

ADDENDUM NO. 4

October 7, 2024

**South Westnedge School Remodel & Site Improvements
3333 South Westnedge Avenue
Kalamazoo, MI 49008**

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated September 6, 2024, by TowerPinkster. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 4-4 and attached TowerPinkster Addendum No. 4, dated October 4, 2024, consisting of 43 pages.

A. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

Paragraph 3.03 BID CATEGORIES

A. Bid Category No. 1 – Sitework

Add the following Clarifications:

1. For reasons of mobilization, scheduling and extent of asphalt removal and replacement; **Bid Category #01 - Sitework** is responsible for asphalt paving for the patching of the S Westnedge Ave watermain road crossing.
2. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
3. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

B. Bid Category No. 2 – Asphalt Paving

Add the following Clarifications:

1. For reasons of mobilization, scheduling and extent of asphalt removal and replacement; **Bid Category #01 - Sitework** is responsible for asphalt paving for the patching of the S Westnedge Ave watermain road crossing.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

C. Bid Category No. 03 – Concrete

Add the following Clarifications:

1. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

D. Bid Category No. 04 – Masonry

Add the following Clarifications:

1. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

E. Bid Category No. 5 – Structural Steel

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

F. Bid Category No. 6 – Roofing

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

G. Bid Category No. 7 – General Trades

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.
4. **BC# 07 - General Trades** is responsible for providing, placing and maintaining floor protection (e.g. Ram Board) on existing flooring surfaces. **BC# 11 - Flooring** is responsible for providing, placing and maintaining floor protection on new flooring surfaces.

H. Bid Category No. 8 – Casework

Add the following Clarifications:

1. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

2. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

I. Bid Category No. 9 – Metal Studs, Drywall, Acoustical Ceilings

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

J. Bid Category No. 10 – Aluminum Frames & Glazing

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

K. Bid Category No. 11 – Flooring

Add the following Clarifications:

1. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.

2. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.
3. **BC# 07 - General Trades** is responsible for providing, placing and maintaining floor protection (e.g. Ram Board) on existing flooring surfaces. BC# 11 - Flooring is responsible for providing, placing and maintaining floor protection on new flooring surfaces.

L. Bid Category No. 12 – Fire Suppression

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

M. Bid Category No. 13 – Mechanical & Plumbing

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provided.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.
4. **BC# 13 - Mechanical & Plumbing** is responsible for any wall openings and patching as needed for reconfiguring of plumbing fixtures for Alternate No. 5

N. Bid Category No. 14 – Electrical

Add the following Clarifications:

1. All scrap steel and metals is to be disposed of in scrap metal recycling dumpsters provided. Scrap equipment, piping and coils are to be drained of fluids (e.g. coolant, gases, oil, water) by contractor removing the said metal items, prior to placement into metal recycling dumpster provide.
2. All contractors are responsible for handling and disposal of their own pallets and cardboard. Pallets are to be salvaged for recycling and stacked neatly on-site in designated area for pickup. Cardboard is to be broke down, flattened and disposed of in designated dumpster provided.
3. Due to limited space on-site, contractors are required to store materials and equipment off-site until not less than 2 weeks prior to installation. Deliveries of materials and equipment to the site are to be approved by Site Manager at least 2 days prior to shipment.

- O. Refer to the attached Request For Information summary, Pre-Bid RFI No. 01 through 24 are included.**

PROJECT: Kalamazoo Public Schools - S Westnedge School
ARCHITECT: Tower Pinkster
CM: THE SKILLMAN CORPORATION (TSC)
REPORT TITLE: RFI LOG
REPORT DATE: **Wednesday, October 2, 2024**



TSC - RFI Number: 1

Question Date: 9/19/2024
Question By: Tom Roberts (S.A. Morman)
Question Method: Email to David Taylor
Reference:
Question: [081113 Hollow Metal Doors and Frames](#)

- Section 2.3 does not include any requirements for Hollow Metal Doors. Assuming to be 16 Gauge Flush with Standard Cores. Is this correct? Are top or bottom caps required? [See forthcoming addendum](#)
- Section 2.7.3 notes Terminated Stops (Hospital Stops). Are these required? Note these are expensive accessories. [See forthcoming addendum](#)
- Section 2.8 notes both Prime Finish and Factory Finish. Assuming Hollow Metal Doors and Frames are to be Factory Primed and Field Painted (by others). Is this correct? Note that Factory Finishing is quite expensive and adds several weeks to lead-time. [See forthcoming addendum](#)

[Toilet Accessories](#)

- Assuming Toilets 108D and 108F are to be included in Base Bid and 113, 114, 115, 116, 203, 204, 300 and 303 are included in Alternate 5. Is this correct? **Correct**
- Enlarged Plans A821 note Hand Dryers at numerous locations, but no Specifications, Manufacturer, Model Numbers, etc. have been provided. Please confirm who is responsible for supplying Hand Dryers and provide Manufacturer, Model Number, etc. **Hand dryers are required and TP will issue a spec in the next addendum.**
- Toilet Accessory Schedule and Specifications notes Shower Curtain Rods, but nothing shown on Enlarged Plans. Is a Shower Rod required at Toilet 108D? [See forthcoming addendum](#)
- Specifications 102800 Toilet, Bath & Laundry Accessories include Hooks, Soap Dishes and Towel Pins, but none are shown on Enlarged Plans. Assuming none are required. Is this correct? [See forthcoming addendum](#)

[102113.19 Plastic Toilet Compartments](#)

- Section 2.2.D.1 notes "Color and Pattern: As indicated on drawings. I do not find any indication on the drawings. Assuming to be Manufacturer's Standard. Is this correct? [See forthcoming addendum](#)

Answer Date: **October 4, 2024**
Answer By: **Lee Dingemans**
Answer:

- 9/20/2024 Sent to Tower Pinkster
- 9/23/2024 Re-sent to TP with correction

TSC - RFI Number: 2

Question Date: 9/19/2024
Question By: Todd Blaylock (Earley & Associates, Inc.)
Question Method: Email to Caralee Sokolowski
Reference:
Question: Page SG004 calls for a frost wall at the generator pad (alternate). Page ES101 calls for a 23" turndown edge instead of frost wall. Please advise

Frost wall required as detailed on SG004.

