TEXAS CHILLER SYSTEMS

Texas Chiller Systems

QUALIFICATIONS FOR HVAC DESIGN & INSTALLATION

RFQ#AF-2025-38

Prepared for:

CITY OF SEGUIN - PURCHASING DEPARTMENT

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Presented By:

TEXAS CHILLER SYSTEMS

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TACLA4767C | MPL39133 | TECL 39234

TEXAS CHILLER SYSTEMS

Company Profile

Founded in 2006 by Robert Uhl, Mike Anderson, and Chris Finger, Texas Chiller Systems, LLC is a premier facilities services provider headquartered in San Antonio, Texas. With a commitment to excellence and teamwork, we specialize in delivering top-tier maintenance, repair, and installation services for HVAC systems, plumbing, process piping, and comprehensive facility solutions for commercial properties. Our team of fully licensed technicians, ranging from apprentices to industry veterans with over 30 years of experience, ensures reliable and efficient system performance across diverse sectors. Texas Chiller Systems serves commercial real estate, office spaces, entertainment, government, schools and universities, data centers, healthcare, manufacturing, industrial, and energy markets throughout Texas. As of 2025, the company generates approximately $72 million in annual revenue and employs over 200 professionals dedicated to client satisfaction.

Core Services

Texas Chiller Systems has built a strong reputation for delivering high-quality mechanical and plumbing solutions tailored to the unique needs of commercial clients.

HVAC Services: Design, installation, maintenance, and repair of heating, ventilation, and air conditioning systems, including centrifugal chillers (Carrier, Trane, York, Daikin) and air-cooled chillers. We perform 10-year tear-downs, leak searches on low-pressure chillers, and troubleshoot water flow and control issues to optimize performance.

Honeywell Controls Integration: As a key expansion of our HVAC services, we incorporate Honeywell Controls to enhance system efficiency and tenant satisfaction. These advanced building automation systems enable precise monitoring and control, optimizing energy use and improving occupant comfort through real-time adjustments to temperature, ventilation, and air quality.

Plumbing and Process Piping: Comprehensive services encompassing installation, maintenance, and repair of plumbing systems and specialized process piping for industrial and commercial applications, ensuring compliance with safety and regulatory standards.

Special Projects Team: Our dedicated Special Projects Team, comprising skilled pipefitters and electricians, delivers turnkey solutions for major HVAC renovations. This team manages complex projects from design to completion, ensuring seamless integration of mechanical, electrical, and plumbing systems

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Core Services Cont.

Facility Management: Full-spectrum facility solutions, including operations, maintenance, and emergency services, to ensure tenant safety, productivity, and satisfaction. Our proactive approach minimizes downtime and extends the lifespan of critical systems.

Building Automation and Electrical Services: Implementation of advanced automation systems and electrical services to enhance operational efficiency, reduce energy costs, and maintain high indoor air quality standards.

Our team's expertise is supported by rigorous training, industry certifications, and adherence to safety regulations, ensuring exceptional customer service and project execution.

Design Build Projects

1

Lackland B2028

Installation of 325 Water Cooled Chiller, Pumps, Cooling Tower, & Central Plant Controls

2

Randolph AFB - H63

Installation of AHUs, VAVs, central plant hydronics (CHW/HHW pumps, air/dirt separators, expansion tanks) and entire building/plant controls

3

Randolph AFB - B675

Installation of (3) DOAS, FCUs, complete CHW/HHW re-piping, new central plant hydronics (CHW/HHW pumps, air/dirt separators, expansion tanks), complete plumbing system replacement (Sanitary, domestic CW/HW, vent, & domestic booster pump system), and complete building/plant controls.

4

Security Service Federal Credit Union

Conversion of Water-Cooled SCUDs to traditional Central Plant. Complete CHW re-piping, (2) new magnetic bearing chillers, new central plant hydronics (CHW/HHW pumps, air/dirt separators, expansion tanks), and complete building/plant controls.

5

GSA Monroe LA Federal Courthouse

Complete Central Plant Equipment Replacement. Replacement of (2) Centrifugal chillers, CHW & CW Pumps, & Cooling Towers, & central plant controls.

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Other Relevant Projects

1.) COMAL ISD

- Canyon HS – Smardt Chiller Installation, pumps and boiler
- Smithson Valley MS – 300 ton York air cooled chiller
- Specht Elem – Trane air cooled chiller
- Smithson Valley HS – BAC Cooling Tower, Boiler
- 10+ year history of HVAC service and maintenance for Comal ISD

2.) SAN ANTONIO ISD

Summer 2020

- Collins Garden – Install (1) Trane Air-Cooled Chiller, (2) Pumps, & Plant Controls
- Washington – Install (1) Trane Air-Cooled Chiller, (2) Pumps, & Plant Controls
- Douglass – Install (2) YORK Air-Cooled Chillers, (2) Pumps, & Plant Controls
- Poe – Refurbish (1) Trane Air-Cooled Chiller & Complete Campus Controls
- YWLA – Install (1) Trane Air-Cooled Chiller, (2) Pumps, & Plant Controls

Summer 2021

- Crockett – Install (2) YORK Air Cooled Chillers, (4) Pumps, & Plant Controls
- Maverick – Install (2) YORK Chillers, (2) Pumps, (1) Boiler, & Plant Controls

Summer 2022

- Ball – Install (2) Daikin Air-Cooled Chillers, (4) Pumps, & Plant Controls
- Stewart – Install (1) Daikin Air-Cooled Chillers, (4) Pumps, & Campus Controls
- Travis – Install (1) YORK Air-Cooled Chiller, (2) Pumps, (1) Boiler, & Plant Controls

Summer 2023

- Hot Wells – Install (2) Viesmann Boilers, (2) Pumps, (5) RTU's, & Campus Controls
- Margil – Install (2) Daikin Air-Cooled Chillers, (4) Pumps, & Plant Controls

3.) CORPUS CHRISTI ISD

- Shaw – Install (2) chillers
- Cole & Saunders – Replace (3) Air-Cooled Chillers
- Chiller Replacements at (5) Campuses
- Boiler Replacements at (3) Campuses

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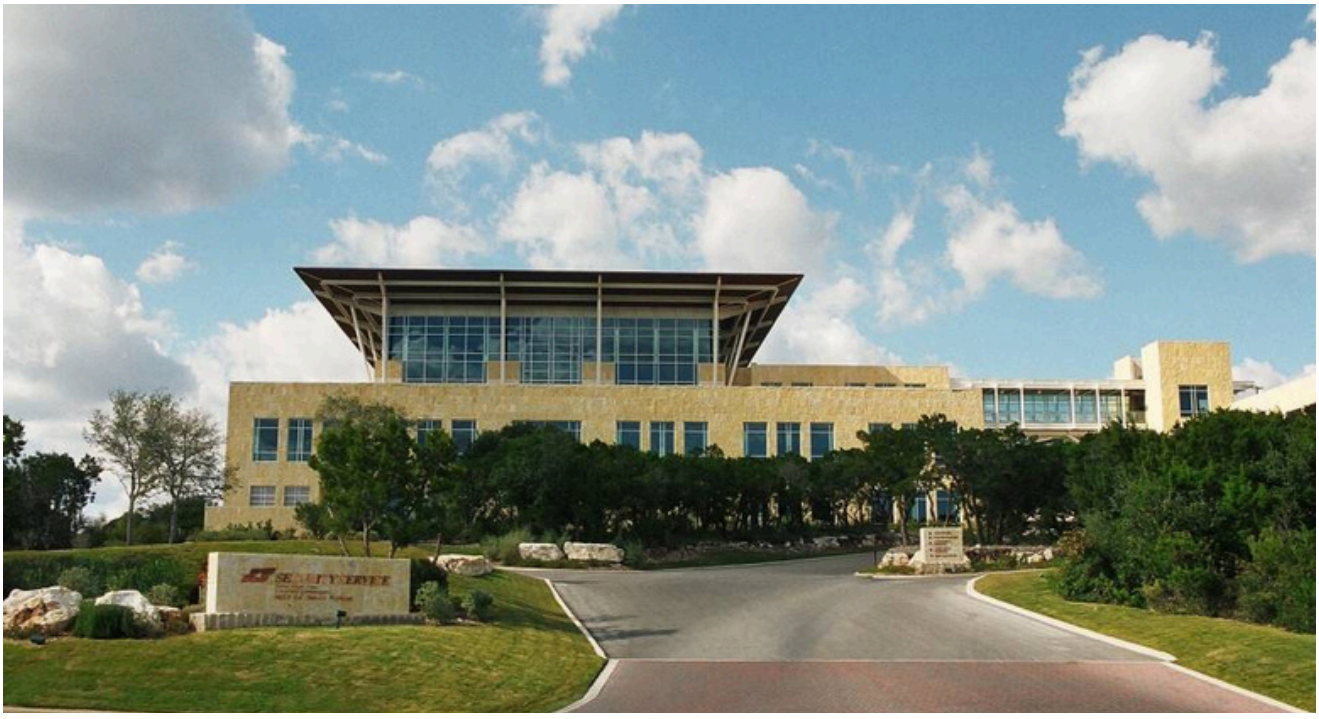
CHILLED WATER PLAN T CONVERSION CASE STUDY

Security Service Federal Credit Union - La Cantera



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Transforming HVAC Efficiency

Project Scope: Convert an outdated Trane Water-Cooled Self-Contained HVAC System to a modern Chilled Water Central Plant.

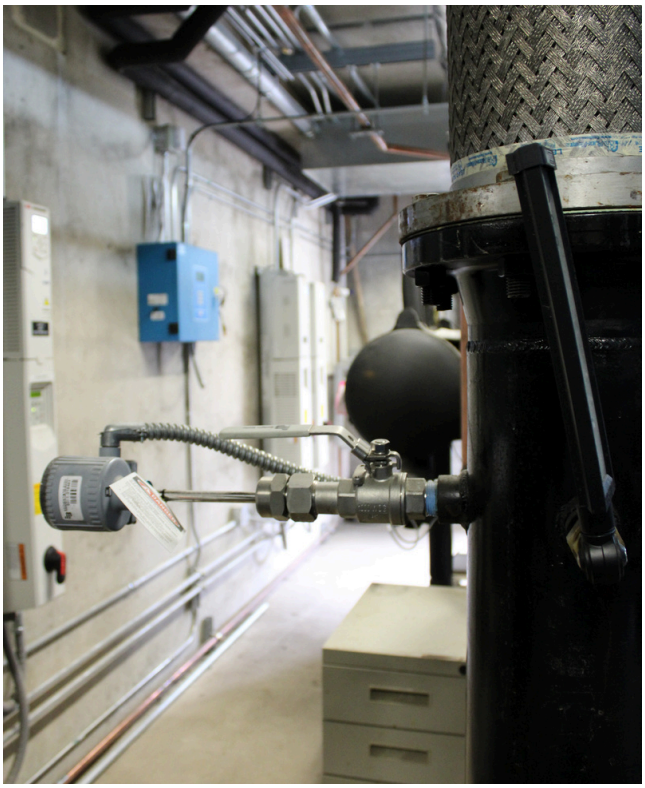
Objectives:

- Enhance energy efficiency and system reliability.
- Reduce maintenance costs and improve occupant comfort.
- Integrate advanced controls for optimized performance.

Texas Chiller Systems Role: Design-Build Contractor

- Full system design, equipment selection, and installation.

Seamless integration of new components with existing infrastructure.



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Centralized Efficiency

Previous System:

- Trane Water-Cooled Self-Contained HVAC Units.
- Decentralized cooling, high maintenance, and limited control flexibility.
- Inefficient for large-scale cooling demands.

New Chilled Water Central Plant:

- Core Components:
  - (2) Armstrong Chilled Water (CHW) Pumps: High-efficiency, variable-speed pumps for optimized chilled water circulation.
  - (2) Armstrong Condenser Water Pumps: Reliable water movement to cooling towers, enhancing heat rejection.
  - (11) Carrier Air Handling Units (AHUs): Advanced units for precise air distribution and indoor air quality.
  - (2) Evapco Cooling Towers: High-capacity, evaporative cooling for efficient heat dissipation.
  - Honeywell Controls System: Centralized, smart controls for real-time monitoring and energy optimization.

Design Benefits:

- Centralized plant reduces redundancy and simplifies maintenance.
- Variable-speed pumps and modern AHUs improve energy efficiency.
- Honeywell controls enable data-driven performance adjustments.

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ENGINEERING &
SKYE MEP
COMMISSIONING

Execution Excellence

Project Phases

1 Assessment

Evaluated existing Trane system for inefficiencies and capacity limitations.

2 Design

Partnered with SKYE MEP to engineer the chilled water plant tailored to building load requirements, adhering to ASHRAE standards.

3 Installation

Coordinated removal of old units and installation of new equipment with minimal disruption.

4 Commissioning

Tested and optimized system performance using Honeywell controls.

Challenges Overcome:

- Space Constraints: Retrofitted new equipment into existing mechanical rooms, optimizing layout.
- System Integration: Ensured compatibility between new and legacy infrastructure.
- Downtime Mitigation: Phased installation to maintain partial cooling during transition.

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Performance and Sustainability. Delivered.

Key Outcomes:

- Energy Efficiency: Reduction in energy consumption due to variable-speed pumps and efficient AHUs.
- Cost Savings: Lower maintenance and operational costs compared to self-contained units.
- Improved Comfort: Carrier AHUs and Honeywell controls deliver consistent temperature and humidity control.
- Sustainability: Evapco cooling towers and optimized plant design reduce water and energy waste.

Industry Impact:

- Demonstrates the viability of retrofitting older HVAC systems for modern efficiency.
- Aligns with decarbonization goals through electrification and optimized cooling.

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Partner with Texas Chiller Systems

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SECURITY SERVICE FEDERAL CREDIT UNION

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CENTRAL PLANT CHILLER UPGRADE

SAN ANTONIO VICINITY MAP

JULY 16, 2021

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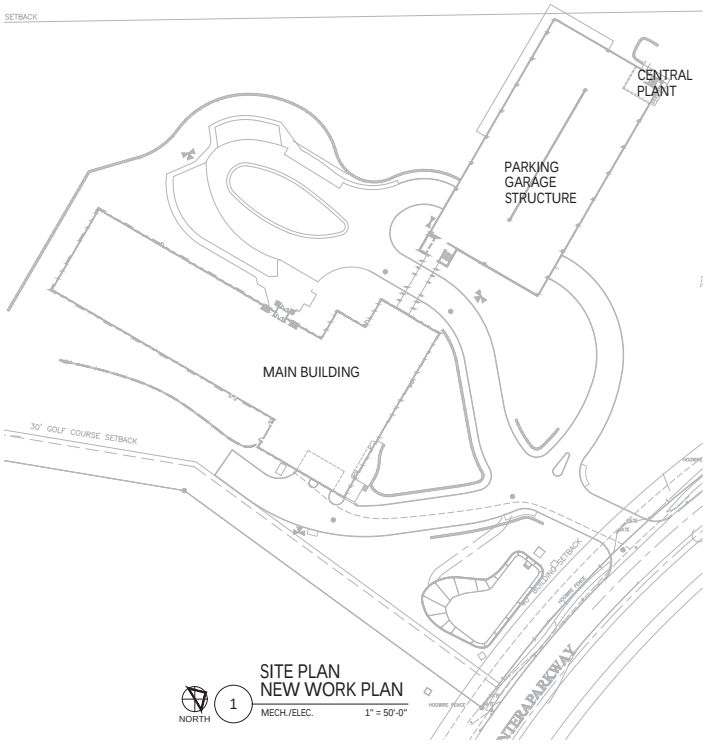

NORTH 1 SITE PLAN NEW WORK PLAN
MECH./ELEC. 1" = 50'-0"

S&A PROJECT #2021.013

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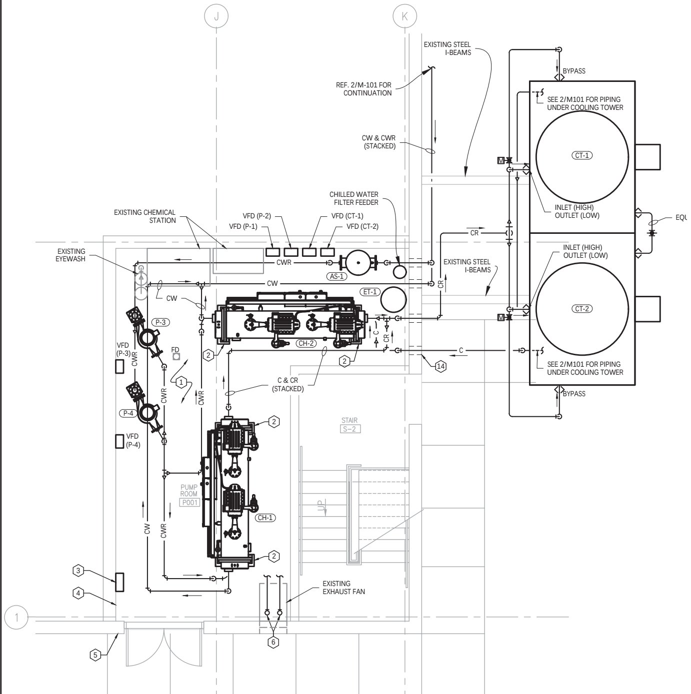
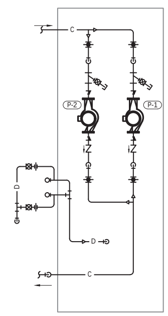


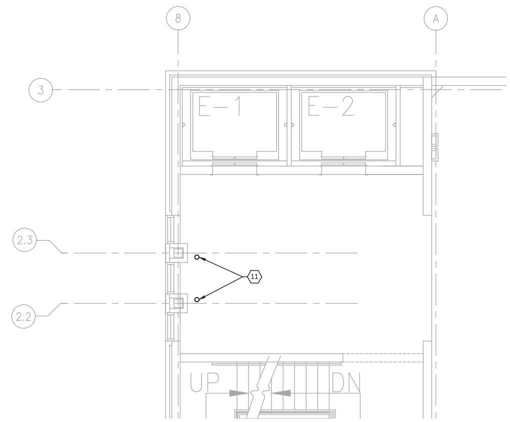
LEVEL P-0 NEW WORK PLAN

1 — MECHANICAL — 1/4" = 1'-0" — NORTH



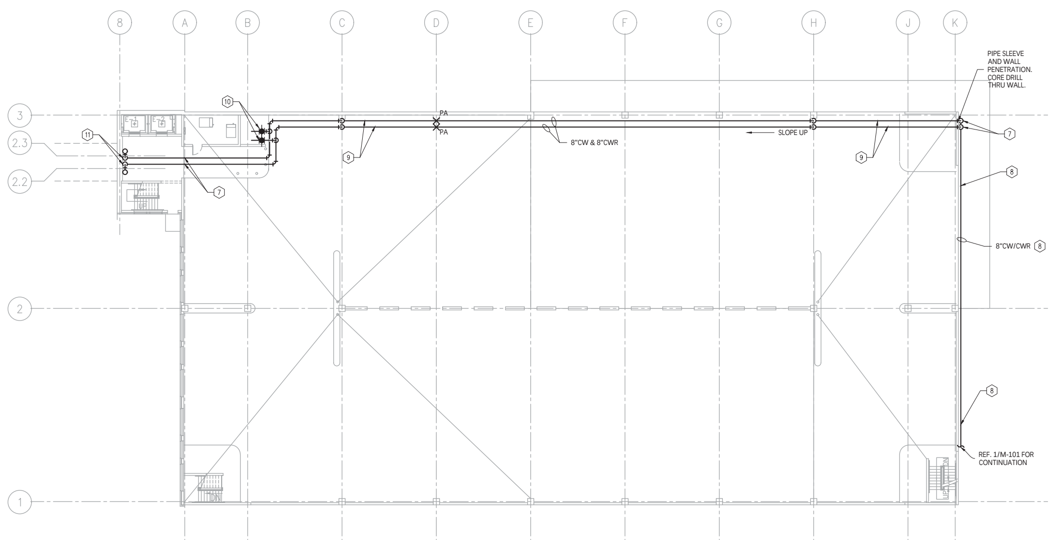
NEW WORK PLAN UNDER COOLING TOWER

2 — MECHANICAL — 1/4" = 1'-0" — NORTH



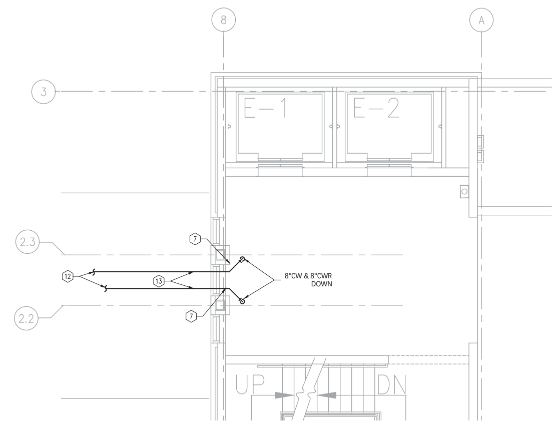
LEVEL P-3 NEW WORK PLAN

4 — MECHANICAL — 1/4" = 1'-0" — NORTH



LEVEL P-2 NEW WORK PLAN

3 — MECHANICAL — 1/16" = 1'-0" — NORTH



LEVEL P-4 NEW WORK PLAN

5 — MECHANICAL — 1/4" = 1'-0" — NORTH

NEW WORK KEY NOTES:

1. PLAN INDICATES THE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. SEE CHILLED WATER AND CONDENSING WATER PIPING DIAGRAMS FOR REQUIRED FITTINGS, VALVES, AND ACTUAL PIPE SIZES.
2. MOUNT CHILLER ON 12" WIDE x 5-1/2" HIGH REINFORCED CONCRETE BEAM.
3. LOCATE REFRIGERANT MONITOR SYSTEM CONTROL BOX ON WALL IN THIS VICINITY.
4. LOCATE SELF-CONTAINED BREATHING APPARATUS ON WALL IN THIS VICINITY.
5. LOCATE REFRIGERANT MONITOR SYSTEM RED STROBE LIGHT ON EXTERIOR WALL IN THIS VICINITY.
6. ROUTE RELIEF VENT LINES UP TO NEXT LEVEL THRU EXISTING OPENINGS.
7. CORE DRILL PIPE OPENING IN CONCRETE WALL.
8. ROUTE 8" CW/CWR LINES (STACKED) ALONG EXTERIOR SIDE OF PARKING GARAGE WALL. SUPPORT LINES WITH CONTRACTOR FABRICATED GALVANIZED SUPPORTS.
9. ROUTE 8" CW/CWR LINES AS HIGH AS POSSIBLE INSIDE PARKING GARAGE. SUPPORT LINES FROM STRUCTURE ABOVE. DO NOT SUPPORT PIPE FROM THE STEMS OF THE PRECAST DOUBLE TEE MEMBERS.
10. PROVIDE 1-1/2" CW/CWR TAPS FOR FAN-COIL UNIT.
11. CORE DRILL PIPE OPENING IN CONCRETE FLOOR. ROUTE 8" CW/CWR LINES UP TO NEXT LEVEL OF THE PARKING GARAGE.
12. ROUTE 8" CW/CWR LINES TO MAIN BUILDING. SEE PLAN 1 SHEET M-103 FOR CONTINUATION.
13. ROUTE 8" CW/CWR LINES UNDER BRIDGE. SUPPORT PIPING FROM EXISTING CONDENSER WATER PIPING. SEE DETAIL 2 SHEET M-202.
14. REMOVE EXISTING WALL LOUVER AND ROUTE NEW CONDENSER WATER THROUGH OPENING. PROVIDE A SHEET METAL FLANGE AROUND NEW CONDENSER WATER LINE TO SEAL OPENING. RELOCATE WALL LOUVER.

DRAWN: MA/JJN
CHECKED: CPA
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

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16 JULY 2021

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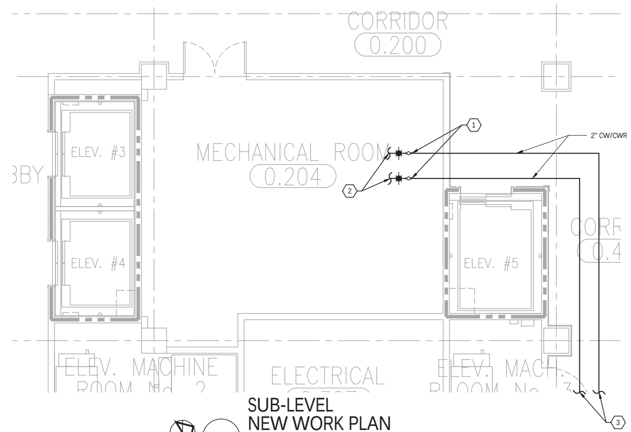
LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

SHEET TITLE: MECHANICAL NEW WORK PLANS

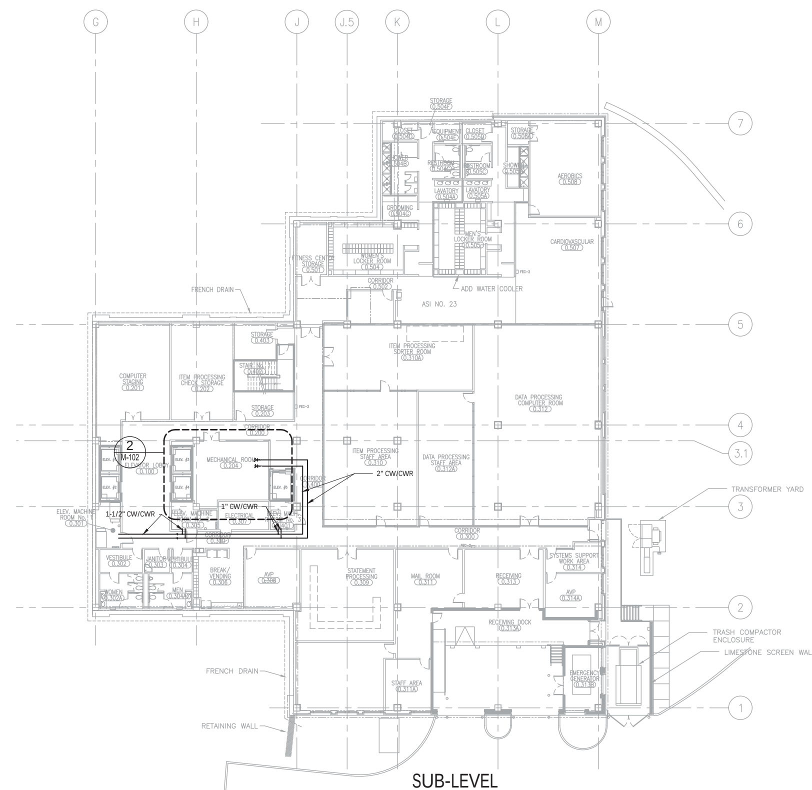
SHEET NO.: M-101



NORTH 2 SUB-LEVEL NEW WORK PLAN
MECHANICAL 1/4" = 1'-0"

KEYED NOTES:

1. ROUTE 4" CW/CWR LINES UP TO 1ST FLOOR LEVEL. SEE PLAN 2, SHEET M-103 FOR CONTINUATION.
2. PROVIDE 4" CW/CWR LINES FOR AHU-S-1.
3. ROUTE 2" CW/CWR ABOVE CEILING TO ELEVATOR EQUIPMENT ROOMS.



NORTH 1 SUB-LEVEL NEW WORK PLAN
MECHANICAL 1/16" = 1'-0"

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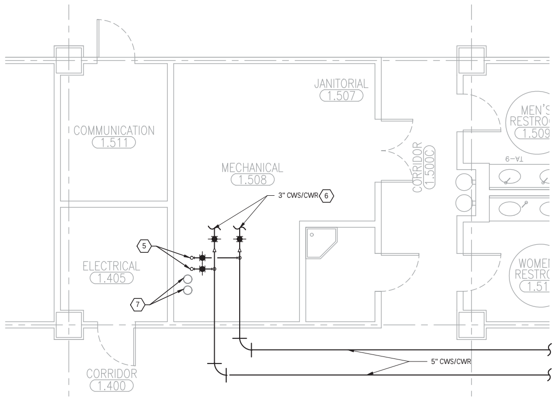
LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

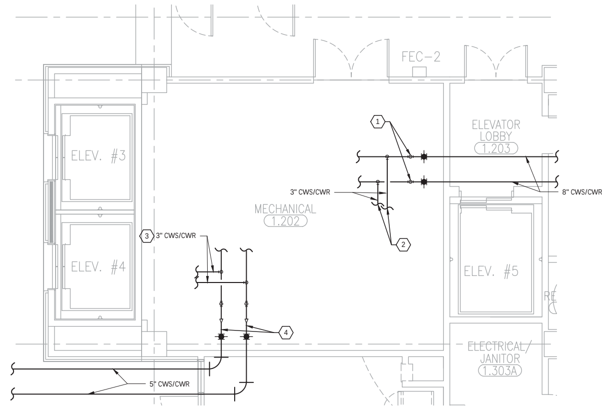
SHEET TITLE:
MECHANICAL NEW WORK PLANS

SHEET NO.:
M-102



PARTIAL FIRST FLOOR NEW WORK PLAN

NORTH 3 MECHANICAL 1/4" = 1'-0"

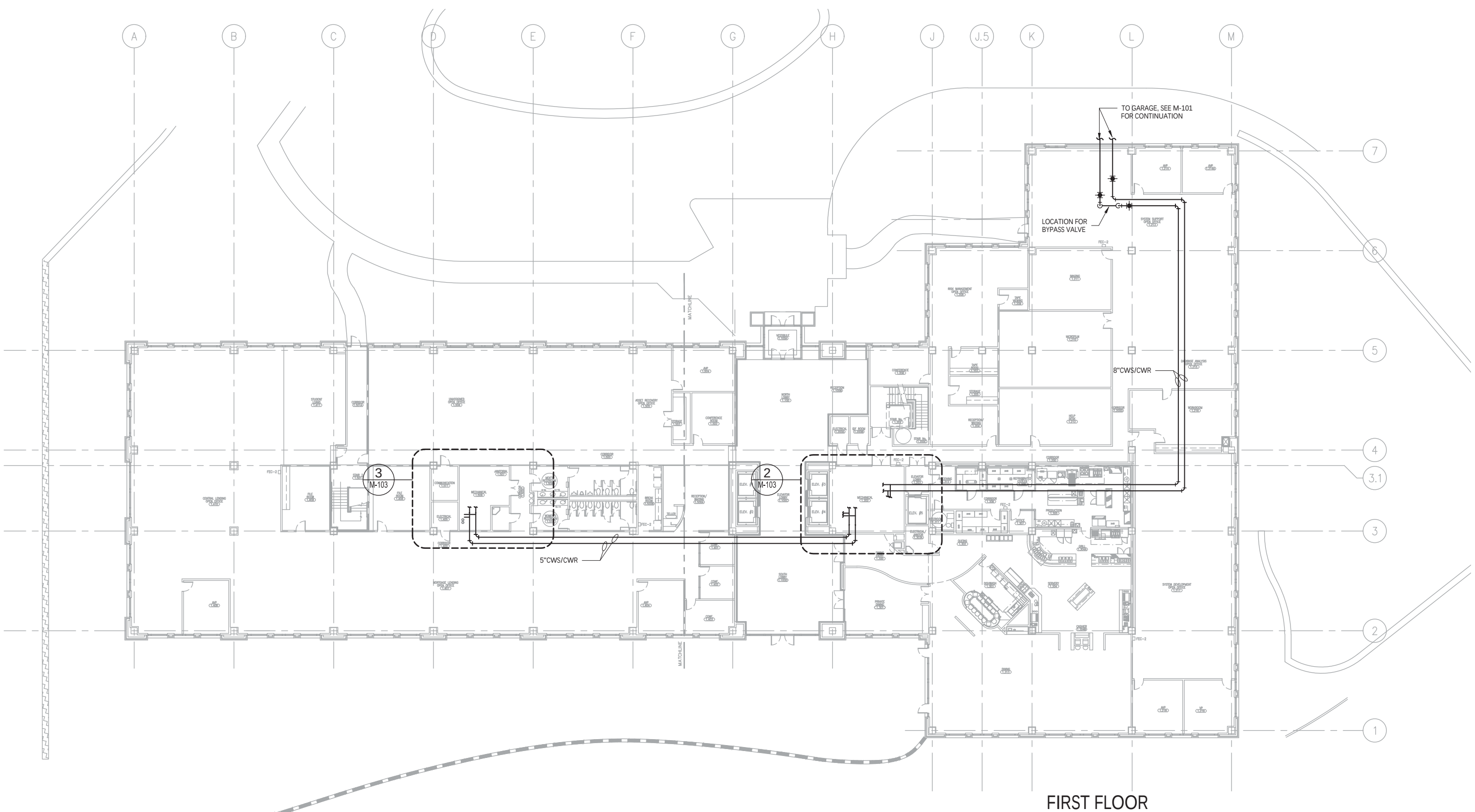


PARTIAL FIRST FLOOR NEW WORK PLAN

NORTH 2 MECHANICAL 1/4" = 1'-0"

KEYED NOTES:

1. ROUTE 4" CW/CWR LINES DOWN TO SUB-LEVEL. SEE PLAN 2, SHEET M-102 FOR CONTINUATION.
2. PROVIDE 3" CW/CWR LINES FOR AHU-1-4.
3. PROVIDE 3" CW/CWR LINES FOR AHU-1-2.
4. ROUTE 5" CW/CWR LINES UP TO SECOND FLOOR. SEE PLAN 3, SHEET M-104 FOR CONTINUATION.
5. ROUTE 5" CW/CWR LINES UP TO SECOND FLOOR. SEE PLAN 2, SHEET M-104 FOR CONTINUATION.
6. PROVIDE 3" CW/CWR LINES FOR AHU-1-1.
7. EXISTING ROOF DRAIN PIPING.



