ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

May 9, 2025

Please find the following addendum to the below-mentioned BID.

Addendum No.: 2

Bid#: 25-13-2

Project Name: Coroner Chiller Addition

Bid Due Date: May 28, 2025, at 2:00 PM

GENERAL INFORMATION:

Item No. 1: Deadline for Prior approvals is May 16, 2025 at 2:00 PM.

Item No. 2: All disturbed areas impacted by project work shall be returned to as good or better condition than found.

Item No. 3: Prior to final payment, the Contractor shall provide training and a detailed walk-through with the owner's representative(s) explaining the functional components and troubleshooting techniques. This training shall include instructions on how to operate the new chiller and any newly installed associated equipment. Additionally, prior to final payment, Contractor shall provide manufacturer's warranties covering the chiller parts, labor and refrigerant for 5 years and associated newly installed equipment against failure resulting from normal use. The Contractor shall provide a one (1) year parts and labor warranty for their work. Warranties shall begin on the final acceptance date. The Contractor shall also provide a list of contact names and numbers for 24/7 troubleshooting calls and/or on-site services for operational issues, during the warranty period.

Item No. 4: The chiller delivery lead time has been noted to be between 24 and 28 weeks. This time will be set in addition to the project construction time once a delivery date has been confirmed by the manufacturer.

Item No. 5: The estimated budget is $600,000.00.

Item No. 6: The existing chiller will need to remain in operation during construction. All utility shutdowns shall be coordinated and approved in writing by the owner 7 days prior to the utility shutdown.

Item No. 7: The new chiller shall connect to the existing Schneider Electric controls system. See Specification section 25 55 00 for requirements.

Item No. 8: Chiller manufacturer shall provide a BACnet MSTP control card that shall connect to the existing Schneider Electric controls.

Item No. 9: Any conflict between the specifications and drawings shall be brought to the attention of the Engineer. At such times, the Engineer shall rule between the great quantity and higher quality at no extra cost to the owner.

Item No. 10: **The following are to be allowed as alternate manufacturers for the equipment listed. Note that while the manufacturer has been approved to bid on this project, it is the sole responsibility of the Contractor and equipment manufacturer to meet all requirements of the contract documents. This includes but is not limited to, equipment dimensions, unit efficiencies, and refrigerant requirements. Any items not meeting these requirements after the bid will not be accepted, and no compensation will be given to the contractor by the Owner or Engineer.**

Equipment	**Manufacture**
Chiller	Carrier
Chiller	Daikin
Chiller	JCI
Air/Dirt Separator	Patterson/Thrush
Air/Dirt Separator	Taco
Expansion Tank	Patterson Pumps
Expansion Tank	Taco

ATTACHMENTS:

Item No. 1: See attached attendance sign-in sheet for the mandatory pre-bid held April 29, 2025, on-site.

Item No. 2: See attached, added specification section: 26 41 00 Lighting Protection specifications.

Item No. 3: See attached revised specification section 23 05 00 HVAC Systems and piping. Revision to chiller specification.

Item No. 4: Drawing revision to sheet ME101: Addendum #2 Dated 5/9/2025. Revision to the controls conduit routing at the building.

Item No. 5: Drawing revision to sheet M101: Addendum #2 Dated 5/9/2025. Revision to existing piping.

Item No. 6: Drawing revision to sheet M201: Addendum #2Dated 5/2/2025. Revision to Chiller Schedule.

Item No.7: Drawing revision to sheet E101: Addendum #2 Dated 5/9/2025. Added lighting protection.

End of Addendum # 2

St. Tammany Parish Coroner's Office
65278 Highway 434 Lacombe, LA 70445

Mandatory Pre-Bid Meeting Sign-In Sheet
Coroner Chiller Addition
Bid No.: 25-13-2

Tuesday, April 29th, 2025
10:00 AM

	Name	Company	Email	Phone	Time In	Time Out
1	Rachel Forehand	STPGov Procurement	rnforehand@stpgov.org	985-898-2520	9:38am	10:50
2	Amanda Moore	STPGov Procurement	armoore@stpgov.org	985-898-2520	9:38am	10:50
3	Rebecca miller	St Tammany Parish Gov.	rmiller@stpgov.org	985-898-2520	9:39Am	10:50
4	BOB BINDEWALD	INDUSTRIAL + MECHANICAL	BOB@IMCNOLA.com	504 234 2769	9:40	10:38
5	Bobbie Morris	Blanchard Mechanical	estimating@bmcteam.net [illegible]	985-748-5153	9:40	1039
6	Chris Loupe	Calcasieu Mech Contractors	cloupe@calmech.net	225-800-3816	9:45	10:39
7	DAVID VIVIEN	LTV ENGINEERS	DVIVIEN@VIVIENENGINEERS.com	504-218-5409	9:45	10:45
8	Mike Gatwood	Dixieland	Mike Gatwood@Charter.net	504-228-9806	9:50	10:45
9	Brian James	Gootee	bjames@Gootee.com	985-201-4187	9:49	10:44
10	James Westervelt	Sieverding Const.	info@sieverdingconstruction.com	985-626-8360	9:50.	10:38.
11	Richard Burvant	Gallo Mechanical	richard.burvant@gallomech.com	504 4290090	9:50	10:40
12	Jeremy BALFOUR	ARC Mechanical	ESTIMATING@ ARCMECHANICAL.NET	985-661-9191	9:50	10:44

	Name	Company	Email	Phone	Time In	Time Out
13	PAUL REUTER	AUTOMATED CONTROL SYSTEMS INC.	preuter@acscompanies.com	504-885-3694	9:53AM	10:41AM
14	Richard Brandt	Automated controls	rbrandt@acscompanies.com	504 416 5891	9:54 Am	10:41 Am
15	Phillip Lazaro	CIS	phillip.lazaro@cisindustries.com	985-400-0163	9:55	10:42
16	Brad Amie	Regency Electrical	bamie@regency-electrical.com	504-450-0361	9:55	10:42
17	Brian Mutterngh	Corcoran Mechanical	brianMitterngh@yahoo.com	504-494-0548	9:55	10:42
18	John Fournier	Fournier Electric	fournier-electric@Bellsouth.net	985-290-5629	9:55	10:38
19	Ryan Bakkasarro	Gottfried Construction	ryan@gottfried-us.com	504-415-0467	9:57	10:39
20	Will Berkowitz	LOUMIS AIR LLC	will.berkowitz@loumisair.com	985-707-9989	9:57	10:38
21	Logan Lege	Mechanical Resource Contractors LLC	logan.lege@bernhard.com	985-210-3851	9:58	10:40
22	Cary Magee	WATSON MECH	MageeMike2@Yahoo.Com	2253057217	9:59	10:40
23	Richard Fields	STPCO	rfields@STPCOaer.org	985 781 1150	10:00	10:47
24						
25						
26						

SECTION 26 41 00 - LIGHTNING PROTECTION

PART 1 - GENERAL

1.1 OBJECTIVE

A. System shall provide safety for the Equipment by preventing damage to building structure caused by lightning.

1.2 STANDARDS

A. The following specifications and standards, of the latest issue, form a part of this specification.

1. Lightning Protection Institute, Installation Standard, LPI 175.
2. Underwriters Laboratories, Inc., Installation Requirements, UL96A.
3. National Electrical Code (NEC), NFPA 70
4. National Fire Protection Association, Lightning Protection Code, NFPA 780.

1.3 SYSTEM DESIGN

A. The work covered by this section of the specifications consists of furnishing all labor, materials, and items of service required for the completion of a functional and unobtrusive lightning protection system as approved by the engineer and in strict accordance with this section of the specifications and the applicable contract drawings.

B. If any departure from the contract drawings or submittal drawings covered below are deemed necessary by the Contractor, details of such departures and reasons therefore shall be submitted as soon as practical to the Engineer for approval.

C. The Contractor shall provide all hardware and devices to make the lightning protection system complete and functional. The entire system shall be provided to make the installation compliant with NFPA 780.

1.4 SUBMITTALS

A. Complete design drawings showing the type, size, and locations of all grounding down conductors, and air terminals shall be submitted to the Architect and Engineer for approval.

1.5 QUALITY ASSURANCE

A. The lightning protection system shall conform to the requirements and standards for lightning protection systems of the LPI, UL, and NFPA.

B. Upon completion, an application shall be made to the Underwriters Laboratories, Inc. for inspection and certification and shall be delivered to the owner ensuring that the concealed components have also been monitored during job progress.

1.6 WARRANTY

A. Provide a full 1-year warranty after Owner acceptance of system including parts and labor for all equipment furnished and installed.

PART 2 - PRODUCTS

2.1 STANDARDS

A. The system to be furnished under this specification shall be the standard product of manufacturers regularly engaged in the production of lightning protection equipment and shall be the manufacturer's latest approved design. The equipment shall be UL listed and properly UL labeled.

B. All equipment shall be new, and of a design and construction to suit the application where it is used in accordance with accepted industry standards and LPI, UL, NFPA, and NEC code requirements.

C. Approved Manufacturers:

1. Advanced Lightning Technology
2. East Coast Lightning Equipment
3. Robbins Lightning Protection
4. Thompson Lightning Protection, Inc.

2.2 LIGHTNING PROTECTION EQUIPMENT

A. All materials shall be copper and bronze and of the size, weight, and construction to suit the application and used in accordance with LPI, UL, and NFPA code requirements. Class I sized components may be utilized on roof levels 75 feet and below in height. Class II sized components are required for roof levels over 75 feet in height. Bolt type connectors and splicers shall be utilized on Class I and Class II structures. Pressure squeeze clamps are not acceptable. All mounting hardware shall be stainless steel to prevent corrosion.