Answer Date: **October 4, 2024**
Answer By: **Lee Dingemans**
Answer:

- 9/20/2024 Sent to Tower Pinkster

TSC - RFI Number: 3

• 9/23/2024 Sent to Tower Pinkster

Question Date: 9/23/2024
Question By: David Taylor
Question Method: RFI Log
Reference: Spec Sections: 09 6513, 09 9600, 10 5113, 26 0573, 12 3653
Question: Throughout these spec sections, there are (11) places in the text that read <Double click here to.....>; or <Insert Manufacturer>. Please complete as needed. **TOC and spec. clarification by TSC**

Answer Date: **October 4, 2024**
Answer By: **Lee Dingemans**
Answer:

TSC - RFI Number: 4

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/23/2024
Question By: David Taylor
Question Method: RFI Log
Reference: TOC and Specs
Question: Please provide spec section for painting (interior and exterior), even though KPS is opting to self-perform
Answer Date: **See forthcoming addendum**
Answer By: **October 4, 2024**
Answer: **Lee Dingemans**

TSC - RFI Number: 5

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/26/2024
Question By: Joe (Jergens)
Question Method: Phone
Reference:
Question: Alternate No. 3 calls for "removal of casework, plumbing fixtures installed in casework and accessories.....". Are stand-alone utility sinks (not in casework) to remain or also be removed in this alternate. Do new plumbing fixtures go in the new casework? **Refer to drawings. Existing stand alone sinks are to remain. No new sinks in new or existing casework.**
Answer Date:
Answer By: **October 4, 2024**
Answer: **Lee Dingemans**

TSC - RFI Number: 6

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/25/2024
Question By: Attendee at Pre-Bid Meeting
Question Method: Asked in-person during Q&A
Reference:
Question: Has the Technology portion of this project been broke out in its own contract and not part of Base-bid?
Answer Date: **Tech sheets issued as part of this project indicate project technology scope. However there is also a separate Tech. project under separate contract.**
Answer By:
Answer: **October 4, 2024**
Lee Dingemans

TSC - RFI Number: 7

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/19/2024
Question By: S.A. Morman
Question Method: Email
Reference:

Question: 081113 Hollow Metal Doors and Frames
•Section 2.3 does not include any requirements for Hollow Metal Doors. Assuming to be Flush with Standard Cores. Is this correct?
Are top or bottom caps required?
•Section 2.7.3 notes Terminated Stops (Hospital Stops). Are these required? Note expensive accessories.
•Section 2.8 notes both Prime Finish and Factory Finish. Assuming Hollow Metal Frames are to be Factory Primed and Field Painted (by others). Is this correct? Note that Factory Finishing is quite expensive and several weeks to lead-time.

Toilet Accessories

•Assuming Toilets 108D and 108F are to be included in Base Bid. Toilets 115, 116, 203, 204, 300 and 303 are included in Alternate 5. Is this correct?
•Enlarged Plans A821 note Hand Dryers at numerous locations. Specifications, Manufacturer, Model Numbers, etc. have been provided. Please confirm who is responsible for supplying Hand Dryers. Provide Manufacturer, Model Number, etc.
•Toilet Accessory Schedule and Specifications note Shower Rods, but nothing shown on Enlarged Plans. Is a Shower Rod required at Toilet 108D?
•Specifications 102800 Toilet, Bath & Laundry Accessories include Hooks, Soap Dishes and Towel Pins, but none are shown on Enlarged Plans. Assuming none are required. Is this correct?

102113.19 Plastic Toilet Compartments

•Section 2.2.D.1 notes "Color and Pattern: As indicated on drawings. I do not find any indication on the drawings. Assuming to be Manufacturer's Standard. Is this correct?"

Answer Date:
Answer By:
Answer:

TSC - RFI Number: 8

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/20/2024
Question By: Todd Earley (Earley & Associates)
Question Method: Email
Reference: Page SG004
Question: Page SG004 calls for a frost wall at the generator pad (alternate). Page ES101 calls for a rounded edge instead of frost wall. Please advise

Answer Date:
Answer By:
Answer:

Answered above

Answered above

TSC - RFI Number: 9

Question Date: 9/25/2024
Question By: Attendee at Pre-Bid Meeting
Question Method: Asked in-person during Q&A
Reference:

Question: What Bid Cat is in charge of bringing new water main into building / Preference would be Sitework.

Answer Date: October 4, 2024
Answer By: Lee Dingemans
Answer:

See Skillman clarifications in Addendum No. 3.

To be answered by TSC

• 10/01/2024 SKILLMAN to address in Clarifications of forthcoming addendum

TSC - RFI Number: 10

Question Date: 9/25/2024
Question By: Attendee at Pre-Bid Meeting
Question Method: Asked in-person during Q&A
Reference:

Question: What Bid Cat is responsible for interior floor concrete cut and removal throughout entire project/ Preference would be General trades.

Answer Date: October 4, 2024
Answer By: Lee Dingemans
Answer:

For plumbing, See Skillman clarifications in Addendum No. 3. Concrete floor cutting and removal for all other work is by General Trades.

To be answered by TSC

• 10/01/2024 SKILLMAN to address in Clarifications of forthcoming addendum

TSC - RFI Number: 11

Question Date: 9/25/2024
Question By: Attendee at Pre-Bid Meeting
Question Method: Asked in-person during Q&A
Reference:

Question: Specs need to be cleared up on stainless Lavatory guards, it is now under structural steel needs to be General trades or Plumbing.

Answer Date: Refer to spec section 10 2800 Toilet, Bath, and Laundry Accesories for under lavatory guard information
Answer By: October 4, 2024 Lee Dingemans
Answer:

See also Skillman clarifications in Addendum No. 3.

• 10/01/2024 SKILLMAN to address in Clarifications of forthcoming addendum

TSC - RFI Number: 12

Question Date: 9/25/2024
Question By: Attendee at Pre-Bid Meeting
Question Method: Asked in-person during Q&A
Reference:

Question: More detail is needed in Gymnasium on Hydronic Piping / Fin Tube Cover details around existing Structural steel columns [not enough information]

Answer Date: See forthcoming addendum
Answer By: October 4, 2024
Answer: Leah Kensinger

• 10/01/2024 Sent to Tower Pinkster

TSC - RFI Number: 13

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/25/2024

Question By: Attendee at Pre-Bid Meeting

Question Method: Asked in-person during Q&A

Reference:

Question: Location and Details for new Generator need to be specified on print. [not enough information]

Answer Date: **4-Oct-2024**

Answer By: **Ryan Schwartz**

Answer: **Refer to SG004, P801C, E801C, and E803**

TSC - RFI Number:

Gym ceiling should not need removal. Fire suppression system is intended to be exposed below the ceiling. If required remove and reinstall ceiling pads as needed.

• 10/01/2024 Sent to Tower Pinkster

Question Date:

Question By:

Question Method: Asked in-person during Q&A

Reference:

Question: Gymnasium ceiling needs detail for select areas of removal and reinstall / Fire Suppression access for installation

Answer Date:

October 4, 2024

Answer By:

Leah Kensinger

Answer:

TSC - RFI Number: 15

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/25/2024

Question By: Attendee at Pre-Bid Meeting

Question Method: Asked in-person during Q&A

Reference:

Question: Preaction valve detection needs to be included in Fire Suppression

Answer Date: **Ryan Schwartz 4-Oct-2024**

Answer By: **Refer to EG101 Fire alarm general notes 3 and 4. Fire alarm vendor shall provide**

Answer: **connection to all required mechanical equipment.**

TSC - RFI Number: 16

• 10/01/2024 SKILLMAN to address in Clarifications of forthcoming addendum

Question Date: 9/27/2024

Question By: Isaac McClelland (Buist Electric)

Question Method: Email

Reference:

Question: Does the EC need to include the low voltage systems (AV, comm, etc)? On the plans is says Technology Contractor, Managed by Skillman. It also says in some spots that the work will be performed by a KPS contractor under a separate project. Can you help clarify?

Answer Date:

Brett Hodgkinson 4-Oct-2024

Answer By:

Please refer to "Keyed Notes - Technology." AV will be part of a separate project. Data Cabling and Paging are a part of this project by the Technology Contractor, managed by Skillman. KPS Contractor shall perform the items referred to in Keyed Notes under a separate project.