FIRST FLOOR NEW WORK PLAN

NORTH 1 MECHANICAL 1/16" = 1'-0"

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MECHANICAL NEW WORK PLANS

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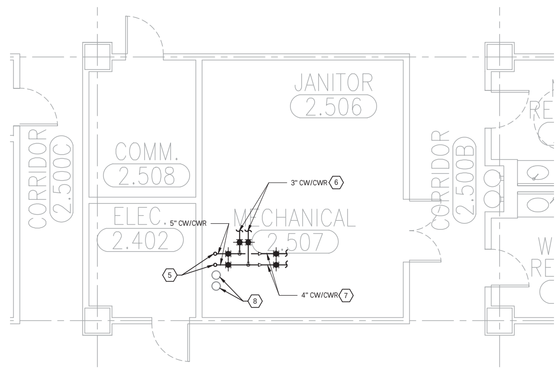
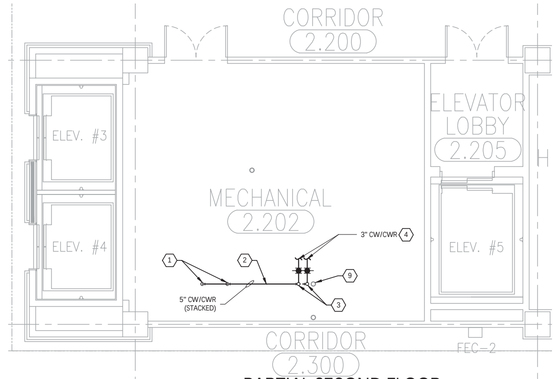
M-103



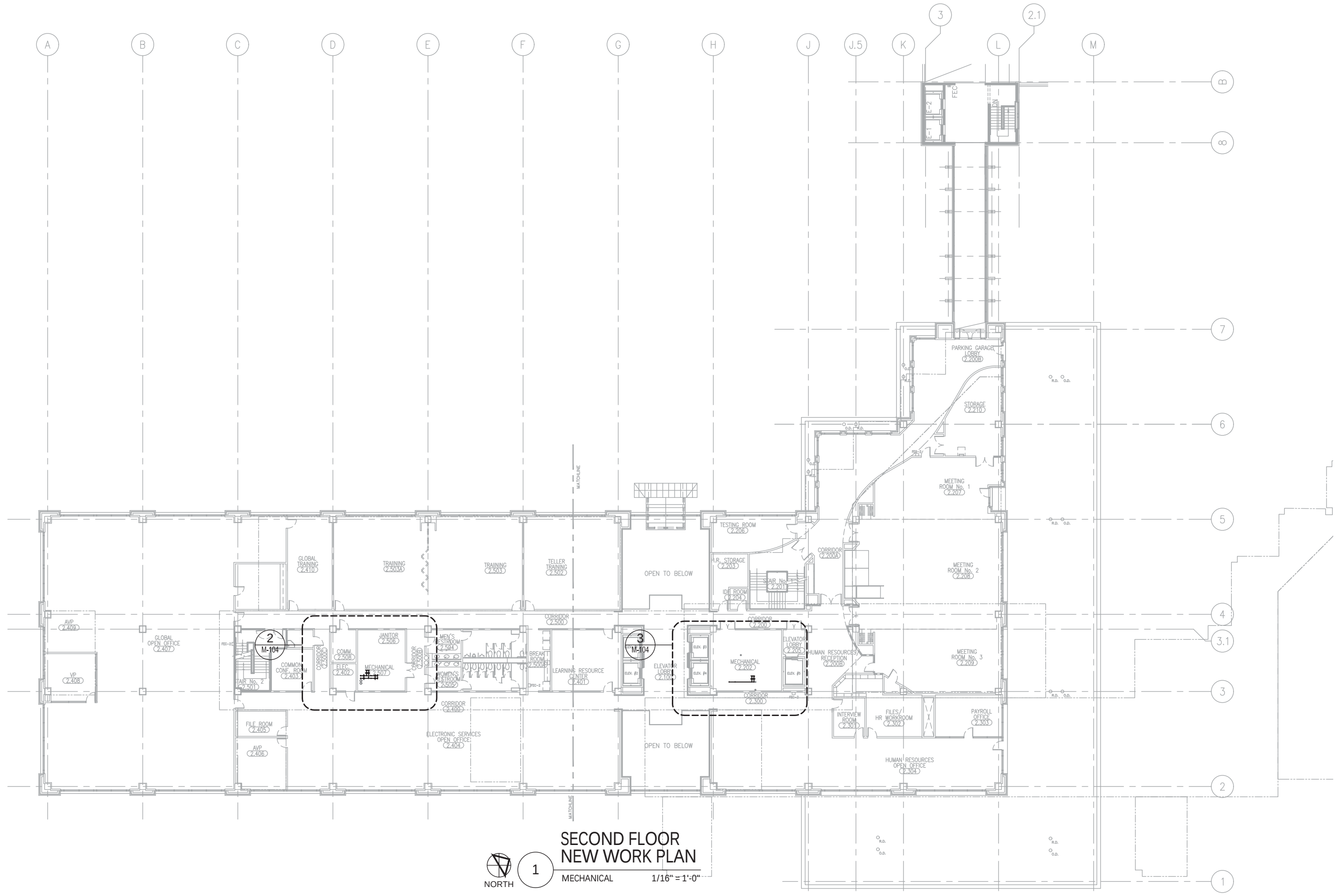


NORTH 2 PARTIAL SECOND FLOOR NEW WORK PLAN
MECHANICAL 1/4" = 1'-0"

NORTH 3 PARTIAL SECOND FLOOR NEW WORK PLAN
MECHANICAL 1/4" = 1'-0"

KEYED NOTES:

1. ROUTE 5" CW/CWR LINES UP FROM FIRST FLOOR. SEE PLAN 3, SHEET M-103 FOR CONTINUATION.
2. OFFSET 5" CW/CWR LINES WITH 45° FITTINGS BETWEEN FLOOR PENETRATIONS AND CEILING PENETRATIONS.
3. ROUTE 3" CW/CWR LINES UP TO THIRD FLOOR. SEE PLAN 3, SHEET M-105 FOR CONTINUATION.
4. PROVIDE 3" CW/CWR LINES FOR AHU-2-3.
5. ROUTE 5" CW/CWR LINES UP FROM FIRST FLOOR. SEE PLAN 2, SHEET M-103 FOR CONTINUATION. ROUTE 4" CW/CWR LINES UP TO THIRD FLOOR. SEE PLAN 2 SHEET M-105 FOR CONTINUATION.
6. PROVIDE 3" CW/CWR LINES FOR AHU-2-1.
7. PROVIDE 4" CW/CWR LINES FOR AHU-2-2.
8. EXISTING ROOF DRAIN PIPING.
9. EXISTING DRAIN LINE FROM FLOOR DRAIN ON THIRD FLOOR.



NORTH 1 SECOND FLOOR NEW WORK PLAN
MECHANICAL 1/16" = 1'-0"

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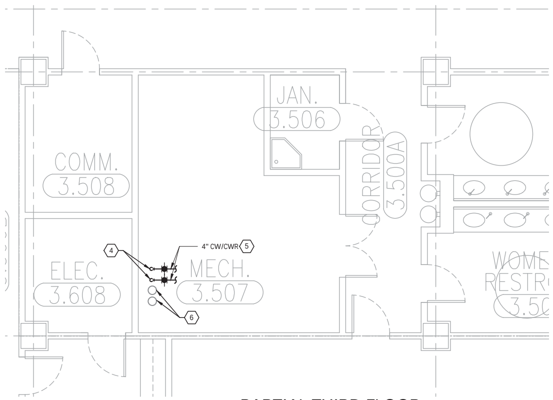
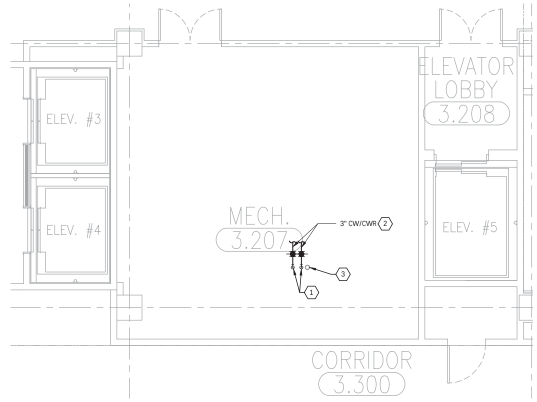
MECHANICAL NEW WORK PLANS

SHEET NO.:
M-104



PARTIAL THIRD FLOOR
NEW WORK PLAN

2 MECHANICAL 1/4" = 1'-0"

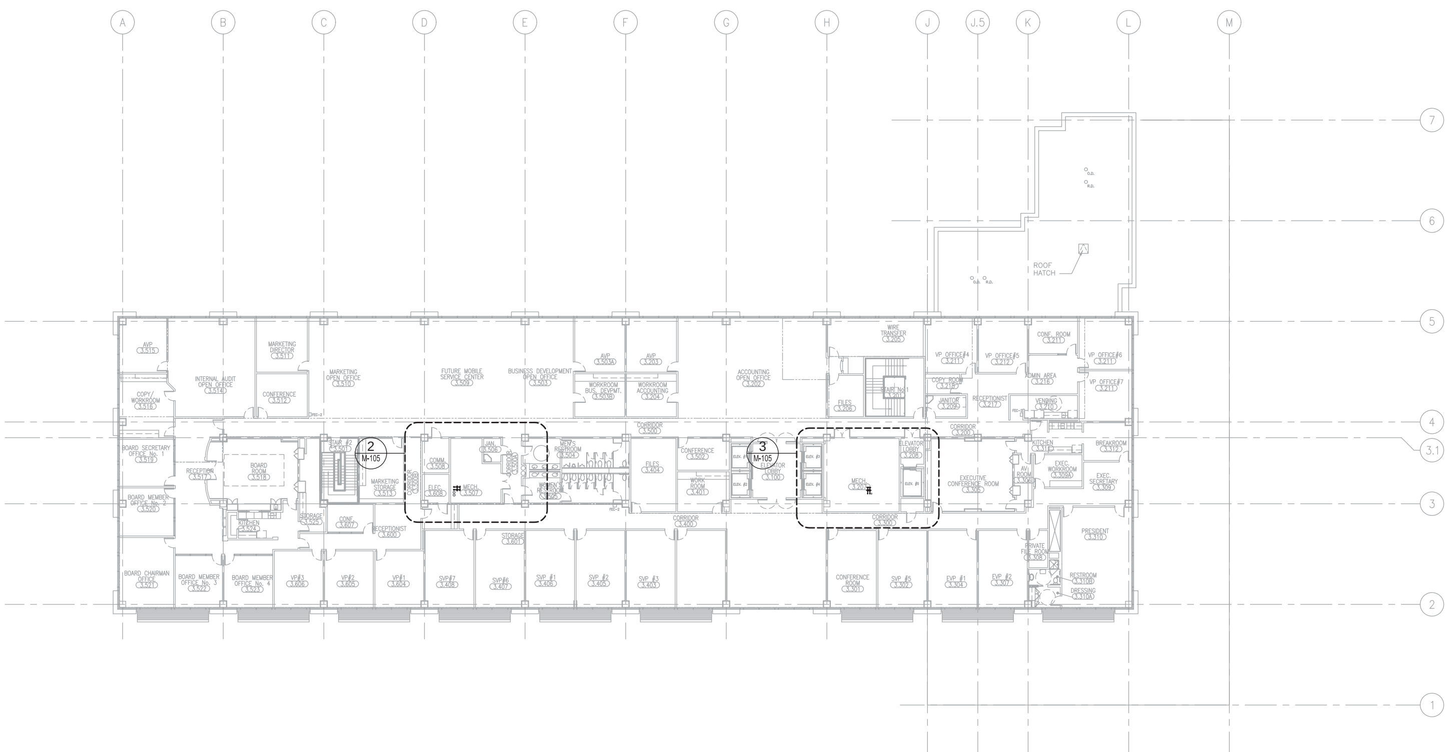


PARTIAL THIRD FLOOR
NEW WORK PLAN

3 MECHANICAL 1/4" = 1'-0"

KEYED NOTES:

1. ROUTE 3" CW/CWR LINES UP FROM SECOND FLOOR. SEE PLAN 3, SHEET M-104 FOR CONTINUATION.
2. PROVIDE 3" CW/CWR LINES FOR AHU-3-2.
3. EXISTING FLOOR DRAIN.
4. ROUTE 4" CW/CWR LINES UP FROM SECOND FLOOR. SEE PLAN 2, SHEET M-104 FOR CONTINUATION.
5. PROVIDE 4" CW/CWR LINES FOR AHU-3-1.
6. EXISTING ROOF DRAIN PIPING.



THIRD FLOOR
NEW WORK PLAN

1 MECHANICAL 1/16" = 1'-0"

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LA CANTERA CENTRAL PLANT CHILLER UPDATE

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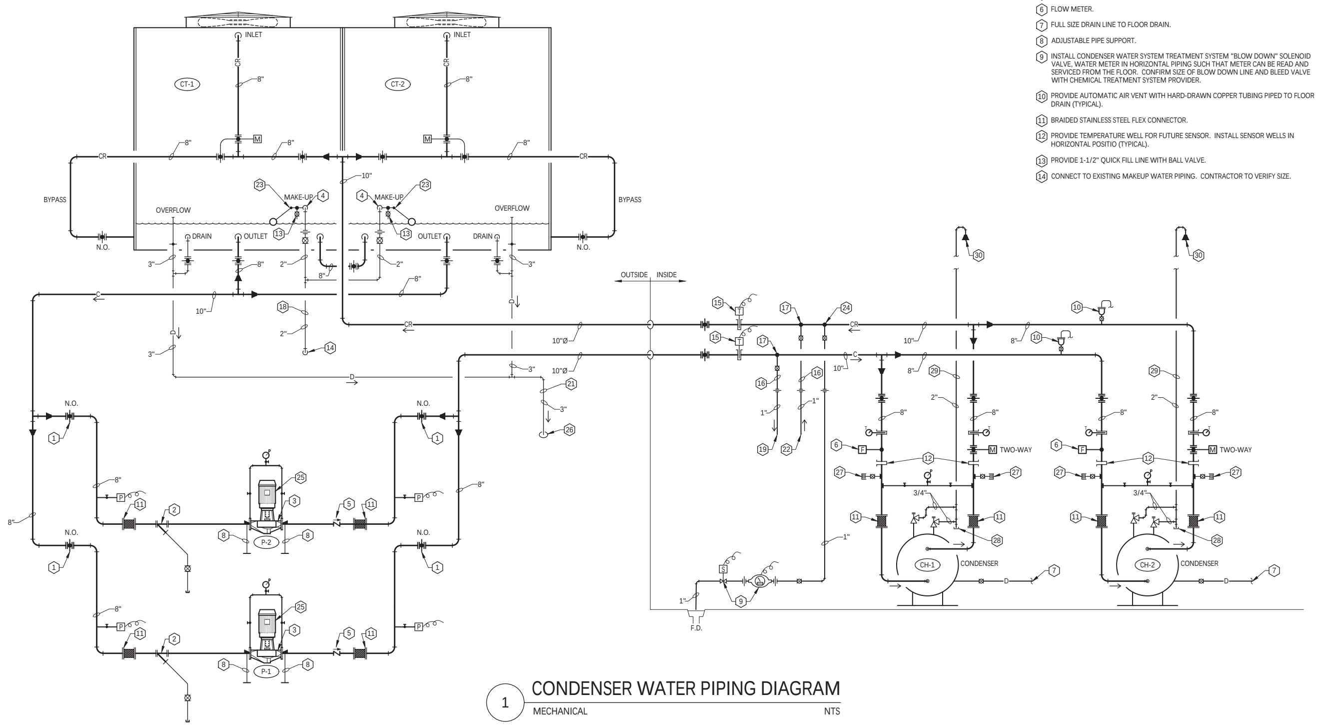
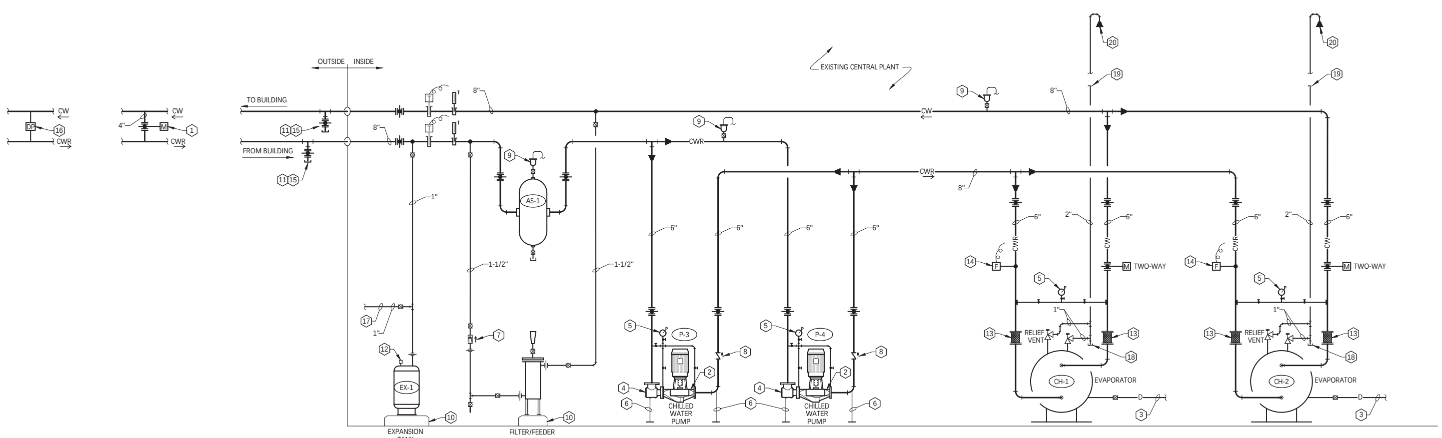
SHEET TITLE:
MECHANICAL
NEW WORK PLANS

SHEET NO.:
M-105



1 CONDENSER WATER PIPING DIAGRAM

MECHANICAL NTS



2 CHILLED WATER PIPING DIAGRAM

MECHANICAL NTS

CONDENSER WATER SYSTEM PIPING DIAGRAM NOTES:

1. PROVIDE BUTTERFLY TYPE ISOLATION SERVICE VALVES - WITH MEMORY STOP PLATE.
2. STRAINER.
3. PUMP CASING VENT VALVE.
4. COOLING TOWER FLOAT VALVE.
5. CHECK VALVE.
6. FLOW METER.
7. FULL SIZE DRAIN LINE TO FLOOR DRAIN.
8. ADJUSTABLE PIPE SUPPORT.
9. INSTALL CONDENSER WATER SYSTEM TREATMENT SYSTEM "BLOW DOWN" SOLENOID VALVE, WATER METER IN HORIZONTAL PIPING SUCH THAT METER CAN BE READ AND SERVICED FROM THE FLOOR. CONFIRM SIZE OF BLOW DOWN LINE AND BLEED VALVE WITH CHEMICAL TREATMENT SYSTEM PROVIDER.
10. PROVIDE AUTOMATIC AIR VENT WITH HARD-DRAWN COPPER TUBING PIPED TO FLOOR DRAIN (TYPICAL).
11. BRAIDED STAINLESS STEEL FLEX CONNECTOR.
12. PROVIDE TEMPERATURE WELL FOR FUTURE SENSOR. INSTALL SENSOR WELLS IN HORIZONTAL POSITIO (TYPICAL).
13. PROVIDE 1-1/2" QUICK FILL LINE WITH BALL VALVE.
14. CONNECT TO EXISTING MAKEUP WATER PIPING. CONTRACTOR TO VERIFY SIZE.
15. CONDENSER WATER DDC TEMPERATURE SENSOR.
16. SCHEDULE 80 CPVC PIPING.
17. PROVIDE WATER TREATMENT SYSTEM SAMPLE STREAM SUPPLY OR RETURN PIPING CONNECTION.
18. INSULATE ALL EXTERIOR MAKE-UP WATER PIPING, 1-1/2" THICK. URETHANE WITH ASJ AND 0.030" ALUMINUM JACKET SECURED WITH STAINLESS STEEL BANDS.
19. ROUTE TO CONDENSER WATER TREATMENT CONTROLLER FROM CONDENSER WATER PIPING.
20. MOTORIZED CONTROL VALVE.
21. ROUTE DRAIN LINE TO EXISTING DRAIN UNDER COOLING TOWERS. CONTRACTOR TO VERIFY SIZE.
22. ROUTE FROM CONDENSER WATER TREATMENT CONTROLLER BACK TO CONDENSER WATER PIPING.
23. 1" BALL VALVE IN MAKE-UP WATER LINE TO TOWER MAKE-UP FLOAT ASSEMBLY.
24. PROVIDE WATER TREATMENT SYSTEM BLEED CONNECTION AND PIPE TO BLEED "BLOW DOWN" VALVE ASSEMBLY.
25. MOUNT IN-LINE CONDENSER WATER PUMP UNDER COOLING TOWERS.
26. EXISTING DRAIN LINE BELOW COOLING TOWERS.
27. 3/4" EXTENDED STEM, 2 PC, BALL VALVE WITH HOSE THREAD AT OUTLET.
28. 6" DIRT LEG.
29. ROUTE RELIEF VENT LINE TO EXTERIOR OF BUILDING. DISCHARGE RELIEF VENT LINE 20' (MIN.) ABOVE GROUND LEVEL.
30. TERMINATE RELIEF VENT LINE WITH A 3"x2" REDUCER AND PROVIDE INSECT SCREEN OVER PIPE OPENING.

CHILLED WATER PIPING SYSTEM DIAGRAM NOTES:

1. 4" CHILLED WATER BY-PASS VALVE.
2. PUMP CASING VENT.
3. FULL SIZE CHILLER DRAIN.
4. SUCTION DIFFUSER (6x6).
5. PROVIDE PRESSURE GAUGE. CONNECT ACROSS CHILLER GAUGE TAPS USING 1/2" THICK ARMAFLEX. PROVIDE BALL VALVES WITH EXTENDED NECK AND INSULATION COLLARS. VAPOR SEAL ALL INSULATION.
6. ADJUSTABLE PIPE SUPPORT.
7. IN-LINE SITE FLOW RATE INDICATOR.
8. CHECK VALVE.
9. PROVIDE AUTOMATIC AIR VENT AT ALL HIGH POINTS OF PIPING SYSTEM. PIPE DISCHARGE TO FLOOR DRAIN IN A NEAT MANNER WITH HARD-DRAWN COPPER (TYPICAL).
10. 3-1/2" THICK (MINIMUM) REINFORCED CONCRETE HOUSEKEEPING PAD WITH CHAMFERED EDGES.
11. PROVIDE 6" TAP WITH BUTTERFLY VALVE AND BLIND FLANGE.
12. AIR CHARGING VALVE.
13. BRAIDED STAINLESS STEEL FLEX CONNECTOR.
14. FLOW METER.
15. TEMPORARY CHILLER CONNECTIONS.
16. PROVIDE A DP SENSOR BETWEEN CW/CWR LINE IN MECHANICAL ROOM HOUSING AIR HANDLING UNIT FARTHEST FROM CENTRAL PLANT.
17. CONNECT TO CHILLED WATER MAKE-UP STATION.
18. 6" DIRT LEG.
19. ROUTE RELIEF VENT LINE TO EXTERIOR OF BUILDING. DISCHARGE RELIEF VENT LINE 20' (MIN.) ABOVE GROUND LEVEL.
20. TERMINATE RELIEF VENT LINE WITH A 3"x2" REDUCER AND PROVIDE INSECT SCREEN OVER PIPE OPENING.

DRAWN: JJN
CHECKED: CPA
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

REVISIONS:

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CHESTER PAUL ALLEN
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16 JULY 2021

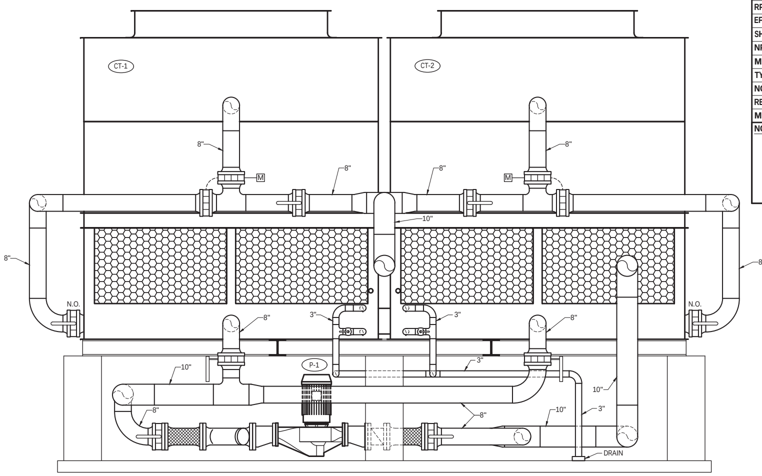
SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

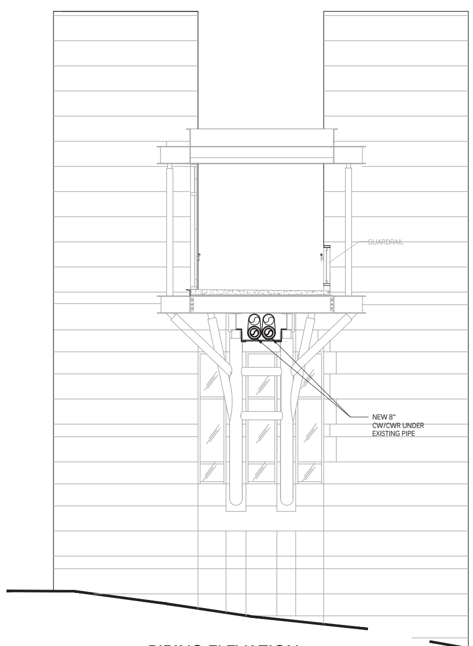
San Antonio, Texas

SHEET TITLE:
MECHANICAL PIPING DIAGRAMS

SHEET NO.:
M-201



1 COOLING TOWER ELEVATION
MECHANICAL NTS



2 PIPING ELEVATION UNDER PARKING GARAGE BRIDGE
MECHANICAL NTS

PUMP SCHEDULE

MARK	P-1	P-2	P-3	P-4
SERVICE	CONDENSER WATER	CONDENSER WATER	CHILLED WATER	CHILLED WATER
GPM	900	900	720	720
HEAD - FT.	40	40	90	90
SIZE	6x6x8	6x6x8	6x6x11.5	6x6x11.5
MOTOR (HP / VOLT / PH)	15 / 480 / 3	15 / 480 / 3	25 / 480 / 3	25 / 480 / 3
RPM	1770	1770	1780	1780
EFFICIENCY (MIN) %	79.9%	79.9%	82.7%	82.7%
SHUT OFF HEAD FT (MIN)	54	54	101	101
NPSH (MAX REQ.) - FT	-	-	-	-
MAX STABLE GPM	1250	1250	1100	1100
TYPE	IN-LINE	IN-LINE	IN-LINE	IN-LINE
NOTES	1, 2, 3	1, 2, 3	1, 2, 4	1, 2, 4
REFERENCE	ARMSTRONG	ARMSTRONG	ARMSTRONG	ARMSTRONG
MODEL	4380	4380	4300	4300

NOTES:

1 PROVIDE PUMP WITH VARIABLE FREQUENCY DRIVE.
2 PROVIDE BALDOR PREMIUM EFFICIENT OR EQUAL WITH AEGIS SHAFT GROUNDING RING FOR VFD USE.
3 PROVIDE PUMP CLOSE-COUPLED.
4 PROVIDE PUMP SPLIT-COUPLED.

MISCELLANEOUS EQUIPMENT SCHEDULE

MARK	EX-1	AS-1	
DESCRIPTION	CW EXPANSION TANK	AIR/DIRT SEPARATOR	
AGA OUTPUT (MBH)	---	---	
AGA INPUT (MBH)	---	---	
SAFETY/RELIEF VALVE	75 PSI	75 PSI	
WORKING PRESSURE	125 PSI	125 PSI	
DESIGN OPERATING PRESSURE	40 PSI	40 PSI	
MOTOR	---	---	
SIZE	---	8"	
STORAGE CAPACITY (GALLONS)	65	---	
CONTROL TYPE	---	---	
REFERENCE	TACO	TACO	
MODEL NO.	CA300	4908ADH-125	
NOTES	1, 2	3	

NOTES:

1 MAKE-UP WATER PRESSURE REDUCING VALVE SHALL BE SET TO MAINTAIN SYSTEM STATIC PRESSURE PLUS APPROXIMATELY 5 PSIG. INITIAL SETTING SHALL BE 40 PSIG (ADJUSTABLE).
2 STORAGE CAPACITY SHALL BE MINIMUM 'WATER STORAGE' (ACCEPTANCE VOLUME) AVAILABLE FOR SYSTEM EXPANSION. AIR CHARGE PRESSURE SHALL BE THE SAME AS THE SYSTEM INITIAL FILL PRESSURE.
3 PROVIDE UNIT WITH MAXIMUM PRESSURE DROP OF 1.5 PSIG AT 1440 GPM.

CHILLER & COOLING TOWER SCHEDULE

MARK		CH-1 & CH-2		CT-1 & CT-2
DESCRIPTION		EVAPORATOR	CONDENSER	COOLING TOWERS
CAPACITY - TONS		300	300	300
MIN. LOAD - TONS		98	98	--
WATER	GPM - DESIGN	720	900	900
	GPM - MIN.	240	358	--
	ENTERING - °F	55.0	85.0	95.0
	LEAVING - °F	45.0	95.0	85.0
	MAXIMUM P.D. - FT.	13.7	17.0	2.8
	SCALE FACTOR	0.0001	0.00025	--
	MAX. VELOCITY FPS	12	12	--
	PASSES	2	2	--
ELECTRICAL		460V/3PH		20HP/460V/3PH
MOTOR RPM		--		1800
APPROX. FLA		230A		24.1
APPROX. MCA		259A		--
CHILLER KW/TON (MIN.)		0.5581		--
CAPACITY REDUCT. (MIN.)		33%		--
COMPRESSOR		CENTRIFUGAL		--
OUTSIDE AIR - AMBIENT °F		105° DB		78° WB
COND. TEMP. MAX. °F		110		--
NOTES		1		2
REFERENCE		SMARDT		EVAPCO
MODEL		WB095.2HG07.F2HHHA.F2AVHA.TN0		USS 29-3K24
CONTROL TYPE		1		1

CHILLER & COOLING TOWER SCHEDULE NOTES:

1 ALL REQUIREMENTS SCHEDULED ARE "PER UNIT". TWO (2) CHILLERS (CH-1 & CH-2) AND TWO (2) COOLING TOWERS (CT-1 & CT-2) ARE REQUIRED.
2 PROVIDE EACH COOLING TOWER WITH TEFC FAN MOTORS WITH VSDs, HAND RAILS, LADDER, BOTTOM OUTLET, SIDE EQUALIZING OUTLET CONNECTION, MAKE-UP WATER FLOAT, OVERFLOW STANDPIPE, AND OTHER ACCESSORIES SPECIFIED AND DETAILED ON THE DRAWINGS.

AIR HANDLING UNIT SCHEDULE

MARK		AHU-S-1	AHU-1-1	AHU-1-2	AHU-1-4	AHU-2-1	AHU-2-2	AHU-2-3	AHU-3-1	AHU-3-2
AREA SERVED		SUB-LEVEL	1ST FLR-WEST	1ST FLR-EAST	1ST FLR-EAST	2ND FLR-WEST	2ND FLR-WEST	2ND FLR-EAST	3RD FLR-WEST	3RD FLR-EAST
DESCRIPTION		HORIZ, DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU	VERT. DRAW-THRU
TOTAL AIR CFM		25,185	15,090	11,305	10,400	11,250	16,000	9,930	21,930	10,785
OUTSIDE AIR CFM		4000	1100	1100	1100	1100	1100	1100	1075	1075
APPROX. EXT. RESISTANCE, "W.G.		2	2	2	2	2	2	2	2	2
FAN MOTOR (MIN.)		(7)7.7.A/460V/3PH	(4)7.7A/460V/3PH	(4)7.7A/460V/3PH	(3)7.7A/460V/3PH	(4)7.7A/460V/3PH	(4)7.7A/460V/3PH	(3)7.7A/460V/3PH	(5)7.7A/460V/3PH	(3)7.7A/460/3PH
ELECTRICAL	FLA	53.9	30.8	30.8	23.1	30.8	30.8	23.1	38.5	23.1
	MCA	67.4	38.5	38.5	28.9	38.5	38.5	28.9	48.1	28.9
	MOCP	110	60	60	50	60	60	50	80	50
	SCCR	65	65	65	65	65	65	65	65	65
COOLING COIL	TYPE	CW	CW	CW	CW	CW	CW	CW	CW	CW
	AIR TO COIL CFM	25,185	15,090	11,305	10,400	11,250	16,000	9,930	21,930	10,785
	ENTERING AIR °FDB/°FWB	79.2/64.9	80.1/65.0	81.1/65.8	80.6/65.4	79.1/65.0	84.1/70.8	79.4/64.8	77.5/63.8	77.4/63.7
	LEAVING AIR °FDB/°FWB	54.2/54.1	54.8/54.1	54.0/53.5	54.5/53.8	53.9/53.4	56.3/56.1	53.6/53.0	54.6/54.3	53.8/53.2
	MAX. FACE VELOCITY FPM	500	500	500	500	500	500	500	500	500
	CW GPM (@44°F EWT)	132.6	79.1	67.1	57.9	62.6	121.9	55.6	100.9	53.7
	MAX. WATER P.D. FT.	5.0	4.1	7.3	5.2	6.4	9.2	4.8	3.8	4.5
	MIN. ROWS/MAX. FINS	6/10	6/10	6/10	6/10	6/10	6/10	6/10	6/10	6/10
	TEMP. RISE °F (44° EWT)	12	12	12	12	12	12	12	12	12
	OUTPUT TSH (MIN.) MBH	659.0	404.7	324.4	288.1	301.6	467.5	272.6	525.9	271.1
	OUTPUT GTH (MIN.) MBH	797.8	476.0	403.8	348.2	376.7	733.6	334.5	607.3	323.0
	CONTROL VALVE	3-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	3-WAY	3-WAY
FAN TYPE		PLENUM	PLENUM	PLENUM	PLENUM	PLENUM	PLENUM	PLENUM	PLENUM	PLENUM
NOTES		1	1	1	1	1	1	1	1	1
REFERENCE		CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
MODEL		39MN SIZE 50W	39MN SIZE 30W	39MN SIZE 25W	39MN SIZE 21W	39MN SIZE 25W	39MN SIZE 30W	39MN SIZE 21W	39MN SIZE 40W	39MN SIZE 21W

NOTES
1) 65 KAIC/SCCR RATING ALL FAN ARRAY CONTROL PANELS.

