BY OVERALL SCOPES OF WORK (POWER, CONTROL, DRAINS, CEILINGS, LIGHTS, ETC.).  
- OUTDOOR EQUIPMENT: COORDINATE SCOPE WITH EXISTING ROOF WARRANTIES AND OWNER-PREFERRED ROOF CONTRACTORS.

**(5) MECHANICAL PIPING, VENTING & DRAINING:**  
DESIGN AND PROPERLY INSTALL HOT, CHILLED AND CONDENSER WATER HYDRONIC FITTINGS, SUPPORTS, VALVES, AND INSULATION ACCORDING TO MANUFACTURER'S INSTRUCTIONS. INTENT IS NOT TO DISTURB FINISHED SUBSTRATE (WALLS, HARD CEILINGS, FLOORS) BEYOND WHAT IS REQUIRED FOR NEW SYSTEM IMPLEMENTATION. PROVIDE CONDENSATE PANS/DRAIN LINES FOR PROPER REMOVAL OF CONDENSATE. PROVIDE APPLIANCE VENTS/FLUES FOR PROPER REMOVAL OF EXHAUST GASES AND PRESSURE RELIEF.

**(6) HVAC CONTROLS:**  
DESIGN AND PROPERLY INSTALL CHILLED WATER / HOT WATER / CONDENSER WATER HYDRONIC SYSTEMS, UNITARY/PACKAGED CONTROL SYSTEMS AND COMPONENTS AS REQUIRED FOR THE NEW HVAC SYSTEM. EXCEPT FOR VENDOR-DESIGNED PACKAGED SYSTEM OR UNITARY CONTROLS, REFER TO SYSTEMS ARCHITECTURE DIAGRAMS AND FLOOR PLANS FOR SCOPE DESCRIPTIONS.

**(7) HVAC-RELATED POWER SYSTEMS:**  
DESIGN AND PROPERLY INSTALL ELECTRIC POWER SYSTEMS REQUIRED TO SERVICE NEW HVAC SYSTEMS. COORDINATE SCOPES OF WORK WITH MAIN POWER SYSTEMS/EQUIPMENT UPGRADES (SIZING, LOCATION, DISTRIBUTION PANELS, ETC.) – REFER TO MAIN ELECTRICAL SYSTEMS SCOPE NOTES.

**(8) AS-BUILTS:**  
EXPECTATION IS TO DELIVER THE OWNER A COMPLETE PROJECT AS-BUILT DRAWING SET INCLUDING EQUIPMENT SCHEDULES FOR NOTED REPLACEMENTS, FLOOR PLAN LAYOUTS, ELECTRICAL CIRCUITING CHANGES & ONE-LINE DIAGRAM REVISIONS, HVAC PIPE & DUCT PATHS AND SIZES, ZONING LAYOUTS, THERMOSTAT LOCATIONS, ETC. WHEN APPROPRIATE, AS-BUILT'S MAY BE IN THE FORM OF "RED-LINES" TO EXISTING DRAWINGS. COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR DETERMINATIONS.

**ELECTRICAL SYSTEMS – GENERAL NOTES**

(APPLIES TO ALL ELECTRICAL DRAWINGS)

**(1) GENERAL ELECTRICAL INTENT:**  
GENERAL INTENT IS TO DESIGN AND INSTALL A FULLY-FUNCTIONAL AND COMPLIANT ELECTRICAL POWER SYSTEM (EQUIPMENT AND DISTRIBUTION) TO CORRESPOND DIRECTLY TO NOTED/DESIGNED UPDATES TO THE BUILDINGS. IF THE MECHANICAL SYSTEMS SCOPE OF THE PROJECT NECESSITATES ELECTRICAL SYSTEM REVISIONS, ADDITIONS OR EXPANSION OF LOAD BEARING CAPABILITY, IT IS EXPECTED THAT THE ELECTRICAL WORK BE PROPERLY AND SAFELY IMPLEMENTED AS A PART OF THE COMPLETE PROPOSAL, COORDINATED APPROPRIATELY WITH BASE AND ALTERNATE SCOPES.

**(2) DESIGN CRITERIA:**  
PROPOSERS SHOULD REFER TO OVERALL SPECIFICATIONS AND ACCOMPANYING OWNER'S PROJECT REQUIREMENT (OPR) DOCUMENTS PUBLISHED FOR DESIGN INTENT AND GUIDELINES. ALL PUBLISHED ELECTRICAL INFORMATION IS BASED ON EXISTING RECORDS AND LIMITED SITE OBSERVATION. IT IS REQUIRED THAT PROPOSERS FIELD VERIFY ELECTRICAL INFRASTRUCTURE WHICH IS IMPACTED BY THE PROJECT SCOPE AND PROVIDE DESIGNS TAKING FIELD CONDITIONS INTO ACCOUNT.

