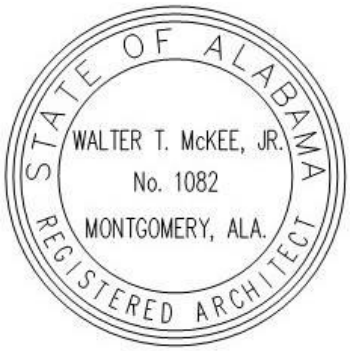
LATHAN · McKEE
ARCHITECTS



Addendum No. 3
Date: February 16, 2026

Project:
Addition to
Andalusia Elementary School for the
Andalusia City Schools
Andalusia, Alabama

MCKEE PROJECT NO. 24-304
ALABAMA DIVISION OF CONSTRUCTION MANAGEMENT NO. 2025681

The following changes and/or substitutions to the plans and specifications are hereby made a part of same and are incorporated in full force as part of the contract.

Bidders shall acknowledge receipt of this Addendum in writing on his Proposal Form.

A3.1 GENERAL MODIFICATIONS:

A. Refer to Advertisement to Bid and Change the Bid Time from 2:00p.m. to **10:00a.m.** Thursday February 19, 2026.

A3.2 SPECIFICATION MODIFICATIONS:

A. Refer to Table of Contents (**Revised 02.16.2026**), herein.
B. Refer to Section 01010 Scope of Work (**Revised 02.16.2026**), herein.
C. Refer to Section 02720 Storm Sewers (**Revised 02.16.2026**), herein.
D. Refer to Section 09301 Porcelain Tile (**Revised 02.16.2026**), herein.
E. Refer to Section 12500 Window Treatment, herein.
F. Refer to Section 15050 General HVAC Requirements (**Revised 02.16.2026**), herein.
G. Refer to Section 15900 HVAC Instrumentation and Controls (**Revised 02.16.2026**), herein.

A3.3 DRAWING MODIFICATIONS:

A. See the attached Revised Drawings as follows:
   1. A0.1 (**Revised 02.16.2026**), herein.
   2. A6.3 (**Revised 02.16.2026**), herein.
   3. A6.4 (**Revised 02.16.2026**), herein.
   4. A8.2 (**Revised 02.16.2026**), herein.
   5. M0.1, herein.
   6. M1.1, herein.
   7. M1.2, herein.

8. M2.1, herein.
9. M4.3, herein.

A3.4 CLARIFICATIONS & RESPONSES

A. The following clarifications are provided for responses regarding the project:

1. Question:

On sheet A6.3 wall section L, it shows what appears to be 8" metal studs between the PEMB wall girts. It notes to see Structural. Structural drawings do not show these metal studs. Should this wall just be a PEMB wall with liner panels on the interior and exterior wall panels on typical wall girts? Infilling between the girts with metal studs is going to be very costly. Insulation shown is presumed to be typical Simple Saver insulation. Please clarify if 8" stud infill is required.

Response: 8" metal studs are not required between the PMB wall girts – See revised wall section sheets attached herein.

2. Question:

Spec section 07310 calls for intake vents for the low edge of the roof. This vent is not shown on any of the detail drawings. Are these vents required?

Response: Shingle vents are required to vent the space between metal deck and plywood deck.

3. Question:

06100 Part 2.2-A(3) Plywood Floor Decking is calling for two layers of T&G plywood (5/8 and 3/4) to be used. Details on the drawings show one layer of 3/4". Please clarify.

Response: One layer of ¾" plywood per drawings.

4. Question:

Addendum #1 mentions revisions to E0.3 and E1.1 but these sheets were not included in the package.

Response: Sheets E0.3 and E1.1 were listed in error; there are no revisions to those sheets.

5. Question:

Downspout boots are shown on the drawings but there is no spec for them. Specs call for splash blocks at downspout terminations. Please clarify.

Response: See revised Section 02720 Storm Sewers attached herein.

6. Question:

On Addendum 1 there is a carpet approved substitution.
There is no room on the finish schedule that has carpet.

Please confirm if/what room(s) will get carpet.

Response: There is no carpet in the project.

7. Question:

Floor Drains - Spec section 15155 Part 2.2-B calls for Trench Drain: WM-1 Zurn Z812 48"x12"x18" in the Mechanical Rooms. This drain can not be found on any of the plumbing or hvac plans. Please clarify the locations that are to have this drain installed.

Response: There are no trench drains in the project.

8. Question:

01 - Can the curved portion of the South walkway cover be segmented or is it the intent to be radiused?

Response: The curved portion of the South walkway may be segmented.

9. Question:

The bathroom mirror specs(10800-2) call for an 18"x38" mirror with no shelf,; drawings (A1.10) call out for an 18"x36" with shelf. Request clarification on what is to be provided.

Response: No shelf on mirrors.

10. Question:

Unlike the toilets and urinals, there the are no Handicap accessibility for the mirrors in the plans or specs. Is there a requirement?

Response: Plans call out for mirrors to be mounted at 35" A.F.F. to bottom. ADA guidelines give a maximum of 40" A.F.F. to the bottom of the reflective surface. Mount at 35" A.F.F.

11. Question:

Opening A129 does not have a designation on any of the hardware sets. What hardware set is required for WORK RM A129?

Response:

Door A129 - provide hardware set 07. Lockset shall be equipped with inside security indicator (IS-LOC).

12. Question:

On plans A0.1 and A1.1, it shows chain-link gates to be attached to 2 pairs of the classroom HVAC unit walls but skips a third unit. A1.1 points out that there should be gates. The same plans does not include fencing for the HVAC units connected to the Gym and Cafeteria. Were these areas overlooked or done by design? Please clarify.

Response: Chain-link gates are only on the mechanical yards inside the playground area.

13. Question:

These are the tornadic doors, A137b, A137a – This set has an IVES "WS445" door holder. These are 90 min fire rated openings and need to have holders tied to the fire alarm so the doors close and latch in fire event. Please verify if the door is still to be held open, and how they should be held. Will LCN "SEM-7850" mag holders tied to the fire alarm be used instead of the WS445? (Similar to opening A121 from set 13)

Response:

Per the Alabama DCM, fire rated storm shelter doors are not required to be held open on wall magnets tied to the fire alarm system, unless they are fire rated for other reasons not related to the storm shelter. Provide the wall mounted mechanical hold open devices as specified.

END OF ADDENDUM

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Addition
to
Andalusia Elementary School
for the
Andalusia City Schools
Andalusia, Alabama
MCKEE PROJECT NO. 24-304
Volume 1 of 2

BIDDING REQUIREMENTS

CONTRACT FORMS

- Alabama Department of Finance Real Property Division of Construction Management Permit Fee & Re-Inspection Fee Calculation Worksheet

GENERAL CONDITIONS

- Pre-Construction Conference Checklist (DCM Form B-8)
- Detail Of Project Sign (DCM Form C-15)
- Application and Certificate for Payment (DCM Form C-10)
- Statement of Field Observations (DCM Form B-10_
- Schedule Of Values, (DCM Form C-10SOV, Attachment to DCM Form C-10
- Inventory Of Stored Materials, (DCM Form C-10SM, Attachment to DCM Form C-10
- Progress Schedule and Report (DCM Form C-11,)
- Change Order Checklist, (DCM Form B-12, For Use With DCM Form C-12
- Contract Change Order (DCM Form C-12 (fully locally-funded K-12 Schools)
- Change Order Justification (DCM Form B-11) Attachment to DCM Form C-12
- Change Order Proposal Recap Sheet (Lathan Mckee Form, LM 0825)
- Certificate of Substantial Completion (DCM Form C-13 & 13A)
- Certificate of Structural Observation (DCM Form B-14)
- Final Payment Checklist (DCM Form B-13)
- Contractor's Affidavit of Payment of Debts and Claims (DCM Form C-18)
- Contractor's Affidavit of Release of Liens (DCM Form C-19)
- Consent of Surety to Final Payment (DCM Form C-20)
- Form of Advertisement for Completion (DCM Form C-14)
- Owner Statement of Responsibility Storm Shelter (DCM Form C-14)
- Contractor's Statement of Responsibility Storm Shelter (DCM Form B-15)
- General Contractor's Roofing Guarantee (DCM Form C-9)
- Certificate for Application State Fire Marshal's Certified Fire Alarm Contractor Permit
- Certificate of Asbestos Free Building Materials (McKee Form)

TECHNICAL SPECIFICATIONS

END OF TABLE OF CONTENTS

SECTION 01010 - SCOPE OF THE WORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS AND GENERAL INFORMATION

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

1.2 SUMMARY

A. This Section includes the following:

1. Type of the Contract.
2. Work Under This Contract.
3. Completion Times.
4. **Division of Construction Management User Fees**.
5. Project Work Identification.
6. Owner-furnished products.
7. Supervision.
8. Contractor Use of premises.
9. Definitions.
10. Work Under Other Contracts.
11. Building and Site Construction.
12. General Issues.
13. Temporary Electrical Power and Jobsite Utilities.
14. Site Security and Insurance Requirements.
15. Protection of Work in Place.
16. Work restrictions.
17. Owner's occupancy requirements.
18. Specification formats and conventions.
19. **Site Visit Re-Inspection Fees**

B. Related Sections include the following:

1. Division 1 Section 01500 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 TYPE OF CONTRACT

A. Construction Contract (DCM Form C-5).

1.4 WORK UNDER THIS CONTRACT

A. Sealed Proposal shall be received as follows:

1. One (1) Sealed Envelope MUST include the following:
   a. General Contractor’s Name and State General Contractor’s License number MUST be legible on the front of the envelope.
   b. One (1) Bid Proposal for all work as indicated on drawings and specifications.

c. Unit Price Attachment Sheet MUST be included if document is included in the project manual.

d. One (1) Bid Bond or certified check.

e. One (1) Sales Tax Form.

1.5 COMPLETION TIMES

A. **All work shall be completed by June 1, 2027.**

1.6 DIVISION OF CONSTRUCTION MANAGEMENT USER FEES & OTHER FEES

A. The Contractor **MUST Include** all costs for permits and fees per the General Conditions of the Contract DCM Form C-8; Article 44 “Permits, Laws and Regulations”, Paragraph A Permits, Fees and Notices Sub Paragraphs (1) and (2).

B. The Contractor shall be responsible for all “Re-Inspection Fees.” Site Visit Re-Inspection Fees: It is the contractor’s responsibility to have the project ready for site visits (inspections) when they are scheduled. If the project is not ready for the scheduled inspection and it is determined, and failed inspection requiring additional visits, by the Architect, AHJ, (Authorities Having Jurisdiction), any governmental agency or any other entity requires a re-inspection with the Architect, AHJ, or Engineer present, the contractor shall pay the Architect, Engineers or AHJ each, a re-inspection fee of $1,500.00, or other amounts (less or greater) set forth by other portions of the Contract Documents. Payments shall be made directly to the Architect, Engineer, or AHJ respectfully, five (5) days prior to the scheduled re-inspection unless other arrangements are made and agreed upon by each party in writing.

1.7 PROJECT / WORK IDENTIFICATION

A. General: Project name is as indicated in the Advertisement for Bids and as shown on the Contract Documents prepared by Lathan Mckee, Architects, 631 S. Hull Street Montgomery, Alabama 36104.

B. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not limited to the following:

1. Existing site conditions and restrictions on use of the site including ingress and egress to the site.
2. Grading operations at the site.
3. The Contractor shall be responsible to secure the site during the execution of the work and provide proof of insurance including but not limited to General Liability, W/C, Auto, Equipment, etc.

C. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, the Project Manual, Technical Specification Sections, Drawings, Addenda and modifications to the Contract Documents issued subsequent to the initial printing of this Project Manual and the Drawings, and including but not necessarily limited to, printed material referenced by any of the above. It is recognized that the Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.

1.8 OWNER FURNISHED PRODUCTS

A. None

1.9 SUPERVISION

A. Supervision: The Contractor shall provide adequate supervision of the project to ensure proper supervision for all work.

1.10 CONTRACTOR USE OF PREMISES

A. General: During the entire cleanup period the Contractor shall have the exclusive use of the premises for cleanup operations, including full use of the site as shown on the Drawings.

B. Limitations of exclusive use of the site:

1. Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to applicable rules and regulations affecting the work while engaged in project performance. See site plan for ingress and egress to the site, or if not indicated, same shall be as designated by the Architect.
2. Keep existing public roads, driveways and entrances serving the premises clear and available at all times. Do not use these areas for parking or storage of materials. Remove dirt, mud, debris, etc., from site, sidewalks, streets, and public right-of-way as it occurs.
3. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds and or designated storage areas as indicated.
4. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
5. The Owner, and their representatives, the Architect and their Consultants, as well as authorities having jurisdiction will require site accessibility for inspections, observations, and perhaps other purposes, related to the planned new construction. All Contractors shall assist in such accessibility, to at least the point of providing and maintaining accessible dry paths to work in progress.
6. Furnish and install by contractor temporary barricades, fencing, etc., as indicated or otherwise required, to restrict pedestrian and vehicular traffic from construction operations, including in part, Owner's staff, the public, students, children, and residents of the adjacent residential neighborhoods.
7. Construction operations shall not affect in any manner, the on-going operations of the Owner, immediately adjacent facilities, adjacent property owners or businesses, or others. Refer to Division 1 Section "Special Conditions" for additional information and requirements regarding coordination with Owner's activities, etc.
8. Construction equipment shall not come in contact with or swing over existing facilities to remain, public areas, occupied buildings, right-of-ways, etc., which are to remain.
9. All contractors and their employees shall limit any discussion of the Work of this project to the Owner's representatives named in the front of this Project Manual, Consultants employed, inspecting authorities with jurisdiction, and the Architect. In no instance shall this project be discussed with others, except as may otherwise be indicated herein.
10. Parking on-site, if any, shall be limited to the "staging areas" indicated on the Drawings, or if not indicated, as mutually agreed between the Architect and Contractor at the Pre-Construction Conference.
11. Smoking or other use of tobacco products shall not be permitted within the structure of the Building, Owner's facilities or on roofs.
12. The use or presence of alcohol and/or other debilitating substances shall not be permitted in the construction of the building and or on the project site.
13. Firearms and/or other weapons shall not be permitted on the project site.
14. The Contractor shall furnish necessary temporary toilets for all work forces on the job site.

PART 2 - SCOPE OF THE WORK

2.1 DEFINITIONS

A. The Scope of the Work of the Contract is meant to be viewed as a successor to the General Special Conditions of the Contract. Should any discrepancy or ambiguity be noted, the Scope of the Work of the Contract shall apply and the General Special Conditions of the Contract shall defer to Scope of the Work of the Contract Documents. The scope of the work shall be taken in its entirety by all contractors. In signing the contract all contractors have read and understand that the Scope of the Work and the General Special Conditions are taken in their entirety.

1. The term "Design Consultant" shall be construed to mean "Architect".
2. The terms "Owner" shall mean " Andalusia City Schools".
3. **Site Visit Re-Inspection Fees**: The contractor is responsible for all Fees.

2.2 WORK UNDER OTHER CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at the Project site. Those operations will be conducted simultaneously with work under this Contract.

1. Work done by others or by Owner.
    a. Any items noted N.I.C.
    b. Construction Testing as defined in applicable sections of the project manual.

2.3 BUILDING AND SITE CONSTRUCTION

A. The Contractor shall maintain the entire site, provide dust control and keep the streets clean at all times and or as directed by the Architect. The Contractor shall call for and be responsible for the locating of all utilities prior to start of work. Use extreme care when working in close proximity to the existing water lines to prevent movement and damage to the water lines.

B. The Contractor shall install and or replace all fencing including furnish and install all temporary fencing as required for all work including safety barriers, signs, traffic directional signals, temporary stripping, flagman, temporary road plates and any temporary roads around any obstruction and or work being constructed. The Contractor shall make all provisions to keep the public and or temporary access roads open during the duration of the work.

C. The Contractor shall maintain & level, all temporary roads and temporary lay down and storage areas using same stone base material. Roads must have no potholes, dips, or rises and provide access to and from the site and other locations on site. The Contractor shall maintain the temporary roads used to move material on the site. Temporary roads are existing and the Contractor shall maintain these temporary roads throughout the duration of construction activity while Contractor is onsite.

D. The Contractor is responsible for all work required to install new work to include demolition preparation of surface to receive new work, dust controls and cleaning of all surfaces affected by work.

2.4 GENERAL ISSUES

A. The Contractor shall be responsible for their own on-site safety requirements within the site per OSHA regulations.

B. Only an approved company owned and insured vehicle shall be allowed on to the construction

site. Vehicles shall be clearly marked and identified with the company logo and or name.

2.5 TEMPORARY ELECTRICAL POWER AND JOBSITE UTILITIES

A. The Contractor is responsible for the all costs associated with temporary electrical requirements for performance of the work. The Contractor shall be responsible for the all costs associated with temporary water required for the performance of the work. The Contractor is responsible for all other utility costs as required for the performance of the work.

2.6 SITE SECURITY / INSURANCE REQUIREMENTS

A. The Contractor shall have care custody and control of the site. Contractor shall be responsible for the replacement of their material, equipment, and any loss of such. Contractor shall be responsible for securing all material and equipment. If there is a loss and or damage of material and equipment, that loss shall go against the Contractor's insurance coverage.

2.7 PROTECTION OF WORK IN PLACE

A. The Contractor shall protect all completed work and any rework shall be the responsibility of the contractor **at** no additional cost to the owner.

2.8 WORK RESTRICTIONS

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than two days in advance of the proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's and Owner's written permission.

B. Nonsmoking Building: Smoking and smokeless tobacco will not be permitted within the new construction after floor slabs are poured.

2.9 OWNER'S OCCUPANCY REQUIREMENTS

A. Owner Occupancy: Owner will occupy adjacent parking lots during entire construction period. Cooperate with Owner during construction operations adjacent to or near the existing building and parking to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.

B. Maintain access to existing walkways and other adjacent occupied or used facilities. Do not close or obstruct walkways or other occupied or used facilities without written permission from Owner and authorities having jurisdiction. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

C. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to place and install equipment in completed areas of building, before Substantial Completion, provided such does not interfere with completion of the Work. Such placement of equipment shall not constitute acceptance of the total Work.

2.10 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications another Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the

   Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

   a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 3 - NOT APPLICABLE

END OF SECTION

SECTION 02720 - STORM SEWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract including General and Supplementary Conditions and Division 1 Specification Sections apply to work of this section.

1.2 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Comply with applicable codes, ordinances, rules, regulations, and laws of local, municipal, state or federal authorities having jurisdiction.

B. All locations including total jobsite: All storm drainage shall be in accordance with Local Requirements.

1.3 SUBMITTALS

A. Submit manufacturer's data, test reports, material certifications as required.

1.4 SITE CONDITIONS

A. Protection of Existing Utilities: Protect existing power lines, water mains, gas lines, telephone lines and other utilities. Should any functioning underground utilities be uncovered during the Work, advise for determination as to whether or not they are to be removed. Repair any damage to utility lines and restore service to original condition.

B. Coordination and Scheduling of Work:

1. Coordinate work with earthwork operations to avoid interference. Protect established construction stakes.

2. Establish and maintain center-lines, grades and elevations.

3. Construction of new sewers and drainage systems shall proceed as early in construction program as possible. Maintain adequate drainage of the project area at all times. Prevent flooding of adjacent roads and private properties.

C. Temporary Drainage: Wherever possible, construct new sewers and inlets to serve the various drainage areas, and place in service. Where this is not possible, provide temporary drainage facilities as required. These may include temporary connections into completed sewers, or such other means as the circumstances may require.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Storm Drain Pipe Materials:

1. The Contractor shall have the following options for pipe material:

a. Class III reinforced concrete, meeting the requirements of ASTM C76 with tongue and groove joints unless indicated otherwise in the drawings.

b. Contech A-2000 PVC Pipe.

c. ADS N-12 HDPE

2. Use ductile iron where indicated on the drawings.

B. PVC Downspout Boots:

1. Configuration: Inside top bell shall be sized as required to connect to specified metal downspouts. Length shall be sized as required to connect to drain line run to storm sewer as indicated on the drawings.

2. Material: Polyvinyl Chloride (PVC).

3. Finish: Exposed to be painted.

4 Color: To be selected by Architect.

5. Accessories:

   Stainless steel fasteners for mounting onto building wall.

C. Appurtenance Material:

1. Brick:

   a. Clay or Shale Brick: Comply with ASTM C 32 for Sewer Brick and Manhole Brick, grade as selected.

   b. Concrete Masonry Units: Comply with ASTM C 139.