B. Contractor shall reference floor plans, elevations, and MEP drawings to provide complete coverage of all equipment conditions for lightning protection systems.

2.3 ALUMINUM COMPONENTS

A. Aluminum materials may not be used except on roofs that utilize aluminum, galvalume or galvanized metal roofing components.

B. On aluminum, galvalume or galvanized metal or where aluminum, galvalume or galvanized metal caps exist, the entire lightning protection equipment shall utilize aluminum components to insure compatibility. However, the down leads and grounding shall utilize copper with the bimetal transition occurring at the through roof assembly with an approved bimetal through roof assembly.

2.4 SURGE ARRESTOR

A. A surge arrester at the main electrical service entrance is required by Underwriters Laboratories UL96A lightning protection codes and to obtain the UL Master Label Certificate of Inspection.

B. It shall be the responsibility of the Electrical Contractor to install or verify that a surge arrester is installed on the Main Electrical Service.

PART 3 - EXECUTION

3.1 INSTALLATION

A. A Certified Master Installer shall directly supervise the work. All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete conductor network at the roof and include air terminals, connectors, splices, bonds, copper down leads, and proper ground terminals.

B. The installation shall be accomplished by an experienced installation company that is UL listed, a member of the Lightning Protection Institute and an employer of Certified Master Installers of lightning protection systems.

C. All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete conductor network at the roof and include air terminals, connectors, splicers, bonds, copper down leads, and proper ground terminals.

D. Copper down lead conductors shall be utilized even when aluminum is required on the roof. Down lead conductors in conduit shall not be brought directly through the roof. Through roof assemblies with solid brass or stainless steel rods shall be utilized for this purpose. Structural steel may be utilized in the installation as outlined by UL, NFPA, and LPI.

3.2 COORDINATION

A. The lightning protection installer shall work with other trades to insure a correct, neat and unobtrusive installation. The roofing contractor shall be responsible for sealing and flashing all lightning protection roof penetrations as per the roof manufacturer's recommendations. However, the lightning protection contractor shall l be required to coordinate locations of through roofs and submit details of through roof penetrations as required. The lightning protection contractor shall use a compatible adhesive to adhere lightning protection components to the roof when required. The lightning protection contractor shall furnish and install the adhesive and obtain an approval of the compatible adhesive from the roof manufacturer/contractor prior to the installation. Should the roofing contractor/manufacturer

require any special walk pads, membrane patches, pavers, etc. under the components of the lightning protection system, it shall be the responsibility of the roofing contractor to furnish and install such items.

B. The lightning protection installer shall be responsible for marking the roof with all conductor and/or pad locations.

C. It shall be the responsibility of the Lightning Protection Installer to assure a sound bond to the main water service and to assure interconnection with main electrical service ground system.

3.3 COMPLETION AND CERTIFICATION

A. This specification recognizes that UL will not certify structures or additions that are attached to a structure which does not fully comply with current UL96A lightning protection standards. Therefore, all attached structures shall be reviewed for compliance. The attached structure shall have a system installed and be fully protected in order to obtain all required inspections and certifications for the owner.

B. Upon completion of the installation, the lightning protection installer shall secure and deliver to the Owner the Underwriters Laboratories, Inc. Master Label certification and the Lightning Protection Institute Certified System certification. The system will not be accepted without the UL Master Label plate and the LPI certification certificate.

END OF SECTION 26 41 00

SECTION 23 05 00 - HVAC SYSTEMS AND PIPING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. The General Provisions of the Contract, including General and Supplementary Conditions and General Requirements apply to the work specified in this Section.

B. Refer to Section 23 00 50 which shall apply to work in this Section.

1.2 DESCRIPTION OF WORK

A. The work to be done under this Section includes the furnishing of all labor, tools, materials, equipment and services necessary for and reasonable incidental to the installation of complete Mechanical equipment as shown on plans and herein specified, excepting only work and/or materials indicated as being done and/or furnished under other sections.

B. This Contractor shall provide the chemical water treatment for the entire Chilled Water System Piping, as here in after specified.

C. Contractor shall refer to other Sections of the Specifications which may be applicable to or associated with this Section.

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Electrical Section shall provide all power wiring including furnishing and installing of disconnect switches where specified. Control wiring for air conditioning equipment shall be provided under this Section as required.

B. Other Sections shall provide and install structural supports for equipment. These supports shall be checked and coordinated by this Section so that they suit the equipment which is to be supported.

C. Other Sections shall provide all platforms slabs, lintels and curbs, as directed by this Section, to accommodate the Mechanical Equipment.

D. Mechanical Contractor shall provide starters and/or VFD for motors furnished under this Section.

1.4 QUALITY ASSURANCE

A. These specifications with accompanying drawings, require complete apparatus, fully erected and in successful operating condition. Perform all work in best, most substantial manner.

B. All equipment furnished and installed under this Section shall be U.L. approved and labeled where applicable.

C. All unfired pressure vessels furnished under this Section shall be ASME and National Board stamped.

D. All manufacturers products shall comply with the requirements of this Section:

1.5 SUBMITTALS

A. Contractor, before beginning work, shall submit dimensional shop drawings for approval, for all Equipment and piping systems. Contractor is responsible to coordinate all equipment piping, and electrical installations to avoid all conflicts. Conflicts encountered after work has started shall be corrected at Contractor's expense.

B. Where the equipment installed is of a different configuration and/or size than that shown on the drawings, Contractor shall assume all responsibility to conform with the intent of the contract documents. The Engineer shall be advised of any changes and deviations for his approval. The same shall be true for any field modification required because of "on job" construction conditions.

PART 2 - PRODUCTS

2.1 ACCESS PANELS

A. Access panels shall be installed wherever required for ready access to any operating part.

B. Panels shall not be smaller than 12 X 12 inches, with brass hinge and sash type fasteners.

2. 2 PIPING AND FITTINGS

A. Furnish and install all piping related to the Mechanical systems including make-up water piping, condensation drains, and other miscellaneous piping.

B. All piping shall be installed parallel and square with building lines and shall be sloped to permit drainage, with suitable provision for drainage at all low points.

C. Piping shall be arranged to maintain headroom and keep passageways clear and where necessary shall be offset to maintain the required clearance and conform with the structural features of the building. Contractor shall determine in advance of construction locations for all piping sleeves, hangers, etc. No allowance shall be made for extra due to inaccurate location of sleeves, piping or equipment.

D. All piping shall have provisions for expansion and contraction with anchorage at each point shown on the plans and/or as required.

E. Full length pipe shall be used where possible, short lengths and couplings shall not be permitted. After cutting, all pipes shall be reamed out to full bore and before erection, all cutting and foreign matter shall be removed from the inside of pipes. Screwed joints shall be made tight without

caulking or the use of lead or paint and no lubricant shall be used except flake granite and cylinder oil paste, or approved pipe compound applied to connect threaded pipe.

F. Pipe sleeves shall be provided for the passage of all pipe through walls, floors and partitions.

G. Welding fittings shall be Tube Turn, Midwest, or approved equal. Use welding elbows at all turns in welded piping, except where bent runs are indicated and except that turns and off-setting to a maximum of 15 degrees mitered. At branch connections, use welding tees. Use extra heavy couplings in all cases where female threaded openings are required, in welding piping.

H. Above slab, chilled water piping, 2-1/2" and larger shall be installed using Schedule 40 black steel pipe with malleable iron fittings. At Contractor's option size three (3") inches and larger may be flanged or welded. Welded elbows shall be factory made long radius. Provide bronze unions at connections to copper coils. Also, at Contractor's option all chilled water piping, above ground, may be installed using approved mechanical pipe coupling and fittings, with grade "E" gaskets. Piping 2" and smaller shall be type "K" hard drawn copper with wrought copper sweat fittings.

I. Install control valves, sensor wells, sockets, flow meters and DP sensors that are required.

2.3 PIPING IDENTIFICATION

A. All piping at each piece of equipment shall be stencil to show the service and direction of flow.

B. Stencils shall be black on a white background with letters one (1") inch high spaced at approximately forty-eight (48") inches apart.

C. Pressure-sensitive pipe markers ANSI Standard A 13.1 may be used in lieu of stenciling.

2.4 MOTOR STARTERS

A. This Contractor shall provide motor starters for all motors furnished under this section.

B. Starters shall be NEMA ICS 2, AC general-purpose Class A magnetic controllers for induction motors rated in horsepower. Size shall be as for the motors connected. All motors over 25 HP shall use solid state reduced voltage starters.

C. Coils shall have the operating voltage required for the motors connected. Coils shall be of the encapsulated type with the required poles.

D. Windings shall be straight-through type with all terminals clearly marked.

E. Overload relays shall be NEMA ISC with one piece thermal unit construction, and shall be interchangeable. Overload relay control circuit contacts shall also be replaceable. Thermal units shall be required for starter to operate. Starters shall have phase loss, phase reversal, three phase, under-voltage relay motor protection.

F. Starters shall have HOA, located in the cover. Starters shall also have a 150VA control transformer and auxiliary contacts as required for controls. Coordinate these with the requirements of the building automation system, Section 25 55 00.

G. Starter enclosures shall be ANSI/NEMA ICSG, type 1 or 3R as required to meet conditions of installation.

H. Full voltage starters shall be G. E. Model 300 Series or ABB Series B.

2.5 VIBRATION ISOLATION SYSTEMS

A. Work shall include furnishing, installing and testing all material required and hereinafter called for complete execution of the vibration isolation system. Isolation materials shall not be limited to compressors, convertors, air units, pumps, piping, duct work, fans, etc. All motor-connected equipment shall be considered a source of vibration and shall be isolated to prevent vibration and sound transmission. Isolation equipment, as manufactured by Kinetics, Mason Industries or prior approval equal, shall be used. Specific reference to isolation under equipment headings is to provide additional information by which proper selection of the required isolation may be made. Equipment specification data showing physical size, bearing points, weights per point, rotating speeds and sound power levels generated shall be furnished by the respective equipment supplier to the vibration isolation supplier after equipment submittals have been approved.

