

**Finance**

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ADDENDUM NUMBER 2
MLK Center Addition & Renovation
PB-BMG-0223
AUGUST 17, 2023

To all holders of Bid Documents; please be advised to the following:

General Items

1. Where any article, division or subparagraph of the original contract documents or other addenda is supplemented herein, the provisions of the original documents shall remain in effect. All the supplemental provisions shall be considered as added thereto. Where any such article, division or subparagraph is amended, voided or superseded thereby, the provisions of such article, division or subparagraph not so specifically amended, voided or superseded shall remain in effect.
2. Date, time, and location of bid opening are unchanged.
3. Copy of health department permit application is attached; GC is to include this application when submitting for permits.
4. Page P-4 of bid form is replaced with the attached page, Unit Price descriptions have been revised.

Specification Items

1. Section 011000 – Summary:
 - a. Add the following paragraph to 1.04, B. Owner’s vendor will supply and install the following:

“Access control system power supply and controller, to be located in Utility Room 108. GC is to coordinate work at door openings with Owner’s access control vendor.”
 - b. Add the following paragraph to 1.04, C. Owner will supply the following for installation by Contractor:

“2. Wall mount card readers for installation at doors indicated in Section 08 7100.”
2. Section 01 2200 – Unit Prices: Replace with revised section attached to this addendum; various changes.
3. Section 08 7100 – Door Hardware: Replace with revised section attached to this addendum; various changes.
4. Section 10 1400 – Signage, section is revised to add a dedication plaque as follows:

2.05 Plaques

A. Metal Plaques

1. Metal: Aluminum casting.
2. Border Style: Single line.
3. Background Texture: Matte painted, color selected by Architect.
4. Plaque Size: 30 x 20 inches
5. Font: Selected from manufacturer's range of non-serif fonts.
6. Text: Provided by Architect
7. Mounting: Basis of Design; Invisible Edge by Matthews Architectural Products. Other acceptable manufacturers: Cosco Industries, Gemini Plaques, Impact Signs, or Southwell Company.
8. Location to be determined during construction, assume mounting on masonry substrate.

5. Section 11 4000 – Food Service Equipment, Item 27 Walk-In Cooler/Freezer;

Descriptions updated as follows:

- Paragraph A. Insulation: Panels shall be 4" thick, balance of insulation description is unchanged.
- Paragraph D. Finishes: Exterior and Interior wall/ceiling finishes shall be 26 gauge embossed galvalume.
- Paragraph I. Floor: 0.10" aluminum diamond tread plate floor panels to support minimum 1000 pounds per square foot, balance of floor description is unchanged.
- Paragraph K. Miscellaneous: Depth of slab recess is revised to depth indicated on drawings. Balance of Miscellaneous description is unchanged.

6. Section 11 6643 – Scoreboard, 1.08, A, 3 Mobile App. Delete paragraph, requirement for control of scoreboards via mobile app is removed.

7. Section 13 3419 – Metal Building Systems is revised as follows:

- a. Paragraph 1.4 Action Submittals: Add submittals for thermal tape and thermal blocks.
- b. Paragraph 1.7 Quality Assurance, Item H, Mockups: Delete this item; a Metal Building System mockup is not required.
- c. Paragraph 2.2 Metal Building Systems
 - i. Item H, Roof System: Thermal Block Spacers are part of this system.
 - ii. Item I, Exterior Wall System: Thermal Break Tape is part of this system.
- d. Paragraph 2.4 Structural Steel Framing
 - i. Item A Primary Framing – Item 4, Exterior Column Type: Flange bracing is limited; no flange bracing is to occur from top of slab up to a height of 20 ft.
 - ii. Item C Secondary Framing
 - Item 2, Girts: Add limitation on vertical spacing; girts providing lateral support for brick masonry veneer must be spaced vertically at 24 inches on center. This occurs from top of slab up to a height of 20 ft. Refer to Architectural plans and wall sections.

- Item 9, Framing for Openings: Detailed fabrication shall follow Architectural and Structural drawing details.
 - Paragraph 2.6 Metal Wall Panels, A: Reverse-Rib-Profile panels to be provided at exposed locations, Standard Rib Profile panels to be provided at concealed locations, at conditions behind brick veneer.
 - Paragraph 3.4 Metal Panel Installation, Paragraph B; add the following: Provide thermal brake tape on faces of wall girts in contact with wall panels.
 - Paragraph 3.8 Thermal Insulation Installation, paragraphs A, B, & C are deleted. Specification section 07 2100 – Thermal Insulation shall be followed.
8. Section 22 0000 – Plumbing, paragraph 220029 Fixtures; Description for fixture MR-1 Mop Receptor is replaced with the following:
- MR-1 MOP RECEPTOR: 36" x 36" x 12" deep precast terrazzo receptor with 3" inside caulked drain, stainless steel strainer, Fiat Model TSB3002, or approved equal by Williams or Acorn. Wall mounted, polished chrome plated supply faucet with top brace, vacuum breaker, integral screwdriver shank check stops, 3/4" hose end, T&S B-0665-BSTP or approved equal by Chicago Faucets or Moen. Heavy duty, cloth reinforced rubber hose and hose hook, Fiat Model 832-AA, Williams Model T-35, or Acorn Model KH36. Wall mounted, 24" long, 3 mop spring clip hanger, Fiat Model 889-CC, Williams Model T-40, or Acorn Model KMH. Stainless steel wall guards with corner bracket shall be Fiat Model MSG 3636 or approved equal Williams, or Acorn. Supply faucet outlet shall be mounted 24" above receptor floor. Contractor should note that joint between receptor, wall and floor should be sealed with clear silicone sealant.

Drawing Items

The drawings listed below have been revised, and are replaced with the sheets attached to this addendum:

1. AD1.0, A1.1: Revisions to ceiling scope of work.
2. A1.2, A2.0, and A3.3: Downspout sizes are revised, overflow roof drain location and configuration revised.
3. A1.0, A4.1: Locations of water heater and mop receptor have been revised.
4. A6.0: Various revisions to Door Schedule and Finish Schedule.
5. A7.0: Detail 9/A7.0, list of doors with Type A signs revised.
6. P1.0 & P1.1: Overflow roof drain size, location, and configuration have been revised.
7. P4.0: In Storage Room 125, water heater WH-2 and mop receptor MR-1 have been relocated. Size of mop receptor MR-1 has been changed.
8. M0.1: Scheduled info for slot diffusers has been revised.
9. M1.1: CFMs for slot diffusers have been revised.
10. E0.2 & E1.3: Sheets have been revised to show work associated with access control system.

Clarifications

The following questions have been received from Bidders: (responses in **bold**)

1. Can you confirm whether tap fees will be by the Owner of the GC?

- a. Please review specifications carefully; several sections indicate the Contractor is responsible for inspection fees and securing permits. Also, Section 22 0000, Article 220001 states: The Contractor shall coordinate water and sewer taps and pay all fees in conjunction to provide services as required, for this project.
2. Please clarify what work is to be included in the mockup specified in Section 06 2000.
 - a. **Mockup is for prefinished plywood paneling in the gymnasium.**
3. Please indicate which doors are to receive signage per section 10 1400, paragraph 2.02, B.
 - a. **Doors to receive signs with room numbers and names are indicated on sheet A7.0, detail 9.**
 - b. **Restrooms and exits are clearly indicated on drawings.**
 - c. **Interior and Exterior Directional and Informational Signs: See sheet A7.0, detail 9.**
4. Section 11 6643, 1.08, A:
 - a. Paragraph 1, a. specifies that the scoreboard include “advantage time mode”, which requires a hand switch to operate the clock in addition to the main control. Please verify this option is to be added to the scoreboard.
 - i. **Provide scoreboard with specified advantage time mode, and any components required for a fully functional system.**
 - b. Paragraph 1, a. also specifies that the scoreboard include a “visual horn indicator”; is this referring to goal light strips at the main court backboards?
 - i. **“Visual horn indicator” refers to an accessory mounted on the scoreboard that illuminates to indicate various conditions during a game. For reference, the Basis of Design manufacturer’s visual horn indicator is model number VHI. Backboard lights are not specified.**
 - c. Paragraph 1, a. specifies the ability to control scoreboards individually; is the intent to provide two control consoles?
 - i. **Yes.**
5. On sheet C6.0, please confirm the quantity and type of trees to be replaced are shown this sheet and no additional trees are to be planted off site.
 - a. **The plants shown on sheet C6.0 satisfy the mitigation requirements by the City, and the plans have been approved.**
6. On sheet C6.0, General Notes-Landscaping: Note #12 calls for the landscape sub-contractor to water plants and lawns at their cost from their water source until final completion. Can a local water source be used, provided it has an approved backflow device?
 - a. **Contractor shall provide their own water source; water truck or hydrant meter would be acceptable, provided it is paid for by the contractor.**
7. On sheet AD1.0, Demolition Key Note 9 does not appear on the plans or elevations. Please identify extent of work described by this key note.
 - a. **Demolition Key Note 9 is not used, please disregard.**
8. Details 1/A5.1 and 2/A5.3 note vinyl corner guards at all hardwood plywood outside corners, please clarify extents.

- a. **Provide vinyl corner guards at all exposed locations (i.e. not behind wall pads) where two pieces of hardwood plywood meet to form an outside corner.**
- 9. On sheet S2.01:
 - a. Edge of slab conditions at the gym are flagged with details 3-3/S3.01 and 7-7/S4.01. One detail shows the slab turn down to the strip footing, while the other appears to show a slab turndown and a stem wall to the strip footing. What is the design intent; a slab turndown, or a stem wall?
 - i. **Design intent is for slab to turn down onto the strip footing regardless of strip footing elevation; this turndown would have to be formed and shored. However, where the top of footing is lower than 1'-4" below top of slab, the Contractor has the option of pouring an 8" wide stem wall with #4@32' O.C. vert. and #4@12" O.C. horiz. from top of strip footing to bottom of typical turndown of 1'-4". The stem wall option will require an extra concrete pour.**
 - b. Depressed slab at walk-in cooler/freezer is noted as being depressed 2 inches. However, the specified insulated floor panels are 4 inches thick.
 - i. **Depress slab 4 inches and note on as-built drawings.**

Approved Substitutions

The following have been reviewed and accepted:

1. Section 09 6566 – Resilient Athletic Flooring: DynaCourt 6.7 with full-spread epoxy adhesive system by Dynamic Sports Construction, Inc. (www.dynamicsportsconstruction.com) is added to the list of approved products.
2. Section 10 2113.19 – Plastic Toilet Compartments: Hiny Hiders Solid Plastic Partitions by Scranton Products (www.scrantonproducts.com) are added to the list of approved products.
3. Section 23 0500 – Heating and Air Conditioning: CaptiveAire (www.captiveaire.com) is added to the list of approved products for Article 230507 Dedicated Outside Air System.

Acknowledge receipt of this Addendum in the space provided in the Proposal. Failure to do so may disqualify the Bidder.

Daryle L. Parker, Purchasing Manager
Purchasing Division
END OF ADDENDUM TWO

Food Service Application

(may include a fee)

Name of establishment/vendor _____

Name of the operator/owner _____

Operator/owner contact number _____ email _____

THE FOLLOWING ITEMS MUST BE SUBMITTED TO BEGIN PLAN REVIEW

- N/A
- ☐ Completed Application
 - ☐ Copy of signed lease agreement or bill of sale
 - ☐ Copies of all Menus **Menu(s) TBD**
 - ☐ Proof of water supply (well permit or copy of water bill)
 - ☐ Proof of sewage disposal (septic permit or copy of sewer bill)
 - ☐ Site plan showing specific location of the business, dumpster, recycling containers and can wash.
 - ☐ Floor plan drawn to scale (minimum 1/4" = 1') of food service establishment with **all** floor and counter top equipment. Floor drains, floor sinks, water heater, CO2 tanks and soda system.
 - ☐ Equipment specification sheets for **all** equipment

Useful information & websites:

When designing the kitchen you should have designated clean & dirty zones to prevent cross contamination and consider flow patterns for the following:

- Food (Receiving, Storage, Preparation & Service)
- Dishes & Tableware (Clean Storage, Service, Soiled, Cleaning, Air Drying & Storage)
- Utensils & Containers (Clean Storage, Service, Soiled, Cleaning, Air Drying & Storage)
- Trash & Garbage (Service Area, Holding, & Storage)

NC Food Code: <http://ehs.ncpublichealth.com/faf/docs/foodprot/NC-FoodCodeManual-2009-FINAL.pdf>

NC .2600 Food Rules: <http://ehs.ncpublichealth.com/docs/rules/294306-26-2600.pdf>

Water Heater Calculator: <https://ehs.ncpublichealth.com/faf/food/planreview/docs/WaterHeaterCalculator-1112.xls>

Please complete the following information about the facility.

Hours of Operation

Day	Open	Close
Sunday		
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		

Total Number of Seats

Inside	
Outside	

Number of seats will vary depending on how the room is set up for classes/ events.

*9PM June 1 - August 31

Will you use?

Single-Service (disposable) ☐ Plates ☐ Glassware ☐ Silverware

Multi-Use (reusable) ☐ Plates ☐ Glassware ☐ Silverware ☐ Baskets

Will you provide Off-Site Catering? ☐ Yes ☐ No

If yes, complete a separate Catering Application

- List all food items intended to be **par-cooked?** (NC Food Code 3.401.14 Non-continuous cooking)

- What menu items can be served **raw or undercooked?** (ie: Beef, eggs, lamb, seafood, shellfish, pork, sushi, aioli, Caesar dressing, hollandaise sauce)

- Indicate how and where the **consumer advisory** will be posted if you have undercooked items? (NC Food Code 3-603.11- Consumer Advisory)

- List any food items that will be held on **Time as A Public Health Control** (NC Food Code 3.501.19) and provide procedures on a separate sheet

- Check any specialized processes that will be used during preparation.

☐ Curing Smoking

☐ Acidification

☐ Sprouting Beans

☐ Cook/chill

☐ Sous vide

☐ ROP (Reduced Oxygen Packaging/vacuum packaging)

You will need to submit your Hazard Analysis and Critical Point (HACCP) plan & Variance Request to the NC Food Code Variance Committee for approval for specialized food processes to be conducted in your food service establishment. (8-103.10 Modifications & Waivers) The State Variance Committee can be reached at 919-707-5854.

1. FOOD SUPPLIES: (Ingredient List – **GROCERY LIST**)
List all foods & ingredients used in the food service establishment.

In Chart A: Include all condiments, sauces, dressings, dry goods, cheeses, herbs, produce, breads, pasta, soups, etc.

In Chart B: Include all meats, seafood and other proteins.

Check all that apply										
Chart A: Produce / Dairy / Dry Foods Sauces / Soups	Supplier/Vendor	Refrigerated	Frozen	Dry / Boxed	Canned/Bottled	Bagged/Jarred	Raw/Fresh	Pre-cooked	Whole	Pre-portioned

Check all that apply

Chart B: Proteins (Meats & Seafood)	Supplier/Vendor	Refrigerated	Frozen	Jacarded	Canned	Bagged/Boxed	Raw	Pre-cooked	Whole	Pre-portioned

1. FOOD HANDLING PROCESSES

Check all that apply

[illegible]

Check all that apply

Sandwiches & Sides	Prepared on site	Thawed	Cooked from frozen	Breaded & Marinated	Bulk Cooking	Cooked to order	Held Hot	Held Cold	Cooled	Reheated

Check all that apply

Soups, Salads, Sauces & Gravies	Prepared on site	Thawed	Cooked from frozen	Dry Mix	Bulk Cooking	Cooked to order	Held Hot	Held Cold	Cooled	Reheated

3. COLD FOOD STORAGE FACILITIES**Check all that apply**

Equipment	Number of Units	Total Cubic-Feet of Space for each unit	Ready to Eat	Raw Proteins
Walk-in Refrigeration Storage				
*Reach-in Refrigeration Storage				
Walk-in Freezer Storage				
Reach-in Freezer Storage				
Work Top Freezer				
*Flip Top & Work Top Refrigeration				
*Refrigerated Drawers				
Blast Chiller				

Raw meats, poultry & seafood should not to be stored in the same units as cooked or ready-to-eat foods.*4. HOT FOOD STORAGE FACILITIES**

Equipment	Number of Units	Dry Heat or Wet Wells
Tabletop steamer/Warmer		
Steam Table		
Hot holding cabinet		
Other Units		

5. CONSTRUCTION MATERIALS: Indicate which materials will be used in the following areas:

AREA	FLOOR	BASE	WALLS	CEILING
Kitchen				
Bar				
Food Storage				
Toilet Rooms				
Other Storage				
Can Wash/Mop Basin				
Dish Washing Area				

*smooth surface finish meeting USDA/FSIS guidelines for use in commercial kitchens

6. INSECT & RODENT CONTROL: Check all that apply

	Fly Fans or Air Curtains	Self-Closures
Delivery Doors		
Entry Doors		
Screened Doors		
Restroom Doors		
Drive Thru Pickup Window		
Walk Up Screen Window		

7. GARBAGE & REFUSE:

Check all that apply

	YES	NO	INDOOR	OUTSIDE
Compactor (stored on asphalt or concrete)				
Dumpster (stored on asphalt or concrete)				
Trash cans with lids				
City Trash Bags				
Recycle Containers with lids				
Dirty Linen Containers with lids				
Grease Recycling Containers/Systems (stored on asphalt or concrete)				
Can Wash (3'x 3' curbed pad sloped to drain with hot and cold water and backflow prevention. (mop rack in place)				

Indicate what materials will be recycled: ☐ Cardboard ☐ Grease ☐ Oyster shells
 Identify trash and recycling containers on site plan.

Do you plan to donate food? ☐ Yes ☐ No

Where will bulk chemicals be stored?

_____ In the facility's janitor's closet with other chemicals

8. ICE: ☐ Made on premises ☐ Purchased commercially. Source _____

9. WATER HEATER (minimum with 80°F rise)

☐ Gas ☐ Electric ☐ Instantaneous (Number To be installed: _____)

*Provide specification sheet and identify the model

Recovery Rate (gallons per hour) _____ Storage Capacity (gallons) _____

10. EMPLOYEE STORAGE (Required)

Describe storage facilities for employees' personal belongings: _____

11. LINENS**Check all that apply**

Cleaning methods	Onsite clothes washer	Onsite clothes dryer	Laundry service	Manual 3 compartment sink	Dishwasher
Aprons					
Uniforms					
Cut Resistant Gloves					
Wiping Cloths <i>Intend to use disposable paper towels</i>					
Table Cloths					
Cloth Napkins					
Oven Mitts					

Location of dirty linen storage container with covered lid: _____

Location of clean linen storage: _____

12. PREPARATION AREASPrep table with sink must be provided for ☐Produce ☐Ready-to-Eat ☐Seafood ☐Raw Meat ☐Sushi**NOTE: Menu(s) TBD****13. DISHWASHING FACILITIES**

At least one 3-compartment sink (with integral drain boards on each side) large enough to submerge the largest equipment and utensils are required.

Dimensions of sink basins: Length _____ Width _____ Depth _____

Length of drain boards (**at least 24" inches**) Right _____ Left _____**A spray arm and faucets will be required on all three compartment sinks for pre-rinsing.**What type of sanitizer is used? ☐Chlorine ☐Iodine ☐Quaternary Ammonium ☐Hot water
☐Other _____Dishwasher sanitizing cycle used: ☐Hot water ☐Chemical

Make & Model _____

Total amount of square feet of air drying space provided: _____ ft² (40 pan cap.)**This space is only for air drying and not as clean dish and/or ware storage.**Indicate the location and type storage available for clean and air dried multi-use wares
_____**14. HANDWASHING & TOILET FACILITIES**

Hand washing sinks with at least 100f hot and cold running water, soap and individual paper towels must be provided in each food preparation and ware washing area.

Identify all handwashing lavatories in all restrooms and work areas (zones). Hand wash lavatories must be placed to prevent cross contamination.

12. Additional Information - Please respond to each:

12.1 North Carolina Tax Payer Identification Number:

12.2 Does your company have an Affirmative Action Plan

Yes _____ No _____

13. The undersigned proposes to accomplish the work as described in the following at the unit prices and/or lump sum price shown:

LUMP SUM BASE BID: \$ _____

LUMP SUM BID IN WORDS: _____

ALTERNATE BIDS State the amount to add to the base bid for each of the following alternates.

G-1 – Kitchen replacement/addition..... Cost: \$ _____
G-2 – Preferred alternate for Sargent locksets..... Cost: \$ _____
G-3 – Replacement of ductwork in existing gym..... Cost: \$ _____
G-4 – Preferred alternate for Hoshizaki ice maker..... Cost: \$ _____
G-5 – Preferred alternate for Gerflor Taraflex resilient gym flooring..... Cost: \$ _____
G-6 – Preferred alternate for Elkay electric water cooler..... Cost: \$ _____

UNIT PRICES These unit cost will be used with respect to changes in the work.

Unit Price No. 1 – Alternative Flooring Adhesive:\$ _____ per SF
Unit Price No. 2 – Rock Removal, disposal off-site:\$ _____ per CY
Unit Price No. 3 – Unsuitable Soils Removal, disposal on-site:\$ _____ per CY
Unit Price No. 4 – Unsuitable Soils Removal, disposal off-site:\$ _____ per CY
Unit Price No. 5 – Replace removed unsuitable soil with on-site suitable soil:\$ _____ per CY
Unit Price No. 6 – Replace removed unsuitable soil with off-site suitable soil:\$ _____ per CY
Unit Price No. 7 – Replace removed unsuitable soil with ABC stone:\$ _____ per CY
Unit Price No. 8 – Replace removed unsuitable soil with No. 57 washed stone:\$ _____ per CY

Major Subcontractor's list (to be completed and submitted with bid):

Plumbing Subcontractor: _____

HVAC Subcontractor: _____

Electrical Subcontractor: _____

Note: The above subcontractors may not be substituted after the bid opening without the written consent of the City of Wilmington.

**SECTION 01 2200
UNIT PRICES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.
- C. Defect assessment and non-payment for rejected work.

1.02 RELATED REQUIREMENTS

- A. Instructions to Bidders: Instructions for preparation of pricing for Unit Prices.
- B. Contract for Construction Services: Additional payment and modification procedures.

1.03 COSTS INCLUDED

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, excavation, loading, legal disposal of materials, placement, compaction, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.04 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Schedule of Unit Prices are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.05 MEASUREMENT OF QUANTITIES

- A. Measurement methods delineated in the individual specification sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification section govern.
- B. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect or soils and materials engineer employed by the Owner, as indicated in the Unit Prices listed below.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.
- D. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- E. Measurement by Area: Measured by square dimension using mean length and width or radius.
- F. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.
- G. Contractor's Engineer Responsibilities: Sign surveyor's field notes or keep duplicate field notes , calculate and certify quantities for payment purposes.

1.06 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.
- B. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from the transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected Products.

1.07 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not complying with specified requirements.