2. Mortar: Comply with ASTM C 270, Type M, for pipe joints and man- hole and inlet brickwork.

3. Concrete:

   a. Concrete for use in precast concrete catch basins, curb inlets, drop inlets and manholes shall be 3000 psi at age 28 days.

4. Reinforcement: Comply with ASTM A 615.

5. Castings: Comply with ASTM A 48, grey cast-iron.

6. Riprap: Riprap shall be Class I conforming to Section 814 of the State of Alabama Highway Department Standard Specifications.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Storm Drainage System: Construct drainage structures and appurtenances in accordance with applicable standard drawings and construction details shown on the Drawings.

B. Lay all pipe in an open trench of dimensions as given below:

1. Lengths of storm drain pipe shown on the Drawings are approximate distances center-to-center of structures. Install pipe based on actual field measurements.

C. Excavation:

1. Excavation is open cut. The top portion of trenches may be excavated as required by the Contractor to any width which will not cause damage to adjacent structures. The lower portion of the trench, to a height of 1 ft. above the top of the pipe shall not exceed 18 in.

   greater than the pipe dia.

2. All excavation shall be prosecuted in accordance with requirements of OSHA "Safety and Health Regulations for Construction".

3. When sheeting or shoring is used, widths may be increased by the thickness of the timbers. All protective measures required are the responsibility of the Contractor and shall be provided at the Contractor's expense.

4. Carefully shape the bottom of trenches to conform to and support the lower 1/4 of the periphery of the pipe barrel. At the Contractor's option, trenches may be excavated slightly over depth, and then the pipe bed may be constructed of approved granular material, thoroughly tamped and carefully shaped to conform to and support the lower 1/4 of the periphery of the pipe barrel. Where rock is encountered, remove to a depth of 6 in. below the pipe and replace with an approved granular material.

5. Where suitable material, such as muck, is encountered at or below invert elevation during excavation, remove and replace with suitable material, or stabilize by the addition of a granular material.

D. Pipe Laying:

1. Proceed upgrade where practicable. Lay pipe shall true to grade and line with a straight and uniform invert. Do not lay pipe in a wet or muddy trench. Dewater trenches as required with firm, smooth and properly shaped bed as specified.
2. Lay corrugated metal pipe so that if invert paving has been damaged, repair with an asphaltic compound to the satisfaction of the Engineer.
3. Joints for reinforced concrete pipe shall be with sand-cement grout.

E. Backfilling:

1. Backfill with selected material, free from rock larger than 2 in. in size, or debris.
2. Carefully place backfill and tamp around and over the pipe to avoid displacement of the pipe or damage to the joints.
3. Place all backfill in 6 in. lifts and compact as required in EARTHWORK Section. Compaction methods shall be at the Contractor's option as long as the desired results are obtained; otherwise, the Architect may order changes in methods or equipment.

F. Appurtenances and Drainage Structures:

1. Furnish and install drainage structures as shown in detail on the Drawings. Install shaped inverts.
2. Fill all mortar joints full. Tool all joints.
3. Cut and grind all pipe, where cut at face of structure wall, smooth with the face of the wall. Pack full all joints around pipe and structure wall at the face of the wall with mortar.
4. Clean bottom of drainage structures of all debris, and wipe walls clean of mortar as work progresses.
5. Construct catch basin tops true to line and grade, and slope continuous with gutter.
6. Install cast iron steps in all structures over 4 ft. deep, installed 15 in. o.c. in a vertical direction. Cast iron steps and manhole rings and covers shall meet ASTM A 48.
7. Construct junction boxes with bottom as shown in details for drop inlets, catch basins or other structures. Construct tops to accommodate a standard manhole ring, and adjust over to grade.
8. Where indicated in the Storm Structure Schedule, drainage basins by Contech or Nylopast may be used.

3.2 ADJUSTING AND CLEANING

A. At completion, remove all excess materials, debris, etc. resultant from operations of this Section of Work.

B. Leave drainage systems clean and free from mud or debris of any kind. When looked through, each line between structures shall show a full circle of light; otherwise the Contractor shall be required to remove and replace the defective portion of the work, at the Contractor's expense.

END OF SECTION

SECTION 09301 - PORCELAIN TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

A. Definition: Tile includes ceramic surfacing units made from clay or other ceramic materials.

B. Extent of tile work is indicated on drawings and schedules.

C. Types of tile work in this section include the following:

1. Wall Tile.
2. Floor Tile.
3. Wainscot Accent Tile.
4. Wainscot Tile Cap.
5. Base.
6. Stone Thresholds.

D. Portland cement plaster scratch coat on wall surfaces indicated to receive tile is work of this section.

E. Sealing expansion and other joints in tile work with elastomeric joint sealers is work of this section.

1.3 QUALITY ASSURANCE

A. Source of Materials: Provide materials obtained from one source for each type and color of tile, grout, and setting materials.

B. Mock-Up: Contractor shall provide mock-up panels for evaluation of materials, surface preparation techniques and application workmanship.

1. Mock-up panel shall be no less than 4’-0” x 4’-0” panel as follows:
   a. One (1) panel per room, per surface. (i.e. 1 panel for wall surface and 1 panel for floor surface for each room of different selection).
   b. Mock-up panels shall be marked identifying room location and product manufacturer, type, style, size and color information.
   c. Do not proceed with work until materials, workmanship, color, and sheen are approved by Architect.
   d. Provide additional mock-up panels as required to produce acceptable work.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical information and installation instructions for materials required, except bulk materials.

B. Samples for Selection Purposes: Submit manufacturer's color charts consisting of actual tiles or sections of tile showing full range of colors, textures and patterns available for each type of tile indicated. Include samples of grout and accessories involving color selection.

1.5 PRODUCT HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Prevent damage or contamination to materials by water, freezing, foreign matter or other causes.

1.6 PROJECT CONDITIONS

A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.

B. Vent temporary heaters to exterior to prevent damage to tile work from carbon dioxide buildup.

C. Maintain temperatures at not less than 50 degrees F in tiled areas during installation and for 7 days after completion, unless higher temperatures required by referenced installation standard or manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers' products have been used to establish minimum standards for materials, workmanship and function:

1. Porcelain Tile:

a. StonePeak (Basis of Design)

b. American Olean Tile Co.

c. Marazzi

B. Equal products of other manufacturers may be used in the work, provided such products have been approved by the Architect, not less than Ten (10) days prior to scheduled bid opening.

2.2 PRODUCTS, GENERAL

A. ANSI Standard for Ceramic Tile: Comply with ANSI A137.1 "American National Standard Specifications for Ceramic Tile" for types and grades of tile indicated.

1. Furnish tile complying with "Standard Grade" requirements unless otherwise indicated.

B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with installation products and materials indicated.

C. Colors, Textures and Patterns: For tile and other products requiring selection of colors, surface textures or other appearance characteristics, provide products to match characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standards.

1. Provide tile trim and accessories which match color and finish of adjoining flat tile.

D. Mounting: Where factory-mounted tile is required provide back- or edge-mounted tile assemblies as standard with manufacturer unless another mounting method is indicated.

1. Where tile is indicated for installation on exteriors or in wet areas, do not use back or edge-mounted tile assemblies unless tile manufacturer specifies that this type of mounting is suitable for these kinds of use and has been successfully used on other projects.

2.3 TILE PRODUCTS

A. Provide tile complying with the following requirements:

1. Manufacturer/Series:

a. StonePeak “Simply Modern” Collection.

2. Type:

a. Porcelain

3. Wearing Surface for Floors:

a. "stable, firm and slip resistant", (exceeds 0.60 on the ASTM C-1028 test, wet and dry).

4. Nominal Thickness:

a. 3/8"

5. Nominal Facial Dimensions as follows:
    a. Floor Tile
        1. **12” x 24” Floor Tile** - “Simply Modern” Series, Unglazed, with 1/4” grout joints.
    b. Wall Tile
        1. **12” x 24” Wall Tile** – “Simply Modern” Series, Unglazed, with 1/4” grout joints.
        2. **4” x 12” “Adamas” Series Wall Tile Accent Band – 3 layers high located 6’-0” AFF.** Glazed, with 1/8” grout joints.
    c. Base:
        1. **6” x 12” Coved Base** – “Simply Modern” Series.
    d. Wainscot Cap:
        1. **3” x 12” Bullnose** – “Simply Modern” Series.
6. Face: Plain with cushion edges.

B. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with following requirements:
1. Size:
    a. As indicated, coordinated with sizes and coursing of adjoining flat tile, where applicable.
2. Shapes:
    a. Selected from manufacturer's standard shapes.
3. External Corners for Portland Cement Mortar Installations:
    a. Bullnose shape with a radius of not less than 3/4" unless otherwise indicated.
4. Internal Corners:
    a. Field-butted square corners, except use internal cove and cap angle pieces designed to member with stretcher shapes.

2.4 STONE THRESHOLDS

A. General: Provide stone which is uniform in color and finish, fabricated to sizes and profiles indicated or required to provide transition between tile surfaces and adjoining finished floor surfaces.

B. Marble Thresholds: Provide marble thresholds complying with ASTM C 503 requirements for exterior use and abrasion resistant for uses subject to heavy foot traffic.
1. Provide white, bonded marble complying with MIA Group "A" requirements for soundness.

2.5 SETTING MATERIALS

A. Portland Cement Mortar Installation Materials: Provide materials to comply with ANSI A108.1 as required for installation method designated, unless otherwise indicated.

2.6 GROUTING MATERIALS – FLOOR & WALL

A. High Performance Epoxy grout that offers color uniformity, durability and stain resistance with extraordinary ease of use.
1. Laticrete “Spectralock Pro Grout”.
2. Color to be selected by architect after the bid date from manufacturer standards

B. Epoxy grout is to be installed per manufacturer’s instructions.

2.7 MISCELLANEOUS MATERIALS

A. Single-Component Sealants: ASTM C 920, Type S, Grade NS, use NT (for use in joints in non-traffic areas).

B. Two-Component Sealants: ASTM C 920, Type M, Grade P, Class 25, use T (for use in joints subject to pedestrian traffic).

C. Tile Cleaner: Product specifically acceptable to manufacturer of tile and grout manufacturer for application indicated and as recommended by National Tile Promotion Federation, 112 North Alfred St., Alexanderia, VA 22134 or Ceramic Tile Institute, 700 N. Virgil Ave., Los Angeles, CA 90029.

2.8 TILE BACKING PANELS

A. Fiber-Cement Backer Board: ASTM C1288, in maximum lengths available to minimize end-to-end butt joints.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. CertainTeed Corporation.

b. Custom Building Products.

c. James Hardie Building Products, Inc.

2. Thickness: 1/2 inch (12.7 mm) unless otherwise indicated on drawings.

B. Install panels and treat joints in accordance with ANSI A108.11, APA guidelines, and manufacturer's written instructions for type of application indicated

2.9 WATERPROOF MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch (0.2-mm) nominal thickness.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Schluter Systems L.P.

b. Equal products of other manufacturers may be used in the work, provided such products have been approved by the Architect, not less than Ten (10) days prior to scheduled bid opening.

C. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

1. Allow waterproof membrane to cure and verify by testing that it is watertight before installing tile or setting materials over it.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine surfaces to receive tile work and conditions under which tile will be installed. Do not proceed with tile work until surfaces and conditions comply with requirements indicated in referenced tile installation standard.

3.2 PRE-INSTALLATION CONFERENCE

A. A pre-installation conference is required before any tiling materials are installed. This conference shall be conducted by a representative of the Architect and attended by the General Contractor and Tile Contractor. Provide at least 72 hours advance notice to participants prior to convening pre-installation conference.

B. The pre-installation conference is intended to clarify demolition and application requirements for work to be completed before tiling operations can begin. This would include a detailed review of the specifications, plans, finish schedules and approved shop drawings, submittal data, samples and mock-ups. If this pre-installation conference cannot be satisfactorily concluded without further inspection and investigation by any of the parties present, it shall be reconvened at the earliest possible time to avoid delay of the work. In no case should the work proceed without inspection of all tiling areas and substantial agreement on all requirements.

C. The following are to be accomplished during the conference:

1. To review all requirements listed in the specifications and resolve any questions or conflicts that may arise.
2. To establish trade-related job schedules.
3. To establish tiling schedule and work methods that will prevent progress of other trades.
4. Require that all surface preparations and conditions be complete prior to installing tile work.
5. To establish those areas on the job site that will be designated as work and storage areas for tiling operations.
6. To establish acceptable methods of protecting the finished tile surfaces if any trades must travel across or work on, above or around any areas of the finished tile work.

D. The Architect shall prepare a written report indicating actions taken and decisions made at this pre-installation conference. This report shall be made a part of the project record and copies furnished to the General Contractor and the Owner.

3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standard: Comply with applicable parts of ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile".

B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated or, if not otherwise indicated, as applicable to installation conditions shown.

C. Setting beds:

1. Floor tile: Thinset.
2. Wall tile: Thinset.

D. Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments.

E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures and other penetrations so that plates, collars, or covers overlap tile.

F. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls and trim are same size. Layout tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise shown.

1. For tile mounted in sheets make joints between tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent in finished work.

G. Lay out tile wainscots to next full tile beyond dimensions indicated.

H. Expansion Joints: Locate expansion joints and other sealant filled joints, including control, contraction and isolation joints, where indicated, or if not indicated, at spacing and locations recommended in TCA "Handbook for Ceramic Tile Installation", and approved by Architect.

1. Prepare joints and apply sealants to comply with requirements of referenced standards and sealant manufacturer.

I. Grout tile to comply with referenced installation standards, using grout materials indicated.

3.4 FLOOR INSTALLATION METHODS

A. Porcelain Tile: Install tile to comply with requirements indicated below for setting bed methods, TCA installation methods related to types of subfloor construction, and grout types:

1. Concrete Subfloors, Interior: TCA F113 with isolation membrane equal to Nobleseal CIS.

B. Grout:

1. High Performance Epoxy grout is to be installed per manufacturer's instructions.

C. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile unless otherwise indicated.

D. Metal Edge Strips: Install at locations indicated or where exposed edge of tile flooring meets carpet, wood or other flooring which finishes flush with top of tile.

3.5 WALL TILE INSTALLATION METHODS

A. Install types of tile designated for wall application to comply with requirements indicated below for setting bed methods, TCA installation methods related to subsurface wall conditions, and grout types:

1. Solid Backing, Interior: TCA W221 in wet areas and W213 or W223 25

a. applicable in other areas.

B. Grout:

1. High Performance Epoxy grout is to be installed per manufacturer's instructions.

3.6 CLEANING AND PROTECTION

A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Unglazed tile shall be cleaned with non-acid solutions only recommended by tile and grout manufacturer's printed instructions, but no sooner than 14 days after installation. Protect metal surfaces, cast iron and vitreous plumbing fixtures from effects of tile cleaning. Flush surface with clean water after cleaning.

B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective tile work.

C. Protection: When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage and wear.

D. Prohibit foot and wheel traffic from using tiled floors for at least 7 days after grouting is completed. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.7 EXTRA STOCK

A. Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.

1. Tile Flooring: Furnish not less than one box for each type, color, pattern and size installed.

END OF SECTION

SECTION 10530 - FIRST AID CABINETS AND SAFETY KITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

A. “First Aid Cabinets” refer to units which are wall surface mounted with first aid/burn kits enclosed

B. Type of products in this section include:

1. First aid cabinets

2. Safety kits

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions. Include roughing-in dimensions, and details showing mounting methods, relationships to surrounding construction, door hardware, cabinet type and materials, trim style and door construction, style and materials. Include color charts showing full range of manufacturer's standard colors and designs available.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers' products have been used to establish minimum standards for materials, workmanship and function:

1. American First Aid Kits, 200+ Person / Industrial First Aid Station with pocket liner / Wall Mountable, Product code: 249-O/P-200

B. Substitutions: Equal products of other manufacturers may be used in the work provided such products have been approved by the Architect, not less than Ten (10) days prior to scheduled bid opening.

2.2 FIRST AID CABINETS AND KITS

A. General: Provide first aid cabinets of suitable size for housing safety kits of types and capacities as follows:

B. Quantity Required: [**See Plan**] First Aid Cabinets and Kits.

C. Description: 5 Shelf Industrial First Aid Station with a pocket liner. This 5-shelf, 1720pc industrial first aid station serves 200 + people. Meets all of the OSHA and ANSI recommendations with refill requirements.

D. Contents:

QTY:	ITEM:
1	I-435: Antacid tablets, (125) 2-pks
1	I-415: Non-aspirin tablets, (125) 2-pks
1	I-427: Extra-strength pain reliever, (125) 2-pks
1	H-410: Aspirin tablets, (50) 2-pks
1	G-155: 3/4"x3" Adhesive plastic bandages, 100/bx
1	G-122: 1"x3" Fabric bandages, 100/bx
1	G-124: Knuckle fabric bandages, 40/bx
1	G-126: Fingertip fabric bandages, 40/bx

1 G-128: Fingertip fabric bandages, large, 25/bx

2 B-204: 2"x4.1 yd. Conforming gauze roll bandages, 2/bx

1 B-207: 4"x4" Gauze dressing pads, 4/bx

1 3"x5 yd. Cohesive elastic bandage wrap

1 M-270: Super Stop™ bandage

1 B-518: Triangular sling/bandage, 1/bx

1 G-532: Exam quality gloves, 5 pr/bx

1 H-305: Alcohol cleansing pads, 100/bx

1 B-503: 4"x5" Instant cold compress, 1/bx

1 M-564-E: 6"x9" Instant cold compress, 1/bx

1 SL-109: 2"x4" Elbow & knee plastic bandages, 25/bx

1 M-5064: 3" Cotton tipped applicators, 100/vial

1 I-228: 24 - 2"x2", 24 - 3"x3" Gauze dressing pads, 48/bx

1 M-701-NIA: Eye wash, 4 oz.

1 M-704-NIA: Eye wash solution, 8 oz.

1 M-707: Redness reliever eye drops, 1/2 oz.

1 M-528: Antiseptic spray, 3 oz.

1 M-531: Burn spray, 3 oz.

1 M-527: Spray on bandage, 3 oz.

1 M-583: 5-3/4" Deluxe scissors - stainless steel

1 M-584: 4" Tweezers, plastic

1 M-660: 2"x5 yd. 3-Cut first aid tape

1 H-307: Antiseptic cleansing wipes (sting free), 50/bx

1 G-310: Povidone-iodine infection control wipes, 50/bx

1 B-718: 4 Sterile, oval, gauze eye pads, 1/2"x5 yd. first aid tape, 1/bx

1 G-231: 2"x3" Non-stick pads with adhesive edges, 50/bx

1 B-504: CPR Pack: 1 Rescue Breather™ CPR one-way valve faceshield, 2 large latex gloves and 3 antiseptic wipes (sting free)

1 A-5009: Ammonia inhalants, 10/bx

1 A-151: Medium butterfly wound closures, 10/bx

2 AN-205: 32 sq. in. Absorbent gauze compress, 1/bx

1 G-486: Hydrocortisone cream, 1.0%, 1.5 gm pack, 25/bx

1 G-469: Burn relief packs, 3.5 gm pack, 25/bx

1 M-5068: 22-pocket, vinyl liner

E. Cabinet Construction: Manufacturer's standard enameled steel box, with trim, frame, door and hardware to suit cabinet type, trim style, and door style indicated. Weld all joints and grind smooth. Miter and weld perimeter door frames.

F. Cabinet Type: Suitable for surface mounting conditions.

G. Door Material and Construction: Manufacturer's standard door construction, of material indicated, coordinated with cabinet types with label emboss.

H. Door Hardware: Provide manufacturer's standard door operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide either lever handle with cam action latch, or door pull, exposed or concealed, and friction latch. Provide concealed or continuous type hinge permitting door to open 180°.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install items included in this section in locations and at mounting heights indicated, or if not

B. indicated, at locations and heights to comply with applicable regulations of governing authorities and ADA.

1. Securely fasten mounting brackets to structure, square and plumb, to comply with manufacturer's instructions.

2. Where exact location of surface-mounted cabinets with other trades and as directed by Architect.

3.2 IDENTIFICATION

A. Identify first aid kit in cabinet with lettering spelling "FIRST AID" painted on door.

END OF SECTION

SECTION 12500 - WINDOW TREATMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

A. The extent of window treatment is indicated on drawings and in schedules. Types of window treatment work in this section include:

1. 2” Horizontal Faux Wood Slat Blinds and operating hardware.