DRAWN: MA/JJN
CHECKED: CPA
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

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16 JULY 2021

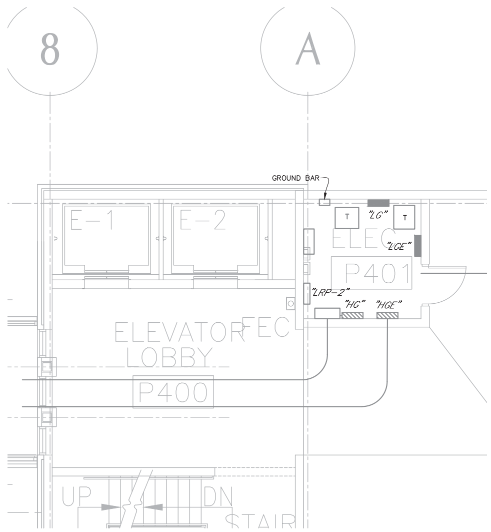
SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

SHEET TITLE:
MECHANICAL SCHEDULES & DETAILS

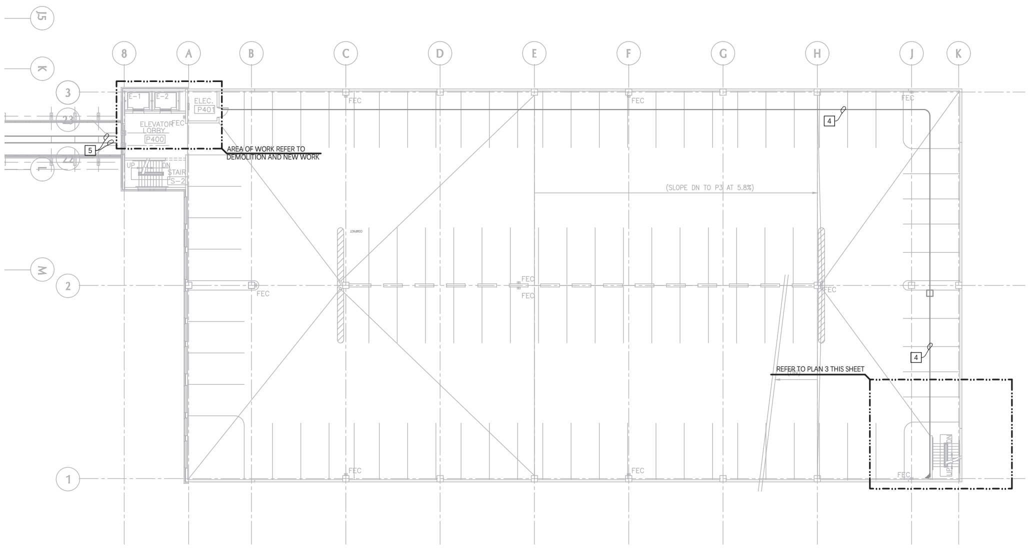
SHEET NO.:
M-202



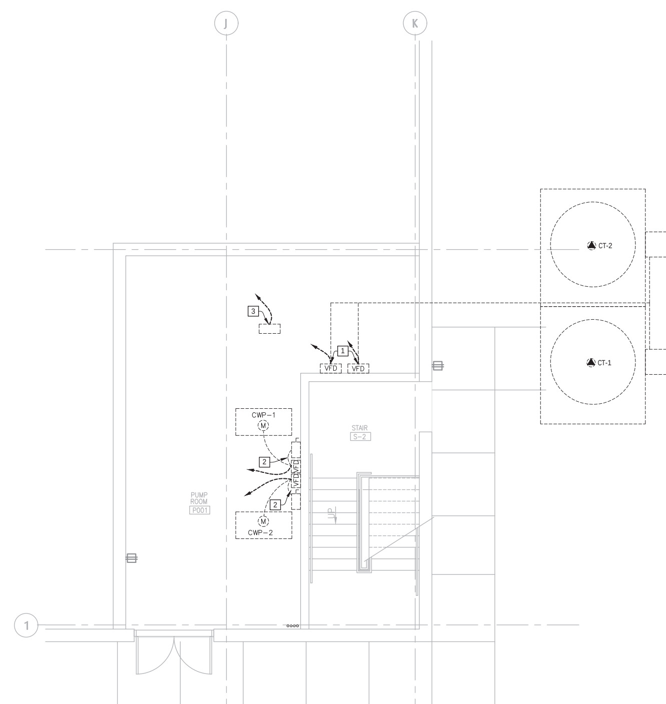
LEVEL P-4
EXISTING PLAN
ELECTRICAL 1/4" = 1'-0"

ELECTRICAL DEMOLITION NOTES, SHEET E-101:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. REMOVE VFD AND ASSOCIATED ELECTRICAL COMPONENTS. EXISTING BRANCH CIRCUIT TO REMAIN TO SERVE NEW. REFER TO NEW WORK PLAN.
2. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REMOVED. REMOVE VFD AND ASSOCIATED ELECTRICAL COMPONENTS. REMOVE CONDUCTORS BACK TO PANEL, EXISTING CONDUIT TO REMAIN TO SERVE NEW. REFER TO NEW WORK PLAN.
3. MODIFY, RE-ROUTE AND RELOCATE EXISTING ELECTRICAL CONNECTION AND DISCONNECTING MEANS TO EXISTING FILTRATION SYSTEM BEING RELOCATED TO ACCOMMODATE NEW CHILLER. MODIFY BRANCH CIRCUIT AS REQUIRED.
4. APPROXIMATE ROUTE OF EXISTING BRANCH CIRCUITS.
5. APPROXIMATE ROUTE OF EXISTING FEEDERS.



LEVEL P-4
OVERALL FLOOR PLAN
ELECTRICAL 1/16" = 1'-0"



LEVEL P-0
DEMOLITION PLAN
ELECTRICAL 1/4" = 1'-0"

DRAWN: JM
CHECKED: DS
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

REVISIONS:

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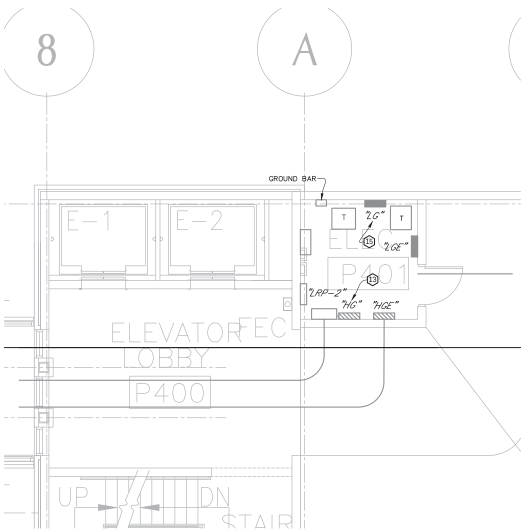
SECURITY SERVICE FEDERAL CREDIT UNION
LA CANTERA CENTRAL PLANT CHILLER UPDATE
San Antonio, Texas

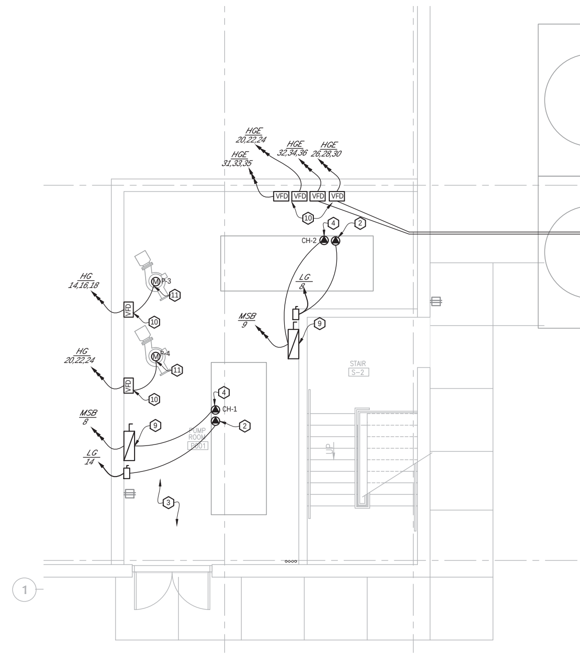
SHEET TITLE:
ELECTRICAL DEMOLITION PLANS

SHEET NO.:
E-101



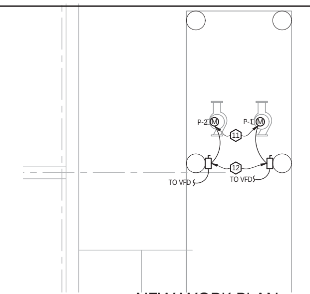
LEVEL P-4
NEW WORK PLAN

NORTH 2 ELECTRICAL 1/4" = 1'-0"



LEVEL P-0
NEW WORK PLAN

NORTH 3 ELECTRICAL 1/4" = 1'-0"



NEW WORK PLAN
UNDER COOLING TOWERS

NORTH 4 ELECTRICAL 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL CONNECTION SCHEDULE SHEET E-201
2. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
3. PROVIDE U.L. LISTED FIRE STOP SYSTEMS AT ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED PARTITIONS. SEAL AROUND CONDUIT PENETRATIONS THROUGH NON-RATED PARTITIONS WITH JOINT COMPOUND OR GROUT.
4. COORDINATE THE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

ELECTRICAL NOTES, SHEET E-102:

(1) PROVIDE DISCONNECT FOR COOLING TOWER FAN. MOUNT ON COOLING TOWER STRUCTURE TO BE ACCESSIBLE AND TO COMPLY WITH NFPA 70 FOR SIGHT AND DISTANCE. PROVIDE DISCONNECT WITH AUXILIARY CONTACTS TO DE-ENERGIZE VARIABLE SPEED DRIVE WHEN IN "OFF" POSITION.

(2) PROVIDE 120V CONNECTION AS REQUIRED FOR CHILLER CONTROLS. CONTRACTOR SHALL VERIFY ACTUAL REQUIREMENTS WITH CHILLER MANUFACTURER. UTILIZE #10 MINIMUM CONDUCTORS. PROVIDE 30A/1P,NF, DISCONNECT SWITCH.

(3) FINAL LOCATION OF ALL EQUIPMENT IN THIS ROOM SHALL MAINTAIN REQUIRED NEC CLEARANCES.

(4) PROVIDE 480V/3PH BRANCH CIRCUIT FOR CHILLER. CONTRACTOR SHALL VERIFY ACTUAL REQUIREMENTS WITH CHILLER MANUFACTURER. REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.

(5) SUSPEND BRANCH CIRCUIT BELOW BOTTOM OF BRIDGE STRUCTURE . DO NOT ROUTE FEEDER BELOW MECHANICAL PIPING.

(6) ROUTE BRANCH CIRCUITS ABOVE CEILING OF FIRST FLOOR. COORDINATE WITH EXISTING UTILITIES.

(7) CORE DRILL AND ROUTE DOWN TO MAIN SWITCHBOARD. COORDINATE WITH EXISTING UTILITIES.

(8) APPROXIMATE ROUTE OF EXISTING BRANCH CIRCUITS.

(9) PROVIDE NON-FUSED DISCONNECT SWITCH FOR NEW CHILLER. REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.

(10) NEW VARIABLE SPEED DRIVE WITH BUILT-IN DISCONNECT SWITCH. CONNECT PER MANUFACTURERS PUBLISHED REQUIREMENTS. MAINTAIN MINIMUM NEC CLEARANCE REQUIRED IN FRONT OF DRIVE. COORDINATE WITH DIV.23 REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.

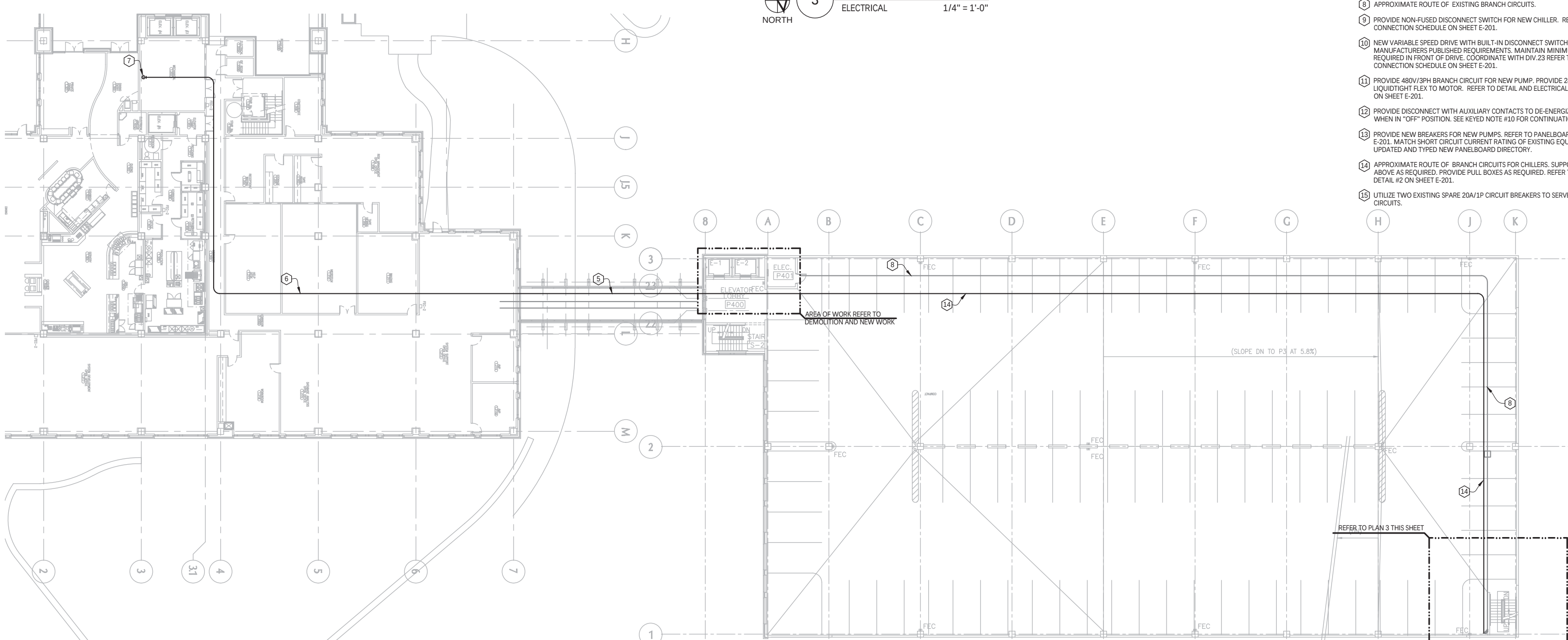
(11) PROVIDE 480V/3PH BRANCH CIRCUIT FOR NEW PUMP. PROVIDE 24"MAXIMUM SECTION OF LIQUIDTIGHT FLEX TO MOTOR. REFER TO DETAIL AND ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.

(12) PROVIDE DISCONNECT WITH AUXILIARY CONTACTS TO DE-ENERGIZE VARIABLE SPEED DRIVE WHEN IN "OFF" POSITION. SEE KEYED NOTE #10 FOR CONTINUATION.

(13) PROVIDE NEW BREAKERS FOR NEW PUMPS. REFER TO PANELBOARD SCHEDULES ON SHEET E-201. MATCH SHORT CIRCUIT CURRENT RATING OF EXISTING EQUIPMENT. PROVIDE AN UPDATED AND TYPED NEW PANELBOARD DIRECTORY.

(14) APPROXIMATE ROUTE OF BRANCH CIRCUITS FOR CHILLERS. SUPPORT FROM STRUCTURE ABOVE AS REQUIRED. PROVIDE PULL BOXES AS REQUIRED. REFER TO CONDUIT SUPPORT DETAIL #2 ON SHEET E-201.

(15) UTILIZE TWO EXISTING SPARE 20A/1P CIRCUIT BREAKERS TO SERVE CHILLER CONTROL CIRCUITS.



LEVEL P-4
OVERALL FLOOR PLAN

NORTH 1 ELECTRICAL 1/16" = 1'-0"

DRAWN: JM
CHECKED: DS
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

REVISIONS:

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SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

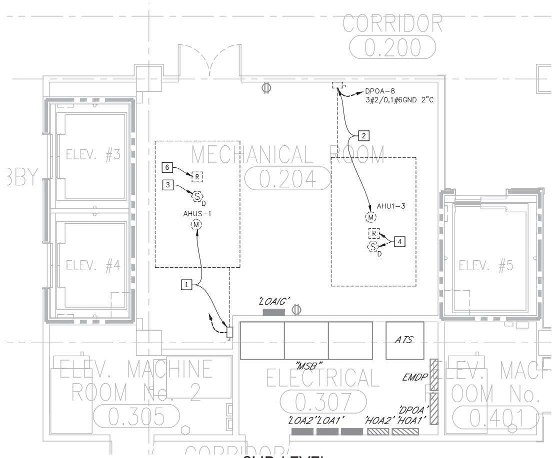
San Antonio, Texas

SHEET TITLE:
ELECTRICAL
NEW WORK PLANS

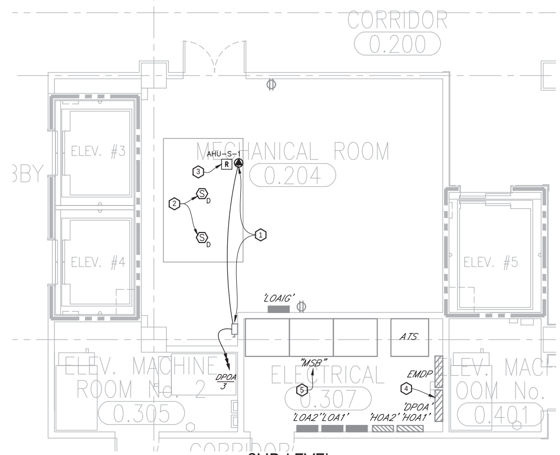
SHEET NO.:
E-102

ELECTRICAL DEMOLITION NOTES, SHEET E-103:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. EXISTING DISCONNECT SWITCH AND CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
2. REMOVE EXISTING ELECTRICAL CONNECTION AND DISCONNECTING MEANS TO HVAC EQUIPMENT BEING DEMOLISHED. REMOVE BRANCH CIRCUIT BACK TO SOURCE. LABEL IT AS 'SPARE' IN EXISTING PANEL.
3. CAREFULLY REMOVE AND DISCONNECT EXISTING DUCT SMOKE DETECTOR. EXISTING DUCT SMOKE DETECTOR MAY BE REUSED. REFER TO NEW WORK. COORDINATE WITH EXISTING FIRE ALARM SYSTEM.
4. REMOVE FIRE ALARM DEVICES AND CABLING BACK TO SOURCE.
5. EXISTING FIRE ALARM CONTROL PANEL. COORDINATE MODIFICATIONS WITH EXISTING SYSTEM.
6. REMOVE EXISTING FIRE ALARM RELAY. EXISTING WIRING TO REMAIN TO SERVE NEW. REFER TO NEW WORK.



NORTH 2 SUB-LEVEL DEMOLITION PLAN
ELECTRICAL 1/4" = 1'-0"



NORTH 3 SUB-LEVEL NEW WORK PLAN
ELECTRICAL 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL CONNECTION SCHEDULE SHEET E-201
2. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
3. PROVIDE U.L. LISTED FIRE STOP SYSTEMS AT ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED PARTITIONS. SEAL AROUND CONDUIT PENETRATIONS THROUGH NON-RATED PARTITIONS WITH JOINT COMPOUND OR GROUT.
4. COORDINATE THE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

ELECTRICAL NOTES, SHEET E-102:

1. PROVIDE OUTLET AND CONNECTION AS REQUIRED FOR MECHANICAL EQUIPMENT COORDINATE WITH MECHANICAL . REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.
2. PROVIDE DUCT SMOKE DETECTORS ON SUPPLY AND RETURN OF AIR HANDLING UNIT. EXISTING DETECTORS MAY BE REUSED IF IN GOOD CONDITION. RECONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
3. PROVIDE NEW FIRE ALARM RELAY. CONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
4. REMOVE EXISTING BREAKER SERVING AHUS-1 AND PROVIDE NEW 110A/3P MINIMUM 65KAIC CIRCUIT BREAKER.
5. PROVIDE TWO 350A/3P, MINIMUM 65 KAIC CIRCUIT BREAKERS FOR CHILLERS CH-1 AND CH-2.

NORTH 1 SUB-LEVEL OVERALL FLOOR PLAN
ELECTRICAL 1/16" = 1'-0"

DRAWN: JM
CHECKED: DS
DATE: 2021 JULY 16
PROJECT NO.: 2021.013
REVISIONS:

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SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

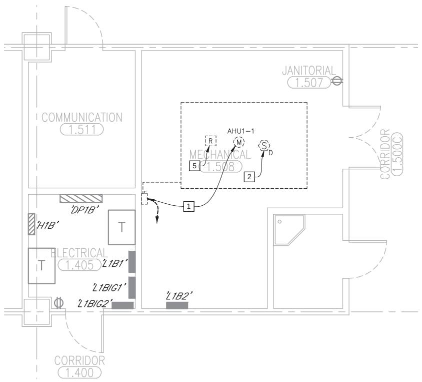
San Antonio, Texas

SHEET TITLE:

SUB-LEVEL ELECTRICAL PLANS

SHEET NO.:

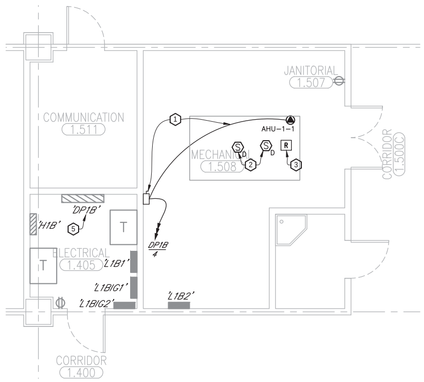
E-103



PARTIAL FIRST FLOOR DEMOLITION PLAN

2 — ELECTRICAL — 1/4" = 1'-0"

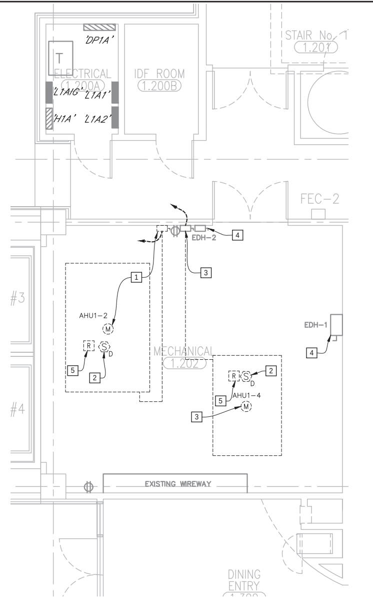
NORTH



PARTIAL FIRST FLOOR NEW WORK PLAN

3 — ELECTRICAL — 1/4" = 1'-0"

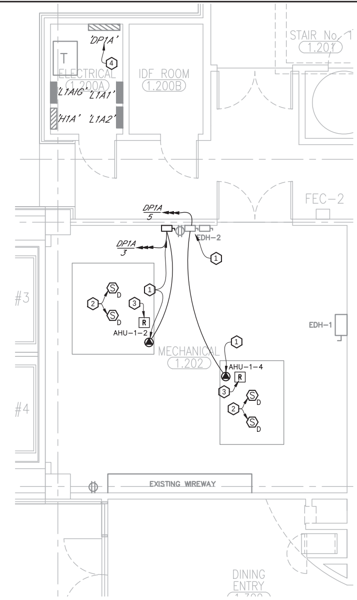
NORTH



PARTIAL FIRST FLOOR DEMOLITION PLAN

4 — ELECTRICAL — 1/4" = 1'-0"

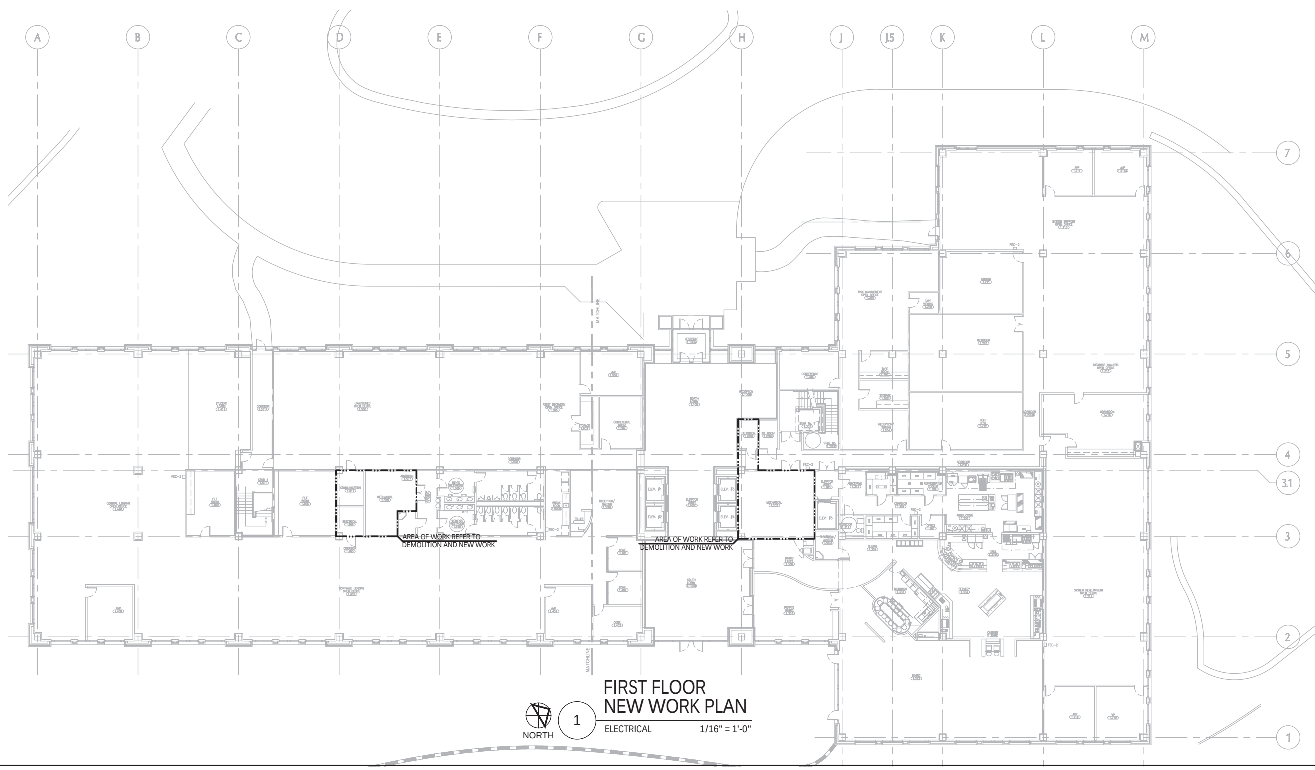
NORTH



PARTIAL FIRST FLOOR NEW WORK PLAN

5 — ELECTRICAL — 1/4" = 1'-0"

NORTH



FIRST FLOOR NEW WORK PLAN

1 — ELECTRICAL — 1/16" = 1'-0"

NORTH

ELECTRICAL DEMOLITION NOTES, SHEET E-104:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. REMOVE DISCONNECT AND ASSOCIATED ELECTRICAL COMPONENTS. EXISTING CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
2. CAREFULLY REMOVE AND DISCONNECT EXISTING DUCT SMOKE DETECTOR. EXISTING DUCT SMOKE DETECTOR MAY BE REUSED. REFER TO NEW WORK. COORDINATE WITH EXISTING FIRE ALARM SYSTEM.
3. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. EXISTING DISCONNECT SWITCH AND CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
4. EXISTING TO REMAIN.
5. REMOVE EXISTING FIRE ALARM RELAY. EXISTING WIRING TO REMAIN TO SERVE NEW. REFER TO NEW WORK.

GENERAL NOTES:

1. REFER TO ELECTRICAL CONNECTION SCHEDULE SHEET E-201
2. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
3. PROVIDE U.L. LISTED FIRE STOP SYSTEMS AT ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED PARTITIONS. SEAL AROUND CONDUIT PENETRATIONS THROUGH NON-RATED PARTITIONS WITH JOINT COMPOUND OR GROUT.
4. COORDINATE THE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

ELECTRICAL NOTES, SHEET E-104:

1. PROVIDE OUTLET AND CONNECTION AS REQUIRED FOR MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL. REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.
2. PROVIDE DUCT SMOKE DETECTORS ON SUPPLY AND RETURN OF AIR HANDLING UNIT. EXISTING DETECTORS MAY BE REUSED IF IN GOOD CONDITION. RECONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
3. PROVIDE NEW FIRE ALARM RELAY. CONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
4. REMOVE EXISTING BREAKER SERVING AHU-1-2 AND PROVIDE NEW 60A/3P MINIMUM 65KAIC CIRCUIT BREAKER. REMOVE EXISTING BREAKER SERVING AHU-2-2 AND PROVIDE NEW 60A/3P MINIMUM 65KAIC CIRCUIT BREAKER. REMOVE EXISTING BREAKER SERVING AHU-1-4 AND PROVIDE NEW 50A/3P MINIMUM 65KAIC CIRCUIT BREAKER.
5. REMOVE EXISTING BREAKER SERVING AHU-1-1 AND PROVIDE NEW 60A/3P MINIMUM 42 KAIC CIRCUIT BREAKER. REMOVE EXISTING BREAKER SERVING AHU-2-1 AND PROVIDE NEW 60A/3P MINIMUM 42 KAIC CIRCUIT BREAKER.