B. All mechanical and sound isolation materials specified herein or shown on drawings shall be provided by a single manufacturer to assure singular responsibility for proper selection, application, installation and performance. Substitution for isolation material specified incorporating non-permanent materials, such as cork, rubber, wood pulp, or thermal fiberglass shall not be acceptable. Should no specific material be called out for particular use, all mechanical vibration isolation shall be based upon Chapter 42, 1991 A.S.H.R.A.E. Guide-Table 34, "Guide for Selection of Vibration Isolators". Bases, mounts and hangers furnished shall have a nominal deflection equal to the minimum deflection as shown in this guide and shall be furnished on all motor driven equipment requiring isolation as well as piping and duct connected to same.

C. To assure stability, the spring element to be a large diameter laterally stable spring with load plate and have a lateral stiffness greater than 0.8 times the rated vertical stiffness and be designed to provide up to 50% overload capacity. Each base mount spring shall have a 1" isolation sound pad of elastomeric material.

D. Isolation shall be stable during starting and stopping of equipment without any transverse or eccentric movement that could damage or adversely affect the equipment or attachments. Isolation systems for floor or ceiling-mounted equipment shall have a maximum lateral motion under start up and shut down of 3/8". Motion in excess shall be corrected by restrained spring-type mounts. Isolators shall be selected for the lowest operating speed of the equipment isolated and shall be located to produce uniform loading and deflection even when equipment weight is not evenly distributed. Static deflection on grade up to 3/8" shall use nominal 1" deflection springs on isolation pads. Static deflection above grade shall use spring isolators with spring deflection based upon 1991 Guide Deflection data. The static deflection of the isolation system shall be selected to avoid being in resonance with the disturbing frequency. All spring isolators shall have neoprene sound damping pads separating isolator from structure.

E. Submittals shall contain a complete schedule of all equipment to be isolated along with the type of isolator, loading per isolator, static deflection, spring diameters and maximum deflection. Should isolation installed fail to perform satisfactorily in preventing the transmission of vibration, the isolation shall be replaced without cost to owner and properly selected isolators shall be installed.

F. All piping over 1" in diameter and connected to motor-driven equipment shall be spring hung for a minimum of 3 hangers in each direction. The spring deflection for the hanger shall be the same as the spring deflection for the equipment isolated. Mason Model 30N or Kinetics Model SFH.

2.6 PACKAGED AIR-COOLED CHILLER

A. Provide and install as shown on the plans factory-assembled, factory-charged air-cooled scroll compressor packaged chillers in the quantity specified. The chiller shall consist of hermetic tandem scroll compressor sets, brazed plate evaporator, air-cooled condenser section, microprocessor-based control system and all components necessary for controlled unit operation.

B. Chiller shall be functionally tested at the factory to ensure trouble free field operation.

C. Chillers shall be capable of the following conditions:

1. Flow Range: The chiller shall have the ability to support variable flow range down to 40% of nominal design (based on AHRI conditions).
2. Operating Range: The chiller shall have the ability to control leaving chilled fluid temperature from 15F to 65F.
3. General: Provide a complete scroll compressor packaged chiller as specified herein and as shown on the drawings. The unit shall be in accordance with the standards referenced in section 1.02 and any local codes in effect.
4. Refer to the schedule of performance on the drawings. The chiller shall be capable of stable operation to a minimum percentage of full load (without hot gas bypass) of 25%. Performance shall be in accordance with AHRI Standard 550/590.
5. Acoustics: Sound pressure levels for the unit shall not exceed the following specified levels. All manufacturers shall provide the necessary sound treatment (parts and labor) to meet these levels if required. Sound data shall be provided with the quotation. Test shall be in accordance with AHRI Standard 370.

Sound Pressure (*at 30 feet*)								
63 Hz dB	**125 Hz** dB	**250 Hz** dB	**500 Hz** dB	**1 kHz** dB	**2 kHz** dB	**4 kHz** dB	**8 kHz** dB	**Overall** dBA
49	56	59	65	64	68	58	54	**71**
Sound Power								
63 Hz dB	**125 Hz** dB	**250 Hz** dB	**500 Hz** dB	**1 kHz** dB	**2 kHz** dB	**4 kHz** dB	**8 kHz** dB	**Overall** dBA
76	83	86	92	91	95	85	81	**98**

Octave band is non 'A' weighted and overall readings are 'A' weighted. Sound data rated in accordance with AHRI Standard-370.

D. Chiller compressors shall be provided as follows.

A. Compressor
1. The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on RIS vibration isolator pads. The compressors shall be equipped with an internal module providing compressor protection and communication capability.

B. Evaporator
1. The evaporator shall be a compact, high efficiency, dual circuit, brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates. Vent and drain connections shall be provided in the inlet and outlet chilled water piping by the installing contractor.
2. The evaporator shall be protected with an external, electric resistance heater plate. The evaporator and suction piping to the compressors shall be insulated with 3/4" (19 mm) thick CFC and HCFC-free closed-cell flexible elastomeric foam insulation material with 100% adhesive coverage. The insulation shall have an additional outer protective layer of 3mm thick PE embossed film to provide superior damage resistance. Insulation without the protective outer film shall not be acceptable. UV resistance level shall meet or exceed a rating of 'Good' in accordance with the UNI ISO 4892 - 2/94 testing method. This combination of a heater plate and insulation shall provide freeze protection down to -20°F (-29°C) ambient air temperature.
3. The water-side maximum design pressure shall be rated at a minimum of 469 psig (3235 kPa). Evaporators shall be designed and constructed according to, and listed by, Underwriters Laboratories (UL).

C. Condenser
1. Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct-drive fan motors. The fans shall be equipped with a heavy-gauge vinyl-coated fan guard. Fan motors shall be TEAO type with permanently lubricated ball bearings, inherent overload protection, three-phase, direct-drive, 1140 rpm. Each fan section shall be partitioned to avoid cross circulation.
2. Coil shall be microchannel design and shall have a series of flat tubes containing multiple, parallel flow microchannels layered between the refrigerant manifolds. Tubes shall be 9153 aluminum alloy. Tubes made of 3102 alloy or other alloys of lower corrosion resistance shall not be accepted. Coils shall consist of a two-pass arrangement. Each condenser coil shall be factory leak tested with high-pressure air under water. Coils shall withstand 1000+ hour acidified synthetic sea water fog (SWAAT) test (ASTM G85-02) at 120°F (49°C) with 0% fin loss and develop no leaks.

D. Refrigerant Circuit

1. Each of the two refrigerant circuits shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve (no exceptions), expansion valve, and insulated suction line.

E. Construction
1. Unit formed sheet metal components shall be painted using a corrosion resistant paint system, for aesthetics and long-term durability. Paint system will include a base primer with a high-quality polyester resin topcoat. Painted galvanized parts shall be G60 or greater and finished, unabraded panel surfaces shall be capable to be exposed to an ASTM B117 salt spray environment and exhibit no visible red rust at a minimum of 3,000 hours exposure. Finished, abraded surfaces shall be tested per ASTM D1654, having a mean scribe creepage not exceeding 1/16" at 1,000 hours minimum exposure to an ASTM B117 salt spray environment.
2. Upper section of unit shall have protective and decorative louvers covering the coils and unit end; base section of unit shall have protective, 12 GA, PVC-coated, wire grille guards and have painted steel wraps enclosing the coil end sections and piping.

F. Control System
1. A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Box shall be designed in accordance with NEMA 3R rating. Power and starting components shall include factory circuit breaker for fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection and two power blocks (one per circuit) for connection to remote, contractor supplied disconnect switches. Hinged access doors shall be lockable. Barrier panels or separate enclosures are required to protect against accidental contact with line voltage when accessing the control system.
2. Shall include high short circuit current rating of 65,000 amps with single-point disconnect switch.

G. Unit Controller
1. An advanced DDC microprocessor unit controller with a 5-line by 22-character liquid crystal display provides the operating and protection functions. The controller shall take preemptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features as a minimum:
2. The unit shall be protected in two ways: (1) by alarms that shut the unit down and require manual reset to restore unit operation and (2) by limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.
3. Shutdown Alarms
   A. No evaporator water flow (auto-restart)
   B. Sensor failures
   C. Low evaporator pressure
   D. Evaporator freeze protection
   E. High condenser pressure

F. Outside ambient temperature (auto-restart)
G. Motor protection system
H. Phase voltage protection (Optional)

4. Limit Alarms
   A. Condenser pressure stage down, unloads unit at high discharge pressures.
   B. Low ambient lockout, shuts off unit at low ambient temperatures.
   C. Low evaporator pressure hold, holds stage #1 until pressure rises.
   D. Low evaporator pressure unload, shuts off one compressor.
5. Unit Enable Section
   A. Enables unit operation from either local keypad, digital input, or BAS
6. Unit Mode Selection
   A. Selects standard cooling, ice, glycol, or test operation mode
7. Analog Inputs:
   A. Reset of leaving water temperature, 4-20 mA\
   B. Current Limit
8. Digital Inputs
   A. Unit off switch
   B. Remote start/stop
   C. Flow switch
   D. Ice mode switch, converts operation and setpoints for ice production
   E. Motor protection
9. Digital Outputs
   A. Shutdown alarm; field wired, activates on an alarm condition, off when alarm is cleared
   B. Evaporator pump; field wired, starts pump when unit is set to start
10. Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.
11. Building Automation System (BAS) Interface
   A. Factory mounted DDC controller(s) shall support operation on a BACnet®, Modbus® network via one of the data link / physical layers listed below as specified by the successful Building Automation System (BAS) supplier.
   B. BACnet MS/TP master (Clause 9)
   C. BACnet IP, (Annex J)
   D. BACnet ISO 8802-3, (Ethernet)
   E. The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.
   F. All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed. BACnet communications shall conform to the BACnet protocol (ANSI/ASHRAE135-2001). A BACnet Protocol Implementation Conformance Statement (PICS) shall be provided along with the unit submittal.