B. Location: All exterior windows.

1.3 QUALITY ASSURANCE

A. General: Provide window treatment units which are complete assemblies produced by one manufacturer for each type required, including hardware, accessory items, mounting brackets, and fastenings.

B. Furnish materials in colors and patterns as indicated, or, if not indicated, as selected by Architect from manufacturer's standard colors/patterns.

C. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.4 REFERENCE STANDARDS

A. WCMA A100.1 - Safety of Corded Window Covering Products; Window Covering Manufacturers Association; 2010. (ANSI/WCMA A101.1)

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's specifications and installation instructions for each type of window treatment unit required. Include methods of installation for each type of opening and supporting structure.

B. Shop Drawings: Submit shop drawings for special components and application conditions of window treatment units which are not fully dimensioned or detailed in manufacturer's product data. Show relationship to adjoining work.

1. Include typical elevation layout indicating proposed division between blind units and meeting edges at corners. Provide sections and details at head and sill between blind units and corners including inclined installations.

2. Provide schedule of all units to be furnished, including field measurements at each location.

C. Samples: For selection of colors, submit manufacturer's color charts consisting of sections of exposed components with integral or applied finishes showing full range of colors, materials, etc. available for each type of window treatment assembly required.

1.6 WARRANTY

A. Products shall be manufactured exempt of any sharp edges, burrs, or other defects.

B. Provide manufacturer's limited lifetime warranty on head rail and other components.

C. Provide 5 year manufacturer's warranty for slats.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The following manufacturers' products have been used to establish minimum standards for materials, workmanship and function:

1. CACO, Inc. Window Fashions; www.cacoinc.com; 119 Perma R Rd., Johnson City, TN 37604; PH: 1.800.552.5278
2. Bali; www.www.baliblinds.com; 8467 Route 405 Highway South, P.O. Box 500, Montgomery, PA 17752; Phone: 877.792.0002
3. Levolor; www.levolor.com; 3 Glenlake Parkway NE, 10th Floor, Atlanta, GA 30328; 1.800.752.9677
4. Graber Industries, Inc.; www.graberblinds.com; 8467 Route 405 Highway South, P.O. Box 500, Montgomery, PA 17752; Phone: 877.792.0002

B. Equal products of other manufacturers may be used in the work, provided such products have been approved by the Architect not less than Ten (10) days prior to scheduled bid opening.

2.1 BLINDS AND BLIND COMPONENTS

A. Head Rail:
1. U shaped configuration
2. 2 1/2" deep by 2" high with rolled edges at the top.
3. Fabricate from 0.024 inch thick iron phosphate treated steel.
4. Acrylic primed with a finish coat of baked on polyester enamel in color selected by Architect.
5. Provide reinforcing end caps in color to match head rail.

B. Slats:
1. Extrude to a flat rigid form from PVC foam.
2. Provide an anti-static dust inhibiting coating to surface to minimize dust accumulation.
3. Nominal Width: 2 inches wide
4. Nominal Thickness: .122 inches
5. PVC foam to meet or exceed requirements of NFPA 701.

C. Bottom Rail:
1. Profile: Trapezoidal
2. Nominal Thickness: 7/8 inches
3. Nominal Width: 2 inches
4. Fabricate from extruded PVC, finish to match slats.

D. Valance:
1. Provide manufacturer's standard valance.
2. Nominal Thickness: 3/8 inch
3. Nominal Width: 2 1/2 inches

2.2 ACCESSORIES

A. Tapes and Ladders:
1. Standard color coordinate braided ladders shall be constructed of polyester yarn with a double crossed inter-braided cable thread design.
2. Supported latter ladders using ladder tape without any visible distortion.
3. Ladder rung distances shall not exceed 44mm.
4. Distances between ladders shall not exceed 12-inches.
5. Distance from end of ladder to end of slat shall not exceed 5-inches.

B. Tape Rolls and Supports:

1. Fabricate from low friction thermoplastic which are self lubricating and maintenance free for smooth operation and diminished wear on lift cords and braded ladders.
2. Tape rolls shall be designed to hold tape end by means of a "U" shaped brass grommet which shall be inserted into tape rolls, allowing for a more precise placement of ladders when secured.
3. Tape rolls shall include a projecting thermoplastic cylindrical collar integrated on each end. Tilt rod is centered though both tape drum and collar project.
4. Self lubricating thermoplastic collars are designed to snap securely into tape drum supports for near effortless tilting operation.

C. Crash Proof Cord Lock:

1. Snap-in design with nylon roller. Provided a secured steel roller on a hinged lock to facilitate "crash-proof" feature.

D. Tilt Wand:

1. Standard wand tilter.
   a. Self-lubricating thermoplastic worm and gear mechanism with fully encased plastic housing.
   b. Color coordinate plastic.
   c. 3/8" diameter
   d. Length as required to coordinate with window sizes.
   e. Provide corrosion resistant metal clip for attachment of wand to tilter shaft.

E. Lift Cords:

1. Color coordinate lift cords constructed of braided polyester jacket with a rayon center core.
2. Provide in lengths required to properly facilitate the raising and lowering of blinds.
3. 1.8mm diameter.
4. End Support Brackets:
5. Galvanized steel bracket with riveted hinged cover.
6. Nominal thickness: 0.038 inch
7. Baked polyester enamel finish.
8. Color to coordinate with blind assembly.
9. Coordinate bracket anchorage with jamb and sill conditions.

2.3 FABRICATION AND OPERATION

A. Prior to fabrication, verify actual opening dimensions by accurate site measurements. Adjust dimensions for proper fit at openings. Cooperate with other trades for securing tracks to substrates and other finished surfaces.

B. Fabricate window treatment components from non-corrosive, non- staining, non-fading materials which are completely compatible with each other, and which do not require lubrication during normal expected life.

C. Fabricate blind units to completely fill the openings as shown, from head-to-sill and jamb-to-jamb.

D. For continuous window wall installations, fabricate blinds so that ends occur only over mullions or other defined vertical separation, unless otherwise indicated.

E. Space supporting ladders to comply with manufacturer's standards, unless otherwise indicated.

F. Space louver blades to provide a minimum overlap of 3/8" for light exclusion when in fully-closed

position. Gear operating equipment for reduction of the ratio of hand-movement to louver position, so that blinds operate easily and can be set accurately and smoothly.

G. Equip horizontal blind units, unless otherwise indicated for the following operation.

1. Full-tilting operation with slats rotating approximately 180°. Place tilt operating controls on left-hand side of blind units, unless otherwise indicated.
2. Full-height raising to manufacturer's minimum stacking dimension, with lifting cord locks for stopping blind at any point of ascending or descending travel.
3. Place pull cords on right-hand side of blind units, unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install window treatment units in manner indicated to comply with manufacturer's instructions. Position units level, plumb, secure, at proper height and location relative to adjoining window units and other related work. Securely anchor units with proper clips, brackets, anchorages, suited to type of mounting indicated.

B. Coordinate the placement of concealed blocking to support blinds.

C. Verify that openings are ready to receive the work.

D. Ensure structural blocking and supports are correctly placed.

E. Provide adequate clearance between sash and blinds to permit unencumbered operation of sash hardware.

F. Isolate metal parts from concrete and mortar to prevent galvanic action. Use tape or thick coating or other means recommended by manufacturer to effect separation.

G. Protect installed units to ensure their being in operating condition, without damage, blemishes, or indication of use at completion of project. Repair or replace damaged units as directed by Architect.

H. Adjust blinds for smooth operation.

I. Clean blind surfaces just prior to occupancy.

J. Furnish the following for the Owner's use in maintenance of project:

1. Extra Blind Assemblies: One of each size.
2. Extra Slats: 20 of each type and size.
3. Extra Lift Cords, Control Cords, and Wands: Two of each type.

END OF SECTION

SECTION 15050 - GENERAL HVAC REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general requirements for the HVAC systems.

1.2 COMMISSIONING

A. The commissioning agent shall perform a functional test to run all of the HVAC systems through the full range of conditions that are outlined in the Commissioning Specification as shown on the contract documents. The commissioning agent shall verify that all equipment satisfies the design conditions and intent shown on the contract documents.

B. The commissioning agent shall provide a list to Montgomery County BOE of all deficiencies that are discovered during the functional test.

C. The mechanical contractor shall provide both an HVAC technician and a controls technician to be available during the functional testing to repair or modify the HVAC system and correct deficiencies during the functional testing.

D. The commissioning agent shall submit the deficiency checklist along with a description of the corrective action when the HVAC systems repairs, and modifications have been completed.

1.3 QUALIFICATIONS OF SUB-CONTRACTORS

A. Must be properly licensed and established as a Heating and Air Conditioning Contractor at the location of the work and shall maintain locally adequate service facilities. He shall have had previous experience in the satisfactory installation of at least three systems of this type and size.

1.4 SCOPE

A. Include all equipment, material and labor required for complete operation of heating, air conditioning and ventilation systems, even though every item involved is not indicated. Included in the scope but not limited by the scope are the following complete new operating systems.

1.5 CODES

A. Comply with applicable 2013 90.1 ASHRAE, 2021 International Building Code, and 2021 International Mechanical Code requirements and conform to ordinances and codes of the locality. Where conflicts occur between code and construction drawings or specifications, most stringent requirements shall apply. Any work provided contrary to these requirements shall be removed and replaced at contractor's expense.

1.6 PERMITS

A. Provide all permits and arrange for inspections as required by local, city, county, and state authorities. Furnish certificate of final inspection from local building inspector indicating that installation complies with all regulations governing the same. Provide additional materials, parts, labor, etc. and modify the work as required by city and state inspections and regulations.

1.7 DRAWINGS

A. In the interest of clearness, the work is not always shown to scale or exact location. Check all measurements, location of pipe, ducts, and equipment with the detail architectural, structural,

and electrical drawings, and lay out work so as to fit with ceiling grids, lighting, and other parts. Where doubt arises as to the meaning of the plans and specifications, obtain the Architect's decision before proceeding with parts affected; otherwise assume liability for damage to other work and for making necessary corrections to work in question.

B. The Plans are not intended to show all ductwork, pipes valves, fittings, connections, and details of the work to be done. The piping, duct and equipment locations shall be adhered to as closely as possible; however, any changes necessary to avoid columns, beams, lighting fixtures, ductwork, sprinkler piping, etc., shall be made at no additional cost to the owner. Do not scale plumbing or HVAC drawing. Refer to Architectural drawings for dimensions.

1.8 CHANGES AND CONFLICTS

A. If during construction desirable or necessary changes become apparent, advise the Architect, and secure his decision in writing. Otherwise make no deviation from the system as detailed.

1.9 WARRANTY

A. Contractor shall provide a one-year full parts and labor warranty for materials and workmanship for all items starting at substantial completion of entire project. The following items: but not limited to the following, shall have extended warranties remain in effect past the one-year warranty. All warranty shall start at substantial completion of entire project.
   1. AC Equipment:

      Provide 2-year parts and labor warranty for entire system.
      Provide 5-year parts warranty for compressors, evaporator coils and condenser coils.

   2. Control System - Provide 2-year parts and labor warranty for entire system.
   3. Filters - Contractor shall change all filters every two months for first year.

1.10 MISCELLANEOUS REQUIREMENTS

A. Materials and Equipment: New and of best quality in every respect. All pipes and fittings shall conform to the ASTM Standard designated for pipe of each material.

   Equipment shall be essentially the standard product of the manufacturer and shall be UL approved where required by Code. Where two or more units of the same class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be.

B. Listed Equipment: Being listed as "A supplier of comparable products" means the listed manufacturer will receive consideration if in accordance with all documents, delivery, and space requirements. Being listed does not indicate nor imply the manufacturer's equipment is acceptable for the project. Only the "Base" manufacturer's equipment has been verified for compliance with the documents. The burden of approval of the equipment rests solely with the contractor.

C. Equipment Protection: Protect during construction, duct openings against the entrance of foreign materials and protect all equipment from damage by mortar, paint, weather, etc. Damaged equipment shall be replaced at no expense to project. Make provisions to protect equipment.

D. Finishes: Manufacturer's standard unless otherwise stated. Submit color cards for selection where such choice is specified or available.

E. Charges, Grease, Filters, etc.: Furnish first charges of refrigerant grease, oils, etc., and be responsible for such full charges for the guarantee period, except when loss is due to negligence of Owner. Where disposable type filters are specified, furnish two sets for each air conditioning

unit; one set to be used during test period, other set to be installed just prior to occupancy. Contractor shall change all disposable filters every two months for first year. Sets of filters to be installed during one-year guarantee period. Where permanent type is specified, provide disposable type for testing and operating prior to occupancy. Provide Owner a typed list (O & M Manual) of all filter sizes and required quantity.

F. Cleaning and Adjusting: Upon completion of work, clear drains, traps, ducts, and pipelines. Adjust all valves, remove rubbish, and leave work in clean and operating condition. Install final permanent type filters only after cleaning of building is completed.

G. Cutting and Patching: Openings are to be laid out and built in; furnish detailed layout drawings to other trades in advance of their work. Piping within or behind walls must be installed before wall is erected. Otherwise, walls, etc. affected must be reworked by trade which erected same at expense of HVAC Contractor; chasing and cutting of new work will not be accepted. HVAC Contractor shall prepare shop drawings of required opening to General Contractor and Architect for review.

H. Foundations: Provide foundations, supports, etc., not specified under other Sections, and as required to mount equipment in a workman like and structurally sound manner. Consult drawings pertaining to other trades to determine extent of their work.

I. Roof Flashing: Roofing work is specified under Roofing Section. Roofer shall be advised of all requirements and all furnished items to be installed before roofing is installed. Roofer shall install all mechanical roof penetration and provide full roof warranty.

J. Vibration and Noise Control: All items of mechanical equipment including air handling units, and fans shall be properly isolated from the structure by means of approved vibration absorbing accessories, foundations or supports.
Elimination of objectionable vibration and noise is the responsibility of the Contractor, who must provide all foundations, isolators, flexible connections, etc., required thereby. Pay special attention to vibration problems at year end inspection and correct all deficiencies noted.

K. Operating and Maintenance Instructions: Provide the services of a competent person to thoroughly instruct representatives appointed by the owner in the proper operation and care of all equipment and control systems. Furnish a complete set of Operating and Maintenance (O & M Manuals) instructions in 3 copies (including equipment data, spare parts lists, operating instructions, filter sizes, valves services, control, and wiring diagrams) in bound folder form prior to final acceptance. O & M Manuals, Test and Balance report to be submitted 2 weeks prior to final inspection.

L. Painting and Finishing: Clean and paint with two coats of asphalt varnish all exposed ferrous metal parts of mechanical equipment located above ceilings, etc.). Surfaces in finished areas are to be painted by Painting Contractor. Where factory finished items are marred or scratched item must be replaced, or upon approval, may be refinished or touched-up as required to bring to a like-new condition.

M. Where device occurs above a lift-out acoustical ceiling panel, identify the panel with a 3/8" #8 round head self-threading sheet metal screw, screwed into panel with only the head showing. Before inserting, paint head of screw with appropriate color as specified under Pipe Identification and Color Coding. Furnish sample for approval.

N. Dis-similar Metal: Separate all dis-similar metals as required for services. Dis-similar metal shall not touch.

O. Coordination:

1. Mechanical contractor shall submit written verification that he has coordinated all electrical requirements for HVAC with electrical subcontractor. Written document shall indicate any difference between design requirements and actual verified requirements and shall recommend solutions to any conflicts found. Refer to “EXAMPLE” form at end of this section.

   NOTE: **Mechanical submittals will not be reviewed without this document included.**

1.11 GPS NEEDLEPOINT BI-POLAR IONIZATION CALCULATIONS

A. See attached calculations for GPS Needlepoint Bi-Polar Ionization Calculations. Attachment B.

PART 2 – PRODUCTS (not applicable)

PART 3 – EXECUTION (not applicable)

END OF SECTION

(SEE ATTACHMENT ‘A’ AND ATTACHMENT ‘B’)

SECTION 15900 - HVAC INSTRUMENTATION AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. General: The control system shall be as indicated on the drawings and described in the specifications and consist of a communicating thermostat.

1.2 APPROVED CONTROL SYSTEM CONTRACTORS AND MANUFACTURERS

A. Approved Building Control System Contractors and Manufacturers: Precision Environmental Solutions, Trane Controls, Walters Controls, Alabama Industrial Controls, Alberio, Commercial Controls Group, Gulf States Automation.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All products used in this installation shall be new, currently under manufacture, and shall be applied in similar installations for a minimum of 2 years. The installation shall not be used as a test site for any new products unless explicitly approved by the Owner's representative in writing. Spare parts shall be available for at least 5 years after completion of this contract.

2.2 COMMUNICATING, PROGRAMMABLE, TOUCH-SCREEN ROOM CONTROLLERS

A. General: Stand Alone – KMC Controls BAC-190000 Series FlexStat, Honeywell TC500 or Schneider Electric SE8600 Series (Touchscreen 7-Day Programmable) Indoor Air Quality and AC Unit Controllers with Humidity capability and Re-Heat Function capability. These are designed for single-stage and multi-stage control of heating/cooling equipment such as self-contained indoor air quality, heat pumps and AC units.

2.3 AUXILIARY CONTROL DEVICES

A. Motorized dampers, unless otherwise specified elsewhere, shall be as follows:

1. Damper frames shall be 16-gauge galvanized sheet metal or 1/8" extruded aluminum with reinforced corner bracing.
2. Damper blades shall not exceed 8" in width or 48" in length. Blades are to be suitable for medium velocity performance (2,000 fpm). Blades shall be not less than 16 gauges.
3. Damper shaft bearings shall be as recommended by manufacturer for application.
4. All blade edges and top and bottom of the frame shall be provided with compressible seals. Side seals shall be compressible stainless steel. The blade seals shall provide for a maximum leakage rate of 10 CFM per square foot at 2.5" W.C. differential pressure.
5. All leakage testing and pressure ratings will be based on AMCA Publication 500.
6. Individual damper sections shall not be larger than 48" x 60". Provide a minimum of one damper actuator per section.

B. Control dampers shall be parallel or opposed blade types as scheduled on drawings.

C. Electric damper/valve actuators.

1. The actuator shall have electronic overload or digital rotation sensing circuitry to prevent damage to the actuator throughout the rotation of the actuator.

2. Where shown, for power-failure/safety applications, an internal mechanical, spring return mechanism shall be built into the actuator housing.
3. All rotary spring return actuators shall be capable of both clockwise and counterclockwise spring return operation. Linear actuators shall spring return to the retracted position.
4. Proportional actuators shall accept a 0-10 VDC or 0-20 ma control signal and provide a 2-10 VDC or 4-20 ma operating range.
5. All non-spring return actuators shall have an external manual gear release to allow manual positioning of the damper when the actuator is not powered. Spring return actuators with more than 60 in-lb. torque capacity shall have a manual crank for this purpose.
6. Actuators shall be provided with a conduit fitting and a minimum 1m electrical cable and shall be pre-wired to eliminate the necessity of opening the actuator housing to make electrical connections.
7. Actuators shall be Underwriters Laboratories Standard 873 listed.
8. Actuators shall be designed for a minimum of 60,000 full stroke cycles at the actuator's rated torque.

D. Binary Temperature Devices

1. Low-Voltage Space Thermostats shall be 24 V, bimetal-operated, mercury-switch type, with either adjustable or fixed anticipation heater, concealed setpoint adjustment, 13°C-30°C (55°F-85°F) setpoint range, 1°C (2°F) maximum differential, and vented cover.
2. Line-Voltage Space Thermostats shall be bimetal-actuated, open-contact type or bellows-actuated, enclosed, snap-switch type or equivalent solid-state type, with heat anticipator, UL listing for electrical rating, concealed setpoint adjustment, 13°C-30°C (55°F-85°F) setpoint range, 1°C (2°F) maximum differential, and vented cover.
3. Low-Limit airstream thermostats shall be UL listed, vapor pressure type. Element shall be at least 6 m (20 ft) long. Element shall sense temperature in each 30 cm (1 ft) section and shall respond to lowest sensed temperature. Low-limit thermostat shall be manual reset only.