10905 / MLK Community Center Addition & Renovation	01 2200 - 1 Revision 1	Unit Prices
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- B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Architect.
 - 2. The defective Work will be partially repaired to the instructions of the Architect, and the unit price will be adjusted to a new unit price at the discretion of Architect.
- C. The individual specification sections may modify these options or may identify a specific formula or percentage price reduction.
- D. The authority of Architect to assess the defect and identify payment adjustment is final.

1.08 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Alternative flooring adhesive; Section 09 0561 - Common Work Results for Flooring Preparation.
 - 1. Unit of Measurement: Square foot.
 - 2. Include the following in the Unit Price:
 - a. Additional preparation as may be required for application of Alternative Flooring Adhesive.
 - b. See paragraph 1.03, A "Costs Included" in this specification section.
 - 3. Method of Measurement: Actual floor area requiring alternative flooring adhesive. Quantities will be verified by Architect.
- B. Unit Price 2: Rock removal and disposal off-site; Section 31 2000 - Earth Moving.
 - 1. Unit of Measurement: Cubic yard, measured before removal.
 - 2. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner.
- C. Unit Price 3: Unsuitable soils removal and disposal on-site; Section 31 2000 - Earth Moving
 - 1. Unit of Measurement: Cubic yard, measured before removal.
 - 2. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner, based on volume of excavation.
- D. Unit Price 4: Unsuitable soils removal and disposal off-site; Section 31 2000 - Earth Moving
 - 1. Unit of Measurement: Cubic yard, measured before removal.
 - 2. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner, based on volume of excavation.
- E. Unit Price 5: Replacement of removed unsuitable soils with on-site suitable soil in-place; Section 31 2000 - Earth Moving.
 - 1. Unit of Measurement: Cubic yard of void to be filled.
 - 2. Include costs related to removal of unsuitable soil in other Unit Prices.
 - 3. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner based on volume of void to be filled.
 - 4.
- F. Unit Price 6: Replacement of removed unsuitable soils with off-site suitable soil in-place; Section 31 2000 - Earth Moving.
 - 1. Unit of Measurement: Cubic yard of void to be filled.
 - 2. Include costs related to removal of unsuitable soils in other Unit Prices.
 - 3. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner based on volume of void to be filled.
- G. Unit Price 7: Replacement of removed unsuitable soils with Certified Aggregate Base Course in-place; Section 31 2000 - Earth Moving.
 - 1. Unit of Measurement: Cubic yard of void to be filled.

10905 / MLK Community Center Addition & Renovation	01 2200 - 2 Revision 1	Unit Prices
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2. Include costs related to removal of unsuitable soil in other Unit Prices.
 3. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner based on volume of void to be filled.
- H. Unit Price 8: Replacement of removed unsuitable soils with Certified No. 57 washed stone in-place; Section 31 2000 - Earth Moving.
1. Unit of Measurement: Cubic yard of void to be filled.
 2. Include costs related to removal of unsuitable soil in other Unit Prices.
 3. Method of Measurement: Quantities will be verified by a soils and materials engineer employed by the Owner based on volume of void to be filled.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 2200 Revision 1

10905 / MLK Community Center Addition & Renovation	01 2200 - 3 Revision 1	Unit Prices
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**SECTION 08 7100
DOOR HARDWARE**

GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 01 1000 – Summary: Work to be performed by, and materials to be furnished by, Owner and/or Owner's vendors.
- C. Section 01 2300 – Alternates: Work to be performed as part of an alternate bid.

1.02 SUMMARY

- A. Section includes:
 - 1. Mechanical and electrified door hardware for:
 - a. Swinging doors.
 - 2. Electronic access control system components, including:
 - a. Electronic access control devices.
 - 3. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
- B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:
 - 1. Windows
 - 2. Cabinets (casework), including locks in cabinets
 - 3. Signage
 - 4. Toilet accessories
 - 5. Overhead doors
- C. Related Sections:
 - 1. Division 01 Section "Summary" for items to be furnished by Owner or Owner's vendor, for installation by GC, and work to be performed by Owner's vendor related to work in this section.
 - 2. Division 01 Section "Alternates" for work to be performed as part of an alternate bid.
 - 3. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.

4. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
5. Division 26 sections for connections to electrical power system and for low-voltage wiring.
6. Division 28 sections for coordination with other components of electronic access control system.

1.03 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Key Systems and Nomenclature

C. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.04 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.

B. Action Submittals:

1. Product Data: Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
 - a. Wiring Diagrams: For power, signal, and control wiring and including:
 - 1) Details of interface of electrified door hardware and building safety and security systems.
 - 2) Schematic diagram of systems that interface with electrified door hardware.
 - 3) Point-to-point wiring.
 - 4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
 - a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
 - a. Door Index; include door number, heading number, and Architects hardware set number.
 - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
 - c. Quantity, type, style, function, size, and finish of each hardware item.
 - d. Name and manufacturer of each item.
 - e. Fastenings and other pertinent information.
 - f. Location of each hardware set cross-referenced to indications on Drawings.
 - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
 - h. Mounting locations for hardware.
 - i. Door and frame sizes and materials.
 - j. Name and phone number for local manufacturer's representative for each product.
 - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
 - 1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.
5. Key Schedule:
 - a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
 - b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
 - c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
 - d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
 - e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
 - 1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
 - f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
2. Product data for electrified door hardware:
 - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
3. Certificates of Compliance:
 - a. UL listings for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
 - b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in "QUALITY ASSURANCE" article, herein.
 - c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.
4. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
 - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
 - b. Catalog pages for each product.
 - c. Factory order acknowledgement numbers (for warranty and service)
 - d. Name, address, and phone number of local representative for each manufacturer.
 - e. Parts list for each product.
 - f. Final approved hardware schedule, edited to reflect conditions as-installed.
 - g. Final keying schedule.
 - h. Copies of floor plans with keying nomenclature.
 - i. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
 - j. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.05 QUALITY ASSURANCE

- A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
 1. Warehousing Facilities: In Project's vicinity.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.

3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
 - a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.
- B. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
 2. Can provide installation and technical data to Architect and other related subcontractors.
 3. Can inspect and verify components are in working order upon completion of installation.
 4. Capable of producing wiring diagrams.
 5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
- C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
- D. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
- E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
- F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.
- G. Keying Conference
1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
 - a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - b. Preliminary key system schematic diagram.
 - c. Requirements for key control system.
 - d. Requirements for access control.
 - e. Address for delivery of keys.
- H. Pre-installation Conference
1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 2. Inspect and discuss preparatory work performed by other trades.
 3. Inspect and discuss electrical roughing-in for electrified door hardware.

4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

I. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers, as well as Owner's access control system vendor.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
 2. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- D. Protection and Damage:
1. Promptly replace products damaged during shipping.
 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- E. Deliver keys to Owner by registered mail or overnight package service.

1.07 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.08 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Beginning from date of Substantial Completion, for durations indicated.
 - a. Closers:
 - 1) Mechanical: 25 years.
 - b. Exit Devices:
 - 1) Mechanical: 3 years.
 - c. Locksets:
 - 1) Mechanical: 10 years.
 - d. Continuous Hinges: Lifetime warranty.
 - e. Key Blanks: Lifetime
 - 2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.09 MAINTENANCE

- A. Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PRODUCTS

2.01 MANUFACTURERS

- A. Approval of manufacturers and/or products other than those listed as "Basis of Design Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- B. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.
- C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

- A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
 2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
 3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
 4. Install hardware with fasteners provided by hardware manufacturer.
- B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.03 HINGES

A. Manufacturers and Products:

1. Basis of Design Manufacturer and Product: Ives 5BB series.
2. Acceptable Manufacturers and Products: Hager BB series, McKinney TAT4A series.

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
 - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
 - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
 - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
4. 2 inches or thicker doors:
 - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - a. Steel Hinges: Steel pins
 - b. Non-Ferrous Hinges: Stainless steel pins
 - c. Out-Swinging Exterior Doors: Non-removable pins
 - d. Out-Swinging Interior Lockable Doors: Non-removable pins
 - e. Interior Non-lockable Doors: Non-rising pins

8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.

2.04 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:

- a. Basis of Design Manufacturer: Ives.
- b. Acceptable Manufacturers: Select, Stanley.

2. Requirements:

- a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
- b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Where electrical power transfer devices are specified, prepare hinges for proper clearance around devices.
- g. Install hinges with fasteners supplied by manufacturer.
- h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 FLUSH BOLTS

A. Manufacturers:

1. Basis of Design Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.06 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Basis of Design Manufacturer and Product: Schlage ND series.
2. Acceptable Manufacturers and Products: Sargent 11-Line, Corbin-Russwin CL3100 series.

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
 - a. Lever Design: Schlage Athens
 - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.07 EXIT DEVICES

A. Manufacturers and Products:

1. Basis of Design Manufacturer and Product: Von Duprin 98 series.
2. Acceptable Manufacturers and Products: Detex Advantex series, Precision APEX 2000 series.

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide flush end caps for exit devices.
7. Provide exit devices with manufacturer’s approved strikes.
8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
10. Provide cylinder dogging as specified at non fire-rated openings.

11. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. Top latch mounting: double or single tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
15. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
 - a. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.08 CYLINDERS

A. Manufacturers:

1. Basis of Design Manufacturer: Sargent

B. Requirements:

1. Cylinders shall be compatible with Owner's existing system: Sargent 6300-series, 6-pin tumbler, large-format, interchangeable core cylinders, RF keyway in a master keyed and grand master keyed system.

C. Construction Keying:

1. Temporary cylinders for construction period.

2.09 KEYING

A. Provide keying system incorporating decisions made at keying conference.

B. Provide cylinders compatible with Owner's existing keying system. Owner to pin cores and install.

C. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

D. Requirements:

1. Provide removable cylinders/cores keyed by the manufacturer according to the following key system.
 - a. Master Keying system as directed by the Owner.
2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
3. Identification:

- a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Do not provide blind code marks with actual key cuts.
 - b. Identification stamping provisions must be approved by the Architect and Owner.
 - c. Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE".
 - d. Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
 - e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
4. Quantity: Provide 2 construction keys and 2 permanent keys per core.

2.10 DOOR CLOSERS

A. Manufacturers and Products:

1. Basis of Design Manufacturer and Product: LCN 4050 series.
2. Acceptable Manufacturers and Products: Norton 7500 series, Yale 4400 series.

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-1/2 inch (38 mm) diameter with 11/16 inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.11 DOOR TRIM

A. Manufacturers:

1. Basis of Design Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.12 PROTECTION PLATES

A. Manufacturers:

1. Basis of Design Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:
 - a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
 - b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

2.13 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Basis of Design Manufacturers: Glynn-Johnson.
2. Acceptable Manufacturers: Rixson, Sargent.

B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking

- wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

2.14 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Basis of Design Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.15 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Basis of Design Manufacturer: Zero International.
2. Acceptable Manufacturers: National Guard, Reese.

B. Requirements:

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Size of thresholds:
 - a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
 - b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
4. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2.16 MAGNETIC HOLDERS

A. Manufacturers:

1. Basis of Design Manufacturer: LCN.
2. Acceptable Manufacturers: Rixson, Sargent.

B. Requirements:

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

2.17 COAT HOOKS

A. Manufacturers:

1. Basis of Design Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

B. Provide coat hooks as specified.

2.18 FINISHES

A. Finish: BHMA 626/652 (US26D); except:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

EXECUTION

3.01 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 2. Custom Steel Doors and Frames: HMMA 831.
 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- H. Lock Cylinders: Install construction cores to secure building and areas during construction period.
1. Replace construction cores with permanent cores as indicated in keying section.
- I. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
1. Conduit, junction boxes and wire pulls.
 2. Connections to and from power supplies to electrified hardware.
 3. Connections to fire/smoke alarm system and smoke evacuation system.
 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
 5. Testing and labeling wires with Architect's opening number.
- J. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- K. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- L. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- M. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- N. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

- O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- P. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- Q. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 FIELD QUALITY CONTROL

- A. Engage qualified manufacturer trained representative to perform inspections and to prepare inspection reports.
 - 1. Representative will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.04 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.05 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.06 DOOR HARDWARE SCHEDULE

- A. Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.
- B. Hardware Sets:

Hardware Group No. 01

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
1	EA	PANIC HARDWARE	CD-98-DT (990DT)	626	VON
1	EA	PANIC HARDWARE	CD-QEL-98-NL (990NL-R)	✓ 626	VON
4	EA	CYLINDER	AS REQUIRED		
1	EA	REMOVABLE MULLION W/ KEYED CYLINDER			
1	EA	MAGNETIC DPS SWITCH	7764	✓	SCH
1	EA	POWER TRANSFER	EPT-2	✓ 689	VON
2	EA	SURFACE CLOSER	4050A SCUSH	689	LCN
1	EA	GASKETING	BY DOOR/FRAME MANUFACTURER (HEAD, JAMB, MEETING STILE)		
2	EA	DOOR SWEEP	BY DOOR/FRAME MANUFACTURER		
1	EA	THRESHOLD	566A-223	A	ZER

OWNER'S ACCESS CONTROL SYSTEM VENDOR TO FURNISH CARD READER, GC TO INSTALL ON MULLION ADJACENT TO DOOR OPENING.

Provide each PR door(s) with the following:

Hardware Group No. 02

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	027XY (VERIFY DOOR THICKNESS FOR HINGE TYPE)	628	IVE
1	EA	PANIC HARDWARE	LD-98-NL	626	VON
1	EA	CYLINDER	AS REQUIRED		
1	EA	SURFACE CLOSER	4050A SCUSH	689	LCN
1	EA	GASKETING	BY DOOR/FRAME MANUFACTURER (HEAD, JAMB)		
1	EA	DOOR SWEEP	BY DOOR/FRAME MANUFACTURER		
1	EA	THRESHOLD	102A-223	A	ZER
1	EA	THRESHOLD SHIM	69A	A	ZER

Hardware Group No. 03

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	027XY (VERIFY DOOR THICKNESS FOR HINGE TYPE)	628	IVE
1	EA	PANIC HARDWARE	LD-98-EO	626	VON
1	EA	SURFACE CLOSER	4050A SCUSH	689	LCN
1	EA	GASKETING	BY DOOR/FRAME MANUFACTURER (HEAD, JAMB)		
1	EA	DOOR SWEEP	BY DOOR/FRAME MANUFACTURER		
1	EA	THRESHOLD	102A-223	A	ZER
1	EA	THRESHOLD SHIM	69A	A	ZER

Hardware Group No. 04

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	027XY (VERIFY DOOR THICKNESS FOR HINGE TYPE)	628	IVE
1	EA	STOREROOM LOCK	ND80LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	LOCK GUARD	LG1	630	IVE
1	EA	SURFACE CLOSER	4050A SHCUSH	689	LCN
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	BY DOOR/FRAME MANUFACTURER (HEAD, JAMB)		
1	EA	DOOR SWEEP	BY DOOR/FRAME MANUFACTURER		
1	EA	THRESHOLD	566A-223	A	ZER

Hardware Group No. 05

Provide each CO door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
		CASED OPENING			

Hardware Group No. 06

Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CYLINDER	AS REQUIRED		
		ROLLING COUNTER DOOR			

Hardware Group No. 07

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	ND70LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	OH STOP	90S	630	GLY
1	EA	MOP PLATE	8400 6" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 08

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	ND70LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	SURFACE CLOSER	4050A SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 09

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	ND70LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	SURFACE CLOSER	4050A CUSH	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 10

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S ATH	626	SCH
1	EA	SURFACE CLOSER	4050A REG	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	COAT AND HAT HOOK	574	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 11

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE

Hardware Group No. 12

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	FIRE EXIT HARDWARE	98-EO-F-499F	626	VON
1	EA	FIRE EXIT HARDWARE	98-L-F-07-499F (996L-R)	626	VON
2	EA	CYLINDER	AS REQUIRED		
1	EA	REMOVABLE MULLION W/ KEYED CYLINDER			
2	EA	SURFACE CLOSER	4050A EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7850 AS REQ (12/24/120V AC/DC TRI-VOLT)	689	LCN
2	SET	MEETING STILE	328AA-S	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER

DOORS CAN BE HELD OPEN BY WALL MAGNETS. UPON LOSS OF POWER OR FIRE ALARM, MAGNETS TO RELEASE.

Hardware Group No. 13

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 14

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	SET	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	CLASSROOM LOCK	ND70LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4050A CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	MEETING STILE	328AA-S	AA	ZER

Hardware Group No. 15

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	PANIC HARDWARE	CD-98-DT (990DT)	626	VON
1	EA	PANIC HARDWARE	CD-QEL-98-NL (990NL-R)	✓ 626	VON
3	EA	CYLINDER	AS REQUIRED		
1	EA	MAGNETIC DPS SWITCH	7766	✓	SCH
1	EA	POWER TRANSFER	EPT-2	✓ 689	VON

-REUSE EXISTING HARDWARE, UNLESS NOTED OTHERWISE. WHERE HARDWARE IS REMOVED, SALVAGE AND DELIVER TO OWNER.

-SALVAGE EXISTING EXIT DEVICES AND PROVIDE SPECIFIED HARDWARE.

-OWNER'S ACCESS CONTROL SYSTEM VENDOR TO FURNISH CARD READER, GC TO INSTALL ON MULLION ADJACENT TO DOOR OPENING.

Hardware Group No. 16

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4050A REG	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 17

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80LD ATH	626	SCH
1	EA	CYLINDER	AS REQUIRED		
1	EA	SURFACE CLOSER	4050A EDA	689	LCN
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 18

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	PUSH PLATE	8200 4" X 16"	630	IVE
2	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	CYLINDER	AS REQUIRED		
1	EA	REMOVALBLE MULLION W/ KEYED CYLINDER			
2	EA	SURFACE CLOSER	4050A CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 19

Provide each SGL door(s) with the following:

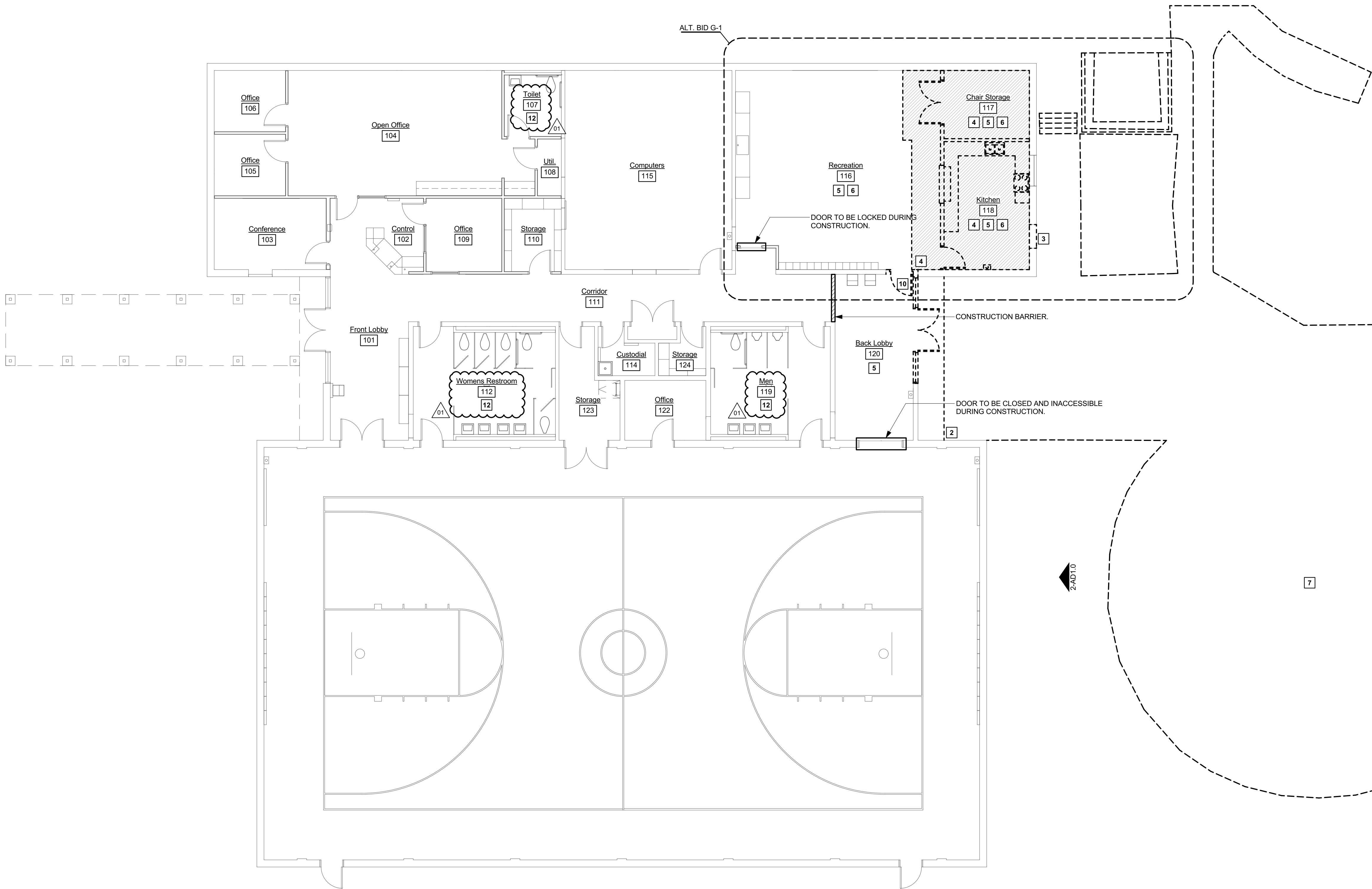
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
-----	--	-------------	----------------	--------	-----

SALVAGE & REUSE EXISTING HARDWARE.

