Pulaski County Schools: General Trades Scope



Pulaski County Schools – Energy Upgrades: General Trades

Bid Release: March 20th, 2022

CMTA Contact: Megan Brangers
Email: MBrangers@cmta.com

Phone: (502) 919-1521

Please fill out and return the attached bid form to Megan Brangers by April 1st, 2022 by 4:00 pm. MBrangers@cmta.com

Project Background:

This project consists of various mechanical HVAC upgrades for Pulaski County Schools. This project is a performance contract, so the scope is funded from energy and operational savings. The successful contractor(s) will be a subcontractor to CMTA.

General:

Contractor will include the following:

- 1. Provide all labor and material to accomplish the scope of work as outlined in the bid package documents.
- Complete all installation work during hours coordinated with the owner's class and staff
 occupancy schedules. Contractor shall provide an overall project schedule and shall coordinate a
 bi-weekly task schedule with the CMTA construction manager to allow for appropriate
 coordination with the Owner.
- 3. Provide all ladders, lifts and scaffolds required to access work areas.
- 4. Provide all required equipment to perform work, such as lifts, crane, etc.
- 5. Maintain safe work habits and utilize all necessary safety equipment.
- 6. Clean all work areas after installation work is complete. Drywall dust, ceiling tile debris, etc. is to be removed and rooms broom swept before turning over to CMTA/Owner. Provide and install plastic sheeting as required to protect Owner's furniture and belongings.
- 7. Provide on-site dumpster as necessary. Construction debris not to be placed in Owner's dumpsters or trash cans.
- 8. Provide on-site portable toilets as necessary.
- 9. Provide all necessary material and labor including, but not limited to, the following as required to complete the scope of work per drawings and specifications:
 - a. Permit and fees
 - b. Ceiling tile, grid, supports, etc.
 - c. Drywall, joint compound, framing, etc.
 - d. Sheet metal and accessories
 - e. All insulation
 - f. All other miscellaneous required materials to complete the scope of work
 - g. Demolition and disposal of demolished materials/equipment
 - h. Ceiling removal and replacement as necessary to complete installation of new work

Pulaski County Schools: General Trades Scope



The following trades shall be provided by general trades contractor:

1. General Trades

Other Trades:

The following trades will be a subcontractor direct to CMTA and the general trades contractor shall <u>exclude</u> these trades from the scope of work:

- 1. Sheet Metal
- 2. Piping Hydronic & Plumbing
- 3. Insulation
- 4. Temperature Controls
- 5. Electrical
- 6. HVAC Testing, Adjusting and Balancing

Contractor's License

Contractor is responsible for securing all required licenses and keeping a copy on site at all times while work is in progress. Contractor shall provide a copy of an up to date and valid Kentucky Contractors license as part of their bid response. Contractor shall be required to keep these licenses up to date and valid during the duration of Contractor work completed as part of this project.

Buildings included in Scope:

- Eubank Elementary School
- Nancy Elementary School

- Oak Hill Elementary School
- Shopville Elementary School

Site Visits:

Pre-bid site walk-throughs are optional. Individual walk-throughs will be scheduled as requested, contact Megan Brangers (MBrangers@cmta.com) for scheduling.

Project Schedule & Sequence:

A final project schedule will be developed by CMTA after coordinating the installation times for each trade. It is anticipated construction will begin May 22nd, 2023 and be completed August 1st, 2023. CMTA will work with the successful contractors to finalize the project schedule, see below for Construction Schedule. Schedules are dependent on delivery of mechanical equipment; construction task sequencing shall be adjusted based on delays in equipment deliveries. Refer to general trades drawings for details on work associated with each task.

Bid Due Date: April 1, 2022
 Bid Award: April 2022

3. Execute Sub-Contract: May 2022

4. Provide Submittals to CMTA: June 2022

Pulaski County Schools: General Trades Scope



5. **Pre-construction Meetings:** March 2023

6. Construction Mobilization & Site Preparation: Start May 18, 2022

7. Summer Construction: Start May 22, 2023, End August 1, 2023

Summer construction coincides with Pulaski County Schools' summer break. Final rough-in and preparation activities to be confirmed prior to construction.

Job Site Rules:

- 1. Owners site use rules to be followed at all times including instructions for the following
- 2. CMTA site use rules
 - a. No alcohol or drugs will be used on the job site.
 - No furniture, electronic equipment or personal property will be touched, moved or disturbed.
 - c. All installation personnel will wear and employ personal protective gear as appropriate and per OSHA minimums.
 - d. All installation personnel will wear t-shirts or uniforms that identify the contractor.
 - e. Sub-contractors will treat any job site condition that materially affects job outcomes and schedules as emergencies and will contact the CMTA Construction Manager immediately.
 - f. All literature supplied with materials and equipment will be properly stored by the subcontractors and delivered in like-new condition to CMTA.
 - g. Contractor will take responsibility for handling and storing all new and removed materials.

Schedule of Values

Contractor shall provide CMTA a schedule of values with both labor and materials broken out separately by building for billing purposes prior to contract.

Prevailing Wage:

As with all Energy Savings Performance Contracts, clients have the option to couple district funds with funding from energy savings. For this project, Elementary and Secondary School Emergency Relief (ESSER) Funds from the Education Stabilization Fund through the Coronavirus Aid Relief, and Economic Security (CARES) Act will be utilized.

In the case that this project scope is fully funded by ESSER contributions, the scope will be subject to Davis-Bacon and prevailing wages. While the base bid should **not** consider prevailing wages, contractors are required to submit adds based on prevailing rates.

Domestic Preferences for Procurement:

This project will use ESSER awards to fund a portion of the project scope of work. The Buy American Act <u>POES NOT</u> apply to this grant; however, ESSER awards are subject to 2 CFR § 200.322, a new regulation that applies to Federal grants made after November 12, 2020. It establishes domestic preferences for procurements under Federal grants that are subject to the Uniform Guidance. The text of this regulation follows:

Pulaski County Schools: General Trades Scope



2 CFR § 200.322 Domestic Preferences for Procurement

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all sub-awards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

- (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) "Manufactured products" means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

Project Manager & Qualified Labor

Contractor shall provide a qualified Project Manager to oversee the project scope. The Contractor shall provide sufficient and qualified labor to complete all components of the RFP scope on schedule.

Demolition & Site Clean-Up

Contractor is responsible for lawful disposal of all demolished materials. Contractor is responsible for keeping accurate documentation of lawful disposal and documentation shall be provided to CMTA upon request.

Contractor is responsible for cleaning up after contractor crews to ensure <u>site conditions are as good, or better, then they were found</u>. For unoccupied areas, where work is completed during breaks, general cleaning shall be completed, at a minimum, weekly and final cleaning be fully completed before prior to students, faculty or staff re-occupy the work area.

Contractor staging of equipment shall be coordinated with, and approved by, CMTA Construction Manager.

General Scope of Work:

Refer to Project Drawings and Specifications for extent and details of project scope. Listed below are **highlights** for this project:

Eubank, Nancy, Shopville, and Oak Hill Elementary Schools will undergo HVAC renovations. The general trades scope encompasses work associated with the mechanical contractor's demolition and new installation.

Eubank Elementary:

Pulaski County Schools: General Trades Scope



- Louver infill, wall and floor patching, and cosmetic work following HVAC equipment demolition and removal. Contractor to include labor to remove and relocate cabinets, shelves, and tack boards as noted.
- Grid tile ceiling removal and reinstallation at designated areas.
- Plaster ceiling removal at designated areas.
- Mechanical room closet wall construction.
- Pumping station closet wall construction.

Nancy and Shopville Elementary:

- Soffit construction at designated areas. Contractor to include painting soffit to match existing wall color.
- Louver infill, wall and floor patching, and cosmetic work following HVAC equipment demolition and removal. Contractor to include labor to remove and relocate cabinets, shelves, and tack boards as noted.
- Grid tile ceiling removal and reinstallation at designated areas.
- Wall and floor patching and painting following electric heater equipment demolition.

Oak Hill Elementary:

- Louver infill, wall and floor patching, and cosmetic work following HVAC equipment demolition and removal. Contractor to include labor to remove and relocate cabinets, shelves, and tack boards as noted.
- Grid tile ceiling removal and reinstallation at designated areas.
- Wall and floor patching and painting following electric heater equipment demolition.

Project Safety:

Project safety is of utmost importance and any workplace safety violations will not be tolerated. Please fill out the attached Project Safety Qualification Checklist <u>unless you have submitted one to CMTA in the last 12 months</u>.

Permits and Insurance Requirements:

Permits: Contractor is responsible for securing all required reviews, permits, etc. for the work, and is responsible for the cost of the permits.

Insurance: The sub-contractor shall name CMTA, Inc. and Pulaski County Schools as an Additional Insured under their General Liability coverage. Commercial and General Liability not less than \$1,000,000 each occurrence and \$2,000,000 general aggregate. Workman's compensation meeting statutory requirements and Employee Liability Insurance not less than \$1,000,000 each occurrence. Commercial automobile liability insurance not less than \$500,000/person, \$1,000,000/ person is preferred.

Pulaski County Schools: General Trades Scope



Project Bonding:

Performance and Payment bonds:	
Performance and Payment Bonding Rate	
In the event that CMTA requires Performance and Paymen	t Bonding, indicate bonding rate:
\$ /\$1,000	
Company	
Authorized Representative	_ Title

Liquidated Damages: Liquidated damages of \$1,000 per day for failure to meet project substantial

completion and any other negotiated project milestones for phased completion projects.

Pulaski County Schools: General Trades Scope



Project Bid Form:

Prevailing Wages Add

are required to submit adds based on prevailing rates.

Add Cost for Prevailing Wage Rates:

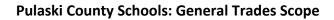
Although break-out pricing is requested, the intent is to award the contract to only one successful bidder.

Having carefully examined the Request for Proposal, Site Conditions, Specifications, and Drawings, on

the above referenced project, the undersigned bidder proposes to furnish all labor, materials,

equipment, tools, supplies, and temporary devices required to complete the work in accordance with the contract documents and any addenda listed below for the price stated herein. Addendum (Insert the addendum numbers received or the word "none" if no addendum received.) For the construction required to complete the work, in accordance with the contract documents, I/We submit the following: **Bid Amounts Eubank Elementary School** Nancy Elementary School Shopville Elementary School Oak Hill Elementary School Pulaski Schools Total General Trades Cost *The bid amount breakouts will be used to review scope. The bid amount total should add up to the total mechanical cost above. **Unit Pricing** Provide unit price for lay-in ceiling removal and reinstallation per 800 square-foot classroom including main runners, ceiling height is 8 to 9 feet above finished floor. Include cost of new tiles. Cost per classroom

In the case that this project scope is fully funded by ESSER contributions, the scope will be subject to Davis-Bacon and prevailing wages. While the base bid should **not** consider prevailing wages, contractors





Name of Contractor	Authorized Rep. Signature
Title	Name
Please fill out and return the bid	l form to Megan Brangers by April 1st, 2022 by 4:00 pm
MBrangers@cmta.com	3 3 7 1 7 3 37 3 3 1

Attachments:

- 1. Pre-Qualification Checklist
- 2. General Trades Drawings
- 3. Mechanical Drawings
- 4. Wage Rate Determination



CMTA Energy Solutions Pre-Qualification Checklist

Project Name:			
1. CONTRACTOR INFORMATION			
Name of Contractor:		D	ate:
Business Address: City, State, Zip:		,	
Telephone No:(
Contact Person:			
Years in Business:			
Emergency Contact Name: Emergency Contact Telephone Number: (
2. INJURY/ILLNESS HISTORY			
Provide your company's injury/illness experi (You may also submit copies of your 300 log Criteria - all injury/illness history will be evalu	gs for the past three	e years).	
N. J. (00UA B. J. J. 0	2019	2020	2021
Number of OSHA Recordable Cases			
Number of Lost/Restricted Workdays			
Number of Fatalities			
Number of Man-Hours Worked			



3. WORKERS' COMPENSATION

A. What was your experience modification rate (EMR) fo	r the past 3 ye	ears?		
/2019 /2020		/2021		
B. Name of your current Workers' Compensation Insurar		-		
C. Name and address of your Workers' Compensation &	General Liab	ility Insurand	ce Agent(s):
D. Duration of coverage under current Workers' Compen	sation & Gen	eral Liability	Insurance	Company:
4. CITATIONS Has your company been cited by OSHA/EPA in the past	3 years? YES	S □ NO□		
If yes, list the violations:				
5. SAFETY PROGRAM EVALUATION (Only check thos	e relevant to	the project)		
	Yes	No	N/A	Copy Provided (Optional)
1. Do you have a written Safety Policy?				
2. Do you have a written Safety Program?				
3. Do you have a written Accident Investigation Plan?				
4. Do you have a written Substance Abuse Policy?				
5. Do you have a written Safety Rules?				
6. Do you have a written Discipline Policy?				
7. Do you have a written Safety Award Program?				
8. Do you have a written HazCom Program?				



		Yes	No	N/A	Provided (Optional)
9. Do you have a written Motor Vehicle Safety Program	?				
10. Do you have a written Lock Out/Tag Out Procedure	s?				
11. Do you have a written Fall Protection Program?					
12. Do you have a written Confined Space Program?					
13. Do you have a written Forklift Program?					
14. Do you have a written PPE Program?					
15. Do you have a written Safety Shoe Policy?					
16. Do you have a written Respirator Program?					
17. Do you have a written Blood-borne Pathogen Progra	am?				
18. Are new employee safety orientations held?					
19. Do you have mandatory drug testing for new hires?					
20. Does your company have a random drug testing program?					
	Yes	1	No	Но	ow Often
21. Are employee safety meetings held?		[
22. Are 'toolbox' safety meetings held?		[
23. Are field safety audits conducted?		[
24. Who conducts the field safety audits?					

SAFETY PROGRAM EVALUATION (Only check those relevant to the project)

Yes No N/A

	CMTA
	Energy Solutions
25. Do you have Trenching 'competent' persons?	
26. Do you have Scaffolding 'competent' persons?	
27. Are Crane and Boom truck operators qualified?	
28. Does your company use crane lift permits?	
29. Are your cranes inspected monthly?	
30. Do you check your drivers' records?	
31. Do your Electrical Workers wear FR clothing?	
32. Do you 'Safety Qualify' your sub-contractors?	
6. EMPLOYEE TRAINING	

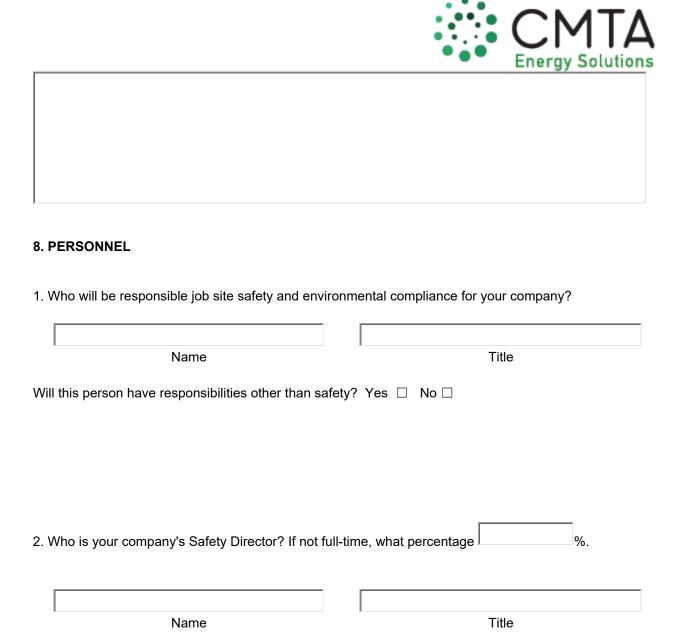
ARE APPROPRIATE EMPLOYEES FORMALLY TRAINED WITH DOCUMENTATION IN THE FOLLOWING SUBJECTS?

Yes	No	N/A		Yes	No	N/A
			Lock Out/Tag Out			
			Emergency Response			
			CPR			
			Rigging			
			Hearing Conservation			
			Trenching Safety			
			Electrical Safety			
			Forklifts			
	Yes	Yes No		Lock Out/Tag Out Lock Out/Tag Out Emergency Response CPR Rigging Hearing Conservation Trenching Safety Electrical Safety	Lock Out/Tag Out Emergency Response CPR Rigging Hearing Conservation Trenching Safety Electrical Safety	Lock Out/Tag Out Emergency Response CPR Rigging Hearing Conservation Trenching Safety Electrical Safety

7. ENVIRONMENTAL COMPLIANCE

During the last five years, has your company/firm received a violation/fine/penalty for non-compliance involving any of the following:	YES	NC
Improper disposal/dumping of hazardous waste or hazardous materials on land or in water.		
Discharging oil, an oil byproduct, or other hazardous substances to land, water, or air.		
Release of oil or hazardous waste during transport of hazardous materials and/or hazardous waste		

If you answered yes to any of the questions above, please provide an explanation of the circumstances surrounding the violation.



3. Will your company's site Safety Director have the authority to correct safety violations? Yes $\ \square$ No $\ \square$



The undersigned warrants and represents the data provided in this document is accurate and correct in all respects. All documents include herein are subject to review upon the awarding of this contract.

Signature	
Print Name/Title	
Date Signed	

Return the signed Pre-Qualification checklist to:

CMTA Consulting Engineers ATTN: Troy Schoenbaechler 10411 Meeting Street Louisville, KY 40059

or via email to: troys@cmta.com

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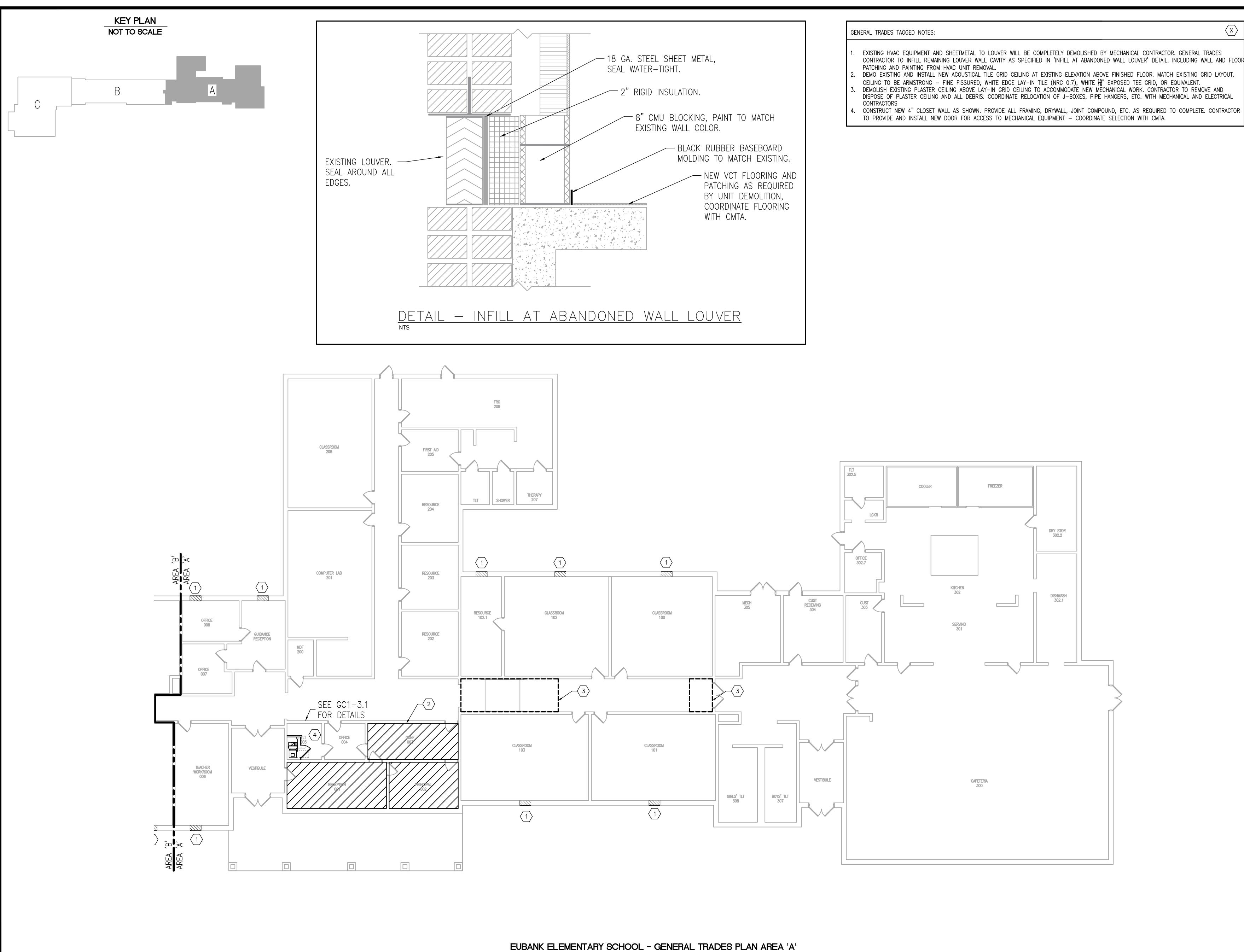
EUBANK ELEMENTARY SCHOOL

285 KY-70, EUBANK, KY 42567 GENERAL TRADES DRAWINGS

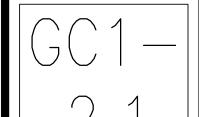
General Notes

THE GENERAL TRADES CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

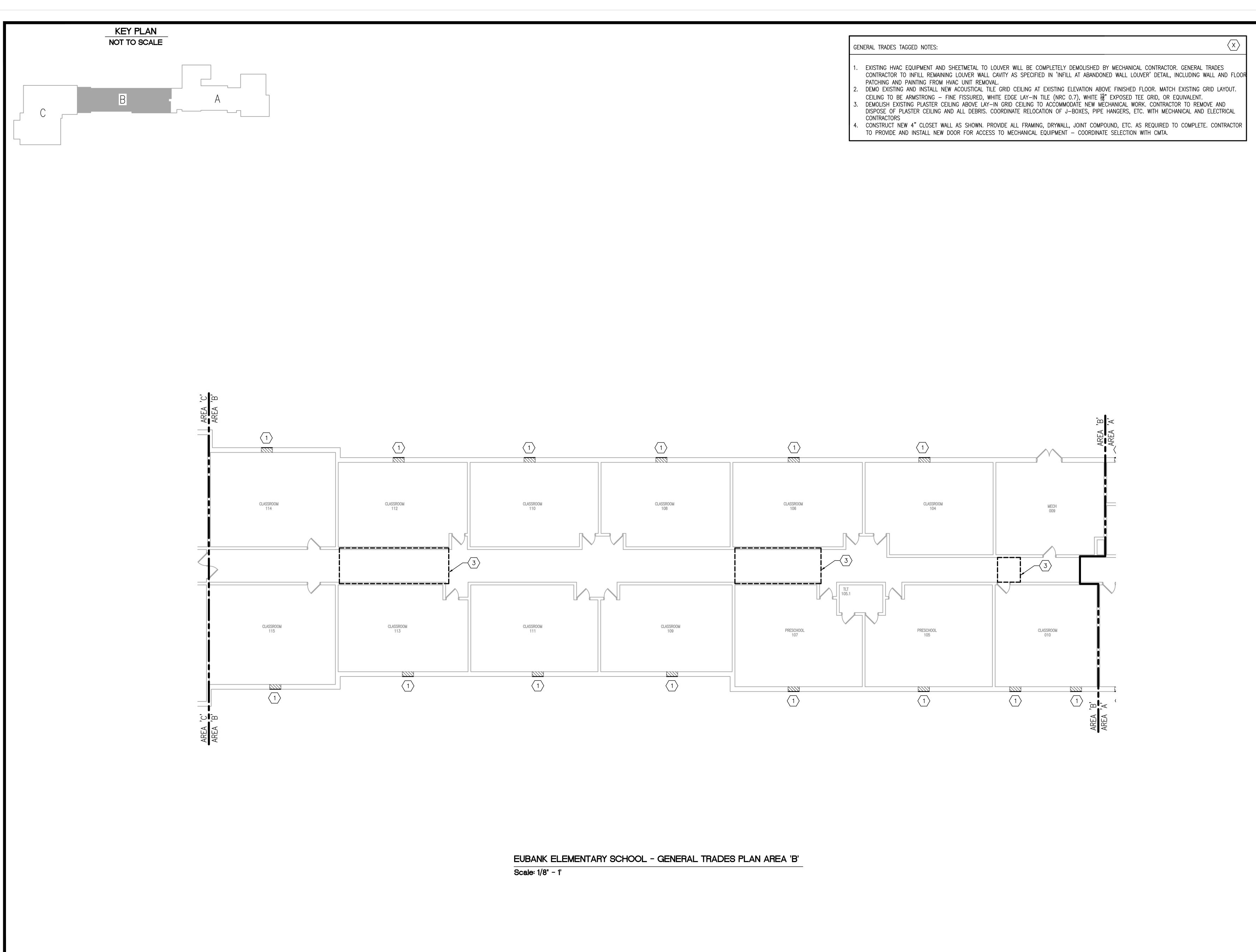
- 1. PROVIDE ALL LABOR AND ALL MATERIALS REQUIRED TO COMPLETE SCOPE OF WORK.
- 2. COMPLETE ALL INSTALLATION WORK DURING HOURS COORDINATED WITH THE OWNER'S CLASS AND STAFF OCCUPANCY SCHEDULES. CONTRACTOR SHALL PROVIDE AN OVERALL PROJECT SCHEDULE AND SHALL COORDINATE A BI-WEEKLY TASK SCHEDULE WITH THE CMTA CONSTRUCTION MANAGER TO ALLOW FOR APPROPRIATE COORDINATION WITH THE OWNER.
- 3. PROVIDE ALL LADDERS, LIFTS AND SCAFFOLDS REQUIRED TO ACCESS WORK AREAS.
- 4. PROVIDE ALL REQUIRED EQUIPMENT TO PERFORM WORK.
- 5. MAINTAIN SAFE WORK HABITS AND UTILIZE ALL NECESSARY SAFETY EQUIPMENT
- 6. CLEAN ALL WORK AREAS AFTER INSTALLATION WORK IS COMPLETE. ALL CONSTRUCTION DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED BY CONTRACTOR.
- 7. PROVIDE ON-SITE DUMPSTER AS NECESSARY. CONSTRUCTION DEBRIS NOT TO BE PLACED IN OWNER'S DUMPSTERS OR TRASH CANS.
- 8. PROVIDE ON-SITE PORTABLE TOILETS AS NECESSARY.
- . REFER TO MECHANICAL PLANS FOR FULL EXTENT OF MECHANICAL SCOPE AS IT RELATES TO THE GENERAL TRADES SCOPE.
- 10. PROVIDE ALL NECESSARY MATERIAL AND LABOR INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING AS REQUIRED TO COMPLETE THE SCOPE OF WORK PER DRAWINGS AND SPECIFICATIONS:
 a. PERMIT AND FEES
 - b. DEMOLITION AND INSTALLATION LABOR
 - c. SHEET METAL
 - d. INSULATION
 - e. CEILING TILE AND T-GRID
 - f. DRYWALL, JOINT COMPOUND, FRAMING, BLOCK, ETC.
 - g. ALL OTHER MISCELLANEOUS REQUIRED MATERIALS TO COMPLETE THE SCOPE OF WORK



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9519 Civic Way, Suite 100 Prospect, KY 40059 T 502 409.4062 F 502 919. MBrangers@CMTA.COM

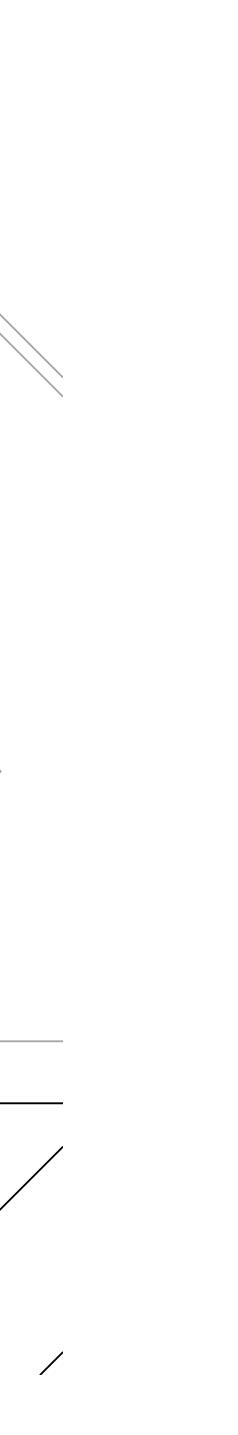
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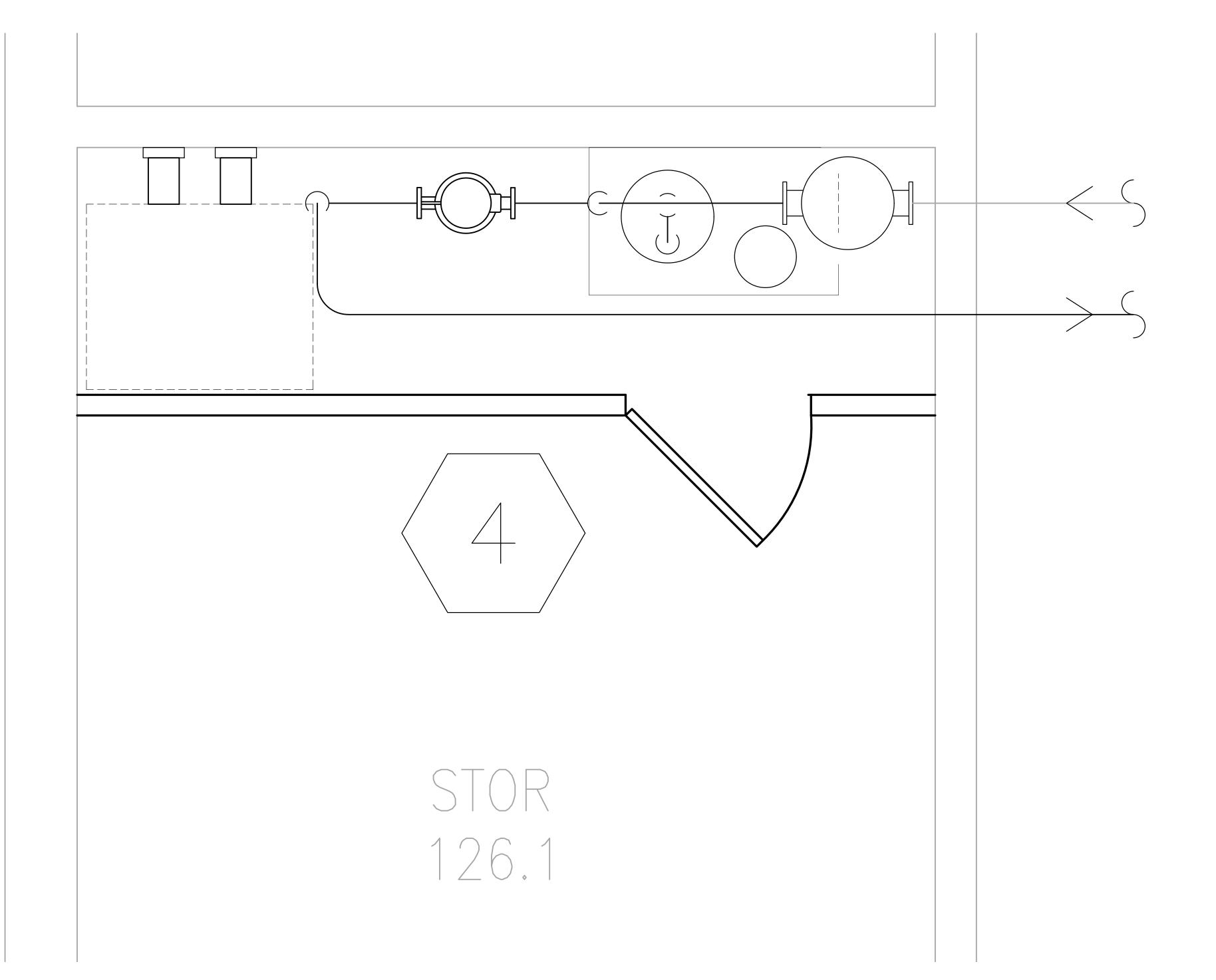
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Scale: 1" - 1"

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CMTA Energy Solution

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OAK HILL ELEMENTARY SCHOOL

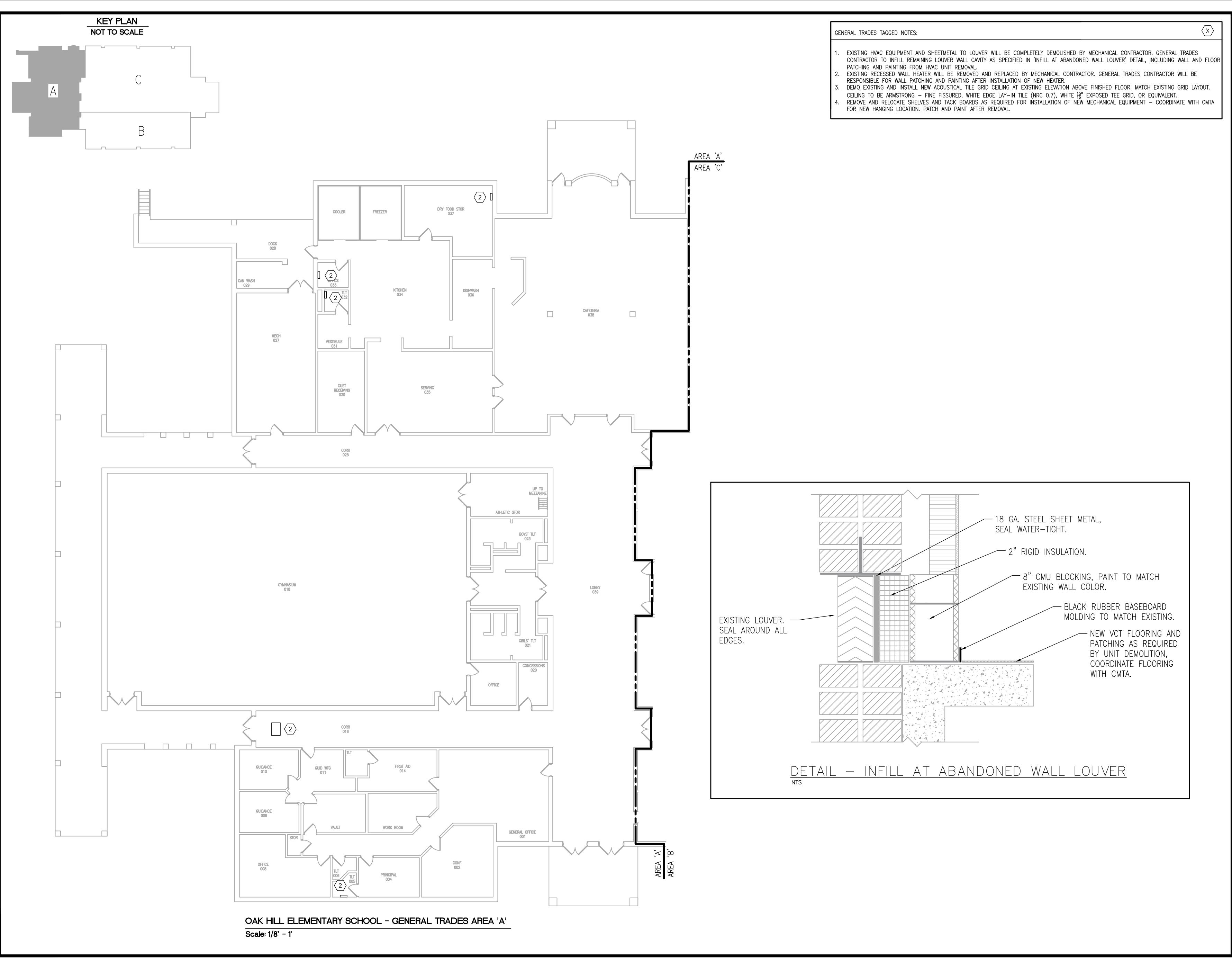
1755 WTLO ROAD, SOMERSET, KY 42503 GENERAL TRADES DRAWINGS

General Notes

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- 3. PROVIDE ALL LADDERS, LIFTS AND SCAFFOLDS REQUIRED TO ACCESS WORK AREAS.
- 4. PROVIDE ALL REQUIRED EQUIPMENT TO PERFORM WORK.
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- 8. PROVIDE ON-SITE PORTABLE TOILETS AS NECESSARY.
- 9. REFER TO MECHANICAL PLANS FOR FULL EXTENT OF MECHANICAL SCOPE AS IT RELATES TO THE GENERAL TRADES SCOPE.
- 10. PROVIDE ALL NECESSARY MATERIAL AND LABOR INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING AS REQUIRED TO COMPLETE THE SCOPE OF WORK PER DRAWINGS AND SPECIFICATIONS:

 a. PERMIT AND FEES
 - b. DEMOLITION AND INSTALLATION LABOR
 - c. SHEET METAL
 - d. INSULATION
 - e. CEILING TILE AND T-GRID
 - f. DRYWALL, JOINT COMPOUND, FRAMING, BLOCK, ETC.
 - g. ALL OTHER MISCELLANEOUS REQUIRED MATERIALS TO COMPLETE THE SCOPE OF WORK



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CMT Energy Solution

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EXISTING HVAC EQUIPMENT AND SHEETMETAL TO LOUVER WILL BE COMPLETELY DEMOLISHED BY MECHANICAL CONTRACTOR. GENERAL TRADES

CONTRACTOR TO INFILL REMAINING LOUVER WALL CAVITY AS SPECIFIED IN 'INFILL AT ABANDONED WALL LOUVER' DETAIL, INCLUDING WALL AND FLOOR PATCHING AND PAINTING FROM HVAC UNIT REMOVAL.

2. EXISTING RECESSED WALL HEATER WILL BE REMOVED AND REPLACED BY MECHANICAL CONTRACTOR. GENERAL TRADES CONTRACTOR WILL BE RESPONSIBLE FOR WALL PATCHING AND PAINTING AFTER INSTALLATION OF NEW HEATER.

3. DEMO EXISTING AND INSTALL NEW ACOUSTICAL TILE GRID CEILING AT EXISTING ELEVATION ABOVE FINISHED FLOOR. MATCH EXISTING GRID LAYOUT.

CEILING TO BE ARMSTRONG — FINE FISSURED, WHITE EDGE LAY—IN TILE (NRC 0.7), WHITE 15" EXPOSED TEE GRID, OR EQUIVALENT.

4. REMOVE AND RELOCATE SHELVES AND TACK BOARDS AS REQUIRED FOR INSTALLATION OF NEW MECHANICAL EQUIPMENT — COORDINATE WITH CMTA FOR NEW HANGING LOCATION. PATCH AND PAINT AFTER REMOVAL.

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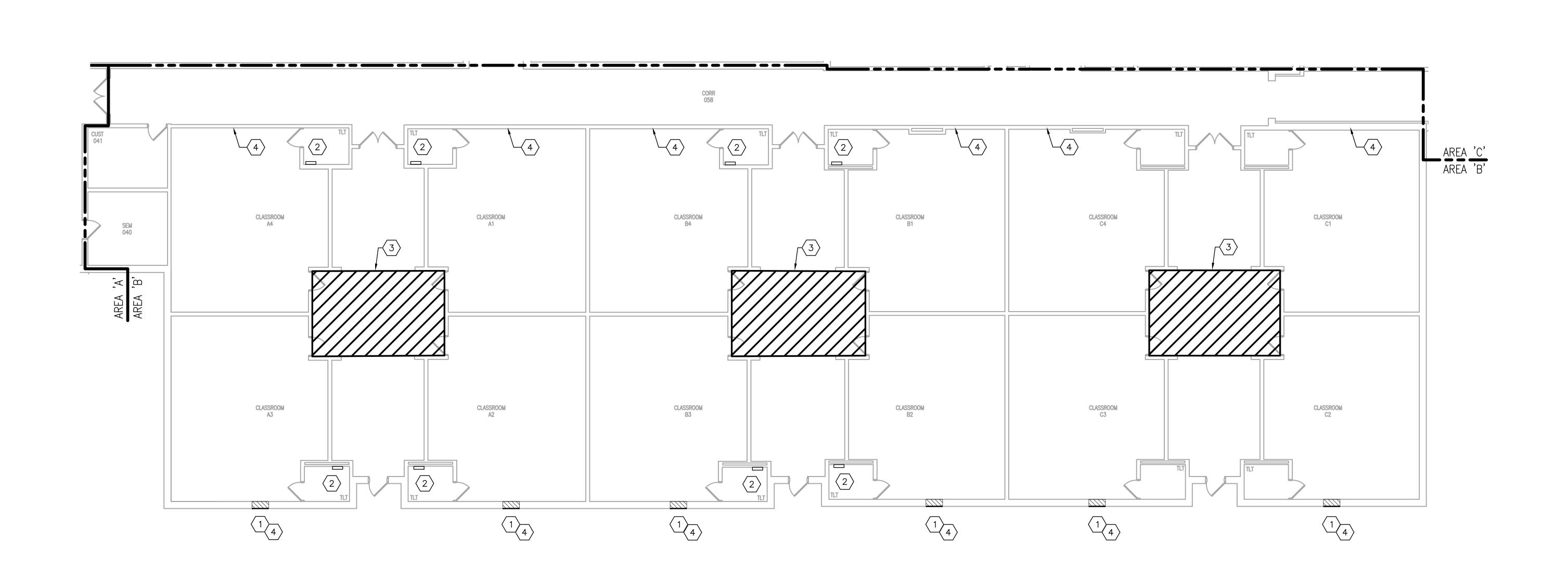
OAK HILL ELEMENTARY SCHOOL SOMERSET, KENTUCKY

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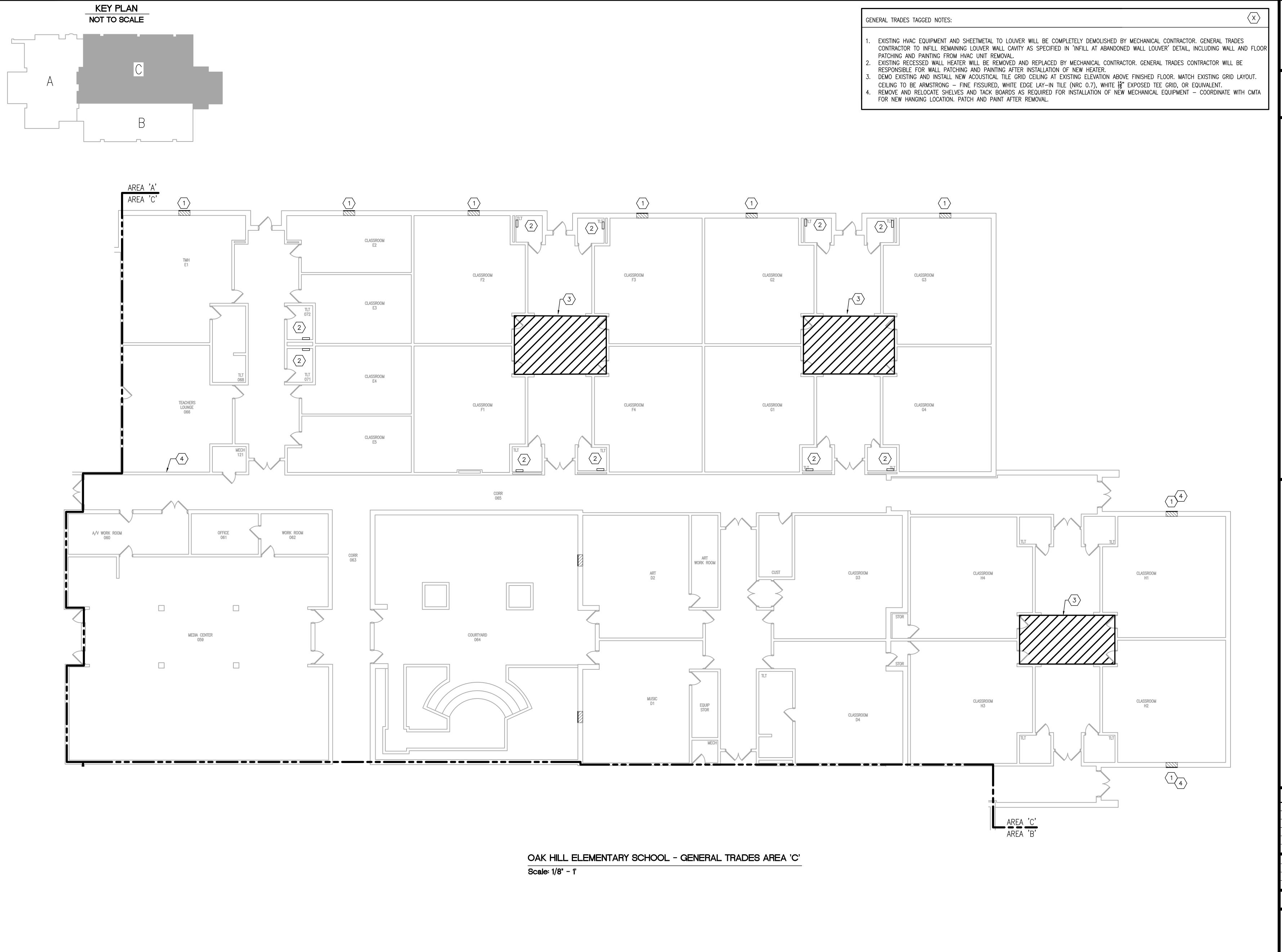
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OAK HILL ELEMENTARY SCHOOL - GENERAL TRADES AREA 'B'
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NANCY ELEMENTARY SCHOOL

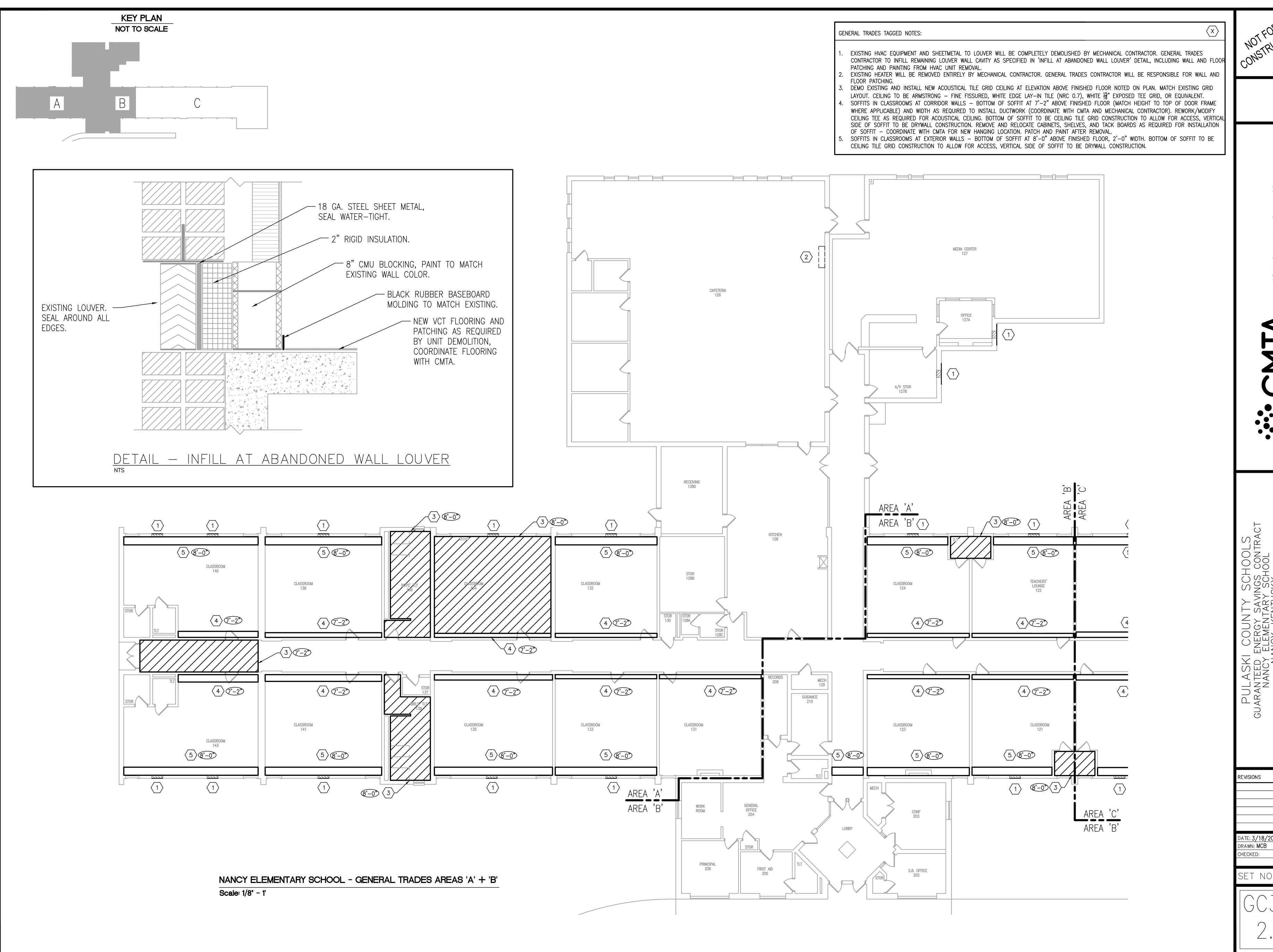
240 KY-196, NANCY, KENTUCKY 42544 GENERAL TRADES DRAWINGS

General Notes

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- 1. PROVIDE ALL LABOR AND ALL MATERIALS REQUIRED TO COMPLETE SCOPE OF WORK.
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 - e. CEILING TILE AND T-GRID
 - f. DRYWALL, JOINT COMPOUND, FRAMING, BLOCK, ETC.
 - g. ALL OTHER MISCELLANEOUS REQUIRED MATERIALS TO COMPLETE THE SCOPE OF WORK



DATE: 3/18/2022 DRAWN: MCB

GENERAL TRADES TAGGED NOTES:

1. EXISTING HVAC EQUIPMENT AND SHEETMETAL TO LOUVER WILL BE COMPLETELY DEMOLISHED BY MECHANICAL CONTRACTOR. GENERAL TRADES CONTRACTOR TO INFILL REMAINING LOUVER WALL CAVITY AS SPECIFIED IN 'INFILL AT ABANDONED WALL LOUVER' DETAIL, INCLUDING WALL AND FLOOF PATCHING AND PAINTING FROM HVAC UNIT REMOVAL.

2. EXISTING HEATER WILL BE REMOVED ENTIRELY BY MECHANICAL CONTRACTOR. GENERAL TRADES CONTRACTOR WILL BE RESPONSIBLE FOR WALL AND FLOOR PATCHING.

3. DEMO EXISTING AND INSTALL NEW ACOUSTICAL TILE GRID CEILING AT ELEVATION ABOVE FINISHED FLOOR NOTED ON PLAN. MATCH EXISTING GRID LAYOUT. CEILING TO BE ARMSTRONG — FINE FISSURED, WHITE EDGE LAY—IN TILE (NRC 0.7), WHITE 15" EXPOSED TEE GRID, OR EQUIVALENT.

4. SOFFITS IN CLASSROOMS AT CORRIDOR WALLS — BOTTOM OF SOFFIT AT 7'-2" ABOVE FINISHED FLOOR (MATCH HEIGHT TO TOP OF DOOR FRAME WHERE APPLICABLE) AND WIDTH AS REQUIRED TO INSTALL DUCTWORK (COORDINATE WITH CMTA AND MECHANICAL CONTRACTOR). REWORK/MODIFY CEILING TEE AS REQUIRED FOR ACCUSTICAL CEILING. BOTTOM OF SOFFIT TO BE CEILING TILE GRID CONSTRUCTION TO ALLOW FOR ACCESS, VERTICAL SIDE OF SOFFIT TO BE DRYWALL CONSTRUCTION. REMOVE AND RELOCATE CABINETS, SHELVES, AND TACK BOARDS AS REQUIRED FOR INSTALLATION OF SOFFIT — COORDINATE WITH CMTA FOR NEW HANGING LOCATION. PATCH AND PAINT AFTER REMOVAL.

5. SOFFITS IN CLASSROOMS AT EXTERIOR WALLS — BOTTOM OF SOFFIT AT 8'-0" ABOVE FINISHED FLOOR, 2'-0" WIDTH. BOTTOM OF SOFFIT TO BE CEILING TILE GRID CONSTRUCTION TO ALLOW FOR ACCESS, VERTICAL SIDE OF SOFFIT TO BE DRYWALL CONSTRUCTION.

 $\sqrt{3}$ 8'-0" $\sqrt{3}$ 8'-0" $\sqrt{3}$ 8'-0" 5 8'-0" MUSIC ROOM 108 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" 4 7'-2" CLASSROOM 117 CLASSROOM 119 RESOURCE 113 (5)(8'-0") (5)(8'-0") AREA 'C'
AREA 'B'

NANCY ELEMENTARY SCHOOL - GENERAL TRADES AREA 'C'

Scale: 1/8" - 1'

NOT FOR TION CONSTRUCTION

9 Civic Way, Suite 100 spect, KY 40059 02 409.4062 F 502.919.1521 angers@CMTA.COM

CMTA Energy Solution

RANTEED ENERGY SAVINGS CONTRAC NANCY ELEMENTARY SCHOOL NANCY, KENTUCKY

REVISIONS

DATE: 3/18/20 DRAWN: **M**CB

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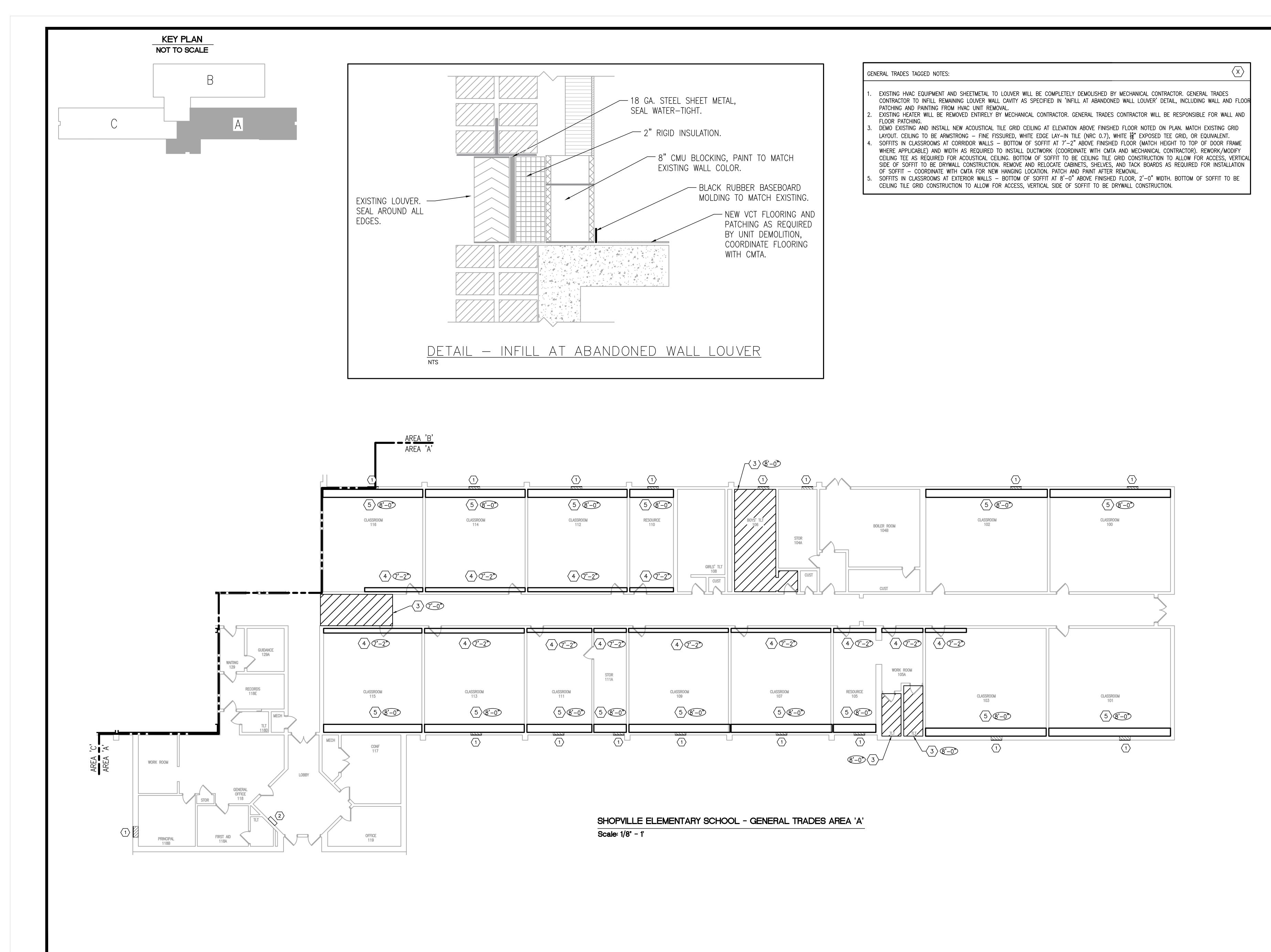
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SHOPVILLE ELEMENTARY SCHOOL

10 MARK SHOPVILLE ROAD, SOMERSET, KENTUCKY 42503 GENERAL TRADES DRAWINGS

General Notes

- COMPLETE ALL INSTALLATION WORK DURING HOURS COORDINATED WITH THE OWNER'S CLASS AND STAFF OCCUPANCY SCHEDULES. CONTRACTOR SHALL PROVIDE AN OVERALL PROJECT SCHEDULE AND SHALL COORDINATE A BI-WEEKLY TASK SCHEDULE WITH THE CMTA CONSTRUCTION MANAGER TO ALLOW FOR APPROPRIATE COORDINATION WITH THE OWNER.
- PROVIDE ALL LADDERS, LIFTS AND SCAFFOLDS REQUIRED TO ACCESS WORK AREAS.
- PROVIDE ALL REQUIRED EQUIPMENT TO PERFORM WORK.
- MAINTAIN SAFE WORK HABITS AND UTILIZE ALL NECESSARY SAFETY EQUIPMENT.
- CLEAN ALL WORK AREAS AFTER INSTALLATION WORK IS COMPLETE. ALL CONSTRUCTION DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED BY CONTRACTOR.
- PROVIDE ON-SITE DUMPSTER AS NECESSARY. CONSTRUCTION DEBRIS NOT TO BE PLACED IN OWNER'S DUMPSTERS OR TRASH CANS.
- PROVIDE ON-SITE PORTABLE TOILETS AS NECESSARY.
- REFER TO MECHANICAL PLANS FOR FULL EXTENT OF MECHANICAL SCOPE AS IT RELATES TO THE GENERAL TRADES SCOPE.
- PROVIDE ALL NECESSARY MATERIAL AND LABOR INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING AS REQUIRED TO COMPLETE THE SCOPE OF WORK PER DRAWINGS AND SPECIFICATIONS: a. PERMIT AND FEES
 - b. DEMOLITION AND INSTALLATION LABOR
 - c. SHEET METAL
 - d. INSULATION
 - e. CEILING TILE AND T-GRID
 - f. DRYWALL, JOINT COMPOUND, FRAMING, BLOCK, ETC.
 - g. ALL OTHER MISCELLANEOUS REQUIRED MATERIALS TO COMPLETE THE SCOPE OF WORK



NOTFORTION

CMTA Energy Solutions

PULASKI COUNTY SCHOOLS Uaranteed energy savings contrac Shopville elementary school

SHOPVILLE ELEMENTARY

REVISIONS

ATE: 3/18/2022 RAWN: MCB HECKED:

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GENERAL TRADES TAGGED NOTES:

EXISTING HVAC EQUIPMENT AND SHEETMETAL TO LOUVER WILL BE COMPLETELY DEMOLISHED BY MECHANICAL CONTRACTOR. GENERAL TRADES CONTRACTOR TO INFILL REMAINING LOUVER WALL CAVITY AS SPECIFIED IN 'INFILL AT ABANDONED WALL LOUVER' DETAIL, INCLUDING WALL AND FLOOR PATCHING AND PAINTING FROM HVAC UNIT REMOVAL.

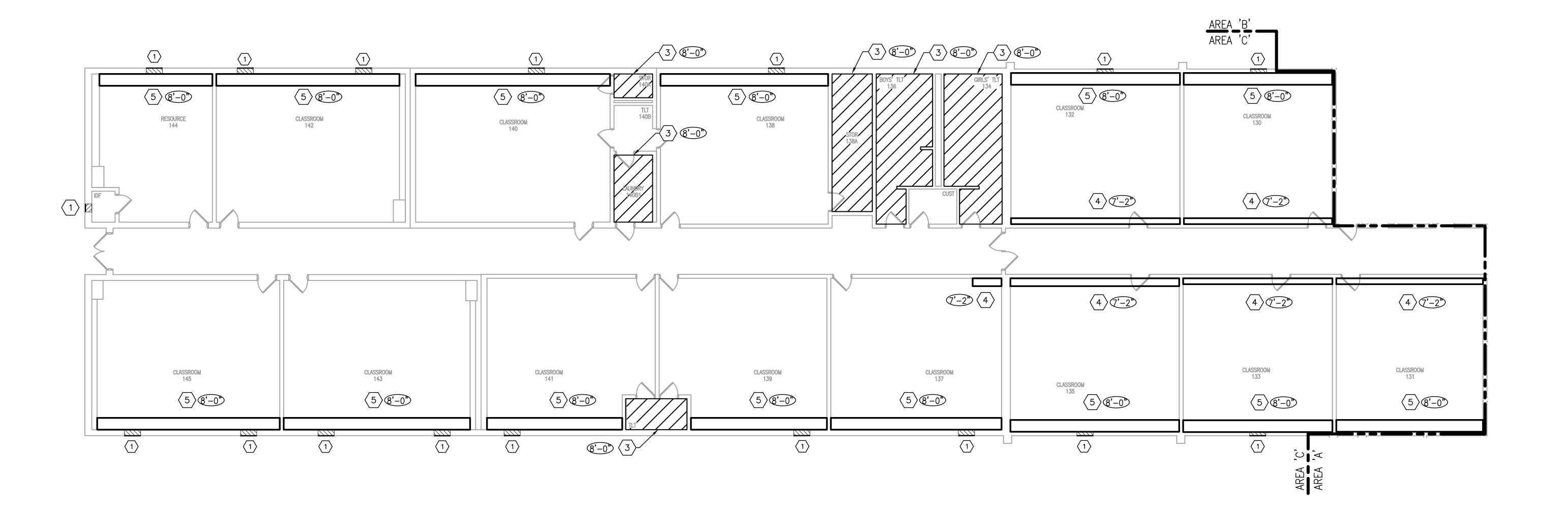
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LAYOUT. CEILING TO BE ARMSTRONG – FINE FISSURED, WHITE EDGE LAY—IN TILE (NRC 0.7), WHITE $\frac{15}{16}$ " EXPOSED TEE GRID, OR EQUIVALENT. 4. SOFFITS IN CLASSROOMS AT CORRIDOR WALLS — BOTTOM OF SOFFIT AT 7'-2" ABOVE FINISHED FLOOR (MATCH HEIGHT TO TOP OF DOOR FRAME WHERE APPLICABLE) AND WIDTH AS REQUIRED TO INSTALL DUCTWORK (COORDINATE WITH CMTA AND MECHANICAL CONTRACTOR). REWORK/MODIFY CEILING TEE AS REQUIRED FOR ACOUSTICAL CEILING. BOTTOM OF SOFFIT TO BE CEILING TILE GRID CONSTRUCTION TO ALLOW FOR ACCESS, VERTICAL SIDE OF SOFFIT TO BE DRYWALL CONSTRUCTION. REMOVE AND RELOCATE CABINETS, SHELVES, AND TACK BOARDS AS REQUIRED FOR INSTALLATION

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CEILING TILE GRID CONSTRUCTION TO ALLOW FOR ACCESS, VERTICAL SIDE OF SOFFIT TO BE DRYWALL CONSTRUCTION.

OF SOFFIT - COORDINATE WITH CMTA FOR NEW HANGING LOCATION. PATCH AND PAINT AFTER REMOVAL.