Answer:

TSC - RFI Number: 17

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/27/2024

Question By: Doug Bosch (Jergens)

Question Method: Email

Reference:

Question: •Which bid category is responsible for the concrete saw cutting, tear out, and pour back shown on the alternate architectural demo drawings? **TSC to answer this See Skillman clarifications in Addendum No. 3**

•Are the electric water coolers provided by the owner per note 6 on the plumbing drawings? **yes**

•The stainless steel lavatory on drawing P501 says to refer to division 05 “metal fabrications”, will these be their responsibility to provide them? **Refer to spec section 10 2800 Toilet, Bath, and Laundry Accesories for under lavatory guard information**

•With the reconfiguring of some of fixtures for alternate No 5, if any wall openings are necessary, which bid category will be responsible for that work? **TSC to answer this See Skillman clarifications in Addendum No. 4**

•Per alternate No 6 description- Is the intent that only the piping shown on the drawings is to be replaced? There is no branch line piping off the mains shown. The piping in the tunnel is to be abandoned and not replaced, is this correct? **All galvanized piping to be replaced including active branches and mains, like for like. Plans updated to replace piping in tunnels. See forthcoming addendum.**

•Which bid category is responsible for the cutting and replacement of the asphalt for the underground gas going to the generator? Alternate No 7

•Can you provide a spec for the underground gas? **See changes to section 23 1123 - Facility Natural Gas**

Answer Date: **October 4, 2024**

Answer By: **LD / LK**

Answer:

TSC - RFI Number: 18

• 10/01/2024 Sent to Tower Pinkster

Question Date: 9/30/2024

Question By: Isaac McClelland (Buist Electric)

Question Method: Email

Reference:

Question: Is the school getting a new fire alarm system or are we extending what is already there? This question comes from one of my fire alarm manufacturers

Answer Date: **4-Oct-2024**

Answer By: **Ryan Schwartz**

Answer: **Refer to EG101 Fire alarm notes. New fire alarm system is required.**

TSC - RFI Number: 19

• 10/01/2024 SKILLMAN to address in Clarifications of forthcoming addendum

Question Date:

Question By: Todd Blaylock (Earley)

Question Method: Email

Reference:

Question: I see the schedule in Addendum 2. Where do the foundations and floors fit in (unit A & D)?

Answer Date: **TSC to answer this**

Answer By: **October 4, 2024**

Answer: **Lee Dingemans**

Skillman: Unit A & D foundations and floors would likely be constructed in December 2024

TSC - RFI Number: 20

• 10/01/2024 Sent to Tower Pinkster

Question Date: 10/1/2024
Question By: Andrew Clemens (Circuit Electric)
Question Method: Email

Reference:
Question: Can you pass on the below RFI regarding 2-hour fire rated electrical cable for the KPS – South Westnedge Renovation project?

-Page 26 05 19-3 of the specifications states for "Emergency Power Feeder and Power Branch Circuits: Provide UL 2196 listed electrical circuit protective system with a minimum 2-hour fire rating such as RHW2 or Draka "Lifeline MC". This includes all legally required, life safety ATS's, panels, branch panels. Routing the feeder in a non-sprinkled ceiling space of a sprinkled building does not negate the need for this requirement. Alternatively to RHW2, feeder can be routed underground into 2-hour rated room our routed in 2 hour rated soffit." Will this building be completely sprinkled or does the emergency electrical wiring need to be 2-hour rated?

4-Oct-2024

Answer Date: **Ryan Schwartz**
Answer By: **Underground feed to ATS is typically acceptable. Feed from EL0C to EL0D would require UL2196 rated cabling.**
Answer:

TSC - RFI Number: 21

• 10/01/2024 Sent to Tower Pinkster

Question Date: 10/1/2024
Question By: Eric Camp (RW LaPine)
Question Method: Email

Reference:
Question: I am attempting to make some sense of the Alternates for KPS. I have a question regarding the delineation between Alternate #5 of replacing the plumbing fixtures and Alternate #7 of replacing the galvanized piping with copper. In area "C" student bathrooms are we going to lump the replacement of the piping into Alternate #5 or #7? There isn't much clarity regarding the Alternates. Alternate #3 calls for demo of fixtures in the casework, but the drawings do not show and fixtures in the casework except for one instance. The Arch drawings show the fixtures in the Janitor closet in Area D to be demoed, but the Plumbing drawings do not reflect that.

Answer Date: **10/4/2024**
Answer By: **Leah Kensinger**
Answer: **Alt #5 is fixtures only. New piping only required as necessary to extend water to fixtures, existing galvanized to remain. Alt #6 (referenced as #7 in the question) would be replacement of all galvanized piping through out units A, B, & C. Correct, there is only one sink in classroom 121 being demoed under Alt. #3. See upcoming addendum. Janitor 207 demo scope is being eliminated from Arch drawings in upcoming addendum.**

TSC - RFI Number: 22

• 10/02/2024 Sent to Tower Pinkster

Question Date: 10/2/2024

Question By: David Taylor (Skillman)

Question Method: RFI Log

Reference: Table of Contents and Specifications

Question: The 9/6 TOC removed the prior (8/23) sections for the following:

- 09 64 66 Wood Athletic Flooring. **Shouldn't this Section be included since it is needed for Alternate #1? There is no wood flooring as part of this project.**

- 27 05 10 Technology Responsibility Matrix. **See questions below .*

- 27 41 16 Integrate AV Systems and Equipment **See questions below.*

- 28 13 00 Access Control **See questions below.*

- 28 15 23 Intercomm Entry Systems **See questions below.*

- 28 20 00 Video Surveillance **See questions below.*

*** Are these (5) Tech and AV items excluded from the project? Contracted by KPS direct? Any work required by Electrical Contractor?**

Answer Date: **Tech sheets issued as part of this project indicate project technology scope. However there is also a separate Tech. project under separate contract.**

Answer By: **October 4, 2024 Lee Dingemans**

TSC - RFI Number: 23

• 10/02/2024 Sent to Tower Pinkster

Question Date: 10/2/2024

Question By: Ken Pluta (A1 Refrigeration)

Question Method: Email

Reference:

Question: -For alternate 5, are they going to issue new piping drawings since the new restroom layouts don't match the demo on the architectural drawings. **See forthcoming addendum**

Fixtures aren't direct replacements

-AD801 has fixtures in Janitor 207 to be replaced but this work isn't on the plumbing drawing. Do they get replaced? Just removed? Which alternate **See RFI 21 above** would this be part of?

-I don't see notes on arch demo sheets to remove the ceiling for the new copper piping as part of Alternate 6. Who is responsible? **Ceiling removal and replacement is part of base bid.**

-Alternate 3's description is to remove casework and plumbing fixtures. Don't find any of this work on the plumbing alternate drawings. Are there **See RFI 21 above** fixtures to be removed?

Answer Date: **10/4/2024**Answer By: **Leah Kensinger**

Answer:

TSC - RFI Number: 24

• 10/03/2024 Sent to Tower Pinkster

Question Date: 10/2/2024

Question By: Jim Van Atter

Question Method: Email

Reference:

Question: The City of Kalamazoo has implemented a "Water Capacity Buy in Fee" as part of their 2024 standards. In addition to the tap fee, this cost is based on meter size. The cost can be significant depending on the desired meter size ranging from \$1,600 to over \$30,000. Furthermore, the City of Kalamazoo will not provide a connection estimate unless the site plan has been 100% approved. The sitework contractor pays for the meter fees when they pay the connection estimate. Can you please advise on the size of the meter required for the 6" fire suppression line? Will any other meters be required for this new line?

