

Bidding and Contract Requirements
Addendum No. 1

Date: June 2, 2021
To: Plan Holders
Subject: Addendum No. 1 to the Bidding Documents for: ITB No. 2021-003

Satellite Jail HVAC Replacement Project
502 South Lierman Avenue
Urbana, Illinois

Addendum No. 1 becomes a part of the bidding and contract documents and modifies the original bidding documents, dated May 5, 2021. Acknowledge receipt of Addendum No. 1 in the space provided on Bid Form. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.**

Specifications

1. Specification Section 23 2500 - HVAC Water Treatment
 - a. Delete section in its entirety and replace with the attached revised Section 23 2500.
2. Specification Section 28 3111 - Digital Addressable Fire-Alarm System
 - a. Page 28 3111-1, Paragraphs 1.2-A.2., 7. and 8. - Delete in their entirety.
 - b. Page 28 3111-4, Paragraph 2.1-A. - Delete in its entirety and replace with the following:
 - A. All components provided shall be listed for use with the existing Simplex 4100 ES System.

Drawings

1. Sheet A103 - ROOF PLAN - ARCHITECTURAL
 - a. REVISE structural layout as shown. See attached sheet.
 - b. ADD roofing cut and patch note. See attached sheet.
2. Sheet A201 - ROOF PLAN - DEMOLITION / DETAILS
 - a. ADD penthouse steel fireproofing note. See attached sheet
 - b. ADD roofing note for column installation. See attached sheet.
3. Sheet M-102 - SECOND FLOOR PLAN - AREA B - HVAC
 - a. REVISE piping sizes. See attached sheet.
 - b. ADD note for rerouting of existing plumbing vent. See attached sheet.

4. Sheet M-201 - ENLARGED FLOOR PLANS - HVAC
 - a. REVISE piping sizes. See attached sheet.
 - b. ADD note for installation of Air Measuring Stations. See attached sheet.
5. Sheet M-202 - ENLARGED FLOOR PLANS - NEW PENTHOUSE - HVAC
 - a. REVISE piping sizes. See attached sheet.
 - b. ADD note for installation of Air Measuring Stations. See attached sheet.
6. Sheet M-400 - SCHEDULES - HVAC
 - a. REVISE AHU schedule. See attached sheet.
7. Sheet M-500 - CONTROLS DIAGRAMS - HVAC
 - a. REVISE control drawing details. See attached sheet.
 - b. ADD note to read "Note: Coordinate base bid contract work with control contract work per control drawings."
8. Sheet S-100 - STRUCTURAL DETAILS
 - a. ADD penthouse structural steel details. See attached sheet.
9. Sheet E103 - ROOF PLAN - ELECTRICAL
 - a. REVISED keyed note regarding panel 'PH2A' to no. 13. There had been (2) keyed notes numbered no. 14.

Bids are due Friday, June 4, 2021 at 3:00 p.m. central time at the Lyle Shields Conference Room, Brookens Administrative Center, 1776 East Washington, Urbana, Illinois.

Respectfully submitted,

GHR Engineers and Associates, Inc.

Richard Van Note
Project Manager
Phone: 217-356-0536
Fax: 217-356-1092

RCVN/smh

Addendum No. 1 - Satellite Jail HVAC Replacement Project.wpd

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base Bid

1. Mechanical Contractor: Work includes the following HVAC water-treatment systems:
 - a. Chemical treatment test equipment.
 - b. HVAC water-treatment chemicals.

1.2 DEFINITIONS

- A. EEPROM: Electrically erasable, programmable read-only memory.
- B. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.
- C. TDS: Total dissolved solids.

1.3 PERFORMANCE REQUIREMENTS

- A. Water quality for HVAC systems shall minimize corrosion, scale buildup, and biological growth for optimum efficiency of HVAC equipment without creating a hazard to operating personnel or the environment.
- B. Base HVAC water treatment on quality of water available at Project site, HVAC system equipment material characteristics and functional performance characteristics, operating personnel capabilities, and requirements and guidelines of authorities having jurisdiction.
- C. Closed hydronic systems, including ~~(2)~~ glycol hot water and chilled water loop systems, shall have the following water qualities:
 1. Propylene Glycol
 - a. This product shall be an industrially inhibited ~~ethylene~~ **propylene** glycol based antifreeze solution to provide freeze and corrosion protection in HVAC systems such as chilled water and hot water heating systems. The product shall not make use of any silicate containing corrosion inhibitors and should not be formulated to provide corrosion protection for aluminum or galvanized metals. The product shall be formulated to provide corrosion protection for the common metals of construction

in HVAC systems such as steel, copper, brass, bronze, solders, etc. Corrosion rates on these metals as determined under ASTM D1384 shall not exceed 0.5 mils penetration per year.

Composition	% By Weight
Ethylene Propylene Glycol (Total Glycols)	92.5%
Dye, Inhibitors and Water	7.5%
Specific Gravity 60/60 F	1.133-1.140
Reserve Alkalinity (ASTM D1121)	Minimum 20 ml
Sulfates and Chlorides Total	50 ppm
pH (50% Solution)	8.5-9.0

- b. The product shall contain a small percentage of an effective antifoam compound, (such as Dow Corning Antifoam A) to prevent the formation of foam.
 - c. The product shall be furnished in 55 gallon steel drums which are in good condition and shall be fitted with standard bung plugs and seals to prevent contamination of product.
2. Solutions shall be 30% ~~ethylene~~ **propylene** glycol by weight, ~~14%~~ **28%** ~~ethylene~~ **propylene** glycol by volume. Galvanized steel and / or aluminum shall not be used in contact with glycol solutions.
 3. Provide fractional horsepower self-priming transfer pump to allow filling of glycol systems. Pump shall be 120 VAC, cord and plug connected with hose end fittings. Provide 15' length of 3/4" flexible hose with hose end fittings to match hose bibb threads and pump fittings. Turn pump and hose over to Owner upon project completion and obtain receipt.
 4. Water used in ethylene glycol systems shall be potable, free of foreign materials, and shall have low (below 50 ppm) levels of chloride, sulfate and hard water ions.
 5. Procedure to introduce ~~ethylene~~ **propylene** glycol to systems:
 - a. Sample the local potable water supply. If levels of chloride, sulfate or hard water hardness exceed 50 ppm, then provide acceptable water from off-site and notify the Architect / Engineer in writing so arrangements can be made by the Owner for a water-softening service.
 - b. Calculate the amount of ~~ethylene~~ **propylene** glycol required based on system volume.
 - c. Pressure test system. Repair all leaks.
 - d. Drain enough water from system to provide space for ~~ethylene~~ **propylene** glycol.
 - e. Add the correct amount of inhibited ~~ethylene~~ **propylene** glycol solution and water.
 - f. Circulate solution for at least 24 hours to ensure complete mixing. Withdraw one sample per system and forward sample to ~~ethylene~~ **propylene** glycol manufacturer for analyses. Analyses shall include concentration, freeze point, pH, reserve alkalinity and appearance. Submit in a report the degradation products, scale promoters, contaminants, corrosives and inhibitors. Forward copies of potable water and of glycol analyses to Architect / Engineer.
 6. Stencil test dates on expansion tanks below system volume figures.

7. Glycol systems shall be separated from potable water systems by air gaps or by code-approved backflow preventers.
8. Acceptable Manufacturers
 - a. Arco Chemical - Chill Safe
 - b. Dow Chemical Dowtherm 4000
 - c. DuPont or Interstate Intercool OP-100-RA-25 (800-322-6145)
 - d. Union Carbide UCAR Food Freeze
 - e. ***Rhomar Water.***
9. Forward shop drawing submittals to Architect / Engineer for review. Automotive anti-freeze is not acceptable.

D. Passivation for Galvanized Steel: For the first 60 days of operation.

1. pH: Maintain a value within 7 to 8.
2. Calcium Carbonate Hardness: Maintain a value within 100 to 300 ppm.
3. Calcium Carbonate Alkalinity: Maintain a value within 100 to 300 ppm.

1.4 SUBMITTALS

- A. Product Data: Include rated capacities, operating characteristics, furnished specialties, and accessories for the following products:
 1. Chemical solution tanks.
 2. Chemical test equipment.
 3. Chemical material safety data sheets.
- B. Shop Drawings: Pretreatment and chemical treatment equipment showing tanks, maintenance space required, and piping connections to HVAC systems. Include plans, elevations, sections, details, and attachments to other work.
 1. Wiring Diagrams: Power and control wiring.
- C. Field quality-control test reports.
- D. Other Informational Submittals:
 1. Water-Treatment Program: Written sequence of operation on an annual basis for the application equipment required to achieve water quality defined in the "Performance Requirements" Article above.
 2. Water Analysis: Illustrate water quality available at Project site.
 3. Passivation Confirmation Report: Verify passivation of galvanized-steel surfaces, and confirm this observation in a letter to Architect.

1.5 QUALITY ASSURANCE

- A. HVAC Water-Treatment Service Provider Qualifications: An experienced HVAC water-treatment service provider capable of analyzing water qualities, installing water-treatment equipment, and applying water treatment as specified in this Section.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 MAINTENANCE SERVICE

- A. Scope of Maintenance Service: Provide chemicals and service program to maintain water conditions required above to inhibit corrosion, scale formation, and biological growth for geothermal ground loop system and equipment. Services and chemicals shall be provided for a period of one year from date of Substantial Completion, and shall include the following:
 - 1. Initial water analysis and HVAC water-treatment recommendations.
 - 2. Startup assistance for Contractor to flush the systems, clean with detergents, and initially fill systems with required chemical treatment prior to operation.
 - 3. Periodic field service and consultation.
 - 4. Customer report charts and log sheets.
 - 5. Laboratory technical analysis.
 - 6. Analyses and reports of all chemical items concerning safety and compliance with government regulations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ampion Corp.
 - 2. Anderson Chemical Co, Inc.
 - 3. Aqua-Chem, Inc.; Cleaver-Brooks Div.
 - 4. Barclay Chemical Co.; Water Management, Inc.
 - 5. Boland Trane Services
 - 6. GE Betz.
 - 7. GE Osmonics.
 - 8. H-O-H Chemicals, Inc.
 - 9. Metro Group. Inc. (The); Metropolitan Refining Div.

10. ONDEO Nalco Company.
11. Watcon, Inc.

2.2 STAINLESS-STEEL PIPES AND FITTINGS

- A. Stainless-Steel Tubing: Comply with ASTM A 269, Type 316.
- B. Stainless-Steel Fittings: Complying with ASTM A 815/A 815M, Type 316, Grade WP-S.
- C. Two-Piece, Full-Port, Stainless-Steel Ball Valves: ASTM A 351, Type 316 stainless-steel body; ASTM A 276, Type 316 stainless-steel stem and vented ball, carbon-filled TFE seats, threaded body design with adjustable stem packing, threaded ends, and 250-psig SWP and 600-psig CWP ratings.
- D. Three-Piece, Full-Port, Stainless-Steel Ball Valves: ASTM A 351, Type 316 stainless-steel body; ASTM A 276, Type 316 stainless-steel stem and vented ball, threaded body design with adjustable stem packing, threaded ends, and 150-psig SWP and 600-psig CWP rating.

2.3 CHEMICAL TREATMENT TEST EQUIPMENT

- A. Test Kit: Manufacturer-recommended equipment and chemicals in a wall-mounting cabinet for testing pH, TDS, inhibitor, chloride, alkalinity, and hardness; sulfite and testable polymer tests for high-pressure boilers, and oxidizing biocide test for open cooling systems.
- B. Sample Cooler:
 1. Tube: Sample.
 - a. Size: NPS 1/4 tubing.
 - b. Material: ASTM A 666, Type 316 stainless steel.
 - c. Pressure Rating: Minimum 2000 psig.
 - d. Temperature Rating: Minimum 850 deg F.
 2. Shell: Cooling water.
 - a. Material: ASTM A 666, Type 304 stainless steel.
 - b. Pressure Rating: Minimum 250 psig.
 - c. Temperature Rating: Minimum 450 deg F.
 3. Capacities and Characteristics:
 - a. Tube: Sample.
 - 1) Flow Rate: 0.25 gpm.
 - 2) Entering Temperature: 400 deg F.
 - 3) Leaving Temperature: 88 deg F.
 - 4) Pressure Loss: 6.5 psig.

b. Shell: Cooling water.

- 1) Flow Rate: 3 gpm.
- 2) Entering Temperature: 70 deg F.
- 3) Pressure Loss: 1.0 psig.

C. Corrosion Test-Coupon Assembly: Constructed of corrosive-resistant material, complete with piping, valves, and mild steel and copper coupons. Locate copper coupon downstream from mild steel coupon in the test-coupon assembly.

1. Two-station rack for closed-loop systems.

2.4 CHEMICALS

A. Chemicals shall be as recommended by water-treatment system manufacturer that are compatible with piping system components and connected equipment, and that can attain water quality specified in Part 1 "Performance Requirements" Article.

B. Water Softener Chemicals:

1. Mineral: High-capacity, sulfonated-polystyrene ion-exchange resin that is stable over entire pH range with good resistance to bead fracture from attrition or shock. Resin exchange capacity minimum 30,000 grains/cu. ft. of calcium carbonate of resin when regenerated with 15 lb of salt.
2. Salt for Brine Tanks: High-purity sodium chloride, free of dirt and foreign material. Rock and granulated forms are not acceptable.

PART 3 - EXECUTION

3.1 WATER ANALYSIS

A. Perform an analysis of supply water to determine quality of water available at Project site.

3.2 INSTALLATION

- A. Install chemical application equipment on concrete bases, level and plumb. Maintain manufacturer's recommended clearances. Arrange units so controls and devices that require servicing are accessible. Anchor chemical tanks and floor-mounting accessories to substrate.
- B. Install water testing equipment on wall near water chemical application equipment.
- C. Install interconnecting control wiring for chemical treatment controls and sensors.
- D. Mount sensors and injectors in piping circuits.