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SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

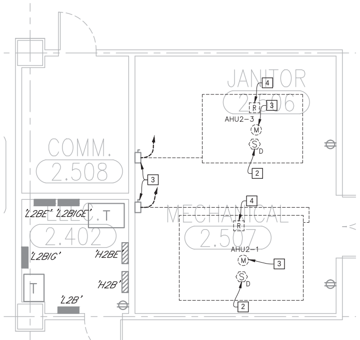
San Antonio, Texas

SHEET TITLE:

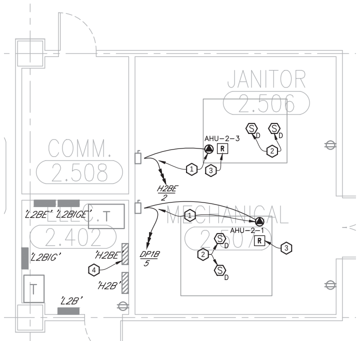
FIRST FLOOR ELECTRICAL PLANS

SHEET NO.:

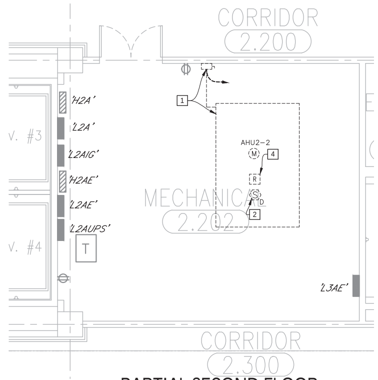
E-104



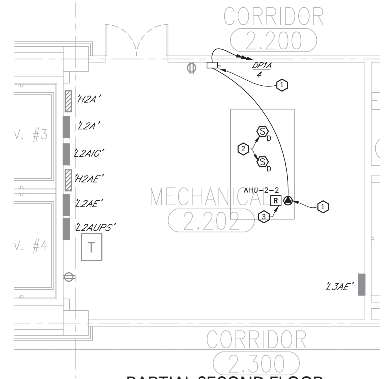
2 PARTIAL SECOND FLOOR DEMOLITION PLAN
NORTH
ELECTRICAL 1/4" = 1'-0"



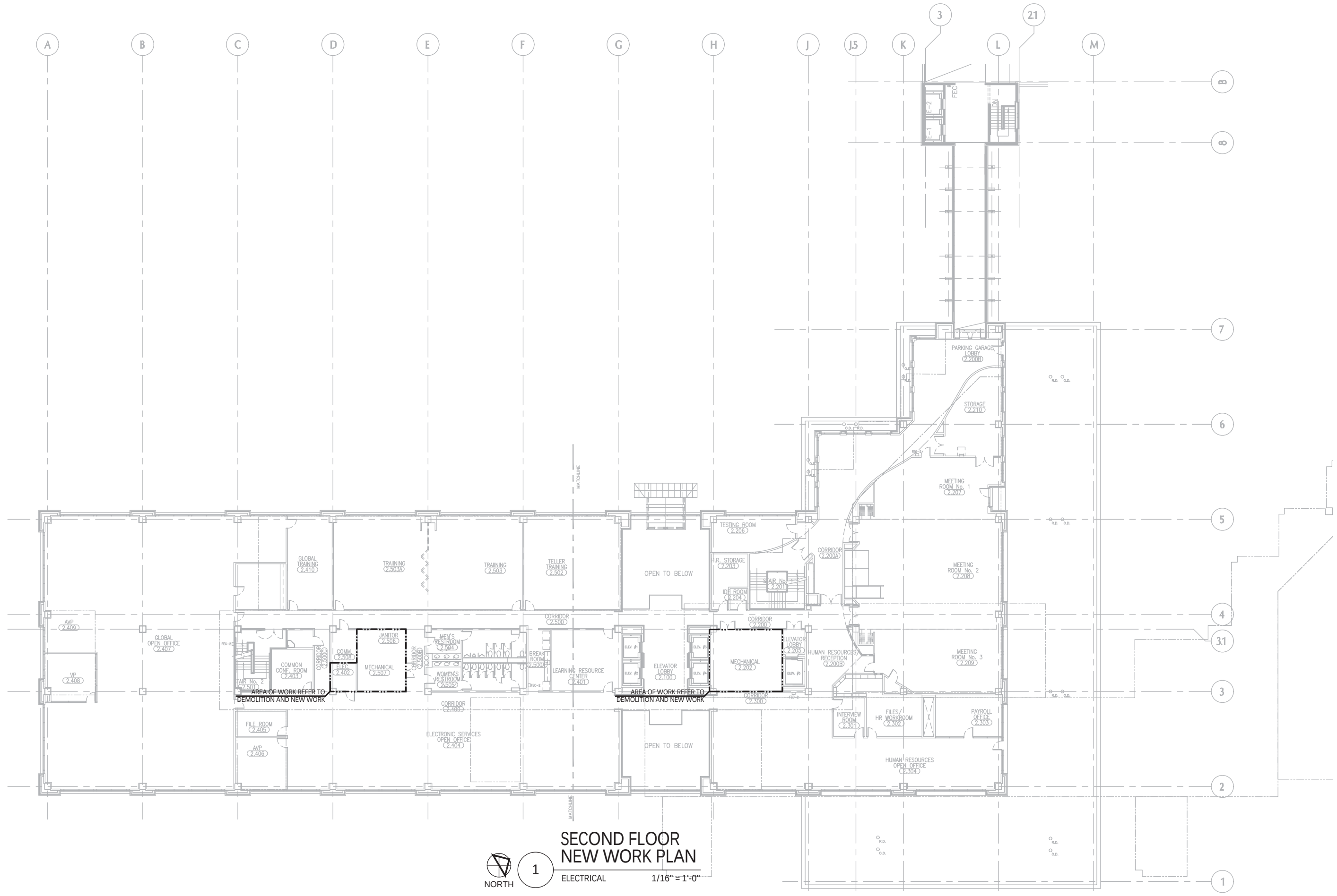
3 PARTIAL SECOND FLOOR NEW WORK PLAN
NORTH
ELECTRICAL 1/4" = 1'-0"



4 PARTIAL SECOND FLOOR DEMOLITION PLAN
NORTH
ELECTRICAL 1/4" = 1'-0"



5 PARTIAL SECOND FLOOR NEW WORK PLAN
NORTH
ELECTRICAL 1/4" = 1'-0"



1 SECOND FLOOR NEW WORK PLAN
NORTH
ELECTRICAL 1/16" = 1'-0"

ELECTRICAL DEMOLITION NOTES, SHEET E-105:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. REMOVE DISCONNECT AND ASSOCIATED ELECTRICAL COMPONENTS. EXISTING CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
2. CAREFULLY REMOVE AND DISCONNECT EXISTING DUCT SMOKE DETECTOR. EXISTING DUCT SMOKE DETECTOR MAY BE REUSED. REFER TO NEW WORK. COORDINATE WITH EXISTING FIRE ALARM SYSTEM.
3. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. EXISTING DISCONNECT SWITCH AND CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
4. REMOVE EXISTING FIRE ALARM RELAY. EXISTING WIRING TO REMAIN TO SERVE NEW. REFER TO NEW WORK.

GENERAL NOTES:

1. REFER TO ELECTRICAL CONNECTION SCHEDULE SHEET E-201
2. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
3. PROVIDE U.L. LISTED FIRE STOP SYSTEMS AT ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED PARTITIONS. SEAL AROUND CONDUIT PENETRATIONS THROUGH NON-RATED PARTITIONS WITH JOINT COMPOUND OR GROUT.
4. COORDINATE THE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

ELECTRICAL NOTES, SHEET E-105:

1. PROVIDE OUTLET AND CONNECTION AS REQUIRED FOR MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL. REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.
2. PROVIDE DUCT SMOKE DETECTORS ON SUPPLY AND RETURN OF AIR HANDLING UNIT. EXISTING DETECTORS MAY BE REUSED IF IN GOOD CONDITION. RECONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
3. PROVIDE NEW FIRE ALARM RELAY. CONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
4. REMOVE EXISTING BREAKER SERVING AHU-2-3 AND PROVIDE NEW 50A/3P MINIMUM 65KAIC CIRCUIT BREAKER.

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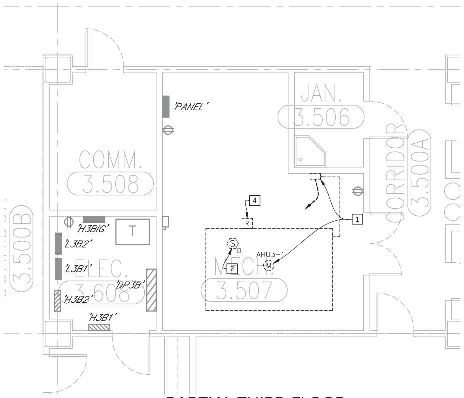
SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

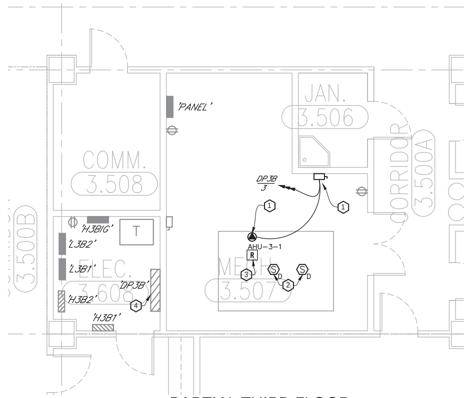
SHEET TITLE:
SECOND FLOOR ELECTRICAL PLANS

SHEET NO.:
E-105



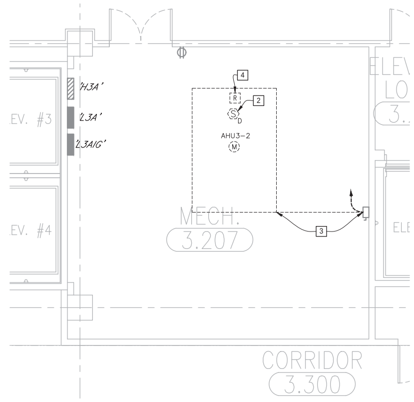
PARTIAL THIRD FLOOR
NEW WORK PLAN

NORTH 2 ELECTRICAL 1/4" = 1'-0"



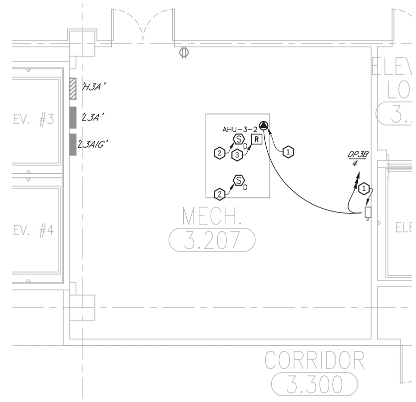
PARTIAL THIRD FLOOR
NEW WORK PLAN

NORTH 3 ELECTRICAL 1/4" = 1'-0"



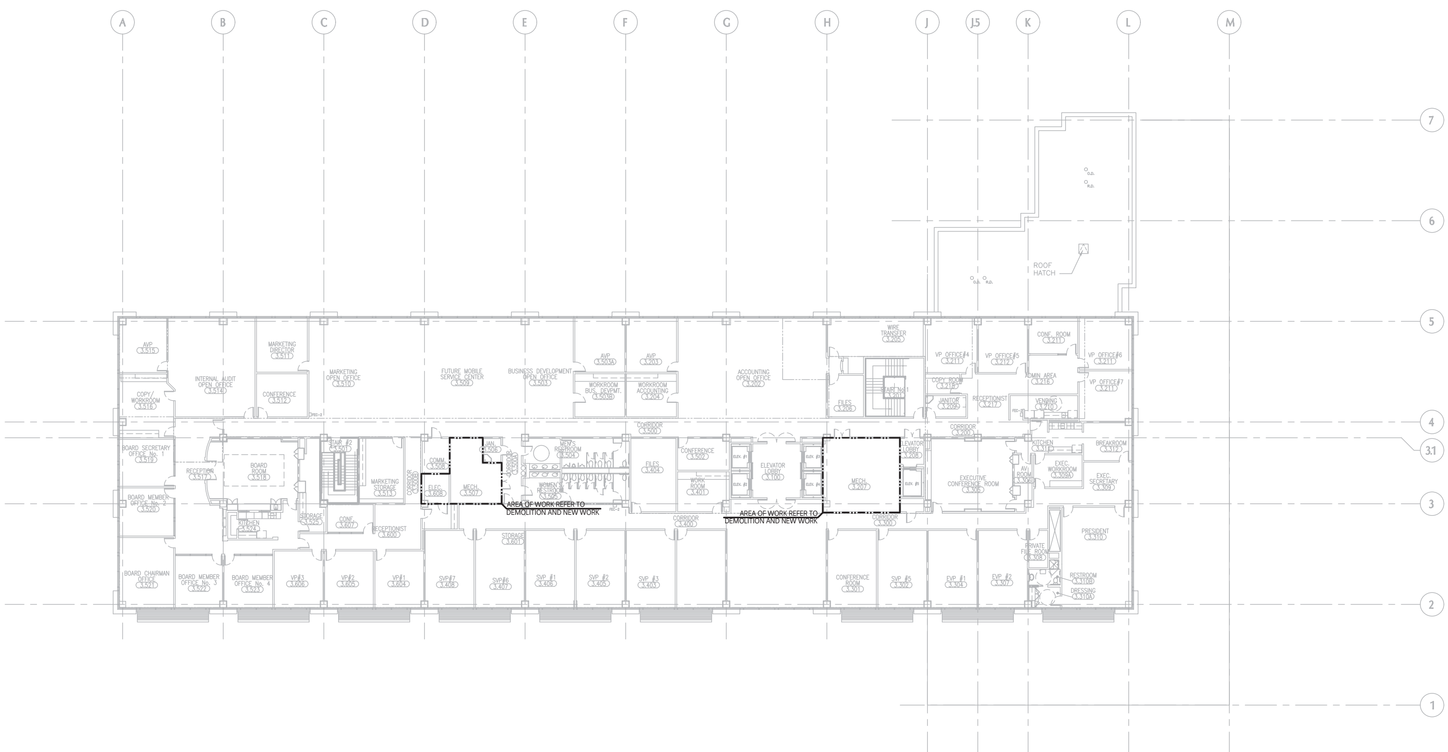
PARTIAL THIRD FLOOR
NEW WORK PLAN

NORTH 4 ELECTRICAL 1/4" = 1'-0"



PARTIAL THIRD FLOOR
NEW WORK PLAN

NORTH 5 ELECTRICAL 1/4" = 1'-0"



THIRD FLOOR
NEW WORK PLAN

NORTH 1 ELECTRICAL 1/16" = 1'-0"

ELECTRICAL DEMOLITION NOTES, SHEET E-106:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. REMOVE DISCONNECT AND ASSOCIATED ELECTRICAL COMPONENTS. EXISTING CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
2. CAREFULLY REMOVE AND DISCONNECT EXISTING DUCT SMOKE DETECTOR. EXISTING DUCT SMOKE DETECTOR MAY BE REUSED. REFER TO NEW WORK. COORDINATE WITH EXISTING FIRE ALARM SYSTEM.
3. REMOVE EXISTING ELECTRICAL CONNECTION TO HVAC EQUIPMENT BEING REPLACED. EXISTING DISCONNECT SWITCH AND CONDUIT TO REMAIN IF SUITABLE FOR NEW WORK. REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK PLAN.
4. REMOVE EXISTING FIRE ALARM RELAY. EXISTING WIRING TO REMAIN TO SERVE NEW. REFER TO NEW WORK.

GENERAL NOTES:

1. REFER TO ELECTRICAL CONNECTION SCHEDULE SHEET E-201
2. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
3. PROVIDE U.L. LISTED FIRE STOP SYSTEMS AT ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED PARTITIONS. SEAL AROUND CONDUIT PENETRATIONS THROUGH NON-RATED PARTITIONS WITH JOINT COMPOUND OR GROUT.
4. COORDINATE THE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

ELECTRICAL NOTES, SHEET E-106:

1. PROVIDE OUTLET AND CONNECTION AS REQUIRED FOR MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL. REFER TO ELECTRICAL CONNECTION SCHEDULE ON SHEET E-201.
2. PROVIDE DUCT SMOKE DETECTORS ON SUPPLY AND RETURN OF AIR HANDLING UNIT. EXISTING DETECTORS MAY BE REUSED IF IN GOOD CONDITION. RECONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
3. PROVIDE NEW FIRE ALARM RELAY. CONNECT TO EXISTING FIRE ALARM SYSTEM, AS REQUIRED.
4. REMOVE EXISTING BREAKER SERVING AHU-3-1 AND PROVIDE NEW 80A/3P MINIMUM 42KAIC CIRCUIT BREAKER. REMOVE EXISTING BREAKER SERVING AHU-3-2 AND PROVIDE NEW 50A/3P MINIMUM 42KAIC CIRCUIT BREAKER.

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SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

SHEET TITLE:

THIRD FLOOR
ELECTRICAL PLANS

SHEET NO.:

E-106

GENERAL ELECTRICAL AND DEMOLITION NOTES: (APPLY TO ALL SHEETS)

1. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE TO CRITICALLY EXAMINE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, AND TO VERIFY EXACT LOCATIONS, SIZES AND QUANTITY IF ITEMS WHICH ARE TO BE REMOVED, RELOCATED, AND ADDED. SUBMITTAL OF CONTRACTOR'S BID SHALL SIGNIFY CONTRACTOR'S WILLINGNESS TO COMPLY WITH THE OWNER'S REQUIREMENTS; DESIGN AND SPECIFICATION; AND CONTRACTOR'S ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOSS OR DAMAGE TO THE EXISTING FACILITIES AND SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING SUCH LOSS OR DAMAGE. THE CONTRACTOR SHALL SEND PROPER NOTICES AND RECEIVE WRITTEN PERMISSION FROM THE OWNER TO ENTER EXISTING AREAS. BEFORE BEGINNING WORK IN EXISTING AREAS THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS AND PERFORM OTHER SERVICES REQUIRED FOR THE CARE, PROTECTION, AND IN SERVICE MAINTENANCE OF ALL ELECTRICAL, COMMUNICATION, PLUMBING, HEATING, AIR CONDITIONING, AND VENTILATING SERVICES FOR NEW AND EXISTING FACILITIES. THE CONTRACTOR SHALL ERECT TEMPORARY BARRICADES WITH NECESSARY SAFETY DEVICES, TO PROTECT PERSONNEL FROM INJURY, REMOVING ALL SUCH TEMPORARY PROTECTION UPON COMPLETION OF THE WORK.
3. THE CONTRACTOR SHALL PROVIDE TEMPORARY OR NEW SERVICES TO EXISTING FACILITIES AS REQUIRED TO MAINTAIN THEIR PROPER OPERATION WHEN NORMAL SERVICES ARE DISRUPTED AS A RESULT OF THE WORK BEING ACCOMPLISHED UNDER THIS PROJECT.
4. WHERE EXISTING CONSTRUCTION IS REMOVED TO PROVIDE WORKING AND EXTENSION ACCESS TO EXISTING UTILITIES, THE CONTRACTOR SHALL REMOVE DOORS, PIPING, CONDUIT, OUTLET BOXES, WIRING LIGHT FIXTURES, AIR CONDITIONING DUCTWORK, AND EQUIPMENT, ETC. TO PROVIDE THIS ACCESS AND SHALL REINSTALL SAME UPON COMPLETION OF WORK.
5. WHERE PARTITIONS, WALLS, FLOORS, OR CEILINGS OF EXISTING CONSTRUCTION ARE INDICATED TO BE REMOVED, THE CONTRACTOR SHALL REMOVE AND REINSTALL IN LOCATIONS APPROVED BY THE ENGINEER OR OWNER'S REPRESENTATIVE, ALL DEVICES REQUIRED FOR THE OPERATION OF THE ELECTRICAL SYSTEMS INSTALLED IN THE EXISTING CONSTRUCTION. THIS IS TO INCLUDE BUT IS NOT LIMITED TO TEMPERATURE CONTROL SYSTEM DEVICES, ELECTRICAL SWITCHES, RELAYS, FIXTURES, PIPING, CONDUIT, SECURITY, ETC.
6. THE CONTRACTOR SHALL MODIFY, REMOVE, AND RELOCATE ALL MATERIALS AND ITEMS SO INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW FACILITIES. ALL REMOVALS AND/OR DISMANTLING SHALL BE CONDUCTED IN A MANNER AS TO PRODUCE MAXIMUM SALVAGE. MATERIALS AND ITEMS SCHEDULED FOR RELOCATION AND WHICH ARE DAMAGED DURING DISMANTLING OF REASSEMBLY OPERATIONS SHALL BE REPAIRED AND RESTORED TO THE APPROVAL OF THE OWNER, NATIONAL & LOCAL AGENCIES. THE CONTRACTOR MAY SUBSTITUTE NEW MATERIALS AND ITEMS OF LIKE DESIGN AND QUALITY IN LIEU OF MATERIALS AND ITEMS TO BE RELOCATED, IF APPROVED BY THE OWNER.
7. ALL ITEMS WHICH ARE TO BE RELOCATED SHALL BE CAREFULLY REMOVED IN REVERSE TO ORIGINAL ASSEMBLY OR PLACEMENT AND PROTECTED UNTIL RELOCATED. THE CONTRACTOR SHALL CLEAN, REPAIR AND PROVIDE ALL NEW MATERIALS, FITTINGS, AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATION AND TO RESTORE THE ITEMS TO GOOD OPERATIVE ORDER. ALL RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE WORK AND IN ACCORDANCE WITH STANDARD PRACTICE OF THE TRADES INVOLVED.
8. FEEDERS AND WIRING TO ITEMS TO BE REMOVED, SALVAGED, OR RELOCATED SHALL BE REMOVED TO POINTS AS INSTRUCTED ON THE DRAWINGS, SPECIFIED, OR ACCEPTABLE TO THE OWNER. FEEDERS AND WIRING NOT SCHEDULED FOR REUSE SHALL BE REMOVED TO THE POINTS AT WHICH REUSE IS TO BE CONTINUED OR SERVICE IS TO REMAIN. SUCH SERVICES SHALL BE SEALED, CAPPED, OR OTHERWISE TIED OFF OR CONNECTED INTO THE EXISTING FACILITIES IN SUCH A MANNER AS TO RESULT IN MINIMUM INTERRUPTION OF SERVICES TO ADJACENT OCCUPIED AREAS. SERVICES TO EXISTING AREAS OR FACILITIES WHICH MUST REMAIN IN OPERATION DURING THE CONSTRUCTION PERIOD SHALL NOT BE INTERRUPTED WITHOUT PRIOR SPECIFIC WRITTEN APPROVAL OF THE OWNER.
9. SALVAGE ITEMS AND MATERIALS SHALL REMAIN THE PROPERTY OF THE OWNER AND AS PART OF THIS CONTRACT, THE CONTRACTOR SHALL DELIVER THE ITEMS THE OWNER WISHES TO KEEP TO A DESTINATION AS DIRECTED BY THE OWNER. ALL OTHER ITEMS NOT REQUESTED BY THE OWNER SHALL BE DISPOSED OF WITH PRIOR VERIFICATION OF THE OWNER.
10. WHERE EXTENSION OF AN EXISTING CIRCUIT IS REQUIRED, CONDUIT AND WIRE SHALL BE EXTENDED FROM THE ITEM'S EXISTING LOCATION TO ITS NEW LOCATION. CONDUIT SHALL BE ROUTED CONCEALED SO AS NOT TO INTERFERE WITH THE USE, OR MAR THE ESTHETICS OF THE AREA.
11. ITEMS OF EQUIPMENT, RECEPTACLES, LIGHT FIXTURES, MOTORS, ETC., SHOWN TO BE REMOVED SHALL HAVE ITS ASSOCIATED CIRCUITRY REMOVED BACK TO THE PROTECTIVE DEVICE IN THE PANEL, SWITCHBOARD, ETC., EXCEPT AS OTHERWISE MENTIONED BY NOTE 13.
    - A. ASSOCIATED CIRCUITRY SHALL BE DEFINED TO INCLUDE ALL CONDUIT, CONDUCTORS, BOXES, WIRING DEVICES, COVERPLATES LAMPS, FIXTURES, WIREWAYS, SWITCHES, STARTERS, ETC., WHICH ARE ASSOCIATED WITH THE ITEM SHOWN TO BE REMOVED.
    - B. THE PROTECTIVE DEVICE SHALL REMAIN AS AN INTEGRAL PART OF THE EXISTING PANEL, SWITCHBOARD, ETC., AND SHALL BE LABELED AS A SPARE OR BE USED FOR NEW CIRCUITRY AS SHOWN OR REQUIRED.
    - C. WHERE CONDUIT, ASSOCIATED WITH AN ITEM INDICATED TO BE REMOVED, IS IN AN INACCESSIBLE AREA, SUCH AS ENCASED IN CONCRETE, THIS INACCESSIBLE CONDUIT ONLY SHALL BE ABANDONED IN PLACE. ALL CONDUCTORS SHALL BE REMOVED, THE CONDUIT SHALL BE SEALED, CAPPED OR OTHERWISE TERMINATED IN A SAFE MANNER ACCEPTABLE TO THE OWNER, OR AS OTHERWISE STATED IN ITEM 12D BELOW.
    - D. WHERE SUCH INACCESSIBLE CONDUIT ENDS OR MUST BE TERMINATED IN FINISHED SPACE, THE CONDUIT OR J-BOX SHALL BE REMOVED TO BELOW THE SURFACE OF FINISHED SURFACE OF WALL, CEILING OR FLOOR, THE VOID SHALL BE FILLED WITH NON-SHRINKING GROUT THEN RESURFACED AND REFINISHED TO MATCH SURROUNDING SURFACES. CONDUIT BELOW GRADE SHALL BE TERMINATED 12" BELOW FINISH GRADE AND ABANDONED IN PLACE.
12. WHERE ONLY A PORTION OF A CIRCUIT'S LOAD IS INDICATED TO BE REMOVED, ONLY THAT PORTION ASSOCIATED WITH THE REMOVED DEVICE SHALL BE REMOVED TO A POINT WHERE THE REMAINING LOAD IS ACTIVE AND IN A GOOD OPERATING CONDITION.
13. FACILITIES NOT INDICATED OR NOT INDICATED TO BE REMOVED SHALL REMAIN IN SERVICE EXCEPT:
    - A. FACILITIES IN WALLS AND PARTITIONS BEING REMOVED SHALL BE REMOVED.
    - B. FACILITIES WHICH INTERFERE WITH THE INSTALLATION OF NEW PARTITIONS SHALL BE RELOCATED AS REQUIRED TO ACCOMMODATE THE NEW PARTITIONING.
    - C. OUTLETS AND CIRCUITRY SERVING FACILITIES OR EQUIPMENT TO BE REMOVED SHALL BE REMOVED OR ABANDONED.
    - D. WHERE WIRING SERVING FACILITIES TO REMAIN PASSES THRU REMOVED OUTLETS, REUSE OUTLET IN PLACE AS A JUNCTION BOX OR RELOCATE WIRING AS REQUIRED. ROUTE ALL CONDUIT AND CONDUCTORS CONCEALED IN BUILDING CONSTRUCTION, WHERE POSSIBLE.
    - E. REMOVE ASSOCIATED ELECTRICAL FACILITIES INCLUDING CONDUIT AND CONDUCTORS SERVING EQUIPMENT BEING REMOVED.
14. PROVIDE NEW PANELBOARD DIRECTORIES FOR ALL THE EXISTING PANELBOARDS, WHETHER SHOWN ON THE DRAWINGS OR NOT, WHICH SHALL REFLECT ALL THE NEW NUMBERS ASSIGNED TO ROOMS BY THIS PROJECT.
15. WHERE CONDUIT AND CONDUCTORS ARE INDICATED TO BE REMOVED, CONDUIT SHALL BE REMOVED TO POINT OF CONCEALMENT AND WIRING REMOVED ENTIRELY. PROVIDE BLANK COVERPLATES WHERE REQUIRED.

GENERAL NOTES (APPLY TO ALL SHEETS):

1. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE TO EXAMINE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, AND TO VERIFY EXACT LOCATIONS, SIZES AND QUANTITIES OF ITEMS WHICH ARE TO BE REMOVED, RELOCATED, OR ADDED. SUBMITTAL OF A BID SHALL SIGNIFY WILLINGNESS TO COMPLY WITH THE OWNER'S REQUIREMENTS; THE DESIGN AND SPECIFICATIONS; AND ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY OR NEW SERVICES TO EXISTING FACILITIES AS REQUIRED TO MAINTAIN THEIR PROPER OPERATION WHEN NORMAL SERVICES ARE DISRUPTED AS A RESULT OF THE WORK BEING ACCOMPLISHED UNDER THIS PROJECT.
3. WHERE EXISTING CONSTRUCTION IS REMOVED TO PROVIDE WORKING AND EXTENSION ACCESS TO EXISTING UTILITIES, THE CONTRACTOR SHALL REMOVE DOORS, PIPING, CONDUIT, OUTLET BOXES, WIRING LIGHT FIXTURES, AIR CONDITIONING DUCTWORK, AND EQUIPMENT, ETC. TO PROVIDE ACCESS AND SHALL REINSTALL SAME UPON COMPLETION OF WORK.
4. THE CONTRACTOR SHALL MODIFY, REMOVE, AND RELOCATE ALL MATERIALS AND ITEMS SO INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW FACILITIES. ALL REMOVALS TO BE RELOCATED SHALL BE CONDUCTED IN A MANNER AS TO NOT DAMAGE. MATERIALS AND ITEMS SCHEDULED FOR RELOCATION AND WHICH ARE DAMAGED DURING DISMANTLING OR REASSEMBLY OPERATIONS SHALL BE REPAIRED AND RESTORED TO THE ACCEPTANCE OF THE OWNER. THE CONTRACTOR MAY SUBSTITUTE NEW MATERIALS AND ITEMS OF LIKE DESIGN AND QUALITY IN LIEU OF MATERIALS AND ITEMS TO BE RELOCATED, IF ACCEPTABLE TO THE OWNER.
5. ALL ITEMS WHICH ARE TO BE RELOCATED SHALL BE CAREFULLY REMOVED IN REVERSE TO ORIGINAL ASSEMBLY OR PLACEMENT AND PROTECTED UNTIL RELOCATED. THE CONTRACTOR SHALL CLEAN, REPAIR AND PROVIDE ALL NEW MATERIALS, FITTINGS, AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATION AND TO RESTORE THE ITEMS TO GOOD OPERATIVE ORDER.
6. FEEDERS AND WIRING TO ITEMS TO BE REMOVED, SALVAGED, OR RELOCATED SHALL BE REMOVED TO POINTS INDICATED ON THE DRAWINGS, SPECIFIED, OR ACCEPTABLE TO THE OWNER. FEEDERS AND WIRING NOT SCHEDULED FOR REUSE SHALL BE REMOVED TO THE POINTS AT WHICH REUSE IS TO BE CONTINUED OR SERVICE IS TO REMAIN. SUCH SERVICES SHALL BE SEALED, CAPPED, OR OTHERWISE TIED OFF OR CONNECTED INTO THE EXISTING FACILITIES IN SUCH A MANNER AS TO RESULT IN MINIMUM INTERRUPTION OF SERVICES TO ADJACENT OCCUPIED AREAS. SERVICES TO EXISTING AREAS OR FACILITIES WHICH MUST REMAIN IN OPERATION DURING THE CONSTRUCTION PERIOD SHALL NOT BE INTERRUPTED WITHOUT PRIOR SPECIFIC WRITTEN APPROVAL OF THE OWNER.
7. SOME ITEMS AND MATERIALS BEING REMOVED MAY REMAIN THE PROPERTY OF THE OWNER AND AS PART OF THIS CONTRACT, THE CONTRACTOR SHALL DELIVER ITEMS THE OWNER WISHES TO KEEP TO A DESTINATION ON THE PROPERTY AS DIRECTED BY THE OWNER. ALL OTHER ITEMS NOT REQUESTED BY THE OWNER SHALL BE DISPOSED OF WITH PRIOR VERIFICATION OF THE OWNER.
8. WHERE EXTENSION OF AN EXISTING CIRCUIT IS REQUIRED, CONDUIT SHALL BE ROUTED CONCEALED SO AS NOT TO INTERFERE WITH THE USE, OR MAR THE ESTHETICS OF THE AREA.
9. PROVIDE NEW PANELBOARD DIRECTORIES FOR ALL EXISTING PANELBOARDS, WHETHER INDICATED ON THE DRAWINGS OR NOT, NEW DIRECTORIES SHALL REFLECT ALL THE NEW CIRCUITRY AND ROOM NAMES AND NUMBERS PER THIS PROJECT.
10. WHERE CONDUIT AND CONDUCTORS ARE INDICATED TO BE REMOVED, CONDUIT SHALL BE REMOVED TO POINT OF CONCEALMENT AND WIRING REMOVED ENTIRELY. PROVIDE BLANK COVERPLATES WHERE REQUIRED.
11. SEE MECHANICAL PLANS FOR LOCATION OF ALL MECHANICAL EQUIPMENT. COORDINATE ELECTRICAL CONNECTIONS WITH ACTUAL EQUIPMENT LOCATIONS.
12. ALL CONDUIT PENETRATIONS OF AIR HANDLING UNIT ENCLOSURES SHALL BE FILLED WITH A LISTED SEALANT TO PREVENT MOISTURE ACCUMULATION, IN ACCORDANCE WITH NEC 2017, ARTICLE 300.7.
13. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND EXISTING ELECTRICAL PANELS, WHERE CIRCUITS ARE ADDED, REMOVED OR MODIFIED. INDICATE THE EQUIPMENT NAME, TYPE AND LOCATION FOR EACH CIRCUIT, IN ACCORDANCE WITH NEC 2017, ARTICLE 408.4. SECURELY AFFIX CIRCUIT DIRECTORIES TO THE INSIDE SURFACE OF THE PANEL DOOR, AS SPECIFIED.
14. ALL CIRCUIT FEEDS REMOVED FROM EQUIPMENT BACK TO THE SOURCE PANEL SHALL LABEL THE CIRCUIT BREAKER AS SPARE AND UPDATE THE CIRCUIT DIRECTORY INDEX.
15. ALL FACILITIES ARE NOT SHOWN FOR CLARITY. FACILITIES NOT SHOWN SHALL REMAIN IN SERVICE.
16. ALL CIRCUIT BREAKERS SHALL BE PROVIDED AT AN AIC RATING THAT MEETS OR EXCEEDS THE EXISTING AND/OR NEW EQUIPMENT TO BE INSTALLED. CONTRACTOR SHALL FIELD VERIFY EQUIPMENT AS REQUIRED.
17. CONTRACTOR SHALL PROVIDE PROPERLY SIZED CIRCUIT BREAKERS FOR DESIGNATED PANELS WITH AVAILABLE SPACES FOR NEW FEEDS AS INDICATED.
18. CONTRACTOR SHALL RELOCATE AND/OR REROUTE ELECTRICAL CONDUITS, J-BOXES, ETC. AS REQUIRED IN ORDER TO INSTALL NEW EQUIPMENT.
19. EACH BRANCH CIRCUIT, INCLUDING MULTIPLE PHASE BRANCH CIRCUITS IN A COMMON RACEWAY, SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR OF THE SAME SIZE AS THE CORRESPONDING BRANCH CIRCUIT PHASE CONDUCTOR.
20. ALL ABOVE-CEILING LOW VOLTAGE CABLING SHALL EITHER BE PLENUM-RATED OR INSTALLED IN LISTED CONDUIT, IN ACCORDANCE WITH 2017 NEC ARTICLE 300.22 (C) (1). CABLING THAT IS NOT INSTALLING IN CONDUIT SHALL BE SUPPORTED BY J-HOOKS SPACED NOT MORE THAN 5 FT ON CENTER. IN NO CASE SHALL CABLING BE INSTALLED IN CONTACT WITH A CEILING SYSTEM.
21. MAINTAIN MINIMUM 24" SEPARATION BETWEEN ALL LOW VOLTAGE CABLE PATHWAYS AND ELECTRICAL FEEDERS/BRANCH CIRCUITS, WHEREVER THEY ARE PARALLEL. FEEDERS/BRANCH CIRCUITS MAY CROSS PERPENDICULAR TO CABLE PATHWAY WITH MINIMUM 4" SEPARATION.
22. ALL PENETRATIONS OF EXISTING OR NEW FIRE-RATED BARRIERS OR PARTITIONS SHALL BE FIRE-CAULKED TO MAINTAIN FIRE SPREAD RATING OF RESPECTIVE WALL.