Answer Date: **10/4/2024**Answer By: **Leah Kensinger**

Answer: **Meter shall be sized by the municipality as indicated on drawing P 501 and specification section 22 1116. Max building demand estimated at 130 GPM, with an allowable max pressure drop of 8 psi. See forthcoming addendum.**

TSC - RFI Number: 25

• 10/03/2024 Sent to Tower Pinkster

Question Date: 10/3/2024

Question By: Jim Van Atter

Question Method:

Reference:

Question: clarify who's responsible for asphalt replacement in Westnedge Ave for the water connection. I spoke with the City of Kalamazoo Traffic Engineer, and he said they will require [excavating contractor] to cross Westnedge in 2 phases. This will ultimately result in additional mobilizations for the pavers.

Answer Date: **The removal and replacement of the pavement would need to be completed by the contractor. Since the City is requiring that it be done in two phases to keep a lane or two of traffic open at all times,**
Answer By: **then yes, this will require the contractor to complete this work as required by the City and should be**
Answer: **bid in to the project.**

October 4, 2024
Lee Dingemans

See Skillman clarifications in Addendum No. 4

ADDENDUM NO. 4

DATE OF ISSUANCE:	October 4, 2024
PROJECT:	South Westnedge School Remodeling and Site Improvements 3333 S Westnedge Ave Kalamazoo, MI 49008
OWNER:	Kalamazoo Public Schools
ARCHITECT'S PROJECT NO.:	23-606.00
ORIGINAL BID ISSUE DATE:	September 6, 2024

SCOPE OF WORK

This Addendum includes changes to, or clarifications of, the original Bidding Documents and any previously issued addenda, and shall be included in the Bid. All of these Addendum items form a part of the Contract Documents. The Bidder shall acknowledge receipt of this Addendum in the appropriate space provided on the Bid Form. Failure to do so may result in disqualification of the Bid.

DOCUMENTS INCLUDED IN THIS ADDENDUM

This Addendum includes **Four** pages of text and the following documents:

- Bidding Documents: **NA**
- Contract Conditions: **NA**
- Specification Sections: **23 1123, 23 8221**

Drawings: **AD 100A, AD 100B, AD 100C, AD 100D, AD 101, AD801, A 200, A 201C, A 201D, P 501, M 201D, M 501, M 502, M 503, P 801B, P 801C, P 801D, PD 801A, PD 801B, PD 801C, PD 801D, E404 AND E803**

CHANGES TO PREVIOUSLY ISSUED ADDENDA

None.

CHANGES TO SPECIFICATIONS

ADD-4 Item No. S-1 - 08 1113 Hollow Metal Doors and Frames

Refer to Specification Section: 08 1113

Section 2.3 – Doors 16 Gauge Flush with Standard Core of Fire Rated Core as called out on the door schedule

Top and bottom caps are not required

Terminated Stops (hospital stops) are not required

Factory prime finish door, to be painted in the field

ADD-4 Item No. S-2 - 09 6513 Resilient Base and Accessories

Refer to Specification Section: 09 65613

Refer to drawings for manufactures and products.

ADD-4 Item No. S-3 - 10 2800 Toilet Bath & Laundry Accessories

Refer to Specification Section: 10 2800

Hand Dryer Basis of Design World Dryer Advantage AD, White ABS, surface mounted.

Shower Curtain Rods, coat hooks, soap dishes and towel pins are not required for this project.

ADD-4 Item No. S-4 - 10 2113 Plastic Toilet Compartments

Refer to Specification Section: 10 2113

Toilet Compartment Color selection shall be from manufacturer full range of standard colors.

ADD-4 Item No. S-5 - 23 8221 Self Contained Vertical Unit Ventilators

Refer to Specification Section: 23 8221

Add new section for vertical unit ventilators.

ADD-4 Item No. S-6 - 23 1123 Facility Natural Gas Piping

Refer to Specification Section: 23 1123

Modified specification section to include outdoor, underground gas piping.

CHANGES TO DRAWINGS

ADD-4 Item No. D-1 - Toilet Room Clarifications

Refer to Sheet(s): G 100

Toilet Rooms 108D and 108F are base bid toilet rooms

Refer to Sheet(s): A 821

Toilet Rooms 113, 114, 115, 116, 203, 204, 300 and 303 are alternates as shown on this sheet

ADD-4 Item No. D-2 - RTU and AHU Controls Clarification

Refer to Sheet(s): M 501, M 502

AHU-1 and RTU's to have DDC ready, field installed controls.

ADD-4 Item No. D-3 - Natural Gas Detail Update

Refer to Sheet(s): P 501

Natural gas service detail on P 501 updated to show correct new service size at 5" to match drawings.

ADD-4 Item No. D-4 - Water Service Meter Info

Refer to Sheet(s): P 501

Water service detail on P 501 updated to show water meter schedule.

ADD-4 Item No. D-5 - Gymnasium Hydronic Piping Layout

Refer to Sheet(s): M 201D, M503

Hydronic piping along east wall of gym modified to avoid structure. End of main bypass valve moved and upsized.

ADD-4 Item No. S-7 - Plumbing Alternates 5 & 6 Clarifications

Refer to Sheet(s): P 801B, P801C, P 801D, PD 801A, PD 801B, PD 801C, PD 801D

Added demo sheets for the Alternates 5 & 6. Updated notes to provide clarity. Alternate 6 to replace all galvanized piping throughout units A, B, & C and within tunnels.

ADD-4 Item No. D-1 - Electrical Light Fixture Equals

Refer to Sheet(s): E404 and E803

Added light fixture equals to base bid and alternate light fixtures.

Added alternate light fixture schedule to sheet E803.

Added equal manufacturers for lighting control.

ADD-4 Item No. D-2 - Ceiling Changes

Refer to Sheet(s): AD 100A, AD 100B, AD 100C, AD 100D, AD 101, A 200, A 201C, A 201D

All ceilings in room previously designated as ceilings to be removed, salvaged and reinstalled ceilings are to be demolished and disposed of and new ceilings installed. Refer to revised drawings as listed above.

ADD-4 Item No. D-3 - Janitor Room 207

Refer to Sheet(s): AD 801

No demo of toilet fixtures required. This scope is eliminated from the alternate project scope.

ADD-4 Item No. D-4 - Toilet Room 113, Boys 114, Toilet Room 115, and Girls 116 Ceilings

Refer to Sheet(s): AD 800B

In Toilet Room 113, Boys 114, Toilet Room 115, and Girls 116 existing ceilings are removed and disposed and a new suspended hard lid ceiling is installed as part of base bid. Alternate No. 6 does not require ceiling demo and replacement in the above referenced toilet rooms. Disregard ceiling demolition Keyed note no. 14 on drawing AD 800B.

END OF ADDENDUM.

SECTION 23 1123 - FACILITY NATURAL GAS PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipes, tubes, and fittings.
2. Piping specialties.
3. Piping and tubing joining materials.
4. Valves.
5. Pressure regulators.
6. Mechanical sleeve seals.