- E. Bypass Feeders: Install in closed hydronic systems, including geothermal ground loop system and equipped with the following:
 - 1. Install bypass feeder in a bypass circuit around circulating pumps, unless otherwise indicated on Drawings.
 - 2. Install water meter in makeup water supply.
 - 3. Install test-coupon assembly in bypass circuit around circulating pumps, unless otherwise indicated on Drawings.
 - 4. Install a gate or full-port ball isolation valves on inlet, outlet, and drain below feeder inlet.
 - 5. Install a swing check on inlet after the isolation valve.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.
- C. Make piping connections between HVAC water-treatment equipment and dissimilar-metal piping with dielectric fittings. Dielectric fittings are specified in Division 23 Section "Common Work Results for HVAC."
- D. Install shutoff valves on HVAC water-treatment equipment inlet and outlet. Metal general-duty valves are specified in Division 23 Section "General-Duty Valves for HVAC Piping."
- E. Refer to Division 22 Section "Domestic Water Piping Specialties" for backflow preventers required in makeup water connections to potable-water systems.
- F. Confirm applicable electrical requirements in Division 26 Sections for connecting electrical equipment.
- G. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
- H. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.
- B. Perform tests and inspections and prepare test reports.

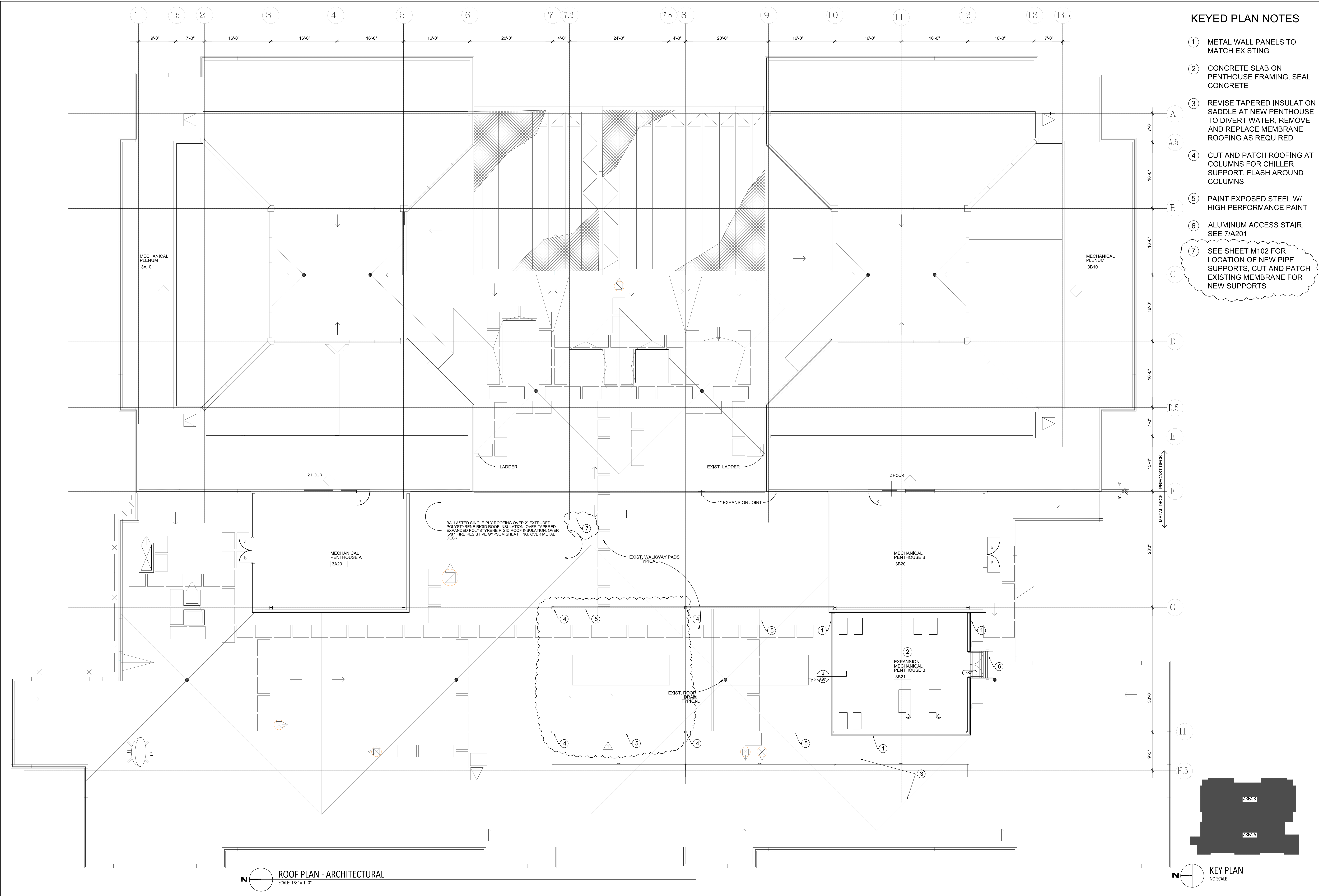
1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
1. Inspect field-assembled components and equipment installation, including piping and electrical connections.
 2. Inspect piping and equipment to determine that systems and equipment have been cleaned, flushed, and filled with water, and are fully operational before introducing chemicals for water-treatment system.
 3. Place HVAC water-treatment system into operation and calibrate controls during the preliminary phase of HVAC systems' startup procedures.
 4. Do not enclose, cover, or put piping into operation until it is tested and satisfactory test results are achieved.
 5. Test for leaks and defects. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
 6. Leave uncovered and unconcealed new, altered, extended, and replaced water piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved.
 7. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow test pressure to stand for four hours. Leaks and loss in test pressure constitute defects.
 8. Repair leaks and defects with new materials and retest piping until no leaks exist.
- D. Remove and replace malfunctioning units and retest as specified above.
- E. Sample boiler water at one-week intervals after boiler startup for a period of five weeks, and prepare test report advising Owner of changes necessary to adhere to Part 1 "Performance Requirements" Article for each required characteristic. Sample boiler water at eight-week intervals following the testing noted above to show that automatic chemical-feed systems are maintaining water quality within performance requirements specified in this Section.
- F. At eight-week intervals following Substantial Completion, perform separate water analyses on hydronic systems to show that automatic chemical-feed systems are maintaining water quality within performance requirements specified in this Section. Submit written reports of water analysis advising Owner of changes necessary to adhere to Part 1 "Performance Requirements" Article.
- G. Comply with ASTM D 3370 and with the following standards:
1. Silica: ASTM D 859.
 2. Steam System: ASTM D 1066.
 3. Acidity and Alkalinity: ASTM D 1067.
 4. Iron: ASTM D 1068.
 5. Water Hardness: ASTM D 1126.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain HVAC water-treatment systems and equipment. Refer to Division 01 Section "Demonstration and Training."
- B. Training: Provide a "how-to-use" self-contained breathing apparatus video that details exact operating procedures of equipment.

END 23 2500

FILE: F:\Files2\12125 - CC Satellite Jail Mechanical Upgrade\A103_Roof-CD-Reduced.DWG
PRINTED: 06/02/2021



KEYED PLAN NOTES

- 1 METAL WALL PANELS TO MATCH EXISTING
- 2 CONCRETE SLAB ON PENTHOUSE FRAMING, SEAL CONCRETE
- 3 REVISE TAPERED INSULATION SADDLE AT NEW PENTHOUSE TO DIVERT WATER, REMOVE AND REPLACE MEMBRANE ROOFING AS REQUIRED
- 4 CUT AND PATCH ROOFING AT COLUMNS FOR CHILLER SUPPORT, FLASH AROUND COLUMNS
- 5 PAINT EXPOSED STEEL W/ HIGH PERFORMANCE PAINT
- 6 ALUMINUM ACCESS STAIR, SEE 7/A201
- 7 SEE SHEET M102 FOR LOCATION OF NEW PIPE SUPPORTS, CUT AND PATCH EXISTING MEMBRANE FOR NEW SUPPORTS

KEY PLAN

NO SCALE

DATE	NO.	DESCRIPTION
6/2/2021	ADDENDUM #1	

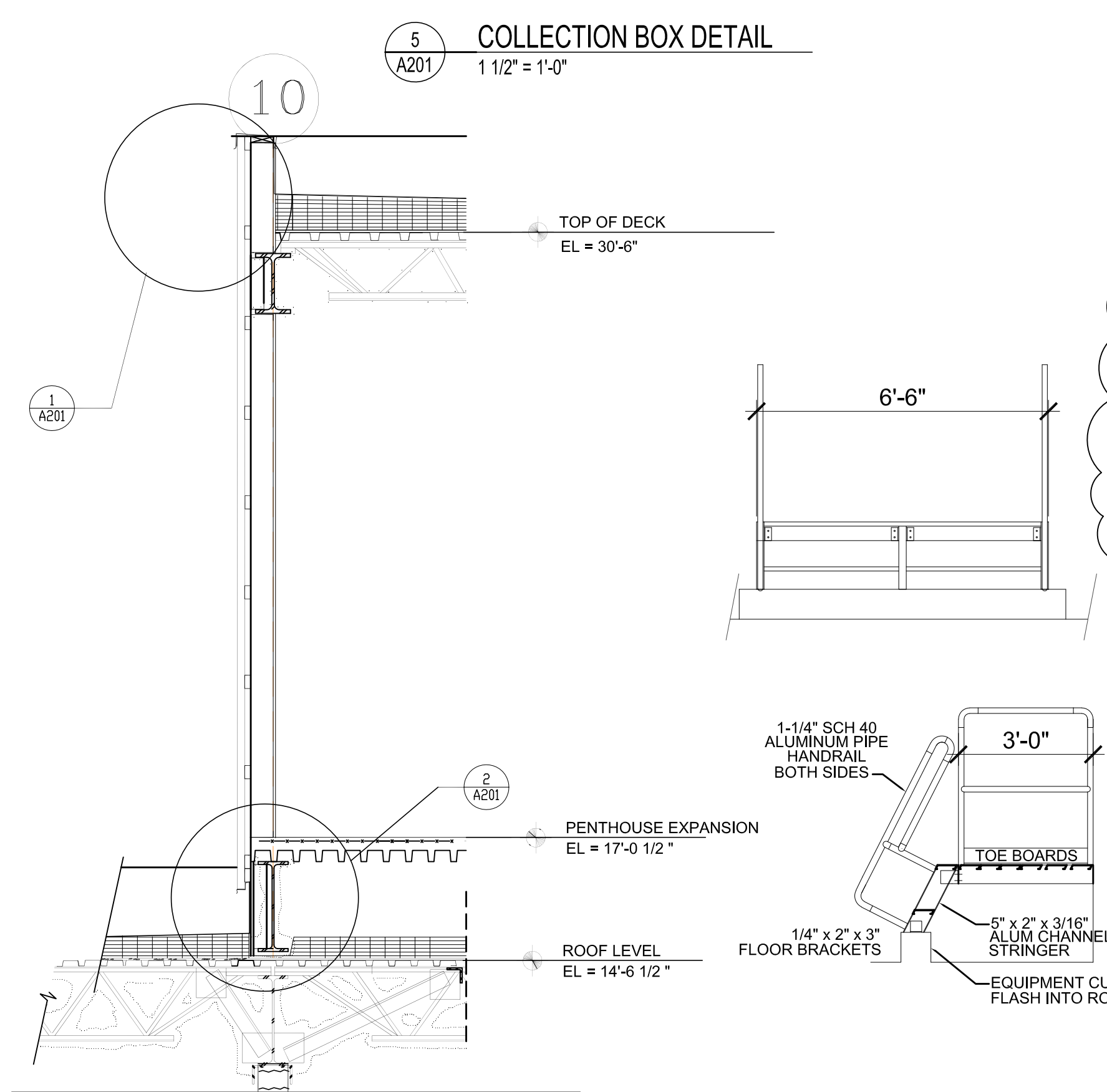
GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