**(3) DESIGN & CONSTRUCTION COORDINATION:**  
PROPOSERS TO IDENTIFY AND COORDINATE REMOVALS OF EXISTING EQUIPMENT AND COMPLETE IMPLEMENTATION OF NEW ELECTRICAL POWER SYSTEM. THIS COORDINATION/CONSTRUCTION INCLUDES, BUT IS NOT LIMITED TO:  
- MAIN SWITCHGEAR & SUB-TRANSFORMER EQUIPMENT  
- EMERGENCY GENERATOR/BACKUP POWER INTERFACES  
- DISTRIBUTION PANELS (HVAC POWER, LIGHTING/LIGHTING CONTROL PANELS, RECEPTACLE PANELS, INCLUDING RE-WORKS OF LEGACY PANELS AS REQUIRED, ETC.)  
- LOW-VOLTAGE ELECTRICAL SYSTEMS (HVAC CONTROLS, FIRE-ALARMS, SECURITY INFRASTRUCTURE, ETC.)  
- INTERFACE TO SYSTEMS INTEGRATION COMPONENTS (POWER AND COMMUNICATION WIRING FOR HVAC CONTROL DEVICES, DISTRIBUTED CONTROLLERS, OWNER UTILITY METERING – REFER TO SPECIFICATION SECTIONS AND SCOPE DESCRIPTIONS FOR WORK BY THE MASTER SYSTEMS INTEGRATOR (MSI) AND MATERIAL PROVIDED FOR BY THE MSI FOR INSTALLATION BY THE PROPOSER.  
- EVALUATION/USE OF SUBSTRATE COMPONENTS IN PROPER CONDITION (ROOFS, CEILING/FLOORS, MISC. SUPPORTS, ETC.).

**(4) MAIN EQUIPMENT LOCATIONS – GENERAL NOTES:**  
COORDINATED WITH ESTABLISHED PROJECT GUIDELINES. PROPERLY DESIGN/LOCATE NEW MAIN ELECTRICAL EQUIPMENT FOR FUNCTIONALITY, SAFETY AND SERVICING AND MAKE PREPARATIONS FOR ALL ASSOCIATED WORK REQUIRED BY OVERALL SCOPES OF WORK (PANELS, EQUIPMENT, CONTROLS, WALLS, CEILINGS, FLOORS, ETC.).  
- INDOOR SWITCHGEAR EQUIPMENT - IN EXISTING ACCESSIBLE/SERVICEABLE UTILITY ROOMS (COORDINATE LAYOUTS).  
- INDOOR PANELS, LOAD CENTERS – EXISTING MECHANICAL/UTILITY SPACES AND EXISTING WALL LOCATIONS PREFERRED, SELECTED/CONSTRUCTED FOR HEAVY-DUTY ENVIRONMENTS.  
- EXTERIOR PANELS AND DISCONNECT SWITCHES – SELECTED FOR BEST ACCESS AND CONDUIT PATHS, COORDINATED WITH EQUIPMENT REQUIREMENTS, AND PROVIDED WITH WEATHER PROTECTION AS REQUIRED FOR THE APPLICATION.

**(5) MAIN ELECTRIC RACEWAYS:**  
DESIGN AND PROPERLY INSTALL MAIN ELECTRIC POWER FEEDS, RACEWAYS AND CABLES WITH INSULATION AND CLEARANCES ACCORDING TO USUAL & CUSTOMARY METHODS AND PERTINENT REGULATIONS. INTENT IS NOT TO DISTURB FINISHED SUBSTRATE (WALLS, HARD CEILINGS, FLOORS) BEYOND WHAT IS REQUIRED FOR NEW SYSTEM IMPLEMENTATION.

**(6) HVAC-RELATED POWER SYSTEMS:**  
DESIGN AND PROPERLY INSTALL ELECTRIC POWER SYSTEMS REQUIRED TO SERVICE NEW HVAC SYSTEMS. COORDINATE SCOPES OF WORK WITH MAIN POWER SYSTEMS AND NECESSARY EQUIPMENT UPGRADES (SIZING, LOCATION, DISTRIBUTION PANELS, ETC.), INCLUDING REQUIRED MEANS OF LOCAL DISCONNECT.

**(7) EXISTING ELECTRICAL LIGHTING/EMERGENCY LIGHTING SYSTEMS:**  
DESIGN AND PROPERLY INSTALL NEW MAIN INTERIOR-EXTERIOR LIGHTING/EMERGENCY LIGHTING SYSTEMS, PANELS, CONDUIT, WIRING, ETC. MAKING AESTHETICALLY-ACCEPTABLE CHOICES AT ALL LOCATIONS WHERE NEW WORK MEETS THE EXISTING FINISHED SUBSTRATE (WALLS, HARD CEILINGS, FLOORS). PROVIDE MANUFACTURER RECOMMENDED LIGHTING FOR SERVICING EXTERIOR MECHANICAL EQUIPMENT.

