ADDENDUM 2

Addendum #	2	**Date Issued**	10-25-2024
Project Name | Job #	DSU Woods Hall Improvements - Phase 2		20233600
Bid Date | Time	November 20, 2024		2 pm MDT

THIS ADDENDUM AMENDS AND BECOMES PART OF THE CONTRACT DOCUMENTS FOR EAPC PROJECT 20233600 DATED 1-16-2024. EACH BIDDER SHALL ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY MARKING THE ADDENDUM NUMBER AND DATE ON THE BID FORM.

SPECIFICATIONS

ITEM #1: 00 11 13 Advertisement for Bids:
Replace with revised section 00 11 13 Advertisement for Bids, attached.

ITEM #2: 00 21 13 Instructions to Bidders:
Replace with updated section 00 21 13 Instructions to Bidders Dated 10-25-2024, attached.

ITEM #3: 00 30 00 Forms:
Omit section.

ITEM #4: 00 31 00 Bid Package Descriptions:
Add section 01 31 00 Bid Package Descriptions, attached.

ITEM #5: 00 41 00 Bid Form:
Replace with updated section 00 41 00 Bid Form Dated 10-25-2024, attached.

ITEM #6: 00 45 13 Questionnaire of Bidder's Responsibility:
Omit section.

ITEM #7: 00 61 13 Performance and Payment Bond:
Replace with updated 00 60 13 Payment and Performance Bond Dated 10-25-2024, attached.

ITEM #8: 00 70 00 AIA A201-2017 GENERAL CONDITIONS & SUPPLEMENTARY CONDITIONS:
Replace Article 16. SUPPLEMENTARY CONDITIONS with attached Article 16. Dated 10-25-2024, attached. All other sections of General Conditions and Asbestos Forms to remain as is.

ITEM #9: 01 23 00 Alternates:
Replace with updated section 01 23 00 Alternates Dated 10-25-2024, attached.

ITEM #10: 01 26 00 Contract Modification Procedures:
Omit section.

ITEM #11: 01 29 00 Applications for Payment:
Omit section. Applications for Payment of Subcontractors to be as required by subcontract with CMAR.

ITEM #12: 01 30 00 Administrative Requirements:
Add section, 01 30 00 Administrative Requirements attached.

ITEM #13: 01 31 13 Project Coordination:
Omit section.

ITEM #14: 01 31 19 Project Meetings:
Omit section.

ITEM #15: 01 33 00 Submittals:
Replace with updated section 01 33 00 Submittals Dated 10-25-2024, attached.

ITEM #16: 23 80 00 Decentralized HVAC Equipment:
Replace with updated section 23 80 00 Decentralized HVAC Equipment, attached.

ITEM #17: 26 05 00 Common Work Results for Electrical:
Replace with updated section 26 05 00 Common Work Results for Electrical, attached.

ITEM #18: 26 05 19 Conductors:
Replace with updated section 26 05 19 Conductors, attached.

DRAWINGS

ITEM #1: SHEETS A1.0
Replace sheet with revised sheet A1.0R, attached. Revision as needed for 3rd floor AC Alternate Bid G-4.

ITEM #2: SHEETS A1.2, A1.4 and A1.6
Add Note: Alternate Bid G-4 only: Provide additional existing chase wall repair as needed for installation of 3rd floor AC lines. Coordinate locations with Mechanical and Electrical.

ITEM #3: SHEETS A6.1, A6.2 and A6.3
Add Note: Alternate Bid G-4 only: Provide additional existing ceiling repair as needed for installation of 3rd floor AC lines. Coordinate locations with Mechanical and Electrical.

ITEM #4: SHEETS A5.0
Replace sheet with revised sheet A5.0R, attached. Revision as needed for 3rd floor AC Alternate Bid G-4.

ITEM #5: SHEET M0.1B
Replace sheet with updated M0.1B, attached.

a. Updated the drawing to extend the area of concrete demolition that the M.C. will need to coordinate with the G.C. for removal to add additional new waste piping.
b. Updated and added keynotes.

ITEM #6: SHEET M0.2
Replace sheet with revised sheet M0.2, attached.

a. Updated the drawing to add below grade waste piping to serve the mini-split A/C units on third floor.
b. Updated and added keynotes.

ITEM #7: SHEET P1.0

Replace sheet with revised sheet P1.0, attached.

a. Update the drawing to add waste piping connection in the basement to serve the mini-split A/C units on third floor.
b. Updated and added keynotes.

ITEM #8: SHEET P1.1

Replace sheet with revised sheet P1.1, attached.

a. Added new waste piping to serve the mini-split A/C units on third floor.
b. Updated and added keynotes.

ITEM #9: SHEET P1.2

Replace sheet with revised sheet P1.2, attached.

a. Added new waste piping to serve the mini-split A/C units on third floor.
b. Updated and added keynotes.

ITEM #10: SHEET P1.3

Replace sheet with revised sheet P1.3, attached.

a. Added new waste piping to serve the mini-split A/C units on third floor.
b. Updated and added keynotes.

ITEM #11: SHEET M2.3

Replace sheet with revised sheet M2.3, attached.

a. Added Multi-Mini Split System Head units to the dorm rooms.
b. Added thermostats for the mini-split systems.
c. Added verbiage for condensate connections to the mini-split systems.
d. Updated and added keynotes.

ITEM #12: SHEET M3.3

Replace sheet with revised sheet M3.3, attached.

a. Added Multi-Mini Split System Heat units to the dorm rooms.
b. Updated and added keynotes.

ITEM #13: SHEET M4.1

Replace sheet with revised sheet M4.1, attached.

a. Added Multi-Mini Split System Outdoor units on the roof.
b. Updated and added keynotes.

ITEM #14: SHEET M6.2

Add sheet M6.2, attached.

ITEM #15: SHEET E1.0
Replace sheet with revised sheet E1.0, attached.

ITEM #16: SHEETS E1.1, E1.2 and E1.3
Replace general notes on sheets E1.1, E1.2 and E1.3 with general notes shown on revised sheet E1.0, attached.

ITEM #17: SHEET E3.0
Replace sheet with revised sheet E3.0, attached.

ITEM #18: SHEETS E3.4A, E3.5 and E3.6
Add sheets E3.4A, E3.5 and E3.6, attached.

PRIOR APPROVALS

CONTINGENT UPON MEETING ALL SPECIFICATIONS, THE FOLLOWING ITEMS ARE ACCEPTABLE FOR BIDDING:

SECTION	PRODUCT	APPROVED EQUAL

ATTACHMENTS

This Addendum includes the following revised and/or new Drawing Sheets:

A1.0R, A5.0R, M0.1B, M0.2, P1.0, P1.1, P1.2, P1.3, M2.3, M3.3, M4.1, M6.2, E1.0, E3.0, E3.4A, E3.5, E3.6

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

Woods Hall Renovation Phase 2, Dickinson State University, Dickinson North Dakota.

Sub-Contract bids will be received at the office of the Construction Manager At Risk, Kolling and Kolling Inc. at 804 E. Villard St., Dickinson, North Dakota, until Wednesday, November 20th at 2:00 PM MT. Bids shall be submitted in accordance with the Instructions to Bidders, Specifications Section 00 21 13. Bids shall be lump sum basis, with no alterations or attachments to the Bid Form contained in the specifications. Bids can also be turned in early to the office of the CMAR, attention Scott Kolling. Bids will be publicly opened and read aloud.

The Scope of Work: The project includes renovations to the basement, portions of the first and second floors, and the entire third floor. Included are dormitory suites, communal spaces and an elevator. Scope of work includes but is not necessarily limited to the following:

Selective Demolition
Cast-In-Place Concrete Including Helical Piers on Structural Drawings
Structural Steel, Joists and Deck
Metal Fabrications
Aluminum Ladders
Rough Carpentry
Fiber Cement Siding
Roof Hatches
Finish Carpentry
Solid Surface Shower Surrounds
Wall Coverings
Insulation
Single Ply Membrane Mechanically Fastened
Flashing & Sheet Metal
Fire Stopping
Joint Sealants
Expansion Joints
Hollow Metal Doors and Frames
Wood Doors
Fiberglass Doors and Frames
Access Doors and Frames
Finish Hardware
Aluminum Entrances
Glazed Aluminum Curtain Walls
Glass and Glazing
Exterior Sun Controls
Cold Formed Metal Framing
Sheathing
Weather Barriers
Gypsum Drywall & Light Guage Framing
Tile
Acoustical Ceilings
Resilient Flooring LVT
Resinous Flooring
Textile Composite Flooring
Signage
Painting

Toilet Partitions (Plastic)
Toilet and Bath Accessories
Fire Extinguishers, Cabinets and Accessories
Cellular Shades
Laminate Clad Casework
Machine Room-less Traction Elevator
Fire Suppression
Plumbing
HVAC
Electrical
Communications
Electronic Safety and Security

Bid Documents as prepared by EAPC Architects can be viewed the office of the Construction Manager at Risk, Kolling and Kolling Inc., 804 E. Villard Street, ND 58601 or at the Builder's Exchanges listed below.

QuestCDN (www.questcdn.com)

Dodge Plan Room and SCAN in Minneapolis.

ConstructConnect

Minnesota Builders Exchanges: Minnesota Builders Exchange in Minneapolis

North Dakota Builders Exchanges: Bismarck, Dickinson, Fargo, Grand Forks, Minot, Williston

South Dakota Builders Exchanges: Aberdeen, Plains Builders in Sioux Falls, Rapid City, Sioux Falls

Montana Builders Exchange: Billings, Bozeman Builders Exchange, Great Falls Builders Exchange

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents for $22.00 by inputting Quest project **#_9387639_** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.

Bidding Documents will be available on October 30th, 2024.

Addenda will be available at the online file sharing site indicated above. Bidders who obtain the Bidding Documents are responsible to obtain issued addenda.

All bidders must be licensed for the amount of their bid. Sealed bids shall be received by the CMAR prior to the above date and time. The CMAR and Owner will evaluated the bids to determine the most responsible bids. The CMAR and the Owner reserve the right to reject any and all bids and rebid the project until a satisfactory bid is received. Bidding and contracting questions shall be directed to Scott Kolling at Kolling and Kolling Inc., Kolling@ndsusupernet.com 701-483-8279 (office) or 701-290-5074 (cell).

END OF SECTION

SECTION 00 21 13

INSTRUCTION TO BIDDERS Revised 10-25-24

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1. THE WORK: Woods Hall Renovation Phase 2 – Dickinson State University

    A. Project to be completed utilizing a Construction Manager at Risk.

    B. Time of Completion: July 10, 2026.

2. SECURING DOCUMENTS

    A. Copies of the proposed Contract Documents may be obtained upon the conditions set forth in the Advertisement to Bid Section 00 11 13 attached to Addendum 2.

3. BID FORM

    In order to receive consideration, prepare bids in strict accordance with the following:

    A. Make bids upon the forms provided, properly signed and with all items filled out. Do not change the wording of the bid form, and do not add words to the bid form.
        1. Mechanical and Electrical Sub-Contractors shall provide separate Performance and Payment Bonds to the CMAR. As such, these Bids shall clearly indicate the cost of Performance and Payment Bonds as a separate line item on the Bid Form.The Bidders bonding company shall be rated A+ or better by A.M. Best.

        2. Failure to comply with bonding requirements may be grounds for rejection of a sub-contractors bid.

    B. Emailed bids will not be accepted.

    C. Address bids to the Construction Manager and deliver in a sealed envelope to the designated bid opening location on or before the day and hour set for opening the bids. Bids may be turned into the Construction Manager early at the Construction Manager’s office.

        1. Indicate Bid Package Numbers on the envelope along with the Bidder’s Name and Address.

        2. Envelope must include a copy of the bidder’s current ND contractor’s license.

    D. If an alternate bid is asked for on a type or method of construction, which a bidder does not desire to bid; the bidder shall insert the words "no bid" in the proper place. If an alternate does not involve a change in price from the base bid, the bidder shall insert the words "no change" in the proper place. Unauthorized bidder’s alternates will not be considered.

    E. If requested by the Construction Manager, the Bidder shall, within ten days of notification of award of a Contract for the Work, submit the following information to the Construction Manager:

        1. Proof of specified insurance;

        2. Schedule of values;

3. Listing of the Work to be performed by the Bidder with his own forces and a list of names of the Sub-contractors or other persons or entities proposed for portions of the Work. Note that some information is required to be submitted with the Bid.

4. EXAMINATION OF DOCUMENTS AND SITE OF WORK

A. Before submitting a bid, each bidder shall examine the Drawings read the Specifications and all other proposed Contract Documents. Each bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the Work is to be performed and shall include in his bid a sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

B. Pre-Bid Meeting: No pre-bid meeting will be held. Bidders may request to visit the site at least one week prior to the bid opening by contacting the CMAR.

C. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither General Contractor nor Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

5. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

A. If any person contemplating submitting a bid for the Work is in doubt as to the true meaning of any part of the proposed Contract Documents or finds discrepancies in or omissions from any part of the proposed Contract Documents, he may submit to the CMAR a written request for interpretation thereof not later than seven days before bids will be opened. The person submitting the request shall be responsible for its prompt delivery.

B. Interpretation or correction of proposed Contract Documents will be made only by Addendum and will be delivered to each bidder of record or document holder. The CMAR or Architect will not be responsible for any other interpretations of the proposed Contract Documents. Each bidder is responsible for determining whether or not he has received an Addendum issued and acknowledge receipt on the Bid Forms submitted.

C. It is the intent of these documents to produce a design or function (including all materials, parts, equipment systems, and details) to comply with the Americans with Disabilities Act of 2010 (ADA). Should any of the above portions or entities be specified or shown to contradict the ADA requirements; notify the CMAR immediately and corrective measures will be issued by addendum.

D. Any item specified by reference to a Commercial Standard, Federal Specification, trade association standard, or other similar standard, shall comply with the requirements for design, manufacture, and installation of the latest revision thereto in effect at the time of bidding. Where this Specification requires a better quality than such standard, the Specification shall govern.

E. Where a proprietary material or method is specified for one use, the intention is to establish a standard of quality, performance or size and not to exclude another product of equal merit as determined by the Architect.

F. For proprietary items, bids shall be based on items named in the Specification, or on items, which the Architect designates by Addendum as an approved equal. An item named in the Specification or by Addendum will be acceptable only when it meets all other requirements of the Specifications, including the specification of the manufacturer as of the date of bidding. Requests for approval of an item as equal will not be considered unless the Architect receives sufficient data for evaluation seven days prior to bid opening. The Architect will consider delivery time and availability of service as well as the product itself, in acting on a request for approval under provision of this paragraph.

    1. In the event of an extended bid date the original seven-day requirement will remain in effect unless changed by written addendum in the specifications.

G. When a specification approves a manufacturer, it does not grant approval of all products by that manufacturer. Bidders are required to submit exact details of make and model prior to bidding. Reference to approved manufacturers indicates a general familiarity by the Architect of that vendor's products but does not grant specific approval.

H. Where the Contractor chooses to use an item approved as above but other than the one shown on the details or specified in detail, he shall be responsible for coordinating any necessary changes in other Work and shall bear the cost of such changes.

I. Current bidders and/or plan holders lists will be issued with each addendum.

J. No substitutions will be considered after the Contract award unless specifically provided per the Contract Documents.

K. Contractors using materials not approved by the Architect and not specifically mentioned by make and model may have these products rejected at the time of submittals

6. LAWS AND REGULATIONS

    A. The bidder's attention is directed to the fact that all applicable North Dakota State laws, and the rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

    B. Prior to awarding of a contract, bidders must hold a North Dakota Contractor's License, carry North Dakota Workmen's Compensation Insurance, and conform to all governing laws of the State of North Dakota.

    C. No smoking is allowed on the DSU campus.

7. SALES TAX

    A. All materials used on the project will be subject to the current State and Local Sales Tax Laws where applicable. The Contractor must submit a certificate of

income tax clearance from the State Tax Commissioner before the Owner can enter into a contract.

8. QUALIFICATIONS OF BIDDERS

A. The Owner may make such investigation as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

END OF SECTION

SECTION 01 31 00
BID PACKAGE DESCRIPTIONS

BID PACKAGE: DESCRIPTIONS AND REQUIREMENTS

Provide all labor, material, equipment and site supervision to complete the work described and or identified within the construction documents for the project including but not limited to the following technical specifications. Note that sales tax must be included on all materials used.

Each Bid Package will be responsible for unloading, inventory and storage of materials being installed for each respective bid package. This would include materials supplied by another (material) bid package.

All bid packages to include provisions of Divisions 00 and 01.

Separate Payment and Performance Bonds are required to be supplied by mechanical and electrical contractors for Bid Packages 13 and 14. Payment and Performance Bonds to be supplied to the CMAR.

BID PACKAGE 2: SELECTIVE DEMOLITION

Includes: Labor, Material, Equipment and Site Supervision

02 41 19	Selective Demolition

BID PACKAGE 3: CONCRETE

Includes: Labor, Material, Equipment and Site Supervision

03 30 00	Cast-In-Place Concrete Including Helical Piers on Structural Drawings
31 00 10	Earthwork

BID PACKAGE 5: METALS

Includes: Labor, Material, Equipment and Site Supervision

05 12 00	Structural Steel
05 22 00	Steel Joists
05 31 00	Steel Deck
05 50 00	Metal Fabrication
05 51 50	Aluminum Ladders

BID PACKAGE 6A: CARPENTRY

Includes: Labor, Material, Equipment and Site Supervision

06 10 00	Rough Carpentry
07 46 26	Fiber Cement Siding
07 72 33	Roof Hatches

BID PACKAGE 6B: FINISH CARPENTRY

Includes: Labor, Material, Equipment and Site Supervision

06 20 00	Finish Carpentry
06 61 00	Solid Surface Shower Surrounds
09 72 00	Wall Coverings

BID PACKAGE 7A: THERMAL & MOISTURE PROTECTION

Includes: Labor, Material, Equipment and Site Supervision

07 21 00	Insulation (Roof)
07 53 23	Single Ply Membrane Mechanically Fastened
07 60 00	Flashing & Sheet Metal

BID PACKAGE 7B: JOINT SEALANTS

Includes: Labor, Material, Equipment and Site Supervision

07 84 00	Fire Stopping
07 92 00	Joint Sealants
07 95 00	Expansion Joints

BID PACKAGE 8A: OPENINGS HOLLOW METAL

Includes: Labor, Material, Equipment and Site Supervision

08 11 13	Hollow Metal Doors and Frames
08 14 00	Wood Doors
08 22 10	Fiberglass Doors and Frames
08 31 00	Access Doors and Frames
08 71 00	Finish Hardware

BID PACKAGE 8B: OPENINGS ALUMINUM

Includes: Labor, Material, Equipment and Site Supervision

08 41 00	Aluminum Entrances
08 44 13	Glazed Aluminum Curtain Walls
08 80 00	Glass and Glazing
10 71 13	Exterior Sun Controls

BID PACKAGE 9A: GYPSUM DRYWALL

Includes: Labor, Material, Equipment and Site Supervision

05 40 00	Cold Formed Metal Framing
06 16 00	Sheathing
07 21 00	Insulation (Wall Batt Insulation)
07 25 00	Weather Barriers
09 20 00	Gypsum Drywall & Light Guage Framing

BID PACKAGE 9B: FINISHES

Includes: Labor, Material, Equipment and Site Supervision

09 30 00	Tile
09 51 00	Acoustical Ceilings
09 65 00	Resilient Flooring LVT
09 67 23	Resinous Flooring
09 68 13	Textile Composite Flooring

BID PACKAGE 9C: PAINTING

Includes: Labor, Material, Equipment and Site Supervision

09 90 00	Painting

BID PACKAGE 10: SPECIALTIES

Includes: Material Only

10 14 00	Signage
10 21 13	Toilet Partitions (Plastic)
10 28 00	Toilet and Bath Accessories
10 44 00	Fire Extinguishers, Cabinets and Accessories
12 24 16	Cellular Shades

BID PACKAGE 11: FURNISHINGS

Includes: Labor, Material, Equipment and Site Supervision

12 32 16	Laminate Clad Casework

BID PACKAGE 12: CONVEYING SYSTEMS

Includes: Labor, Material, Equipment and Site Supervision

14 21 23	Machine Room-less Traction Elevator

BID PACKAGE 13: MECHANICAL

Includes: Labor, Material, Equipment and Site Supervision

Division 21 00 00	Fire Suppression
Division 22 00 00	Plumbing
Division 23 00 00	HVAC

BID PACKAGE 14: ELECTRICAL

Includes: Labor, Material, Equipment and Site Supervision

Division 26 00 00	Electrical
Division 27 00 00	Communications
Division 28 00 00	Electronic Safety and Security

SECTION 00 41 00 – BID FORM -- Revised 10-25-2024

Project: DSU Woods Hall Phase 2 Renovation
Dickinson, ND

Date: NOVEMBER 20TH, 2024

Bid Proposal from _____, hereinafter
(company name)
called the Bidder,

a _____corporation / partnership / an individual, doing business as
(state) (circle one)

_____to Dickinson State University, here in after called the Owner.
(company name)

To the Owner:

The bidder in compliance with your Invitation for Bids for the construction the DSU Woods Hall Phase 2 Remodeling project having examined the plans and specifications, hereby proposes to furnish all labor, materials, supplies and equipment necessary complete the work that this bid package represents. The bidder has reviewed the construction schedule and is in agreement with the time set forth within.

ADDENDA:

Bidder acknowledges receipt of the following addenda: _____

BASE BID PROPOSAL:

Bidder agrees to perform all of the construction work described in the specifications and shown on the plans for the following Bid Package (if more than one bid package is quoted an additional bid form will be used) for the sum of money as noted following each Bid Package. If combined Bid Packages are given contractors are required to submit individual bids for each Bid Package as well.

BID PACKAGE

Bid Package #	Bid Package Name	Amount of Base Bid
_____	_____	TOTAL $ _____
		BOND $ _____
		Bid Bond required by Mechanical and Electrical Bidders ONLY
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____

Bid Package #	Bid Package Name	Amount of Base Bid
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____
_____	_____	TOTAL $ _____

COMBINED BID PACKAGES

#_____, #_____, #_____, #_____ TOTAL $_____

#_____, #_____, #_____, #_____ TOTAL $_____

#_____, #_____, #_____, #_____ TOTAL $_____

#_____, #_____, #_____, #_____ TOTAL $_____

A combined bid package that includes either Mechanical or Electrical Scopes of Work must include the bond amount in the combined total.

Bidder understands that the owner reserves the right to reject any or all bids.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of **45 days** after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a surety bond or bonds if requested by owner

ALTERNATE BIDS

Alternate Bid G-1: Second Floor Doors & Hardware	ADD $ _____
Alternate Bid G-2: New Boiler System & Controls	ADD $ _____
Alternate Bid G-3: Extra Vanity Sinks	ADD $ _____
Alternate Bid G-4: Third Floor Air Conditioning	ADD $ _____

Respectfully submitted,

By_____
(Signature)
Title_____

Business Address_____

_____

(SEAL if bid is by a corporation)

_____

Telephone_____

Cell Number_____

Fax_____

E-Mail_____

END OF SECTION

SECTION 00 61 13

PERFORMANCE AND PAYMENT BOND Revised 10-25-2024

KNOW ALL INDIVIDUALS BY THESE PRESENT: That we _____

_____

(Name of the Contractor)

a _____ , hereinafter called **PRINCIPAL** and,
(Corporation, Partnership, or Individual)

_____ of _____ , hereinafter called **SURETY**
(Surety)

are held and firmly bound unto Kolling & Kolling Inc., of Dickinson, North Dakota,
(Owner) (City and State)

hereinafter called **CMAR** in the penal sum of _____
Dollars

($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

_____

_____

_____

_____

NOW THEREFORE, if the PRINCIPAL shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, any extensions thereof which may be granted by the CMAR, with or without notice to the SURETY, and if he shall satisfy all claims and demands, incurred under such contract, and shall fully indemnify and save harmless the CMAR from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the CMAR all outlay and expense which the CMAR may incur in making good any default, and shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extensions of time, alternation or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise

effect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the CMAR and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the _____ day of _____,20__.

ATTEST:

_____
PRINCIPAL

_____
(Principal Secretary)

BY: _____(S)

(SEAL)

_____
(Address/Zip)

_____
Witness as to Principal

_____
(Address/ZIP)

ATTEST:

_____
SURETY

_____
(Surety) Secretary

BY:_____
Attorney-in-Fact

(SEAL)

_____
(Address/Zip)

_____
Witness as to Surety

_____
(Address/Zip)

The rate of premium on this bond is $_____ per thousand. The total amount of premium charge is $_____. (Above to be filled in by surety company).
(Power of Attorney of person signing for Surety Company must be attached.)

Note: Date of Bond must not be prior to date of Contract.

1. Correct name of Contractor.
2. A Corporation, a Partnership, or an individual as the case may be.
3. Correct name of Surety.
4. Correct name of CMAR.
5. If Contractor is Partnership, all partners should execute the bond.
6. Signatures must be acknowledged before a Notary Public.

ARTICLE 16. SUPPLEMENTARY CONDITIONS Revised 10-25-2024

16.1 SUPPLEMENTS

These General Conditions of the Contract for Construction (AIA Document A201 - 2017, 15 Articles on 38 pages) are hereby made part of the Contract Documents whether bound herein or not. This Article 16 contains changes and additions to the AIA A201, cross referenced to the original Article numbers in AIA A201 - 2017. Where any part of AIA A201 - 2017 is not modified or voided by this Article 16 or Division 1 Specifications Sections, the unaltered part remains in effect.

ARTICLE 1.
GENERAL PROVISIONS

THE WORK

1.1.3 Add: The term "provide" shall mean furnish and install in place.

THE DRAWINGS

1.1.5 Add: The general character and scope of the Work is shown by the Drawings. Where a portion of the Work is fully drawn and the remainder is merely indicated, the portion fully drawn shall apply to all similar part of the Work. Figured dimensions shall be followed in preference to scaled measurements. Dimensions on the Drawings are subject to field verification to suit adjacent elements.

THE SPECIFICATIONS

1.1.6 Add: Where Specifications are abbreviated type, they indicate complete sentences in the same manner as when a note occurs in the Drawings. Omissions of words such as “the Contractor shall” and “as shown on the Drawings” is intentional. The words “shall” or “shall be” are to be supplied by inference.

Where a number is listed in the Specifications (as for gauges, weights, temperatures, amount of time, etc.), the number shall be interpreted as that or better.

Division 00 and Division 01 of this book apply to every Specification Section in this book.

CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1.2.1 Change the period at the end of the first sentence to a comma and add: "in operating order".

1.2.4 Add paragraph: In case of a conflict between the Contract Documents and any portion bid separately to the owner, if not reconciled by Addendum, the Architect/Engineer will determine which document is the most specific and the Contractor shall do the Work accordingly, at no change in price.

ARTICLE 2.
OWNER

INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.3.6 Replace the text with: The Contractor(s) will be furnished as many sets of Drawings and Project Manuals as the Architect has available for distribution, but in no case less than one (1). If the Contractor(s) require additional sets, they will be furnished to the Contractor(s) at the cost of reproduction, and postage and handling, to be paid by the Contractor(s).

ARTICLE 3.
CONTRACTOR

GENERAL

3.3.1.4 Add paragraph: This project shall be completed utilizing a Construction Manager at Risk (CMAR).

SUPERVISION AND CONSTRUCTION PROCEEDURES

3.3.1.1 Add paragraph: The Construction Manager's schedule, prepared in accordance with Article 3.10.1 of these Supplementary Conditions and progress shall govern the Work of the Sub Contractors. Each Contractor shall notify the CMAR, within a reasonable time, of phases or items of the Work requiring incorporation of Work by the other Sub Contractors. The Sub Contractors shall, after such notification and within a reasonable time, proceed with the furnishing, installation, laying out or incorporation of their Work so as not to delay or impede the progress of the Work.

3.3.1.2 Add paragraph: Each Sub Contractor shall be responsible for the regular and on-going coordination of their Work with the affected Work of other Sub Contractors an CMAR, and for maintaining and coordinating the progress of the Work in accordance with the construction schedule, prepared in accordance with Article 3.10.1 of these Supplementary Conditions for scheduling requirements.

LABOR AND MATERIALS

3.4.4 Add paragraph: **WORKMANSHIP AND MATERIALS**.

a) No trade shall commence Work until conditions are right for carrying out the Work properly, and surfaces affecting the Work of that trade are suitable.

b) Manufacturer’s printed instructions covering details of installations shall be followed where not in conflict with these Specifications. If there is a conflict, notify the Architect and obtain approval before proceeding.

c) Completed Work shall be left plumb, level, true to line or plane, anchored securely in place, free from damage.

d) Unless otherwise called for, all pieces of material shall be as large a stock size as is in conformity with standard good practice of the trade.

e) Except where in conflict with these specifications, current manufacturer’s printed specifications of herein specified proprietary products are made part of these specifications.

f) Deliver and store materials so as to protect from damage. Inspect materials for damage as delivered.

g) For items fabricated to fit the needs of this project, verify dimensions by field measurements where practical. Establish Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabrication. Coordinate construction to ensure that actual dimensions correspond to established dimensions. Allow for trimming and fitting.

h) For brand name materials where purchase method allows: Deliver in original container with seals unbroken and with original labels with manufacturer's name, product brand name and directions intact.

i) Where these specifications call for products that meet national standards (such as ASTM, CS, Federal Specifications, etc.), furnish a certification from the manufacturer that those products do meet the specified standards.

j) Obtain each separate type of product from the same manufacturer.

k) Before each trade commences work, conduct a pre-installation conference at the area of the site where the work will begin. The conference shall include the CMAR's Superintendent and representatives of all trades whose work interfaces with the trade about to begin work. The purpose will be to determine that conditions are proper for beginning the work and assure that other trades will coordinate as needed.

3.4.5 Add: DSU has an obligation to make information available to the campus on where to get information about Registered Sex Offenders who are working on DSU property. You are obligated to inform DSU Campus Police, in advance of any of your employees being on DSU property, of any such employee who is a Registered Sex Offender. This obligation also includes property owned or controlled by DSU that is at locations other than the main campus.

TAXES

3.6.1 Add paragraph: Contractor shall pay the ND Use tax per section 57-40.202.1 of the Century Code. Use tax applies to the purchase of tangible personal property by an individual or business not taxed at the time of purchase for storage, use or consumption in North Dakota.

PERMITS

3.7.7 Add paragraph: EQUAL OPPORTUNITY CLAUSE During the performance of this contract, the Contractor agrees to follow Section 202 of "Executive Order 11246 of September 24, 1965" relative to Non Discrimination in Employment by Government Contractors and Subcontractors and/or any directive regarding Equal Opportunity Employment issued by State where the project is located.

CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add: The CMAR shall prepare the construction schedule in cooperation with the other prime Contractors and obtain written evidence of their concurrence. The first payment will not be certified by the Architect until the progress schedule is received.

DOCUMENTS AND SAMPLES AT THE SITE

3.11 Add:

1. Immediately upon receipt of contract documents, identify one each of the documents with the title, "RECORD DOCUMENTS - JOB SET." Update the record set with all Addenda items.
2. Through progress of the work, the CMAR shall maintain an accurate record of changes in the contract documents, as described below. Upon completion of the work, transfer the recorded change in ink to a set of record documents. See also Section 01 78 39 – Project Record Documents.
3. Changes that shall be recorded are *major concealed items* from what is called for by the Contract Documents. This is to include such items as main pipes and conduit or changed structural

members which cannot be observed on completion even with the use of access doors or removable panels.

4. Coordinate changes within the record documents, making adequate and proper entries on each page of specifications and each sheet of drawings and other documents where such entry is required to show the change properly.

5. Accuracy of records shall be such that future searches for items shown in the contract documents may rely reasonably on information obtained from the approved project record documents.

6. Make entries within 24 hours after receipt of information that the change has occurred. Prior to submitting request for final payment, submit the final project record documents to the Architect and secure his approval. Maintain the job set of record documents completely protected from deterioration and from loss and damage until completion of the work and transfer of all recorded data to the final project record documents.

7. Submit the completed set of project record documents to EAPC as described in Section 01 78 39.

8. Participate in review meeting as required.

9. Make required changes and promptly deliver the final project record documents to EAPC.

10. EAPC will review for completeness of record documents.

The purpose of the final project record documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modification of the work to proceed without lengthy and expensive site measurement, investigation, and examination.