ROOF PLAN - ARCHITECTURAL
SATELLITE JAIL HVAC REPLACEMENT
CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

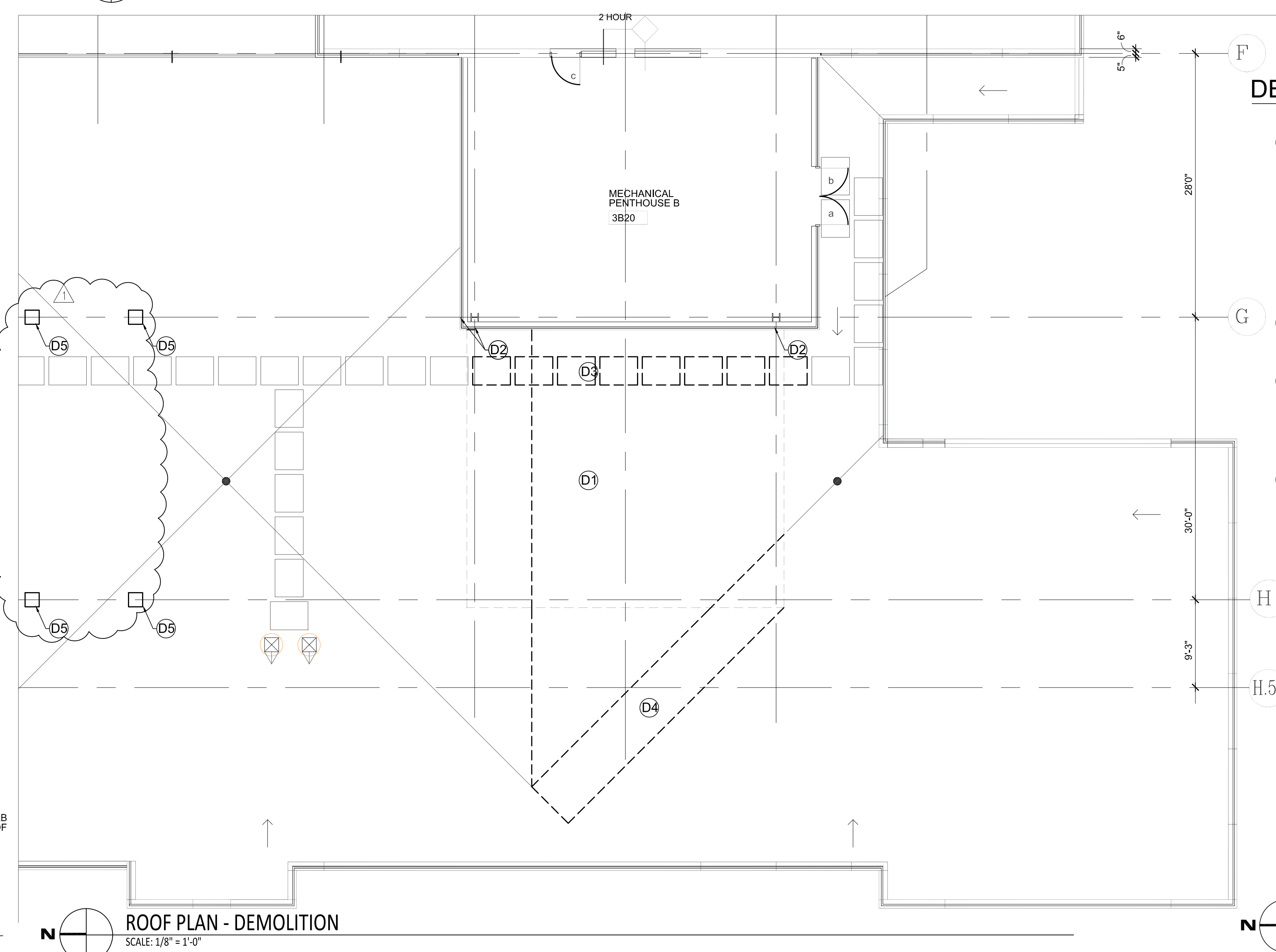
DATE	APPROVED
MAY 5, 2021	
ISSUED FOR BIDDING	
PROJECT:	IGW 2125-GHR # 7253

SHEET:
A-103

THE ORIGINAL OF THIS DRAWING IS 30"x42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

[illegible]

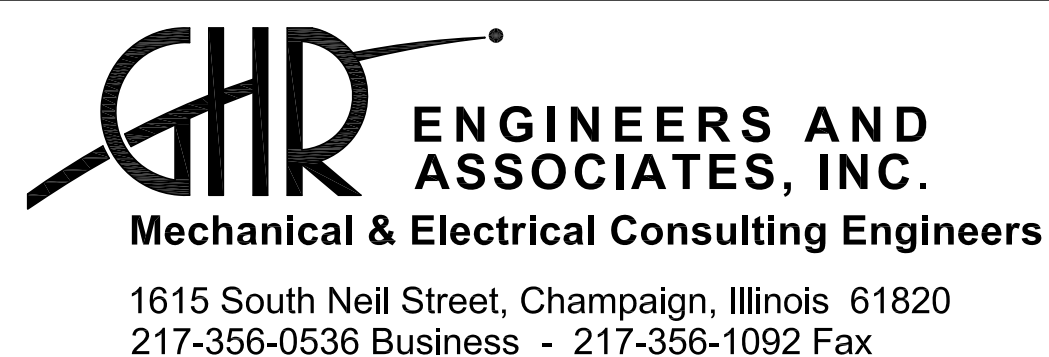
- ① TAPERED INSULATION OVER 4.3" MINIMUM BASE LAYER AT SCUPPERS
- ② SCUPPER SEE DETAIL 6/A201
- ③ COLLECTION BOX AND DOWNSPOUT SEE DETAIL 5/A201
- ④ TAPERED INSULATION SADDLES TO DIVERT TO SCUPPERS



- D1 CUT MEMBRANE AND REMOVE INSULATION AT AREA OF NEW PENTHOUSE AS REQUIRED FOR NEW WORK
- D2 CUT WALL PANELS AS REQUIRED FOR CONNECTION OF NEW STRUCTURE
- D3 REMOVE WALK PADS WITHIN FOOTPRINT
- D4 REMOVE PORTION OF EXISTING MEMBRANE ROOFING FOR MODIFICATION OF TAPERED INSULATION SADDLE
- D5 CUT MEMBRANE AND REMOVE INSULATION AS REQUIRED FOR NEW COLUMN INSTALL

NO SCALE

DATE	NO.	DESCRIPTION
6/2/2021		ADDENDUM #1



CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

SEA:

DRAWN:

APPROVED:

DATE:

MAY 5, 2021

ISSUED FOR BIDDING

PROJECT:

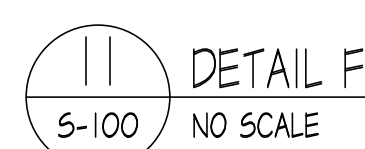
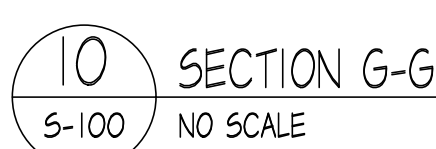
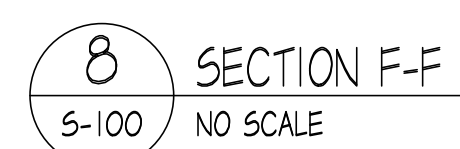
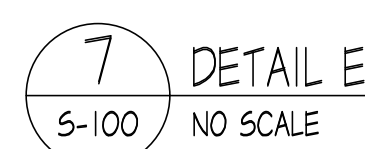
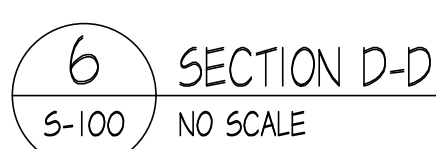
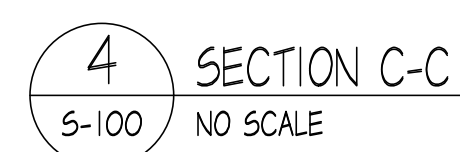
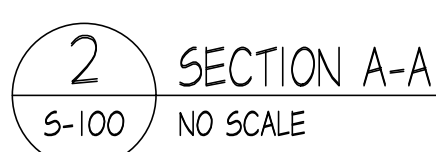
IGW 2125-GHR # 7253

SHEET:

A-201

THE ORIGINAL OF THIS DRAWING IS 30"x42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

FILE: F:\Files21\2125 - CC Satellite Jail Mechanical Upgrade\A103 Roof-CD-Reduced.DWG
 PRINTED: 06/02/2021



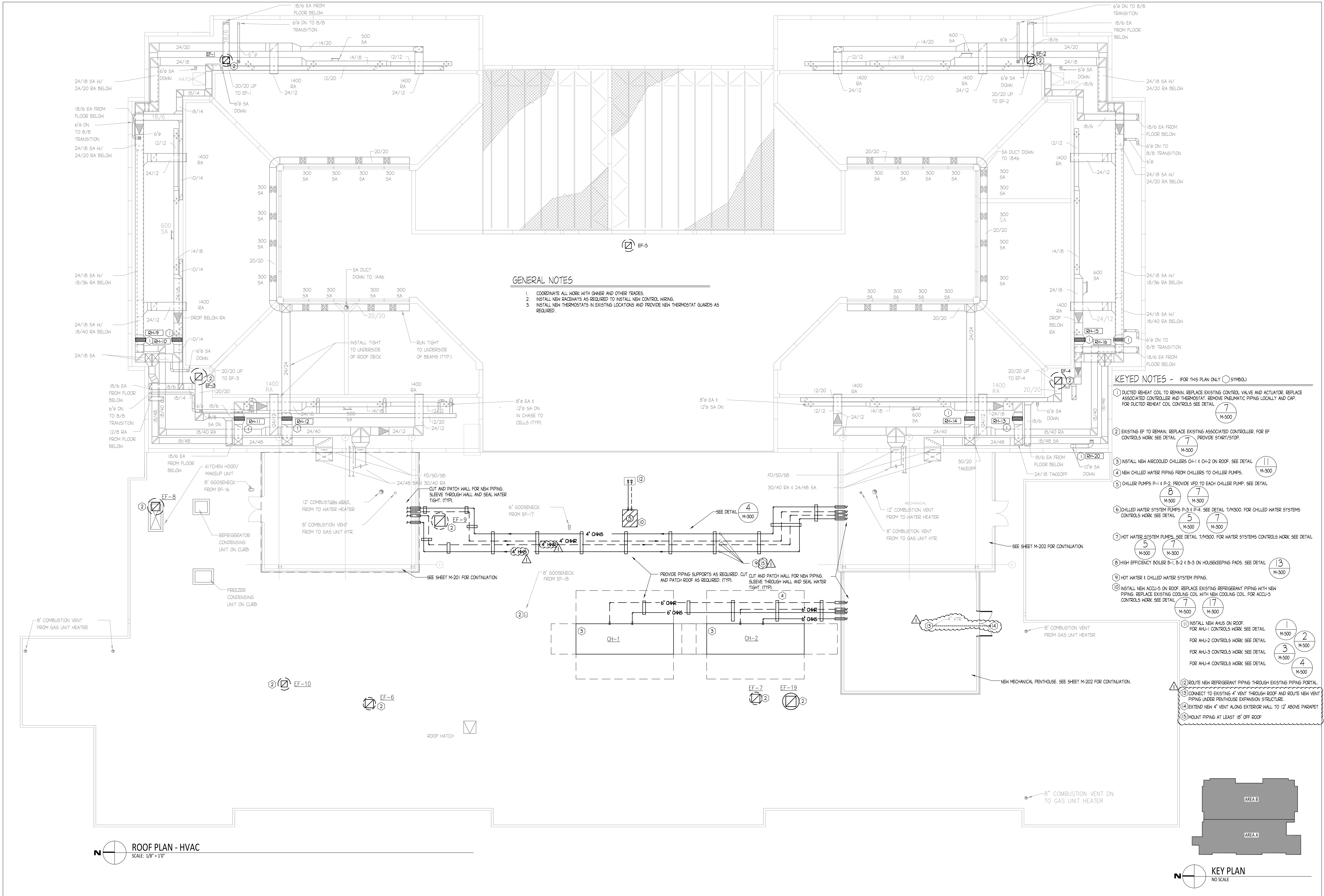
GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers

1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

S-100

FILE: H:\GHR Projects\7253 - Champaign County Satellite Jail - Mechanical Upgrade\HVAC 01 - Worksheets\7253 - M-102.dwg
PRINTED: 06/02/2021



GENERAL NOTES

- COORDINATE ALL WORK WITH OWNER AND OTHER TRADES.
- INSTALL NEW RACEWAYS AS REQUIRED TO INSTALL NEW CONTROL WIRING.
- INSTALL NEW THERMOSTATS IN EXISTING LOCATIONS AND PROVIDE NEW THERMOSTAT GUARDS AS REQUIRED.

KEYED NOTES - (FOR THIS PLAN ONLY) (SYMBOL)

- DUCTED REHEAT COIL TO REMAIN. REPLACE EXISTING CONTROL VALVE AND ACTUATOR. REPLACE ASSOCIATED CONTROLLER AND THERMOSTAT. REMOVE PNEUMATIC PIPING LOCALLY AND CAP. FOR DUCTED REHEAT COIL CONTROLS SEE DETAIL (7) M-500
- EXISTING EF TO REMAIN. REPLACE EXISTING ASSOCIATED CONTROLLER. FOR EF CONTROLS WORK SEE DETAIL (7) M-500
- INSTALL NEW AIRCOOLED CHILLERS CH-1 & CH-2 ON ROOF. SEE DETAIL (11) M-300
- NEW CHILLED WATER PIPING FROM CHILLERS TO CHILLER PUMPS.
- CHILLER PUMPS P-1 & P-2. PROVIDE VFD TO EACH CHILLER PUMP. SEE DETAIL (8) M-500 (7) M-300
- CHILLED WATER SYSTEM PUMPS P-3 & P-4. SEE DETAIL 7/M300. FOR CHILLED WATER SYSTEMS CONTROLS WORK SEE DETAIL (5) M-500 (7) M-300
- HOT WATER SYSTEM PUMPS. SEE DETAIL 7/M300. FOR WATER SYSTEMS CONTROLS WORK SEE DETAIL (5) M-500 (7) M-300
- HIGH EFFICIENCY BOILER B-1, B-2 & B-3 ON HOUSEKEEPING PADS. SEE DETAIL (13) M-300
- HOT WATER & CHILLED WATER SYSTEM PIPING.
- INSTALL NEW ACQU-S ON ROOF. REPLACE EXISTING REFRIGERANT PIPING WITH NEW PIPING. REPLACE EXISTING COOLING COIL WITH NEW COOLING COIL. FOR ACQU-S CONTROLS WORK SEE DETAIL (7) M-500 (17) M-300
- INSTALL NEW AHU-S ON ROOF. FOR AHU-1 CONTROLS WORK SEE DETAIL (1) M-500 (2) M-500
FOR AHU-2 CONTROLS WORK SEE DETAIL (3) M-500
FOR AHU-3 CONTROLS WORK SEE DETAIL (4) M-500
FOR AHU-4 CONTROLS WORK SEE DETAIL (4) M-500
- ROUTE NEW REFRIGERANT PIPING THROUGH EXISTING PIPING PORTAL.
- CONNECT TO EXISTING 4" VENT THROUGH ROOF AND ROUTE NEW VENT PIPING UNDER PENTHOUSE EXPANSION STRUCTURE.
- EXTEND NEW 4" VENT ALONG EXTERIOR WALL TO 12" ABOVE PARAPET
- MOUNT PIPING AT LEAST 18" OFF ROOF

ROOF PLAN - HVAC
SCALE: 1/8" = 10"