E. INSTALLATION

A. Install in strict accordance with manufacturer's requirements, shop drawings, and contract documents.

B. Adjust and level chiller in alignment on supports.

C. Coordinate electrical installation with electrical contractor.

D. Coordinate controls with control contractor.

E. Install a field-supplied or optional manufacturer-supplied strainer in the chilled water return line at the evaporator inlet that meets manufacturer perforation size specifications.

F. START-UP

A. Provide testing and starting of machine, and instruct the Owner in its proper operation and maintenance.

G. WARRANTY

A. 5 year Parts & Labor Warranty

B. Refrigerant Warranty: Five (5) years R32 or 454A refrigerant.

C. Warranty Start: Date of final acceptance

H. MAINTENANCE

A. Maintenance of the chillers shall be the responsibility of the owner and performed in accordance with the manufacturer's instructions

2.7 WATER TREATMENT

A. Contractor to furnish and install necessary equipment to properly treat the chilled water circulating system. Manufacturers shall be K-2 Chem., Nalco, or equal. Contractor to provide treatment report to owner after completion of water treatment.

B. Furnish and install high pressure "pot type" feeders interconnected across chilled water circulating pumps. Treatment shall be film forming type capable of maintaining adequate corrosion and sludging protection. Include 55 gallons Closed System Treatment in highly concentrated liquid form, basically Nitrite-Metallic Polyphosphate formulated to meet local water conditions.

C. Flush out system and remove pipe scale and oily residue, furnish Pre-Start-Up chemical to be used under direct supervision of chemical company representative. This shall be done after all pipe is completed and tested, prior to operation and initiation of regular chemical feeding.

D. Provide complete printed instructions for chemical dosages, bleed rates, operation, to simplify operation and set a standard for treatment. Services of factory trained Engineer shall be included for setting up procedures and instructing personnel in proper handling of chemicals based on actual analysis of water supply. Complete test sets for checking PH, Alkalinity, Chloride, Hardness, Nitrite, Organic Phosphonate shall be included with all required reagents and instructions. Factory check analysis and supervision of chemical use and test shall be included for first year's operation.

E. This Contractor shall furnish and install all piping connections, taps, and shut off valves to accommodate all the equipment and piping. Contractor shall certify piping is clean and free of air.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All equipment and controls shall be installed in accordance with manufacturer's recommendations. Installation, adjustments and starting shall be done under supervision of manufacturer's representative.

B. All equipment shall be installed in a neat and workmanlike manner in accordance with the guidelines of NFPA 90-A and the best practice of the trade.

C. This Contractor shall furnish and install any and all mechanical items which are required to complete the temperature controls that are provided and reconnected under this section, Verify and provide the Chilled Water System Operating Controls as described and required on the drawings.

D. All piping as specified under this section shall be tested to the following pressures:

Building Chilled water system	-	100 psi
Condensate drain	-	10 psi

E. The method of application of tests and duration shall be as described in SECTION 23 00 50 Maximum of 5% pressure loss during the duration shall be acceptable.

F. Upon completion of the installation of all work and equipment the Contractor shall start all equipment and make all necessary tests and adjustments to place entire heating, ventilating and air conditioning systems in a satisfactory condition for continuous safe operation of facilities.

3.2 TESTING AND BALANCING

A. Balancing Agency shall coordinate with the Mechanical Contractor the testing and balancing requirements.

B. Adjust chilled water flow to provide specified pressure drops through the new chiller.

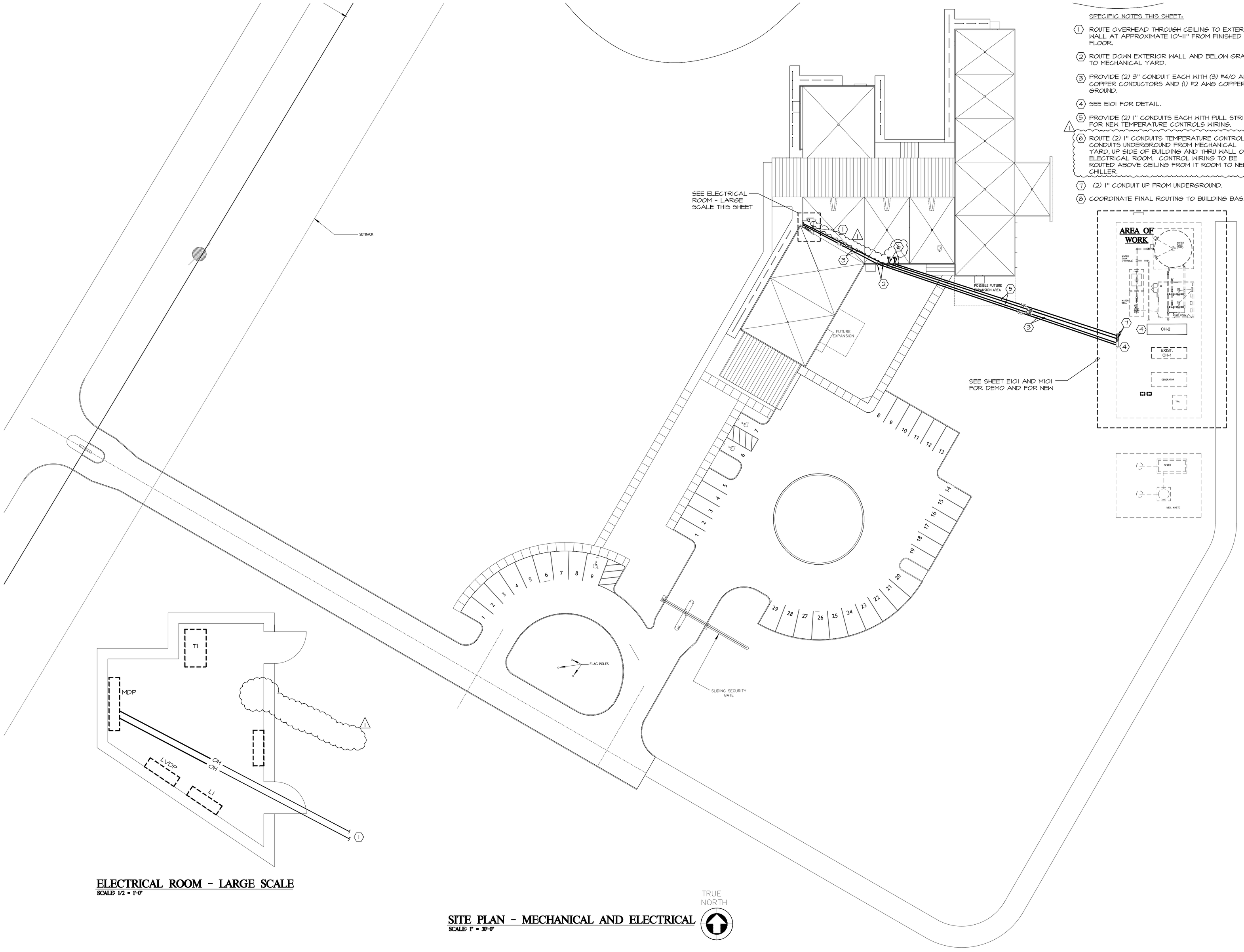
C. Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.

D. Use calibrated Venturi tubes, orifices, or other metered fitting and pressure gages to determine flow rates for system balance.

E. Where flow-metering devices are not installed, base flow balance on pressure drops on elements in the system. Where available pump capacity is less than total flow requirements or individual

system parts, full flow in one part may be simulated by temporary restriction of flow to other parts.

END OF SECTION 23 05 00



SPECIFIC NOTES THIS SHEET:

1. ROUTE OVERHEAD THROUGH CEILING TO EXTERIOR WALL AT APPROXIMATE 10'-11" FROM FINISHED FLOOR.
2. ROUTE DOWN EXTERIOR WALL AND BELOW GRADE TO MECHANICAL YARD.
3. PROVIDE (2) 3" CONDUIT EACH WITH (3) #4/0 AWG COPPER CONDUCTORS AND (1) #2 AWG COPPER GROUND.
4. SEE E101 FOR DETAIL.
5. PROVIDE (2) 1" CONDUITS EACH WITH PULL STRINGS FOR NEW TEMPERATURE CONTROLS WIRING.
6. ROUTE (2) 1" CONDUITS TEMPERATURE CONTROL CONDUITS UNDERGROUND FROM MECHANICAL YARD, UP SIDE OF BUILDING AND THRU WALL OF ELECTRICAL ROOM. CONTROL WIRING TO BE ROUTED ABOVE CEILING FROM IT ROOM TO NEW CHILLER.
7. (2) 1" CONDUIT UP FROM UNDERGROUND.
8. COORDINATE FINAL ROUTING TO BUILDING BAS.