CUTTING & PATCHING

3.14.3 Add paragraph: On projects with more than one prime Contract, the General Contractor shall provide all openings in all <u>new</u> general construction, provided the information has been furnished to the General Contractor in time. If said information is not furnished in time, other Contractors shall cut, patch and repair as necessary all that is required for an installation per drawings and specifications. Use persons with the required skills for the work involved. Where support members are involved, cutting shall be approved in advance by the Architect/Engineer. Openings required in existing construction are the responsibility of the Contractor requiring the opening, including patching of existing construction to match adjacent finishes.

CLEANING UP

3.15.1.1 Add paragraph: **CLEANING DURING CONSTRUCTION**. The building and site shall be cleaned weekly and more often if necessary to provide a safe and hazard free work place. Maintain floors broom clean. Subcontractors are responsible for cleaning up after their own work. See also AIA A201.6.3.

3.15.1.2 Add paragraph: **CLEANING ON COMPLETION OF A PORTION OF THE BUILDING**.

1. "Clean," for the purpose of this article shall be interpreted on finished surfaces as meaning the level of cleanliness generally provided by skilled cleaners using quality building maintenance equipment and materials.

2. Remove all window stickers and labels.

3. Clean all plumbing, heating and electrical items upon completion of the project, and before Owner's occupancy.

INDEMNIFICATION

Add to 3.18.1: Actions that EAPC might take or fail to take with regard to Shop Drawings are to be covered by 3.18.1 to the same extent as actions in other matters.

ARTICLE 4
ARCHITECT

GENERAL
4.1.2 Add:
The Architect/Engineer has no duties or responsibilities in regard to insurance or legal decisions, surveying, subsurface soil exploration, geophysical testing, soil analysis or soil testing, testing for contamination by airborne asbestos fibers, bulk sample analysis for asbestos identification and content determination. The Architect/Engineer's obligations are solely to the Owner. In meeting such obligations, EAPC may increase the burdens and expenses of the Contractor, Subcontractors or Employees or the Surety of any of them. Nothing in the performance of EAPC's services in connection with this project implies any undertaking for the benefit of, or which may be enforced by the Contractor, Subcontractor or Employees, or the Surety of any of them.

ADMINISTRATION OF THE CONTRACT
4.2.3 Add: The Architect will not be responsible for the acts or omissions of the Owner.

COMMUNICATIONS
4.2.4 Add: If there are any direct communications between Owner and CMAR, that affect the performance or Administration of the Contract, the gist of such communication shall be reduced to writing by the Owner, with a copy to the Architect.

ARTICLE 5
SUBCONTRACTORS No Supplement

ARTICLE 6
CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS No Supplement

ARTICLE 7
CHANGES IN THE WORK

GENERAL
7.1.4: **Add paragraph**: Divisions 00 and 01 state generally how change proposals shall be handled. When quoting on a change proposal, a Contractor shall furnish a complete and itemized list of materials involved due to a proposed change in work <u>if so requested</u> showing:

The actual cost of:
- Labor, including foreman, on a per item basis.
- Materials, all individually priced, entering permanently into the work.
- The Ownership or rental cost of construction plant and equipment during the time of use on the extra work.
- Insurances, permits, fees and other direct job expenses applicable to the changes.
- To the total cost of the items above, add an allowance for overhead and profit, as appropriate for the paperwork involved.
- Compute add or deduct change orders on the same basis.

The Architect shall have the right to require actual quotations for materials and/or labor from the contractor or suppliers.

When either or both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be calculated on basis of the net amount of cost or credit.

1. The allowance for overhead and profit combined, included in the total cost shall be based on the following schedule:
   1.1 For the Contractor; for added work performed by the Contractor's own forces, 15 percent of the cost; for deleted work performed by the Contractor's own forces, 5 percent of the cost.
   1.2 For the Contractor; for added work performed by the Contractor's Subcontractor, 5 percent of the cost due the Subcontractor.
   1.3 For each Subcontractor or Sub-subcontractor involved; for added work performed by the Subcontractor's own forces; 15 percent of the cost; for deleted work performed by the Subcontractor's own forces; 5 percent of the cost.
   1.4 For each Subcontractor; for added or deleted work performed by the Subcontractor's Sub-subcontractor, 5 percent of the amount due the subcontractor.
   1.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.4.
2. In order to facilitate the checking of quotations for extras or credit, all proposals, except those so minor that their propriety can seem by inspection, shall be accomplished by a complete itemization of costs including labor, materials, and subcontracts. Labor and materials shall be itemized in the manner described above. Where major cost items are subcontract, they shall be itemized also.

7.1.5: Add paragraph: By signing a Change Order, the Contractor agrees that the changed Contract Amount is in full payment for the changed work, including that resulting from any resulting changes in the time schedule.

ARTICLE 8
TIME

DELAYS AND EXTENSIONS OF TIME

8.3.1 Add: The following will not be considered justifications for extension of time unless due to one of the causes stated within this Article 8.

a) Delay caused by Subcontractors or Supplier except if the Supplier goes out of business and another Supplier cannot be found in time to meet schedule.

b) Shortage of workmen.

ARTICLE 9
PAYMENTS AND COMPLETION

SCHEDULE OF VALUES

9.2. Add: Schedule of Values shall to suit the CMAR's judgment for the particular project following the format of the sample in Section 00 3000. Use the same form for payment requests, along with the form "Partial Payment Summary Sheet" in Section 00 3000.

9.6.9 Add: Except where other statutory requirements apply, progress payment shall be made monthly upon application, in the amount of 90% of the Work completed and materials described under 9.3.2. For a Contract over $100 thousand, the Architect will authorize the payment of 100% of the amount completed after a total of 5% of the Contract amount has been retained, providing progress on the Work is in accordance with or ahead of the CMAR's Progress Schedule and is otherwise satisfactory to the Architect, and if the CMAR has filed a Consent of Surety with the Architect.

SUBSTANTIAL COMPLETION

9.8.1 Add: Minor corrective Work and the replacement of defective Work or materials, and the adjustment of control apparatus will not delay the determination that the Contract is Substantially Complete. See 12.2.2.

9.8.6 **Add paragraph**: At 12:01 a.m. on the Date of Substantial Completion, the Owner becomes responsible for the care and operation of the accepted Work.

ARTICLE 10
PROTECTION OF PERSONS OR PROPERTY

INJURY OR DAMAGE TO PERSON AND PROPERTY

10.2.9 **Add paragraph**: CMAR shall submit to the Owner a copy of the written safety program to be used as guidelines and direction of the Contractor's and subcontractors' worksite activities. This program must meet all federal, state and local laws and other legal requirements and include the following minimum provisions: (1) a worksite safety policy and mission statement; (2) assigned responsibilities among management, supervisors and employees; (3) a system for periodic self-inspections, including inspection of job sites, materials, work performance and equipment; (4) a thorough accident and injury reporting and investigation process; (5) a safety orientation program including first aid, medical attention, emergency facilities, fire protection and prevention, housekeeping, illumination, sanitation, personal protective equipment and occupational noise exposure; and (6) a safety training program including safety "tool box" meetings and other systems for ongoing training, including training for employees on the recognition, avoidance and prevention of unsafe conditions.

It shall be a condition of the Contract and shall be made a condition of each subcontract entered into pursuant to the contract, that the owner assumes no liability relating to its receipt and review of the CMAR's safety plan. Safety remains the responsibility of the CMAR. Furthermore, the right of the Owner to receive and review the safety plan shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

HAZARDOUS MATERIALS AND SUBSTANCES

10.3.4 Add: Asbestos containing materials are prohibited from use in the construction of this project. The Contractor shall certify that only non-asbestos materials were used (See certification Form in Section 00 3000). Typical materials likely to contain asbestos include roofing, acoustical treatments, fireproofing, drywall, plaster, resilient flooring, insulation's, mastics/adhesives, gaskets, mineral products, cementitious boards/pipes/mortar, etc.

Lead containing materials are prohibited from use in the construction of this project.

ARTICLE 11
INSURANCE AND BONDS

11.1.1.3 Add paragraph: If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment certified in accordance with Subparagraph 9.10.2.

11.1.1.4 Add paragraph: Liability Insurance shall be provided by each Prime Contractor and shall include the following: Commercial General Liability on an Occurrence Basis, including Premises/Operations, Products/Completed Operations and Personal Injury. There shall be no endorsements deleting XCU coverages where they are applicable.

Automobile Liability: Written on a Business Auto Policy with liability covered auto symbols (1) or (2, 8 and 9). If the carrier does not use the Business Auto Policy, an equivalent form providing liability coverage on a comprehensive basis including all owned, non-owned and hired autos shall be used.

Umbrella Liability or Excess Liability with minimum limits of $2,000,000 per occurrence and $2,000,000 yearly aggregate amount.

The Architect and Owner assume no responsibility in the event that the limits set above are not adequate.

The Owner and Architect shall be listed as additional insured on each Contractor’s General Liability and Automobile Liability policies. Waiver of Subrogation to be included in Insurance Certificate.

11.1.1.5 Add paragraph: The insurance required by 11.1.1 may be any amount acceptable to the Insurer furnishing the umbrella or excess liability coverage required by 11.1.2.1. Worker's compensation coverage shall be as required by law. The Architect and the Owner assume no responsibility in the event that the limits set above are not adequate.

11.1.1.6 Add paragraph: Proof of workmen's compensation insurance coverage shall be a copy of Certificate of Premium Payment and proof of other insurance coverage shall be a fully descriptive standard AIA or ACCORD Certificate of Insurance. The Certificate of Insurance portrays the Insurance Agent's description of coverages provided the Contractor. Such certificates shall be filed with the Owner prior to commencement of the Work.

ARTICLE 12
UNCOVERING AND CORRECTION OF WORK No Supplement

ARTICLE 13
MISCELLANEOUS PROVISIONS

GOVERNING LAW

13.1.1 Add paragraph: Where the Contract Documents require Work better than that required by statute, the Contract Documents shall govern.

13.1.2 Add paragraph: If changes in laws, regulations, or codes made after the date of the Bid Opening require substantial revisions in the scope, extent or complexity of the Work called for by the Contract Documents, an equitable adjustment will be made in the terms of the Contract.

13.6 Add paragraph: NOTIFICATION OF DEMOLITION AND RENOVATION

For any project located in North Dakota which will have either demolition or renovation, the Contractor shall fill out the form at the end of this section, get it signed by the Owner and send it by mail or fax and mail to the ND State Department of Health to be received by them at least 10 days before beginning the activity, all per the instructions on the form.

13.7 Add paragraph: TAX CLEARANCE

The Contract will not be signed by the Owner until the Contractor has obtained an income tax clearance, and Workmen's Compensation certificate from the North Dakota State Tax Department and submitted it with the Contract and other supporting documents to the Owner. Certificates must be current and must not have expired as of the date of the contracts are submitted for approval.

13.8. Add Paragraph: **LIQUIDATED DAMAGES**

Liquidated Damages: The parties acknowledge and agree that time is of the essence under the Contract, and delays in Substantial Completion of the Work beyond the date specified in the Contract, subject to adjustment as provided in the Contract, would result in financial losses. Liquidated Damages will **NOT** be assessed for this project.

ARTICLE 14
TERMINATION OR SUSPENSION OF THE CONTRACT No Supplement

ARTICLE 15
CLAIMS AND DISPUTES

Add: 15.3.2 Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association in effect as of July 1, 2001. Any provision in such Rules to the effect that rules in effect at the time of filing of a demand for arbitration shall apply are hereby deleted, it being the intent that no amendments to the Rules shall apply to these parties. Notwithstanding the foregoing, the administrative fees to be paid shall be those in effect as of the time of filing the demand for arbitration. The demand for arbitration shall be filed in writing with the other party to the Contract and with the American Arbitration Association, and a copy shall be filed with the Architect.

END OF SECTION 00 70 00

SECTION 01 23 00

ALTERNATES – Revised 10-25-2024

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to this section.

1.2 SUMMARY:

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS:

A. Alternate: An amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES:

A. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated in the Project.
   1. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

B. Notification: Following the award of the Contract, the Owner shall prepare notification of the status of each Alternate, indicating whether Alternates have been accepted, rejected or deferred for consideration at a later date.

C. Execute accepted alternates under the same conditions as other work of the Contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES:

1. **Alternate Bid No. G-1 (Add)**: The Contractor shall state the amount to add to the Base Bid for the work associated with replacing the existing dorm room doors and hardware on 2nd floor. Other door doors & hardware are base bid.

2. **Alternate Bid No. G-2 (Add)**: The Contractor shall state the amount to add to the Base Bid for the work associated with installation of a new boiler system and controls.

3. **Alternate Bid No. G-3 (Add)**: The Contractor shall state the amount to add to the Base Bid for the work associated with a second sink as per Note #19 on plans. Room Sinks #326 will have two sinks under the Base Bid and is not a part of the alternate.

4. **Alternate Bid No. G-4 (Add)**: The Contractor shall state the amount to add to the Base Bid for the work associated with installation of air conditioning for the 3rd floor. Work also includes roofing work, ceiling and wall repair and additional floor cutting and patching on 1st floor. See Mechanical and Electrical Drawings attached to Addendum #2.

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for project meetings and extra work authorization.

1.3 PROJECT MEETINGS

A. General: A project schedule will be provided by the CMAR, periodically updated throughout construction . Schedule will be adjusted appropriately as the work proceeds with input from the contractors.

B. Meetings:

1. Weekly job meetings will be held on site at a time and place determined by the CMAR, Kolling & Kolling Inc..

2. Contractors to have lead field personnel attend the meeting as needed to understand the project schedule and to provide input into the activities.

3. All contractors working on-site, and/or scheduled to begin work within 10 calendar days of the meeting are required to attend.

1.4 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on "Architect's Supplemental Instructions."

1.5 EXTRA WORK AUTHORIZATION

1. General: Extra work submitted to the CMAR will not be approved without the following procedure being followed.
   a. For extra work being completed in the field the field personnel must have a signed extra work authorization form signed by the CMAR on site Manager. Note that for any extra work to be paid, a change order must be issued. Issuance of an extra work authorization does not guarantee payment

if an item is part of the original scope; a change order will not be issued.

1) Extra Work Authorization must include:
    a) Number of hours worked
    b) Type and amount of material used
    c) Cost of material used and invoices / receipts for materials

b. Change Order Submittal
    1) Change Order Requests to be submitted prior to the 20th of each month and prior monthly application for payment.
    2) Change Order Requests must include a complete breakdown of costs from all subcontractors and suppliers involved.
    3) Change orders must contain a signed Extra Work Authorization from the CMAR with an explanation of the work completed.
    4) A formal change order will be generated by the CMAR and returned to the subcontractor for their signature.
    5) Only once all signatures are obtained on a change order will a contractor be able to submit for payment of the change order under a standard monthly draw form which indicates the change order number that is being applied for.
    6) Note that for all changes to the project, a change order request must be submitted within ten (10) working days of the change being issued (or discovered). Change order requests will not be accepted following this time period.

1.6 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to the Architect and CMAR.
   1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
   2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
   3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
   4. Include costs of labor and supervision directly attributable to the change.
   5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

1.7 CHANGE ORDER PROCEDURES

A. Upon Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and CMAR.

END OF SECTION

SECTION 01 33 00

SUBMITTALS Revised -- 10-25-2024

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY:

A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
   1. Contractor's construction schedule.
   2. Shop Drawings.
   3. Product Data.
   4. Samples.
   5. Quality Assurance Submittals.

B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
   1. Permits.
   2. Applications for payment.
   3. Performance and payment bonds.
   4. Insurance certificates.
   5. List of Subcontractors.

C. Related Requirements:
   1. Section 01 29 00 - Applications for Payment; for the Schedule of Values
   2. Section 01 45 00 - Quality Control Services; Inspection and test reports
   3. Section 01 70 00 - Contract Closeout; Project Record Documents and warranties
   4. See Division 23 00 00 and 26 00 00 for additional requirements.

1.3 SUBMITTAL PROCEDURES:

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
      a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
    a. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the CMAR when a submittal being processed must be delayed for coordination.
    b. If an intermediate submittal is necessary, process the same as the initial submittal.
    c. Allow two weeks for reprocessing each submittal.
    d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
2. Include the following information on the label for processing and recording action taken.
    1. Project name.
    2. Date.
    3. Name and address of Contractor.
    4. Name, address and contact information of subcontractor.
    5. Name, address and contact information of supplier.
    6. Name of manufacturer.
    7. Number and Title of appropriate Specification Section.

C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
1. On the transmittal record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations include Contractor's certification that information complies with Contract Document requirements.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE:

A. Bar-Chart Schedule: The CMAR shall prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.

3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
5. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.

B. Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.

C. Cost Correlation: At the head of the schedule, provide a two item cost correlation line, indicating "pre-calculated" and "actual" costs. On the line show dollar-volume of Work performed as of the dates used for preparation of payment requests.
1. Refer to Section 01 29 00 - Applications for Payment for cost reporting and payment procedures.

D. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, other prime contractors, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

E. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SHOP DRAWINGS:

A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
1. Dimensions.
2. Identification of products and materials included.

3. Compliance with specified standards.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.

C. Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 24" x 36".

D. Submittal: Submit 3 blue- or black-line prints and 2 additional prints where required for maintenance manuals, plus the number of prints needed by the Contractor for distribution. One (1) print will be retained; the remainder returned.
1. One of the prints returned shall be marked-up and maintained as a "Record Document".

E. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

1.6 PRODUCT DATA:

A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

B. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
1. Manufacturer's printed recommendations.
2. Compliance with recognized trade association standards.
3. Compliance with recognized testing agency standards.
4. Application of testing agency labels and seals.
5. Notation of dimensions verified by field measurement.
6. Notation of coordination requirements.

C. Submittals: Submit 3 copies of each required submittal; submit 5 copies where required for maintenance manuals. The Architect will retain one, and will return the others marked with action taken and corrections or modifications required.
1. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

D. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
1. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.7 SAMPLES:

A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
   1. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
   2. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
   3. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation and similar construction characteristics.

B. Submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
   1. Submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

1.8 QUALITY ASSURANCE SUBMITTALS:

A. Submit quality control submittals. Including design data, certifications, manufacturer’s instructions, manufacturer’s field reports, and other quality-control submittals as required under other Sections of the specifications.

B. Inspection and Test Reports. Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division1 Section “ Quality Control.”

1.9 ARCHITECT'S ACTION:

A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
   1. Compliance with specified characteristics is the Contractor's responsibility.

B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION

SECTION 23 80 00

DECENTRALIZED HVAC EQUIPMENT

PART 1 - PACKAGED

PART 2 - GENERAL

2.1 SUMMARY

A. Section includes:

1. Air coils, hydronic.
2. Finned-tube radiators.
3. Convectors.
4. Radiant ceiling panels.
5. Cabinet unit heaters.
6. Unit heaters, heating coil.
7. Split System Air Conditioners

2.2 SUBMITTALS

A. Shop Drawings: For equipment covered under this section as per Section 230500.

1. Air coils, hydronic:
   a. Design Characteristics: Make and model, performance, furnished options.
   b. Physical Characteristics: Quantities, materials, drawings with dimensions and field connections.
2. Finned-tube radiators:
   a. Design Characteristics: Make and model, performance, furnished options, color selection chart.
   b. Physical Characteristics: Quantities, materials, drawings with dimensions and field connections.
3. Convectors:
   a. Design Characteristics: Make and model, performance, furnished options, color selection chart.
   b. Physical Characteristics: Quantities, materials, drawings with dimensions and field connections.
4. Radiant ceiling panels:
   a. Design Characteristics: Make and model, performance, furnished options, color selection chart.
   b. Physical Characteristics: Quantities, materials, drawings with dimensions and field connections.
5. Cabinet unit heaters:
   a. Design Characteristics: Make and model, performance, components, controls, furnished options, color selection chart.
   b. Physical Characteristics: Quantities, drawings with dimensions, materials, air and hydronic connections.
   c. Electrical Characteristics: Power requirements, wiring connections for power and controls.

6. Unit heaters, heating coil:
    a. Design Characteristics: Make and model, performance, furnished options.
    b. Physical Characteristics: Quantities, drawings with dimensions, materials, hydronic connections.
    c. Electrical Characteristics: Power requirements, wiring connections for power and controls.
7. Split-system air conditioners:
    a. Design Characteristics: Make and model, performance, components, controls, furnished options.
    b. Physical Characteristics: Quantities, materials, drawings with dimensions and field connections, clearances.
    c. Electrical Characteristics: Power requirements, wiring diagrams for power and controls, safeties.

B. Operation and Maintenance Manuals: For equipment covered under this section as per Section 230500.

2.3 QUALITY ASSURANCE

A. ASHRAE/IESNA 90.1 Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

B. Motors: Comply with requirements in Section 230520 "Common Motor Requirements."

C. Methods of Testing Cooling And Heating Coils: Comply with ASHRAE 33.

2.4 FAULT CURRENT PROTECTION

A. Mechanical equipment with electrical requirements of 20 amps or greater shall be marked from the manufacturer with the short-circuit current rating (SCCR) on the equipment nameplate. Minimum SCCR value shall be as listed below unless scheduled otherwise on Drawing schedules.

B. Ratings for 208/3/60 systems:

1. 20-amp current protection or less: 5,000 SCCR.
2. 40-amp current protection or less: 10,000 SCCR.
3. 150-amp current protection or less: 35,000 SCCR.
4. Above 150-amp current protection: 65,000 SCCR.

C. Ratings for 480/3/60 systems:

1. 20-amp current protection or less: 10,000 SCCR.
2. 60-amp current protection or less: 35,000 SCCR.
3. Above 60-amp current protection: 65,000 SCCR.

2.5 REFERENCE CODES AND STANDARDS

A. The following codes and standards are referenced throughout. The edition to be used is that currently enforced by the authority having jurisdiction (AHJ) or in absence of such direction that referenced by the current enforceable IBC code or as indicated by the contract documents, except where specifically referenced by this section of the specifications.

1. ASHRAE Standards 62 & 52
2. National Electric Code NFPA 70
3. UL 867 including ozone chamber test required as of December 21, 2007
4. UL 2998 Environment – No Ozone Certification
5. The cold plasma equipment and power supply shall be UL listed.

6. ASHRAE 62 now requires all electronic air cleaners to be UL 2998 certified as an ozone free device. Products without UL 2998 shall not be acceptable.

2.6 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified period.

1. Warranty Period: Not less than one year from the date of Substantial Completion.

PART 3 - PRODUCTS

3.1 AIR COILS, HYDRONIC

A. Manufacturers: Subject to compliance with requirements, provide coils that are not integral part of air handling units by one of the following or other prior approved:

1. Carrier Corporation.
2. Greenheck.
3. Daikin Applied.
4. Trane.
5. USA Coil & Air.
6. York, Johnson Controls, Inc.

B. Coils Integral to Air Handling Units: Meet following general requirements unless otherwise noted.

C. Performance Ratings: Tested and rated according to ARI 410 and ASHRAE 33.

1. Minimum Working-Pressure/Temperature Ratings: 200 psig, 325 °F.
2. Source Quality Control: Factory tested to 300 psig.

D. Physical Characteristics:

1. Tubes: Copper.
2. Fins: Aluminum, mechanically bonded to tubes.
3. Headers: Drainable and self-venting circuits.
4. Frames: Galvanized-steel channel frame for slip-in or flanged mounting.
   a. 16 Gauge Material: Headers 33” and less.
   b. 14 Gauge Material: Headers 34” and larger.

3.2 FINNED-TUBE RADIATORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or other prior approved:

1. Modine.
2. Rittling, a div. of Hydro-Air Components.
3. Sigma.
4. Slant/Fin.
5. Sterling.
6. Trane.
7. Vulcan Radiator.

B. Performance Ratings: Rate finned-tube radiators according to Hydronics Institute's "I=B=R Testing and Rating Standard for Baseboard Radiation."

C. Physical Characteristics:

1. Heating Elements: Copper tubing mechanically expanded into flanged collars of evenly spaced aluminum fins resting on element supports.
2. Element Supports: Ball-bearing cradle type to permit longitudinal movement on enclosure brackets.
3. Rust-Resistant Front Panel: Minimum 16 gauge ASTM A 653/A 653M, G60 galvanized-steel, removable front cover.
4. Wall-Mounting Back Panel: Minimum 20 gauge steel, full height, with full-length channel support for front panel without exposed fasteners.
5. Floor-Mounting Pedestals: Conceal insulated piping at maximum 36-inch spacing. Pedestal-mounting back panel shall be solid panel matching front panel. Provide stainless-steel escutcheon for floor openings at pedestals.
6. Support Brackets: Locate at maximum 36-inch spacing to support front panel and element.
7. Access Doors: Factory made, permanently hinged with tamper-resistant fastener, minimum size 6 by 7 inches, integral with enclosure.
8. Finish: Baked-enamel finish in manufacturer's standard color as selected by Architect.

D. Accessories: Filler sections, corners, relay sections, and splice plates all matching the enclosure and grille finishes.

3.3 CONVECTORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or other prior approved:

1. Modine.
2. Rittling, a div. of Hydro-Air Components.
3. Sigma.
4. Slant/Fin.
5. Sterling.
6. Trane.
7. Vulcan Radiator.

B. Physical Characteristics:

1. Convector Elements: Seamless copper tubing mechanically expanded into evenly spaced aluminum fins and rolled into cast-brass headers with inlet/outlet and air vent; steel side plates and supports. Factory-pressure-test element at minimum 100 psig.
2. Front and Top Panel: Minimum 18 gauge steel with exposed corners rounded; removable front panels with tamper-resistant fasteners braced and reinforced for stiffness.
3. Wall-Mounting Back and End Panels: Minimum 20 gauge steel.
4. Floor-Mounting Pedestals: Conceal conduit for power and control wiring at maximum 36-inch spacing. Pedestal-mounting back panel shall be solid panel matching front panel.
5. Recessed Convectors: Include front panels having 4-side overlap.
6. Support Brackets: Locate at maximum 36-inch spacing to support front panel and element.
7. Insulation: 1/2-inch-thick, fibrous glass on inside of the back of the enclosure.
8. Access Doors: Factory made, permanently hinged with tamper-resistant fastener, minimum size 6 by 7 inches, integral with enclosure.
9. Finish: Baked-enamel finish in manufacturer's standard color as selected by Architect.

3.4 RADIANT CEILING PANELS

A. Manufacturers: Subject to compliance with requirements, provide coils that are not integral part of air handling units by one of the following or other prior approved:

1. Aerotech
2. Airtite
3. Airtex
4. Price
5. Raywall
6. Shelley
7. Sigma
8. Sterling.
9. Sunel

B. Coordination: Coordinate layout and installation of radiant panels and suspensions system components with other construction that penetrates ceilings or is supported by them, including but not limited to light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

C. Description: Modular sheet metal panel with serpentine water piping, suitable for lay-in installation flush with T-bar ceiling grid.

1. Panels: Minimum 0.0396-inch-thick, aluminum sheet.
2. Backing Insulation: Minimum 2-inch thick, mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IA or Type IB with factory-applied jacket.
3. Exposed-side panel finish: 2 coats Baked-enamel finish in manufacturer's standard paint color as selected by the Architect.
    a. This contractor is to provide the manufacturers paint catalog for approval with shop drawings.
4. Back side finish: single coat of same paint as applied to the exposed side.
5. Factory Piping: ASTM B 88, Type L (ASTM B 88M, Type B) copper tube with ASME B16.22 wrought-copper fittings and brazed joints. Piping shall be mechanically bonded to panel.

D. Description: Linear sheet metal panel with serpentine water piping, suitable for recessed mounting in gypsum board ceiling or lay-in installation flush with T-bar ceiling grid, or suspended in factory provided frame as indicated on the drawings.

1. Panels: Minimum 0.0396-inch-thick, aluminum sheet.
2. Backing Insulation: Minimum 2-inch thick, mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IA or Type IB with factory-applied jacket.
3. Exposed-side panel finish: 2 coats Baked-enamel finish in manufacturer's standard paint color as selected by the Architect.
    a. This contractor is to provide the manufacturers paint catalog for approval with shop drawings.
4. Back side finish: single coat of same paint as applied to the exposed side.
5. Factory Piping: ASTM B 88, Type L (ASTM B 88M, Type B) copper tube with ASME B16.22 wrought-copper fittings and brazed joints. Piping shall be mechanically bonded to panel.

6. Surface-Mounting Trim: Where panels are installed in gypsum board ceiling, provide sheet metal mounting trim with baked-enamel finish in manufacturer's standard paint color as selected by the Architect.
    a. This contractor is to provide the manufacturers paint catalog for approval with shop drawings.

E. Accessories:

1. 12-gauge soft annealed wire field furnished and installed to suspend panel, minimum 4' O.C. with minimum 4 wires installed per 2'x4' panel.

3.5 CABINET UNIT HEATERS

A. Description: A factory-assembled and -tested unit complying with ARI 440. Unit includes coil, motor, and controls in a steel casing.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following or other prior approved:

1. Airtherm; a Mestek Company.
2. Modine.
3. Daikin Applied.
4. Sigma.
5. Sterling.
6. Trane.
7. Vulcan Radiator.

C. Cabinet: Steel with baked-enamel finish with manufacturer's standard paint, color selected by Architect.

1. Vertical Unit, Exposed Front Panels: Minimum 16 gauge, galvanized, sheet steel, removable panels with channel-formed edges secured with tamperproof fasteners.
2. Horizontal Unit, Exposed Bottom Panels: Minimum 16 gauge, galvanized, sheet steel, removable panels secured with tamperproof fasteners and safety chain.
3. Recessing Flanges: Steel, finished to match cabinet.
4. Control Access Door: Key operated.
5. Base: Steel, finished to match cabinet, with leveling bolts.
6. Filter: Washable, polyurethane or aluminum.

D. Hot-Water Coil: Comply with article "Coils, Hydronic".

1. Fins spacing: Minimum of 0.1 inch.
2. Manual Air Vent and Drain: Include.

E. Fan and Motor Board: Removable.

1. Fan: Forward curved, double width, centrifugal; directly connected to motor. Thermoplastic or painted-steel wheels, and aluminum, painted-steel, or galvanized-steel fan scrolls.
2. Motor: Permanently lubricated, multispeed; resiliently mounted on motor board; overload protection.
3. Wiring Terminations: Connect motor to chassis wiring with plug connection.

F. Basic Unit Controls:

1. Control by ATC.

G. Electrical Connection: Factory wire motors and controls for a single field connection.

3.6 UNIT HEATERS, HEATING COIL

A. Description: An assembly including casing, coil, fan, and motor in horizontal discharge configuration with adjustable discharge louvers.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following or other prior approved:

1. Airtherm; a Mestek Company.
2. Modine.
3. Daikin Applied.
4. Reznor.
5. Sigma.
6. Sterling.
7. Trane.
8. Vulcan Radiator.

C. Cabinet: Removable panels for maintenance access to controls.

1. Cabinet Finish: Manufacturer's standard baked enamel applied to factory-assembled and -tested propeller unit heater before shipping.

D. Discharge Louver: Adjustable fin diffuser for horizontal units and conical diffuser for vertical units.

E. Hot-Water Coil: Comply with Section 238200 article “Coils, Hydronic”.

1. Fins spacing: Minimum of 0.1 inch.
2. Manual Air Vent: Include.

F. Fan: Propeller type with aluminum wheel directly mounted on motor shaft in the fan venturi.

1. Motor: Permanently lubricated, built-in overload protection.

G. Control by ATC.

H. Electrical Connection: Factory wire motors and controls for a single electrical connection.

3.7 SPLIT-SYSTEM AIR CONDITIONERS

A. Description: Split-system heat-pump units consisting of separate evaporator-fan and compressor-condenser components.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following or other prior approved:

1. Carrier Corporation.
2. Daikin Applied.
3. Gree.
4. Lennox International Inc.
5. LG Corporation.
6. Mitsubishi Electric & Electronics USA, Inc.
7. Panasonic Corporation of North America.
8. Trane; a business of American Standard companies.
9. YORK; a Johnson Controls company.
10. Samsung HVAC.