KEY PLAN
NO SCALE

DATE	NO.	DESCRIPTION
06/02/2021	ADDENDUM #1	

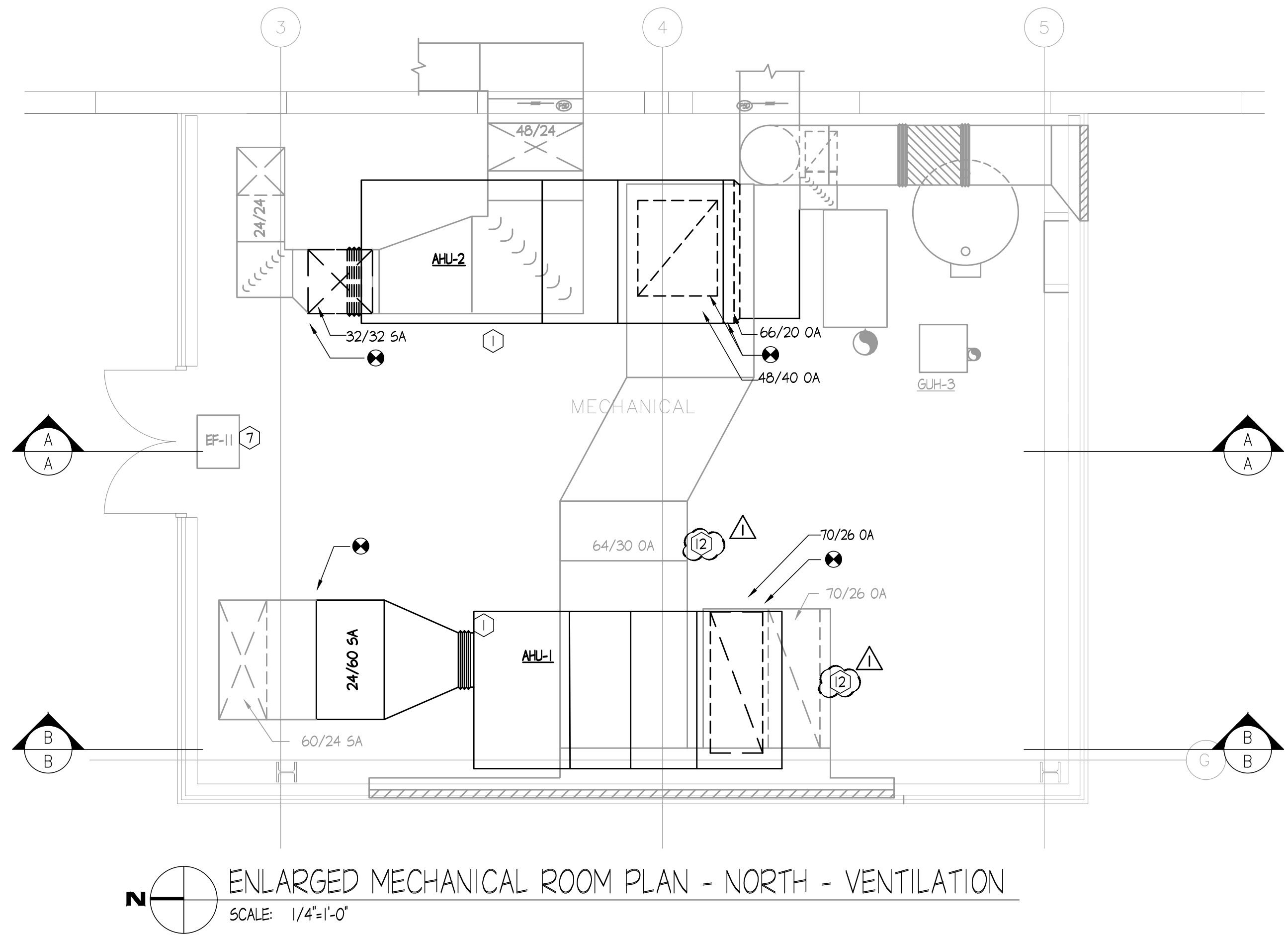
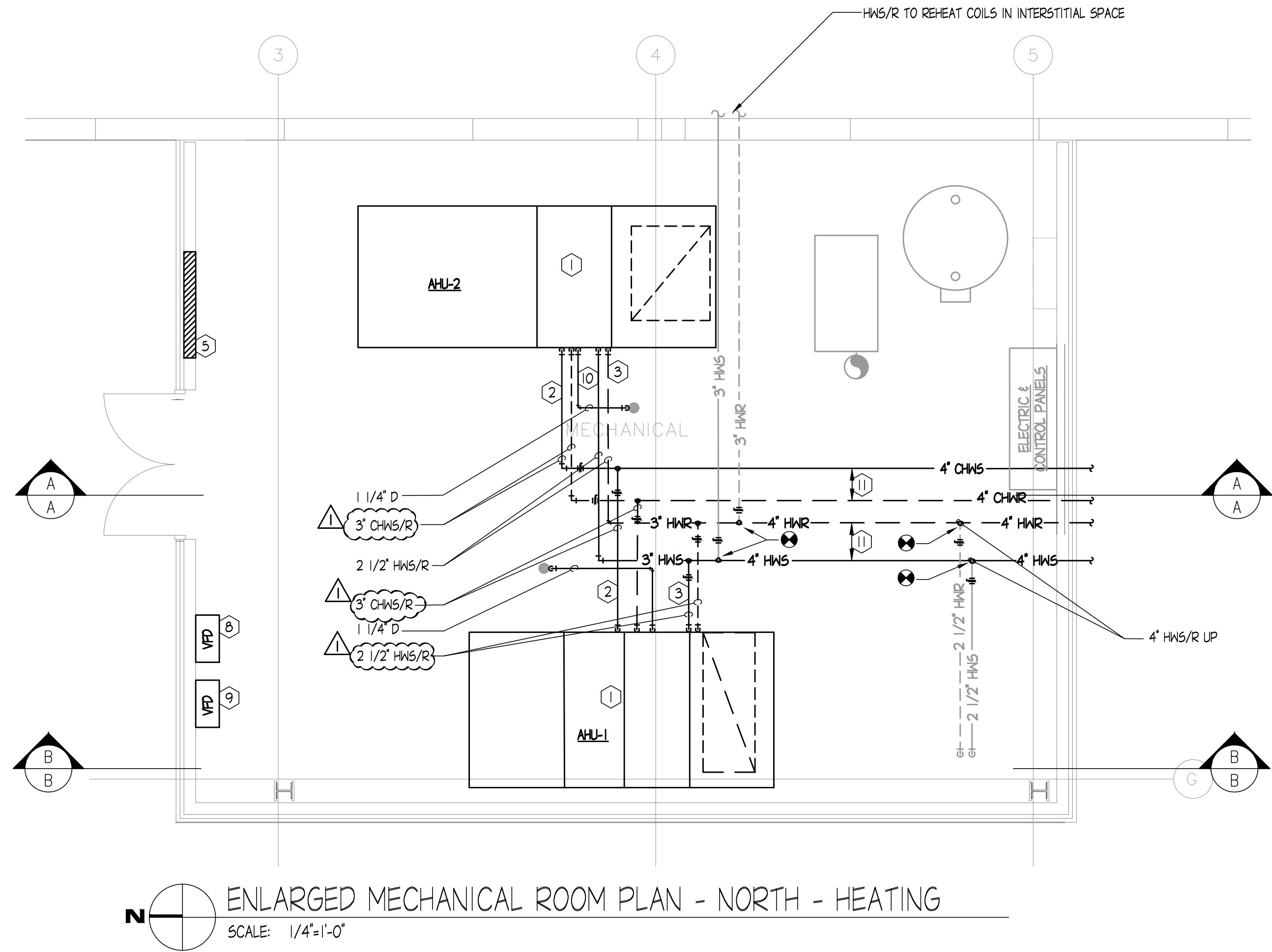
GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

ROOF PLAN - HVAC
SATELLITE JAIL HVAC REPLACEMENT

CHAMPAIGN COUNTY
502 S LERMAN AVE URBANA, IL 61802

SCALE	DRAWN: JMD DATE: MAY 5, 2021 ISSUED FOR BID PRODUCT: GHR # 7253	APPROVED: RCVN	SHEET: M-102
-------	--	----------------	--------------

FILE: H:\GHR Projects\7253 - Champaign County Satellite Jail - Mechanical Upgrade\HVAC\01 - Worksheets\7253 - M-201.dwg
PRINTED: 06/02/2021



- KEYED NOTES -** (FOR THIS PLAN ONLY) (SYMBOL)
- ① INSTALL NEW AHU ON EXISTING HOUSEKEEPING PAD
 - ② CONNECT NEW CHWS/R PIPING TO NEW AHU. FOR COIL CONNECTIONS SEE DETAIL M-300
 - ③ CONNECT NEW HWS/R PIPING TO NEW AHU. FOR COIL CONNECTIONS SEE DETAIL M-300
 - ④ CONNECT NEW AHU TO EXISTING SA, RA & RA DUCTWORK.
 - ⑤ INSTALL NEW CONTROL PANEL.
 - ⑥ EXTEND OA DUCT INTO PENTHOUSE. TURN OA DUCT VERTICALLY TO NEW ROOF HOODS ON PENTHOUSE.
 - ⑦ EXISTING EF TO REMAIN. REPLACE EXISTING ASSOCIATED CONTROLLER. FOR CONTROLS WORK SEE DETAIL. PROVIDE START/STOP. M-500
 - ⑧ NEW VFD SERVING AHU-1.
 - ⑨ NEW VFD SERVING AHU-2.
 - ⑩ NEW CONDENSATE PIPING FROM AHU TO FLOOR DRAIN.
 - ⑪ INSTALL DIFFERENTIAL PRESSURE SENSOR. SEE DETAIL M-300
- △ AIR MEASURING STATION PROVIDED BY TEMPERATURE CONTROL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.

DATE	NO.	DESCRIPTION
06/02/2021	△	ADDENDUM #1

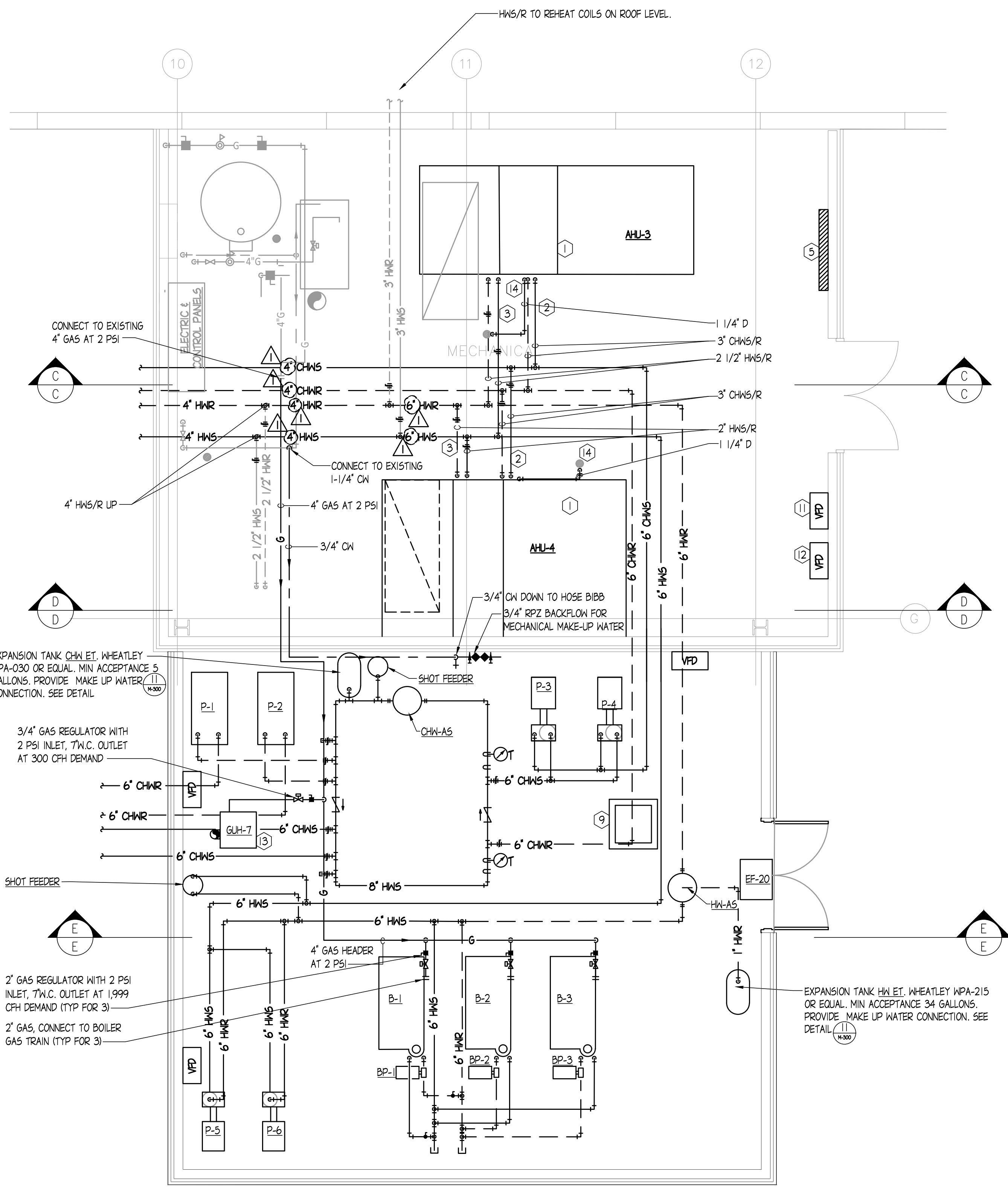
GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

ENLARGED FLOOR PLANS - NORTH PENTHOUSE - HVAC
SATELLITE JAIL HVAC REPLACEMENT
CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