ELECTRICAL ROOM - LARGE SCALE

SCALE: 1/2 = 1'-0"

SITE PLAN - MECHANICAL AND ELECTRICAL

SCALE: 1" = 30'-0"

TRUE NORTH

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CORONER CHILLER ADDITION

ST. TAMMANY PARISH, LOUISIANA

STATE OF LOUISIANA
DAVID E. VIVIEN
REGISTERED
PROFESSIONAL ENGINEER
MECHANICAL
DAVID E. VIVIEN
MARCH 27, 2025

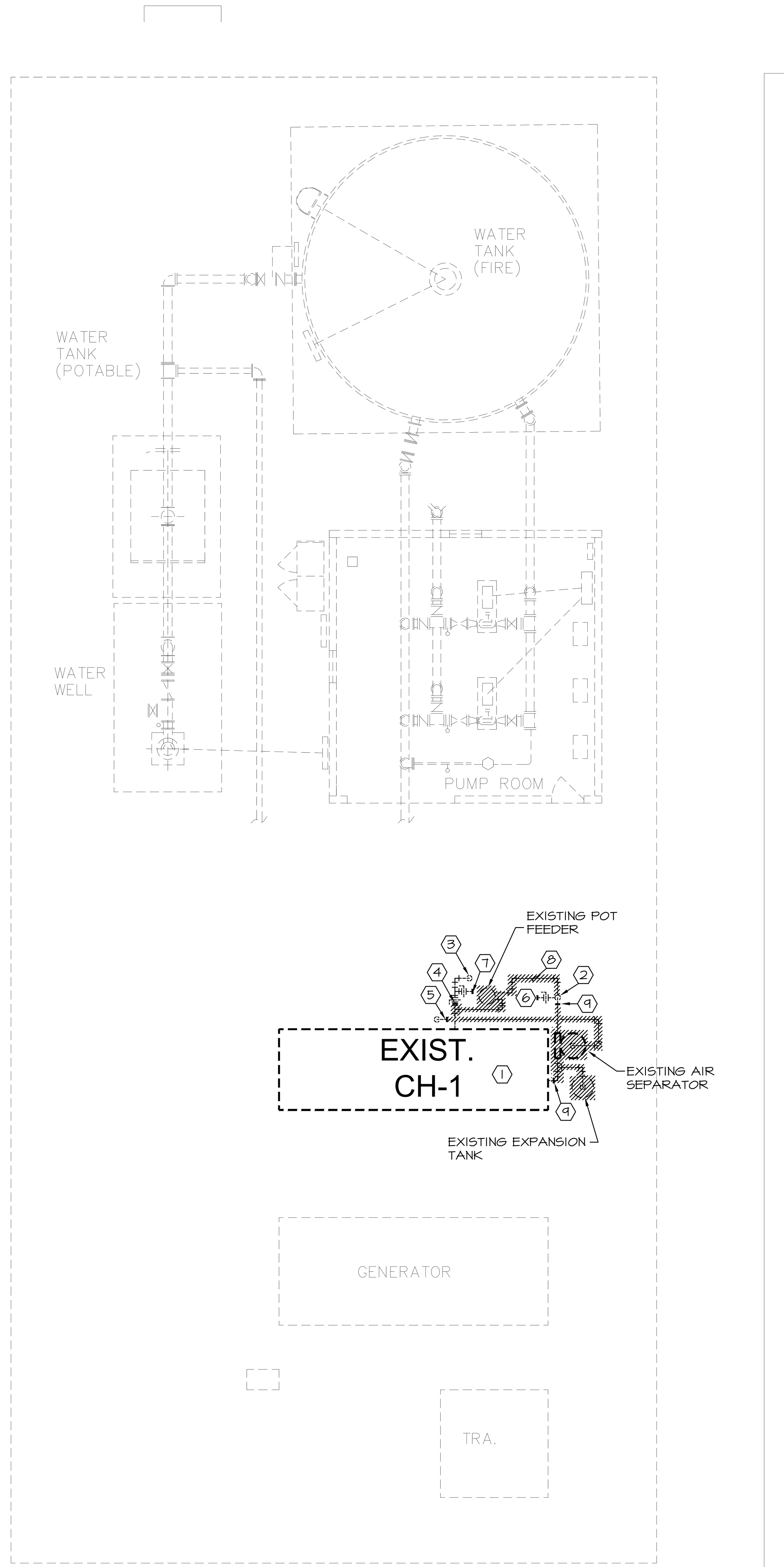
CONSTRUCTION DOCUMENTS

REVISION: 1	ADDENDUM #2 5-9-2025
QC BY:	RAC
DRAWN BY:	LAR
DESIGNED BY:	RAC
DATE:	3-27-2025

SHEET TITLE:

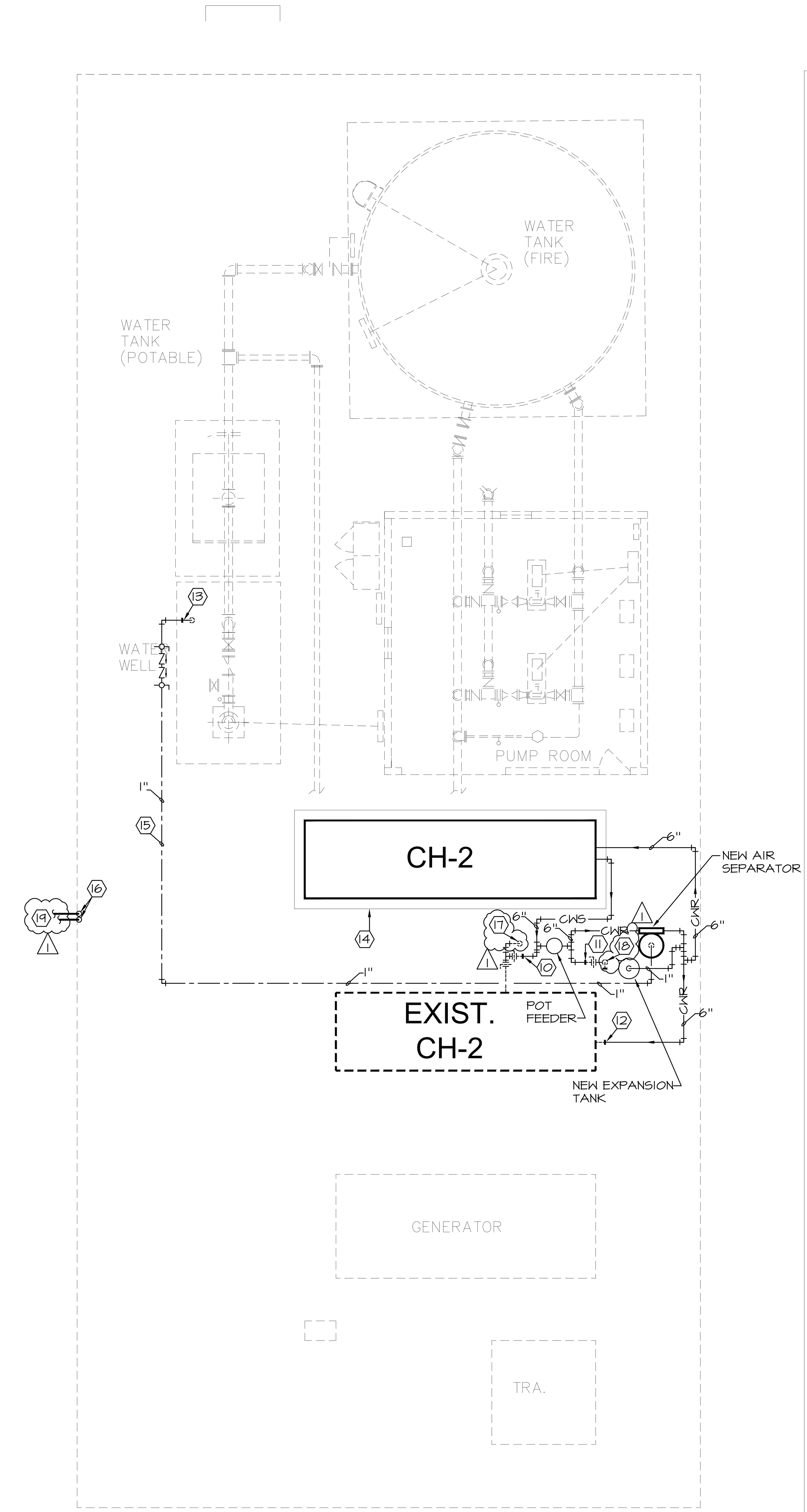
SITE PLAN - MECHANICAL AND ELECTRICAL

ME101



CHILLER SITE PLAN - MECHANICAL DEMO
SCALE: 1/8" = 1'-0"

TRUE NORTH



CHILLER SITE PLAN - MECHANICAL NEW
SCALE: 1/8" = 1'-0"

TRUE NORTH

GENERAL NOTES THIS SHEET:

A. ALL MECHANICAL ITEMS SHOWN DASHED ARE EXISTING.

B. ALL ITEMS SHOWN HATCHED ARE TO BE REMOVED, UNLESS NOTED OTHERWISE.

C. COORDINATE EXACT ROUTING OF ALL PIPING SO AS NOT TO CONFLICT WITH OTHER TRADES. ALL DUCTWORK SHALL BE ROUTED TIGHT TO STRUCTURE.

SPECIFIC NOTES THIS SHEET:

(1) EXISTING CHILLER TO REMAIN. NO PIPE DEMO SHALL BE DONE UNTIL NEW CHILLER AND PIPING HAVE BEEN INSTALLED.

(2) EXISTING 6" CWR UP FROM UNDERGROUND TO REMAIN.

(3) EXISTING 6" CWS UP FROM UNDERGROUND TO REMAIN.

(4) EXISTING 6" CWS PIPING TO BE CUT AND CAP.

(5) EXISTING COLD WATER MAKE-UP FROM UNDERGROUND TO CAPPED.