C. Wall-Mounted, Evaporator-Fan Components:

1. Cabinet: Enameled steel with removable panels on front and ends in color selected by Architect, and discharge drain pans with drain connection.
2. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and thermal-expansion valve. Comply with ARI 210/240.
3. Fan: Direct drive, centrifugal.
4. Fan Motors:
5. Multitapped, multispeed with internal thermal protection and permanent lubrication.
6. Enclosure Type: Totally enclosed, fan cooled.
7. NEMA Premium (TM) efficient motors as defined in NEMA MG 1.
8. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.

D. Air-Cooled, Compressor-Condenser Components:

1. Casing: Steel, finished with baked enamel in color selected by Architect, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.
2. Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.
   a. Compressor Type: Scroll.
   b. Refrigerant Charge: R-410A.
   c. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and liquid subcooler. Comply with ARI 210/240.
3. Heat-Pump Components: Reversing valve and low-temperature-air cutoff thermostat.
4. Fan: Aluminum-propeller type, directly connected to motor.
5. Motor: Permanently lubricated, with integral thermal-overload protection.
6. Low Ambient Kit: Permits operation down to 45 °F.

E. Accessories:

1. Thermostat: Low voltage with subbase to control compressor and evaporator fan.with the following features:
   a. Compressor time delay.
   b. 24-hour time control of system stop and start.
   c. Liquid-crystal display indicating temperature, set-point temperature, time setting, operating mode, and fan speed.
   d. Fan-speed selection including auto setting.
2. Automatic-reset timer to prevent rapid cycling of compressor.
3. Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.
4. Drain Hose: For condensate.

PART 4 - EXECUTION

4.1 SPARE MATERIALS

A. Include one set of spare filters for each device as scheduled on the Drawings for this Specifications items.

4.2 HYDRONIC UNIT INSTALLATION

A. Comply with manufacturer's product data, including technical bulletins, product catalog installation instructions.

B. Suspended Units: Suspend from structure using threaded rods, spring or elstomeric hangers, and building attachments. Secure rods to unit hanger attachments. Adjust hangers so unit is level and plumb.

C. Base-Mounted Units: Secure units to substrate. Provide optional bottom closure base if required by installation conditions.

D. Unless otherwise indicated, install union and gate or ball valve on supply-water connection and union and calibrated balancing valve on return-water connection of unit heater.

E. Install coils and radiant units level and plumb.

F. Straighten bent fins on water coils.

G. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

H. Install piping adjacent to coils to allow service and maintenance.

I. Connect water piping with unions and shutoff valves to allow coils to be disconnected without draining piping.

J. Install 1” rigid insulation behind all recessed convectors on outside walls.

4.3 RADIANT CEILING PANEL INSTALLATION

A. Use clean white cloth gloves while handling panels to avoid smudging and marking the unit.

B. Install radiant panels level and plumb.

C. Suspend radiant panels from structure.

D. Support for radiant panels in or on a Had Lid ceiling provide support per manufacturer’s instructions support element.

1. Install a minimum of four ceiling support system rods or wires for each radiant panel. Locate not more than 6 inches from panel corners.
2. Support Clips: Fasten to panel and to ceiling grid members at or near each panel corner with clips designed for the application.
3. Panels of Sizes Less than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel and support the panels independently with at least two ¾-inch metal channels spanning and secured to ceiling tees.
4. Install at least one independent support rod or wire from structure to a tab on the radiant panel. Wire or rod shall have breaking strength of the weight of the panel at a safety factor of at least 3.

E. Any panel installed against exterior walls shall have the first tube supplied nearest the wall.

F. Use heat pad between the Radiant Panel and copper pipe when making soldering connections to avoid heat damage of paint finish.

G. Follow manufacturer recommendations for cutting the panels on site.

H. Unless otherwise indicated, install shutoff valves and union or flange at each connection to the radiant panel. Install piping adjacent to each unit to allow for servicing and maintenance.

4.4 HYDRONIC FIELD QUALITY CONTROL

A. Perform the following electric coil field tests and inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, operate electric coils to confirm proper unit operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

4.5 SPLIT-SYSTEM AIR CONDITIONOR INSTALLATION

A. Install units level and plumb.

B. Install evaporator-fan components using manufacturer's standard mounting devices securely fastened to building structure.

C. Install ground-mounted, compressor-condenser components on 4-inch-thick, reinforced concrete base that is 4 inches larger, on each side, than unit. Concrete, reinforcement, and formwork are specified in Division 03.

D. Install roof-mounted, compressor-condenser components on equipment supports specified in Division 07.

E. Install and connect pre-charged refrigerant tubing to component's quick-connect fittings. Install tubing to allow access to unit.

END OF SECTION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Specification Format

1. These Specifications are written in imperative and abbreviated form. This imperative language of the technical sections is directed at the Contractors, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be", and similar mandatory phrases by inference in the same manner as they are applied to notes on the Drawings. The words "shall be" shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, perform all indicated requirements whether stated imperatively or otherwise.
2. Three Part Format
   a. "Part 1.00 - General": Covers those areas which relate to the Work, and which define the general administrative and technical requirements specific to a particular section.
   b. "Part 2.00 - Products": Defines, in detail, the acceptance equipment and materials to be incorporated into the Work.
   c. "Part 3.00 - Execution": Describes, in detail, the manner in which items covered by Part 2 are to be incorporated into the Work.
3. Where Codes, Specifications and Drawings are in conflict, the Contractor will be deemed to have bid the more expensive method. Refer all such discrepancies immediately to the Engineer prior to commencing related work.

B. Definitions

1. "Furnish" - Supply equipment as required by these Drawings and Specifications, delivered to the job site for installation or use by others.
2. "Install" - Fix in position for total operational use all apparatus as shown, specified or required. Provide all miscellaneous fittings and wiring supplies.
3. "Or Approved Equal" - Equipment or materials selected by Contractor subject to Engineer's acceptance.
4. "Or Equivalent" - Equipment or materials selected by Contractor matching the function and performance of equipment or materials listed.
5. "Provide" - Furnish and install in place, total and operational.
6. “Manufacturer’s Representative” – person properly trained/certified for the specific equipment and a regular employee of the Manufacturer, the Manufacturer’s Representative Agency, a third party specializing company, or the selling distributor.
7. "Substantial Completion" - The date when the project has been completed, inspected, and accepted by the Engineer and Owner.

C. Work Included

1. Provide labor, equipment and materials in connection with Work specified and shown on Drawings.
2. Work of this Division is subject to requirements of Instructions to Bidders, General Conditions, Supplementary Conditions, Division One, and all other sections of this Specification.
3. Examine site and all Contract documents prior to submittal of bid.

D. Work Installed But Furnished Under Other Directives

1. Provide service for electrically operated equipment not specified in Division 26, 27 & 28. Verify size and locations of such connections by securing all rough-in requirements from the equipment supplier.
2. Equipment requiring electrical service shall be furnished with motors, special controls and remote electrical devices as specified in other Divisions.
3. Verify extent of controls and devices furnished by referring to Divisions where Work is specified.
4. Provide disconnects, starters, control devices, thermal units, fuses, switches and all necessary power and control wiring. Include the installation of remote electrical devices furnished separately with the equipment. Provide identification for remote devices as directed by the Engineer.
5. Contractors of other Divisions providing electrically operated equipment shall verify with the Electrical Contractor the proper voltage and phase before releasing equipment for shipment.
6. Unless otherwise specified, Contractor responsible for furnishing such equipment is also responsible for setting in place.

1.2 ALTERNATES

A. General

1. The work of this Section is affected by the Alternates described in this Specification.

B. Alternate G1

1. There are no anticipated electrical impacts for this alternate.

C. Alternate G2

1. The Owner wishes to know in advance the possible cost to replace the existing boilers, boiler pumps and system pumps.
2. Base Bid: No boiler, boiler pump or system pump replacements. All breakers or switches scheduled for these loads shall be “Spare”.
3. Under Alternate Bid G2 on the Bid Form, state the Contract Sum to provide equipment connections and circuitry as indicated on the drawings for boilers B-1 and B-2, system pumps P-1A and P-1B, boiler pumps P-3 and P-4, and glycol tank GT-1. This includes all necessary disconnects and starters.

D. Alternate G3

1. There are no anticipated electrical impacts for this alternate.

E. Alternate G4

1. The Owner wishes to know in advance the possible cost to add air conditioning on the third floor.
2. Base Bid: No air conditioning on the third floor.

3. Under Alternate Bid G4 on the Bid Form, state the Contract Sum to provide electrical equipment and connection as shown on Sheets E3.3A, E3.5 and E3.6, including new MDP, new Panel LB3 and new Panel L3AC.

1.3 NOT USED

1.4 SUBMITTALS

A. Substitution and Prior Approval to Quote.

1. The reference to manufacturer's name and catalog or model numbers shall be interpreted as establishing a standard of quality, not as limiting competition.
2. Suppliers wishing to price material or equipment not referenced in Specifications or on Drawings shall apply in writing to Engineer for approval to quote. Electronic submittals shall be in PDF format. Include complete descriptive technical data on the proposed item consisting of: model numbers, type, size and performance characteristics. Procedure also applies to requests by Contractor. Self-addressed, stamped envelope required for return reply.
3. The request for prior approval to quote shall be received in Engineer's office no later than 192 hours (eight days) prior to bid opening. All substitute items approved for quotation will be listed in Addenda sent to all planholders in advance of bid opening.
4. Contractors choosing to use material or equipment other than those shown on Drawings or specified in detail, but approved for quotation, shall be responsible for physical dimensions and coordination. Architect, Engineer, or Owner will not be responsible for costs of necessary changes and additional work required by Contractor or any other trades.
5. Substitutions will not be permitted after bid opening.

B. Correspondence

1. Direct all correspondence concerning Division 26, 27, & 28 submittals to:

Jeremy J. Butman, P.E.
PRAIRIE ENGINEERING, P.C.
619 RIVERWOOD DRIVE, SUITE 205
BISMARCK, ND 58504
jbutman@prairieengineeringpc.com

C. Shop Drawings

1. Before any of the materials are delivered to the job, submit to Engineer via the Prime Contractor complete Shop Drawings for each item indicated.
2. Include catalog numbers, performance data, dimensions and other descriptive information.
   a. The actual part numbers and options for equipment to be utilized shall be highlighted to indicate exact equipment to be furnished.
   b. Only include information relevant to the equipment being provided. Any extraneous materials shall be removed prior to submittal.
3. Shop Drawings shall be in electronic PDF format and shall include catalog sheets showing all necessary information. Shop drawings shall be separated by specification section, and equipment from separate specification sections shall not be combined.

4. Shop Drawings shall be submitted under the appropriate specification section of the electronic submittal service being used. The shop drawing file for each section shall include the specification section number, section name, and revision number. Example: "262726 Wiring Devices REV 01".
   a. If an electronic submittal service is not being used, shop drawings may be emailed to the Engineer at the email address indicated above. Emailed shop drawings shall not exceed 10 MB. If shop drawings exceed 10 MB, contact the Engineer to arrange for a file transmittal method.
5. Each Shop Drawing folder shall be **stamped, initialed, and dated**, on a cover sheet included in the PDF submittal by Division 26 Contractor to indicate they have thoroughly reviewed them in accordance with General Conditions. **Email message text not acceptable.**
   a. If the Division 26 contractor is under a Prime Contractor, the Prime Contractor may also include a review stamp. However, this does not relieve the Division 26 contractor from applying their review stamp.
6. Shop Drawings not in conformance with Specification will be returned to Prime Contractor without review.
7. A maximum of two reviews will be completed for each section. Additional submittals required due to lack of proper corrections being made may be subjected to review fees from the Engineer billed to the Division 26 contractor.

D. As-Built Drawings

1. Designate one set of clean blueprints at project site as As-Built Drawings. Make As-Built Drawings available to Engineer during project visitation.
2. As work progresses, Contractor's field supervisor shall mark As-Built Drawings in red pencil to indicate actual conditions of installation.
3. Show same general details as Drawings.
4. Give particular attention to marking actual locations of feeders and underground runs.
5. Affix all addendum and change order descriptions to appropriate as-built drawing sheet, utilizing spray adhesive.
6. Submit As-Built Drawings to Engineer along with Record Manuals at close of project in PDF format.
   a. As-Built Drawings shall be submitted as one PDF file.
   b. Record Manuals shall be submitted as one PDF file.
7. Provide minimum one hard copy of As-Built Drawings to the Owner.
   a. Review Division 1 for additional requirements for hard copies of As-Built Drawings.

E. Record Manuals

1. Upon completion of Work of this Division and as condition of its acceptance, Contractor shall compile Record Manuals.
   a. List project name, date, Contractor's name, address and telephone number on exterior label of each Record Manual.
   b. Provide one electric PDF copy to Engineer for review.
      1) After electronic PDF copy is reviewed and approved, provide one hard copy of Record Manual to Owner. Include an index sheet indicating each major piece of equipment, supplier and supplier's telephone number. Provide tabbed dividers indicating major groupings of equipment.
      2) Review Division 1 for additional requirements for hard copies of Record Manuals.

c. Record Manual information shall be included for all equipment/material where Shop Drawings are required. **Also include all installation, operation and maintenance data packaged with any equipment.**

2. Turn over to Owner all spare equipment and devices specified and shown. List quantities on Contractor letterhead or invoice, obtain signature of Owner's representative acknowledging receipt, and include with each Record Manual.
3. Include one copy of formal instructional recordings, properly identified as to specification section.
4. Include copy of State Electrical Board Wiring Certificate in each Record Manual.
5. Include service equipment fault current calculation and step-down transformer fault current calculations in Record Manuals. Utility transformer fault current shall be calculated per Section 260553-3.3. Step-down transformer fault current shall be calculated per Section 262200-1.2. Provide in tabular form, as per the following example:

Transformer	kVA	Sec. Voltage	Phase	Impedance	Fault Current	Date Calculated
Utility	300	480	3	1.06%	34,043 amps	11/15/2016
T-1	150	208	3	3.8%	10,958 amps	11/15/2016

6. Calculate the available fault current (AFC) for the mechanical and electrical equipment listed and provide the information in tabular form, utilizing naming convention on the drawings.
   a. HVAC Equipment 1HP and larger
   b. Refrigeration Equipment
   c. Elevator Equipment
   d. Industrial Control Panels
   e. Electrical Distribution Equipment
   f. Branch Panelboards
   g. MCC's.

7. Fault Current Table Format Example:

Equipment	Voltage	Phase	AFC at Equip.	Date Calculated
AH-1	480	3	5,289 amps	11/15/2016
CU-1	208	3	2,321 amps	11/15/2016

8. Transformer fault current table and equipment fault current calculation table shall be grouped together in the same tabbed section of the Record Manuals.

1.5 QUALITY ASSURANCE

A. Qualifications of Installers

1. For installation and testing, use only trained licensed and experienced workmen familiar with items required and manufacturer's recommended methods.
2. In acceptance or rejection of installed work, no allowance will be made for lack of skill on the part of the workmen.
3. To the maximum extent possible, retain the same supervisory personnel throughout the duration of the Work.

B. Licenses, Permits, Codes and Standards

1. Materials, workmanship and installation: comply with the latest editions of all applicable codes, local ordinances, industry standards, utility company regulations, insurance carrier requirements and these Specifications.
2. Codes and standards shall include, but not necessarily be limited to, the following:
    a. Underwriters Laboratories (UL) or other Nationally Recognized Testing Laboratory (NRTL)
    b. National Electrical Code (NEC)
    c. National Fire Protection Association (NFPA)
    d. Occupational Safety and Health Act (OSHA)
    e. State and local wiring standards
    f. Building and fire codes
3. The more stringent provisions shall govern where provisions of pertinent codes and standards conflict with these Specifications or Drawings. Where Codes, Specifications or Drawings differ with one another, the Contractor will be deemed to have bid the more expensive method. Refer all such discrepancies to the Engineer immediately.
4. Pertinent codes and standards shall not be cited to furnish less than specifically shown or specified.
5. Obtain and pay all permits, inspections, licenses and other charges pertaining to the Work. Upon completion of the Work, furnish proof of acceptance by proper agency having jurisdiction.

1.6 GUARANTEE AND WARRANTY

A. Unless otherwise modified by other sections of this specification, Contractor shall guarantee materials, workmanship and the proper operation of equipment for a period of one year. Warranty period shall begin at date of substantial completion, or date of specific equipment commissioning, whichever is later. Contractor shall correct all equipment, material and workmanship found to be defective or non-conforming to the contract documents without cost to Owner.

B. Guarantee shall include trips to the project site by Contractor to adjust electrical equipment as required, ensuring it is operating as intended.

C. Specified guarantee shall not relieve Contractor from liability arising from improper installation or non-compliance with applicable codes.

D. Contractor shall include written warranty statement, indicating start and end dates of warranty period. Warranty statement shall be included with each copy of the Record Manuals.

1.7 CHANGES TO CONTRACT

A. Any required changes to the contract after bid date shall be in accordance with General Conditions/Division 1 and this section. Where any discrepancies between the sections are encountered, the more restrictive section shall apply.

B. Proposed changes shall be accompanied with complete substantiating documentation.

1. Provide an itemized list of quantities for materials, equipment, and supplies.
    a. Include unit costs for each item and extended price.

b. Include unit labor for each item and extended time.
2. Provide subcontractor proposals that include the same substantiating documentation.
3. Provide quotations from suppliers for any specially ordered equipment.

C. Material costs shall be actual costs to the Contractor, obtaining the materials through normal supply channels, including trade and quantity discounts. Utilizing "suggested pricing" from national pricing organizations for unit costs shall not be accepted. Upon request, the Contractor or Subcontractor shall submit evidence to substantiate the costs.

D. Labor units shall be industry accepted standard labor hours to perform one unit of work. If the work is being performed in a location that is not considered to be standard working conditions for that specific task, additional labor shall be itemized.

E. Labor rates shall be the actual rate paid for the workman category along with associated labor burden. Labor burden shall consist only of the mandatory fringe benefits, labor taxes, and labor insurances as affected by payroll. The Owner reserves the right to reject any labor burden which is inconsistent with other similar contractors or where the fringe benefit cost is in excess of established labor agreements.

F. Allowable markups for Contractor and Subcontractors
1. Overhead on work performed by own forces: 12% maximum.
2. Profit on work performed by own forces: 10% maximum.
3. Commission on work performed by Subcontractors: 5% maximum.
4. Sales tax.
5. Bond and permit increases where applicable.

G. No additional markups shall be allowed for:
1. Field and/or office supervision/administration time.
2. Tool burden.
3. Shop burden.
4. Overhead/Profit applied to work performed by others.

H. Additional costs for travel and subsistence shall only be allowed if the proposal includes a request for extension of the completion date. Furthermore, those costs shall be proportional to the number of working days of the extension.

I. Subcontractors shall compute their costs in the same manner as the Contractor. Subcontractors are subject to the same markup constraints as described herein.

J. For changes resulting in credit to the costs, no restocking fees for materials shall be applied by the Contractor or Subcontractors.

1.8 TEMPORARY FACILITIES

A. Refer to Special Conditions and/or Division 1 for details of temporary facilities.

1.9 APPLICATIONS FOR PAYMENT

A. Refer to Division 1 "Applications for Payment".

B. Provide one additional copy, sent directly to the Engineer.

C. Format and content:

1. When included with the Bid, the following categories shall be indicated on the application for payment:
   a. *Project mobilization.*
   b. *Demolition*.
   c. *Service & Distribution* (all switchgear, panels, transformers, motor control centers, and loose controls/disconnects, installed in place).
   d. *Lighting* (all fixtures and lamps, installed in place, including pre-fabricated wiring system).
   e. *Wiring Devices* (all switches, receptacles, and plates, except voice-data, installed in place).
   f. *Equipment Connections* (HVAC, elevator, food service, etc., connected in place).
   g. *Basic Materials* (all conduit, wire, boxes, supports, fittings, grounding materials, except special systems and voice-data cabling systems, installed in place).
   h. *Fire Alarm & Detection* (all system equipment, installed in place).
   i. *Special Systems* (all system equipment and cabling, installed in place, broken out by Specification Section. Examples include Clock and Program, Intercom, Nurse Call, Public Address, Sound Reinforcement, Rescue Assistance, TV Signal Cabling, Architectural and Theatrical Lighting Controls, and the like).
   j. *Voice-Data Cabling Systems* (all system equipment, installed in place).

PART 2 – PRODUCTS

2.1 MATERIAL

A. Material and equipment shall be as shown or specified. Provide material not specifically described but required for a complete and proper installation of the Work, subject to the acceptance of the Engineer.

B. All material and equipment shall be new when delivered to the job and be listed by a Nationally Recognized Testing Laboratory (NRTL).

C. Owner will not be liable for material installed in non-compliance with codes, standards, and these Contract Documents.

2.2 PRODUCT HANDLING

A. Protection

1. Use all means necessary to protect the materials of this Division before, during and after installation and to protect the installed work and materials of all other trades.

B. Replacements

1. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

PART 3 – EXECUTION

3.1 GENERAL

A. Engineer, Architect, or Owner shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by Contractor.

B. Engineer, Architect, or Owner shall not be responsible for safety precautions and programs incidental to work of Contractor.

C. It is the sole responsibility of Contractor to initiate, maintain, and supervise all safety precautions and programs in connection with the Work.

3.2 SURFACE CONDITIONS

A. Prior to work of each Section of Division 26, 27, & 28, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

B. Verify that work of this Division may be installed in accordance with all pertinent codes, regulations and standards.

3.3 COORDINATION

A. Order material in a timely fashion to assure it is on the job site when required.

B. Coordinate installation of material with schedule of other trades to prevent unnecessary delay in construction schedule.

3.4 DISCREPANCIES, CONSTRUCTION CONFLICTS AND DRAWINGS

A. Discrepancies

1. Prior to submitting bid, Contractor shall refer any apparent discrepancies or omissions to Engineer for clarification.
2. The Architect, Engineer or Owner will not be responsible for any oral instructions or modifications to the contract documents prior to opening of bids.
3. Written interpretation or clarification will be made by Addenda.

B. Construction Conflicts

1. Conflicts discovered during construction shall be immediately called to the attention of the Engineer for decision.
2. Do not proceed with installation in area of question until conflict has been fully resolved.
3. When so directed by Engineer, Contractor shall make minor adjustment to avoid interferences with other trades. Such minor adjustments shall be performed at no additional cost to the Architect, Engineer or Owner.

C. Drawings

1. Drawings indicate extent and general layout of electrical systems for project. Due to small scale, it is not possible to indicate all fittings and accessories that may be required. Provide such fittings and accessories as required to form a complete and operating system in general conformance with Specifications and Drawings.
2. Data indicated on Drawings and in these Specifications is as exact as could be secured, but absolute accuracy is not guaranteed.
3. Exact locations, distances, levels and other conditions will be governed by the structure. Field measurements shall take precedence over the Drawings. Use the Drawings and these Specifications for guidance. Secure the Architect's approval for all changes in locations.
4. Verify all measurements at site. No compensation will be made because of difference between locations shown on the Drawings and measurements at the building.
5. Refer to the architectural drawings for dimensions and locations of walls, partitions, doors, windows, ceiling heights, door swings and other details of construction.

3.5 UNDERGROUND UTILITIES

A. Locations of existing underground utilities are based on available site information and are shown approximately. Contractor shall determine exact utility locations before commencing work and shall be responsible for repair of damages resulting from his construction activities.

B. Trench and backfill for installation of underground conduits to depth shown or required. Remove any accumulated water in excavation by pumping. Shore and brace excavation as required by safety regulations. Provide temporary bridges to maintain normal traffic flow. Excavation and backfill required by electrical installations shall be accomplished in accordance with Earthwork Specifications by this Contractor.

3.6 CUTTING AND PATCHING

A. Carefully lay out all work in advance to minimize cutting, channeling or drilling.

B. Where necessary, all such cutting and patching shall be done in a manner approved by Architect.

C. Restore damaged surfaces to their original condition by skilled mechanics of the trade involved. Contractor at fault shall assume all cost.

D. Use only rotary type drilling tools to cut concrete.

E. Do not endanger the stability of the structure. Do not at any time cut or alter work of any other Contractor without Architect's consent.

3.7 TESTS

A. Perform all tests as required by Engineer during construction and as described in other Sections of these Specifications.

B. Testing of entire installation shall be completed before final inspection.

3.8 INSTRUCTIONS

A. After all required approvals of the Work have been obtained; demonstrate the operation and maintenance of all electrical equipment to the Owner's personnel.

B. Provide written and oral operating and maintenance instructions to Owner's representatives. The oral instructions shall be given before the Owner occupies the buildings. Instructions to include all building's electrical systems and equipment.

C. Copies of written operating and maintenance instructions shall be included with each Record Manual.

D. Electrical Contractor shall coordinate with Owner at Owner's convenience, formal instruction time for contractor personnel to instruct Owner's Representatives on all equipment. Provide similar equipment supplier's instructions where specified thus. Formal instruction to occur with each Record Manual, being referenced to and a part of the Manual.

E. Formal instructions shall be recorded when required by other Sections of this Specification by this Contractor. Format shall be digital media capable of being played on Windows or Mac operating systems or shall be submitted on a USB storage device.

1. Electronic PDF files for the as-built drawings and record manuals shall also be included on the USB storage device with the formal instructions.

3.9 CLEAN UP

A. Remove all scrap material left on job during and after installation of Work.

B. All equipment having finished paint surfaces shall be examined upon completion for scratches and other damage. Touch up all surfaces as required with paint of color to match factory finish.

C. Perform all cleaning as required by other Sections of Division 26, 27, & 28.

END OF SECTION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work Included

1. Provide a complete system of conductors enclosed in a raceway.

1.2 SUBMITTALS

A. Record Drawings

1. Maintain accurate record drawings in accordance with Section 260500.

PART 2 – PRODUCTS

2.1 CONDUCTOR

A. Copper

1. Soft drawn, annealed.
2. Conductivity of not less than 98% pure copper.
3. Insulated for 600 volt service.
4. #10 AWG and smaller: Solid, THWN/THHN.
5. #8 AWG and larger: Stranded, THWN/THHN.
6. Provide USE where required by Code.

B. MC Cable

1. For use as branch circuit raceway and conductors as described elsewhere in this section.
2. For use in concealed areas only. Exposed MC cable not acceptable.
3. MC cable not acceptable for use in areas where it is subject to physical damage.
4. Standards:
   a. Listed per UL 1569 Standard for Metal-Clad Cables.
   b. Follows UL standards 44, 83,1479,1569 and 1581.
   c. Meets requirements of Articles 300 and 330 of the National Electric Code.
5. Armor:
   a. Interlocked aluminum, helically formed around the conductors.
   b. Classified 1, 2 or 3 hour rated for through-penetration firestop systems. Use appropriate rating based on Architectural Code plan and fire wall plan.
6. Conductors:
   a. 600 Volt rated.
   b. Rated for 90 degree C, dry or wet.
   c. THHN/THWN Copper. Solid or stranded as indicated in Part 2.01.A. Aluminum conductors not acceptable.
   d. Copper, green-insulated grounding conductor included in assembly. Grounding conductor shall be sized based on the over-current protective device of the circuit.
   e. Color coding for phase and neutral conductors as per Part 3.01.B.

7. Ampacity:
   a. Ampacity of the cable shall be determined in accordance with Article 310.15 of the National Electric Code. Installation shall not exceed the ratings of the terminations or the cable assembly.
8. Entire cable shall be factory assembled.
9. Manufacturer: Southwire Mega MC Cable series or equivalent.

C. MC Cable Fittings

1. Fitting construction shall be steel. Zinc diecast fittings not acceptable.
2. Fittings shall be clamp on or saddle clamp style.
3. Thomas&Betts #XC-Series or Appleton #AMC-Series.
4. Provide anti-short bushings at all connectors. Bushings shall be Arlington #AS-series or equivalent.

D. MC Cable Supports

1. As required by Codes and Specifications.
2. Metal 1-hole cable straps only. Staples and cable ties not acceptable.

2.2 VARIABLE FREQUENCY DRIVE (VFD) CABLE

A. Non-armored, Type TC cable with 85 percent tinned copper braid, 100 percent foil shield, and full size copper drain wire.

B. XLPE conductor insulation for 600 volt service.

C. Manufacturer: Belden 29500 series or equivalent.

2.3 SPLICES

A. #10 AWG and smaller: Scotchlock Y, R or G as manufactured by 3M Company, or equivalent.

B. #8 AWG and larger: Compression type, as manufactured by Anderson, Burndy, Thomas and Betts Company, or equivalent.

2.4 LUBRICANT

A. General

1. NRTL-listed.
2. Flame resistant
3. Compatible with conductor insulation.

B. Acceptable Manufacturer

1. As selected by Contractor.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General

1. Install in accordance with Code, product listing, and manufacturer's recommendations.
2. Install wire and cable in Code-conforming raceways after moisture and debris is swabbed from conduit.
3. Refer to system specified for conductor's peculiar to that system.
4. Conductor sizes: Standard AWG, #12 minimum unless otherwise indicated.
5. Fixture taps: minimum #16 AWG.
6. Conductor temperature ratings: Compatible with the equipment to which it is to be connected. Refer to product listing.
7. Make conductor length for parallel feeders identical.
8. Derate ampacities as required for high ambient temperatures or conductor fill.

B. Color

1. Multi-wire (shared neutral) circuits.
   a. 120/208 volt
      1) Phase conductors: Black, red or blue.
      2) Grounded conductor (neutral): White.
      3) Grounding conductor: Green or bare.
2. Separate neutral circuits:
   a. 120/208 volt
      1) Phase conductors: Black, red or blue.
      2) Grounded conductor (neutral): White with stripe colored to match phase.
      3) Grounding conductor: Green or bare.
3. Switch legs: Same as phase conductors.
4. 120 volt isolated ground circuits:
   a. Phase conductor: Orange.
   b. Grounded conductor (neutral): White with orange stripe.
   c. Grounding conductor: Green with yellow stripe.

C. Splices

1. Eliminate wherever possible.
2. Made only at outlet or junction boxes.
3. Obtain special permission from Engineer for any splices in feeder conductors.

D. MC Cable

1. General:
   a. Cable shall be supported at intervals not exceeding six feet. Supports shall be anchored to building structural components. Anchoring to suspended ceiling support cables not acceptable.
   b. Bends shall be made such that they do not damage cable.
   c. Radius of the curve of the inner edge of any bend should not be less than seven times the diameter of the cable.
   d. Maximum sidewall pressure shall not be greater than 500 pounds.

e. Use appropriate rotary cutting tool for cutting of armor. No hacksaws, diagonal pliers, tin snips or "breaking" of armor allowed for cutting. Cable shall be replaced where improper cutting methods are employed.

2. Uses Permitted:
   a. MC cable is acceptable for branch circuitry within single spaces. Circuitry shall enter the space from branch circuit /homerun in raceway as per Section 260533. MC cable may be extended from junction box to luminaires and wiring devices within that space only.
   b. Where adjacent rooms share the same circuits from the same homerun, extend raceway per Section 260533 to a junction box in each space.
   c. Cable may extend concealed in walls between wiring devices within the same space.
3. Uses Not Permitted:
   a. As feeders.
   b. As branch circuit homeruns.
   c. In areas where cable is exposed or within view.
   d. In areas where cable is subject to physical damage.
   e. In underground or concrete encased locations.
   f. Above non-accessible ceilings.
   g. As lighting circuitry in corridors, regardless of ceiling type.
   h. Between wiring devices of separate spaces.

E. Voltage Drop

1. Increase size of circuit wiring in accordance with NEC 210.19(A)(1), fine print note, No. 4.
2. Use #10 AWG minimum for all home run conductors longer than 75 feet on 120/208/240 systems and 150 feet on 277/480 systems.