**(8) AS-BUILTS:**  
SEE MECHANICAL SYSTEMS NOTE (8).

CLEVELAND METROPOLITAN SCHOOL DISTRICT:

**LINCOLN WEST  
HIGH SCHOOL  
COOLING TOWER  
REPLACEMENT 2019**

3202 West 30<sup>th</sup> Street,  
Cleveland, Ohio 44109



DRAWING TITLE:

**TITLE PAGE,  
NOTES &  
DRAWING INDEX**

DRAWING NUMBER:

**T.01**

PAGE: 1 of 8

PROJECT NUMBER: 80753

DATE DRAWN: 3/6/2019

BY: RDM

DATE: 3/6/2019

REVISION # 1 FOR PROPOSAL

2 ---

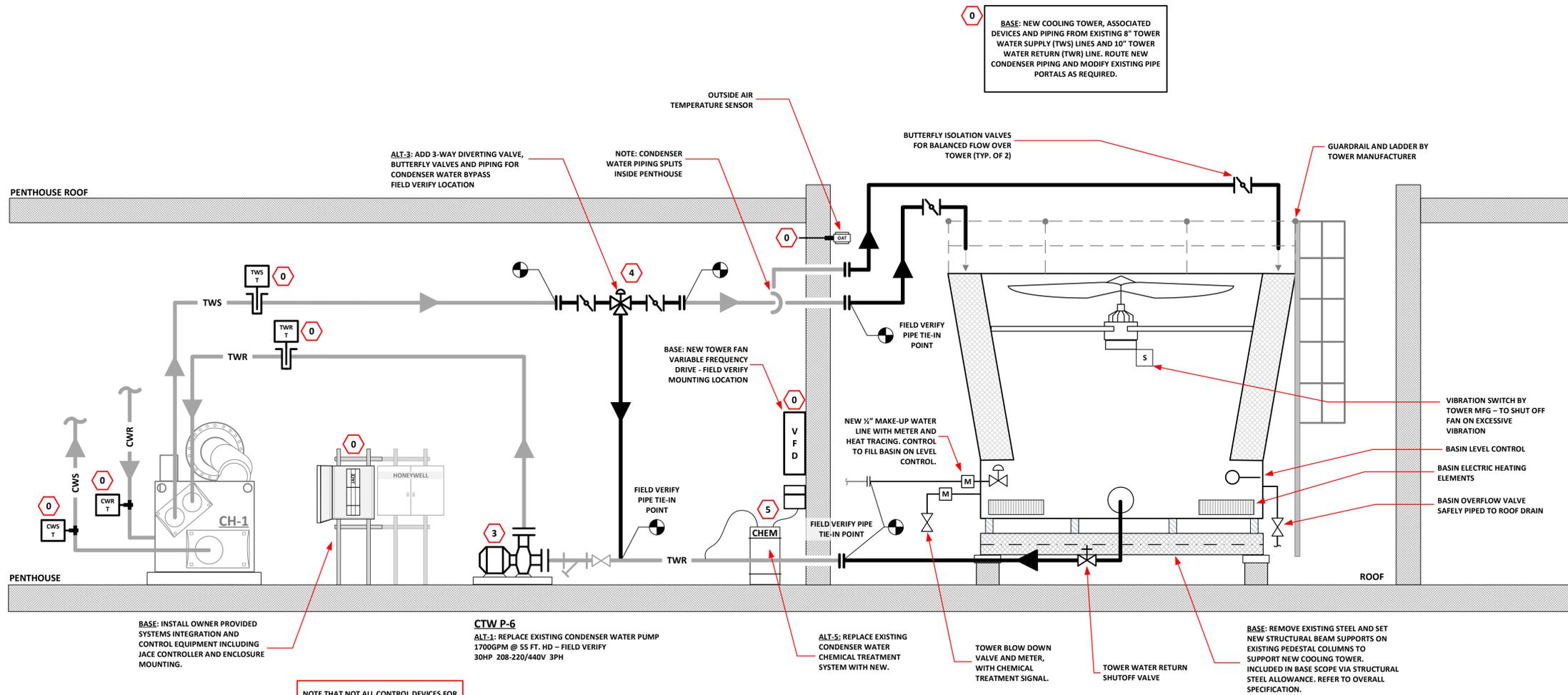
3 ---

SCALE: AS NOTED



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**CONDENSER WATER SYSTEM SCHEMATIC**  
NO SCALE

NOTE THAT NOT ALL CONTROL DEVICES FOR BASE SCOPE INSTALLATION AND WIRING ARE IDENTIFIED ON THIS SCHEMATIC. REFER TO SHEET SI.02 FOR INTEGRATION POINTS AND MATERIAL LIST. DEVICES AS NOTED IN THE SCHEDULE ARE PROVIDED BY THE MASTER SYSTEMS INTEGRATOR.

**SCOPE KEY NOTES**

- 0 **BASE SCOPE:** NEW COOLING TOWER INSTALLATION, VFD, CONTROLS/ INTEGRATION INSTALLATION
- 1 **ALT-1:** N/A THIS SHEET. ADD TO BASE SCOPE FOR PROVISION OF STAINLESS STEEL COOLING TOWER.
- 2 **ALT-2:** N/A THIS SHEET. 3-YR EXTENDED MAINTENANCE PROPOSAL.
- 3 **ALT-3:** REPLACE EXISTING CONDENSER WATER PUMP CTW P-6.
- 4 **ALT-4:** PROVIDE 3-WAY DIVERTING CONTROL VALVE AND BUTTERFLY ISOLATION VALVES FOR CONDENSER WATER BYPASS.
- 5 **ALT-5:** REPLACE CONDENSER WATER CHEMICAL TREATMENT SYSTEM.