DOOR HARDWARE INDEX

Door #	Hardware Set #	
101A	15	
116A	19	Alt. Bid G-1
117A	07	Alt. Bid G-1
118A	08	Alt. Bid G-1
118B	06	Alt. Bid G-1
118C	05	Alt. Bid G-1
120A	01	
125A	04	Alt. Bid G-1
200A	18	
200B	03	
200C	02	
200D	03	
200E	02	
201A	14	
202A	16	
203A	16	
204A	09	
204B	13	
204C	11	
205A	10	
206A	12	
R1A	17	

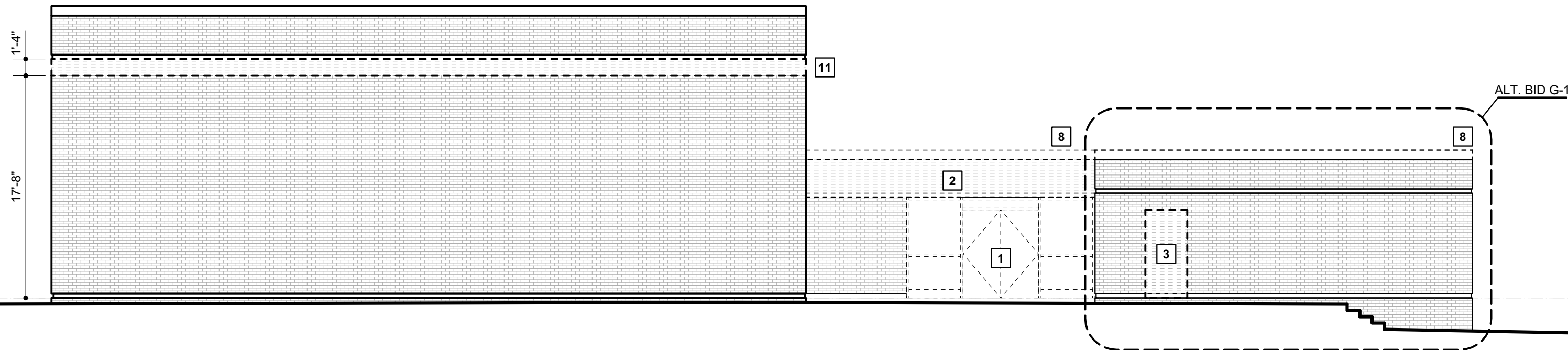
END OF SECTION 08 7100 Revision 1



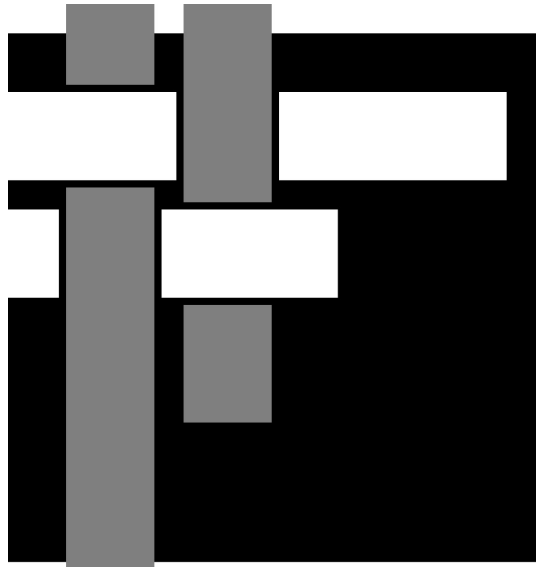
Demolition Legend	
	Existing wall to remain
	Remove wall
	Remove door, frame & hardware
	Remove/Salvage or Demolish

Demolition Key Notes	
1	Demolish existing entrance door, frame, and glazing.
2	Demolish roof overhang to face of exterior wall; including soffit, structure, brick, fascia, and roofing.
3	Cut opening for new door and door frame.
4	Demolish concrete slab as needed to install new waste piping; coordinate with PD1.0 Plumbing Demolition Plan and P1.0 Plumbing Floor Plan
5	Demolish flooring and wall base
6	Demolish ceiling grid and ceiling tile
7	Demolish site elements; see C2.0 Existing Conditions & Demo Plan for extent.
8	Demolish roof fascia.
9	Demolish brick masonry facade; interior CMU wall to remain.
10	Remove and salvage existing door for re-use.
11	Remove existing brick masonry & support brick above while new weather barrier, flashing, and brick masonry is installed.
12	Demolish ceiling tile; ceiling grid and fixtures to remain.

1 Demolition Plan
AD1.0 Scale: 1/8" = 1'-0"

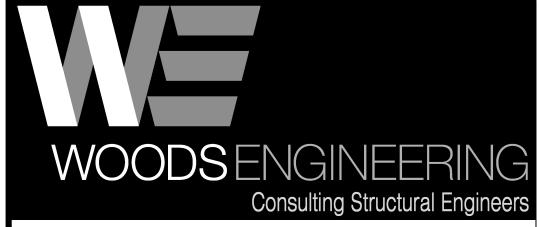


2 East Demolition Building Elevation
AD1.0 Scale: 1/8" = 1'-0"



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**MLK Center
Addition &
Renovation**
401 S. 8th Street
Wilmington, NC

Construction Drawings
March 22, 2023

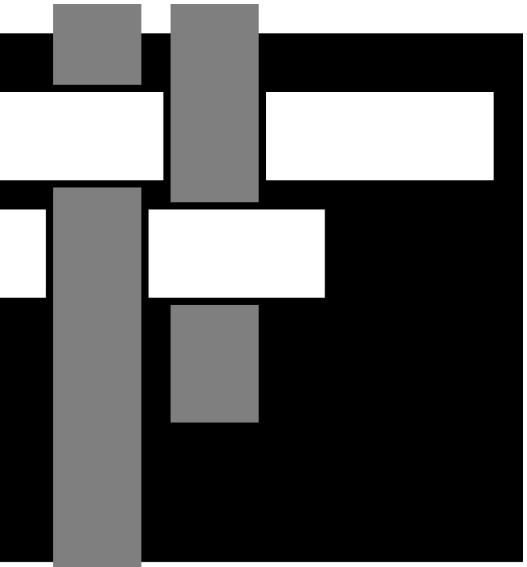
Revisions:
<div>01 08/15/23 - Addendum #2</div>

Demolition Plan
& Elevation

AD1.0
01 of 01

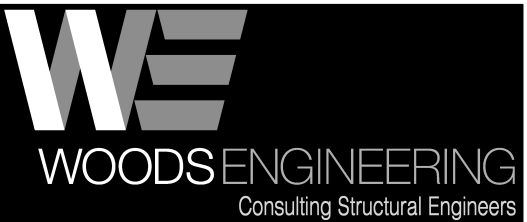


2 Base Bid Kitchen Floor Plan

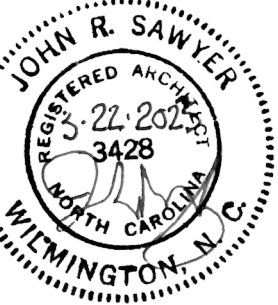


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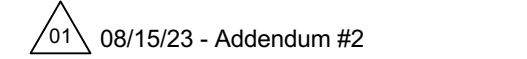
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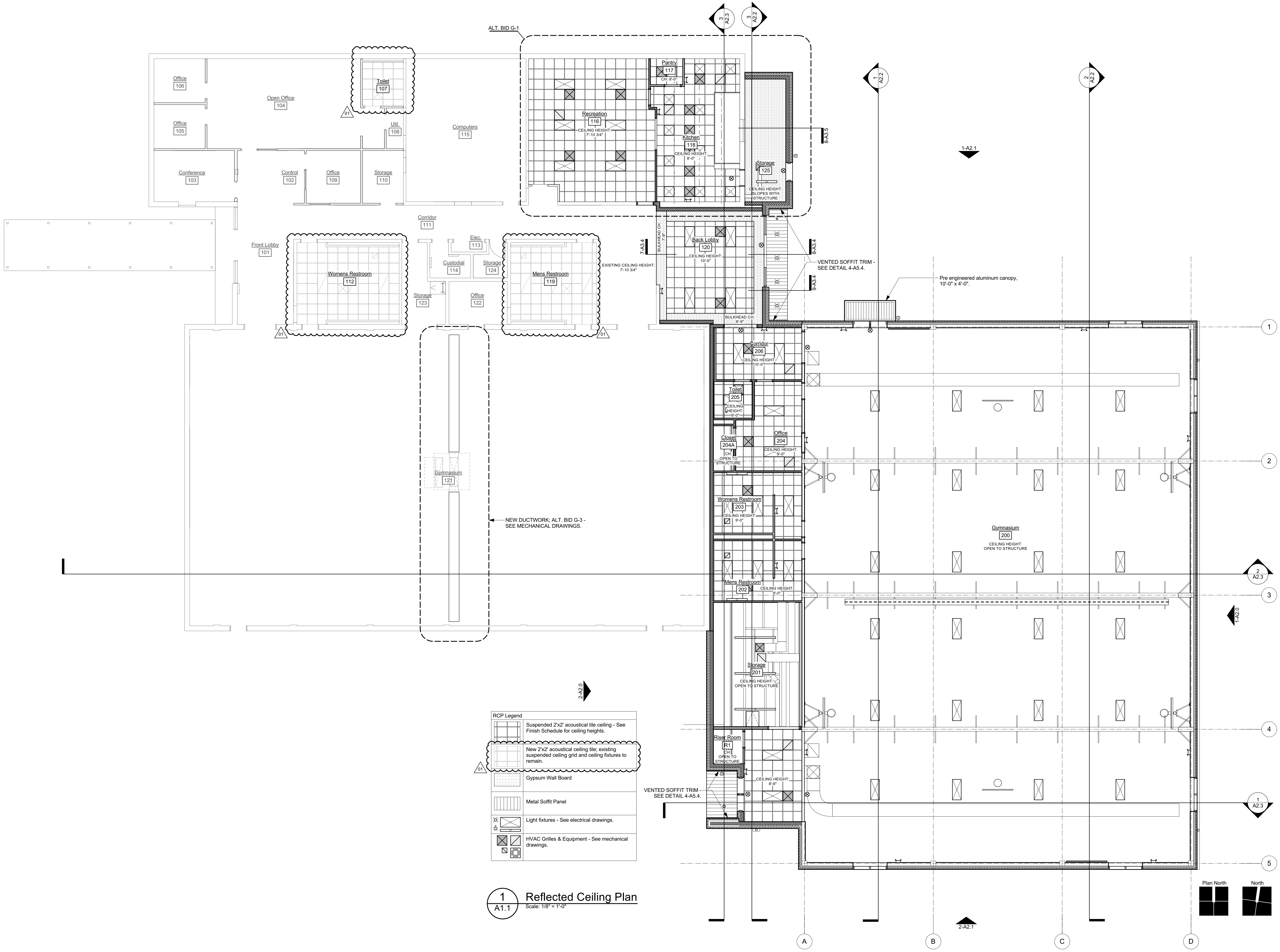


Floor Plan

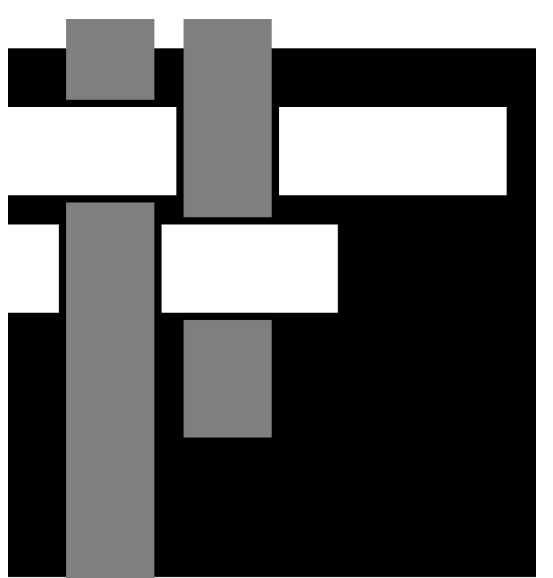
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01 of 25

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1 Reflected Ceiling Plan
A1.1 Scale: 1/8" = 1'-0"



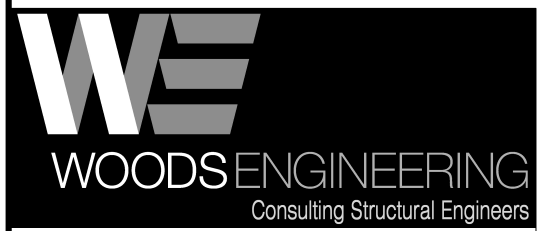
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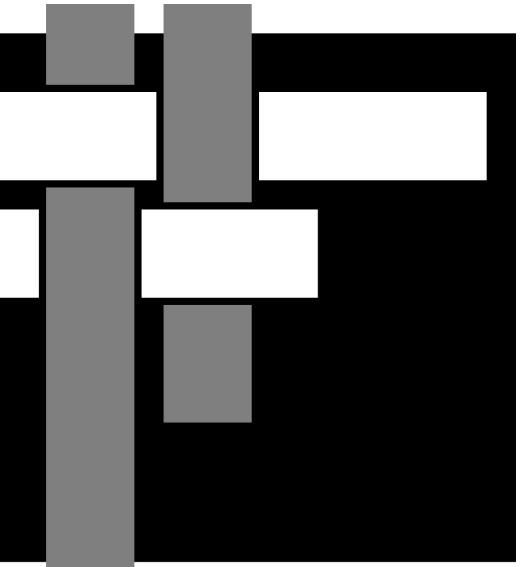
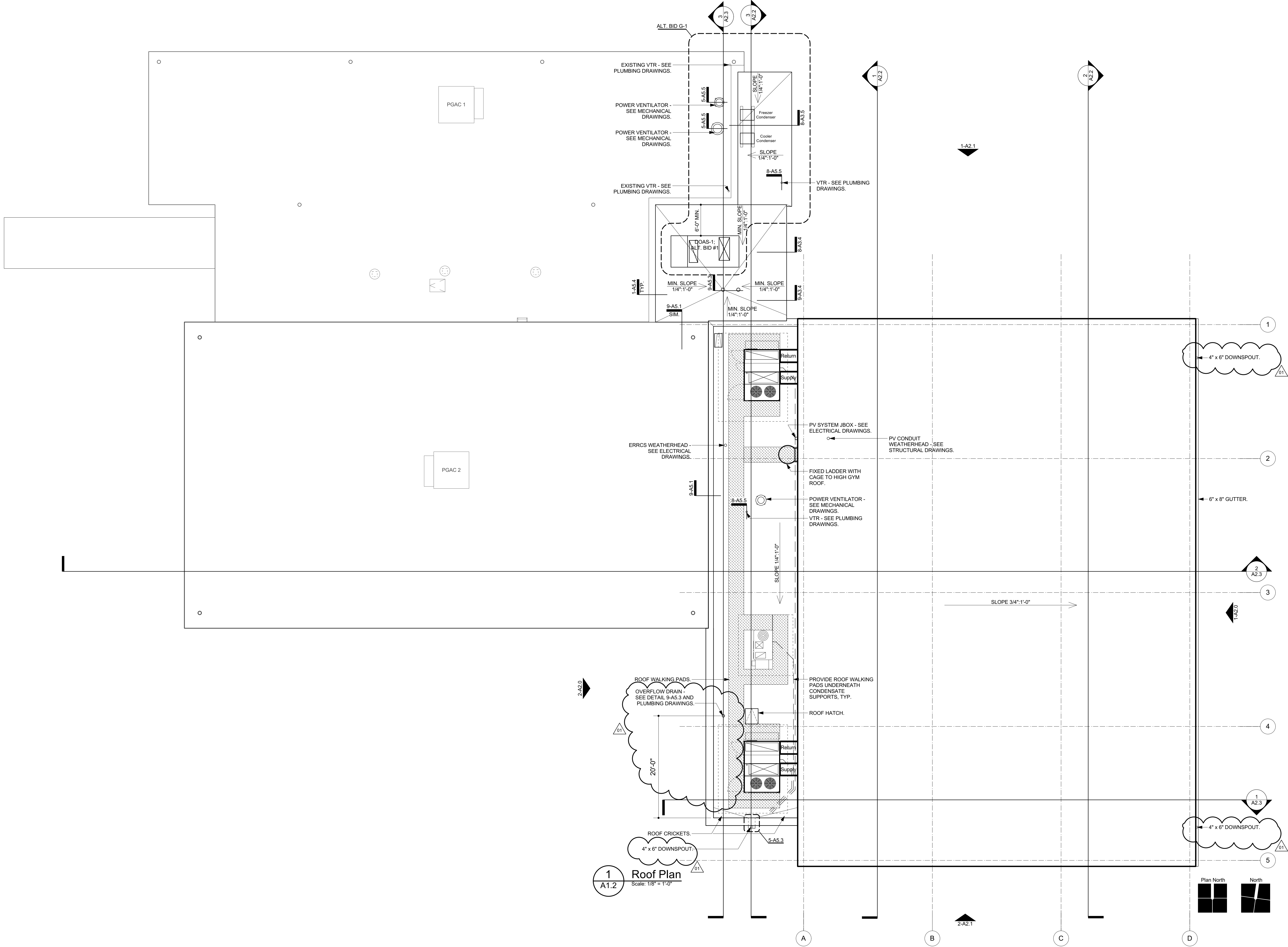
Revisions:

01	08/15/23 - Addendum #2
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Reflected
Ceiling Plan

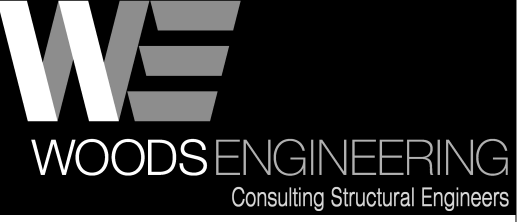
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02 of 25

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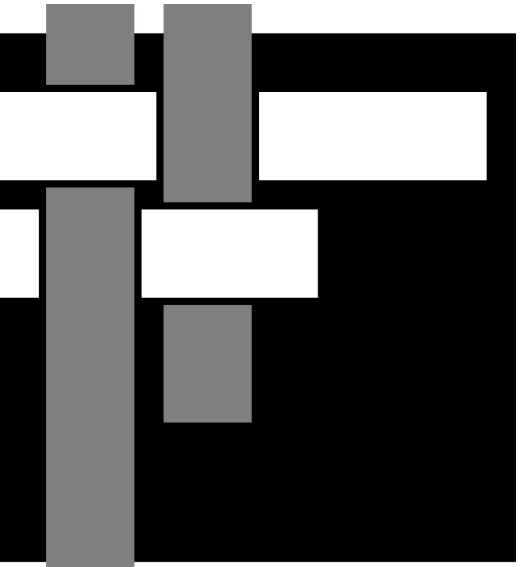
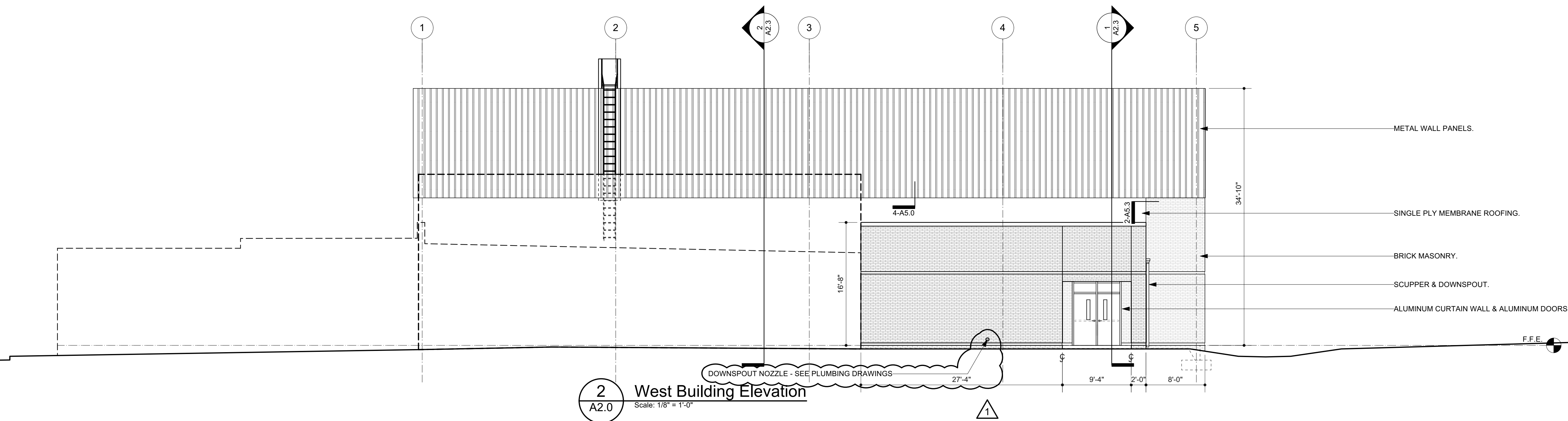
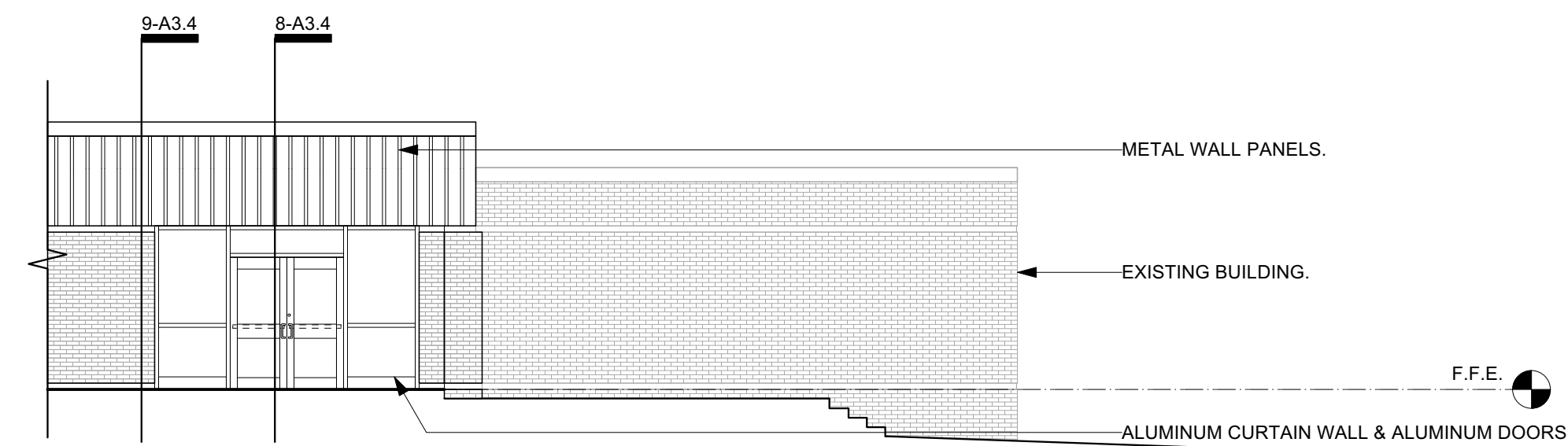
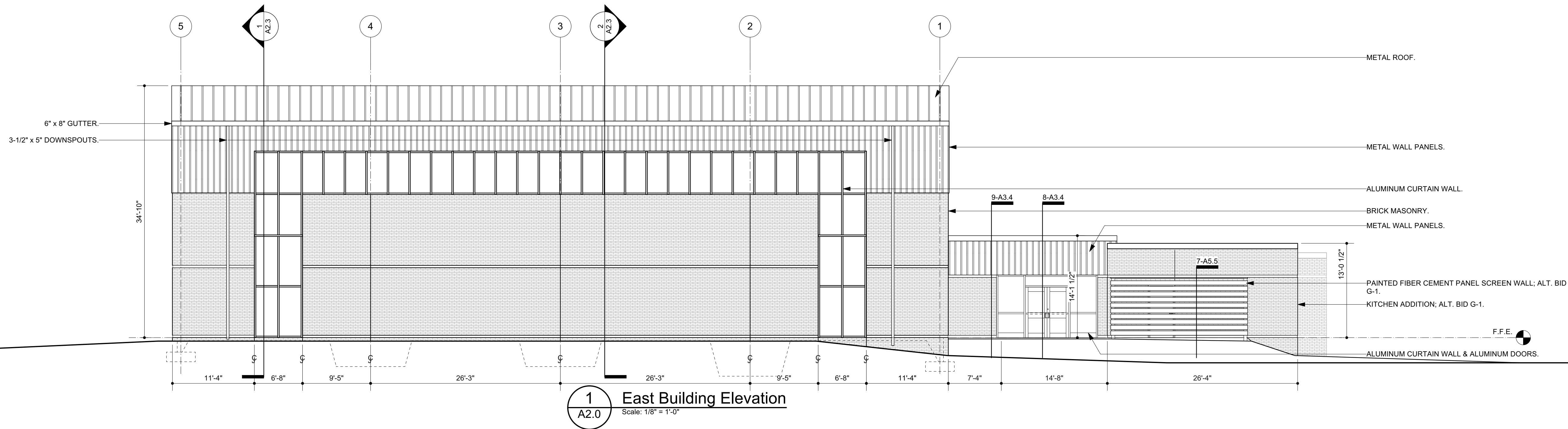
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March 22, 2023