1.2 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.3 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psig minimum unless otherwise indicated.

B. Natural-Gas System Pressure within Buildings: 0.5 psig or less.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following:

1. Piping specialties.
2. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
3. Pressure regulators. Indicate pressure ratings and capacities.
4. Dielectric fittings.
5. Mechanical sleeve seals.

Addendum No. 4

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For pressure regulators to include in emergency, operation, and maintenance manuals.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.
- B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:
 - 1. Notify Construction Manager no fewer than two days in advance of proposed interruption of natural-gas service.
 - 2. Do not proceed with interruption of natural-gas service without Construction Manager's written permission.

1.8 COORDINATION

- A. Coordinate requirements for access panels and doors for valves installed concealed behind finished surfaces. Comply with requirements in Division 08 Section "Access Doors and Frames."

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
 - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
 - 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
 - 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
 - 4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:
 - a. Material Group: 1.1.
 - b. End Connections: Threaded or butt welding to match pipe.
 - c. Face: Lapped.

Addendum No. 4

- d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
- e. Bolts and Nuts: ASME B18.2.1, carbon steel.

B. **PE Pipe: ASTM D 2513, SDR 11.**

1. **PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.**
2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

2.2 PIPING SPECIALTIES

A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig.
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches.

B. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

2.3 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 MANUAL GAS SHUTOFF VALVES

A. See "Manual Gas Shutoff Valve Schedules" below for where each valve type is applied in various services.

B. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.

1. CWP Rating: 125 psig.
2. Threaded Ends: Comply with ASME B1.20.1.

Addendum No. 4

3. Tamperproof Feature: Locking feature for valves indicated in "Manual Gas Shutoff Valve Schedule" Articles.
 4. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch and smaller.
 5. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.
- C. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.
1. CWP Rating: 125 psig.
 2. Threaded Ends: Comply with ASME B1.20.1.
 3. Flanged Ends: Comply with ASME B16.5.
 4. Tamperproof Feature: Locking feature for valves indicated in "Manual Gas Shutoff Valve Schedule" Articles.
 5. Service Mark: Initials "WOG" shall be permanently marked on valve body.
- D. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BrassCraft Manufacturing Company; a Masco company.
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Lyall, R. W. & Company, Inc.
 - d. McDonald, A. Y. Mfg. Co.
 - e. Perfection Corporation; a subsidiary of American Meter Company.
 2. Body: Bronze, complying with ASTM B 584.
 3. Ball: Chrome-plated bronze.
 4. Stem: Bronze; blowout proof.
 5. Seats: Reinforced TFE; blowout proof.
 6. Packing: Threaded-body packnut design with adjustable-stem packing.
 7. Ends: Threaded.
 8. CWP Rating: 600 psig.
 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.
- E. Bronze Plug Valves: MSS SP-78.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Lee Brass Company.
 - b. McDonald, A. Y. Mfg. Co.
 2. Body: Bronze, complying with ASTM B 584.
 3. Plug: Bronze.
 4. Ends: Threaded or flanged.
 5. Operator: Square head or lug type with tamperproof feature where indicated.
 6. Pressure Class: 125 psig.
 7. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 8. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

Addendum No. 4

- F. Cast-Iron, Nonlubricated Plug Valves: MSS SP-78.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. McDonald, A. Y. Mfg. Co.
 - b. Mueller Co.; Gas Products Div.
 - c. Xomox Corporation; a Crane company.
 2. Body: Cast iron, complying with ASTM A 126, Class B.
 3. Plug: Bronze or nickel-plated cast iron.
 4. Seat: Coated with thermoplastic.
 5. Stem Seal: Compatible with natural gas.
 6. Ends: Threaded or flanged.
 7. Operator: Square head or lug type with tamperproof feature where indicated.
 8. Pressure Class: 125 psig.
 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

2.5 SLEEVES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

2.6 MECHANICAL SLEEVE SEALS

- A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Advance Products & Systems, Inc.
 - b. Calpico Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 2. Sealing Elements: EPDM interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe and sleeve.
 3. Pressure Plates: Plastic.
 4. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one nut and bolt for each sealing element.

2.7 ESCUTCHEONS

- A. General Requirements for Escutcheons: Manufactured wall and ceiling escutcheons and floor plates, with ID to fit around pipe or tube, and OD that completely covers opening.
- B. One-Piece, Deep-Pattern Escutcheons: Deep-drawn, box-shaped brass with polished chrome-plated finish.

Addendum No. 4

- C. One-Piece, Cast-Brass Escutcheons: With set screw.
 - 1. Finish: Polished chrome-plated or rough brass.
- D. Split-Casting, Cast-Brass Escutcheons: With concealed hinge and set screw.
 - 1. Finish: Polished chrome-plated.
- E. One-Piece, Floor-Plate Escutcheons: Cast-iron floor plate.
- F. Split-Casting, Floor-Plate Escutcheons: Cast brass with concealed hinge and set screw.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Close equipment shutoff valves before turning off natural gas to premises or piping section.
- B. Inspect natural-gas piping according to the International Fuel Gas Code to determine that natural-gas utilization devices are turned off in piping section affected.
- C. Comply with the International Fuel Gas Code requirements for prevention of accidental ignition.

3.2 OUTDOOR PIPING INSTALLATION

- A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.
- B. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.
- C. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Install steel pipe for sleeves smaller than 6 inches in diameter.
 - 2. Install cast-iron "wall pipes" for sleeves 6 inches and larger in diameter.
- D. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.
- E. Install pressure gage downstream from each service regulator. Pressure gages are specified in Division 23 Section "Meters and Gages for HVAC Piping."

3.3 INDOOR PIPING INSTALLATION

- A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.

Addendum No. 4

- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.
- D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- G. Locate valves for easy access.
- H. Install piping free of sags and bends.
- I. Install fittings for changes in direction and branch connections.
- J. Install escutcheons at penetrations of interior walls, ceilings, and floors.
 - 1. New Piping:
 - a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
 - b. Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished chrome-plated finish.
 - c. Piping at Ceiling Penetrations in Finished Spaces: One-piece or split-casting, cast-brass type with polished chrome-plated finish.
 - d. Piping in Unfinished Service Spaces: One-piece, cast-brass type with polished chrome-plated finish.
 - e. Piping in Equipment Rooms: One-piece, cast-brass type.
 - f. Piping at Floor Penetrations in Equipment Rooms: One-piece, floor-plate type.
 - 2. Existing Piping:
 - a. Piping at Wall and Floor Penetrations in Finished Spaces: Split-casting, cast-brass type with chrome-plated finish.
 - b. Piping at Ceiling Penetrations in Finished Spaces: Split-casting, cast-brass type with chrome-plated finish.
 - c. Piping in Unfinished Service Spaces: Split-casting, cast-brass type with polished chrome-plated finish.
 - d. Piping in Equipment Rooms: Split-casting, cast-brass type.
 - e. Piping at Floor Penetrations in Equipment Rooms: Split-casting, floor-plate type.
- K. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements in Division 07 Section "Penetration Firestopping."
- L. Verify final equipment locations for roughing-in.