**GENERAL NOTES**

- 1. IF A SPECIFIC SCOPE ITEM IS IN NOT LABELED WITH A KEY NOTE, IT SHOULD BE ASSUMED TO BE PART OF THE BASE SCOPE.
- 2. PROPER AND SAFE DEMOLITION OF ALL EXISTING EQUIPMENT, PIPING, SYSTEMS, ETC, AS REQUIRED BY EACH SCOPE ITEM, IS THE RESPONSIBILITY OF THE PROPOSER. COORDINATE SALVAGE RIGHTS OF DEMOLISHED MATERIAL WITH THE OWNER.
- 3. REFER TO OVERALL SPECIFICATION AND OPR DOCUMENTATION FOR ASBESTOS ABATEMENT RESPONSIBILITIES.

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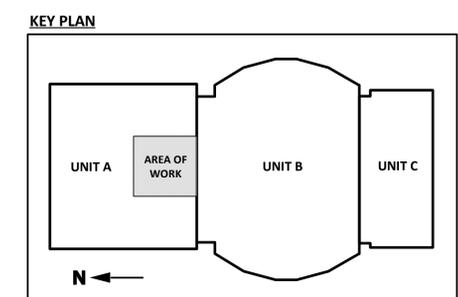
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FOR PROPOSAL		2				3					

CLEVELAND METROPOLITAN SCHOOL DISTRICT:  
**LINCOLN WEST HIGH SCHOOL COOLING TOWER REPLACEMENT 2019**  
3202 West 30<sup>th</sup> Street,  
Cleveland, Ohio 44109



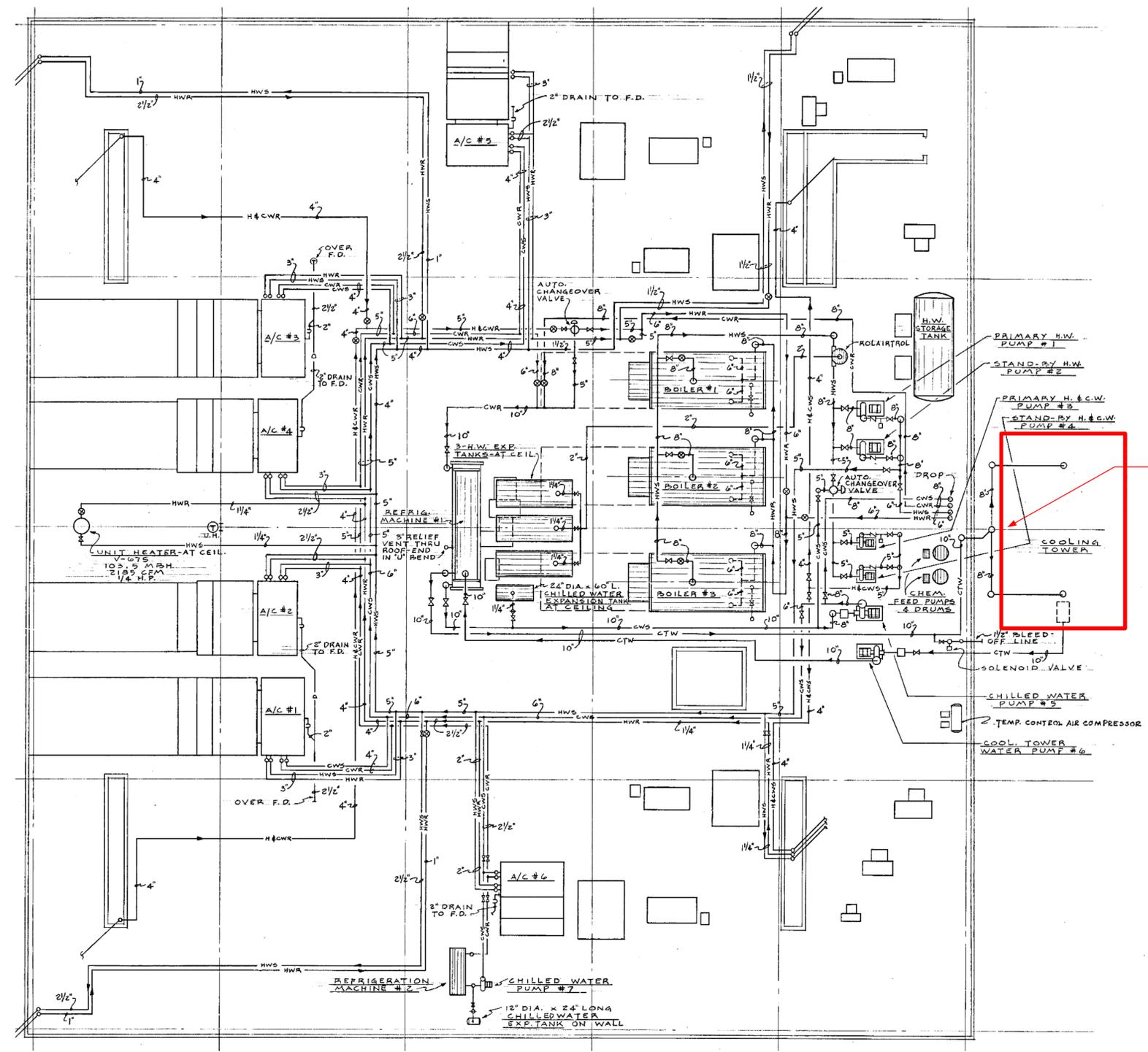
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**COOLING TOWER FLOW SCHEMATIC**