(6) EXISTING CWR VALVE AND CAP TO REMAIN.

(7) EXISTING CWS VALVE AND CAP TO REMAIN.

(8) PIPING SHOW HATCHED TO BE REMOVED ONLY WHEN NEW CHILLER AND PIPING HAVE BEEN INSTALLED AND OPERATING.

(9) EXISTING 6" CWR PIPING TO BE CUT AND CAP.

(10) CONNECT NEW 6" CWS PIPING TO EXISTING VALVE.

(11) CONNECT NEW 6" CWR PIPING TO EXISTING VALVE.

(12) CONNECT NEW 6" CWR PIPING TO EXISTING CHILLER.

(13) CONNECT NEW 1" MAKE UP WATER TO EXISTING WELL POTABLE WATER PIPING. PROVIDE SHUT OFF VALVE AND BACKFLOW PREVENTER. VERIFY EXACT LOCATION IN FIELD.

(14) PROVIDE REINFORCED CONCRETE 6" HOUSE KEEPING PAD. PAD TO EXTEND 12" BIGGER THAN EQUIPMENT IN ALL DIRECTIONS.

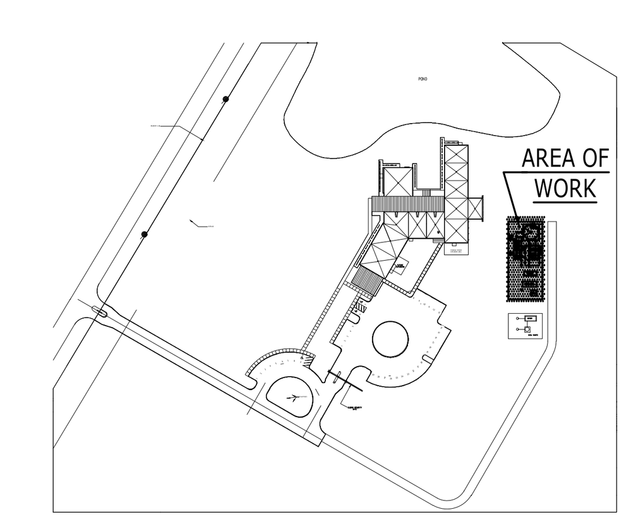
(15) SET PIPING ON PIPE SUPPORT AS MANUFACTURED BY MIFAB MODEL C-1810 OR APPROVED EQUAL SUPPORTS SHALL BE 5' ON CENTER.

(16) (2) 1" TEMPERATURE CONTROLS CONDUIT UP FROM UNDERGROUND. PROVIDE ADDITIONAL CONDUIT TO EQUIPMENT AS NECESSARY FOR TEMPERATURE CONTROL WIRING CONNECTION.

(17) EXISTING CWS DOWN TO UNDERGROUND.

(18) EXISTING CWR UP FROM UNDERGROUND.

(19) SEE SHEET ME101 FOR CONTINUATION.



KEY PLAN

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CORONER CHILLER ADDITION

ST. TAMMANY PARISH, LOUISIANA

STATE OF LOUISIANA
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MECHANICAL ENGINEERING

MARCH 27, 2025

CONSTRUCTION DOCUMENTS

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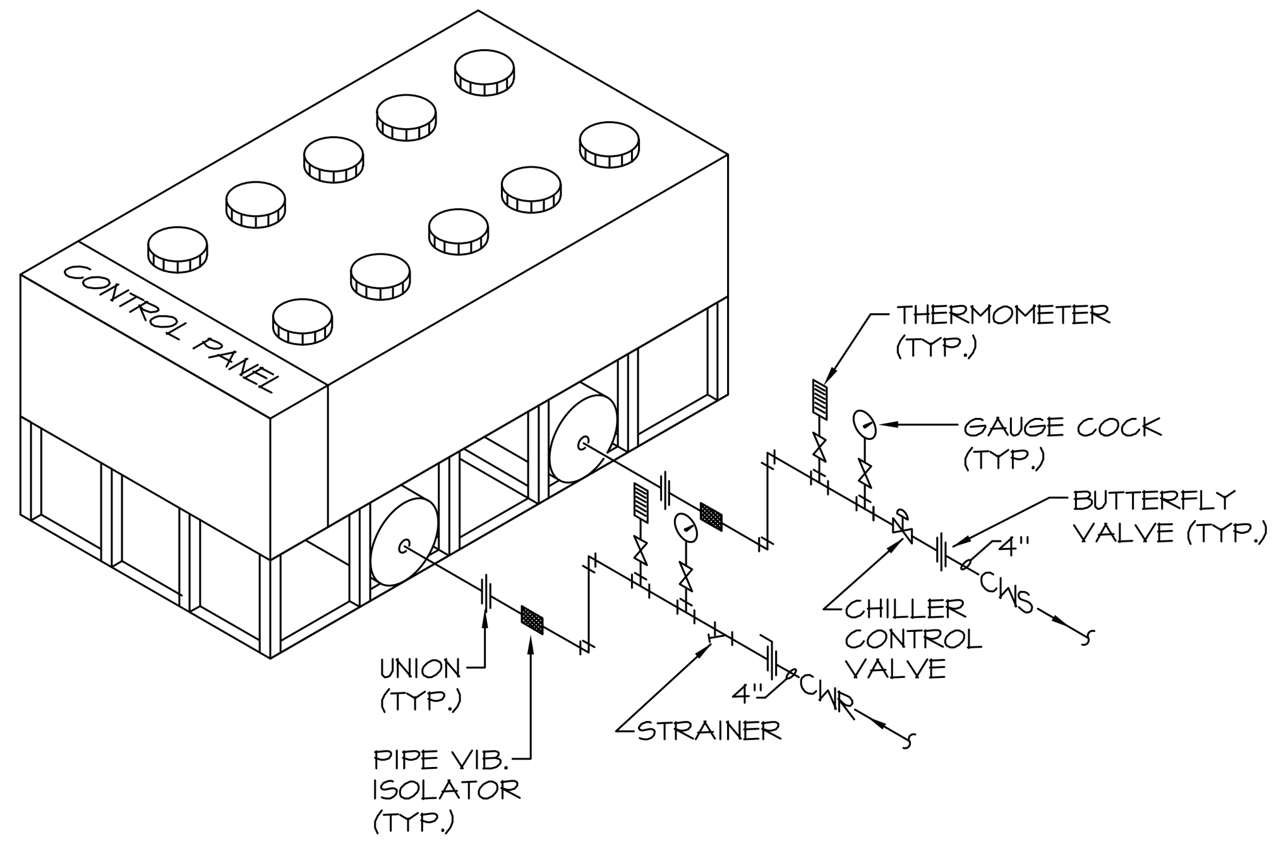
DESIGNED BY:	DEV
DATE:	3-27-2025