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01 08/15/23 - Addendum #2

Roof Plan

A1.2
03 of 25



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**MLK Center
Addition &
Renovation**
401 S. 8th Street
Wilmington, NC

Construction Drawings
March 22, 2023

Revisions:

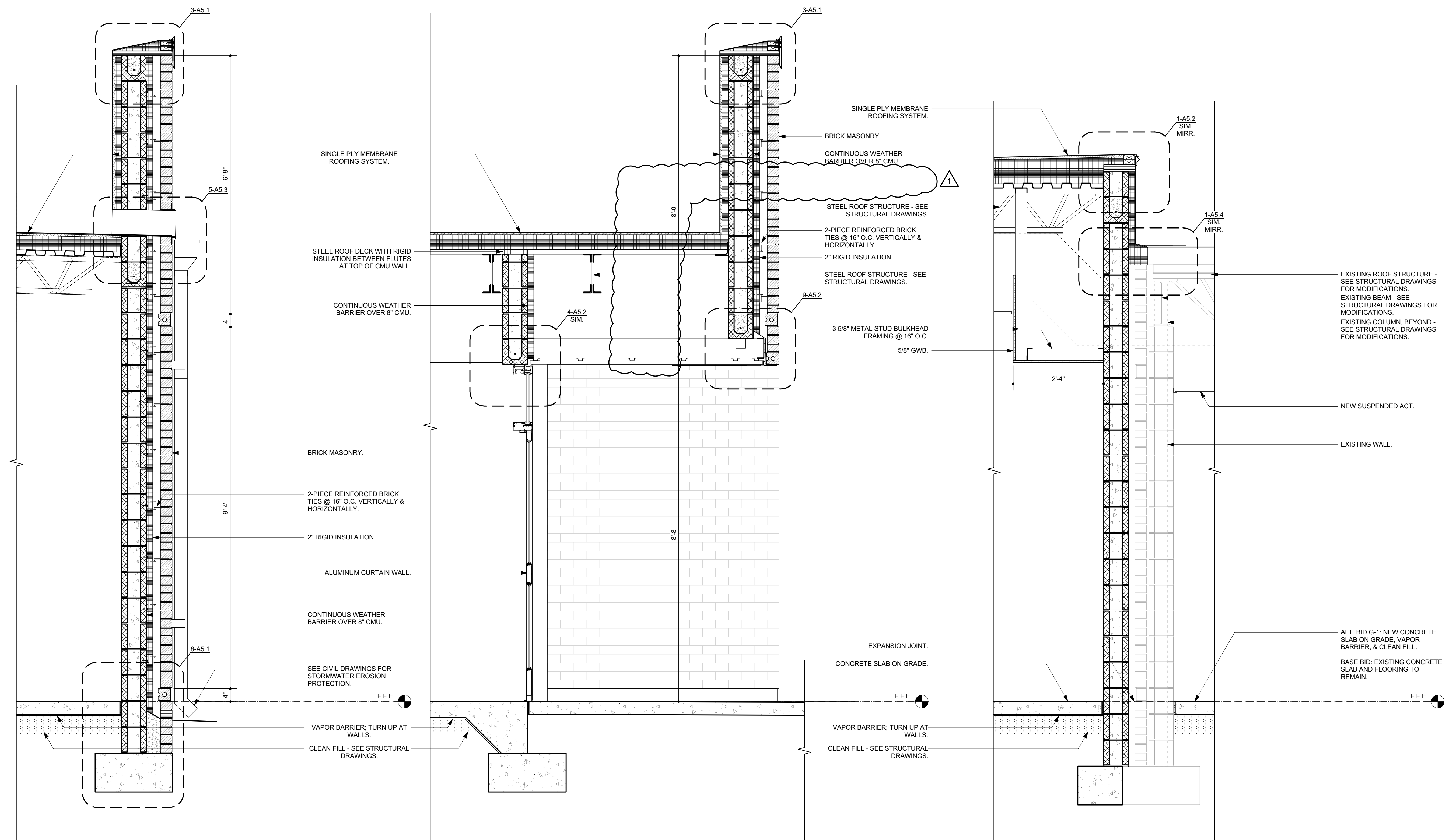
1 7/21/23 Roof Drainage Revisions

Building
Elevations

A2.0

04 of 25

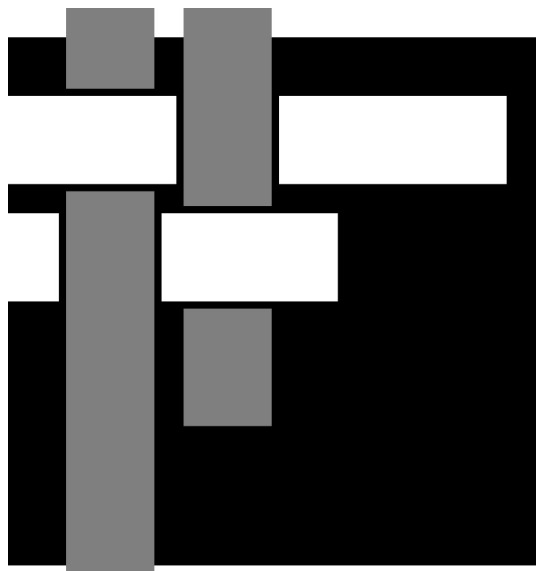
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7 Wall Section
A3.3 Scale: 3/4" = 1'-0"

8 Wall Section
A3.3 Scale: 3/4" = 1'-0"

9 Wall Section
A3.3 Scale: 3/4" = 1'-0"



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401 S. 8th Street
Wilmington, NC

Construction Drawings
March 22, 2023

Revisions:

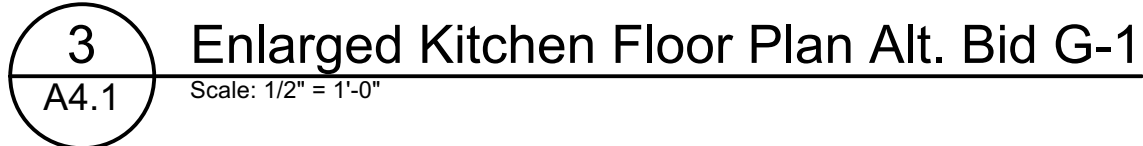
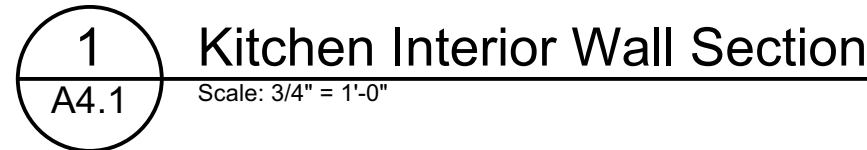
1 7/21/23 Roof Drainage Revisions

Wall Sections

A3.3

11 of 25

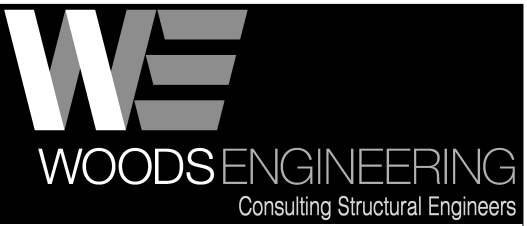
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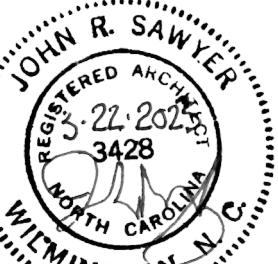
Accessory Key Notes			
1	Exhaust Hood	14	3-Compartment Sink
2	Range with Convection Oven	15	Hand Sink
3	Range with Standard Oven	16	Refrigerated Sandwich Unit
4	Char Grille	17	Worktop Refrigerator
5	Flat Grille	18	Worktop Freezer
6	Refrigerated Equipment Stand	19	Reach-in Freezer
7	70-90 lb Fryer	20	Reach-in Refrigerator
8	40-50 lb Fryer	21	Ice Maker
9	NUMBER NOT USED	22	48"W x 16"D Wall Mounted Shelf
10	Prep Table with Left Sink	23	Demo Table with Mirror
11	Prep Table with Right Sink	24	Dishwasher
12	NUMBER NOT USED	25	Pan Rack
13	Tubular Shelving	26	Air Curtain
17	Walk-in Cooler/Freezer	27	Walk-in Cooler/Freezer
28	Dunnage Rack	28	Dunnage Rack
29	36"W x 21"D Wire Shelving	29	36"W x 21"D Wire Shelving
30	48"W x 21"D Wire Shelving	30	48"W x 21"D Wire Shelving
31	54"W x 21"D Wire Shelving	31	54"W x 21"D Wire Shelving
32	60"W x 21"D Wire Shelving	32	60"W x 21"D Wire Shelving
33	60"W x 18"D Wire Shelving	33	60"W x 18"D Wire Shelving
34	Mop Sink	34	Mop Sink
35	Mop Holder	35	Mop Holder



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Construction Drawings
March 22, 2023

Enlarged
Kitchen Plan
Alt. Bid G-1

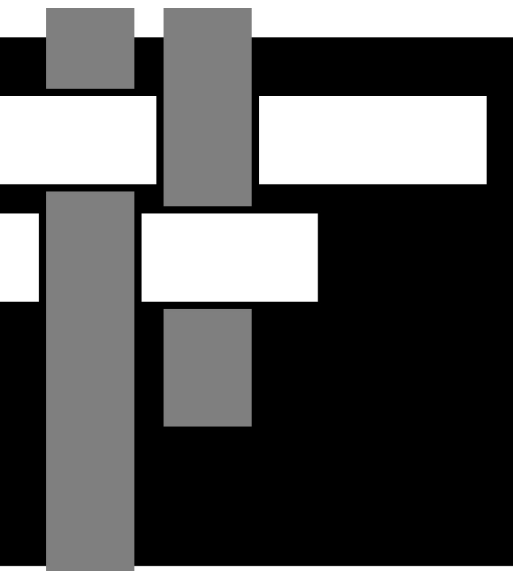
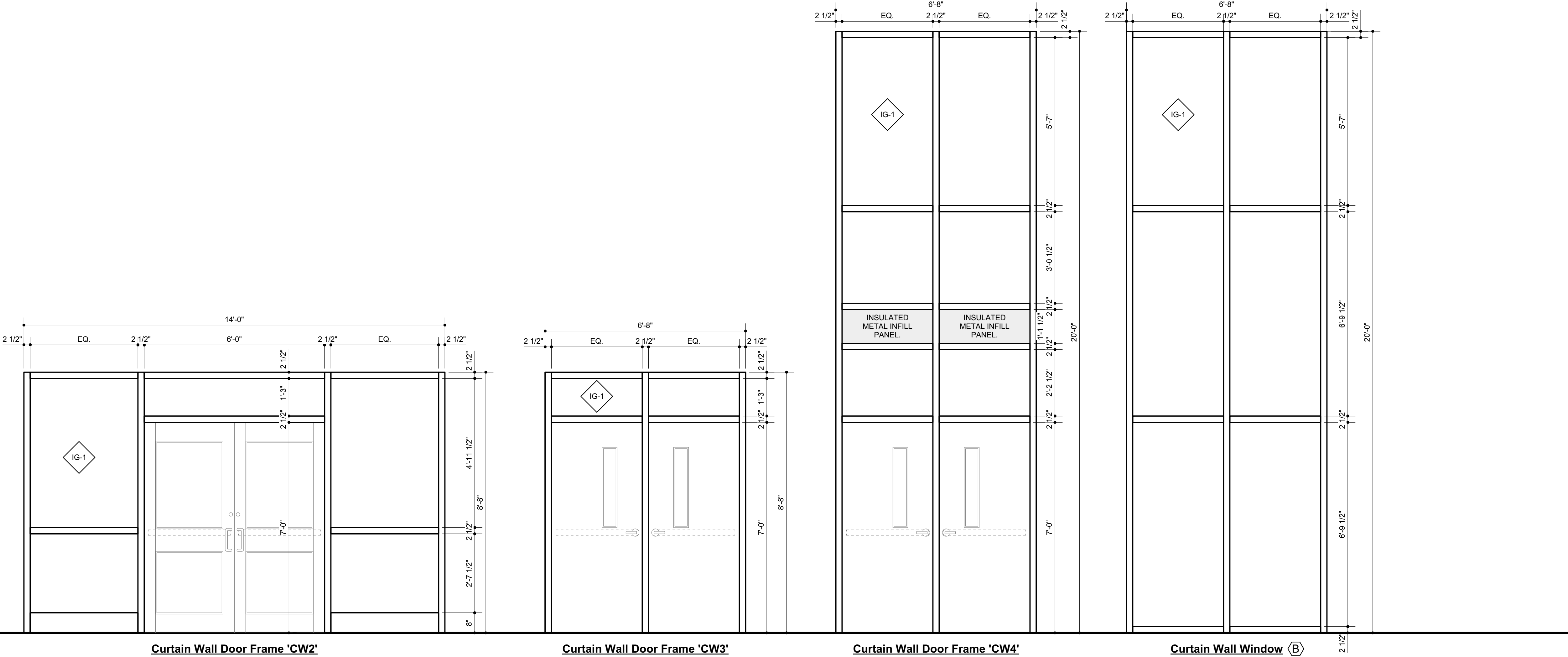
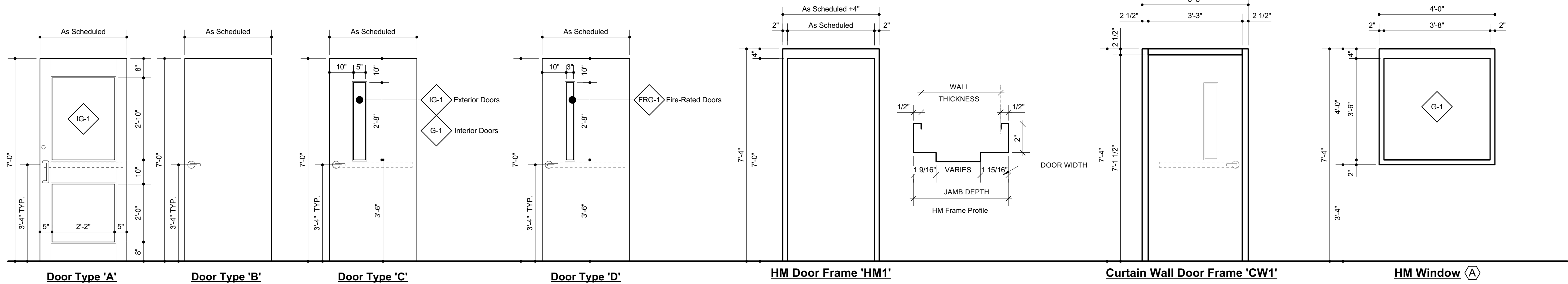
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Finish Schedule									
ID	ROOM NAME	FLOOR FINISH	BASE MATERIAL	NORTH WALL FINISH	EAST WALL FINISH	SOUTH WALL FINISH	WEST WALL FINISH	CEILING	REMARKS
107	Toilet	ETR	ETR	ETR	ETR	ETR	ETR	ACT-2	Alt. Bid G-1
112	Womens Restroom	ETR	ETR	ETR	ETR	ETR	ETR	ACT-2	Alt. Bid G-1
116	Recreation	ETR & VCT	ETR & RB	ETR	GWB PTD	ETR	ETR	ACT-1	See A1.1
117	Pantry	Slip-resistant Sheet Flooring	Slip-resistant Sheet Flooring	CMU EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	ACT-2	Alt. Bid G-1
118	Kitchen	Slip-resistant Sheet Flooring	Slip-resistant Sheet Flooring	GWB & CMU EPOXY PTD	GWB EPOXY PTD	CMU EPOXY PTD	CMU EPOXY PTD	ACT-2	See A1.1
119	Mens Restroom	ETR	ETR	ETR	ETR	ETR	ETR	ACT-2	Alt. Bid G-1
120	Back Lobby	Entrance Mat & VCT	RB	ETR PTD & Brick	GWB PTD & CMU PTD	ETR PTD & CMU PTD	ETR PTD & CMU PTD	See A1.1	Alt. Bid G-1
125	Storage	Slip-resistant Sheet Flooring	Slip-resistant Sheet Flooring	ETR Brick EPOXY PTD	CMU EPOXY PTD	CMU EPOXY PTD	ETR Brick EPOXY PTD	See A1.1	Alt. Bid G-1
126	Walk-in Cooler	-	-	-	-	-	-	See A1.1	Alt. Bid G-1
200	Gymnasium	Resilient Athletic Flooring	RB	Wall Pads, Plywood PTD	Wall Pads, Plywood PTD	Wall Pads, Plywood PTD	Vinyl Wall Covering, Wall Pads, Plywood PTD	ACT-1, Open to Structure	See A1.1
201	Storage	Concrete	RB	GWB PTD	GWB PTD	GWB PTD	CMU PTD	Open to Structure	See A1.1
202	Mens Restroom	PT	PT	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	ACT-2	See A1.1
203	Womens Restroom	PT	PT	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	ACT-2	See A1.1
204	Office	VCT	RB	GWB PTD	GWB PTD	GWB PTD	CMU PTD	ACT-1	See A1.1
204A	Closet	VCT	RB	GWB PTD	GWB PTD	GWB PTD	GWB PTD	Open to Structure	See A1.1
205	Toilet	PT	PT	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	GWB EPOXY PTD	ACT-2	See A1.1
206	Corridor	VCT	RB	GWB PTD	GWB PTD	GWB PTD	GWB PTD	ACT-1	See A1.1
R1	Riser Room	Concrete	RB	GWB PTD	GWB PTD	Plywood PTD	Plywood PTD	Open to Structure	See A1.1

GWB - Gypsum Wall Board
CMU - Concrete Masonry Unit
ACT-1 - Acoustical Ceiling Tile - See Acoustic Ceilings Spec
ACT-2 - Acoustical Ceiling Tile - See Acoustic Ceilings Spec
VCT - Vinyl Composite Tile
PT - Porcelain Tile
RB - Rubber Base
PTD - Painted
ETR - Existing to Remain

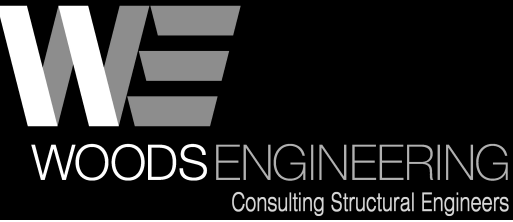
Notes:
- See Sheet A7.0 for Floor Transition Details
- See Sheet A7.0 for sign details.
- Provide ADA signage at door to restrooms/toilet.
- Provide ADA signage at exit doors.
- Final Room Names to be determined at a later date.

Door Schedule									
Door ID #	Size WxH	Type	Material	Hardware Group	Frame Type	Material	Remarks		
101A	ETR	ETR	ETR	15	ETR	ETR			
116A	ETR	ETR	ETR	19	HM1	HM	Alt. Bid G-1; 20 Min. Fire Rated Frame; Reuse Existing Door		
117A	3-0 x 7-0	B	Wood	07	HM1	HM	Alt. Bid G-1		
118A	3-0 x 7-0	B	Wood	08	HM1	HM	Alt. Bid G-1		
118B	6-6 x 4-0	-	-	06	-	-	Alt. Bid G-1; Rolling Counter Door		
118C	3-0 x 8-0	-	-	05	HM1	HM	Alt. Bid G-1; Cased Opening		
120A	3-0 x 7-0 PR	A	Alum.	01	CW2	Alum.	Removable mullion - see spec section 081213 & 087100		
125A	3-3 x 7-1 1/2	C	Alum.	04	CW1	Alum.	Alt. Bid G-1		
200A	3-0 x 7-0 PR	C	Wood	18	HM1	HM	Removable mullion - see spec section 081213 & 087100		
200B	3-1/4 x 7-0	C	Alum.	03	CW4	Alum.			
200C	3-1/4 x 7-0	C	Alum.	02	CW4	Alum.			
200D	3-1/4 x 7-0	C	Alum.	03	CW3	Alum.			
200E	3-1/4 x 7-0	C	Alum.	02	CW3	Alum.			
201A	3-0 x 7-0 PR	B	Wood	14	HM1	HM			
202A	3-0 x 7-0	B	Wood	16	HM1	HM			
203A	3-0 x 7-0	B	Wood	16	HM1	HM			
204A	3-0 x 7-0	B	Wood	09	HM1	HM	90 Min. Fire Rated Door & Frame		
204B	3-0 x 7-0	C	Wood	13	HM1	HM			
204C	3-0 x 7-0	C	Wood	11	HM1	HM			
205A	3-0 x 7-0	B	Wood	10	HM1	HM			
206A	3-0 x 7-0 PR	D	Wood	12	HM1	HM	90 Min. Fire Rated Door & Frame; Removable mullion - see spec section 081213 & 087100		
R1A	3-0 x 7-0	B	Wood	17	HM1	HM			



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Addition &
Renovation**
401 S. 8th Street
Wilmington, NC