Addendum No. 4

- M. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.
 - N. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.
 - 1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.
 - O. Extend relief vent connections for line regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.
 - P. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, unless indicated to be exposed to view.
 - Q. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.
 - 1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
 - 2. Prohibited Locations:
 - a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
 - b. Do not install natural-gas piping in solid walls or partitions.
 - R. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.
 - S. Connect branch piping from top or side of horizontal piping.
 - T. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.
 - U. Do not use natural-gas piping as grounding electrode.
 - V. Install strainer on inlet of each line-pressure regulator and automatic or electrically operated valve.
 - W. Install pressure gage upstream and downstream from each line regulator. Pressure gages are specified in Division 23 Section "Meters and Gages for HVAC Piping."
- 3.4 VALVE INSTALLATION
- A. Install manual gas shutoff valve at each gas-fired piece of equipment.
 - B. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

Addendum No. 4

3.5 PIPING JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints:
 - 1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
 - 2. Cut threads full and clean using sharp dies.
 - 3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
 - 4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
 - 5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Welded Joints:
 - 1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
 - 2. Bevel plain ends of steel pipe.
- E. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

3.6 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hangers and supports specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."
- B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
 - 2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.

3.7 CONNECTIONS

- A. Install piping adjacent to appliances to allow service and maintenance of appliances.
- B. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.
 - 1. Install pressure regulator at connection to gas-fired appliance and equipment as required to meet maximum gas pressure requirements of that particular device.
- C. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

Addendum No. 4

3.8 LABELING AND IDENTIFYING

- A. Comply with requirements in Division 23 Section "Identification for HVAC Piping and Equipment" for piping and valve identification.

3.9 PAINTING

- A. Comply with requirements in Division 09 painting Sections for painting interior and exterior natural-gas piping.
- B. Paint exposed, exterior metal piping, valves, and piping specialties, except components with factory-applied paint or protective coating.
 - 1. Color to be color to match building background color.
- C. Paint interior exposed metal piping, valves, and piping specialties, except components with factory-applied paint or protective coating.
 - 1. Color to be safety yellow for exposed piping in mechanical rooms.
 - 2. Color to match building wall/ceiling color for exposed piping in finished spaces.
 - 3.

3.10 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Test, inspect, and purge natural gas according to the International Fuel Gas Code and authorities having jurisdiction.
- C. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.11 OUTDOOR PIPING SCHEDULE

- A. **Underground natural-gas piping shall be the following:**
 - 1. **PE pipe and fittings joined by heat fusion; terminated in an accessible location.**
- B. Aboveground natural-gas piping shall be the following:
 - 1. For NPS 2 and smaller, use steel pipe with malleable-iron fittings and threaded joints.
 - 2. For NPS 2-1/2 and larger, use steel pipe with wrought-steel fittings and welded joints.

3.12 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

- A. Aboveground, branch piping NPS 1 and smaller shall be the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.
- B. Aboveground, distribution piping shall be one of the following:
 - 1. For NPS 2 and smaller, use steel pipe with malleable-iron fittings and threaded joints.
 - 2. For NPS 2-1/2 and larger, use steel pipe with wrought-steel fittings and welded joints.

3.13 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

- A. Distribution piping valves for pipe sizes NPS 2 and smaller shall be one of the following:
 - 1. Two-piece, full-port, bronze ball valves with bronze trim.
 - 2. Bronze plug valve.
- B. Distribution piping valves for pipe sizes NPS 2-1/2 and larger shall be one of the following:
 - 1. Bronze plug valve.
 - 2. Cast-iron, nonlubricated plug valve.
- C. Valves in branch piping for single appliance shall be one of the following:
 - 1. Two-piece, full-port, bronze ball valves with bronze trim.
 - 2. Bronze plug valve.

END OF SECTION 23 1123

SECTION 23 8221 – SELF CONTAINED VERTICAL UNIT VENTILATORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes packaged self-contained vertical unit ventilators.
- B. Related Sections include the following:
 - 1. Division 23 Section "HVAC Instrumentation and Control for HVAC" for control devices not packaged with units.

1.2 ACTION SUBMITTALS

- A. Product Data: Include rated capacities, furnished specialties, and accessories for each type of product indicated.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Field quality-control test reports.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Filters: Furnish one spare filter for each filter installed.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 COORDINATION

- A. Coordinate size and location of exterior wall, window frames and ceiling openings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Airedale.

2.2 VERTICAL UNIT VENTILATORS

- A. General: Self-contained, factory-assembled, wired, and tested packaged units consisting of cabinet, compressor, refrigerant system, coils, indoor fan, filters, economizer, powered exhaust, and indicated options. Provide capacities and electrical characteristics as scheduled.
- B. Cabinet: Structural-steel frame with aluminized- or galvanized-steel panels with baked finish in manufacturers standard color and the following:
1. Acoustic foam insulation meeting UL94HF-1 fire rating.
 2. Front access doors with low mounted return air grille(s).
 3. Sound attenuating inlet plenum.
 4. Rear mounted condensate drain connection.
- C. Compressor: Two stage hermetic scroll compressor mounted on vibration absorbers with crankcase heater, internal unloading mechanism, internal overload protector, and compressor sound jacket.
- D. Refrigeration System: The unit shall utilize a factory charge of R-454B (2 Stage) and shall contain a factory fitted thermal expansion device and filter drier, factory set high and low-pressure switches, manual reset high-pressure and low-pressure cut-out, and a sight glass. Provide A2L dissipation system.
- E. DX Evaporator and Condensing Coils: The unit shall contain an enhanced, high efficiency, cross-rifle tube condenser coil and a quick draining evaporator coil. Include non-corrosive drain pans complying with ASHRAE 62.1.
- F. Hot Water Heating Coils: Copper tube with aluminum fins, factory pressure tested, with factory installed manual air vent.
- G. Fans & Fan Motors: The indoor fan assembly shall consist of two blowers and one common-shafted electronically commutated motor (ECM). The ECM motor shall have a wide range of programmable speed and torque characteristics for ultra high efficiency and low audible noise. The permanently lubricated ball bearing ECM motor shall provide constant airflow by automatically adjusting the speed if the external static pressure changes. The outdoor fan assembly shall consist of two backward curved fans with centrifugal blower wheels fitted with electronic speed control to allow for airflow adjustment.
- H. Mixed Air Filter: MERV 13 2-inchthick pleated disposable filter.
- I. Condenser Coil Filter: Wire framed reusable synthetic filter across inlet of outdoor coil.