DATE:	JMD	APPROVED:	RCVN

SHEET:
M-201

FILE: H:\GHR Projects\7253 - Champaign County Satellite Jail - Mechanical Upgrade\HVAC 01 - Worksheets\7253 - M-202.dwg
PRINTED: 06/02/2021

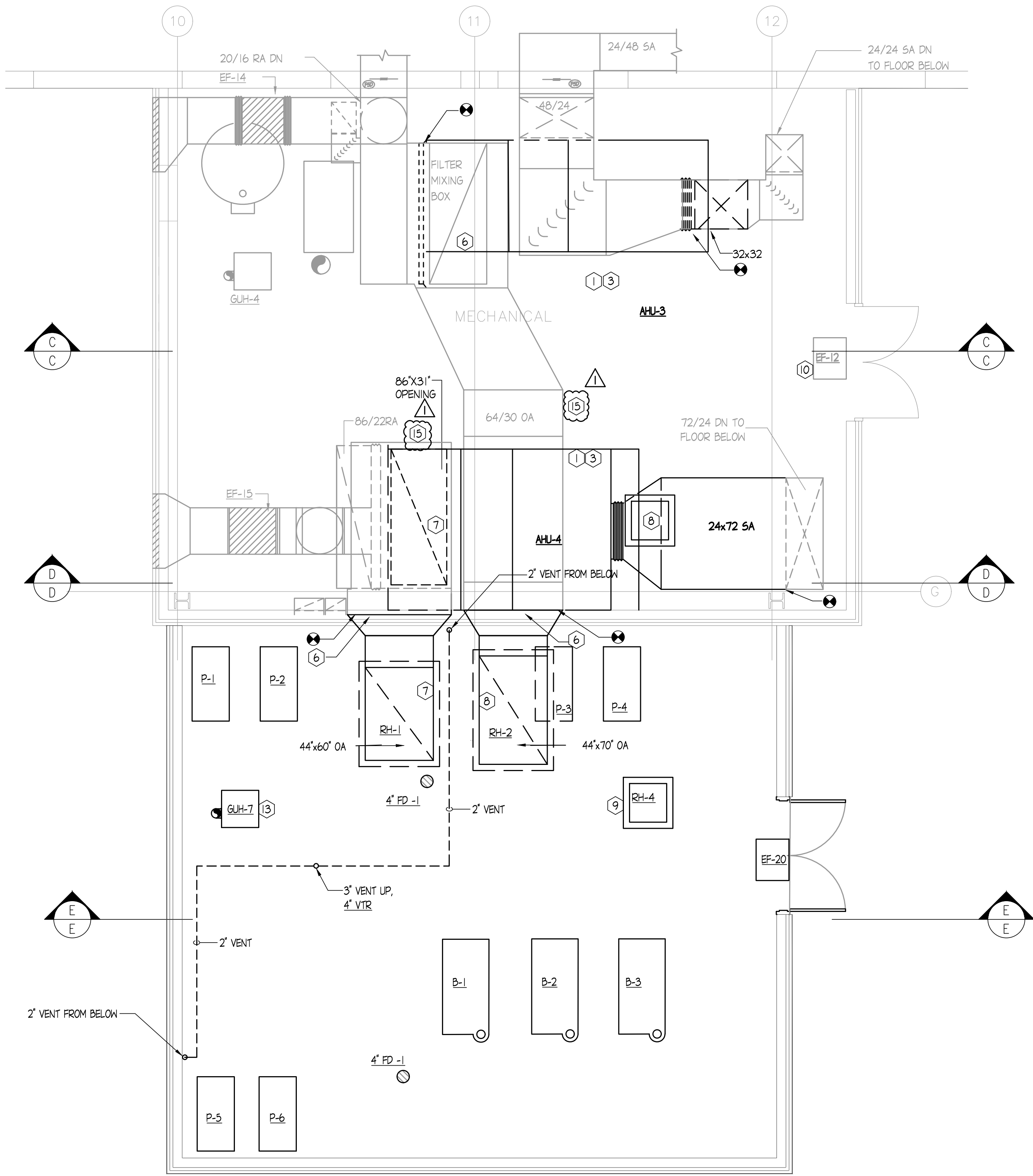


ENLARGED MECHANICAL ROOM PLAN - SOUTH & ADDITION - HEATING

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

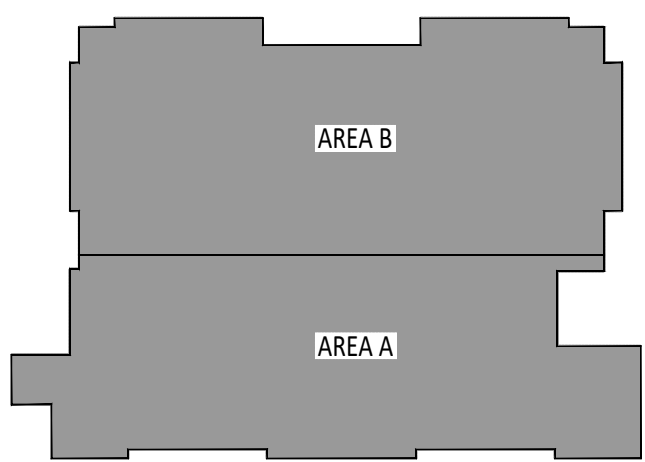
KEYED NOTES - (FOR THIS PLAN ONLY ○ SYMBOL)

1. INSTALL NEW AHU ON EXISTING HOUSEKEEPING PAD
2. CONNECT NEW CHWS/R PIPING TO NEW AHU. FOR COIL CONNECTIONS SEE DETAIL
3. CONNECT NEW HWS/R PIPING TO NEW AHU. FOR COIL CONNECTIONS SEE DETAIL
4. CONNECT NEW AHU TO EXISTING SA, RA & OA DUCTWORK.
5. INSTALL NEW CONTROL PANEL.
6. EXTEND OA DUCT INTO PENTHOUSE. TURN OA DUCT VERTICALLY TO NEW ROOF HOODS ON PENTHOUSE.
7. NEW 44'x70' ROOF HOOD FOR OUTSIDE AIR. CURB CAP WIDTH AND LENGTH 52'x78".
8. NEW 44'x60' ROOF HOOD FOR OUTSIDE AIR. CURB CAP WIDTH AND LENGTH 52'x68".
9. NEW 25'x24' ROOF HOOD. CURB CAP WIDTH AND LENGTH 33'x32". PROVIDE MOD. PROVIDE BIRD/INSECT SCREEN.
10. EXISTING EF TO REMAIN. REPLACE EXISTING ASSOCIATED CONTROLLER. FOR CONTROLS WORK SEE DETAIL. PROVIDE START/STOP.
11. NEW VPD SERVING AHU-3.
12. NEW VPD SERVING AHU-4.
13. INSTALL NEW UNIT HEATER.
14. NEW CONDENSATE PIPING FROM AHU TO FLOOR DRAIN.
15. AIR MEASURING STATION PROVIDED BY TEMPERATURE CONTROL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.



ENLARGED MECHANICAL ROOM PLAN - SOUTH & ADDITION - VENTILATION

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



KEY PLAN
NO SCALE

DATE	NO.	DESCRIPTION
06/02/2021	△	ADDENDUM #1

GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

ENLARGED FLOOR PLANS - SOUTH PENTHOUSE & ADDITION - HVAC
SATELLITE JAIL HVAC REPLACEMENT

CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

SCALE:	DRAWN: JMD	APPROVED: RCVN	SHEET: M-202
	DATE: MAY 5, 2021		
	ISSUED FOR BID		
	PRODUCT: GHR # 7253		

FILE: H:\GHR Projects\7253 - Champaign County Satellite Jail - Mechanical Upgrade\HVAC\01 - Worksheets\7253 - M-400.dwg
PRINTED: 06/02/2021

SCHEDULE OF EXHAUST FANS												
MARK	LOCATION	MANUFACTURER	MODEL NUMBER AND DRIVE	CFM	STATIC PRESSURE	RPM	MOTOR					REMARKS
							H.P.	VOLTS	PHASE			
EF-20	PENTHOUSE	GREENHECK	CLBE-140-16-V6	3000	0.25	1726	1	480	3			PROVIDE WITH ECM MOTOR, POWER DISCONNECT, GRAVITY OPERATED BACKDRAFT DAMPER.

SCHEDULE OF AIR COOLED CHILLERS													
MARK	LOCATION	MANUFACTURER	CATALOG NUMBER	FLUID	EVAPORATOR				ELECTRICAL DATA				REMARKS
					ENT °F	LWT °F	GPM	KWD	MAX FUSE AMPS	VOLTS	PHASE	CYCLE	
CH-1	ROOF	CARRIER	30RDX19064-LHL3C	FRESH WATER	54	44	444.8	12.1	408	480	3	60	SEE NOTES BELOW
CH-2	ROOF	CARRIER	30RDX19064-LHL3C	FRESH WATER	54	44	444.8	12.1	408	480	3	60	SEE NOTES BELOW

- NOTES:
1. PROVIDE DISCONNECT, CENTRAL TRANSFORMER WITH COMMUNICATION CAPABILITY DDC COM INTERFACE CARD.
2. PROVIDE AIR-SIDE LOW AMBIENT CONTROLS.
3. PROVIDE FACTORY FLOW SWITCH, STRAINER, VARIABLE SPEED CONDENSER FANS, FACTORY STARTUP AND ONE YEAR PARTS AND LABOR WARRANTY.
4. PROVIDE REMOVABLE SCREEN ON INLET SIDE OF COILS FOR CLEANING.
5. PROVIDE HAIL GUARDS.

SCHEDULE OF PACKAGED MODULAR BOILERS									
MARK	LOCATION	MANUFACTURER	MODEL NUMBER	AGA INPUT MBH	AGA OUTPUT MBH	FUEL	ELECTRICAL	REMARKS	
B-1,2,3	PENTHOUSE	LOCHINVAR	PB2001	1999	1923	NAT GAS	480V/3PH/60Hz	PROVIDE SEALED COMBUSTION VENTING KIT, NEUTRALIZING KIT, FACTORY 480V-120V TRANSFORMER EMERGENCY GAS SHUT-OFF, VARIABLE SPEED CIRCULATION PUMP SIZED BY MANUFACTURER, MINIMUM FLOW: 200 GPM. PROVIDE NATURAL GAS PRESSURE REGULATOR.	

GAS FIRED UNIT HEATER										
MARK	MANUFACTURER	MODEL NUMBER	FUEL	INPUT/OUTPUT MBH	A.F.U.E.	BLOWER				REMARKS
						H.P.	VOLTS	PHASE	CFM	
GUH-1	REZNER	UB2-300	NAT. GAS	300 / 250	83%	1.5	110	1	5123	PROVIDE WITH WALL MOUNTED THERMOSTAT AND CONCENTRIC VENT KIT. PROVIDE INTEGRAL STARTER AND DISCONNECT.

SCHEDULE OF AIR COOLED CONDENSING UNITS													
MARK	MANUFACTURER	MODEL	LOCATION	CAPACITY (BTU)	VOLTS / PHASE	COMPRESSOR(S)			CONDENSER FAN(S)			SEER (EER)	REMARKS
						Number	FLA	K.W.	Number	H.P.	Phase		
ACCU-1	DATA ARE	DRCU-0332-3	ROOF	36,000	208 / 3	1	10.8	-	1	3/4	3	-	PROVIDE COOLING COIL OPT-40430ARC, INTEGRAL STARTER/DISCONNECT.

SCHEDULE OF ROOF HOODS											
MARK	MANUFACTURER	MODEL	STYLE	TYPE	MIN CFM	MAX CFM	THROAT AREA (SQ FT)	THROAT SIZE	CURB CAP	PD	REMARKS
RH-1	GREENHECK	WH	PENTHOUSE	INTAKE	14500	14500	18.33	44"x70"	52"x68"	0.114	PROVIDE ROOF CURB AND BIRD SCREEN.
RH-2	GREENHECK	WH	PENTHOUSE	INTAKE	17000	17000	21.39	44"x60"	52"x78"	0.113	PROVIDE ROOF CURB AND BIRD SCREEN.
RH-3	GREENHECK	WH	PENTHOUSE	INTAKE	3000	3000	4.17	25"x24"	33"x32"	0.094	PROVIDE ROOF CURB AND BIRD SCREEN. INTERLOCK WITH EF-19.
RH-4	GREENHECK	WH	PENTHOUSE	INTAKE	3000	3000	4.17	25"x24"	33"x32"	0.094	PROVIDE ROOF CURB AND BIRD SCREEN. INTERLOCK WITH EF-20.

PUMP SCHEDULE															
MARK	MANUFACTURER	MODEL	LOCATION	SYST	FLUID	FLUID TEMP	GPM	SIZE, in.		HEAD, ft HG		MOTOR			REMARKS
								Disch	Suct	Oper	CutOff	HP	RPM	Volts / Phase	
P-1	BELL & GOSSETT	1510	PENTHOUSE	CH-1	WATER	45	444.8	3	4	35.0	56.0	7.5	1573	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.
P-2	BELL & GOSSETT	1510	PENTHOUSE	CH-2	WATER	45	444.8	3	4	35.0	56.0	7.5	1573	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.
P-3	BELL & GOSSETT	1510	PENTHOUSE	CH-W	WATER	45	570.9	3	4	68.4	89.2	15	1721	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.
P-4	BELL & GOSSETT	1510	PENTHOUSE	CH-W	WATER	45	570.9	3	4	68.4	89.2	15	1721	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.
P-5	BELL & GOSSETT	1510	PENTHOUSE	HN	WATER	180	421.8	3	4	72.4	89.4	15	1601	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.
P-6	BELL & GOSSETT	1510	PENTHOUSE	HN	WATER	180	421.8	3	4	72.4	89.4	15	1601	480/3	TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VFD. PROVIDE WITH INVERTER-DUTY RATED MOTOR. INSTALL ON INERTIA PAD.