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March 22, 2023

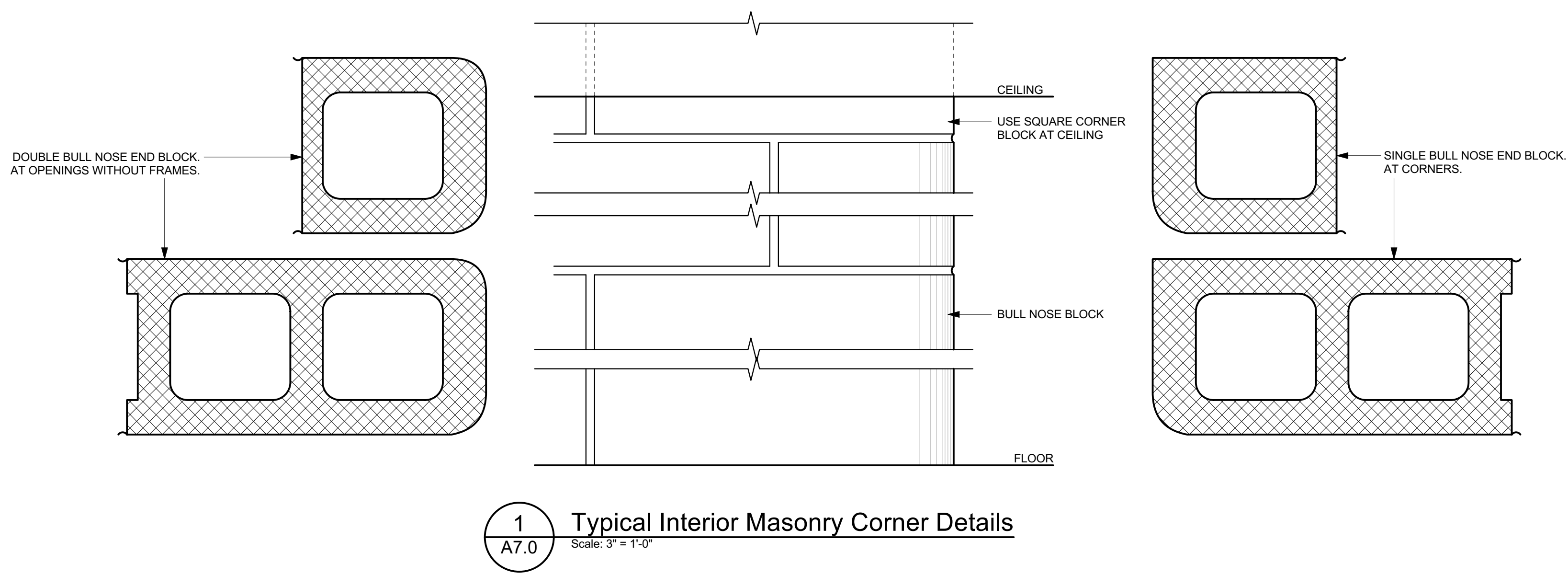
Revisions:
01 08/15/23 - Addendum #2

Schedules &
Door & Window
Elevations

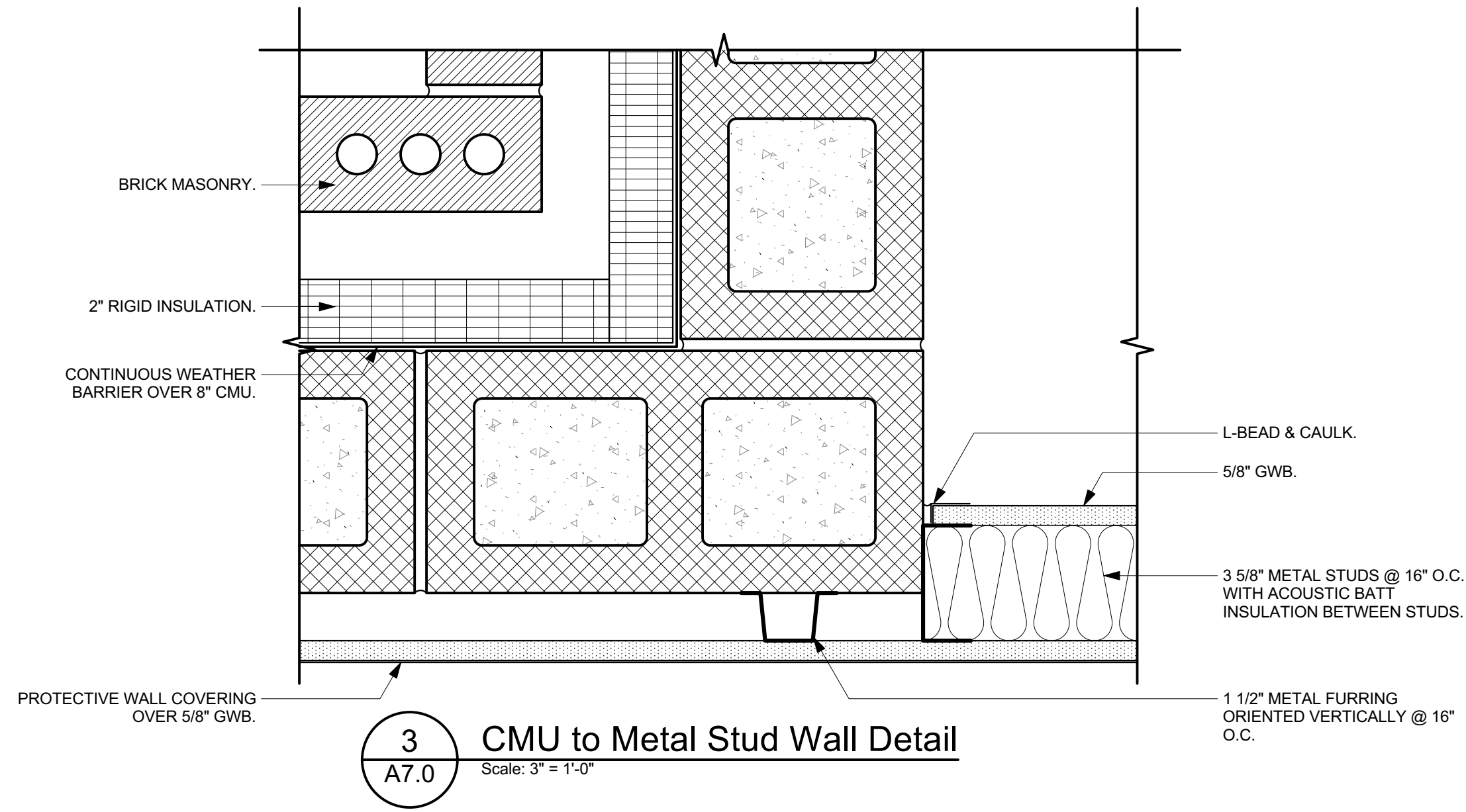
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22 of 25

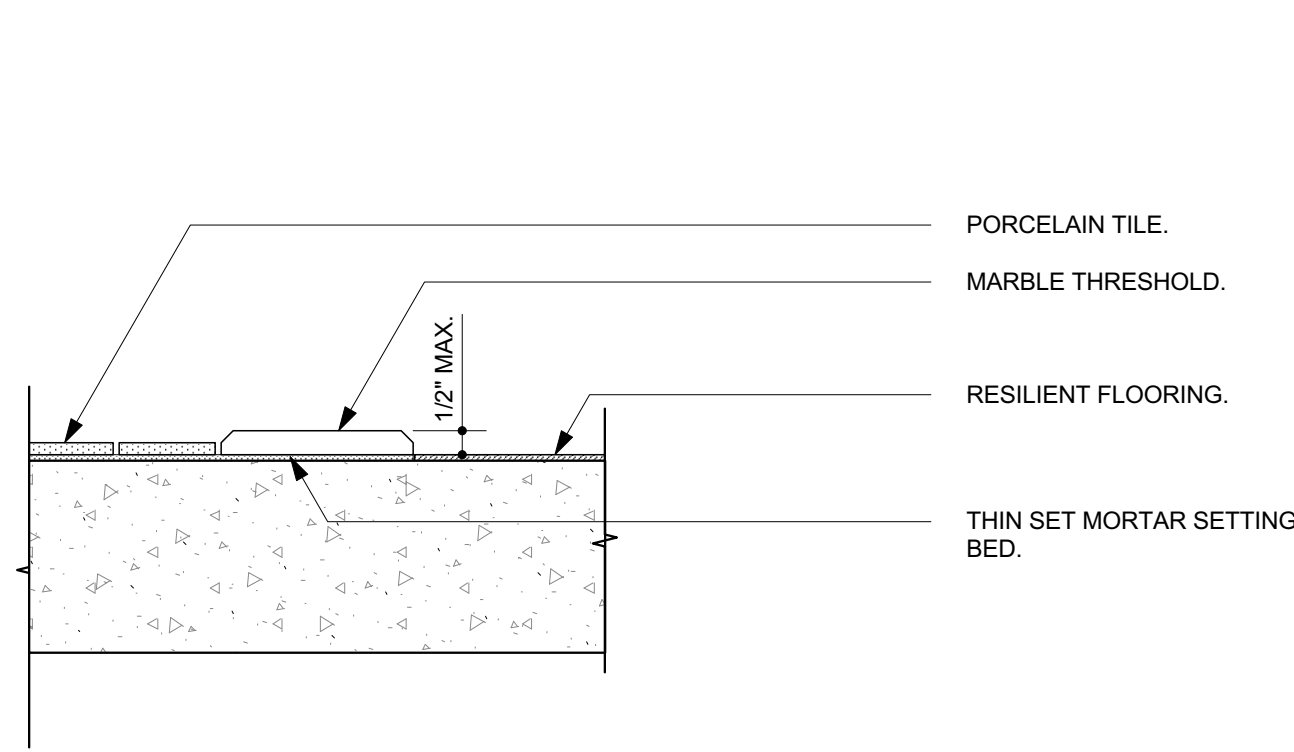
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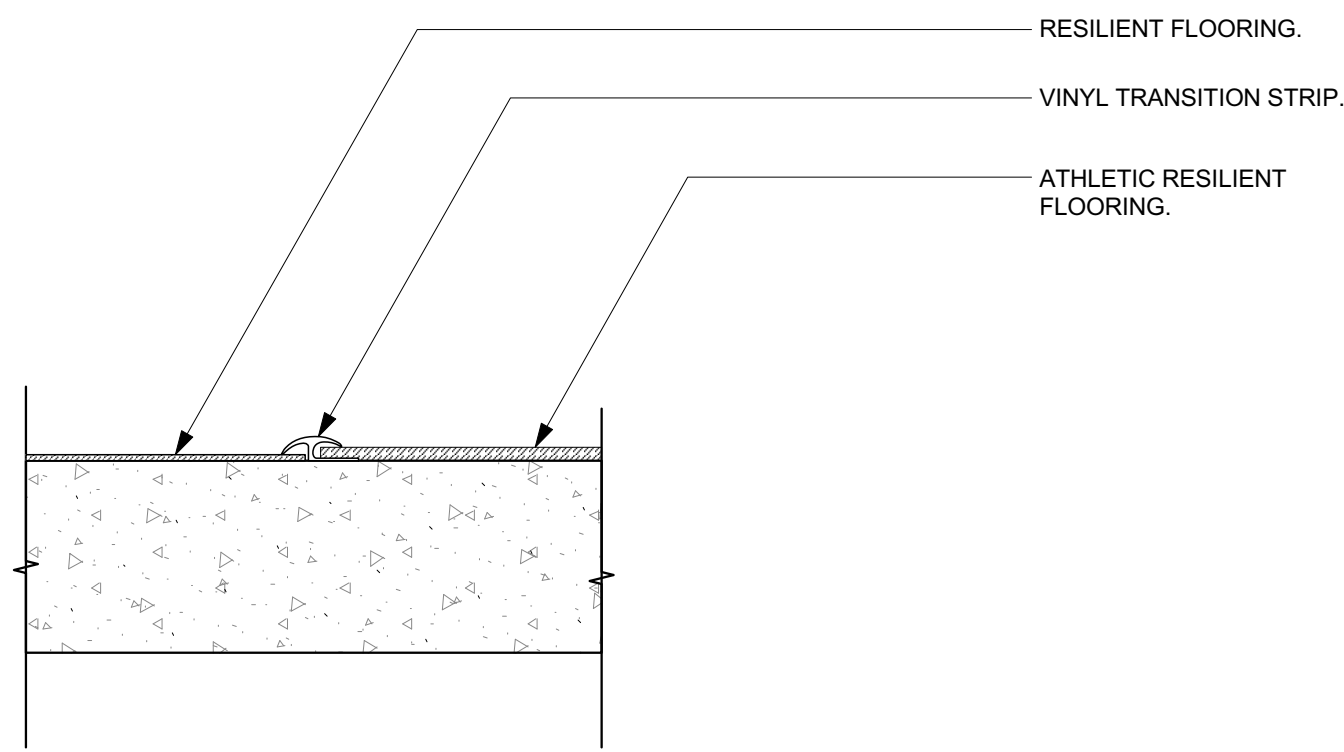
1 Typical Interior Masonry Corner Details
A7.0 Scale: 3" = 1'-0"



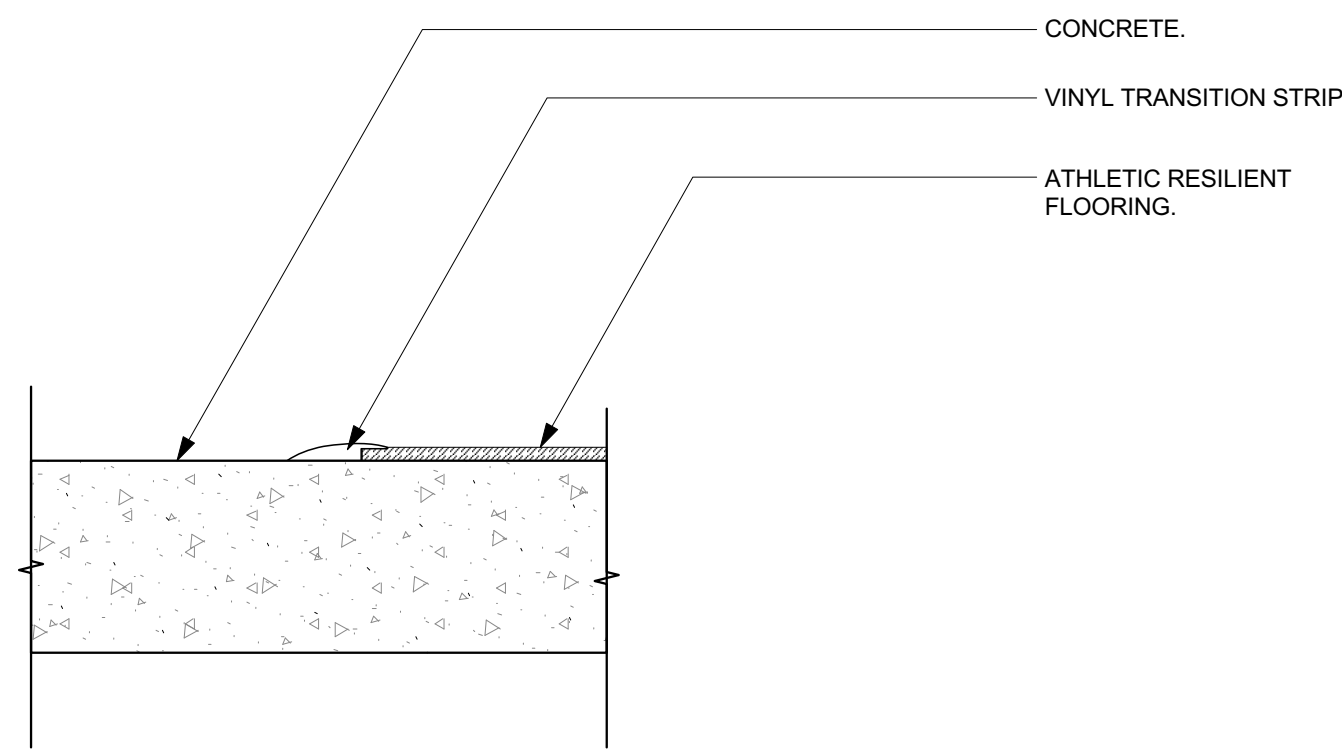
3 CMU to Metal Stud Wall Detail
A7.0 Scale: 3" = 1'-0"



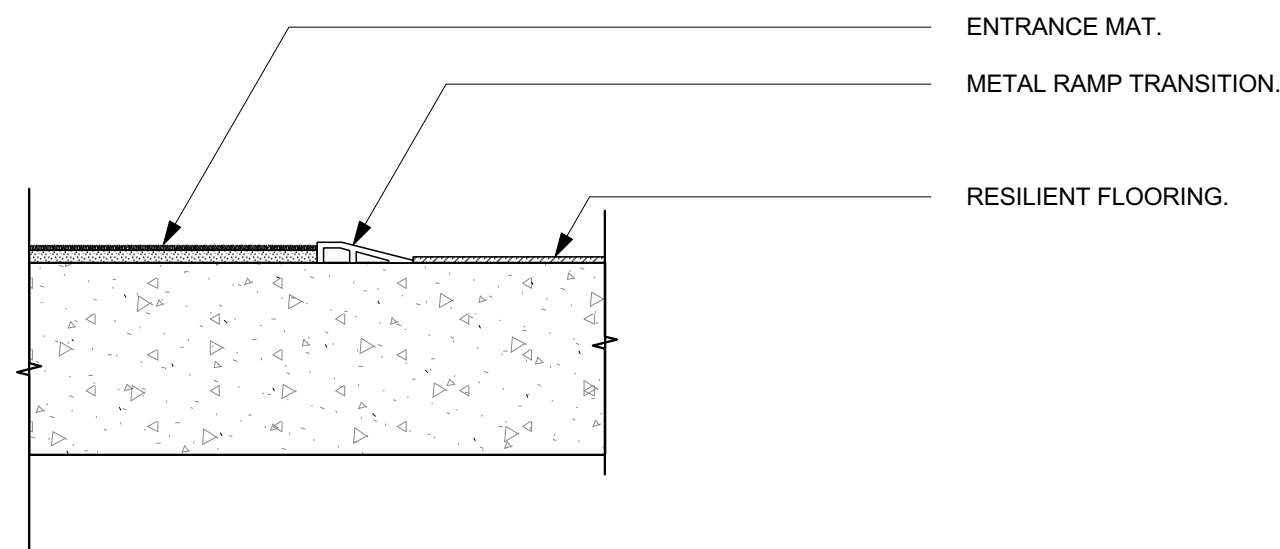
4 Porcelain Tile to Resilient Flooring Transition
A7.0 Scale: 3" = 1'-0"



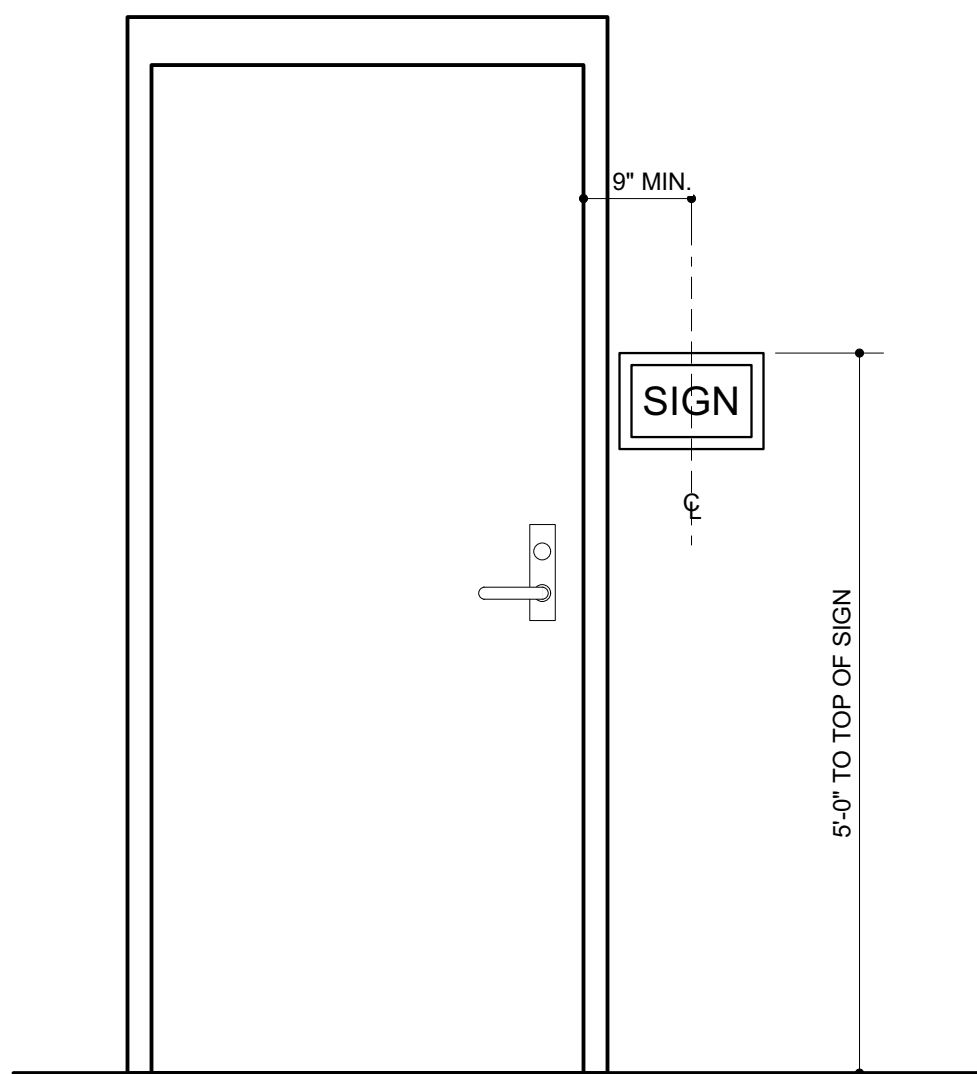
5 Resilient Flooring to Athletic Resilient Flooring Transition
A7.0 Scale: 3" = 1'-0"



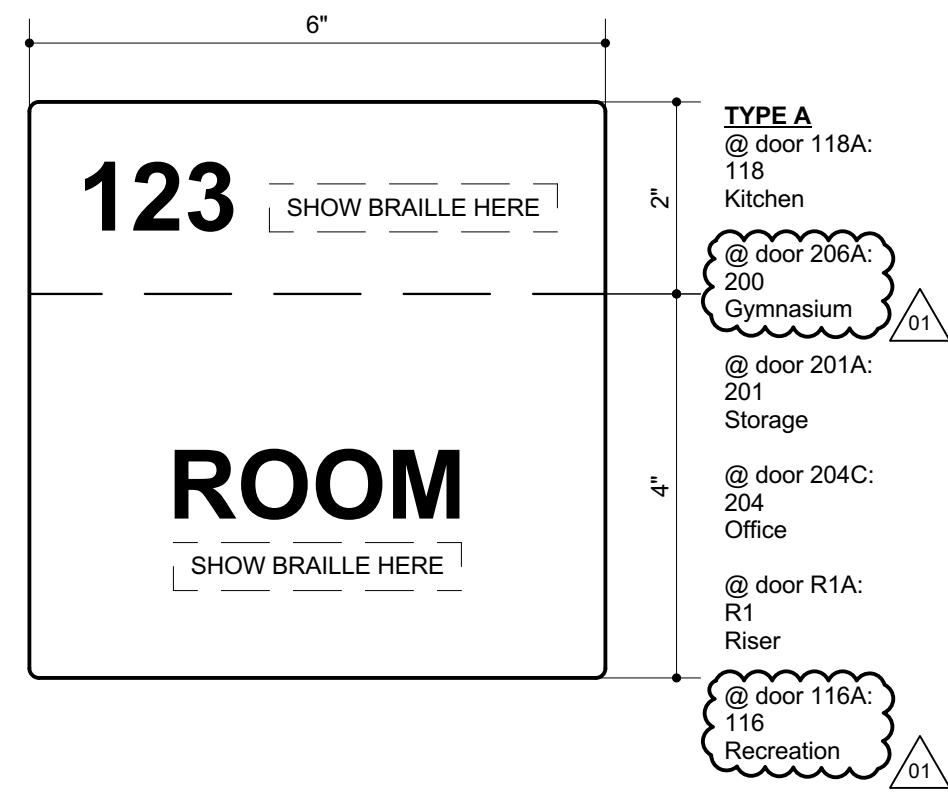
6 Concrete to Athletic Resilient Flooring Transition
A7.0 Scale: 3" = 1'-0"