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**M.01**  
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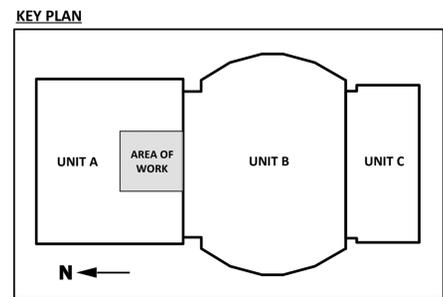
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BY:	RDM	REVISION #	1
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CLEVELAND METROPOLITAN SCHOOL DISTRICT:  
**LINCOLN WEST  
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NOTE: PIPING SPLITS  
 INSIDE PENTHOUSE

**EXISTING PENTHOUSE PIPING PLAN**  
 SCALE: 1/8" - 1'0"



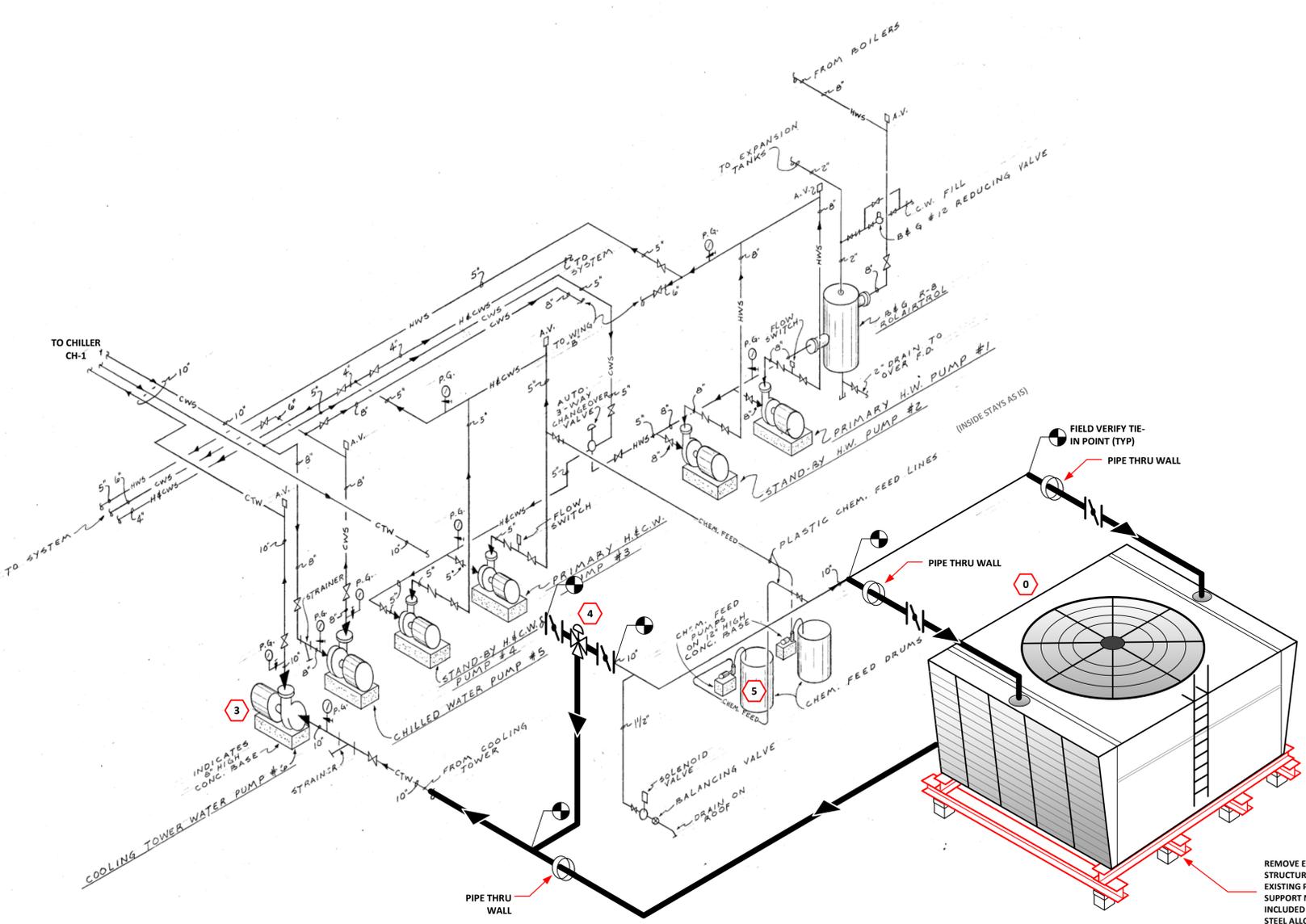
**EXISTING MECHANICAL PLANS  
 FOR REFERENCE ONLY  
 FIELD VERIFY DIMENSIONS,  
 PATHS AND EQUIPMENT  
 LOCATIONS**