- J. Economizer: Full modulation spring return damper with blade and jam seals, to mix and control outdoor and return air flows. A minimum damper position setting shall be continuously maintain to meet outside air ventilation requirements based on fan speed.
- K. Control Panel: Internally mounted control panel with control transformer, all necessary contactors, relays, and circuit breakers, with clearly identified components, terminal block positions, and wiring.
- L. Options:
 - 1. Bipolar Ionization (BPI): Carbon fiber needlepoint, UL867 rating, in-line on/off switch, programmable auto-cleaning, indicator light, and alarm contacts.
 - 2. Freeze Protection: Freeze protection sensor with manual reset to protect hot water coil by shutting down fan, opening hot water control valve, and closing damper to outside air flow.
 - 3. Disconnect Switch: Power disconnect switch on control panel with off position lock out.
 - 4. Outside Air Rear Extension: Factory supplied, field installed, 15 inch deep, cabinet extension, painted to match unit for non-standard outside air intake and exhaust air outlet locations.
 - 5. Duct Shroud: Three sided duct shroud, painted to match unit, to extend from top of unit through ceiling.
 - 6. Raised Base: Factory supplied, field installed galvanized steel base, painted to match unit, height as indicated on drawings.
- M. Special attention should be given to units involving special metal trim filler enclosures between unit and walls. Any questions regarding special metal trim filler enclosures should be referred to the Architect/Engineer. Unit supplier shall furnish two metal trim filler pieces, 6 inches by 120 inches, the same finish color and sheet metal gauge as the unit enclosure. Unit installer shall field cut, fit, and bend trim filler pieces and provide necessary fasteners, caulk and other materials required for installation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units level and plumb, anchored to structure, in accordance with manufacturer's instructions, maintaining manufacturer's recommended clearances.
 - 1. Arrange for a pre-installation meeting with manufacturers representative. Install one unit and get approval before installing remainder of units.
- B. Install units with rubber gasket on floor and at wall junctures for vibration isolation.
- C. Install wall sleeve between unit and louver. Caulk and seal exterior of sleeve as it passes through wall.
- D. Install factory furnished field installed components in accordance with manufacturer's requirements.
- E. Coordinate with building controls Installer for installation of factory furnished remote mounted control components.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
 - 1. Water Coil Connections: Comply with requirements in Division 23 Section "Hydronic Piping." Connect to supply and return coil with shutoff-duty valve and union on the supply connection and with throttling-duty valve and union on the return connection.
 - 2. Condensate Drain Connections: Connect unit condensate drain to outside building using copper tubing.
- B. Install piping adjacent to unit to allow service and maintenance.
- C. Duct Connections: Duct installation requirements are specified in Division 23 Section "Metal Ducts." Drawings indicate the general arrangement of ducts. Connect supply ducts to units with flexible duct connectors. Flexible duct connectors are specified in Division 23 Section "Air Duct Accessories."
 - 1. Provide transition to exactly match unit duct connection size.
- D. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
- E. Electrical Connections: Comply with requirements in Division 26 Sections for power wiring.
 - 1. Coordinate location of electrical junction box with unit's power lead extension.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.
- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Leak Test: After installation and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Remove and replace malfunctioning units and retest as specified above.

3.4 STARTUP SERVICE

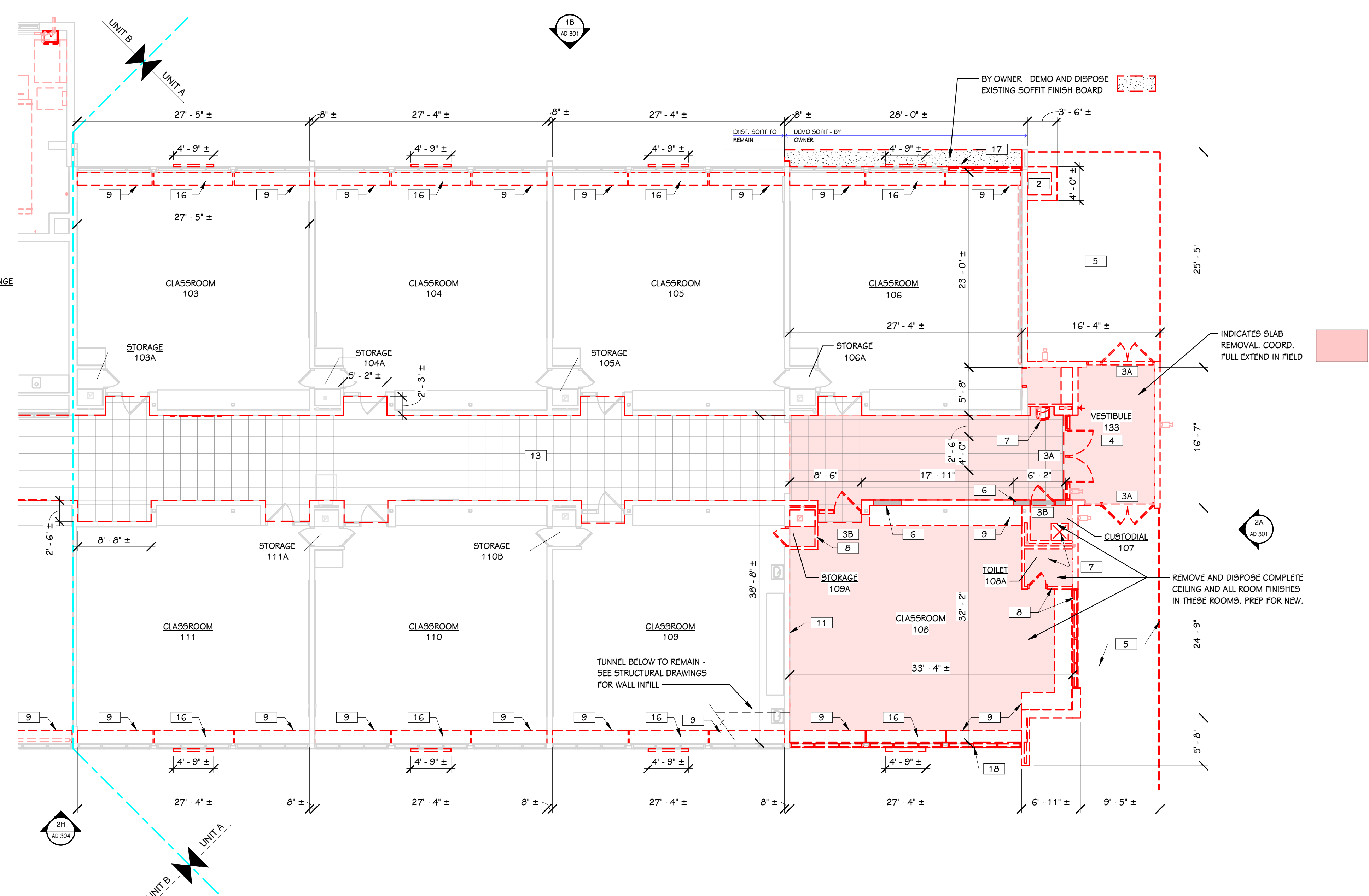
- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
- B. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to site outside normal occupancy hours for this purpose.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units. Refer to Division 01 Section "Demonstration and Training."