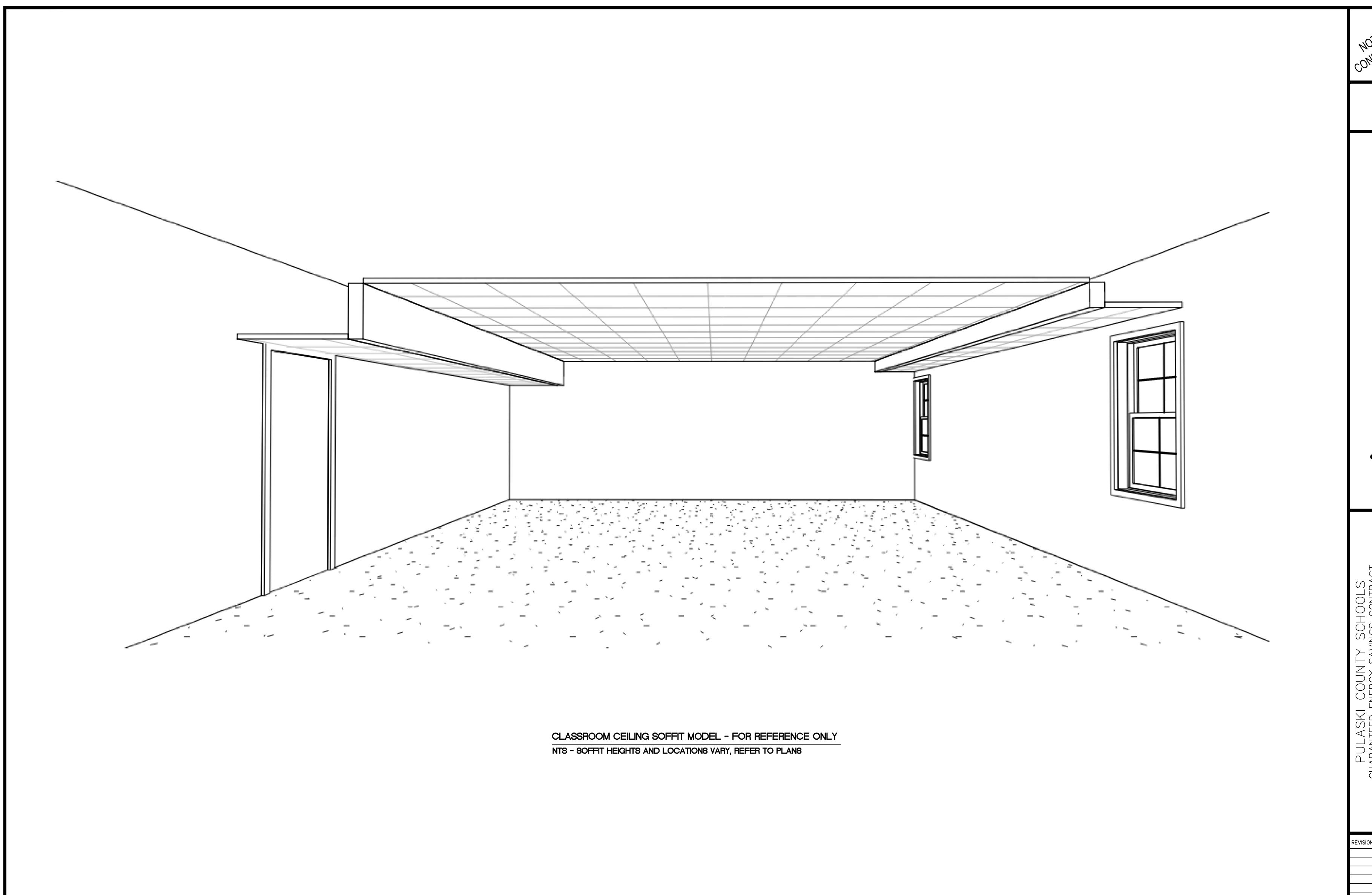


SHOPVILLE ELEMENTARY SCHOOL - GENERAL TRADES AREA 'C'

Scale: 1/8" - 1'

REVISIONS

DRAWN: MCB





DATE: 3/18/2022
DRAWN: MCB

PULASKI COUNTY SCHOOLS GUARANTEED ENERGY SAVINGS CONTRACT

ENERGY SERVICES COMPANY & CONSULTING ENGINEERS



DRAWING INDEX

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M1-3.1A - MECHANICAL - AREA A M1-3.1B - MECHANICAL - AREA B M1-3.1C - MECHANICAL - AREA C M1-3.2 - ROOF PLAN - MECHANICAL

M1-4.0 - ENLARGED MECHANICAL PLANS M1-4.1 - PIPING SCHEMATICS

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M2-3.0B - SITE PLAN DETAILS M2-3.1A - AIR DISTRIBUTION - AREA A M2-3.1B - AIR DISTRIBUTION - AREA B M2-3.1C - AIR DISTRIBUTION - AREA C

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M-6.1 - MECHANICAL DETAILS M-7.0 - MECHANICAL SCHEDULES M-7.1 - MECHANICAL SCHEDULES M-7.2 - MECHANICAL SCHEDULES

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PULASKI COUNTY HIGH SCHOOL

SOUTHWESTERN HIGH SCHOOL

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M5-3.0 - ENLARGED FLOOR PLAN - AREA D - MECHANICAL

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M-7.2.3 - SECOND FLOOR PLAN - AREA 'G' - HVAC DEMOLITION

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M-7.3.0 - FIRST FLOOR PLAN - AREA 'B' - HVAC

M-7.3.1 - FIRST FLOOR PLAN - AREA 'C' - HVAC

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EUBANK ELEMENTARY SCHOOL

E1.0 - ELECTRICAL LEGEND - BP2 E1-2.1A - FIRST FLOOR ELECTRICAL DEMOLITION - AREA 'A' E5-2.0 - FIRST FLOOR ELECTRICAL - AREA D E1-2.1B - FIRST FLOOR ELECTRICAL DEMOLITION - AREA 'E E1-2.1C - FIRST FLOOR ELECTRICAL DEMOLITION - AREA 'C' E1-2.2 - ROOF ELECTRICAL DEMOLITION E1-3.1A - FIRST FLOOR ELECTRICAL - AREA 'A'

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NANCY ELEMENTARY SCHOOL

E2-3.2 - ROOF ELECTRICAL

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E2-3.1B - FIRST FLOOR ELECTRICAL - AREA B

E2-3.1C - FIRST FLOOR ELECTRICAL - AREA C

SHOPVILLE ELEMENTARY SCHOOL

E3-3.2 - ROOF ELECTRICAL

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ELECTRICAL:

SOUTHERN ELEMENTARY SCHOOL

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PULASKI COUNTY HIGH SCHOOL

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SOUTHWESTERN HIGH SCHOOL

E7-2.0 - FIRST FLOOR ELECTRICAL DEMOLITION - AREA B E7-2.1 - SECOND FLOOR ELECTRICAL DEMOLITION - AREA E7-2.2 - SECOND FLOOR ELECTRICAL DEMOLITION - AREA E7-3.0 - FIRST FLOOR ELECTRICAL - AREA B E7-3.1 - SECOND FLOOR ELECTRICAL - AREA H

VICINITY / LOCATOR MAP

EUBANK ELEMENTARY SCHOOL EUBANK, KY 42567

OAK HILL ELEMENTARY SCHOOL 1755 WTLO ROAD SOMERSET, KY 42503

NANCY ELEMENTARY SCHOOL 240 KY-196. NANCY, KY 42544

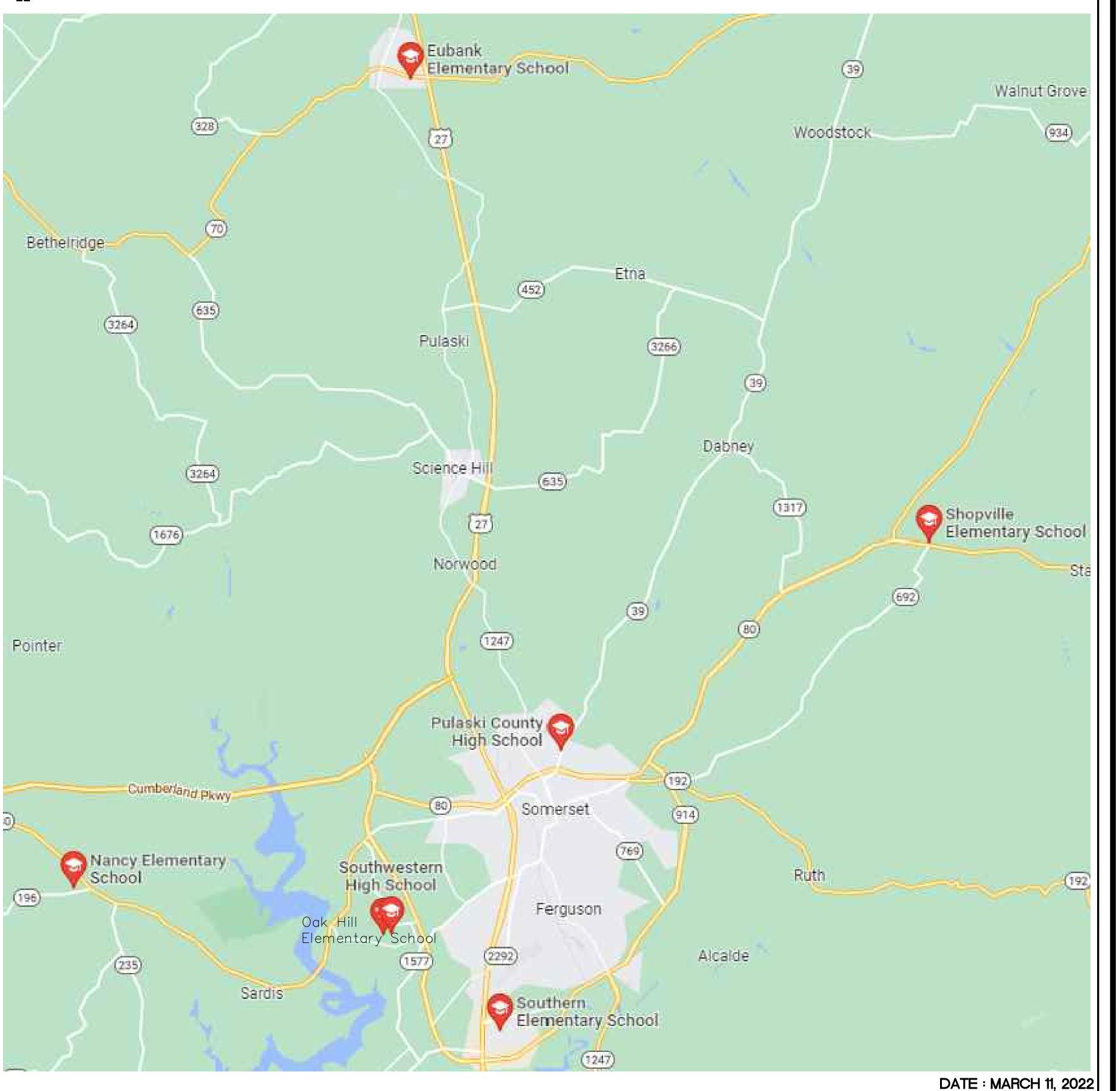
SHOPVILLE ELEMENTARY SCHOOL 10 MARK SHOPVILLE RD SOMERSET, KY 42503

SOUTHERN ELEMENTARY 198 ENTERPRISE DR. SOMERSET, KY 42501

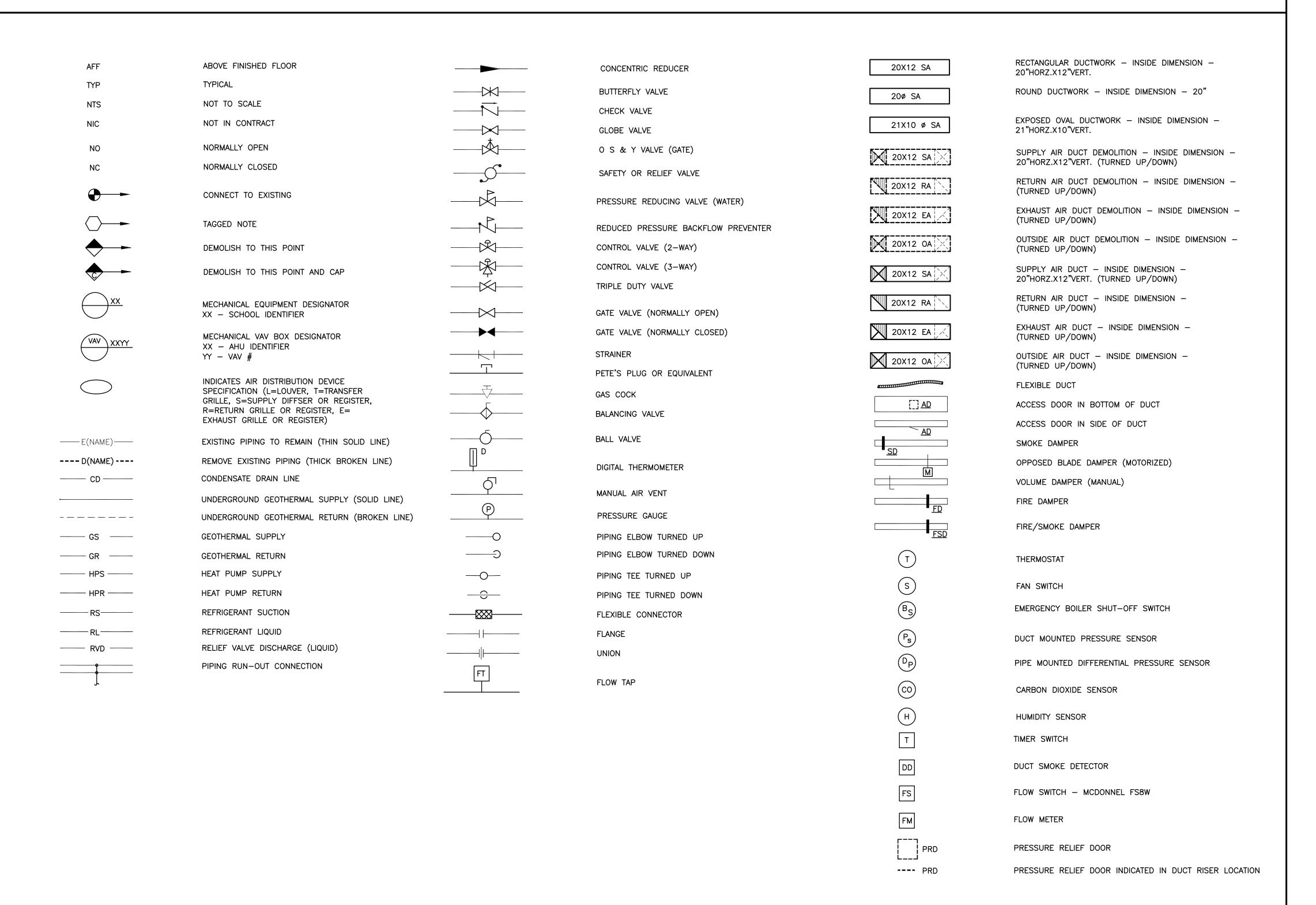
PULASKI COUNTY HIGH SCHOOL 511 UNIVERSITY DR, SOMERSET, KY 42503

SOUTHWESTERN HIGH SCHOOL SOMERSET, KY 42503





MECHANICAL LEGEND



GENERAL NOTES - APPLICABLE TO ALL DRAWINGS:

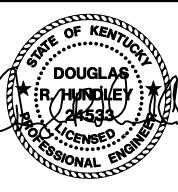


- A. EACH CONTRACTOR, SUPPLIER AND, OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS AND AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS.
- 3. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSERS'
- C. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC., IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING AND/OR THE COLLECTION OF CONDENSATION THEREON.
- D. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).
- E. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT DONE SO SHALL BE REMOVED AND REINSTALLED SATISFACTORILY.
- F. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION.
- G. DO NOT SCALE FROM DRAWINGS, PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.
- H. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK.
 ALL CUTTING AND PATCHING SHALL MATCH EXISTING ADJACENT SURFACES.
- I. TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, OUTSIDE, AND EXHAUST DUCT WORK
- J. THESE DRAWINGS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE, HOWEVER LOCATIONS, DEPTHS, ELEVATIONS AND SIZES WERE TAKEN FROM DIFFERENT SOURCES AND ARE SUBJECT TO DEVIATION. THE CONTRACTOR SHALL ASSUME SOME DEVIATIONS AND INCLUDE OFFSETS, ADDITIONAL PIPING, ETC AT THE
- K. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATIONS IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANY WAY.
- ADVISE THE ENGINEERS OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.
- I. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
- N. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, ETC. WITH ALL MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
- O. THE PURPOSE AND INTENT OF ALL THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.
- P. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
- Q. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION.
- R. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING. DO NOT SUPPORT EQUIPMENT FROM WALLS OR PARTITIONS.
- EQUIPMENT FROM WALLS OR PARTITIONS.

 S. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE

PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT.

- T. ENSURE PROPER COORDINATION BETWEEN ALL TRADES SUCH THAT CONDUITS, PIPING, DUCTWORK, ETC. DO NOT BLOCK ACCESS TO VALVES, EQUIPMENT, DUCT ACCESS DOORS, ETC. ITEMS THAT HAVE BEEN INSTALLED WHERE ACCESS IS COMPROMISED SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
- INCLUDE IN BID ALL COST ASSOCIATED WITH DRAINING AND FILLING ALL PIPING SYSTEMS AS REQUIRED TO INSTALL WORK.



BID SET

9519 Civic Way, Suite 100 Prospect, KY 40059 T 502 409.4062 F 502 919.15 MBrangers@CMTA.COM



Pulaski County Schools GUARANTEED ENERGY SAVINGS CONTRA

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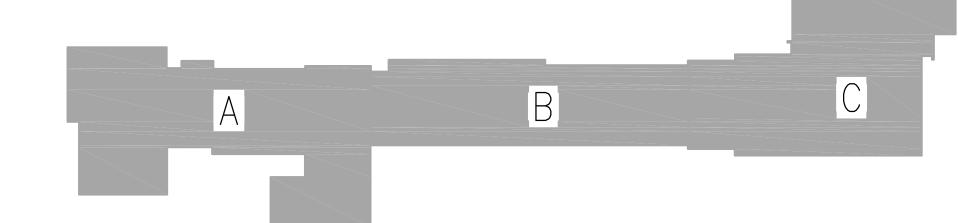
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DRAWN: EM, LA, HC, NT
CHECKED: CG

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M-

WELL LOOP Schedule					
WELLFIELD DESIGNATION	WELL DEPTH	PIPE SIZE	GPM PER WELL		
1	208'	1"	4.75		
2	225'	1"	4.60		
3	243'	1"	5.00		



DOUGLAS

R. HUNDLEY

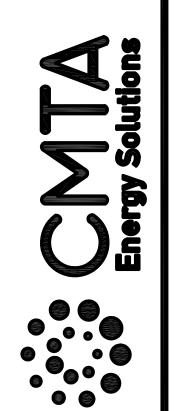
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9 Civic Way, Suite 100 spect, KY 40059 02 409.4062 F 502 919.152 trangers@CMTA.COM



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Pulaski County School GUARANTEED ENERGY SAVINGS C EUBANK ELEMENTARY SCI Eubank, KY

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DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

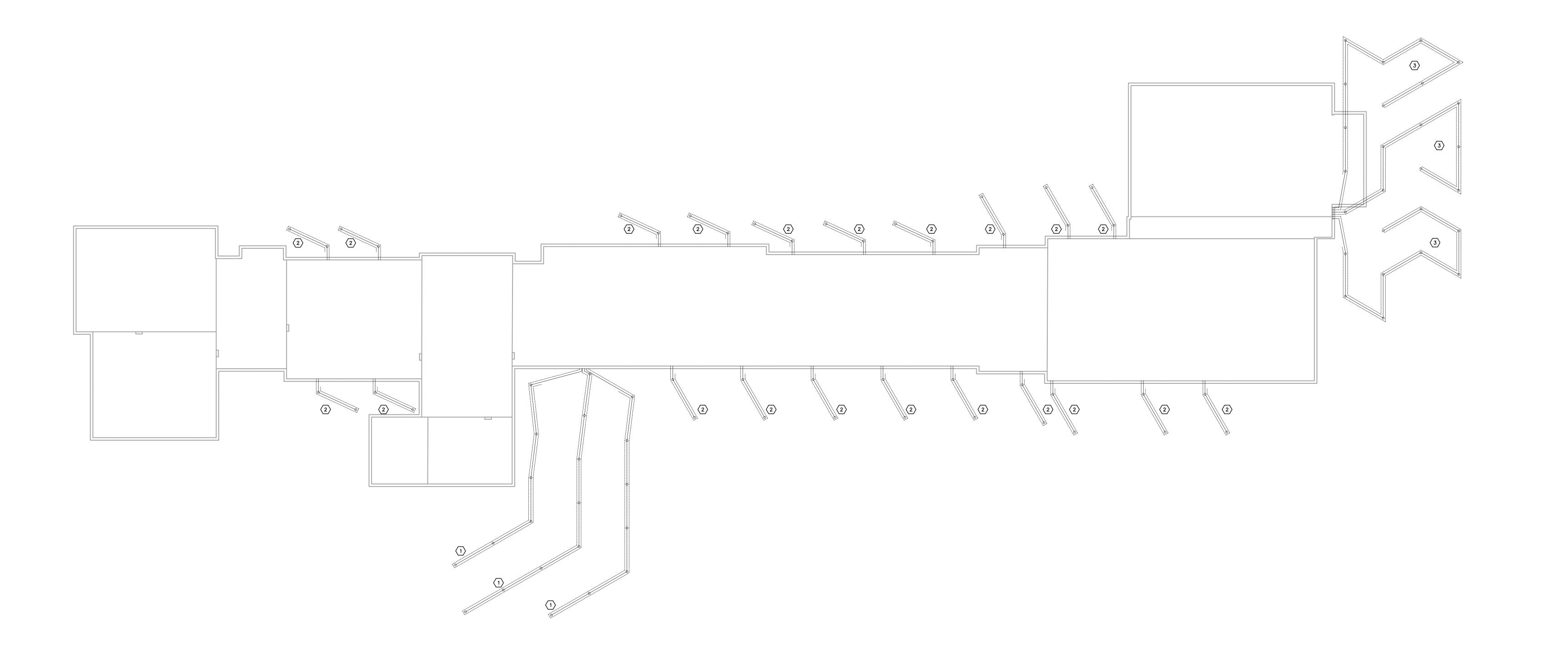
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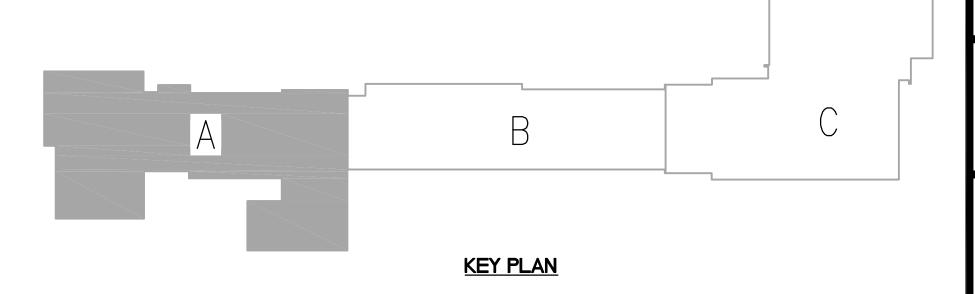


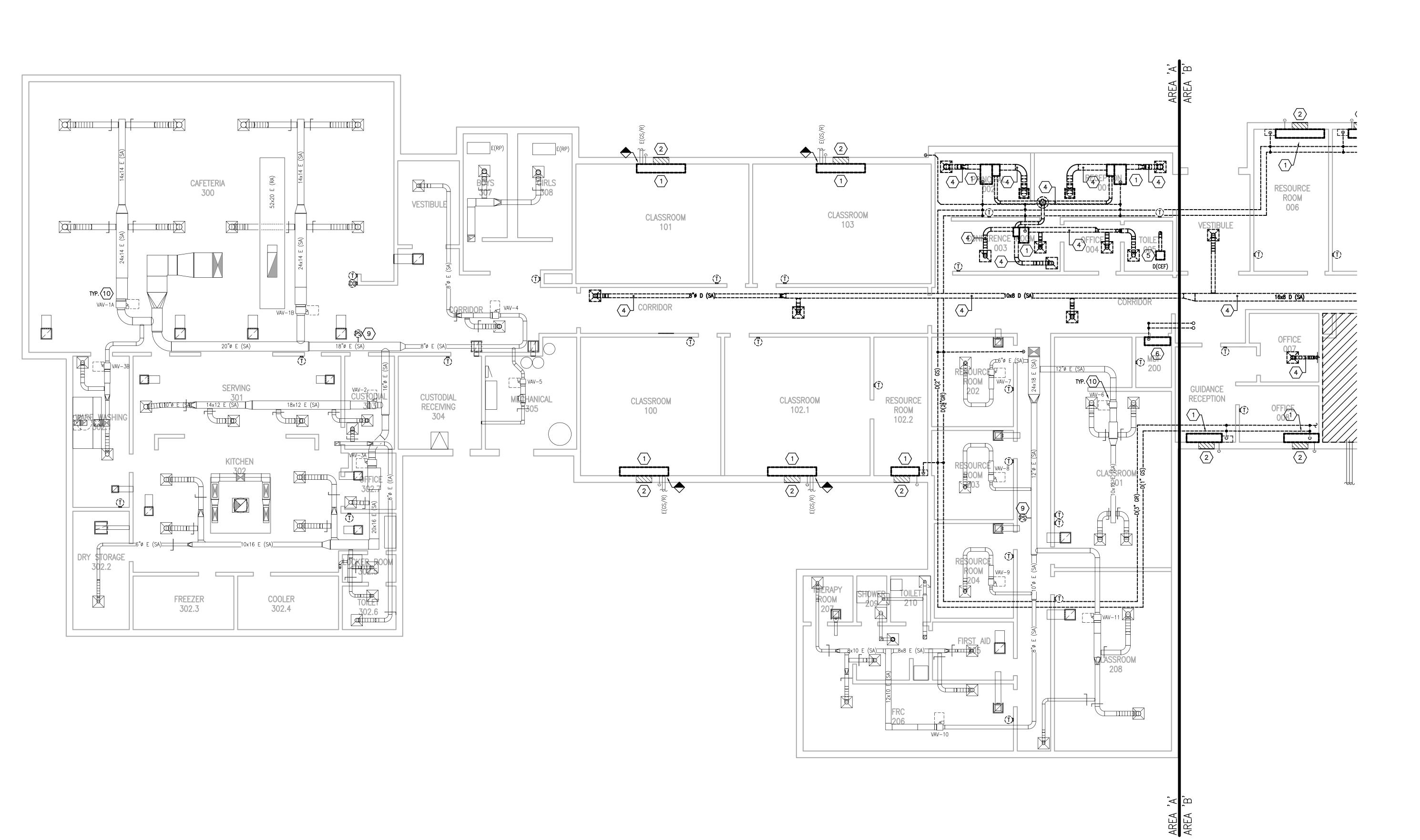
EXISTING VAV DESIGN AIRFLOW					
TAG	AIRFLOW	TAG	AIRFLOW		
VAV-1A	2000 CFM	VAV-6	1204 CFM		
VAV-1B	2000 CFM	VAV-7	180 CFM		
VAV-2	1385 CFM	VAV-8	180 CFM		
VAV-3A	1527 CFM	VAV-9	180 CFM		
VAV-3B	300 CFM	VAV-10	540 CFM		
VAV-4	560 CFM	VAV-11	785 CFM		
VAV-5	245 CFM	\bigwedge	<<		

EXISTING VAV DESIGN AIRFLOW				
TAG	AIRFLOW	TAG	AIRFLOW	
VAV-1A	2000 CFM	VAV-6	1204 CFM	
VAV-1B	2000 CFM	VAV-7	180 CFM	
VAV-2	1385 CFM	VAV-8	180 CFM	
VAV-3A	1527 CFM	VAV-9	180 CFM	
VAV-3B	300 CFM	VAV-10	540 CFM	

GENERAL DEMOLITION NOTES:	MECHANICAL DEMOLITION NOTES: #
A. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE	1. EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING,

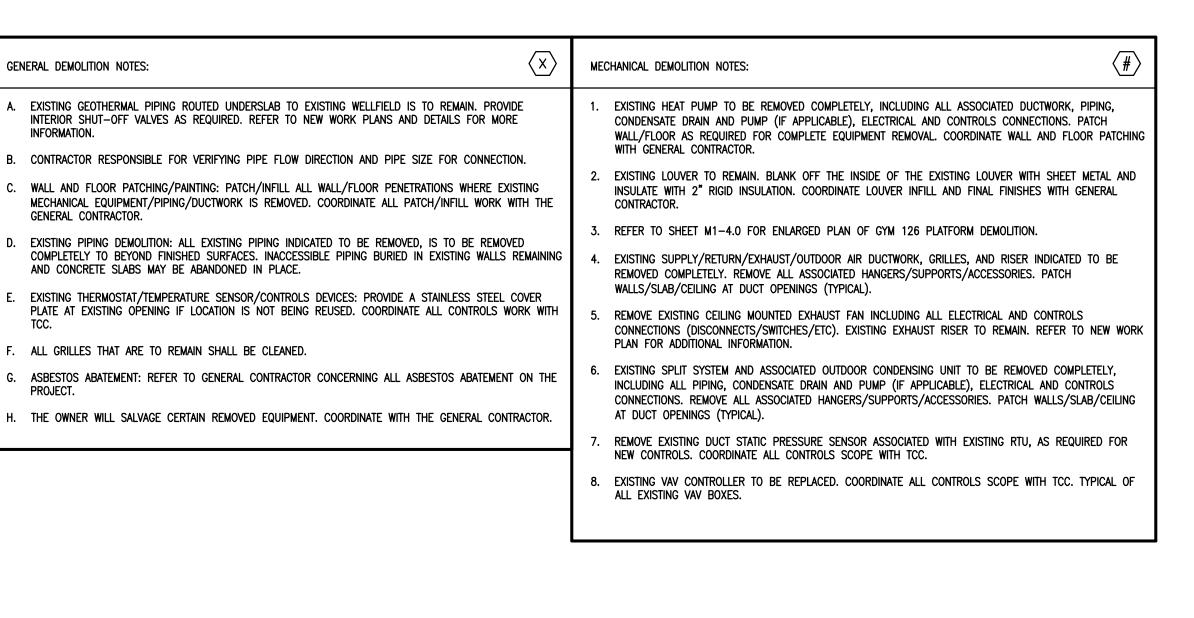
- INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO NEW WORK PLANS AND DETAILS FOR MORE
- . CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION. WALL AND FLOOR PATCHING/PAINTING: PATCH/INFILL ALL WALL/FLOOR PENETRATIONS WHERE EXISTING
- MECHANICAL EQUIPMENT/PIPING/DUCTWORK IS REMOVED. COORDINATE ALL PATCH/INFILL WORK WITH THE GENERAL CONTRACTOR.
- EXISTING PIPING DEMOLITION: ALL EXISTING PIPING INDICATED TO BE REMOVED, IS TO BE REMOVED COMPLETELY TO BEYOND FINISHED SURFACES. INACCESSIBLE PIPING BURIED IN EXISTING WALLS REMAINING AND CONCRETE SLABS MAY BE ABANDONED IN PLACE.
- EXISTING THERMOSTAT/TEMPERATURE SENSOR/CONTROLS DEVICES: PROVIDE A STAINLESS STEEL COVER PLATE AT EXISTING OPENING IF LOCATION IS NOT BEING REUSED. COORDINATE ALL CONTROLS WORK WITH
- ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.
- ASBESTOS ABATEMENT: REFER TO GENERAL CONTRACTOR CONCERNING ALL ASBESTOS ABATEMENT ON THE
- H. THE OWNER WILL SALVAGE CERTAIN REMOVED EQUIPMENT. COORDINATE WITH THE GENERAL CONTRACTOR.
- EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING WITH GENERAL CONTRACTOR. EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND
- INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL REFER TO SHEET M1-4.0 FOR ENLARGED PLAN OF GYM 126 PLATFORM DEMOLITION.
- 4. EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).
- 5. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION.
- 6. EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY, INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).
 - REMOVE EXISTING DUCT STATIC PRESSURE SENSOR ASSOCIATED WITH EXISTING RTU, AS REQUIRED FOR NEW CONTROLS. COORDINATE ALL CONTROLS SCOPE WITH TCC.
 - 3. EXISTING VAV CONTROLLER TO BE REPLACED. COORDINATE ALL CONTROLS SCOPE WITH TCC. TYPICAL OF ALL EXISTING VAV BOXES.

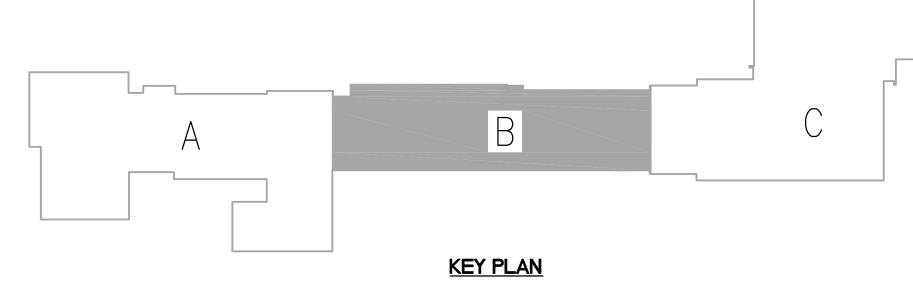


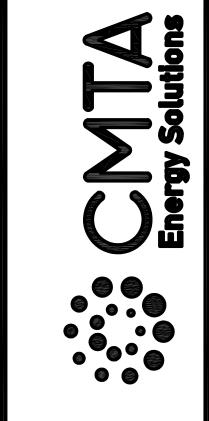


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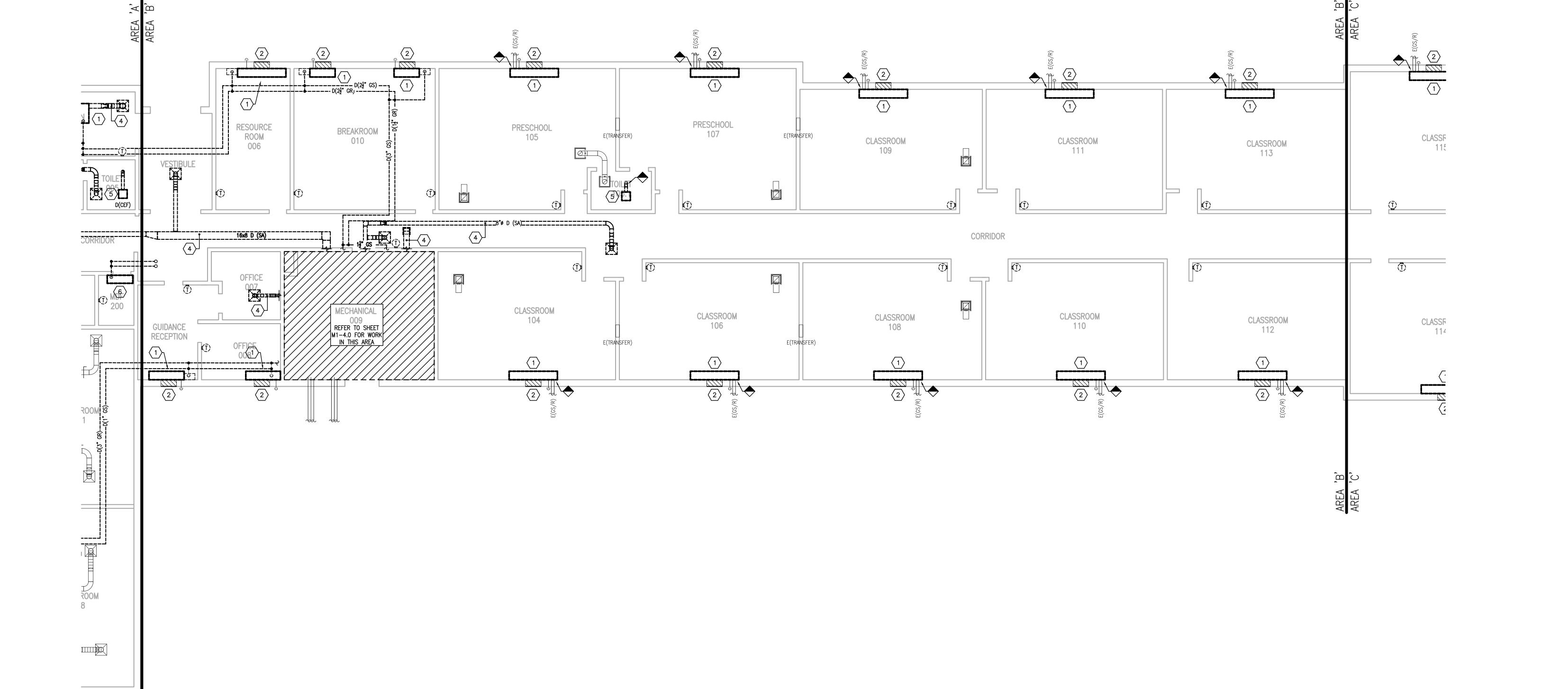


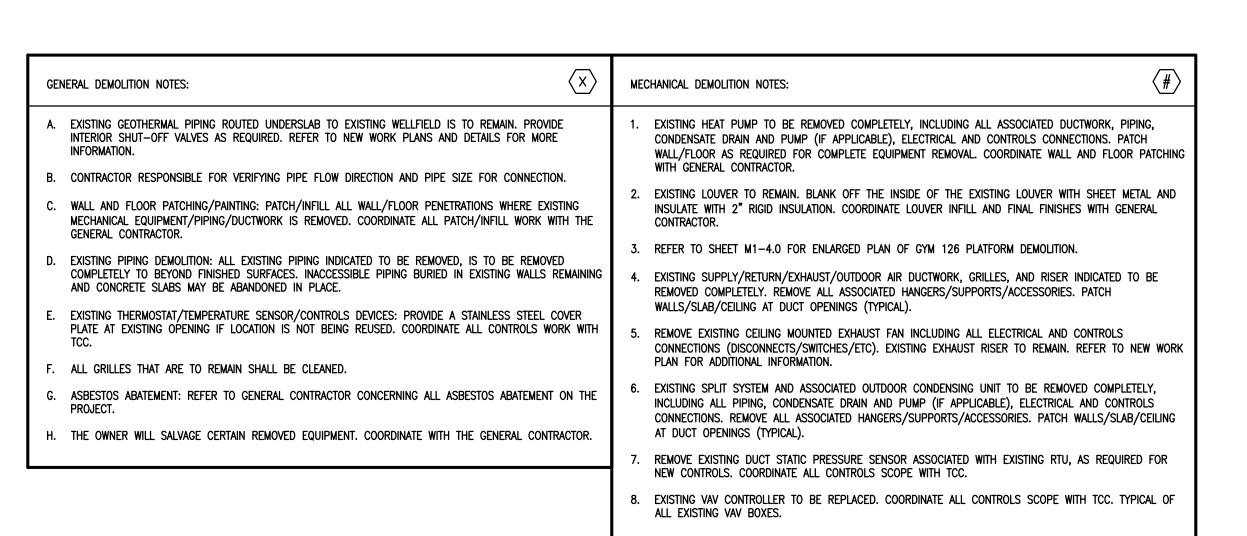


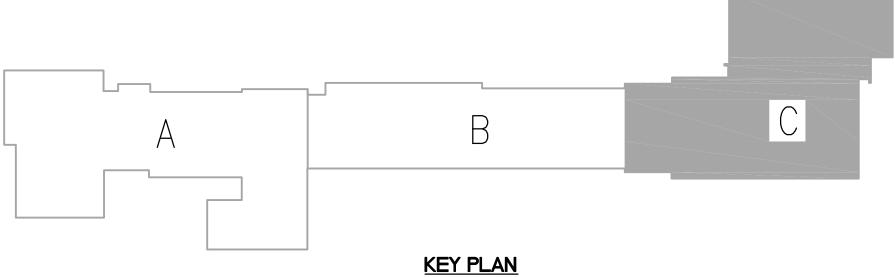


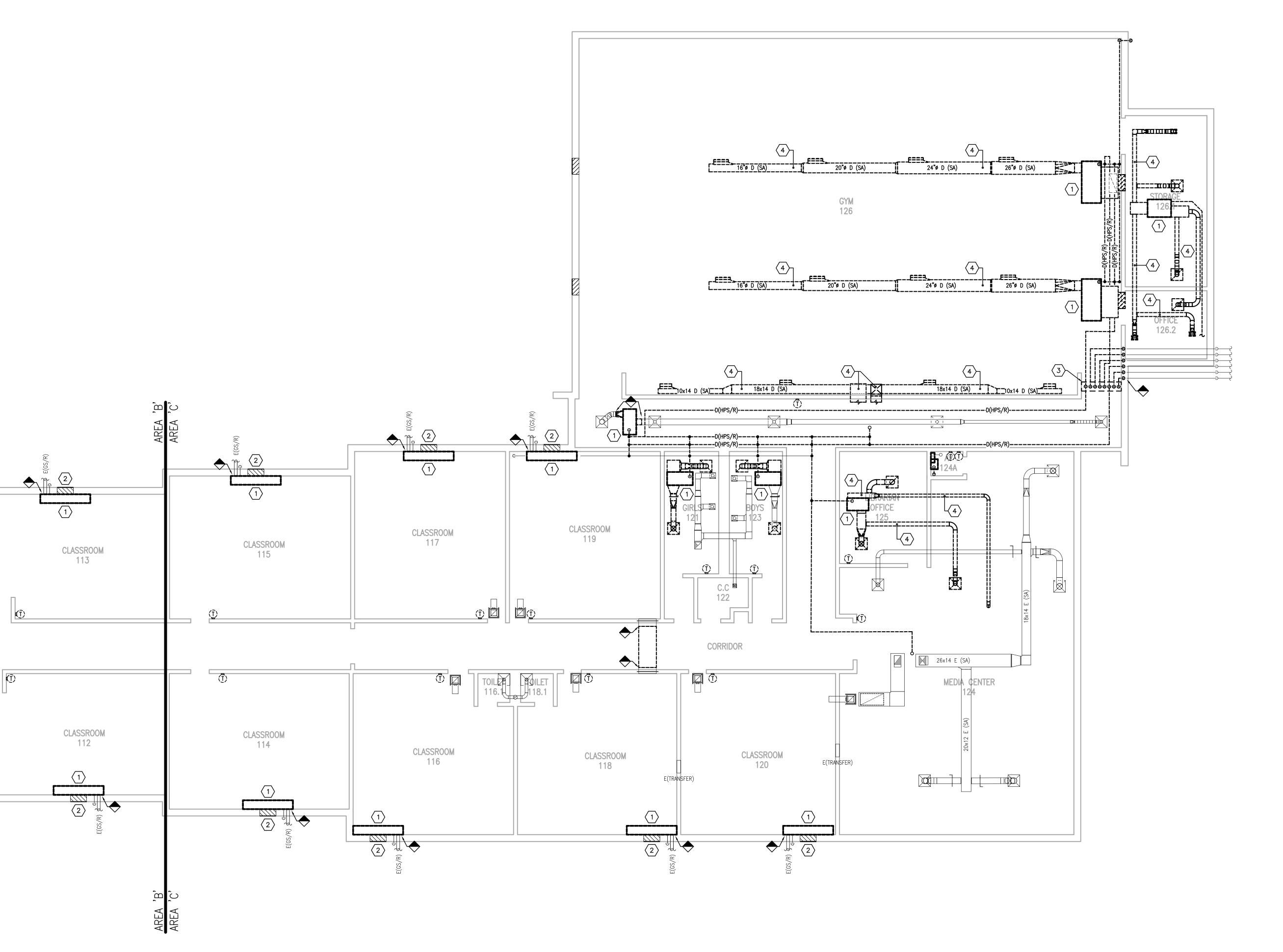
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DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG



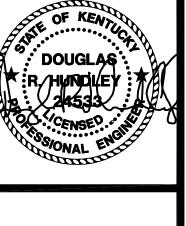






PARTIAL FIRST FLOOR PLAN (AREA C) - MECHANICAL DEMOLITION

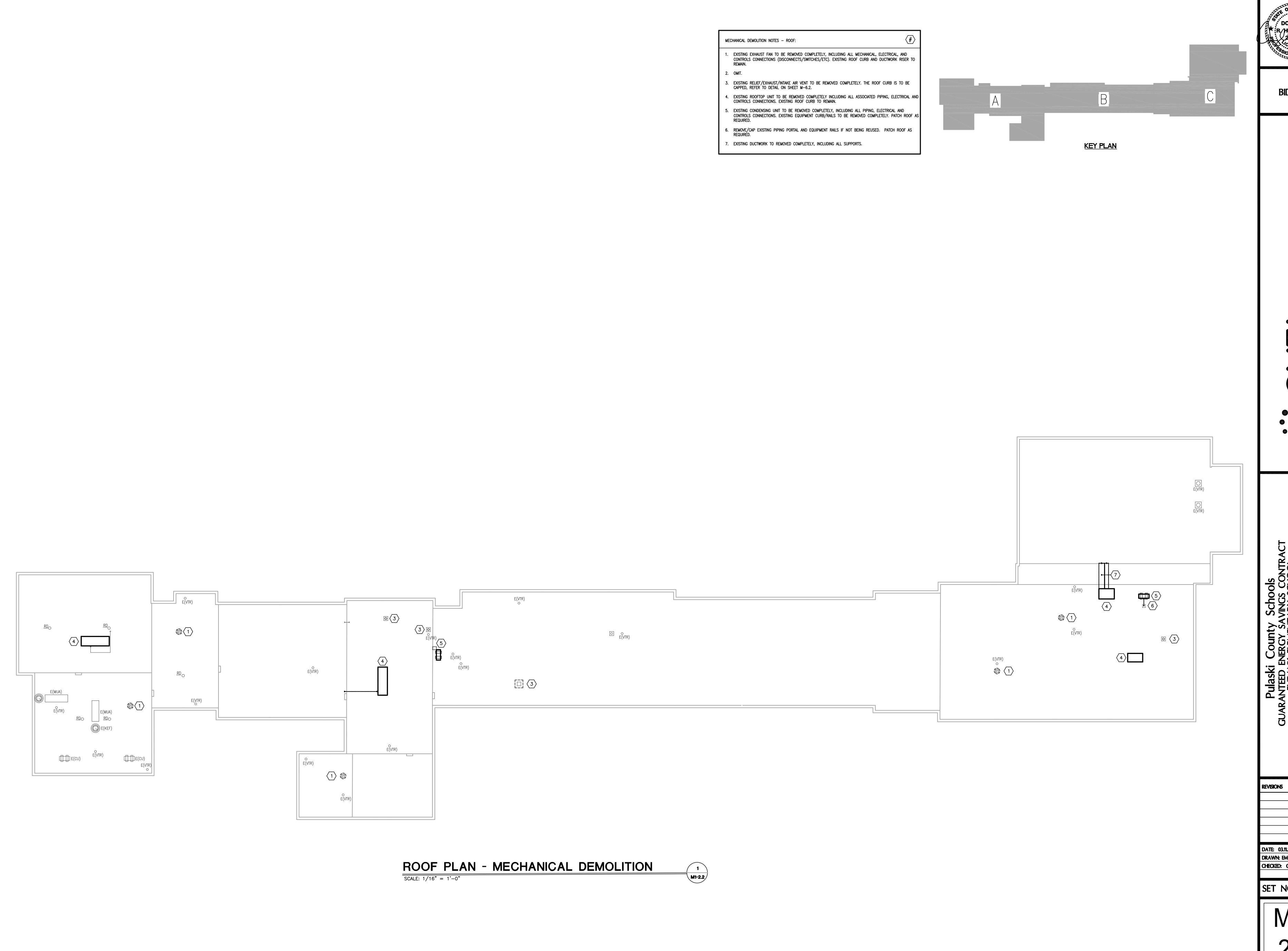
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BID SET

ROOF MECHANICAL DEMOLITION

DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

CHECKED: CG

EXISTING VAV DESIGN AIRFLOW					
TAG	AIRFLOW	TAG	AIRFLOW		
VAV-1A	2000 CFM	VAV-6	1204 CFM		
VAV-1B	2000 CFM	VAV-7	180 CFM		
VAV-2	1385 CFM	VAV-8	180 CFM		
VAV-3A	1527 CFM	VAV-9	180 CFM		
VAV-3B	300 CFM	VAV-10	540 CFM		
VAV-4	560 CFM	VAV-11	785 CFM		
VAV-5	245 CFM		$\overline{}$		

GENERAL NOTES:	MECHANICAL NOTES:
A. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION.	1. PROVIDE A 8"X8" SHEET METAL SLEEVE IN WALL ABOVE
B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.	2. DISCHARGE 8"Ø DUCT ABOVE CEILING.
C. HEAT PUMP INSTALLATION — REFER TO DETAILS ON SHEET M—6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.	3. PROVIDE ESCUTCHEON PLATE AT DUCT PENETRATION.4. EXPOSED DUCTWORK/PIPING TO HAVE CANVAS JACKET A

PROVIDE A HIGH EFFICIENCY TAKE-OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.

E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.

F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.

G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR. H. FIRE DAMPER; REFER TO THE DETAIL ON SHEET M-6.0.

BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING - COORDINATE WITH TAB

TEMPERATURE CONTROL PANELS (TCP) - COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND ELECTRICAL CONTRACTOR.

. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

BOVE THE CEILING FOR RETURN AIR PATH.

4. EXPOSED DUCTWORK/PIPING TO HAVE CANVAS JACKET AND PAINTED. ALL ASSOCIATED STRUCTURAL/PIPING BRACING/HANGERS/SUPPORTS TO BE PAINTED TO MATCH ADJACENT SURFACES. TURN DUCTWORK UP WALL AND TRANSITION TO DOUBLE WALL DUCTWORK AT LOCATION INDICATED.

. PROVIDE PAINT GRIP DUCTWORK TO ALLOW EXPOSED DUCTWORK TO BE PAINTED. ALL ASSOCIATED STRUCTURAL BRACING/HANGERS TO BE PAINTED TO MATCH ADJACENT SURFACES. TURN DUCTWORK UP WALL AND MOUNT GRILLES IN FACE OF DUCTWORK.

EXPOSED ROUND/OVAL DUCTWORK TO BE DOUBLE WALL DUCT AND PAINTED. ALL STRUCTURAL BRACING FOR DUCTWORK TO BE PAINTED TO MATCH EXISTING SURFACES. NO DUCT SEALANT TO BE USED ON DUCTWORK TO BE PAINTED. SUPPORT WITH AIRCRAFT CABLES AND SELF-TIGHTENING LOCKS.

DIFFUSERS SHALL BE INSTALLED AT A 45° ANGLE TOWARDS THE FLOOR. TYPICAL OF ALL DIFFUSERS. 8. SPILL CONDENSATE TO EXISTING FLOOR DRAIN/MOP SINK IN THIS AREA.

PROVIDE FULL SIZE ISOLATION VALVES, 3/4" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON DRAIN LINE.

10. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR

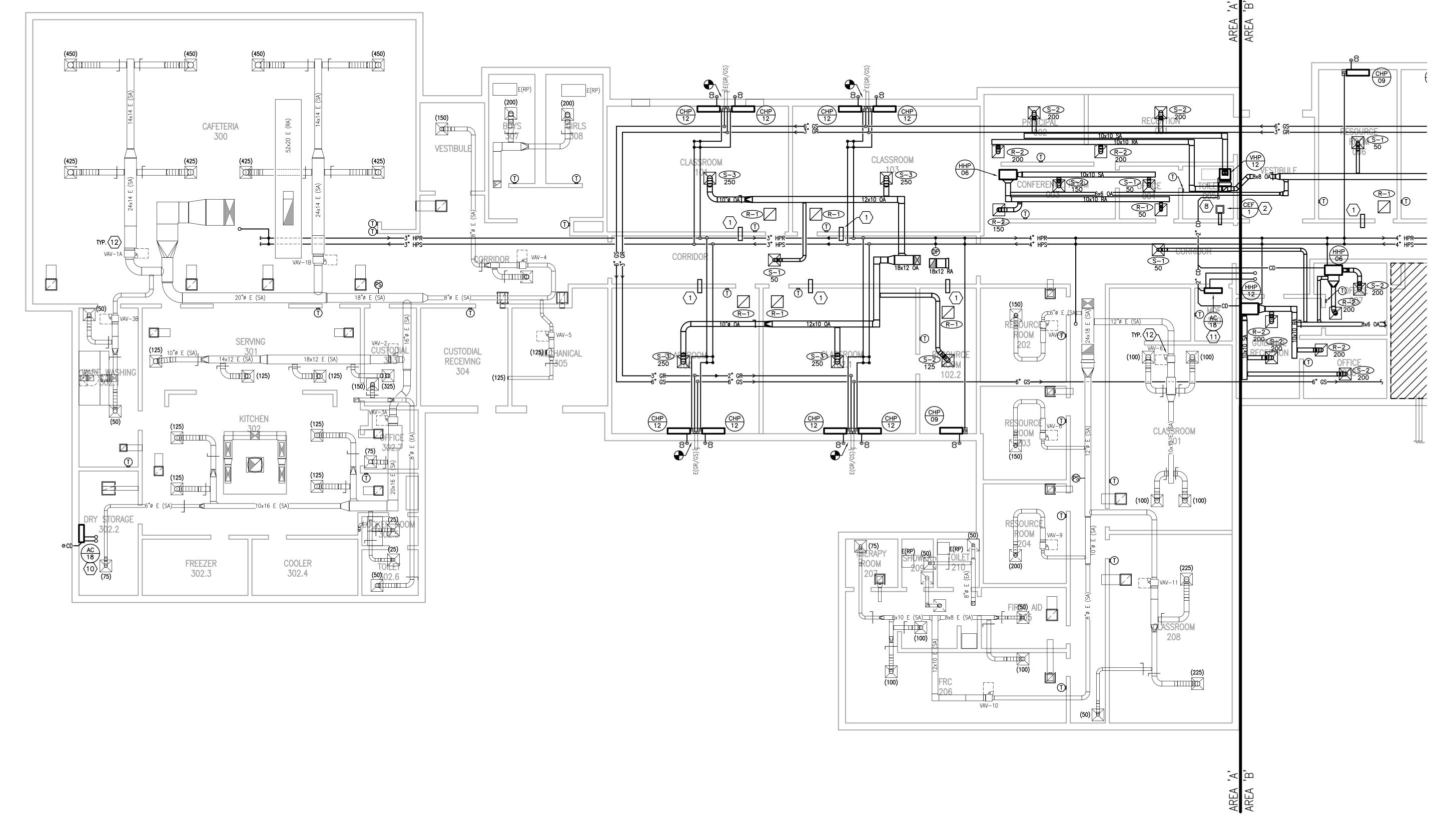
ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE TRAP AND SPILL TO GRADE. 1. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. PROVIDE CONDENSATE PUMP FOR UNIT. PUMP SHALL BE LITTLE GIANT MODEL VCMA WITH $\frac{1}{2}$ GALLON TANK AND OVERFLOW SWITCH. ELECTRICAL DATA: $\frac{1}{50}$ HP MOTOR, 120V/1ø/60 HZ.

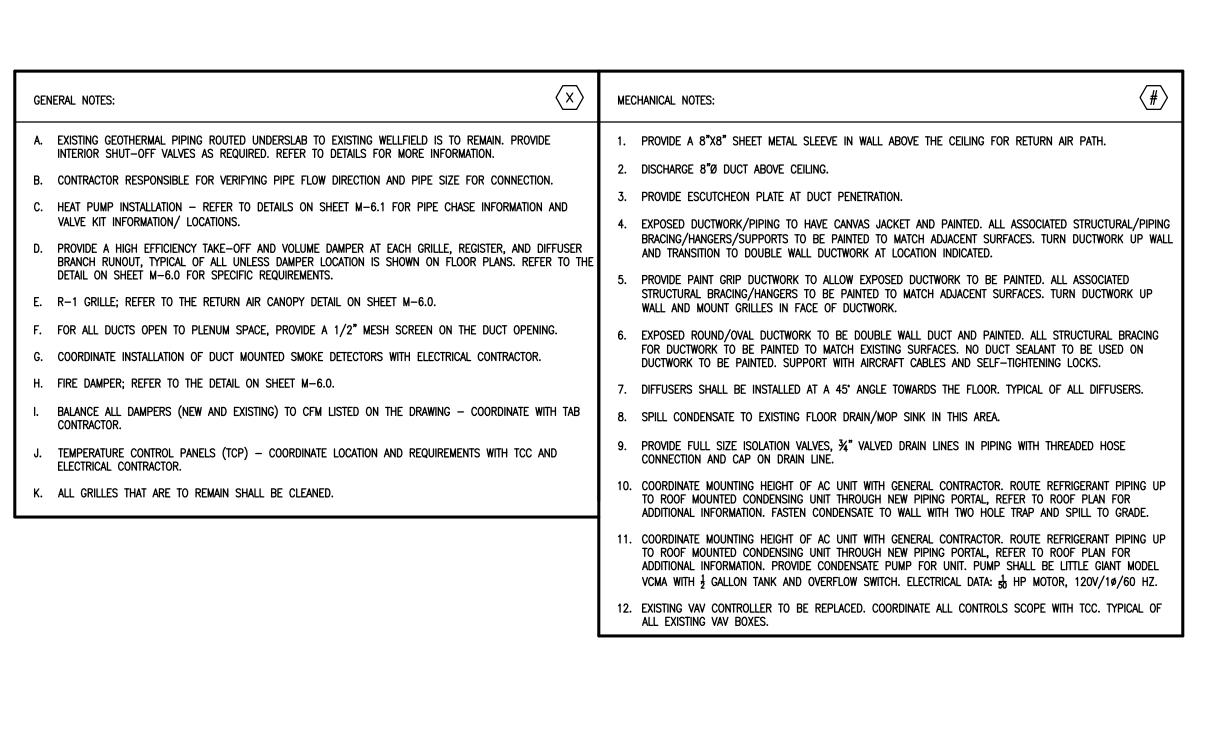
12. EXISTING VAV CONTROLLER TO BE REPLACED. COORDINATE ALL CONTROLS SCOPE WITH TCC. TYPICAL OF ALL EXISTING VAV BOXES.

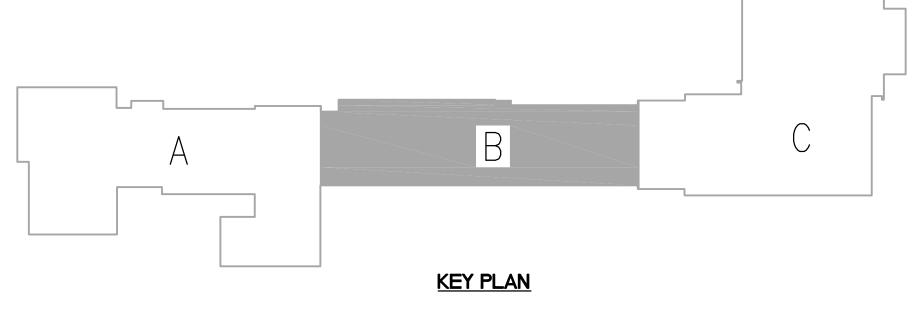
KEY PLAN

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DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG



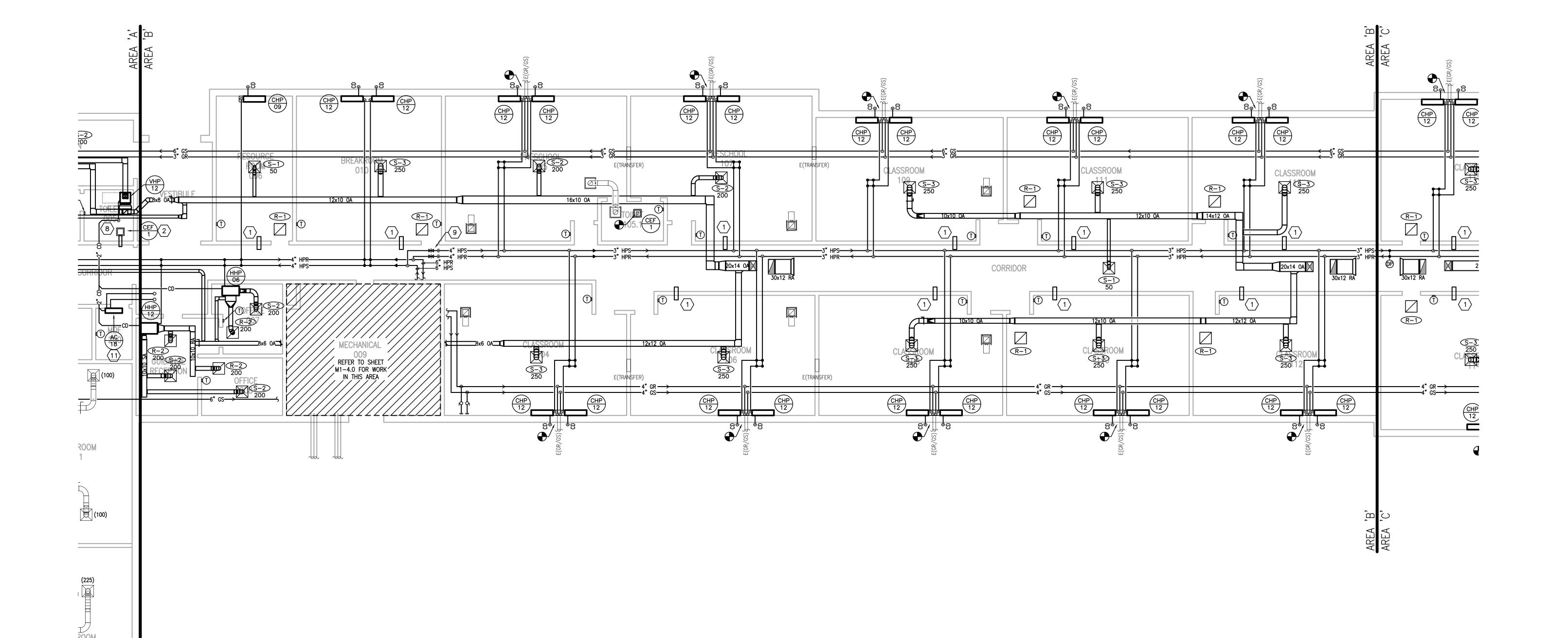




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ELECTRICAL CONTRACTOR.

ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

CONNECTION AND CAP ON DRAIN LINE.

ALL EXISTING VAV BOXES.

10. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP

TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE TRAP AND SPILL TO GRADE. 1. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. PROVIDE CONDENSATE PUMP FOR UNIT. PUMP SHALL BE LITTLE GIANT MODEL VCMA WITH $\frac{1}{2}$ GALLON TANK AND OVERFLOW SWITCH. ELECTRICAL DATA: $\frac{1}{50}$ HP MOTOR, 120V/1ø/60 HZ.

12. EXISTING VAV CONTROLLER TO BE REPLACED. COORDINATE ALL CONTROLS SCOPE WITH TCC. TYPICAL OF

KEY PLAN

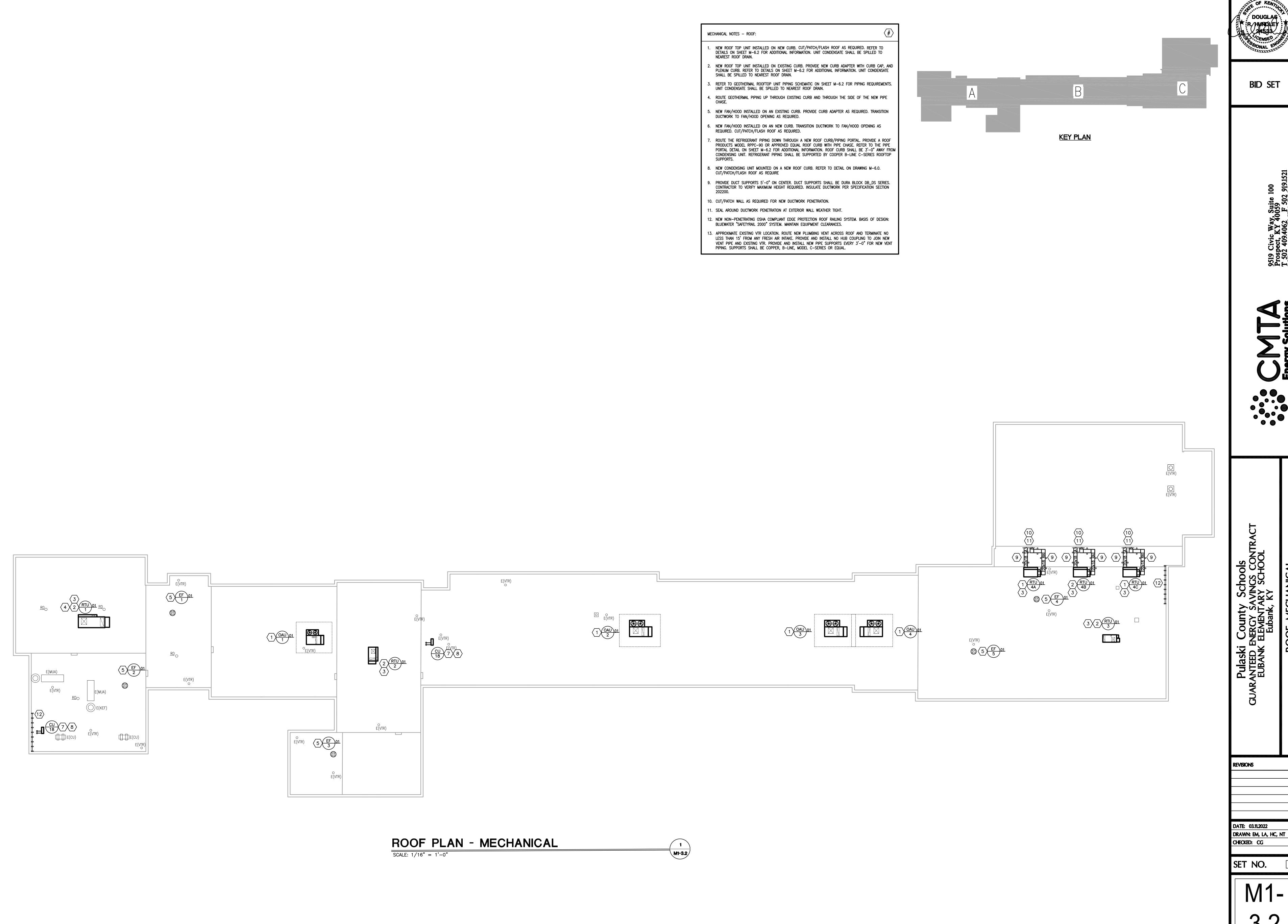
 $\frac{\text{TYP}}{\text{OF 5}} \boxed{7}$ STORAGE 126.1 REFER TO SHEET
M1-4.0 FOR WORK
IN THIS AREA OFFICE 126.2 26x14 E (SA) MEDIA CENTER S-2 200 CHP 12

PARTIAL FIRST FLOOR PLAN (AREA C) - MECHANICAL



BID SET

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG



BID SET

DATE: 03.11.2022

SET NO.