F. VFD Cable

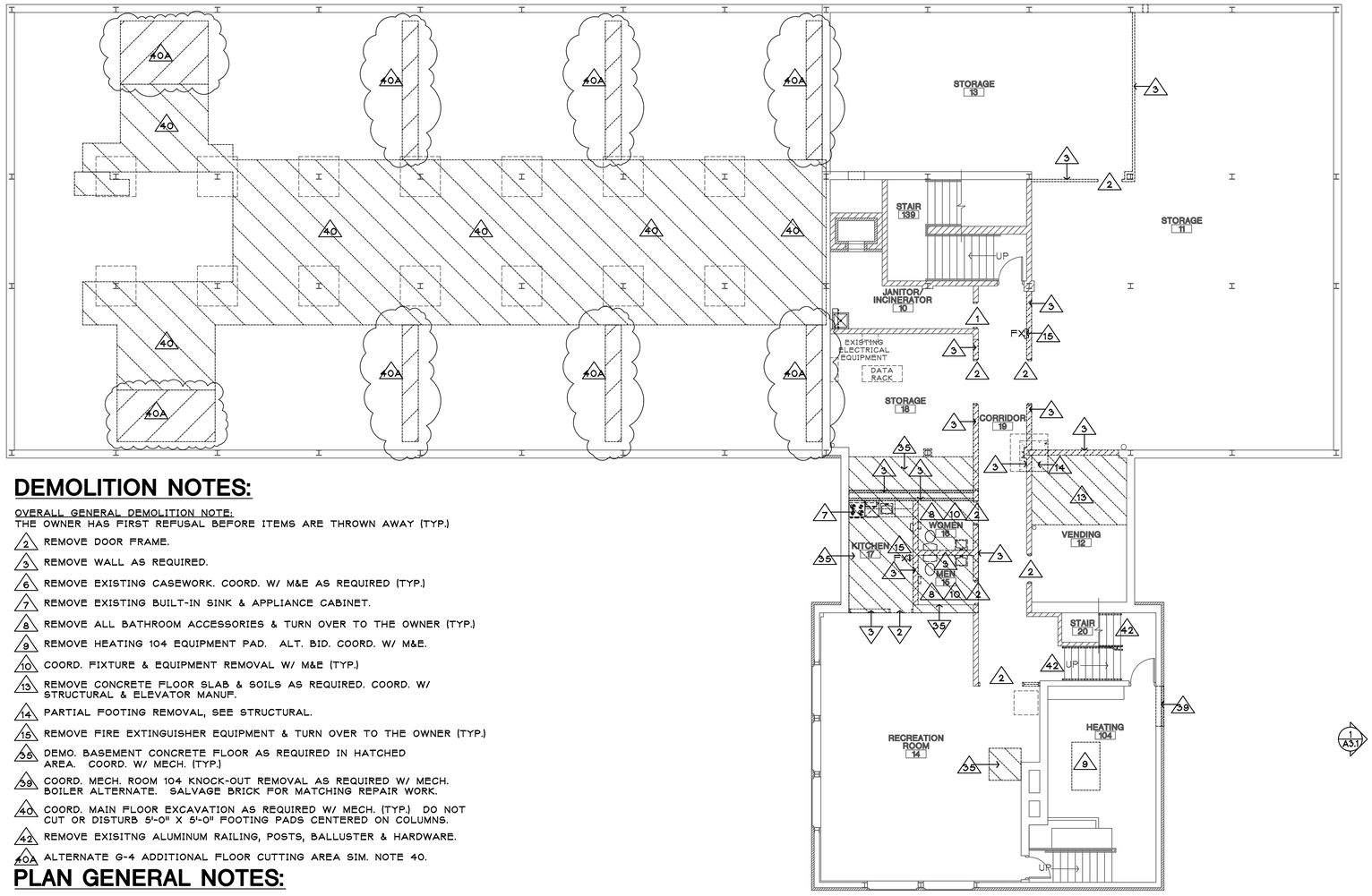
1. Install cable from load terminals of VFD to motor.
2. Enclose cable in raceway system (conduit and flexible conduit).
3. Terminate the drain wire to the ground lug at both the VFD and the motor

3.2 TESTS

A. After equipment and wiring is installed, and before it is energized, test all power circuits with a megohmeter for insulation resistance, phase-to-phase and phase-to-ground faults.

B. Before testing, disconnect all equipment that might be damaged by the test voltages.

END OF SECTION



DEMOLITION NOTES:

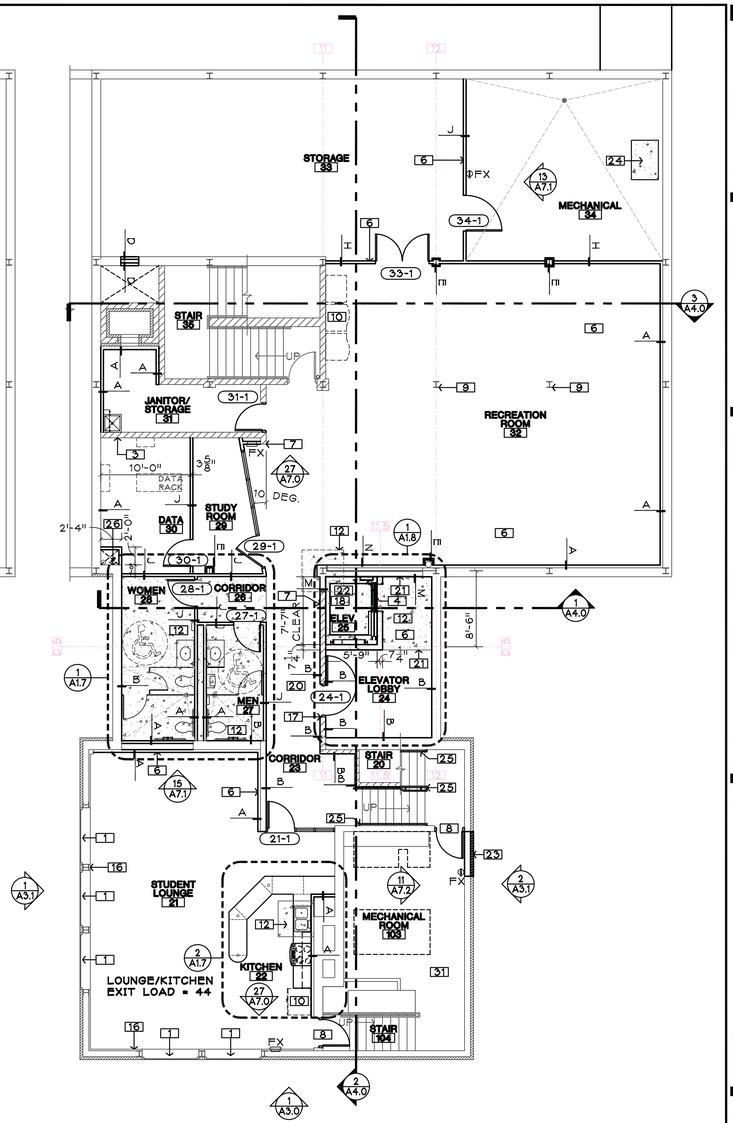
OVERALL GENERAL DEMOLITION NOTE:
THE OWNER HAS FIRST REFUSAL BEFORE ITEMS ARE THROWN AWAY (TYP.)

2 REMOVE DOOR FRAME.
3 REMOVE WALL AS REQUIRED.
6 REMOVE EXISTING CASEWORK. COORD. W/ M&E AS REQUIRED (TYP.)
7 REMOVE EXISTING BUILT-IN SINK & APPLIANCE CABINET.
8 REMOVE ALL BATHROOM ACCESSORIES & TURN OVER TO THE OWNER (TYP.)
9 REMOVE HEATING 104 EQUIPMENT PAD. ALT. BID. COORD. W/ M&E.
10 COORD. FIXTURE & EQUIPMENT REMOVAL W/ M&E (TYP.)
13 REMOVE CONCRETE FLOOR SLAB & SOILS AS REQUIRED. COORD. W/ STRUCTURAL & ELEVATOR MANUF.
14 PARTIAL FOOTING REMOVAL, SEE STRUCTURAL.
15 REMOVE FIRE EXTINGUISHER EQUIPMENT & TURN OVER TO THE OWNER (TYP.)
35 DEMO. BASEMENT CONCRETE FLOOR AS REQUIRED IN HATCHED AREA. COORD. W/ MECH. (TYP.)
39 COORD. MECH. ROOM 104 KNOCK-OUT REMOVAL AS REQUIRED W/ MECH. BOILER ALTERNATE. SALVAGE BRICK FOR MATCHING REPAIR WORK.
40 COORD. MAIN FLOOR EXCAVATION AS REQUIRED W/ MECH. (TYP.) DO NOT CUT OR DISTURB 5'-0" X 5'-0" FOOTING PADS CENTERED ON COLUMNS.
42 REMOVE EXISITNG ALUMINUM RAILING, POSTS, BALLUSTER & HARDWARE.
40A ALTERNATE G-4 ADDITIONAL FLOOR CUTTING AREA SIM. NOTE 40.

PLAN GENERAL NOTES:

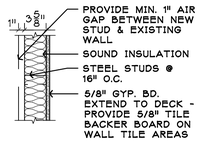
1 PROVIDE & INSTALL WINDOW SHADES AT ALL EXTERIOR WINDOWS IN WORK AREA.
BASEMENT: 6'-4" WIDE X 3'-0" HIGH.
EAST & WEST WALLS: 6'-0" WIDE X 6'-0" HIGH.
NORTH & SOUTH WALLS: 4'-0" WIDE X 6'-0" HIGH.
3 REPAIR HOLE IN CMU WALL W/ DOUBLE LAYER 3-5/8" METAL STUDS & COVER W/ 5/8" GYP BOARD ON BOTH SIDES. SET NEW FINISHES FLUSH W/ EXISTING.
4 NEW ALUMINUM ELEVATOR PIT LADDER, SEE SPECS.
6 ALL NEW GYP BOARD IN ROOM TO BE 5/8" IMPACT RESISTANT GYP BOARD.
7 PATCH & REPAIR EXISTING CMU WALL AS NEEDED TO PROVIDE UNIFORM FINISH FOR PAINTING.
8 PAINT EXISTING STEEL DOOR & FRAME.
9 CLEAN & PAINT EXISTING STEEL COLUMNS.
10 APPLIANCES BY OWNER (TYP.)
12 INSTALL NEW 4" CONCRETE SLAB REINF. W/ #4 BARS @ 12" O.C. EA. WAY & TIE INTO THE EXISTING AS REQUIRED. PROVIDE NEW COMPACTED GRANULAR BASE & FILL AS REQUIRED FOR NEW PLUMBING. COORD. W/ MECH.
16 REPAIR & SKIM COAT EXISTING WALLS AS REQUIRED FOR A UNIFORM FINISH (TYP.)
17 PROVIDE ELECTRIC HOLD OPENS AT DOOR 24-1, 114-1, 204-1 & 300-1.
18 GC. TO COORD. SUMP PUMP INSTALL W/ MECH.
21 PROVIDE 1" FLOOR EXPANSION JOINT @ ELEVATOR ADDITION.
22 PATCH ELEVATOR FLOOR OPENING AS REQUIRED.
23 COORD. MECH. ROOM 104 KNOCK-OUT REPLACEMENT AS REQUIRED W/ MECH. BOILER ALTERNATE. FILL EXISTING OPENING W/ 6" METAL STUDS @ 16" O.C., 6" BLANKET INSUL. & COVER BOTH SIDES W/ 5/8" EXTERIOR GYP SHEATHING. COVER EXTERIOR W/ NEW WEATHER BARRIER AND BRICK TO MATCH EXISTING.
24 COORD. MECH. ROOM 34 EQUIPMENT PAD SIZE & LOCATION AS REQUIRED W/ MECH.
25 PROVIDE NEW STEEL GUARDRAILS, HANDRAILS & STACKED WOOD VENEER SEE SHEET A4.2.
26 REPAIR HOLE IN WALL W/ 3-5/8" METAL STUDS @ 16" O.C. & COVER W/ 5/8" TYPE X GYP BOARD.
31 ALL ABATEMENT WORK NEEDED FOR BOILER REPLACEMENT ALTERNATE WILL BE BY OWNER. NOT IN CONTRACT.

1 A1.0 **BASEMENT DEMO PLAN - PHASE 2**
SCALE: 1/8" = 1'-0"



2 A1.0 **BASEMENT FLOOR PLAN - PHASE 2**
SCALE: 1/8" = 1'-0"

WALL TYPES



STUD PARTITION NON RATED
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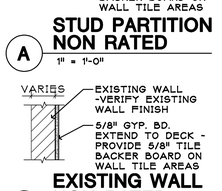

EXISTING WALL NON RATED
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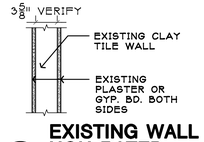
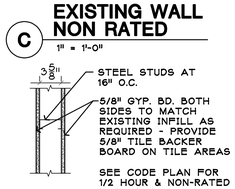
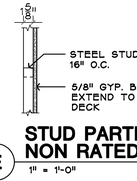


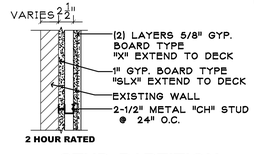
EXISTING WALL NON RATED
C 1" = 1'-0"



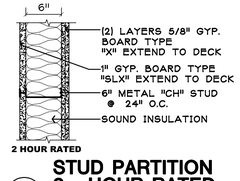
WALL INFILL
D 1" = 1'-0"



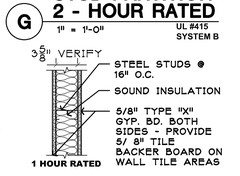
STUD PARTITON NON RATED
E 1" = 1'-0"



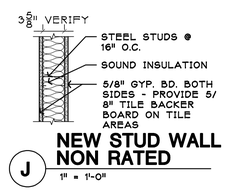
STUD PARTITION 2 - HOUR RATED
F 1" = 1'-0" UL #415 SYSTEM B



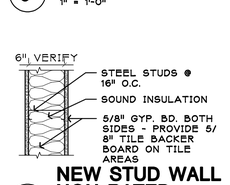
STUD PARTITION 2 - HOUR RATED
G 1" = 1'-0" UL #415 SYSTEM B



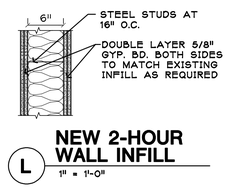
STUD PARTITION 1 - HOUR RATED
H 1" = 1'-0"



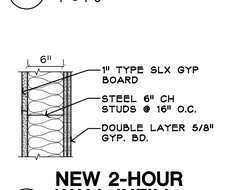
NEW STUD WALL NON RATED
J 1" = 1'-0"



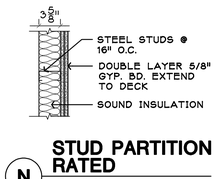
NEW STUD WALL NON RATED
K 1" = 1'-0"



NEW 2-HOUR WALL INFILL
L 1" = 1'-0"



NEW 2-HOUR WALL INFILL
M 1" = 1'-0"



STUD PARTITION RATED
N 1" = 1'-0"

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PRAIRIE ENGINEERING - MECHANICAL AND ELECTRICAL

CLIENT
DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION
DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON
STATE NORTH DAKOTA

ISSUE DATE: 1-16-2024

REVISED: 10-25-2024 ST

MARK	DESCRIPTION	DATE
CD	CONSTRUCTION DOCUMENTS	1-16-2024

PROJECT NO: 20233600
DRAWN BY: ST
CHECKED BY: JP ST

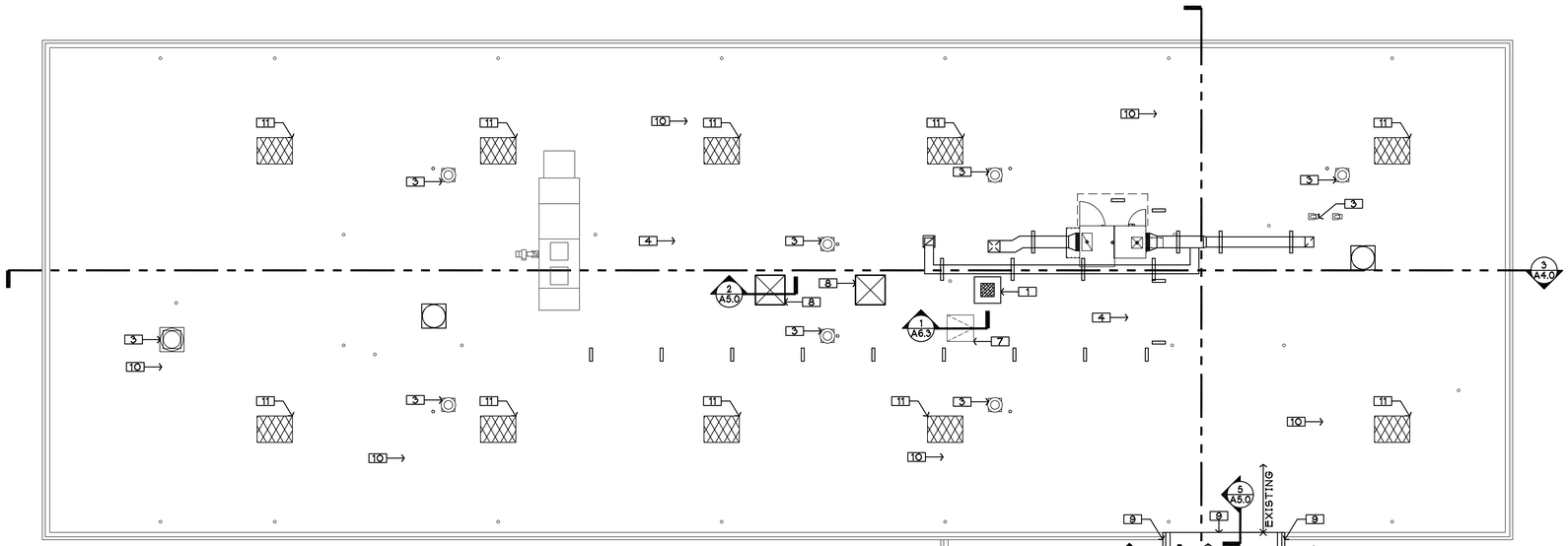
STAMP

I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Architect under the laws of the State of North Dakota.
Sally Thorele
Date 1-16-24 Reg. No. 1930

DRAWING TITLE
BASEMENT DEMOLITION & FLOOR PLANS - PHASE 2

A1.0R

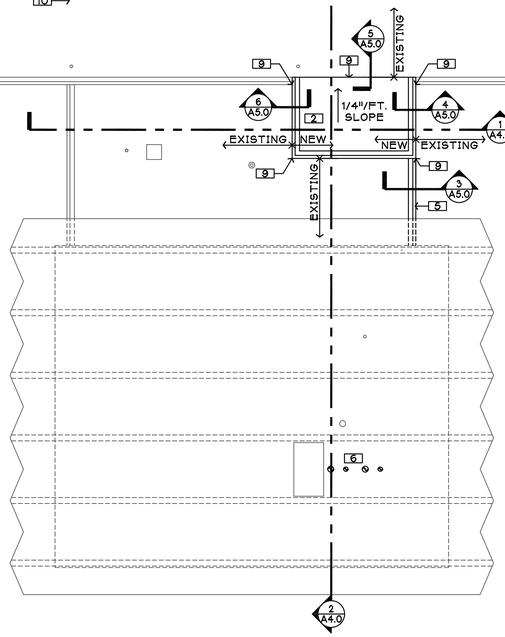
File Location:W:\2023\20233600 - DKSN DSU Woods Hall Improvements\Drawings\A1.0 Plans 2 ADDENDUM 2.dwg
Plot Date:28-Oct-24

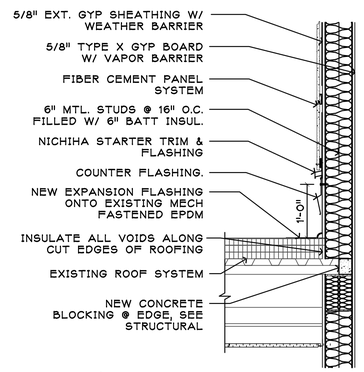


ROOF PLAN GENERAL NOTES:

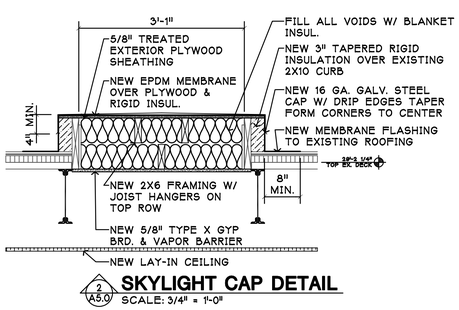
1. FIELD VERIFY THE EXISTING ABANDONED INCINERATOR CAP IS IN PLACE AS REQUIRED.
2. PROVIDE 4" OF BASE LAYER RIGID INSULATION PLUS 1/4" PER FOOT OF TAPERED INSULATION AND DRAIN THE ELEVATOR ROOF DOWN ONTO THE EXISTING.
3. PROVIDE ROOF CURB BLOCKING AS REQUIRED FOR NEW EQUIPMENT & PROVIDE NEW FLASHING INTO EXISTING ROOF (TYP.) COORD. W/ MECH.
4. PATCH BALLASTED ROOF AT EXISTING ROOF EQUIPMENT REMOVAL LOCATIONS AS REQUIRED (TYP.) COORD. W/ MECH.
5. PATCH, FLASH & REPLACE FASCIA ON EXISTING ROOF WHERE OVERHANG WAS REMOVED AS REQUIRED (TYP.)
6. COORD. BOILER ROOF PENETRATIONS AS REQUIRED W/ MECH.
7. INSTALL NEW ROOF HATCH AND LADDER, SEE DETAIL 1/A6.3.
8. INSTALL NEW CURB CAP WHERE SKYLIGHTS REMOVED. SEE DETAIL 2/A5.0.
9. INSTALL NEW EXPANSION JOINT BETWEEN ROOF AND WALL.
10. PROVIDE NEW FLASHING BOOTS AT ALL NEW ROOF VENTS. (TYP.) COORD. W/ MECH.
11. ALTERNATE BID G-4 ONLY: PROVIDE NEW SLIP SHEET COMPATIBLE WITH ROOF MEMBRANE UNDER NEW A.C. UNITS. PROVIDE NEW FLASHING BOOTS AS NEEDED FOR NEW A.C. PIPING AND ELECTRICAL. RAILS PROVIDED BY MECHANICAL.

1 A5.0 ROOF PLAN
SCALE: 1/8" = 1'-0"

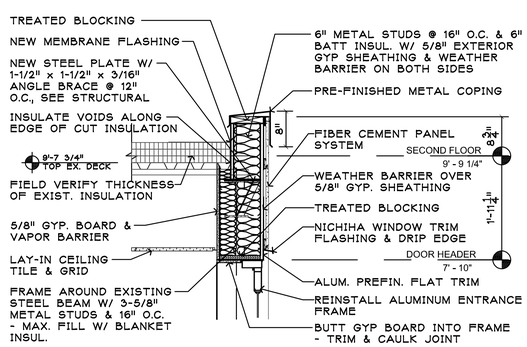




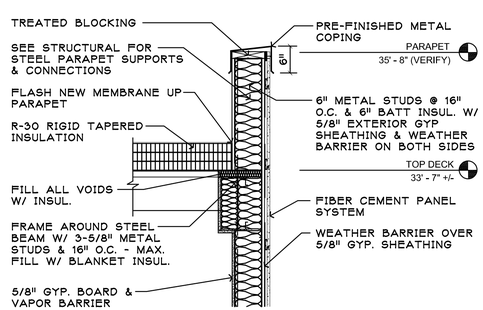
6 A5.0 ROOF STEP DETAIL
SCALE: 3/4" = 1'-0"



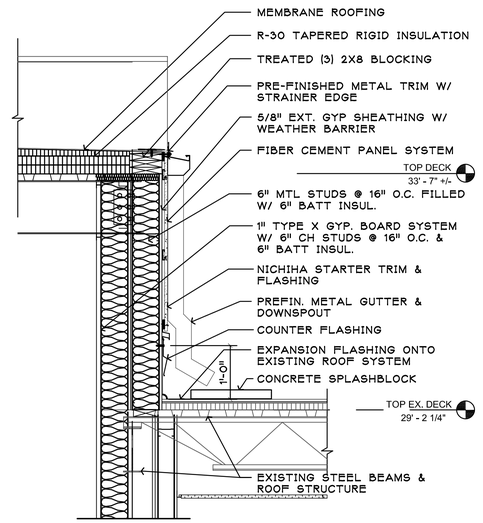
2 A5.0 SKYLIGHT CAP DETAIL
SCALE: 3/4" = 1'-0"



3 A5.0 LOW ROOF EDGE DETAIL
SCALE: 3/4" = 1'-0"



4 A5.0 HIGH PARAPET DETAIL
SCALE: 3/4" = 1'-0"



5 A5.0 EAST HIGH ROOF DETAIL
SCALE: 3/4" = 1'-0"

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CITY DICKINSON
STATE NORTH DAKOTA

ISSUE DATE: 1-16-2024

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PROJECT NO: 20233600
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I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Architect under the laws of the State of North Dakota.
Sally Thoele
Date 1-16-24 Reg. No. 1930

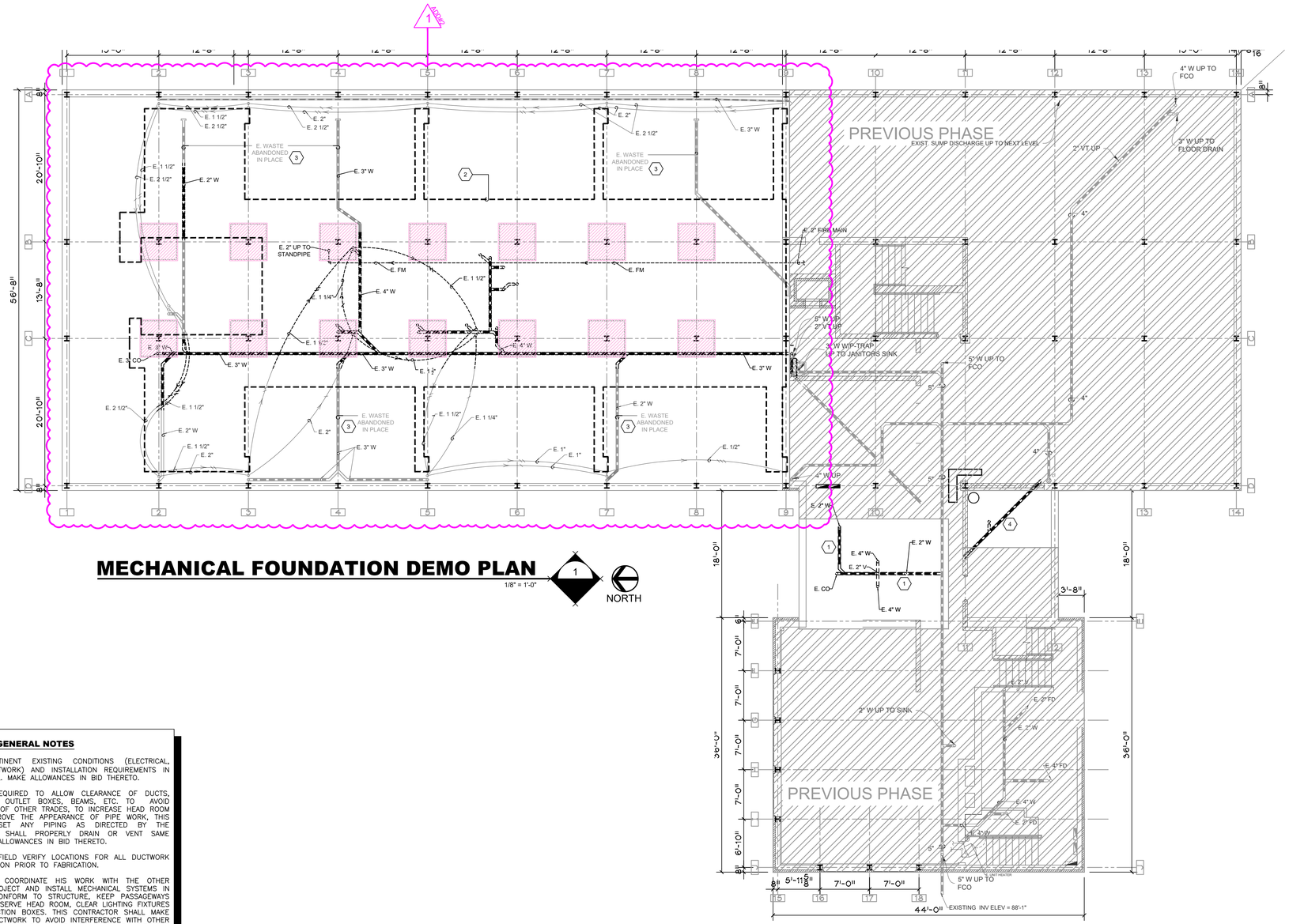
DRAWING TITLE
ROOF PLAN

A5.0R

File Location:W:\2023\20233600 - DKSN DSU Woods Hall Improvements\Drawings\A5.0 Roof Plan Phase 2.dwg
Plot Date:28-Oct-24

KEYNOTES

1. REMOVE THE EXISTING U.G. WASTE PIPING FOR REPLACEMENT WITH NEW PIPING, ALL PIPING THAT IS TO REMAIN ACTIVE SHALL BE REMOVED AND REPLACED. COORDINATE THE FLOOR CUTTING AND PATCHING WITH THE G.C.
2. REMOVE THE EXISTING U.G. WASTE PIPING, DOMESTIC WATER AND FIRE MAIN PIPING COMPLETE IN THIS AREA, CAP ANY ABANDONED WASTE AND DOMESTIC PIPING THAT IS NOT TO BE REUSED OR REMAIN ACTIVE.
3. ABANDONED EXISTING WASTE PIPING IN PLACE AT LOCATIONS WHERE CONCRETE CUTTING IS NOT PLANNED FOR INSTALLATION OF THE NEW WASTE PIPING, COORDINATE LOCATIONS WITH THE NEW FOUNDATION PLAN. SLUG ANY ABANDON PIPING WITH CONCRETE OR GROUT TO AVOID COLLAPSING IN THE FUTURE.
4. REMOVE EXISTING ABANDONED WASTE PIPING IN THIS AREA FOR INSTALLATION OF THE ELEVATOR UNDER PHASE II.
5. COORDINATE THE AREA OF CONCRETE REMOVAL REQUIRED WITH THE G.C. TO INSTALL NEW WASTE PIPING.