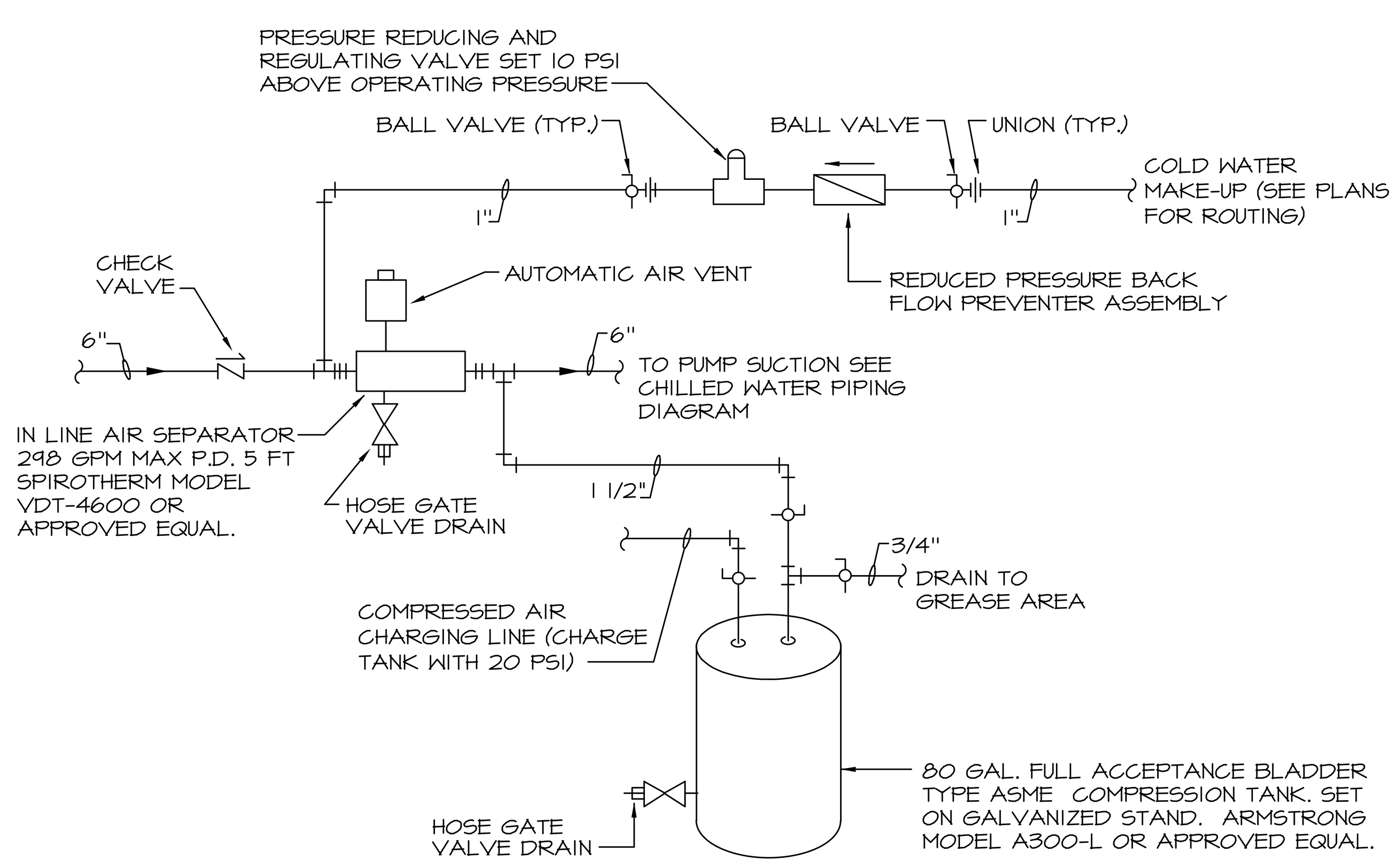
SHEET TITLE:
CHILLER SITE PLAN - MECHANICAL DEMO AND NEW

M101

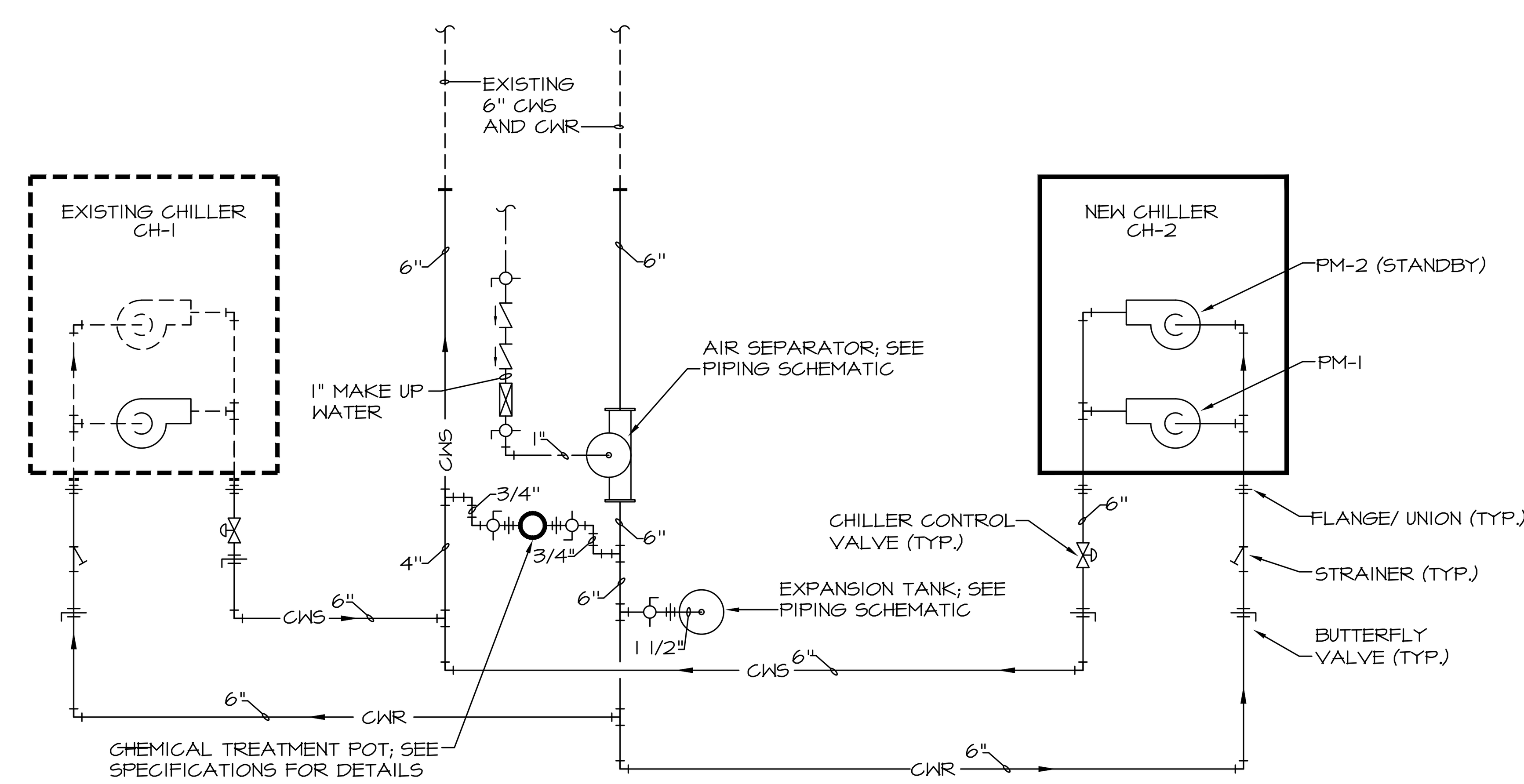
PACKAGED AIR COOLED CHILLER SCHEDULE														
MARK	GPM	NOMINAL TONS	COOLING CAPACITY TONS	LVG. WATER °F	WATER ΔT °F	PRESS. DROP FT. H O	COND. AIR ENT. TEMP. °F	SYSTEM EER	IPLV	ELECTRICAL			DATA	DESCRIPTION
										VOLTS	PH	MCA	MINIMUM SHORT CIRCUIT CURRENT RADIAL KA	
CH-2	356	200	191.9	43	12	10.9	95	10.36	17.38	460	3	471	65	AIR COOLED CHILLER WITH MULTIPLE SCROLL COMPRESS CIRCUITS AND INTEGRAL PUMP PACKAGE, SINGLE POINT POWER. PROVIDE LAG/LEAD PUMP PACKAGE 356 GPM @ 85 H_2O WITH VFD DRIVES. TRANE: ACSA2152EUH