ELECTRICAL SYMBOLS LEGEND

MARK	ITEM
A	RECEPTACLE, DUPLEX (A=ABOVE COUNTER)
T	RECEPTACLE, TAMPER RESISTANT DUPLEX
IG	RECEPTACLE, DUPLEX W/ ISOLATED GROUND (A=ABOVE COUNTER)
C	RECEPTACLE, DUPLEX CORRIDOR SEE SPECIFICATIONS SERVE WITH #10CONDUCTORS MIN.
A	RECEPTACLE, G.F.I. DUPLEX (A=ABOVE COUNTER)
W.P.	RECEPTACLE, WEATHERPROOF
A	RECEPTACLE, QUADRUPLEX (A=ABOVE COUNTER)
IG	RECEPTACLE, QUADRUPLEX W/ ISOLATED GROUND (A=ABOVE COUNTER)
	SIMPLEX RECEPTACLE
	RECEPTACLE DUPLEX MOUNTED IN OUTLET BOX IN BASE OF PROJECTOR CEILING TRAY
	SPECIAL PURPOSE OUTLET
G	GROUND BAR AS NOTED ON DRAWING AND SPECIFICATIONS
TS	TIMECLOCK
PB	PANELBOARD, 120/208 VOLT (LETTERS IDENTIFY PANEL)
HB	PANELBOARD, 277/480 VOLT (LETTERS IDENTIFY PANEL)
T-LA	DRY TYPE TRANSFORMER. REFER TO TRANSFORMER SCHEDULE.
	DISCONNECT SWITCH
J	JUNCTION BOX
M 2	MOTOR CONNECTION. REFER TO ELECTRICAL CONNECTION SCHEDULE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
VFD	VARIABLE FREQUENCY DRIVE
SPD	SURGE PROTECTIVE DEVICE. REFER TO SPECIFICATIONS.
FACP	FIRE ALARM CONTROL PANEL
F	FIRE ALARM MANUAL PULL STATION
L	FIRE ALARM, STROBE LIGHT ONLY
H/L	FIRE ALARM SPEAKER AND STROBE LIGHT
F	FIRE ALARM HORN, WEATHERPROOF. HEIGHT AS DIRECTED
S	SMOKE DETECTOR, CEILING MOUNTED
S D	DUCT SMOKE DETECTOR. INSTALL AT AHU'S & SMOKE/FIRE DAMPERS.
H	HEAT DETECTOR
CO	CARBON MONOXIDE DETECTOR

ELECTRICAL CONNECTION SCHEDULE

MARK	EQUIPMENT SERVED	LOAD	VOLTS/PHASE	FEEDER	NOTES	CONTROL TYPE	CONTROL LOCATION
CT-1	COOLING TOWER	20HP	480/3	B	3		SEE MECHANICAL
CT-2	COOLING TOWER	20 HP	480/3	B	3		SEE MECHANICAL
CH-1	WATER COOLED CHILLER	259 MCA	480/3	D	1		SEE MECHANICAL
CH-2	WATER COOLED CHILLER	259 MCA	480/3	D	1		SEE MECHANICAL
P-1	COND. WATER PUMP	15 HP	480/3	G	3		SEE MECHANICAL
P-2	COND. WATER PUMP	15 HP	480/3	G	3		SEE MECHANICAL
P-3	CHILLED WATER PUMP	25 HP	480/3	B	4		SEE MECHANICAL
P-4	CHILLED WATER PUMP	25 HP	480/3	B	4		SEE MECHANICAL
AHU-S-1	AIR HANDLING UNIT	67.4 MCA	480/3	E	5		SEE MECHANICAL
AHU-1-1	AIR HANDLING UNIT	38.5 MCA	480/3	C	2		SEE MECHANICAL
AHU-1-2	AIR HANDLING UNIT	38.5 MCA	480/3	C	2		SEE MECHANICAL
AHU1-4	AIR HANDLING UNIT	28.9 MCA	480/3	A	2		SEE MECHANICAL
AHU-2-1	AIR HANDLING UNIT	38.5 MCA	480/3	C	2		SEE MECHANICAL
AHU-2-2	AIR HANDLING UNIT	38.5 MCA	480/3	C	2		SEE MECHANICAL
AHU-2-3	AIR HANDLING UNIT	28.9 MCA	480/3	A	2		SEE MECHANICAL
AHU-3-1	AIR HANDLING UNIT	48.1 MCA	480/3	F	5		SEE MECHANICAL
AHU-3-2	AIR HANDLING UNIT	28.9 MCA	480/3	A	2		SEE MECHANICAL

GENERAL NOTES:

- LOAD INDICATED IS NOMINAL. PROVIDE CONDUIT, CONDUCTORS, CIRCUIT BREAKERS, SWITCHES, FUSES, STARTERS, ETC. AS REQUIRED BY ACTUAL EQUIPMENT FURNISHED.

ELECTRICAL CONNECTION NOTES:

1. CONNECT TO CIRCUIT INDICATED THRU 400A/3P NON-FUSED DISCONNECT SWITCH, IN SIGHT OF AND NOT MORE THAN 40 FT FROM EQUIPMENT SERVED. DISCONNECT ENCLOSURE SHALL BE SUITABLE FOR THE ENVIRONMENT.
2. CONNECT TO CIRCUIT INDICATED THRU 60A/3P NON-FUSED NEC DISCONNECT, IN SIGHT OF AND NOT MORE THAN 40 FT FROM EQUIPMENT SERVED. DISCONNECT ENCLOSURE SHALL BE SUITABLE FOR THE ENVIRONMENT
3. CONNECT TO CIRCUIT INDICATED THRU 60A/3P, NEMA 3R, NON-FUSED DISCONNECT SWITCH ADJACENT TO EQUIPMENT AND THRU VARIABLE SPEED DRIVE IN MECHANICAL ROOM. DISCONNECT ON EQUIPMENT SHALL HAVE AUXILIARY CONTACTS TO DE-ENERGIZE VARIABLE SPEED DRIVE WHEN IN "OFF" POSITION.
4. CONNECT TO CIRCUIT INDICATED THRU VARIABLE SPEED DRIVE WITH DISCONNECT, IN SIGHT OF AND NOT MORE THAN 40 FT. FROM EQUIPMENT SERVED. VARIABLE SPEED DRIVE FURNISHED UNDER DIVISION 23, INSTALLED AND CONNECTED UNDER DIVISION 26.
5. CONNECT TO CIRCUIT INDICATED THRU 100A/3P NON-FUSED NEC DISCONNECT, IN SIGHT OF AND NOT MORE THAN 40 FT. FROM EQUIPMENT SERVED. DISCONNECT ENCLOSURE SHALL BE SUITABLE FOR THE ENVIRONMENT.

FEEDER SCHEDULE:

- A 3-#6, 1-#10 GROUND IN 3/4" CONDUIT.
- B 3-#4, 1-#4 GROUND IN EXISTING 1-1/2" CONDUIT
- C 3-#4, 1-#10 GROUND IN EXISTING 1-1/2" CONDUIT.
- D 3-#500KCMIL, 1-#3 GROUND IN 3" CONDUIT.
- E 3-#2, 1-#6 GROUND IN EXISTING CONDUIT.
- F 3-#3, 1-#8 GROUND IN EXISTING CONDUIT.
- G 3-#6, 1-#6 GROUND IN 3/4" CONDUIT.

ELECTRICAL LOAD ANALYSIS

[illegible]

PANELBOARD: HGE

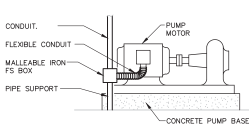
LOCATION: ELECTRICAL ROOM

[illegible]

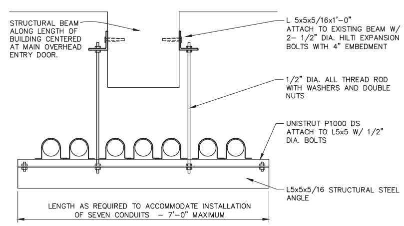
PANELBOARD: HG

LOCATION: ELECTRICAL ROOM

[illegible]



1 PUMP MOTOR CONNNECTION DETAIL
ELECTRICAL — NO SCALE



2 CONDUIT SUPPORT
ELECTRICAL — NO SCALE

DRAWN: JM
CHECKED: DS
DATE: 2021 JULY 16
PROJECT NO.: 2021.013

REVISIONS:

ESTD ★ 1970
SILBER & ASSOCIATES
8610 Broadway, Suite 415
San Antonio, Texas 78217
State of Texas Firm Registration No. F-19468

SECURITY SERVICE FEDERAL CREDIT UNION

LA CANTERA CENTRAL PLANT CHILLER UPDATE

San Antonio, Texas

SHEET TITLE:
GENERAL NOTES, LEGEND, SCHEDULES - ELECTRICAL

SHEET NO.:
E-201

TEXAS CHILLER SYSTEMS

Operations Team

Special Projects

Our special projects team is comprised of pipefitters, controls technicians, sheet metal workers, electricians, HVAC service technicians, and professional project managers.

The Project Managers have on their team assistant PMs, schedulers, & billing coordinator to ensure every project is managed fiscally, while ensuring the schedule stays on track. The PMs are responsible for creating all submittals, weekly construction schedule with a 3-week look ahead, schedule of values, certification of payroll, and billing requirements.

Our projects team is led by Ben Emmert, VP of Projects, Jordan Rittimann, Director of Projects, Weston Nickel, 1 of 3 Project Managers, Chris Quijano, Superintendent, James Brooks, Assistant Project Manager, & Mary Delgado, Projects Billing Coordinator. This team will ensure the project flows smoothly with limited interruptions to your mission.

Resumes are attached for your review.

Jordan Rittimann
210.260.0127
jordan.rittimann@texaschillersystems.com

Professional Bio

Jordan Rittimann

Director Of Operations

EDUCATION & TRAINING:

Plumbing Local 142
14 years industry experience

PROFESSIONAL LICENSES:

Texas Plumbing License
OSHA 30

PROFESSIONAL HISTORY:

Garrett Mechanical Plumbing Foreman 2013-2015
Graham Plumbing Foreman 2015-2017
Gowan Garrett Mech. Superintendent / PM 2017 – 2023
Texas Chiller Systems PM / Director of Ops. 2023 - Current

BACKGROUND:

I have been a member of LU 142 since 2009 where my I started my primary focus as a union plumber. During my 4th year of apprenticeship, I was promoted to plumbing foreman for Garrett Mechanical. I remained in this role until 2017 when I became Project Superintendent overseeing both HVAC and Plbg. projects at Garrett Mech. In 2021 I started the project management portion of my career. During the 2nd quarter of 2023 I made a move and joined the team at Texas Chiller Systems as project manager, I have since then accepted the role as Director of Operations.

Throughout my career I have been fortunate to get exposure and be a part of several large-scale high-profile projects, special projects, service, and tenant finish outs. These include hospitals, central plants, k-12 facilities, state & government facilities, and university work.

In addition to holding a Journeyman Plumbing License, I am also well trained and knowledgeable in the field of plumbing applications, codes, regulations, mechanical systems as well as an understanding of controls and electrical systems. Throughout my career I have gained necessary qualities in handling many aspects of construction, including maintaining project schedules, job procurement, document control, coordination, safety practices, budgetary requirements, problem solving and team building.

Jordan Rittimann
210.260.0127
jordan.rittimann@texaschillersystems.com

PAST PROJECTS:

The following is a brief list of projects I have completed or been a part of as Foreman, Superintendent, or as PM.

- UHS Clinical Services Building, San Antonio, TX
- Christus Santa Rosa Children's Hospital, San Antonio, TX
- Northside Independent School District Sports Complex, San Antonio TX
- Edgewood Independent School District Kennedy Band Hall, San Antonio, TX
- Pleasanton Independent School District Elementary School, Pleasanton, TX
- Northside Independent School District Elementary School, San Antonio, TX (x3)
- UTRGV-Rio Grande Valley New Science Building, Edinburg, TX
- TAMU Kingsville New Music Education Building, Kingsville, Tx
- Uvalde Memorial Hospital Uvalde, Tx
- DISA Water Filtration Upgrade San Antonio, Tx
- UT Health In-Patient Facility Parking Garage San Antonio, Tx
- HOOPS Bakerly Production Facility San Antonio, Tx
- Westover Hills Baptist San Antonio, Tx

WN

WESTON NICKEL

PROJECT MANAGER | TEXAS CHILLER SYSTEMS
WESTON.NICKEL@TEXASCHILLERSYSTEMS.COM

OBJECTIVE

Assist in bidding
Set up and schedule
Man and supervise
Manage man hours and cost
Customer relations

SKILLS

Organization
Quality control
People person
Assertive
Instructional
Communication
Leadership

EXPERIENCE

PROJECT MANAGER • TEXAS CHILLER SYSTEMS • 1/19/2021 – PRESENT
During my career at Texas Chiller Systems I have completed many extensive HVAC projects. These projects have ranged from small 1-day jobs, to several month-long projects. I've done many GSA projects, Army base projects and school projects.

SUPERINTENDENT • TEXAS CHILLER SYSTEMS • 2/4/18 – 1/19/21
During my career at Texas Chiller Systems I ran several projects in San Antonio, surrounding area, and in other city's across the south. I had crews of up to 30 guys. We completed many projects that ranged from underground chill water piping to complete finish outs.

FORMAN • TEXAS CHILLER SYSTEMS • 3/16/15 – 2/4/18
Starting at Texas Chiller Systems and working up the latter I worked on many installs as a fitter/welder also dealing daily with multiple trades and subcontractors.

EDUCATION

HIGH SCHOOL DIPLOMA • 5/30/08 • MEDINA VALLEY HIGH SCHOOL, CASTROVILLE TX
During my 4-years at Medina Valley High School I was very involved in sports, ag science and FFA. I was an FFA officer and competed in several FFA stock shows and judging competitions.

EMAIL
TWITTER HANDLE
TELEPHONE
LINKEDIN URL

WN

WESTON NICKEL

1BPROJECT MANAGER | TEXAS CHILLER SYSTEMS
WESTON.NICKEL@TEXASCHILLERSYSTEMS.COM

NOTABLE RECENT PROJECTS

GSA PROJECTS

Mahon Federal Building, Fort Worth Texas – September 2018
Cabell Federal Building, Dallas Texas – October 2017
Texarkana Federal Courthouse, Texarkana Texas – July 2017
Jacob Trieber Federal Building, Helena Arkansas – October 2016
Jack Brooks Federal Building, Beaumont Texas – April 2016
SSFCU La Cantera, San Antonio Texas – 2/28/23
SAISD Ball, Stuart, Travis, Crocket, Maverick – 8/1/22
Connally Memorial Hospital, Floresville Texas – 4/19/23
SAISD Hot Wells – 4/15/24
SAISD Margil – 4/15/24
Hangar 63 Randolph AFB Design Build – 10/1/24
Lackland Dorm Renovation Design Build – 3/1/25

CQ

CHRIS QUIJANO

SUPERINTENDENT | TEXAS CHILLER SYSTEMS
CHRISTOPHER.QUIJANO@TEXASCHILLERSYSTEMS.COM

OBJECTIVE

Manage a schedule
Meet deadlines
Man and supervise.
Manage man hours
Customer relations
Customer sales

SKILLS

I have high standards and withhold a standard of quality control. I'm very much a people person, I hold several welding, safety and operator's certificates.

EXPERIENCE

SUPERINTENDENT • TEXAS CHILLER SYSTEMS • 10/9/18 – PRESENT
During my career here with Texas Chiller Systems I have completed many extensive piping projects. These projects have ranged from small 1-day jobs, to several month-long projects. In this role I've also completed many GSA, numerous school, government and private projects.

FORMAN • HILBIG SERVICES • 6/1/16 – 10/9/18
During my career as s foreman for Hilbig Services I was appointed to oversee many projects at bottling, packaging and processing plants all over the state. I had crews of up to 15 men. We completed many piping and plumbing projects.

EDUCATION

UA APPRENTICESHIP • 6/8/1999- 6/2/04 • UNITED ASSOCIATION OF PLUMBERS AND PIPE FITTERS APPRENTICESHIP PROGRAM
During the 5-year apprenticeship program I studied many different fields of the plumbing and piping trade. I took plumbing, isometric drawing, welding, pipe fitting, hydronic systems, steam and even basic plumbing. Competed in the annual apprenticeship competition in 2004, in which a single apprentice is sent to a state competition to represent your home union hall as to see where your skill level is compared to other apprentices around the region.

EMAIL
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CHRIS QUIJANO

HIGH SCHOOL DIPLOMA • 5/15/1996 • POTEET HIGH SCHOOL
POTEET, TX

NOTABLE RECENT PROJECTS

GSA PROJECTS

Mahon Federal Building, Fort Worth Texas – September 2018
Cabell Federal Building, Dallas Texas – October 2017
Texarkana Federal Courthouse, Texarkana Texas – July 2017
Jacob Trieber Federal Building, Helena Arkansas – October 2016
Jack Brooks Federal Building, Beaumont Texas – April 2016

TEXAS CHILLER SYSTEMS

Technical Proposal for Coliseum HVAC Design & Installation | RFQ#AF-2025-38

Project Overview

This technical proposal outlines Texas Chiller Systems' comprehensive approach to upgrading the HVAC system for the Coliseum, located at 950 S. Austin, Seguin, Texas. The facility, built in 1977, spans 26,892 square feet and serves as a multi-purpose venue. The proposal focuses on replacing the 2001 Trane RTAC140 chiller (140 tons, R-134A) and the six 1977 air handling units (Units 1–6) with modern, energy-efficient equipment, while integrating Honeywell Controls for enhanced performance. The 2020 Trane CGAM 040F chiller, 2017 Carrier AHU-7, and 2018 Trane AHU-8 are retained and optimized. The proposal includes a detailed design approach, system layout, equipment specifications, energy efficiency strategies, and a comprehensive cost breakdown with itemized pricing for equipment, labor, and materials. Leveraging our expertise in HVAC services, Honeywell Controls integration, and turnkey solutions, we aim to enhance system reliability, occupant comfort, and operational efficiency.

TCS
TEXAS CHILLER SYSTEMS

Comprehensive Design Approach

System Layout

The Coliseum's existing HVAC system includes a mix of equipment, with the 2001 Trane RTAC140 chiller and 1977 AHUs (Units 1–6) being outdated and inefficient. This proposal replaces these components, optimizes the 2020 Trane CGAM 040F chiller, 2017 Carrier AHU-7, and 2018 Trane AHU-8, and integrates advanced controls. The system layout includes:

- **Chiller Plant:** Located on an expanded ground level mechanical pad, the chiller plant includes a new high-efficiency chiller replacing the 2001 Trane RTAC140, paired with the existing 2020 Trane CGAM 040F (40 tons). New pumps support the chilled water system.

- **Air Handling Units (AHUs):** Six new AHUs replace the 1977 Carrier and Cambridge units (Units 1–6: Carrier 39EB18, 28CW1620FA1064, 39ED32, 39ED32, Cambridge SFS20-60, SFS20-60). The new AHUs are integrated with new Honeywell controls. New AHUs are placed in existing mechanical rooms, distributing air via upgraded ductwork.

- **Ductwork and Piping:** Existing ductwork is retrofitted with high-efficiency insulation, and new insulated piping is installed for chilled water circulation, minimizing energy losses.

- **Honeywell Controls:** A Honeywell WebSTAT Building Management System (BMS) provides centralized control, integrating with new and existing equipment (AHU-7, AHU-8, and Trane CGAM chiller) for real-time monitoring of temperature, humidity, and air quality across 15 thermal zones.

- **Zoning:** The facility is divided into 15 thermal zones (e.g., arena, concourses, offices), each equipped with new Variable Air Volume (VAV) boxes and Honeywell thermostats for precise climate control.

The layout ensures compatibility with existing infrastructure, compliance with ASHRAE 90.1 standards, and easy maintenance access, addressing the Coliseum's high-traffic and variable occupancy patterns.

TEXAS CHILLER SYSTEMS

Comprehensive Design Approach Cont.

Equipment Specifications

The proposed system replaces the 2001 Trane RTAC140 chiller and 1977 AHUs with high-efficiency units, retains viable equipment, and upgrades associated components for optimal performance:

Air Cooled Chillers:

- Model: Trane Ascend Air-Cooled Chiller Model ACS (1 unit, replacing Trane RTAC140)
- Capacity: 140 nominal tons
- Efficiency: 15.75 EER at IPLV.IP
- Features: Quiet Operation, low-GWP refrigerant (R-454B), Honeywell Controls compatibility.
- Retained: Trane CGAM 040F (40 tons, 2020, R-410A) remains operational with maintenance and controls integration.

Air Handling Units:

- Model: Custom Air Handlers (4 units)
- Capacity: 2 6,000 CFM & 2 12,000 CFM
- Features: High-efficiency EC motors, MERV 13 filters, Fan Array.

Pumps:

- Model: Bell & Gossett Series e-1510 (2 units)
- Capacity: 500 GPM each
- Features: VFDs for energy-efficient operation.

Honeywell Controls:

- Model: Honeywell WebSTAT BMS
- Features: Cloud-based monitoring, predictive maintenance analytics, integration with occupancy sensors and existing units (AHU-7, AHU-8, Trane CGAM).

Condensing Units:

- Retained: Carrier 40RR01253 (2017, paired with AHU-7) and Trane TWE090D300AA (2018, paired with AHU-8), serviced for compatibility with new BMS.

All equipment complies with local building codes, EPA refrigerant regulations, and ASHRAE standards.

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Comprehensive Design Approach Cont.

Energy Efficiency Strategies

To address the inefficiencies of the 2001 chiller and 1977 AHUs, our design incorporates:

- **Variable Frequency Drives (VFDs):** Installed on the new chiller, cooling tower fans, and pumps to modulate power based on load, reducing energy use by up to 20%.
- **Economizer Mode:** New AHUs utilize free cooling during favorable outdoor conditions, minimizing chiller runtime.
- **Honeywell Controls Optimization:** The BMS adjusts setpoints based on occupancy, event schedules, and weather forecasts, achieving up to 15% energy savings.
- **High-Efficiency Equipment:** The Carrier 19DV chiller and Trane AHUs exceed ASHRAE 90.1 efficiency requirements, replacing low-efficiency 1977 units.
- **Insulation and Sealing:** Retrofitted ductwork and new piping include high-performance insulation to reduce thermal losses, with air-tight seals to prevent leakage.
- **Demand-Controlled Ventilation (DCV):** CO2 sensors integrated with VAV boxes adjust ventilation rates based on occupancy, improving indoor air quality while reducing energy use.
- **Energy Modeling:** Using TRACE 700 software, we've modeled the system to achieve an Energy Use Intensity (EUI) of 45 kBtu/ft²/year, 20% below the baseline for similar facilities

TEXAS CHILLER SYSTEMS

Commitment to Quality

Texas Chiller Systems is committed to delivering a high-performance HVAC system that meets the Coliseum's operational and sustainability goals. By replacing the 2001 chiller and 1977 AHUs, integrating Honeywell Controls, and leveraging energy-efficient equipment, we ensure long-term reliability and cost savings. We adhere to all local codes and ASHRAE standards, backed by our experienced team of licensed professionals.

Address

14829 Bulverde Rd. San Antonio, TX 78247, USA

Website

www.texaschillersystems.com

LinkedIn

Texas Chiller Systems, LLC

We look forward to partnering with you to deliver a modernized HVAC solution for the Coliseum. Please contact us to discuss next steps or request additional details.

Unit Overview

Chiller Model	Ascend (TM) Air-Cooled Chiller Model ACS
Unit Nominal Tonnage	140 Nominal Tons
Refrigeration Capacity	123.2 tons
Cooling Efficiency	9.192 EER (Btu/W-h)
IPLV.IP	15.75 EER (Btu/W-h)
NPLV.IP	14.97 EER (Btu/W-h)
Voltage	460V/60Hz/3Phase
Refrigerant	Refrigerant Charge R-454B
Elevation	0.00 ft
Agency Listing	UL Listed to U.S./Canadian Safety Std
Model Number	ACSA1402

Evaporator Information

Evaporator Application	Standard Cooling (Above 40 Deg F)
Fouling Factor	0.000100 hr-sq ft-deg F/ Btu
Flow Sense Set Point	Flow Switch Set Point 60
Design Flow	294.6 gpm
Evaporator Head Loss	7.37 ft H2O
Strainer Head Loss	3.59 ft
VPF Min Flow	201.2 gpm

Fluid Properties	
Fluid Type	Water
Fluid Freeze Point	32.00 F
Entering Temperature	54.00 F
Leaving Temperature	44.00 F

Condenser Information

Unit Application	Standard Ambient
Condenser Fin Options	Long Life Alloy Aluminum Coil
Number of Fans	8

Temperatures	
Ambient Air Temp.	105.0 F
Saturated Cond - ckt 1	129.31 F
Saturated Cond - ckt 2	129.31 F

Electrical Information

Unit Voltage	460V/60Hz/3Phase
Total Power	160.9 kW
Compressor Starter	Across-The-Line-Starter
Incoming Line Connection	Single Point Unit Power Connection
Incoming Line Connection Type	Terminal Block
Short Circuit Current Rating	Default Short Circuit Rating
FLA - Condenser Fan (each)	3.70 A
MCA	
Single Point Power	297 A
MOP	
Single Point Power	350 A

RLA	
Compressor 1A	54.00 A
Compressor 1B	69.00 A
Compressor 2A	54.00 A
Compressor 2B	69.00 A
LRA	
Compressor 1A X-L LRA	294.00 A
Compressor 1B X-L LRA	389.00 A
Compressor 2A X-L LRA	294.00 A
Compressor 2B X-L LRA	389.00 A

Physical Information

Dimensions		**Weights**		**Charge**	**Circuit 1**	**Circuit 2**
Length	232 in	**Operating**	7897 lb	**Refrigerant**	50.0 lb	50.0 lb
Width	88 in	**Shipping**	7754 lb	**Oil**	3.20 gal	3.20 gal
Height	98 in					

Acoustical Performance

Unit Sound Level	Standard Noise

Sound Power Levels (Lw, in dB, ref1 pW)

Percent Load	**Octave Band Center Frequency (Hz)**								**Overall A-Wtd**
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	

Standard full and part-load rating conditions per AHRI 550/590

Sound Pressure Levels (Lw, in dB, ref1 pW) 10m from center of broad sides of chiller									
Percent Load	Octave Band Center Frequency (Hz)								Overall A-Wtd
	63	125	250	500	1000	2000	4000	8000	

Standard full and part-load rating conditions per AHRI 550/590

Standard Rating Performance and Information for LEED Rating

Refrigerant Charge - ckt 1	50.0 lb
Refrigerant Charge - ckt 2	50.0 lb
Rated Refrigerating Capacity	130.7 tons
Rated Cooling Efficiency	10.59 EER (Btu/W-h)
Rated IPLV	15.75 EER (Btu/W-h)
Refrigerating Capacity	123.2 tons
Cooling Efficiency	9.192 EER (Btu/W-h)
Compressor Power	147.2 kW
Fan Motor Power	13.35 kW

This product meets the minimum efficiency requirements of ASHRAE Standard 90.1 and CANS/CSA C743 for all versions (which are based on AHRI standard rating conditions with water) and, therefore, also meets the LEED "Minimum Energy Performance" prerequisite in the Energy and Atmohphere section.

The LEED Green Building Rating System™, developed by the U.S. Green Building Council, provides indepenent, third-party verification that a building project meets green building and performance measures

Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

Trane Select Assist Version Number: 294
Data Generation Date: 5/1/2025

THERMAL CORPORATION
A division of Nailor International Inc.

Unit Scope

Project: Seguin Expo Hall

Representative:

Date: Apr 05 2024

Unit Construction: TS-2

Unit Tag: AHU-B

Unit Details

Supply CFM:	12000 cfm @ 2.86 TSP		
Unit Altitude:	0 ft above sea level.		
Aprox. Unit Dimensions (LxWxH):	78" x 117" x 54"	**Approx. Unit Weight:**	2085 lbs

Indoor Unit Constructed of 2" Thick Double Wall Panels With 2" - Injected Foam Insulation.
Casing Finsih to be Pre-Painted Grey
Outer Casing Material Shall Be Galvanized - 24 GA, TS Pre-Painted
Inner Casing Material Shall Be Galvanized - 24 GA, TS Pre-Painted
Unit Frame Shall be Extruded Aluminum with True Thermal Break.
Unit Floor Constructed of Galvanized - 24 GA, TS Pre-Painted and Galvanized - 24 GA, TS Pre-Painted Sub Floor Liner, and is Insulated with 2" Thick Sprayed Foam Insulation.
Unit Base Constructed of 4" Formed "C" Channel

In direction of airflow, the unit will consist of the following components and options listed:

001 WCOOL

5/8 6 Row coil with wall 0.020 Copper tubes and 10 FPI 0.0075 Aluminum fins.
Section Includes Access Door.
TS Coil Pull Panel Max 12' Unit

002 WHEAT

5/8 2 Row coil with wall 0.020 Copper tubes and 10 FPI 0.0075 Aluminum fins.
Section Includes Access Door.
TS Coil Pull Panel Max 12' Unit

003 FANARRAY

Quantity of 6, K3G310AX5422 Fans Designed to Produce 12000cfm @ 2.86 TSP. 1.54 HP / 2734 RPM / 230 / 1 / 60.00 Motors. N-1 Redundancy: No. Backdraft Damper: Not Required. .
Section Includes Access Door.
Motor Wired to EXT VFD (VFD by Thermal)
Door Kill Switch (Fan)

004 Outlet Section

No Damper Size
No Damper Location
This Opening Is Also Provided With a Unpainted Opening
Section Includes Access Door with View Window.

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-B
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

THERMAL CORPORATION
A Division of Nailor International Inc.

Unit Details

Cabinet Construction	TS-2	**Quantity**	1
Supply Air Flow	12000 scfm	**Return Air Flow**	N/A
Unit Location	Indoor	**Access Side**	Right
Main Post	Alum Frame (Post)	**Intermediate Post**	Panel Seams
Panel Internal Material	Galvanized - 24 GA, TS Pre-Painted	**Panel External Material**	Galvanized - 24 GA, TS Pre-Painted
Floor Material	Galvanized - 24 GA, TS Pre-Painted	**Subfloor Material**	Galvanized - 24 GA, TS Pre-Painted
Insulation	2" - Injected Foam	**Exterior Finish**	Pre-Painted Polyester
Roof Type	None	**Interior Finish**	Pre-Painted Polyester
Unit Base	4" Formed "C" Channel	**Reinforced Floor**	None

Dimensions

Section	Length	Width	Height	Weight	CofG X	CofG Y	CL-FR	CL-RR	CL-RL	CL-FL
Total	78	117	54	2085	36 3/32	58 1/2	560	483	483	560
A	78	117	54	2085	36 3/32	58 1/2	560	483	483	560

Face Velocity and Static Pressure

Components	Face Velocity (FPM)	Supply (in. W.G.)	Exhaust (in. W.G.)
Chilled Water Coil	508	0.72	
Hot Water Coil	508	0.14	
FANARRAY	332	0.00	
Outlet Section	1587	0.23	
External Static		2.00	
Total		2.86	

001 Chilled Water Coil

Construction					
Manufacturer	Modine	**Tube OD**	5/8 in	**Circuiting**	One & One Third
Model	5WP1006B	**Tube Material**	0.020 Copper	**Fin Height**	33.00 in
Quantity	1	**Fin Material**	0.0075 Aluminum	**Fin Length**	103.00 in
Casing Type	Flanged	**Rows**	6	**Connection Size**	2.50 in
Casing Material	304L S/S	**Fins Per Inch**	10	**Weight (Dry)**	428 lbm

Performance (All Coils)			
Air Flow	12000 SCFM	**Total Capacity**	480.0 MBH
Air Velocity	508 FPM	**Sensible Capacity**	332.3 MBH
Entering Air DB	80.0 °F	**Leaving Air DB**	54.7 °F
Entering Air WB	67.0 °F	**Leaving Air WB**	53.7 °F
Fluid Type	Water 100%$_{VOL}$	**Air PD**	0.72 in WG
Entering Fluid	45.0 °F	**Leaving Fluid**	55.0 °F
Fluid Flow Rate	96 GPM	**Fluid PD**	7.27 ft WG

Options			
Coating	None	**UV Lights**	No
Nitrogen Charge	Yes	**Handing**	Right

001 Accessories

TS Coil Pull Panel Max 12' Unit

001 Access Door

Dimensions 10 x 45 3/4 ins **Type** Hinged Door - Adjustable **Window** No

001 Drain Pan

Material 16G Stainless Steel 304

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-B
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

002 Hot Water Coil

Construction					
Manufacturer	Modine	**Tube OD**	5/8 in	**Circuiting**	Single
Model	5MS1002A	**Tube Material**	0.020 Copper	**Fin Height**	33.00 in
Quantity	1	**Fin Material**	0.0075 Aluminum	**Fin Length**	103.00 in
Casing Type	Flanged	**Rows**	2	**Connection Size**	2.50 in
Casing Material	Galvanized	**Fins Per Inch**	10	**Weight (Dry)**	185 lbm

Performance (All Coils)			
Air Flow	12000 SCFM	**Total Capacity**	796.5 MBH
Air Velocity	508 FPM	**Sensible Capacity**	796.5 MBH
Entering Air DB	40.0 °F	**Leaving Air DB**	101.2 °F
Fluid Type	Water 100%$_{VOL}$	**Air PD**	0.14 in WG
Entering Fluid	180.0 °F	**Leaving Fluid**	160.0 °F
Fluid Flowrate	82 GPM	**Fluid PD**	4.79 ft WG

Options			
Coating	None	**UV Lights**	No
Nitrogen Charge	Yes	**Handing**	Right

002 Accessories

TS Coil Pull Panel Max 12' Unit

002 Access Door

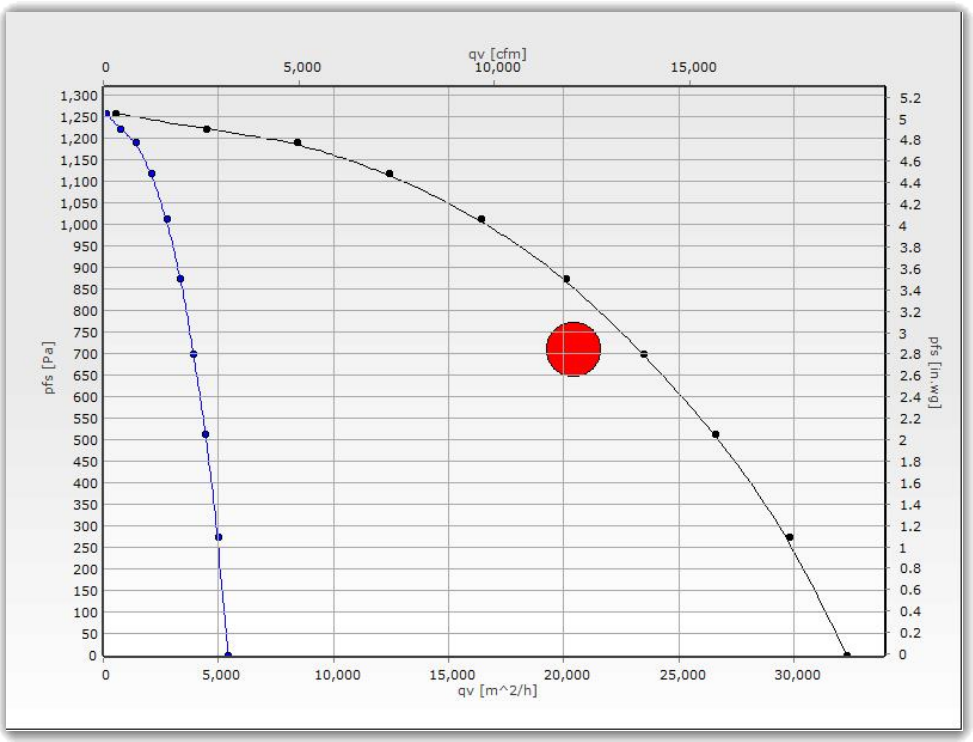
Dimensions 10 x 45 3/4 ins **Type** Hinged Door - Adjustable **Window** No

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-B
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

003 Fan & Motor

Fan Data			
Fan Manufacturer	EBM	**Fan Quantity**	6
Fan Size	310	**Total Airflow**	12000 CFM
Fan Class	N/A	**Total Static Pressure**	2.86 in W.G.
Arrangement	4	**Operating RPM**	2734
Wheel Type	AX5422	**Max RPM**	2850
Wheel Width	100%	**Power (BHP)**	1.54
N-1 Redundancy	No	**Fan Efficiency**	62.30%
Isolation	N/A	**FEI**	0.00
Backdraft Dampers	None		
Motor Data			
Motor Manufacturer	EBM	**Volts / Phase / Hz**	230/ 1 /60
Motor Model Number	E2.20	**Motor Efficiency**	1.00 %
Motor Type	WithFan	**Motor Power**	1.70 HP
Motor Frame Size	E2.20	**Motor RPM**	2734
Motor Quantity	6	**FLA**	5.60
Motor Operating HZ	60.00		
VFD Data			
Model	With Fan	**Arrangement**	
Enclosure	Nema 1	**Disconnect/Bypass**	Circuit Breaker Disconnect



Fan Sound Power Levels

Frequency	63Hz	125Hz	250HZ	500HZ	1kHz	4kHz	8kHz
Outlet (dB)	75	70	77	77	80	80	76
Inlet (dB)	71	68	76	74	71	72	70

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-B
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

THERMAL CORPORATION
A Division of Nailor International Inc.