E. Temperature Sensors

1. Temperature sensors shall be Resistance Temperature Device (RTD) or Thermistor.
2. Duct sensors shall be rigid or average as shown. Averaging sensors shall be a minimum of 1.5m (5 feet) in length.
3. Immersion sensors shall be provided with a separable stainless steel well. Pressure rating of well is to be consistent with the system pressure in which it is to be installed.
4. Space sensors shall be equipped with set-point adjustment, override switch, display, and/or communication port as shown on the drawings.
5. Provide matched temperature sensors for differential temperature measurement. Differential accuracy shall be within 0.1 C (0.2 F)
6. The space temperature, setpoint, and override confirmation will be annunciated by a digital display for each zone sensor. The setpoint will be selectable utilizing buttons.

G. Humidity Sensors

1. Duct and room sensors shall have a sensing range of 20% to 80% with accuracy of ±5% R.H.
2. Duct sensors shall be provided with a sampling chamber.
3. Outdoor air humidity sensors shall have a sensing range of 20% to 95% R.H. It shall be suitable for ambient conditions of -40 C to 75 C (40 F to 170 F)

4. Humidity sensor's drift shall not exceed 1% of full scale per year.

A. Low Limit Thermostats
1. Safety low limit thermostats shall be vapor pressure type with an element 6m (0 ft) minimum length. Element shall respond to the lowest temperature sensed by any one-foot section.
2. Low limit shall be manual reset only.

B. Relays
1. Control relays shall be UL listed plug-in type with dust cover. Contact rating, configuration, and coil voltage suitable for application.
2. Time delay relays shall be UL listed solid-state plug-in type with adjustable time delay. Delay shall be adjustable plus or minus 200% (minimum) from set-point shown on plans. Contact rating, configuration, and coil voltage suitable for application. Provide NEMA 1 Type enclosure when not installed in local control panel.

C. Transformers and Power Supplies
1. Control transformers shall be UL listed, Class 2 current-limiting type, or shall be furnished with over-current protection in both primary and secondary circuits for Class 2 service.
2. Unit output shall match the required output current and voltage requirements. Current output shall allow for a 50% safety factor. Output ripple shall be 3.0 mV maximum Peak-to-Peak. Regulation shall be 0.10% line and load combined, with 50 microsecond response time for 50% load changes. Unit shall have built-in over-voltage protection.
3. Unit shall operate between 0 C and 50 C.
4. Unit shall be UL recognized.

D. Current Switches

1. Current-operated switches shall be self-powered, solid state with adjustable trip current. The switches shall be selected to match the current of the application and output requirements of the DDC system.

PART 3 - EXECUTION

3.1 EXAMINATION

A. The project plans shall be thoroughly examined for control device and equipment locations, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

B. The contractor shall inspect the site to verify that equipment is installable as shown, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

3.2 PROTECTION

A. The Contractor shall protect all work and material from damage by his/her work or workers and shall be liable for all damage thus caused.

B. The Contractor shall be responsible for his/her work and equipment until finally inspected, tested, and accepted. The Contractor shall protect his/her work against theft or damage and shall carefully store material and equipment received on site that is not immediately installed. The Contractor shall close all open ends of work with temporary covers or plugs during storage and construction to prevent entry of foreign objects.

3.3 GENERAL WORKMANSHIP

A. Install equipment, piping, wiring/conduit parallel to building lines (i.e. horizontal, vertical, and parallel to walls) wherever possible.

B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.

C. Install all equipment in readily accessible location as defined by chapter 1 article 100 part A of the NEC. Control panels shall be attached to structural walls unless mounted in equipment enclosure specifically designed for that purpose. Panels shall be mounted to allow for unobstructed access for service.

D. Verify integrity of all wiring to ensure continuity and freedom from shorts and grounds.

E. All equipment, installation, and wiring shall comply with acceptable industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

F. Installation: By trained and experienced mechanics. All work shall be done by the control sub-contractor. All wiring incidental to the control system not shown on the Electrical Drawings or specified in Division 16 shall be provided and installed by the Control Contractor including all interlock control wiring between the various components of the air conditioning system, and all smoke detection system electrical wiring.

3.4 FIELD QUALITY CONTROL

A. All work, materials and equipment shall comply with the rules and regulations of applicable local, state, and federal codes and ordinances as identified in Part 1 of this Section.

B. Contractor shall continually monitor the field installation for code compliance and quality of workmanship. All visible piping and or wiring runs shall be installed parallel to building lines and properly supported.

C. Contractor shall arrange for field inspections by local and/or state authorities having jurisdiction over the work.

3.5 WIRING

A. All control and interlock wiring shall comply with the national and local electrical codes and Division 16 of these specifications. Where the requirements of this section differ with those in Division 16, the requirements of this section shall take precedence.

B. Where Class 2 wires are in concealed and accessible locations including ceiling return air plenums, approved cables not in raceway may be used provided that:

C. Circuits meet NEC Class 2 (current-limited) requirements. Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.

D. All cables shall be UL listed for application, i.e., cables used in ceiling plenums shall be UL listed specifically for that purpose.

E. Do not install Class 2 wiring in conduit containing Class 1 wiring. Boxes and panels containing high voltage may not be used for low voltage wiring except for the purpose of interfacing the two (e.g., relays and transformers).

F. Where class 2 wiring is run exposed, wiring shall be run parallel along a surface or perpendicular to it, and bundled, using approved wire ties at no greater than 3 m (10 ft) intervals. Such bundled cable shall be fastened to the structure, using specified fasteners, at 1.5 m (5 ft) intervals or more often to achieve a neat and workmanlike result.

G. All wire-to-device connections shall be made at a terminal blocks or terminal strip. All wire-to wire connections shall be at a terminal block, or with a crimped connector. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.

H. Maximum allowable voltage for control wiring shall be 120V. If only higher voltages are available, the Control System Contractor shall provide step down transformers.

I. All wiring shall be installed as continuous lengths, where possible. Any required splices shall be made only within an approved junction box or other approved protective device.

J. Install plenum wiring in sleeves where it passes through walls and floors. Maintain fire rating at all penetrations in accordance with other sections of this specification and local codes.

K. Size of conduit and size and type of wire shall be the design responsibility of the Control System Contractor, in keeping with the manufacturer's recommendation and NEC.

L. Control and status relays are to be located in designated enclosures only. These relays may also be located within packaged equipment control panel enclosures. These relays shall not be located within Class 1 starter enclosures.

M. Follow manufacturer's installation recommendations for all communication and network cabling. Network or communication cabling shall be run separately from other wiring.

N. Adhere to Division 16 requirements for installation of raceway.

O. This Contractor shall terminate all control and/or interlock wiring and shall maintain updated (as-built) wiring diagrams with terminations identified at the job site.

P. Flexible metal conduits and liquid-tight, flexible metal conduits shall not exceed 3' in length and shall be supported at each end. Flexible metal conduit less than 1/2" electrical trade size shall not be used. In areas exposed to moisture, including chiller and rooms, liquid-tight, flexible metal conduits shall be used.

3.6 INSTALLATION OF SENSORS

A. Install sensors in accordance with the manufacturer's recommendations.

B. Mount sensors rigidly and adequate for the environment within which the sensor operates.

C. Room temperature sensors shall be installed on concealed junction boxes properly supported by the wall framing.

D. All wires attached to sensors shall be air sealed in their conduits or in the wall to stop air transmitted from other areas affecting sensor readings.

E. Install duct static pressure tap with tube end facing directly down-stream of air flow.

F. Sensors used in mixing plenums, and hot and cold decks shall be of the averaging type. Averaging sensors shall be installed in a serpentine manner horizontally across duct. Each bend shall be supported with a capillary clip.

G. All pipe mounted temperature sensors shall be installed in wells. Install all liquid temperature sensors with heat conducting fluid in thermal wells.

H. Wiring for space sensors shall be concealed in building walls. EMT conduit is acceptable within mechanical and service rooms.

I. Install outdoor air temperature sensors on north wall complete with sun shield at designated location.

3.7 ACTUATORS

A. Mount and link control damper actuators per manufacturer's instructions.

1. To compress seals when spring return actuators are used on normally closed dampers, power actuator to approximately 5° open position, manually close the damper, and then tighten the linkage.
2. Check operation of damper/actuator combination to confirm that actuator modulates damper smoothly throughout stroke to both open and closed positions.
3. Valves - Actuators shall be mounted on valves with adapters approved by the actuator manufacturer. Actuators and adapters shall be mounted following manufacturer's recommendations.

3.8 IDENTIFICATION OF HARDWARE AND WIRING

A. All wiring and cabling, including that within factory-fabricated panels, shall be labeled at each end within 2" of termination with a cable identifier and other descriptive information.

B. Permanently label or code each point of field terminal strips to show the instrument or item served.

C. Identify control panels with minimum 1-cm (1/2”) letters on nameplates.

D. Identify all other control components with permanent labels. Identifiers shall match record documents. All plug-in components shall be labeled such that removal of the component does not remove the label.

1. boards or point modules shall be required to implement use of these spare points.

3.9 CLEANING

A. This contractor shall clean up all debris resulting from his or her activities daily. The contractor shall remove all cartons, containers, crates, etc. under his control as soon as their contents have been removed. Waste shall be collected and placed in a location designated by the Construction Manager or General Contractor.

B. At the completion of work in any area, the Contractor shall clean all of his/her work, equipment, etc., making it free from dust, dirt and debris, etc.

C. At the completion of work, all equipment furnished under this Section shall be checked for paint damage, and any factory finished paint that has been damaged shall be repaired to match the adjacent areas. Any metal cabinet or enclosure that has been deformed shall be replaced with new material and repainted to match the adjacent areas.

3.10 TRAINING

A. Train the designated staff of Owner's representative and Owner for 4-hours minimum to enable them to proficiently operate the system; create, modify, and delete programming; add, remove, and modify physical points for the system, and perform routine diagnostic and troubleshooting procedures.

B. The instructor(s) shall be factory-trained instructors experienced in presenting this material.

3.11 ACCEPTANCE

A. The control systems will not be accepted as meeting the requirements of Completion until all tests described in this specification have been performed to the satisfaction of the Engineer.

END OF SECTION

TRUE NORTH

ARCHITECTURAL SITE PLAN
SCALE: 1/32" = 1'-0"

TRUE NORTH

KEY PLAN
SCALE: NTS

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE: ARCHITECTURAL SITE PLAN

STATE OF ALABAMA
WALTER T. McKEE, JR.
No. 1082
MONTGOMERY, ALA.
REGISTERED ARCHITECT

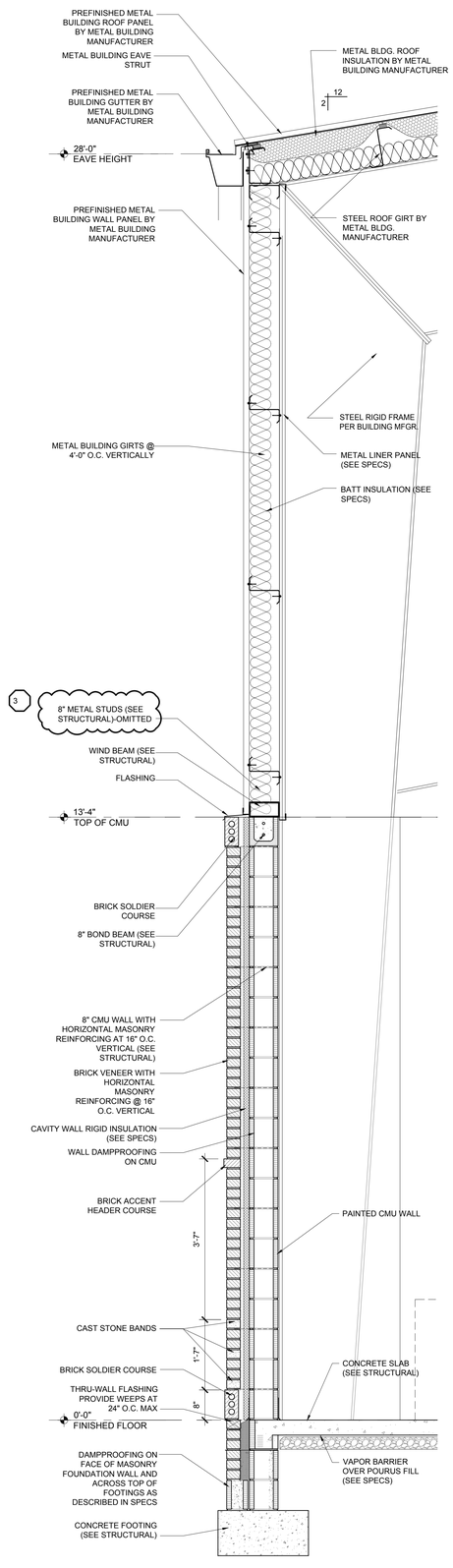
PROJ. MGR.:	-
DRAWN:	KDD
DATE:	01.14.2026
REVISIONS	
3	02.16.2026

JOB NO. 24-304

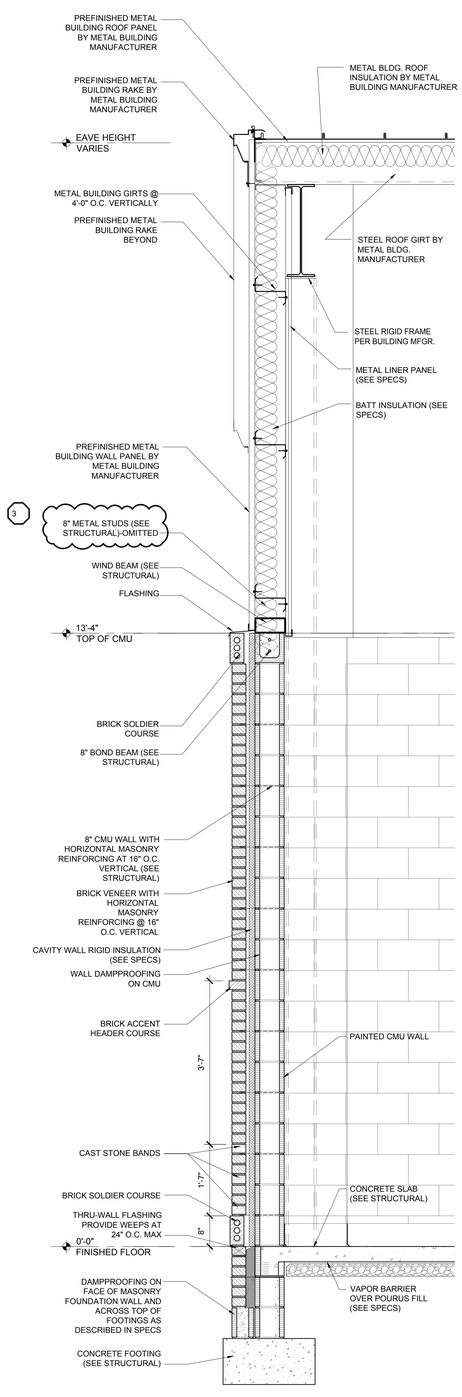
SHEET NO.
A0.1

0 1" 2"

INSULATION VALUES IN NEW BUILDING:
WALL INSULATION - R 7.5 RIGID INSULATION (+-1.5" THICK)



I WALL SECTION
SCALE: 3/4"=1'-0"



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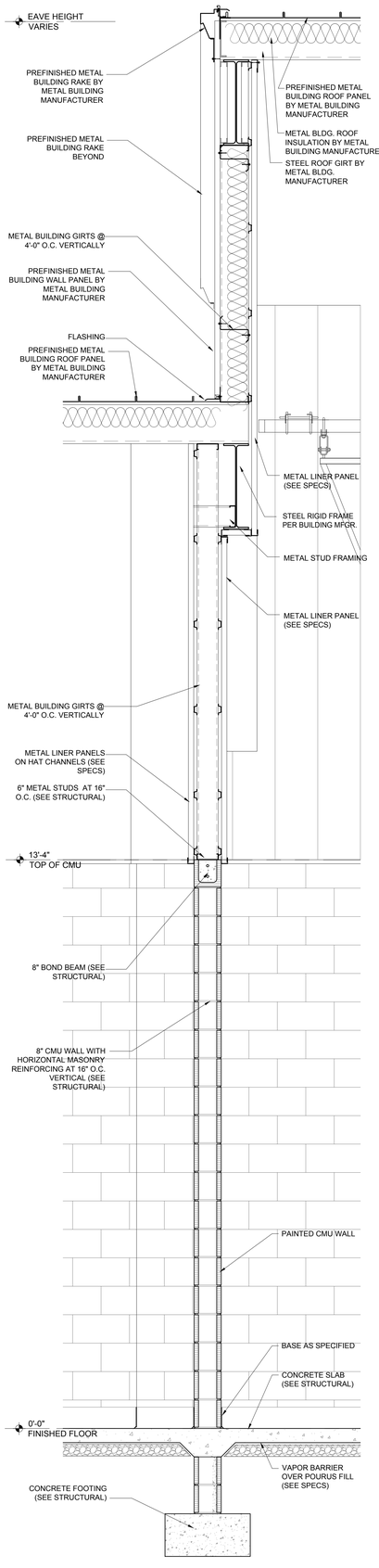

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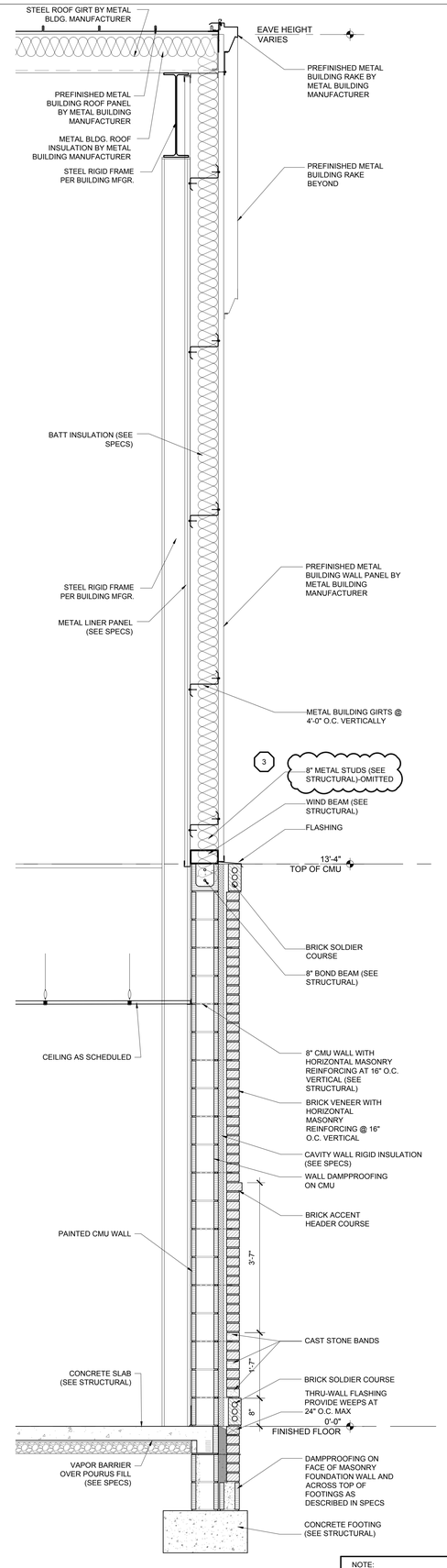


L WALL SECTION
SCALE: 3/4"=1'-0"