DRAWING TITLE:

**EXISTING  
 PENTHOUSE  
 PIPING PLAN**

DRAWING NUMBER:

**M.02**



**PENTHOUSE PIPING ISOMETRIC**  
NO SCALE

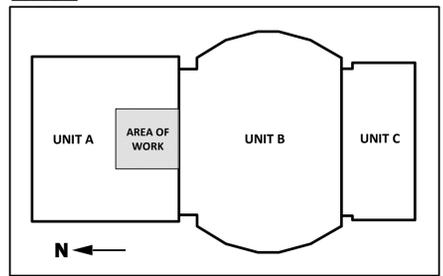
**SCOPE KEY NOTES**

- 0 BASE SCOPE: NEW COOLING TOWER INSTALLATION, VFD, CONTROLS/ INTEGRATION INSTALLATION
- 1 ALT-1: N/A THIS SHEET. ADD TO BASE SCOPE FOR PROVISION OF STAINLESS STEEL COOLING TOWER.
- 2 ALT-2: N/A THIS SHEET. 3-YR EXTENDED MAINTENANCE PROPOSAL.
- 3 ALT-3: REPLACE EXISTING CONDENSER WATER PUMP CTW P-6.
- 4 ALT-4: PROVIDE 3-WAY DIVERTING CONTROL VALVE AND BUTTERFLY ISOLATION VALVES FOR CONDENSER WATER BYPASS.
- 5 ALT-5: REPLACE CONDENSER WATER CHEMICAL TREATMENT SYSTEM.

**GENERAL NOTES**

- 1. IF A SPECIFIC SCOPE ITEM IS IN NOT LABELED WITH A KEY NOTE, IT SHOULD BE ASSUMED TO BE PART OF THE BASE SCOPE.
- 2. PROPER AND SAFE DEMOLITION OF ALL EXISTING EQUIPMENT, PIPING, SYSTEMS, ETC. AS REQUIRED BY EACH SCOPE ITEM IS THE RESPONSIBILITY OF THE PROPOSER. COORDINATE SALVAGE RIGHTS OF DEMOLISHED MATERIAL WITH THE OWNER.
- 3. REFER TO OVERALL SPECIFICATION AND OPR DOCUMENTATION FOR ASBESTOS ABATEMENT RESPONSIBILITIES.

**KEY PLAN**



**EXISTING MECHANICAL PLANS  
FOR REFERENCE ONLY  
FIELD VERIFY DIMENSIONS,  
PATHS AND EQUIPMENT  
LOCATIONS**

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						SCALE:

CLEVELAND METROPOLITAN SCHOOL DISTRICT:  
**LINCOLN WEST  
HIGH SCHOOL  
COOLING TOWER  
REPLACEMENT 2019**  
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**TITLE PAGE,  
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DATE	3/6/2019	FOR PROPOSAL	2
			3
SCALE:	AS NOTED		