003 Accessories

Motor Wired to EXT VFD (VFD by Thermal)
Door Kill Switch (Fan)
Air Tracker Controller

003 Access Door

Dimensions 12 x 45 3/4 ins **Type** Hinged Door - Adjustable **Window** No

004 Outlet

CFM	12000 CFM (100%$_{vol}$)	**Dimensions**	33 x 33 x 0 in
Face Velocity	1587 FPM	**Blade Type**	
Additional Product	Opening	**Blade Material**	
Mounting	None	**Blade Position**	
Actuators	By Others		

004 Accessories

Access porthole included

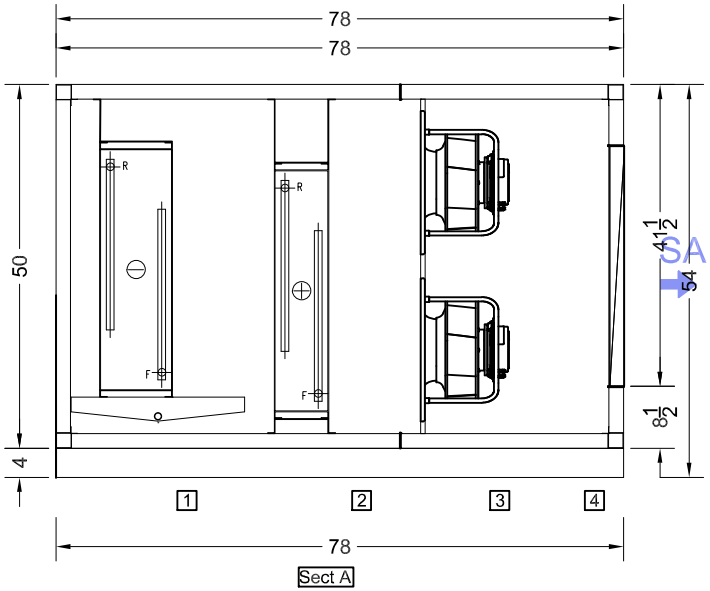
004 Access Door

Dimensions 20 x 45 3/4 ins **Type** Hinged Door - Adjustable **Window** Yes

Section A: Weight = 2085lbs

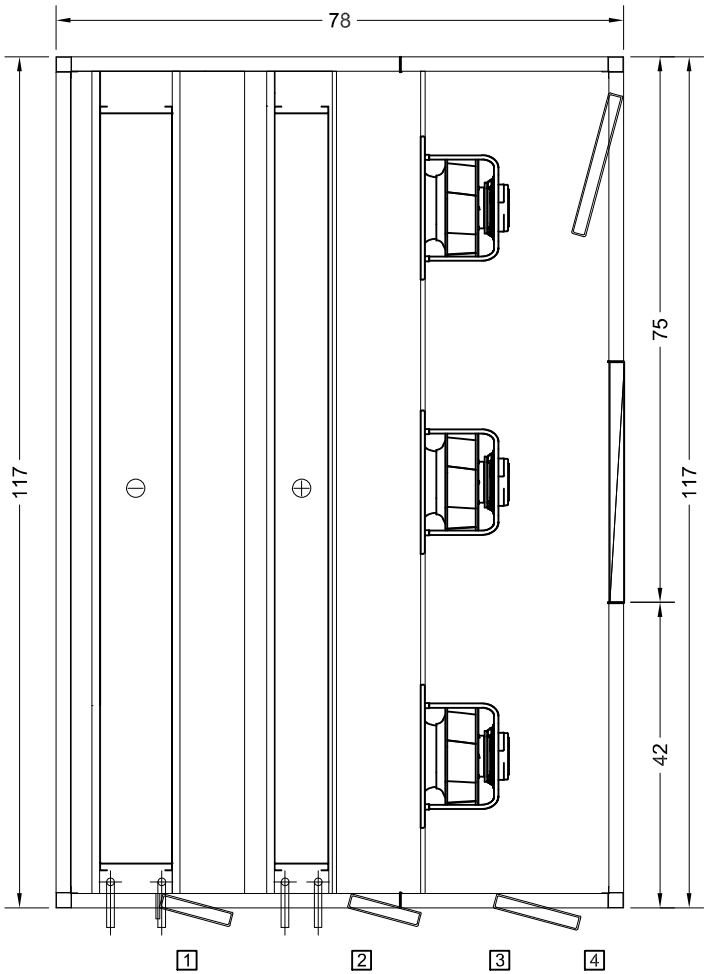
Components

1	Chilled Water Coil	24.00
2	Hot Water Coil	24.00
3	FANARRAY	22.00
4	Outlet Section	4.00



ELEVATION

THERMAL CORPORATION A DIVISION OF NAILOR INTERNATIONAL INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DRAWINGS ARE PRELIMINARY.	CUSTOMER		UNIT #	AHU-B	AIRFLOW	12000/	DRAWN BY	
		PROJECT	Seguin Expo Hall	QTY	1	DATE		DESIGN BY THERMAL	REV 0



Section A: Weight = 2085lbs

Components

1	Chilled Water Coil	24.00
2	Hot Water Coil	24.00
3	FANARRAY	22.00
4	Outlet Section	4.00

PLAN DECK

THERMAL CORPORATION A DIVISION OF NAILOR INTERNATIONAL INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DRAWINGS ARE PRELIMINARY.	CUSTOMER		UNIT #	AHU-B	AIRFLOW	12000/	DRAWN BY	
		PROJECT	Seguin Expo Hall	QTY	1	DATE		DESIGN BY THERMAL	REV 0

WEIGHT SHEET

Unit Name: AHU-B

PROJECT DETAILS							
Project:	Seguin Expo Hall	**Date:**	Apr 05 2024	**Unit No.**	-2-0	**Project Reference:**	

Section	A
Framework and Base	**399**
Panels and Tophats	**681**
Chilled Water Coil	**478**
Hot Water Coil	**235**
FANARRAY	**293**
Outlet Section	
Total	**2085**
Unit Total	**2085**

Dimensions

Section #	Length	Width	Height	Weight	CofG X	CofG Y	CL-FR	CL-RR	CL-RL	CL-FL
Total	78	117	54	2085	36 3/32	58 1/2	560	483	483	560
A	78	117	54	2085	36 3/32	58 1/2	560	483	483	560

THERMAL CORPORATION
A division of Nailor International Inc.

Unit Scope

Project: Seguin Expo Hall

Representative:

Date: Apr 05 2024

Unit Construction: F-2

Unit Tag: AHU-S

Unit Details

Supply CFM:	6500 cfm @ 5.35 TSP		
Unit Altitude:	0 ft above sea level.		
Aprox. Unit Dimensions (LxWxH):	90" x 68" x 44"	**Approx. Unit Weight:**	1777 lbs

Indoor Unit Constructed of 2" Thick Double Wall Panels With 2" - Injected Foam Insulation.
Casing Finish to be Unpainted
Outer Casing Material Shall Be Galvanized - 16 GA
Inner Casing Material Shall Be Galvanized - 20 GA
Unit Frame Shall be Formed Sheet Metal Which Is Screwed Together and Constructed With Modified Thermal Break.
Unit Floor Constructed of Galvanized - 16 GA and Galvanized - 20 GA Sub Floor Liner, and is Insulated with 4" Thick Sprayed Foam Insulation.
Unit Base Constructed of 2" X 6" Steel Tube

In direction of airflow, the unit will consist of the following components and options listed:

001 PFILT

Side Withdrawl - 2 "- 25-30% (MERV 8) - Pleated Filter. Side Withdrawl - 4 "- 60-65% (MERV 11) - Pleated Filter.
A Magnehelic Gauge Will Be Installed to Provide Visual Indication of Filter Condition.
Filter Magnehelic Gauge

002 WCOOL

5/8 6 Row coil with wall 0.020 Copper tubes and 10 FPI 0.0075 Aluminum fins.
Section Includes Access Door.

003 WHEAT

5/8 2 Row coil with wall 0.020 Copper tubes and 10 FPI 0.0075 Aluminum fins.
Section Includes Access Door.
TS Coil Pull Panel Max 12' Unit

004 FANARRAY

Quantity of 3, K3G310AY7314 Fans Designed to Produce 6500cfm @ 5.35 TSP. 3.35 HP / 3731 RPM / 230 / 3 / 60.00 Motors. N-1 Redundancy: No. Backdraft Damper: Not Required. .
Section Includes Access Door.
Motor Wired to EXT VFD (VFD by Thermal)
Door Kill Switch (Fan)
120V Convenience Outlet (Indoor)

005 Outlet Section

No Damper Size
No Damper Location
This Opening Is Also Provided With a Unpainted Opening

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-S
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

THERMAL CORPORATION
A Division of Nailor International Inc.

Unit Details

Cabinet Construction	F-2	**Quantity**	1
Supply Air Flow	6500 scfm	**Return Air Flow**	N/A
Unit Location	Indoor	**Access Side**	Right
Main Post	Galv Frame (Post)	**Intermediate Post**	2" Intermediate Galv Post
Panel Internal Material	Galvanized - 20 GA	**Panel External Material**	Galvanized - 16 GA
Floor Material	Galvanized - 16 GA	**Subfloor Material**	Galvanized - 20 GA
Insulation	2" - Injected Foam	**Exterior Finish**	Unpainted
Roof Type	None	**Interior Finish**	Unpainted
Unit Base	2" X 6" Steel Tube	**Reinforced Floor**	None

Dimensions

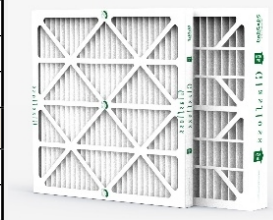
Section	Length	Width	Height	Weight	CofG X	CofG Y	CL-FR	CL-RR	CL-RL	CL-FL
Total	90	68	44	1777	43 9/32	34	461	427	427	461
A	90	68	44	1777	43 9/32	34	461	427	427	461

Face Velocity and Static Pressure

Components	Face Velocity (FPM)	Supply (in. W.G.)	Exhaust (in. W.G.)
Pre Filter and Fine	650	2.00	
Chilled Water Coil	584	0.90	
Hot Water Coil	642	0.20	
FANARRAY	418	0.00	
Outlet Section	2889	0.75	
External Static		1.50	
Total		5.35	

001 Panel Filters

Pre Filter			
Manufacturer	Glasfloss	**Quantity**	**Nominal Size (W x H x D)**
Media	Synthetic Fiber	2	24 x 24 x 2
Type/Efficiency	25-30% (MERV 8)	1	12 x 24 x 2
Face Velocity	650 FPM		
Withdrawal	Side		
Filter Track Material	Extruded Aluminum	**Extra Set(s)**	None



Final Filter			
Manufacturer	Glasfloss	**Quantity**	**Nominal Size (W x H x D)**
Media	Synthetic Fiber	2	24 x 24 x 4
Type/Efficiency	60-65% (MERV 11)	1	12 x 24 x 4
Face Velocity	650 FPM		
Withdrawal	Side		
Filter Track Material	Extruded Aluminum	**Extra Set(s)**	None

Filter Gauge			
Manufacturer	Dwyer	**Model**	2002
Output	0-5V	**Range**	1"-5" w.c.

001 Accessories

Filter Magnehelic Gauge

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-S
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

002 Chilled Water Coil

Construction					
Manufacturer	Modine	**Tube OD**	5/8 in	**Circuiting**	Two Third
Model	5WG1006B	**Tube Material**	0.020 Copper	**Fin Height**	30.00 in
Quantity	1	**Fin Material**	0.0075 Aluminum	**Fin Length**	53.38 in
Casing Type	Flanged	**Rows**	6	**Connection Size**	2.00 in
Casing Material	304L S/S	**Fins Per Inch**	10	**Weight (Dry)**	218 lbm

Performance (All Coils)			
Air Flow	6500 SCFM	**Total Capacity**	252.3 MBH
Air Velocity	584 FPM	**Sensible Capacity**	176.2 MBH
Entering Air DB	80.0 °F	**Leaving Air DB**	55.2 °F
Entering Air WB	67.0 °F	**Leaving Air WB**	54.1 °F
Fluid Type	Water 100%$_{VOL}$	**Air PD**	0.90 in WG
Entering Fluid	45.0 °F	**Leaving Fluid**	55.0 °F
Fluid Flow Rate	50 GPM	**Fluid PD**	9.78 ft WG

Options			
Coating	None	**UV Lights**	No
Nitrogen Charge	Yes	**Handing**	Right

002 Access Door

Dimensions 12 x 36 1/2 ins **Type** Hinged Door - Adjustable **Window** No

002 Drain Pan

Material 16G Stainless Steel 304

003 Hot Water Coil

Construction					
Manufacturer	Modine	**Tube OD**	5/8 in	**Circuiting**	Half
Model	5MH1002A	**Tube Material**	0.020 Copper	**Fin Height**	27.00 in
Quantity	1	**Fin Material**	0.0075 Aluminum	**Fin Length**	54.00 in
Casing Type	Flanged	**Rows**	2	**Connection Size**	2.00 in
Casing Material	Galvanized	**Fins Per Inch**	10	**Weight (Dry)**	94 lbm

Performance (All Coils)			
Air Flow	6500 SCFM	**Total Capacity**	394.1 MBH
Air Velocity	642 FPM	**Sensible Capacity**	394.1 MBH
Entering Air DB	40.0 °F	**Leaving Air DB**	95.9 °F
Fluid Type	Water 100%$_{VOL}$	**Air PD**	0.20 in WG
Entering Fluid	180.0 °F	**Leaving Fluid**	160.0 °F
Fluid Flowrate	40 GPM	**Fluid PD**	5.89 ft WG

Options			
Coating	None	**UV Lights**	No
Nitrogen Charge	Yes	**Handing**	Right

003 Accessories

TS Coil Pull Panel Max 12' Unit

003 Access Door

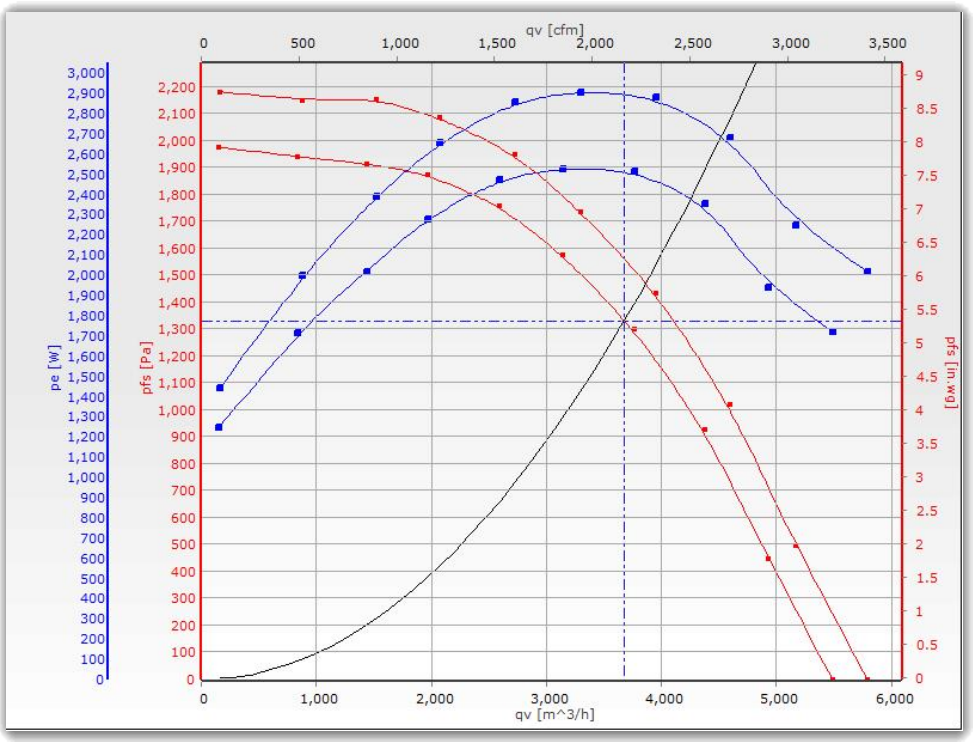
Dimensions 12 x 36 1/2 ins **Type** Hinged Door - Adjustable **Window** No

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-S
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

004 Fan & Motor

Fan Data			
Fan Manufacturer	EBM	**Fan Quantity**	3
Fan Size	310	**Total Airflow**	6500 CFM
Fan Class	N/A	**Total Static Pressure**	5.35 in W.G.
Arrangement	4	**Operating RPM**	3730
Wheel Type	AY7314	**Max RPM**	3900
Wheel Width	100%	**Power (BHP)**	3.35
N-1 Redundancy	No	**Fan Efficiency**	58.07%
Isolation	N/A	**FEI**	0.00
Backdraft Dampers	None		
Motor Data			
Motor Manufacturer	EBM	**Volts / Phase / Hz**	230/ 3 /60
Motor Model Number	E4.00	**Motor Efficiency**	1.00 %
Motor Type	WithFan	**Motor Power**	3.69 HP
Motor Frame Size	E4.00	**Motor RPM**	3731
Motor Quantity	3	**FLA**	8.50
Motor Operating HZ	60.00		
VFD Data			
Model	With Fan	**Arrangement**	
Enclosure	Nema 1	**Disconnect/Bypass**	Circuit Breaker Disconnect



Fan Sound Power Levels

Frequency	63Hz	125Hz	250HZ	500HZ	1kHz	4kHz	8kHz
Outlet (dB)	81	76	77	86	88	87	84
Inlet (dB)	76	73	76	83	80	78	77

TECHNICAL SPECIFICATION SHEET

Project Details			
Project Name	Seguin Expo Hall	**Unit Name**	AHU-S
Project Reference		**Software Version**	V 03.14.2024
Date	Apr 05 2024	**Project Revision**	0

004 Accessories

Motor Wired to EXT VFD (VFD by Thermal)
Door Kill Switch (Fan)
120V Convenience Outlet (Indoor)
Air Tracker Controller

004 Access Door

Dimensions 12 x 36 1/2 ins **Type** Hinged Door - Adjustable **Window** No

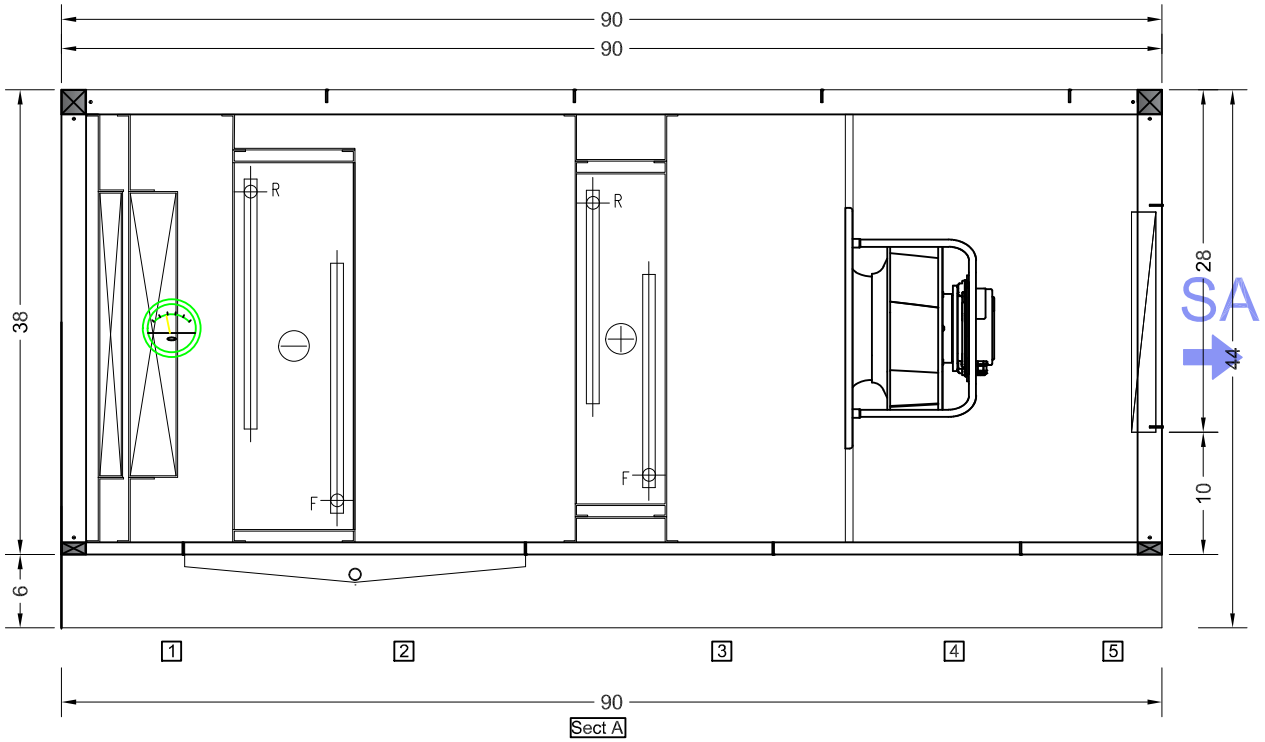
005 Outlet

CFM	6500 CFM (100%$_{vol}$)	**Dimensions**	18 x 18 x 0 in
Face Velocity	2889 FPM	**Blade Type**	
Additional Product	Opening	**Blade Material**	
Mounting	None	**Blade Position**	
Actuators	By Others		

Section A: Weight = 1777lbs

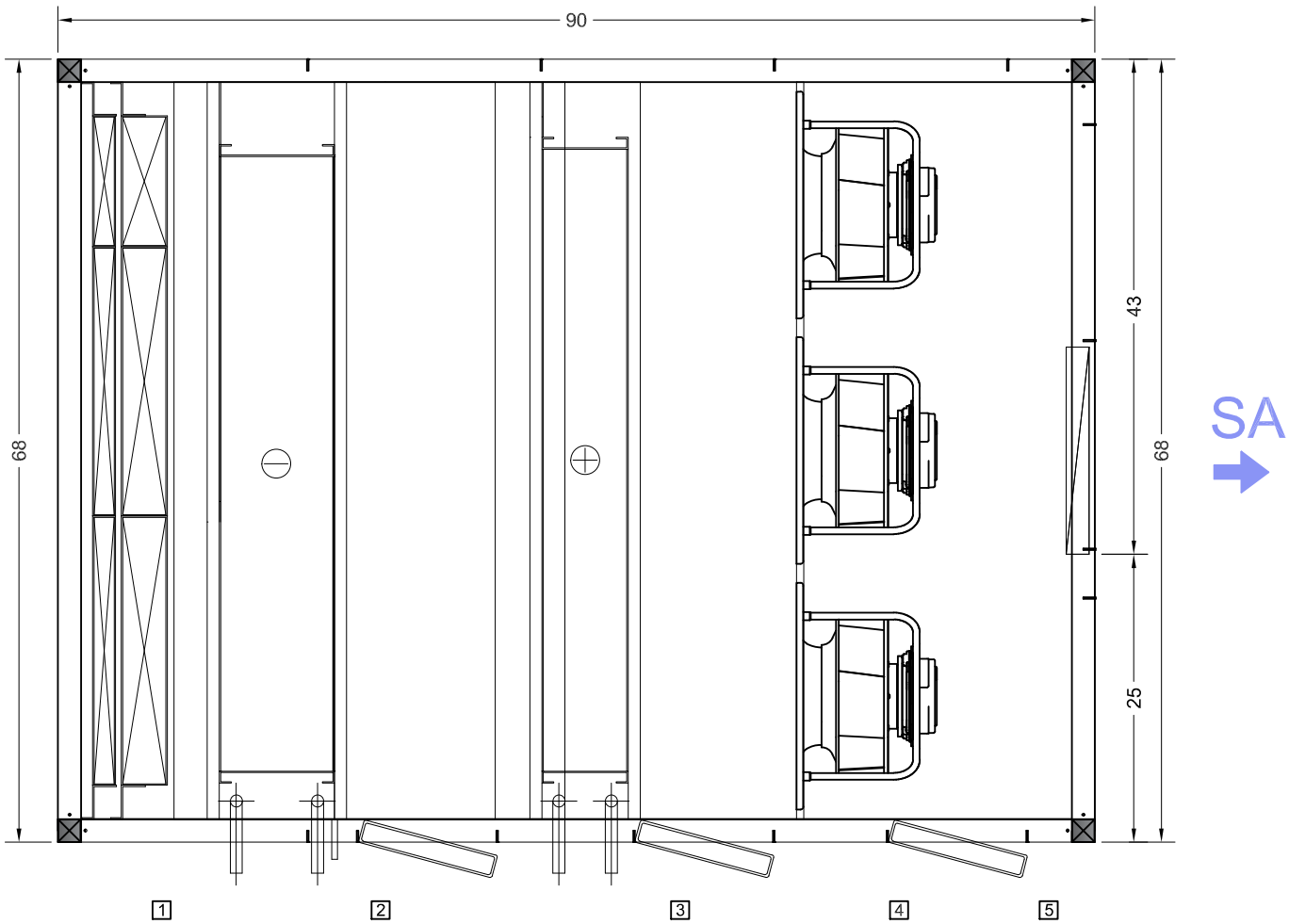
Components

1	Pre Filter and Fine	8.00
2	Chilled Water Coil	28.00
3	Hot Water Coil	24.00
4	FANARRAY	22.00
5	Outlet Section	4.00



ELEVATION

THERMAL CORPORATION A DIVISION OF NAILOR INTERNATIONAL INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DRAWINGS ARE PRELIMINARY.	CUSTOMER		UNIT #	AHU-S	AIRFLOW	6500/	DRAWN BY	
		PROJECT	Seguin Expo Hall	QTY	1	DATE		DESIGN BY THERMAL	REV 0



Section A: Weight = 1777lbs

Components

1	Pre Filter and Fine	8.00
2	Chilled Water Coil	28.00
3	Hot Water Coil	24.00
4	FANARRAY	22.00
5	Outlet Section	4.00

PLAN DECK

THERMAL CORPORATION A DIVISION OF NAILOR INTERNATIONAL INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DRAWINGS ARE PRELIMINARY.	CUSTOMER		UNIT #	AHU-S	AIRFLOW	6500/	DRAWN BY	
		PROJECT	Seguin Expo Hall	QTY	1	DATE		DESIGN BY THERMAL	REV 0

WEIGHT SHEET

Unit Name: AHU-S

PROJECT DETAILS							
Project:	Seguin Expo Hall	**Date:**	Apr 05 2024	**Unit No.**	-1-0	**Project Reference:**	

Section	A
Framework and Base	**429**
Panels and Tophats	**847**
Pre Filter and Fine	**11**
Chilled Water Coil	**218**
Hot Water Coil	**144**
FANARRAY	**127**
Outlet Section	
Total	**1777**
Unit Total	**1777**

Dimensions

Section #	Length	Width	Height	Weight	CofG X	CofG Y	CL-FR	CL-RR	CL-RL	CL-FL
Total	90	68	44	1777	43 9/32	34	461	427	427	461
A	90	68	44	1777	43 9/32	34	461	427	427	461

WHEN BUILDINGS PERFORM SO DO PUBLIC SERVICES

Help your public buildings improve essential capabilities – such as operational resilience and efficiency, safety and security, and supporting your sustainability goals.

Honeywell Forge for Buildings is your comprehensive system for optimizing building operations and simplifying facility management, using software, hardware and services designed to deliver outcomes that matter for buildings and organizations of any size.

Public Buildings
Capabilities Statement

Honeywell

BETTER BUILDING OUTCOMES START WITH BETTER OPERATIONS

Honeywell solutions help keep people and places safe, improve the building experience and help support sustainability goals in more than 10 million buildings worldwide.

Government agencies at every level count on us to help enhance building performance and meet their constituents' high expectations.

Like any organization, a government's buildings can vary greatly in size, shape and function. They can include a single firehouse or municipal building in a small town, courthouses and libraries in a thriving city, all the buildings on a sprawling public college campus, an international airport, or research laboratories of critical government agencies that help support the well-being of the general public of that country or even worldwide.

Despite operational differences, government buildings share a common purpose. They are places where dedicated public servants deliver essential services and where citizens often need to conduct business in a setting that is safe, secure and comfortable.

AGING PUBLIC BUILDINGS NEED SERIOUS UPGRADES

Elected officials, public employees and facility management teams find themselves in a predicament. The average U.S. school, city-owned or county-owned building was built in the 1960s.[1] Many require upgrades to improve energy efficiency, reduce environmental impact, increase safety and security, as well as enhance the occupant experience.

For example, U.S. school buildings earned a D+ grade in the American Society of Civil Engineers (ASCE) 2021 report card.[2] The report found that 53% of U.S. school districts need to update or replace multiple building systems and an investment of $38 billion is required to provide students with a healthier, safer and more modern learning environment.

The issue of aging infrastructure isn't specific to schools, though. Public officials are often forced to defer all but the most critical building repairs and upgrades because of scarce resources and more urgent priorities. As a result, many public buildings continue to deteriorate, constituent services suffer and facility teams are expected to keep decades-old systems operational.

HONEYWELL FORGE FOR BUILDINGS CAN HELP YOU

- Demonstrate compliance
- Create an exceptional occupant experience
- Improve operational efficiency
- Build resilience
- Increase safety and security
- Help meet sustainability goals

New and continuing federal programs can help state and local governments address infrastructure needs, fund energy retrofits and make public building upgrades. These include financial support for energy improvements and safety upgrades in school buildings,[3] block grants to enhance public building performance[4] and elements of the 2022 Inflation Reduction Act (IRA)[5] aimed directly at local government needs.

Public officials may also find an extremely effective funding mechanism with less energy efficient buildings. State and local government buildings waste $6 billion in energy each year.[6] Public officials can pay for the building upgrades with guaranteed energy savings performance contracts,[7] which fund building improvements with future energy savings without additional taxpayer contributions to implement the improvements.

Using new technologies may also mean building operations teams can focus on higher value priorities versus constantly responding to reactive break-fix calls or hot and cold comfort issues.

ABOUT THIS HONEYWELL CAPABILITIES STATEMENT

This capabilities statement identifies challenges elected officials, administrators and building managers may face with regards to aging and underperforming buildings. It also identifies ready-now technologies that can help public employees deliver on their commitments and meet the high expectations of their constituents.

Honeywell offers decades of experience helping state, county and municipal governments address their toughest building challenges. Our dedicated teams of building technology experts draw on unique domain knowledge, a network of highly qualified partners, and an extensive portfolio of software, hardware and services designed to support the specific needs of public buildings operators.