KEY PLAN

ENLARGED MECHANICAL ROOMS:

ACCESSORIES/SUPPORTS.

13. SPILL CONDENSATE TO FLOOR DRAIN.

AND SMOOTH FLOOR AS REQUIRED.

ENLARGED MECHANICAL ROOMS — GENERAL NOTES:

EQUIPMENT/PIPING/DUCTWORK/ETC IS REMOVED.

A. PATCH ALL WALL/ROOF/FLOOR PENETRATIONS WHERE EXISTING MEP

REMOVAL COMPLETELY; REMOVE ALL ABANDONED PADS/SUPPORTS COMPLETELY; PATCH AND SMOOTH FLOOR AS REQUIRED.

REMOVE ALL CONCRETE PADS/SUPPORTS ASSOCIATED WITH MEP EQUIPMENT

EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS. CONCRETE PAD SHALL BE REMOVED; PATCH

EXISTING EXPANSION TANK TO BE COMPLETELY REMOVED INCLUDING ALL ACCESSORIES. CONCRETE PAD SHALL BE REMOVED.

EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT

EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER

HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS

8. EXISTING FILL STATION TO BE REMOVED COMPLETELY. REWORK DOMESTIC WATER CONNECTIONS AS REQUIRED FOR NEW FILL STATION LOCATIONS. PROVIDE ALL NECESSARY VALVES AND ACCESSORIES AS REQUIRED. REFER TO NEW WORK PLANS FOR ADDITIONAL

PROVIDE 4" THICK CONCRETE PAD UNDER MECHANICAL EQUIPMENT. PAD SHALL BE 6" LARGER THAN THE MECHANICAL EQUIPMENT FOOTPRINT IN ALL DIRECTIONS UNLESS SHOWN LARGER ON THE FLOOR PLAN.

12. PROVIDE A UNI-STRUT STAND FOR THE VFD. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR. PROVIDE VERTICAL UNI-STRUT ON WALL MOUNTED VFD'S.

7. ROUTE 8"X8" RETURN AIR DUCT UP AND TERMINATE WITH 1/2" MESH SCREEN.

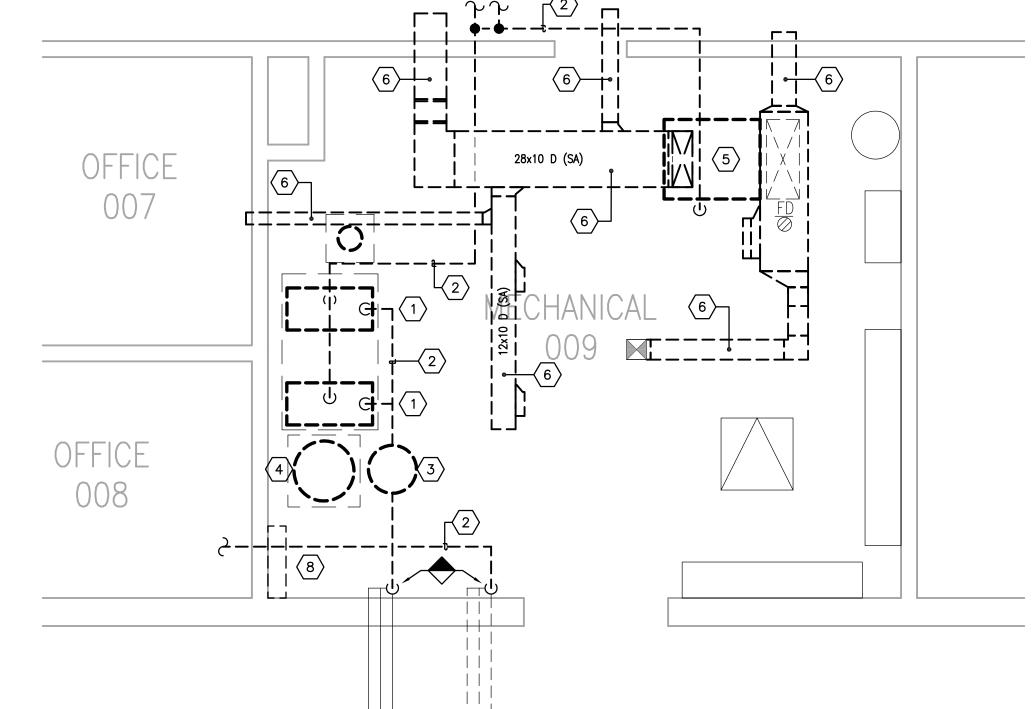
2. EXISTING PIPING AND ALL ASSOCIATED VALVES, HANGERS, AND SUPPORTS TO BE COMPLETELY REMOVED. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL).

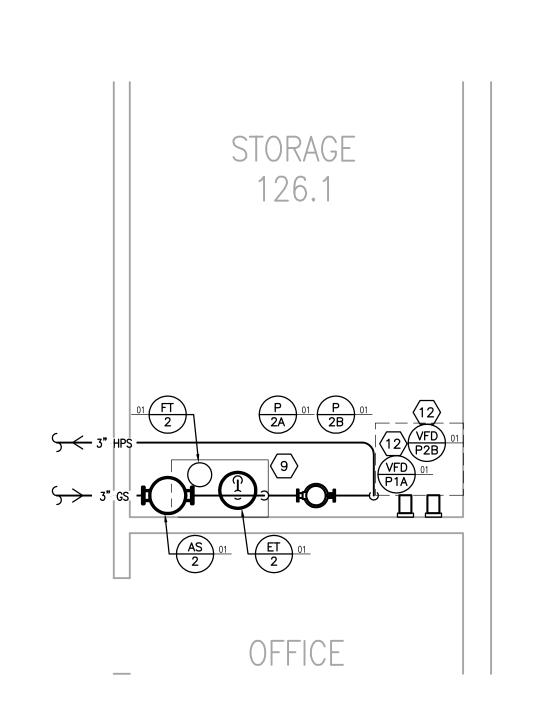
3. EXISTING AIR SEPARATOR TO BE COMPLETELY REMOVED INCLUDING ALL

INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED

OFFICE 126.2

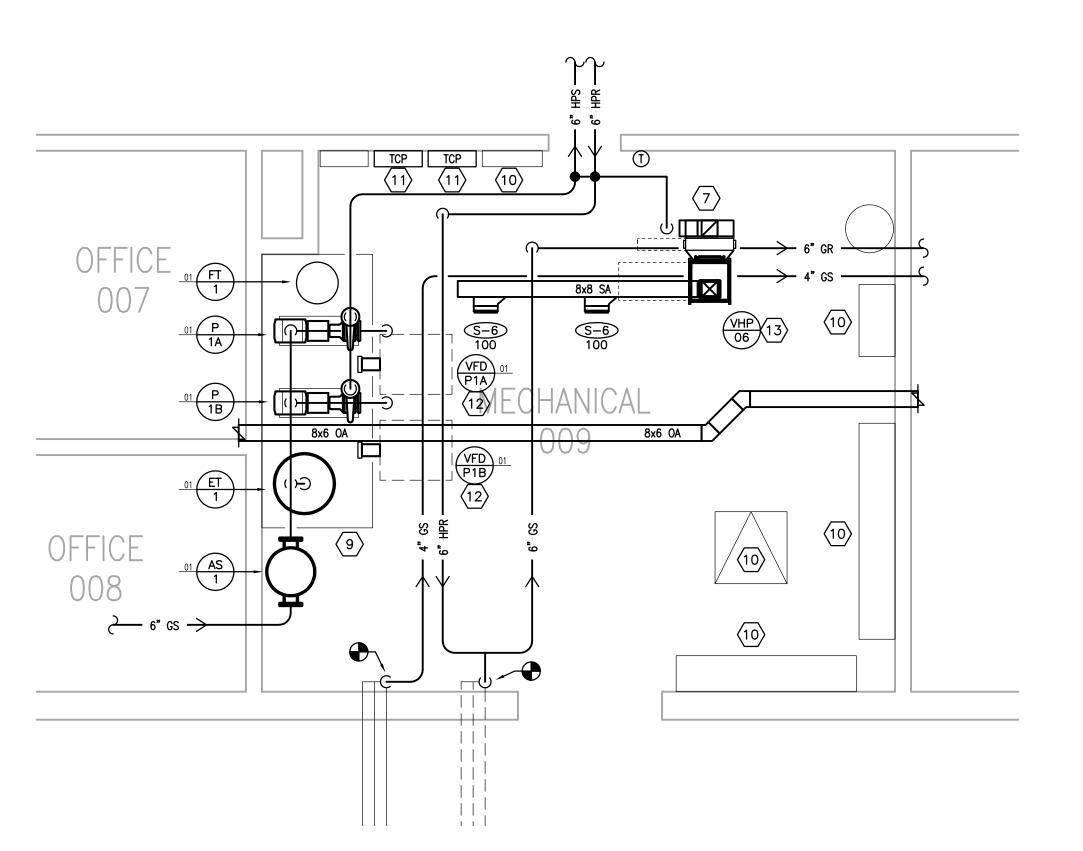
ENLARGED GYM 126 PLATFORM -MECHANICAL DEMOLITION SCALE: 1/4" = 1'-0"





ENLARGED STORAGE 126.1 -**MECHANICAL**

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



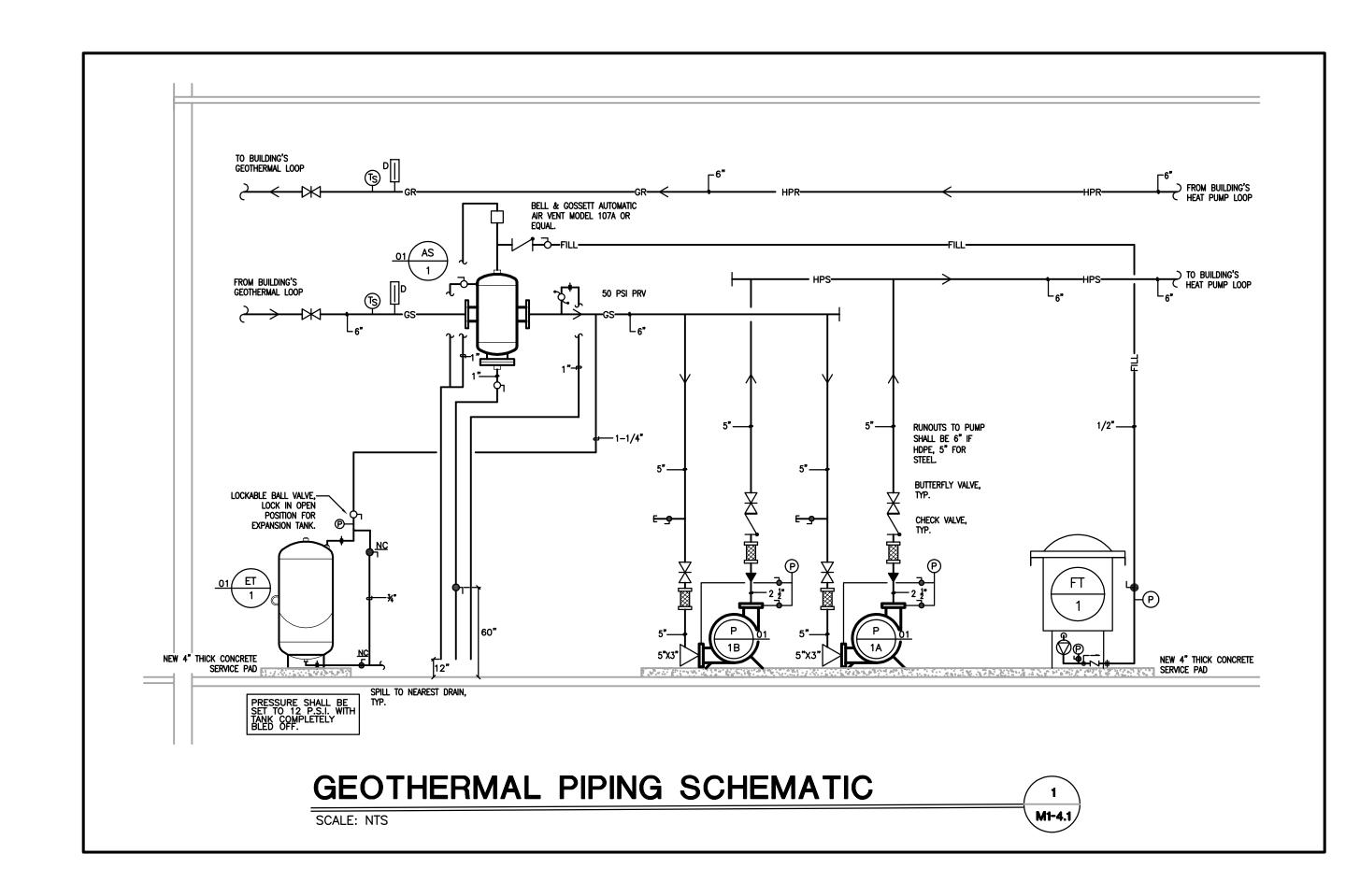
ENLARGED MECHANICAL ROOM 009 -**MECHANICAL** SCALE: 1/4" = 1'-0"

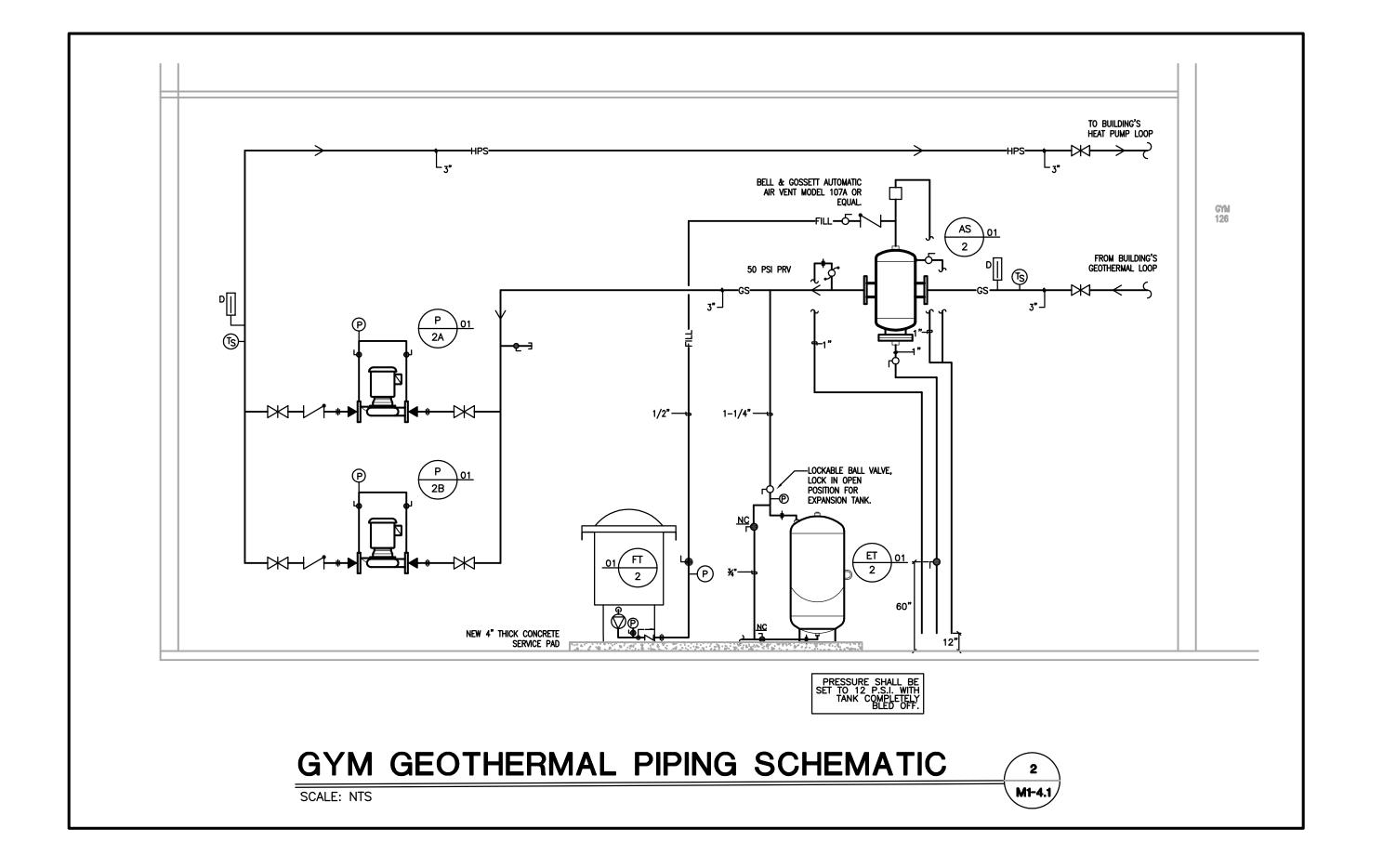
ENLARGED MECHANICAL ROOM 009 -MECHANICAL DEMOLITION SCALE: 1/4" = 1'-0"

4 M1-4.0

M1-4.0

M1-4.0





DOUGLAS:

R HUNDLEY

24533

CENSED ON THE STORY

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BID SET

19 Civic Way, Suite 100 ospect, KY 40059 502 409.4062 F 502 919.1521 Brangers@CMTA.COM

Energy Solutions

SANK ELEMENTARY SCHOOL Eubank, KY

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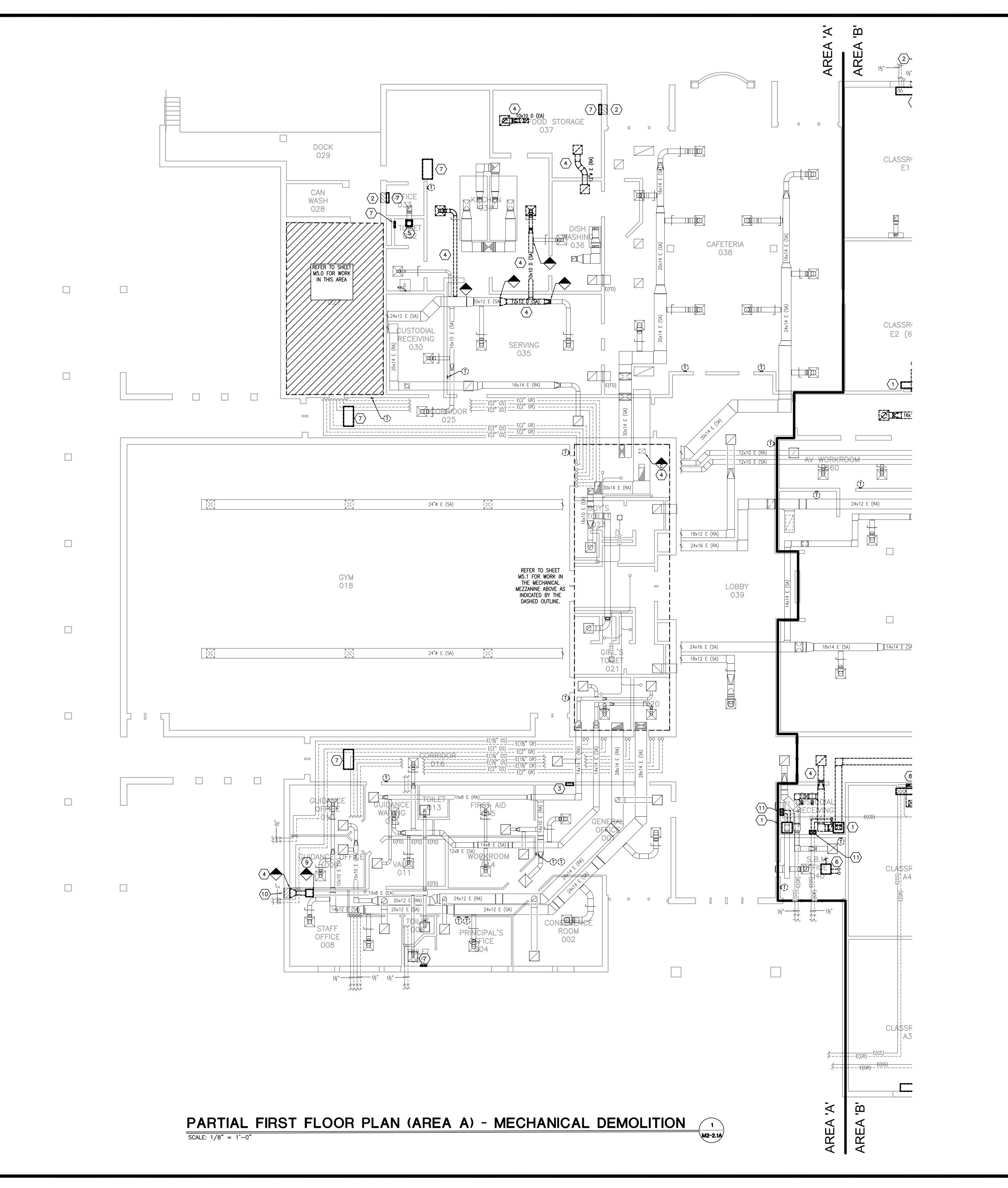
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GENERAL DEMOLITION NOTES:

- A. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO NEW WORK PLANS AND DETAILS FOR MORE
- INFORMATION.

 B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. WALL AND FLOOR PATCHING/PAINTING: PATCH/INFILL ALL WALL/FLOOR PENETRATIONS WHERE EXISTING MECHANICAL EQUIPMENT/PIPING/DUCTWORK IS REMOVED. COORDINATE ALL PATCH/INFILL WORK WITH THE GENERAL CONTRACTOR.
- GENERAL CONTRACTOR.

 D. EXISTING PIPING DEMOLITION: ALL EXISTING PIPING INDICATED TO BE REMOVED, IS TO BE REMOVED COMPLETELY TO BEYOND FINISHED SURFACES. INACCESSIBLE PIPING BURIED IN EXISTING WALLS REMAINING AND CONCRETE SLABS MAY BE ABANDONED IN PLACE.
- E. EXISTING THERMOSTAT/TEMPERATURE SENSOR/CONTROLS DEVICES: PROVIDE A STAINLESS STEEL COVER PLATE AT EXISTING OPENING IF LOCATION IS NOT BEING REUSED. COORDINATE ALL CONTROLS WORK WITH
- . ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.
- G. ASBESTOS ABATEMENT: REFER TO GENERAL CONTRACTOR CONCERNING ALL ASBESTOS ABATEMENT ON THE PROJECT.
- H. THE OWNER WILL SALVAGE CERTAIN REMOVED EQUIPMENT. COORDINATE WITH THE GENERAL CONTRACTOR.

MECHANICAL DEMOLITION NOTES:

EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING

- 2. EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL CONTRACTOR.
- EXISTING TEMPERATURE CONTROL PANEL TO BE REMOVED COMPLETELY. COORDINATE WITH TCC.

EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE

- REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH
 WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).

 5. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS.
- 5. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION.
- 6. EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY, INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).
- 7. REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS.
- 8. REMOVE EXISTING OUTSIDE AIR DUCTWORK AND CAP/BLANK OFF DUCT AT CEILING/WALL. PATCH WALL AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL PATCHING WITH GENERAL CONTRACTOR.
- 9. REMOVE EXISTING EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC).
- 10. EXISTING LOUVER TO REMAIN. SHOP VAC AND CLEAN. REPLACE OR PROVIDE NEW BIRD SCREEN.
- 11. EXISTING GEOTHERMAL WATER PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL, CONTROLS CONNECTIONS AND WALL SUPPORTS. EXISTING GEOTHERMAL PIPING ENTRANCE TO REMAIN AND BE REUSED. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

DOUGLAS
R HUNDLEY
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Energy Solutions

MOLITION - AREA

JARANTEED ENERGY SAVINGS COOR HILL ELEMENTARY SCHOOLS

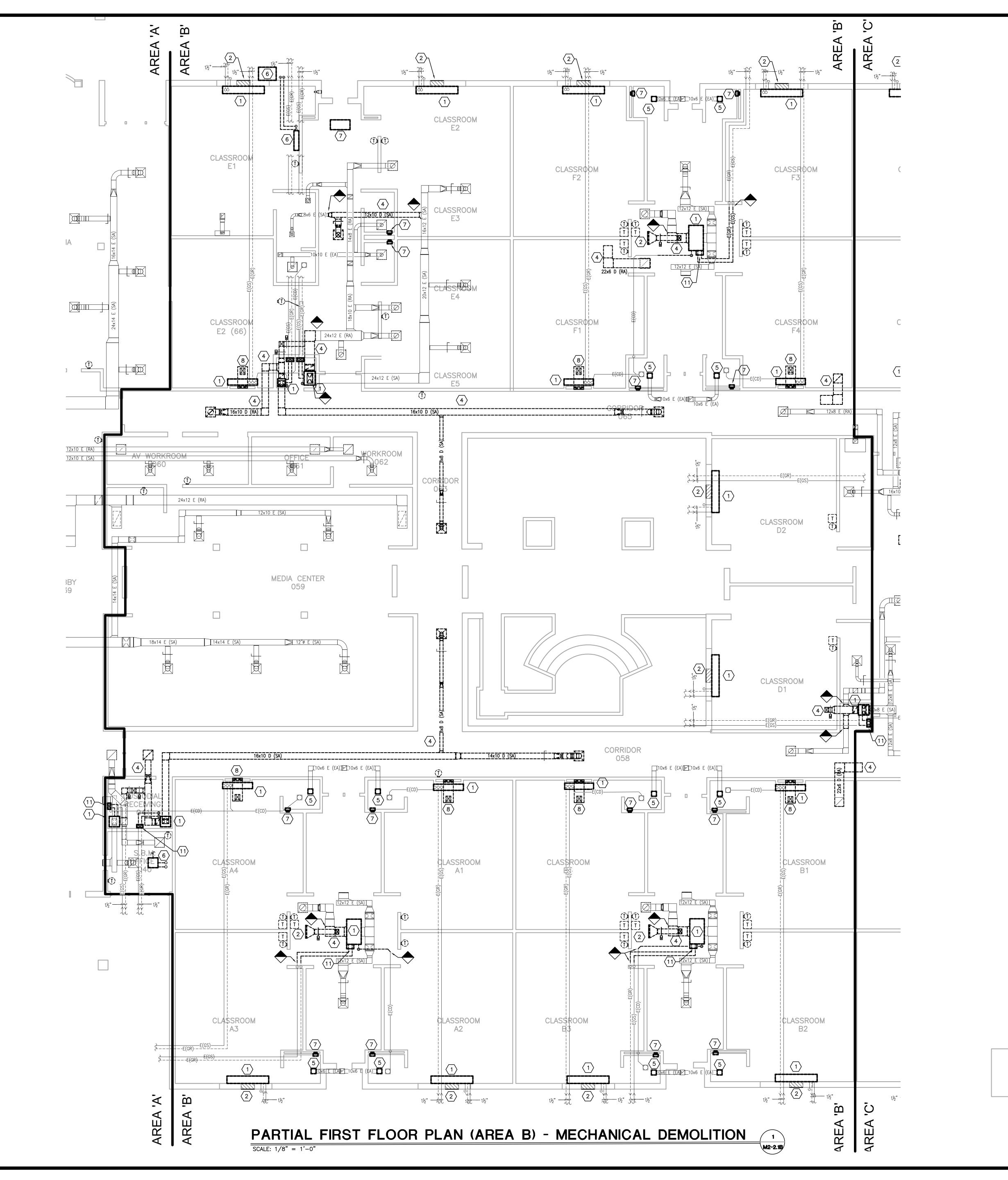
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- EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO NEW WORK PLANS AND DETAILS FOR MORE
- B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- WALL AND FLOOR PATCHING/PAINTING: PATCH/INFILL ALL WALL/FLOOR PENETRATIONS WHERE EXISTING MECHANICAL EQUIPMENT/PIPING/DUCTWORK IS REMOVED. COORDINATE ALL PATCH/INFILL WORK WITH THE
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- EXISTING THERMOSTAT/TEMPERATURE SENSOR/CONTROLS DEVICES: PROVIDE A STAINLESS STEEL COVER PLATE AT EXISTING OPENING IF LOCATION IS NOT BEING REUSED. COORDINATE ALL CONTROLS WORK WITH
- ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.
- ASBESTOS ABATEMENT: REFER TO GENERAL CONTRACTOR CONCERNING ALL ASBESTOS ABATEMENT ON THE
- H. THE OWNER WILL SALVAGE CERTAIN REMOVED EQUIPMENT. COORDINATE WITH THE GENERAL CONTRACTOR.

MECHANICAL DEMOLITION NOTES:

A

- EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING WITH GENERAL CONTRACTOR.
- EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL CONTRACTOR.
- EXISTING TEMPERATURE CONTROL PANEL TO BE REMOVED COMPLETELY. COORDINATE WITH TCC.
- EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).

REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS

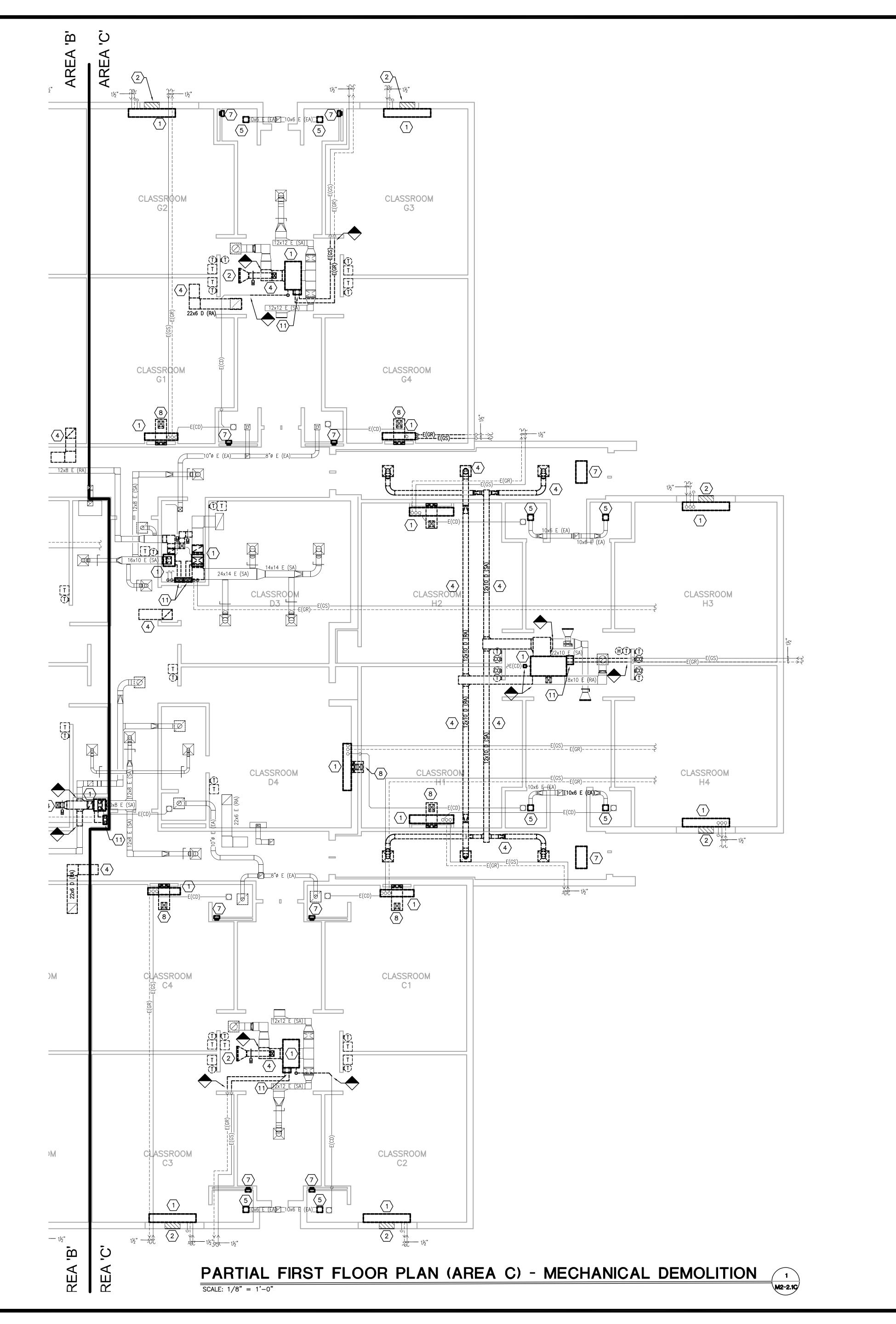
- CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION. EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY,
- INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).
- REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS. REMOVE EXISTING OUTSIDE AIR DUCTWORK AND CAP/BLANK OFF DUCT AT CEILING/WALL . PATCH WALL AS
- REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL PATCHING WITH GENERAL
- REMOVE EXISTING EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC).
- 10. EXISTING LOUVER TO REMAIN. SHOP VAC AND CLEAN. REPLACE OR PROVIDE NEW BIRD SCREEN.

11. EXISTING GEOTHERMAL WATER PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL, CONTROLS CONNECTIONS AND WALL SUPPORTS. EXISTING GEOTHERMAL PIPING ENTRANCE TO REMAIN AND BE REUSED. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

SET NO.

2.1B



GENERAL DEMOLITION NOTES:

- . EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO NEW WORK PLANS AND DETAILS FOR MORE
- B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION. WALL AND FLOOR PATCHING/PAINTING: PATCH/INFILL ALL WALL/FLOOR PENETRATIONS WHERE EXISTING
- MECHANICAL EQUIPMENT/PIPING/DUCTWORK IS REMOVED. COORDINATE ALL PATCH/INFILL WORK WITH THE EXISTING PIPING DEMOLITION: ALL EXISTING PIPING INDICATED TO BE REMOVED, IS TO BE REMOVED COMPLETELY TO BEYOND FINISHED SURFACES. INACCESSIBLE PIPING BURIED IN EXISTING WALLS REMAINING
- EXISTING THERMOSTAT/TEMPERATURE SENSOR/CONTROLS DEVICES: PROVIDE A STAINLESS STEEL COVER PLATE AT EXISTING OPENING IF LOCATION IS NOT BEING REUSED. COORDINATE ALL CONTROLS WORK WITH
- ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

AND CONCRETE SLABS MAY BE ABANDONED IN PLACE.

- ASBESTOS ABATEMENT: REFER TO GENERAL CONTRACTOR CONCERNING ALL ASBESTOS ABATEMENT ON THE
- H. THE OWNER WILL SALVAGE CERTAIN REMOVED EQUIPMENT. COORDINATE WITH THE GENERAL CONTRACTOR.

MECHANICAL DEMOLITION NOTES:

- EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING WITH GENERAL CONTRACTOR.
- EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL CONTRACTOR.
- . EXISTING TEMPERATURE CONTROL PANEL TO BE REMOVED COMPLETELY. COORDINATE WITH TCC.

EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE

- REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL). REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS
- CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION. . EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY,

INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS

- CONNECTIONS. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL). REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS.
- REMOVE EXISTING OUTSIDE AIR DUCTWORK AND CAP/BLANK OFF DUCT AT CEILING/WALL . PATCH WALL AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL PATCHING WITH GENERAL
- REMOVE EXISTING EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC).
- 10. EXISTING LOUVER TO REMAIN. SHOP VAC AND CLEAN. REPLACE OR PROVIDE NEW BIRD SCREEN.

11. EXISTING GEOTHERMAL WATER PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL, CONTROLS CONNECTIONS AND WALL SUPPORTS. EXISTING GEOTHERMAL PIPING ENTRANCE TO REMAIN AND BE REUSED. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

BID SET

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING ROOF CURB AND DUCTWORK RISER TO

2. EXISTING EXHAUST FAN TO BE REMOVED COMPLETELY, INCLUDING ALL DUCTWORK, MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). THE ROOF CURB IS TO BE CAPPED, REFER TO DETAIL ON SHEET M-6.2.

CONTROLS CONNECTIONS. EXISTING EQUIPMENT CURB/RAILS TO BE REMOVED COMPLETELY. PATCH ROOF AS

. REMOVE/CAP EXISTING PIPING PORTAL AND EQUIPMENT RAILS IF NOT BEING REUSED. PATCH ROOF AS REQUIRED.

3. EXISTING RELIEF/EXHAUST/INTAKE AIR VENT TO BE REMOVED COMPLETELY. THE ROOF CURB IS TO BE CAPPED, REFER TO DETAIL ON SHEET M-6.2.

4. EXISTING CONDENSING UNIT TO BE REMOVED COMPLETELY, INCLUDING ALL PIPING, ELECTRICAL AND

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c Way, Suite 100 KY 40059 9.4062 F 502 919.1521 rs@CMTA.COM

Energy Solutions

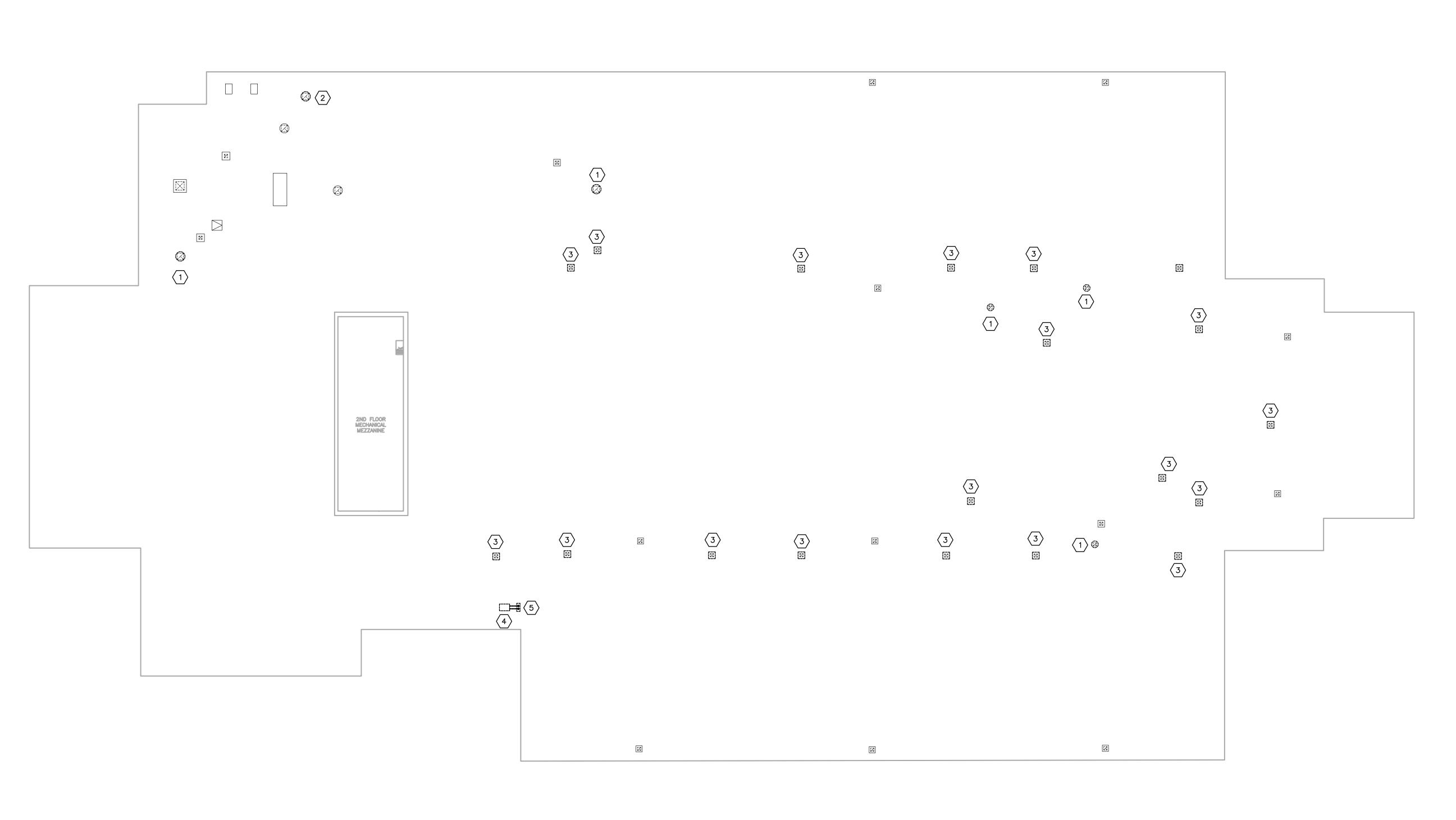
laski County Schools TED ENERGY SAVINGS CONTRACT K HILL ELEMENTARY SCHOOL Somerset, KY

PEVISIONS

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

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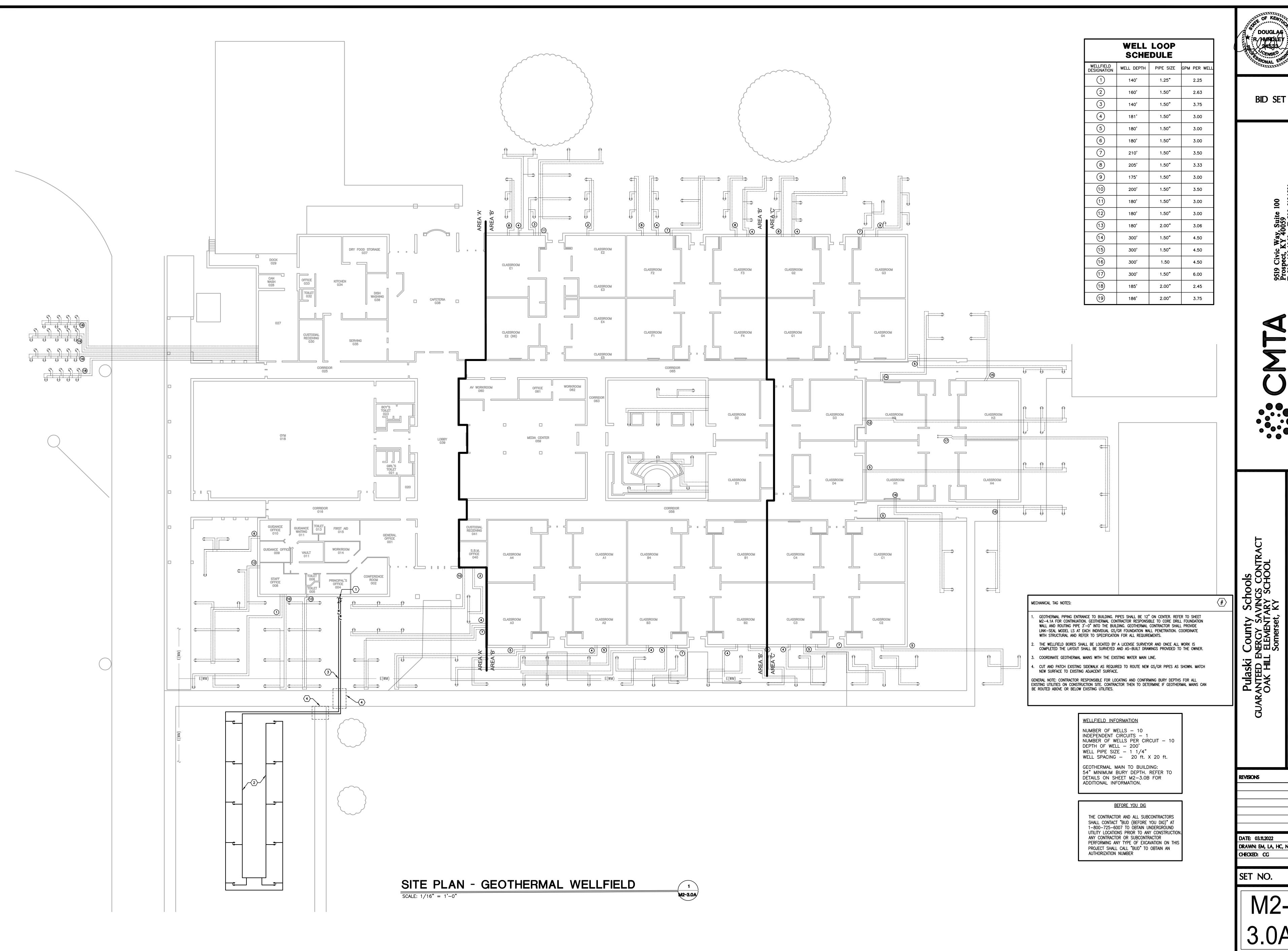
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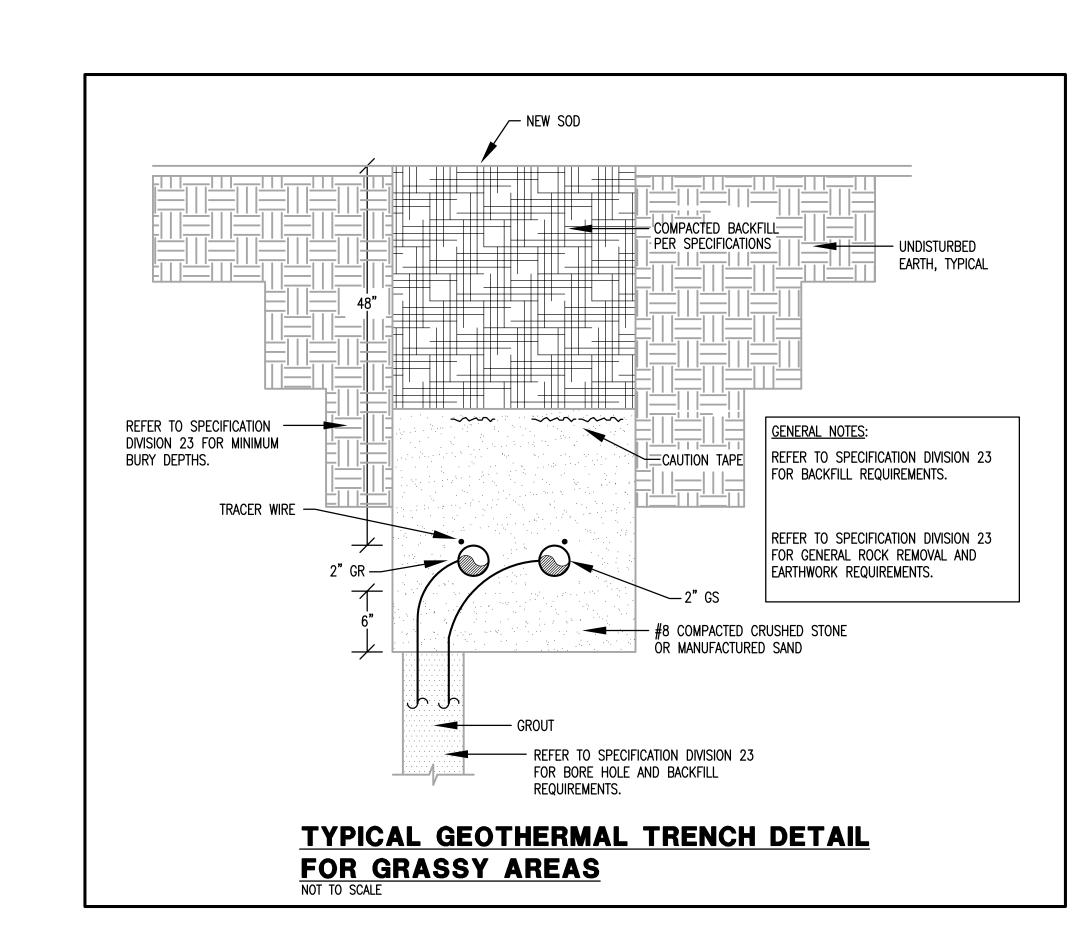
ROOF PLAN - MECHANICAL DEMOLITION

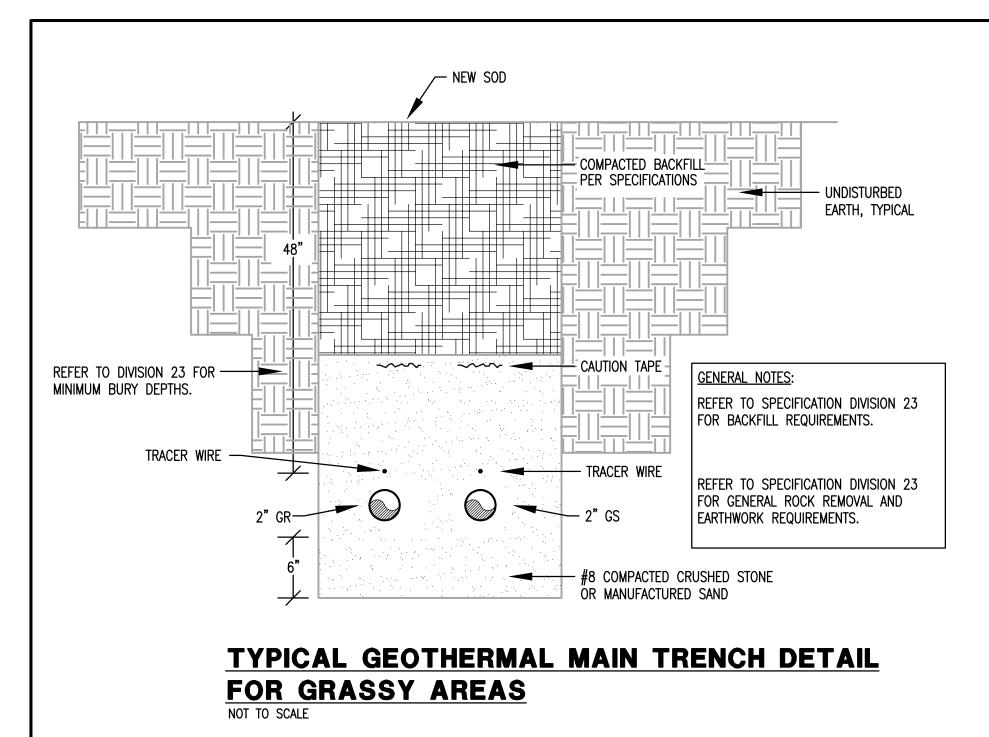
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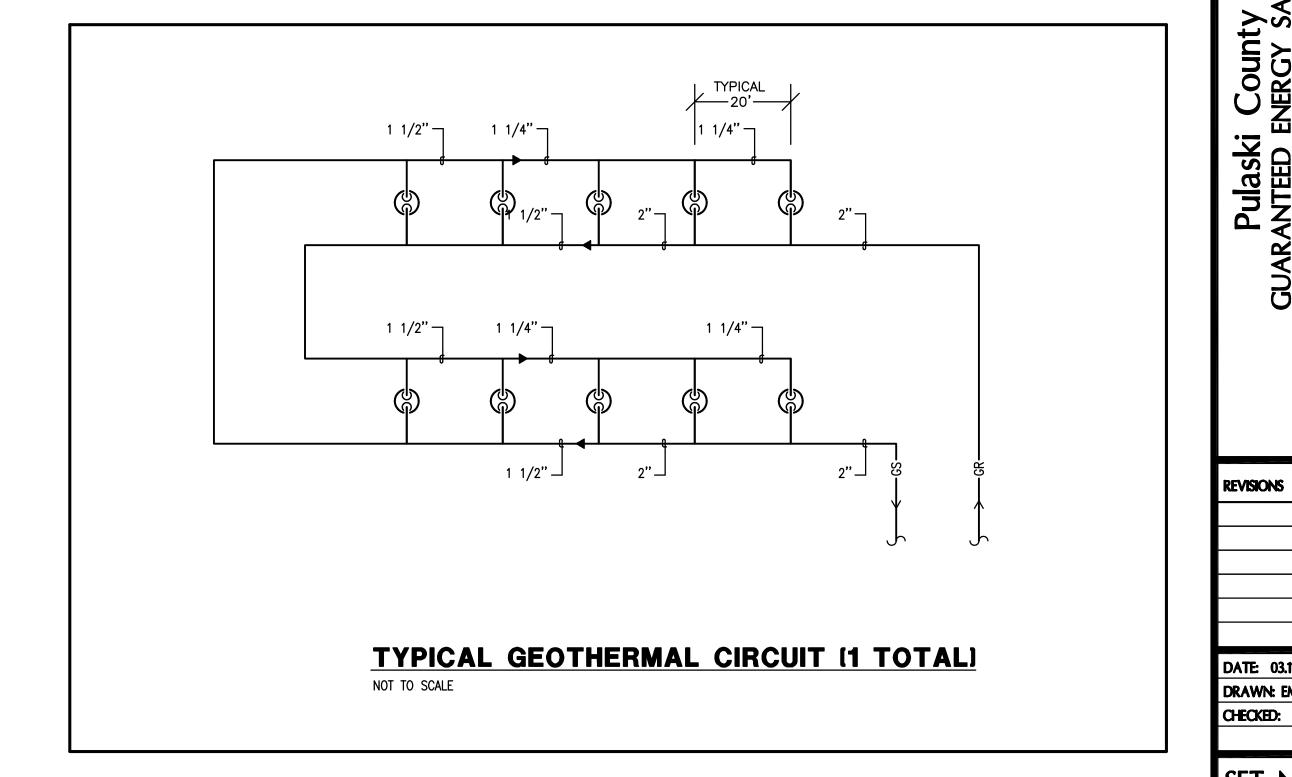
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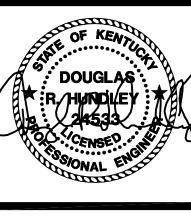


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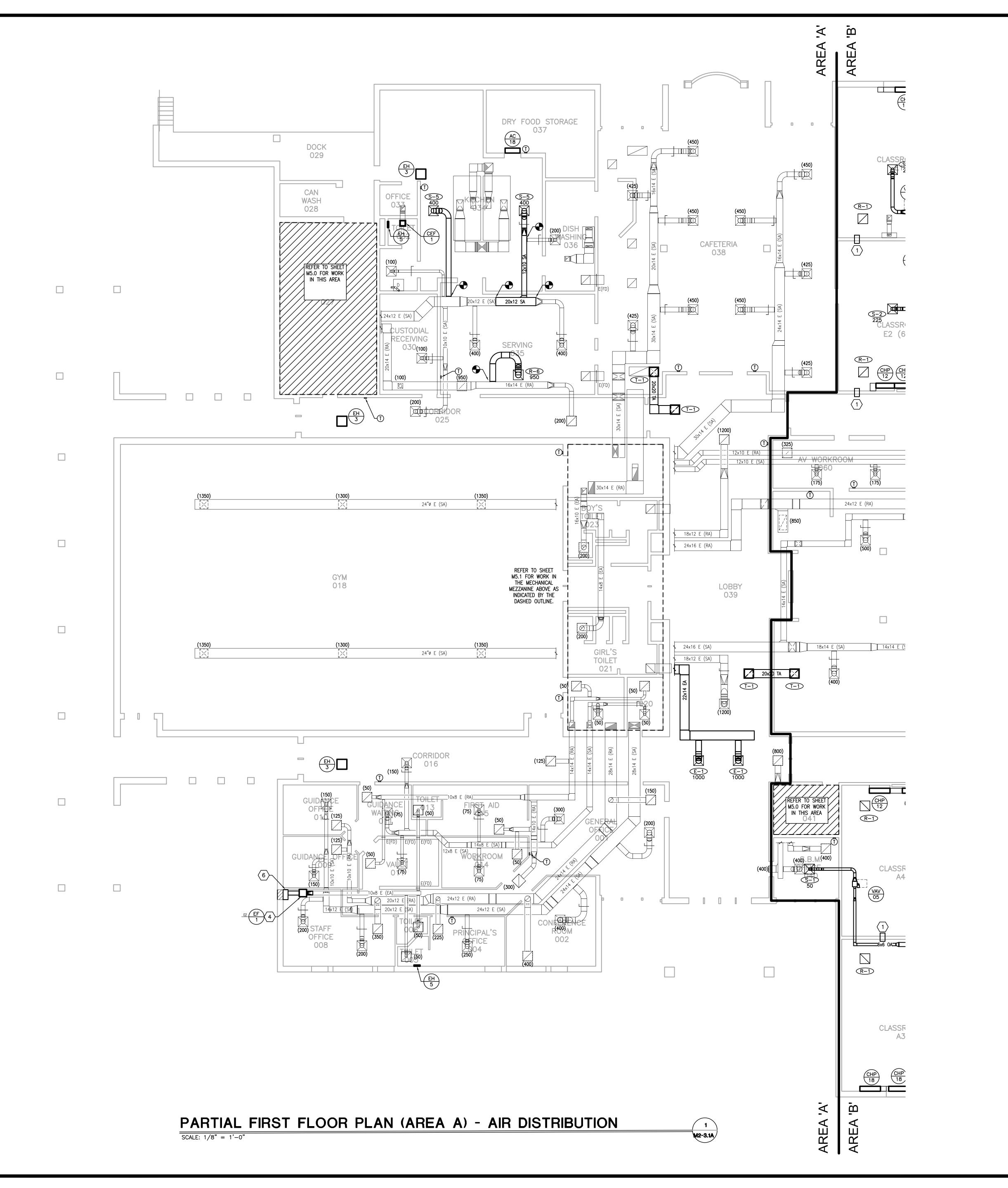


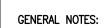
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DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

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- EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION.
- B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M—6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
- PROVIDE A HIGH EFFICIENCY TAKE—OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE
- E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.

DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.

- F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.
- G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR. H. BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING — COORDINATE WITH TAB CONTRACTOR.
- TEMPERATURE CONTROL PANELS (TCP) COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND
- ELECTRICAL CONTRACTOR. J. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

- 1. PROVIDE A 12"X10" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH. 2. DISCHARGE 8"Ø DUCT ABOVE CEILING.
- 3. PROVIDE A 16"X12" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH
- 6. REWORK QUANTITY THREE (3) DOMESTIC WATER PIPES AS REQUIRED TO ACCOMMODATE NEW DUCTWORK
- PROVIDE VAV POWER TRANSFORMER PANELS. PROVIDE ONE PANEL FOR EVERY 20 LOW VOLTAGE CONNECTIONS REQUIRED. COORDINATE LOCATIONS AND POWER CONNECTIONS WITH THE ELECTRICAL

MECHANICAL NOTES:

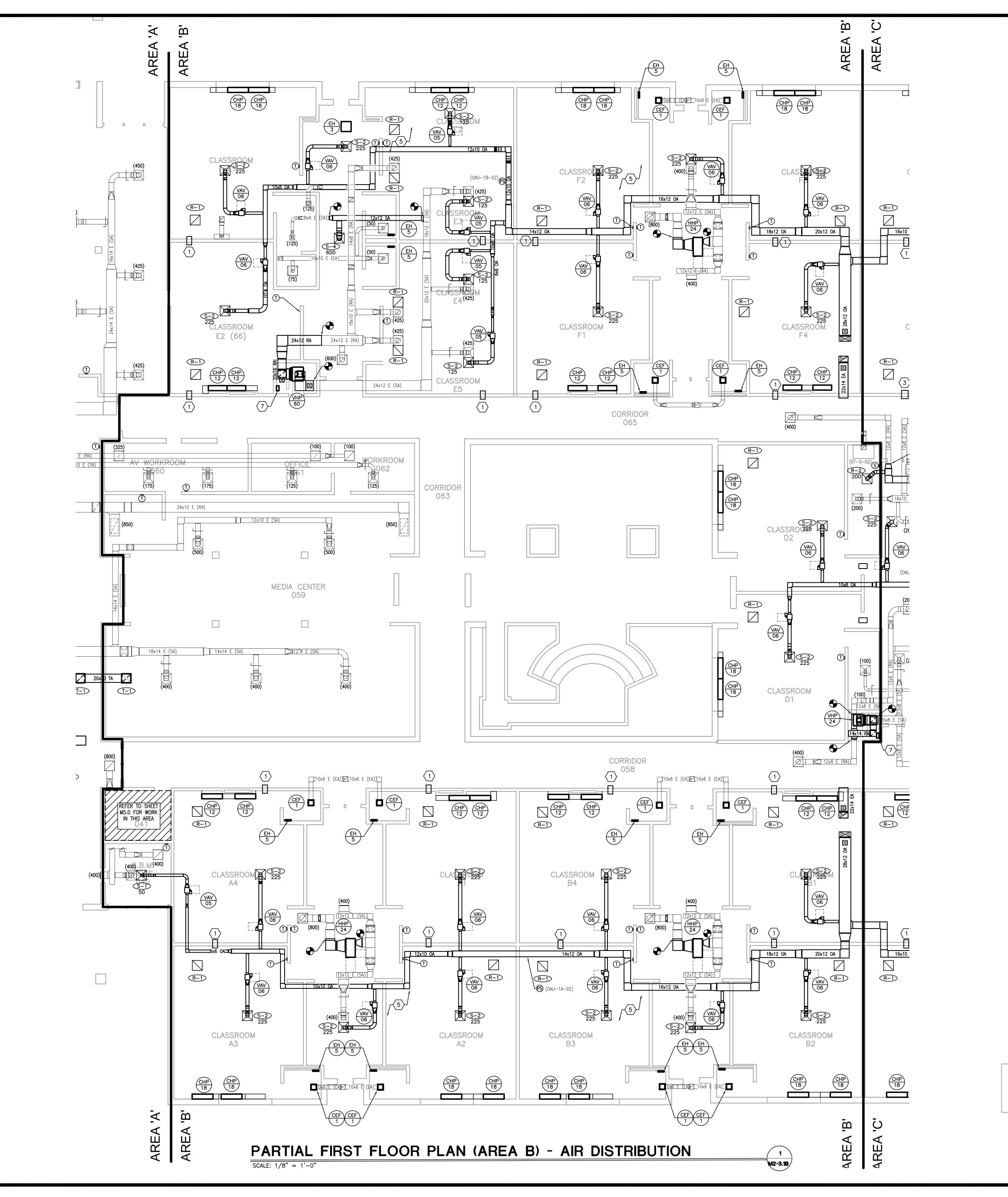
NINSTALL FAN USING VIBRATION ISOLATION HANGERS AND FLEXIBLE CANVAS CONNECTORS AT THE INLET AND OUTLET OF THE FAN. MAINTAIN ACCESS. TRANSITION TO FAN AS REQUIRED.

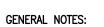
PROVIDE NEW PLENUM FULL SIZE OF THE EXISTING LOUVER. CONNECT TO PLENUM WITH EXPANDED THROAT TAP. DEPTH OF PLENUM AS INDICATED ON THE DRAWING.

DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

CHECKED: CG





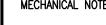
- EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE
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- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M—6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
- . PROVIDE A HIGH EFFICIENCY TAKE—OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE
- E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.

DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.

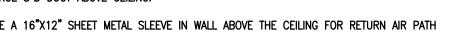
- F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING. G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR.
- H. BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING COORDINATE WITH TAB
- TEMPERATURE CONTROL PANELS (TCP) COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND ELECTRICAL CONTRACTOR.
- J. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

MECHANICAL NOTES:

- 1. PROVIDE A 12"X10" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH. 2. DISCHARGE 8"Ø DUCT ABOVE CEILING.
- 3. PROVIDE A 16"X12" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH
- INSTALL FAN USING VIBRATION ISOLATION HANGERS AND FLEXIBLE CANVAS CONNECTORS AT THE INLET AND
- 6. REWORK QUANTITY THREE (3) DOMESTIC WATER PIPES AS REQUIRED TO ACCOMMODATE NEW DUCTWORK
- THROAT TAP. DEPTH OF PLENUM AS INDICATED ON THE DRAWING.



A



PROVIDE NEW PLENUM FULL SIZE OF THE EXISTING LOUVER. CONNECT TO PLENUM WITH EXPANDED

OUTLET OF THE FAN. MAINTAIN ACCESS. TRANSITION TO FAN AS REQUIRED.