AIR HANDLING UNIT SCHEDULE				
GENERAL AHU DATA	MARK	AHU-1	AHU-2,3	AHU-4
	SERVING	BOOKING	CELLS	KITCHEN
	LOCATION	NORTH PENTHOUSE	NORTH, SOUTH PENTHOUSE	SOUTH PENTHOUSE
	UNIT TYPE	HORIZONTAL VAV	HORIZONTAL VAV	HORIZONTAL VAV
	ARRANGEMENT	DRAW THRU	DRAW THRU	DRAW THRU
SUPPLY FAN DATA	MANUFACTURER	CARRIER	CARRIER	CARRIER
	MODEL NUMBER	39NN21W	39NN37T	39NN30N
SUPPLY FAN DATA	CFM (STANDARD AIR)	9310	17200	14500
	EXTERNAL STATIC PRESSURE (INCHES W.C.)	2.50	2.75	3.0
	TOTAL STATIC PRESSURE (INCHES W.C.)	4.31	4.53	4.88
	OUTLET VELOCITY (FPM)	434.2	466.4	477.8
	RPM	2480	2600	2600
HEATING COIL DATA	BREAK HORSEPOWER/ VOLTAGE / PHASE	4.4/460/3	4.3/460/3	5.1/460/3
	MINIMUM OUTDOOR AIR (CFM)	7,100	6,300	4,250
HEATING COIL DATA	HEATING MEDIA	HOT WATER	HOT WATER	HOT WATER
	FACE AREA (SQ. FT.)	21.44	36.88	30.35
	(NCOLS) HEIGHT / LENGTH	(2) -/-	(1) -/-	(1) -/-
	TUBE DIAMETER	0.5	0.5	0.5
	ROWS/ TYPE/ F.P.F.	2 / SINE / 96	1 / SINE / 96	1 / SINE / 96
	ENTERING AIR TEMPERATURE (°F db)	60	60	60
	LEAVING AIR TEMPERATURE (°F db)	112.65	90.27	90.51
	AIR SIDE PRESSURE DROP (INCHES W.C.)	0.17	0.18	0.19
	TOTAL HEATING CAPACITY (MBH)	545.11	568.10	492.07
	HEATING MEDIA FLOW RATE (GPM)	55.8	58.1	50.3
COOLING COIL DATA	HEATING MEDIA ENTERING TEMPERATURE OR PRESSURE	180	180	180
	HEATING MEDIA LEAVING TEMPERATURE	160	160.45	160
	HEATING MEDIA PRESSURE DROP (FT. WATER)	10.4	2.2	7.0
	COOLING MEDIA (BOX PSI)	CHILLED WATER	CHILLED WATER	CHILLED WATER
	FACE AREA (SQ. FT.)	21.44	36.88	30.35
COOLING COIL DATA	(NCOLS) HEIGHT / LENGTH	(1) -/-	(1) -/-	(1) -/-
	TUBE DIAMETER	0.5	0.5	0.5
	ROWS/ TYPE/ F.P.F.	10 / SINE / 120	8 / SINE / 132	8 / SINE / 132
	ENTERING AIR °F _{db} / °F _{wb}	80/67	80/67	80/67
	LEAVING AIR °F _{db} / °F _{wb}	50.39/50.39	52.89/52.89	51.85/51.85
	AIR SIDE PRESSURE DROP (INCHES W.C.)	0.99	0.94	1.01
	TOTAL COOLING CAPACITY (MBH)	440.77	689.35	635.02
	COOLING MEDIA FLOW RATE (GPM)	87.9	137.5	126.6
	COOLING MEDIA ENTERING / LEAVING TEMP.	45/55	45/55	45/55
	COOLING MEDIA PRESSURE DROP (FT. WATER)	4.5	1.5	6.5

- NOTES:
1. PROVIDE SHIPPING SPLITS TO ALLOW FOR INSTALLING UNIT IN EXISTING PENTHOUSE DOOR OPENINGS.
2. PROVIDE WITH SUPPLY FAN VFD'S.