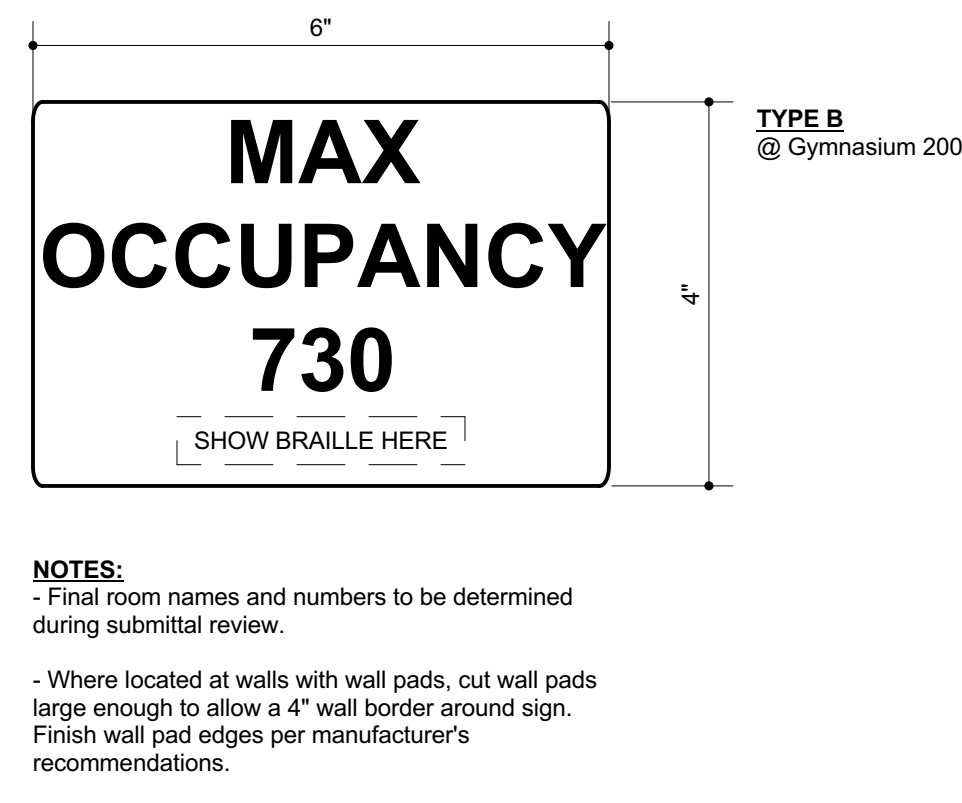
7 Entrance Mat to Resilient Flooring Transition
A7.0 Scale: 3" = 1'-0"



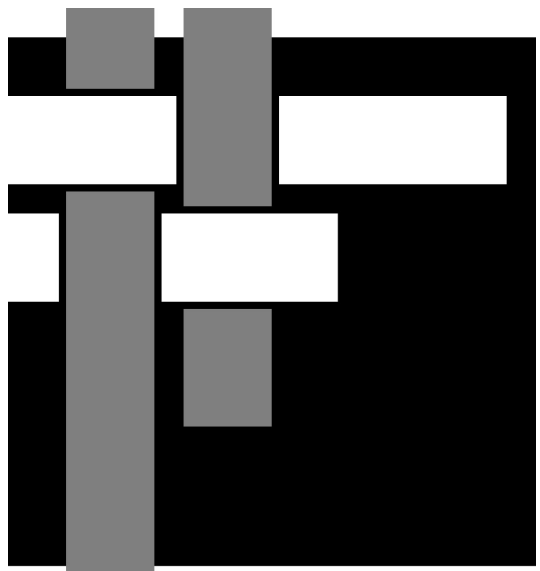
8 Typical Signage Detail
A7.0 Scale: 3/4" = 1'-0"



9 Signage Detail
A7.0 Scale: Half Actual Size



NOTES:
- Final room names and numbers to be determined during submittal review.
- Where located at walls with wall pads, cut wall pads large enough to allow a 4" wall border around sign. Finish wall pad edges per manufacturer's recommendations.



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**MLK Center
Gymnasium
Addition**
401 S. 8th Street
Wilmington, NC

Construction Drawings
March 22, 2023

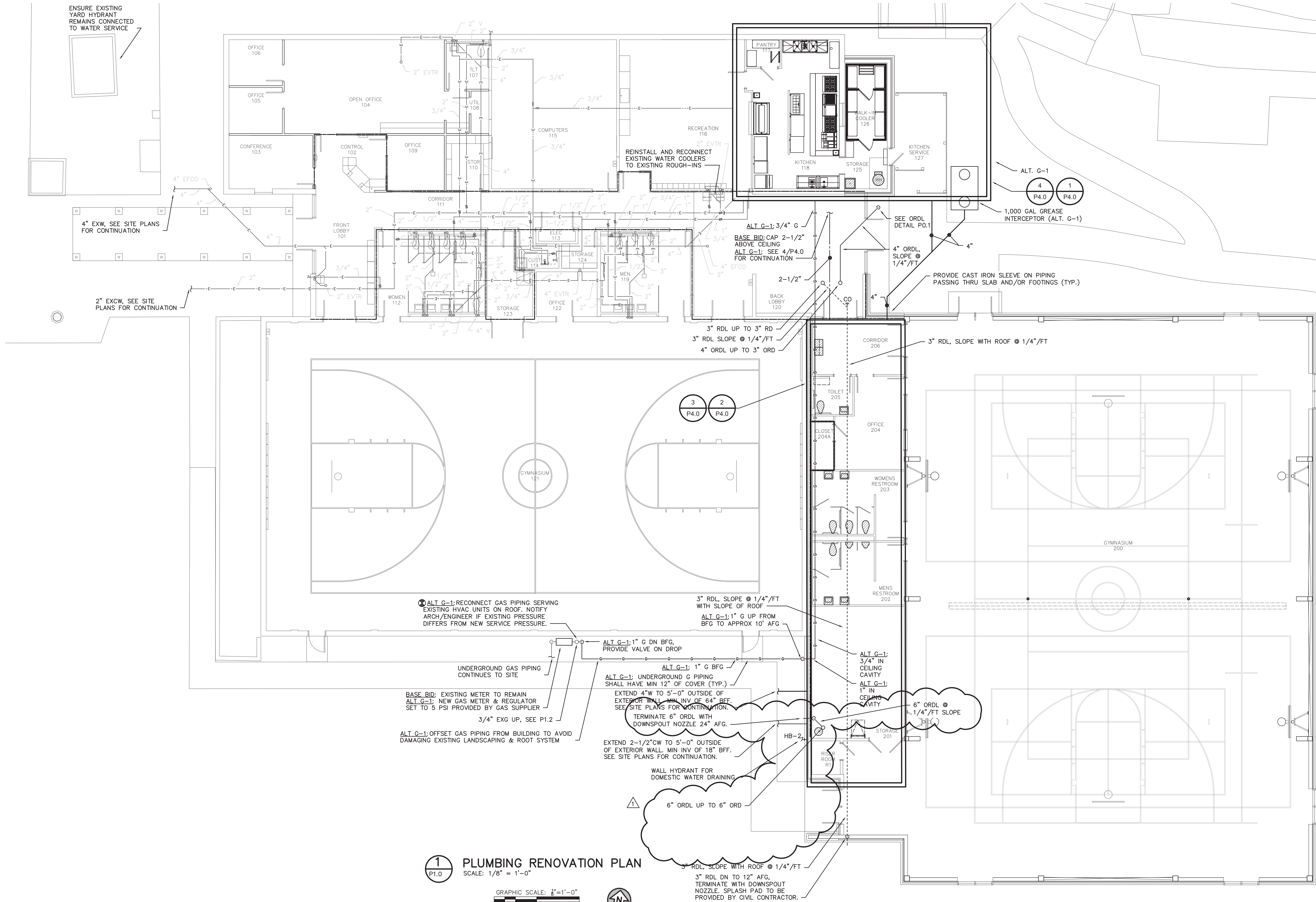
Revisions:

01 08/15/23 - Addendum #2

Interior Details

A7.0
24 of 25

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1 PLUMBING RENOVATION PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1" = 1'-0"
0 2 4 8 16



FIRE WALL LEGEND	
---	1-HOUR RATED FIRE BARRIER
---	2-HOUR RATED FIRE WALL
---	2-HOUR RATED FIRE BARRIER



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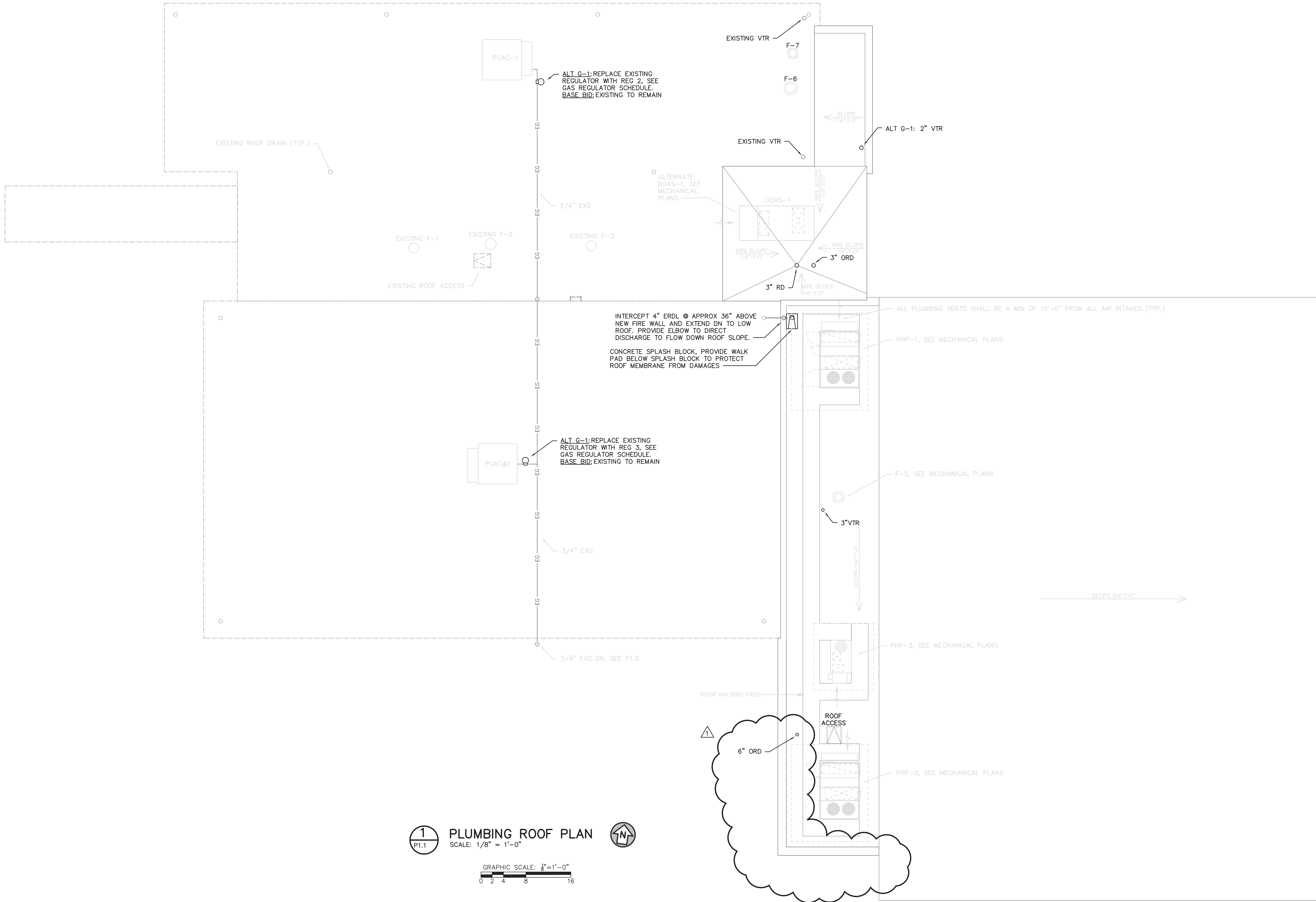
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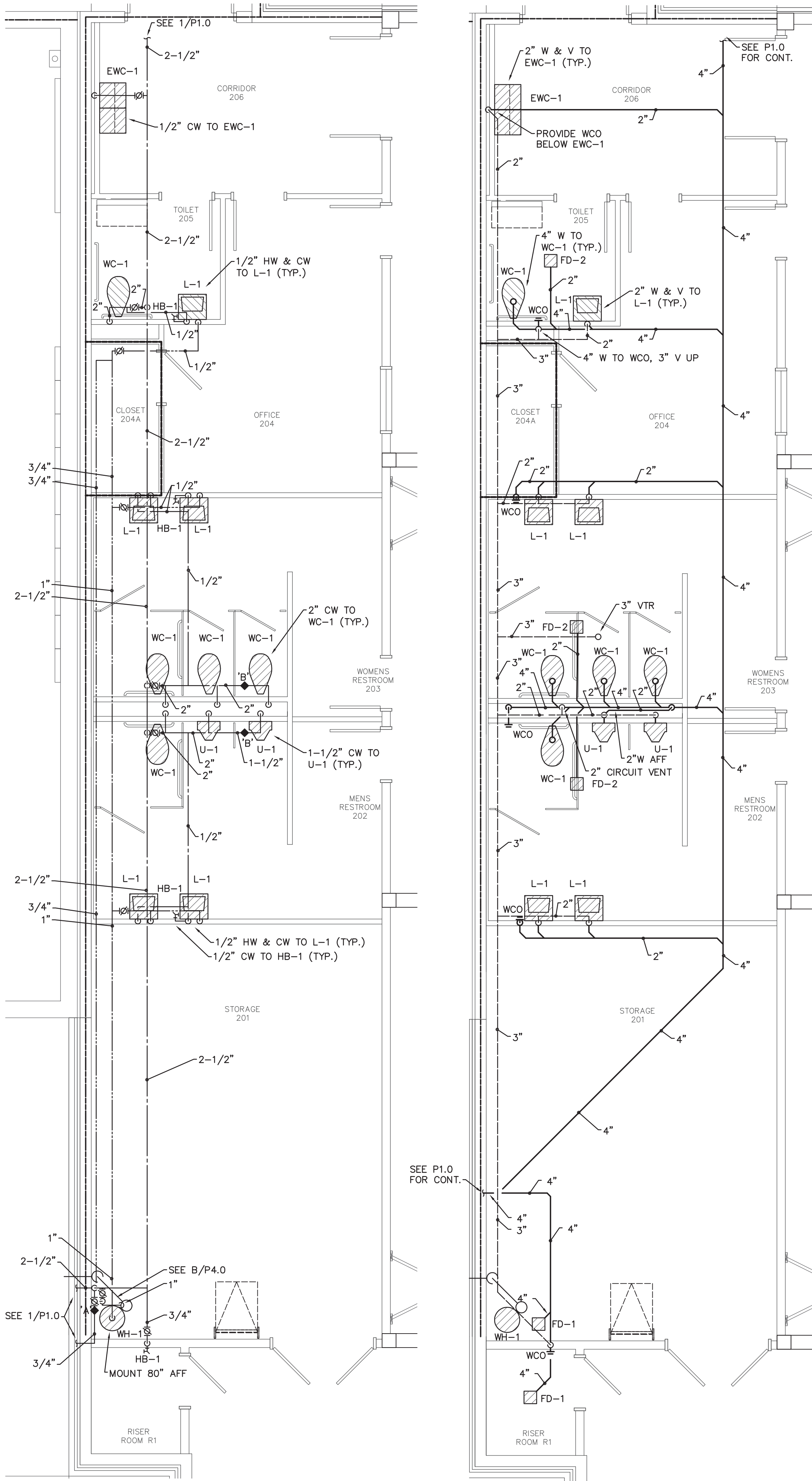
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Revisions:

7/21/23	ORDL REVISIONS
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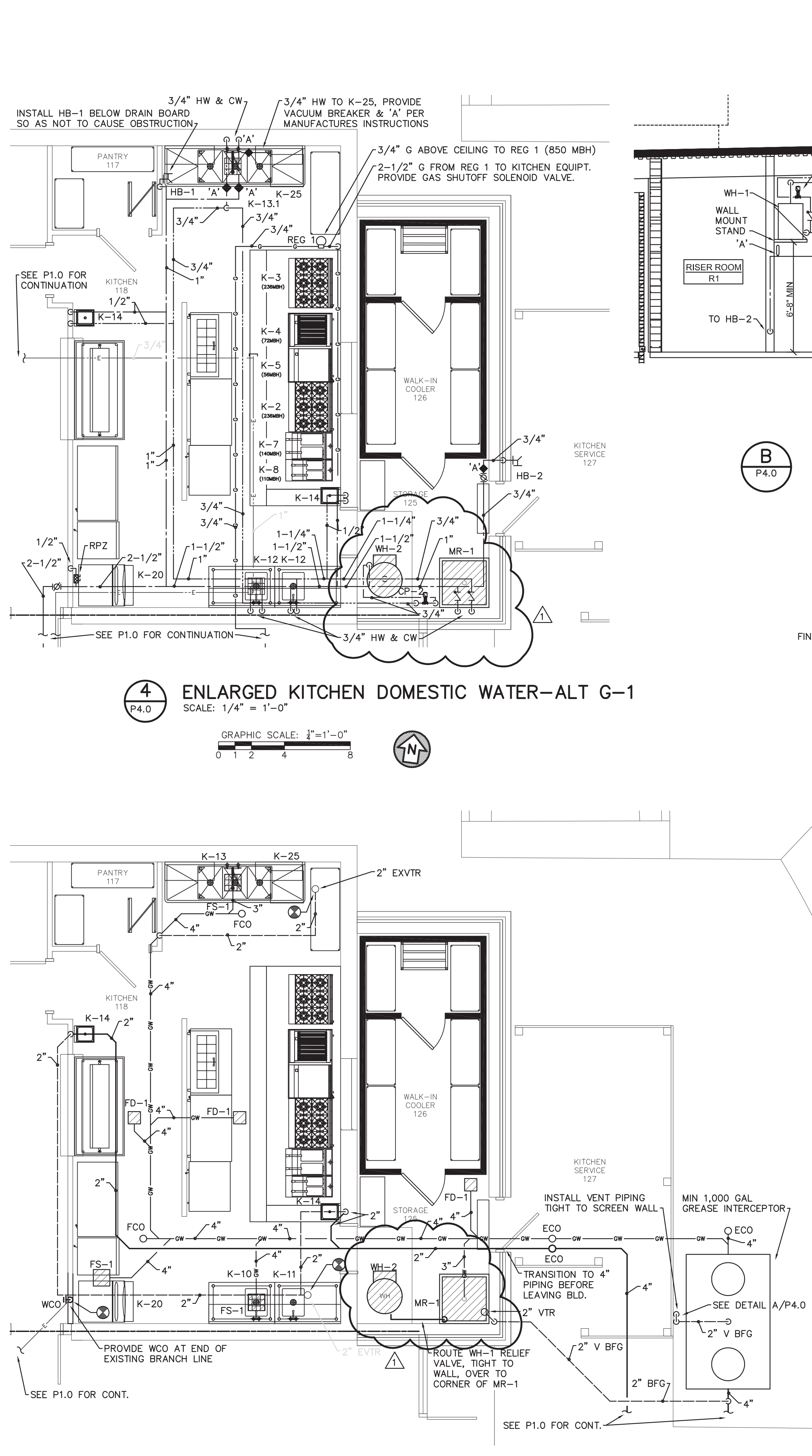
**PLUMBING FLOOR
PLAN**





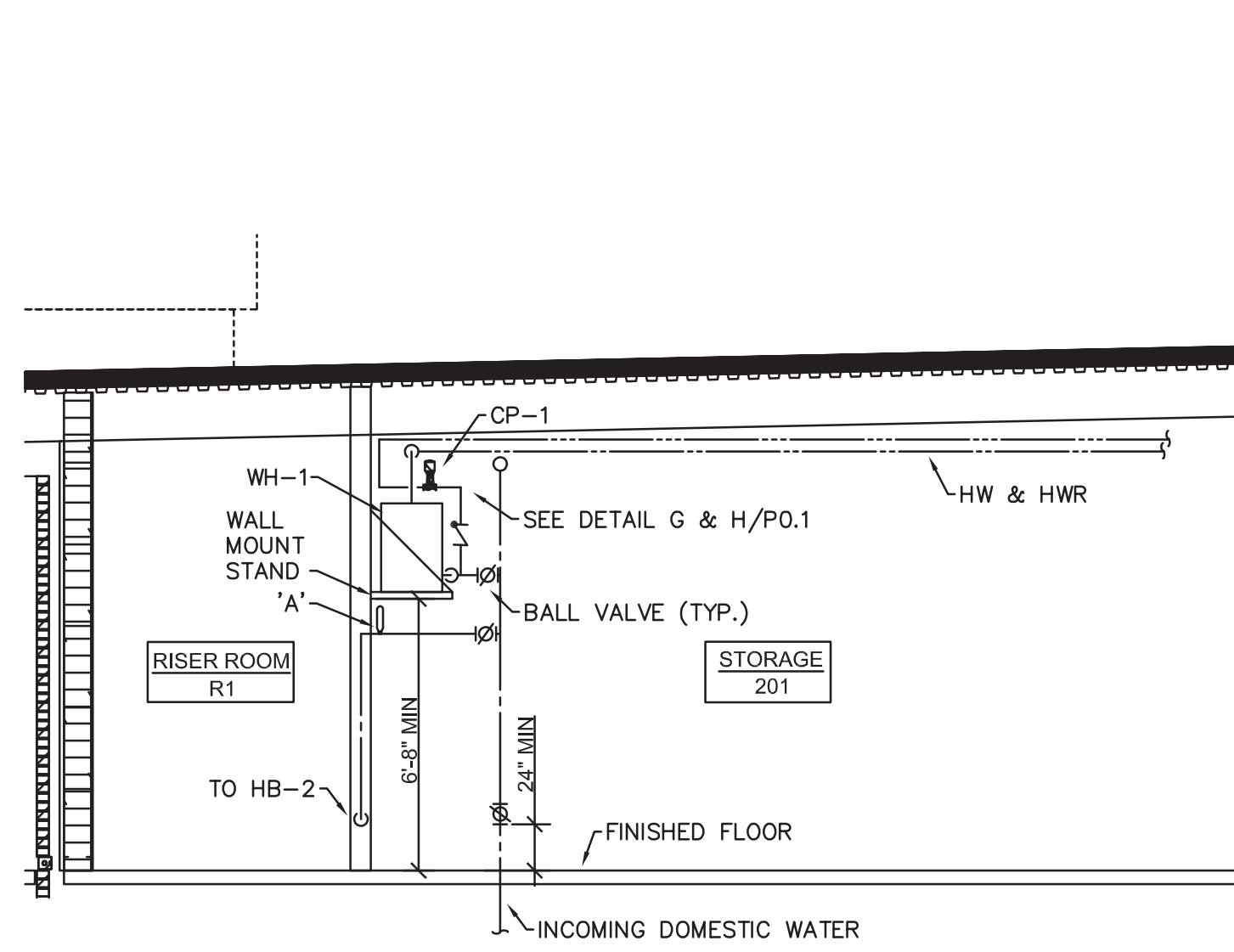
3 ENLARGED TOILET DOMESTIC WATER
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE: 1/4" = 1'-0"

2 ENLARGED TOILET WASTE & VENT
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE: 1/4" = 1'-0"

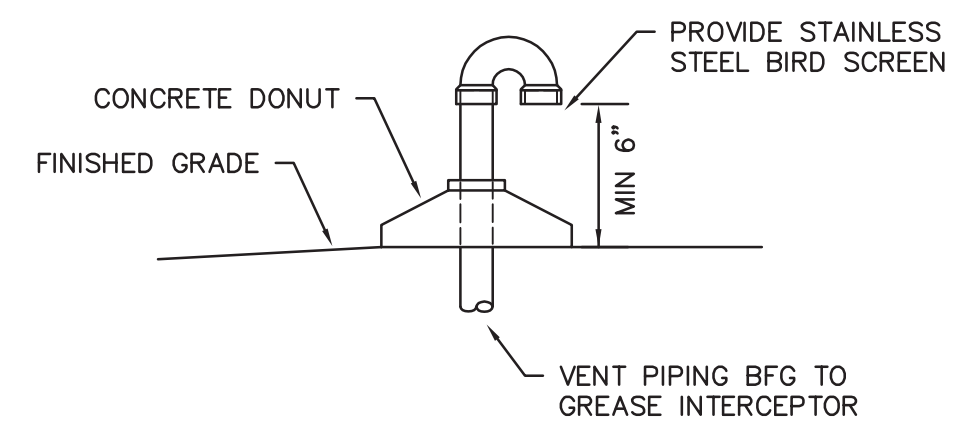


4 ENLARGED KITCHEN DOMESTIC WATER-ALT G-1
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE: 1/4" = 1'-0"

1 ENLARGED KITCHEN WASTE & VENT-ALT G-1
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE: 1/4" = 1'-0"



B WATER HEATER WALL MOUNTING DETAIL
NO SCALE



A GOOSENECK VENT TERMINATION DETAIL
NO SCALE

GENERAL NOTES: (THIS SHEET ONLY)

- PLUMBING PIPING MAY BE SHOWN AS INSTALLED IN EXISTING CMU WALLS. UNLESS OTHERWISE NOTED, IT IS THE INTENT OF THE DRAWINGS FOR ALL PLUMBING PIPING TO BE CONCEALED ABOVE CEILING AND WITHIN WALL CAVITIES. OPENINGS OF EXISTING WALLS SHALL BE PATCHED TO MATCH EXISTING PER 017000 EXECUTION AND CLOSEOUT REQUIREMENTS OF THE SPECIFICATIONS.