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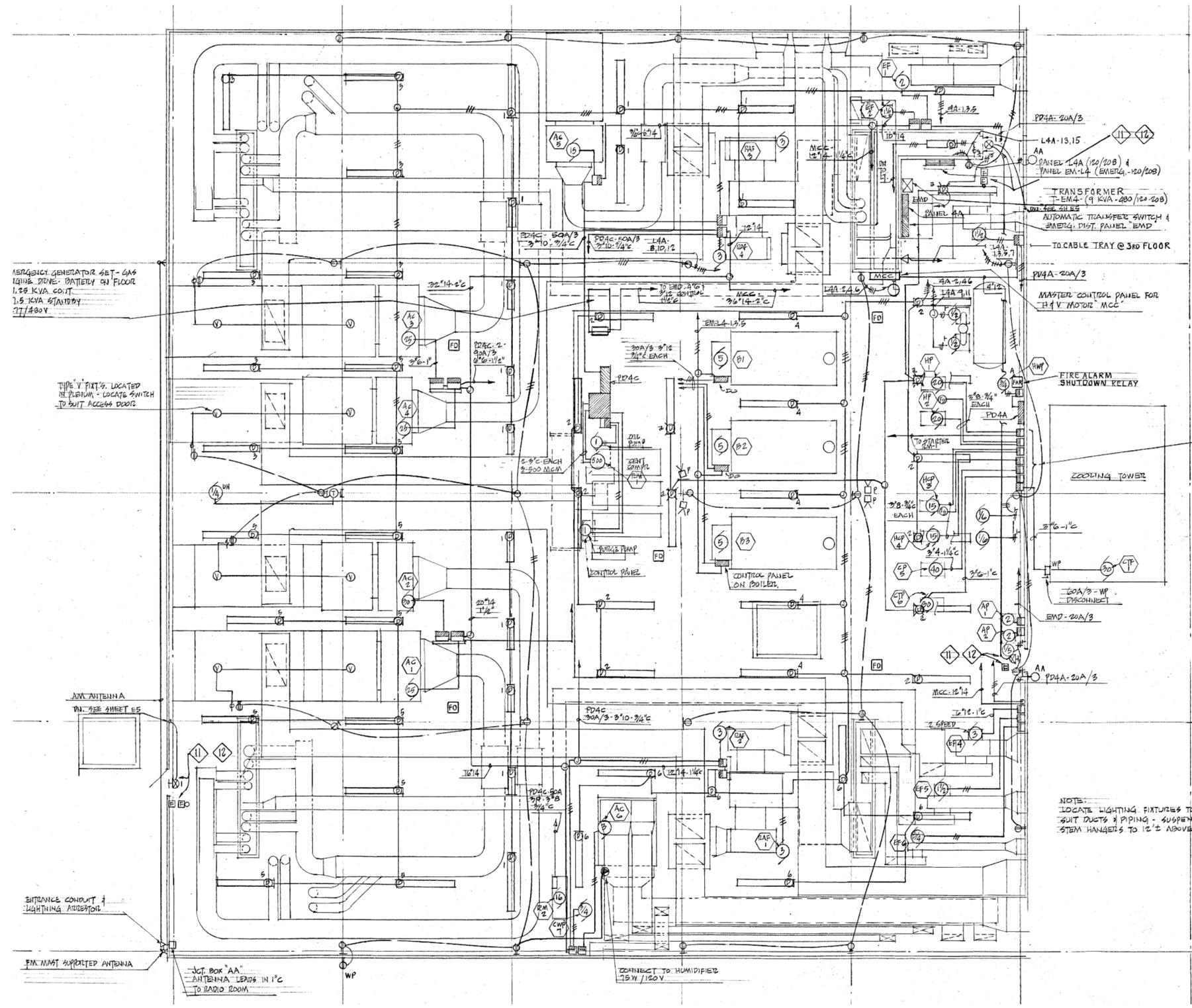


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**EXISTING  
PENTHOUSE  
ELECTRICAL PLAN**

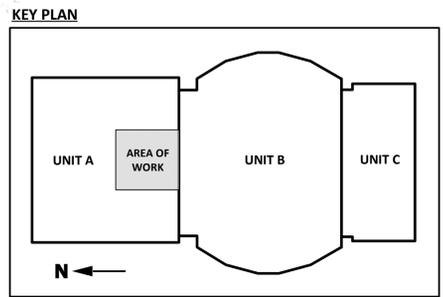
DRAWING NUMBER:

**E.01**

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**EXISTING PENTHOUSE ELECTRICAL PLAN**  
SCALE: 1/4" = 1'0"



**EXISTING ELECTRICAL PLANS  
FOR REFERENCE ONLY  
FIELD VERIFY DIMENSIONS,  
PATHS AND EQUIPMENT  
LOCATIONS**



**ELECTRICAL NOTE:**

ALL WORK SHALL BE IN ACCORDANCE WITH THE PROJECT ELECTRICAL SPECIFICATIONS, THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES. ALL WIRING SHALL BE INSTALLED IN THE CONDUIT TYPES SPECIFIED IN THE PROJECT ELECTRICAL SPECIFICATIONS UNLESS OTHERWISE ALLOWED BY THE NATIONAL ELECTRICAL CODE OR APPLICABLE LOCAL CODES. WHERE PLENUM RATED CABLE WIRING IS ALLOWED, IT SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO THE STRUCTURE, PROPERLY SUPPORTED AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER. FIELD VERIFICATION OF EXISTING CONDITIONS, INCLUDING WIRE TYPES, LOCATIONS AND POWER SOURCE CONFIGURATIONS, IS A REQUIREMENT.