PROVIDE VAV POWER TRANSFORMER PANELS. PROVIDE ONE PANEL FOR EVERY 20 LOW VOLTAGE CONNECTIONS REQUIRED. COORDINATE LOCATIONS AND POWER CONNECTIONS WITH THE ELECTRICAL

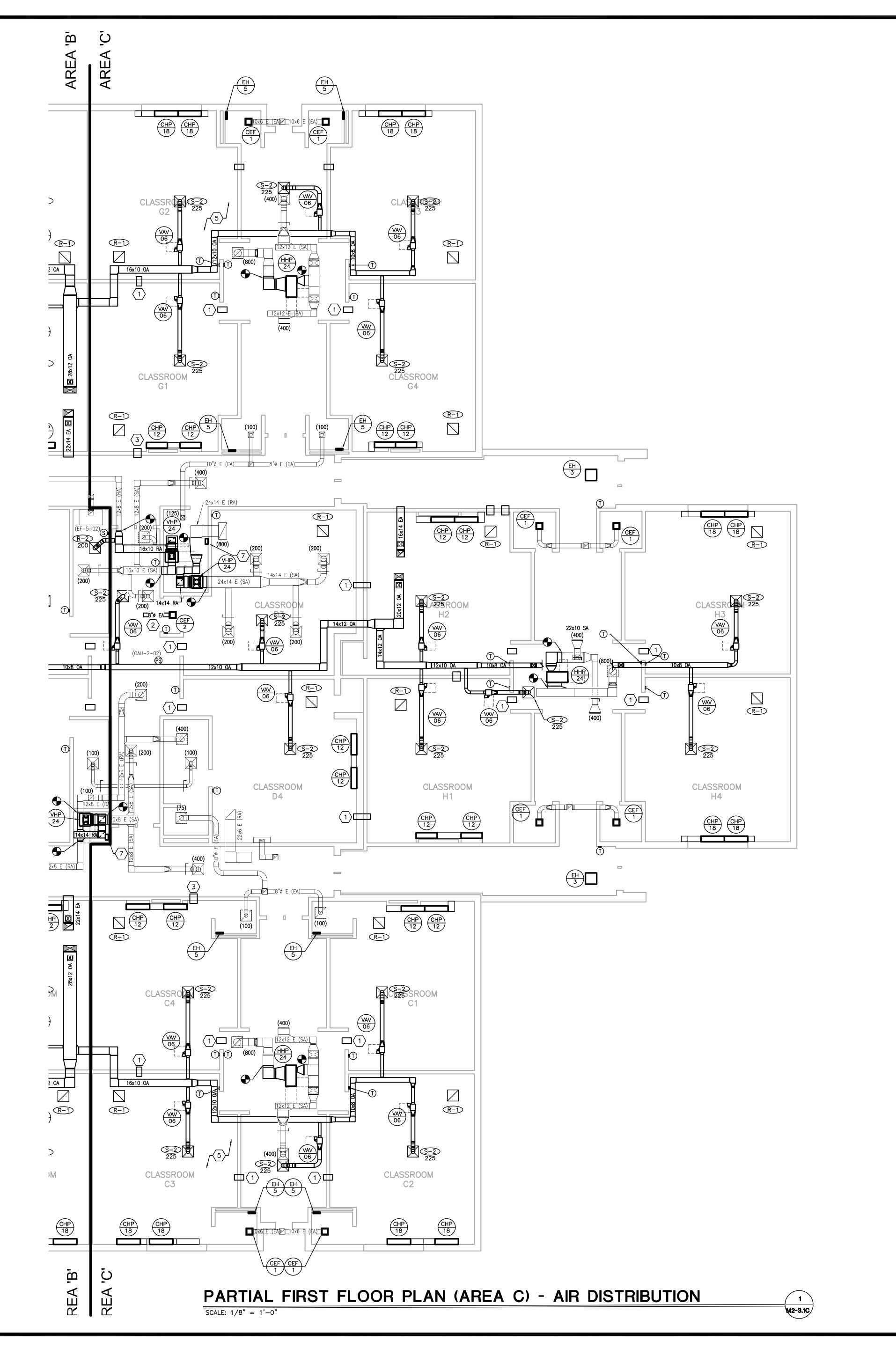
DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

CHECKED: CG

SET NO.

3.1B





- EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION. B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M—6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
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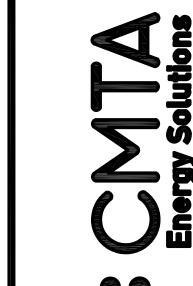
- F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.
- G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR. H. BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING - COORDINATE WITH TAB
- TEMPERATURE CONTROL PANELS (TCP) COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND ELECTRICAL CONTRACTOR.
- J. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.



- 1. PROVIDE A 12"X10" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH. 2. DISCHARGE 8"Ø DUCT ABOVE CEILING.
- 3. PROVIDE A 16"X12" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH
- . INSTALL FAN USING VIBRATION ISOLATION HANGERS AND FLEXIBLE CANVAS CONNECTORS AT THE INLET AND OUTLET OF THE FAN. MAINTAIN ACCESS. TRANSITION TO FAN AS REQUIRED.
- 6. REWORK QUANTITY THREE (3) DOMESTIC WATER PIPES AS REQUIRED TO ACCOMMODATE NEW DUCTWORK PROVIDE NEW PLENUM FULL SIZE OF THE EXISTING LOUVER. CONNECT TO PLENUM WITH EXPANDED
- PROVIDE VAV POWER TRANSFORMER PANELS. PROVIDE ONE PANEL FOR EVERY 20 LOW VOLTAGE CONNECTIONS REQUIRED. COORDINATE LOCATIONS AND POWER CONNECTIONS WITH THE ELECTRICAL

THROAT TAP. DEPTH OF PLENUM AS INDICATED ON THE DRAWING.

MECHANICAL NOTES:



DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

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1. NEW ROOF TOP UNIT INSTALLED ON NEW CURB. CUT/PATCH/FLASH ROOF AS REQUIRED. REFER TO DETAILS ON SHEET M-6.2 FOR ADDITIONAL INFORMATION. UNIT CONDENSATE SHALL BE SPILLED TO NEAREST ROOF DRAIN.

2. NEW FAN INSTALLED ON AN EXISTING CURB. PROVIDE CURB ADAPTER AS REQUIRED. TRANSITION DUCTWORK TO FAN OPENING AS REQUIRED.

3. ROUTE THE REFRIGERANT PIPING DOWN THROUGH A NEW ROOF CURB/PIPING PORTAL. PROVIDE A ROOF PRODUCTS MODEL RPPC—90 OR APPROVED EQUAL ROOF CURB WITH PIPE CHASE. REFER TO THE PIPE PORTAL DETAIL ON SHEET M—6.2 FOR ADDITIONAL INFORMATION. ROOF CURB SHALL BE 3'—0" AWAY FROM CONDENSING UNIT. REFRIGERANT PIPING SHALL BE SUPPORTED BY COOPER B—LINE C—SERIES ROOFTOP SUPPORTS.

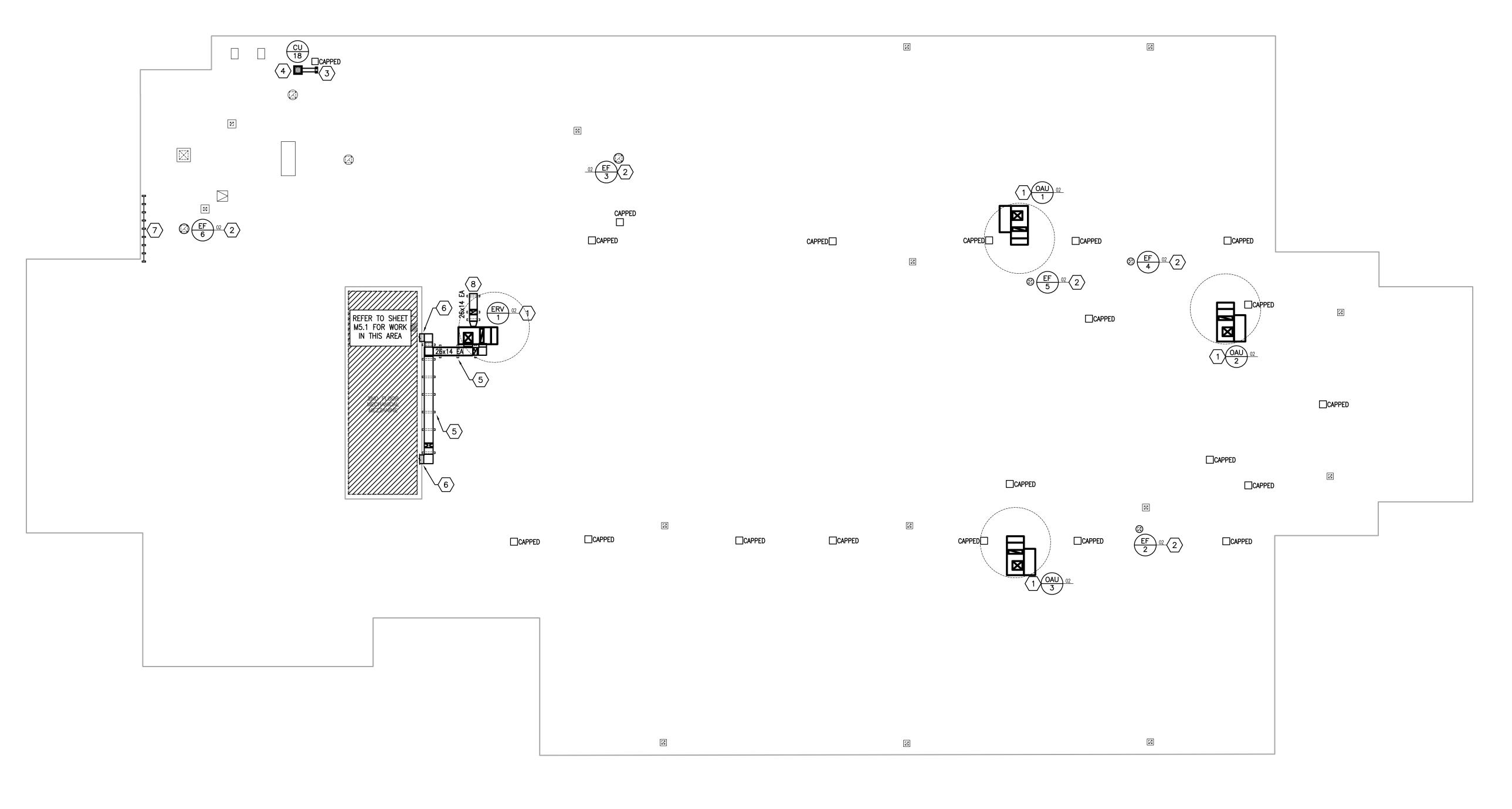
4. NEW CONDENSING UNIT MOUNTED ON A NEW ROOF CURB. REFER TO DETAIL ON DRAWING M-6.2. CUT/PATCH/FLASH ROOF AS REQUIRE

5. PROVIDE DUCT SUPPORTS 5'-0" ON CENTER. DUCT SUPPORTS SHALL BE DURA BLOCK DB_DS SERIES. CONTRACTOR TO VERIFY MAXIMUM HEIGHT REQUIRED. INSULATE DUCTWORK PER SPECIFICATION SECTION 202200.

6. ROUTE DUCTWORK THROUGH EXISTING OPENING, INFILL EXISTING OPENING AS REQUIRED TO MATCH ADJACENT SURFACE. SEAL AROUND DUCTWORK PENETRATION AT EXTERIOR WALL WEATHER TIGHT.

7. NEW NON-PENETRATING OSHA COMPLIANT EDGE PROTECTION ROOF RAILING SYSTEM. BASIS OF DESIGN: BLUEWATER "SAFETYRAIL 2000" SYSTEM. MAINTAIN EQUIPMENT CLEARANCES.

8. ROUTE AND TERMINATE EXHAUST DUCTWORK AT LEAST 10'-0" FROM ANY UNIT OUTSIDE AIR INTAKE. PROVIDE DUCT WITH EPOXY WEATHER COATING AND 1" MESH SCREEN. FINAL DUCT SUPPORT SHALL BE THYCURB TEMS-3 RAIL WITH DUCTWORK STRAPPED TO RAIL. COORDINATE RAIL FLASHING WITH GENERAL CONTRACTOR. CUT DUCTWORK END AT 45' ANGLE TO PREVENT RAIN ENTRAINMENT.



ROOF PLAN - MECHANICAL

SCALE: 1/16" = 1'-0"



DOUGLAS

R. HUNDLEY

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9519 Civic Way, Suite 100 Prospect, KY 40059 T 502 409.4062 F 502 919.15; MBrangers@CMTA.COM

Energy Solutions

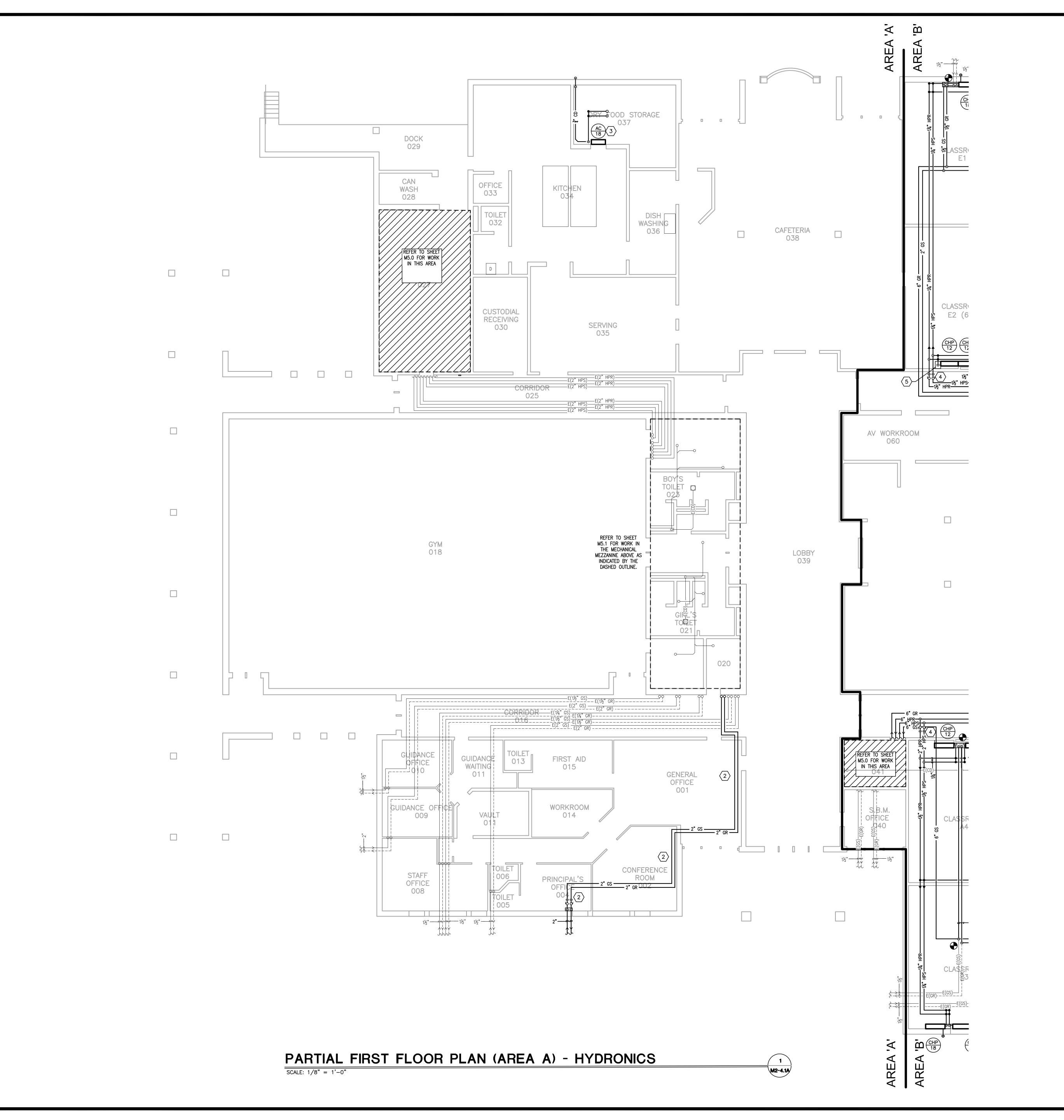
Pulaski County Schools RANTEED ENERGY SAVINGS CONTRA OAK HILL ELEMENTARY SCHOOL Somerset, KY

REVISIONS

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

SET NO.

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GENERAL NOTES:

A. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION.

- B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M—6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
- D. PROVIDE A HIGH EFFICIENCY TAKE-OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.
- E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.
- F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.
- G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR.H. FIRE DAMPER; REFER TO THE DETAIL ON SHEET M-6.0.
- BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING COORDINATE WITH TAB CONTRACTOR.
- TEMPERATURE CONTROL PANELS (TCP) COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND ELECTRICAL CONTRACTOR.
- K. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.
- L. SPILL NEW HEAT PUMP CONDENSATE TO EXISTING CONDENSATE PIPING UP THROUGH SLAB.

MECHANICAL NOTES:

(#

- 1. INSTALL AND CAP $1\frac{1}{2}$ " GEOTHERMAL PIPES FOR POSSIBLE FUTURE CONNECTION. PROVIDE FULL SIZE ISOLATION VALVES, $\frac{3}{4}$ " VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON
- 2. ROUTE 2" GS/GR FROM ABOVE CEILING SPACE DOWN AND OUT TO SITE. REFER TO SHEET M2-3.0A FOR CONTINUATION OF PIPING. PROVIDE NEW METAL PIPE CHASE TO CONCEAL GEOTHERMAL RISERS. PROVIDE FULL SIZE ISOLATION VALVES, ¾" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON DRAIN LINE.
- 3. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL. REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE.
- 4. PROVIDE FULL SIZE ISOLATION VALVES, $\frac{3}{4}$ " VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON DRAIN LINE.
- PROVIDE CONDENSATE PUMP FOR UNIT. PUMP SHALL BE LITTLE GIANT MODEL VCMA WITH $\frac{1}{2}$ GALLON TANK AND OVERFLOW SWITCH. ELECTRICAL DATA: $\frac{1}{50}$ HP MOTOR, 120V/1ø/60 Hz. ROUTE PUMPED CONDENSATE AND SPILL TO EXISTING CONDENSATE.

Energy Solution

Pulaski County Schools ANTEED ENERGY SAVINGS CONTRACT OAK HILL ELEMENTARY SCHOOL Somerset, KY

DATE: 03.11.2022

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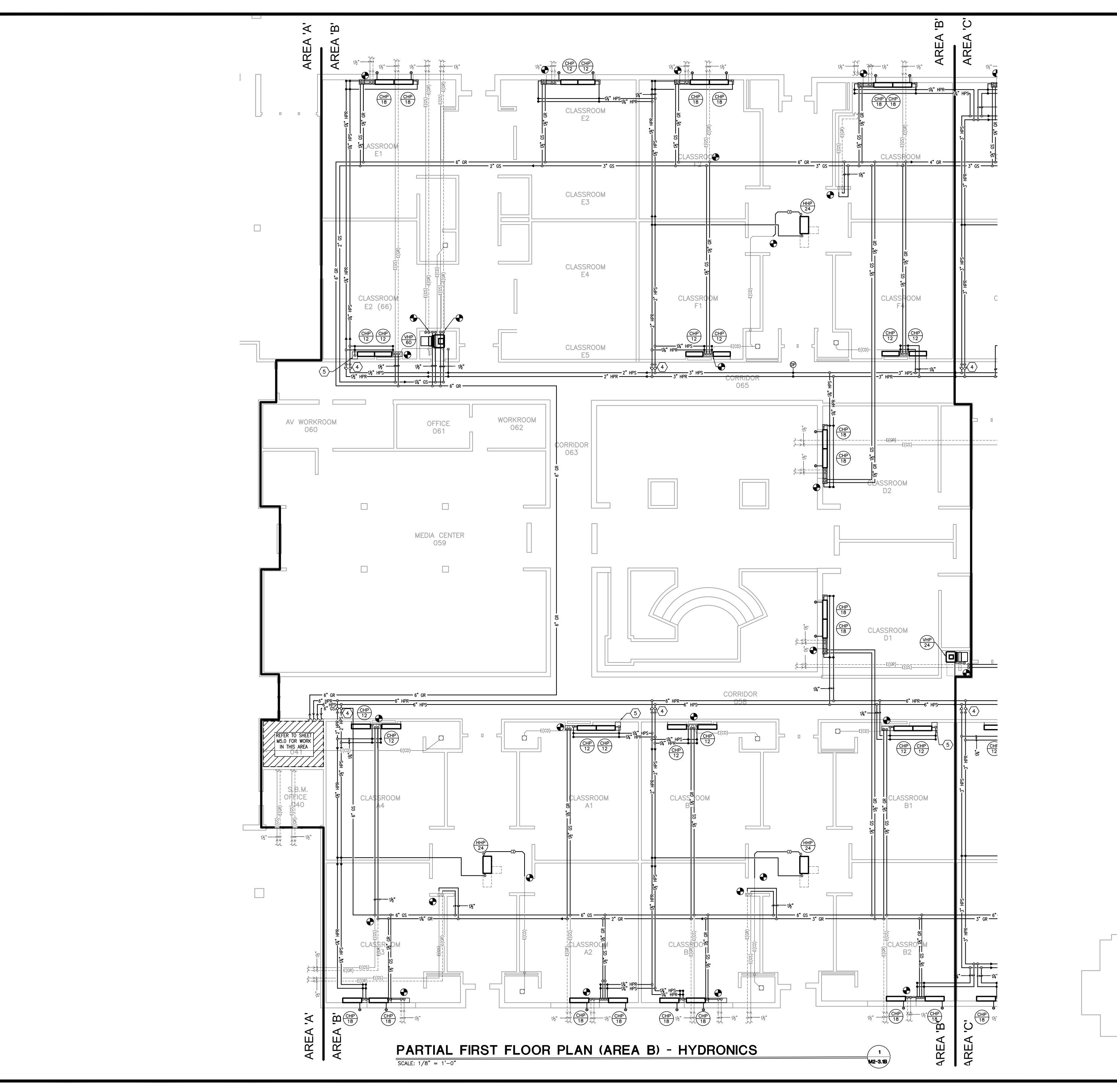
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- N. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION. B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M-6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
- PROVIDE A HIGH EFFICIENCY TAKE—OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE
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- H. FIRE DAMPER; REFER TO THE DETAIL ON SHEET M-6.0.
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- L. SPILL NEW HEAT PUMP CONDENSATE TO EXISTING CONDENSATE PIPING UP THROUGH SLAB.

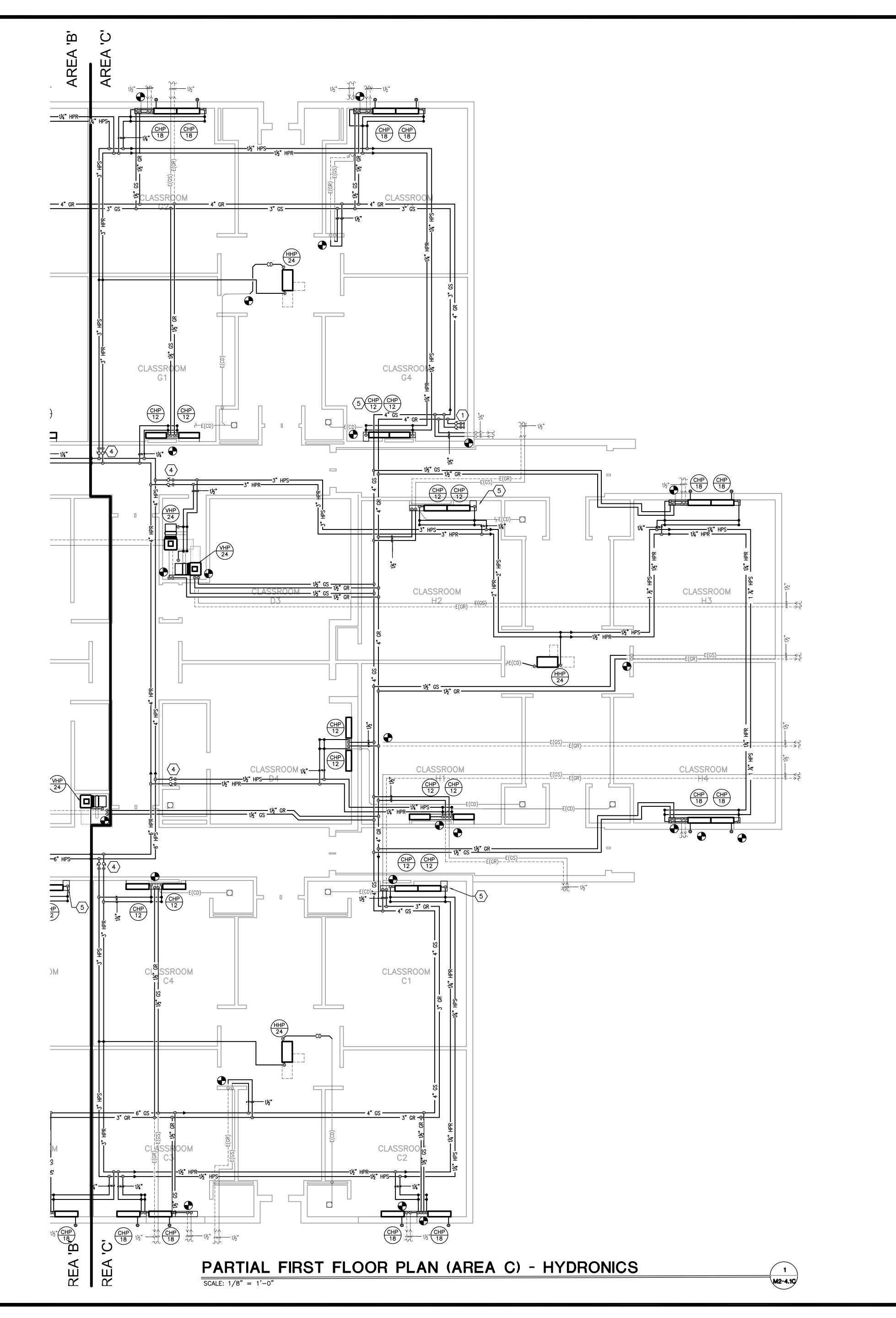
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- COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL. REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE.
- PROVIDE FULL SIZE ISOLATION VALVES, 3/4" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON DRAIN LINE.
- PROVIDE CONDENSATE PUMP FOR UNIT. PUMP SHALL BE LITTLE GIANT MODEL VCMA WITH $\frac{1}{2}$ GALLON TANK AND OVERFLOW SWITCH. ELECTRICAL DATA: $\frac{1}{50}$ HP MOTOR, 120V/1ø/60 Hz. ROUTE PUMPED CONDENSATE AND SPILL TO EXISTING CONDENSATE.

DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

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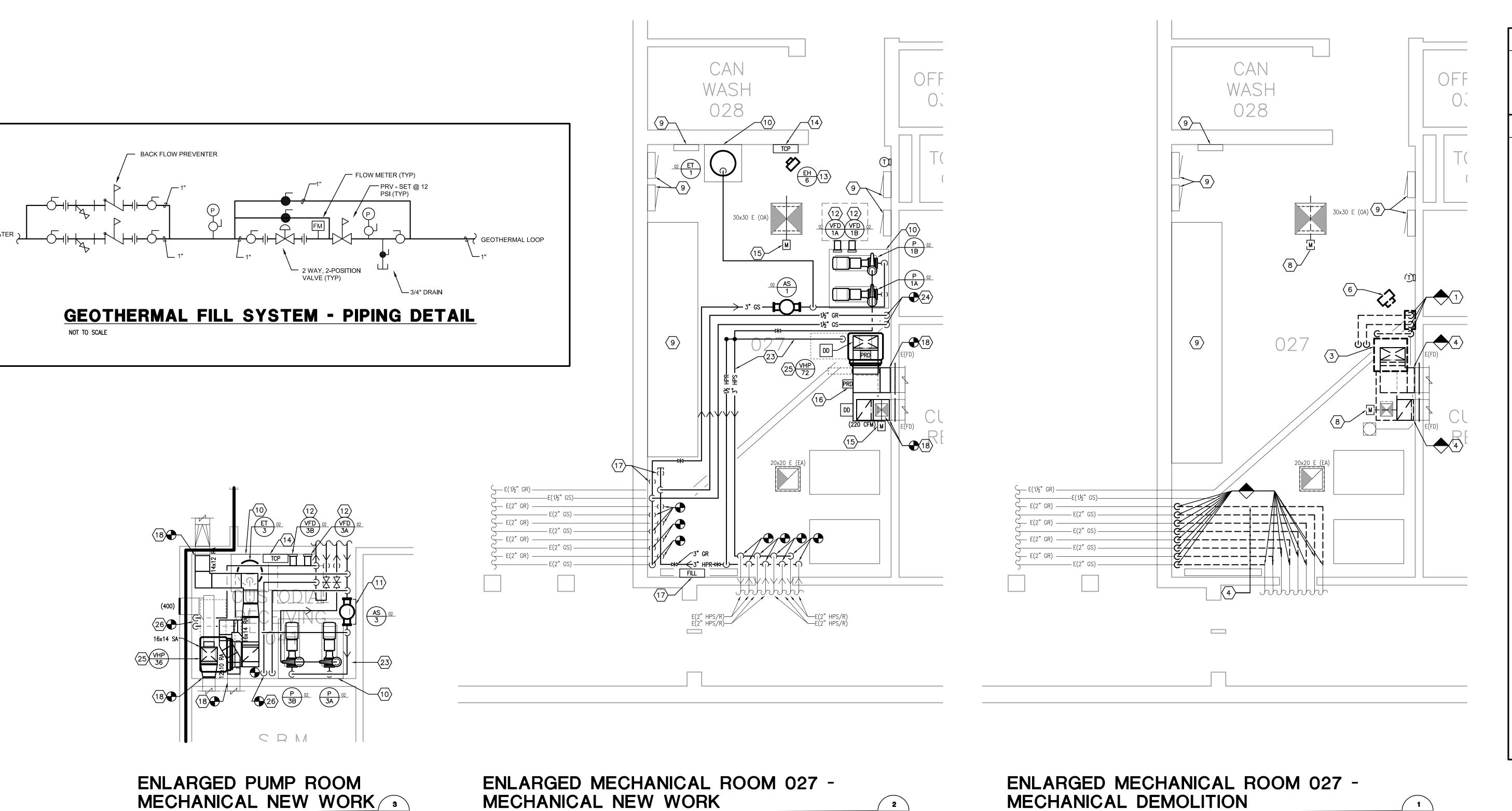


- A. EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION.
- B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.
- C. HEAT PUMP INSTALLATION REFER TO DETAILS ON SHEET M-6.1 FOR PIPE CHASE INFORMATION AND VALVE KIT INFORMATION/ LOCATIONS.
- PROVIDE A HIGH EFFICIENCY TAKE—OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS. REFER TO THE DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.
- E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.
- F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.
- G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR. H. FIRE DAMPER; REFER TO THE DETAIL ON SHEET M-6.0.
- BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING COORDINATE WITH TAB
- TEMPERATURE CONTROL PANELS (TCP) COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND
- ELECTRICAL CONTRACTOR. K. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.
- L. SPILL NEW HEAT PUMP CONDENSATE TO EXISTING CONDENSATE PIPING UP THROUGH SLAB.

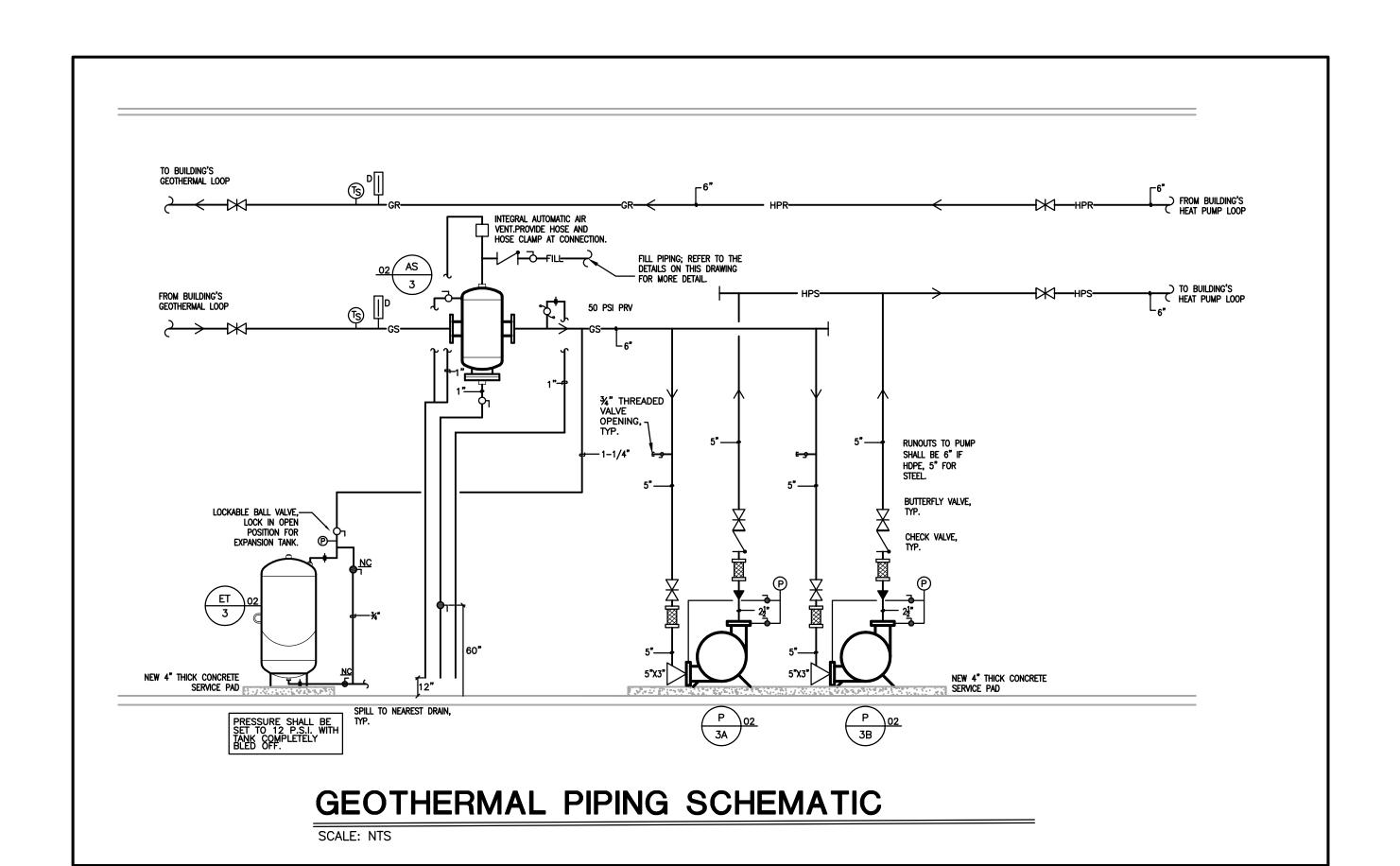
MECHANICAL NOTES:

- INSTALL AND CAP 11/2" GEOTHERMAL PIPES FOR POSSIBLE FUTURE CONNECTION. PROVIDE FULL SIZE isolation valves, $rac{x}{4}$ " valved drain lines in PiPing with threaded hose connection and cap on
- . ROUTE 2" GS/GR FROM ABOVE CEILING SPACE DOWN AND OUT TO SITE. REFER TO SHEET M2-3.0A FOR CONTINUATION OF PIPING. PROVIDE NEW METAL PIPE CHASE TO CONCEAL GEOTHERMAL RISERS. PROVIDE FULL SIZE ISOLATION VALVES, 3/4" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND
- COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL. REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE.
- PROVIDE FULL SIZE ISOLATION VALVES, 3/4" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE CONNECTION AND CAP ON DRAIN LINE.
- PROVIDE CONDENSATE PUMP FOR UNIT. PUMP SHALL BE LITTLE GIANT MODEL VCMA WITH $\frac{1}{2}$ GALLON TANK AND OVERFLOW SWITCH. ELECTRICAL DATA: $\frac{1}{50}$ HP MOTOR, 120V/1ø/60 Hz. ROUTE PUMPED CONDENSATE AND SPILL TO EXISTING CONDENSATE.

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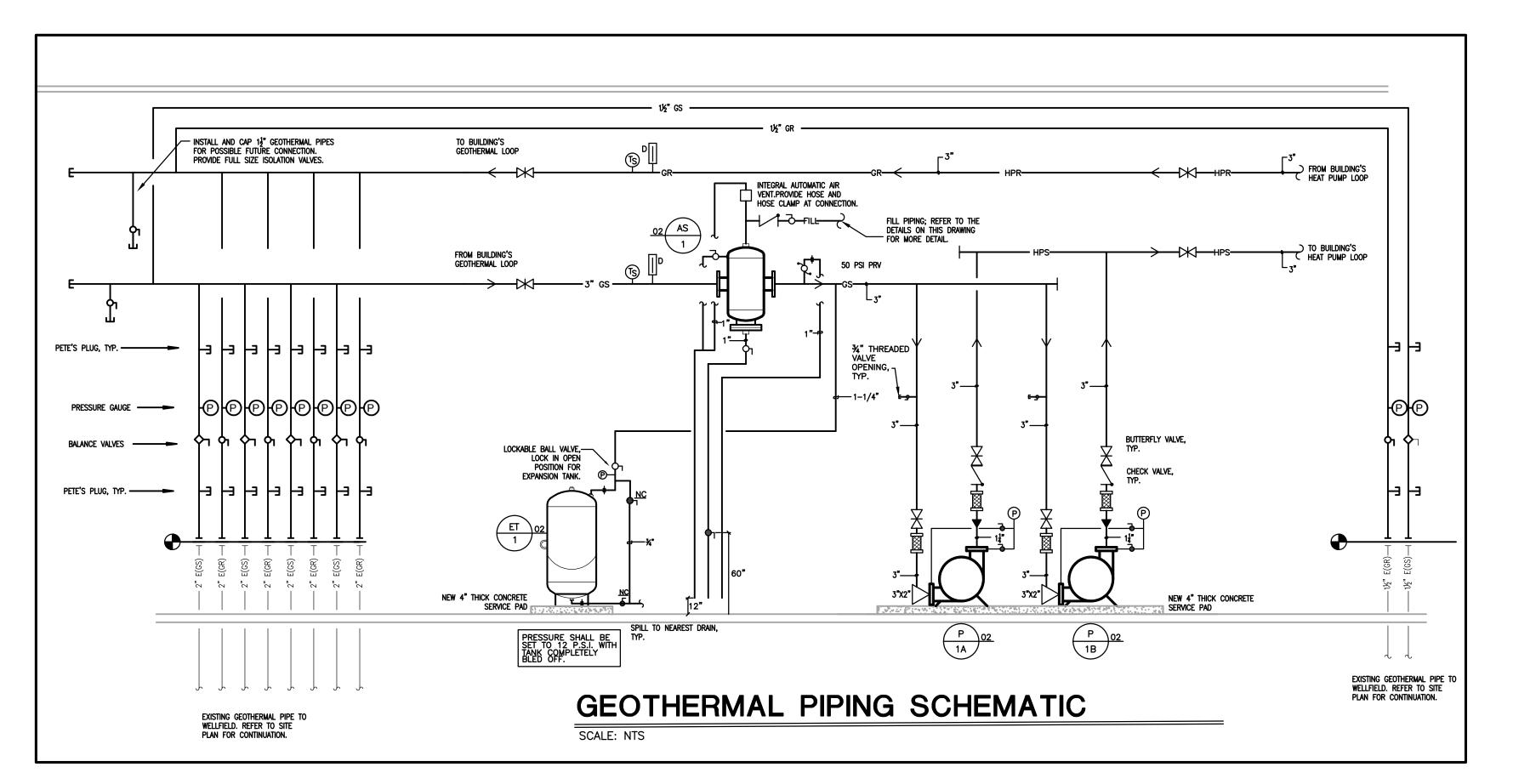


MECHANICAL DEMOLITION SCALE: 1/4" = 1'-0"



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

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



M2-5.0

ENLARGED MECHANICAL ROOMS - GENERAL NOTES:

ENLARGED MECHANICAL ROOMS:

EQUIPMENT/PIPING/DUCTWORK/ETC IS REMOVED.

ELECTRICAL AND CONTROLS CONNECTIONS.

FINAL FINISHES WITH GENERAL CONTRACTOR.

FOR ADDITIONAL INFORMATION.

LARGER ON THE FLOOR PLAN.

THE ELECTRICAL CONTRACTOR.

DOOR CAN FULLY OPEN. TYPICAL.

PROVIDE TRANSITION AS REQUIRED.

ADDITIONAL INFORMATION.

13. MOUNT THE BOTTOM OF THE UNIT HEATER 9'-0" AFF.

. PATCH ALL WALL/ROOF/FLOOR PENETRATIONS WHERE EXISTING MEP

REMOVAL COMPLETELY; REMOVE ALL ABANDONED PADS/SUPPORTS COMPLETELY; PATCH AND SMOOTH FLOOR AS REQUIRED.

REMOVE ALL CONCRETE PADS/SUPPORTS ASSOCIATED WITH MEP EQUIPMENT

EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL,

COMPLETELY REMOVED TO POINT INDICATED ON THE DRAWING. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL). REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT

EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER

OPENINGS (TYPICAL). REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS

INDICATED TO BE REMOVED COMPLETELY TO POINT INDICATED ON DRAWING. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT

SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND

EXISTING LOUVER TO BE REMOVED COMPLETELY. REFER TO NEW WORK FOR ADDITIONAL

REMOVE EXISTING MOTORIZED DAMPER IN OUTSIDE DUCTWORK AND REFER TO NEW WORK

ELECTRICAL PANEL OR EQUIPMENT. DO NOT ROUTE DUCTWORK OR PIPING ABOVE THE

10. PROVIDE 4" THICK CONCRETE PAD UNDER MECHANICAL EQUIPMENT. PAD SHALL BE 6" LARGER THAN THE MECHANICAL EQUIPMENT FOOTPRINT IN ALL DIRECTIONS UNLESS SHOWN

11. HYDRONIC FILL SYSTEM. MOUNT AT 48" A.F.F. REFER TO DETAIL ON SHEET M5.1.

12. PROVIDE A UNI-STRUT STAND FOR THE VFD. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR. PROVIDE VERTICAL UNI-STRUT ON WALL MOUNTED VFD'S.

14. NEW CONTROL PANEL FOR DDC SYSTEM. COORDINATE DATA AND POWER CONNECTION WITH

15. MOTORIZED DAMPER. COORDINATE WITH TCC AND REFER TO CONTROL SPECIFICATIONS FOR

16. INSTALL PRESSURE RELIEF DOOR IN AN ACCESSIBLE LOCATION. ENSURE PRESSURE RELIEF

7. INSTALL AND CAP 1½" GEOTHERMAL PIPES FOR POSSIBLE FUTURE CONNECTION. PROVIDE FULL SIZE ISOLATION VALVES AND REFER TO PIPING SCHEMATIC ON THIS SHEET FOR

18. CONNECT NEW DUCTWORK TO EXISTING DUCTWORK AT WALL / FLOOR PENETRATION.

19. INSTALL (3) PLENUMS THE FULL SIZE OF LOUVER AND WIDTH AS SPECIFIED. CONNECT

20. REFER TO SHEET SERIES M2-3.1X FOR DUCTWORK CONTINUATION.

23. REFER TO PIPING SCHEMATIC ON THIS SHEET FOR ADDITIONAL INFORMATION.

21. REFER TO SHEET M2-3.2 FOR DUCTWORK CONTINUATION.

DUCTWORK TO PLENUM WITH EXPANDED THROAT TAP. PLENUM DEPTH SHALL BE 36". EXTEND PLENUM AS REQUIRED TO MAKE DUCTWORK CONNECTION. ENLARGE OPENING FOR NEW LOUVER, COORDINATE WITH GC.

22. PROVIDE ACCESS DOOR IN DUCTWORK AS RECOMMENDED BY AFD MANUFACTURER. INSTALL AFD PER MANUFACTURER'S INSTRUCTION.

24. CONNECT TO PIPING AT FLOOR PENETRATION. CONTRACTOR TO VERIFY FLOW DIRECTION

25. SPILL HEAT PUMP CONDENSATE TO EXISTING CONDENSATE PIPE STUBBED THROUGH MECHANICAL ROOM FLOOR. FIELD VERIFY LOCATION AND RELOCATE AS REQUIRED TO ACCOMMODATE NEW HEAT PUMP LAYOUT.

26. CONNECT TO PIPING AT FLOOR PENETRATION. CONTRACTOR TO VERIFY FLOW DIRECTION AND CONNECTION SIZE. PROVIDE SHUT-OFF VALVES AT POINT OF CONNECTION.

27. REMOVE EXISTING EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS

EXISTING PIPING AND ALL ASSOCIATED VALVES, HANGERS, AND SUPPORTS TO BE

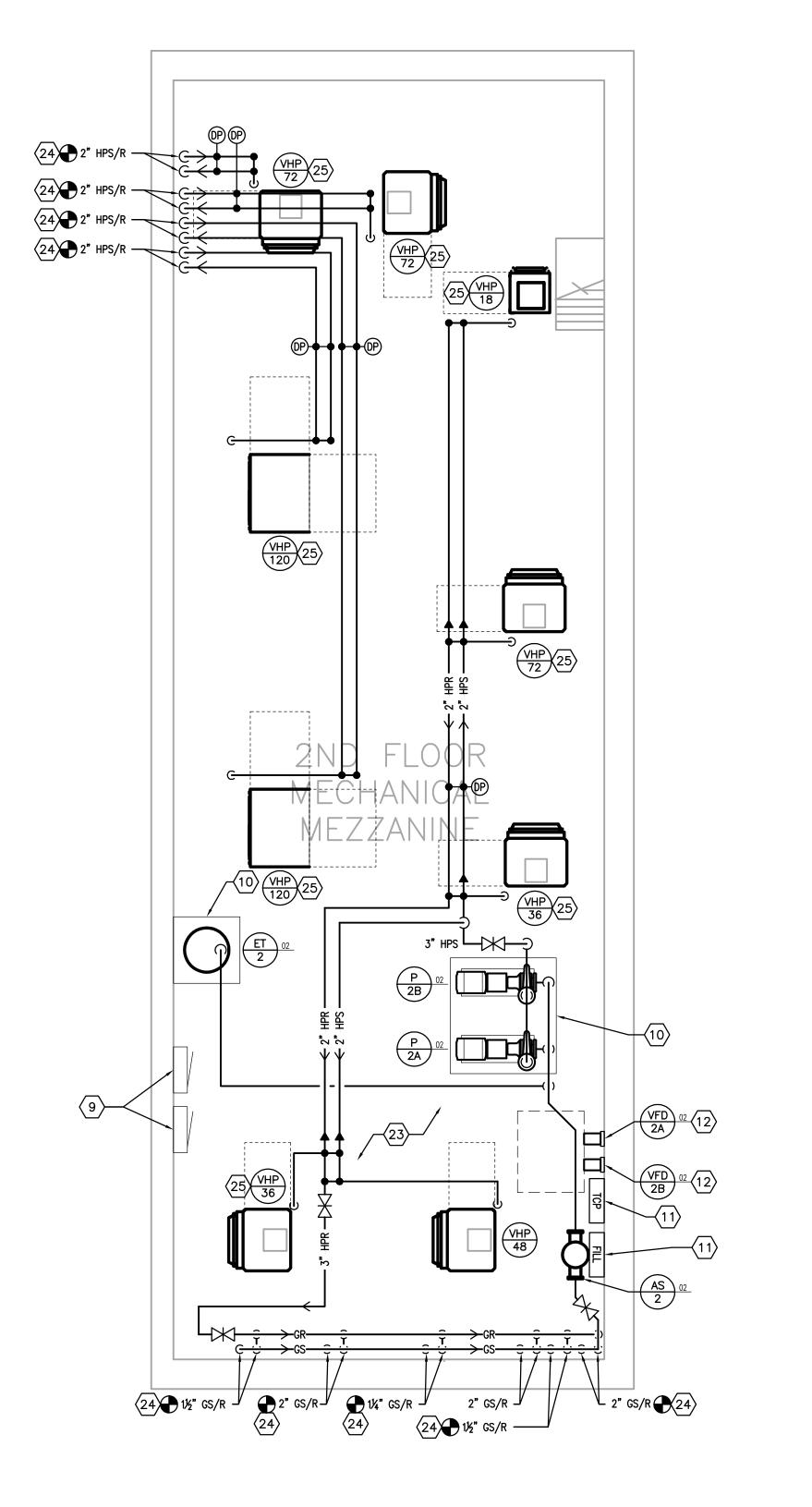
EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED

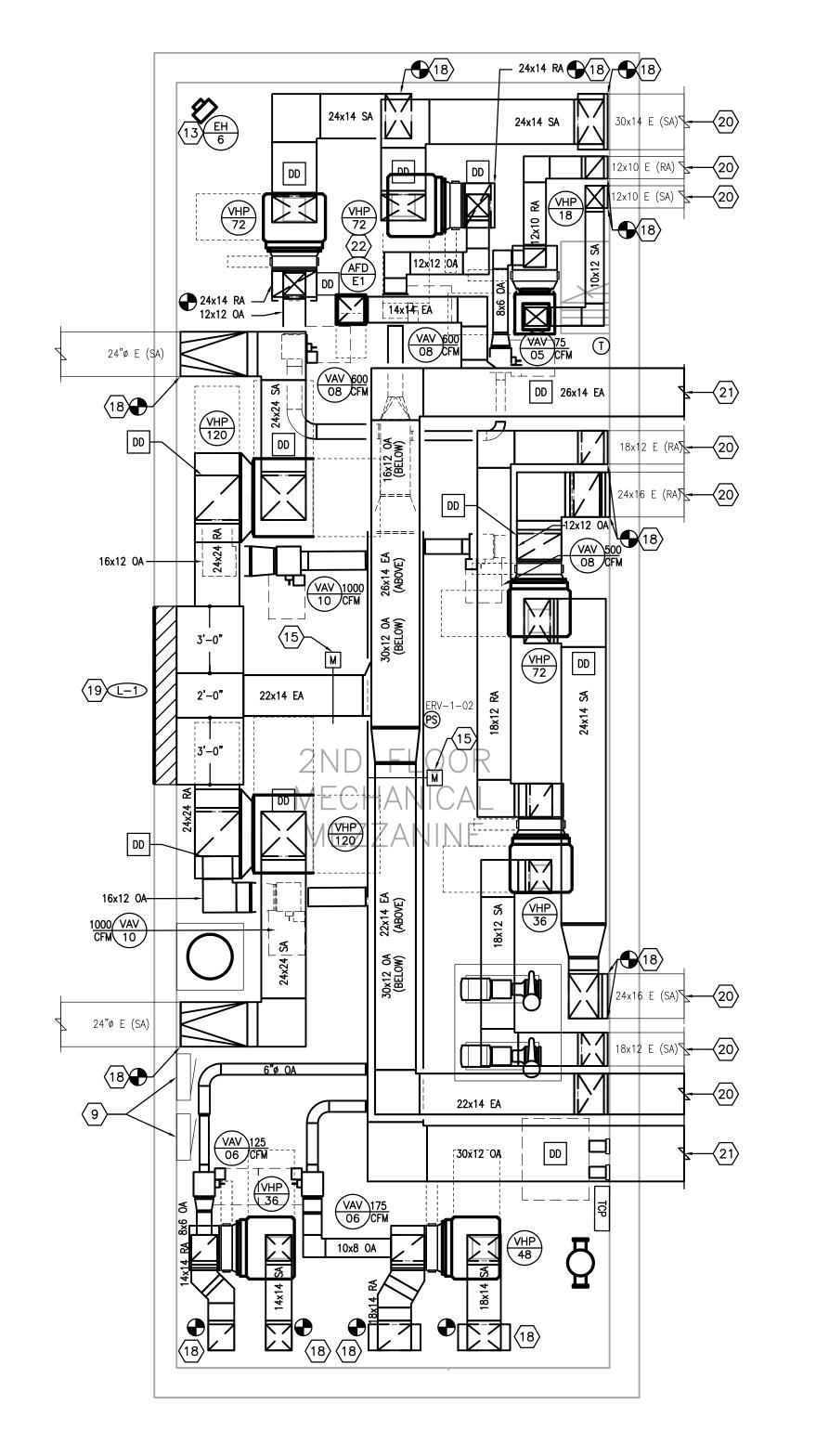
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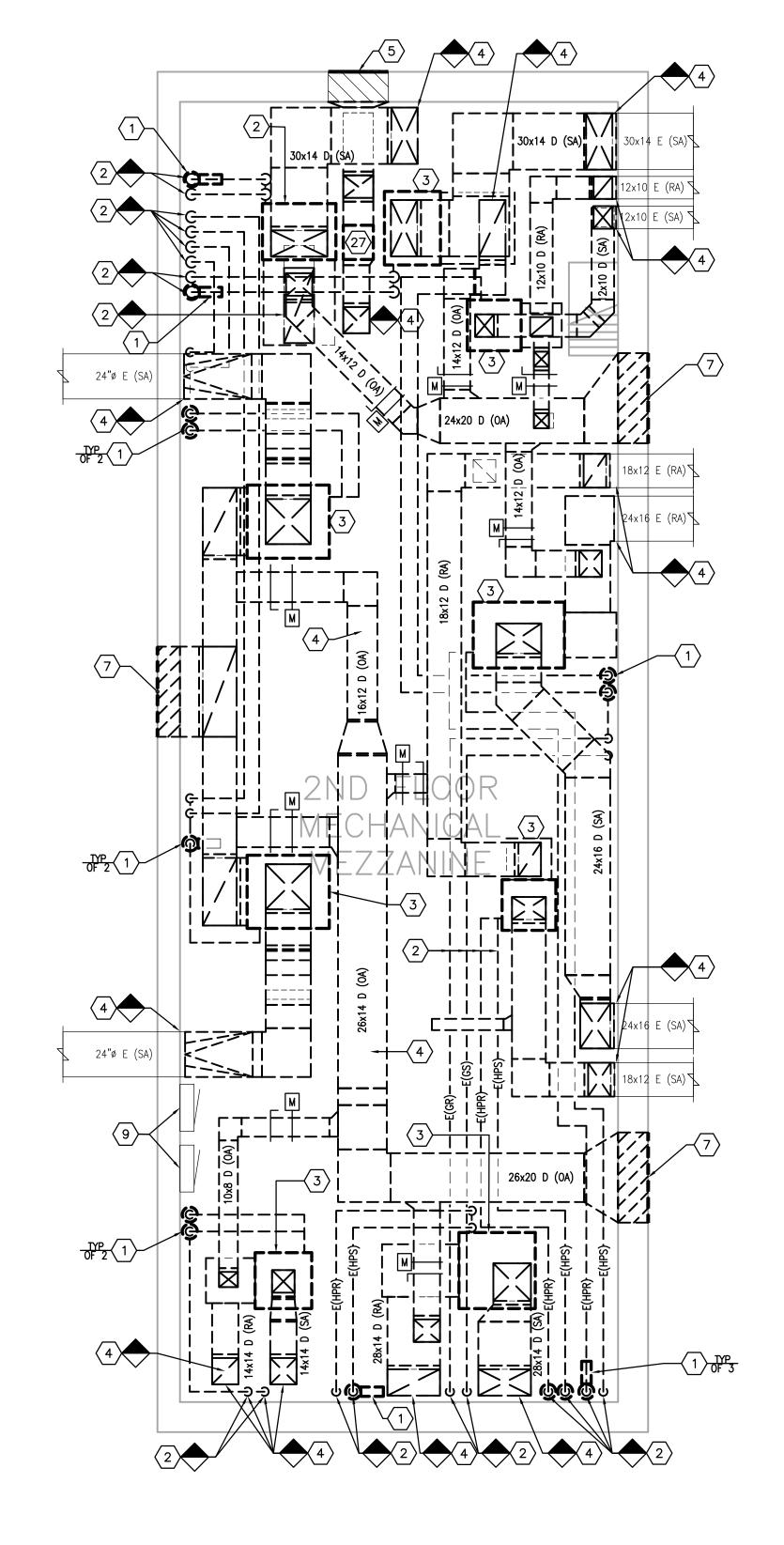
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ENLARGED MECHANICAL ROOMS — GENERAL NOTES:

- A. PATCH ALL WALL/ROOF/FLOOR PENETRATIONS WHERE EXISTING MEP EQUIPMENT/PIPING/DUCTWORK/ETC IS REMOVED.
- B. REMOVE ALL CONCRETE PADS/SUPPORTS ASSOCIATED WITH MEP EQUIPMENT REMOVAL COMPLETELY; REMOVE ALL ABANDONED PADS/SUPPORTS COMPLETELY; PATCH AND SMOOTH FLOOR AS REQUIRED.

ENLARGED MECHANICAL ROOMS:

EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL,

COMPLETELY REMOVED TO POINT INDICATED ON THE DRAWING. PATCH WALLS/SLAB/CEILING

- ELECTRICAL AND CONTROLS CONNECTIONS.

 2. EXISTING PIPING AND ALL ASSOCIATED VALVES, HANGERS, AND SUPPORTS TO BE
- AT PIPING OPENINGS (TYPICAL). REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

 3. EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT
- 4. EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY TO POINT INDICATED ON DRAWING. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT
- OPENINGS (TYPICAL). REFER TO NEW WORK FOR ADDITIONAL INFORMATION.

 5. EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND
- FINAL FINISHES WITH GENERAL CONTRACTOR.

 6. REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS
- 7. EXISTING LOUVER TO BE REMOVED COMPLETELY. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
- 8. REMOVE EXISTING MOTORIZED DAMPER IN OUTSIDE DUCTWORK AND REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
- 9. ELECTRICAL PANEL OR EQUIPMENT. DO NOT ROUTE DUCTWORK OR PIPING ABOVE THE PANELS
- 10. PROVIDE 4" THICK CONCRETE PAD UNDER MECHANICAL EQUIPMENT. PAD SHALL BE 6" LARGER THAN THE MECHANICAL EQUIPMENT FOOTPRINT IN ALL DIRECTIONS UNLESS SHOWN LARGER ON THE FLOOR PLAN.
- 11. HYDRONIC FILL SYSTEM. MOUNT AT 48" A.F.F. REFER TO DETAIL ON SHEET M5.1.
- PROVIDE A UNI-STRUT STAND FOR THE VFD. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR. PROVIDE VERTICAL UNI-STRUT ON WALL MOUNTED VFD'S.
 MOUNT THE BOTTOM OF THE UNIT HEATER 9'-0" AFF.
- 14. NEW CONTROL PANEL FOR DDC SYSTEM. COORDINATE DATA AND POWER CONNECTION WITH THE ELECTRICAL CONTRACTOR.
- 15. MOTORIZED DAMPER. COORDINATE WITH TCC AND REFER TO CONTROL SPECIFICATIONS FOR ADDITIONAL INFORMATION.16. INSTALL PRESSURE RELIEF DOOR IN AN ACCESSIBLE LOCATION. ENSURE PRESSURE RELIEF
- DOOR CAN FULLY OPEN. TYPICAL.

 17 INSTALL AND CAP 14" GEOTHERMAL PIPES FOR POSSIBLE FUTURE CONNECTION PRO
- 17. INSTALL AND CAP 1½" GEOTHERMAL PIPES FOR POSSIBLE FUTURE CONNECTION. PROVIDE FULL SIZE ISOLATION VALVES AND REFER TO PIPING SCHEMATIC ON THIS SHEET FOR ADDITIONAL INFORMATION
- 18. CONNECT NEW DUCTWORK TO EXISTING DUCTWORK AT WALL / FLOOR PENETRATION. PROVIDE TRANSITION AS REQUIRED.
- 19. INSTALL (3) PLENUMS THE FULL SIZE OF LOUVER AND WIDTH AS SPECIFIED. CONNECT DUCTWORK TO PLENUM WITH EXPANDED THROAT TAP. PLENUM DEPTH SHALL BE 36". EXTEND PLENUM AS REQUIRED TO MAKE DUCTWORK CONNECTION. ENLARGE OPENING FOR NEW LOUVER, COORDINATE WITH GC.
- 20. REFER TO SHEET SERIES M2-3.1X FOR DUCTWORK CONTINUATION.
- 21. REFER TO SHEET M2-3.2 FOR DUCTWORK CONTINUATION.
- 22. PROVIDE ACCESS DOOR IN DUCTWORK AS RECOMMENDED BY AFD MANUFACTURER. INSTALL AFD PER MANUFACTURER'S INSTRUCTION.
- 23. REFER TO PIPING SCHEMATIC ON THIS SHEET FOR ADDITIONAL INFORMATION.
- AND CONNECTION SIZE.
- 25. SPILL HEAT PUMP CONDENSATE TO EXISTING CONDENSATE PIPE STUBBED THROUGH MECHANICAL ROOM FLOOR. FIELD VERIFY LOCATION AND RELOCATE AS REQUIRED TO ACCOMMODATE NEW HEAT PUMP LAYOUT.
- 26. CONNECT TO PIPING AT FLOOR PENETRATION. CONTRACTOR TO VERIFY FLOW DIRECTION AND CONNECTION SIZE. PROVIDE SHUT-OFF VALVES AT POINT OF CONNECTION.
- 27. REMOVE EXISTING EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC).