AIR COOLED CHILLER PIPING DETAIL
NOT TO SCALE



CHILLED WATER SYSTEM EXPANSION TANK PIPING DETAIL
NOT TO SCALE



CHILLER PIPING DETAIL
NOT TO SCALE

MECHANICAL - SCHEDULES AND DETAILS

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MARCH 27, 2025

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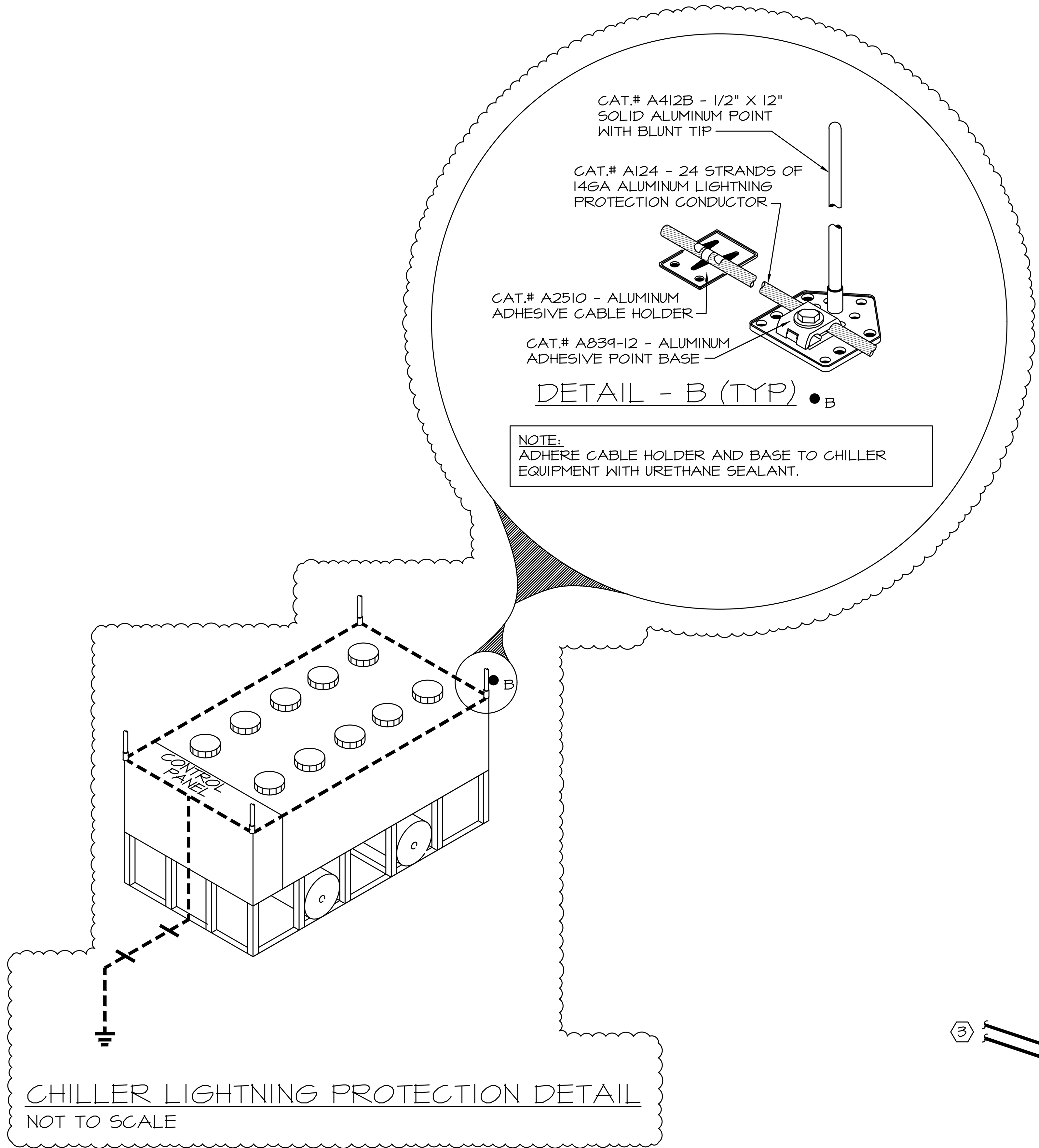
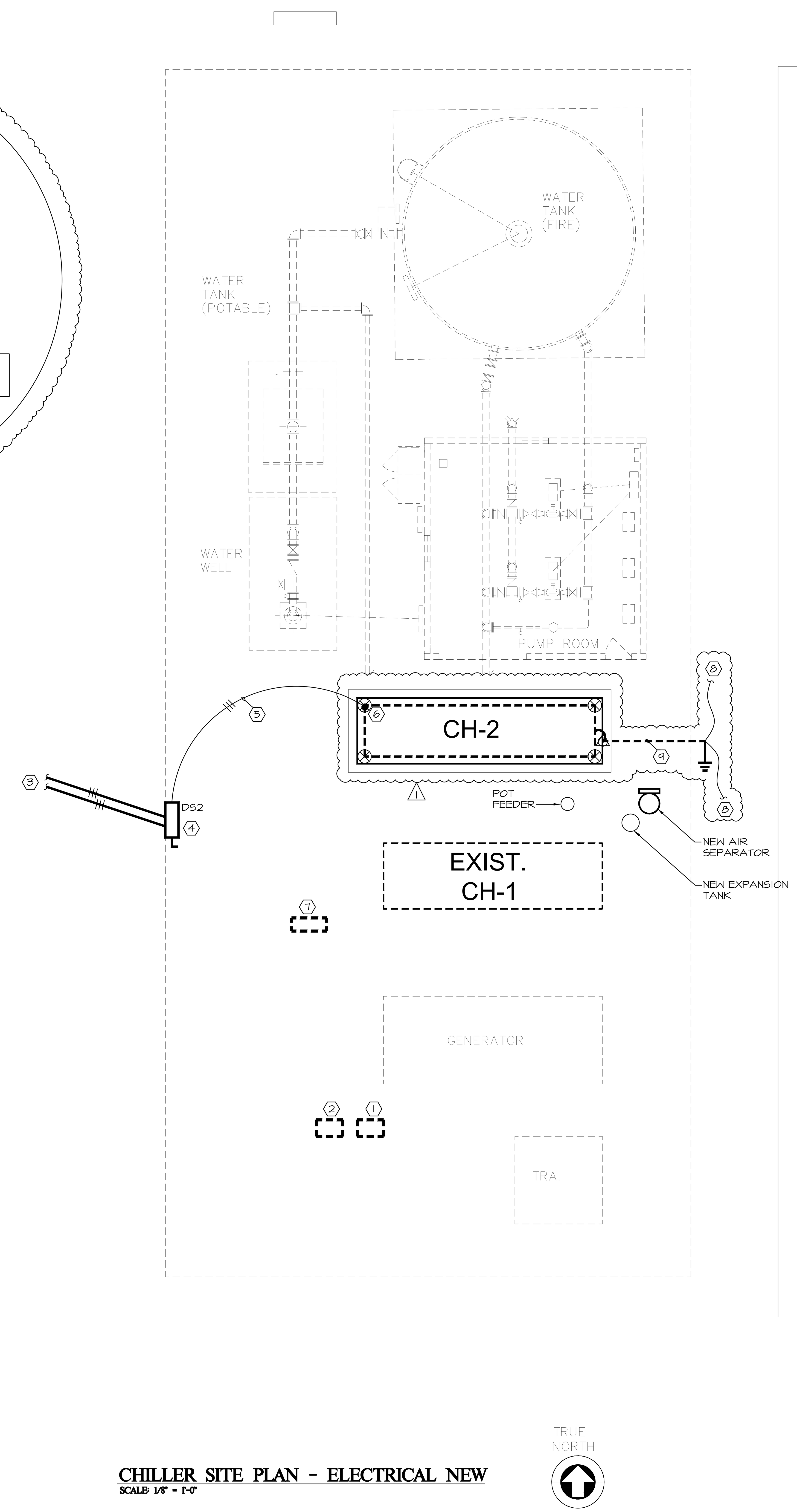
MECHANICAL - SCHEDULES AND DETAILS

M201



CHILLER LIGHTNING PROTECTION DETAIL
NOT TO SCALE



CHILLER SITE PLAN - ELECTRICAL NEW
SCALE: 1/8" = 1'-0"

GENERAL NOTES THIS SHEET:

A. ALL EXISTING ELECTRICAL DEVICES SHOWN DASHED AND HATCHED SHALL BE REMOVED. MAINTAIN ALL CIRCUIT CONTINUITY AND WIRING AS REQUIRED.

B. ALL EXISTING ELECTRICAL DEVICES NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.

C. VERIFY AND COORDINATE EXACT LOCATION OF ALL EXISTING ELECTRICAL DEVICES IN FIELD PRIOR TO START OF WORK.

D. ALL EXISTING ELECTRICAL DEVICES SHOWN ONLY DASHED ARE TO REMAIN. MAINTAIN CIRCUIT CONTINUITY AND EXTEND ALL CONDUIT AND WIRING AS REQUIRED.

E. REMOVE AND TERMINATE AS REQUIRED, ALL CONDUCTORS BACK TO PANEL FOR REMOVED ELECTRICAL DEVICES EXCEPT THOSE REQUIRED TO MAINTAIN CIRCUITRY, MARK ALL UNUSED BREAKERS AS SPARE.

F. VERIFY AND MAINTAIN CONTINUITY AND FUNCTIONALITY TO EACH ELECTRICAL DEVICE THAT IS TO REMAIN.

G. HATCH LINES DO NOT INDICATE GROUND WIRE.

H. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS PRIOR TO INSTALLATION. COORDINATE EXACT LOCATION OF EXISTING ELECTRICAL DEVICES IN FIELD PRIOR TO START OF WORK.

SPECIFIC NOTES THIS SHEET:

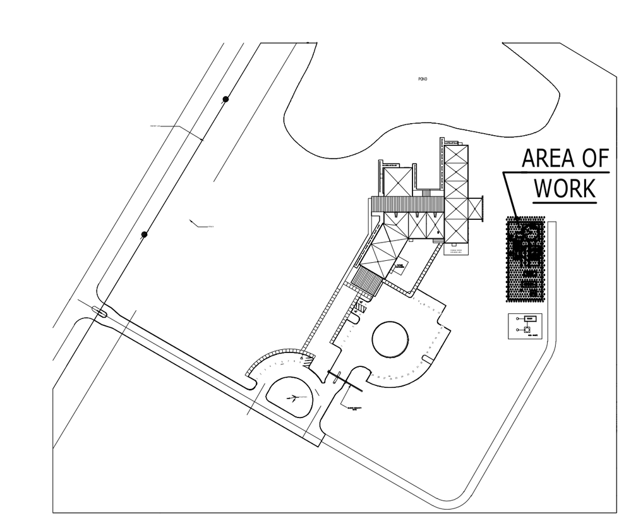
(1) EXISTING 1200 MAIN DISCONNECT SWITCH.
(2) EXISTING 1200A A.T.S.
(3) CONTINUE TO NOTE 1, SHEET ME101.
(4) PROVIDE 480V, 600A, NEMA 3R, FUSED DISCONNECT, FUSED AT 600A.
(5) SEE NOTE 3, SHEET ME101.
(6) SEE MECHANICAL SCHEDULE ON SHEET M201.
(7) EXISTING DISCONNECT FOR CH-1.
(8) CONNECTION TO EXISTING LIGHTNING PROTECTION GROUNDS.
(9) ROUTE ALONG PAVEMENT AND CLAP.

NAME: MDP (EXISTING)
VOLTAGE: 480/277
PHASE: 3
WIRE: 4
BUS: 1200
MAIN: MLO
AIC: 65,000
ENCLOSURE: NEMA-1
MOUNTING: FREE STANDING
LOCATION: E114

CIRCUIT	LABEL	POLES	TRIP AMPS	CONN LOAD KVA	DEMAND FACTOR	DEMAND LOAD KVA
1	EXISTING PANEL AC1	3	200	127.2	0.60	76.3
2	EXISTING PANEL AC2	3	200	166.6	0.55	91.6
3	EXISTING PANEL AC3	3	225	162.3	0.65	105.5
4	EXISTING PANEL H1	3	100	70.9	0.50	35.5
5	EX. TRANSFORMER T1	3	400	300.0	0.50	150.0
6	EXISTING OAU-1	3	150	101.2	0.75	75.9
7	EXISTING CHILLER CH-1	3	450	231.2	0.25	57.8
8	EXISTING OAU-2	3	50	36.8	0.75	57.8
9	EXISTING RTU-1	3	30	24.9	2.32	57.8
10	EXISTING OAU-3	3	200	116.1	0.75	57.8
11	EXISTING PANEL SH	3	150	103.2	0.75	57.8
12	**NEW CHILLER-2**	**3**	**600**	**300.0**	**0.50**	**87.6**

TOTAL CONN 1740 KVA 2094 AMPS
TOTAL DEMAND 911 KVA 1097 AMPS

LIGHTNING PROTECTION LEGEND	
SYMBOL	DESCRIPTION
----	GROUND CONDUCTOR
△	DOWN CONDUCTOR/PENETRATION
⊗	AIR TERMINAL - NEW
⏚	GROUND ROD



KEY PLAN

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MARCH 27, 2025

CONSTRUCTION DOCUMENTS
REVISION: △ ADDENDUM #2 5-9-2025
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CHILLER SITE PLAN - ELECTRICAL NEW

E101