Honeywell has decades of multi-asset and multi-domain building controls expertise to help make the equipment in a building perform better. Through our integrated approach to smart building technologies, government building operators can deliver on key outcomes, not just manage point solutions. This approach is rooted in data. The ability to connect, collect and control data from assets in your building portfolio can enable better decision making for both building maintenance and health, safety and environment (HSE) teams to make public facilities safer, healthier, more comfortable and even more energy efficient.

Our outcomes-focused approach is designed to help governments and operators of public buildings to solve the problems that are most critical to them. This document outlines some of our key solutions that can help address specific outcomes; however, our team of experts will work with you to understand your challenges, the outcomes you want to deliver, and from there work with you to develop a package of solutions that can help achieve these goals. Many of these solutions can help to achieve multiple outcomes.

To learn more about how Honeywell can help you improve building performance and accomplish your most critical operational goals, visit us online or contact your Honeywell representative.

SOLUTIONS TO HELP CREATE AN EXCEPTIONAL OCCUPANT EXPERIENCE

Many older buildings may have outdated, inefficient HVAC systems and other potential hazards that make for less-than-ideal working environments. Workers – along with citizens – are increasingly demanding healthier buildings with improved indoor air quality (IAQ). This is putting pressure on governments that have not yet modernized legacy structures and systems. Fortunately, advances in smart building technology now make it easier and more cost effective for them to upgrade and improve the overall occupant experience of their buildings.

INDOOR AIR QUALITY

Air quality is essential to the occupant experience and creating a healthier building. It can impact a building's structural integrity, energy efficiency and even occupant well-being. A modern healthy building improves the well-being[8] and productivity of the people who use it while also considering energy efficiency and sustainability goals.

The backbone of indoor air quality – ventilation, relative humidity, filtration, and pressurization – is also the starting point for a healthier building. Every building has these functions, but they may not be optimized for building health.

Honeywell offers a suite of Healthy Buildings solutions, along with a dedicated team of experts, that can help improve indoor air quality and create a better occupant experience in a building.

Improvements start with measurement: The importance of IAQ sensing

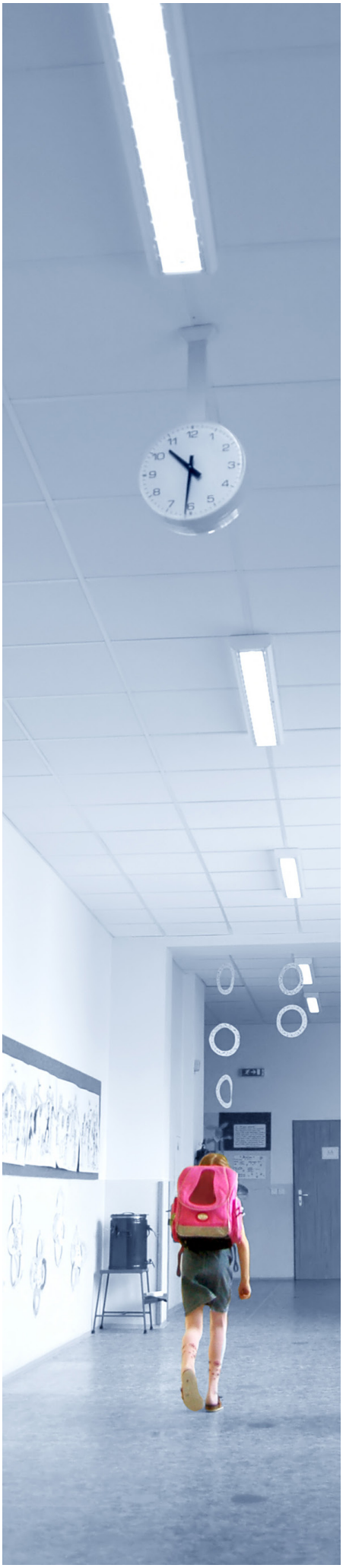
You can't change what you don't measure. That mantra is true for many things in life – including building IAQ.

The Honeywell TR50 Sensor provides continuous IAQ monitoring and simple visual confirmation of air quality. A display keeps occupants and facility managers apprised of five key parameters – carbon dioxide (CO2), particulate matter (PM2.5), volatile organic compounds (VOCs), temperature and humidity. The TR50 can connect to any controller, regardless of brand, or feed data to the Honeywell Remote Building Manager as part of an IAQ dashboard. The sensor displays a room's air quality score along with a color-coded LED indicator and can enable demand-controlled ventilation with additional parameters, on top of temperature control.

The brains of your building: Why building management systems matter

A building management system (BMS) is often considered the "brains" of a building. It is a centralized system that monitors and controls a building's mechanical and electrical equipment, including HVAC, lighting and even security systems. It can optimize energy consumption by adjusting the temperature, ventilation and lighting based on occupancy, schedules and external conditions such as weather. A deliberate and purposeful building controls strategy can also help to improve the health of a building by managing temperature, humidity, ventilation and even pressurization.

The Honeywell ComfortPoint Open and ComfortPoint Niagara are robust BMS solutions that provide greater cybersecurity protection with an easy-to-install and maintain system.



Keep your upgrades performing: Why continuous monitoring and measurement matter

Continuous monitoring is a critical next step once IAQ improvements are made to understand ongoing building performance. Cloud-based dashboards that connect to the BMS and sensors on equipment can aggregate information to give a system-wide view of building performance – and can even provide insights across an entire building portfolio. Honeywell's Remote Building Manager makes it easy to monitor and manage building status, including the factors affecting IAQ.

In addition to helping create a building controls strategy and enabling continuous monitoring, Honeywell can also help improve the IAQ of your building through filtration, Electronic Air Cleaners, Portable Air Purifiers, along with other resources.

SOLUTIONS TO IMPROVE OPERATIONAL EFFICIENCY

In the previous section, we talked about the importance of a BMS solution to help manage your buildings. These systems, along with overall integration platforms, can help to improve the operational efficiency of public buildings – whether a government is concerned about a single asset or an entire portfolio. Smart building technologies that help improve operational efficiency can potentially have a big impact on how your team manages its public buildings. Some benefits may include better asset control and utilization, improve the productivity of your building maintenance teams, automate workflows and provide visibility into how your entire building portfolio is performing against key performance indicators (KPIs).

Whether you need an on-premise integration platform because you manage sensitive and secure areas or you want the flexibility of a cloud-based platform, Honeywell has solutions that can change the way public buildings operate.

Integrate multiple systems with a powerful on-premise solution

The Honeywell Enterprise Buildings Integrator (EBI) allows government building teams to monitor and manage one site or entire building portfolio using a single platform. The highly scalable software makes it easy to bring new buildings online, even if they use different operating systems and equipment. Using a system agnostic ontology, EBI can also enable connectivity between new technology, legacy systems or other suppliers. It can provide actionable information across multiple building systems including the BMS, security and access control, as well as energy management to create a seamless building management solution to help operators make faster, better decisions about building operations.

EBI is designed for native integration with Honeywell Building Manager, Energy Manager, Security Manager, LifeSafety Manager and Digital Video Manager.

Before issues escalate: Manage maintenance and asset performance

Government building management teams can identify issues before failures occur to improve building performance, promote asset longevity, reduce downtime and identify maintenance improvements based on needs, not a schedule, with Honeywell Forge Performance+ for Buildings | Predictive Maintenance. The cloud-based software uses real-time predictive analytics, equipment models and easy-to-use dashboards to display building performance, identify improvement opportunities and help service teams track corrective actions to conclusion. With Predictive Maintenance, building operators can view asset availability, identify performance risks and easily manage open service cases. They can also track, compare and reduce energy and water consumption and costs.

CREATE A BASELINE PERFORMANCE

A thorough assessment of your building's performance can establish a baseline for improvement. This means conducting a comprehensive review of building systems to identify opportunities for improvement, areas of strength and the most optimal ways to use your budget to make necessary changes. Honeywell can help conduct the assessment or engage a third-party organization. **Register here** for a free assessment and guidance on how to improve your building's performance.

Remove operational silos across governmental departments

As more governments look to digitalize their operations, they have to look at removing data silos across their departments. This is the first step to creating a smart community.

Honeywell City Suite Software, an artificial intelligence enabled IoT platform, integrates data from critical city infrastructure systems such as traffic, streetlights, environment, emergency services, public safety and security, and utilities into a single, unified view. The open architecture of the ready now solution helps communities and governments connect systems and capabilities to bridge departmental silos and allow budgets to stretch further and create safer, more resilient communities. Honeywell City Suite can also be scaled by communities to gauge energy consumption across city-owned facilities and utilities.

Improve airport airside operations

The expectations and requirements for airports have changed tremendously over the last 30 years. Airport operators – which are often managed by public entities from city or state governments – often face an increasing number of challenges, with depleted means. One thing remains clear: safety and compliance can never be compromised. To serve this purpose, existing technologies can help operators to achieve uptime, optimize infrastructure, and increase airside throughput performance.

Honeywell is uniquely positioned to empower the airport ecosystem to thrive from curb to take off. We make airports safer, more agile and resilient by integrating multiple point solutions, using analytics to optimize asset utilization and continuously adapting to meet the changing needs of airports.

Honeywell NAVITAS makes end-to-end airport management possible by connecting air and ground traffic control, airport operations and maintenance with predictive analysis, automation and a secure interface optimized for airport users. The platform features multiple modules to help streamline traffic control, prioritize maintenance, optimize performance with real-time visualizations, and enhance ground traffic safety.

Additional solutions like Honeywell Turnaround Manager (TMAN) help deliver control and monitoring of visual docking guidance systems and gate equipment to support faster and safer turnaround of operations and improve ground operational effectiveness. The Honeywell Visual Docking Guidance System and Gate Control System helps optimize airport gate capacity and efficiency.

Honeywell can also help airports improve uptime and visibility and deliver safer, more efficient ground traffic movements in a variety of conditions with Airfield Ground Lighting (AGL) solutions that are managed through the NAVITAS suite. The Honeywell AGL solution portfolio features ground-installed luminaries and related ancillaries that help aircraft land and find their way to the stand.

SOLUTIONS TO BUILD RESILIENCE

Downtime is not an option for government buildings. From schools to courthouses to public utilities to corrections facilities, creating and maintaining building resilience is critical when it comes to a government or public building. They are essential to the day-to-day operations of a municipality so keeping them operating is key. Resilience can mean creating a better cybersecurity defense, making sure your buildings don't go offline with better maintenance support, and also creating redundancy from a power management perspective in the case of severe weather or unexpected events.

Proactively protect your building's operational technology (OT)

Discussions about cybersecurity usually focus mainly on IT systems – protecting data, proprietary systems and personal information. Security for operational technology (OT) systems – those that control, monitor and actuate processes, equipment and operational environments – continues to gain attention and government entities need to take a proactive approach to protecting their building's OT environment.

Honeywell can help government organizations strengthen their OT cybersecurity strategy. From cyber assessments to plans and advanced software capabilities to remote monitoring to enable a fast response in the case of a breach, Honeywell experts can help government organizations mitigate potential damage to finances, operations and reputation. We offer cost-effective solutions that are scalable in both size and an organization's cybersecurity maturity level to help optimize the integrity, availability, and safety of your systems.

Additionally, Honeywell Building Technologies holds ISA/IEC 62443-4-1 Process Certification for its software development lifecycle. ISA/IEC 62443-4-1 certification underscores HBT's commitment to following best practices and standards in developing secure, cyber-resilient products.

Improve building maintenance

Help your building maintenance teams do more with support from Honeywell Building Performance Services. We go beyond the conventional approach to service and support by creating a proactive, flexible end-to-end solution that can be tailored to meet each building's key performance indicators for energy consumption, uptime and other requirements.

The scope of our services ranges from providing essential maintenance and training to full-service remote monitoring and lifecycle management. Our most comprehensive service plans feature artificial intelligence-based maintenance, leveraging Honeywell Forge Performance+ for Buildings | Predictive Maintenance to improve asset uptime, industry leading cyber protection, remote support, guaranteed uptime and energy saving provisions.

By digitalizing the service process, Honeywell can help reduce response times and service truck rolls, provide real-time status updates, improve first-time fix rates, and make the overall service experience more efficient and resilient. When we do dispatch technicians, they are fully briefed on the problem and have the right parts in hand before the truck heads to your site.

Create energy resilience for tomorrow while optimizing results today

Rising energy costs, complicated utility billing, and expanding sustainability requirements are already challenging governments. Moreover, experts in numerous fields – scientists, market analysts, investors, insurers, legislators – predict bigger changes ahead. Energy shortages, heat waves, and extreme weather lead the news, and climate effects that were modeled for 25–50 years in the future are also emerging now.[9] In short: the frequency and cost of volatile weather and unstable grids are creating an urgent need for governments to be better prepared.

Honeywell Forge Sustainability+ for Buildings | Power and Demand Management can help governments reduce utility costs, take steps towards supporting decarbonization goals, and bring clarity to energy management plans while helping to maintain operational continuity and resilience. Its Power Manager application can be used as a part of Honeywell Forge Sustainability+ for Buildings or through the Honeywell Smart City Suite to help governments build energy resilience with on-site generation and storage with the option to incorporate renewable sources; modify power usage as needed, including dynamic load management, automated demand response, and distributed energy resources; and dynamically reduce non-critical building loads and optimize on-site microgrid operations to support critical building functions when the utility is experiencing high usage, frequency changes, and/or power disruptions.

SOLUTIONS TO INCREASE SAFETY & SECURITY

The task of securing state, county and municipal buildings is complex. Government buildings exist to serve the public and they may be visited by hundreds or even thousands of citizens every day. Security breaches can and do happen at public buildings of all types and functions. Government agencies need to be prepared for anything.

Honeywell security offerings are flexible and adaptable enough to meet the security needs of government buildings from public schools and libraries to courthouses, correctional facilities and office buildings. Honeywell's expertise in access control, intrusion prevention, video systems and visitor management provides a comprehensive end-to-end security solution.

Manage security across a building portfolio to improve situational awareness and access control

Honeywell offers robust, global integrated solutions for organizations to help protect staff and property, optimize productivity, and comply with strict industry regulations all while reducing operational costs.

Honeywell Pro-Watch 6.0, the latest iteration of the Honeywell Pro-Watch Integrated Security Suite, provides automated incident workflows and system health dashboards to further reduce operational costs and enable stronger compliance needed for government organizations, without adding work to security teams. It also provides information-driven focused responses to help improve uptime. It features Salvo views without a bounding box and allows security operators to access incident reports with evidence attachments; operators can also manage both access and video control through a unified mobile app. It also features enhanced alarm management allowing operators to search, filter and rollup events by severity and time. It also integrates across Honeywell access control platforms and features native integration to Honeywell Vindicator panels, offering military-grade intrusion detection capabilities.

Additionally, Honeywell EBI which was discussed earlier in this document can also support your integrated security needs across a government building portfolio. Both EBI and Pro-Watch are open platforms that can integrate with third-party technologies like Oloid, iLOQ, Idemia, and more.

Honeywell Forge for Performance+ Buildings | Visitor Management takes managing who is in the building from a clipboard to a smartphone by enabling seamless building access for employees and letting visitors complete the prescreening process using their own phones. The solution streamlines the sign-in and badging process and allows security teams to monitor the current location of everyone in the building. An intuitive dashboard also enables leaders to monitor and manage building occupancy to ensure compliance with specific protocols.

Use video capabilities that can work in NDAA-compliant systems

Video systems are an essential element of any government building's security strategy.

Designed with cybersecurity in mind, Honeywell Video Products, including cameras, video management systems and analytics, work with video systems that comply with U.S. legislation, NDAA Section 889 Part B. The 35 Series rounds out Honeywell's full range of cameras that provide a greater emphasis on cybersecurity and compliance. The higher-resolution IR cameras cover larger areas, both day and night, with smart human and vehicle motion detection to reduce false alarms.

Honeywell offers advanced video analytics capabilities to detect, analyze, track and classify the behaviors of people and vehicles as they move through a scene to help operators and security teams identify suspicious activities. Using VehicleTrace license plate detection and reporting application can add another layer of security by scanning and searching license plate numbers. Users can program the system to raise an alert when a known offender visits the site.

Pro-Watch VMS R750, is a feature-rich, user-friendly video management platform which controls video subsystems to collect, manage and present video in a clear and concise manner. It also intelligently determines the capabilities of each subsystem across various sites, allowing video management of digital video devices through a unified configuration and viewer. Digital Video Manager is another option for a smart, scalable video system that can deliver critical information to help reduce risk and save valuable time.

Enable quicker lockdowns with automated gunshot detection

Active shooter incidents are a worst nightmare scenario. Honeywell Automatic Gunshot Detection and Lockdown provides security teams and first responders detailed alerts about what is happening and where, inside or outside the building. Sensors from EAGL Technologies that can be integrated into Pro-Watch or EBI, analyze the energy level and waveform of a firearm discharge to confirm that it is a gunshot, identify the type of weapon and pinpoint the GPS location, all within seconds to help enable quicker lockdowns and faster, more accurate responses.

Support the security of critical infrastructure

Honeywell Forge Safety+ for Buildings | Physical Security Information Management is designed to meet the specific needs of complex institutions and critical infrastructure. Physical Security Information Management helps operators improve efficiency, speed and workflow consistency, while enhancing safety and security. It uses an intuitive interface accessible from the master control room and other locations to manage everyday operations and unexpected events.

Using a flexible and scalable structure, the Physical Security Information Management solution integrates and coordinates vendor-agnostic security products and solutions to provide better situational awareness and enable facility staff to respond faster and more efficiently to alarms and incidents.

Improve fire and life safety with earlier detection, faster responses and centralized decision making

Honeywell is a leader in fire and life safety systems. We create fire and life safety products that leverage connectivity to help create a smarter and safer world. Honeywell creates life safety systems that provide the earliest detection, enable the fastest responses, and centralize decision-making and management. We aim to create innovative technology designed to keep people safe, including those responsible for saving lives.

Honeywell fire safety devices including smoke and carbon monoxide detectors, fire alarm control panels, HVAC and sprinkler monitoring systems, and audible and visual alarm systems to detect anomalies as well as notify and communicate to building occupants the actions they should take.

Use advanced detection to stop fires from escalating

Every second counts during a fire. Advanced detection technology can detect minute traces of smoke, enabling a building operations team to assess the situation and summon first responders immediately to the scene. Honeywell pioneered very early warning aspirating smoke detection (ASD) systems, which can typically identify the presence of smoke much earlier than conventional smoke detectors. Honeywell VESDA Aspirating Smoke Detectors can provide the earliest possible warning of an impending fire hazard.

In addition to advance smoke detection, using Li-ion Tamer® can help government buildings to reliably detect the very early signs of failing Lithium-ion batteries by sensing battery electrolyte vapors (off gas detection), allowing earlier response to impending thermal runaway events by facility managers. The system also provides multi-point temperature and humidity measurements for improved environmental control and situational awareness across a wide range of applications.

Gain better awareness of fire system performance and access the data from anywhere

Connectivity and the Internet of Things (IoT) are changing the way fire life safety systems are installed, tested and maintained. Honeywell's Connected Life Safety Services (CLSS) is an end-to-end connected platform that gives public building HSE teams and facility managers insight into a fire systems' performance, testing and compliance data and potential maintenance needs from the convenience of a smart phone or tablet. It provides remote access to the fire alarm panel so the right people can receive alerts when events are generated and view asset information and system status across multiple sites.

The CLSS platform can also provide reliable and accurate alarm-event communication and maintain critical connection to central monitoring stations as POTS (Plain Old Telephone Service) is displaced and 3G networks sunset.

When used with CLSS, Honeywell Self-Test Detector is a new range of self-testing detectors that can help automate system maintenance, including testing and inspecting life safety systems. The patented and approved technology allows testing teams to overcome obstacles such as locked rooms, hard-to-access areas, high ceilings and large sites while the system remains operational. It provides efficient compliance with local regulations with the least disruption to operations.

Keep first responders safer inside a building

Honeywell can support continuous and critical in-building radio coverage for first responders in buildings of all sizes. Our communications systems and bi-directional amplifiers (BDA) that cover the entire Public Safety spectrum, provide scalable solutions to support first responder emergency radio connectivity even in challenging environments. These products also meet regulations of almost any jurisdiction or city.

Help first responders arrive onsite faster with better knowledge of the situation

Honeywell is invested in finding ways to reduce the time it takes for first responders to arrive on site to an emergency. In 2022, Honeywell made an investment in RapidSOS to improve both the quality of information shared and the time it takes for first responders to arrive at an emergency, potentially saving more lives. RapidSOS helps to deliver better information to emergency centers while our acquisition of US Digital Designs improves communication from the emergency center to the fire station.

The internet-enabled Honeywell US Digital Designs Phoenix G2 system instantly connects dispatch centers to fire stations, improves the quality of the information shared and helps reduce the time it takes first responders to arrive at the scene. When information is entered into a computer-aided dispatch system by a 911 operator, that data is instantly relayed to the Phoenix G2 Communications Gateway. Within a second, every appropriate device, unit, station, radio and firefighter is alerted immediately.

US Digital Designs' suite of hardware and software solutions, which includes dispatch communication aids and mobile alerting applications, provides situational awareness and helps reduce response times. US Digital Designs also offers solutions that awaken first responders with soft-start LED lighting and audio alerts that are less disruptive.

SOLUTIONS TO SUPPORT SUSTAINABILITY GOALS

State, county and local governments could potentially add around $6 billion to their collective coffers every year by improving the energy efficiency of their buildings by just 20%.[10] Those funds could finance other critical programs or be returned to taxpayers. They could even be used to pay for upgrades like more efficient HVAC, lighting or building automation systems that could further generate energy savings. Energy efficiency and sustainability go hand in hand as more governments recognize the benefits of environmental, social and governance (ESG) principles.[11]

As we've discussed earlier, improving the occupant experience and supporting sustainability goals do not have to be contradictory ideas.

Leverage systems that can monitor, control and optimize energy consumption

Many building operators do not have device or asset level energy use or carbon emission data. This can make it difficult to know how to make energy improvements. Honeywell Forge Sustainability+ for Buildings | Carbon and Energy Management is a ready-now application that can help government building operators address two pressing, yet often conflicting objectives: optimizing indoor air quality and reducing the environmental impact of buildings with the aim of improving carbon-reduction goals. The scalable, system-agnostic platform uses advanced controls capabilities, artificial intelligence (AI) and machine learning (ML) algorithms to create a baseline of energy consumption and carbon emissions across building assets and can help monitor, control and optimize those assets.

FEATURING PACKAGES THAT CAN BE CUSTOMIZED TO SUIT A GOVERNMENT FACILITIES' NEEDS, CARBON AND ENERGY MANAGEMENT CAN:

- Track energy use, Scope 1 and Scope 2 emissions and key performance indicators (KPIs)
- Prioritize the most cost-effective ways to save
- Manage utility bills and automate utility bill analysis
- Integrate with any BMS to manage alarms and alerts, monitor points, adjust schedules and proactively control your building
- Monitor live meter data for CO_2 emissions, energy and utilities
- Track multiple IAQ measures
- Use reinforced ML and AI algorithms to analyze historical and real-time weather data, HVAC data and IAQ parameters, and then autonomously adjust systems to meet desired parameters
- Optimize energy-intensive assets

SOLUTIONS TO HELP DEMONSTRATE COMPLIANCE

Many of the solutions previously covered in this capabilities statement can help governments demonstrate their compliance to guidelines and regulations related to cybersecurity, security, fire and life safety and sustainability. Ask a Honeywell expert about how you can leverage our solutions to address our specific compliance needs.

IDENTIFY FINANCING OPTIONS

Competing spending priorities and debt restrictions may make it challenging for state, county, local and school district leaders to find the funds needed to make improvements to their buildings. Meanwhile, as buildings continue to age, building systems become obsolete and inefficient, and deferred maintenance costs may mount.

There are financing and funding options to help government entities to make necessary improvements.

Energy saving performance contracts (ESPCs) are often a solution for public organizations. An ESPC is a budget-neutral way to make building improvements that reduce energy and water use and pay for the improvements with the savings they will eventually generate. These improvements can range from lighting upgrades, building envelope enhancements and the deployment of renewal energy sources to more site- or project-specific needs.

As a leading energy service company (ESCO), Honeywell has decades of experience helping public sector customers take advantage of ESPCs to improve building performance with little or no impact on their capital spending budgets. We have the knowledge and experience to help public officials streamline the process and realize potential energy saving benefits. Honeywell has guaranteed $9.2B in energy and operational cost savings through more than 3,400 projects for customers around the world.

The process begins with a thorough assessment of each building's current infrastructure and operating expenditure. We help secure funding based on the projected energy savings and availability of grants, incentives and other programs that support infrastructure upgrades such as efficiency and sustainability improvements. Honeywell bears responsibility for cost, performance and outcomes of each project and guarantees the contracted results.

There are also similar grants and programs related to improving the safety infrastructure of schools. Honeywell can also help local governments as well as public and private schools to identify and apply for grants in which they may be eligible to deploy school safety upgrades.

THE HONEYWELL DIFFERENCE

Balancing competing priorities and doing more with less is business as usual for elected officials and government employees. That goes double for HSE, security and facilities professionals tasked with making public buildings safe, secure, more sustainable and comfortable for employees and building occupants.

Honeywell knows how to help improve building operations to deliver on critical outcomes with ready now solutions that can help comply with ever-increasing regulatory requirements and meet the highest expectations of stakeholders.

Find out what your building can achieve, with Honeywell

Visit us online or contact your Honeywell representative.

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10 U.S. Department of Energy, "State and Local government Energy Financing Primer," [Accessed April 28, 2023]

11 Markkula Center for Applied Ethics at Santa Clara University, "Trends in the Implementation of ESG Policies in State and Local Governments," February 8, 2022, [Accessed April 28, 2023]

THE FUTURE IS WHAT WE MAKE IT

Honeywell

Honeywell Building Technologies
715 Peachtree St NE
Atlanta, Georgia 30308
buildings.honeywell.com

TEXAS CHILLER SYSTEMS

Detailed Estimated Cost Breakdown

The estimated cost breakdown provides itemized pricing for equipment, labor, and materials, based on 2025 market rates and our internal estimates. Costs include taxes, permits, and overhead, focusing on replacing the 2001 chiller and 1977 AHUs, and upgrading associated systems. The actual pricing will be determined by mutually agreeable scope of services.

Category	Description	Quantity	Unit Cost	Total Cost
Equipment				
Air-Cooled Chiller	Trane CGAM (150 tons)	1	$165,000	$165,000
Air Handling Units	Semi-Custom (2 6,000 CFM & 2 12,000 CFM)	4	$65,000	$260,000
VAV Boxes	Titus DESV	30	$1,500	$45,000
Pumps	Bell & Gossett Series e-1510 (500 GPM)	3	$12,000	$36,000
Honeywell Controls	WebSTAT BMS with sensors and thermostats	1 lot	$100,000	$100,000
Subtotal (Equipment)				**$606,000**

14829 Bulverde Road
San Antonio, TX 78247
210-650-9972 Office 210-650-9973 Fax
TACLA 4767C TECL 39234 MPL-M39133
Regulated by the Texas Department of Licensing & Registration
PO Box 12157 Austin, TX 78711 800-803-9202

TCS
TEXAS CHILLER SYSTEMS

Category	Description	Quantity	Unit Cost	Total Cost
Materials				
Ductwork	Retrofitted, insulated galvanized steel	8,000 ft	$15/ft	$120,000
Piping	Copper, insulated	4,000 ft	$20/ft	$80,000
Electrical Wiring	Conduit, cabling, and panels	1 lot	$60,000	$60,000
Insulation and Sealing	High-performance insulation and seals	1 lot	$100,000	$100,000
Controls	Modification to AHUs & Chiller	1 lot	$25,000	$25,000
Subtotal (Materials)				**$385,000**
Labor				
HVAC Technicians	Installation and commissioning	1,800 hours	$100/hr	$180,000
Pipefitters	Piping installation	800 hours	$90/hr	$72,000
Electricians	Electrical and controls integration	600 hours	$95/hr	$57,000
Project Management	Oversight and coordination	300 hours	$120/hr	$36,000
Commissioning and Testing	System startup and performance testing	150 hours	$100/hr	$15,000
Subtotal (Labor)				**$360,000**

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TEXAS CHILLER SYSTEMS

Category	Description	Quantity	Unit Cost	Total Cost
Additional Costs				
Permits and Fees	Building permits and inspections	1 lot	$20,000	$20,000
MEP Design (6.5%)	MEP Engineering	1 lot	$89,115	$89,115
Subtotal (Additional)				**$109,115**
Sub-Total Project Cost				**$1,460,115**
Bonds (1.2%)				**$17,521.38**

Cost Notes

- **Equipment**: Prices reflect 2025 budget market rates with bulk discounts. The Trane CGAM chiller replaces the Trane RTAC140, and new AHUs replace 1977 units.
- **Materials**: Costs include delivery and storage. Insulation and sealing materials are selected for durability and efficiency.
- **Labor**: Rates are based on prevailing wages in Seguin, TX, for licensed HVAC technicians, pipefitters, electricians, and project managers. Labor hours assume a 5-month project timeline.
- **Design Fees**: A 6.5% design fee for Mechanical Electrical Plumbing Engineering.
- **Warranty**: Texas Chiller Systems provides a 1-year labor warranty on installation.

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TEXAS CHILLER SYSTEMS

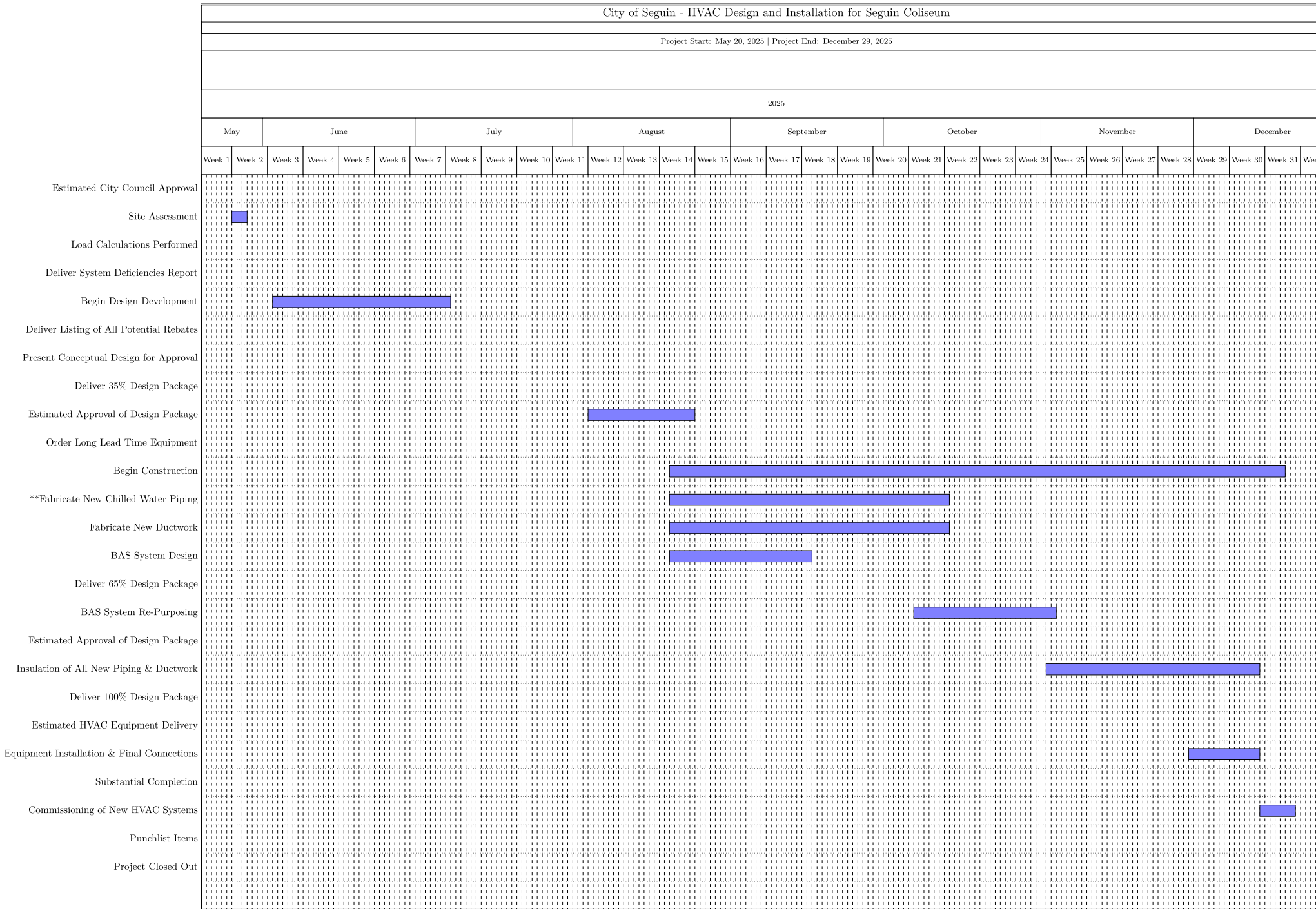
Commitment to Quality

Texas Chiller Systems is committed to delivering a high-performance HVAC system that meets the Coliseum's operational and sustainability goals. By replacing the 2001 chiller and 1977 AHUs, integrating Honeywell Controls, and leveraging energy-efficient equipment, we ensure long-term reliability and cost savings. We adhere to all local codes and ASHRAE standards, backed by our experienced team of licensed professionals.

Contact Information

- **Address**: 14829 Bulverde Road, San Antonio, TX 78247, USA
- **Website**: texaschillersystems.com
- **LinkedIn**: Texas Chiller Systems, LLC

We look forward to partnering with you to deliver a modernized HVAC solution for the Coliseum. Please contact us to discuss next steps or request additional details.