MECHANICAL FOUNDATION DEMO PLAN

1/8" = 1'-0"

NORTH

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK, THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

SCALE: 1/8"=1'-0"

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

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Project #23535

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CONSULTANTS

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AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION

DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

R1	ADDENDUM #2	10/30/2024
CD	CONSTRUCTION DOCUMENTS	01/16/2024
MARK	DESCRIPTION	DATE

PROJECT NO: 20233600

DRAWN BY: MJF

CHECKED BY: BAW

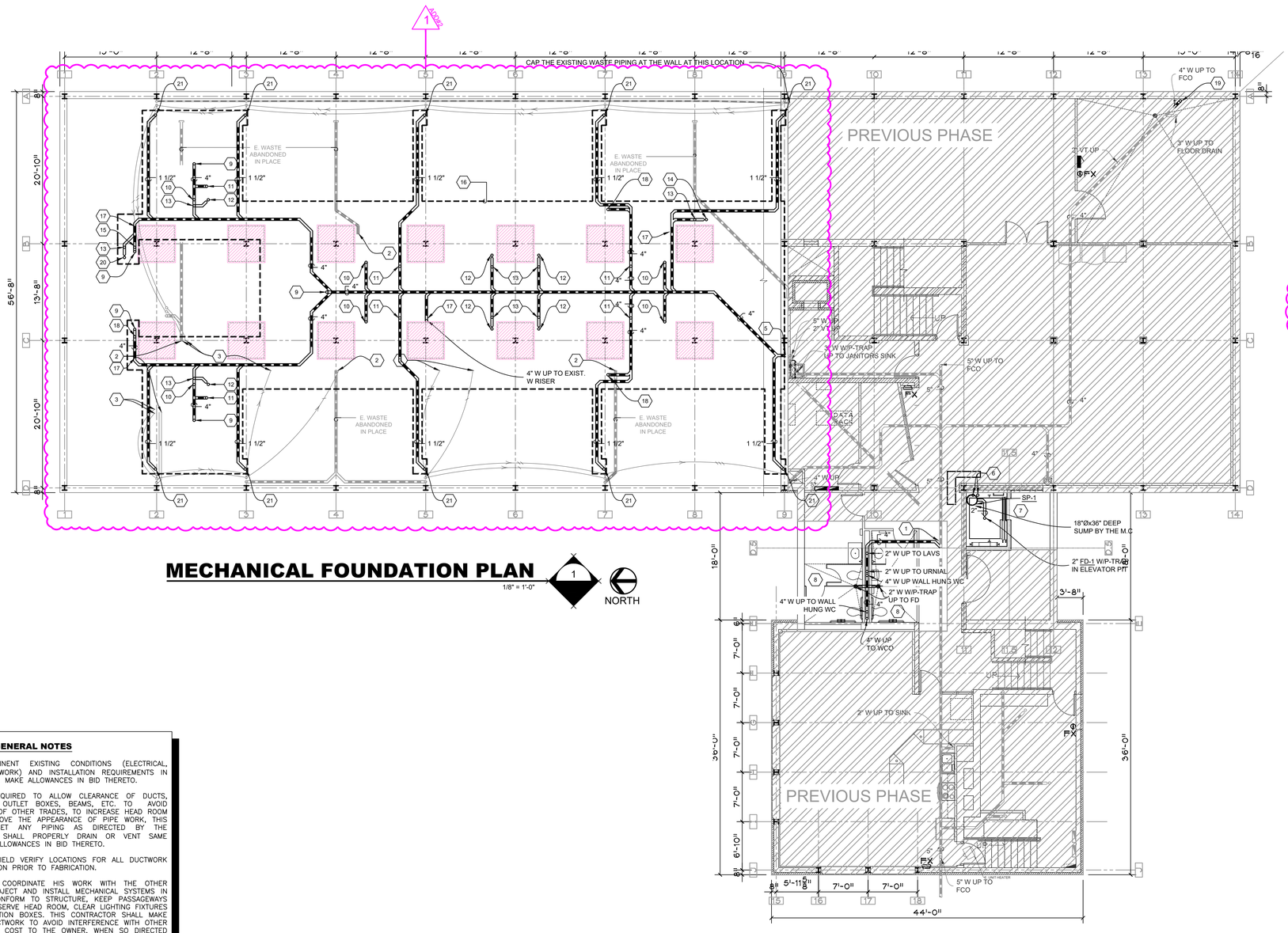
STAMP

REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE 10/30/2024
NORTH DAKOTA

DRAWING TITLE

MECHANICAL FOUNDATION DEMOLITION PLAN

M0.1B



MECHANICAL FOUNDATION PLAN

1/8" = 1'-0"

NORTH

KEYNOTES

1. CONNECT EXISTING WASTE PIPING INTO NEW REPLACEMENT PIPING AT THIS LOCATION.
2. CAP AND ABANDON THIS EXISTING WASTE PIPING AT THIS LOCATION.
3. CAP AND ABANDON THIS EXISTING BELOW GRADE DOMESTIC WATER PIPING AT THIS LOCATION.
4. 4" WASTE UP TO EXISTING VERTICAL WASTE MAIN.
5. NEW 4" WASTE THRU FOUNDATION WALL WITH WATER SEAL THEN DOWN TO THE NEXT BELOW GRADE WASTE. CORE DRILL FOUNDATION WALL AS REQUIRED FOR PENETRATION.
6. 2" WASTE, 2" VT UP AND ROUGHED-IN FOR CONNECTION TO THE SUMP PUMP, SEE DETAIL. COORDINATE EXACT LOCATION AND ROUTING OF PIPING WITH THE ELEVATOR INSTALLERS.
7. ABANDONED WASTE PIPING REMOVE IF REQUIRED FOR NEW WORK.
8. COORDINATE REMOVAL OF THE EXISTING WASTE PIPING AND INSTALLATION OF THE NEW WASTE PIPING IN THE AREA UNDER PHASE II. REMOVE ALL EXISTING WASTE PIPING COMPLETE IN THIS LOCATION.
9. 4" W UP TO FLOOR CLEAN OUT.
10. 4" WASTE UP TO WALL HUNG WATER CLOSET.
11. 2" WASTE UP TO LAVATORY.
12. 2" WASTE W/P-TRAP UP TO SHOWER DRAIN.
13. 1 1/2" VENT UP.
14. 3" WASTE W/P-TRAP UP TO MOP SINK.
15. 3" WASTE UP TO SERVE (2) TWO CLOTHES WASHER SPACE SAVERS.
16. COORDINATE THE REMOVAL OF THE EXISTING CONCRETE FLOOR WITH THE G.C. IN THIS AREA TO ALLOW REMOVAL OF EXISTING PIPING AND INSTALLATION OF NEW WASTE PIPING TO ENSURE ALL CONCRETE IS REMOVED THAT WILL BE REQUIRED.
17. ROUTE WASTE PIPING AS REQUIRED TO AVOID THE EXISTING COLUMN FOOTING PADS, ROUTE HORIZONTAL WASTE ABOVE GRADE IF REQUIRED TO SERVE THE PLUMBING FIXTURES ABOVE.
18. 4" WASTE UP TO SERVE THIRD FLOOR SUITE BATHROOMS, SEE THE FLOORS ABOVE FOR CONTINUATION.
19. REMOVE THE EXISTING CONCRETE FLOOR AS REQUIRED TO EXTEND THE EXISTING 4" WASTE IN ORDER TO CONNECT INTO NEW 4" WASTE PIPING FROM THE NEW BATHROOM SUITES ON THIRD FLOOR. COORDINATE WITH THE G.C. TO REPLACE THE EXISTING FLOOR.
20. 2" WASTE W/P-TRAP UP TO FLOOR DRAIN.
21. 1 1/2" W UP INTO THE EXISTING PLUMBING CHASE UP TO THE THIRD FLOOR TO SERVE THE CONDENSATE DRAINS FROM THE MINI-SPLIT SYSTEMS. (SEE THE PLUMBING PLAN FOR CONTINUATION.) COORDINATE ANY CONCRETE FLOOR REMOVAL REQUIRED WITH THE G.C. TO GET THE WASTE PIPING INSTALLED. REMOVE ANY EXISTING UNUSED PIPING AS REQUIRED TO TO FIT THE NEW PIPING.

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
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SCALE: 1/4"=1'-0"

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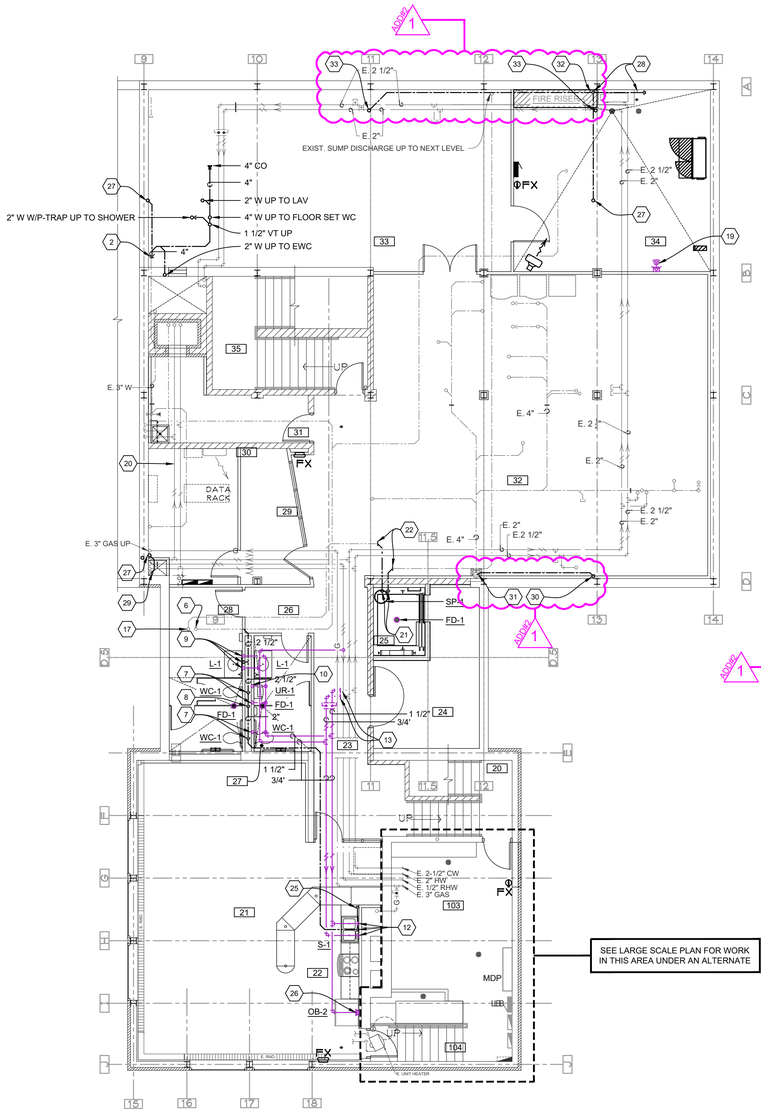
BLAKE WAGNER
PE-28001
DATE 10/30/2024
NORTH DAKOTA

DRAWING TITLE

MECHANICAL FOUNDATION PLAN

M0.2



BASEMENT DOMESTIC PIPING PLAN

1/8" = 1'-0"

KEYNOTES

1. INSTALL NEW FIRE PROTECTION RISER AT THIS LOCATION, COORDINATE THE EXISTING FOUNDATION WALL PENETRATION WITH THE G.C., INSTALL A LINK SEAL TO CREATE A WATERTIGHT SEAL. SEE FIRE RISER DETAIL FOR ADDITIONAL INFORMATION.
2. CONNECT INTO EXISTING 3" WASTE PIPING AT THIS LOCATION.
3. CONNECT EXISTING 3" W INTO NEW 4" WASTE STACK AT THIS LOCATION.
4. CONNECT INTO EXISTING WASTE PIPING AT THIS LOCATION.
5. INSTALL NEW P-TRAP AND WASTE PIPING TO THE NEW TUB AT THE SAME LOCATION AS THE DEMOLISHED TUB. CONNECT INTO THE EXISTING VENT.
6. NEW 3" VT UP TO MAIN FLOOR.
7. 1" CW 2" VT DN TO WATER CLOSET.
8. 1 1/2" VT DN.
9. 3/4" CW/HW 1 1/2" VT DN TO LAVS.
10. 1/2" CW 1 1/2" VT DN TO LAV.
11. CONNECT NEW 3/4" CW/HW INTO EXISTING, 1 1/2" VT TO NEW JANITORS SINK.
12. 1/2" CW/HW, 1 1/2" VT TO SINK.
13. CONNECT INTO EXISTING CW/HW AT THIS LOCATION.
14. CAP EXISTING PIPING AT THIS LOCATION.
15. CONNECT NEW 3/4" RHW INTO EXISTING AT THIS LOCATION AND ROUTE NEW PIPING UP TO THE MAIN FLOOR.
16. TAP INTO THE EXISTING GAS PIPING NEAR THIS LOCATION WITH NEW 3/4" PIPING AND ROUTE UP TO THE MAIN LEVEL TO SERVE THE NEW NATURAL GAS FIREPLACE INSERT THAT WILL BE INSTALLED INTO THE EXISTING WOOD FIRED FIREPLACE LOCATION. VERIFY THE EXACT LOCATION AND ROUTING OF THE PIPING WITH SITE CONDITIONS.
17. 2" ELEVATOR SUMP VENT UP TO THE MAIN FLOOR AND THEN UP THRU THE ROOF.
18. 2" ELEVATOR SUMP DISCHARGE UP TO THE MAIN FLOOR AND OUT THE WALL TO A SPLASH BLOCK.
19. SUMP PUMP SP-1 ALARM PANEL VERIFY EXACT LOCATION WITH FIELD CONDITIONS.
20. PROVIDE DRIP PROTECTION BENEATH ANY PIPING PASSING OVER THE TOP OF ANY NEW IT EQUIPMENT IN THIS AREA.
21. 2" ELEVATOR SUMP VENT AND 2" DISCHARGE DN TO THE NEW SUMP PUMP.
22. UNDER PHASE II EXTEND THE DISCHARGE AND VENT PIPING INSTALLED UNDER PHASE I TO THE SUMP PUMP IN THE ELEVATOR PIT.
23. CAP PIPING AT THIS LOCATION UNDER PHASE I FOR CONTINUATION UNDER PHASE II.
24. ROUTE NEW DOMESTIC PIPING UP TO THE MAIN FLOOR AT THIS LOCATION, CUT A HOLE IN THE EXISTING WALL AND PATCH AROUND AFTER PIPING HAS BEEN INSTALLED.
25. ROUTE NEW WASTE FROM SINK HORIZONTAL TO THE EXISTING WASTE STUB-IN INSTALLED IN A PREVIOUS PHASE. VERIFY EXACT ROUTING WITH ACTUAL SITE CONDITIONS. COORDINATE ROUTING WITH ARCHITECT, (ROUTING IN CASEWORK OR FURRED OUT WALL).
26. 1/2" CW, DN TO ICE MAKER OUTLET BOX.
27. 4" WASTE UP TO SERVE THIRD FLOOR SUITE BATHROOMS, SEE THE FLOORS ABOVE FOR CONTINUATION.
28. 4" WASTE DOWN TO CONNECT INTO THE EXISTING UNDERGROUND 4" WASTE INSTALLED UNDER A PREVIOUS PROJECT, REMOVE THE EXISTING CONCRETE FLOOR AS REQUIRED TO CONNECT THIS NEW WASTE INTO THE EXISTING WHILE KEEPING IT AS CLOSE TO THE EAST WALL AS POSSIBLE. COORDINATE WITH THE G.C. TO REPLACE THE CONCRETE.
29. 4" WASTE DOWN TO CONNECT INTO THE EXISTING 4" WASTE ABOVE THE FLOOR INSTALLED UNDER A PREVIOUS PROJECT, MODIFY THE EXISTING PIPING AS REQUIRED. VERIFY EXACT ROUTING WITH ACTUAL EXISTING CONDITIONS.
30. 1 1/4" WASTE UP INTO EXISTING CLOSET IN THE R.A. APARTMENT ABOVE TO ACCEPT THE CONDENSATE FROM THE THIRD FLOOR MINI SPLIT SYSTEMS.
31. CONNECT THE NEW 1 1/4" WASTE INTO THE EXISTING 4" WASTE.
32. CONNECT THE 1 1/4" WASTE INTO THE 4" WASTE NEAR THIS LOCATION.
33. 1 1/4" WASTE UP INTO EXISTING CHASE ABOVE .

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK, THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

INSULATION GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE M.C. TO HAVE THE INSULATION SUB-CONTRACTOR INSULATE PER SPECIFICATION ALL THE NEW PIPING/BREACHING/DUCTWORK AS WELL AS ALL THE EXISTING PIPING/BREACHING/DUCTWORK THAT IS TO REMAIN IN SERVICE THAT HAD THE ASBESTOS INSULATION ABATED. THE INSULATION CONTRACTOR AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ITEMS TO BE INSULATED AND INCLUDE ALL INSULATION AND LABOR IN THEIR BID.

ROOM SCHEDULE

#	ROOM DESCRIPTION
20	STAIR
21	STUDENT LOUNGE
22	KITCHEN
23	CORRIDOR
24	ELEVATOR LOBBY
25	ELEVATOR
26	CORRIDOR
27	MEN
28	WOMEN
29	STUDY ROOM
30	DATA
31	JANITOR/STORAGE
32	RECREATION ROOM
33	STORAGE
34	MECHANICAL
35	STAIR
103	MECHANICAL ROOM
104	STAIR

SCALE: 1/8"=1'-0"

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

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AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION

DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

MARK	DESCRIPTION	DATE
R1	ADDENDUM #2	10/30/2024
CD	CONSTRUCTION DOCUMENTS	01/16/2024

PROJECT NO: 20233600

DRAWN BY: MJF

CHECKED BY: BAW

STAMP

REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE10/30/2024
NORTH DAKOTA

DRAWING TITLE

BASEMENT DOMESTIC PIPING PLAN

P1.0

KEYNOTES

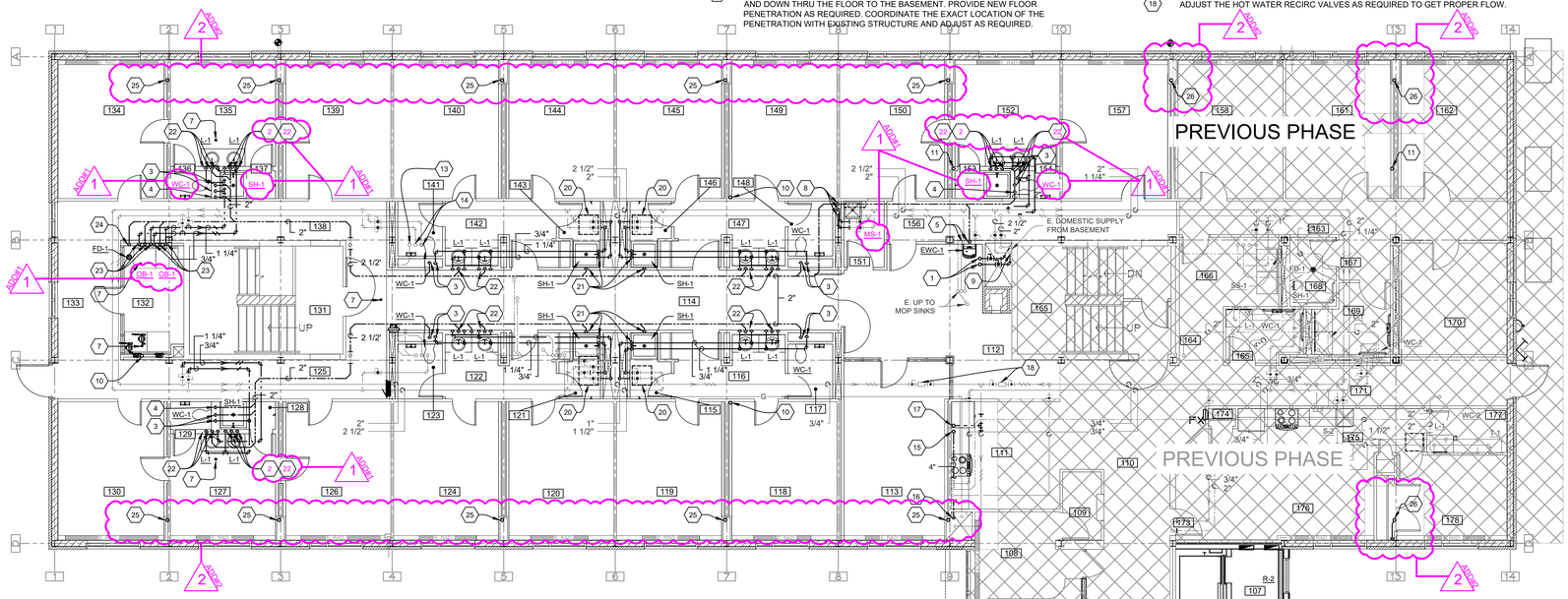
1. 2" CW 1 1/4" HW UP THRU THE EXISTING FLOOR INTO THE STORAGE ROOM ABOVE. CORE DRILL HOLES AS REQUIRED TO ACCEPT THE PIPING AND INSULATION.
2. 3/4" CW/HW DN TO SHOWER AND LAV, 1 1/2" VT DN TO LAV.
3. 1" CW 2" VT DN TO WATER CLOSET.
4. 1 1/2" VT DN TO SHOWER WASTE .
5. 1/2" CW 1 1/2" VT DN TO ELECTRIC WATER COOLER.
6. NEW 3" W FROM EXISTING MOP SINKS DN TO BASEMENT.
7. NEW FLOOR WASTE CLEAN OUT.
8. 3/4" CW/HW, 1 1/2" VT TO JANITORS SINK.
9. CONNECT INTO THE EXISTING CW/HW PIPING NEAR THIS LOCATION FOR NEW BRANCH PIPING TO SERVE THE THIRD FLOOR.
10. 4" WASTE UP THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR ABOVE AND DOWN THRU THE FLOOR TO BELOW GRADE. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
11. 4" WASTE UP THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR ABOVE AND DOWN THRU THE FLOOR TO THE BASEMENT. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.

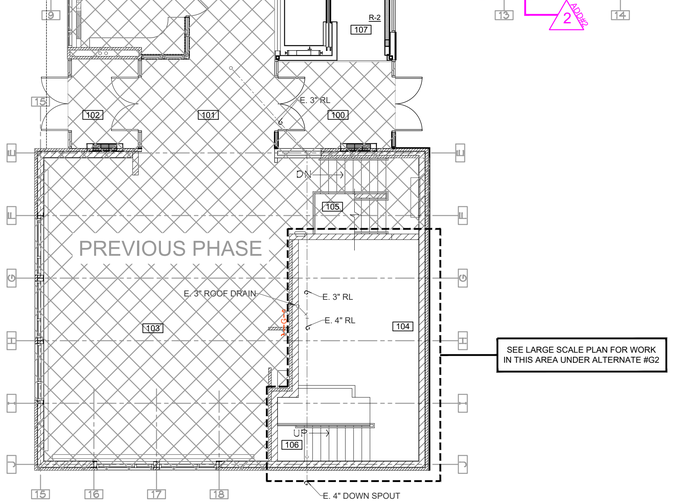
KEYNOTES

12. NOT USED
13. CONNECT NEW 2" W INTO THE EXISTING WASTE STACK SERVING THE UPPER FLOORS NEAR THIS LOCATION, VERIFY EXACT LOCATION WITH FIELD CONDITIONS.
14. CONNECT NEW 1" CW/HW INTO THE EXISTING RISER SERVING THE UPPER LEVEL FLOORS NEAR THIS LOCATION, VERIFY EXACT LOCATION WITH FIELD CONDITIONS.
15. 4" WASTE UP THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR ABOVE AND ROUTE HORIZONTALLY AS REQUIRED TO GET TO THE EXISTING CHASE AND ROUTE PIPING VERTICALLY DOWN TO THE BASEMENT. M.C. SHALL REMOVE AND REINSTALL THE EXISTING CEILING TILE AS REQUIRED TO INSTALL THE HORIZONTAL PIPING, REPLACE ANY BROKEN, DAMAGED OR SOILED TILE WITH NEW TILE TO MATCH THE EXISTING. PROTECT THE EXISTING CASEWORK, FIXTURES AND APPLIANCES WITH PLASTIC AND CARDBOARD AS REQUIRED TO AVOID DUST DIRT AND SCRATCHING.
16. ROUTE NEW 4" WASTE PIPING DOWN IN THE EXISTING CHASE TO THE BASEMENT AND CONNECTED INTO THE EXISTING 4" WASTE PIPING INSTALL UNDER A PREVIOUS PROJECT, PROVIDE NEW FITTING AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
17. 3/4" RECIRC HOT WATER UP THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR ABOVE AND CONNECT INTO THE EXISTING 3/4" RECIRC HOT WATER ON THIS FLOOR. VERIFY EXACT ROUTING WITH ACTUAL INSTALLED CONDITIONS.
18. ADJUST THE HOT WATER RECIRC VALVES AS REQUIRED TO GET PROPER FLOW.

KEYNOTES

19. COORDINATE THE INSTALLATION AND LOCATION OF THE ACCESS DOOR AT THIS LOCATION IN THE HARD LID CEILING FOR VALVE ACCESS, ACCESS DOOR BY THE G.C.
20. COORDINATE THE INSTALLATION AND LOCATION OF THE ACCESS DOOR AT THIS LOCATION IN THE HARD LID CEILING FOR VALVE ACCESS, ACCESS DOOR BY THE G.C.
21. 1/2" CW/HW & 1 1/2" VT DN TO SHOWER AT THIS LOCATION.
22. 1/2" CW/HW & 1 1/2" VT DN TO LAV AT THIS LOCATION. UNDER BASE BID INSTALL ALL THE PIPING ROUGH-INS FOR BOTH LAVATORIES BUT ONLY ONE LAVATORY AND FAUCET SHALL BE INSTALLED AND PUT IN SERVICE. UNDER ALTERNATE #G3 THE SECOND LAVATORY AND FAUCET SHALL BE PROVIDED/INSTALLED AND PUT INTO SERVICE.
23. 3/4" CW/HW & 1 1/2" VT DN TO CLOTHES WASHER SPACE SAVER AT THIS LOCATION.
24. 1 1/2" VT DN, TO FLOOR DRAIN WASTE.
25. 1 1/4" W UP IN THE EXISTING PLUMBING CHASE UP TO THE THIRD FLOOR TO SERVE THE CONDENSATE DRAINS FROM THE MINI-SPLIT SYSTEMS. 1 1/2" W DOWN THRU THE FLOOR TO NEW UNDERGROUND WASTE PIPING (SEE THE FOUNDATION PLAN FOR CONTINUATION.) COORDINATE ANY FIRST FLOOR EXISTING CHASE WALL REMOVAL REQUIRED WITH THE G.C. TO GET THE WASTE PIPING INSTALLED. REMOVE ANY EXISTING UNUSED PIPING AS REQUIRED TO TO FIT THE NEW PIPING. FEED THE NEW PIPING UP THRU THE SECOND FLOOR TO THE THIRD FLOOR WITHOUT DISTURBING THE EXISTING CHASE WALLS ON SECOND FLOOR IF POSSIBLE, VERIFY ON SITE. IF REQUIRED COORDINATE THE WALL REMOVAL AND REPLACEMENT WITH THE G.C.
26. 1 1/4" W UP IN THE EXISTING PLUMBING CHASE UP TO THE THIRD FLOOR TO SERVE THE CONDENSATE DRAINS FROM THE MINI-SPLIT SYSTEMS. 1 1/4" W DOWN THRU THE FLOOR TO THE NEW WASTE PIPING IN THE BASEMENT. (SEE THE BASEMENT DOMESTIC PLAN FOR CONTINUATION.) COORDINATE ANY FIRST FLOOR EXISTING CHASE WALL REMOVAL REQUIRED WITH THE G.C. TO GET THE WASTE PIPING INSTALLED. REMOVE ANY EXISTING UNUSED PIPING AS REQUIRED TO FIT THE NEW PIPING. FEED THE NEW PIPING UP THRU THE THE FIRST AND SECOND FLOOR TO THE THIRD FLOOR WITHOUT DISTURBING THE EXISTING CHASE WALLS ON FIRST AND SECOND FLOOR IF POSSIBLE, VERIFY ON SITE. IF REQUIRED COORDINATE THE WALL REMOVAL AND REPLACEMENT WITH THE G.C.
27. 1 1/4" W UP IN THE EXISTING CLOSET IN THE APARTMENT ON FIRST FLOOR THEN UP THRU THE PLUMBING CHASE ON SECOND FLOOR UP TO THE THIRD FLOOR TO SERVE THE CONDENSATE DRAINS FROM THE MINI-SPLIT SYSTEMS. 1 1/4" W DOWN THRU THE FLOOR TO THE EXISTING WASTE PIPING IN THE BASEMENT. (SEE THE BASEMENT DOMESTIC PLAN FOR CONTINUATION.) COORDINATE ANY FIRST FLOOR EXISTING WALL REMOVAL OR FURRING OUT TO HIDE THE PIPING REQUIRED WITH THE G.C. TO GET THE WASTE PIPING INSTALLED. REMOVE ANY EXISTING UNUSED PIPING AS REQUIRED TO FIT THE NEW PIPING. FEED THE NEW PIPING UP THRU THE THE FIRST AND SECOND FLOOR TO THE THIRD FLOOR WITHOUT DISTURBING THE EXISTING CHASE WALLS ON SECOND FLOOR IF POSSIBLE, VERIFY ON SITE. IF REQUIRED COORDINATE THE WALL REMOVAL AND REPLACEMENT WITH THE G.C.





MAIN FLOOR DOMESTIC PIPING PLAN

1/8" = 1'-0"

NORTH

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK. THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

INSULATION GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE M.C. TO HAVE THE INSULATION SUB-CONTRACTOR INSULATE PER SPECIFICATION ALL THE NEW PIPING/BREACHING/DUCTWORK AS WELL AS ALL THE EXISTING PIPING/BREACHING/DUCTWORK THAT IS TO REMAIN IN SERVICE THAT HAD THE ASBESTOS INSULATION ABATED. THE INSULATION CONTRACTOR AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ITEMS TO BE INSULATED AND INCLUDE ALL INSULATION AND LABOR IN THEIR BID.