ENLARGED MECHANICAL MEZZANINE HYDRONICS NEW WORK

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

ENLARGED MECHANICAL MEZZANINE AIR DISTRIBUTION NEW WORK

ENLARGED MECHANICAL MEZZANINE MECHANICAL DEMOLITION

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DOUGLAS

R. HUNDLEY

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Energy Solutions

ANTEED ENERGY SAVINGS CONTOOR OAK HILL ELEMENTARY SCHOOL Somerset, KY

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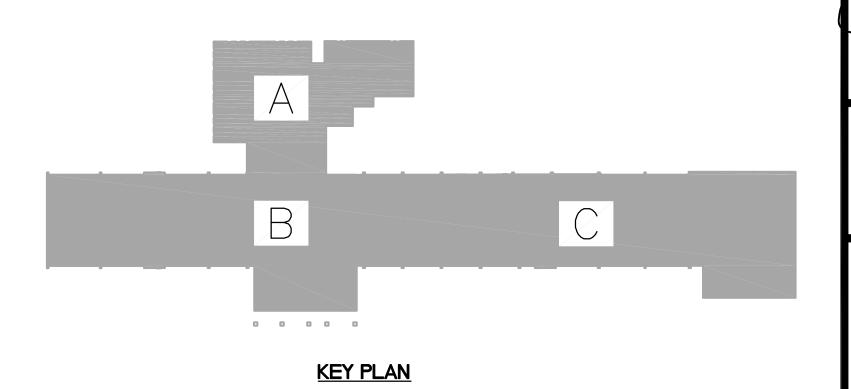
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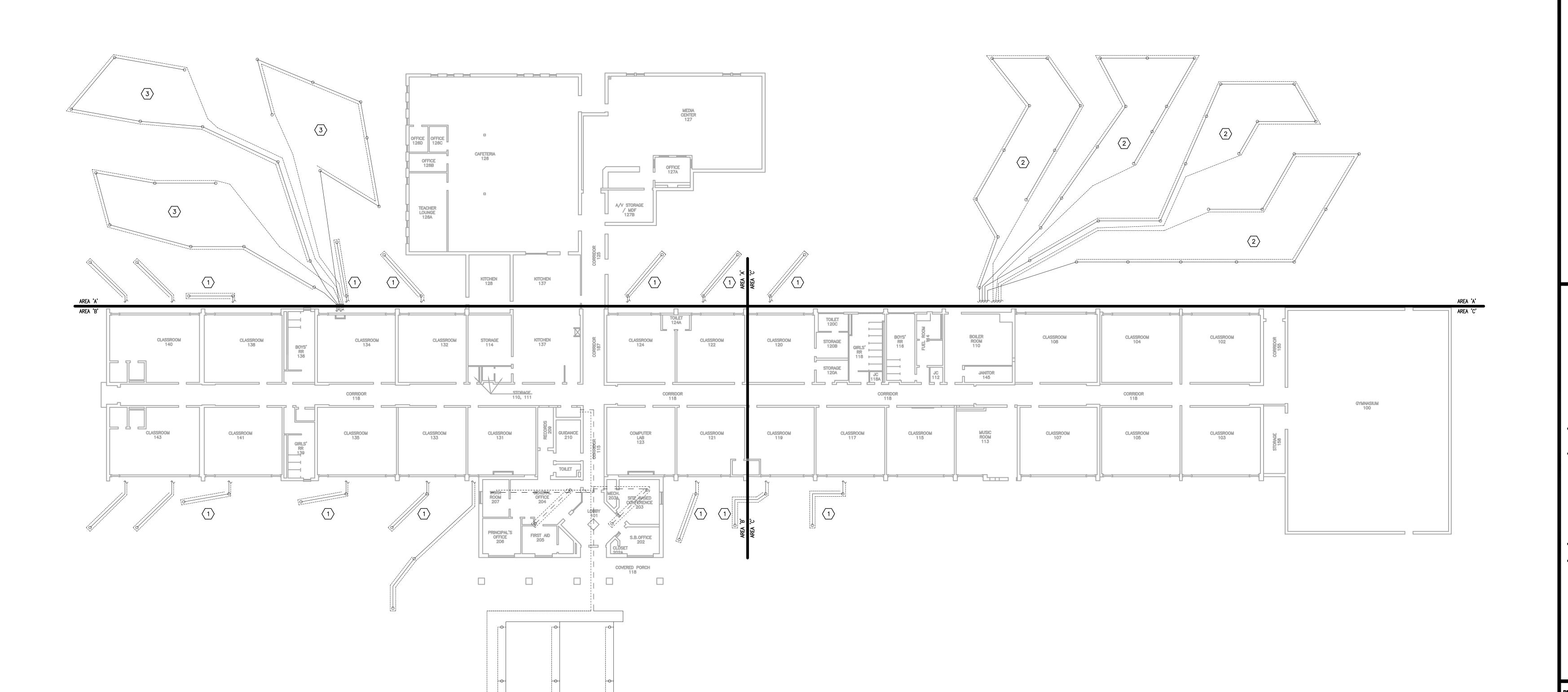
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M2-

WELL LOOP SCHEDULE				
WELLFIELD DESIGNATION	WELL DEPTH	PIPE SIZE	GPM PER W	
1	225'	1"	4.60	
2	231'	1"	4.81	
$\langle 3 \rangle$	242'	1"	4.90	





SITE PLAN - EXISTING GEOTHERMAL WELLFIELD

SCALE: 1/16" = 1'-0"

M3-2.0



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R. HUNDLEY

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SOONAL ENGINE

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Civic Way, Suite 100 pect, KY 40059 2 409.4062 F 502 919.1521 angers@CMTA.COM

Energy Solutions

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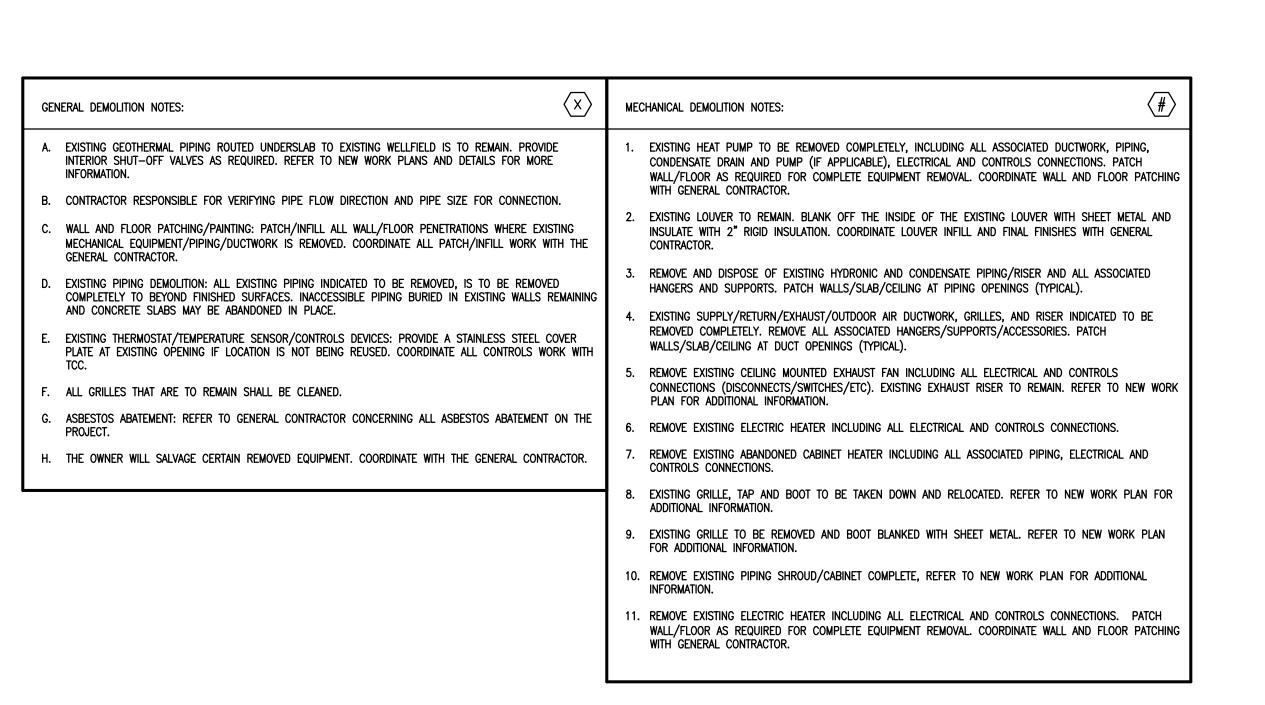
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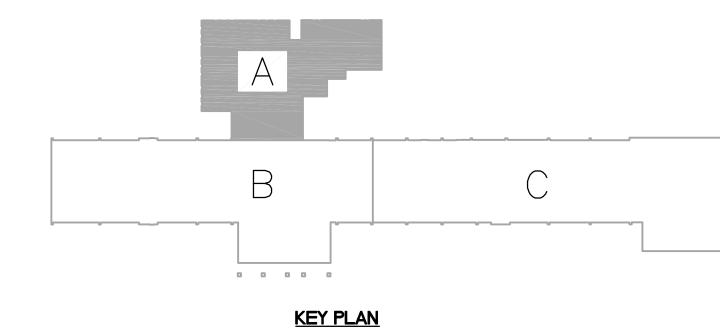
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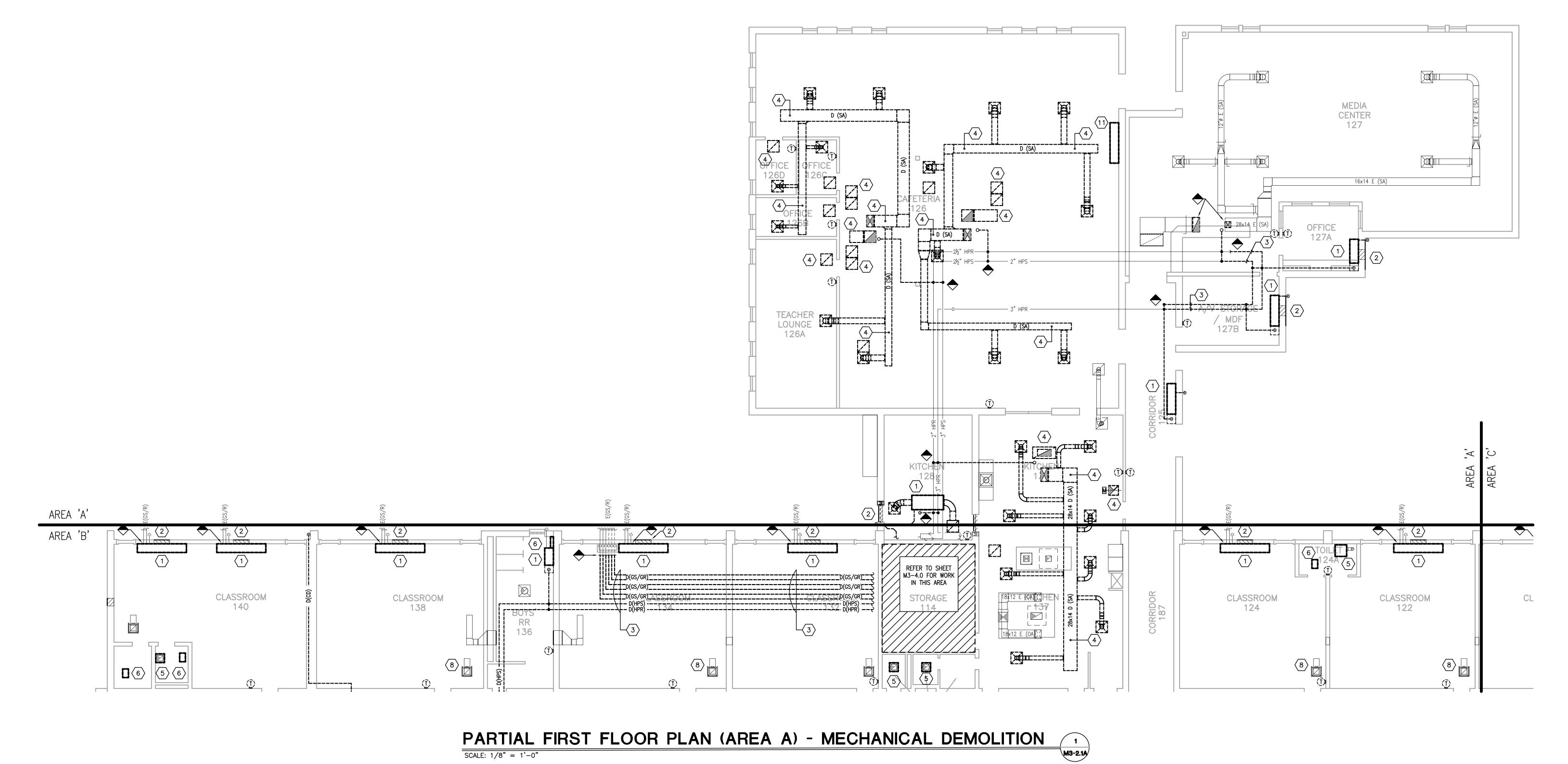


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WITH GENERAL CONTRACTOR.

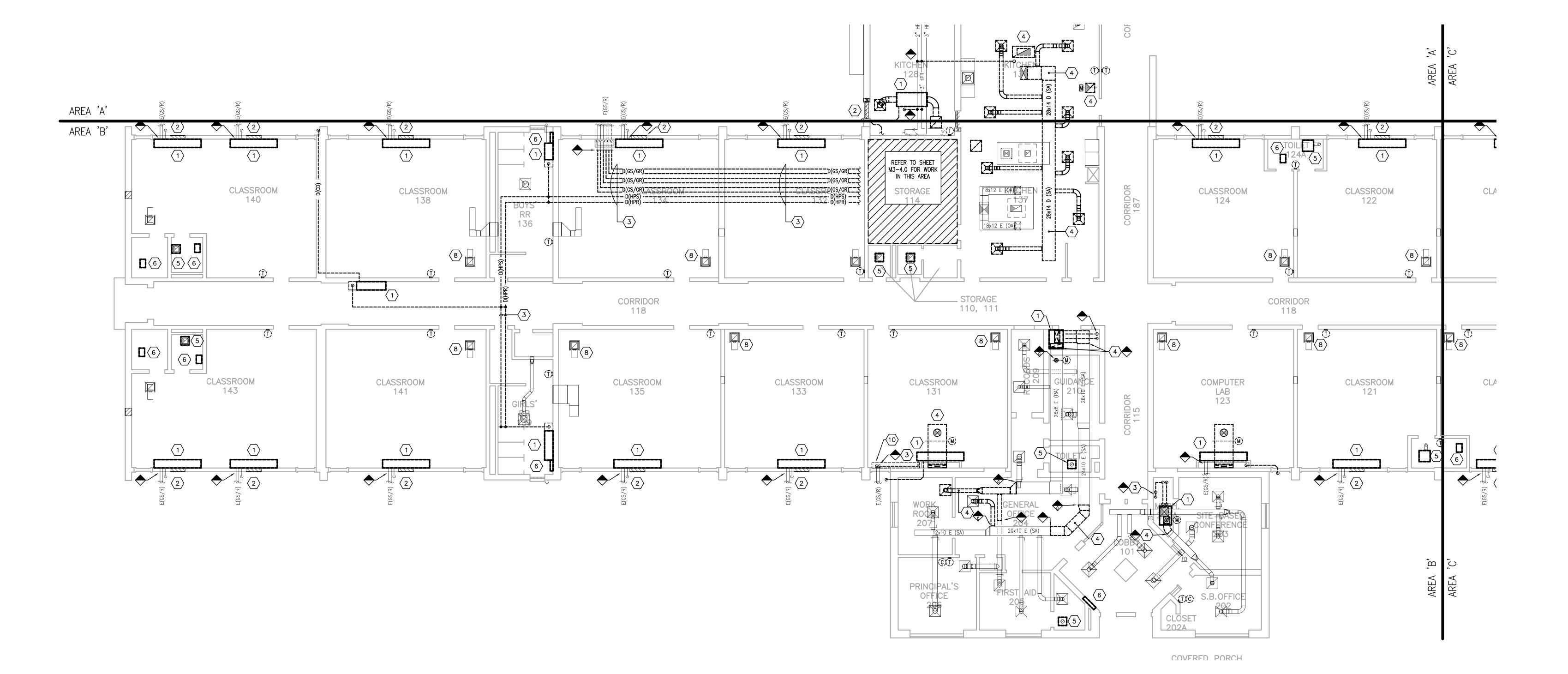
. REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING 0 0 0 0

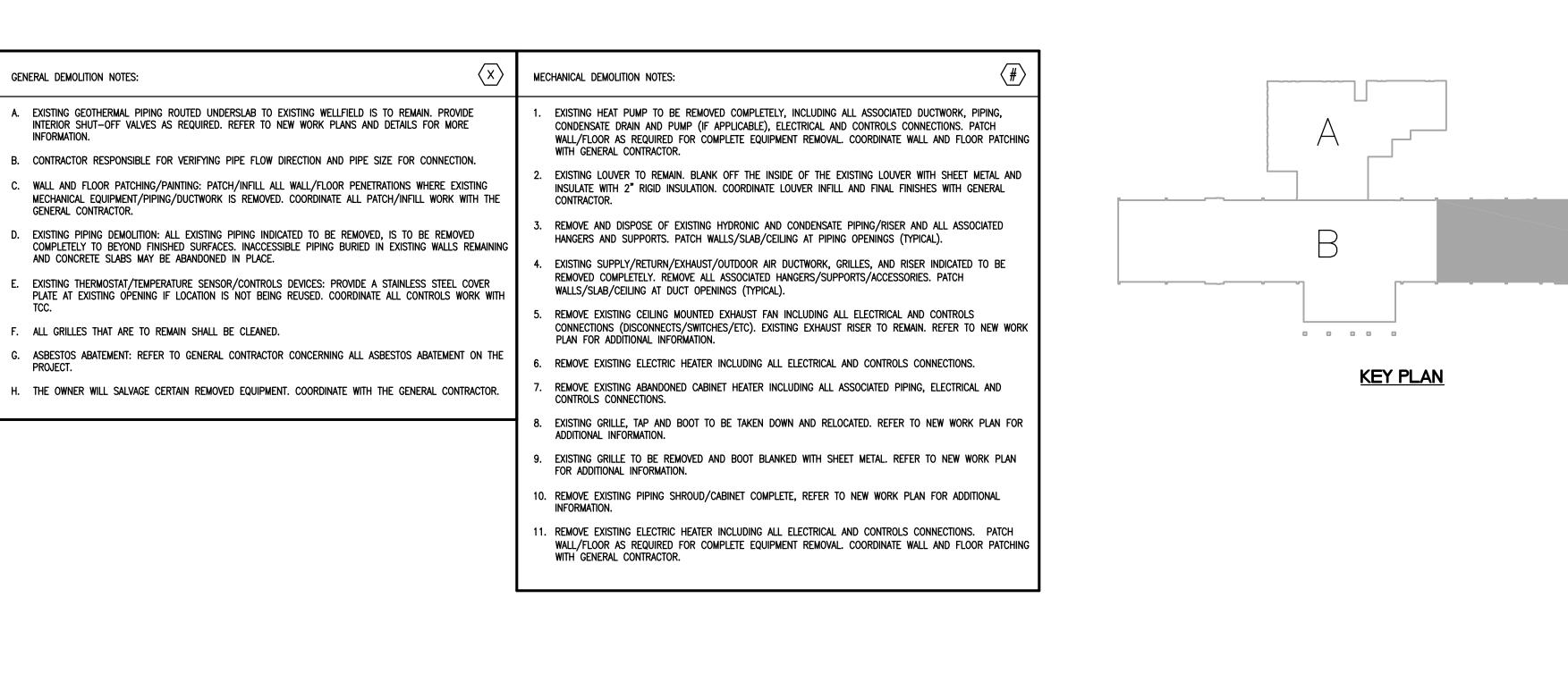
KEY PLAN

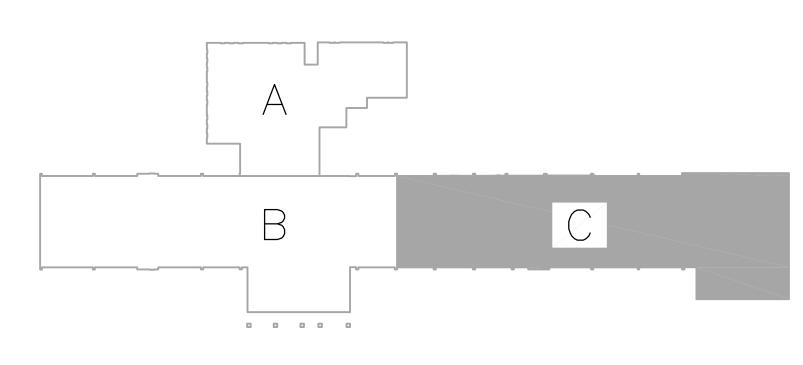
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MECHANICAL DEMOLITION

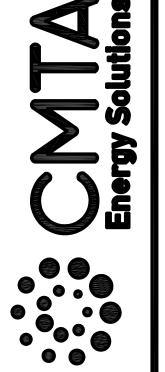
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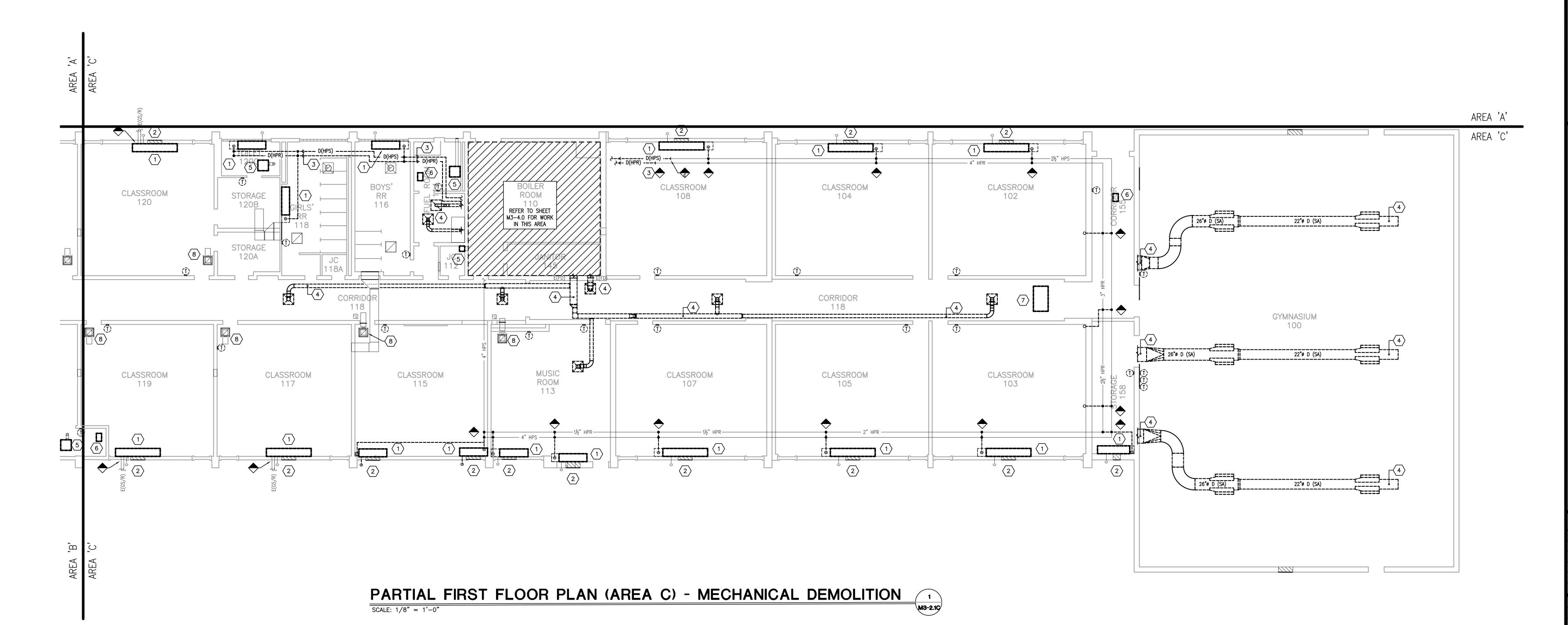




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MECHANICAL DEMOLITION NOTES — ROOF:

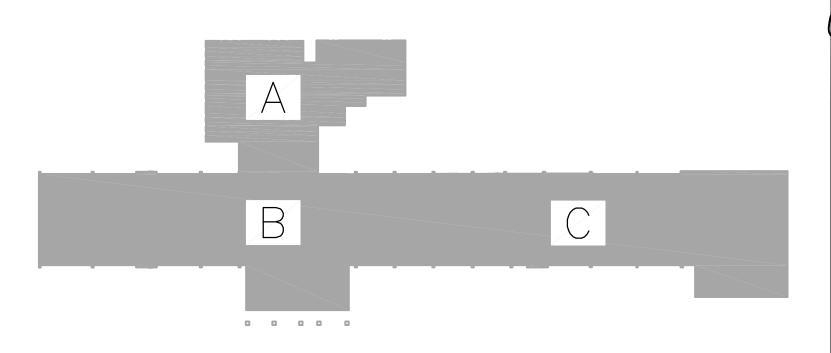
1. EXISTING EXHAUST FAN TO BE REMOVED COMPLETELY, INCLUDING ALL MECHANICAL, ELECTRICAL, AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING ROOF CURB AND DUCTWORK RISER TO REMAIN.

2. EXISTING EXHAUST FAN TO BE REMOVED COMPLETELY, INCLUDING ALL DUCTWORK, MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). THE ROOF CURB IS TO BE CAPPED, REFER TO DETAIL ON SHEET M—6.2.

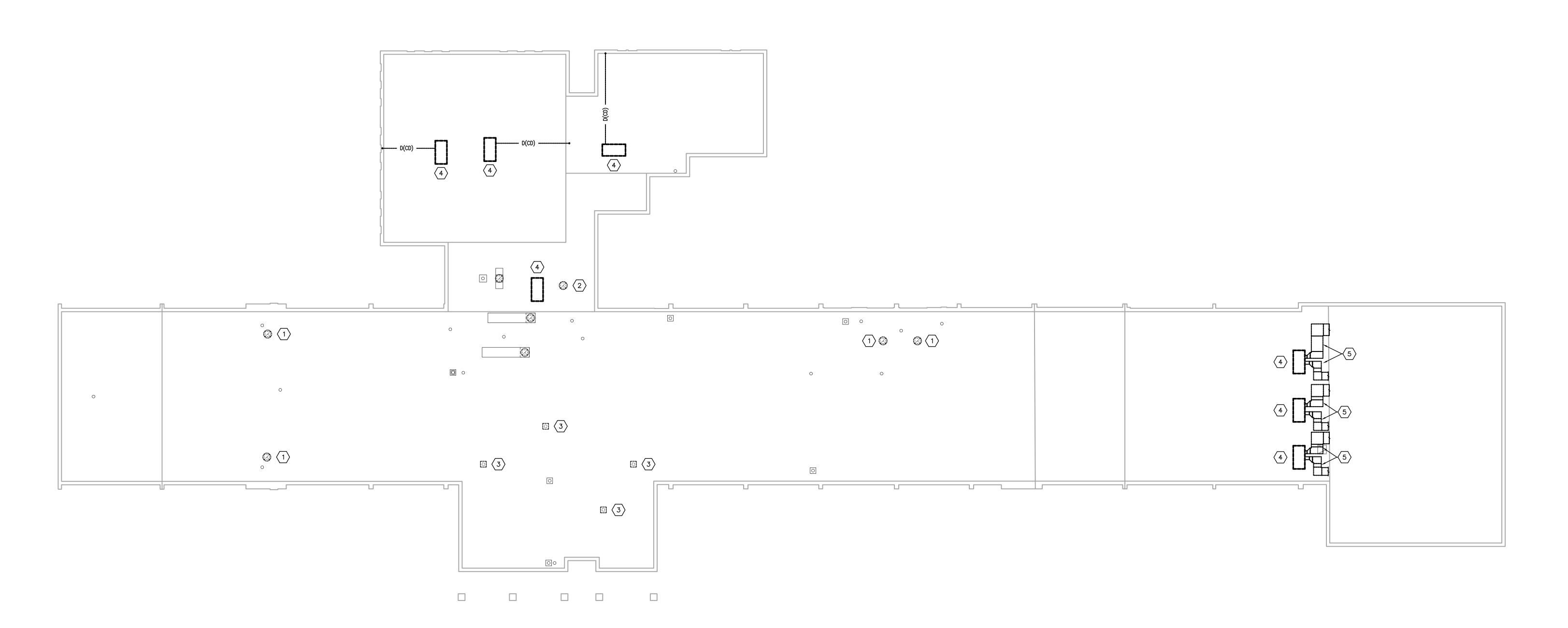
3. EXISTING RELIEF/EXHAUST/INTAKE AIR VENT TO BE REMOVED COMPLETELY. THE ROOF CURB IS TO BE CAPPED, REFER TO DETAIL ON SHEET M—6.2.

4. EXISTING ROOFTOP UNIT TO BE REMOVED COMPLETELY INCLUDING ALL ASSOCIATED PIPING, ELECTRICAL AND CONTROLS CONNECTIONS. EXISTING ROOF CURB TO REMAIN.

5. EXISTING DUCTWORK TO REMOVED COMPLETELY, INCLUDING ALL SUPPORTS.

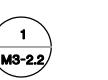


KEY PLAN



ROOF PLAN - MECHANICAL DEMOLITION

SCALE: 1/16" = 1'-0"



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Way, Suite 100 KY 40059 4062 F 502 919.1521 seCMTA.COM

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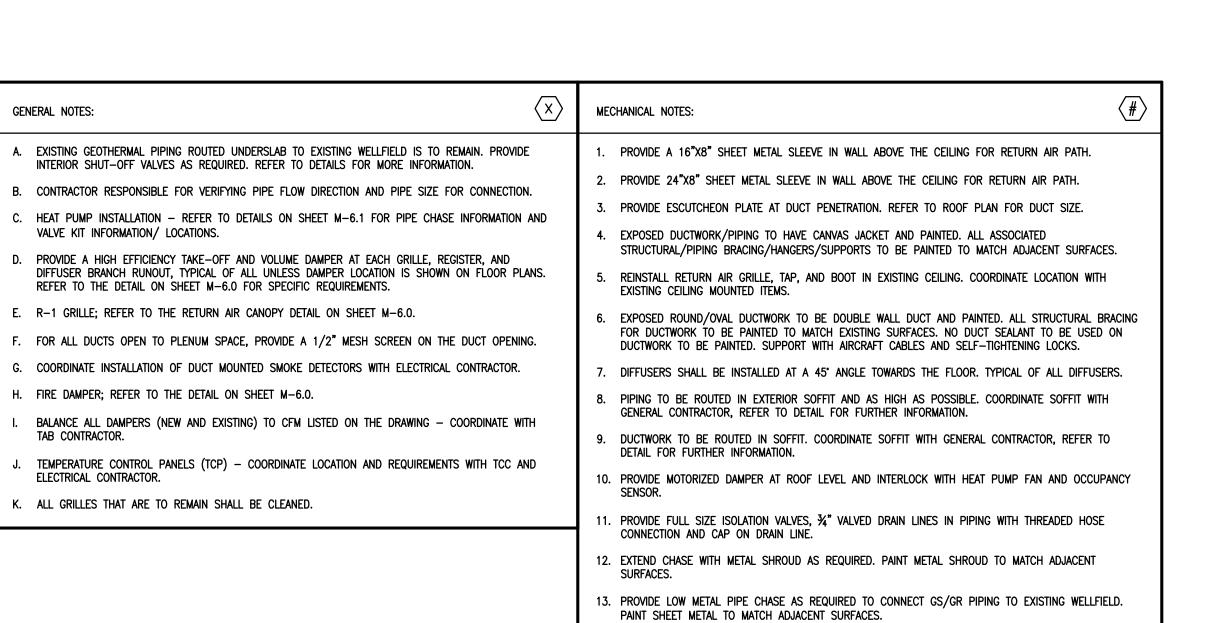
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DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

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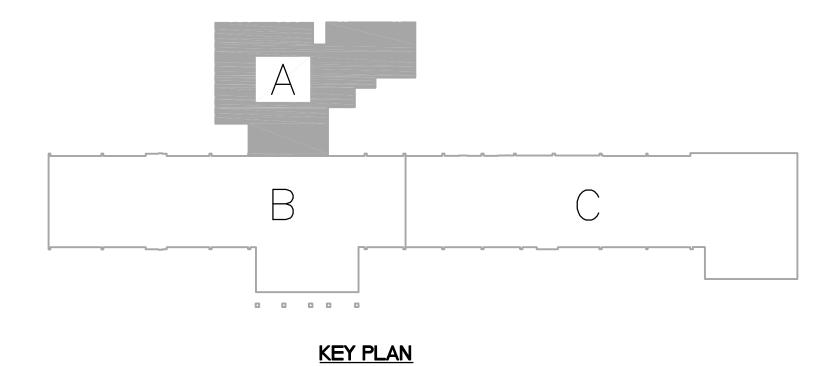
M3-



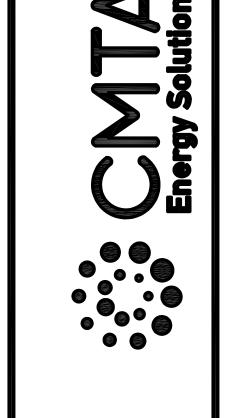
14. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE.

15. MODIFY EXISTING EXHAUST DUCT AS REQUIRED TO INSTALL NEW OUTDOOR AIR DUCT.

1 M3-3.1A



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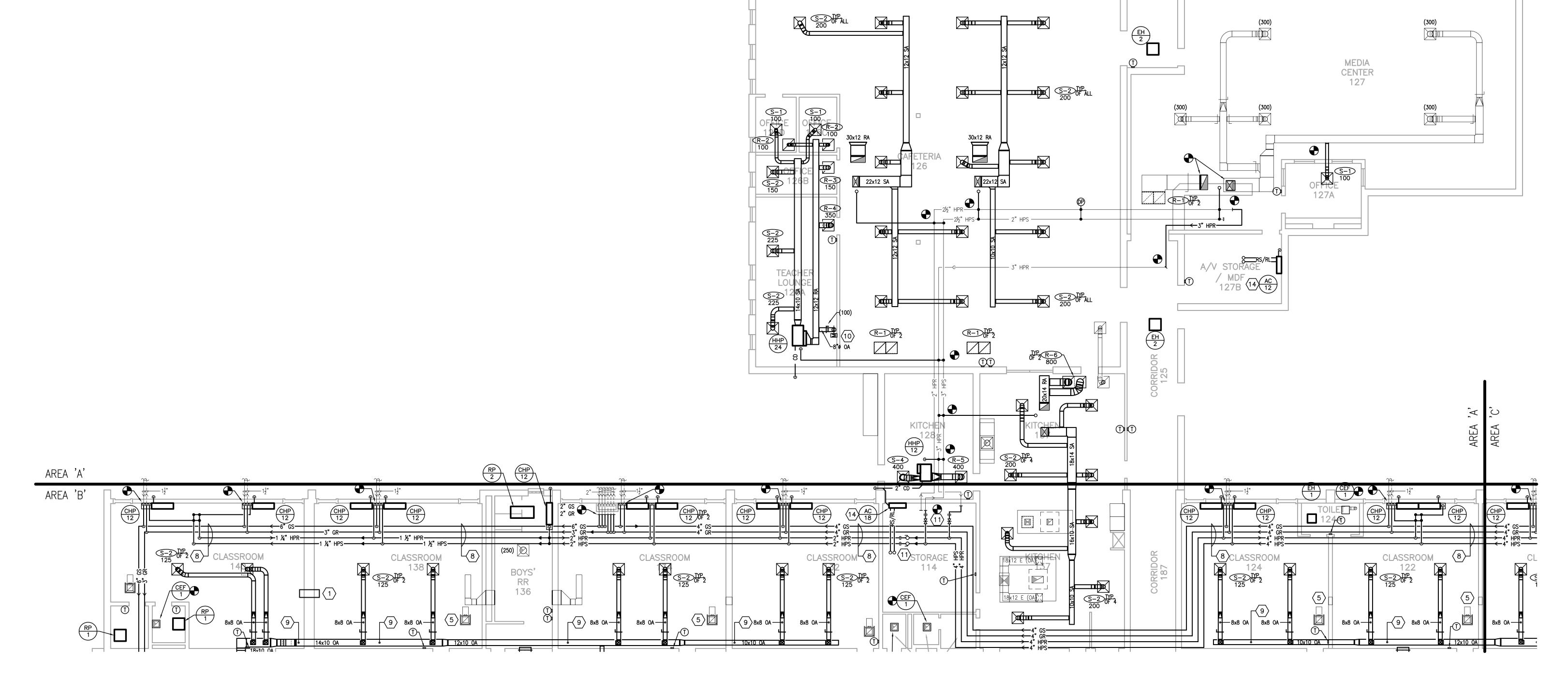
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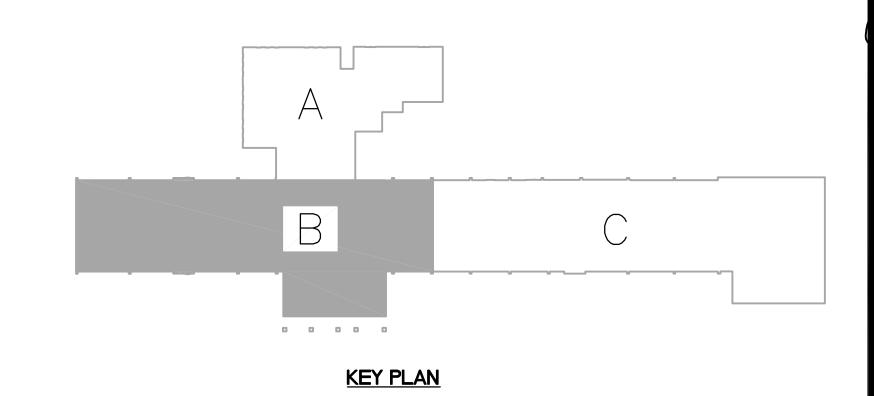
M3-



PAINT SHEET METAL TO MATCH ADJACENT SURFACES.

14. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL, REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE.

15. MODIFY EXISTING EXHAUST DUCT AS REQUIRED TO INSTALL NEW OUTDOOR AIR DUCT.



Energy Solution

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Pulaski County Schools
NTEED ENERGY SAVINGS CONTRAC
Nancy Elementary School
NANCY, KY

REVISIONS

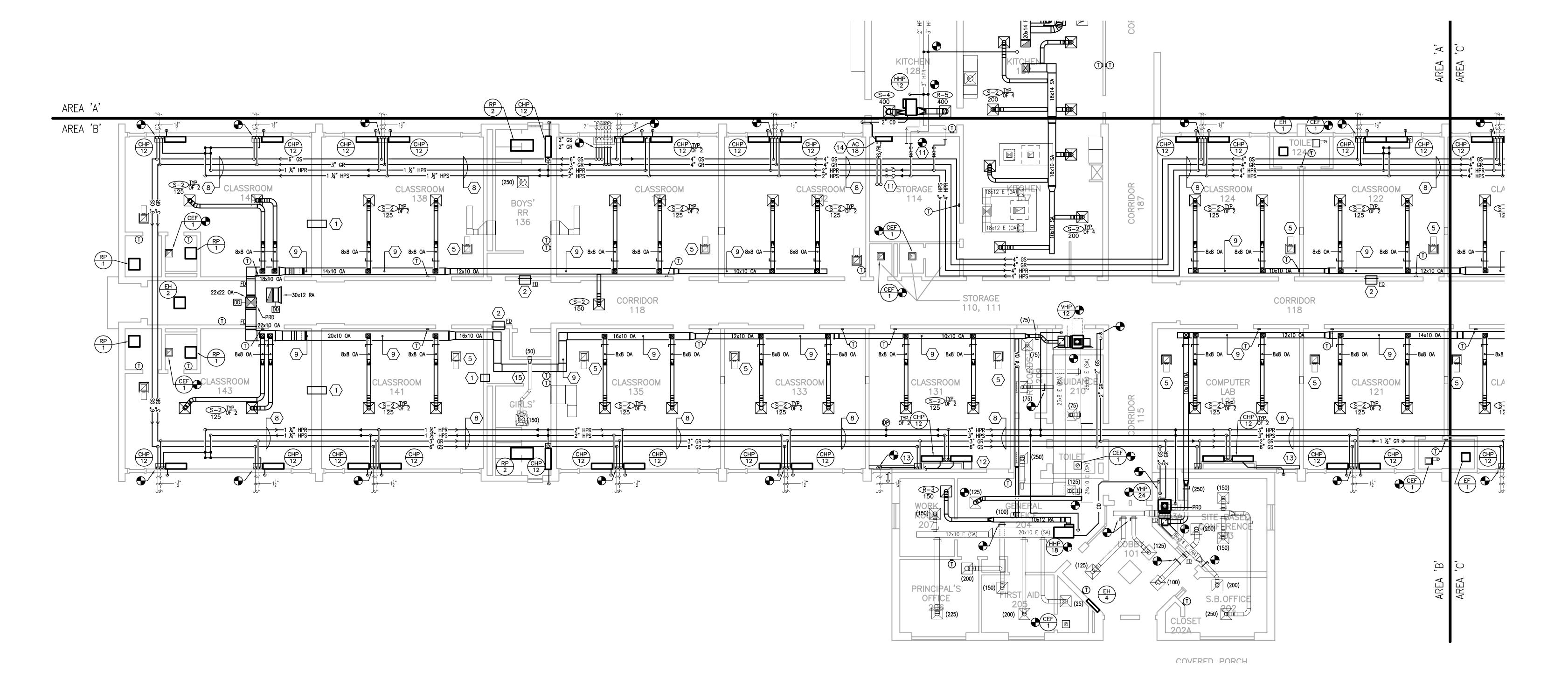
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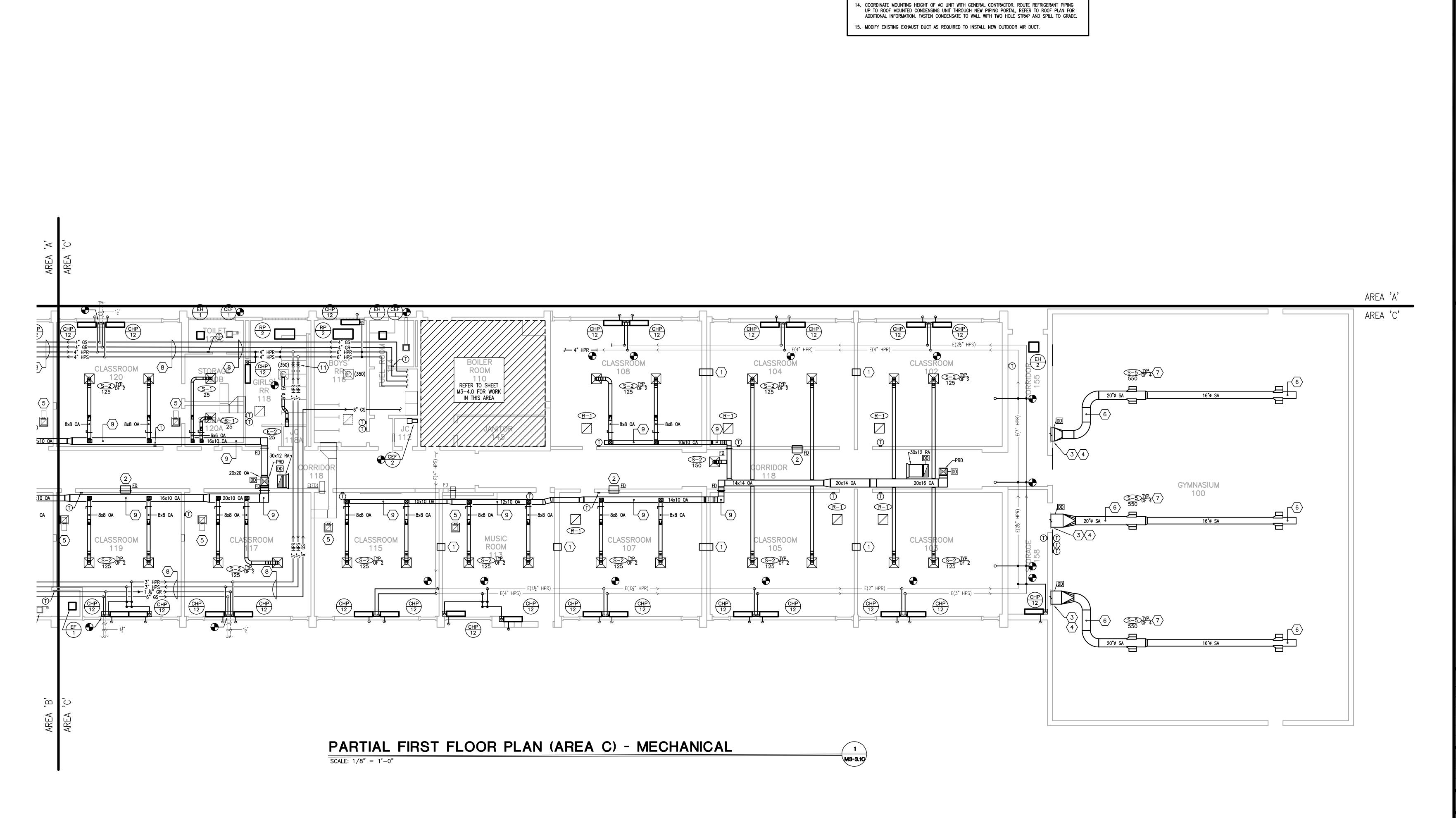
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M3-3.1B





GENERAL NOTES:

VALVE KIT INFORMATION/ LOCATIONS.

TAB CONTRACTOR.

ELECTRICAL CONTRACTOR.

H. FIRE DAMPER; REFER TO THE DETAIL ON SHEET M-6.0.

K. ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

EXISTING GEOTHERMAL PIPING ROUTED UNDERSLAB TO EXISTING WELLFIELD IS TO REMAIN. PROVIDE

B. CONTRACTOR RESPONSIBLE FOR VERIFYING PIPE FLOW DIRECTION AND PIPE SIZE FOR CONNECTION.

PROVIDE A HIGH EFFICIENCY TAKE-OFF AND VOLUME DAMPER AT EACH GRILLE, REGISTER, AND DIFFUSER BRANCH RUNOUT, TYPICAL OF ALL UNLESS DAMPER LOCATION IS SHOWN ON FLOOR PLANS.

F. FOR ALL DUCTS OPEN TO PLENUM SPACE, PROVIDE A 1/2" MESH SCREEN ON THE DUCT OPENING.

BALANCE ALL DAMPERS (NEW AND EXISTING) TO CFM LISTED ON THE DRAWING — COORDINATE WITH

TEMPERATURE CONTROL PANELS (TCP) - COORDINATE LOCATION AND REQUIREMENTS WITH TCC AND

G. COORDINATE INSTALLATION OF DUCT MOUNTED SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR.

REFER TO THE DETAIL ON SHEET M-6.0 FOR SPECIFIC REQUIREMENTS.

E. R-1 GRILLE; REFER TO THE RETURN AIR CANOPY DETAIL ON SHEET M-6.0.

C. HEAT PUMP INSTALLATION - REFER TO DETAILS ON SHEET M-6.1 FOR PIPE CHASE INFORMATION AND

INTERIOR SHUT-OFF VALVES AS REQUIRED. REFER TO DETAILS FOR MORE INFORMATION.

MECHANICAL NOTES:

EXISTING CEILING MOUNTED ITEMS.

DETAIL FOR FURTHER INFORMATION.

CONNECTION AND CAP ON DRAIN LINE.

PAINT SHEET METAL TO MATCH ADJACENT SURFACES.

. PROVIDE A 16"X8" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH.

. PROVIDE 24"X8" SHEET METAL SLEEVE IN WALL ABOVE THE CEILING FOR RETURN AIR PATH.

PROVIDE ESCUTCHEON PLATE AT DUCT PENETRATION. REFER TO ROOF PLAN FOR DUCT SIZE.

STRUCTURAL/PIPING BRACING/HANGERS/SUPPORTS TO BE PAINTED TO MATCH ADJACENT SURFACES.

. EXPOSED ROUND/OVAL DUCTWORK TO BE DOUBLE WALL DUCT AND PAINTED. ALL STRUCTURAL BRACING FOR DUCTWORK TO BE PAINTED TO MATCH EXISTING SURFACES. NO DUCT SEALANT TO BE USED ON

REINSTALL RETURN AIR GRILLE, TAP, AND BOOT IN EXISTING CEILING. COORDINATE LOCATION WITH

DUCTWORK TO BE PAINTED. SUPPORT WITH AIRCRAFT CABLES AND SELF-TIGHTENING LOCKS.

. DIFFUSERS SHALL BE INSTALLED AT A 45° ANGLE TOWARDS THE FLOOR. TYPICAL OF ALL DIFFUSERS.

8. PIPING TO BE ROUTED IN EXTERIOR SOFFIT AND AS HIGH AS POSSIBLE. COORDINATE SOFFIT WITH GENERAL CONTRACTOR, REFER TO DETAIL FOR FURTHER INFORMATION.

DUCTWORK TO BE ROUTED IN SOFFIT. COORDINATE SOFFIT WITH GENERAL CONTRACTOR, REFER TO

10. PROVIDE MOTORIZED DAMPER AT ROOF LEVEL AND INTERLOCK WITH HEAT PUMP FAN AND OCCUPANCY

. PROVIDE FULL SIZE ISOLATION VALVES, 3/4" VALVED DRAIN LINES IN PIPING WITH THREADED HOSE

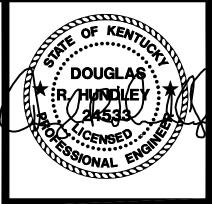
12. EXTEND CHASE WITH METAL SHROUD AS REQUIRED. PAINT METAL SHROUD TO MATCH ADJACENT

3. PROVIDE LOW METAL PIPE CHASE AS REQUIRED TO CONNECT GS/GR PIPING TO EXISTING WELLFIELD.

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KEY PLAN

. EXPOSED DUCTWORK/PIPING TO HAVE CANVAS JACKET AND PAINTED. ALL ASSOCIATED



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519 Civic Way, Suite 100 Prospect, KY 40059 7 502 409.4062 F 502 919.1 ABrangers@CMTA.COM

Energy Solution

ARANTEED ENERGY SAVINGS CONTRANTEED ENERGY SAVINGS CONTRANTS Nancy Elementary School NANCY, KY

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DATE: 03.11.2022

DRAWN: EM, LA, HC, NT CHECKED: CG

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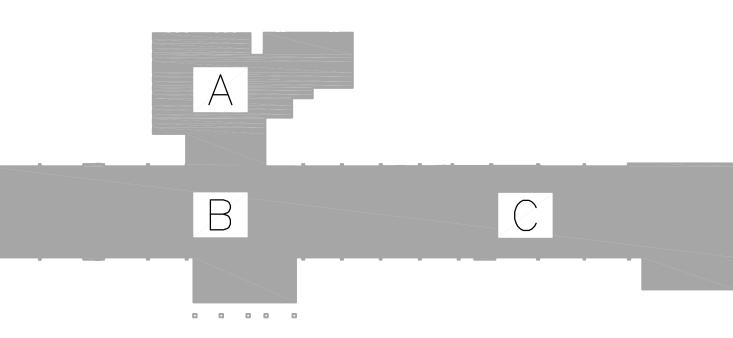
4. NEW FRESH AIR INTAKE GOOSENECK, PROVIDE NEW CURB AND CUT/PATCH/FLASH ROOF AS REQUIRED. REFER TO DETAIL ON SHEET M-6.2 FOR ADDITIONAL INFORMATION.

5. NEW FAN/HOOD INSTALLED ON AN EXISTING CURB. PROVIDE CURB ADAPTER AS REQUIRED. TRANSITION DUCTWORK TO FAN/HOOD OPENING AS REQUIRED.

6. NEW FAN/HOOD INSTALLED ON AN NEW CURB. TRANSITION DUCTWORK TO FAN/HOOD OPENING AS REQUIRED. CUT/PATCH/FLASH ROOF AS REQUIRED.

- . ROUTE THE REFRIGERANT PIPING DOWN THROUGH A NEW ROOF CURB/PIPING PORTAL. PROVIDE A ROOF PRODUCTS MODEL RPPC-90 OR APPROVED EQUAL ROOF CURB WITH PIPE CHASE. REFER TO THE PIPE PORTAL DETAIL ON SHEET M-6.2 FOR ADDITIONAL INFORMATION. ROOF CURB SHALL BE 3'-0" AWAY FROM CONDENSING UNIT. REFRIGERANT PIPING SHALL BE SUPPORTED BY COOPER B-LINE C-SERIES ROOFTOP
- B. NEW CONDENSING UNIT MOUNTED ON A NEW ROOF CURB. REFER TO DETAIL ON DRAWING M-6.2. CUT/PATCH/FLASH ROOF AS REQUIRE
- 9. PROVIDE DUCT SUPPORTS 5'-0" ON CENTER. DUCT SUPPORTS SHALL BE DURA BLOCK DB_DS SERIES. CONTRACTOR TO VERIFY MAXIMUM HEIGHT REQUIRED. INSULATE DUCTWORK PER SPECIFICATION SECTION
- 10. CONNECT NEW FULL SIZE PLENUM TO EXISTING RETURN AIR GRILLE. SEAL AROUND DUCTWORK PENETRATION AT EXTERIOR WALL WEATHER TIGHT. CONNECT TO PLENUM WITH EXPANDED THROAT TAP.
- I. TRANSITION TO EXISTING OPENING SIZE AND SEAL AROUND DUCTWORK PENETRATION AT EXTERIOR WALL WEATHER TIGHT. REFER TO FLOOR PLAN FOR CONTINUATION OF DUCTWORK.
- 12. NEW NON-PENETRATING OSHA COMPLIANT EDGE PROTECTION ROOF RAILING SYSTEM. BASIS OF DESIGN: BLUEWATER "SAFETYRAIL 2000" SYSTEM. MAINTAIN EQUIPMENT CLEARANCES.
- 13. APPROXIMATE EXISTING VTR LOCATION. ROUTE NEW PLUMBING VENT ACROSS ROOF AND TERMINATE NO LESS THAN 15' FROM ANY FRESH AIR INTAKE. PROVIDE AND INSTALL NO HUB COUPLING TO JOIN NEW VENT PIPE AND EXISTING VTR. PROVIDE AND INSTALL NEW PIPE SUPPORTS EVERY 3'-0" FOR NEW VENT PIPING. SUPPORTS SHALL BE COPPER, B-LINE, MODEL C-SERIES OR EQUAL.

14. OFFSET DUCT UP AS SOON AS POSSIBLE AND ROUTE OVERHEAD AS TO MAINTAIN ACCESS TO ROOF HATCH.



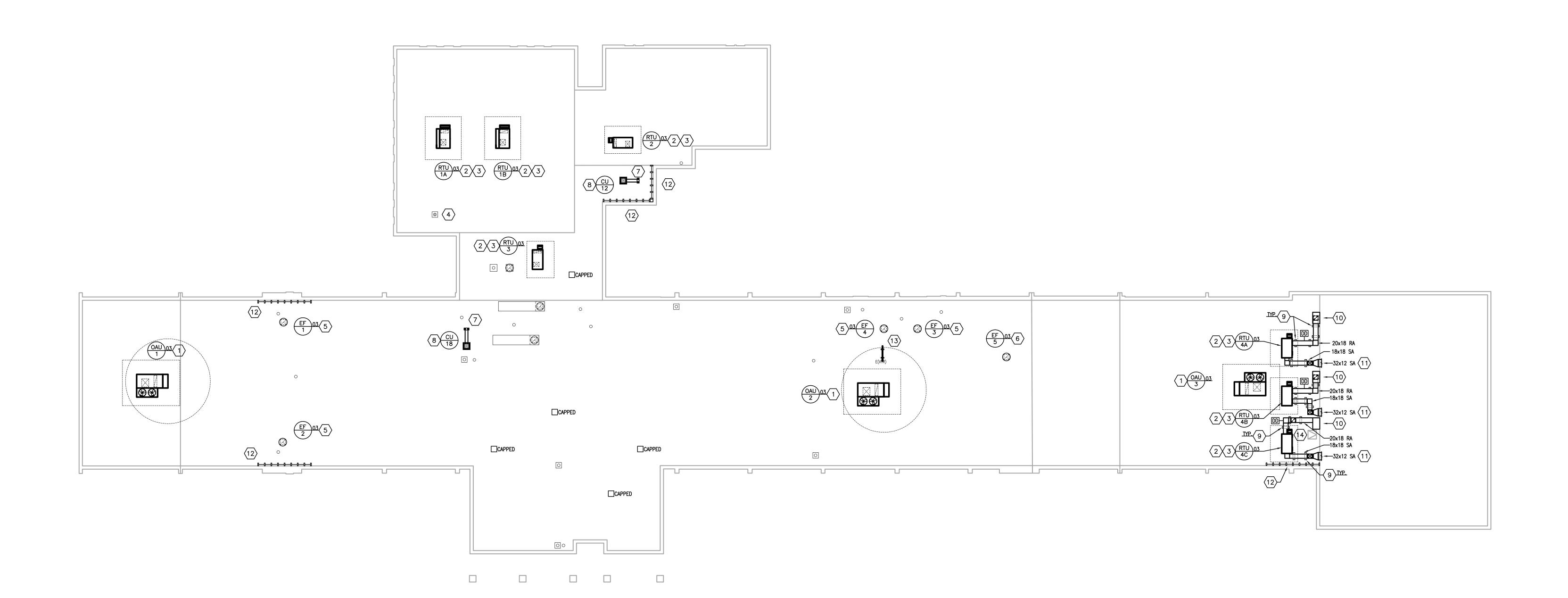
KEY PLAN

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DATE: 03.11.2022

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ROOF PLAN - MECHANICAL

SCALE: 1/16" = 1'-0"

ENLARGED MECHANICAL ROOMS - GENERAL NOTES:

KEY PLAN

- . PATCH ALL WALL/ROOF/FLOOR PENETRATIONS WHERE EXISTING MEP EQUIPMENT/PIPING/DUCTWORK/ETC IS REMOVED.
- 3. REMOVE ALL CONCRETE PADS/SUPPORTS ASSOCIATED WITH MEP EQUIPMENT REMOVAL COMPLETELY; REMOVE ALL ABANDONED PADS/SUPPORTS COMPLETELY; PATCH AND SMOOTH FLOOR AS REQUIRED.

ENLARGED MECHANICAL ROOMS:

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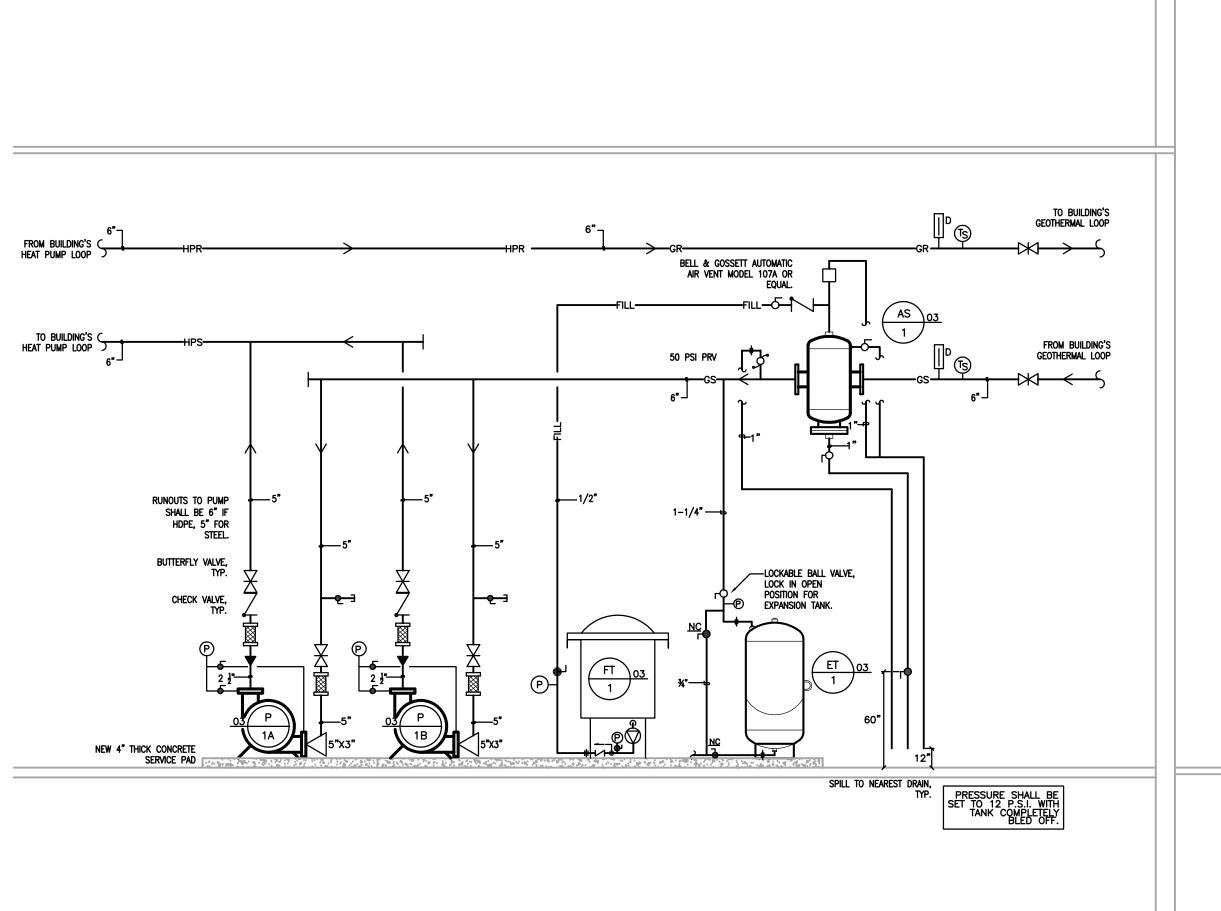
- EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS. CONCRETE PAD SHALL BE REMOVED; PATCH AND SMOOTH FLOOR AS REQUIRED. EXISTING PIPING AND ALL ASSOCIATED VALVES, HANGERS, AND SUPPORTS TO BE
- COMPLETELY REMOVED. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL).
- EXISTING AIR SEPARATOR TO BE COMPLETELY REMOVED INCLUDING ALL ACCESSORIES/SUPPORTS.
- . EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL CONTRACTOR.
- EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT
- EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS
- PROVIDE 4" THICK CONCRETE PAD UNDER MECHANICAL EQUIPMENT. PAD SHALL BE 6" LARGER THAN THE MECHANICAL EQUIPMENT FOOTPRINT IN ALL DIRECTIONS UNLESS SHOWN LARGER ON THE FLOOR PLAN.

- 12. ELECTRICAL PANEL OR EQUIPMENT. DO NOT ROUTE DUCTWORK OR PIPING ABOVE THE
- 13. NEW CONTROL PANEL FOR DDC SYSTEM. COORDINATE DATA AND POWER CONNECTION WITH THE ELECTRICAL CONTRACTOR.