DATE	NO.	DESCRIPTION
06/02/2021	△	ADDENDUM #1



ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

SCHEDULES - HVAC

SATELLITE JAIL HVAC REPLACEMENT

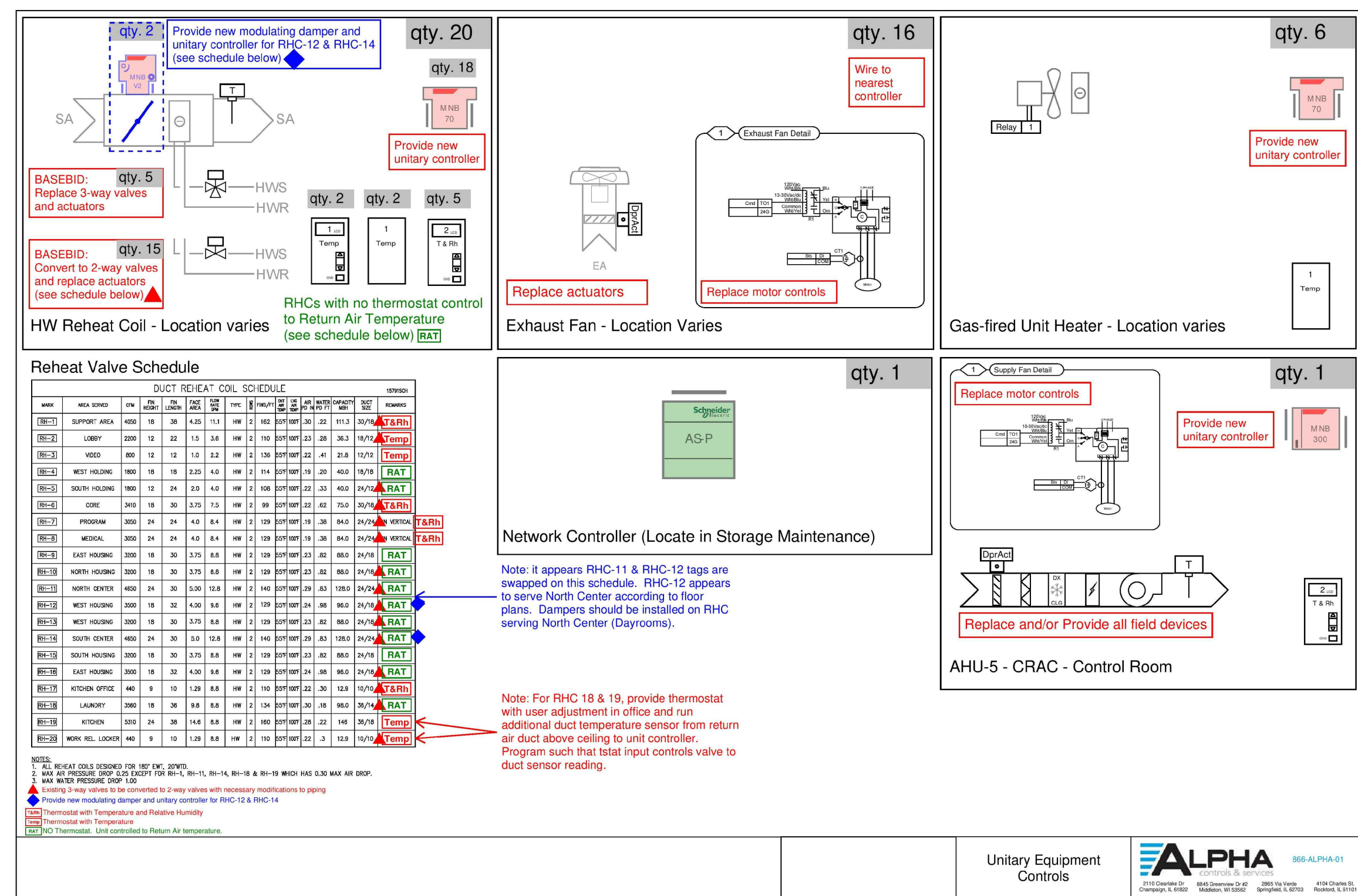
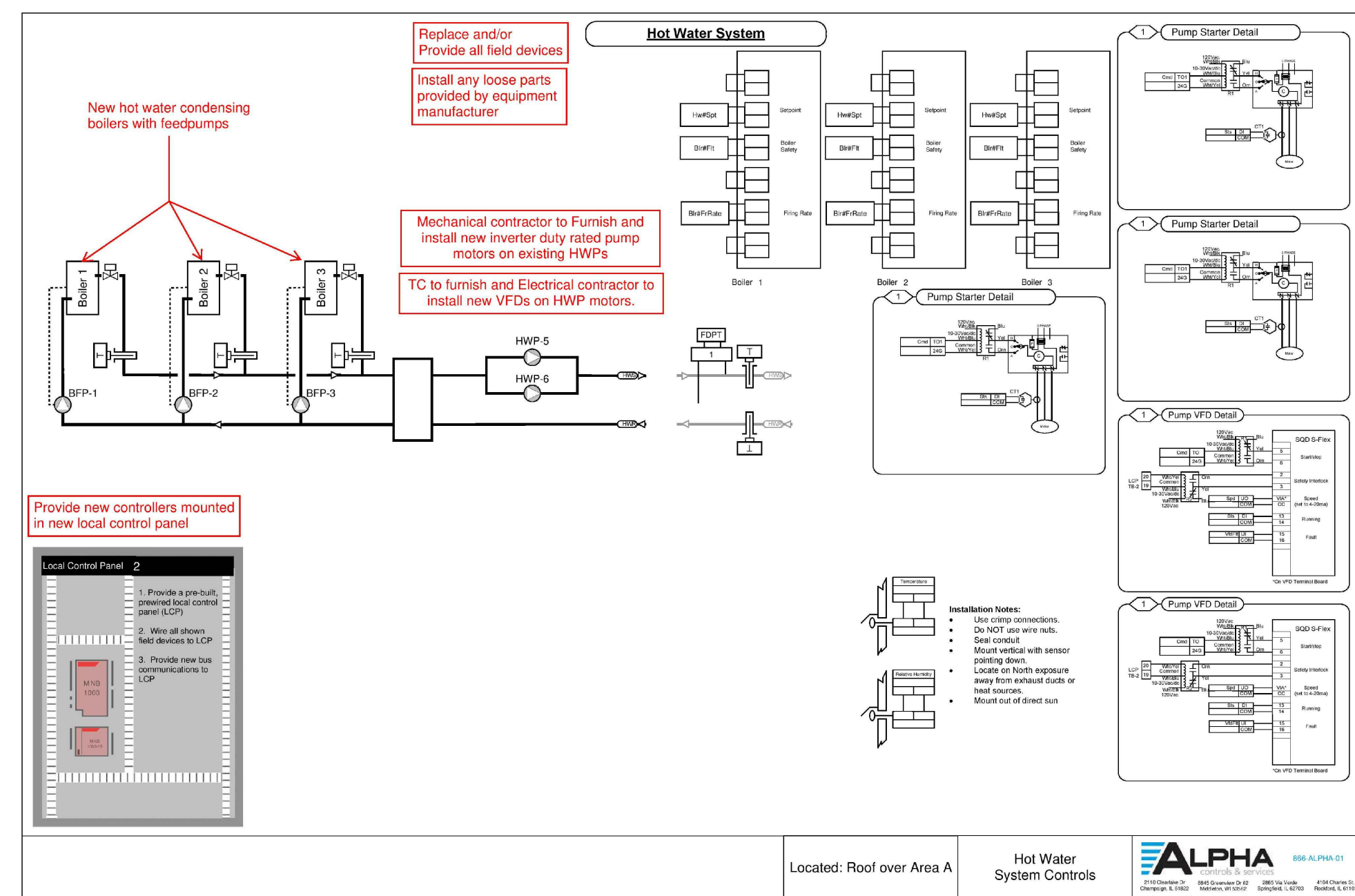
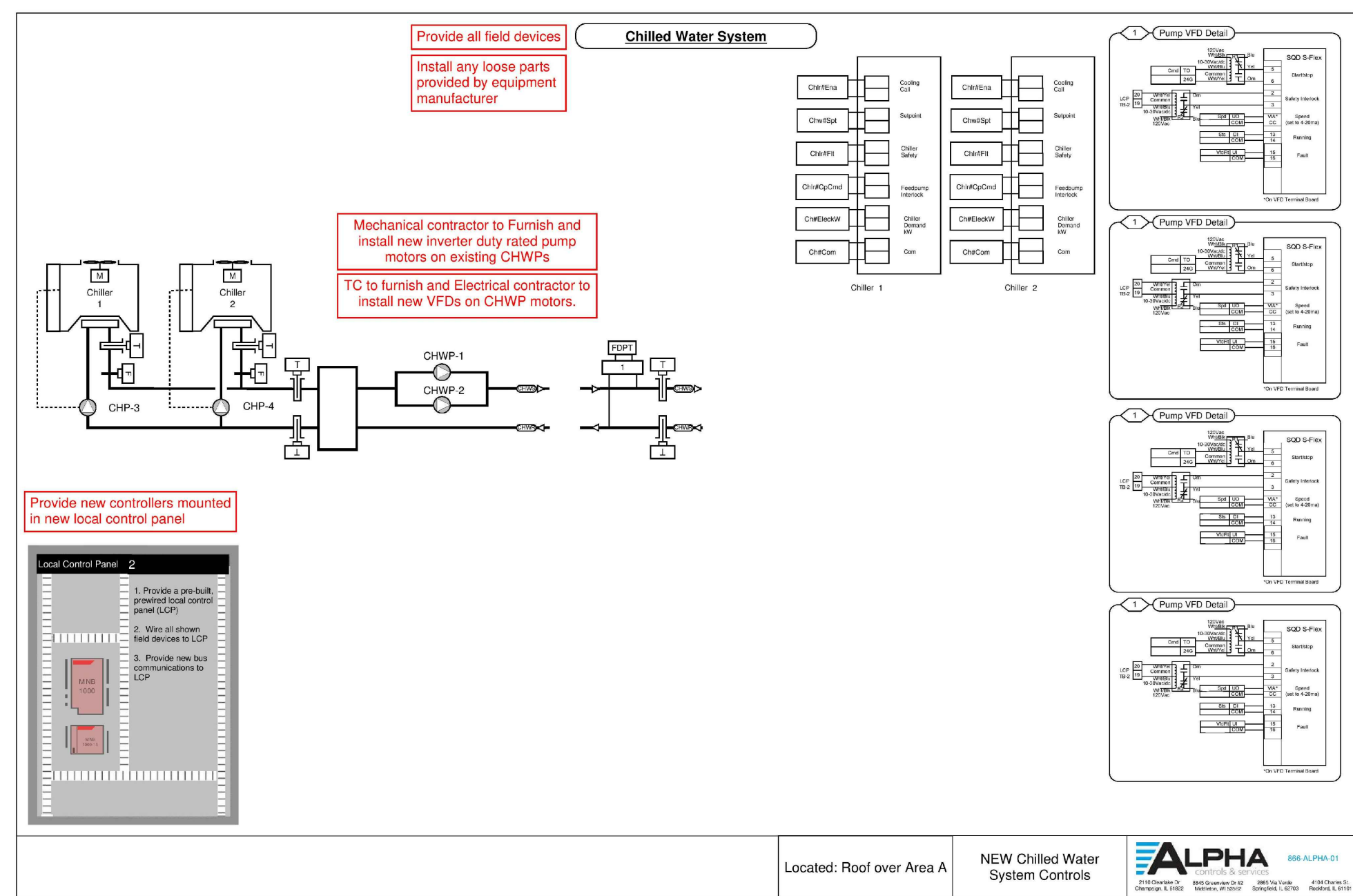
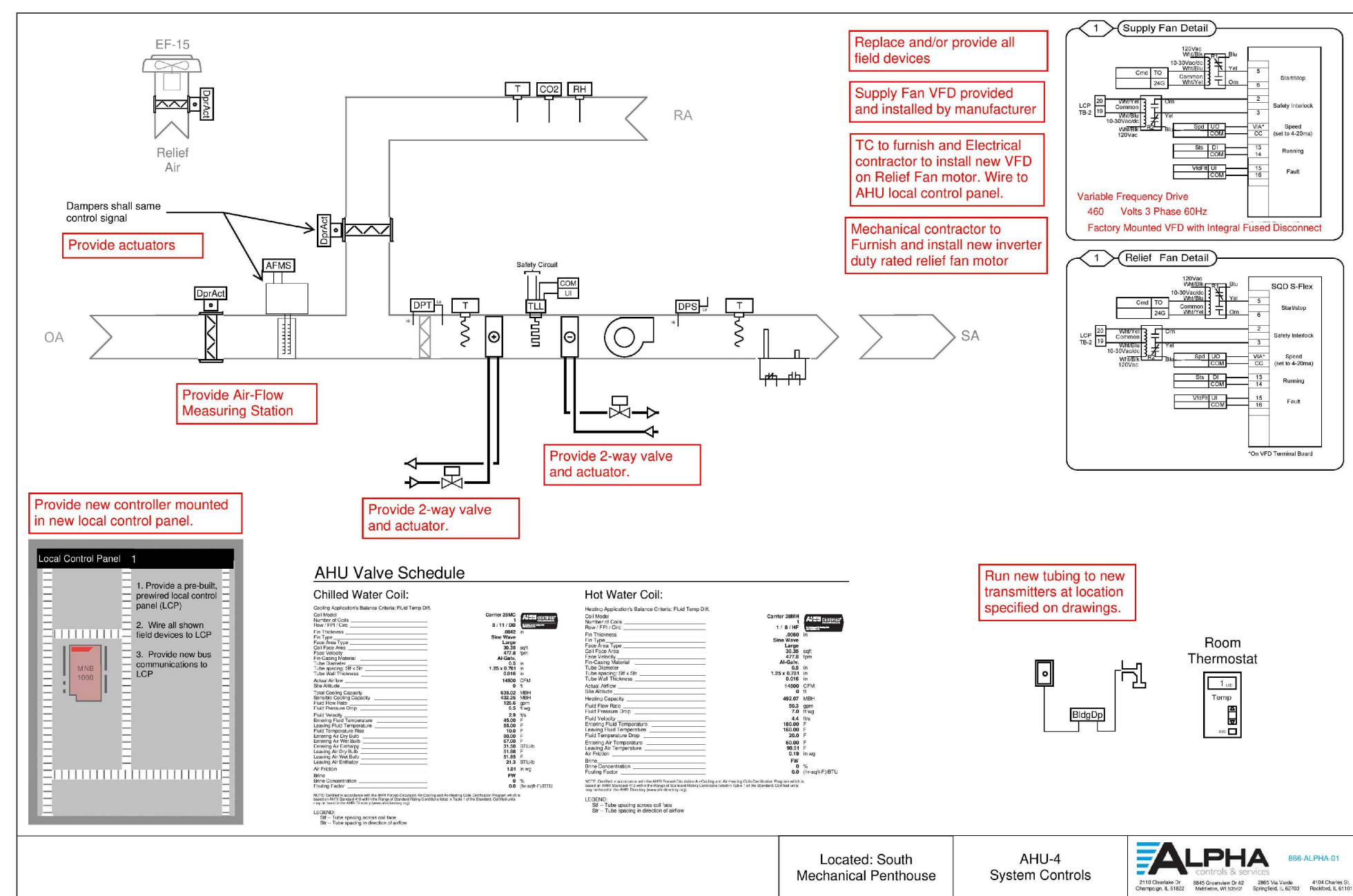
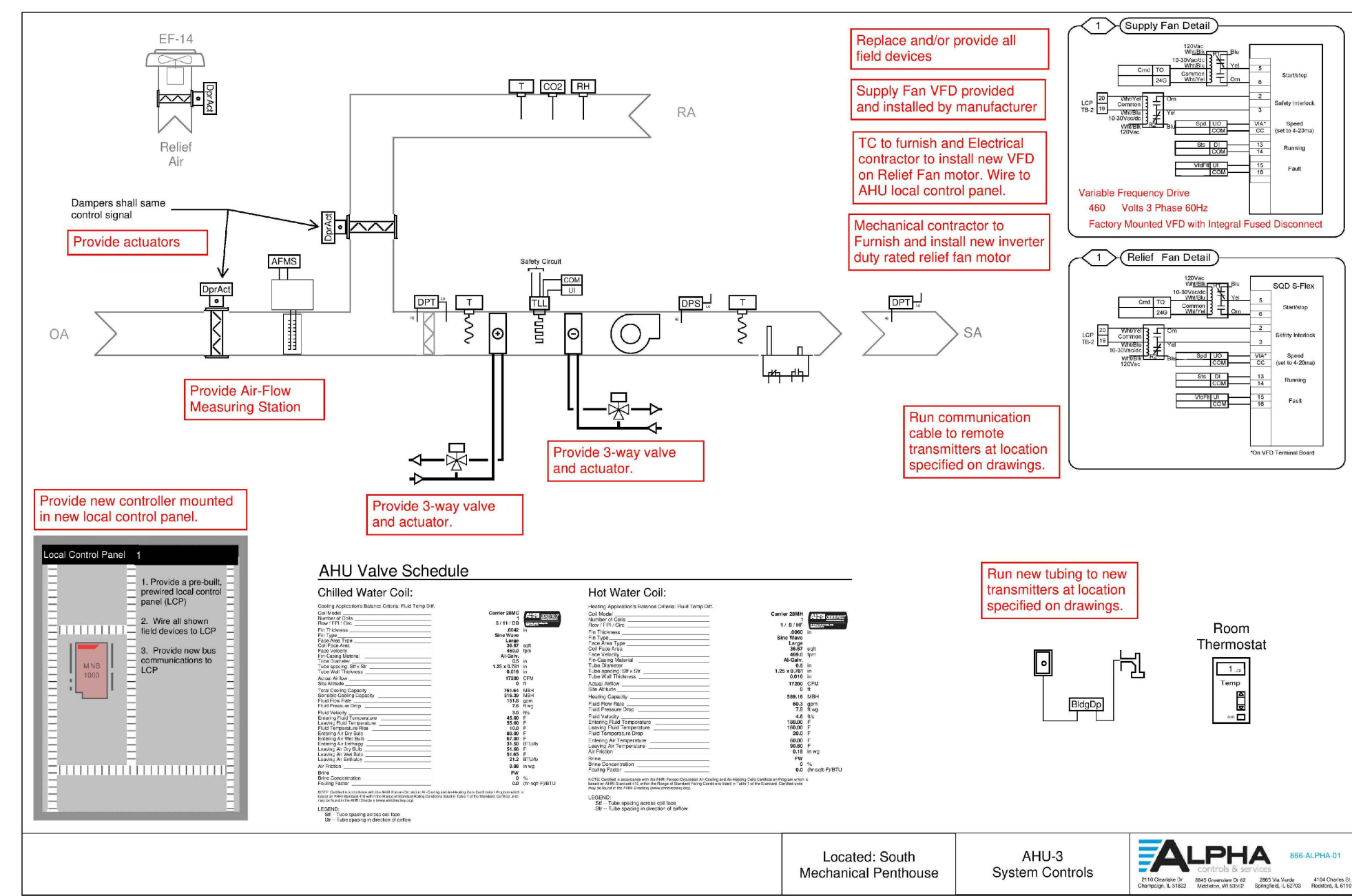
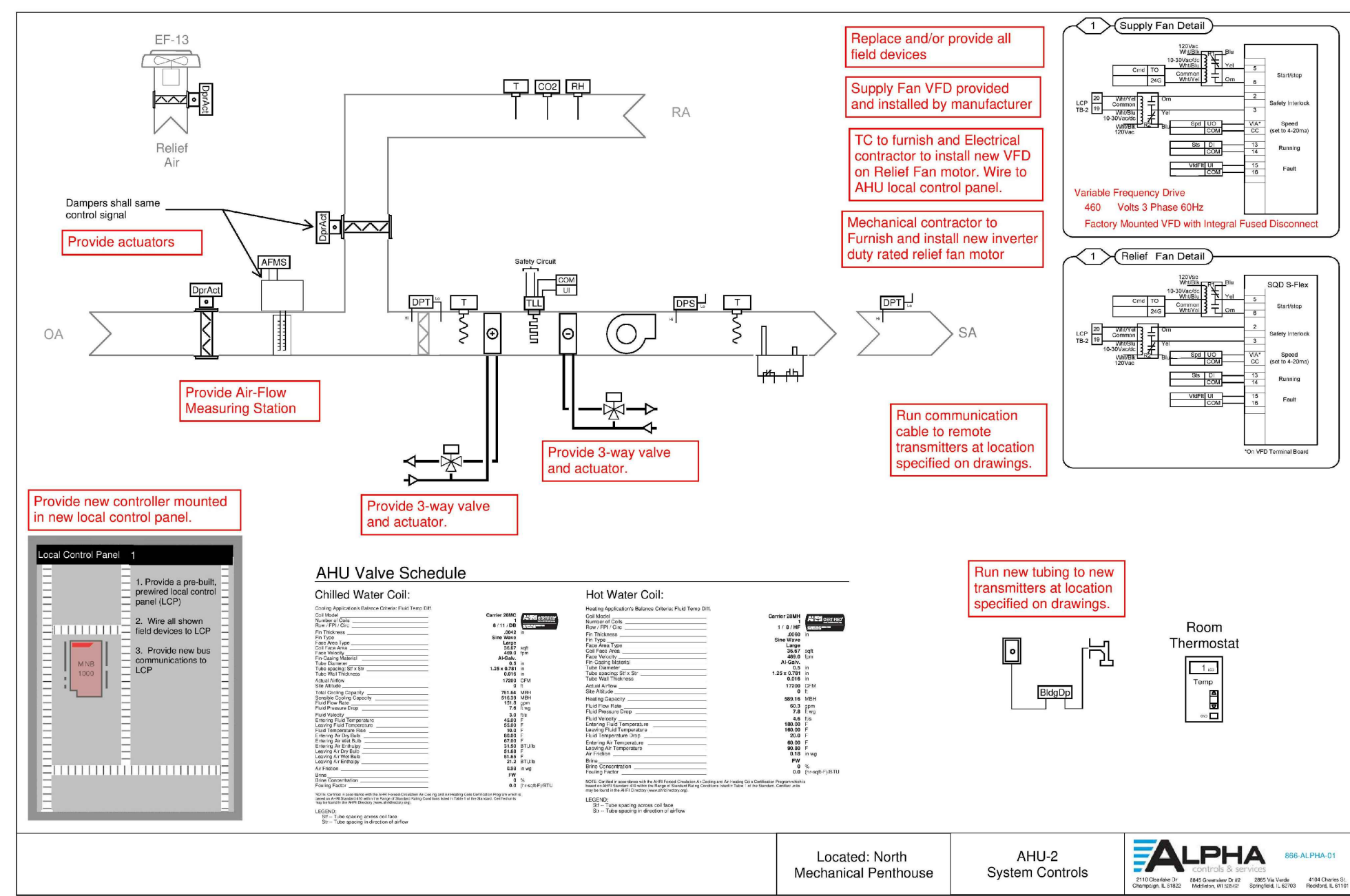
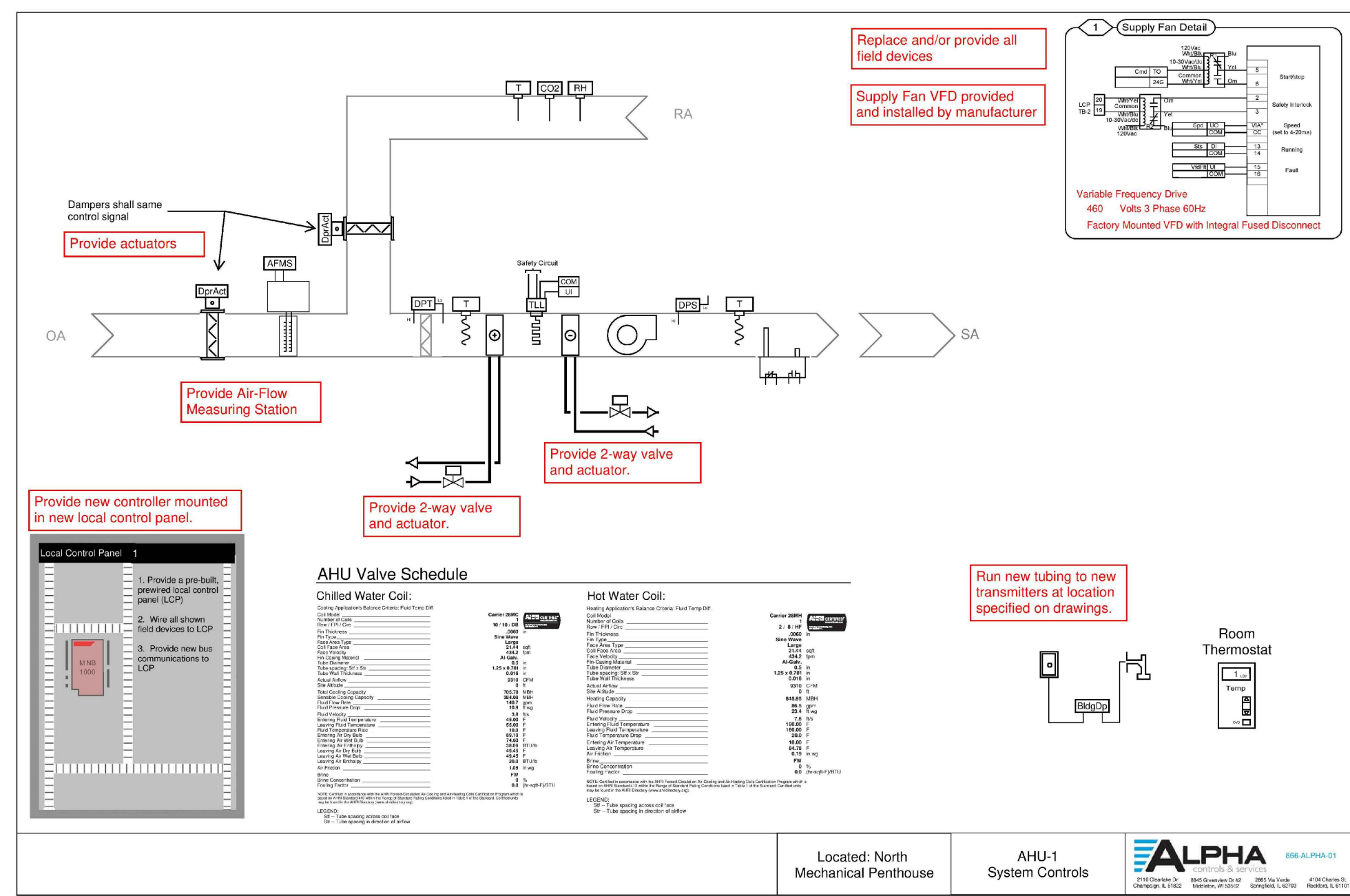
CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