PHASE II ROOM SCHEDULE

#	ROOM DESCRIPTION	ROOM DESCRIPTION	#
100	VESTIBULE	DORM ROOM	139
101	LOBBY	DORM ROOM	140
102	VESTIBULE	TOILET	141
103	LOUNGE	SINKS	142
104	HEATING	SHOWER	143
105	STAIR	DORM ROOM	144
106	STAIR	DORM ROOM	145
107	ELEVATOR LOBBY	SHOWER	146
108	OFFICE	SINKS	147
109	MAIL	TOILET	148
110	CORRIDOR	DORM ROOM	149
111	KITCHEN	DORM ROOM	150
112	CORRIDOR	JANITOR	151
113	LARGE STUDY ROOM	LIVING ROOM	152
114	CORRIDOR	SHOWER	153
115	SHOWER	TOILET	154
116	SINKS	STAIR	155
117	TOILET	CORRIDOR	156
118	DORM ROOM	DORM ROOM	157
119	DORM ROOM	DORM ROOM	158
120	DORM ROOM	NOT USED	159
121	SHOWER	NOT USED	160
122	SINKS	DORM ROOM	161
123	TOILET	DORM ROOM	162
124	DORM ROOM	CORRIDOR	163
125	CORRIDOR	CORRIDOR	164
126	DORM ROOM	ADA RESTROOM	165
127	LIVING ROOM	ADA LAUNDRY	166
128	SHOWER	ADA HALL	167
129	TOILET	ADA SHOWER	168
130	DORM ROOM	ADA RESTROOM	169
131	STAIR	DORM ROOM	170
132	LAUNDRY	CORRIDOR	171
133	STUDY AREA	NOT USED	172
134	DORM ROOM	FOYER	173
135	LIVING ROOM	CLOSET	174
136	TOILET	KITCHEN	175
137	SHOWER	LIVING ROOM	176
138	CORRIDOR	RESTROOM	177
		BEDROOM	178

SCALE: 1/8"=1'-0"

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

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CONSULTANTS

PRAIRIE ENGINEERING - MECHANICAL AND ELECTRICAL

AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION

DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

MARK	DESCRIPTION	DATE
R2	ADDENDUM #2	10/30/2024
R1	ADDENDUM #1	04/19/2024
CD	CONSTRUCTION DOCUMENTS	01/19/2024

PROJECT NO: 20233600

DRAWN BY: MJF

CHECKED BY: BAW

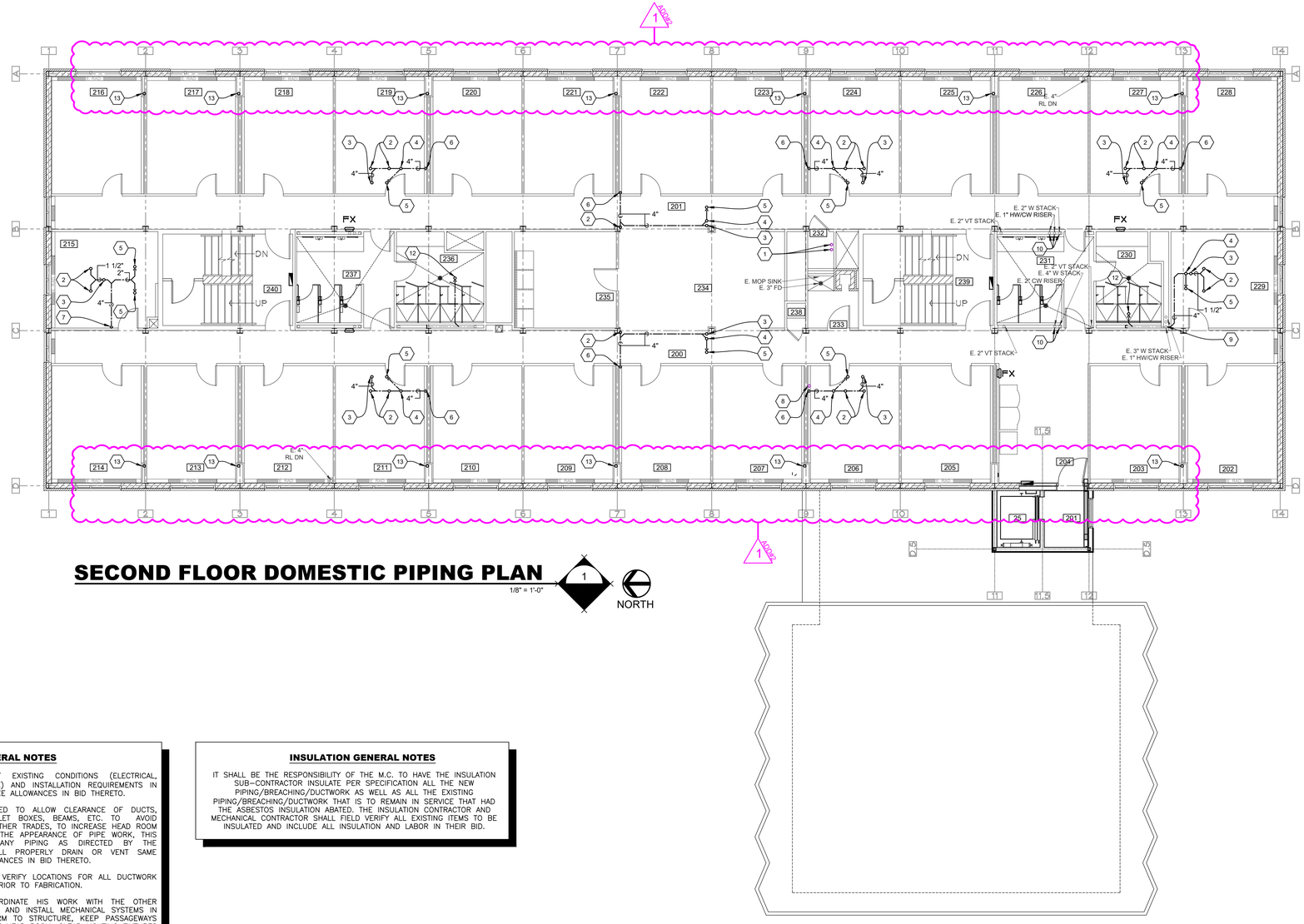
STAMP

REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE 10/30/2024
NORTH DAKOTA

DRAWING TITLE

MAIN FLOOR DOMESTIC PIPING PLAN

P1.1



SECOND FLOOR DOMESTIC PIPING PLAN

1/8" = 1'-0"

NORTH

KEYNOTES

1. NEW 2" CW, 1 1/4" HW FROM THE FIRST FLOOR UP THRU THIS FLOOR AND UP THRU THE FLOOR ABOVE TO SERVE THIRD FLOOR.
2. 1 1/2" WASTE UP THRU THE EXISTING FLOOR TO SERVE THE LAV ON THIRD FLOOR. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
3. 4" WASTE UP THRU THE EXISTING FLOOR TO SERVE THE WATER CLOSET ON THIRD FLOOR. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
4. 1 1/2" VENT UP THRU THE EXISTING FLOOR TO SERVE THE SHOWER ON THIRD FLOOR. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
5. 2" WASTE WITH P-TRAP UP THRU THE EXISTING FLOOR TO SERVE THE SHOWER DRAIN ON THIRD FLOOR. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
6. 4" WASTE DOWN THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR BELOW. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
7. 4" WASTE DOWN THRU THE FLOOR IN THE NEW FURRED OUT WALL OR PIPE CHASE TO THE FLOOR BELOW. COORDINATE THE CHASE SIZE NEED WITH THE G.C. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
8. 3/4" RHW FROM THIRD FLOOR DOWN THRU THE FLOOR IN THE NEW FURRED OUT WALL TO THE FLOOR BELOW. PROVIDE NEW FLOOR PENETRATION AS REQUIRED. COORDINATE THE EXACT LOCATION OF THE PENETRATION WITH EXISTING STRUCTURE AND ADJUST AS REQUIRED.
9. 4" WASTE ROUTED TO CONNECT INTO THE EXISTING WASTE STACK NEAR THIS LOCATION. COORDINATE THE EXACT LOCATION OF THE CONNECTION WITH EXISTING PIPING AND ADJUST AS REQUIRED. COORDINATE THE WALL REMOVAL AND REPLACEMENT REQUIRED WITH THE G.C.
10. CAP THE EXISTING PIPING RISERS/VENT/WASTE STACKS THAT SERVED THE THIRD FLOOR IN THE CEILING SPACE OF SECOND FLOOR.
12. 2" W WITH P-TRAP UP TO A NEW FLOOR DRAIN IN THE LAUNDRY ROOM ON THIRD FLOOR, CONNECT THE NEW WASTE INTO THE EXISTING AND VENT THE PIPE UP TO THIRD FLOOR.
13. 1 1/4" W UP IN THE EXISTING PLUMBING CHASE UP TO THE THIRD FLOOR TO SERVE THE CONDENSATE DRAINS FROM THE MINI-SPLIT SYSTEMS. 1 1/4" W DOWN THRU THE FLOOR TO FIRST FLOOR (SEE THE FIRST AND THIRD FLOOR PIPING PLANS FOR CONTINUATION.) FEED THE NEW PIPING UP THRU THE THE SECOND FLOOR TO THE THIRD FLOOR WITHOUT DISTURBING THE EXISTING CHASE WALLS ON SECOND FLOOR IF POSSIBLE, VERIFY ON SITE. IF REQUIRED COORDINATE THE WALL REMOVAL AND REPLACEMENT WITH THE G.C.

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK. THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

INSULATION GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE M.C. TO HAVE THE INSULATION SUB-CONTRACTOR INSULATE PER SPECIFICATION ALL THE NEW PIPING/BREACHING/DUCTWORK AS WELL AS ALL THE EXISTING PIPING/BREACHING/DUCTWORK THAT IS TO REMAIN IN SERVICE THAT HAD THE ASBESTOS INSULATION ABATED. THE INSULATION CONTRACTOR AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ITEMS TO BE INSULATED AND INCLUDE ALL INSULATION AND LABOR IN THEIR BID.

ROOM SCHEDULE

#	ROOM DESCRIPTION	ROOM DESCRIPTION	#
200	CORRIDOR	DORM ROOM	221
201	ELEVATOR LOBBY	DORM ROOM	222
202	DORM ROOM	DORM ROOM	223
203	DORM ROOM	DORM ROOM	224
204	ELEVATOR LOBBY	DORM ROOM	225
205	DORM ROOM	DORM ROOM	226
206	DORM ROOM	DORM ROOM	227
207	DORM ROOM	DORM ROOM	228
208	DORM ROOM	DORM ROOM	229
209	DORM ROOM	SHOWER	230
210	DORM ROOM	TOILET	231
211	DORM ROOM	LINEN	232
212	DORM ROOM	JANITOR	233
213	DORM ROOM	STORAGE	234
214	DORM ROOM	UTILITY	235
215	DORM ROOM	BATHING	236
216	DORM ROOM	TOILET	237
217	DORM ROOM	PHONE	238
218	DORM ROOM	STAIR	239
219	DORM ROOM	STAIR	240
220	DORM ROOM	ELEVATOR	25

SCALE: 1/8"=1'-0"

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

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AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION

DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

MARK	DESCRIPTION	DATE
R1	ADDENDUM #2	10/30/2024
CD	CONSTRUCTION DOCUMENTS	01/16/2024

PROJECT NO: 20233600

DRAWN BY: MJF

CHECKED BY: BAW

STAMP

REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE 10/30/2024
NORTH DAKOTA

DRAWING TITLE

SECOND FLOOR DOMESTIC PIPING PLAN

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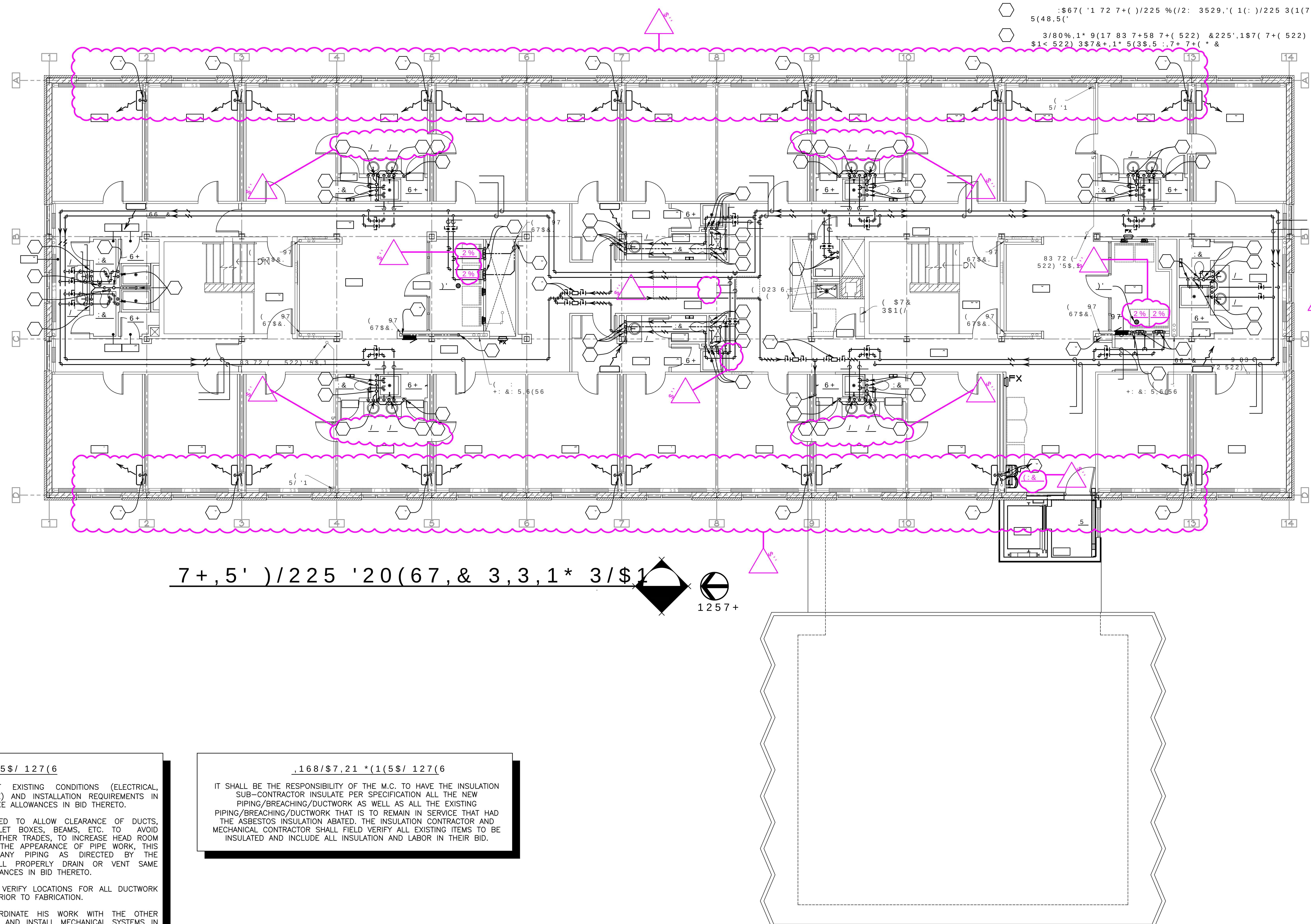

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2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK, THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

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REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE10/30/2024
NORTH DAKOTA

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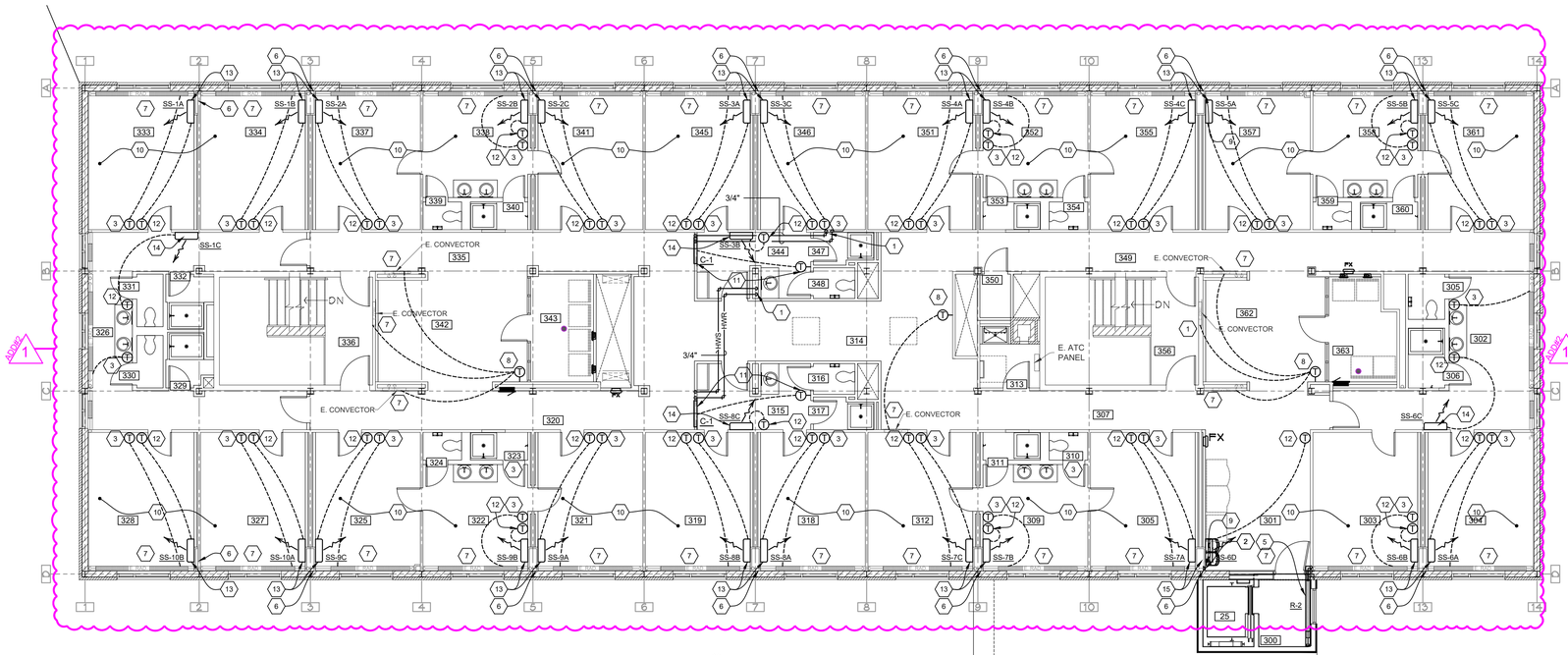

THIRD FLOOR SYSTEMS PIPING PLAN

1/8" = 1'-0"

NORTH

KEYNOTES

1. EXTEND THE EXISTING HEATING WATER PIPING UP TO THE CEILING AND ROUTE HORIZONTALLY TO THE NEW CONVECTORS, SEE THE DETAIL FOR ADDITIONAL PIPING INFORMATION. UTILIZE EXISTING VERTICAL WALL OPENINGS IF POSSIBLE, IF NOT COORDINATE ANY WALL OPENING AND PATCHING WITH THE G.C.
2. CAP THE EXISTING HEATING PIPING AT THIS LOCATION TO ACCOMMODATE THE PASS THROUGH FOR THE NEW ELEVATOR LOBBY.
3. ATC SHALL PROVIDE NEW DDC THERMOSTAT AND 2-WAY CONTROL VALVE TO REPLACE THE EXISTING RADIATION PNEUMATIC CONTROLS AT THIS LOCATION, M.C. SHALL REMOVE THE EXISTING VALVE AND INSTALL THE NEW VALVES AS REQUIRED. CARE SHALL BE TAKEN DURING REMOVAL OF THE EXISTING COVERS SINCE THEY WILL BE REUSED. M.C. TO CLEAN THE EXISTING FIN TUBE RADIATION REMOVING ALL ACCUMULATED DIRT/DUST/COBWEBS COMPLETELY. COORDINATE PAINTING OF THE EXISTING RADIATION COVERS WITH THE G.C.
4. NOT USED.
5. INSTALL NEW RADIATION AT THIS LOCATION SEE SCHEDULE FOR SIZE. CONNECT INTO EXISTING HWS/HWR PIPING IN THE ADJACENT DORM ROOM AS REQUIRED. PROVIDE NEW COVER TO MATCH UP TO THE EXISTING COVERS.
6. UNDER THIS PHASE THE M.C. SHALL REINSTALL AND PATCH THE INSULATION REMOVED DURING ABATEMENT ON THE EXISTING HEATING PIPING TO THE EXTENT POSSIBLE THRU THE EXISTING HOLES IN THE WALLS THAT WERE DONE DURING THE ASBESTOS ABATEMENT PROJECT. THE EXISTING DOMESTIC WATER PIPING IN THE CHASES ARE NOT LIVE ANYMORE AND DO NOT NEED INSULATION REPLACED. COORDINATE THE INSULATION WORK WITH THE G.C. TO ENSURE THE INSULATION WORK IS COMPLETED BEFORE ANY WALL PATCHING IS DONE.
7. REINSTALL THE RADIATION/CONVECTOR COVER AFTER ALL WORK HAS BEEN COMPLETED IN THE ROOMS TO AVOID ANY SCRATCHING OR SCRAPING OF THE NEWLY PAINTED COVERS.
8. ATC SHALL PROVIDE A NEW DDC THERMOSTAT AND 2-WAY CONTROL VALVE TO CONTROL THE EXISTING CONVECTORS AT THIS LOCATION, CURRENTLY THEY ARE ONLY CONTROLLED WITH AN OPERABLE DAMPER. THE M.C. SHALL REMOVE THE EXISTING COVERS REMOVE THE OPERABLE DAMPER AND TURN THE COVERS OVER TO THE G.C. FOR PAINTING AND INSTALL NEW SHUT OFF VALVES, BALANCING VALVE AND CONTROL VALVE AS REQUIRED. CARE SHALL BE TAKEN DURING REMOVAL OF THE EXISTING COVERS SINCE THEY WILL BE REUSED. M.C. TO CLEAN THE EXISTING FIN TUBE RADIATION REMOVING ALL ACCUMULATED DIRT/DUST/COBWEBS COMPLETELY. COORDINATE PAINTING OF THE EXISTING CONVECTOR COVERS WITH THE G.C. THE T&B CONTRACTOR SHALL BALANCE THE FLOW TO EACH CONVECTOR TO .5 GPM.
9. M.C. SHALL CUT THE EXISTING RADIATION COVER AS REQUIRED TO ACCOMMODATE THE THE NEW 2"X4" WALL IN THIS ROOM.
10. PROVIDE AN ESCUTCHEON AT EACH INSTANCE OF THE EXISTING HEATING WATER PIPING AIR VENTS THAT WILL PROTRUDE THRU THE NEW SHEETROCK PANELING THAT WILL BE INSTALLED UNDER THIS PHASE. CAULK AROUND THE ESCUTCHEON TO ENSURE ITS SECURED TO THE WALL.
11. ATC SHALL PROVIDE A NEW DDC THERMOSTAT AND 2-WAY CONTROL VALVE TO CONTROL THE NEW CONVECTOR.
12. PROVIDE FACTORY SUPPLIED HARD WIRED WALL MOUNTED THERMOSTAT, TURN OVER TO THE E.C. FOR MOUNTING, COORDINATE THE LOCATION WITH THE EXISTING HOT WATER HEAT RADIATION THERMOSTAT.
13. COORDINATE INSTALLATION OF THE DWV PIPING IN THE EXISTING PIPING CHASE WITH THE PLUMBER AND PROVIDE THE CONDENSATE PIPING CONNECTION FROM THE SPLIT SYSTEM HEAD UNIT TO THE DWV PIPING. INSTALL THE CONDENSATE PIPING PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS. PROVIDE A 12"X12" ACCESS DOOR IN THE CHASE WALL FOR INSPECTION OF THE CONDENSATE DRAIN CONNECTION AND ASSOCIATED P-TRAP.
14. PROVIDE THIS HEAD UNIT WITH A FACTORY FURNISHED FIELD INSTALLED CONDENSATE PUMP. ROUTE THE CONDENSATE TUBING FROM THE PUMP UP INTO THE CEILING SPACE AND AND OVER TO THE NEW DWV PIPING IN THE EXISTING PIPING CHASES IN THE NEAREST ROOM, CONNECT AND SECURE THE TUBING TO THE WASTE PIPING. INSTALL THE CONDENSATE PIPING PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS. PROVIDE A 12"X12" ACCESS DOOR IN THE CHASE WALL FOR INSPECTION OF THE CONDENSATE DRAIN CONNECTION AND ASSOCIATED P-TRAP.
15. COORDINATE INSTALLATION OF THE DWV PIPING IN THE EXISTING PIPING CHASE WITH THE PLUMBER AND PROVIDE THE CONDENSATE PIPING CONNECTION FROM THE SPLIT SYSTEM HEAD UNIT TO THE DWV PIPING SERVING THE WATER COOLER, INSTALL PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS. PROVIDE A 12"X12" ACCESS DOOR IN THE CHASE WALL FOR INSPECTION OF THE CONDENSATE DRAIN CONNECTION AND ASSOCIATED P-TRAP.

ROOM SCHEDULE

#	ROOM DESCRIPTION	ROOM DESCRIPTION	#
300	ELEVATOR LOBBY	SHOWER	332
301	ELEVATOR LOBBY	DORM ROOM	333
302	LIVING ROOM	DORM ROOM	334
303	DORM ROOM	CORRIDOR	335
304	DORM ROOM	STAIR	336
305	TOILET	DORM ROOM	337
306	SHOWER	LIVING ROOM	338
307	CORRIDOR	TOILET	339
308	DORM ROOM	SHOWER	340
309	LIVING ROOM	DORM ROOM	341
310	TOILET	LOUNGE	342
311	SHOWER	LAUNDRY	343
312	DORM ROOM	SINKS	344
313	JANITOR	DORM ROOM	345
314	CORRIDOR	DORM ROOM	346
315	SINKS	SHOWER	347
316	TOILET	TOILET	348
317	SHOWER	CORRIDOR	349
318	DORM ROOM	STORAGE	350
319	DORM ROOM	DORM ROOM	351
320	CORRIDOR	LIVING ROOM	352
321	DORM ROOM	SHOWER	353
322	LIVING ROOM	TOILET	354
323	SHOWER	DORM ROOM	355
324	TOILET	STAIR	356
325	DORM ROOM	DORM ROOM	357
326	SINKS	LIVING ROOM	358
327	DORM ROOM	TOILET	359
328	DORM ROOM	SHOWER	360
329	SHOWER	DORM ROOM	361
330	TOILET	LOUNGE	362
331	TOILET	LAUNDRY	363

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK, THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
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INSULATION GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE M.C. TO HAVE THE INSULATION SUB-CONTRACTOR INSULATE PER SPECIFICATION ALL THE NEW PIPING/BREACHING/DUCTWORK AS WELL AS ALL THE EXISTING PIPING/BREACHING/DUCTWORK THAT IS TO REMAIN IN SERVICE THAT HAD THE ASBESTOS INSULATION ABATED. THE INSULATION CONTRACTOR AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ITEMS TO BE INSULATED AND INCLUDE ALL INSULATION AND LABOR IN THEIR BID.

SCALE: 1/8"=1'-0" (0' 4' 8' 12' 16')

SCALE: 1/4"=1'-0" (0' 2' 4' 6' 8')

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Project #23535

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CONSULTANTS
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AE2S - STRUCTURAL

CLIENT
DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION
DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON
STATE NORTH DAKOTA

ISSUE DATES

MARK	DESCRIPTION	DATE
R1	ADDENDUM #2	10/30/2024
CD	CONSTRUCTION DOCUMENTS	01/16/2024

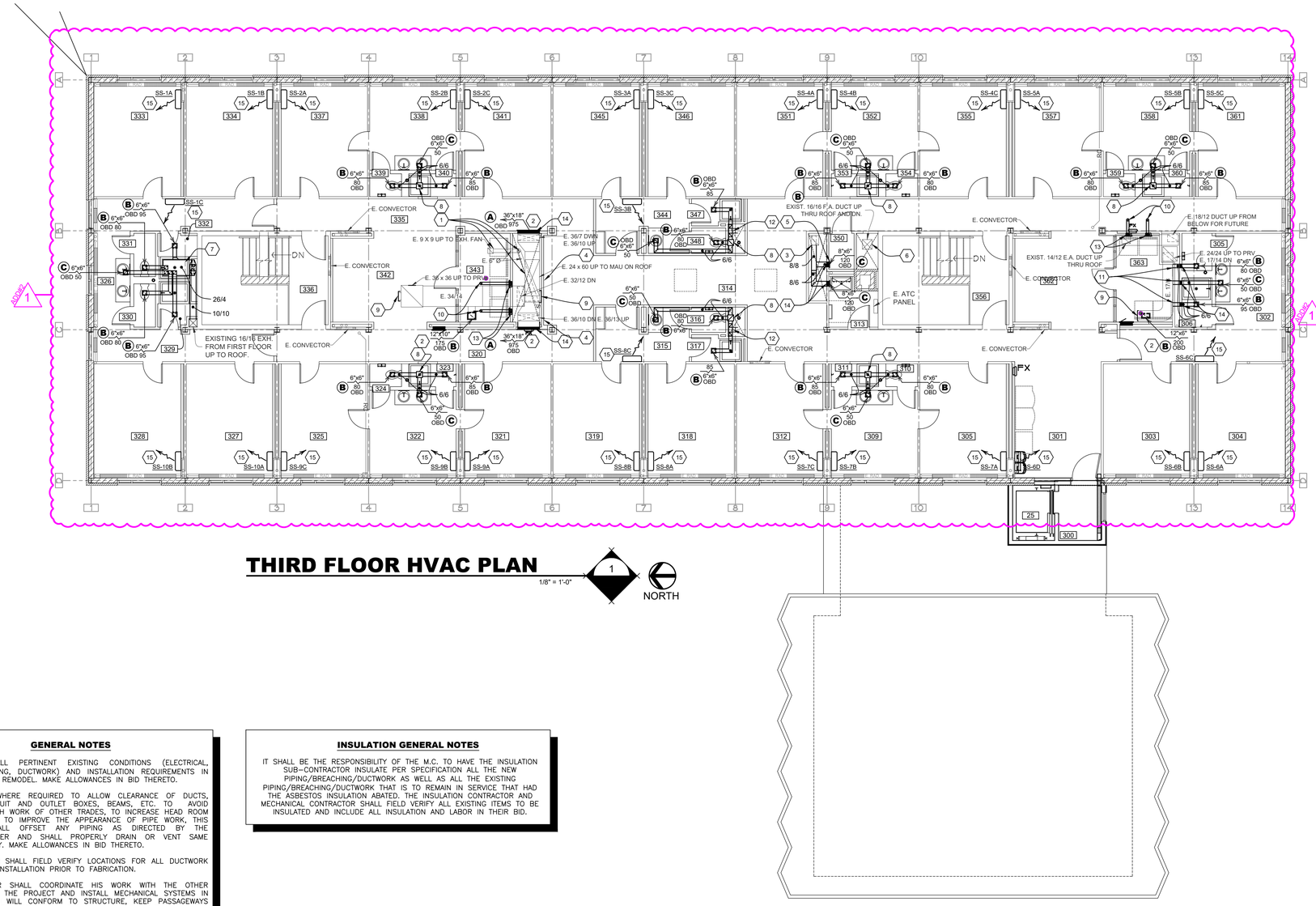
PROJECT NO: 20233600
DRAWN BY: MJF
CHECKED BY: BAW

STAMP

REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE10/30/2024
NORTH DAKOTA

DRAWING TITLE
THIRD FLOOR SYSTEMS PIPING PLAN

M2.3



THIRD FLOOR HVAC PLAN

1/8" = 1'-0"

NORTH

KEYNOTES

1. M.C. TO HAVE A DUCT CLEANING COMPANY SPECIALIZED AND REGULARLY ENGAGED IN CLEANING DUCT SYSTEMS CLEAN THE EXISTING DRYER DUCT SYSTEM. THE M.C. SHALL ASSIST IN REMOVING OR OPENING THE DUCT SYSTEM FOR THE CLEANING COMPANY TO GAIN ACCESS AS REQUIRED TO CLEAN THE ENTIRE SYSTEM AND PATCH OR REPLACE DUCTWORK AS REQUIRED TO SEAL THE SYSTEM. RESEAL ANY JOINTS AS NEEDED TO SEAL THE SYSTEM AS NOTED IN THE SPECIFICATIONS.
2. INSTALL NEW GRILLE TO REPLACE THE EXISTING AT THIS LOCATION, CONNECT INTO THE EXISTING DUCT. T&B CONTRACTOR SHALL BALANCE AIRFLOW TO THE CFM'S LISTED. THEY SHALL ALSO RE-BALANCE THE SECOND FLOOR AIR TERMINALS THAT WERE INSTALLED ON A PREVIOUS PHASE SINCE WE ARE INSTALLING NEW FANS ON THE ROOF.
3. CONNECT NEW E.A. DUCT INTO THE EXISTING AT THIS LOCATION, CAP ANY UNUSED DUCT TAPS.
4. PROVIDE A DRYER VENT BOX IN THE NEW WALL AT THIS LOCATION, SEE SPECIFICATION AND DETAIL FOR ADDITIONAL INFORMATION. ROUTE NEW 4"Ø ALUMINUM DUCT INSTALLED WITHOUT SCREWS FROM THE DRYER VENT BOX AND ROUTED TO THE EXISTING DRYER EXHAUST DUCT. M.C. TO PROVIDE FLEX DUCT FOR FINAL CONNECTION TO THE DRYER TO MAKE A FULLY FUNCTIONAL APPLIANCE.
5. COORDINATE THE HEIGHT OF THE GRILLE IN THE WALL WITH THE NEW LAY-IN TILE CEILING IN THIS ROOM OR INSTALL THE GRILLE IN THE CEILING TILE.
6. ENSURE INSULATION IN INSTALLED AND A METAL ANGLE IS PROVIDED AROUND THE DUCT PENETRATION IN THE CEILING AT THIS LOCATION. THE SAME SHALL HOLD TRUE FOR ANY OTHER DUCT PENETRATIONS THRU THE ROOF.
7. COORDINATE AND OFFSET THE DUCT BELOW THE EXISTING BEAM. KEEP THE DUCT AS CLOSE TO THE BEAM AS POSSIBLE TO ALLOW FOR THE HIGHEST CEILING AS POSSIBLE. COORDINATE WITH THE G.C.
8. ROUTE NEW EXHAUST DUCT UP THRU THE ROOF TO A NEW ROOF CURB AND ASSOCIATED EXHAUST FAN. COORDINATE WITH THE PENETRATION WITH THE G.C. AND ROOF REPAIRS REQUIRED. ADJUST THE VERTICAL AS REQUIRED TO ALIGN WITH THE EXISTING STRUCTURAL MEMBERS AS SITE CONDITIONS DICTATE.
9. CAP THE EXISTING DUCT, NEAR THIS LOCATION.
10. 4" ALUMINUM DUCT WITHOUT FASTENERS (ALUMINUM TAPED) CONNECTIONS FROM THE DRYER BOX CONNECTIONS UP THRU THE NEW ROOF CURB TO A DRYER OUTLET. SEE THE DETAIL FOR ADDITIONAL INFORMATION. VERIFY THE EXACT ROUTING WITH ACTUAL SITE CONDITIONS TO MINIMIZE THE NUMBER OF OFFSETS.
11. CONNECT NEW EXHAUST DUCT INTO EXISTING NEAR THIS LOCATION, VERIFY THE EXACT LOCATION WITH ACTUAL FIELD CONDITIONS.
12. OFFSET UNDER THE EXISTING BEAM NEAR THIS LOCATION COORDINATE EXACT ROUTING WITH ACTUAL FIELD CONDITIONS.
13. PROVIDE A FIRE RATED RECESSED DRYER BOX NEAR THIS LOCATION. SEE THE SPEC AND DETAIL FOR ADDITIONAL INFORMATION. SEE ARCHITECTURAL DRAWINGS FOR CORRECT RATING.
14. PROVIDE A FIRE DAMPER IN THE DUCT TO MATCH THE RATING OF THE CHASE/CEILING/FLOOR. PROVIDE A DUCT ACCESS DOOR UNLESS ITS ACCESSIBLE BY REMOVING THE GRILLE.
15. PROVIDE A NEW MULTI-SPLIT A/C INDOOR HEAD UNIT NEAR THIS LOCATION, COORDINATE THE EXACT LOCATION WITH ACTUAL SITE LOCATIONS. ROUTE CONDENSATE PIPING/REFRIGERATION PIPING AS REQUIRED IN ORDER TO MAKE IT A FULLY FUNCTIONING APPLIANCE. ROUTE REFRIGERATION PIPING UP THRU THE ROOF TO THE LOCATION OF THE OUTDOOR UNIT COORDINATE THE EXACT LOCATION WITH EXISTING CONDITIONS. COORDINATE ANY POWER AND CONTROL WIRING WITH THE E.C.