NOTE:
VERIFY ACTUAL SIZE AND DEPTH OF FOOTINGS AND BLOCK BELOW FINISH FLOOR WITH STRUCTURAL

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE: WALL SECTIONS

STATE OF ALABAMA
WALTER T. McKEE, JR.
No. 1082
MONTGOMERY, ALA.
REGISTERED ARCHITECT

PROJ. MGR.:	-
DRAWN:	KDD
DATE:	01.14.2026
REVISIONS	
3	02.16.2026

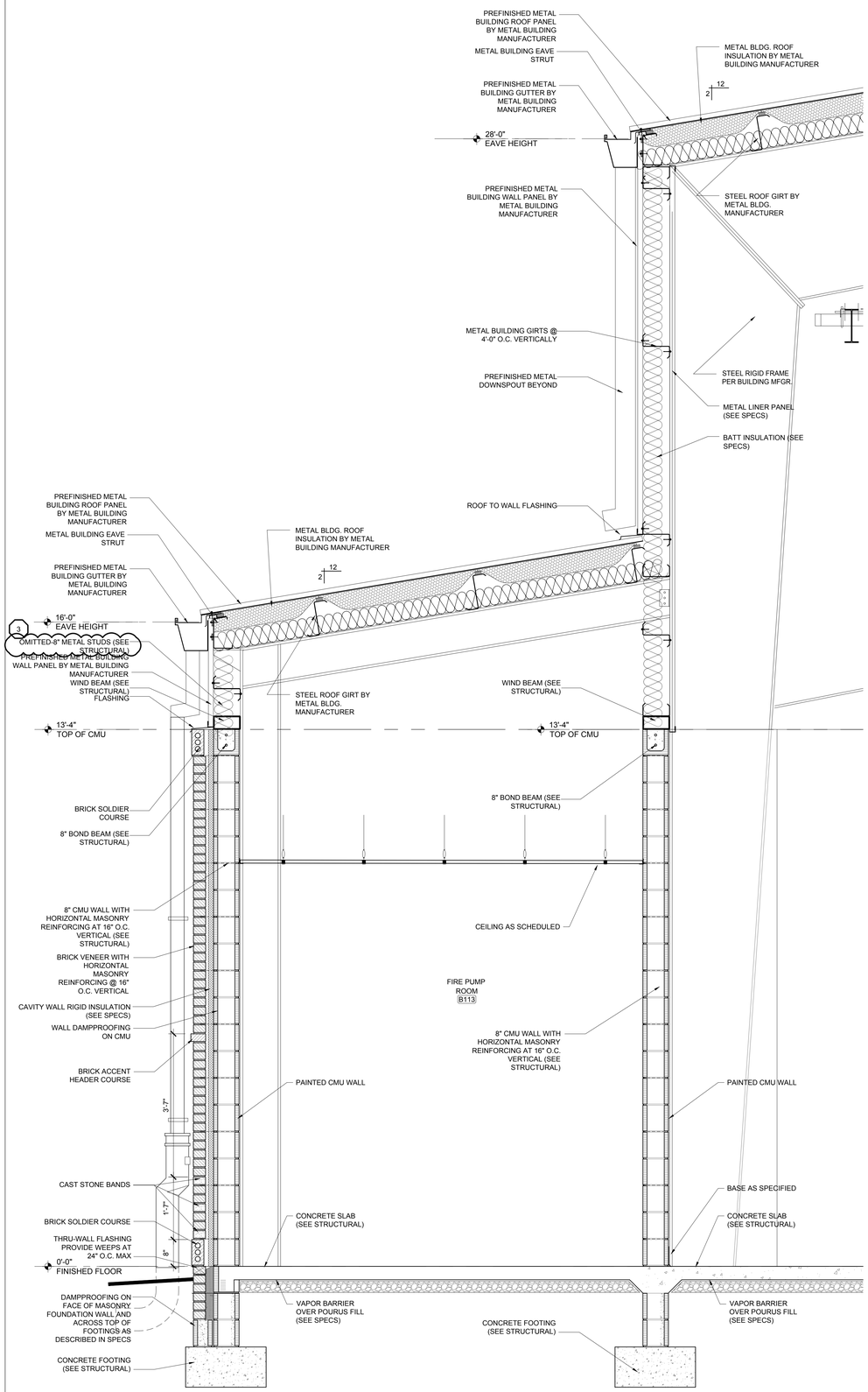
JOB NO. 24-304

SHEET NO:

A6.3

0 1" 2"

INSULATION VALUES IN NEW BUILDING:
WALL INSULATION - R 7.5 RIGID INSULATION (+-1.5" THICK)



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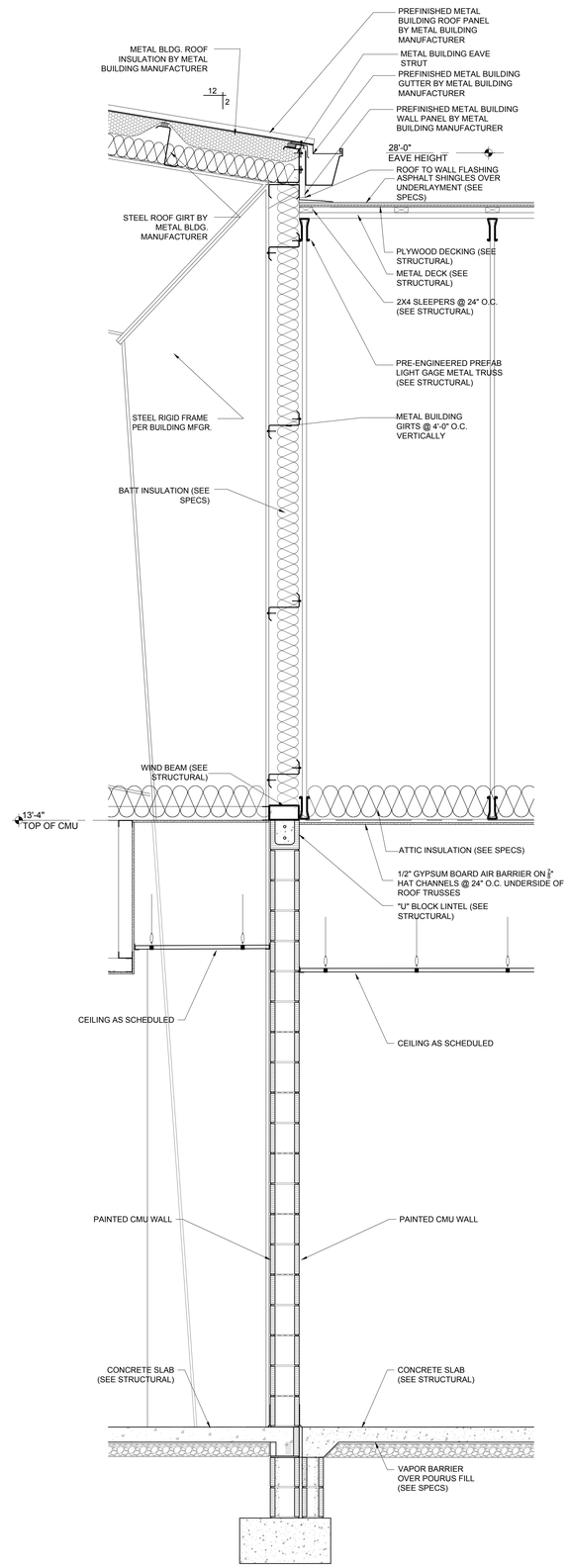
SCALE: 3/4"=1'-0"



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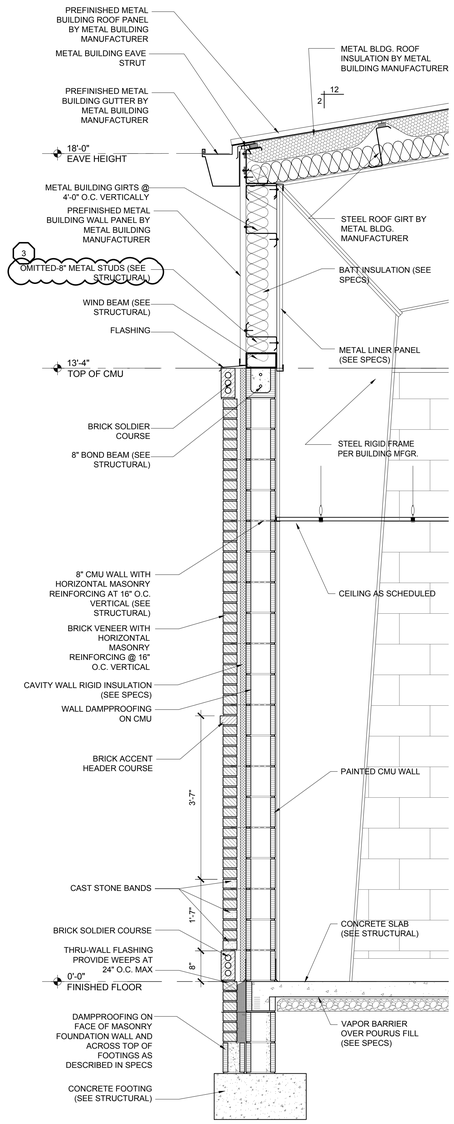


O WALL SECTION
SCALE: 3/4"=1'-0"

NOTE:
VERIFY ACTUAL SIZE AND DEPTH OF FOOTINGS AND BLOCK BELOW FINISH FLOOR WITH STRUCTURAL

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE: WALL SECTIONS

STATE OF ALABAMA
WALTER T. McKEE, JR.
No. 1082
MONTGOMERY, ALA.
REGISTERED ARCHITECT

PROJ. MGR.: -
DRAWN: KDD
DATE: 01.14.2026
REVISIONS
3 02.16.2026

JOB NO. 24-304
SHEET NO: A6.4

0 1" 2"

- /Users/kddarchitect/LATHAN-McKEE PROJECTS/Andalusia Elem Addition 24-304/A6.X Wall Sections.dwg
- Wednesday, February 04, 2026 11:19:10 AM

DOOR SCHEDULE -- PART 'A'

DOOR #	WIDTH	HEIGHT	THICKNESS	MATERIALS	DOOR TYPE	DOOR FINISH 3	FRAME TYPE	FRAME FINISH	LABEL	DETAILS HEAD	DETAILS JAMB	SIGNAGE	REMARKS
A101a	PR. 3'-6"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF1	FACTORY	---	5/A8.4	6/A8.4	---	---
A101b	PR. 3'-6"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF2	FACTORY	---	13/A8.4	14/A8.4	---	---
A102	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	WAITING	---
A103	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	D	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	RECEPTION	---
A105a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	PRINCIPAL	---
A105b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	PRINCIPAL	---
A106	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
A107	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	STAFF TOILET	---
A108	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A109a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A109b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A110	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A111	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4		---
A112	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A113a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A113b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A114	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A115	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	BOY'S	---
A116	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	GIRL'S	
A117	4'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	ELECTRICAL/MECHANICAL	PANIC BAR REQUIRED
A118	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A119a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A119b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A120	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A121	PR.3'-6"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM2	PAINT	1 1/2 HOUR	7/A8.4	8/A8.4		---
A122a	PR.3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4		---
A122b	PR.3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4		---
A123	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A124a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A124b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A125	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLASSROOM	---
A126	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
A127	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A128	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	NURSE	---
A129	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	WORKROOM	---
A129b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	DATA	---
A130	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A131a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A131b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A132	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A133	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM2	PAINT	---	11/A8.4	12/A8.4	ELECTRICAL	PANIC BAR REQUIRED
A134	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A135a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A135b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A136	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A137a	PR. 4'-0"	7'-0"	1 3/4"	STORM DOOR	C	STAIN	HM2	PAINT	1 1/2 HOUR	11/A8.4	12/A8.4		STORM SHELTER DOOR - SEE SPECS
A137b	PR. 4'-0"	7'-0"	1 3/4"	STORM DOOR	C	STAIN	HM2	PAINT	1 1/2 HOUR	11/A8.4	12/A8.4		STORM SHELTER DOOR - SEE SPECS
A138	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A139a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A139b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A140	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A141	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	MECHANICAL	---
A142	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	JANITOR	---
A143	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---
A144a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A144b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
A145	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM1	PAINT	---	11/A8.4	12/A8.4	CLASSROOM	---

DOOR SCHEDULE -- PART 'B'

DOOR #	WIDTH	HEIGHT	THICKNESS	MATERIALS	DOOR TYPE	DOOR FINISH 3	FRAME TYPE	FRAME FINISH	LABEL	DETAILS HEAD	DETAILS JAMB	SIGNAGE	REMARKS
B101a	PR. 3'-6"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF4	FACTORY	---	5/A8.4	4/A8.4	---	---
B101b	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4	---	---
B102	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B103	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	BOY'S	---
B104a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	GIRL'S	---
B104b	2'-4"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	CLOSET	---
B105	3'-4"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B105b	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	ELECTRICAL	PANIC BAR REQUIRED
B106	3'-0"	7'-0"	1 3/4"	HOLLOW METAL	C	STAIN	HM1	PAINT	---	1/A8.4	2/A8.4	UNISEX TOILET	---
B107	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	JANITOR	---
B108a	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	D	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	CAFETERIA	---
B108b	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4	---	---
B108c	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4	---	---
B109	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B110a	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	UNISEX TOILET	---
B110b	3'-0"	7'-0"	1 3/4"	HOLLOW METAL	C	STAIN	HM1	PAINT	---	1/A8.4	2/A8.4	UNISEX TOILET	---
B111	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B112a	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4	---	---
B112b	PR. 3'-0"	7'-0"	1 3/4"	ALUMINUM STOREFRONT	A	FACTORY	ASF3	FACTORY	---	5/A8.4	4/A8.4	---	---
B112c	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	GYMNASIUM	---
B112d	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	B	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	GYMNASIUM	---
B113	3'-0"	7'-0"	1 3/4"	HOLLOW METAL	C	PAINT	HM2	PAINT	---	1/A8.4	2/A8.4	FIRE SPRINKLER ROOM	*SIGN IN CONTRASTING COLOR WITH 2 INCH LETTERS AS REQUIRED BY IBC 2021
B114	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B115	PR. 3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM2	PAINT	---	7/A8.4	8/A8.4	STORAGE	---
B116	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	D	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	OFFICE	---
3 B117	3'-0"	7'-0"	1 3/4"	FLUSH WOOD SOLID CORE	C	STAIN	HM1	PAINT	---	7/A8.4	8/A8.4	MECHANICAL	*PANIC BAR OMITTED

SIGN MOUNTING HEIGHT

703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND
TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 mm) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 mm) MAXIMUM ABOVE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER.
EXCEPTION: BRAILLE PROVIDED ON ELEVATOR CAR CONTROLS SHALL BE SEPARATED 3/8 INCHES (4.8 mm) MINIMUM AND SHALL BE LOCATED EITHER DIRECTLY BELOW OR ADJACENT TO THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS.

703.4.2 LOCATION
WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT THE CLEAR FLOOR SPACE OF 18 INCHES (455 mm) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSEST POSITION AND 45 DEGREE OPEN POSITION.
EXCEPTION: SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.

SIGNAGE NOTES:

FURNISH INDIVIDUAL PLASTIC LAMINATE SIGNAGE SYSTEM WITH ROOM OR OCCUPANT'S NAME AND ROOM NUMBER. FINAL WORDING TO BE FURNISHED WHEN SHOP DRAWINGS FOR SIGNAGE SYSTEM ARE SUBMITTED. FURNISH INDIVIDUAL PLASTIC LAMINATE RESTROOM SIGNS FOR DOOR(S) AND HANDICAPED ACCESS SIGN TO BE PLACED ON WALL BESIDE RESTROOM DOOR(S) -SEE DIAGRAM.

LABELED DOOR AND FRAME NOTE:

HOURLY RATING DESIGNATIONS AND / OR ALPHABETICAL LETTER DESIGNATIONS ARE GIVEN WHERE PROTECTED OPENINGS ARE REQUIRED IN RATED PARTITIONS. THESE OPENING PROTECTIVE ASSEMBLIES SHALL INCLUDE THE FRAME, DOOR, HARDWARE, CLOSING DEVICE, SILL AND ANCHORAGE. CONTRACTOR SHALL SEE THAT NO COMPONENT IS OMITTED OR SUBSTANDARD QUALITY USED SUCH THAT THE EFFECTIVENESS OF THE ENTIRE OPENING AS A FIRE OR SMOKE BARRIER MIGHT BE JEOPARDIZED. DOORS AND FRAMES SHALL BE FURNISHED WITH UNDERWRITER'S LABORATORIES OR WARNOCKHERSEY LABELS WITH APPROPRIATE FIRE RESISTANCE RATINGS FOR THE CLASS OF OPENING SCHEDULED. SUBJECT TO DOOR MANUFACTURER'S PROCEDURAL LIMITATIONS, LABELS SHOULD BEAR THE FOLLOWING NOTATION: "FIRE DOOR, TO BE EQUIPPED WITH FIRE EXIT HARDWARE"

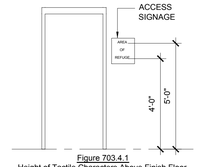


Figure 703.4.1
Height of Tactile Characters Above Finish Floor or Ground

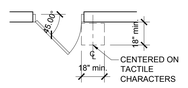


Figure 703.4.2
Location of Tactile Signs at Doors

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE: DOOR SCHEDULE

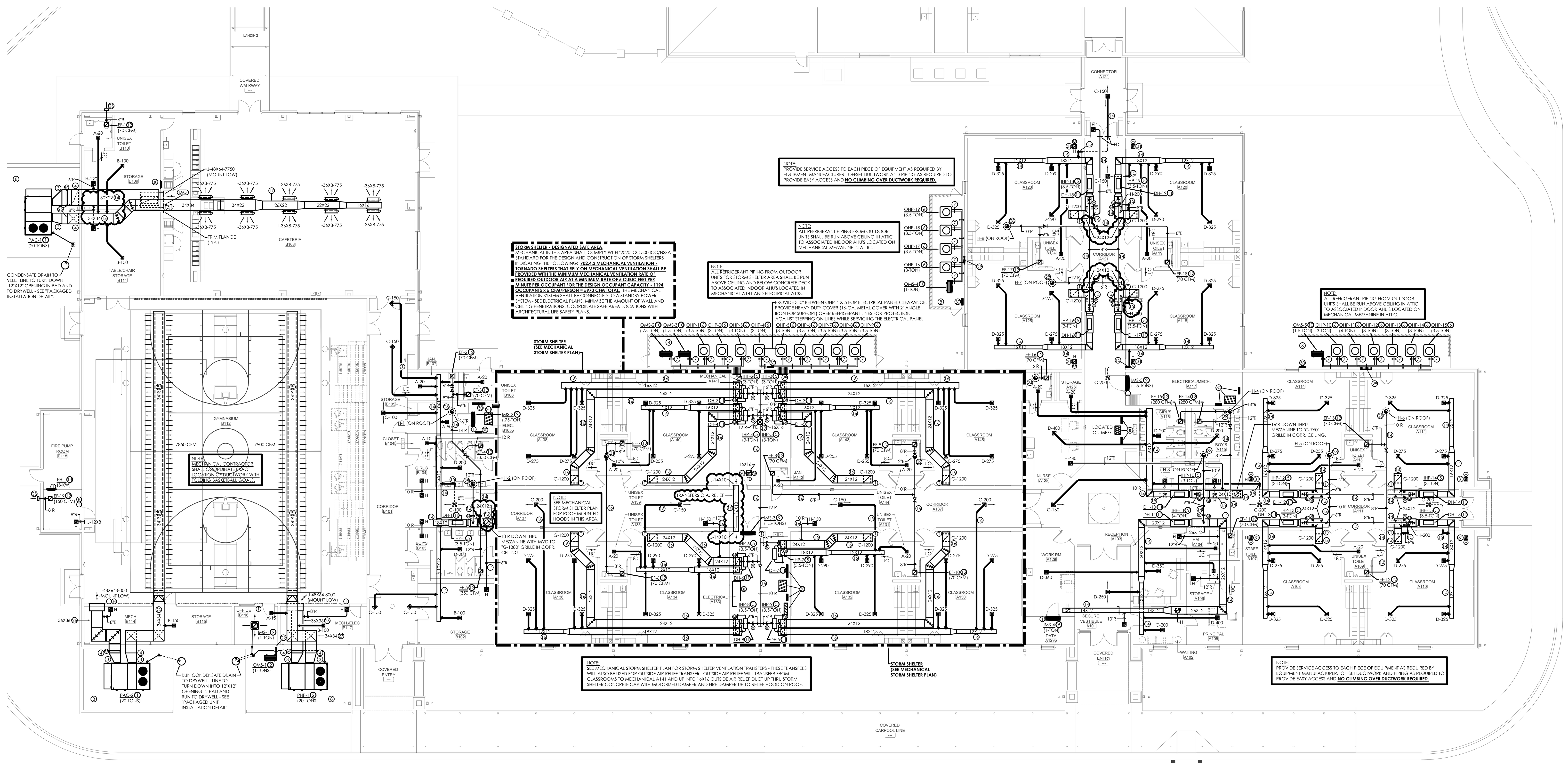
STATE OF ALABAMA
WALTER T. McKEE, JR.
No. 1082
MONTGOMERY, ALA.
REGISTERED ARCHITECT

PROJ. MGR.: -
DRAWN: KDD
DATE: 01.14.2026
REVISIONS
3 02.16.2025

JOB NO. 24-304
SHEET NO:
A8.2

0 1" 2"

- /Users/kddarchitect/LATHAN-McKEE PROJECTS/Andalusia Elem Addition 24-304/A8.X Schedules.dwg
- Monday, February 02, 2026 6:03:51 PM



OVERALL MECHANICAL PLAN

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

SPECIAL NOTE TO CONTRACTORS:

PER THE MECHANICAL SPECIFICATIONS, THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS ARE REQUIRED TO COORDINATE THE POWER REQUIREMENTS FOR EACH PIECE OF EQUIPMENT REQUIRING POWER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT. PROOF OF THIS COORDINATION IS REQUIRED IN LETTER FORMAT (SEE EXAMPLE OF LETTER IN MECHANICAL SPECIFICATION SECTION "15050 GENERAL HVAC REQUIREMENTS") AND SHALL BE SENT TO THE PROJECT ENGINEERS/DESIGNERS PRIOR TO SUBMITTAL PHASE - NO EXCEPTIONS! IT IS THE SOLE RESPONSIBILITY OF THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS TO COORDINATE AND MAKE ANY CHANGES NECESSARY AT NO EXTRA COST - NO EXCEPTIONS!