SCALE

DATE: MAY 5, 2021
100% CD
PROJECT: GHR # 7253

DRAWN: JMD
APPROVED: RCVN

SHEET: M-400



VFD and Motor Schedule																			
Tag	System	Fan	Qty	Existing VFD?	HP	Voltage	Replace or Provide VFD	Bypass	Existing Motor Inverter Duty Rated?	Replace Motor	RPM	Frame Type	Motor Type	Grounding Required?	Provide New Pulley and Belts	Load alignment required?	Pre and post air balance	Notes	
AHU-1-SF	New - AHU-1	Supply	2	NA	4.4 bhp max	480	by Mfg.	Yes	NEW MOTORS	NA				Yes	Not applicable	No	Yes		
AHU-2-SF	New - AHU-2	Supply	4	NA	4.3 bhp max	480	by Mfg.	Yes	NEW MOTORS	NA				Yes	Not applicable	No	Yes		
EF-13	Existing - AHU-2 Relief	Relief	1	No	5	480	Provide	Yes	NO	Yes	1740	184T	TDM OP	Yes	Not applicable	No	Yes		
AHU-3-SF	New - AHU-3	Supply	4	NA	4.3 bhp max	480	by Mfg.	Yes	NEW MOTORS	NA				Yes	Not applicable	No	Yes		
EF-14	Existing - AHU-3 Relief	Relief	1	No	5	480	Provide	Yes	NO	Yes	1740	184T	TDM OP	Yes	Not applicable	No	Yes		
AHU-4-SF	New - AHU-4	Supply	3	NA	5.1 bhp max	480	by Mfg.	Yes	NEW MOTORS	NA				Yes	Not applicable	No	Yes		
EF-15	Existing - AHU-4 Relief	Relief	1	No	5	480	Provide	Yes	NO	Yes	1740	184T	TDM OP	Yes	Not applicable	No	Yes		
CHWP-1	New - Chilled Water Loop	Secondary	1	NA	7.5	480	Provide	Yes	NEW MOTOR	NA				Yes	Not applicable	Yes	Yes		
CHWP-2	New - Chilled Water Loop	Secondary	1	NA	7.5	480	Provide	Yes	NEW MOTOR	NA				Yes	Not applicable	Yes	Yes		
CHP-3	New - Chiller's Pump	Primary	1	NA	15	480	Provide	Yes	NEW MOTOR	NA				Yes	Not applicable	Yes	Yes		
CHP-4	New - Chiller's Pump	Primary	1	NA	15	480	Provide	Yes	NEW MOTOR	NA				Yes	Not applicable	Yes	Yes		
HWP-5	New - Hot Water Loop	Secondary	1	No	15	480	Provide	Yes	NEW MOTOR	NO				Yes	Not applicable	Yes	Yes		
HWP-6	New - Hot Water Loop	Secondary	1	No	15	480	Provide	Yes	NEW MOTOR	NO				Yes	Not applicable	Yes	Yes		
BP-1	New - Boiler-1 Feed Pump	Primary	1	NA	2	480	No	Yes	NEW MOTOR	NA				Yes	Not applicable	No	Yes	Pump mounted VFDs by others	
BP-2	New - Boiler-2 Feed Pump	Primary	1	NA	2	480	No	Yes	NEW MOTOR	NA				Yes	Not applicable	No	Yes	Pump mounted VFDs by others	
BP-3	New - Boiler-3 Feed Pump	Primary	1	NA	2	480	No	Yes	NEW MOTOR	NA				Yes	Not applicable	No	Yes	Pump mounted VFDs by others	

Field verify voltage & horsepower prior to ordering.
All new motors shall be inverter duty rated.
ACS shall furnish VFDs and wiring to electrical contractor.
Mechanical contractor shall furnish and install motor.

Unitary Equipment Controls
ALPHA

NOTE: COORDINATE BASE BID CONTRACT WORK WITH CONTROL CONTRACT WORK PER CONTROL DRAWINGS.

8 VFD AND MOTOR SCHEDULE
M-500 NO SCALE

DATE	NO.	DESCRIPTION
06/02/2021	△	ADDENDUM #1

GHR ENGINEERS AND ASSOCIATES, INC.
Mechanical & Electrical Consulting Engineers
1615 South Neil Street, Champaign, Illinois 61820
217-356-0536 Business - 217-356-1092 Fax

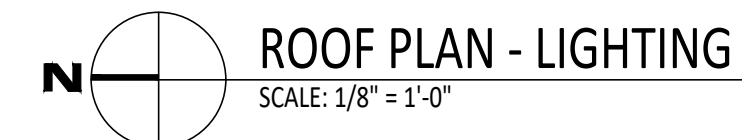
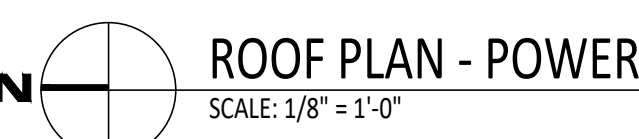
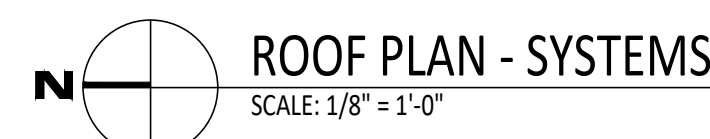
CONTROLS DIAGRAMS - HVAC
SATELLITE JAIL HVAC REPLACEMENT
CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

DATE	NO.	DESCRIPTION
06/02/2021	△	ADDENDUM #1

DATE: MAY 5, 2021
100% CD
GHR #7253

SHEET: **M-500**

1. INSTALL 3P-30A CIRCUIT BREAKER IN PLACE OF 3P-45A CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING AH-1.
2. INSTALL 121 3P-450A CIRCUIT BREAKERS IN AVAILABLE SPACE OF MAIN SWITCH BOARD B68 TO SERVER NEW CHILLERS.
3. INSTALL 3P-25A CIRCUIT BREAKER IN PANEL 1B IN PLACE OF 3P-20A CIRCUIT BREAKER PREVIOUSLY SERVING ACQJ-5.
4. INTERCEPT AND EXTEND UNLIGHTED LIGHTING CIRCUIT SERVING EXISTING EAST PENHOUSE TO NEW LIGHT FIXTURES, NEW FIXTURES TO BE CONTROLLED BY NEW SINGLE POLE LIGHT SWITCH IN NEW PENHOUSE.
5. INSTALL THE FOLLOWING CIRCUIT BREAKERS IN PANEL 1BPH-4:
 - INSTALL 3P-40A CIRCUIT BREAKER TO SERVE NEW AH-4 IN PLACE OF 3P-45A CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING AH-2.
 - INSTALL 3P-20A CIRCUIT BREAKERS TO SERVE B-2 & B-2 IN PLACE OF 3P-25A CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING HOT WATER PUMP - BOTTOM.
 - INSTALL 3P-20A CIRCUIT BREAKERS TO SERVE B-3 & B-3 IN PLACE OF 3P-25A CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING HOT WATER PUMP - TOP.
 - INSTALL 121 3P-60A CIRCUIT BREAKERS IN AVAILABLE SPACE OF PANEL TO SERVE P-5 & P-6.
6. CIRCUIT NEW AH-1 TO NEW 3P-30A CIRCUIT BREAKER IN PANEL 1BPH-1.
7. CIRCUIT NEW AH-2 TO EXISTING 3P-60A CIRCUIT BREAKER IN PANEL 1BPH-1.
8. CIRCUIT NEW AH-3 TO EXISTING 3P-60A CIRCUIT BREAKER IN PANEL 1BPH-2.
9. CIRCUIT NEW AH-4 TO NEW 3P-60A CIRCUIT BREAKER IN PANEL 1BPH-2.
10. CIRCUIT NEW PANEL PH2B TO EXISTING 3P-25A CIRCUIT BREAKER PREVIOUSLY SERVING ACQJ4 IN PANEL PH-2. FEED PANEL PH2B WITH 4H1 & 1H6 AND N 2' CONDUIT.
11. CIRCUIT B-1 & B-2 TO EXISTING 3P-20A CIRCUIT BREAKER PREVIOUSLY SERVING EXISTING BOILER IN PANEL 1BPH.
12. E.C. TO INSTALL FACTORY FURNISHED TRANSFORMER FOR BOILER TO ACCEPT 480V FEED.
13. INSTALL THE FOLLOWING CIRCUIT BREAKERS IN PANEL PH2A:
 - CIRCUIT NEW GFCO RECEPTACLE IN NEW PENHOUSE TO SPARE 1P-20A CIRCUIT BREAKER.
 - INSTALL 1P-40A CIRCUIT BREAKER TO SERVE GUH-7. INSTALL NEW CIRCUIT BREAKER IN PLACE OF EXISTING 2P-20A CIRCUIT BREAKER.
14. PURNISH AND INSTALL EMERGENCY BOLLER SHUT-OFF BUTTON AND MAKE ALL WIRING CONNECTIONS TO BOILERS.
15. INSTALL HEAT DETECTOR ABOVE BOILERS.
16. INSTALL DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AIR DUCT OF AIR HANDLING UNIT SHOWN. PROVIDE REMOTE KEY OPERATED TEST/RESET SWITCH. INSTALL ON WALL. CONNECT TO DUCT MOUNTED SMOKE DETECTOR.
17. INSTALL DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR DUCT OF AIR HANDLING UNIT SHOWN. PROVIDE REMOTE KEY OPERATED TEST/RESET SWITCH. INSTALL ON WALL. CONNECT TO DUCT MOUNTED SMOKE DETECTOR.



	DATE	NO.	DESCRIPTION
06/02/2021		ADDENDUM #1	

ROOF PLAN - ELECTRICAL

SATELLITE JAIL HVAC REPLACEMENT

CHAMPAIGN COUNTY
502 S LIERMAN AVE URBANA, IL 61802

SEA:	<table border="1"> <tr> <td>DRAWN:</td> <td>DAK</td> <td>APPROVED:</td> <td>LEM</td> </tr> <tr> <td>DATE:</td> <td colspan="3">MAY 5, 2021</td> </tr> <tr> <td colspan="4">ISSUED FOR BID</td> </tr> <tr> <td>PROJECT:</td> <td colspan="3">GHR # 7253</td> </tr> </table>	DRAWN:	DAK	APPROVED:	LEM	DATE:	MAY 5, 2021			ISSUED FOR BID				PROJECT:	GHR # 7253			SHEET: E-103
	DRAWN:	DAK	APPROVED:	LEM														
	DATE:	MAY 5, 2021																
	ISSUED FOR BID																	
	PROJECT:	GHR # 7253																