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS (ELECTRICAL, STRUCTURAL, PIPING, DUCTWORK) AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. OFFSET PIPING WHERE REQUIRED TO ALLOW CLEARANCE OF DUCTS, ELECTRICAL CONDUIT AND OUTLET BOXES, BEAMS, ETC. TO AVOID INTERFERENCE WITH WORK OF OTHER TRADES, TO INCREASE HEAD ROOM UNDER PIPES OR TO IMPROVE THE APPEARANCE OF PIPE WORK, THIS CONTRACTOR SHALL OFFSET ANY PIPING AS DIRECTED BY THE ARCHITECT/ENGINEER AND SHALL PROPERLY DRAIN OR VENT SAME WHERE NECESSARY. MAKE ALLOWANCES IN BID THERETO.
3. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR ALL DUCTWORK AND PIPING FOR INSTALLATION PRIOR TO FABRICATION.
4. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS ON THE PROJECT AND INSTALL MECHANICAL SYSTEMS IN A MANNER WHICH WILL CONFORM TO STRUCTURE, KEEP PASSAGEWAYS AND OPENINGS CLEAR. PRESERVE HEAD ROOM, CLEAR LIGHTING FIXTURES AND NOT COVER UP JUNCTION BOXES. THIS CONTRACTOR SHALL MAKE OFFSETS IN PIPING OR DUCTWORK TO AVOID INTERFERENCE WITH OTHER TRADES, AT NO ADDITIONAL COST TO THE OWNER, WHEN SO DIRECTED BY THE ARCHITECT/ENGINEER.
5. WHERE PIPING IS CONNECTED TO EQUIPMENT OR PLUMBING FIXTURES THAT ARE BEING REMOVED, THE PIPING SHALL BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) FROM THE REMODELED SPACE AND CAPPED AT OR NEAR THE MAINS. PLUMBING PIPING THAT IS LOCATED IN A WALL TO BE REMOVED, SHALL BE REMOVED (IF NOT ACTIVE) AND CAPPED AT THE MAIN LINE OR OUT OF THE REMODELED SPACE.

INSULATION GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE M.C. TO HAVE THE INSULATION SUB-CONTRACTOR INSULATE PER SPECIFICATION ALL THE NEW PIPING/BREACHING/DUCTWORK AS WELL AS ALL THE EXISTING PIPING/BREACHING/DUCTWORK THAT IS TO REMAIN IN SERVICE THAT HAD THE ASBESTOS INSULATION ABATED. THE INSULATION CONTRACTOR AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ITEMS TO BE INSULATED AND INCLUDE ALL INSULATION AND LABOR IN THEIR BID.

ROOM SCHEDULE

#	ROOM DESCRIPTION	ROOM DESCRIPTION	#
300	ELEVATOR LOBBY	SHOWER	332
301	ELEVATOR LOBBY	DORM ROOM	333
302	LIVING ROOM	DORM ROOM	334
303	DORM ROOM	CORRIDOR	335
304	DORM ROOM	STAIR	336
305	TOILET	DORM ROOM	337
306	SHOWER	LIVING ROOM	338
307	CORRIDOR	TOILET	339
308	DORM ROOM	SHOWER	340
309	LIVING ROOM	DORM ROOM	341
310	TOILET	LOUNGE	342
311	SHOWER	LAUNDRY	343
312	DORM ROOM	SINKS	344
313	JANITOR	DORM ROOM	345
314	CORRIDOR	DORM ROOM	346
315	SINKS	SHOWER	347
316	TOILET	TOILET	348
317	SHOWER	CORRIDOR	349
318	DORM ROOM	STORAGE	350
319	DORM ROOM	DORM ROOM	351
320	CORRIDOR	LIVING ROOM	352
321	DORM ROOM	SHOWER	353
322	LIVING ROOM	TOILET	354
323	SHOWER	DORM ROOM	355
324	TOILET	STAIR	356
325	DORM ROOM	DORM ROOM	357
326	SINKS	LIVING ROOM	358
327	DORM ROOM	TOILET	359
328	DORM ROOM	SHOWER	360
329	SHOWER	DORM ROOM	361
330	TOILET	LOUNGE	362
331	TOILET	LAUNDRY	363

SCALE: 1/8"=1'-0" (0' 4' 8' 12' 16')

SCALE: 1/4"=1'-0" (0' 2' 4' 6' 8')

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AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

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DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

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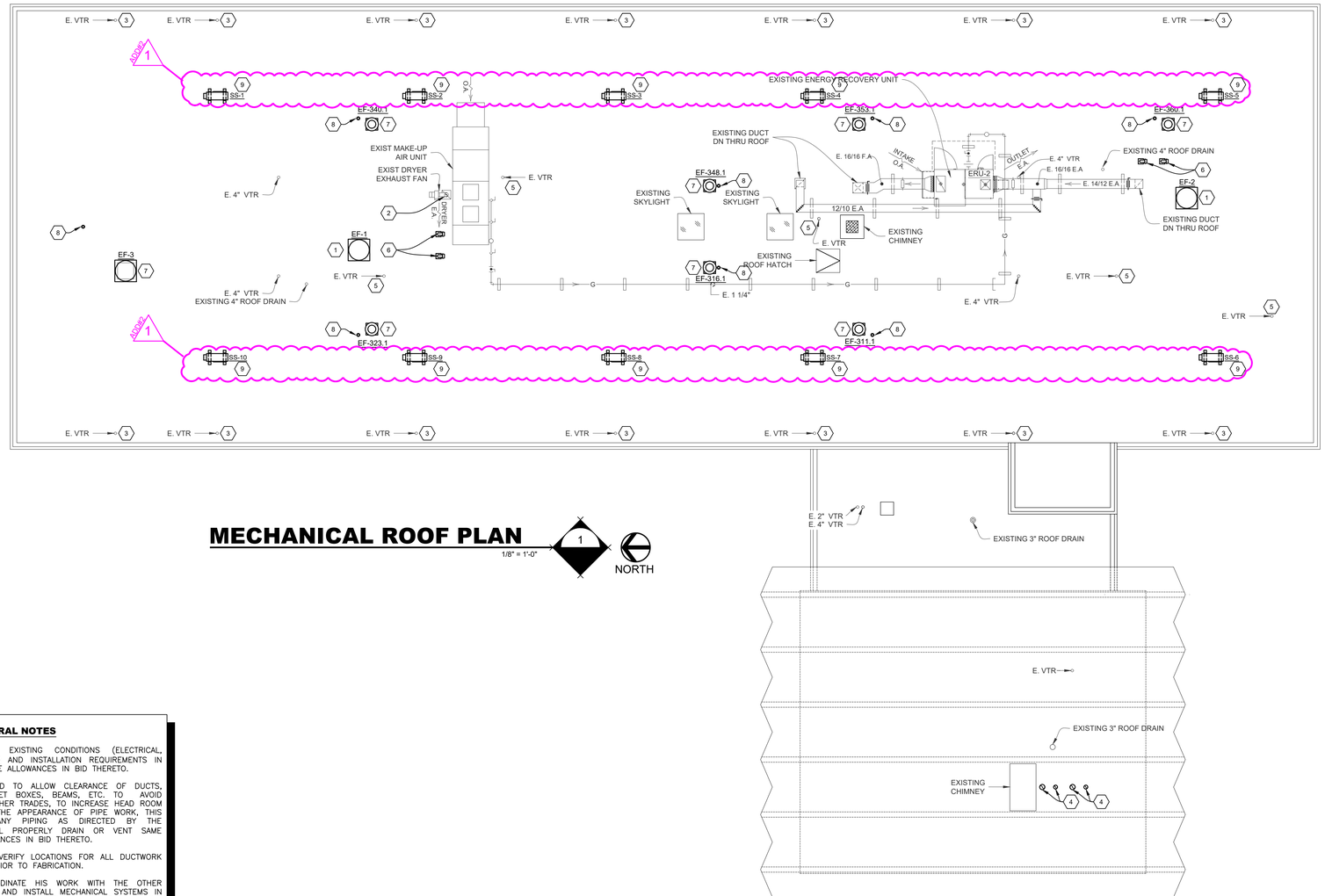
REGISTERED PROFESSIONAL ENGINEER
BLAKE WAGNER
PE-28001
DATE10/30/2024
NORTH DAKOTA

DRAWING TITLE

THIRD FLOOR HVAC PLAN

M3.3



MECHANICAL ROOF PLAN

1/8" = 1'-0"

NORTH

KEYNOTES

1. PROVIDE A NEW FAN TO REPLACE THE EXISTING, REMOVE AND PROVIDE A NEW ROOF CURB IF REQUIRED TO MATCH THE SIZE OF THE NEW FAN OR MODIFY THE EXISTING CURB TO MATCH THE NEW FAN, COORDINATE ROOF REPAIR OR PATCHING WITH THE G.C.
2. M.C. TO HAVE A DUCT CLEANING COMPANY SPECIALIZED AND REGULARLY ENGAGED IN CLEANING DUCT SYSTEMS CLEAN THE EXISTING DRYER DUCT SYSTEM AND ANY EXISTING DUCT THAT IS EXISTING TO BE REUSED, THE M.C. SHALL ASSIST IN REMOVING OR OPENING THE DUCT SYSTEM FOR THE CLEANING COMPANY TO GAIN ACCESS AS REQUIRED TO CLEAN THE ENTIRE SYSTEM AND PATCH OR REPLACE DUCTWORK AS REQUIRED TO SEAL THE SYSTEM. RESEAL ANY JOINTS AS NEEDED TO SEAL THE SYSTEM AS NOTED IN THE SPECIFICATIONS.
3. EXISTING CAPPED AND ABANDONED PLUMBING VENT.
4. NEW BOILER VENTING AND COMBUSTION AIR UNDER ALTERNATE M1. INSTALL PER MANUFACTURES INSTALLATION INSTRUCTIONS, COORDINATE AND ROOF WORK REQUIRED WITH THE G.C.
5. THE M.C. SHALL REPLACE THIS PLUMBING VENT THRU THE ROOF. IT SHALL BE REMOVED AND NEW PIPING OF THE SAME SIZE OR LARGER SHALL BE INSTALLED TO A POINT BELOW THE ROOF WHERE THE PIPING HAS NOT BEEN COMPROMISED. THE M.C. SHALL COORDINATE ANY ROOF REMOVAL OR REPAIR WITH THE G.C. IF REQUIRED.
6. PROVIDE A NEW ROOF CURB TO ACCEPT A NEW DRYER VENT ON THE ROOF. SEE THE DETAIL FOR ADDITIONAL INFORMATION. COORDINATE ANY ROOFING/PATCHING REQUIRED WITH THE G.C.
7. PROVIDE A NEW ROOF CURB TO ACCEPT A PRV EXHAUST FAN ON THE ROOF. COORDINATE ANY ROOFING/PATCHING REQUIRED WITH THE G.C.
8. PROVIDE A NEW 4" PLUMBING VENT FOR THE SUITE BATHROOMS ON THIRD FLOOR. COORDINATE ANY ROOFING/PATCHING REQUIRED WITH THE G.C.
9. PROVIDE A MULTI-MINI-SPLIT A/C OUTDOOR UNIT WHERE INDICATED ON THE PLANS. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS, ROUTE & SIZE THE REFRIGERATION PIPING AS REQUIRED FROM THE INDOOR UNITS TO THE OUTDOOR UNITS. PROVIDE LINE SET COVERS AS REQUIRED IN ORDER TO HIDE THE PIPING AND WIRING. PROVIDE NEW ROOF RAILS TO SUPPORT THE NEW OUTDOOR SPLIT SYSTEM CONDENSING UNITS, COORDINATE ANY ROOF REPAIR OR PATCHING REQUIRED WITH THE G.C. TO INSTALL THE NEW ROOF RAILS.

ADD#2 1

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BLAKE WAGNER
PE-28001
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NORTH DAKOTA

DRAWING TITLE
MECHANICAL ROOF PLAN

M4.1

238000 - SPLIT SYSTEM AC

SCHEDULE NOTES:
1. PROVIDE WITH WALL HUNG HARD WIRED REMOTE CONTROLER WITH TEMPERATURE SENSOR AND APPROPRIATE AMOUNT OF CONTROLLER CABLE.
2. PROVIDE WITH IN-LINE CONDENSATE PUMP DACA-CP1-1 THAT FITS INSIDE EACH WALL MOUNTED UNIT.
3. PROVIDE WITH POWDER COATED WALL MOUNTED BRACKET DACA-WB-3 FOR THE OUTDOOR UNIT.

MARK	MANUFACTURER	SYSTEM TYPE	COOLING CAPACITY	HEATING CAPACITY@17°F	INDOOR UNIT			OUTDOOR UNIT			SEER	OPERATING RANGE	ELECTRICAL					NOTES
					MODEL	AIR FLOW		MARK	MODEL	REFRIGERANT			MCA	MOP	VOLT	Ph	Hz	
SS-1A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-1	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-1B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-1C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-2A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-2	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-2B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-2C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-3A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-3	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-3B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-3C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-4A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-4	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-4B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-4C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-5A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-5	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-5B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-5C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-6A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-6	4MXL36	R-410A	21.7	COOLING 14° - 115°F HEATING -13°- 60°F	32.5	35	208/230	1	60	1,2,4
SS-6B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-6C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-6D			12 MBH	12 MBH	FTXS12LVJU	155-438												
SS-7A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-5	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-7B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-7C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-8A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-5	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-8B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-8C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-9A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-5	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-9B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-9C			09 MBH	7.7 MBH	FTXS09LVJU	145-420												
SS-10A	DAIKIN	MULTI-ROOM / MULTI-PORT DUCTLESS HEATPUMP	09 MBH	7.7 MBH	FTXS09LVJU	145-420		SS-5	3MXL24	R-410A	18	COOLING 14° - 115°F HEATING -13°- 60°F	22.6	25	208/230	1	60	1,2,4
SS-10B			09 MBH	7.7 MBH	FTXS09LVJU	145-420												

ADDED 1

0' 4' 8' 12' 16'
SCALE: 1/8"=1'-0"

0' 2' 4' 6' 8'
SCALE: 1/4"=1'-0"

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M6.2

STANDARD ELECTRICAL SYMBOLS

BASED ON ANSI Y32.9-1972, ANSI A117.1-1986, AND FEDERAL REGISTER 56-144(ADA)

MOUNTING HEIGHT MEASUREMENTS SHALL BE MADE FROM FINISH FLOOR TO CENTER LINE OF OUTLET

SYMBOL	DESCRIPTION	MTG. HT.
	LIGHTING OUTLETS	
A, 1	CEILING INCANDESCENT OR HID. TYPE A, CKT 1, SW b.	
	WALL INCANDESCENT OR HID.	SCHEDULED
	FLUORESCENT, SLASH INDICATES INBOARD LAMP UNSWITCHED.	
	BARE LAMP FLUORESCENT STRIP WITH WIRE GUARD.	
	EXIT SIGNAGE	
	EMERGENCY BATTERY UNIT	SCHEDULED
	REMOTE SEALED BEAM	SCHEDULED
PLH	PORCELAIN LAMPHOLDER. 100A LAMP	
J	JUNCTION BOX	
	CEILING MOUNTED MOTION SENSOR	
	WALL MOUNTED MOTION SENSOR	46"
	RECEPTACLE OUTLETS	
1	SINGLE. CKT 1	18"
	DUPLEX	18"
	DUPLEX - SPLIT WIRED	18"
	DUPLEX - GROUND FAULT CIRCUIT INTERRUPTER	18"
S	SPECIAL CONFIGURATION. DESIGNATION REFERS TO SCHEDULE	SCHEDULED
3, 12"	MULTI-OUTLET ASSEMBLY. ARROWS EXTEND TO LIMIT OF INSTALLATION. SUBSCRIPT INDICATES SPACING OF OUTLETS	
C	CLOCK RECEPTACLE	82"
SD	DUPLEX RECEPTACLE - FLOOR BOX SD FOR QUANTITIES	
	SWITCH OUTLETS	
$	SINGLE POLE	46"
$2	DOUBLE POLE	46"
$3	THREE-WAY	46"
$4	FOUR-WAY	46"
$K	KEY OPERATED	
$M	MOTOR - PROVIDE OVERLOAD UNIT AS REQ'D. TOGGLE ACCEPTABLE IF INTERNAL THERMAL PROTECTION INCLUDED. SWITCH NOT REQUIRED IF MOTOR ASSEMBLY HAS INTEGRAL DISCONNECTING MEANS.	
$P	PILOT HANDLE	46"
$T	TIME DELAY	46"
D	DIMMER - 1000W UNLESS OTHERWISE INDICATED, LED	46"
$3	GANGED SWITCHES - ARROW INDICATES MULTI-LEVEL SWITCHING	46"
	COMMUNICATION/DATA SYSTEM OUTLETS	
	TELEPHONE OUTLET. SEE SPECIFICATION 16740.	18"
	TELEPHONE OR COMPUTER - FLOOR BOX SD FOR QUANTITIES	
	COMPUTER/VDT OUTLET	18"
B	BELL	
BZ	BUZZER	
I	INTERCOM STATION	46"
M	MICROPHONE OUTLET	18"
TV	TELEVISION OUTLET	18"
V	VOLUME CONTROL	46"
P	PUSH BUTTON	
S	SPEAKER/BAFFLE/BACKBOX COMBINATION	CEILING
	CLOCK	84"
IR	INFRARED RECEIVER	CEILING
	MISCELLANEOUS	
1	PLAN OR DETAIL NOTE	
	SPECIAL PURPOSE CONNECTION - AS REQUIRED BY EQUIPMENT MANUFACTURER. CO-ORDINATE ROUGH-IN WITH SHOP DWG.	
	BRANCH CIRCUIT PANELBOARD, SHADING INDICATES NEW PANEL	TOP 75"
	CONTROL PANEL	
	EXTERNALLY OPERATED DISCONNECT SWITCH	
	CONTROLLER OR RELAY	
	COMBINATION CONTROLLER AND DISCONNECTION MEANS	
M	MOTOR. DESIGNATION REFERS TO SCHEDULE.	
2	EQUIPMENT DESIGNATION. SEE SCHEDULE.	
EB-1	ELECTRIC HEAT TO SCALE. DESIGNATION REFER TO SCHEDULE. "T" INDICATES INTEGRAL THERMOSTAT.	
T, E	THERMOSTAT-PROVIDED BY DIV. 16	46"
T	THERMOSTAT-FURNISHED BY DIV. 15, INSTALLED BY DIV. 16	46"
H	HUMIDISTAT-FURNISHED BY DIV. 15, INSTALLED BY DIV. 16	46"
P	POTENTIOMETER-FURNISHED BY DIV.15, INSTALLED BY DIV.16	46"
TS	TIME SWITCH	
PC	PHOTOELECTRIC SWITCH	
WS	WALL SERVICES BOX	18"
	CIRCUITING	
	HOME RUN. MIN 3/4" C. ARROWS AND SUBSCRIPTS INDICATE NUMBER AND IDENTIFICATION OF CIRCUITS.	
	EMERGENCY. MIN 1/2" C-#10 AWG.	
T	TELEPHONE. MIN 3/4"C. HOME RUN TO TERMINAL BOARD	
T	TELEPHONE. MIN 3/4"C., STUB INTO CEILING SPACE	
LV	LOW VOLTAGE. MIN 1/2"C-#14 AWG AS REQ'D.	
FA	SPECIAL SYSTEMS. MIN 3/4"C. PROVIDE CONDUCTORS AS REQ'D BY MANUFACTURER. SUBSCRIPT INDICATES SYSTEM. SEE STANDARD ABBREVIATIONS.	
	FIRE ALARM SYSTEMS	
D, P	DETECTOR. SUPERSCRIPT INDICATES ZONE. SUBSCRIPT DESCRIBES INITIATION: D-DUCT, R-RATE OF RISE THERMAL, F-FIXED TEMPERATURE THERMAL, I-IONIZATION, P-PHOTO-ELECTRIC.	CEILING
C	CHIME	88"
D	MAGNETIC DOOR HOLDER	
F	FAN RELAY	
FS	FLOW SWITCH	
M	MANUAL STATION	46"
A	AUDIBLE ALARM NOTIFICATION APPLIANCE (HORN)	88"
V	VISUAL ALARM NOTIFICATION APPLIANCE	88"
AV	COMBINATION AUDIBLE-VISUAL ALARM NOTIFICATION APPLIANCE	88"
VS	MAIN VALVE SUPERVISORY ("TAMPER") SWITCH	

STANDARD ABBREVIATIONS

AC	ABOVE COUNTER (MIN 4" ABOVE BACKSLPASH)	MC	MECHANICAL CONTRACTOR
AFF	ABOVE FINISH FLOOR	MCA	MINIMUM CIRCUIT AMPACITY
AFG	ABOVE FINISH GRADE	MCB	MAIN CIRCUIT BREAKER
AHU	AIR HANDLING UNIT	MLO	MAIN LUG ONLY
ATC	AUTOMATIC TEMPERATURE CONTROL	NC	NURSES CALL
BOF	BOTTOM OF FIXTURE	NFDS	NON-FUSIBLE DISCONNECT SWITCH
CKT	CIRCUIT	NR	NOT REQUIRED
CM	CEILING MOUNTED	P	PAGING/BACKGROUND MUSIC
CP	CONTROL PANEL	PA	PUBLIC ADDRESS
CU	CONDENSING UNIT	PRV	POWER ROOF VENTILATOR
CUH	CABINET UNIT HEATER	RF	RELIEF FAN
DT	DUST TIGHT	RGSC	RIGID GALVANIZED STEEL CONDUIT
DTR	DATA RACK	RT	RAIN-TIGHT
EC	ELECTRICAL CONTRACTOR	RTU	ROOFTOP UNIT
EF	EXHAUST FAN	S	SECURITY
EM	EMERGENCY	SCP	SOUND CONTROL PANEL
EP	EXPLOSION PROOF	SD	SEE DETAIL
EWC	ELECTRIC WATER COOLER	SS	SURGE SUPPRESSION
EWH	ELECTRIC WATER HEATER	SW	SWITCH
F	FUSED	T	TELEPHONE
FA	FIRE ALARM	TSSW	TWO SPEED SEPERATE WINDING
FACP	FIRE ALARM CONTROL PANEL	TTB	TELEPHONE TERMINAL BOARD
FDS	FUSIBLE DISCONNECT SWITCH	VT	VAPOR TIGHT
FLA	FULL LOAD AMPERES	W	WALL MTG. (46" AFF FORWARD REACH (52" AFF SIDE REACH)
FVNR	FULL VOLTAGE NON REVERSING	WG	WIRE GUARD
FVR	FULL VOLTAGE REVERSING	WM	WIREMOLD
IC	INTERCOM	WP	WEATHERPROOF
ICCP	INTERCOM CONTROL PANEL	WT	WATER TIGHT
IG	ISOLATED GROUND		
IL	INTERLOCK		
LV	LOW VOLTAGE		

ROOM SCHEDULE

#	ROOM DESCRIPTION
10	JANITOR/INCINERATOR
11	STORAGE
12	VENDING
13	STORAGE
14	RECREATION ROOM
15	MEN
16	WOMEN
17	KITCHEN
18	STORAGE
19	CORRIDOR
20	STAIR
104	HEATING
139	STAIR

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. DEVICES WITH SLASH THROUGH INDICATE SPECIFIC EXISTING DEVICES TO REMOVED. REMOVE OR RELOCATE ANY ELECTRICAL DEVICE AS REQUIRED BY REMODEL OPERATIONS. EXTEND EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN DOWNSTREAM DEVICES OR FIXTURES. DISCONNECT AND REMOVE ANY EXISTING CIRCUITRY NOT BEING REUSED. RE-INDENTIFY EXISTING PANEL DIRECTORIES AS REQUIRED.
3. DEVICES MARKED WITH 'EX' INDICATE EXISTING DEVICES AND CIRCUITRY TO REMAIN IN PLACE.
4. SEE SPECIFICATION 260510 FOR REMODEL.
5. ALL EXISTING RECEPTACLES SHALL BE REPLACED. PROVIDE NEW TAMPER RESISTANT RECEPTACLES IN ALL EXISTING RECEPTACLE LOCATIONS TO REMAIN. PROVIDE NEW DEVICE PLATES. COORDINATE DEVICE AND PLATE COLORS WITH ARCHITECT.
6. WHERE NEW CIRCUITRY IS INSTALLED ON EXISTING PLASTER AND CLAY-TILE WALLS, USE SURFACE WIREMOLD RACEWAYS PER SECTION 260533
7. NEW CIRCUITRY IN CORRIDORS SHALL BE INSTALLED IN CONDUIT. ABOVE EXISTING CEILINGS, MC CABLING MAY BE INSTALLED FROM CORRIDOR JUNCTION BOXES FOR DEVICE CIRCUITRY IN ROOMS. ALL EXPOSED CIRCUITRY SHALL BE WIREMOLD PER NOTE 6 ABOVE.
8. DURING CONSTRUCTION, EXISTING FIRE ALARM SYSTEM MUST REMAIN OPERATIONAL. PROVIDE HEAT DETECTORS IN CONSTRUCTION ZONES TO ALLOW FOR OCCUPANT NOTIFICATION OF ANY FIRE ALARMS DURING CONSTRUCTION OPERATIONS.

ELECTRICAL DRAWING SHEET INDEX

1 E1.0 BASEMENT EXISTING CONDITIONS

SCALE: 1/8" = 1'-0"

PLAN NOTES:

1. EXISTING SIMPLEX 4100ES FACP. PROVIDE NEW DEVICES IN BUILDING AS SHOWN ON THESE DRAWINGS. PROVIDE NEW AND REVISED CIRCUITRY AS REQUIRED. ENTIRE SYSTEM TO BE RE-CERTIFIED AFTER INSTALLATION OF ALL FIRE ALARM DEVICES AND CIRCUITRY IS COMPLETE.
2. EXISTING FIRE ALARM DEVICE. REMOVE ALL FIRE ALARM DEVICES AS REQUIRED FOR REMODEL OPERATIONS. SEE DETAIL 1/E4.0 FOR NEW DEVICE LAYOUT. REUSE EXISTING DEVICES AND CIRCUITRY TO MAXIMUM EXTENT POSSIBLE. PROVIDE NEW DEVICES WHERE REQUIRED. TYPICAL.
3. EXISTING ELEVATOR SHAFT SPRINKLER SYSTEM FLOW AND TAMPER SWITCHES. PROVIDE NEW CIRCUITRY TO FACP. FIELD VERIFY EXACT LOCATIONS.
4. EXISTING FIRE SPRINKLER TREE FLOW AND TAMPER SWITCHES TO REMAIN IN PLACE.
5. EXISTING LIGHTING INVERTER TO REMAIN IN PLACE AND OPERATIONAL.
6. EXISTING MDP TO BE REMOVED AND REPLACED UNDER ALTERNATE G4. SEE SECTION 260500.
7. SEE DETAILS ON SHEET E3.5 FOR SWAP OF EXISTING BUILDING TRANSFORMER IMMEDIATELY WEST OF THIS AREA.

0' 4' 8' 12' 16'

SCALE: 1/8" = 1'-0"

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STATE NORTH DAKOTA

ISSUE DATES

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DRAWN BY: JJB/BMG

CHECKED BY: JJB

STAMP

REGISTERED PROFESSIONAL ENGINEER
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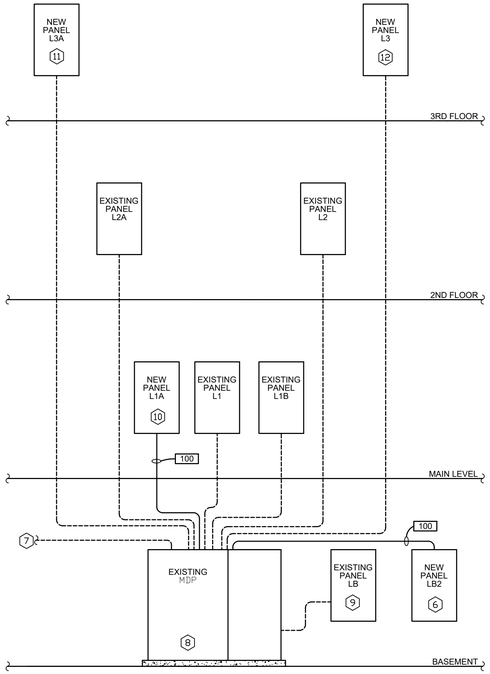
PE-5843
DATE
10/30/2024
NORTH DAKOTA

DRAWING TITLE

BASEMENT EXISTING CONDITIONS

E1.0



2 E3.0 RISER

NO SCALE

FEEDER SCHEDULE

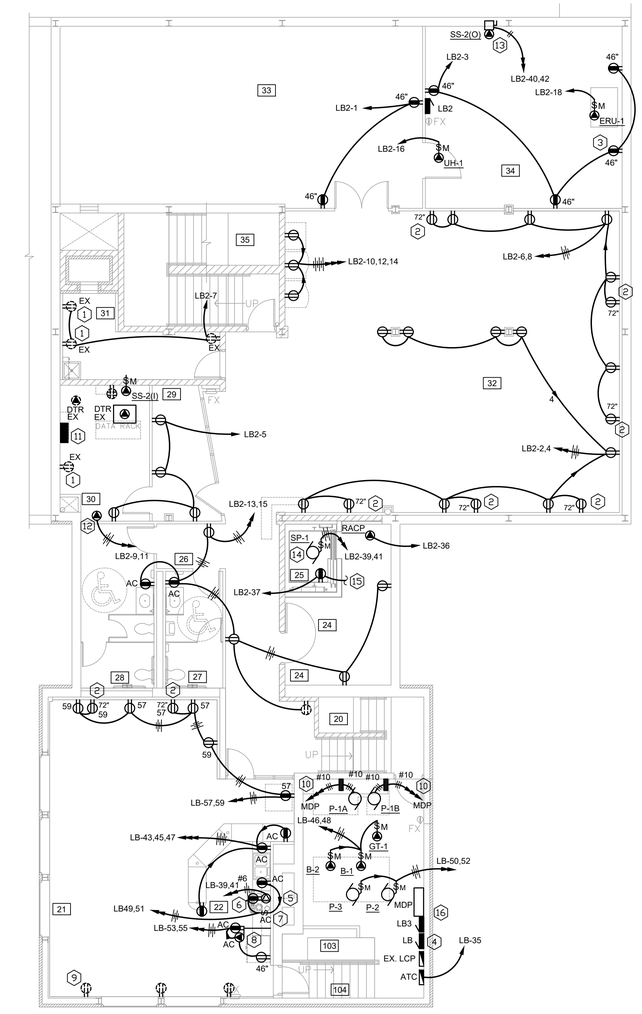
DESIG-NATION	CONFIGU-RATION	REQUIRED AMPACITY	CONDUCTOR SIZE (NOTE 3)			
			PHASE	NEUTRAL	EGC (NOTE 4)	CONDUIT
100	3Ø 4W	100	#1 AWG	#1 AWG	#8 AWG	1-1/2"
60	3Ø 4W	60	#6 AWG	#6 AWG	#8 AWG	1"

NOTES:

1. FEEDER RISERS ARE SCHEMATIC ONLY AND NOT INTENDED TO INFER LUG ARRANGEMENTS.
2. SEE SPECIFICATION FOR GROUNDING REQUIREMENTS, ALLOWABLE PVC USAGE, AND ALLOWABLE EXPOSED EXTERIOR STUB-UPS.
3. CONDUCTORS SIZING BASED UPON 60 DEGREE TERMINATIONS FOR OVERCURRENT PROTECTIVE DEVICES RATED 100 AMPERES OR LESS, AND 75 DEGREE TERMINATIONS FOR RATINGS GREATER THAN 100 AMPERES, AS PER NEC TABLE 310.16, 240.4, 310.15(B2), AND 310.15(B4). IN NO CASE SHALL INDICATED SIZING BE DECREASED.
4. EQUIPMENT GROUNDING CONDUCTOR.
5. MATCH EXISTING EQUIPMENT SHORT CIRCUIT CURRENT RATINGS. UL-RECOGNIZED SERIES RATINGS ACCEPTABLE WITH MINIMUM RATINGS AS PER SPECIFICATION. EQUIPMENT THAT IS PART OF A SERIES RATED COMBINATION SHALL BE LEGIBLY MARKED IN THE FIELD BY THE CONTRACTOR AS PER NEC 110.22 AND 240.86(A), TO INDICATE THE EQUIPMENT HAS BEEN APPLIED WITH A SERIES COMBINATION RATING.
6. PROVIDE NEW PANELBOARD AS INDICATED ON THE DRAWINGS.
7. EXISTING SERVICE FEEDERS TO REMAIN IN PLACE.
8. PROVIDE TWO NEW 100/3 FUSED SWITCHES IN EXISTING FEDERAL PACIFIC GEAR FOR NEW ELEVATOR AND NEW PANEL LB2. VERIFY FUSE SIZES WITH ELEVATOR SHOP DRAWINGS FOR ELEVATOR. REUSE REMAINING SWITCH AND PROVIDE APPROPRIATE FUSES FOR NEW LOADS AS INDICATED ON THE DRAWINGS.
9. REMOVE EXISTING PANEL AND REPLACE WITH NEW. REUSE EXISTING FEEDER. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
10. REMOVE EXISTING PANEL AND REPLACE WITH NEW. EXTEND EXISTING CONDUIT TO NEW LOCATION AND PROVIDE NEW FEEDER AS INDICATED. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL LOCATION AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
11. REMOVE EXISTING PANEL AND REPLACE WITH NEW. REUSE EXISTING FEEDER. EXTEND EXISTING CIRCUIT TO REMAIN TO NEW PANEL AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
12. REMOVE EXISTING PANEL AND REPLACE WITH NEW. NEW PANEL TO BE ORIENTED TO OPPOSITE SIDE OF WALL. EXTEND EXISTING FEEDER TO PANEL AS REQUIRED. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL LOCATION AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.