FIRE WALL LEGEND

- 1-HOUR RATED FIRE BARRIER
- 2-HOUR RATED FIRE WALL
- 2-HOUR RATED FIRE BARRIER

DEDICATED OUTSIDE AIR UNIT SCHEDULE ⑩																							
	AIR QUANTITY			EXT. SP "H2O ①	EAT/OUTSIDE AIR			NET TOTAL CAPACITY MBH ②	COOLING				APPLICATION MIN EER AT DESIGN CONDITIONS	EAT °F	MIN LAT °F	TOTAL CAPACITY MBH ④	HEATING		ELECTRICAL(7)			REMARKS	
SYMBOL	SUPPLY AIR CFM	OUTSIDE AIR CFM	RETURN AIR CFM		COOLING DB °F	COOLING WB °F	HEATING DB °F		DX COOLING COIL LEAVING AIR CONDITIONS		HOT GAS REHEAT COIL MAX LEAVING AIR CONDITIONS ③						AUXILIARY ELECTRIC HEAT		MCA	MOCP	VOLTAGE & PHASE		
									DB °F	WB °F	DB °F	WB °F					KW	MIN. STAGES					
DOAS-1	3000	500-3000	⑨	0.80	92.0	77.0	26.0	284.0⑥	52.1	51.7	88.0 ⑧	64.0	9.6	23.0	94.0	227.2	68.0	⑤	312.6	350	208V-3ø	HEAT PUMP	

- ① EXT. S.P. INCLUDES SUPPLY AIR AND RETURN AIR DUCTWORK. MERV 13 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
- ② COOLING CAPACITY BASED ON ENTERING AIR CONDITIONS.
- ③ VIA INTEGRAL MODULATING HOT GAS REHEAT COIL.
- ④ HEATING CAPACITY BASED ON ENTERING AIR CONDITIONS.
- ⑤ SCR CONTROLS.
- ⑥ DIGITAL SCROLL COMPRESSOR ON PRIMARY CIRCUIT.
- ⑦ SINGLE POINT POWER CONNECTION.
- ⑧ HOT GAS REHEAT SHALL PROVIDE 75° DB MINIMUM LEAVING AIR AT ALL OPERATING CONDITIONS.
- ⑨ DEPENDING ON OCCUPIED/UNOCCUPIED MODE AND KITCHEN HOOD EXHAUST ON/OFF, RETURN AIR CAN BE 2500 CFM, 3000 CFM, OR 0 CFM. SEE CONTROLS SEQUENCES OF OPERATION FOR MORE INFORMATION.
- ⑩ ALTERNATE BID G-1.

POWER VENTILATOR SCHEDULE											
SYMBOL	CFM	ESP	RPM	TIP SPEED	ELECTRICAL		TYPE	DRIVE	CONTROL	ROOF OPENING ⑤	REMARKS
					HP	VOLTAGE					
② F-1	400	0.50"	1370	3895	1/8	115V-1ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	PGAC-1 THERMOSTAT	UNKNOWN	WOMEN 112
② F-2	100	0.375"	1550	3300	1/30	115V-1ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	PGAC-1 THERMOSTAT	UNKNOWN	CUSTODIAN 114, STORAGE 124
② F-3	250	0.50"	1320	3750	1/8	115V-1ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	PGAC-1 THERMOSTAT	UNKNOWN	MEN 119
② F-4	100	0.50"	815	1690	130 ①	115V-1ø	CEILING EXHAUST	DIRECT	INTEGRAL MOTION SENSOR	-	TOILET 107
F-5	525	0.50"	1470	4175	1/8	115V-1ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	PHP-3 THERMOSTAT	15"x15"	MEN'S 202/WOMEN'S 203/TOILET 205
④ F-6	3080	1.30"	1475	6425	2	208V-3ø	CENTRIFUGAL UPBLAST	DIRECT	SWITCH ON HOOD	22"x22"	KITCHEN 118 - KITCHEN HOOD EXHAUST
④ F-7	200	0.50"	1505	4280	1/20	115V-1ø	ROOF MOUNTED CENTRIFUGAL	DIRECT	SWITCH ON WALL	13"x13"	KITCHEN 118 - DISHWASHING AREA

- ① WATTS.
- ② EXISTING - FOR REFERENCE ONLY.
- ③ FOR BIDDING PURPOSES ONLY.
- ④ ALTERNATE BID G-1.

PACKAGED HEAT PUMP UNIT SCHEDULE														
SYMBOL	AIR QUANTITY			EXT. S.P. °H2O ①	ELECTRICAL					COOLING CAPACITY MBH ②	HOT GAS REHEAT COIL SADB °F ⑥	HEATING CAPACITY MBH ③	MIN IEER	REMARKS
	TOTAL CFM	OUTSIDE AIR CFM			AUX HEAT		MCA	MOCP	VOLTAGE & PHASE					
		MIN	MAX		KW	STAGES								
PHP-1	5000	750 ④	1800 ④	1.00	36.0	2	161	175	208V-3ø	145.0	74.0	80.0	11.6	⑤
PHP-2	5000	750 ④	1800 ④	1.00	36.0	2	161	175	208V-3ø	145.0	74.0	80.0	11.6	⑤
PHP-3	1200	125	—	0.65	9.0	2	60	60	208V-3ø	38.0	74.0	—	14.0 ⑦	

- ① EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. MERV 13 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
- ② CAPACITY AT ARI CONDITIONS.
- ③ CAPACITY AT 17° F OUTSIDE AIR TEMPERATURE.
- ④ MIN. OUTSIDE AIR CFM INDICATED IS FOR OCCUPIED MODE. WHEN CO2 SENSOR SENSES GREATER OCCUPANCY OF SPACE, OUTSIDE AIR CFM SHALL INCREASE TO MAX INDICATED. MAX CFM SHALL INCREASE HIGHER AS NECESSARY BASED ON 100% OA ECONOMIZER CONTROL WITH BAROMETRIC RELIEF. SEE SPECIFIED SEQUENCE OF OPERATION FOR FURTHER DESCRIPTION OF OA ECONOMIZER OPERATION.
- ⑤ VIBRATION ISOLATION TYPE ROOF CURB.
- ⑥ VIA INTEGRAL HOT GAS REHEAT COIL.
- ⑦ SEER

PACKAGED GAS/ELECTRIC AIR CONDITIONING UNIT SCHEDULE – EXISTING – FOR REFERENCE ONLY													
SYMBOL	AIR QUANTITY		EXT. S.P. °H2O ①	COOLING		HEATING ③			ELECTRICAL			REMARKS	
	TOTAL CFM	OUTSIDE CFM		CAPACITY BTU/HR ②	EER	BTU/HR INPUT	MIN AFUE	GAS INLET		MCA	MOCP		VOLTAGE & PHASE
								SIZE	PRESSURE				
PGAC#1	5250	1200	–	174,000	8.6	230,000	81%	1"	–	81	100	208V–3ø	EXISTING CARRIER MODEL# 48TJD016 SERIAL# 3298F61804 ④
PGAC#2	6600	1000	–	220,000	8.6	275,000	81%	1"	–	116	150	208V–3ø	EXISTING CARRIER MODEL# 48TJD024 SERIAL# 4998F86810 ④

- ① EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. FILTERS ARE NOT INCLUDED IN THIS FIGURE.
- ② CAPACITY AT ARI CONDITIONS.
- ③ UNIT SHALL OPERATE USING NATURAL GAS.
- ④ EXISTING UNIT - NO WORK EXCEPT AS INDICATED ON THE DRAWINGS. SCHEDULED DATA TAKEN FROM ORIGINAL DRAWINGS AND CARRIER EQUIPMENT PRODUCT CATALOG.

REGISTER, GRILLE & DIFFUSER SCHEDULE					
SYMBOL	CFM	NECK SIZE	TYPE		REMARKS
Ⓐ	25-100	6"x6"	2'X2' LAY-IN CEILING SA DIFFUSER		6"ø
Ⓑ	125-225	9"x9"	2'X2' LAY-IN CEILING SA DIFFUSER		8"ø
Ⓒ	250-400	12"x12"	2'X2' LAY-IN CEILING SA DIFFUSER		10"ø
Ⓓ	125-225	9"x9"	CEILING SA DIFUSER		8"ø
Ⓔ	125 CFM/LF MAX	-	4' SPIRAL DUCT LINEAR SA SLOT DIFFUSER		4 SLOT WITH 1" WIDE SLOTS ①
Ⓕ	25-150	10"x10"	EXHAUST REGISTER		-
Ⓖ	225-500	15"x15"	EXHAUST REGISTER		-
Ⓗ	4025-6000	24"x48"	SIDEWALL RA GRILLE		INSTALL WITH BLADES UP
Ⓙ	750-1600	22"x22"	2'X2' LAY-IN RA REGISTER		PROVIDE REMOVABLE FACE WHERE SHOWN ON DRAWINGS
Ⓚ	425-475	12"x12"	2'X2' LAY-IN CEILING PERFORATED SA DIFFUSER		12"ø
Ⓛ	250-400	16"x8"	SIDEWALL SA REGISTER		12"ø
Ⓜ	0-300	12"x10"	SIDEWALL RA GRILLE		INSTALL WITH BLADES UP
Ⓝ	125 CFM/LF MAX	-	5' SPIRAL DUCT LINEAR SA SLOT DIFFUSER		4 SLOT WITH 1" WIDE SLOTS ①

- ① SPIRAL DUCT LINEAR SLOT SUPPLY AIR DIFFUSER TO HAVE CURVED FRAME FOR MOUNTING IN ROUND SPIRAL DUCT. CURVATURE TO MATCH DUCT.

ELECTRIC BASEBOARD SCHEDULE						
SYMBOL	BTU/HR	ELECTRICAL		MAXIMUM LENGTH	MOUNTING HEIGHT	REMARKS
		WATTS	VOLTAGE & PHASE			
EBB-1	1275	375	208V-1ø	28"	8'-0" AFF ①	RISER ROOM R1

- ① MOUNT ABOVE DOOR.

GENERAL NOTES:

- HVAC CONTRACTOR SHALL FIELD VERIFY ALL RELEVANT DIMENSIONS, CLEARANCES, LOCATIONS AND ELEVATIONS PRIOR TO ORDERING, FABRICATION, AND INSTALLATION OF HIS WORK. DISCREPANCIES OR INTERFERENCE'S SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE. THE DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL LOCATION OF DUCTS, PIPING AND EQUIPMENT AND DO NOT SHOW ALL OFFSETS, FITTINGS, BOLTS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE SYSTEM. WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE, IF IT IS FOUND NECESSARY TO CHANGE THE LOCATION OF ANY WORK TO ACCOMMODATE THE CONDITIONS AT THE BUILDING, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER, AND AS DIRECTED BY THE ENGINEER, AND ALL CHANGES SHALL BE MARKED ON AS BUILT DRAWINGS.
- ALL SUPPLY AND RETURN DUCT CONNECTIONS TO UNITS SHALL BE MADE WITH A FLEXIBLE DUCT CONNECTION.
- ALL DUCT JOINTS SHALL BE SEALED AS SPECIFIED.
- HVAC CONTRACTOR/CONTROLS CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR PROVISIONS OF POWER TO DDC CONTROL SYSTEM CONTROL PANELS., CONTROLLERS, ETC.. NOT SHOWN ON M OR E DRAWINGS.
- ALL THERMOSTATS AND SWITCHES FOR MECHANICAL SYSTEMS SHALL BE MOUNTED 44" A.F.F MAXIMUM. THE MIDDLE OF HVAC CONTROL PANELS SHALL BE MOUNTED 44" AFF MAXIMUM.
- ALL DUCT TEMPERATURE SENSORS, HUMIDITY SENSORS, ETC. SHALL BE INSTALLED IN AN EASILY ACCESSIBLE AND SERVICEABLE LOCATION.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

- ☒ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☒ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING
- ☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE), C403.4 HYDRONIC AND MULTIPLE ZONE (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☐ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING
- ☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C402.5, C403.2, C404, C405.2, C405.3, C405.5, C405.6 AND C407 TOTAL BUILDING PERFORMANCE. THE BUILDING ENERGY COST SHALL BE EQUAL TO OR LESS THAN 85 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.
- ☐ COMPLIANCE PER ANSI/ASHRAE/IESNA 90.1-2013.
- ☐ COMPLIANCE PER NORTH CAROLINA SPECIFIC COMCHECK OR ASHRAE 90.1-2013 COMCHECK.

CLIMATE ZONE 3A

EXTERIOR DESIGN CONDITIONS

winter dry bulb: 28°F
summer dry bulb: 92°F DB/77°F WB

INTERIOR DESIGN CONDITIONS

winter dry bulb: 70°F
summer dry bulb: 75°F
relative humidity: 50%

BUILDING HEATING LOAD: BLOCK LOAD = 266.5 MBH - GYM ADDITION ONLY

BUILDING COOLING LOAD: BLOCK LOAD = 25.4 TONS - GYM ADDITION ONLY

MECHANICAL SPACING CONDITIONING SYSTEM

Unitary:

description of unit:
heating efficiency:
cooling efficiency:
heat output of unit:
cooling output of unit:

SEE SCHEDULES ON THIS SHEET

Boiler: N/A

total boiler output. If oversized, state reason.

Chiller: N/A

total chiller capacity. If oversized, state reason.

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON THIS SHEET

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)

motor horsepower:
number of phases:
minimum efficiency:
motor type:
of poles:

SEE SCHEDULES ON THIS SHEET

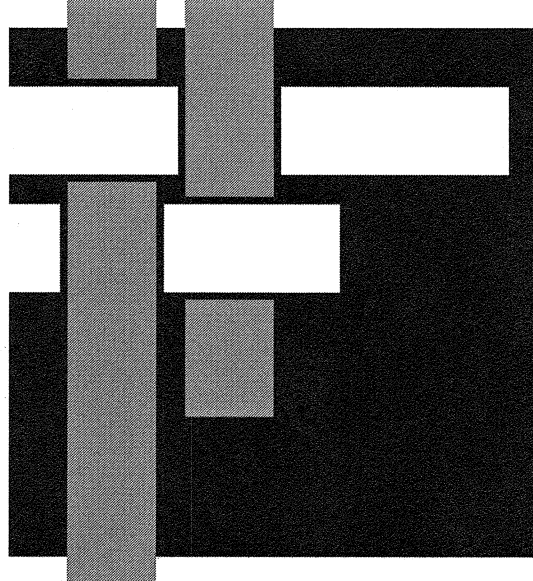
DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Conservation Code.

SIGNED: Kenneth Lynch, P.E.
NAME: Kenneth Lynch, P.E.
TITLE: Professional Engineer

LEGEND

	EXISTING DUCTWORK TO REMAIN		FIRE DAMPER (1-1/2 HOUR RATED) MOUNTED IN WALL WITH DUCT ACCESS DOOR AND CEILING ACCESS DOOR (16"x16" MIN.) WHERE NECESSARY.
	FABRIC DUCTWORK	SA	SUPPLY AIR
	DOUBLE WALL SPIRAL DUCTWORK	RA	RETURN AIR
	RECTANGULAR DUCTWORK	OA	OUTSIDE AIR
	INTERNALLY LINED DUCTWORK	EXA	EXHAUST AIR
	SUPPLY AIR DUCTWORK TURNED DOWN	NO	NORMALLY OPEN
	SUPPLY AIR DUCTWORK TURNED UP	NC	NORMALLY CLOSED
	RETURN AIR/EXHAUST AIR TURNED DOWN	MD	MANUAL DAMPER
	RETURN AIR/EXHAUST AIR TURNED UP	MOD	MOTOR OPERATED DAMPER
	CEILING RETURN AIR/ EXHAUST AIR REGISTER	AFB	ABOVE FINISHED FLOOR
	CEILING SUPPLY AIR DIFFUSER	FIN. FL.	FINISHED FLOOR
Ⓐ	REGISTER, GRILLE OR DIFFUSER SYMBOL	AFG	ABOVE FINISHED GRADE
TS_2	HEATING AND COOLING THERMOSTAT WITH # INDICATING UNIT	CONC.	CONCRETE
HT	HUMIDITY SENSOR	CONT.	CONTINUATION
C02	CO2 SENSOR	CONTR.	CONTRACTOR
	HEAVY DUTY DISCONNECT SWITCH		TERMINATION POINT OF DEMOLITION
①	KEYED NOTE SYMBOL		POINT OF NEW CONNECTION TO EXISTING
⑤	SMOKE DETECTOR WITH DUCT ACCESS DOOR, ACCESS DOOR BY THE MECH. CONTR., DETECTOR FURNISHED BY THE ELECT. CONTR. AND INSTALLED BY THE MECH. CONTR. PROVIDE CEILING ACCESS DOOR (16"x16" MIN.) WHERE NECESSARY.	-----	1 HOUR RATED FIRE BARRIER
		-----	2 HOUR RATED FIRE WALL
		-----	2 HOUR RATED FIRE BARRIER



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**MLK Center
Addition &
Renovation**
401 S. 8th Street
Wilmington, NC 28405

Construction Drawings
March 22, 2023

Revisions:

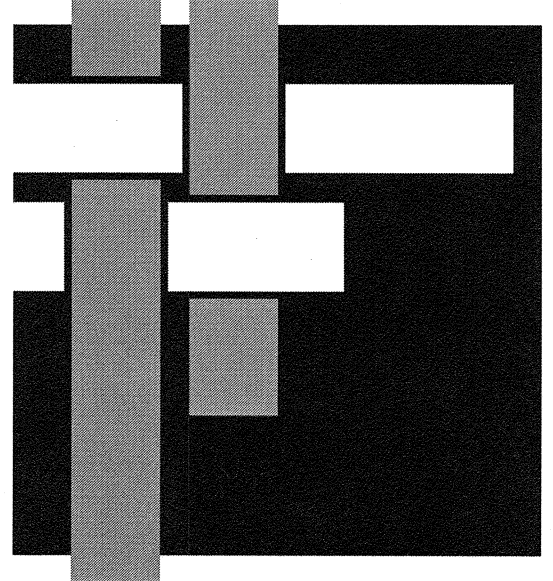
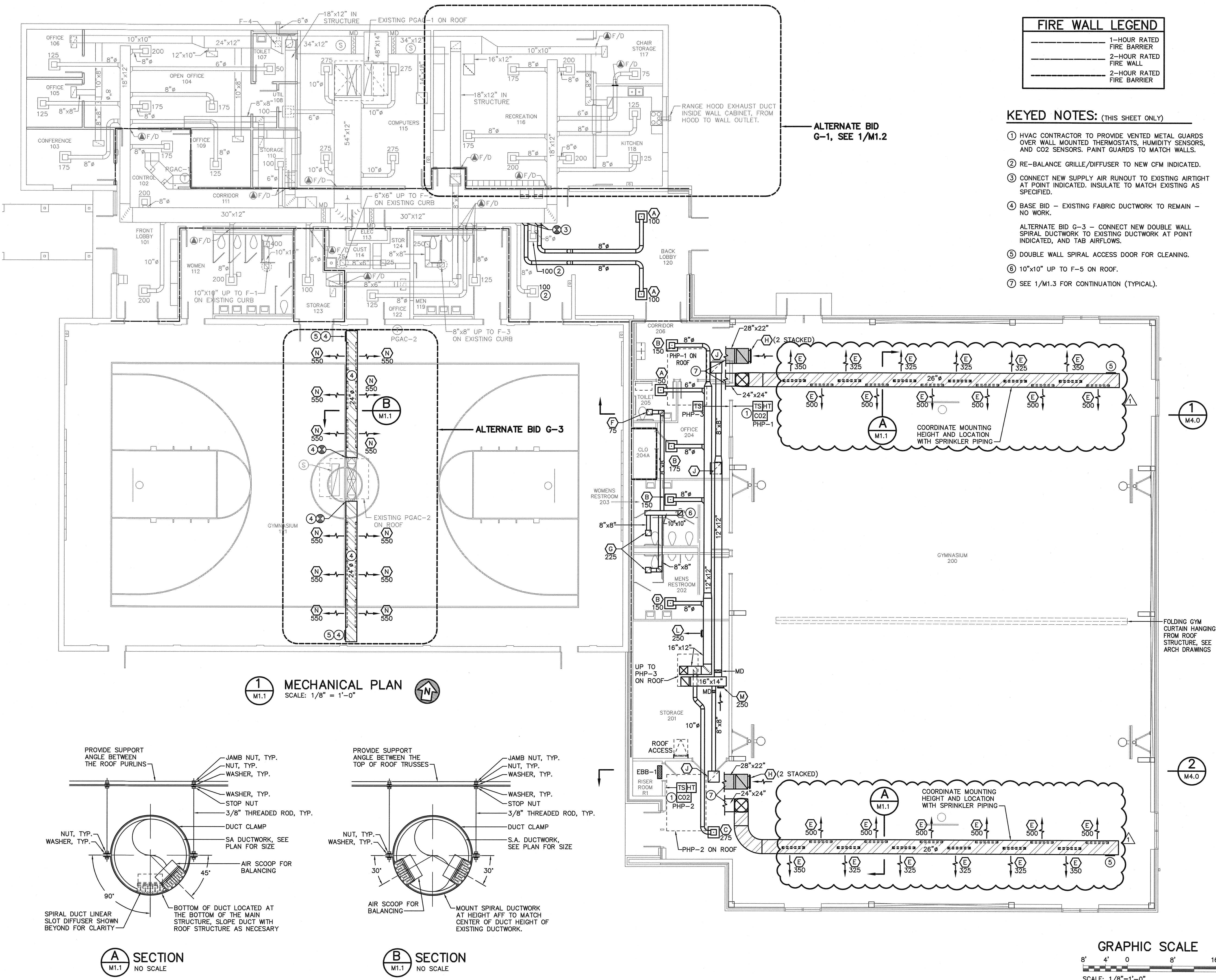
ADDENDUM #2 08/11/23