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> ENLARGED BOILER ROOM -MECHANICAL DEMOLITION

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



ENLARGED BOILER ROOM -MECHANICAL

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

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DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

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GEOTHERMAL PIPING SCHEMATIC

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ENLARGED STORAGE ROOM -

MECHANICAL DEMOLITION

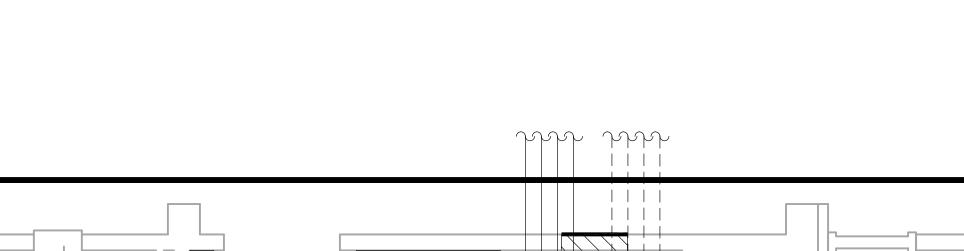
SCALE: 1/4" = 1'-0"

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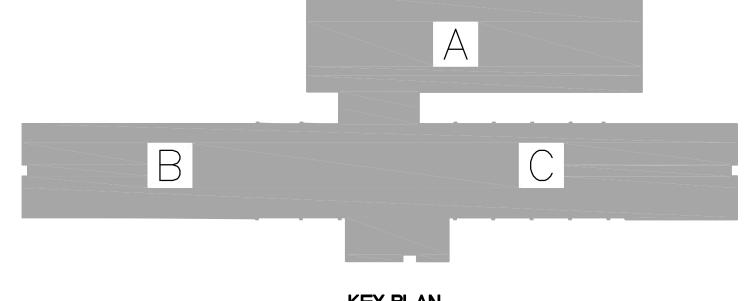
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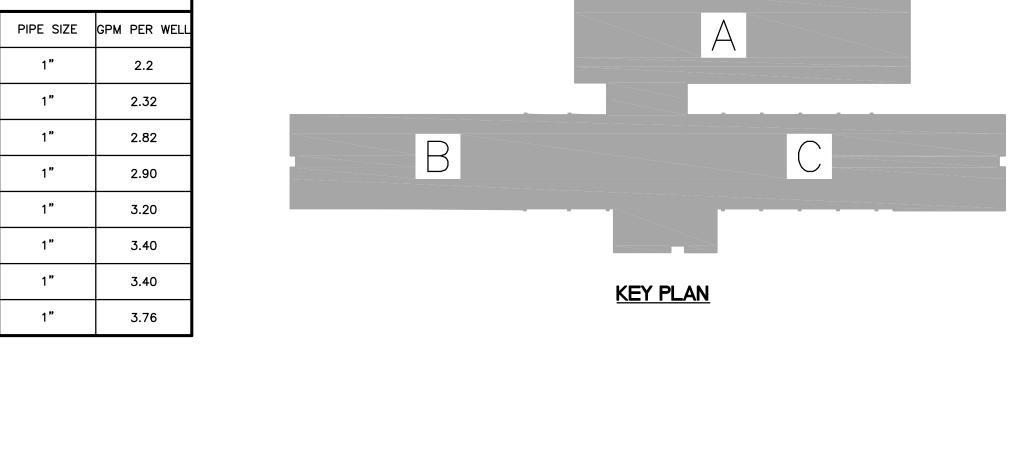
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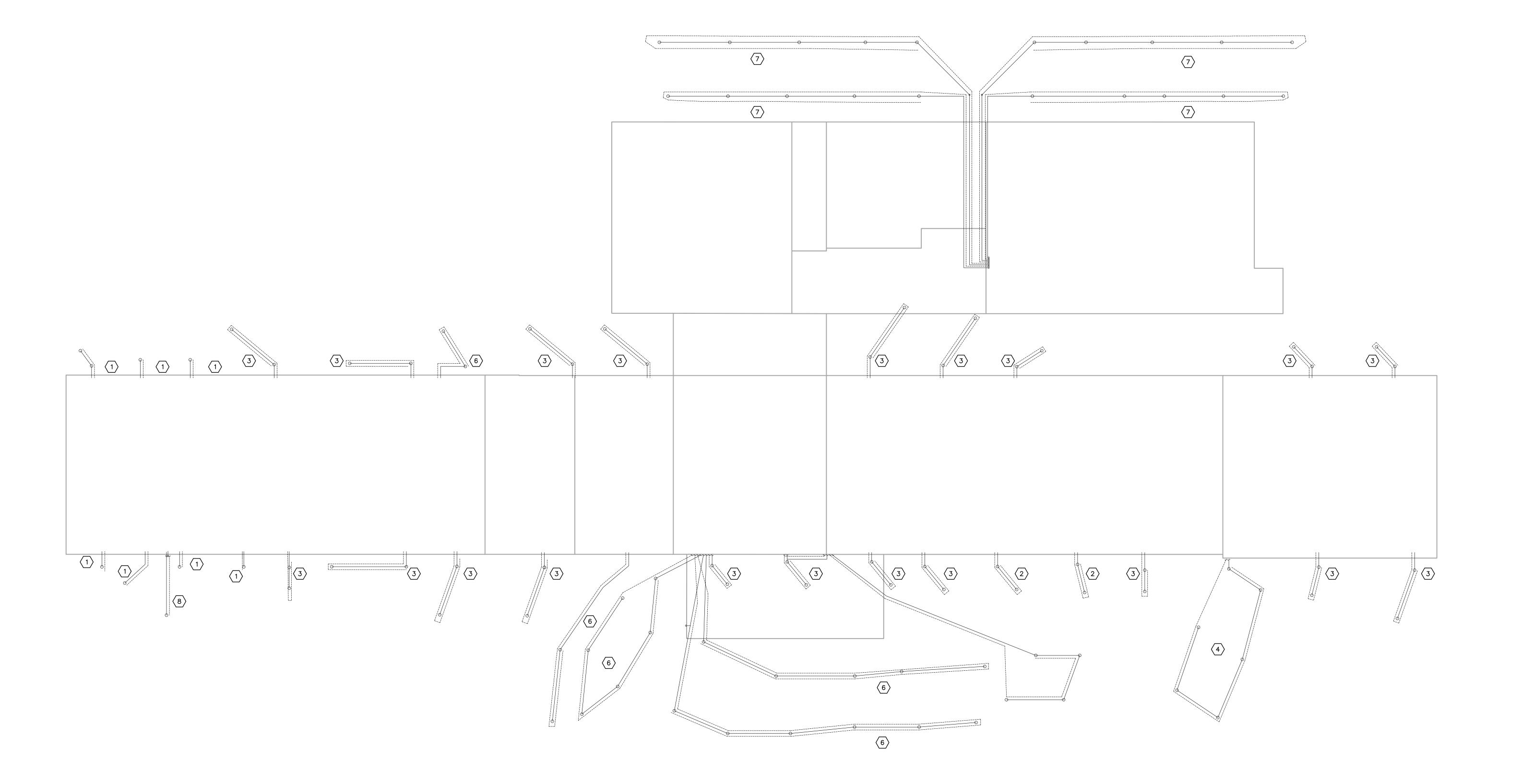


10x10 E (SA)

WELL LOOP SCHEDULE						
WELLFIELD DESIGNATION	WELL DEPTH	PIPE SIZE	GPM PER WELI			
1	175'	1"	2.2			
2	185'	1"	2.32			
3	225'	1"	2.82			
4	227'	1"	2.90			
5	255'	1"	3.20			
6	272'	1"	3.40			
7	273'	1"	3.40			
(8)	300'	1"	3.76			







SITE PLAN - EXISTING GEOTHERMAL WELLFIELD

SCALE: 1/16" = 1'-0"

FOR REFERENCE ONLY

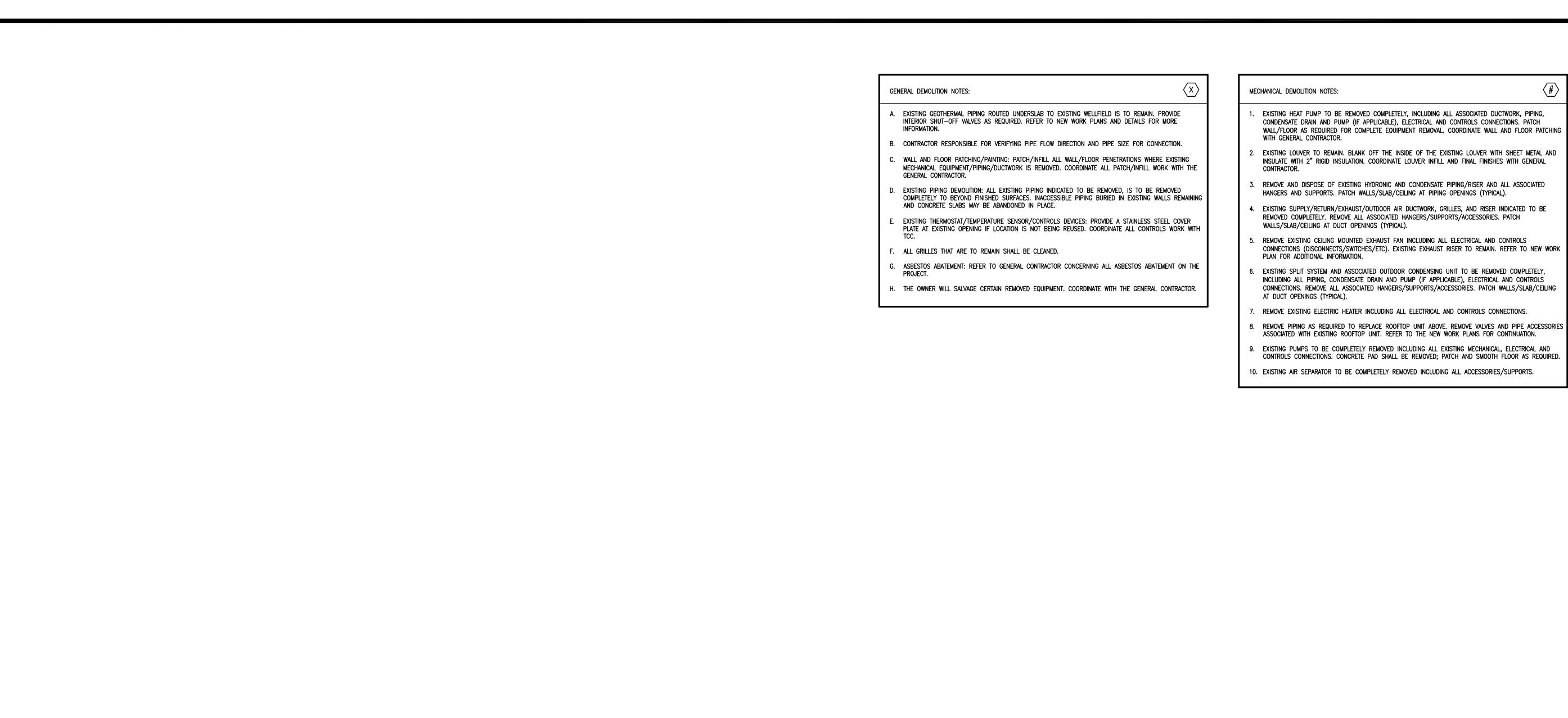
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Pulaski County Schools
GUARANTEED ENERGY SAVINGS CONTRACT
SHOPVILLE ELEMENTARY SCHOOL
SOMERSET, KY
SITE PLAN EXISTING GEOTHERMAL WELLFIELD

DATE: 03.11.2022

DRAWN: EM, LA, HC, NT

CHECKED: CG



28x14 D (SA)

AREA 'A'

AREA 'B'

MEDIA CENTER 128

EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING WITH GENERAL CONTRACTOR. EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL REMOVE AND DISPOSE OF EXISTING HYDRONIC AND CONDENSATE PIPING/RISER AND ALL ASSOCIATED HANGERS AND SUPPORTS. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL). EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL). REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDÌTIONAL INFORMATION. KEY PLAN . EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY, INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS

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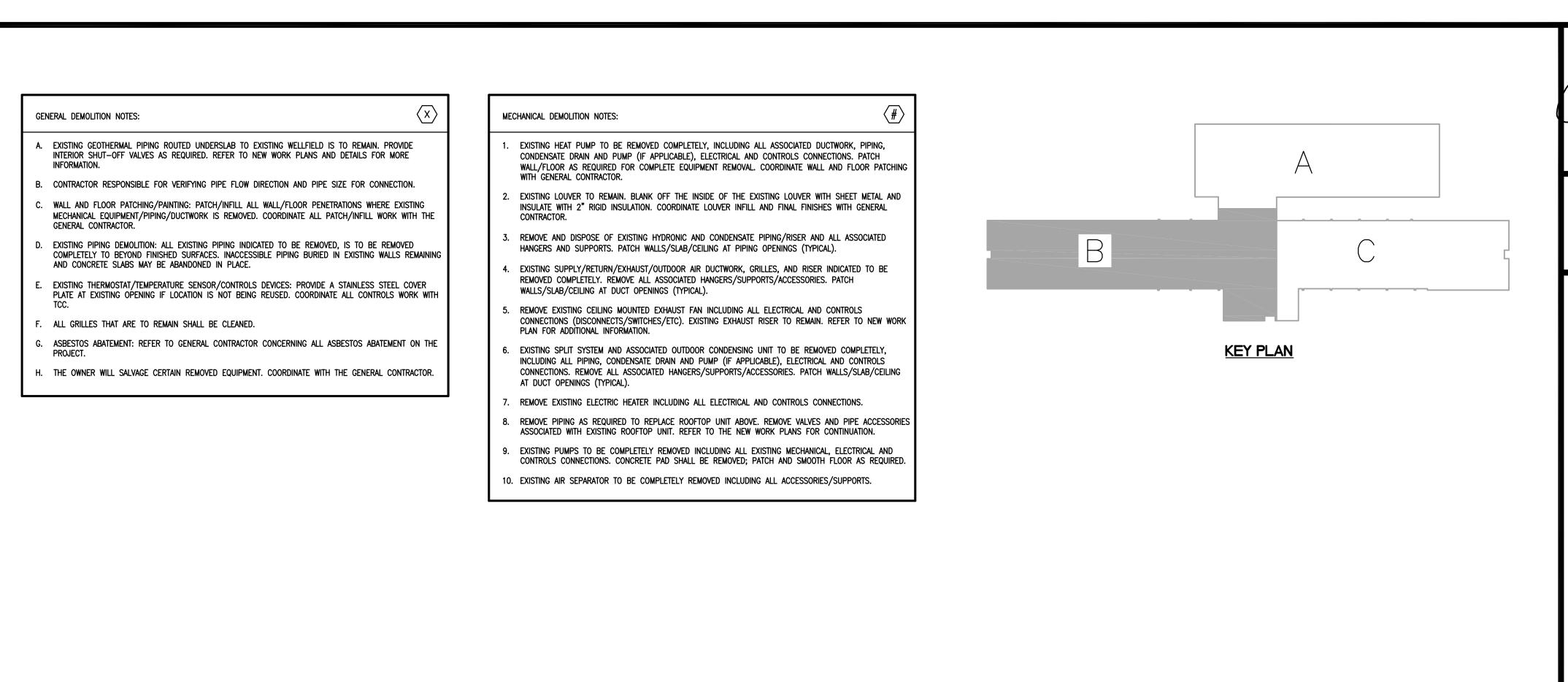
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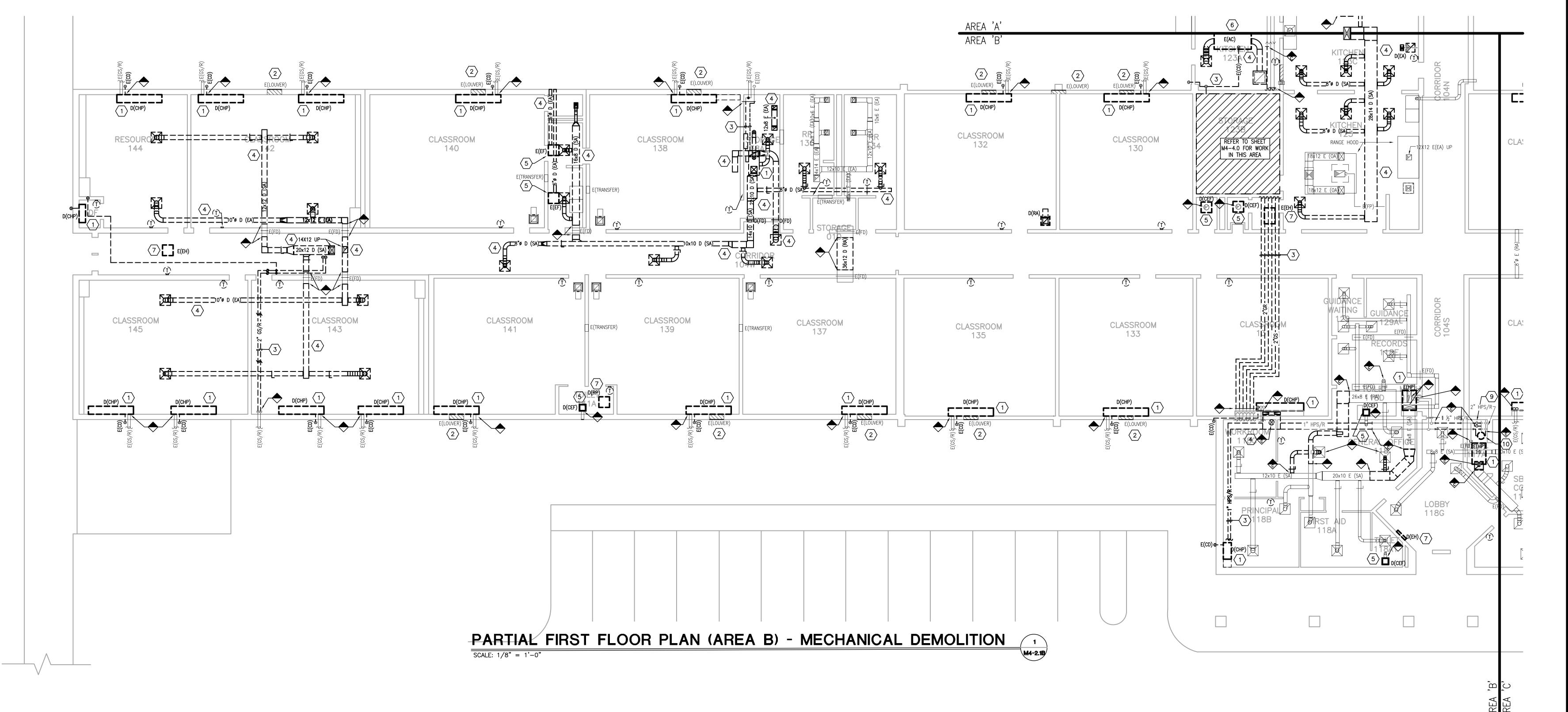
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Energy Solutions

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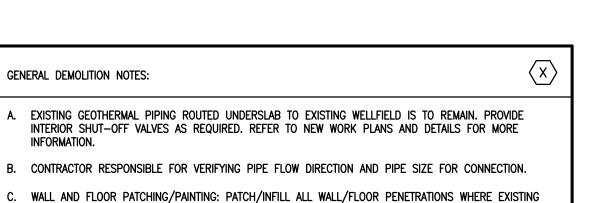
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MECHANICAL EQUIPMENT/PIPING/DUCTWORK IS REMOVED. COORDINATE ALL PATCH/INFILL WORK WITH THE

COMPLETELY TO BEYOND FINISHED SURFACES. INACCESSIBLE PIPING BURIED IN EXISTING WALLS REMAINING

EXISTING THERMOSTAT/TEMPERATURE SENSOR/CONTROLS DEVICES: PROVIDE A STAINLESS STEEL COVER

PLATE AT EXISTING OPENING IF LOCATION IS NOT BEING REUSED. COORDINATE ALL CONTROLS WORK WITH

ASBESTOS ABATEMENT: REFER TO GENERAL CONTRACTOR CONCERNING ALL ASBESTOS ABATEMENT ON THE

H. THE OWNER WILL SALVAGE CERTAIN REMOVED EQUIPMENT. COORDINATE WITH THE GENERAL CONTRACTOR.

EXISTING PIPING DEMOLITION: ALL EXISTING PIPING INDICATED TO BE REMOVED, IS TO BE REMOVED

GENERAL CONTRACTOR.

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AND CONCRETE SLABS MAY BE ABANDONED IN PLACE.

ALL GRILLES THAT ARE TO REMAIN SHALL BE CLEANED.

EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WITH GENERAL CONTRACTOR.

MECHANICAL DEMOLITION NOTES:

2 E(LOUVER)

- WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT REMOVAL. COORDINATE WALL AND FLOOR PATCHING EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL
- REMOVE AND DISPOSE OF EXISTING HYDRONIC AND CONDENSATE PIPING/RISER AND ALL ASSOCIATED HANGERS AND SUPPORTS. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL). EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH

WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).

- REMOVE EXISTING CEILING MOUNTED EXHAUST FAN INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS (DISCONNECTS/SWITCHES/ETC). EXISTING EXHAUST RISER TO REMAIN. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION.
- EXISTING SPLIT SYSTEM AND ASSOCIATED OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETELY, INCLUDING ALL PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS (TYPICAL).
- . REMOVE EXISTING ELECTRIC HEATER INCLUDING ALL ELECTRICAL AND CONTROLS CONNECTIONS.
- REMOVE PIPING AS REQUIRED TO REPLACE ROOFTOP UNIT ABOVE. REMOVE VALVES AND PIPE ACCESSORIES ASSOCIATED WITH EXISTING ROOFTOP UNIT. REFER TO THE NEW WORK PLANS FOR CONTINUATION.
- 9. EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS. CONCRETE PAD SHALL BE REMOVED; PATCH AND SMOOTH FLOOR AS REQUIRED.

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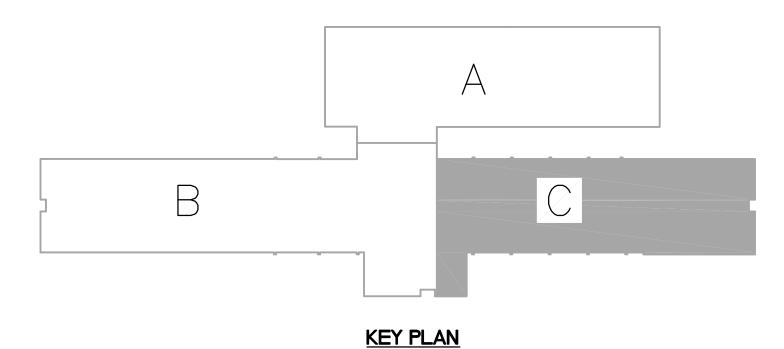
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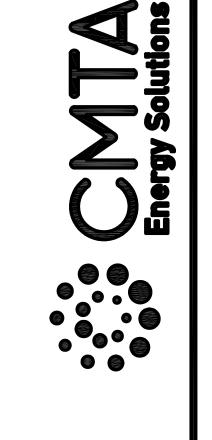
10. EXISTING AIR SEPARATOR TO BE COMPLETELY REMOVED INCLUDING ALL ACCESSORIES/SUPPORTS.

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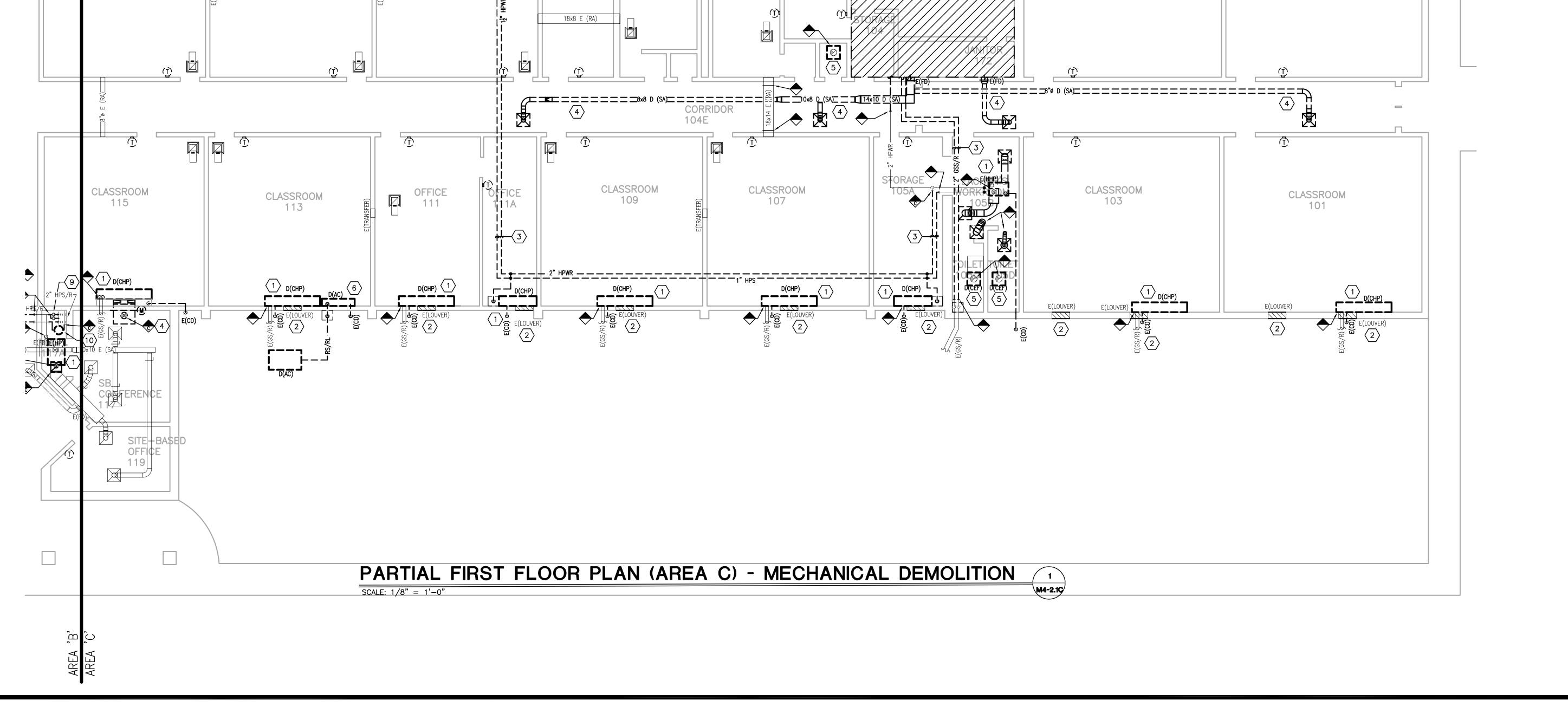
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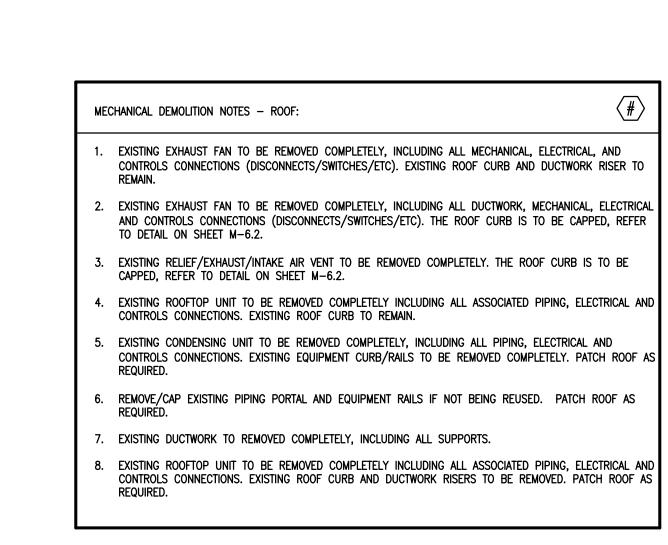


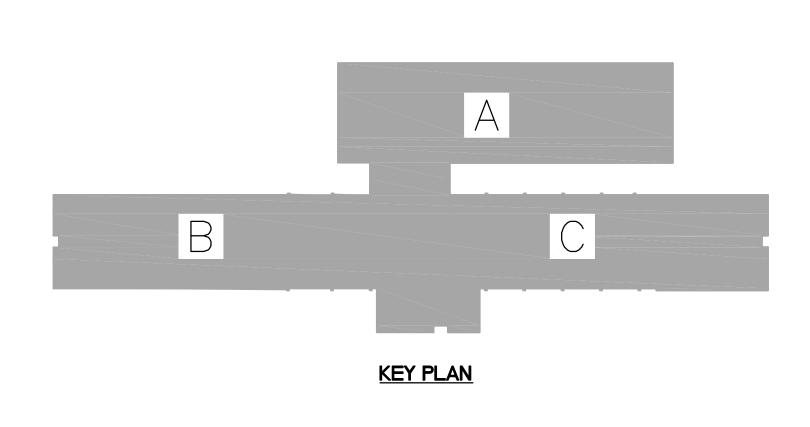


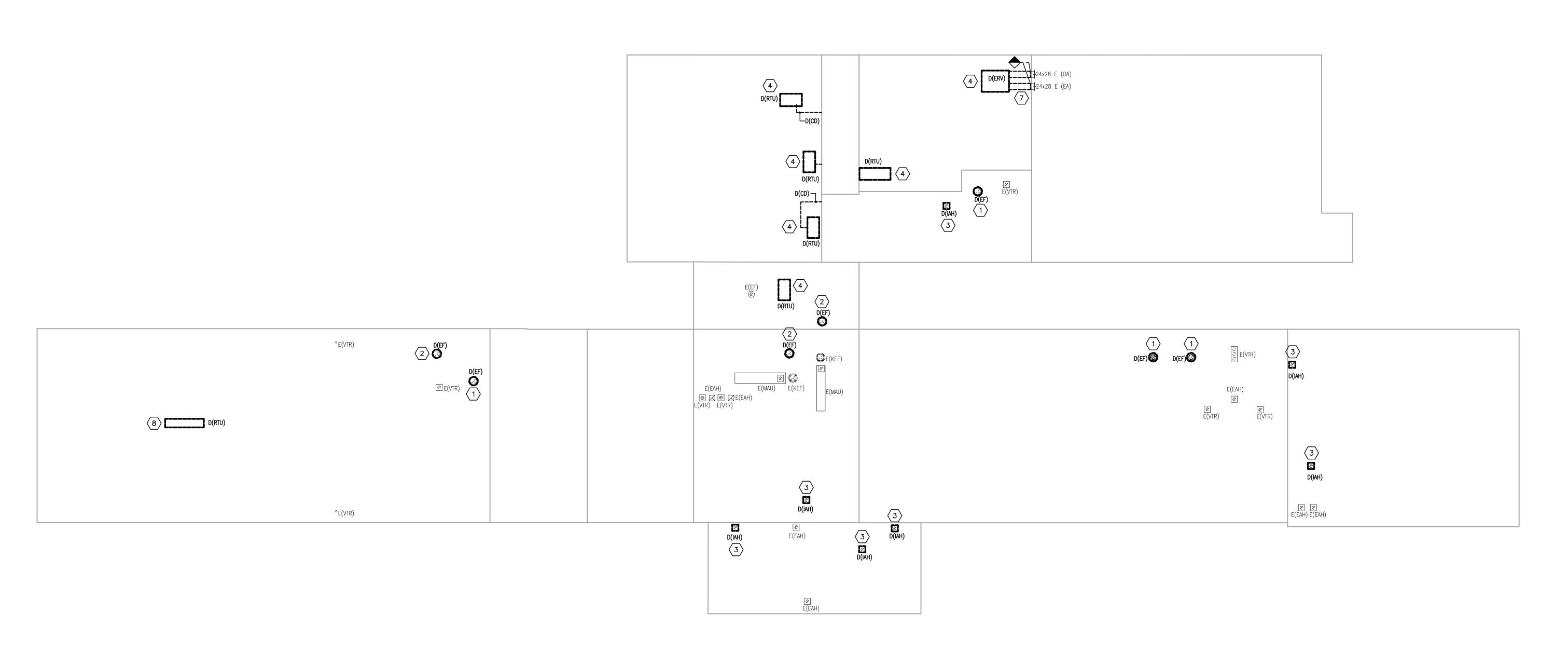
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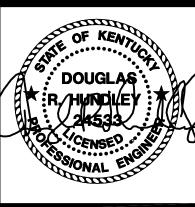




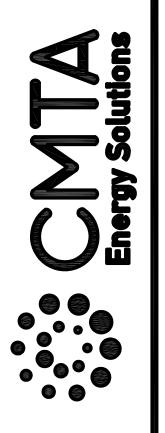








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SHOPVILLE ELEMENTARY SCHOOL
SOMERSET, KY

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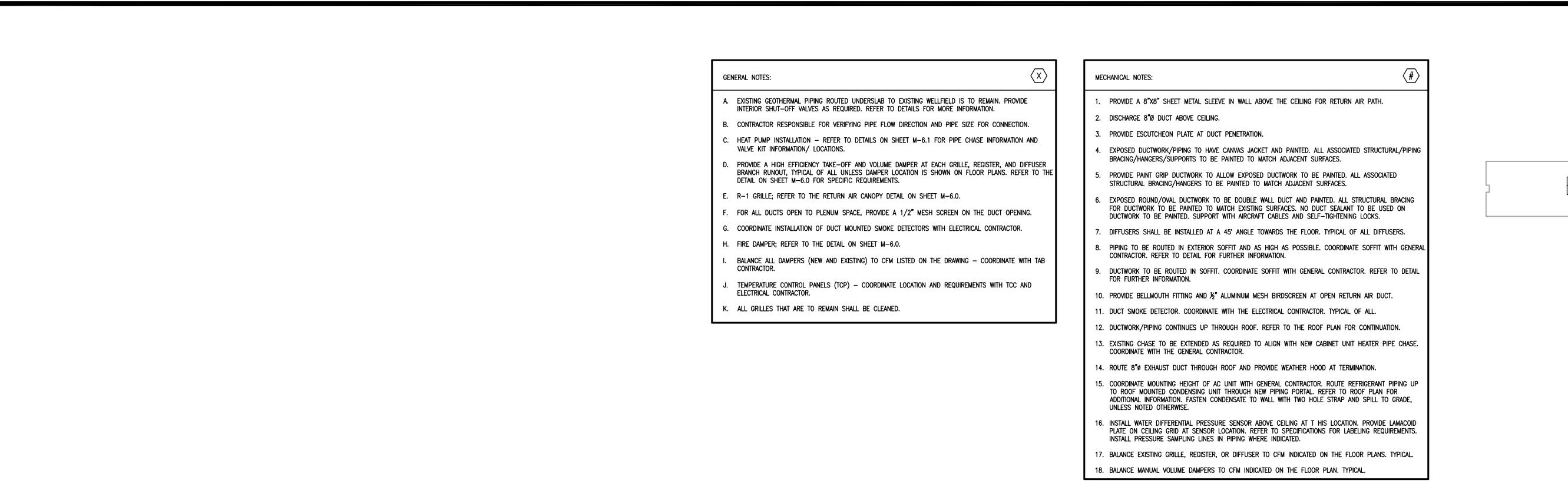
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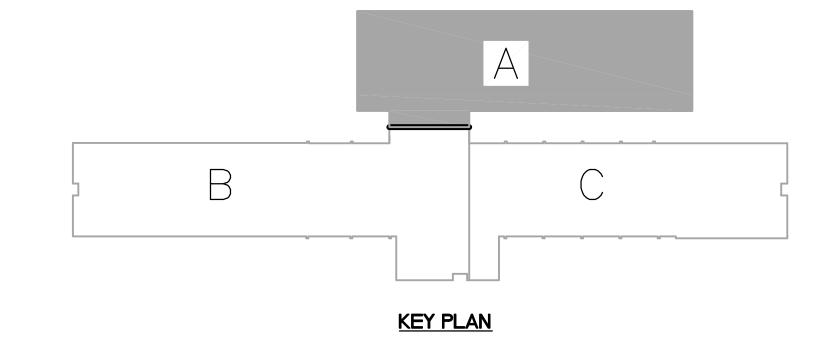
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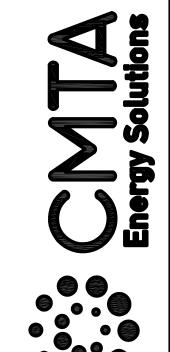
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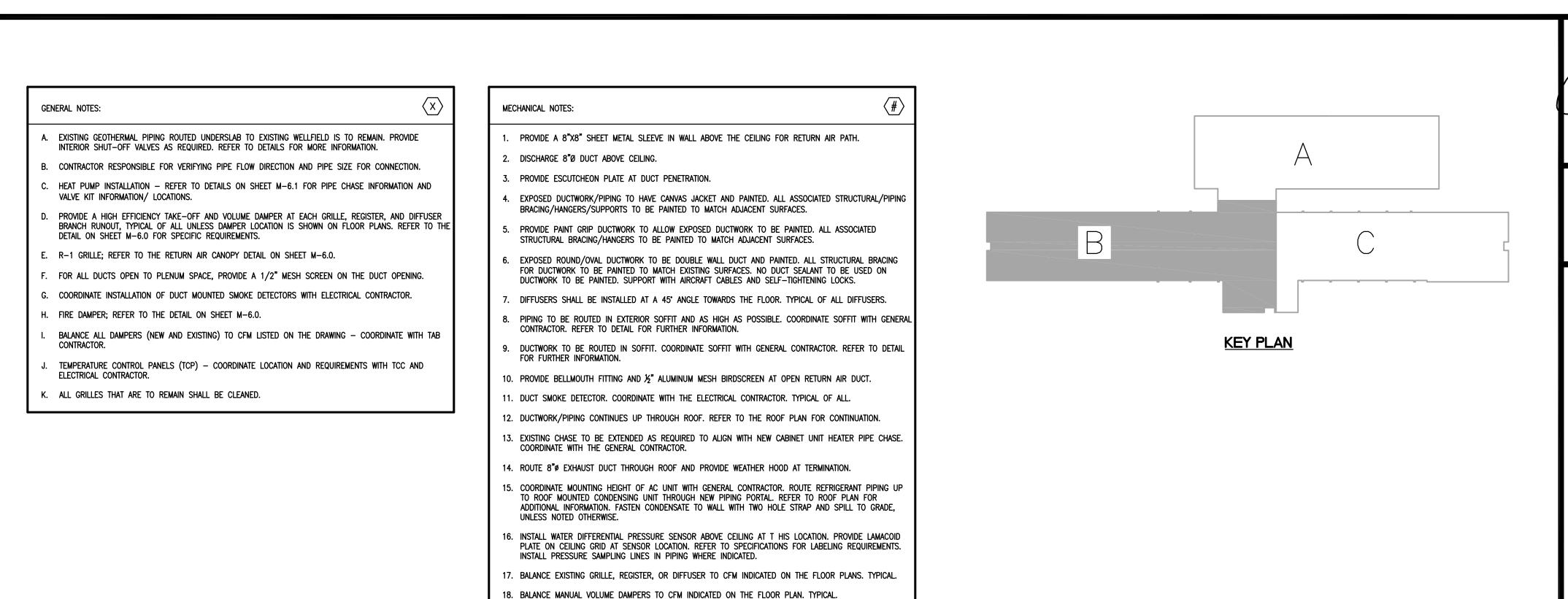
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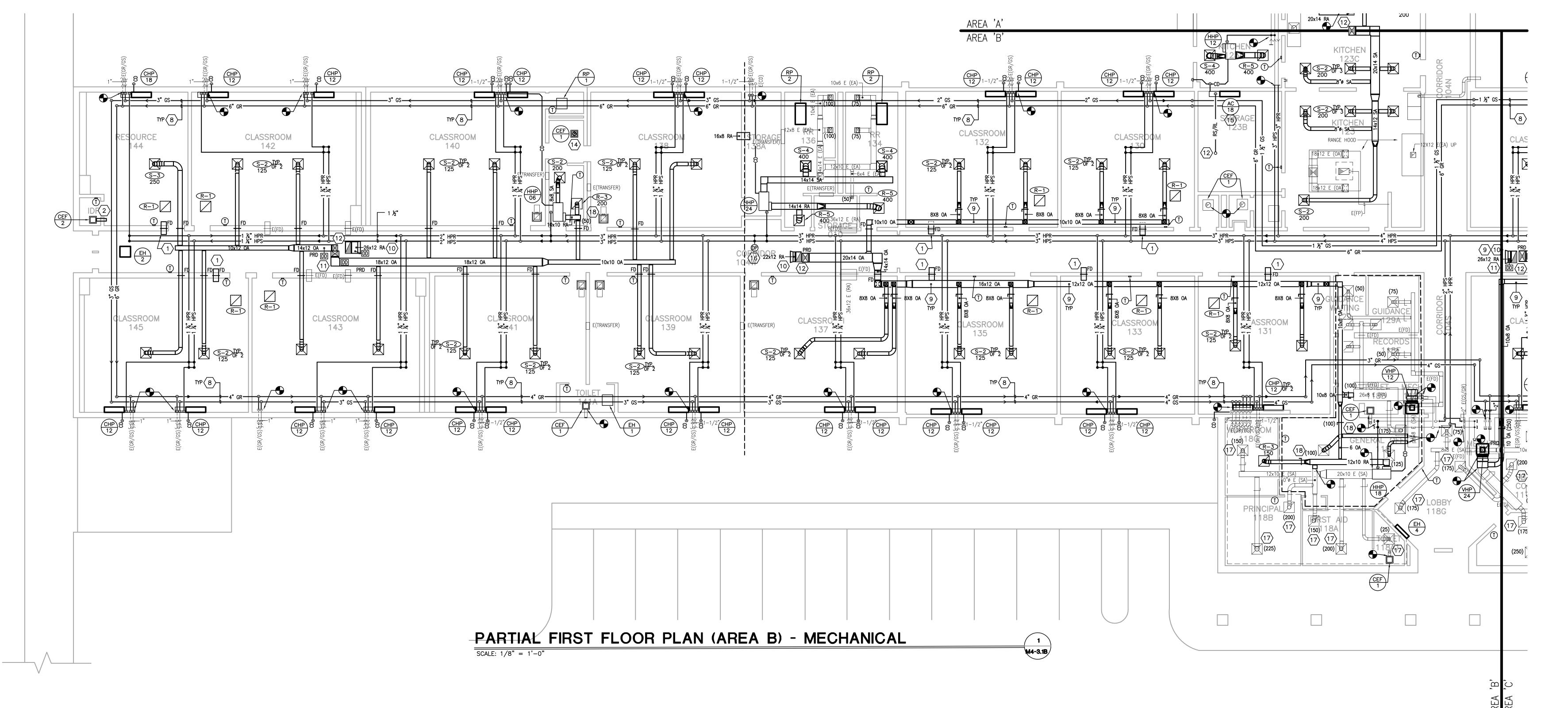
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AREA 'B'

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9519 Civic Way, Suite 100 Prospect, KY 40059 T 502 409.4062 F 502 919. MBrangers@CMTA.COM

Energy Solutions

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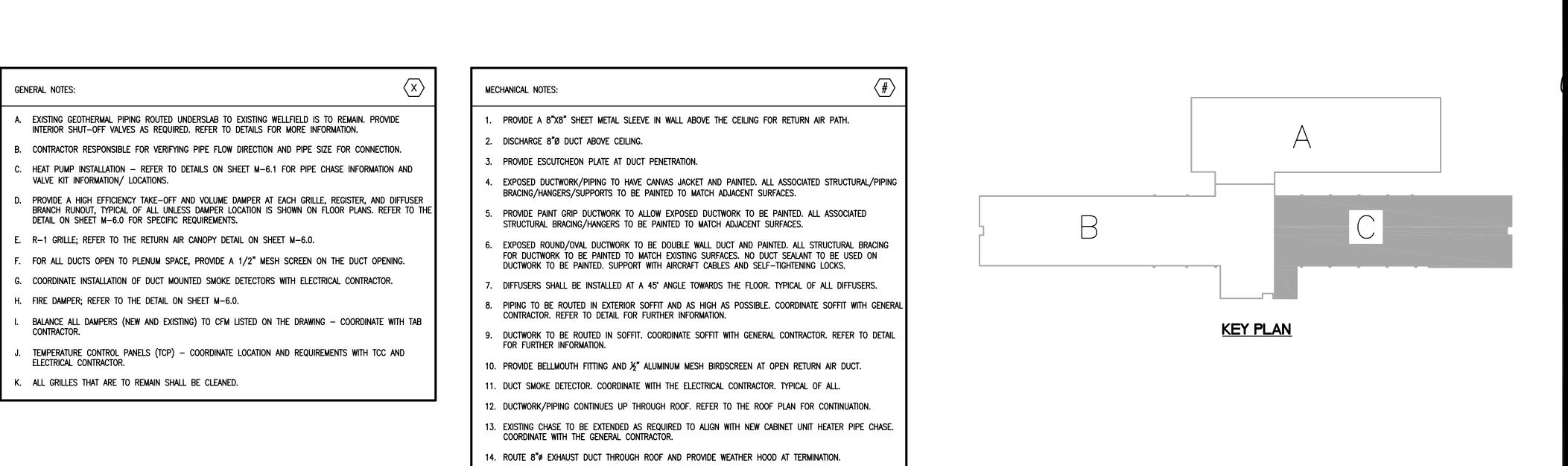
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15. COORDINATE MOUNTING HEIGHT OF AC UNIT WITH GENERAL CONTRACTOR. ROUTE REFRIGERANT PIPING UP TO ROOF MOUNTED CONDENSING UNIT THROUGH NEW PIPING PORTAL. REFER TO ROOF PLAN FOR ADDITIONAL INFORMATION. FASTEN CONDENSATE TO WALL WITH TWO HOLE STRAP AND SPILL TO GRADE,

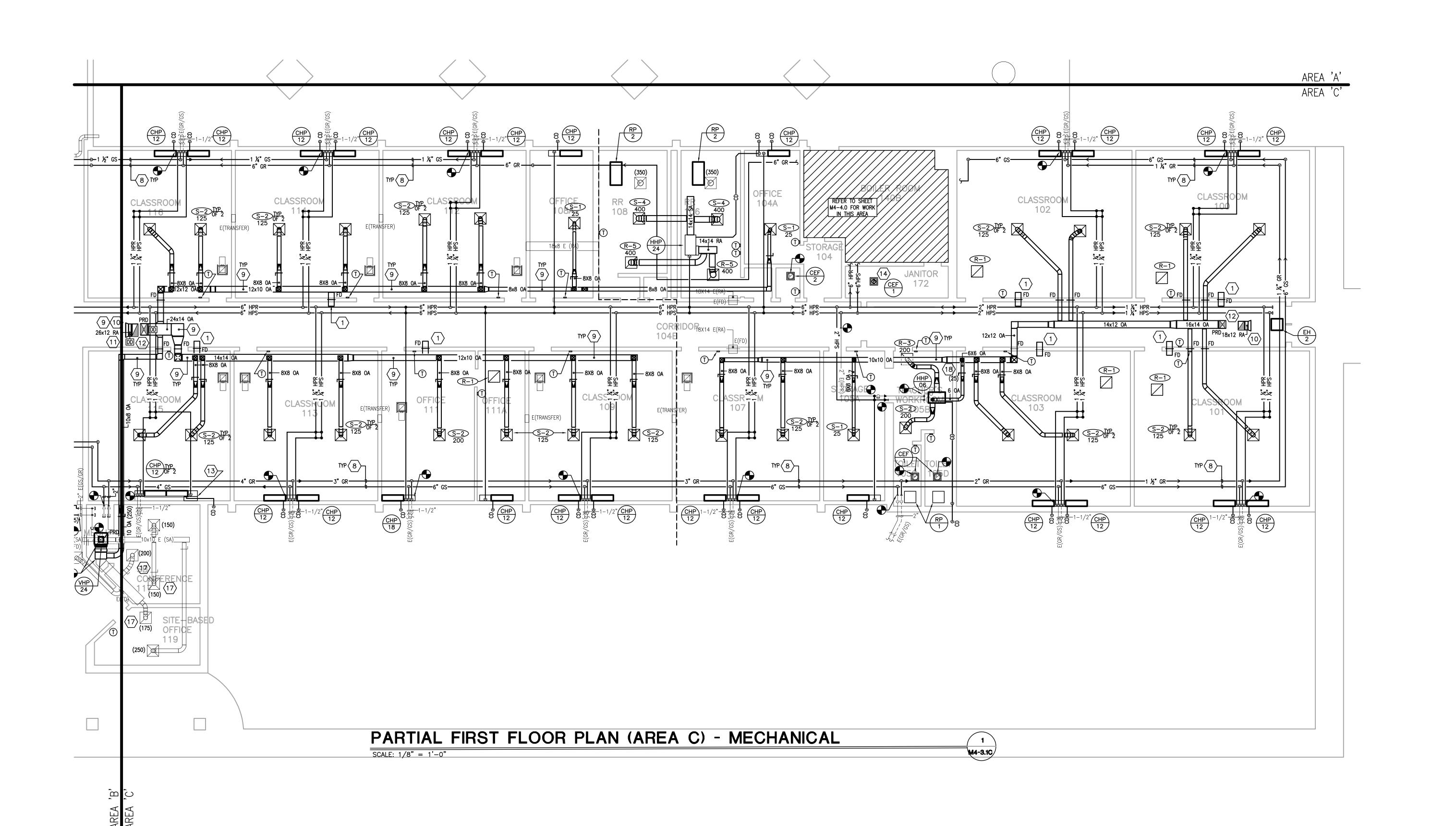
16. INSTALL WATER DIFFERENTIAL PRESSURE SENSOR ABOVE CEILING AT T HIS LOCATION. PROVIDE LAMACOID PLATE ON CEILING GRID AT SENSOR LOCATION. REFER TO SPECIFICATIONS FOR LABELING REQUIREMENTS.

17. BALANCE EXISTING GRILLE, REGISTER, OR DIFFUSER TO CFM INDICATED ON THE FLOOR PLANS. TYPICAL.

18. BALANCE MANUAL VOLUME DAMPERS TO CFM INDICATED ON THE FLOOR PLAN. TYPICAL.

INSTALL PRESSURE SAMPLING LINES IN PIPING WHERE INDICATED.

UNLESS NOTED OTHERWISE.



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Energy Solution

Pulaski County Schools ANTEED ENERGY SAVINGS CONT SHOPVILLE ELEMENTARY SCHOOL SOMERSET, KY

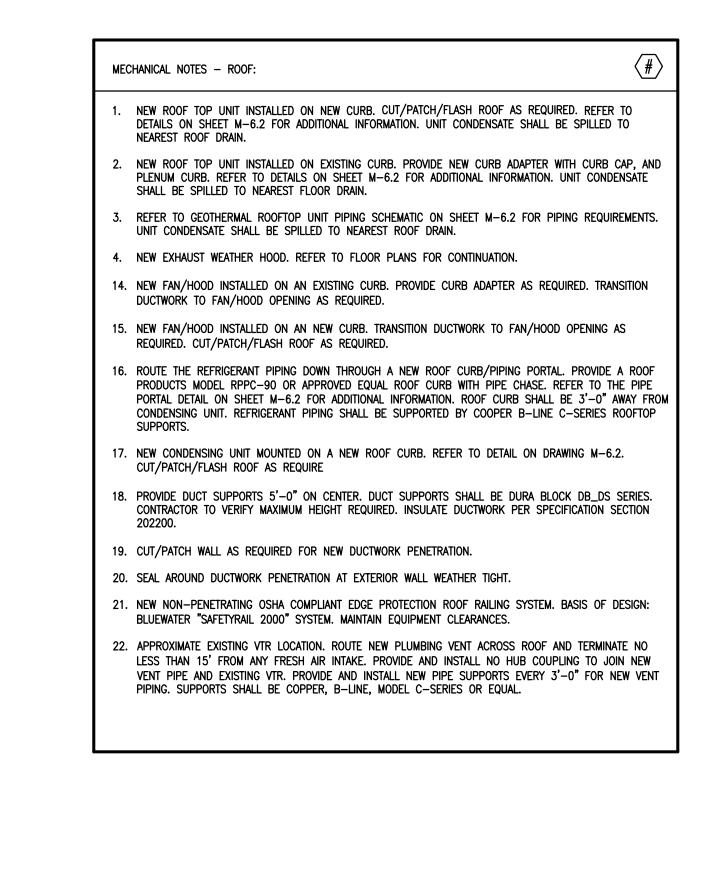
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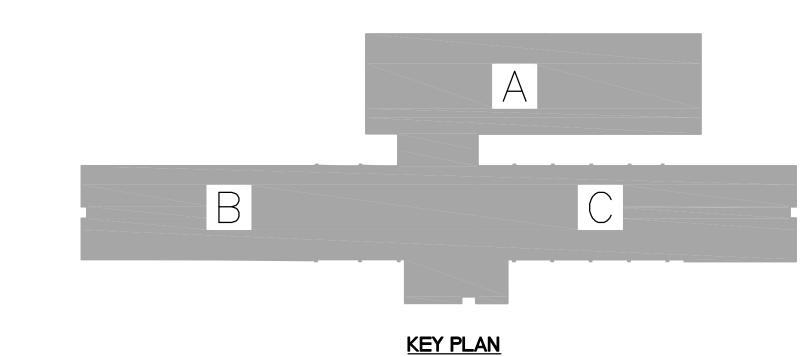
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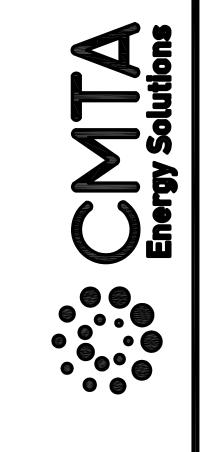
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Pulaski County Schools JARANTEED ENERGY SAVINGS CONTRACT SHOPVILLE ELEMENTARY SCHOOL SOMERSET, KY

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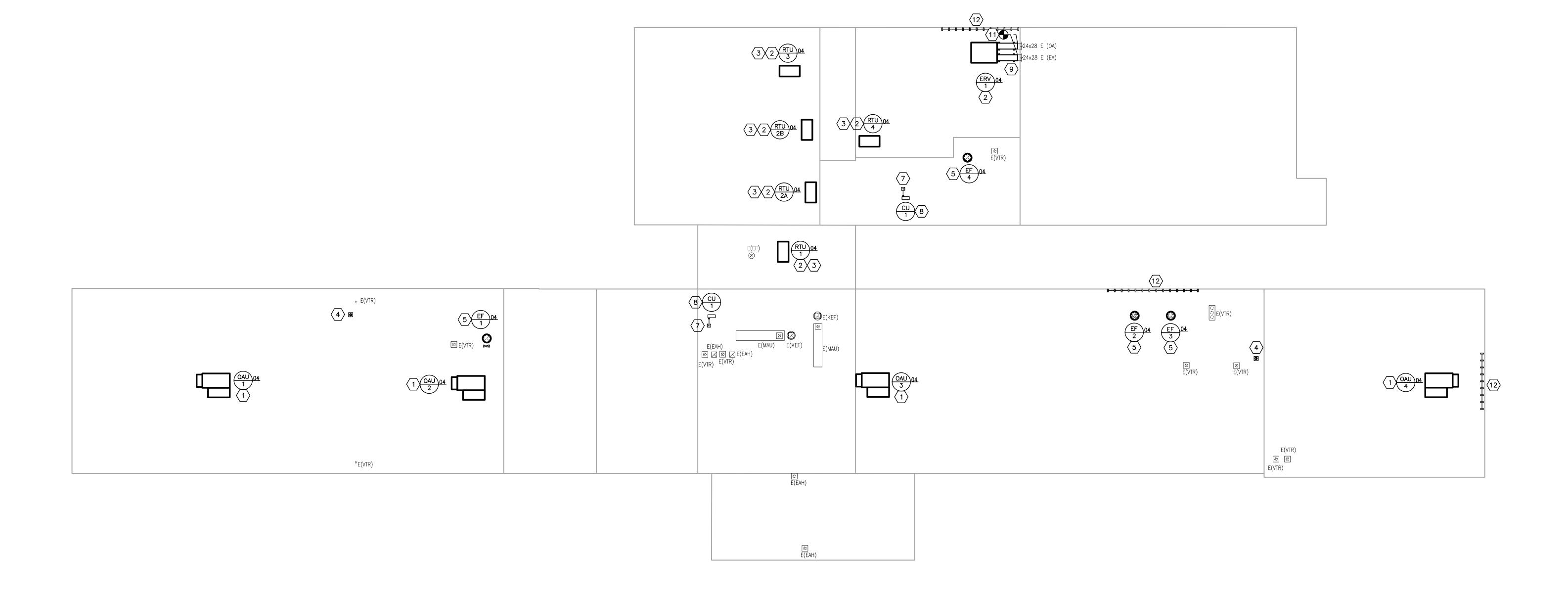
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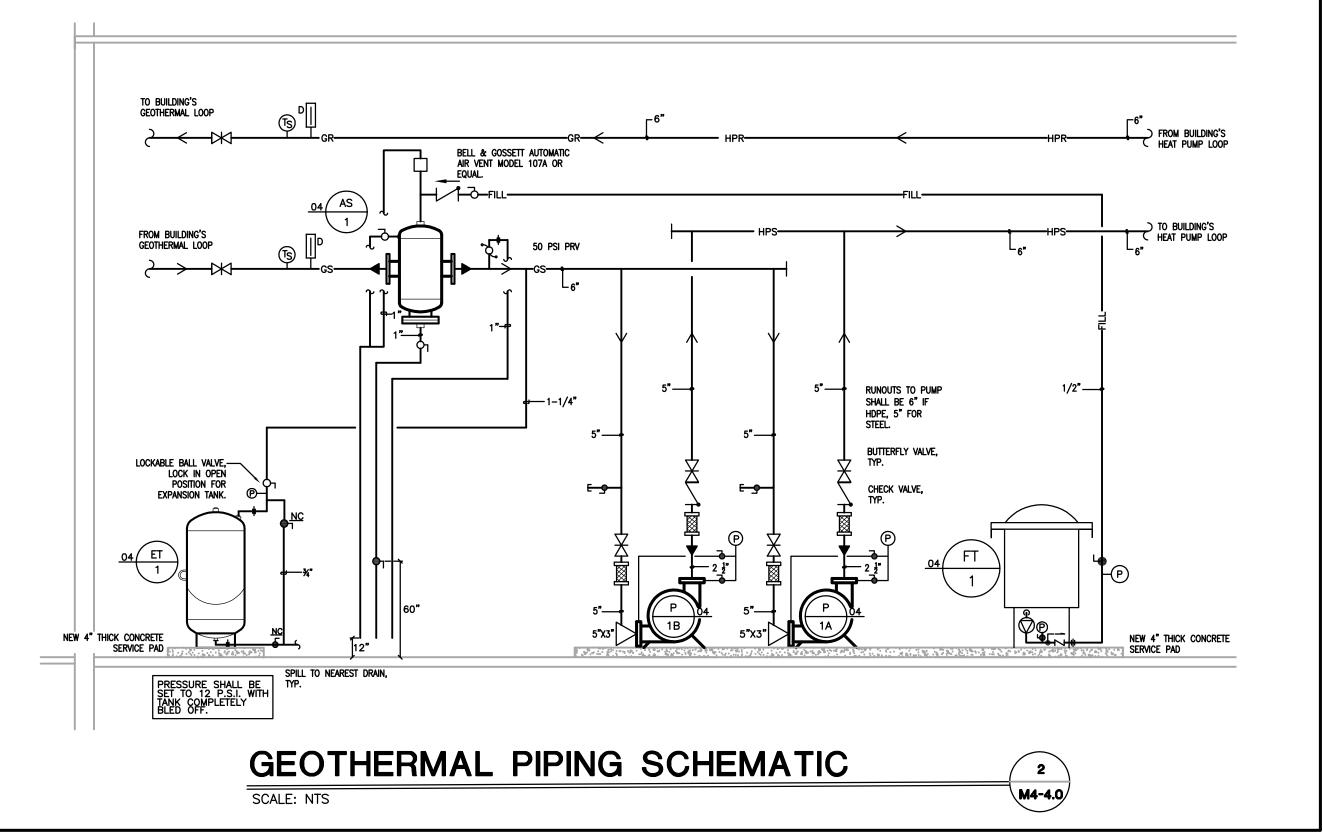
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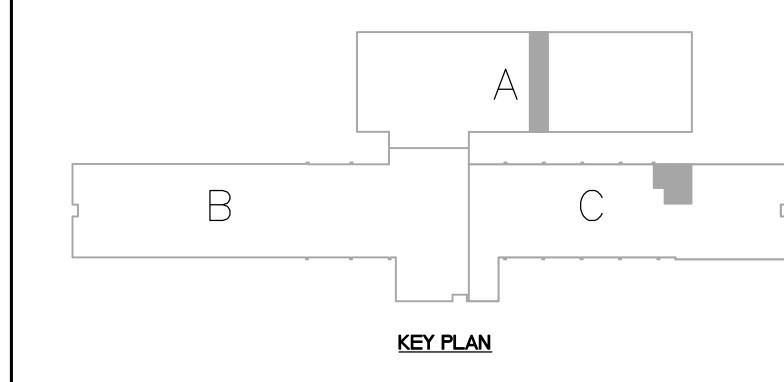


ROOF PLAN - MECHANICAL

SCALE: 1/16" = 1'-0"

24x28 E (OA)





ENLARGED MECHANICAL ROOMS — GENERAL NOTES:

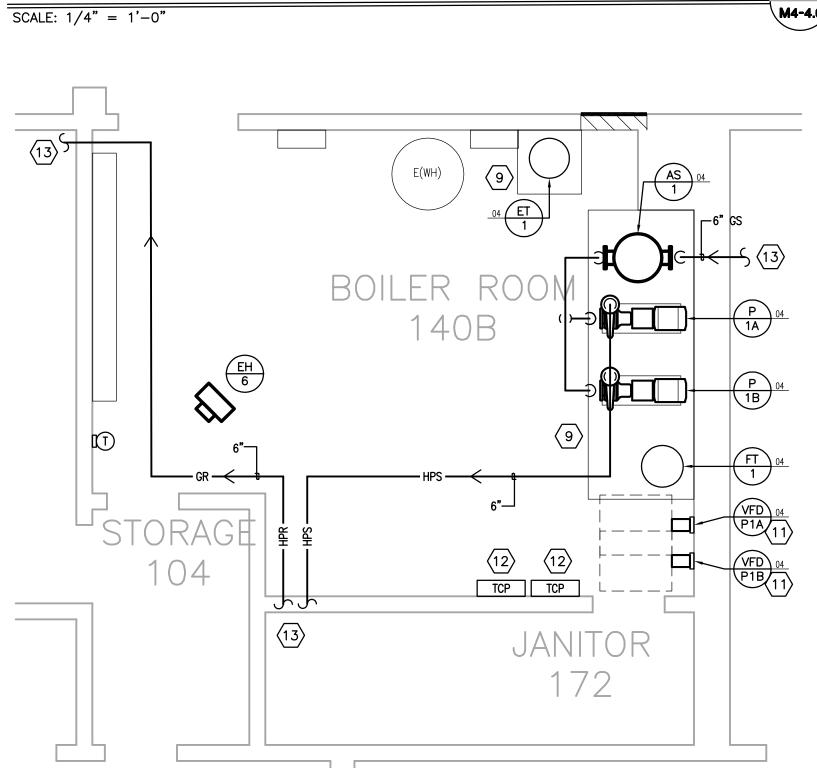
- A. PATCH ALL WALL/ROOF/FLOOR PENETRATIONS WHERE EXISTING MEP EQUIPMENT/PIPING/DUCTWORK/ETC IS REMOVED.
- REMOVE ALL CONCRETE PADS/SUPPORTS ASSOCIATED WITH MEP EQUIPMENT REMOVAL COMPLETELY; REMOVE ALL ABANDONED PADS/SUPPORTS COMPLETELY; PATCH AND SMOOTH FLOOR AS REQUIRED.

ENLARGED MECHANICAL ROOMS:

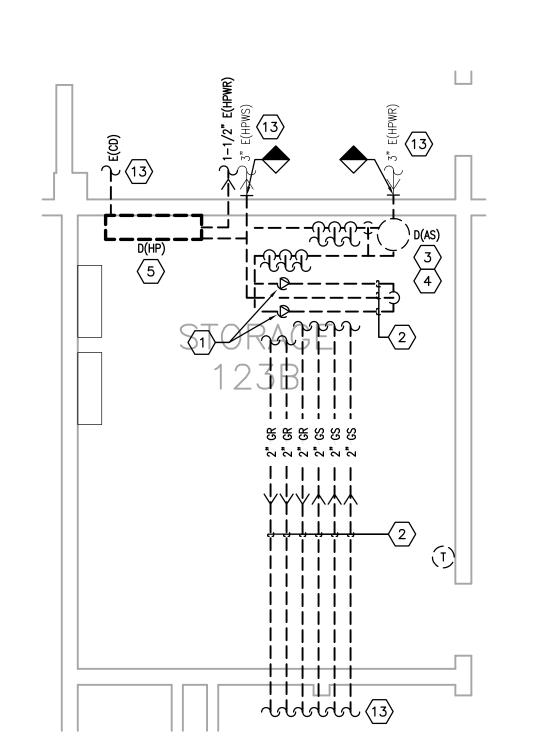
- EXISTING PUMPS TO BE COMPLETELY REMOVED INCLUDING ALL EXISTING MECHANICAL, ELECTRICAL AND CONTROLS CONNECTIONS. CONCRETE PAD SHALL BE REMOVED; PATCH AND SMOOTH FLOOR AS REQUIRED.
- EXISTING PIPING AND ALL ASSOCIATED VALVES, HANGERS, AND SUPPORTS TO BE COMPLETELY REMOVED. PATCH WALLS/SLAB/CEILING AT PIPING OPENINGS (TYPICAL).
- 3. EXISTING AIR SEPARATOR TO BE COMPLETELY REMOVED INCLUDING ALL ACCESSORIES/SUPPORTS.
- EXISTING EXPANSION TANK TO BE COMPLETELY REMOVED INCLUDING ALL ACCESSORIES. CONCRETE PAD SHALL BE REMOVED.
- EXISTING HEAT PUMP TO BE REMOVED COMPLETELY, INCLUDING ALL ASSOCIATED DUCTWORK, PIPING, CONDENSATE DRAIN AND PUMP (IF APPLICABLE), ELECTRICAL AND CONTROLS CONNECTIONS. PATCH WALL/FLOOR AS REQUIRED FOR COMPLETE EQUIPMENT
- EXISTING SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK, GRILLES, AND RISER INDICATED TO BE REMOVED COMPLETELY. REMOVE ALL ASSOCIATED HANGERS/SUPPORTS/ACCESSORIES. PATCH WALLS/SLAB/CEILING AT DUCT OPENINGS
- EXISTING LOUVER TO REMAIN. BLANK OFF THE INSIDE OF THE EXISTING LOUVER WITH SHEET METAL AND INSULATE WITH 2" RIGID INSULATION. COORDINATE LOUVER INFILL AND FINAL FINISHES WITH GENERAL CONTRACTOR.
- EXISTING FILL STATION TO BE REMOVED COMPLETELY. REWORK DOMESTIC WATER CONNECTIONS AS REQUIRED FOR NEW FILL STATION LOCATIONS. PROVIDE ALL NECESSARY VALVES AND ACCESSORIES AS REQUIRED. REFER TO NEW WORK PLANS FOR ADDITIONAL
- PROVIDE 4" THICK CONCRETE PAD UNDER MECHANICAL EQUIPMENT. PAD SHALL BE 6" LARGER THAN THE MECHANICAL EQUIPMENT FOOTPRINT IN ALL DIRECTIONS UNLESS SHOWN LARGER ON THE FLOOR PLAN.
- 10. HYDRONIC FILL SYSTEM. MOUNT AT 48" A.F.F. REFER TO DETAIL ON SHEET M5.1.
- PROVIDE A UNI-STRUT STAND FOR THE VFD. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR. PROVIDE VERTICAL UNI-STRUT ON WALL MOUNTED VFD'S.
- . DDC CONTROL PANEL. COORDINATE LOCATION WITH THE CONTROLS AND ELECTRICAL
- 13. REFER TO THE FLOOR PLANS FOR CONTINUATION OF DUCTWORK/PIPING. 14. REFER TO THE ROOF PLAN FOR CONTINUATION OF DUCTWORK.
- 16. REFER TO THE VERTICAL HEAT PUMP INSTALLATION DETAIL ON SHEET M-6.1 FOR ADDITIONAL INSTALLATION REQUIREMENTS.
- 17. BALANCE MANUAL VOLUME DAMPER TO CFM INDICATED ON THE FLOOR PLANS. 18. DUCT SMOKE DETECTOR. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR.