PLAN NOTES:

1. EXTEND EXISTING RECEPTACLE TO NEW WALL AS REQUIRED.
2. RECEPTACLE FOR WALL MOUNTED TV. COORDINATE EXACT HEIGHT AND LOCATION WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
3. PROVIDE WIREMOLD TO NEW RECEPTACLE LOCATION. SEE SPECIFICATION 260533.
4. REPLACE EXISTING PANEL LB IN EXISTING LOCATION. REUSE EXISTING FEEDER. EXTEND EXISTING LOADS TO REMAIN INTO NEW PANEL AS REQUIRED.
5. PROVIDE NEMA 14-50 RECEPTACLE FOR OWNER FURNISHED RANGE. PROVIDE MATCHING CORD AND ANGLE PLUG.
6. RECEPTACLE IN OVERHEAD CABINET FOR RANGE HOOD. VERIFY ROUGH-IN HEIGHT WITH CASEWORK SHOP DRAWINGS.
7. EXTEND CIRCUITRY THROUGH ABOVE COUNTER SWITCH FOR RANGE HOOD CONTROL.
8. EXTEND FRIDGE HOMERUN CIRCUITRY THROUGH GFCI PROTECTION DEVICE MOUNTED ON WALL. DEVICES SHALL BE LEVITON #8590 SERIES OR EQUIVALENT.
9. NEW RECEPTACLE AND DEVICE PLATE IN EXISTING ROUGH-IN. REUSE EXISTING CIRCUITRY. PROVIDE ADDITIONAL NEUTRAL CONDUCTOR IF REQUIRED. TYPICAL FOR EXISTING RECEPTACLE LOCATIONS THAT REMAIN.
10. USE SPARE 30/3 FUSED SWITCH IN EXISTING MDP. FUSE AT 25 AMPERES.
11. EXISTING LIGHTING INVERTER TO REMAIN IN PLACE AND OPERATIONAL.
12. PROVIDE POWER CONNECTIONS FOR RELOCATED NAC PANELS AS REQUIRED. PROVIDE TEMPORARY POWER AS NECESSARY DURING CONSTRUCTION TO ALLOW FIRE ALARM TO REMAIN ACTIVE.
13. DISCONNECT EXISTING HOMERUN CIRCUITRY FOR SPLIT SYSTEM AND PROVIDE NEW HOMERUN CIRCUITRY TO NEW PANEL AS INDICATED.
14. PROVIDE TWO RECEPTACLES ON SEPARATE CIRCUITS; ONE FOR SUMP PUMP AND ONE FOR SUMP ALARM.
15. VERIFY ELEVATOR PIT RECEPTACLE LOCATION WITH ELEVATOR EQUIPMENT SUPPLIER. EXTEND CIRCUITRY TO ELEVATOR PIT LIGHT AND SERVICE RECEPTACLE AT TOP OF SHAFT.
16. MDP REPLACEMENT AND NEW PANEL LB3 PART OF ALTERNATE G4. SEE SHEET E3.5.



1 E3.0B BASEMENT POWER PLAN

SCALE: 1/8" = 1'-0"

0' 4' 8' 12' 16'

SCALE: 1/8" = 1'-0"

ROOM SCHEDULE

#	ROOM DESCRIPTION
20	STAIR
21	STUDENT LOUNGE
22	KITCHEN
23	CORRIDOR
24	ELEVATOR LOBBY
25	ELEVATOR
26	CORRIDOR
27	MEN
28	WOMEN
29	STUDY ROOM
30	DATA
31	JANITOR/STORAGE
32	RECREATION ROOM
33	STORAGE
34	MECHANICAL
35	STAIR
103	MECHANICAL ROOM
104	STAIR

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REGISTERED PROFESSIONAL ENGINEER
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PE-5843
DATE
10/30/2024
NORTH DAKOTA

DRAWING TITLE

BASEMENT POWER PLAN

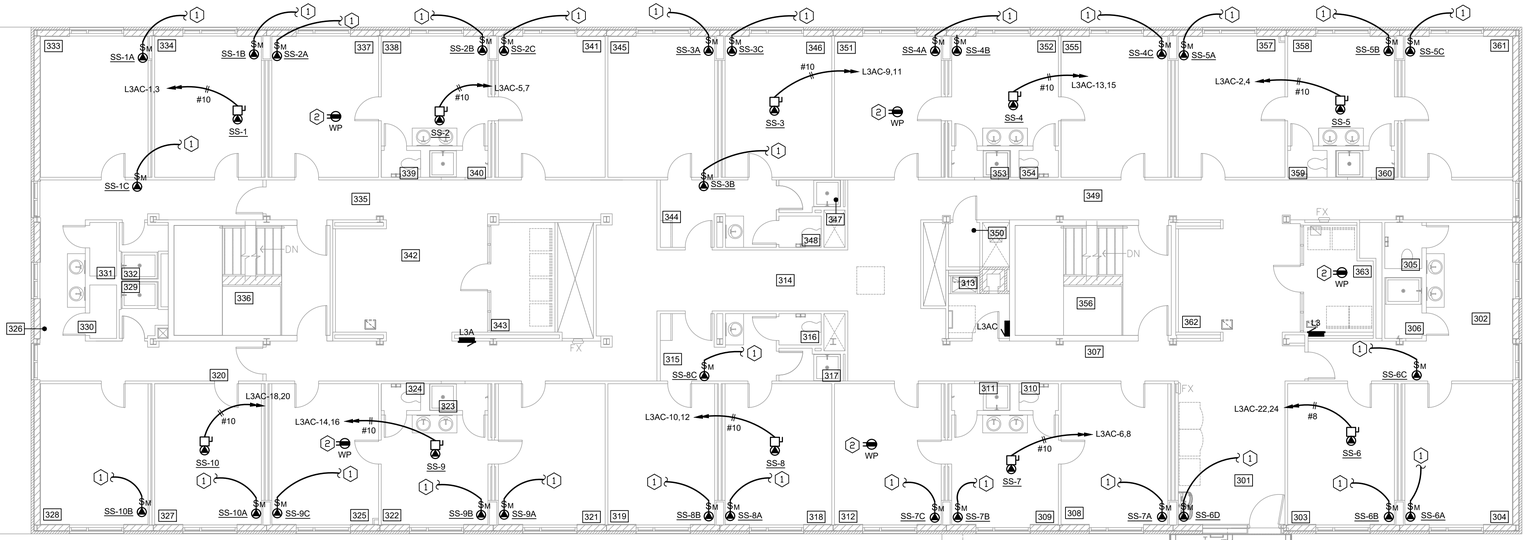
E3.0

PANEL L3AC SCHEDULE

120/208 VOLTS 3Ø 4W 225 A. MLO SURFACE MOUNTED

EATON POW-R-LINE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT	Ø	CKT	AMPS	POLES	CIRCUIT DESCRIPTION
SS-1	2	25	1	A	2	25	2	SS-5
	-	-	3	B	4	-	-	
SS-2	2	25	5	C	6	25	2	SS-7
	-	-	7	A	8	-	-	
SS-3	2	25	9	B	10	25	2	SS-8
	-	-	11	C	12	-	-	
SS-4	2	25	13	A	14	25	2	SS-9
	-	-	15	B	16	-	-	
SPARE	2	25	17	C	18	25	2	SS-10
	-	-	19	A	20	-	-	
SPACE	-	-	21	B	22	30	2	SS-6
SPACE	-	-	23	C	24	-	-	
SPACE	-	-	25	A	26	-	-	SPACE
SPACE	-	-	27	B	28	-	-	SPACE
SPACE	-	-	29	C	30	-	-	SPACE
SPACE	-	-	31	A	32	-	-	SPACE
SPACE	-	-	33	B	34	-	-	SPACE
SPACE	-	-	35	C	36	-	-	SPACE
SPACE	-	-	37	A	38	-	-	SPACE
SPACE	-	-	39	B	40	-	-	SPACE
SPACE	-	-	41	C	42	-	-	



1 E3.3A THIRD FLOOR AIR CONDITIONING PLAN

SCALE: 1/8" = 1' - 0"

N

PLAN NOTES:

1. EXTEND POWER AND CONTROL CIRCUITRY TO ASSOCIATED OUTDOOR UNIT AS REQUIRED.
2. PROVIDE WP GFCI RECEPTACLE ABOVE ROOF FOR MECHANICAL EQUIPMENT SERVICE REQUIREMENTS. PLACE RECEPTACLES SUCH THAT THERE IS A RECEPTACLE WITHIN 25' OF ANY OUTDOOR UNIT. EXTEND CIRCUITRY TO NEAREST 120-VOLT RECEPTACLE ON 3RD FLOOR.

ROOM SCHEDULE

#	ROOM DESCRIPTION	ROOM DESCRIPTION	#
300	ELEVATOR LOBBY	SHOWER	332
301	ELEVATOR LOBBY	DORM ROOM	333
302	LIVING ROOM	DORM ROOM	334
303	DORM ROOM	CORRIDOR	335
304	DORM ROOM	STAIR	336
305	TOILET	DORM ROOM	337
306	SHOWER	LIVING ROOM	338
307	CORRIDOR	TOILET	339
308	DORM ROOM	SHOWER	340
309	LIVING ROOM	DORM ROOM	341
310	TOILET	LOUNGE	342
311	SHOWER	LAUNDRY	343
312	DORM ROOM	SINKS	344
313	JANITOR	DORM ROOM	345
314	CORRIDOR	DORM ROOM	346
315	SINKS	SHOWER	347
316	TOILET	TOILET	348
317	SHOWER	CORRIDOR	349
318	DORM ROOM	STORAGE	350
319	DORM ROOM	DORM ROOM	351
320	CORRIDOR	LIVING ROOM	352
321	DORM ROOM	SHOWER	353
322	LIVING ROOM	TOILET	354
323	SHOWER	DORM ROOM	355
324	TOILET	STAIR	356
325	DORM ROOM	DORM ROOM	357
326	SINKS	LIVING ROOM	358
327	DORM ROOM	TOILET	359
328	DORM ROOM	SHOWER	360
329	SHOWER	DORM ROOM	361
330	TOILET	LOUNGE	362
331	TOILET	LAUNDRY	363

GENERAL NOTES

1. FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
2. DEVICES WITH SLASH THROUGH INDICATE SPECIFIC EXISTING DEVICES TO REMOVED. REMOVE OR RELOCATE ANY ELECTRICAL DEVICE AS REQUIRED BY REMODEL OPERATIONS. EXTEND EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN DOWNSTREAM DEVICES OR FIXTURES. DISCONNECT AND REMOVE ANY EXISTING CIRCUITRY NOT BEING REUSED. RE-INDENTIFY EXISTING PANEL DIRECTORIES AS REQUIRED.
3. DEVICES MARKED WITH 'EX' INDICATE EXISTING DEVICES AND CIRCUITRY TO REMAIN IN PLACE.
4. SEE SPECIFICATION 260510 FOR REMODEL.
5. ALL EXISTING RECEPTACLES SHALL BE REPLACED. PROVIDE NEW TAMPER RESISTANT RECEPTACLES IN ALL EXISTING RECEPTACLE LOCATIONS TO REMAIN. PROVIDE NEW DEVICE PLATES. COORDINATE DEVICE AND PLATE COLORS WITH ARCHITECT.

0' 4' 8' 12' 16'

SCALE: 1/8" = 1'-0"

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CHECKED BY: JJB

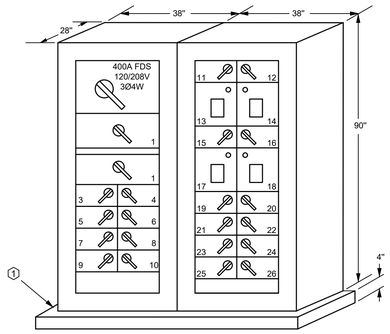
STAMP

REGISTERED PROFESSIONAL ENGINEER
JEREMY J. BUTMAN
PE-9843
DATE 10/30/2024
NORTH DAKOTA

DRAWING TITLE

THIRD FLOOR ALTERNATE G4 AIR CONDITIONING PLAN

E3.3A



3 E3.5A — EXISTING MDP ELEVATION

NO SCALE

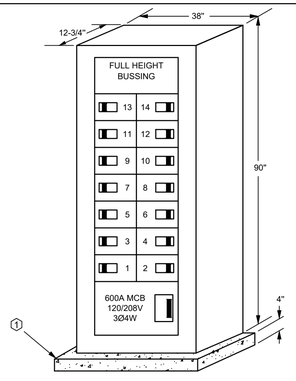
NOTES:

1. EXISTING CONCRETE PAD. VERIFY ALL FUSE SIZES OF EXISTING LOADS FOR NEW CIRCUIT BREAKER REQUIREMENTS.

MDP SCHEDULE

EXISTING FEDERAL PACIFIC FUSED DISTRIBUTION PANEL

DESIG.	LOAD SERVED	TYPE	SIZE	DESIG.	LOAD SERVED	TYPE	SIZE
1	FIRE ALARM	FDS	60/3	11	EXISTING LOAD	FDS	30/3
2	PANEL LB	FDS	200/3	12	EXISTING LOAD	FDS	30/3
3	PANEL L1	FDS	100/3	13	COMB STARTER	FDS	SIZE 0
4	PANEL L1A	FDS	100/3	14	COMB STARTER	FDS	SIZE 0
5	PANEL L2	FDS	100/3	15	AIR COMP.	FDS	30/3
6	PANEL L2A	FDS	100/3	16	EXHAUST FAN	FDS	30/3
7	PANEL L3	FDS	100/3	17	COMB STARTER	FDS	SIZE 0
8	PANEL L3A	FDS	100/3	18	COMB STARTER	FDS	SIZE 0
9	EXISTING LOAD	FDS	100/3	19	SPARE	FDS	60/3
10	EXISTING LOAD	FDS	100/3	20	PARKING LOT LTS	FDS	60/3
				21	BOILER	FDS	30/3
				22	ROOF TOP	FDS	30/3
				23	EXISTING LOAD	FDS	30/3
				24	EXISTING LOAD	FDS	30/3
				25	EXISTING LOAD	FDS	30/3
				26	EXISTING LOAD	FDS	30/3



4 E3.5 — MDP ELEVATION

NO SCALE

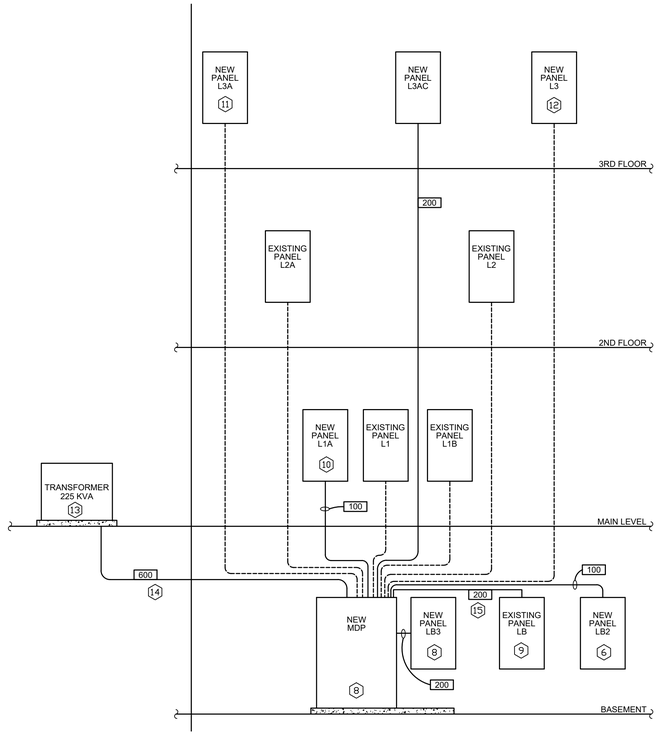
NOTES:

1. USE EXISTING CONCRETE PAD. PROVIDE INTEGRAL DEMAND METERING.

MDP SCHEDULE

EATON POW-R-LINE

DESIG.	LOAD SERVED	TYPE	SIZE
1	PANEL LB	CB	200/3
2	PANEL LB3	CB	200/3
3	PANEL L3AC	CB	200/3
4	SPARE	CB	200/3
5	PANEL L1	CB	100/3
6	PANEL L1A	CB	100/3
7	PANEL L2	CB	100/3
8	PANEL L2A	CB	100/3
9	PANEL L3	CB	100/3
10	PANEL L3A	CB	100/3
11	EXISTING LOAD	CB	100/3
12	EXISTING LOAD	CB	100/3
13	EV-1	CB	100/3
14	PANEL L2B	CB	100/3



2 E3.5 — REVISED RISER - ALT. G4

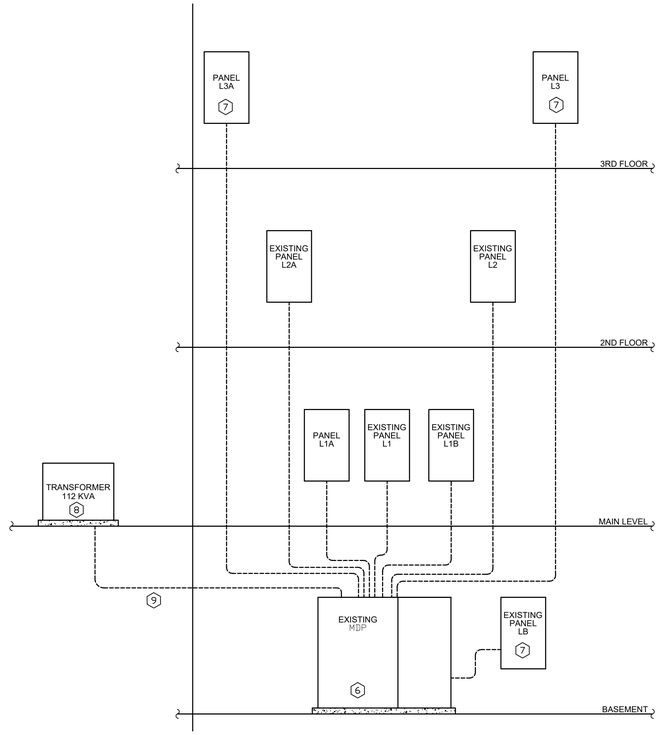
NO SCALE

FEEDER SCHEDULE

DESIG-NATION	CONFIGU-RATION	REQUIRED AMPACITY	CONDUCTOR SIZE (NOTE 3) PHASE	NEUTRAL	EGC (NOTE 4)	CONDUIT
600	3Ø 4W	600	(2) 350 KCMIL	(2) 350 KCMIL	(2) #1 AWG	(2) 3"
200	3Ø 4W	200	#3/0 AWG	#3/0 AWG	#6 AWG	2"
100	3Ø 4W	100	#1 AWG	#1 AWG	#8 AWG	1-1/2"
60	3Ø 4W	60	#6 AWG	#6 AWG	#8 AWG	1"

NOTES:

1. FEEDER RISERS ARE SCHEMATIC ONLY AND NOT INTENDED TO INFER LUG ARRANGEMENTS.
2. SEE SPECIFICATION FOR GROUNDING REQUIREMENTS, ALLOWABLE PVC USAGE, AND ALLOWABLE EXPOSED EXTERIOR STUB-UPS.
3. CONDUCTORS SIZING BASED UPON 60 DEGREE TERMINATIONS FOR OVERCURRENT PROTECTIVE DEVICES RATED 100 AMPERES OR LESS, AND 75 DEGREE TERMINATIONS FOR RATINGS GREATER THAN 100 AMPERES, AS PER NEC TABLE 310.16, 240.4, 310.15(B2), AND 310.15(B4). IN NO CASE SHALL INDICATED SIZING BE DECREASED.
4. EQUIPMENT GROUNDING CONDUCTOR.
5. MATCH EXISTING EQUIPMENT SHORT CIRCUIT CURRENT RATINGS. UL-RECOGNIZED SERIES RATINGS ACCEPTABLE WITH MINIMUM RATINGS AS PER SPECIFICATION. EQUIPMENT THAT IS PART OF A SERIES RATED COMBINATION SHALL BE LEGIBLY MARKED IN THE FIELD BY THE CONTRACTOR AS PER NEC 110.22 AND 240.86(A), TO INDICATE THE EQUIPMENT HAS BEEN APPLIED WITH A SERIES COMBINATION RATING.
6. PROVIDE NEW PANELBOARD AS INDICATED ON THE DRAWINGS.
7. EXISTING SERVICE FEEDERS TO REMAIN IN PLACE.
8. NEW MDP AND PANEL LB3. EXTEND EXISTING LOADS TO NEW MDP AND PANEL LB3 AS INDICATED ON DETAIL -/--- AND LB3 PANEL SCHEDULE. VERIFY FUSE SIZES OF ALL EXISTING LOADS AND COORDINATE BREAKER SIZES IN MDP AND PANEL LB3 BASED ON ACTUAL FUSE SIZES.
9. REMOVE EXISTING PANEL AND REPLACE WITH NEW. REUSE EXISTING FEEDER. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
10. REMOVE EXISTING PANEL AND REPLACE WITH NEW. EXTEND EXISTING CONDUIT TO NEW LOCATION AND PROVIDE NEW FEEDER AS INDICATED. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL LOCATION AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
11. REMOVE EXISTING PANEL AND REPLACE WITH NEW. REUSE EXISTING FEEDER. EXTEND EXISTING CIRCUIT TO REMAIN TO NEW PANEL AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
12. REMOVE EXISTING PANEL AND REPLACE WITH NEW. NEW PANEL TO BE ORIENTED TO OPPOSITE SIDE OF WALL. EXTEND EXISTING FEEDER TO PANEL AS REQUIRED. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL LOCATION AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
13. RELOCATED STUDENT CENTER 225 KVA TRANSFORMER. PROVIDE ONE ADDITIONAL 3" CONDUIT WITH 350 MCM CONDUCTORS FOR PARALLEL FEED FOR 600 AMPERES TO NEW MDP.
14. PROVIDE ONE ADDITIONAL 3" CONDUIT FROM TRANSFORMER PAD TO NEW MDP USING EXISTING ROUTE AND THROUGH BOTTOM OF EXISTING PLANTER. PROVIDE NEW CONDUCTORS FOR ENTIRE FEEDER, INCLUDING IN EXISTING CONDUIT.
15. PROVIDE NEW FEEDER TO PANEL LB AS REQUIRED FOR INSTALLATION OF NEW MDP AND PANEL LB3.



1 E3.5 — EXT. RISER - ALT. G4

NO SCALE

FEEDER SCHEDULE

DESIG-NATION	CONFIGU-RATION	REQUIRED AMPACITY	CONDUCTOR SIZE (NOTE 3) PHASE	NEUTRAL	EGC (NOTE 4)	CONDUIT
100	3Ø 4W	100	#1 AWG	#1 AWG	#8 AWG	1-1/2"
60	3Ø 4W	60	#6 AWG	#6 AWG	#8 AWG	1"

NOTES:

1. FEEDER RISERS ARE SCHEMATIC ONLY AND NOT INTENDED TO INFER LUG ARRANGEMENTS.
2. SEE SPECIFICATION FOR GROUNDING REQUIREMENTS, ALLOWABLE PVC USAGE, AND ALLOWABLE EXPOSED EXTERIOR STUB-UPS.
3. CONDUCTORS SIZING BASED UPON 60 DEGREE TERMINATIONS FOR OVERCURRENT PROTECTIVE DEVICES RATED 100 AMPERES OR LESS, AND 75 DEGREE TERMINATIONS FOR RATINGS GREATER THAN 100 AMPERES, AS PER NEC TABLE 310.16, 240.4, 310.15(B2), AND 310.15(B4). IN NO CASE SHALL INDICATED SIZING BE DECREASED.
4. EQUIPMENT GROUNDING CONDUCTOR.
5. MATCH EXISTING EQUIPMENT SHORT CIRCUIT CURRENT RATINGS. UL-RECOGNIZED SERIES RATINGS ACCEPTABLE WITH MINIMUM RATINGS AS PER SPECIFICATION. EQUIPMENT THAT IS PART OF A SERIES RATED COMBINATION SHALL BE LEGIBLY MARKED IN THE FIELD BY THE CONTRACTOR AS PER NEC 110.22 AND 240.86(A), TO INDICATE THE EQUIPMENT HAS BEEN APPLIED WITH A SERIES COMBINATION RATING.
6. EXISTING MDP TO BE REMOVED AND REPLACED UNDER ALTERNATE G4. SEE DETAILS 2/E3.5, 3/E3.5 AND 4/E3.5.
7. REMOVE EXISTING PANEL AND REPLACE WITH NEW. REUSE EXISTING FEEDER. EXTEND EXISTING CIRCUITS TO REMAIN TO NEW PANEL AS REQUIRED. SEE DRAWINGS FOR NEW CIRCUIT REQUIREMENTS.
8. EXISTING MEDIUM VOLTAGE TRANSFORMER. REMOVE TRANSFORMER AND SWAP WITH NORTH STUDENT CENTER 225 KVA TRANSFORMER. VERIFY POSITION OF SWITCHES IN EACH TRANSFORMER AND CHANGE SWITCH POSITIONS AS REQUIRED FOR NEW LOCATIONS OF EACH TRANSFORMER.
9. EXISTING 3" CONDUIT WITH 350 MCM FEEDER CONDUCTORS. SEE DETAIL 2/E3.4A FOR REVISED FEEDER REQUIREMENTS.

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AE2S - STRUCTURAL

CLIENT

DICKINSON STATE UNIVERSITY

PROJECT DESCRIPTION

DSU WOODS HALL IMPROVEMENTS - PHASE 2: BASEMENT, MAIN & THIRD FLOORS

CITY DICKINSON

STATE NORTH DAKOTA

ISSUE DATES

PROJECT NO: 20233600

DRAWN BY: JJB/BMG

CHECKED BY: JJB

STAMP

REGISTERED PROFESSIONAL ENGINEER
JEREMY J. BUTMAN
PE-5843
DATE
10/30/2024
NORTH DAKOTA

DRAWING TITLE

ALTERNATE G4 DETAILS

E3.5

PANEL LB3 SCHEDULE

120/208 VOLTS 3Ø 4W 225 A. MLO SURFACE MOUNTED

EATON POW-R-LINE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT	ø	CKT	AMPS	POLES	CIRCUIT DESCRIPTION
EXISTING EQUIPMENT	3	30	1	A	2	30	3	PARKING LOT LTS
	-	-	3	B	4	-	-	
	-	-	5	C	6	-	-	
EXISTING EQUIPMENT	3	30	7	A	8	30	3	BOILER
	-	-	9	B	10	-	-	
	-	-	11	C	12	-	-	
AIR COMPRESSOR	3	30	13	A	14	30	3	ROOF TOP UNIT
	-	-	15	B	16	-	-	
	-	-	17	C	18	-	-	
EXHAUST FAN	3	30	19	A	20	30	3	EXISTING LOAD
	-	-	21	B	22	-	-	
	-	-	23	C	24	-	-	
SPARE	1	20	25	A	26	30	3	EXISTING LOAD
SPARE	1	20	27	B	28	-	-	
SPARE	1	20	29	C	30	-	-	
SPARE	1	20	31	A	32	30	3	EXISTING LOAD
SPARE	1	20	33	B	34	-	-	
SPARE	1	20	35	C	36	-	-	
SPARE	1	20	37	A	38	30	3	EXISTING LOAD
SPARE	1	20	39	B	40	-	-	
SPARE	1	20	41	C	42	-	-	

MOTOR & EQUIPMENT SCHEDULE

DESIG.	EQUIPMENT SERVED	CHARACTERISTICS			DISCONNECT (BY EC)	CONTROLLER (BY EC)	CONTROL INITIATING DEVICE			NOTE
		HP	VOLT	PHASE			DEVICE	FURN	MTD	
SS-1	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-1A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-1B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-1C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-2	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-2A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-2B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-2C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-3	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-3A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-3B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-3C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-4	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-4A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-4B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-4C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-5	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-5A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-5B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-5C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-6	SPLIT SYSTEM OUTDOOR UNIT	32.5 MCA MOCP 35A	208	1	WP 60/2 NFDS	INTEGRAL	T-STAT	MC	EC	2,3
SS-6A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-6B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-6C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-6D	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3

MOTOR & EQUIPMENT SCHEDULE

DESIG.	EQUIPMENT SERVED	CHARACTERISTICS			DISCONNECT (BY EC)	CONTROLLER (BY EC)	CONTROL INITIATING DEVICE			NOTE
		HP	VOLT	PHASE			DEVICE	FURN	MTD	
SS-7	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-7A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-7B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-7C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-8	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-8A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-8B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-8C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-9	SPLIT SYSTEM OUTDOOR UNIT	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-9A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-9B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-9C	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-10	OUTDOOR UNIT SPLIT SYSTEM	22.6 MCA MOCP 25A	208	1	WP 30/2 NFDS	INTEGRAL	T-STAT	MC	EC	1,3
SS-10A	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3
SS-10B	SPLIT SYSTEM INDOOR UNIT	FRAC.	208	1	INCLUDED WITH STARTER	TOGGLE OR MANUAL AS REQUIRED	T-STAT	MC	EC	1,3

NOTES:

1. OUTDOOR UNIT INCLUDES THREE INDOOR UNITS. EXTEND POWER AND CONTROL CIRCUITRY FROM EACH INDOOR UNIT TO OUTDOOR UNIT AS REQUIRED. EACH INDOOR UNIT INCLUDES A THERMOSTAT. EXTEND CONTROL CIRCUITRY FROM THERMOSTATS TO ASSOCIATED INDOOR UNIT AS REQUIRED.
2. OUTDOOR UNIT INCLUDES FOUR INDOOR UNITS. EXTEND POWER AND CONTROL CIRCUITRY FROM EACH INDOOR UNIT TO OUTDOOR UNIT AS REQUIRED. EACH INDOOR UNIT INCLUDES A THERMOSTAT. EXTEND CONTROL CIRCUITRY FROM THERMOSTATS TO ASSOCIATED INDOOR UNIT AS REQUIRED.
3. OUTDOOR UNIT LOCATED ON ROOF. COORDINATE EXACT LOCATION WITH MC. PROVIDE 120-VOLT RECEPTACLE ON ROOF WITHIN 25' OF UNIT. EXTEND RECEPTACLE CIRCUITRY TO NEAREST 3RD FLOOR RECEPTACLE CIRCUIT. ONE RECEPTACLE MAY SERVE MULTIPLE UNITS TO MINIMIZE NUMBER OF RECEPTACLES ON ROOF.

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