GENERAL NOTES:

1. VERIFY LOCATION OF ALL THERMOSTATS AND WALL CONTROLS WITH ARCHITECT BEFORE INSTALLATION.
2. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ANY COST OF RE-SIZING OR RE-ROUTING DUCTWORK TO COORDINATE WITH STRUCTURAL AND ALL OTHER TRADES SHALL BE AT THE MECHANICAL CONTRACTOR'S EXPENSE.
3. ALL OUTSIDE AIR INTAKES SHALL BE MOUNTED AT LEAST 10'-0" AWAY FROM ALL EXHAUST RELIEFS AND PLUMBING VENTS.
4. CONTRACTOR SHALL VISIT THE SITE AND NOTIFY THE ENGINEER AND ARCHITECT IN WRITING OF ANY PROBLEMS OR DISCREPANCIES IN THE DRAWINGS BEFORE SUBMITTING A BID, ORDERING EQUIPMENT OR INSTALLATION OF EQUIPMENT AND ACCESSORIES.
5. MECHANICAL CONTRACTOR SHALL PROVIDE PROPER SERVICE CLEARANCE FOR EACH PIECE OF MECHANICAL EQUIPMENT REQUIRING SERVICE.
6. SEE LIFE SAFETY PLANS FOR ALL RATED WALLS, CEILINGS, ETC. PROVIDE FIRE DAMPERS AT ALL RATED WALLS AND CEILINGS.
7. MECHANICAL CONTRACTOR SHALL PROVIDE WIND RESTRAINTS ON EACH PIECE OF GRADE MOUNTED MECHANICAL EQUIPMENT - SEE "OUTDOOR HEAT PUMP/CONDENSING UNIT DETAIL" FOR GRADE MOUNTED NOTES.

MECHANICAL NOTE LEGEND

(1) PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED COOLING ONLY/ELECTRIC HEAT UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE HOT-GAS RE-HEAT FOR DEHUMIDIFICATION. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.
(2) PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED HEAT PUMP UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.
(3) ALL EXTERIOR DUCTWORK SHALL BE STANDARD GALVANIZED SHEET METAL LINED WITH 1" CLOSED CELL FOAM. WRAP EXTERIOR OF DUCT WITH 2" RIGID INSULATION BOARD (TOTAL INSULATION SHALL BE R-8 OR GREATER) AND COVER IN ALUMAGUARD - NOTE: PAINTING ALUMAGUARD VOIDS THE FACTORY WARRANTY.
(4) PROVIDE WATER AND AIR TIGHT SEAL AT EXTERIOR WALL PENETRATIONS.
(5) PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.
(6) PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM CONDENSING UNIT/HEAT PUMP WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT UNIT ON 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. PROVIDE NEOPRENE VIBRATION ISOLATION PADS. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. COORDINATE EXACT LOCATION OF PAD AND UNIT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
(7) REFRIGERANT PIPING AND CONTROL WIRING FROM OUTDOOR UNIT TO RELATED INDOOR UNIT. COVER EXTERIOR PIPING WITH ALUMINUM JACKET. INSTALL CONTROL WIRING IN EXTERIOR TYPE CONDUIT. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 3'-0". STRAP CONDUIT AND REFRIGERANT PIPING TO ANCHORED UNISTRUT EVERY 3'-0" MAX.
(8) PROVIDE AND INSTALL A 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
(9) PROVIDE AND INSTALL A COMPLETE OPERATIONAL MINI-SPLIT INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.
(10) PROVIDE AND INSTALL A COMPLETE OPERATIONAL MINI-SPLIT HEAT PUMP/CONDENSING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE NEOPRENE VIBRATION ISOLATION PADS. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE.
(11) PROVIDE AND INSTALL A SIDE-STREAM DEHUMIDIFIER WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE AUXILIARY DRAIN PAN WITH FLOAT MICRO-SWITCH. HANG HIGH AS POSSIBLE IN SPACE. MOUNT PER MANUFACTURER'S RECOMMENDATIONS. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.
(12) PROVIDE AND INSTALL A COMPLETE OPERATIONAL CEILING MOUNTED EXHAUST FAN WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE FACTORY SPEED CONTROLLER ON FAN.
(13) PROVIDE AND INSTALL A COMPLETE OPERATIONAL WALL MOUNTED ELECTRIC HEATER WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT HEATER FLUSH IN WALL. PROVIDE UNIT MOUNTED THERMOSTAT.
(14) DUCTWORK SHALL RUN ABOVE MECHANICAL MEZZANINE IN ATTIC. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE MECHANICAL MEZZANINE, THRU AND BETWEEN STRUCTURE. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.
(15) DUCTWORK SHALL RUN BELOW MECHANICAL MEZZANINE AND ABOVE CEILING. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT BELOW MECHANICAL MEZZANINE AND ABOVE CEILING. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.
(16) DUCTWORK SHALL RUN ABOVE CEILING AND BELOW STORM SHELTER CONCRETE LID. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE CEILING AND BELOW CONCRETE LID. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.
(17) DOUBLE-WALL INTERNALLY LINED ARCHITECTURALLY EXPOSED OVAL OR ROUND SPIRAL DUCTWORK. USE EXTREME CARE IN SHIPPING, HANDLING AND INSTALLATION. DAMAGED DUCTWORK WILL NOT BE ACCEPTED. DAMAGED DUCTWORK SHALL BE REPLACED AT MECHANICAL CONTRACTOR'S EXPENSE. RUN DUCTWORK HIGH AS POSSIBLE - MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ADJUST/ANGLE AIR DISTRIBUTION DEVICES SO THAT THE AIR DOES NOT BLOW DIRECTLY ON LIGHT FIXTURES, HANGERS, STRUCTURE, ETC.
(18) PROVIDE AND INSTALL FABRIC DUCTWORK - DUCTWORK SHALL BE DUCTSOX VERONA WITH SKELECORE TENSIONING SYSTEM OR APPROVED EQUAL. DUCTWORK SHALL BE CONSISTENT DIAMETER. RUN DUCTWORK TIGHT TO BOTTOM OF STRUCTURE - MINIMUM MOUNTING HEIGHT SHALL BE 25'-0" A.F.F. (COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO INSTALLATION). COORDINATE DUCTWORK WITH LIGHTS TO AVOID CONFLICT AND ANGLE AIR DISCHARGE SO THAT AIR WILL NOT BLOW DIRECTLY ON LIGHTS OR HANGERS. OWNER HAS OPTION OF ORDERING FABRIC DUCT IN SCHOOL COLORS AND SCHOOL LOGO - MECHANICAL CONTRACTOR SHALL COORDINATE COLOR AND LOGO WITH OWNER PRIOR TO ORDERING AND INSTALLATION. PROVIDE TRIM FLANGE AT ALL WALL PENETRATIONS.
(19) 16X16 OUTSIDE AIR DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO INTAKE HOOD ON ROOF.
(20) 16X16 OUTSIDE AIR RELIEF DUCT UP THRU STORM SHELTER CONCRETE CAP WITH MOTORIZED DAMPER AND FIRE DAMPER UP TO RELIEF HOOD ON ROOF.
(21) 10"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.
(22) 12"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.
(23) 6"R EXHAUST DUCT TO COOK MODEL "WC" WALL CAP OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON WALL CAP.
(24) 6"R EXHAUST DUCT UP THRU ROOF TO COOK MODEL "RJ" ROOF JACK OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON ROOF JACK. RUN TO BACK-SIDE OF ROOF RIDGE.
(25) DUCTWORK SHALL RUN UP EXTERIOR WALL AND COME IN HIGH.
(26) RETURN AIR DUCTWORK SHALL RUN LOW ALONG FLOOR TO RELATED WALL MOUNTED RETURN AIR GRILLE. PROVIDE UNISTRUT DUCTWORK SUPPORTS UNDERNEATH RETURN AIR DUCTWORK.
(27) SUPPLY AIR DUCTWORK SHALL COME IN LOW, RISE UP AND RUN HIGH.
(28) RUN DUCTWORK UP THRU ROOF TO HOOD ON ROOF - PROVIDE ROOF CURB.
(29) REFRIGERANT PIPING FROM OUTDOOR CONDENSING UNIT TO RELATED INDOOR AIR HANDLING UNIT.
(30) ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, TELEPHONE BACK-BOARDS, ETC.) - SEE ELECTRICAL PLANS. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED SERVICE CLEARANCE TO ALL ELECTRICAL EQUIPMENT.
(31) PROVIDE AN "H" GRILLE AND A 12"X12" RELIEF AIR DUCT WITH MOTORIZED DAMPER. TERMINATE RELIEF AIR DUCT INTO ATTIC 12" ABOVE LINE OF INSULATION.

SCALE: 1/16" = 1'-0"
0 8' 16' 32'

MORRIS DAVIS ENGINEERING LLC
903 SOUTH PERRY STREET
MONTGOMERY, AL 36104
T. (334) 269-0329
www.Jmorriseng.com
PROJECT NO: 25-148

LATHAN ▪McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE:
OVERALL MECHANICAL PLAN

ALABAMA LICENSED No. 16984 PROFESSIONAL ENGINEER JAMES H. MORRIS 2/11/2026

PROJ. MGR.:	JBB/JHM
DRAWN:	JBB
DATE:	1-14-2026
REVISIONS	

JOB NO. 24-304

SHEET NO:

M0.1

0 1" 2"

SPECIAL NOTE TO CONTRACTORS:

PER THE MECHANICAL SPECIFICATIONS, THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS ARE REQUIRED TO COORDINATE THE POWER REQUIREMENTS FOR EACH PIECE OF EQUIPMENT REQUIRING POWER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT. PROOF OF THIS COORDINATION IS REQUIRED IN LETTER FORMAT (SEE EXAMPLE OF LETTER IN MECHANICAL SPECIFICATION SECTION "15050 GENERAL HVAC REQUIREMENTS") AND SHALL BE SENT TO THE PROJECT ENGINEERS/DESIGNERS PRIOR TO SUBMITTAL PHASE - NO EXCEPTIONS! IT IS THE SOLE RESPONSIBILITY OF THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS TO COORDINATE AND MAKE ANY CHANGES NECESSARY AT NO EXTRA COST - NO EXCEPTIONS!

GENERAL NOTES:

1. VERIFY LOCATION OF ALL THERMOSTATS AND WALL CONTROLS WITH ARCHITECT BEFORE INSTALLATION.
2. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ANY COST OF RE-SIZING OR RE-ROUTING DUCTWORK TO COORDINATE WITH STRUCTURAL AND ALL OTHER TRADES SHALL BE AT THE MECHANICAL CONTRACTOR'S EXPENSE.
3. ALL OUTSIDE AIR INTAKES SHALL BE MOUNTED AT LEAST 10'-0" AWAY FROM ALL EXHAUST RELIEFS AND PLUMBING VENTS.
4. CONTRACTOR SHALL VISIT THE SITE AND NOTIFY THE ENGINEER AND ARCHITECT IN WRITING OF ANY PROBLEMS OR DISCREPANCIES IN THE DRAWINGS BEFORE SUBMITTING A BID, ORDERING EQUIPMENT OR INSTALLATION OF EQUIPMENT AND ACCESSORIES.
5. MECHANICAL CONTRACTOR SHALL PROVIDE PROPER SERVICE CLEARANCE FOR EACH PIECE OF MECHANICAL EQUIPMENT REQUIRING SERVICE.
6. SEE LIFE SAFETY PLANS FOR ALL RATED WALLS, CEILINGS, ETC. PROVIDE FIRE DAMPERS AT ALL RATED WALLS AND CEILINGS.
7. MECHANICAL CONTRACTOR SHALL PROVIDE WIND RESTRAINTS ON EACH PIECE OF GRADE MOUNTED MECHANICAL EQUIPMENT - SEE "OUTDOOR HEAT PUMP/CONDENSING UNIT DETAIL" FOR GRADE MOUNTED NOTES.

NOTE:
PROVIDE SERVICE ACCESS TO EACH PIECE OF EQUIPMENT AS REQUIRED BY EQUIPMENT MANUFACTURER. OFFSET DUCTWORK AND PIPING AS REQUIRED TO PROVIDE EASY ACCESS AND **NO CLIMBING OVER DUCTWORK REQUIRED.**

NOTE:
ALL REFRIGERANT PIPING FROM OUTDOOR UNITS SHALL BE RUN ABOVE CEILING IN ATTIC TO ASSOCIATED INDOOR AHU'S LOCATED ON MECHANICAL MEZZANINE IN ATTIC.

NOTE:
ALL REFRIGERANT PIPING FROM OUTDOOR UNITS SHALL BE RUN ABOVE CEILING AND BELOW CONCRETE DECK TO ASSOCIATED INDOOR AHU'S LOCATED IN MECHANICAL A141 AND ELECTRICAL A133.

STORM SHELTER - DESIGNATED SAFE AREA:
MECHANICAL IN THIS AREA SHALL COMPLY WITH "2020 ICC-500 ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS" INDICATING THE FOLLOWING: **702.4.2 MECHANICAL VENTILATION - TORNADO SHELTERS THAT RELY ON MECHANICAL VENTILATION SHALL BE PROVIDED WITH THE MINIMUM MECHANICAL VENTILATION RATE OF REQUIRED OUTDOOR AIR AT A MINIMUM RATE OF 5 CUBIC FEET PER MINUTE PER OCCUPANT FOR THE DESIGN OCCUPANT CAPACITY - 1194 OCCUPANTS x 5 CFM/PERSON = 5970 CFM TOTAL.** THE MECHANICAL VENTILATION SYSTEM SHALL BE CONNECTED TO A STANDBY POWER SYSTEM - SEE ELECTRICAL PLANS. MINIMIZE THE AMOUNT OF WALL AND CEILING PENETRATIONS. COORDINATE SAFE AREA LOCATIONS WITH ARCHITECTURAL LIFE SAFETY PLANS.

PROVIDE 3'-0" BETWEEN OHP-4 & 5 FOR ELECTRICAL PANEL CLEARANCE. PROVIDE HEAVY DUTY COVER (16-GA. METAL COVER WITH 2" ANGLE IRON FOR SUPPORT) OVER REFRIGERANT LINES FOR PROTECTION AGAINST STEPPING ON LINES WHILE SERVICING THE ELECTRICAL PANEL.

NOTE:
SEE MECHANICAL STORM SHELTER PLAN FOR ROOF MOUNTED HOODS IN THIS AREA.

NOTE:
SEE MECHANICAL STORM SHELTER PLAN FOR STORM SHELTER VENTILATION TRANSFERS - THESE TRANSFERS WILL ALSO BE USED FOR OUTSIDE AIR RELIEF TRANSFER. OUTSIDE AIR RELIEF WILL TRANSFER FROM CLASSROOMS TO MECHANICAL A141 AND UP INTO 16X16 OUTSIDE AIR RELIEF DUCT UP THRU STORM SHELTER CONCRETE CAP WITH MOTORIZED DAMPER AND FIRE DAMPER UP TO RELIEF HOOD ON ROOF.

STORM SHELTER (SEE MECHANICAL STORM SHELTER PLAN)

STORM SHELTER (SEE MECHANICAL STORM SHELTER PLAN)

MECHANICAL PLAN - PART "A"

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

MECHANICAL NOTE LEGEND

1. PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED COOLING ONLY/ELECTRIC HEAT UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE HOT-GAS RE-HEAT FOR DEHUMIDIFICATION. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.
2. PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED HEAT PUMP UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.
3. ALL EXTERIOR DUCTWORK SHALL BE STANDARD GALVANIZED SHEET METAL LINED WITH 1" CLOSED CELL FOAM. WRAP EXTERIOR OF DUCT WITH 2" RIGID INSULATION BOARD (TOTAL INSULATION SHALL BE R-8 OR GREATER) AND COVER IN ALUMAGUARD - NOTE: PAINTING ALUMAGUARD VOIDS THE FACTORY WARRANTY.
4. PROVIDE WATER AND AIR TIGHT SEAL AT EXTERIOR WALL PENETRATIONS.
5. PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.
6. PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM CONDENSING UNIT/HEAT PUMP WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT UNIT ON 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. PROVIDE NEOPRENE VIBRATION ISOLATION PADS. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. COORDINATE EXACT LOCATION OF PAD AND UNIT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
7. REFRIGERANT PIPING AND CONTROL WIRING FROM OUTDOOR UNIT TO RELATED INDOOR UNIT. COVER EXTERIOR PIPING WITH ALUMINUM JACKET. INSTALL CONTROL WIRING IN EXTERIOR TYPE CONDUIT. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 3'-0". STRAP CONDUIT AND REFRIGERANT PIPING TO ANCHORED UNISTRUT EVERY 3'-0" MAX.
8. PROVIDE AND INSTALL A 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
9. PROVIDE AND INSTALL A COMPLETE OPERATIONAL MINI-SPLIT INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.
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12. PROVIDE AND INSTALL A COMPLETE OPERATIONAL CEILING MOUNTED EXHAUST FAN WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE FACTORY SPEED CONTROLLER ON FAN.
13. PROVIDE AND INSTALL A COMPLETE OPERATIONAL WALL MOUNTED ELECTRIC HEATER WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT HEATER FLUSH IN WALL. PROVIDE UNIT MOUNTED THERMOSTAT.
14. DUCTWORK SHALL RUN ABOVE MECHANICAL MEZZANINE IN ATTIC. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE MECHANICAL MEZZANINE, THRU AND BETWEEN STRUCTURE. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.
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16. DUCTWORK SHALL RUN ABOVE CEILING AND BELOW STORM SHELTER CONCRETE LID. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE CEILING AND BELOW CONCRETE LID. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.
17. DOUBLE-WALL INTERNALLY LINED ARCHITECTURALLY EXPOSED OVAL OR ROUND SPIRAL DUCTWORK. USE EXTREME CARE IN SHIPPING, HANDLING AND INSTALLATION. DAMAGED DUCTWORK WILL NOT BE ACCEPTED. DAMAGED DUCTWORK SHALL BE REPLACED AT MECHANICAL CONTRACTOR'S EXPENSE. RUN DUCTWORK HIGH AS POSSIBLE - MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION). COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ADJUST/ANGLE AIR DISTRIBUTION DEVICES SO THAT THE AIR DOES NOT BLOW DIRECTLY ON LIGHT FIXTURES, HANGERS, STRUCTURE, ETC.
18. PROVIDE AND INSTALL FABRIC DUCTWORK - DUCTWORK SHALL BE DUCTSOX VERONA WITH SKELECORE TENSIONING SYSTEM OR APPROVED EQUAL. DUCTWORK SHALL BE CONSISTENT DIAMETER. RUN DUCTWORK TIGHT TO BOTTOM OF STRUCTURE - MINIMUM MOUNTING HEIGHT SHALL BE 25'-0" A.F.F. (COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO INSTALLATION). COORDINATE DUCTWORK WITH LIGHTS TO AVOID CONFLICT AND ANGLE AIR DISCHARGE SO THAT AIR WILL NOT BLOW DIRECTLY ON LIGHTS OR HANGERS. OWNER HAS OPTION OF ORDERING FABRIC DUCT IN SCHOOL COLORS AND SCHOOL LOGO - MECHANICAL CONTRACTOR SHALL COORDINATE COLOR AND LOGO WITH OWNER PRIOR TO ORDERING AND INSTALLATION. PROVIDE TRIM FLANGE AT ALL WALL PENETRATIONS.
19. 16X16 OUTSIDE AIR DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO INTAKE HOOD ON ROOF.
20. 16X16 OUTSIDE AIR RELIEF DUCT UP THRU STORM SHELTER CONCRETE CAP WITH MOTORIZED DAMPER AND FIRE DAMPER UP TO RELIEF HOOD ON ROOF.
21. 10"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.
22. 12"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.
23. 6"R EXHAUST DUCT TO COOK MODEL "WC" WALL CAP OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON WALL CAP.
24. 6"R EXHAUST DUCT UP THRU ROOF TO COOK MODEL "RJ" ROOF JACK OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON ROOF JACK. RUN TO BACK-SIDE OF ROOF RIDGE.
25. DUCTWORK SHALL RUN UP EXTERIOR WALL AND COME IN HIGH.
26. RETURN AIR DUCTWORK SHALL RUN LOW ALONG FLOOR TO RELATED WALL MOUNTED RETURN AIR GRILLE. PROVIDE UNISTRUT DUCTWORK SUPPORTS UNDERNEATH RETURN AIR DUCTWORK.
27. SUPPLY AIR DUCTWORK SHALL COME IN LOW, RISE UP AND RUN HIGH.
28. RUN DUCTWORK UP THRU ROOF TO HOOD ON ROOF - PROVIDE ROOF CURB.
29. REFRIGERANT PIPING FROM OUTDOOR CONDENSING UNIT TO RELATED INDOOR AIR HANDLING UNIT.
30. ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, TELEPHONE BACK-BOARDS, ETC.) - SEE ELECTRICAL PLANS. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED SERVICE CLEARANCE TO ALL ELECTRICAL EQUIPMENT.
31. PROVIDE AN "H" GRILLE AND A 12"X12" RELIEF AIR DUCT WITH MOTORIZED DAMPER. TERMINATE RELIEF AIR DUCT INTO ATTIC 12" ABOVE LINE OF INSULATION.