MECHANICAL
LEGEND, NOTES,
AND SCHEDULES

MO.1

1 of 9

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401 S. 8th Street
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Construction Drawings
March 22, 2023

Revisions:

1	ADDENDUM #2	08/11/23
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**MECHANICAL
FLOOR PLAN**

M1.1
3 of 9
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DATA & TELEPHONE INFRASTRUCTURE OUTLET LEGEND			
SYMBOL	DESCRIPTION	MOUNTING	NOTES
◁ SSI	SOUND SYSTEM INPUT JACK INFRASTRUCTURE	WALL, MTD 18" AFF	STUB 1" C TO SOUND SYSTEM OUTLET INDICATED
◁ SSS	SOUND SYSTEM SPEAKER INFRASTRUCTURE	WALL, COORDINATE MOUNTING HEIGHT WITH ARCHITECT	STUB 1" C TO SOUND SYSTEM OUTLET INDICATED
◁	DATA / TELEPHONE OUTLET	WALL, 18" AFF UNO; 5" SQUARE, 2.875" DEEP BOX, 64 CUBIC INCHES, WITH CABLE MANAGEMENT POSTS. DESIGN BASIS: STEEL CITY #82181T SERIES	STUB 1" C TO 6" ABOVE CEILING
⚡	DATA / TELEPHONE OUTLET	FLOOR, INTEGRAL TO POWER FLOOR BOX WITH DIVIDER SEPARATING POWER & COMMUNICATIONS	ROUTE (2) 1" C UNDERGROUND, TURN UP INTO STORAGE 201.
SEE MOUNTING HEIGHT DETAIL A/E5.1			

PA & SECURITY LEGEND		
SYMBOL	DESCRIPTION	NOTES
IC	SECURITY CAMERA	4" SQUARE BOX RECESSED; STUB 3/4"C TO UTILITY 108
CR	CARD READER	PROVIDE MANUFACTURER'S MULLION MOUNTING BRACKET; STUB 3/4"C TO 6" ABOVE CEILING
◇	DOOR SWITCH / CONTACT	PROVIDE 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING
EH	ELECTRIC HINGE	1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. PROVIDE PATHWAY THROUGH DOOR TO ACCOMMODATE CONNECTION TO ASSOCIATED ELECTRIC PANIC HARDWARE.
⚠ K	KEYPAD	SINGLE GANG BOX RECESSED; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING. INSTALL CABLE & INTEGRATE WITH EXSTG HONEYWELL VISTA SECURITY PANEL.
→ MD	MOTION DETECTOR, CORRIDOR COVERAGE	FOR WALL MOUNT, PROVIDE 4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE. INSTALL CABLE & INTEGRATE WITH EXSTG HONEYWELL VISTA SECURITY PANEL.
MS		EXISTING HONEYWELL VISTA 128-FBP SECURITY/FIRE ALARM PANEL

SYMBOL	DESCRIPTION	MOUNTING
Ⓢ	24V ELECTRIC ALARM BELL	WALL
CM	CONTROL / RELAY MODULE	WALL / CEILING
DM	DOOR HOLDER, MAGNETIC	
Ⓢ—	DUCT DETECTOR – PROVIDED BY FIRE ALARM VENDOR	BY MECH CONTRACTOR
ERRCS	EMERGENCY RESPONDER RADIO COMMUNICATON SYSTEM	WALL
R-RA	EMERGENCY RESPONDER RADIO COMMUNICATION SYSTEM REMOTE ANNUNCIATOR	WALL
FACP	FIRE ALARM CONTROL PANEL	
H	HEAT DETECTOR	CEILING
MM FS	MONITOR MODULE FOR FLOW SWITCH	WALL
MM SS	MONITOR MODULE FOR COOKING EXHAUST HOOD FIRE SUPPRESSION SYSTEM	WALL / CEILING
MM TS	MONITOR MODULE FOR TAMPER SWITCH	WALL
MMSS	MONITOR MODULE WITH SURGE SUPPRESSOR FOR CONNECTION OF EXTERNAL CIRCUITRY	WALL
MM	MONITOR MODULE FOR MONITORING A DRY CONTACT CLOSURE DEVICE	WALL/CEILING
MM ST	MONITOR MODULE FOR MONITORING SHUNT TRIP CONTROL POWER	WALL / CEILING
PIV	POST INDICATOR VALVE TAMPER SWITCH	
F	PULL STATION	WALL
RA	FIRE ALARM SYSTEM REMOTE ANNUNCIATOR	WALL
Ⓢ	REMOTE INDICATOR WITH TEST SWITCH FOR DUCT DETECTOR	CEILING / WALL
Ⓢ	SMOKE DETECTOR	CEILING
SS	SURGE SUPPRESSOR	
TS	TAMPER SWITCH	

FIRE ALARM NOTIFICATION LEGEND

SYMBOL	DESCRIPTION	MOUNTING
Ⓢ 15	HORN/STROBE, 15 CANDELA	CEILING
Ⓢ 30	HORN/STROBE, 30 CANDELA	CEILING
Ⓢ 75	HORN/STROBE, 75 CANDELA	CEILING
Ⓢ 115	HORN/STROBE, 115 CANDELA	CEILING
Ⓢ 15	STROBE, 15 CANDELA	CEILING
Ⓢ 115	HORN/STROBE, 115 CANDELA	WALL
Ⓢ 15	STROBE, 15 CANDELA	WALL
Ⓢ 30	STROBE, 30 CANDELA	WALL

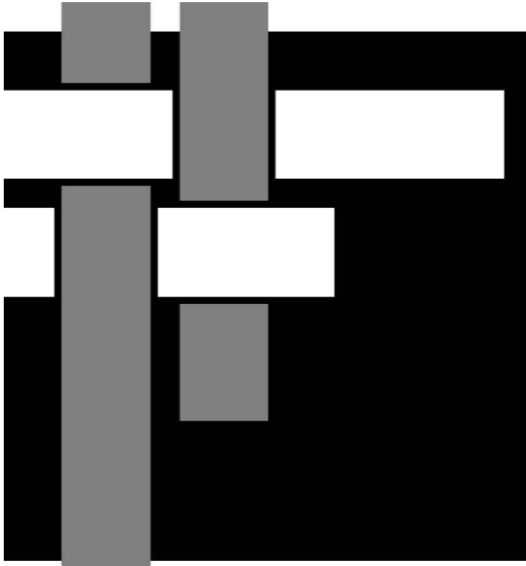
SYMBOL	NEMA	VOLTS	DESCRIPTION
PF	5-15P	120V 1P 2W	DUPLEX FOR PREPARATION REFRIGERATOR, MTD 18" AFF, SUPPLY FROM GFCI TYPE C/B
R	5-15P	120V 1P 2W	DUPLEX FOR RANGE, MTD 18" AFF, PROVIDE DEAD FRONT GFCI DEVICE BESIDE PANEL PP3 FOR GFCI PROTECTION FOR CIRCUIT. SUPPLY FROM SHUNT TRIP TYPE C/B
RF	5-15P	120V 1P 2W	DUPLEX FOR REACH-IN FREEZER, MTD 18" AFF, SUPPLY FROM GFCI TYPE C/B
CB	5-15P	120V 1P 2W	DUPLEX FOR HEAVY-DUTY REFRIGERATED CHEF BASE, MTD 18" AFF, SUPPLY FROM GFCI TYPE C/B
UF	5-15P	120V 1P 2W	DUPLEX FOR UNDERCOUNTER FREEZER, MTD 18" AFF, SUPPLY FROM GFCI TYPE C/B
UR	5-15P	120V 1P 2W	DUPLEX FOR UNDERCOUNTER REFRIGERATOR, MTD 18" AFF, SUPPLY FROM GFCI TYPE C/B
CL		120V 1P 2W	POWER FOR COOLER LTG
FL		120V 1P 2W	POWER FOR FREEZER LTG
IC		120V 1P 2W	POWER FOR ICE MAKER
DU		208V 2P 2W	POWER FOR UNDERCOUNTER DISHWASHER

RECEPTACLE LEGEND

SYMBOL	NEMA	VOLTS	DESCRIPTION
	5-20R	120V 1P 2W	DUPLEX, MTD 18" AFF UNO
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 6" ABOVE COUNTER OR 6" ABOVE BACKSPLASH IF APPLICABLE. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL BACKSPLASH DETAILS.
GCB	5-20R	120V 1P 2W	DUPLEX; SUPPLY FROM GFCI TYPE C/B, MTD 6" ABOVE COUNTER OR 6" ABOVE BACKSPLASH IF APPLICABLE. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL BACKSPLASH DETAILS.
W/G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFG UNO; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFF UNO
HB	5-20R	120V 1P 2W	DUPLEX FOR HOT BOX HEATER; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX. COORDINATE MTG HEIGHT WITH ENCLOSURE PROVIDED; SUPPLY FROM GFEP C/B (30mA).
W/G/R	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" ABOVE ROOF LEVEL (UNO) FOR EQUIPMENT MAINTENANCE USE; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
SCB		120V 1P 2W	120V FOR SCOREBOARD, FLUSH MOUNTED SINGLE GANG BOX. MTD 16"-4" AFF. COORDINATE LOCATION WITH ARCHITECT.
ERRCS		120V 1P 2W	POWER FOR EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP		120V 1P 2W	POWER FOR FIRE ALARM CONTROL PANEL
HCP		120V 1P 2W	120V FOR EXH HOOD CONTROL POWER; COORDINATE CONNECTION LOCATION WITH HOOD VENDOR/INSTALLER
SHUNT		120V 1P 2W	POWER FOR SHUNT TRIP CIRCUITRY
EWG	5-20R	120V 1P 2W	QUAD FOR ELECTRIC WATER COOLER OUTLET; COORDINATE MTG LOCATION TO CONCEAL OUTLET WHEN COOLER IS INSTALLED; SUPPLY FROM GFCI TYPE C/B.
	5-20R	120V 1P 2W	QUAD, MTD IN FLUSH FLOOR BOX; SEE AUX SYS PLANS FOR SHARED BOX; PROVIDE DIVIDER FOR POWER SEPARATION FROM VOICE/DATA

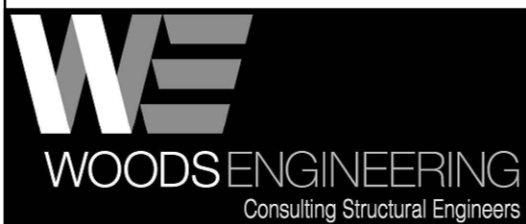
SEE MOUNTING HEIGHT DETAIL A/E5.1

SYMBOL	DESCRIPTION	NOTES
\$ D	DIMMER SWITCH	RATED FOR VOLTAGE WHERE APPLIED, 1200W; MTD 42" AFF UNO
\$ K	KEYED SWITCH FOR UP/DOWN CONTROL	RATED FOR VOLTAGE AND AMPERAGE WHERE APPLIED; MTD 42" AFF UNO COVER DESIGN BASIS: BELL#5128-0 SINGLE GANG, BELL #5125-0 DOUBLE GANG OR BELL #5126-0 3-GANG
\$ K2	KEYED SWITCH	RATED FOR VOLTAGE AND AMPERAGE WHERE APPLIED; MTD 42" AFF UNO. SECOND POLE IS TO SWITCH THE NEUTRAL CONDUCTOR. COVER DESIGN BASIS: BELL#5128-0 SINGLE GANG, BELL #5125-0 DOUBLE GANG OR BELL #5126-0 3-GANG
\$ 01	OCCUPANCY SENSOR WALL SWITCH, SINGLE CKT, DUAL TECHNOLOGY	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
Ⓢ	OCCUPANCY SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY; CEILING MTD	INCORPORATE POWER PACK FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
Ⓢ	PHOTOCELL, EXTERIOR	MOUNT ON NORTH FACE OF BLDG, FACING NORTH
\$	TOGGLE SWITCH, SINGLE POLE	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO; WHERE USED AS AN EQUIPMENT DISCONNECT, PROVIDE LOCKABLE TYPE COVER.
\$ C	TOGGLE SWITCH, SINGLE POLE	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO; PROVIDE 3-GANG COVER FOR 3 SWITCHES, DESIGN BASIS: BELL OUTDOOR #5126-0
\$ 3	3-WAY SWITCH	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
SEE MOUNTING HEIGHT DETAIL A/E5.1		



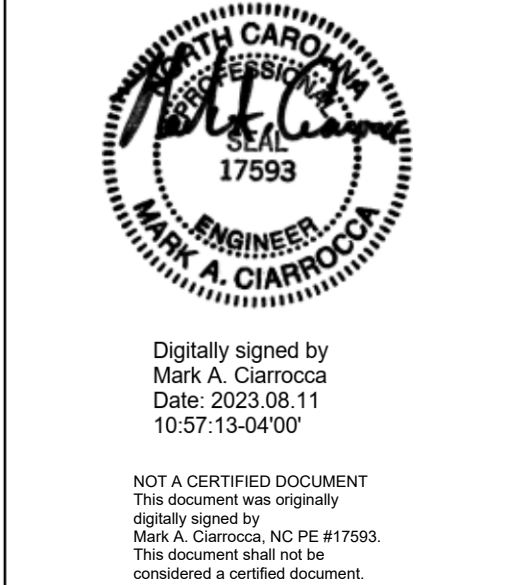
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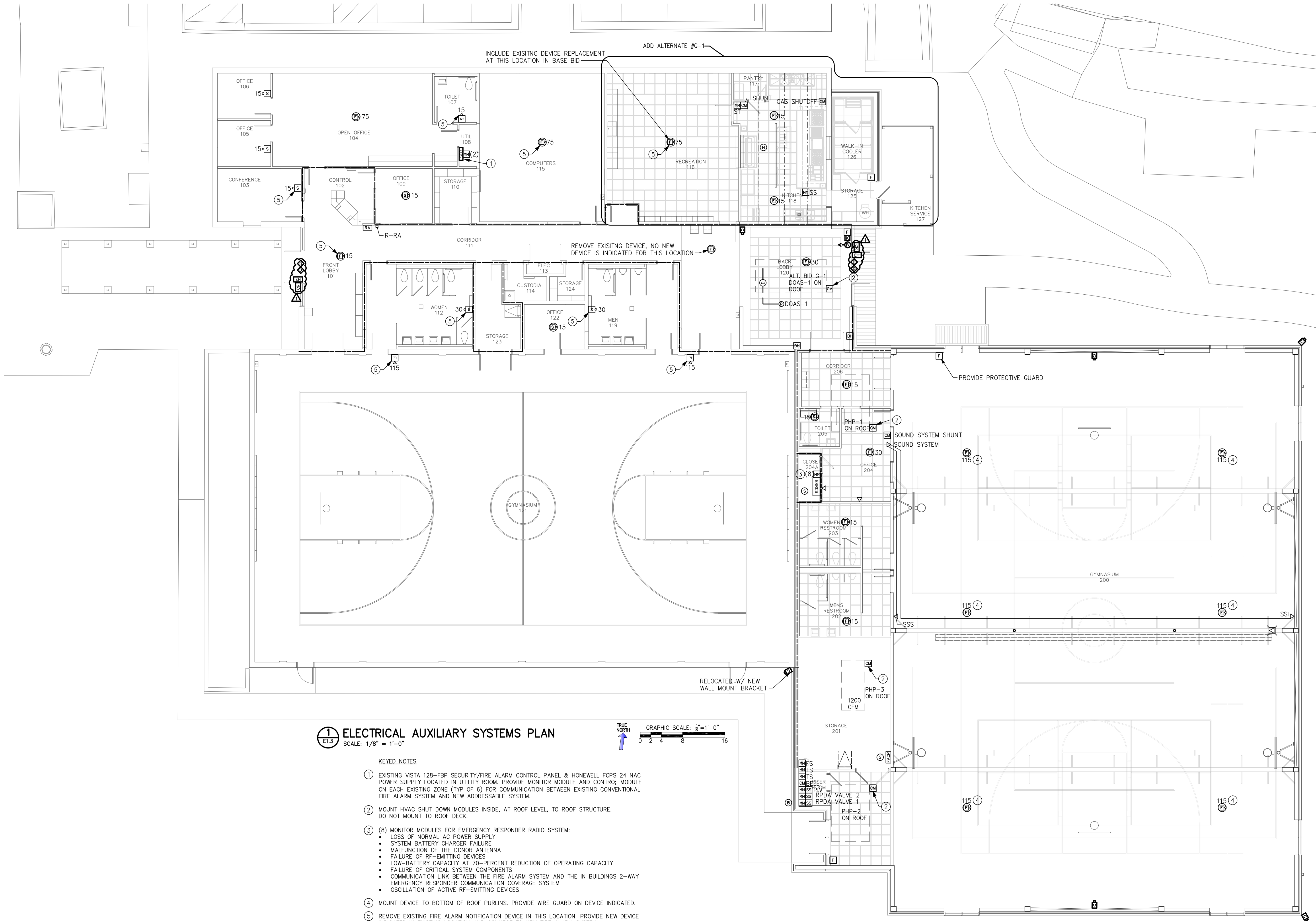
**MLK Center
Addition &
Renovation**
401 S. 8th Street
Wilmington, NC 28405

Construction Drawings
March 22, 2023

Revisions:
△ ACCESS CONTROL; 08/11/2023

ELECTRICAL
LEGENDS

E0.2



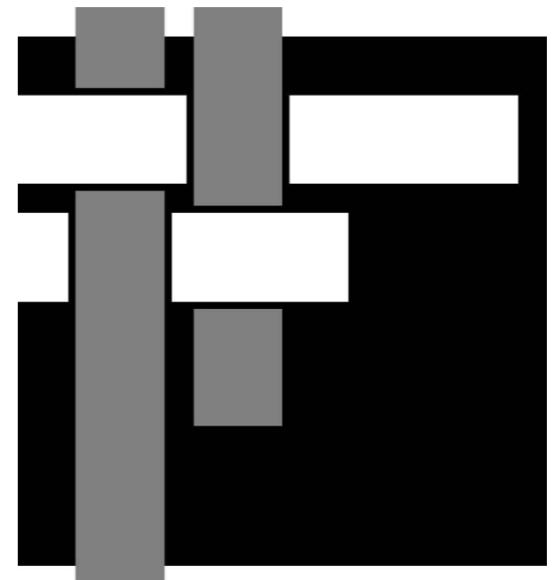
1 E1.3 ELECTRICAL AUXILIARY SYSTEMS PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

- EXISTING VISTA 128-FBP SECURITY/FIRE ALARM CONTROL PANEL & HONEWELL FOPS 24 NAC POWER SUPPLY LOCATED IN UTILITY ROOM. PROVIDE MONITOR MODULE AND CONTR; MODULE ON EACH EXISTING ZONE (TYP OF 6) FOR COMMUNICATION BETWEEN EXISTING CONVENTIONAL FIRE ALARM SYSTEM AND NEW ADDRESSABLE SYSTEM.
- MOUNT HVAC SHUT DOWN MODULES INSIDE, AT ROOF LEVEL, TO ROOF STRUCTURE. DO NOT MOUNT TO ROOF DECK.
- (8) MONITOR MODULES FOR EMERGENCY RESPONDER RADIO SYSTEM:
 - LOSS OF NORMAL AC POWER SUPPLY
 - SYSTEM BATTERY CHARGER FAILURE
 - MALFUNCTION OF THE DONOR ANTENNA
 - FAILURE OF RF-EMITTING DEVICES
 - LOW-BATTERY CAPACITY AT 70-PERCENT REDUCTION OF OPERATING CAPACITY
 - FAILURE OF CRITICAL SYSTEM COMPONENTS
 - COMMUNICATION LINK BETWEEN THE FIRE ALARM SYSTEM AND THE IN BUILDINGS 2-WAY EMERGENCY RESPONDER COMMUNICATION COVERAGE SYSTEM
 - OSCILLATION OF ACTIVE RF-EMITTING DEVICES
- MOUNT DEVICE TO BOTTOM OF ROOF PURLINS. PROVIDE WIRE GUARD ON DEVICE INDICATED.
- REMOVE EXISTING FIRE ALARM NOTIFICATION DEVICE IN THIS LOCATION. PROVIDE NEW DEVICE INDICATED IN EXISTING LOCATION AND CONNECT TO NEW FIRE ALARM SYSTEM

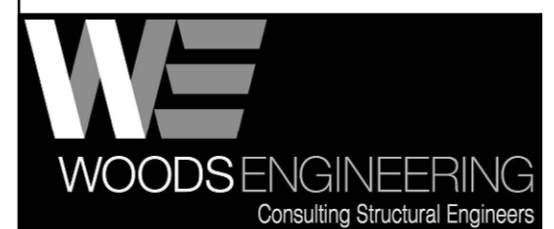
NOTES

- DUCT MOUNTED SMOKE DETECTORS AT PHP-1 AND PHP-2 HAVE BEEN INTENTIONALLY OMITTED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE 606.2.2 EXCEPTION 1.
- UNLESS NOTED OTHERWISE BY KEYED NOTE, ALL FIRE ALARM NOTIFICATION DEVICES INDICATED IN EXISTING BUILDING ARE NEW DEVICES TO BE ADDED AND CONNECTED TO NEW FIRE ALARM PANEL.



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**ELECTRICAL
AUXILIARY
SYSTEMS PLAN**

E1.3

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