City of Seguin - HVAC Design and Installation for Seguin Coliseum
Project Start: May 20, 2025 | Project End: December 29, 2025
2025
May
June
July
August
September
October
November
December
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Week 13
Week 14
Week 15
Week 16
Week 17
Week 18
Week 19
Week 20
Week 21
Week 22
Week 23
Week 24
Week 25
Week 26
Week 27
Week 28
Week 29
Week 30
Week 31
Estimated City Council Approval
Site Assessment
Load Calculations Performed
Deliver System Deficiencies Report
Begin Design Development
Deliver Listing of All Potential Rebates
Present Conceptual Design for Approval
Deliver 35% Design Package
Estimated Approval of Design Package
Order Long Lead Time Equipment
Begin Construction
**Fabricate New Chilled Water Piping
Fabricate New Ductwork
BAS System Design
Deliver 65% Design Package
BAS System Re-Purposing
Estimated Approval of Design Package
Insulation of All New Piping & Ductwork
Deliver 100% Design Package
Estimated HVAC Equipment Delivery
Equipment Installation & Final Connections
Substantial Completion
Commissioning of New HVAC Systems
Punchlist Items
Project Closed Out

Income Statement Actuals - Monthly View	FY2024												
in $	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	FY 2024 TOTAL
Total Service Revenue	625,014	1,046,298	930,103	1,576,936	1,903,525	3,308,612	2,613,081	2,931,116	2,585,910	3,162,754	2,409,564	1,501,299	24,594,215
Total Project Revenue	5,171,775	4,567,556	5,009,091	3,135,393	2,182,784	864,266	3,611,415	3,260,970	3,428,565	3,494,615	2,280,328	3,405,358	40,412,115
Total Other Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue	**5,796,789**	**5,613,854**	**5,939,194**	**4,712,329**	**4,086,309**	**4,172,879**	**6,224,496**	**6,192,086**	**6,014,475**	**6,657,369**	**4,689,892**	**4,906,657**	**65,006,330**
Total Service Cost of Revenue	650,536	684,364	699,370	784,379	1,082,640	1,444,786	1,108,259	1,190,218	1,413,004	1,267,040	1,316,169	862,853	12,503,617
Total Project Cost of Revenue	3,551,970	2,447,735	2,792,103	1,828,945	2,838,805	3,290,392	1,593,200	2,599,541	1,825,597	2,969,652	1,582,289	2,076,791	29,397,019
Total Other Cost of Revenue	58,144	108,908	47,235	171,114	92,901	76,797	148,432	90,067	114,720	208,711	127,361	115,804	1,360,194
Total Cost of Revenue	**4,260,650**	**3,241,006**	**3,538,709**	**2,784,437**	**4,014,346**	**4,811,975**	**2,849,891**	**3,879,825**	**3,353,320**	**4,445,403**	**3,025,819**	**3,055,448**	**43,260,831**
	-4%												
Total Gross Profit	**1,536,139**	**2,372,848**	**2,400,485**	**1,927,892**	**71,963**	**(639,096)**	**3,374,606**	**2,312,260**	**2,661,155**	**2,211,966**	**1,664,073**	**1,851,208**	**21,745,499**
Total Gross Margin	*26.5%*	*42.3%*	*40.4%*	*40.9%*	*1.8%*	*-15.3%*	*54.2%*	*37.3%*	*44.2%*	*33.2%*	*35.5%*	*37.7%*	*33.5%*
SVC GM	**-4%**	**35%**	**25%**	**50%**	**43%**	**56%**	**58%**	**59%**	**45%**	**60%**	**45%**	**43%**	
Compensation & Benefits	499,980	1,184,990	808,611	564,064	869,585	659,090	681,047	552,774	692,083	565,337	902,035	947,465	8,927,061
Insurance	20,916	21,962	20,916	21,559	3,741	34,010	33,416	39,375	36,593	36,596	54,232	45,096	368,411
Office Expenses	98,431	131,609	119,515	118,900	131,510	(61,928)	154,838	126,413	152,640	148,769	137,746	164,851	1,423,296
Professional Fees	33,789	10,097	41,611	29,712	45,544	32,731	41,357	22,199	65,235	28,930	27,750	42,438	421,393
Rent & Utilities	35,701	56,297	68,977	61,969	60,910	91,177	103,049	104,133	188,277	187,299	99,768	70,806	1,128,363
Sales & Marketing	16,443	19,534	9,448	17,418	13,773	10,659	11,997	10,520	4,688	22,953	9,429	6,424	153,284
Tools & Other Materials	51,645	102,346	30,986	47,642	58,660	(13,006)	57,243	58,926	46,022	59,179	25,548	32,983	558,173
Vehicle Expenses	131,072	307,002	213,812	314,243	276,159	268,869	56,102	250,451	(204,024)	244,707	235,055	77,378	2,170,827
Other Operating Expenses	36,245	49,218	23,769	7,397	(111,980)	(423,022)	17,140	160,051	61,209	208,618	(129,643)	(127,033)	(228,031)
Operating Expenses	**924,223**	**1,883,055**	**1,337,643**	**1,182,904**	**1,347,901**	**598,581**	**1,156,188**	**1,324,844**	**1,042,723**	**1,502,387**	**1,361,921**	**1,260,407**	**14,922,777**
Adjusted EBITDA	**611,917**	**489,793**	**1,062,842**	**744,988**	**(1,275,938)**	**(1,237,677)**	**2,218,417**	**987,416**	**1,618,432**	**709,579**	**302,152**	**590,801**	**6,822,722**
Adjusted EBITDA Margin	*10.6%*	*8.7%*	*17.9%*	*15.8%*	*-31.2%*	*-29.7%*	*35.6%*	*15.9%*	*26.9%*	*10.7%*	*6.4%*	*12.0%*	*10.5%*
										150,469	**152,072**		
Depreciation	-	170,274	93,973	92,097	93,420	93,450	117,895	100,975	102,152	101,523	103,126	103,004	1,171,887
Amortization Expense - Finance Lease	20,951	23,422	25,893	64,060	38,228	38,228	75,900	48,712	49,339	48,946	48,946	48,946	531,570
Operating Profit	**590,966**	**296,097**	**942,977**	**588,832**	**(1,407,586)**	**(1,369,355)**	**2,024,622**	**837,729**	**1,466,941**	**559,110**	**150,079**	**438,851**	**5,119,265**
Operating Profit Margin	*10.2%*	*5.3%*	*15.9%*	*12.5%*	*(34.4)%*	*(32.8)%*	*32.5%*	*13.5%*	*24.4%*	*8.4%*	*3.2%*	*8.9%*	*7.9%*
Goodwill Amortization	-	-	-	617,588	154,397	154,397	154,397	154,397	154,397	154,397	154,397	154,397	1,852,764
Other (Income)/Expense	(867)	(11,773)	(1,476)	(3,601)	(1,155)	(55,082)	(3,523)	(2,008)	(7,413)	(3,755)	(2,749)	(1,176)	(94,577)
Interest (Income)/Expense	(9)	(315)	(15)	(25)	(26)	(4)	(3)	(2)	(2)	(0)	-	12,405	12,003
Taxes	-	-	73,817	-	-	-	-	-	-	41,679	-	-	115,496
All Other (Income)/Expense	**(877)**	**(12,088)**	**72,326**	**613,963**	**153,216**	**99,310**	**150,871**	**152,387**	**146,981**	**192,321**	**151,648**	**165,626**	**1,885,686**
Net Income	**591,842**	**308,185**	**870,651**	**(25,131)**	**(1,560,801)**	**(1,468,665)**	**1,873,751**	**685,342**	**1,319,960**	**366,789**	**(1,569)**	**273,225**	**3,233,579**
Net Margin	*10.2%*	*5.5%*	*14.7%*	*(0.5)%*	*(38.2)%*	*(35.2)%*	*30.1%*	*11.1%*	*21.9%*	*5.5%*	-	*5.6%*	*5.0%*

ADDENDUM FORM
Bid # AF-2025-38

Receipt is hereby acknowledged of the following Addenda to the Specifications:

ADDENDUM NO. 1 DATED April 4, 2025 ADDENDUM NO. 4 DATED _____
ADDENDUM NO. 2 DATED April 8, 2025 ADDENDUM NO. 5 DATED _____
ADDENDUM NO. 3 DATED April 17, 2025 ADDENDUM NO. 6 DATED _____

- **The Undersigned affirms that it is duly authorized to submit this bid, that this bid has not been prepared in collusion with any other bidder, and that the content of this bid as to prices, terms, or conditions of said bid has not been communicated to any other bidder prior to the official opening of this bid.**
- **The Undersigned certifies that pursuant to Section 2270.002 of the Texas Government Code, Bidder does not boycott Israel and will not boycott Israel during the term of the contract resulting from this solicitation.**
- **The Undersigned certifies that pursuant to S.B 19, Bidder does not boycott energy companies and will not boycott energy companies during the term of the contract.**
- **The Undersigned certifies that pursuant to S.B. 13, Bidder does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and will not discriminate during the term of the contract against a firearm entity or firearm trade association.**

Texas Chiller Systems
Company Name


Authorized Signature

14829 Bulverde Road
Address

Pete Smith
Printed Name

San Antonio, TX 78247
City, State, Zip Code

Account Executive
Title

(210) 669-8634
Phone No.

5/6/2025
Date

Email Address: peter.smith@texaschillersystems.com

BIDDER'S EXCEPTION FORM
Bid # AF-2025-38

This form must be completed and signed by an authorized representative of the company. Failure to do so may cause total bid to be rejected. If no exceptions are to proposed, indicate by stating "No Exceptions to Specifications" and sign in the appropriate space.

STATEMENT OF BIDDER:

WE PROPOSE THE FOLLOWING EXCEPTIONS TO THE SPECIFICATIONS:

SECTION	PAGE/ PARAGRAPH #	EXCEPTION
3. 03.	22	We request that this be a mutually agreed upon Scope of Work

NOTE: If additional pages are needed, attach to the back of this page and note "See Page 2-Deviations" on this page.

Texas Chiller Systems
Company Name

Authorized Signature

ATTACHMENT A
(Revised 5/23/23)

INSURANCE

SECTION A. Prior to the approval of this contract by the City, CONTRACTOR shall furnish a completed Insurance Certificate to the Purchasing office. The certificate shall be completed by an agent authorized to bind the named underwriter(s) to the coverages, limits, and termination provisions shown thereon, and shall furnish and contain all required information referenced or indicated thereon. CITY SHALL HAVE NO DUTY TO PAY OR PERFORM UNDER THIS CONTRACT UNTIL SUCH CERTIFICATE IS RECEIVED BY THE CITY OF SEGUIN'S PURCHASING DEPARTMENT, and no officer or employee of the City shall have authority to waive this requirement.

INSURANCE COVERAGE REQUIRED

SECTION B. CITY reserves the right to review the insurance requirements of this section during the effective period of the contract and to adjust insurance coverages and their limits when deemed necessary and prudent by CITY, based upon changes in statutory law, court decisions, or the claims history of the industry as well as the CONTRACTOR.

SECTION C. Subject to CONTRACTOR'S right to maintain reasonable deductibles in such amounts as are approved by CITY, CONTRACTOR shall obtain and maintain in full force and effect for the duration of this contract, and any extension hereof, at CONTRACTOR'S sole expense, insurance coverage written by companies approved by the State of Texas and acceptable to CITY, in the following type(s) and amount(s):

	TYPE	AMOUNT
1.	**Workers' Compensation** and **Employer's Liability**	Statutory
	NOTE: For building or construction projects, and services provided at City-owned facilities, the successful Contractor shall meet the minimum requirements defined in the Texas Workers' Compensation Commission Rule 28 TAC §110.110 which follows this insurance attachment.	
2.	**Commercial General (public) Liability** including coverage for the following:	
	a. Premises operations	$1,000,000 per occurrence
	b. Independent contractors	$2,000,000 aggregate
	c. Products/completed operations	
	d. Personal injury	
	e. Advertising injury	
	f. Contractual liability	
	g. Medical payments	
	h. Professional liability*	
	i. Underground hazard*	
	j. Explosion and collapse hazard*	
	k. Liquor liability*	
	l. Fire legal liability*	
	m. City's property in Contractor's* care, custody, or control	
	n. Asbestos specific liability*	
	* **Not required for this contract**	
3.	**Comprehensive Automobile Liability** insurance, including coverage for loading and unloading hazards, for:	$1,000,000 per occurrence
	a. Owned/leased vehicles	

b. Non-owned vehicles
c. Hired vehicles

4.	**Errors and Omissions** insurance policy (when applicable)	$1,000,000 per occurrence or claim $2,000,000 aggregate for the willful or negligent acts or omissions of any no less than officers, employees or agents thereof
5.	**Cyber** (when applicable)	$2,000,000

ADDITIONAL POLICY ENDORSEMENTS

CITY shall be entitled, upon request, and without expense, to receive copies of the policies and all endorsements thereto and may make any reasonable request for deletion, revision, or modification of particular policy terms, conditions, limitations, or exclusions (except where policy provisions are established by law or regulation binding upon either of the parties hereto or the underwriter of any of such policies). Upon such request by CITY, CONTRACTOR shall exercise reasonable efforts to accomplish such changes in policy coverages, and shall pay the cost thereof.

REQUIRED PROVISIONS

CONTRACTOR agrees with respect to the above required insurance, all insurance contracts and certificate(s) of insurance will contain and state, in writing, on the certificate or its attachment, the following required provisions.

a. Name the City of Seguin and its officers, employees, and elected representatives as an Additional Insured(s), (as the interest of each insured may appear) to all applicable coverage.

b. Provide for 30 days notice to City for cancellation, non-renewal, or material change.

c. Provide for notice to City at the address shown below by registered mail.

d. CONTRACTOR agrees to waive subrogation against the City of Seguin, its officers, employees, and elected representatives for injuries, including death, property damage, or any other loss to the extent same may be covered by the proceeds of insurance.

e. Provide that all provisions of this agreement concerning liability, duty, and standard of care together shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies.

f. For coverages that are **only** available with claims made policies, the required period of coverage will be determined by the following formula: Continuous coverage for the life of the contract, plus one year (to provide coverage for the warranty period) and an extended discovery period for a minimum of five years which shall begin at the end of the warranty period.

NOTICES

CONTRACTOR shall notify CITY in the event of any change in coverage and shall give such notices not less than thirty (30) days prior to the change, which notice must be accompanied by a replacement CERTIFICATE OF INSURANCE. All notices shall be given to CITY at the following address:

Purchasing Department
City of Seguin
P.O. Box 591
Seguin, Texas 78156

SECTION D. Approval, disapproval, or failure to act by CITY regarding any insurance supplied by CONTRACTOR shall not relieve CONTRACTOR of full responsibility or liability for damages and accidents as set forth in the contract documents. Neither shall the bankruptcy, insolvency, or denial of liability by the insurance company exonerate CONTRACTOR from liability.

WORKERS COMPENSATION INSURANCE
for
Building or Construction Projects and Services Provided at City-Owned Facilities

TEXAS WORKERS' COMPENSATION COMMISSION RULE 28 § 110.110

****

As required by the Texas Workers' Compensation Rule 28, §110.110, the Contractor shall accept the following definitions and comply with the following provisions:

Workers' Compensation Insurance Coverage

A. Definitions:

1. Certificate of coverage ("certificate")-A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

2. Duration of the project-includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the City of Seguin.

3. Persons providing services on the project ("subcontractor" in Section 406.096) - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent Contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.

C. The Contractor must provide a certificate of coverage to the City of Seguin prior to being awarded the contract.

D. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the City of Seguin showing that coverage has been extended.

E. The Contractor shall obtain from each person providing services on a project, and provide to the City of Seguin:

1. A certificate of coverage, prior to that person beginning work on the project, so the City of Seguin will have on file certificates of coverage showing coverage for all persons providing services on the project; and

2. No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

F. The Contractor shall retain all required certificates of coverage for the duration of the project and for one (1) year thereafter.

G. The Contractor shall notify the City of Seguin in writing by certified mail or personal delivery, within ten (10) days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:

1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

2. Provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project.

3. Provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

4. Obtain from each other person with whom it contracts, and provide to the Contractor:

   a. A certificate of coverage, prior to the other person beginning work on the project; and

   b. A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

5. Retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter;

6. Notify the City of Seguin in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

7. Contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the City of Seguin that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the City of Seguin to declare the contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the City of Seguin.

As defined by the Texas Labor Code, Chapter 269, Section 406.096(e), building or construction is defined as:

1. Erecting or preparing to erect a structure, including a building, bridge, roadway, public utility facility, or related appurtenance;

2. Remodeling, extending, repairing, or demolishing a structure; or

3. Otherwise improving real property or an appurtenance to real property through similar activities.

The employment of a maintenance employee who is not engaging in building or construction as the employer's primary business does not constitute engaging in building or construction.

CITY OF SEGUIN
INSURANCE REQUIREMENT AFFIDAVIT

To be Completed By Appropriate Insurance Agent

and submitted with bid proposal.

I, the undersigned Agent/Broker, certify that the insurance requirements contained in this bid document have been reviewed by me with the below identified Contractor. If the below identified Contractor is awarded this contract by the City of Seguin, I will be able to, within ten (10) days after being notified of such award, furnish a valid insurance certificate to the City meeting all of the requirements defined in this bid.

Jocelynne Rodas
Agent (Signature)

Jocelynne Rodas
Agent (Print)

Name of Agency/Broker: **USI Insurance Services LLC**

Address of Agent/Broker: **3190 Fairview Park Dr. Suite 400**

City/State/Zip: **Falls Church, VA 22042**

Agent/Broker Telephone #: (**571**) **369- 5173**

CONTRACTOR'S NAME: **Texas Chiller Systems**
(Print or Type)

NOTE TO AGENT/BROKER

If this time requirement is not met, the City has the right to invalidate the bid award and award the contract to the next lowest bidder meeting specifications. Should an awarded bid be invalidated the Contractor may be liable for breach of contract. If you have any questions concerning these requirements, please contact the Purchasing Manager for the City of Seguin at (830) 401-2451

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2025-1304823

Date Filed:
05/05/2025

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Texas Chiller Systems
San Antonio, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Seguin

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

RFQ #AF-2025-38
HVAC Design and Installation

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Peter Smith, and my date of birth is 11/25/1973.

My address is 14829 Bulverde Road, San Antonio, TX, 78247, USA.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Bexar County, State of Texas, on the 5th day of May (month), 20 25 (year).

Signature of authorized agent of contracting business entity
(Declarant)

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

NONE
Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 Signature of vendor doing business with the governmental entity

5/5/2025
Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

TEXAS CHILLER SYSTEMS

May 6, 2025

City of Seguin

Ref: TCS E25-0121 RFQ #AF-2025-38 City of Seguin – HVAC Design & Installation

Texas Chiller Systems is pleased to present our offer to perform the following scope of work complete with supervision, tools, material, fixtures, labor, insurance, and incidentals.

- Provide Project Management.
- Provide Equipment Submittals.
- Provide Construction Schedule.
- Provide Schedule of Values.
- Provide Billing Schedule.

Mechanical

- Demolition of Chiller, Pumps, & Hydronic Specialties.
- Provide crane & rigging for removal of old & setting of new chiller.
- Provide & install (1) 140-ton air-cooled chiller.
- Provide & install CHW piping, valves, & steel supports to new chiller.
- Provide & install Temporary Taps for future temporary chiller hook-up.
- New Chillers to be the following:
  - High Efficiency
  - Scroll Compressors
  - (4) stage capability
  - BACnet Card
  - Hail Guards
  - Neoprene Pads
- Pour concrete housekeeping pad modification, if needed.
- Provide & install (2) CHW & (1) HHW Pumps and Appurtenances.
- Provide & install (2) air separators for the CHW & HHW loops.
- Provide & install (2) chemical feed tanks for the CHW & HHW loops.
- Provide closed loop chemical treatment to the CHW HHW loops.
- Provide & install insulation on new piping outdoors with heat trace & metal jacketing.
- Provide & install insulation in the mechanical room for any damaged piping.
- Provide start-up of new chiller & pumps.
- Provide & install (4) new custom AHUs to fit withing existing mechanical rooms.
- Provide start-up new Air Handling Units.
- Provide & install new ductwork for air distribution.
- Provide & install new air devices.
- Provide & install new Grills, Registers, & Diffusers.
- Provide Airside & Waterside Test & Balance.
- Insulate new Ductwork & perform Air Leakage Test.

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Electrical

- Demolition of existing outdoor disconnect.
- Demolition of existing CHW & HHW Pump starters.
- Provide & install Disconnect with (3) Fuses.
- Provide new properly sized Breaker for (1) new chiller.
- Provide properly EMT Conduit & Wire for new chillers.
- Provide & install Heat Trace for Outdoor CHW Piping.
- Provide and install (2) new Breakers for (1) CHW & (1) HHW Pumps.
- Provide properly sized Conduit & Wire for new Pumps.
- Provide & install (4) new Variable Speed Drives for (4) new Pumps.
- Provide start-up of Variable Frequency Drives.

Controls

- Demolition of existing outdoor control conduit & wire.
- Provide Engineering of new control system & integration into existing.
- Tridium Niagara JACE with Connection to existing BACnet System
- Commissioning Support
- Provide Training
- Items Included for new Chilled Water System
- BACnet DDC Controls for CHW System – We will furnish the following controls:

- (2) CHW Pumps (2) Control/Status
- Supply/ Return Temperature Sensors
- Makeup water Flow Meter
- New Chiller Enable with MSTP Communication to Chiller BACnet Card

- BACnet DDC Control for new HW System - DDC Enabling of HW Boiler Control Panel.

- Control/Status of (1) new HHW Pumps
- Supply/Return Temp Sensors to DDC Panel

Exclusions:

- **Electrical Service Upgrades are specifically excluded. This proposal assumes there is enough existing electrical capacity to support new HVAC equipment.**
- Temporary Cooling – Can be provided at additional cost, if needed
- Payment & Performance Bonds (1.25%)
- Special testing & certifications.
- Site work or Underground Utilities.
- Delays and Disruptions out of TCS's control.
- Infection/Dust control.
- Cutting and patching of any walls, floors, or ceilings.
- The identification and or removal of ACMs of any nature.
- Roof penetrations or patching.
- Fire Protection of any kind.
- Warranty on any existing equipment.
- Any scope of work not clearly indicated in the bid documents.

Material costs have been calculated based on the current prices for labor, equipment, and materials.

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However, current economic conditions have created market volatility and sudden price increases may occur.
If prices escalate due to tariffs, material shortages, labor unavailability, or any other event beyond TCS' control, TCS will be entitled to an equitable adjustment to the contract sum.

Unless otherwise agreed in writing, a quotation provided by TCS may be accepted up to 30 days from the quotation date, after which TCS reserves the right to amend or withdraw it.

The price for the above scope, not including any applicable taxes, is **based upon mutually agreeable scope of services.**

Pricing Breakdown:
TBD

In order to accept this offer, the attached Texas Chiller Systems Agreement must be fully filled out, executed by an authorized agent/officer, and returned to Texas Chiller Systems within thirty (30) days of the date of this offer. This offer cannot be accepted in any other manner.

Please call me if you have any questions about this offer.

Sincerely,

Texas Chiller Systems

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TEXAS CHILLER SYSTEMS

TERMS AND CONDITIONS

By accepting this proposal, Purchaser agrees to be bound by the following terms and conditions:

SCOPE OF WORK. This proposal is based upon the use of straight time labor only. Plastering, patching and painting are excluded. "In-line" duct and piping devices, including, but not limited to, valves, dampers, humidifiers, wells, taps, flow meters, orifices, etc., if required, hereunder to be furnished by Texas Chiller Systems, shall be distributed and installed by others under Texas Chiller System's supervision but at no additional cost to Texas Chiller Systems. Purchaser agrees to provide Texas Chiller Systems with required field utilities (electricity, toilets, drinking water, project hoist, elevator service, etc.) without charge. Texas Chiller Systems agrees to keep the site clean of debris arising out of its own operation. Purchaser shall not back charge Texas Chiller Systems for any costs or expenses without Texas Chiller Systems written consent. Unless specifically noted in the statement of the scope of work or service undertaken by Texas Chiller Systems under this agreement, Texas Chiller System's obligations under this agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean-up, control, removal, or disposal of environment hazards or dangerous substances, to include but not limited to asbestos or PCB's, discovered in or on the premises. Any language or provision of the agreement elsewhere contained which may authorize or empower the Purchaser to change, modify, or alter the scope of work or services to be performed by Texas Chiller Systems shall not operate to compel Texas Chiller Systems to perform any work relating to Hazards without Texas Chiller Systems express written consent.

PAYMENT TERMS. Payment of invoices are due in Texas Chiller System's office within thirty (30) days of issuance of such invoice. Invoices not timely paid within these terms stated shall be considered past due, and are then subject to interest accruing at the rate of 1.5% per month.

PARTIAL BILLING TERMS. This project will be invoiced according to the following schedule:

1st invoice – 30% at contract execution
2nd invoice – 30% at equipment shipment from factory
3rd invoice – 35% at equipment start up
4th invoice – 5% at project completion

MATERIALS. If the materials or equipment included in this proposal become temporarily or permanently unavailable for reasons beyond the control and without the fault of Texas Chiller Systems, then in the case of such a temporary unavailability, the time for performance of the work shall be extended to the extent thereof, and in the case of permanent unavailability, Texas Chiller Systems shall (a) be excused form furnishing said materials or equipment and (b) be reimbursed for the difference between the cist of the materials or equipment permanently unavailable and the cost of a reasonably available substitute therefore.

Warranty. For new manufactured equipment: Texas Chiller Systems warrants that new manufactured equipment shall be free from defects in material and workmanship arising from normal usage for a period of one (1) year from delivery of said equipment, or if installed by Texas Chiller Systems, for a period of one (1) year from date of installation. "Manufactured equipment" is defined as a motor driven unit with serial number, model number and identification tag. Individual parts, coils or pieces of manufactured equipment provided by Texas Chiller Systems do not fall under the one (1) year warranty period. Further, this warranty does not extend to any manufactured equipment which has been repaired by others, abused, altered or misused, or which has not been properly and reasonably maintained. Any repair work not covered by the one (1) year warranty defined above will have a thirty (30) day warranty for labor, but all parts or materials associated with these repairs will carry the manufacturer's warranty only. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. If customer fails to pay all invoices in full, it is agreed that there shall be no warranty provided.

LIABILITY. Texas Chiller Systems shall not be liable for any special, indirect or consequential damages arising in any manner from the equipment or material furnished or the work performed pursuant to this agreement.

TAXES. The price of this proposal does not include duties, sales, use, excise, or other similar taxes, unless required by federal, state, or local law. Purchaser shall pay, in addition to the stated price, all taxes not legally required to be paid by Texas Chiller Systems or, alternatively, shall provide Texas Chiller Systems with acceptable taxes exemption certificates. Texas Chiller Systems shall provide Purchaser with any tax payment certificate upon request and after completion and acceptance of the work.

DELAYS. Texas Chiller Systems shall not be liable for any delay in the performance of the work resulting from or attributed to acts of circumstances beyond Texas Chiller System's control, including, but not limited to, acts of God, fire, riots, labor disputes, conditions of the premises, acts or omissions of the Purchaser, Owner, or other Contractors or delay caused by suppliers or subcontractors of Texas Chiller Systems, etc.

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COMPLIANCE WITH LAWS. Texas Chiller Systems shall comply with all applicable federal, state and local laws and regulations and shall obtain all temporary licenses and permits required for the prosecution of the work. Licenses and permits of a permanent nature shall be procured and paid for by the Purchaser.

VENUE. All invoices are due and payable in Texas Chiller System's office located at 14829 Bulverde Road., San Antonio, Texas 78247. In the event legal action is commenced to enforce payment of obligations, venue for such legal action shall be in Bexar County, Texas, and the undersigned agrees to pay whatever sum the court determines to be reasonable attorney's fees, plus all expenses and costs incurred.

INSURANCE. Insurance coverage in excess of Texas Chiller Systems standard limits will be furnished when requested and required. No credit will be given or premium paid by Texas Chiller Systems for insurance afforded by others.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specification involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Note: This proposal may be withdrawn by us if not accepted within thirty (30) days from the date above.

Acceptance of Proposal – The Above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance:_____

Name of Company:_____

Purchase Order Number:_____

Signature:_____

Printed Name:_____

Title:_____

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TEXAS CHILLER SYSTEMS

Texas Chiller Systems

Payment & Fees

Project Scope & Assessment

The payment & fees associated with this project will be determined after the site assessment is performed and evaluated by the design engineer, Texas Chiller Systems, & the owner, the City of Seguin.

With input from the Owner, we will budget specific energy efficient scopes of work that will deliver better efficiency, comfort, & comfort for your customers.

Final pricing will be submitted after mutually agreeable scopes of work are defined.

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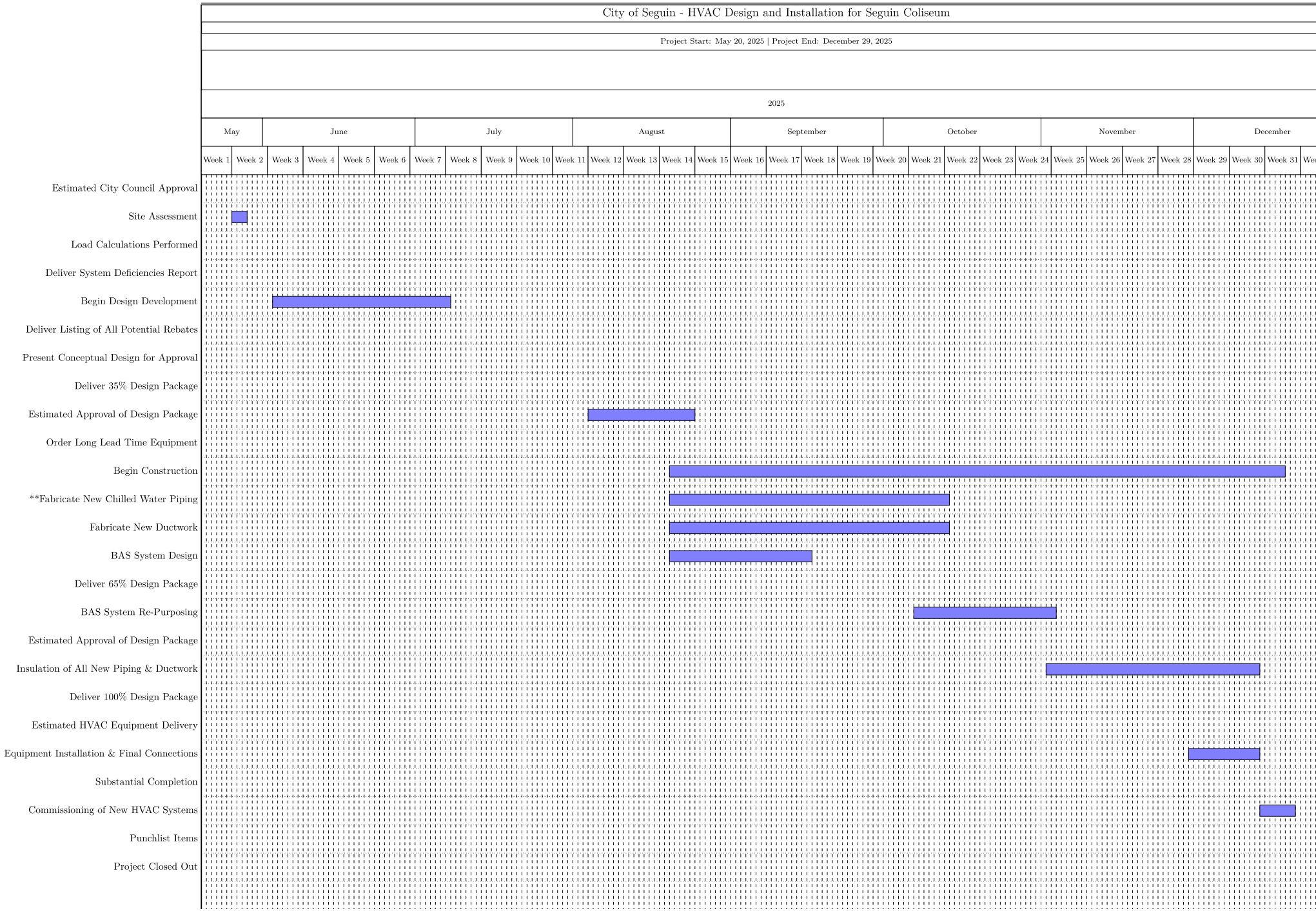
City of Seguin - HVAC Design and Installation for Seguin Coliseum
Project Start: May 20, 2025 | Project End: December 29, 2025
2025
May
June
July
August
September
October
November
December
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Week 13
Week 14
Week 15
Week 16
Week 17
Week 18
Week 19
Week 20
Week 21
Week 22
Week 23
Week 24
Week 25
Week 26
Week 27
Week 28
Week 29
Week 30
Week 31
Estimated City Council Approval
Site Assessment
Load Calculations Performed
Deliver System Deficiencies Report
Begin Design Development
Deliver Listing of All Potential Rebates
Present Conceptual Design for Approval
Deliver 35% Design Package
Estimated Approval of Design Package
Order Long Lead Time Equipment
Begin Construction
**Fabricate New Chilled Water Piping
Fabricate New Ductwork
BAS System Design
Deliver 65% Design Package
BAS System Re-Purposing
Estimated Approval of Design Package
Insulation of All New Piping & Ductwork
Deliver 100% Design Package
Estimated HVAC Equipment Delivery
Equipment Installation & Final Connections
Substantial Completion
Commissioning of New HVAC Systems
Punchlist Items
Project Closed Out

TEXAS CHILLER SYSTEMS

Texas Chiller Systems

Bonds

Bond

Texas Chiller Systems will provide Payment & Performance Bonds of 1.2% of the total project cost.

We are Bonded through Berkshire Hathaway Specialty Insurance Company. Their address is 1314 Douglas Street, Suite 1400 Omaha, NE 68102.

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