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

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LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE:
MECHANICAL PLAN - PART "A"

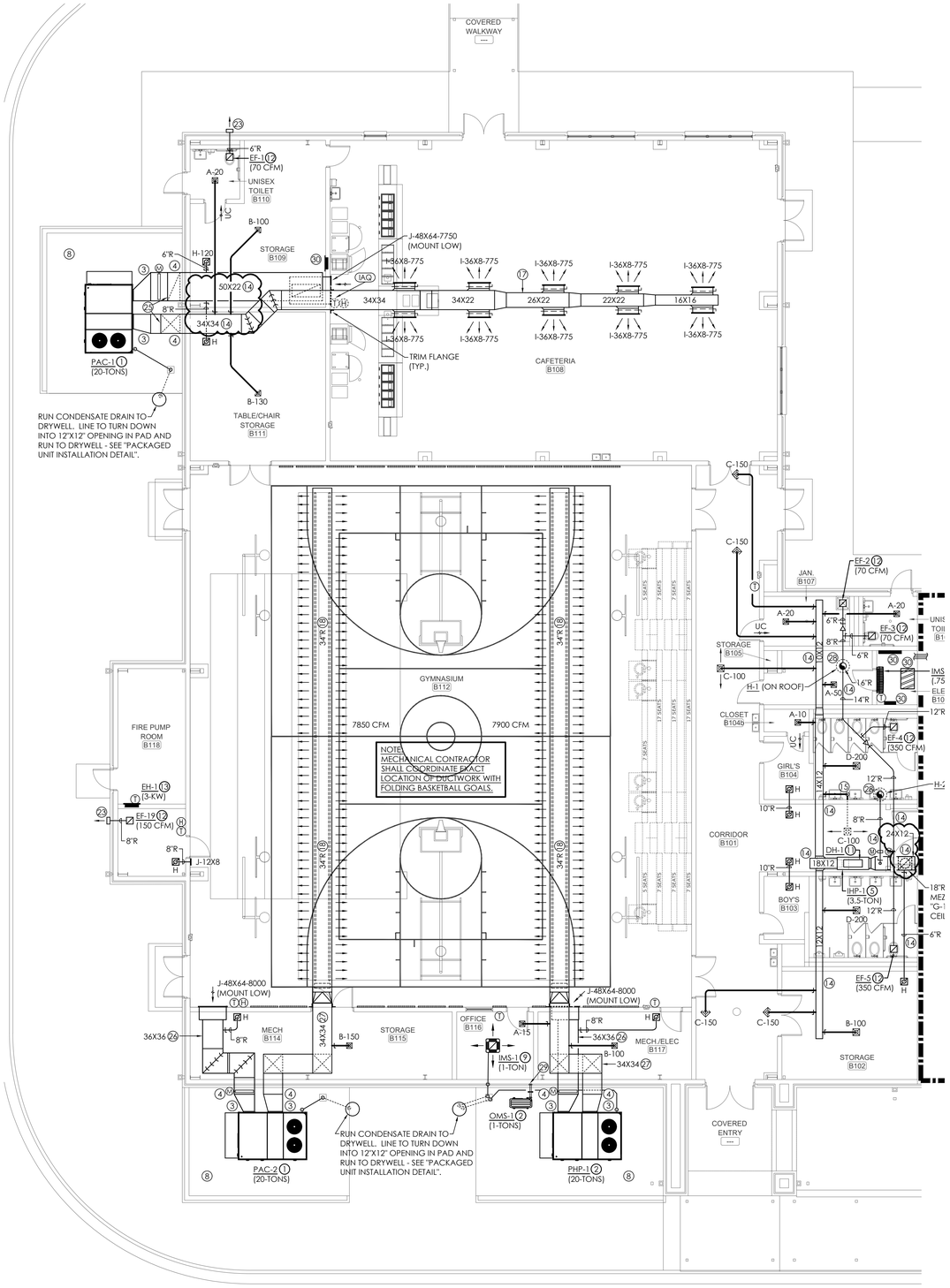
ALABAMA LICENSED ENGINEER
No. 18984 PROFESSIONAL
JAMES H. MORRIS
1/14/2026

PROJ. MGR.:	JBB/JHM
DRAWN:	JBB
DATE:	1-14-2026
REVISIONS	

JOB NO. 24-304

SHEET NO: M1.1

0 1" 2"



MECHANICAL PLAN - PART "B"

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

SPECIAL NOTE TO CONTRACTORS:

PER THE MECHANICAL SPECIFICATIONS, THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS ARE REQUIRED TO COORDINATE THE POWER REQUIREMENTS FOR EACH PIECE OF EQUIPMENT REQUIRING POWER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT. PROOF OF THIS COORDINATION IS REQUIRED IN LETTER FORMAT (SEE EXAMPLE OF LETTER IN MECHANICAL SPECIFICATION SECTION "15050 GENERAL HVAC REQUIREMENTS") AND SHALL BE SENT TO THE PROJECT ENGINEERS/DESIGNERS PRIOR TO SUBMITTAL PHASE - NO EXCEPTIONS! IT IS THE SOLE RESPONSIBILITY OF THE PLUMBING/MECHANICAL/ELECTRICAL CONTRACTORS TO COORDINATE AND MAKE ANY CHANGES NECESSARY AT NO EXTRA COST - NO EXCEPTIONS!

GENERAL NOTES:

1. VERIFY LOCATION OF ALL THERMOSTATS AND WALL CONTROLS WITH ARCHITECT BEFORE INSTALLATION.
2. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ANY COST OF RE-SIZING OR RE-ROUTING DUCTWORK TO COORDINATE WITH STRUCTURAL AND ALL OTHER TRADES SHALL BE AT THE MECHANICAL CONTRACTOR'S EXPENSE.
3. ALL OUTSIDE AIR INTAKES SHALL BE MOUNTED AT LEAST 10'-0" AWAY FROM ALL EXHAUST RELIEFS AND PLUMBING VENTS.
4. CONTRACTOR SHALL VISIT THE SITE AND NOTIFY THE ENGINEER AND ARCHITECT IN WRITING OF ANY PROBLEMS OR DISCREPANCIES IN THE DRAWINGS BEFORE SUBMITTING A BID, ORDERING EQUIPMENT OR INSTALLATION OF EQUIPMENT AND ACCESSORIES.
5. MECHANICAL CONTRACTOR SHALL PROVIDE PROPER SERVICE CLEARANCE FOR EACH PIECE OF MECHANICAL EQUIPMENT REQUIRING SERVICE.
6. SEE LIFE SAFETY PLANS FOR ALL RATED WALLS, CEILINGS, ETC. PROVIDE FIRE DAMPERS AT ALL RATED WALLS AND CEILINGS.
7. MECHANICAL CONTRACTOR SHALL PROVIDE WIND RESTRAINTS ON EACH PIECE OF GRADE MOUNTED MECHANICAL EQUIPMENT - SEE "OUTDOOR HEAT PUMP/CONDENSING UNIT DETAIL" FOR GRADE MOUNTED NOTES.

MECHANICAL NOTE LEGEND

① PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED COOLING ONLY/ELECTRIC HEAT UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE HOT-GAS RE-HEAT FOR DEHUMIDIFICATION. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.

② PROVIDE AND INSTALL A COMPLETE OPERATIONAL PACKAGED HEAT PUMP UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MAINTAIN FACTORY RECOMMEND SERVICE CLEARANCE AROUND UNIT. PROVIDE TWO 12 GA. GALVANIZED SHEET METAL STRAPS ANCHORED WITH 3/8" DIA. CONCRETE WEDGE ANCHOR FOR EQUIPMENT WIND RESTRAINT.

③ ALL EXTERIOR DUCTWORK SHALL BE STANDARD GALVANIZED SHEET METAL LINED WITH 1" CLOSED CELL FOAM. WRAP EXTERIOR OF DUCT WITH 2" RIGID INSULATION BOARD (TOTAL INSULATION SHALL BE R-8 OR GREATER) AND COVER IN ALUMAGUARD - NOTE: PAINTING ALUMAGUARD VOIDS THE FACTORY WARRANTY.

④ PROVIDE WATER AND AIR TIGHT SEAL AT EXTERIOR WALL PENETRATIONS.

⑤ PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.

⑥ PROVIDE AND INSTALL A COMPLETE OPERATIONAL SPLIT SYSTEM CONDENSING UNIT/HEAT PUMP WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT UNIT ON 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. PROVIDE NEOPRENE VIBRATION ISOLATION PADS. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. COORDINATE EXACT LOCATION OF PAD AND UNIT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.

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⑧ PROVIDE AND INSTALL A 4" THICK LEVEL CONCRETE PAD - PAD BY G.C. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.

⑨ PROVIDE AND INSTALL A COMPLETE OPERATIONAL MINI-SPLIT INDOOR AIR HANDLING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.

⑩ PROVIDE AND INSTALL A COMPLETE OPERATIONAL MINI-SPLIT HEAT PUMP/CONDENSING UNIT WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE NEOPRENE VIBRATION ISOLATION PADS. PROVIDE PROPER REQUIRED SERVICE CLEARANCE FOR MAINTENANCE.

⑪ PROVIDE AND INSTALL A SIDE-STREAM DEHUMIDIFIER WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE AUXILIARY DRAIN PAN WITH FLOAT MICRO-SWITCH. HANG HIGH AS POSSIBLE IN SPACE. MOUNT PER MANUFACTURER'S RECOMMENDATIONS. RUN CONDENSATE TO NEAREST DRAIN - SEE PLUMBING PLANS - SIZE CONDENSATE DRAIN LINES PER MANUFACTURER'S RECOMMENDATIONS PER SIZE OF UNIT.

⑫ PROVIDE AND INSTALL A COMPLETE OPERATIONAL CEILING MOUNTED EXHAUST FAN WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. PROVIDE FACTORY SPEED CONTROLLER ON FAN.

⑬ PROVIDE AND INSTALL A COMPLETE OPERATIONAL WALL MOUNTED ELECTRIC HEATER WITH ALL RELATED CONTROLS, WIRING, ACCESSORIES, ETC. MOUNT HEATER FLUSH IN WALL. PROVIDE UNIT MOUNTED THERMOSTAT.

⑭ DUCTWORK SHALL RUN ABOVE MECHANICAL MEZZANINE IN ATTIC. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE MECHANICAL MEZZANINE, THRU AND BETWEEN STRUCTURE. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.

⑮ DUCTWORK SHALL RUN BELOW MECHANICAL MEZZANINE AND ABOVE CEILING. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT BELOW MECHANICAL MEZZANINE AND ABOVE CEILING. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.

⑯ DUCTWORK SHALL RUN ABOVE CEILING AND BELOW STORM SHELTER CONCRETE LID. RE-ROUTE, RE-SHAPE AND RE-SIZE DUCTWORK AS REQUIRED TO FIT ABOVE CEILING AND BELOW CONCRETE LID. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT.

⑰ DOUBLE-WALL INTERNALLY LINED ARCHITECTURALLY EXPOSED OVAL OR ROUND SPIRAL DUCTWORK. USE EXTREME CARE IN SHIPPING, HANDLING AND INSTALLATION. DAMAGED DUCTWORK WILL NOT BE ACCEPTED. DAMAGED DUCTWORK SHALL BE REPLACED AT MECHANICAL CONTRACTOR'S EXPENSE. RUN DUCTWORK HIGH AS POSSIBLE - MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION. COORDINATE DUCTWORK WITH ALL TRADES TO AVOID CONFLICT. ADJUST/ANGLE AIR DISTRIBUTION DEVICES SO THAT THE AIR DOES NOT BLOW DIRECTLY ON LIGHT FIXTURES, HANGERS, STRUCTURE, ETC.

⑱ PROVIDE AND INSTALL FABRIC DUCTWORK - DUCTWORK SHALL BE DUCTSOX VERONA WITH SKELECORE TENSIONING SYSTEM OR APPROVED EQUAL. DUCTWORK SHALL BE CONSISTENT DIAMETER. RUN DUCTWORK TIGHT TO BOTTOM OF STRUCTURE - MINIMUM MOUNTING HEIGHT SHALL BE 25'-0" A.F.F. (COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO INSTALLATION). COORDINATE DUCTWORK WITH LIGHTS TO AVOID CONFLICT AND ANGLE AIR DISCHARGE SO THAT AIR WILL NOT BLOW DIRECTLY ON LIGHTS OR HANGERS. OWNER HAS OPTION OF ORDERING FABRIC DUCT IN SCHOOL COLORS AND SCHOOL LOGO - MECHANICAL CONTRACTOR SHALL COORDINATE COLOR AND LOGO WITH OWNER PRIOR TO ORDERING AND INSTALLATION. PROVIDE TRIM FLANGE AT ALL WALL PENETRATIONS.

⑲ 16X16 OUTSIDE AIR DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO INTAKE HOOD ON ROOF.

⑳ 16X16 OUTSIDE AIR RELIEF DUCT UP THRU STORM SHELTER CONCRETE CAP WITH MOTORIZED DAMPER AND FIRE DAMPER UP TO RELIEF HOOD ON ROOF.

㉑ 10"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.

㉒ 12"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.

㉓ 6"R EXHAUST DUCT TO COOK MODEL "WC" WALL CAP OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON WALL CAP.

㉔ 6"R EXHAUST DUCT UP THRU ROOF TO COOK MODEL "RJ" ROOF JACK OR APPROVED EQUAL. PROVIDE DARK BRONZE BAKED ENAMEL FINISH ON ROOF JACK. RUN TO BACK-SIDE OF ROOF RIDGE.

㉕ DUCTWORK SHALL RUN UP EXTERIOR WALL AND COME IN HIGH.

㉖ RETURN AIR DUCTWORK SHALL RUN LOW ALONG FLOOR TO RELATED WALL MOUNTED RETURN AIR GRILLE. PROVIDE UNISTRUT DUCTWORK SUPPORTS UNDERNEATH RETURN AIR DUCTWORK.

㉗ SUPPLY AIR DUCTWORK SHALL COME IN LOW, RISE UP AND RUN HIGH.

㉘ RUN DUCTWORK UP THRU ROOF TO HOOD ON ROOF - PROVIDE ROOF CURB.

㉙ REFRIGERANT PIPING FROM OUTDOOR CONDENSING UNIT TO RELATED INDOOR AIR HANDLING UNIT.

㉚ ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, TELEPHONE BACK-BOARDS, ETC.) - SEE ELECTRICAL PLANS. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED SERVICE CLEARANCE TO ALL ELECTRICAL EQUIPMENT.

㉛ PROVIDE AN "H" GRILLE AND A 12"X12" RELIEF AIR DUCT WITH MOTORIZED DAMPER. TERMINATE RELIEF AIR DUCT INTO ATTIC 12" ABOVE LINE OF INSULATION.

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

0 4' 8' 16'

MORRIS DAVIS ENGINEERING LLC
903 SOUTH PERRY STREET
MONTGOMERY, AL 36104
T. (334) 269-0329
www.Jmorriseng.com
PROJECT NO: 25-148

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE:
MECHANICAL PLAN - PART "B"

ALABAMA
James H. Morris
No. 16984
PROFESSIONAL
2/1/2026
ENGINEER
JAMES H. MORRIS

PROJ. MGR.:	JBB/JHM
DRAWN:	JBB
DATE:	1-14-2026
REVISIONS	

JOB NO. 24-304

SHEET NO:

M1.2

0 1" 2"

STORM SHELTER MAKE-UP AIR/RELIEF (EXHAUST) FAN SCHEDULE

SYMBOL	CFM	EXT. SP H_2O	MAX. RPM	SONES	POWER	ELEC.	REMARKS	INTERLOCK WITH	LOREN COOK #
SSEF-1	2400	1.25	1563	12.9	1.5 H.P.	480/3/60	1	BATT. PACK/INVERTER (SEE ELEC. PLANS)	180SQNH17D
SSMUA-1	2400	1.25	1563	12.9	1.5 H.P.	480/3/60	1	BATT. PACK/INVERTER (SEE ELEC. PLANS)	180SQNH17D
SSEF-2	3570	1.25	1333	16.0	1.5 H.P.	480/3/60	1	BATT. PACK/INVERTER (SEE ELEC. PLANS)	180SQN11D
SSMUA-2	3570	1.25	1333	16.0	1.5 H.P.	480/3/60	1	BATT. PACK/INVERTER (SEE ELEC. PLANS)	180SQN11D

SCHEDULE NOTES:
1. COOK MODEL SQND BLOWER FAN OR APPROVED EQUAL. PROVIDE BACK-DRAFT DAMPER, SPEED CONTROLLER, DIRECT DRIVE MOTOR, FACTORY MOUNTED VOLTAGE TRANSFORMER AND FACTORY DISCONNECT SWITCH.

STORM SHELTER LOUVER SCHEDULE

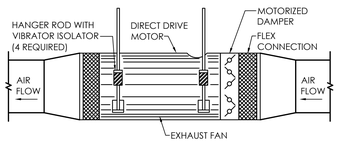
SYMBOL	TYPE	SIZE	CFM	MIN. SQ. FEET FREE AREA	% FREE AREA	FREE AREA (FPM)	PRESS. DROP (W.G.)	RUSKIN MODEL	REMARKS
SSL-1	R	42"X42"	2400	6.0	49	400	.05	XP500	1
SSL-2	R	54"X54"	3570	9.63	48	371	.04	XP500	1
SSL-3	I	54"X54"	3570	9.63	48	371	.05	XP500	1
SSL-4	I	42"X42"	2400	6.0	49	400	.05	XP500	1
SSL-5	R	16"X16"	140	.6	34	233	.02	XP500	1
SSL-6	R	16"X16"	210	.6	34	349	.04	XP500	1
SSL-7	R	28"X28"	840	2.49	46	337	.03	XP500	1
SSL-8	I	28"X28"	840	2.49	46	337	.04	XP500	1

SCHEDULE NOTES:
I = INTAKE, R = RELIEF
1. RUSKIN MODEL XP500 FEMA LOUVER OR APPROVED EQUAL. MOUNTED DIRECTLY BEHIND ARCHITECTURAL LOUVER (SEE ARCHITECTURAL PLANS). INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE "EXTERIOR WALL LOUVER AT STORM SHELTER DETAIL". PROVIDE MILL FINISH.