24x28 E (OA) ┌──╪─·1" HPWS ───── 🤁 г — 🖶 — — — — 1" HPWR — — 💛 14x8 D (SA) 14x10 E (SA) ENLARGED BOILER ROOM 140B -

MECHANICAL DEMOLITION



ENLARGED BOILER ROOM 140B -MECHANICAL SCALE: 1/4" = 1'-0"

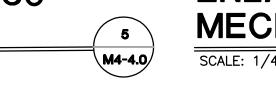


ENLARGED STORAGE 123B -MECHANICAL DEMOLITION SCALE: 1/4" = 1'-0"

ENLARGED PLATFORM 236-MECHANICAL DEMOLITION







M4-4.0

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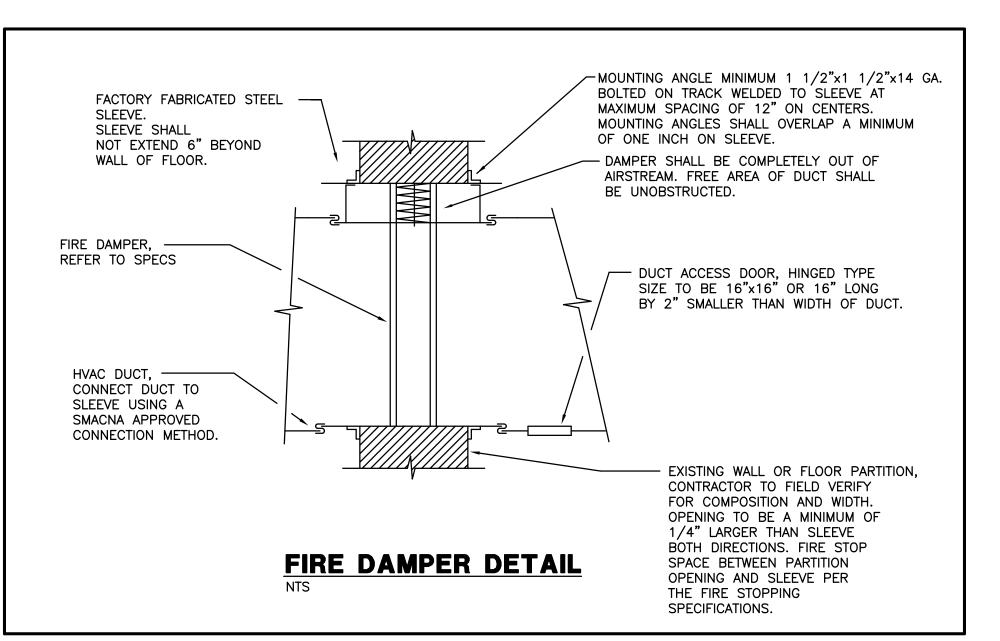
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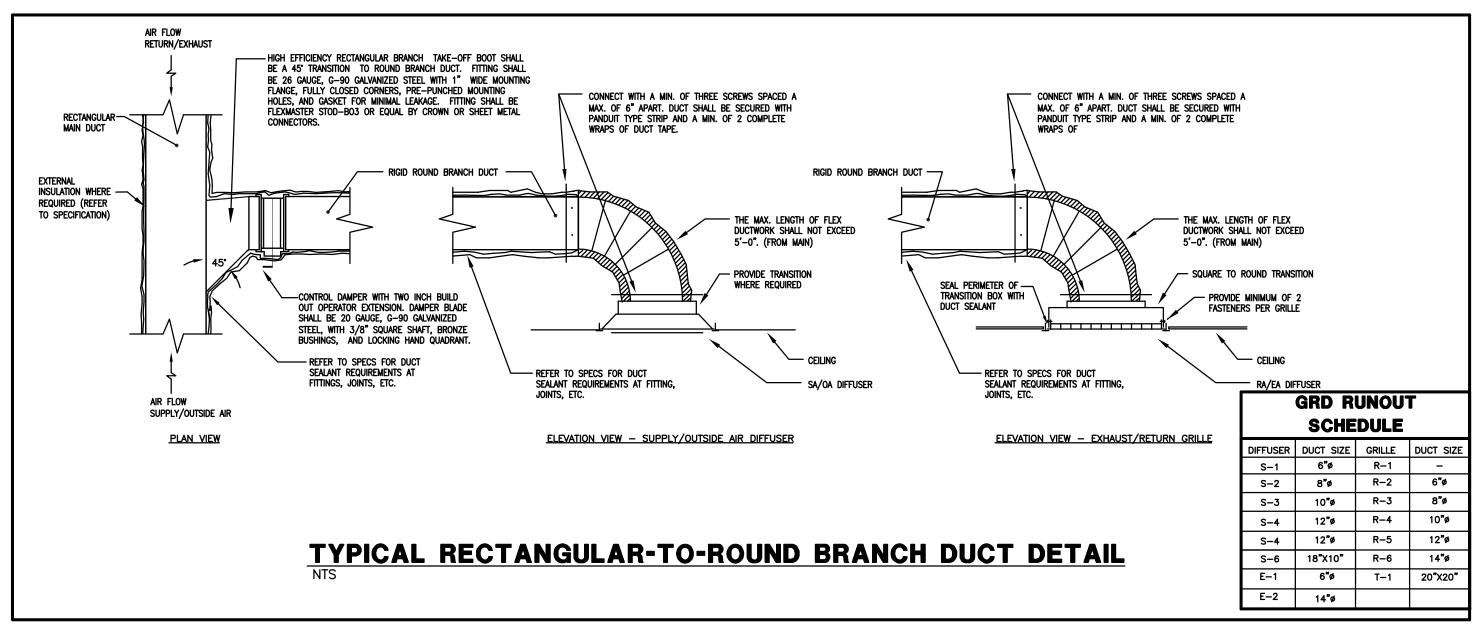
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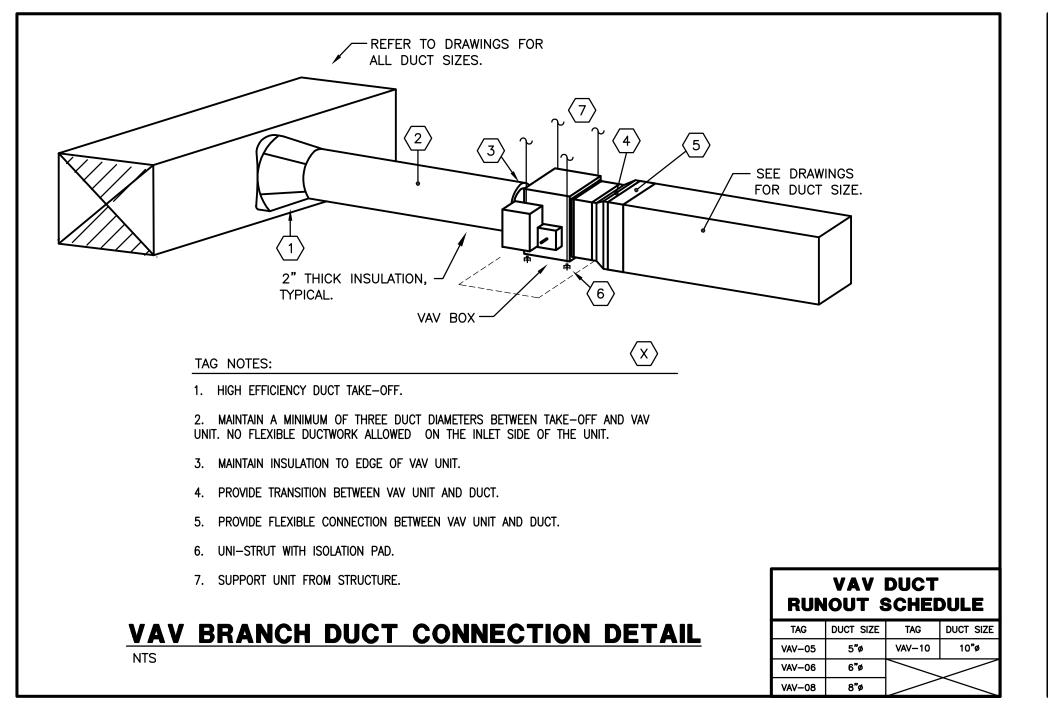
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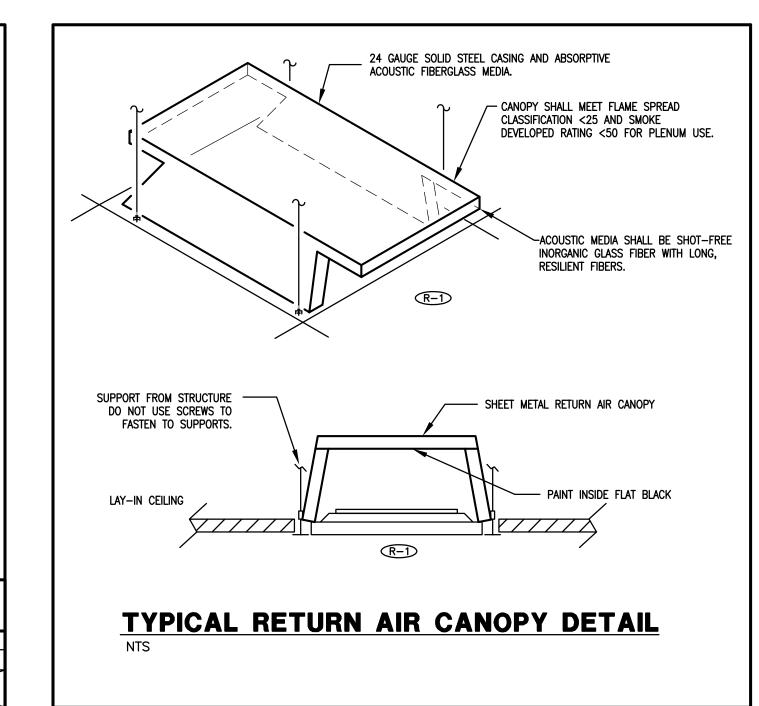
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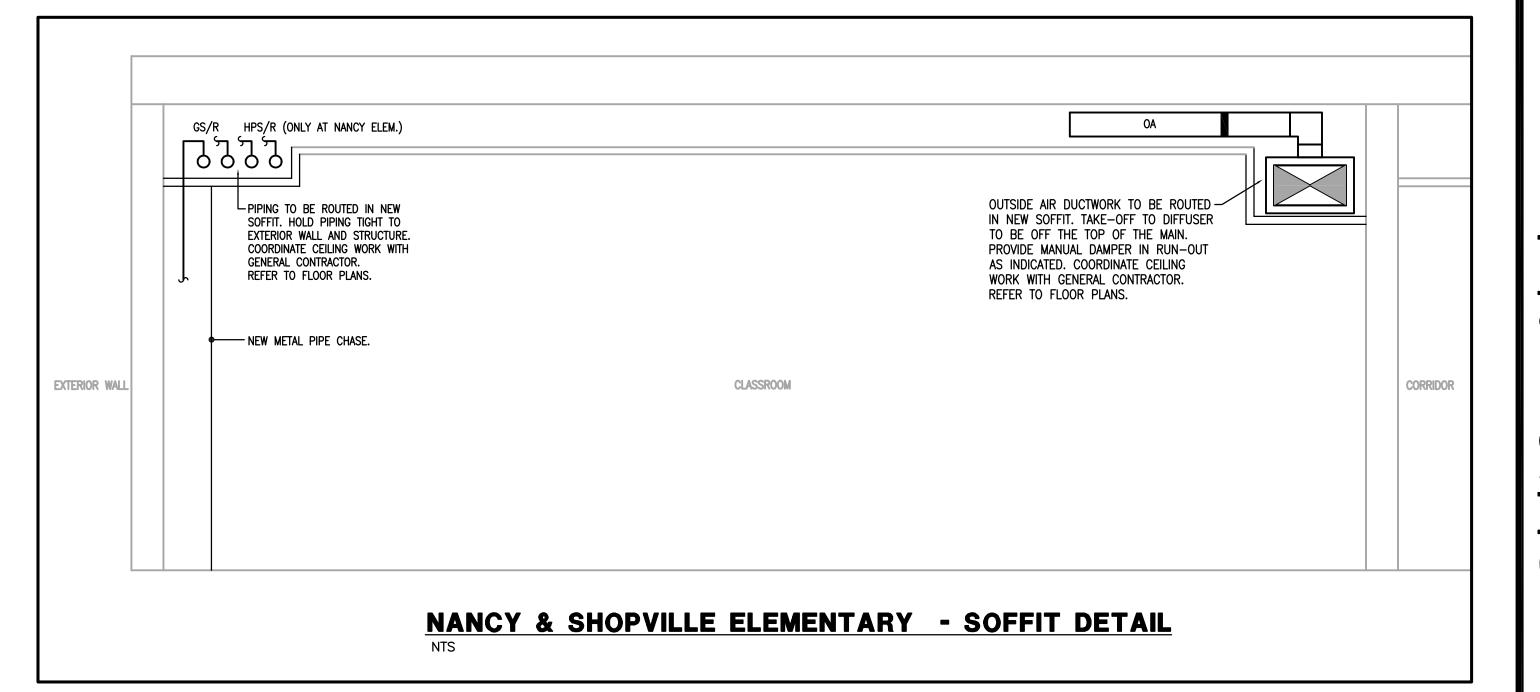
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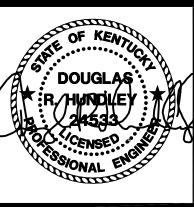












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Pulaski County Schools JARANTEED ENERGY SAVINGS CONTR

EVISIONS

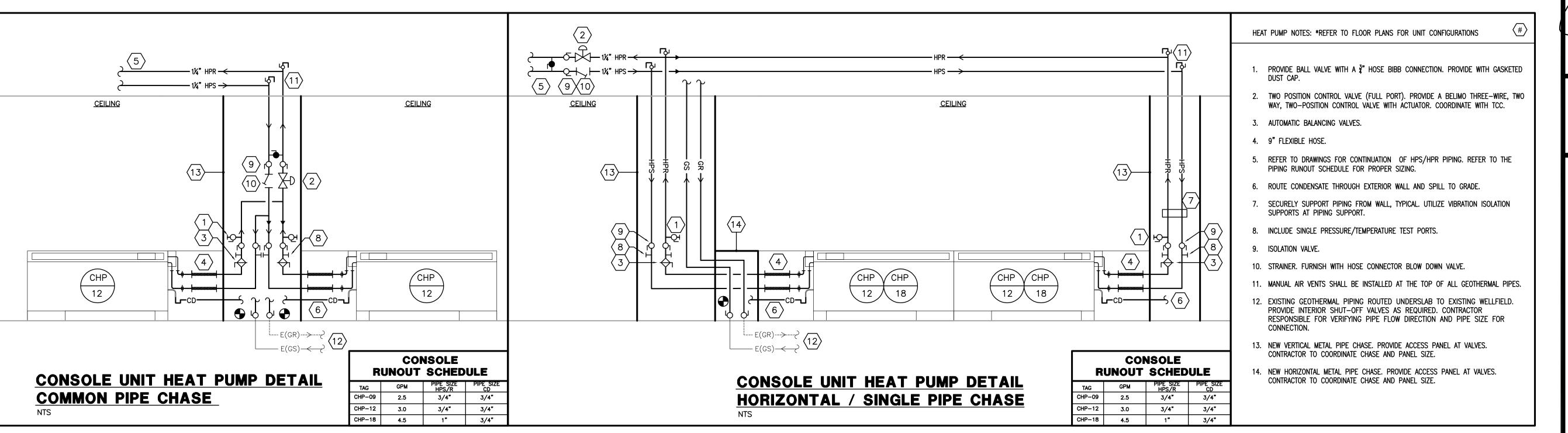
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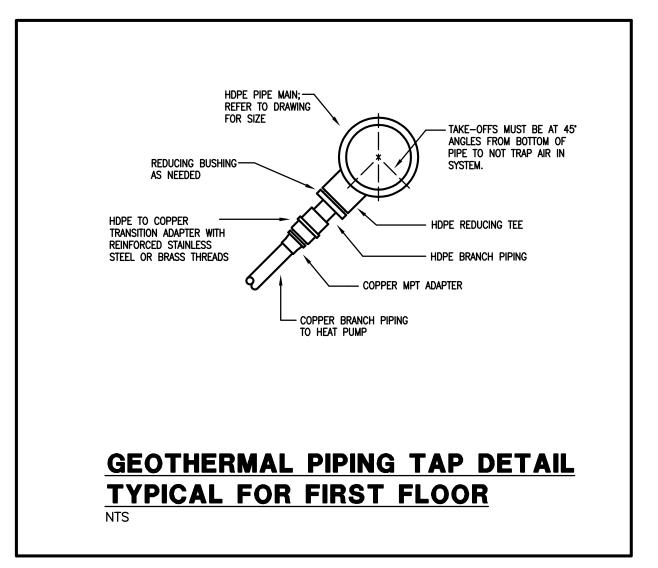
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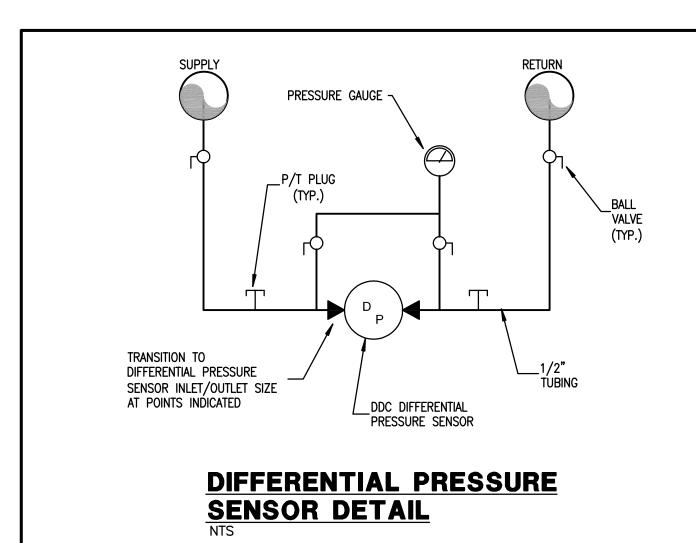
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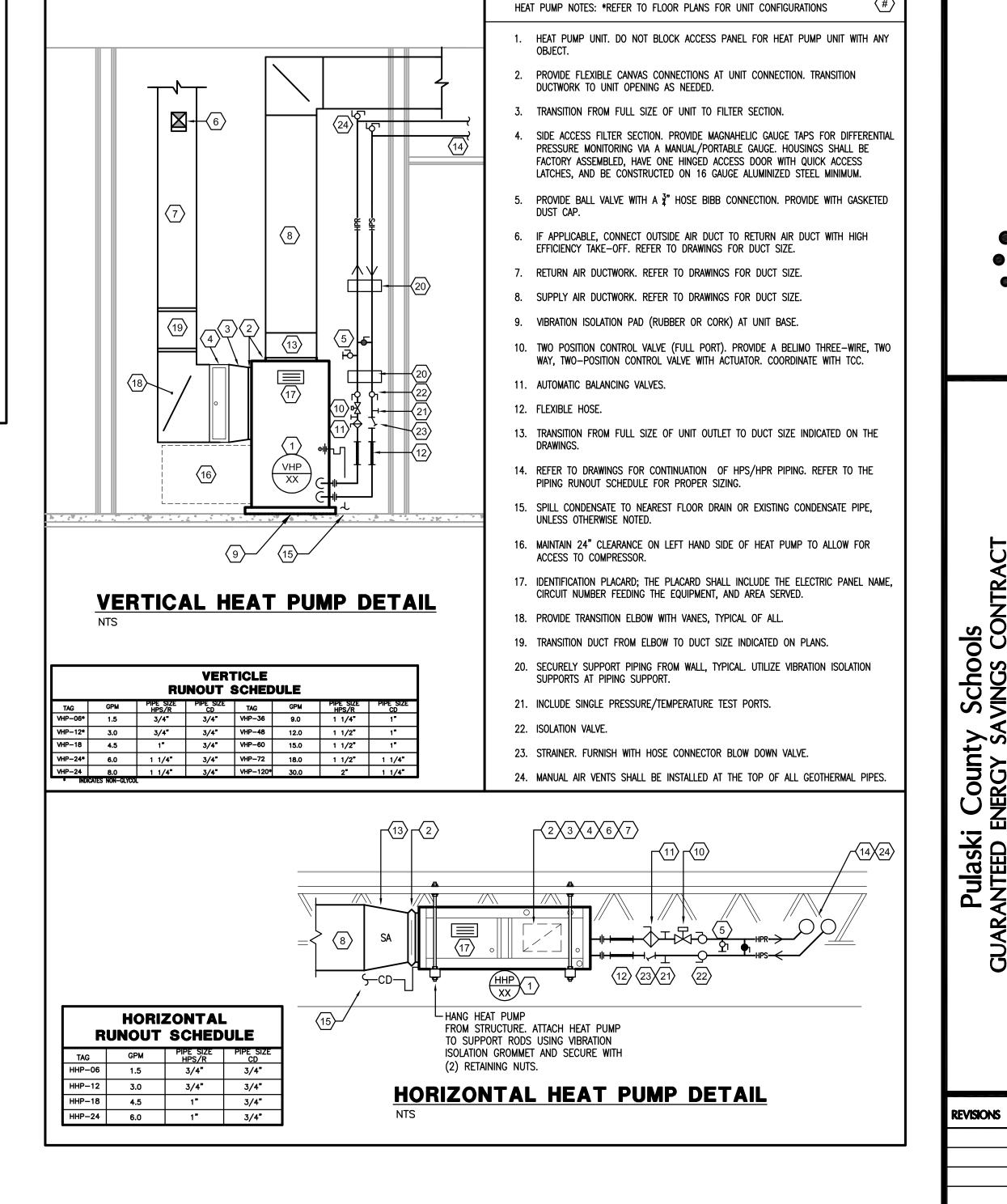
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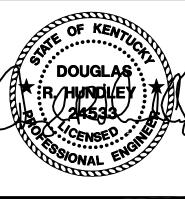
1VI-6.0







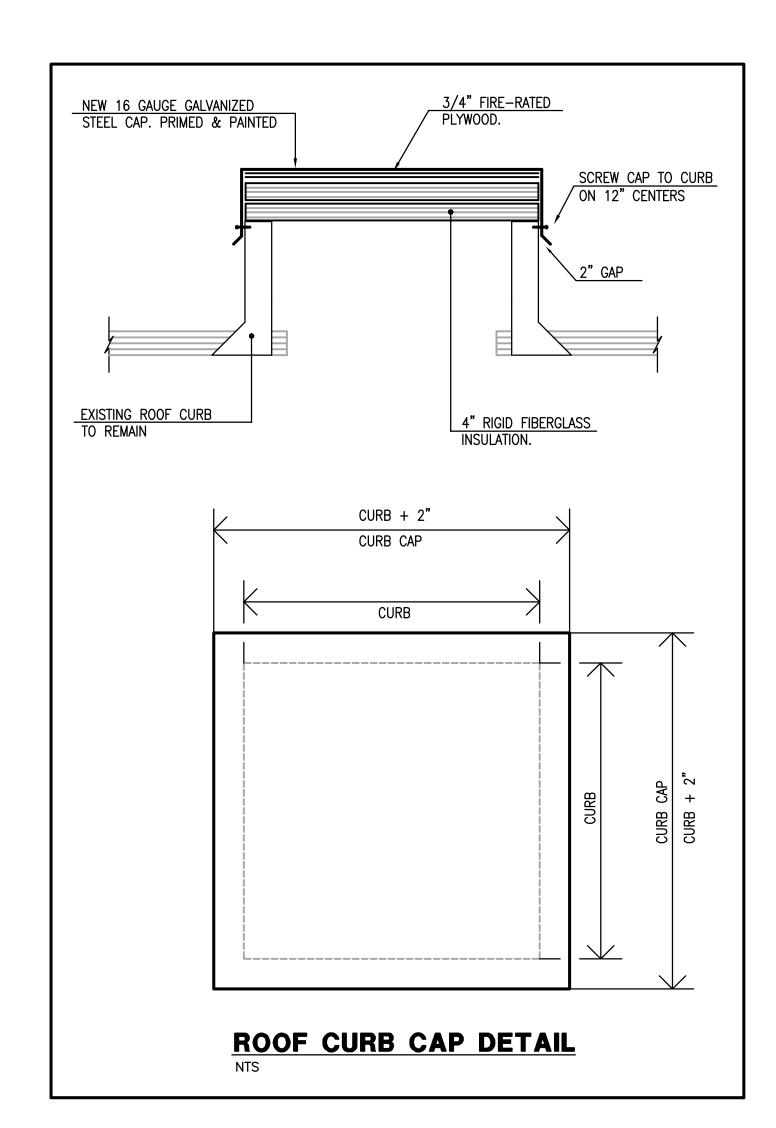


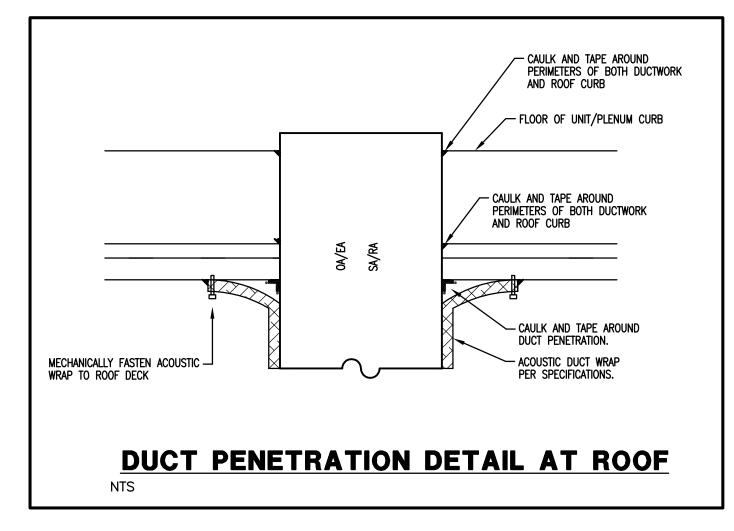


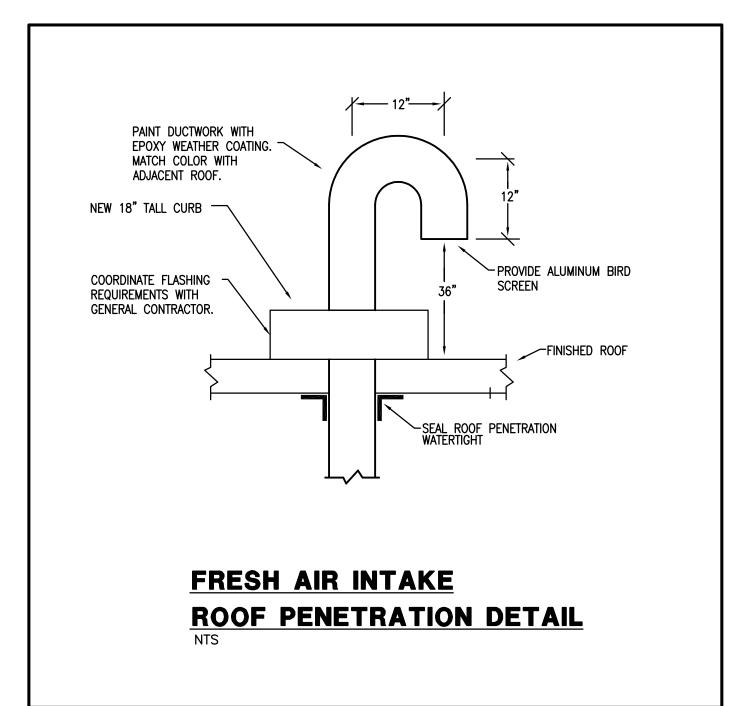
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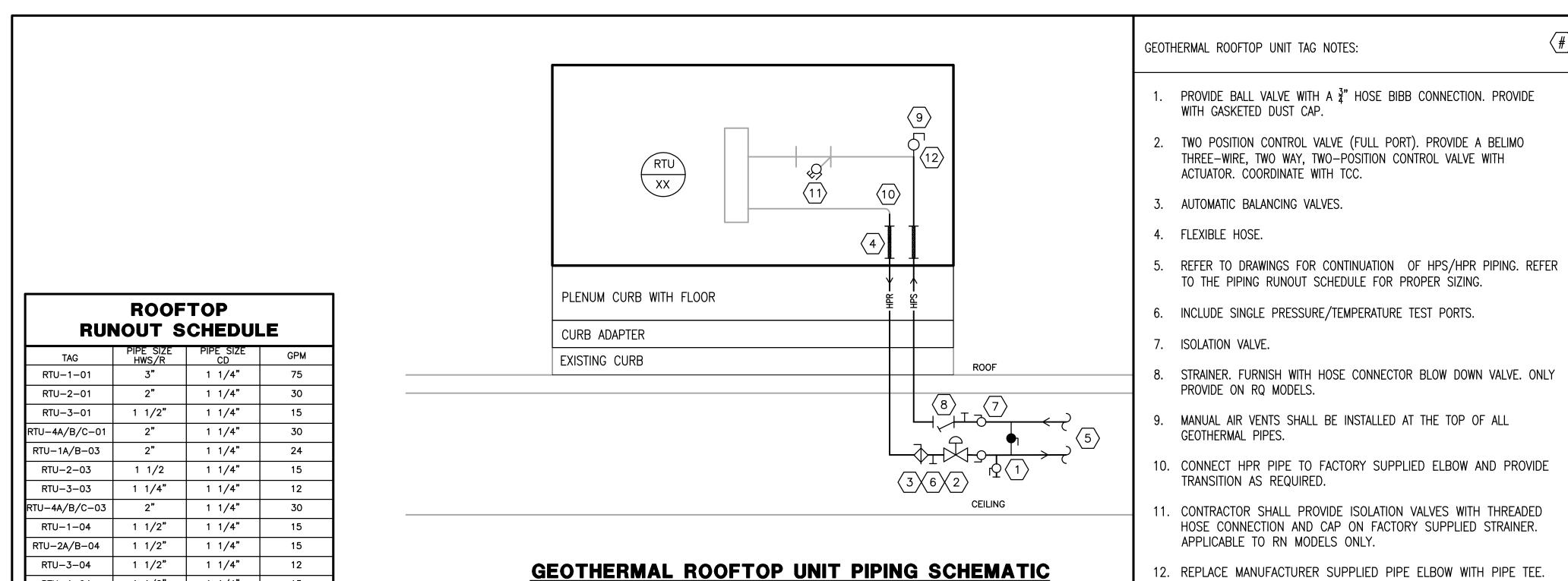
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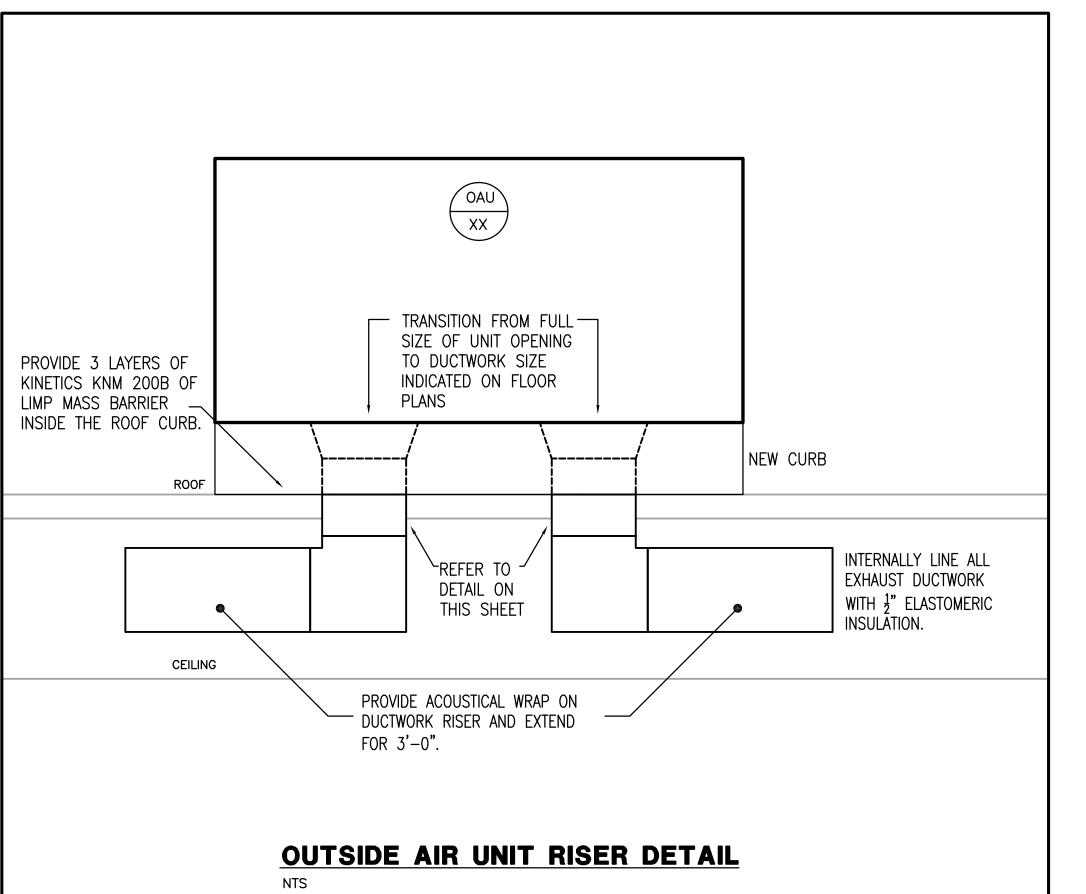
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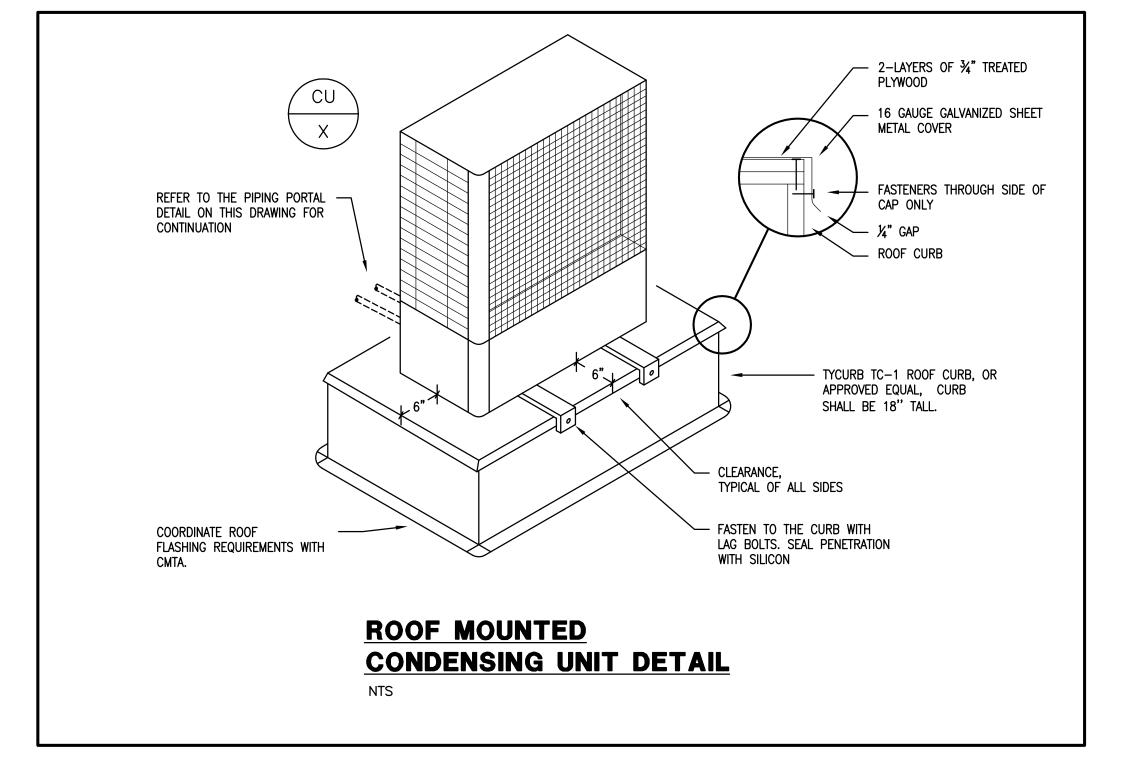


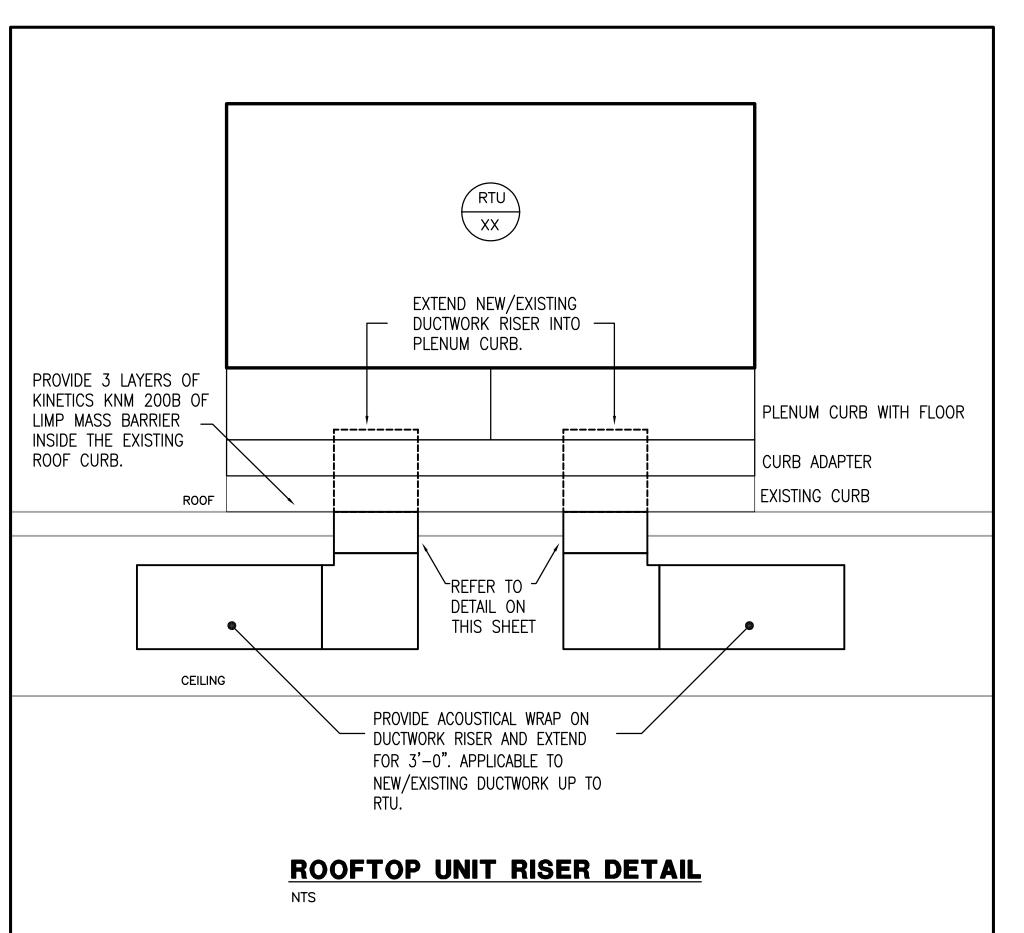


1 1/2"

RTU-4-04

1 1/4"





REMOVABLE WATERTIGHT

FASTENERS (TYPICAL)

- WELDED CORNERS

UNISTRUT BACKING CHANNEL

 SPACE ALLOWED FOR ROOFING MATERIAL UNDER PORTAL

TYPICAL INSULATED CURB
OPENING, THYCURB TC-1,
OR EQUAL. CURB SHALL BE

DISCONNECT (CAULK ALL

16 GAUGE ALUMINUM CONSTRUCTION

(MICRO SEALED)

PENETRATIONS)

■ 13X13 PORTAL TO BE

18'' TALL.

* GALVANIZED STEEL IS NOT

ACCEPTABLE.

GLUE 1/2" ARMAFLEX ——INSULATION TO THE INSIDE

OF THE PORTAL.

HOLE SAW PIPING PENETRATIONS

SUPPORT PIPING WITH UNISTRUT ATTACHED TO ROOF

PIPE CHASE / ROOF CURB DETAIL

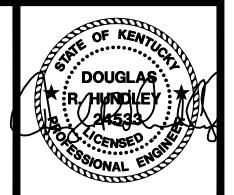
CURB WITH HYDRAZORB

ACCOUNT FOR INSULATION IF APPLICABLE. CAULK OPENING AFTER PIPE INSTALLATION.

ROOF PRODUCTS, INC. MODEL -

RPPC-90 OR APPROVED

PROVIDE PIPE TRANSITION AS REQUIRED.



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Energy Solutions

Pulaski County Schools GUARANTEED ENERGY SAVINGS CONTRAC

MECHANICAL DETAIL

REVISIONS

DATE: 03.11.2022

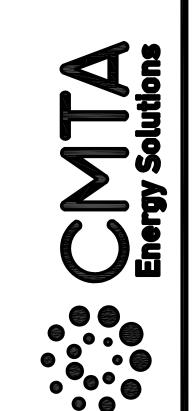
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SET NO.

CHECKED: CG

M-

DOUGLAS R. HUNDLEY 24533 CENSED SONAL ENGINE	
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DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

SET NO.

MAKE	MAKE-UP WATER TANK SCHEDULE										
SYMBOL	FT-1	FT-2									
MANUFACTURER MODEL	WESSEL GMP-15050	WESSEL GMP-15050									
SERVICE	GEOTHERMAL LOOP	GEOTHERMAL LOOP									
STORAGE (GALS)	50.0	100.0									
GPM @ 70 (PSI)	1.8	1.8									
HP	0.5	0.5									
VOLTS / ø / HZ	120/1/60	120/1/60									
LOW TANK INDICATOR	YES	YES									
LOW TANK AUDIBLE ALARM	YES	YES									
NUMBER OF PUMPS	1	2									
REMARKS	ALL	ALL									

ALL PUMPS AND TANK LOW LEVEL ALARMS SHALL BE CONNECTED TO BAS. COORDINATE WITH TCC.
 FILL TANK WITH PROPYLENE 30% FOOD GRADE GLYCOL SOLUTION AND OTHER WATER TREATMENT CHEMICALS AS REQUIRED.

			Pl	JMP SCHEDU	JLE			
SYMBOL	P-1A/B-01	P-2A/B-01	P-1A/B-02	P-2A/B-02	P-3A/B-02	P-1A/B-03	P-1A/B-04	P-2A/B-04
MANUFACTURER & MODEL	TACO FI2506D	TACO KV2009D	TACO FI207D	TACO F11509D	TACO FI2506D	TACO FI2506D	TACO FI2506D	TACO KV2007D
SCHOOL	EUBANK	EUBANK	OAK HILL	OAK HILL	OAK HILL	NANCY	SHOPVILLE	SHOPVILLE
SERVICE	PRIMARY VARIABLE GS/GR CLASSROOM LOOP	PRIMARY VARIABLE GS/GR GYM LOOP	PRIMARY VARIABLE GS/GR KITCHEN LOOP	PRIMARY VARIABLE GS/GR ADMIN LOOP	PRIMARY VARIABLE GS/GR CLASSROOM LOOP	PRIMARY VARIABLE GS/GR LOOP	PRIMARY VARIABLE GS/GR LOOP	PRIMARY VARIABLE GS/GR GYM LOOP
FLUID	30% GLYCOL	30% GLYCOL	WATER	WATER	WATER	30% GLYCOL	30% GLYCOL	30% GLYCOL
TYPE	END-SUCTION CENTRIFUGAL BASE MOUNTED	IN-LINE CENTRIFUGAL PUMP	END-SUCTION CENTRIFUGAL BASE MOUNTED	END-SUCTION CENTRIFUGAL BASE MOUNTED	END-SUCTION CENTRIFUGAL BASE MOUNTED	END-SUCTION CENTRIFUGAL BASE MOUNTED	END-SUCTION CENTRIFUGAL BASE MOUNTED	IN-LINE CENTRIFUGAL PUMP
GPM / TDH	250 / 110	80 / 60	75 / 50	60 / 60	260 / 110	290 / 110	240 / 110	90 / 50
OPERATION	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY	PRIMARY / STAND-BY
MOTOR HP / RPM	15 / 3,500	3 / 1,760	2 / 1,760	3 / 1,760	15 / 3,500	15 / 3,500	15 / 3,500	3 / 1,760
VOLTS / PH / HZ	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60
EFFICIENCY	74%	69%	72%	56%	79%	79%	78%	78%
IMPELLER DIAMETER	5.7"	7.7"	7.2"	7.6"	5.85"	5.9"	5.7"	7.25"
SUCTION DIFFUSER	5"x3"	NA	3"x2"	3"x2.5"	5"x3"	5"x3"	5"x3"	NA

PUMP EFFICIENCIES LISTED ARE MINIMUM EFFICIENCIES ACCEPTABLE. DO NOT SUBMIT LESS EFFICIENT PUMPS.
 PROVIDE WITH NEOPRENE COUPLERS.
 PROVIDE SHAFT GUARD WITH SLOTTED WINDOW. GUARD SHALL BE REMOVABLE.
 PROVIDE SUCTION DIFFUSER, CHECK VALVE, SHUT-OFF VALVE AND FLEX CONNECTOR.

		VARIA	BLE FREQ	UENCY DE	RIVES - PUI	MPS		
SYMBOL	VFD-P1A/B-01	VFD-P2A/B-01	VFD-P1A/B-02	VFD-P2A/B-02	VFD-P3A/B-02	VFD-P1A/B-03	VFD-P1A/B-04	VFD-P2A/B-04
MANUF. & MODEL	ABB ACH580	ABB ACH580	ABB ACH580	ABB ACH580	ABB ACH580	ABB ACH580	TACO 2511D	ABB ACH580
SCHOOL	EUBANK	EUBANK	OAK HILL	OAK HILL	OAK HILL	NANCY	SHOPVILLE	SHOPVILLE
SERVICE	P-1A/B-CLASSROOM	P-2A/B-GYM	P-1A/B-KITCHEN	P-1A/B-ADMIN	P-1A/B-CLASSROOM	P-1A/B-GS/GR	P-1A/B-GS/GR	P-2A/B-GYM
MOTOR HP	15	3	2	3	15	15	15	3
V/ø/HZ	460/3/60	460/3/60	460/3/60	460/3/60	480/3/60	208/3/60	208/3/60	208/3/60
FUSED DISCONNECT	YES	YES	YES	YES	YES	YES	YES	YES
BYPASS STARTER	NO	NO	NO	NO	NO	NO	NO	NO
ENCLOSURE TYPE	NEMA-12	NEMA-12	NEMA-12	NEMA-12	NEMA-12	NEMA-12	NEMA-12	NEMA-12

REMARKS:

- PROVIDE BACNET INTERFACE FOR INTEGRATION INTO BUILDING AUTOMATION SYSTEM. PROVIDE INPUT POINTS FOR TWO PRESET SPEEDS. PROVIDE TWO PROGRAMMABLE FORM C RELAYS RATED 2 AMPS TO ACTIVATE AT SPEED.
 PROVIDE ALL VFD'S WITH A LAMICOID PLATE INDICATING ID#, INCLUDE VFD SPEED FOR REQUIRED
- FLOW ON PUMP VFD'S.

 3. ACCEPTABLE MANUFACTURERS: ABB, DANFOSS GRAHAM.

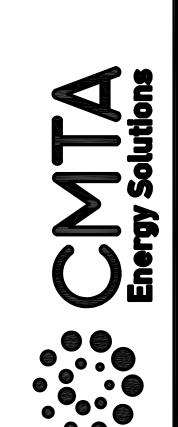
 4. VFD SHALL BE EQUIPPED WITH SOFT—START CAPABILITIES.
- 5. PROVIDE WITH FACTORY START-UP UTILIZING MANUFACTURER'S STANDARDS.

			AND DIDT			=		
		AIR	AND DIRT	SEPARATO	JR SCHED	ULE		
SYMBOL	AS-1-01	AS-2-01	AS-1-02	AS-2-02	AS-3-02	AS-1-03	AS-1-04	AS-2-04
MANUF. & MODEL	TACO 4906AD-125	TACO 4903AD-125	TACO 4903AD-125	TACO 4903AD-125	TACO 4906AD-125	TACO 4906AD-125	TACO 4906AD-125	TACO 4904AD-125
SCHOOL	EUBANK	EUBANK	OAK HILL	OAK HILL	OAK HILL	NANCY	SHOPVILLE	SHOPVILLE
SERVICE	GEOTHERMAL LOOP CLASSROOM	GEOTHERMAL LOOP GYM	GEOTHERMAL LOOP KITCHEN	GEOTHERMAL LOOP ADMIN	GEOTHERMAL LOOP CLASSROOM	GEOTHERMAL LOOP	GEOTHERMAL LOOP	GEOTHERMAL LOOP GYM
UNIT WEIGHT (LBS)	245	75	75	75	245	245	245	90
INLET / OUTLET SIZE	6"	3"	3"	3"	6"	6"	6"	4"
GPM	250	80	90	60	275	300	240	120
MAX WPD	2.0 FT	2.0 FT	2.0 FT	2.0 FT	2.0 FT	2.0 FT	2.0 FT	2.0 FT
ASME RATED	YES	YES	YES	YES	YES	YES	YES	YES

SEPARATOR MUST UTILIZE A STAINLESS STEEL COALESCING MEDIUM TO AID IN THE SEPARATION OF AIR AND DIRT WITHIN THE ENTRAINED WATER.

		EXPA	NSION TA	NK SCHED	ULE		
			GENER	RAL			
SYMBOL	ET-1-01	ET-2-01	ET-1-02	ET-2-02	ET-3-02	ET-1-03	ET-1-04
MANUF. & MODEL	TACO MODEL # CX350-125	TACO MODEL # CX170-125	TACO MODEL # CX170-125	TACO MODEL # CX170-125	TACO MODEL # CX350-125	TACO MODEL # CX350-125	TACO MODEL # CX350-125
SCHOOL	EUBANK	EUBANK	OAK HILL	OAK HILL	OAK HILL	NANCY	SHOPVILLE
TYPE	DIAPHRAGM	DIAPHRAGM	DIAPHRAGM	DIAPHRAGM	DIAPHRAGM	DIAPHRAGM	DIAPHRAGM
SERVICE	GEOTHERMAL LOOP CLASSROOM	GEOTHERMAL LOOP GYM	GEOTHERMAL LOOP KITCHEN	GEOTHERMAL LOOP ADMIN	GEOTHERMAL LOOP CLASSROOM	GEOTHERMAL LOOP	GEOTHERMAL LOOP CLASSROOM
	-			CAPACITY			
TANK VOLUME	92 GAL	45 GAL	45 GAL	45 GAL	92 GAL	92 GAL	92 GAL
ACCEPTANCE VOLUME	41 GAL	25 GAL	25 GAL	25 GAL	41 GAL	41 GAL	41 GAL
UNIT WEIGHT (LBS)	150	109	109	109	150	150	150
PHYSICAL SIZE	60"H X 24" DIA	44"H X 24" DIA	44"H X 24" DIA	44"H X 24" DIA	60"H X 24" DIA	60"H X 24" DIA	60"H X 24" DIA
CHARGE PRESSURE	12 PSIG	12 PSIG	12 PSIG	12 PSIG	12 PSIG	12 PSIG	12 PSIG

25	OF KEN	VIVO
	DOUGL/	\$ EV *
	24533 CENSES	
000	SIONAL	NGII S



DATE: 03.11,2022 DRAWN: EM, LA, HC, NT CHECKED: CG

CONSOLE, HORIZONTAL, AND VERTICAL WATER SOURCE HEAT PUMP SCHEDULE (30% GLYCOL)

			GENERAL					GEN	IERAL					GEN	NERAL			
SYMBOL	CHP-09	CHP-12	CHP-09	CHP-12	CHP-18	HHP-06	HHP-12	HHP-06	HHP-12	HHP-18	HHP-24	VHP-06	VHP-12	VHP-06	VHP-12	VHP-24	VHP-120	
MANUFACTURER & MODEL	WATER FURNACE VERSATEC 500 NC009	WATER FURNACE VERSATEC 500 NC012	WATER FURNACE VERSATEC 500 NC009	WATER FURNACE VERSATEC 500 NC012	WATER FURNACE VERSATEC 500 NC018	WATER FURANCE VERSATEC 300 UB006	WATER FURANCE VERSATEC 500 NB012	WATER FURNACE VERSATEC 300 UB006	WATER FURNACE VERSATEC 500 NB012	WATER FURNACE VERSATEC 500 NB018	WATER FURNACE VERSATEC 500 NB026	WATER FURNACE VERSATEC 500 UB006	WATER FURNACE VERSATEC 500 NB012	WATER FURNACE VERSATEC 500 UB006	WATER FURNACE VERSATEC 500 NB012	WATER FURNACE VERSATEC 500 NB026	WATER FURNACE VERSATEC 500 UD1	
SCHOOL(S)	EUBANK	EUBANK	SHOPVILLE/NANCY	SHOPVILLE/NANCY	SHOPVILLE/NANCY	EUBANK	EUBANK	SHOPVILLE/NANCY	SHOPVILLE/NANCY	SHOPVILLE/NANCY	SHOPVILLE/NANCY	EUBANK	EUBANK	NANCY	SHOPVILLE/NANCY	SHOPVILLE/NANCY	NANCY	
EQUIPMENT TYPE	GROUND SOURCE CONSOLE HEAT PUMP	GROUND SOURCE CONSOLE HEAT PUMP	GROUND SOURCE CONSOLE HEAT PUMP	GROUND SOURCE CONSOLE HEAT PUMP	GROUND SOURCE CONSOLE HEAT PUMP	GROUND SOURCE HORIZONTAL HEAT PUMP	GROUND SOURCE HORIZONTAL HEAT PUMP	GROUND SOURCE PHORIZONTAL HEAT PUMI	GROUND SOURCE PHORIZONTAL HEAT PUMI	GROUND SOURCE PHORIZONTAL HEAT PUM	GROUND SOURCE PHORIZONTAL HEAT PUMP	GROUND SOURCE VERTICAL HEAT PUMP	GROUND SOURCE VERTICAL HEAT PUMP	GROUND SOURCE VERTICAL HEAT PUMP	GROUND SOURCE VERTICAL HEAT PUMP	GROUND SOURCE VERTICAL HEAT PUMP	GROUND SOURCE P VERTICAL HEAT PUN	
REMARKS	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW						
UNIT WEIGHT (LBS)	210	210	210	210	235	107	175	107	175	210	305	106	175	106	175	303	850	
NOMINAL CFM / ESP	325 / 0.1"	400 / 0.1"	325 / 0.1"	400 / 0.1"	600 / 0.1"	200 / 0.32"	400 / 0.40"	225 / 0.32"	400 / 0.40"	575 / 0.65"	800 / 0.70"	200 / 0.32"	400 / 0.40"	200 / 0.32"	450 / 0.30"	800 / 0.7"	2,850 / 0.95"	
SUPPLY FAN MOTOR HP	0.25	0.25	0.25	0.25	0.25	0.10	0.10	0.10	0.10	0.50	0.50	0.10	0.10	0.10	0.1	0.5	4.8	
GPM / WPD (FT)	2.5 / 9.9	3.0 / 5.7	2.5 / 11.8	3.0 / 6.8	4.5 / 17.5	1.5 / 5.3	3.0 / 3.9	1.5 / 5.3	3.0 / 3.9	4.5 / 10.0	6.0 / 10.0	1.5 / 5.3	3 / 3.9	1.5 / 5.3	3.0 / 3.1	6.0 / 8.3	30 / 8.9	
# COMPRESSORS / # STAGES	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2	1 / 2	
REFRIGERANT	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	
VOLTS / PHASE / HZ	265 / 1 / 60	265 / 1 / 60	230 / 1 / 60	230 / 1 / 60	230 / 1 / 60	115 / 1 / 60	265 / 1 / 60	230 / 1 / 60	230 / 1 / 60	230 / 1 / 60	230 / 1 / 60	115 / 1 / 60	265 / 1 / 60	115 / 1 / 60	230 / 1 / 60	230 / 1 / 60	230 / 3 / 60	
MCA / MAX FUSE	7.9 / 10.15	8.1 / 10.15	7.7 / 10.15	8.8 / 10.15	10.9 / 15	9.4 / 15	6.5 / 10.15	4.7 / 10.15	7.1 / 10.15	14.6 / 20	18.7 / 30	9.4 / 15	6.5 / 10.15	9.4 / 15	7.1 / 10.15	18.7 / 30	44.5 / 70	
	•	COOLING CAPAC	ITY 72°F / 60°F EAT	Г — 85°F EWT			COOL	ING CAPACITY 72°F	/ 60°F EAT - 85°F EW	Т			COO	LING CAPACITY 72°F	F / 60°F EAT — 85°F EWT			
TOTAL MBH (FULL / PARTIAL)	8.42 / -	9.38 / -	8.42 / -	9.38 / -	15.18 / -	5.88 / -	11.79 / -	5.88 / -	11.79 / -	14.73 / -	24.08 / -	5.88 / -	11.79 / -	5.88 / -	13.18 / -	24.08 / -	106.44 / 70.1	
SENSIBLE MBH (FULL / PARTIAL)	6.12 / -	7.64 / -	6.12 / -	7.64 / -	13.04 / -	3.95 / –	8.61 / -	3.95 / -	8.61 / -	10.2 / -	17.45 / –	3.95 / -	8.61 / -	3.95 / -	9.71 / -	17.45 / -	71.99 / 47.4	
HEAT OF REJECTION (MBH) (FULL / PARTIAL)	10.7 / -	12.4 / -	10.7 / -	12.4 / -	19.9 / –	7.8 / –	14.8 / -	7.8 / –	14.8 / -	18.5 / -	29.6 / -	7.8 / –	14.8 / -	7.8 / –	16.10 / -	29.6 / -	133.80 / 87.3	
EER @ AHRI CONDITIONS (FULL)	13.4	12.3	13.4	12.3	12.5	14.6	14.4	14.6	14.4	15.7	17.0	14.6	14.4	14.6	14.4	17.0	14.5	
	•	REVERSE CYCLE H	HEATING CAPACITY 72	2°F EAT — 50°F EWT			REVERS	E CYCLE HEATING CAPA	CITY 72°F EAT - 50	O'F EWT		•	REVER	SE CYCLE HEATING CAPA	CITY 72°F EAT - 50	O°F EWT	_	
TOTAL MBH (FULL / PARTIAL)	8.27 / -	10.79 / -	8.27 / -	10.79 / -	15.8 / -	5.7 / -	9.7 / -	5.7 / -	9.7 / -	15.23 / -	21.39 / -	5.7 / -	9.7 / -	5.7 / -	11.64/ -	21.39 / -	100.24 / 63.0	
HEAT OF EXTRACTION (MBH) (FULL / PARTIAL)	6.1 / -	7.7 / –	6.1 / -	7.7 / -	11.5 / –	3.8 / -	6.9 / -	3.8 / -	6.9 / -	10.8 / -	16.0 / -	3.8 / -	6.9 / -	3.8 / -	9.2 / -	16.0 / -	76.7 / 49.7	
COP @ AHRI CONDITIONS (FULL)	4.4	4.3	4.4	4.3	4.4	5.3	5.2	5.3	5.2	5.3	5.3	5.3	5.2	5.3	5.2	5.3	5.0	

- 1. PROVIDE SIDE ACCESS FILTER HOUSING TO ACCOMMODATE 24"X24"X2" 30% EFFICIENT MERV 8 PLEATED AND DISPOSABLE FILTER. PROVIDE WITH (3) EXTRA FILTERS. REFER TO DETAIL ON SHEET M-6.1.
- APPLICABLE TO ALL HORIZONTAL AND VERTICAL HEAT PUMPS.
- PROVIDE WITH FACTORY MOUNTED FUSED DISCONNECT. APPLICABLE TO ALL CONSOLE UNITS.
 PROVIDE WITH FACTORY MOUNTED NON-FUSED DISCONNECT. APPLICABLE TO ALL HORIZONTAL AND VERTICAL UNITS SIZES 06—72.
- PROVIDE A FACTORY-ASSEMBLED HOSE KIT/PIPING PACKAGE FOR SUPPLY AND RETURN CONNECTIONS FOR EACH UNIT. REFER TO PIPING SCHEMATIC ON SHEET M-6.1.
- PROVIDE WITH WATER TEMPERATURE SENSOR FOR FREEZE PROTECTION. UNITS SHALL BE AHRI CERTIFIED.
- 8. PROVIDE WITH FACTORY SUPPLIED AURORA BASE CONTROLLER.
- 9. PROVIDE WITH STAINLESS STEEL CONDENSATE DRAIN PAN AND CONDENSATE OVERFLOW SWITCH. ENTIRE PAN SHALL BE PITCHED TO OUTLET. 10. PROVIDE WITH MANUFACTURER SOUND ATTENUATION PACKAGE.
- 11. PROVIDE WITH MODULATING HOT GAS REHEAT ON VHP-72 AND VHP-120 UNITS.
- 12. PROVIDE VHP-06 VHP-24 WITH 12" STAND. 13. PROVIDE VHP-120 UNITS WITH VFD CONTROLLED / ECM DRIVEN SUPPLY FANS.

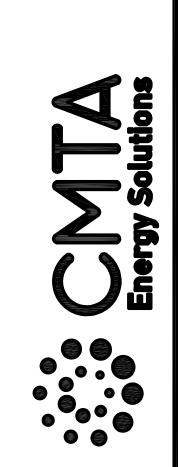
CONSOLE, HORIZONTAL, AND VERTICAL WATER SOURCE HEAT PUMP SCHEDULE (NO GLYCOL) - OAK HILL ONLY

	GENI	ERAL	GENERAL				GENERAL			
SYMBOL	CHP-12	CHP-18	HHP-24	VHP-18	VHP-24	VHP-36	VHP-48	VHP-60	VHP-72	VHP-120
MANUFACTURER & MODEL	WATER FURNACE NC012	WATER FURANCE NC018	WATER FURANCE NBH024	WATER FURANCE NBV018	WATER FURANCE NBV024	WATER FURANCE NBV036	WATER FURANCE NBV048	WATER FURANCE NBV060	WATER FURANCE NBV072	WATER FURANCE UD120
EQUIPMENT TYPE	CONSOLE HEAT PUMP	CONSOLE HEAT PUMP	HORIZONTAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP	VERTICAL HEAT PUMP
REMARKS										
UNIT WEIGHT (LBS)	210	235	303	368	303	378	418	463	478	849
NOMINAL CFM / ESP	400 / 0.1"	600 / 0.1"	800 / 0.70"	575 / 0.4"	800 / 0.7"	1200 / 0.53"	1600 / 0.50"	2000 / 0.65"	2200 / 0.66"	4000 / 0.97"
SUPPLY FAN MOTOR HP	0.25	0.25	0.5	0.5	0.5	0.5	1.0	1.0	1.0	7.2
GPM / WPD (FT)	3.0 / 5.0	4.5 / 12.7	8.0 / 10.1	4.5 / 8.2	8.0 / 10.1	9.0 / 7.4	12.0 / 8.4	15.0 / 11.6	18.0 / 13.1	24.0 / 4.3
# COMPRESSORS / # STAGES	1 / 1	1 / 1	1 / 2	1 / 1	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	2 / 2
REFRIGERANT	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
VOLTS / PHASE / HZ	277 / 1 / 60	277 / 1 / 60	460 / 3 / 60	277 / 1 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60	460 / 3 / 60
MCA / MAX FUSE	8.1 / 10.15	9.5 / 15	6.4 / 10.15	10.6 / 15	6.4 / 10.15	9.2 / 10.15	12 / 15	13 / 20	14.6 / 20	21 / 30
CO	DLING CAPACITY 72°	F / 60°F EAT – 85°F EWT				COOLING CAPAC	CITY 72°F / 60°F E/	AT — 85°F EWT		
TOTAL MBH (FULL / PARTIAL)	10.01 / -	16.20 / -	25.97 / -	15.78 / –	25.97 / –	37.33 / -	48.11 / -	62.31 / -	68.15 / -	112.86 / -
SENSIBLE MBH (FULL / PARTIAL)	8.06 / -	13.74 / –	18.39 / -	10.92 / -	18.39 / –	27.78 / –	33.05 / -	47.49 / –	52.10 / -	87.97 / –
HEAT OF REJECTION (MBH) (FULL / PARTIAL)	12.9 / –	20.70 / –	31.20 / -	19.4 / -	31.20 / -	44.90 / -	58.40 / -	77.8 / –	85.10 / -	142.40 / -
EER @ AHRI CONDITIONS (FULL)	11.6	12.2	17.1	14.7	17.1	15.8	16	13.8	13.7	13
REVERSE	CYCLE HEATING CAPAC	ITY 72°F EAT - 50°F EWT				REVERSE CYCLE HEAT	TING CAPACITY 72°F	EAT - 50°F EWT		
TOTAL MBH (FULL / PARTIAL)	12.38 / –	18.13 / –	25.15 / -	17.62 / –	25.15 / –	35.85/ -	47.17 / –	61.19 / -	73.36 / –	115.21 /
HEAT OF EXTRACTION (MBH) (FULL / PARTIAL)	9.2 / –	13.70 / –	19.6 / -	13.0 / -	19.60 / -	28.30 / -	36.6 / -	47.40 / -	57.6 / -	90.20 / –
COP @ AHRI CONDITIONS (FULL)	3.9	4.1	4.5	3.9	4.5	4.8	4.4	4.4	4.7	4.6

1. PROVIDE SIDE ACCESS FILTER HOUSING TO ACCOMMODATE 24"X24"X2" 30% EFFICIENT MERV 8 PLEATED AND DISPOSABLE FILTER. PROVIDE WITH (3) EXTRA FILTERS. REFER TO DETAIL ON SHEET M-6.1. APPLICABLE TO ALL HORIZONTAL AND VERTICAL HEAT PUMPS.

- PROVIDE WITH FACTORY MOUNTED FUSED DISCONNECT. APPLICABLE TO ALL CONSOLE UNITS.
 PROVIDE WITH FACTORY MOUNTED NON-FUSED DISCONNECT. APPLICABLE TO ALL HORIZONTAL AND VERTICAL UNITS SIZES 06—72.
- ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DISCONNECTS FOR VHP-120 UNITS. . PROVIDE A FACTORY—ASSEMBLED HOSE KIT/PIPING PACKAGE FOR SUPPLY AND RETURN CONNECTIONS FOR EACH UNIT. REFER TO PIPING SCHEMATIC ON SHEET M—6.1.
- . PROVIDE WITH WATER TEMPERATURE SENSOR FOR FREEZE PROTECTION.
- UNITS SHALL BE AHRI CERTIFIED. 8. PROVIDE WITH FACTORY SUPPLIED AURORA BASE CONTROLLER. 9. PROVIDE WITH STAINLESS STEEL CONDENSATE DRAIN PAN AND CONDENSATE OVERFLOW SWITCH. ENTIRE PAN SHALL BE PITCHED TO OUTLET.
- 10. PROVIDE WITH MANUFACTURER SOUND ATTENUATION PACKAGE. 11. PROVIDE WITH MODULATING HOT GAS REHEAT ON VHP-72 AND VHP-120 UNITS. COORDINATE HUMIDITY SENSOR AND SEQUENCE WITH TCC.
- 12. PROVIDE VHP-06 VHP-24 WITH 12" STAND. 13. PROVIDE VHP-120 UNITS WITH VFD CONTROLLED / ECM DRIVEN SUPPLY FANS.