**CONSTRUCTION NOTES:**

- 1) THE PROPOSER IS TO MOUNT THE JACE ENCLOSURE AND PROVIDE IT WITH 120VAC POWER, COORDINATED WITH THE OWNER AND MASTER SYSTEMS INTEGRATOR (MSI), AGM ENERGY SERVICES.
- 2) MOUNT ALL SENSORS PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE THE REQUIRED POWER/SIGNAL WIRING TO ACHIEVE ACCURATE READINGS AND PROPER SYSTEM OPERATION.
- 3) TERMINATE ALL POWER AND WIRING AT THE JACE PANEL AS NOTED. COORDINATE TERMINATIONS WITH MASTER SYSTEMS INTEGRATOR.
- 4) RUN ETHERNET CABLE FROM JACE TO NOTED LOCATION FOR CONNECTION TO CMSD NETWORK. COORDINATE TERMINATION WITH CMSD IT DEPARTMENT AND SYSTEMS INTEGRATOR. CONNECTION LOCATION IS A TO-BE-DETERMINED IT SWITCH OR TECH CLOSET, CLARIFIED IN ADDENDUM.
- 5) THE TRIDIUM JACE, ENCLOSURE PANEL, NEW TEMPERATURE SENSORS, WATER METERS AND ASSOCIATED INTEGRATION DEVICES ARE PROVIDED BY THE MASTER SYSTEMS INTEGRATOR, BUT INSTALLED BY THE PROPOSER. EXISTING TEMPERATURE CONTROL DEVICES ARE TO REMAIN UNLESS BEING REPLACED WITH NEW COOLING TOWER INSTALLATION. PROVISION AND INSTALLATION OF ALL WIRE/CABLING IS BY THE PROPOSER. REFER TO SHEET SI.02 FOR EXPECTED NEW DEVICE SCHEDULE.
- 6) ALL ITEMS REQUIRED FOR THE WORK, WHICH ARE NOT IDENTIFIED IN THE OWNER'S PROJECT REQUIREMENTS (OPR) AS "BY MASTER SYSTEMS INTEGRATOR", ARE TO BE PROVIDED BY THE PROPOSER. THIS INCLUDES BUT IS NOT LIMITED TO VALVES, PIPING, CONDUIT, MOUNTING ACCESSORIES, ETC.
- 7) THE EXISTING HONEYWELL CONTROL PANEL IS TO REMAIN FOR LIMITED INTEGRATION WITH THE NEW JACE. REFER TO SHEET SI.02 (PUBLISHED WITH ADDENDUM) FOR SPECIFIC INTEGRATION AND CONTROL POINTS. COORDINATE THE WORK WITH MASTER SYSTEMS INTEGRATOR AS REQUIRED.



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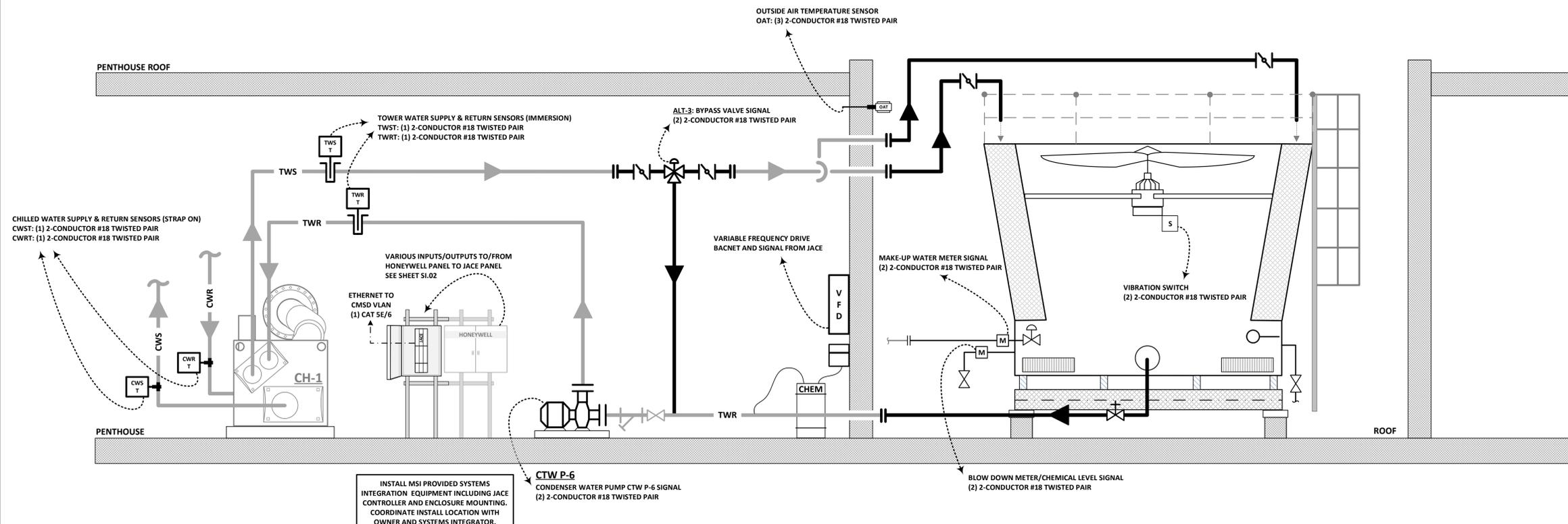
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2		
3		
SCALE:	AS NOTED	

CLEVELAND METROPOLITAN SCHOOL DISTRICT:  
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DRAWING TITLE:  
**COOLING TOWER CONTROL AND INTEGRATION SCHEMATIC**

DRAWING NUMBER:  
**SI.01**  
PAGE: 7 of 8



INSTALL MSI PROVIDED SYSTEMS INTEGRATION EQUIPMENT INCLUDING JACE CONTROLLER AND ENCLOSURE MOUNTING. COORDINATE INSTALL LOCATION WITH OWNER AND SYSTEMS INTEGRATOR.

NOTE THAT NOT ALL DEVICES, CONTROL POINTS OR POWER REQUIREMENTS ARE IDENTIFIED ON THIS SCHEMATIC. REFER TO SHEET SI.02 FOR INTEGRATION POINTS. COORDINATE WIRING AND POWER FOR NEW COOLING TOWER ASSOCIATED DEVICES WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS.

**CHILLED WATER SYSTEM CONTROL AND INTEGRATION SCHEMATIC**  
NO SCALE