HOOD SCHEDULE

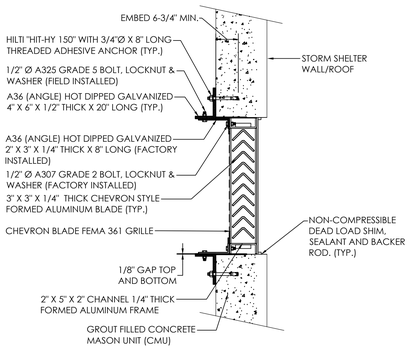
SYMBOL	TYPE	EXT. SP H_2O	LOREN COOK MODEL	CFM	REMARKS	ACTUAL DIMENSIONS
SSH-1	R	.05	36X36 GR	2400	1	68x63x22.76
SSH-2	R	.05	36X42 GR	3570	1	66x75x23.8
SSH-3	I	.05	36X42 GI	3570	1	66x75x23.8
SSH-4	I	.05	36X36 GI	2400	1	68x63x22.76
SSH-5	R	.05	12 PR	140	2	27.75x9
SSH-6	R	.05	12 PR	210	2	27.75x9
SSH-7	R	.05	16X24 GR	840	1	35x39x13.46
SSH-8	I	.05	16X24 GI	840	1	35x39x13.46

SCHEDULE NOTES:
I = INTAKE, R = RELIEF
1. BASED ON COOK MODEL GI/GR OR APPROVED EQUAL BY PENN OR GREENHECK. PROVIDE BIRDSCREEN AND 14" TALL ROOF CURB. PROVIDE FACTORY DARK BRONZE BAKED ENAMEL FINISH ON CURB AND HOOD.
2. BASED ON COOK MODEL PRF OR APPROVED EQUAL BY PENN OR GREENHECK. PROVIDE BIRDSCREEN, LOW PROFILE CURB AND FLASHING FLANGE. PROVIDE FACTORY DARK BRONZE BAKED ENAMEL FINISH ON CURB AND HOOD.



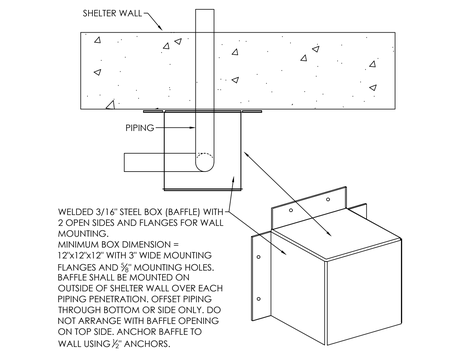
INLINE EXHAUST FAN DETAIL

NO SCALE TYP. SSEF-1,2 AND SSMUA-1,2



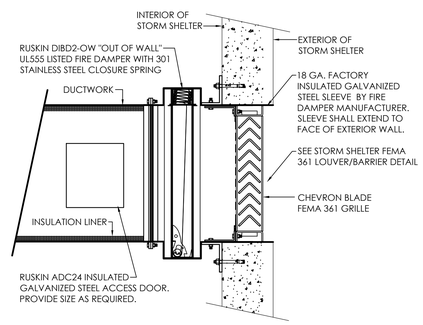
STORM SHELTER FEMA 361 LOUVER/BARRIER DETAIL

NO SCALE



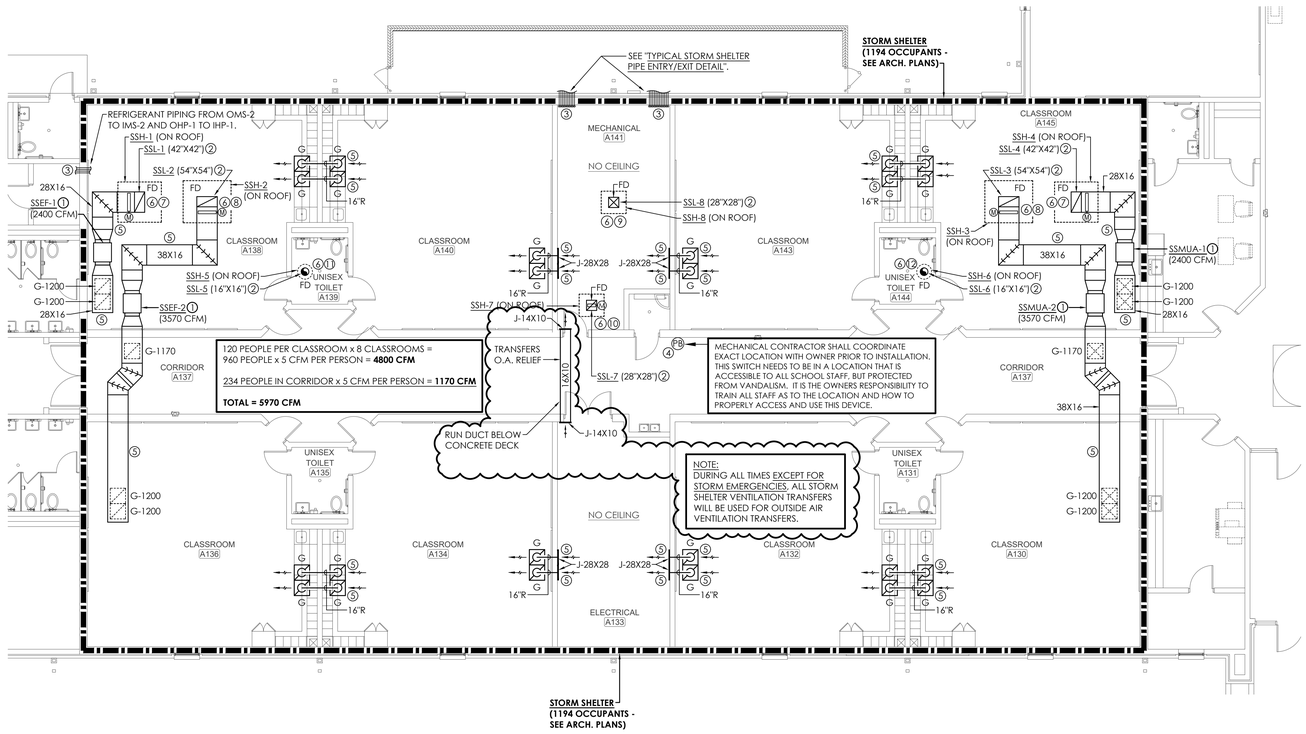
TYPICAL STORM SHELTER PIPE ENTRY/EXIT DETAIL

NO SCALE



STORM SHELTER FEMA 361 RATED PENETRATION DETAIL

NO SCALE SHALL APPLY TO VERTICAL AND HORIZONTAL CONFIGURATION.



MECHANICAL STORM SHELTER PLAN

SCALE: 1/18"=1'-0"

STORM SHELTER NOTES: (THIS SHEET ONLY)

STORM SHELTER FRESH AIR OPENING CALCULATION PER ICC-500 "STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS - 2020" - CHAPTER 7 - SECTION 702 TORNADO SHELTERS - PARAGRAPH 703.1.1 MECHANICAL VENTILATION

MINIMUM VENTILATION RATE OF OUTSIDE AIR SHALL BE FROM BUILDING CODES FOR NORMAL USE OF THE SPACE.

1. REDUCE DISTANCE BETWEEN HANGERS IN STORM SHELTER 25% TO INCREASE SUPPORT. THIS INCLUDES DUCTWORK.
2. PROVIDE STORM SHELTER LOUVER/BARRIER AT ALL PENETRATIONS OF STORM SHELTER WALLS AND CEILINGS/DECKS.
3. ICC500 FEMA 361 LOUVER/BARRIERS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS.

NOTE:
PROVIDE FIRE DAMPER ACCESS PANELS IN BOTH STORM SHELTER AND VENTILATION DUCTS.

STORM SHELTER - DESIGNATED SAFE AREA
MECHANICAL IN THIS AREA SHALL COMPLY WITH "2020 ICC-500 ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS" INDICATING THE FOLLOWING: **702.4.2 MECHANICAL VENTILATION - TORNADO SHELTERS THAT RELY ON MECHANICAL VENTILATION SHALL BE PROVIDED WITH THE MINIMUM MECHANICAL VENTILATION RATE OF REQUIRED OUTDOOR AIR AT A MINIMUM RATE OF 5 CUBIC FEET PER MINUTE PER OCCUPANT FOR THE DESIGN OCCUPANT CAPACITY - 1194 OCCUPANTS x 5 CFM/PERSON = 5970 CFM TOTAL.** THE MECHANICAL VENTILATION SYSTEM SHALL BE CONNECTED TO A STANDBY POWER SYSTEM - SEE ELECTRICAL PLANS. MINIMIZE THE AMOUNT OF WALL AND CEILING PENETRATIONS. COORDINATE SAFE AREA LOCATIONS WITH ARCHITECTURAL LIFE SAFETY PLANS.

MECHANICAL STORM SHELTER NOTE LEGEND

① PROVIDE AND INSTALL A COMPLETE OPERATIONAL IN-LINE BLOWER FAN FOR EMERGENCY STORM SHELTER VENTILATION (INTAKE/RELIEF). PROVIDE MOTORIZED DAMPERS AT STORM SHELTER INTAKE/RELIEF LOUVER. BLOWER FANS AND MOTORIZED DAMPERS ARE POWERED BY BATTERY PACK (INVERTER) - SEE ELECTRICAL PLANS.
② SEE "STORM SHELTER FEMA 361 RATED PENETRATION DETAIL" AND "STORM SHELTER FEMA 361 LOUVER/BARRIER DETAIL" (THIS SHEET) FOR STORM SHELTER PENETRATIONS. LOUVER/BARRIERS SHALL COMPLY WITH FEMA 361 DESIGN AND CONSTRUCTION FOR COMMUNITY SHELTERS - ZONE IV CRITERIA FOR TORNADO'S AND HURRICANES.
③ SEE "TYPICAL STORM SHELTER PIPE/CONDUIT ENTRY/EXIT DETAIL" FOR PIPING/CONDUIT PENETRATIONS OF STORM SHELTER WALLS.
④ PROVIDE AND INSTALL A WALL MOUNTED EMERGENCY STORM SHELTER PUSH-BUTTON "ON/OFF" SWITCH WITH A SIGN NEXT TO THE SWITCH INDICATING THE FOLLOWING: "THIS SWITCH TO BE IN "OFF" POSITION DURING NORMAL OPERATION AND SHALL BE IN THE "ON" POSITION ONLY DURING AN EMERGENCY." THIS SWITCH SHALL CONTROL THE EMERGENCY MAKE-UP AIR FAN, EMERGENCY RELIEF (EXHAUST) FAN AND THE MOTORIZED DAMPER ON THE RELATED STORM SHELTER LOUVERS. THIS SWITCH IS POWERED BY BATTERY PACK (INVERTER) - SEE ELECTRICAL PLANS. PROVIDE SIGNAGE NEXT TO SWITCH INDICATING FUNCTION OF SWITCH - SEE ARCHITECTURAL PLANS FOR SWITCH SIGNAGE.
⑤ DUCTWORK SHALL BE LOCATED BELOW STORM SHELTER DECK AND ABOVE LAY-IN CEILING.
⑥ DUCTWORK SHALL TRANSITION TO SIZE OF STORM SHELTER FEMA LOUVER, THEN TRANSITION BACK TO ORIGINAL DUCT SIZE PRIOR TO CONTINUING UP THRU ROOF TO HOOD.
⑦ 28X16 STORM SHELTER VENTILATION DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO RELIEF HOOD ON ROOF.
⑧ 38X16 STORM SHELTER VENTILATION DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO RELIEF HOOD ON ROOF.
⑨ 16X16 OUTSIDE AIR DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER UP TO INTAKE HOOD ON ROOF.
⑩ 16X16 OUTSIDE AIR RELIEF DUCT UP THRU STORM SHELTER CONCRETE CAP WITH MOTORIZED DAMPER AND FIRE DAMPER UP TO RELIEF HOOD ON ROOF.
⑪ 10"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.
⑫ 12"R EXHAUST DUCT UP THRU STORM SHELTER CONCRETE CAP WITH FIRE DAMPER AND UP TO RELIEF HOOD ON ROOF.

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

MORRIS DAVIS ENGINEERING LLC
903 SOUTH PERRY STREET
MONTGOMERY, AL 36104
T. (334) 269-0329
www.Jmorriseng.com

PROJECT NO: 25-148

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE:
MECHANICAL STORM SHELTER PLAN

ALABAMA REGISTERED JAMES H. MORRIS No. 19984 PROFESSIONAL ENGINEER 2/11/2026

PROJ. MGR.:	JBB/JHM
DRAWN:	JBB
DATE:	1-14-2026
REVISIONS	

JOB NO. 24-304
SHEET NO: M2.1
0 1" 2"

EFFECTIVE DISPERSAL VOLUME CHARGE (EDVC) IN COMPLIANCE WITH ASHRAE STANDARD 15 SECTION 7.6.1.1 (REFRIGERATION SYSTEMS WITH AIR CIRCULATION) - EDVC = V_{eff} x LFL x CF x F_{occ}

TAG	REFRIGERANT	RELEASABLE REFRIGERANT CHARGE	SPACE(S) SERVED	AREA (SQ FT)	HEIGHT (FT)	V_{eff}	LFL	CF	F_{occ}	EDVC	COMPLIES WITH ASHRAE STD 15	REMEDY FOR NONCOMPLIANCE
PAC-1	R-454B		CAFETERIA B108	3077	18	55386						
			TABLE/CHAIR STORAGE B111	440	10	4400						
			STORAGE B109	411	10	4110						
PAC-1 TOTAL	R-454B	14.6				63896	18.3	0.5	1	584.65	YES	N/A
PAC-2	R-454B		GYMNASIUM B112	2677	28	74956						
			GYMNASIUM B112	268	28	7504						
			STORAGE B109	387	10	3870						
PAC-2 TOTAL	R-454B	14.6				86330	18.3	0.5	1	789.92	YES	N/A
PHP-1	R-454B		GYMNASIUM B112	2677	28	74956						
			GYMNASIUM B112	268	28	7504						
			MECH./ELEC. B117	225	10	2250						
			OFFICE B116	112	10	1120						
PHP-1 TOTAL	R-454B	38				85830	18.3	0.5	1	785.34	YES	N/A
IHP-1	R-454B		STORAGE B102	320	10	3200						
			CORRIDOR B101	1126	10	11260						
			STORAGE B105	172	10	1720						
			CLOSET B104b	23	10	230						
IHP-1 TOTAL	R-454B	7.9				16410	18.3	0.5	1	150.15	YES	N/A
IHP-2	R-454B		CLASSROOM A138	819	10	8190						
IHP-2 TOTAL	R-454B	5.6				8190	18.3	0.5	1	74.94	YES	N/A
IHP-3	R-454B		CLASSROOM A145	819	10	8190						
IHP-3 TOTAL	R-454B	5.6				8190	18.3	0.5	1	74.94	YES	N/A
IHP-4	R-454B		CLASSROOM A140	819	10	8190						
IHP-4 TOTAL	R-454B	5.6				8190	18.3	0.5	1	74.94	YES	N/A
IHP-5	R-454B		CLASSROOM A143	819	10	8190						
IHP-5 TOTAL	R-454B	5.6				8190	18.3	0.5	1	74.94	YES	N/A
IHP-6	R-454B		CLASSROOM A134	819	10	8190						
			CORRIDOR A137	306	10	3060						
IHP-6 TOTAL	R-454B	7.9				11250	18.3	0.5	1	102.94	YES	N/A
IHP-7 TOTAL	R-454B		CLASSROOM A132	819	10	8190						
			CORRIDOR A137	306	10	3060						
IHP-7 TOTAL	R-454B	7.9				11250	18.3	0.5	1	102.94	YES	N/A
IHP-8 TOTAL	R-454B		CLASSROOM A136	819	10	8190						
			CORRIDOR A137	459	10	4590						
IHP-8 TOTAL	R-454B	7.9				12780	18.3	0.5	1	116.94	YES	N/A
IHP-9	R-454B		CLASSROOM A130	819	10	8190						
			CORRIDOR A137	459	10	4590						
IHP-9 TOTAL	R-454B	7.9				12780	18.3	0.5	1	116.94	YES	N/A
IHP-10	R-454B		NURSING A128	304	10	3040						
			CORRIDOR A111	958	10	9580						
			STORAGE A126	44	10	440						
IHP-10 TOTAL	R-454B	5.6				13060	18.3	0.5	1	119.50	YES	N/A
IHP-11	R-454B		WORK ROOM A129	270	10	2700						
			SECURE VESTIBULE A101	303	10	3030						
			WAITING A102	133	10	1330						
			PRINCIPAL A105	238	10	2380						
			STORAGE A106	43	10	430						
			RECEPTION A103	249	10	2490						
IHP-11 TOTAL	R-454B	8.6				12360	18.3	0.5	1	113.09	YES	N/A
IHP-12	R-454B		CLASSROOM A114	836	10	8360						
IHP-12 TOTAL	R-454B	5.6				8360	18.3	0.5	1	76.49	YES	N/A
IHP-13	R-454B		CLASSROOM A108	836	10	8360						
IHP-13 TOTAL	R-454B	5.6				8360	18.3	0.5	1	76.49	YES	N/A
IHP-14	R-454B		CLASSROOM A112	836	10	8360						
IHP-14 TOTAL	R-454B	5.6				8360	18.3	0.5	1	76.49	YES	N/A
IHP-15	R-454B		CLASSROOM A110	836	10	8360						
			CORRIDOR A111	419	10	4190						
IHP-15 TOTAL	R-454B	7.9				12550	18.3	0.5	1	114.83	YES	N/A
IHP-16	R-454B		CLASSROOM A125	836	10	8360						
IHP-16 TOTAL	R-454B	5.6				8360	18.3	0.5	1	76.49	YES	N/A
IHP-17	R-454B		CLASSROOM A118	836	10	8360						
			CORRIDOR A121	462	10	4620						
IHP-17 TOTAL	R-454B	7.9				12980	18.3	0.5	1	118.77	YES	N/A
IHP-18	R-454B		CLASSROOM A123	836	10	8360						
			CONNECTOR A122	205	10	2050						
IHP-18 TOTAL	R-454B	7.9				10410	18.3	0.5	1	95.25	YES	N/A
IHP-19	R-454B		CLASSROOM A120	836	10	8360						
			CORRIDOR A121	459	10	4590						
IHP-19 TOTAL	R-454B	7.9				12950	18.3	0.5	1	118.49	YES	N/A

EFFECTIVE DISPERSAL VOLUME CHARGE (EDVC) IN COMPLIANCE WITH ASHRAE STANDARD 15 SECTION 7.6.1.2 (OTHER REFRIGERATION SYSTEMS) - EDVC = M_{def} x F_{LFL} x F_{occ}

TAG	REFRIGERANT	RELEASABLE REFRIGERANT CHARGE	SPACE(S) SERVED	AREA (SQ FT)	HEIGHT (FT)	M_{def}	F_{LFL}	F_{occ}	EDVC	COMPLIES WITH ASHRAE STD 15	REMEDY FOR NONCOMPLIANCE
IMS-1	R-454B	2	OFFICE B116	112	10	8.6	0.9	1	7.74	YES	N/A

Refrigerant Mitigation Controls (Typical for all HVAC Equipment)

A. Refrigerant Release Mitigation Controls: Unit shall be furnished with a refrigerant release mitigation control system that is listed per UL 60335-2-40 from the factory when a circuit refrigerant charge exceeds 3.91 lbs. The refrigerant release mitigation system shall consist of one or more refrigerant detection sensors. When the system detects a leak, the unit controller shall initiate refrigerant mitigation actions and isolate all possible paths of refrigerant that can leak into the space(s). Refrigerant Release Mitigation Controls shall be tested in accordance with ASHRAE 15 -2022.9.13.

B. Refrigerant Mitigation Action Requirements: The following mitigation actions shall be completed in not more than 15 seconds after the initiation of leak detection sensor and shall be maintained for at least 5 minutes after the output signal is reset.

   a. De-energize potential ignition sources, including open flames and unclassified electrical sources of ignition with apparent power rating greater than 1kVA, where the apparent power is the product of the circuit voltage and current rating.

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE:
MECHANICAL REFRIGERANT CALCULATIONS

PROJ. MGR.:	JBB/JHM
DRAWN:	JBB
DATE:	1-14-2026
REVISIONS	

JOB NO. 24-304

SHEET NO:

M4.3

0 1" 2"

MORRIS DAVIS ENGINEERING LLC
903 SOUTH PERRY STREET
MONTGOMERY, AL 36104
T. (334) 269-0329
www.Jmorriseng.com PROJECT NO: 25-148