9519 Civic Way, Suite 100 Prospect, KY 40059 T 502 409.4062 F 502 919.1 MBrangers@CMTA.COM



REVISIONS

DATE: 03.11,2022 DRAWN: EM, LA, HC, NT CHECKED: CG

ROOF TOP WATER SOURCE HEAT PUMP SCHEDULE (30% GLYCOL) RTU-3-01 RTU-4A/B/C-01RTU-4A/B/C-03 RTU-1-01 RTU-2-01 RTU-1A/B-03 RTU-2-03 RTU-3-03 RTU-1-04 RTU-2A/B-04 RTU-3-04 RTU-4-04 SYMBOL MANF & MODEL AAON - RN-010 AAON - RQ-005 AAON - RN-010 AAON - RQ-005 AAON - RQ-004 AAON - RQ-005 AAON - RN-025 AAON - RN-008 AAON - RQ-004 AAON - RN-010 AAON - RQ-004 AAON - RQ-005 SCHOOL EUBANK EUBANK EUBANK EUBANK NANCY NANCY NANCY NANCY SHOPVILLE SHOPVILLE SHOPVILLE SHOPVILLE AREA SERVED CAFETERIA/KITCHEN FAMILY RESOURCE MEDIA CENTER GYM CAFETERIA MEDIA CENTER GYM CAFETERIA COMPUTER LAB MEDIA CENTER KITCHEN TYPE OF SYSTEM MULTI ZONE - VAV MULTI ZONE - VAV SINGLE ZONE - VAV SINGLE ZONE - VAV MULTI ZONE - VAV SINGLE ZONE - VAV SINGLE ZONE - VAV MULTI ZONE - VAV SINGLE ZONE - VAV SINGLE ZONE - VAV SINGLE ZONE - VAV SINGLE ZONE - VAV **ECONOMIZER** YES YES DIMENSIONS / WEIGHT (LBS) 60"H x 79"W x 111"L / 2752 44"H x 58"W x 83"L / 1275 43"H x 45"W x 83"L / 892 44"H 58"W x 83"L /1274 44"H x 58"W x 83"L /1196 43"H x 45"W x 83"L /930 43"H x 45"W x 83"L /843 43"H x 58"W x 83"L /1300 43"H x 45"W x 83"L / 877 43"H x 45"W x 83"L /844 43"H x 45"W x 83"L / 801 43"H x 45"W x 83"L /866 CURB ADAPTER/TYPE YES/NON-PLENUM INSULATED CURB YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES(1) NO(2)/ INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM YES/INSULATED PLENUM MIN CURB HEIGHT 12**"** 12**"** 24" 12" 24"(1), 36"(2) 12" REMARKS 79, 79, 80, 73, 68, 66, 62, 56 83, 82, 85, 82, 75, 71, 69, 63 79, 79, 85, 78, 74, 72, 69, 56 80, 80, 80, 75, 68, 66, 63, 58 79, 79, 80, 73, 68, 66, 61, 56 89, 87, 90, 92, 89, 86, 80, 76 83, 81, 85, 80, 73, 71 68, 62 81, 78, 82, 79, 70, 69, 66, 60 79, 79, 80, 73, 68, 65, 61, 56 ACOUSTICS (UNIT DISCHARGE) 79, 77, 74, 70, 71, 67, 62, 55 76, 75, 73, 65, 62, 59, 54, 44 75, 75, 71, 62, 60, 58, 53, 45 | 76, 75, 70, 62, 62, 60, 55, 51 ACOUSTICS (UNIT RETURN) 75, 75, 70, 61, 60, 58, 52, 44 | 76, 76, 72, 66, 63, 58, 53, 43 | 81, 79, 75, 72, 76, 77, 77, 43 SUPPLY AIR FAN SUPPLY AIR FAN 7000 / 1750 2750 / 825 1200 / 360 2500 / 950 1300 / 1250 1250 / 563 1500 / 300 1600 / 400 1900 / 750 1600 / 480 1600 / 160 1600 / 160 MAX. SA CFM/ MIN. OA CFM 2.43" / 1.25" / 4.65 2.25" / 1.25" / 1.77 1.42" / 0.50" / 0.67 1.42" / 0.5" / 1.14 1.18" / 0.50" / 0.66 1.35" / 0.50" / 0.64 1.34" / 0.50" / 0.90 1.35" / 0.50" / 0.64 1.31" / 0.50" / 0.50 1.30" / 0.50" / 0.58 1.42" / 0.50" / 0.67 TOTAL SP / ESP / BHP 1.52" / 0.50" / 0.72 HP / VOLTS / PHASE / HZ 2.0 / 460 / 3 / 60 1.0 / 230 / 3 / 60 2.0 / 230 / 3 / 60 1.0 / 230 / 1 / 60 1.0 / 230 / 1 / 60 1.0 / 230 / 1 / 60 7.5 / 460 / 3 / 60 1.0 / 460 / 3 / 60 2.0 / 460 / 3 / 60 2.0 / 230 / 3 / 60 1.0 / 230 / 1 / 60 1.0 / 230 / 1 / 60 TYPE / DRIVE BACKWARD CURVED PLENUM/DIRECT BACKWARD CURVED P RELIEF AIR FAN 1575 745 N/A MAX. RA CFM 0.13" / 0.00" / 0.08 0.15" / 0.15" / 0.04 N/A TOTAL SP / ESP / BHP HP / VOLTS / PHASE / HZ 1.0 / 460 / 3 / 60 1.0 / 460 / 3 / 60 N/A N/A N/A N/A N/A N/A N/A N/A N/A TYPE / DRIVE AXIAL FLOW/DIRECT AXIAL FLOW/DIRECT N/A N/A N/A N/A N/A N/A N/A N/A REVERSE CYCLE HEATING CAPACITY -- 7°F DB / 4° WB OA TEMP REVERSE CYCLE HEATING CAPACITY -- 7°F DB / 4° WB OA TEMP REVERSE CYCLE HEATING CAPACITY -- 7°F DB / 4° WB OA TEMP TOTAL CFM 3500 637.5 600 1250 950 800 800 650 800 625 800 315.8 315.8 59.4 121.5 59.7 124.7 98.4 48.0 48.8 60.0 59.3 TOTAL HEATING CAP. (MBH) EAT/LAT 39.0°F / 117.7°F 39°F / 117.7°F 19.8°F / 103.0°F 22.4°F / 104.4°F 21.3°F / 108.6°F 34.2°F / 98.8°F 61.4°F / 116.1°F 7.0°F / 88.5°F 59.8°F / 54.0°F 13.8°F / 93.3°F 36.1°F / 93.4°F 41.0°F / 105.9°F 50°F / 43.34°F 50°F / 43.22°F 50°F / 42.59°F 50°F / 43.02°F 50°F / 42.75°F 50°F / 43.34°F 50°F / 43.34°F 50°F / 43.12°F 50°F / 43.28°F 50°F / 43.53°F 50°F / 44.68°F 50°F / 43.45°F EWT/LWT 75 / 20.17 FT 30 / 25.72 FT 15 / 19.99 FT 30 / 25.72 FT 24 / 16.05 FT 15 / 16.5 FT 12.0 / 15.38 FT 30 / 24.37 FT 15 / 22.48 FT 15 / 16.50 FT 12 / 15.38 FT 15 / 16.5 FT MAX GPM / MAX PRESSURE DROP 3.47 3.82 3.96 4.22 3.87 4.03 5.25 3.57 4.62 3.42 4.61 3.81 COP @ ARI (FULL/PARTIAL) ELECTRIC HEATER ELECTRIC HEATER ELECTRIC HEATER N/A N/A N/A 40 / 136.5 20 / 68.3 INPUT(KW)/ OUTPUT HEATING CAP(MBH) N/A N/A N/A N/A N/A N/A N/A N/A 1250 N/A N/A N/A N/A EAT / LAT (DB) 7.0 / 108.2 13.8 / 114.8 N/A N/A HEATER QTY / FLA N/A N/A N/A N/A N/A 4 / 96.2 N/A 2 / 48.1 N/A N/A COOLING CAPACITY -- 95.0°F DB / 78.0° WB OA TEMP COOLING CAPACITY -- 95.0°F DB / 78.0° WB OA TEMP COOLING CAPACITY -- 95.0°F DB / 78.0° WB OA TEMP TOTAL CFM 7000 1275 1200 2500 1900 1600 1600 1300 1600 1250 1600 294.70 115.25 63.30 115.88 90.17 63.60 49.87 118.53 50.14 63.12 50.95 62.56 TOTAL COOLING CAP. (MBH) 77.99 75.06 57.52 44.04 39.02 72.31 39.27 SENSIBLE COOLING CAP. (MBH) 199.82 44.04 39.65 38.03 43.61 EAT (DB/WB) 78.50°F / 65.88°F 79.6°F / 66.8°F 79.6°F / 66.8°F 81.36°F / 68.23°F 81.68°F / 68.58°F 79.60°F / 66.80°F 75.20°F / 63.01°F 85.50°F / 71.42°F 75.20°F / 63.01°F 82.91°F / 69.45°F 77.40°F / 64.94°F 78.50°F / 65.88°F 51.59°F / 51.08°F 52.81°F / 52.41°F 53.6.°F / 53.19°F 52.89°F / 52.45°F 52.95°F / 52.31°F 53.60°F / 53.19°F 52.37°F / 51.92°F 54.08°F / 53.78°F 52.22°F / 51.76°F 52.74°F / 52.44°F 53.56°F / 53.18°F 52.81°F / 52.25°F LAT (DB/WB) (COIL) EWT/LWT 85°F / 95.1°F 85°F / 95°F 85°F / 95.9°F 85°F / 95.1°F 85°F / 95°F 85°F / 95.9°F 85°F / 95.6°F 85°F / 95.3°F 85°F / 93.5°F 85°F / 95.8°F 85°F / 95.8°F 85°F / 95.8°F MAX FACE VELOCITY / MAX APD 336.00 FPM / 0.37" 309.38 FPM / 1.25" 288 FPM / 0.28" 281.25 FPM / 0.28" 213.75 FPM / 0.14" 288.00 FPM / 0.28" 288.00 FPM / 0.25" 247.50 FPM / 0.23" 288.00 FPM / 0.25" 225.00 FPM / 0.20" 270.00 FPM / 0.23" 288.00 FPM / 0.28" 24 / 16.05 FT 30 / 24.37 FT 12 / 15.38 FT MAX GPM / MAX PRESSURE DROP 75 / 20.17 FT 30 / 25.72 FT 15 / 19.99 FT 30 / 25.72 FT 15 / 16.5 FT 12 / 15.38 FT 15 / 22.48 FT 15 / 16.5 FT 15/ 16.5 FT 12.2 12.3 13.4 13.8 EER @ ARI (FULL) 14.2 12.8 14.0 14.1 14.1 14.8 14.1 MODULATING HOT GAS RE-HEAT HOT GAS RE-HEAT HOT GAS RE-HEAT 177 37 TOTAL CAPACITY (MBH) 45 N/A 50 N/A N/A 38 75°F / 60.35°F 75°F / 61.75°F 75°F / 60.90°F 75°F / 61.03°F 75°F / 61.41°F 75°F / 61.34°F 75°F / 60.89°F 75°F / 61.41°F N/A 75°F / 61.08°F N/A N/A LAT (DB/WB) 0.02" 0.06" 0.05" 0.04" 0.03" MAX APD N/A N/A N/A N/A N/A N/A N/A **FILTERS FILTERS FILTERS** FARR MANUFACTURER 2" PLEATED MODEL/TYPE EFFICIENCY/TEST METHOD 30%/ASHRAE 52-76 7000 / 336 1275 / 310 1200 / 288 1900 / 213.75 1600 / 288 1600 / 288 1300 / 247.50 1600 / 288 1250 / 225 1500 / 270 2500 / 281.25 1600 / 288 CFM/ MAX VELOCITY 0.13" WC / 0.48" WC 0.12" WC / 0.47" WC 0.11" WC / 0.46" WC 0.10" WC / 0.45" WC 0.08" WC / 0.43" WC 0.11" WC / 0.46" WC 0.11" WC / 0.46" WC 0.09" WC / 0.44" WC 0.11" WC / 0.46" WC 0.08" WC / 0.43" WC 0.10" WC / 0.45" WC 0.11" WC / 0.46" WC RESISTANCE (CLEAN/DIRTY)

0.29" WC

0.29" WC

0.27" WC

0.29" WC

0.26" WC

0.28" WC

0.29" WC

<u>REMARKS:</u> PROVIDE WITH DOWNFLOW DUCT CONNECTIONS.

GPS-FC-3-BAS OR EQUAL.

TOTAL DESIGN RESISTANCE

UNITS SHALL BE AHRI CERTIFIED.

PROVIDE DUCT SMOKE DETECTORS FOR SUPPLY AND RETURN AIR STREAMS FOR ALL UNITS 2000 CFM AND GREATER. REFER TO THE FLOOR PLANS FOR ADDITIONAL INFORMATION

0.31" WC

0.30" WC

0.29" WC

0.28" WC

0.26" WC

PROVIDE NON-FUSED DISCONNECT AND SINGLE POINT POWER CONNECTION. EQUIPMENT VENDOR RESPONSIBLE FOR PURCHASE AND INSTALLATION OF BI-POLAR IONIZATION DEVISE ON ALL UNITS. THIS DEVICE SHALL BE GLOBAL PLASMA AIR MODEL

PROVIDE WITH VARIABLE CAPACITY SCROLL COMPRESSORS. PROVIDE WITH VFD CONTROLLED AND ECM DRIVEN SUPPLY FANS.

ALL UNITS SHALL BE CAPABLE OF ECONOMIZING. FOR RTUS WITH RELIEF FANS, PROVIDE BUILDING PRESSURE SENSOR FOR CONTROL.

COORDINATE WITH TCC. 10. ALL UNITS WITHOUT RELIEF FANS SHALL HAVE BAROMETRIC RELIEF DAMPERS. 11. COORDINATE MINIMUM OUTSIDE AIR DAMPER LOCATION WITH TAB CONTRACTOR. OUTSIDE AIR/RETURN AIR DAMPERS SHALL MODULATE BASED ON CO2 WHEN NOT IN ECONOMIZER

MODE. COORDINATE WITH TCC. 12. PROVIDE A FACTORY-ASSEMBLED HOSE KIT/PIPING PACKAGE FOR SUPPLY AND RETURN CONNECTIONS FOR EACH UNIT. REFER TO PIPING SCHEMATICS ON SHEET M-6.2.

13. PROVIDE TERMINAL STRIP FOR CONNECTION TO FIELD MOUNTED, WIRED, PROGRAMMED CONTROLLER. COORDINATE WITH TCC. PROVIDE WITH FACTORY COMPRESSOR SAFETIES.

14. THE RTU SHALL INCLUDE PROVISIONS FOR SHUTDOWN UPON ACTIVATION OF EITHER FIRE ALARM OR THE DUCT SMOKE DETECTOR (IF PRESENT). COORDINATE WITH TCC. FIRE ALARM CABLING SHALL BE PULLED BY THE ELECTRICAL CONTRACTOR AND BE TERMINATED BY TCC.

15. PROVIDE FLANGED DUCT CONNECTIONS FOR PLENUM CURBS WITH ROOF MOUNTED DUCTWORK. REFER TO FLOOR PLANS FOR LOCATIONS.

16. MANUFACTURER TO VERIFY EXISTING CURB DIMENSIONS AND RISER LOCATIONS PRIOR TO ORDERING CURB ADAPTERS AND NEW PLENUM CURBS. MANUFACTURER RESPONSIBLE FOR LOCATING DIVIDER LOCATION IN PLENUM CURBS.

17. PROVIDE WITH SCR ELECTRIC HEAT CONTROLS WHERE APPLICABLE. 18. SUPPLY STAINLESS STEEL IAQ CONDENSATE DRAIN PAN. ENTIRE PAN SHALL BE PITCHED

19. ENTIRE UNIT SHALL BE DOUBLE WALL CONSTRUCTION.

20. PROVIDE WITH A 120V SERVICE OUTLET. 21. PROVIDE WITH (4) SETS OF MERV-8 FILTERS.

PROVIDE WITH WATER TEMPERATURE SENSOR FOR FREEZE PROTECTION. PROVIDE WITH MANUFACTURER SOUND ATTENUATION PACKAGE. 24. COORDINATE HUMIDITY SENSOR AND SEQUENCE WITH TCC.

OAU-1-04

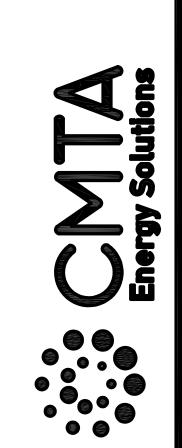
OAU-2-04

OAU-3-04

OAU-4-04

DOUGLAS: R. HUNDLEY 24533 CENSEO CINE
--

BID SET



DATE: 03.11.2022 DRAWN: EM, LA, HC, NT CHECKED: CG

SET NO.

STWIDGE	O/10 1 01	0/10 2 01	0,18 0 01	0/10 1 01	0/10 1 02	0/10 2 02	0/10 0 02	5/10 1 00	0/10 Z 00	0,10 0 00	5/10 1 01	0/10 2 01	0/10 0 01	0/10 T 0 T
TYPE OF SYSTEM	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR	100% OUTSIDE AIR
MANF. & MODEL	DAIKIN - DPS005A	DAIKIN - DPS007A	DAIKIN - DPS007A	DAIKIN - DPS007A	DAIKIN - DPS012A	DAIKIN - DPS007A	DAIKIN - DPS012A	DAIKIN - DPS010A	DAIKIN - DPS007A	DAIKIN - DPS005A				
CONFIGURATION SINGLE POINT CONNECTION	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES	ROOFTOP YES
OLTAGE / PHASE	460 / 3ø	460 / 3ø	460 / 3ø	460 / 3ø	460 / 3ø	460 / 3ø	460 / 3ø	230 / 3ø	230 / 3ø	230 / 3ø	230 / 3ø	230 / 3ø	230 / 3ø	230 / 3ø
MCA / MOP / FLA	29.4 / 30 / 24.4	44.2 / 45 / 37.4	44.2 / 45 / 37.4	44.2 / 45 / 37.4	78.9 / 80 / 66.1	44.2 / 45 / 37.4	78.9 / 80 / 66.1	95.7 / 100 / 80.9	88.2 / 90 / 74.7	88.2 / 90 / 74.7	88.2 / 90 / 74.7	88.2 / 90 / 74.7	88.2 / 90 / 74.7	58.8 / 60 / 48.9
CURB ADAPTER/TYPE	NO/INSULATED PLENUM CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED PLENUM CURB	NO/INSULATED CURB	NO/INSULATED CURB	NO/INSULATED CURB
MIN. CURB HEIGHT	-	-	-	-	-	- 2454			_ 2454		24" 2454			_ 1503
UNIT WEIGHT (LBS)	1503	2454	2454	2454	2632	2454								
REMARKS (SEE NOTES BELOW)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
	OUTSIDE AIF						OUTSIDE AIR						IDE AIR FAN	
DESIGN CFM / CONNECTED CFM / RPM		1,850 / 1,550 / 1,811	1,850 / 1,550 / 1,811	1,850 / 1,775 / 1,811	3000 / 3425 / 2140	2000 / 2250 / 2061	3000 / 3425 / 2140	2600 / 2450 / 2364	2250 / 1,950 / 2319	2250 / 1950 / 2139	2,250 / 2,050 / 2139	1850 / 1700 / 1894	2,250 / 2,125 / 2139	1,400s / 1,300 / 2137
TYPE TSP / ESP	SWSI AF 2.50 / 0.5	SWSI AF 1.4 / 0.5	SWSI AF 1.4 / 0.5	SWSI AF 1.4 / 0.5	SWSI AF 2.77 / 1.25	SWSI AF 2.0 / 1.0	SWSI AF 2.77 / 1.25	SWSI AF 2.0 / 0.75	SWSI AF 1.8 / 0.75	SWSI AF 1.8 / 0.75	SWSI AF 1.80 / 0.75	SWSI AF 1.6 / 0.75	SWSI AF 1.8 / 0.75	SWSI AF 2.70 / 0.75
HP	2.30 / 0.3	2.3	2.3	2.3	4.0	2.3	4.0	2.3	2.3	2.3	2.3	2.3	2.3	2.70 / 0.73
DRIVE/STARTER	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES	DIRECT / YES
	EXHAUST AII	R FAN					EXHAUST AIR	FAN				EXHAU	JST AIR FAN	
DESIGN CFM / CONNECTED CFM / RPM	1,125 / 1175 / 2004	1,475 / 1550 / 1,473	1,475 / 1550 / 1,473	1,475 / 1550 / 1,473	1950 / 1950 / 1885	1300 / 1300 / 1408	1950 / 1950 / 1885	2075 / 2075 / 1919	1800 / 1800 / 1757	1800 / 1800 / 1757	1800 / - / 1757	1,475 / - / 1575	1,800 / - / 1757	1,125 / - / 2108
TYPE	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF	SWSI AF
TSP / ESP	2.5 / 0.5	1.4 / 0.5	1.4 / 0.5	1.4 / 0.5	1.5 / 0.75	1.0 / 0.5	1.5 / 0.75	1.4 / 0.75	1.3 / 0.75	1.3 / 0.75	0.75 ESP	0.75 ESP	0.75 ESP	0.75 ESP
HP DRIVE/STARTER	1.3 DIRECT/YES	2.3 DIRECT/YES	2.3 DIRECT/YES	2.3 DIRECT/YES	0.75 DIRECT/YES	2.3 DIRECT/YES	0.75 DIRECT/YES	2.3 DIRECT/YES	2.3 DIRECT/YES	2.3 DIRECT/YES	2.3 DIRECT / YES	2.3 DIRECT / YES	2.3 DIRECT / YES	2.3 DIRECT / YES
DRIVE/STARTER	,	,	DIRECT/TES	DIRECT/ TES	DIRECTYTES	DIRECT/TES	,	,	DIRECT/ TES	DIRECT/ TES	DIRECT / TES		·	DIRECT / TES
	ENERGY RECOVE	RY WHEEL					ENERGY RECOVER	Y WHEEL				ENERGY RE	ECOVERY WHEEL	
HP	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
STARTER MINIMUM EFFECTIVENESS	YES 67.0%	YES 78.0%	YES 78.0%	YES 78.0%	YES 77.0%	YES 81.0%	YES 77.0%	YES 74.0%	YES 75.0%	YES 75.0%	YES 75.0%	YES 78.0%	YES	YES 67.0%
OUTSIDE AIR SIDE	67.0%	/6.0%	/0.0%	70.0%	//.0%	01.0%	//.0%	/4.0%	75.0%	75.0%	75.0%	70.0%	75.0%	67.0%
CFM	1,400	1850	1850	1,850	3000	2000	3000	2600	2250	2250	2250	1850	2250	1400
EAT - SUMMER (DB/WB)	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F
LAT — SUMMER (DB/WB)	81.3 °F / 68.7 °F	78.9 °F / 66.8 °F	78.9 °F / 66.8 °F	78.9 °F / 66.8 °F	81.8 °F / 69.1 °F	80.8 °F / 68.3 °F	81.8 °F / 69.1 °F	79.8 °F / 67.5 °F	79.3 °F / 67.1 °F	79.3 °F / 67.1 °F	79.3 °F / 67.1 °F	79.3 °F / 67.1 °F	79.3 °F / 67.1 °F	81.3 °F / 68.6 °F
EAT — WINTER (DB/WB)	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F	7.0 °F / 6.0 °F
LAT — WINTER (DB/WB) EXHAUST AIR SIDE	42.4 °F / 35.6 °F	49.3 °F / 40.3 °F	49.3 °F / 40.3 °F	49.3 °F / 40.3 °F	40.9 °F / 34.5 °F	43.7 °F / 36.5°F	40.9 °F / 34.5 °F	46.5 °F / 38.5 °F	48.0 °F / 39.5 °F	48.0 °F / 39.5 °F	48.0 °F / 39.5 °F	48.0 °F / 39.5 °F	48.0 °F / 39.5 °F	42.5 °F / 35.7 °F
CFM	1125	1475	1475	1475	1950	1300	1950	2075	1800	1800	1800	1475	1800	1125
EAT - SUMMER (DB/WB)	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F	72 °F / 60 °F
EAT - WINTER (DB/WB)	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F	70 °F / 53 °F
	DX COII						DX COIL					D)	X COIL	
TOTAL COOLING CAP. (GROSS MBH)	66.6	83.9	83.9	83.9	144.5	88.0	144.5	123.9	88.2	88.2	88.2	83.8	88.2	66.5
SENSIBLE COOLING CAP. (GROSS MBH)	42.5	54.9	54.9	54.9	91.8	57.9	91.8	79.5	61.0	61.0	61.0	54.9	61.0	42.5
MAX. FACE VELOCITY	231.8 FPM	132.0 FPM	132.0 FPM	132 FPM	194.4 FPM	142.7 FPM	194.4 FPM	168.5 FPM	160.5 FPM	160.5 FPM	160.5 FPM	150 FPM	160.5 FPM	250 FPM
TOTAL CFM	1,400	1850	1850	1850	3000	2000	3000	2600	2250	2250	2250	1850	2250	1400
EAT - SUMMER (DB/WB) LAT - SUMMER (DB/WB) (COIL)	81.3 °F / 68.7 °F 53.5 °F / 53.5 °F	78.9 °F / 66.8 °F 51.7 °F / 51.7 °F	78.9 °F / 66.8 °F 51.7 °F / 51.7 °F	78.9 °F / 66.8 °F 51.7 °F / 51.7 °F	82.0 °F / 69.2 °F 54.0 °F / 54.0 °F	80.8 °F / 68.3 °F 54.3 °F / 54.3 °F	82.0 °F / 69.2 °F 54.0 °F / 54.0 °F	79.8 °F / 67.5 °F 51.9 °F / 51.9 °F	79.3 °F / 67.1 °F 54.5 °F / 54.5 °F	79.3 °F / 67.1 °F 54.5 °F / 54.5 °F	79.3 °F / 67.1 °F 54.5 °F / 54.5 °F	78.8 °F / 66.7 °F 51.7 °F / 51.6 °F	79.3 °F / 67.1 °F 54.5 °F / 54.5 °F	81.3 °F / 68.6 °F 53.5 °F / 53.4 °F
Bit Sommer (DB) WB) (COIL)	·	,] 31.7 1 7 31.7 1	01.7 1 7 01.7 1	04.0 1 / 04.0 1	04.0 1 / 04.0 1	HOT GAS REH	,	04.0 T / 04.0 T	34.3 1 / 34.3 1	04.0 1 / 04.0 1	HOT GAS REHE	·	
	HOT GAS RE-HE	AT COIL					HOT GASTILI	ILAT				THOT GAS NETT		
CAPACITY (MBH)	22.7	36.6	36.6	36.6	52.2	34.0	52.2	51.1	37.8	37.8	37.8	36.8	37.8	25.1
LAT (DB/WB)	70.0 °F / 59.7 °F 57%	70.0 °F / 58.8 °F 57%	70.0 °F / 58.8 °F 57%	70.0 °F / 58.8 °F 57%	70.0 °F / 59.9 °F 57%	70.0 °F / 60.1 °F 57%	70.0 °F / 59.9 °F 57%	70.0 °F / 58.9 °F 57%	70.0 °F / 60.2 °F 57%	70.0 °F / 60.2 °F 57%	70.0 °F / 60.2 °F 57%	70.0 °F / 58.7 °F 51%	70.0 °F / 60.2 °F 57%	70.0 °F / 59.7 °F 55%
IXII			3776	3776	37%	3776			3776	3778	3776		<u>'</u>	
	DX HEAT PUM	PCOIL					DX HEAT PUMP	COIL				DX HEAT	T PUMP COIL	
CAPACITY (MBH)	29.1	41.6	41.6	41.6	72.6	42.2	72.6	56.7	42.1	42.1	42.1	41.8	42.1	29.1
EAT (DB)	45.0 °F	49.3 °F	49.3 °F	49.3 °F	45.0 °F	45.0 °F	45.0 °F	46.5 °F	48.0 °F	48.0 °F	48.0 °F	48.0 °F	48.0 °F	45.0 °F
LAT (DB)	64.0 °F	69.9 °F	69.9 °F	69.9 ° F	67.1 °F	64.3 °F	67.1 °F	69.8 °F	65.1 °F	65.1 °F	65.1 °F	68.7 °F	65.1 °F	64.0 °F
	AUXILIARY ELECT	RIC HEATER					AUXILIARY ELECTRI	C HEATER				AUXILIARY E	ELECTRIC HEATER	
			61.4	61.4	122.9	61.4	122.9	61.4	61.4	61.4	61.4	61.4	61.4	41.0
TOTAL CAPACITY (MBH)	41.0	61.4			40 E • E	43.7 °F	40.5 °F	46.5 °F	48.0 °F	48.0 °F	48.0 °F	49.6 °F	48.0 °F	42.5 °F
EAT - WINTER (DB)	42.4 °F	49.3 ° F	49.3 °F	49.3 °F	40.5 °F			2; = ·	·	73.2 ° F	73.2 °F	80.2 * F	73.2 ° F	69.5 °F 28.9
EAT — WINTER (DB) LAT — WINTER (DB)	42.4 °F 69.3 °F	49.3 °F 79.9 °F	79.9 ° F	79.9 ° F	78.2 °F	72.0 ° F	78.2 °F	68.3 °F	73.2 °F					. /A Y
EAT — WINTER (DB) LAT — WINTER (DB)	42.4 °F 69.3 °F 14.4	49.3 °F 79.9 °F 21.7	79.9 °F 21.7	79.9 °F 21.7	78.2 °F 43.3	72.0 °F 21.7	78.2 °F 43.3	43.3	43.3	43.3	43.3	43.3	43.3	
EAT — WINTER (DB) LAT — WINTER (DB)	42.4 °F 69.3 °F 14.4 12.0	49.3 °F 79.9 °F 21.7 18.0	79.9 ° F	79.9 ° F	78.2 °F	72.0 ° F	78.2 °F 43.3 36	43.3 18.0				43.3 18.0	18.0	12.0
EAT — WINTER (DB) LAT — WINTER (DB) HEATER FLA KW	42.4 °F 69.3 °F 14.4 12.0 DISPOSABLE PRIM	49.3 °F 79.9 °F 21.7 18.0 ARY FILTER	79.9 °F 21.7 18.0	79.9 °F 21.7 18.0	78.2 °F 43.3 36	72.0 °F 21.7 18.0	78.2 °F 43.3 36 DISPOSABLE PRIMA	43.3 18.0 RY FILTER	43.3 18.0	43.3 18.0	43.3 18.0	43.3 18.0 DISPOSABLE	18.0 E PRIMARY FILTER	12.0
EAT — WINTER (DB) LAT — WINTER (DB) HEATER FLA KW MANUFACTURER	42.4 °F 69.3 °F 14.4 12.0 DISPOSABLE PRIM FARR	49.3 °F 79.9 °F 21.7 18.0 ARY FILTER FARR	79.9 °F 21.7 18.0 FARR	79.9 °F 21.7 18.0 FARR	78.2 °F 43.3 36 FARR	72.0 °F 21.7 18.0	78.2 °F 43.3 36 DISPOSABLE PRIMA FARR	43.3 18.0 RY FILTER FARR	43.3 18.0 FARR	43.3 18.0 FARR	43.3 18.0 FARR	43.3 18.0 DISPOSABLE FARR	18.0 E PRIMARY FILTER FARR	12.0
EAT - WINTER (DB) LAT - WINTER (DB) HEATER FLA KW MANUFACTURER MODEL/TYPE	42.4 °F 69.3 °F 14.4 12.0 DISPOSABLE PRIM FARR 30–30/DISPOSABLE	49.3 °F 79.9 °F 21.7 18.0 ARY FILTER FARR 30–30/DISPOSABLE	79.9 °F 21.7 18.0 FARR 30-30/DISPOSABLE	79.9 °F 21.7 18.0 FARR 30-30/DISPOSABLE	78.2 °F 43.3 36 FARR 30–30/DISPOSABLE	72.0 °F 21.7 18.0 FARR 30–30/DISPOSABLE	78.2 °F 43.3 36 DISPOSABLE PRIMA FARR 30-30/DISPOSABLE	43.3 18.0 RY FILTER FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30–30/DISPOSABLE	43.3 18.0 DISPOSABLE FARR 30-30/DISPOSABLE	18.0 E PRIMARY FILTER FARR 30-30/DISPOSABLE	12.0 FARR 30–30/DISPOSABLE
EAT — WINTER (DB) LAT — WINTER (DB) HEATER FLA KW MANUFACTURER MODEL/TYPE EFFICIENCY/TEST METHOD	42.4 °F 69.3 °F 14.4 12.0 DISPOSABLE PRIM FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	49.3 °F 79.9 °F 21.7 18.0 ARY FILTER FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	79.9 °F 21.7 18.0 FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	79.9 °F 21.7 18.0 FARR 30-30/DISPOSABLE 30%/ASHRAE 52-76	78.2 °F 43.3 36 FARR	72.0 °F 21.7 18.0 FARR 30-30/DISPOSABLE 30%/ASHRAE 52-76	78.2 °F 43.3 36 DISPOSABLE PRIMA FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	43.3 18.0 RY FILTER FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	43.3 18.0 FARR 30-30/DISPOSABLE 30%/ASHRAE 52-76	43.3 18.0 FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	43.3 18.0 FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	43.3 18.0 DISPOSABLE FARR 30-30/DISPOSABLE 30%/ASHRAE 52-76	18.0 E PRIMARY FILTER FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	12.0 FARR 30-30/DISPOSABLE 30%/ASHRAE 52-76
TOTAL CAPACITY (MBH) EAT — WINTER (DB) LAT — WINTER (DB) HEATER FLA KW MANUFACTURER MODEL/TYPE EFFICIENCY/TEST METHOD CFM/VELOCITY SIZE (W" x H" x D")	42.4 °F 69.3 °F 14.4 12.0 DISPOSABLE PRIM FARR 30–30/DISPOSABLE	49.3 °F 79.9 °F 21.7 18.0 ARY FILTER FARR 30–30/DISPOSABLE	79.9 °F 21.7 18.0 FARR 30-30/DISPOSABLE	79.9 °F 21.7 18.0 FARR 30-30/DISPOSABLE	78.2 °F 43.3 36 FARR 30–30/DISPOSABLE 30%/ASHRAE 52–76	72.0 °F 21.7 18.0 FARR 30–30/DISPOSABLE	78.2 °F 43.3 36 DISPOSABLE PRIMA FARR 30-30/DISPOSABLE	43.3 18.0 RY FILTER FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30-30/DISPOSABLE	43.3 18.0 FARR 30–30/DISPOSABLE	43.3 18.0 DISPOSABLE FARR 30-30/DISPOSABLE	18.0 E PRIMARY FILTER FARR 30-30/DISPOSABLE	12.0 FARR 30-30/DISPOSABLE

OUTSIDE AIR UNIT SCHEDULE

OAU-1-03

OAU-2-03

OAU-3-03

OAU-3-02

OAU-2-02

OAU-1-02

OAU-3-01

OAU-4-01

OAU-2-01

OAU-1-01

PROVIDE WITH DOWNFLOW DUCT CONNECTIONS. UNITS SHALL BE AHRI CERTIFIED.

SYMBOL

- PROVIDE DUCT SMOKE DETECTORS FOR SUPPLY AND RETURN AIR STREAMS FOR ALL UNITS 2000 CFM AND GREATER. REFER TO THE FLOOR PLANS FOR ADDITIONAL
- PROVIDE NON-FUSED DISCONNECT AND SINGLE POINT POWER CONNECTION. EQUIPMENT VENDOR RESPONSIBLE FOR PURCHASE AND INSTALLATION OF BI-POLAR IONIZATION DEVISE ON ALL UNITS. THIS DEVICE SHALL BE GLOBAL PLASMA AIR MODEL
- GPS-FC-3-BAS OR EQUAL.

 PROVIDE WITH DIGITAL SCROLL OR VARIABLE SPEED COMPRESSORS.

 PROVIDE WITH VFD CONTROLLED AND ECM DRIVEN FANS.

 EXHAUST FAN SHALL TRACK OUTSIDE AIR FAN. COORDINATE WITH TCC AND TAB
- PROVIDE TERMINAL STRIP FOR CONNECTION TO FIELD MOUNTED, WIRED, PROGRAMMED CONTROLLER. COORDINATE WITH TCC. PROVIDE WITH FACTORY COMPRESSOR SAFETIES.
- 10. THE UNIT SHALL INCLUDE PROVISIONS FOR SHUTDOWN UPON ACTIVATION OF EITHER FIRE ALARM OR THE DUCT SMOKE DETECTOR (IF PRESENT). COORDINATE WITH TCC. FIRE ALARM CABLING SHALL BE PULLED BY THE ELECTRICAL CONTRACTOR AND BE
- 11. PROVIDE WITH SCR ELECTRIC HEAT CONTROLS.
- 12. SUPPLY STAINLESS STEEL IAQ CONDENSATE DRAIN PAN. ENTIRE PAN SHALL BE PITCHED
- 13. ENTIRE UNIT SHALL BE DOUBLE WALL CONSTRUCTION.14. PROVIDE WITH A 120V SERVICE OUTLET.
- 15. PROVIDE WITH INSULATED CURB.
- 16. PROVIDE WITH (4) SETS OF MERV-8 FILTERS.

OUTD	OOR AIR	VAV BOX	SCHEDU	JLE
		GENERAL		
SYMBOL	VAV-05	VAV-06	VAV-08	VAV-10
MANUFACTURER & MODEL	TITUS DESV05	TITUS DESV06	TITUS DESV08	TITUS DESV10
BOX TYPE	SINGLE INLET VAV	SINGLE INLET VAV	SINGLE INLET VAV	SINGLE INLET VAV
TOTAL APD AT MAXIMUM CFM	0.25" WG	0.25" WG	0.25" WG	0.25" WG
	VOLU	ME CONTROL DAMPER		
MAXIMUM AIRFLOW	150	350	700	1050
MINIMUM AIRFLOW	45	140	280	420
INLET SIZE	5 " ø	6 " ø	8"ø	10 " ø
LEAKAGE RATE AT 2.0" SP	2.0%	2.0%	2.0%	2.0%
PRESSURE INDEPENDENT CONTROLS	YES	YES	YES	YES

1. ALL BOXES SHALL BE SINGLE WALL WITH 1/2" FOIL FACED INSULATION. 2. PROVIDE EACH BOX WITH AN INDEPENDENT CONTROLLER. NO BOX SHALL BE OPERATED BY ANOTHER CONTROLLER LOCATED ON ANOTHER BOX.

SPLIT SYSTEM					
SYMBOL (INDOOR UNIT)	AC-12	AC-18			
MANF. & MODEL	DAIKIN FTX12AXVJU	DAIKIN FTXB18AXVJU			
AREA SERVED	MDF	DRY STORAGE			
CONFIGURATION	WALL-MOUNTED	WALL-MOUNTED			
FAN CFM	375	425			
SYMBOL (OUTDOOR UNIT)	CU-12	CU-18			
MANF. & MODEL	DAIKIN RX12AXVJU	DAIKIN RXB18AXVJU			
SEER	19	17			
СОР	-	3.30			
TOTAL COOLING CAPACITY	10,900 BTUH	18,000 BTUH			
TOTAL HEATING CAPACITY	-	13,500 BTUH			
REFRIGERANT TYPE	R-410A	R-410A			
V/ø/HZ	230/1/60	230/1/60			
MCA / MAX FUSE	8.7 / 15	16.2 / 20			
REMARKS	ALL	ALL			

RADIANT CEILING PANEL HEATER						
SYMBOL	RP-1	RP-2				
MANUF. & MODEL	MARKEL CP123	MARKEL CP127				
WATTS	500	750				
V/ø/HZ 120/1/60 120/1/60						
REMARKS:						

1. FOR RADIANT PANELS MOUNTED IN ACOUSTICAL TILE CEILINGS, PROVIDE SILK SCREENING ON THE

EXPOSED SURFACE TO MATCH CEILING TILES.

- 2. FOR SURFACE MOUNTED RADIANT PANELS, PROVIDE WITH SURFACE MOUNTING FRAMES. FRAMES SHALL BE PAINTED WHITE.
- 3. APPROVED MANUFACTURERS: MARKEL, DAYTON, AND

<u>REMARKS:</u>

THERMAL OVERHEAT PROTECTION.

APPROVED MANUFAC

SYMBOL

MANUF. & MODEL

SERVICE

CFM/TSP

SUM OF GRILLES

DRIVE/FAN RPM

FAN H.P./WATTS

ELECTRICAL

SONES

CONTROL TYPE

REMARKS

SPECIFICATIONS FOR MORE INFORMATION.

1. PROVIDE WITH LOW AMBIENT CONTROL. INCLUDE 4. INDOOR UNIT SHALL BE POWERED FROM A CRANKCASE HEATER TO ALLOW FOR OPERATION TO 10 DEG F. (FACTORY MOUNTED 5. ACCEPTABLE MANUFACTURERS: GOODMAN, TRANE,

1-4, 8

PROVIDE WITH INTEGRAL POWER DISCONNECT AND SINGLE POINT CONNECTION.

PROVIDE WITH WHITE POWDER COATED FINISH ON HEAVY GAUGE HOUSING.

CEF-1

T100

EXHAUST FAN

RR CEILING FAN

100 / 0.25"

DIRECT / 640

120/1/60

1.3

2,4,5,6,7,8

1-4, 8

PROVIDE WITH THERMOSTAT TYPE PER SCHEDULE. SET TEMPERATURE AT 65'F. PROVIDE RELAY FOR THE BAS SYSTEM. REFER TO THE CONTROLS

CEF-2

T200V

EXHAUST FAN

IDF

200 / 0.125"

200

DIRECT / 735

1/4

120/1/60

1.9

TEMPERATURE

2,4,5,6,7,8

OR INSTALLED BY A FACTORY CERTIFIED

TECHNICIAN).	CARRIER,	JCI-YORK				
PROVIDE WITH UL LISTING.						
PROVIDE SINGLE POINT CONNECT INDOOR UNIT.	ION FOR					
		ELECT	RIC HEAT	ERS		
	1				1	
SYMBOL	EH-1	EH-2	EH-3	EH-4	EH-5	EH-6
MANUF. & MODEL	MARKEL 3480 SERIES	MARKEL 3480 SERIES	MARKEL 3480 SERIES	MARKEL 3320 SERIES	MARKEL 3320 SERIES	MARKEL 5100 SERIES
MOUNTING TYPE	RECESSED CEILING MOUNT	RECESSED CEILING MOUNT	RECESSED CEILING MOUNT	SEMI RECESSED WALL MOUNT	SURFACE WALL MOUNT	HORIZONTAL UNIT HEATER
NOMINAL AIRFLOW (CFM)	600	600	600	175	175	700
ELECTRICAL CONNECTION	240V / 1ø / 60	240V / 1ø / 60	480V / 3ø / 60	240V / 1ø / 60	120V / 1ø / 60	480V / 3ø / 60
TOTAL HEAT (kW)	2.0	3.0	5.0	3.0	0.75	7.5
THERMOSTAT TYPE	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	TAMPER PROOF INTEGRAL	WALL MOUNTED

REMARKS:

- 1. CEILING T-BAR MOUNTED IN 24"x24" ALUMINUM PANEL.
 - ANEMOSTAT, KRUEGER, NAILOR, TUTTLE & BAILEY

REGISTERS, GRILLES, AND DIFFUSERS

0 - 100

101-225

226-375

400-600

500/550

100

(TRANSFER)

0-100

101-225

226-350

351-600

601-1000

601-1275

(TRANSFER)

601-1000

0-200

MATERIAL & TYPE

EXTRUDED ALUMINUM

EXTRUDED ALUMINUM

EXTRUDED ALUMINUM

SQUARE PLAQUE FACE

EXTRUDED ALUMINUM

SQUARE PLAQUE FACE

3/4" BLADE SPACING

DOUBLE DEFLECTION

3/4" BLADE SPACING

DOUBLE DEFLECTION

EXTRUDED ALUMINUM FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM

FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM FRAME W/ 1/2" CUBE CORE

3/4" BLADE SPACING

DOUBLE DEFLECTION

EXTRUDED ALUMINUM

FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM

FRAME W/ 1/2" CUBE CORE

EXTRUDED ALUMINUM 3/4" BLADE SPACING

35° FIXED DEFLECTION

SQUARE PLAQUE FACE

SQUARE PLAQUE FACE

2. PROVIDE WHITE IN COLOR.

6. PROVIDE WITH INTEGRAL VOLUME DAMPER.

CFM RANGE | INLET DUCT | FACE SIZE | NECK SIZE |

24X24

24X24

24X24

24X24

20X12

10X8

24X24

24X24

24X24

24X24

24X24

24X24

24X24

24X24

24X24

10X8

6"ø

8"ø

10"ø

12"ø

18X10

8X6

20X20

10X10

12X12

16X16

18X18

20X20

20X20

18X18

6''ø

8''ø

10''ø

12''ø

18X10

8X6

20X20

6''ø

8''ø

10''ø

12''ø

14''ø

20X20

20X20

14''ø

8X6

REMARKS

1, 2, 3, 5

1, 2, 3, 5

1, 2, 3, 5

1, 2, 3, 5

2, 5, 6, 7

2, 5, 6, 7

1, 2, 5, 8

1, 2, 4, 5

1, 2, 4, 5

1, 2, 4, 5

1, 2, 4, 5

1, 2, 4, 5

2, 5, 6, 7

1, 2, 5

1, 2, 4, 5

2, 5, 6, 7

3. PROVIDE DIFFUSER WITH MOLDED THERMAL BLANKET.

MANUFACTUER

& MODEL

OMNI AA

OMNI AA

OMNI AA

OMNI AA

300FS

300FS

50F

50F

350FL

50F

350FL

SYMBOL

S-1

S-2

S-3

S-4

S-5

S-6

R-1

R-2

R-3

R-4

R-5

R-6

R-7

T-1

E-1

E-2

7. GRILLE SHALL BE PROVIDED WITH 1" BORDER TO BE SURFACE OR DUCT MOUNTED.

5. ACCEPTABLE MANUFACTURERS: TITUS, PRICE, METALAIRE. CARNES,

- 4. INLET TRANSITION BOX, ROUND TO RECTANGULAR (UNLESS MARKED WITH AN
- 8. RETURN GRILLE USED FOR PLENUM RETURN. PROVIDE WITH RETURN AIR CANOPY FOR NOISE ATTENUATION. REFER TO DETAIL ON SHEET M6.0.

5.	PROVIDE WITH OPTIONAL SEMI-RECESS MOUNTING ADAPTER.
ì.	PROVIDE WITH OPTION SURFACE MOUNTING ADAPTER.
7.	Provide mounting hardware for exposed mounting from structure.
3.	APPROVED MANUFACTURERS: MARKEL, REZNOR, DAYTON, AND TRANE.

EF-2-01

DCRD 080BE

CENTRIFUGAL

DOWNBLAST

KITCHEN RR,

LOCKER ROOM

275 / 0.25"

200

DIRECT / 1,497

1/4

120/1/60

SCHEDULE

1,2,3,4,5,8

1-3, 5, 8

1-3, 6, 8

EF-4-01

DCRD 095BE

CENTRIFUGAL

DOWNBLAST

GIRLS 121

BOYS 123,

500 / 0.250"

475

DIRECT / 1,095

1/4

120/1/60

SCHEDULE

1,2,3,4,5,8

EF-3-01

DCRU 085BE

CENTRIFUGAL

DOWNBLAST

FAMILY RESOURCE

RESTROOM

150 / 0.25"

100

DIRECT / 916

1/4

120/1/60

SCHEDULE

1,2,3,4,5,8

1-4, 8

EF-1-01

DCRD 095BE

CENTRIFUGAL

DOWNBLAST

GIRLS 308

425 / 0.250"

400

DIRECT / 1,039

120/1/60

SCHEDULE

1,2,3,4,5,8

1-3, 7, 8

EXH	AUST FA	N SCHED	ULE					
-4-01	EF-5-01	EF-1-02	EF-2-02	EF-3-02	EF-4-02	EF-5-02	EF-6-02	SYMBOL
/IN CITY D 095BE	TWIN CITY DCRU 085BE	TWIN CITY DSI 100A	TWIN CITY DCRD 095BE	TWIN CITY DCRD 080BE	TWIN CITY DCRD 095BE	TWIN CITY DCRD 095BE	TWIN CITY DCRD 095BE	MANUF. & MODEL
TRIFUGAL WNBLAST	CENTRIFUGAL DOWNBLAST	CENTRIFUGAL INLINE	CENTRIFUGAL DOWNBLAST	CENTRIFUGAL DOWNBLAST	CENTRIFUGAL DOWNBLAST	CENTRIFUGAL DOWNBLAST	CENTRIFUGAL DOWNBLAST	TYPE
RLS 121 YS 123,	TOILET 116.1, TOILET 118.1	ADMIN RR'S	C1/C4/MECH CLOSET	E3/E4 RESTROOMS	G1/G4/MECH CLOSET	KILN	MECH 027	SERVICE
/ 0.250"	150 / 0.25"	175 / 0.375"	375 / 0.25"	225 / 0.25"	375 / 0.25"	375 / 0.25"	500 / 0.250"	CFM/TSP
475	100	150	325	175	325	325	475	SUM OF GRILLES
T / 1,095	DIRECT / 916	DIRECT / 1,120	DIRECT / 1,006	DIRECT / 1,397	DIRECT / 1,006	DIRECT / 1,006	DIRECT / 1,095	DRIVE/FAN RPM
1/4	1/4	1/8	1/4	1/4	1/4	1/4	1/4	FAN H.P./WATTS
)/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	ELECTRICAL
5.0	3.1	6.8	4.0	5.5	4.0	4.0	5.0	SONES
HEDULE	SCHEDULE	SCHEDULE	SCHEDULE	SCHEDULE	SCHEDULE	TIMER SWITCH	SCHEDULE	CONTROL TYPE

1,2,3,4,5,8

1,2,3,4,5,8

1,2,3,4,5,8

REMARKS

EXHAUST FAN SCHEDULE SYMBOL EF-2-03 EF-3-03 EF-4-03 EF-5-03 EF-1-04 EF-5-04 EF-2-04 EF-3-04 EF-4-04 TWIN CITY TWIN CITY MANUF. & MODEL MANUF. & MODEL DCRD 080BE DCRD 080BE DCRD 095BE DCRD 095BE DCRU 085BE DCRD 095BE DCRD 095BE DCRD 095BE DCRD 095BE DCRU 085BE CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL CENTRIFUGAL DOWNBLAST GIRLS RR 139 BOYS 116 JANITOR'S CLOSET RR134, RR136 RR108 SERVICE SERVICE BOYS RR 136 GYM RESTROOMS JANITOR'S CLOSET 275 / 0.25" 225 / 0.25" 375 / 0.25" 150 / 0.25" 425 / 0.250" 375 / 0.25" 375 / 0.25" 375 / 0.25" 150 / 0.25" CFM/TSP CFM/TSP 425 / 0.250" SUM OF GRILLES 250 125 SUM OF GRILLES DIRECT / 1,497 | DIRECT / 1,397 DRIVE/FAN RPM DIRECT / 1,006 DIRECT / 1,039 DIRECT / 916 DIRECT / 1,039 DIRECT / 1,006 DIRECT / 1,006 DIRECT / 1,006 DIRECT / 916 DRIVE/FAN RPM FAN H.P./WATTS 1/4 1/4 FAN H.P./WATTS 1/4 1/4 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 120/1/60 ELECTRICAL ELECTRICAL 5.5 SONES 6.0 4.3 4.0 3.1 SONES CONTROL TYPE SCHEDULE CONTROL TYPE 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 1,2,3,4,5,8 REMARKS REMARKS

1,2,3,4,5,8

1. OUTDOOR FANS: PROVIDE WITH NEMA-3R FACTORY MOUNTED NON-FUSED DISCONNECT SWITCH. INDOOR FANS: PROVIDE WITH NEMA-1 FACTORY MOUNTED NON-FUSED DISCONNECT SWITCH.

2. PROVIDE WITH GRAVITY BACKDRAFT DAMPER.

VERIFY EXISTING CURB DIMENSIONS AS REQUIRED FOR ADAPTERS. ALL CURBS TO BE INSULATED.

4. THE EXHAUST FAN SHALL BE UL LISTED.

- 3. REFER TO ROOF PLANS FOR CURB REQUIREMENTS. FIELD 5. PROVIDE WITH A FACTORY MOUNTED MOTOR SPEED CONTROLLER.

 - 6. PROVIDE WITH VIBRATION ISOLATION HANGING/SUPPORT KIT. GREENHECK, PENN, ACME, COOK, FANTECH. APPLICABLE (NEOPRENE)
- 8. APPROVED MANUFACTURERS: TWIN CITY, JENCO,

7. PROVIDE AN ALUMINUM EXHAUST GRILLE WITH FAN.

1,2,3,4,5,8

1,2,4,5,6,8

1,2,3,4,5,8

		DI TIL WEGINANDAL CONTIN		
ENERGY RECOVERY UNIT				
SYMBOL	ERV-1-02	ERV-1-04		
MANUFACTURER & MODEL	DAIKIN / DAHAO7A	DAIKIN / DAHAO7A		
AREA SERVED	MECHANICAL MEZZANINE	GYM		
TYPE OF SYSTEM	ENERGY RECOVERY VENTILATOR	ENERGY RECOVERY VENTILATOR		
CONFIGURATION	ENTHALPIC WHEEL	ENTHALPIC WHEEL		
UNIT DESIGN WEIGHT	1623 LBS	1623 LBS		
UNIT DESIGN DIMENSIONS	111.0"L X 57.9"W X 56.8"H	111.0"L X 57.9"W X 56.8"H		
TOTAL EFFECTIVENESS (%) (SUMMER / WINTER)	71% / 74%	71% / 74%		
CURB ADAPTER/TYPE	NO/HORIZONTAL INSULATED PLENUM	YES/HORIZONTAL INSULATED PLENUM		
MIN CURB HEIGHT	38"	38"		
REMARKS	ALL	ALL		
	SUPPLY AIR FAN	SUPPLY AIR FAN		
CFM	3000	3000		
FAN TYPE	SWSI AF	SWSI AF		
RPM (MAX)	2000	2000		
DRIVE	DIRECT DRIVE	DIRECT DRIVE		
ESP (IN WG)	1.00	1.00		
MOTOR TYPE / HP	ECM / 4.0	ECM / 4.0		
moron in 2 y in	EXHAUST AIR FAN	EXHAUST AIR FAN		
25.4		<u> </u>		
CFM 5.11 TO (DE	2400	2400		
FAN TYPE	SWSI AF	SWSI AF		
RPM (MAX)	2188	2188		
DRIVE	DIRECT DRIVE	DIRECT DRIVE		
ESP (IN WG)	1.00	1.00		
MOTOR TYPE / HP	ECM / 2.3	ECM / 2.3		
	ELECTRICAL	ELECTRICAL		
VOLTS / ø / HZ	460 / 3 / 60	230 / 3 / 60		
FLA / MCA / MOCP	6.3 / 7.3 / 15	12 / 13.8 / 20		
, ,	ENERGY RECOVERY WHEEL OUTSIDE AIR	ENERGY RECOVERY WHEEL OUTSIDE AIR		
MOTOR HP	0.17	0.17		
STARTER	VFD	VFD		
OUTSIDE AIR SIDE				
EAT - SUMMER (DB/WB)	95.0 °F / 78.0 °F	95.0 °F / 78.0 °F		
LAT - SUMMER (DB/WB)	79.6 °F / 67.3 °F	79.6 °F / 67.3 °F		
EAT – WINTER (DB/WB)	7 °F / 6 °F	7 °F / 6 °F		
LAT - WINTER (DB/WB)	45.9 °F / 35.5 °F	45.9 °F / 35.5 °F		
EXHAUST AIR SIDE	16.6 1 7 66.6 1	10.0 1 / 00.0 1		
EAT - SUMMER (DB/WB)	71.0 °F / 59.0 °F	71.0 °F / 59.0 °F		
EAT - WINTER (DB/WB)	71.0 °F / 50.0 °F	71.0 °F / 50.0 °F		
	ENERGY RECOVERY FILTERS	ENERGY RECOVERY FILTERS		
MANUFACTURER / MODEL	FARR	FARR		
TYPE	2" PLEATED	2" PLEATED		
EFFICIENCY / TEST METHOD		MERV 8 / 30-30		
SIZE - W" x H" x D"	QTY(6) 18x24x2	QTY(6) 18x24x2		
SIZE - W X II X D	UNIT FILTERS	UNIT FILTERS		
MANUEACTURED / MODEL	FARR	FARR		
MANUFACTURER / MODEL	ΓΑΓΓ	FARR		

TYPE EFFICIENCY / TEST METHOD

SIZE - W" \times H" \times D"

- CONSTRUCTION SHALL BE DOUBLE PANEL WITH INJECTED FOAM INSULATION. PROVIDE WITH DOWNFLOW DUCT CONNECTIONS.
- UNITS SHALL BE AHRI CERTIFIED. PROVIDE DUCT SMOKE DETECTORS FOR SUPPLY AND RETURN AIR STREAMS FOR ALL UNITS 2000 CFM AND GREATER. REFER TO THE FLOOR PLANS FOR ADDITIONAL INFORMATION.
- PROVIDE NON-FUSED DISCONNECT AND SINGLE POINT POWER CONNECTION. EQUIPMENT VENDOR RESPONSIBLE FOR PURCHASE AND INSTALLATION OF BI-POLAR IONIZATION DEVISE ON ALL UNITS. THIS DEVICE

2" PLEATED

MERV 8 / 30-30

QTY(6) 18x24x2

- SHALL BE GLOBAL PLASMA AIR MODEL GPS-FC-3-BAS OR EQUAL. PROVIDE WITH VFD CONTROLLED AND ECM DRIVEN FANS.
- EXHAUST AIR FAN SHALL TRACK OUTSIDE AIR FAN. COORDINATE WITH TCC AND TAB CONTRACTOR. PROVIDE TERMINAL STRIP FOR CONNECTION TO FIELD MOUNTED, WIRED, PROGRAMMED CONTROLLER. COORDINATE WITH TCC.
- 10. THE ERV'S SHALL INCLUDE PROVISIONS FOR SHUTDOWN UPON ACTIVATION OF EITHER FIRE ALARM OR THE DUCT SMOKE DETECTOR (IF PRESENT). COORDINATE WITH TCC. FIRE ALARM CABLING SHALL BE PULLED BY THE ELECTRICAL CONTRACTOR AND BE TERMINATED BY
- 11. PROVIDE FLANGED DUCT CONNECTIONS FOR PLENUM CURBS WITH ROOF MOUNTED DUCTWORK. REFER TO FLOOR PLANS FOR LOCATIONS.
- MANUFACTURER TO VERIFY EXISTING CURB DIMENSIONS PRIOR TO ORDERING CURB ADAPTERS. 13. MANUFACTURER RESPONSIBLE FOR LOCATING DIVIDER LOCATION IN PLENUM CURBS.
- 14. PROVIDE WITH (4) SETS OF MERV-8 FILTERS. 15. PROVIDE WITH 120V SERVICE OUTLET.

AIRFLOW DAMPER SCHEDULE				
GENERAL				
SYMBOL	AFD-E1			
MANUF. & MODEL	GREENHECK AMD-42			
SERVICE	ERV-1-02 EXHAUST			
TYPE	EXHAUST AIR			
SIZE	14" X 14"			
MAX APD	0.15			
FPM	293			
СРМ	400			
VOLTS / ø / HZ	120V/1/60 Hz			
REMARKS	ALL			

UNIT ACCESS.

- PROVIDE FACTORY 24 VAC EXTERNALLY ACTUATOR WITH TRANSFORMER
- 2. PROVIDE WITH FACTORY PRESSURE TRANSDUCER.
- 3. CONTROLS CONTRACTOR TO PROVIDE FIELD MOUNTED CONTROLLER, REFER TO CONTROLS SPECIFICATIONS FOR
- ADDITIONAL DETAILS 4. PROVIDE ACCESS DOOR IN DUCT (PER SPECIFICATIONS) FOR
- 5. APPROVED MANUFACTURERS: ARROW, GREENHECK, RUSKIN.

LOUVER	SCHEDULE
GE	NERAL
SYMBOL	L-1
MANUF. & MODEL	RUSKIN L811
SERVICE	GYM RETURN / ERV RELIEF
DEPTH	4" DEPTH
CONSTRUCTION	16 GAUGE GALV. STEEL
CAF	PACITY
CFM	8,000
APD	0.05'' WG
PHYSICAL SIZE	96"W X 36"H
FREE AREA (SQ. FT.)	10.8
ACCE	SSORIES
FINISH	BAKED ENAMEL
COLOR	BY OWNER
BIRD SCREEN	NO
DRAINABLE BLADE	NO
REMARKS	ALL

2" PLEATED

MERV 8 / 30-30

QTY(6) 18x24x2

FREE AREA LISTED IS MINIMUM ACCEPTABLE. ALTERNATE

2. LOUVER SHALL BE FACTORY BAKED ENAMEL WITH CUSTOM PAINT COLOR AS SELECTED BY ARCHITECT.

LOUVER MANUFACTURERS SHALL MEET OR EXCEED AREA

- 3. ADD BACKER ROD AND SEALANT TO ALL NEW LOUVERS IN
- EXISTING/NEW PUNCHED OPENING. 4. APPROVED MANUFACTURERS: ARROW, GREENHECK, RUSKIN.
- 5. LOUVER SHALL BE 16 GAUGE GALVANIZED STEEL, CHANNEL
- FRAME WITH CONCEALED MULLIONS. 6. PROVIDE LOUVER WITH FLANGED BORDER.

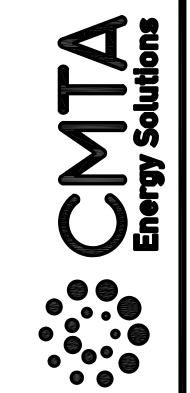
LISTED. NO EXCEPTIONS!

SET NO.

BID SET

DOUGLAS

R HUNDLEY 24533 CENSEO



DATE: 03,11,2022 DRAWN: EM, LA, HC, NT CHECKED: CG

"General Decision Number: KY20220034 01/07/2022

Superseded General Decision Number: KY20210034

State: Kentucky

Construction Type: Building

County: Pulaski County in Kentucky.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at www.dol.gov/whd/govcontracts.

Modification Number Publication Date

0 01/07/2022

ASBE0046-002 03/01/2021		
	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR		12.84
BOIL0040-001 01/01/2021		
	Rates	Fringes
BOILERMAKER		27.49
CARP1650-007 06/01/2021		
	Rates	Fringes
CARPENTER (Includes Form Work)		22.05
ELEC0317-005 06/01/2021		
	Rates	Fringes
ELECTRICIAN		27.47
ELEV0011-001 01/01/2018		
	Rates	Fringes
ELEVATOR MECHANIC	. \$ 44.31	32.645
PAID HOLIDAYS:		
a. New Year's Day, Memorial Day, Independence Day, Labor D Friday after Thanksgiving, and Christmas Day.	ay, Vetera	n's Day, Thanksgiving Day, the
b. Employer contributes 8% of regular hourly rate to vacation in business more than 5 years; 6% for less than 5 years' services.		for employee who has worked
ENGI0181-083 06/01/2021		
	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(Bobcat/Skid Steer/Skid Loader)	\$ 33.51	17.85

ENGI0181-084 06/01/2021		
	Rates	Fringes
POWER EQUIPMENT OPERATOR (Oiler)	\$ 29.70	17.85
ENGI0181-085 06/01/2021		
	Rates	Fringes
POWER EQUIPMENT OPERATOR (Crane)	\$ 34.60	17.85
CRANES WITH BOOM 150 FEET & OVER, INCLUDING JIB, SHALL FALL CRANES WITH PILING LEADS WILL RECEIVE \$.50 ABOVE THE LENGTH.		
ENGI0181-086 06/01/2021		
	Rates	Fringes
POWER EQUIPMENT OPERATOR (Forklift)	\$ 33.51	17.85
ENGI0181-092 06/01/2021		
	Rates	Fringes
POWER EQUIPMENT OPERATOR (Bulldozer)	\$ 33.51	17.85
IRON0769-005 06/01/2021		
	Rates	Fringes
IRONWORKER, REINFORCING		
ZONE 1	\$ 33.00	27.29
ZONE 2	\$ 33.40	27.29
ZONE 3	\$ 35.00	27.29

ZONE 1 - (no base rate increase) Up to 10 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 2 - (add \$0.40 per hour to base rate) 10 to 50 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 3 - (add \$2.00 per hour to base rate) 50 mile radius & over of Union Hall, 1643 Greenup Ave, Ashland, KY.

LABO0189-007 06/01/2021			
	Rates	Fringes	
LABORER (Pipelayer)	\$ 24.96	14.57	
LABO0576-012 07/01/2021			
	Rates	Fringes	
LABORER (Mason Tender - Cement/Concrete)	.\$ 21.23	11.64	
LABO0576-014 07/01/2021			
	Rates	Fringes	
LABORER (Carpenter Tender, Common or General)	.\$ 21.03	11.64	
LABO1392-004 07/01/2020			
	Rates	Fringes	
LABORER (Mason Tender - Brick)	.\$ 23.19	14.22	
PAIN1072-005 12/01/2018			
	Rates	Fringes	
PAINTER (Spray Only)	\$ 27.76	18.50	
* PLUM0452-014 11/01/2021			
	Rates	Fringes	
PIPEFITTER	\$ 35.00	20.34	
SFKY0669-001 04/01/2021			
	Rates	Fringes	
SPRINKLER FITTER (Fire Sprinklers)	\$ 37.85	22.07	
* SUFF0110 006 06 /01 /2021			

^{*} SHEE0110-006 06/01/2021

	Rates	Fringes
SHEET METAL WORKER (Excludes HVAC Duct Installation)	\$ 33.74	23.31
* UAVG-KY-0007 01/01/2019		
	Rates	Fringes
IRONWORKER, ORNAMENTAL		
* UAVG-KY-0008 01/01/2020		
	Rates	Fringes
LABORER: Power Tool Operator	\$ 26.52	16.51
SUKY2015-017 06/02/2015		
	Rates	Fringes
BRICKLAYER	\$ 24.61	11.88
CEMENT MASON/CONCRETE FINISHER	\$ 27.99	0.00
IRONWORKER, STRUCTURAL	\$ 22.31	15.40
OPERATOR:		
Backhoe/Excavator/Trackhoe	\$ 21.11	13.00
OPERATOR: Grader/Blade	\$ 24.33	13.00
PAINTER (Brush and Roller)	\$ 18.20	6.43
PLUMBER	\$ 33.41	16.67
ROOFER	\$ 22.31	7.41

SHEET METAL WORKER (HVAC Duct Installation Only)	8.06		
TILE FINISHER\$ 17.67	7.45		
TILE SETTER \$ 25.77	6.10		
TRUCK DRIVER: Dump Truck\$ 17.07	6.25		
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.			

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that

classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union, which prevailed in the survey for this classification, which in this example would be Plumbers 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
 - an existing published wage determination
 - a survey underlying a wage determination
 - a Wage and Hour Division letter setting forth a position on
 - a wage determination matter

• a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Division National Office Branch of Wage Surveys. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210