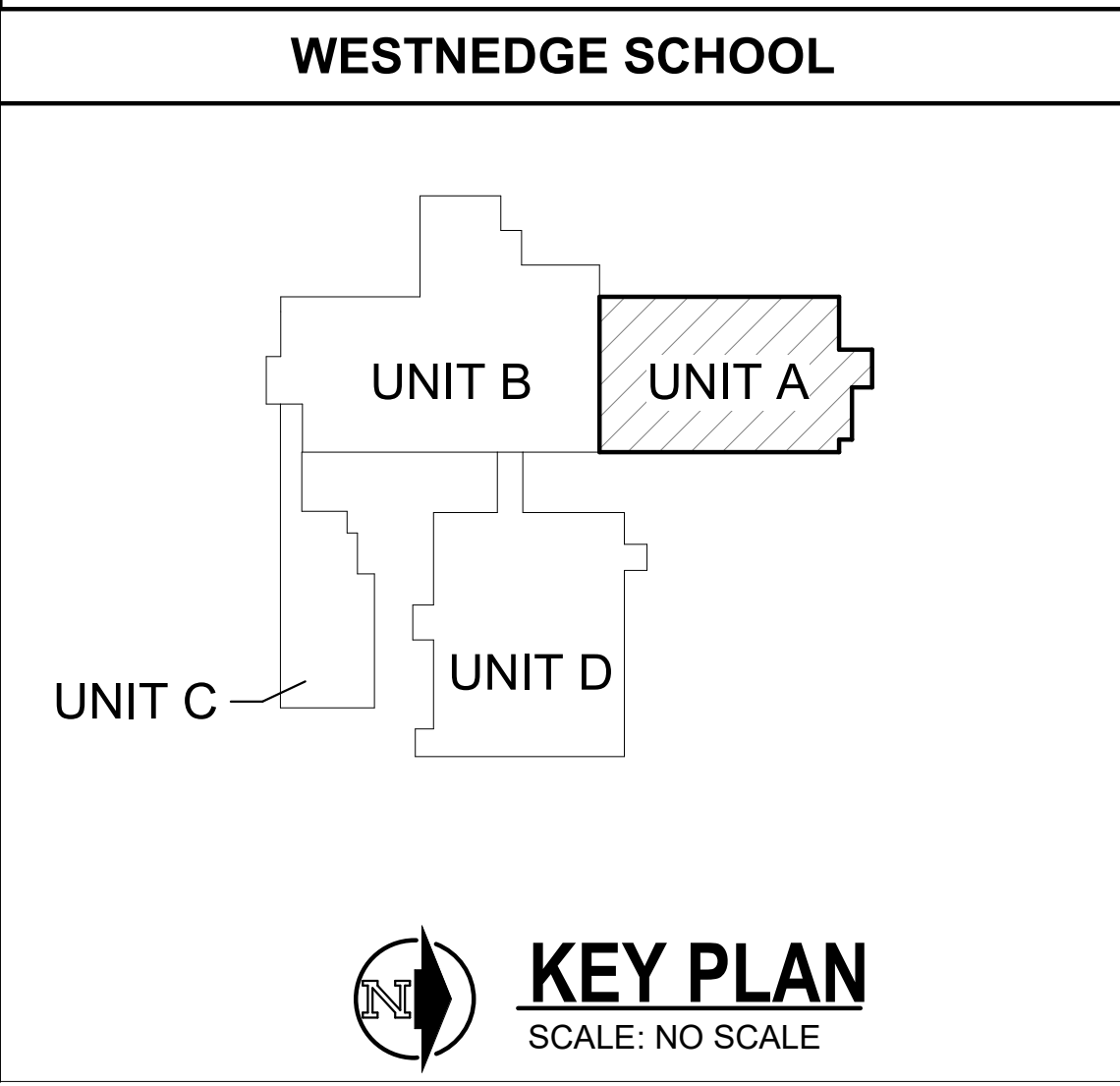
END OF SECTION 23 8221

- KEYED NOTES - ARCHITECTURAL - DEMOLITION**
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 - TRENCH CONCRETE SLAB FOR PLUMBING PIPE WORK - COORDINATE WITH STRUCTURAL AND MECHANICAL DRAWINGS.
 - REMOVE TUNNEL ACCESS POINT COVER AND PREP FOR WALL INFILL. REFER TO EXTERIOR ELEVATIONS FOR ACCESS POINT INFORMATION.
 - BY OWNER - REMOVE EXISTING DOOR AND FRAME AND PREP FOR NEW.
 - REMOVE EXISTING DOOR AND FRAME AND PREP FOR NEW.
 - REMOVE VESTIBULE IN ENTIRETY - COORDINATE WITH ELECTRICAL, MECHANICAL, AND NEW CONSTRUCTION.
 - REMOVE CONCRETE RAMP, SIDEWALK, AND PAINTED STEEL GUARDRAILS - COORDINATE WITH STRUCTURAL AND CIVIL DRAWINGS.
 - REMOVE PORTION OF WALL AND ANY ASSOCIATED WINDOWS.
 - REMOVE PLUMBING FIXTURE - REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
 - REMOVE OF EXISTING WALL - COORDINATE WITH OTHER DISCIPLINES AND NEW CONSTRUCTION.
 - REMOVE CASEWORK, SHELVES, AND FLOOR FINISH BELOW BUILT-IN CASEWORK (BY OWNER) - COORDINATE MECHANICAL EQUIPMENT REMOVAL WITH MECHANICAL DRAWINGS.
 - REMOVE CEILING AND STRUCTURAL ASSEMBLY ABOVE HATCHED REGION - COORDINATE WITH MECHANICAL AND STRUCTURAL DEMOLITION.
 - REMOVE OF TACK AND MARKERBOARDS.
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 - REMOVE ACOUSTICAL CEILING PADS AND FRAMING SYSTEM.
 - REMOVE FLOOR FINISH AND WALL BASE - PREP SURFACES FOR NEW FINISHES.
 - REMOVE THROUGH WALL LOUVER AND ASSOCIATED EQUIPMENT - TOOTH-IN BRICK INFILL - COORDINATE WITH MECHANICAL DRAWINGS. REFER TO EXTERIOR DEMOLITION ELEVATIONS FOR ADDITIONAL INFORMATION.
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 - REMOVE AND REPLACE DOOR HARDWARE ON STOREFRONT SYSTEM DOOR. DOOR AND STOREFRONT SYSTEM TO REMAIN AS EXISTING.
 - REMOVE AND SALVAGE INCLINED ADA LIFT - RETURN TO OWNER.
 - REMOVE HANDRAIL - PREP STAIRS FOR NEW HANDRAILS.
 - REMOVE AND SALVAGE METAL GRATING FOR REINSTALLATION - COORDINATE WITH MECHANICAL DRAWINGS. REFER TO EXTERIOR DEMOLITION ELEVATIONS FOR ADDITIONAL INFORMATION.
 - REMOVE WINDOW - PREP OPENING FOR MECHANICAL LOUVER OR EXHAUST - COORDINATE WITH MECHANICAL DRAWINGS.
 - REMOVE KITCHEN ISLAND AND SERVICE COUNTER.
 - REMOVE OF LOUVER. PREP OPENING FOR WALL INFILL.
 - REMOVE WOODEN PLATFORM - SEE IMAGE 1.
 - MECHANICAL LOUVER - PROVIDE WEATHERTIGHT SEAL WITH FLASHING AND BLANK OFF PANELS - COORDINATE WITH MECHANICAL DRAWINGS.
 - REMOVE GYMNASIUM FLOORING DOWN TO SLAB. GRIND SMOOTH AND PREP FOR NEW FLOOR.
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 - REMOVE FLOOR TILE - GRIND FLOOR SMOOTH AS REQUIRED.
 - REMOVE PORTION OF CONCRETE SLAB FOR VOLLEYBALL SLEEVE ASSEMBLY - COORDINATE WITH NEW CONSTRUCTION GENERAL FLOOR MARKING NOTES.
 - REMOVE EXISTING WINDOW TREATMENT
 - REMOVE TACKBOARD.

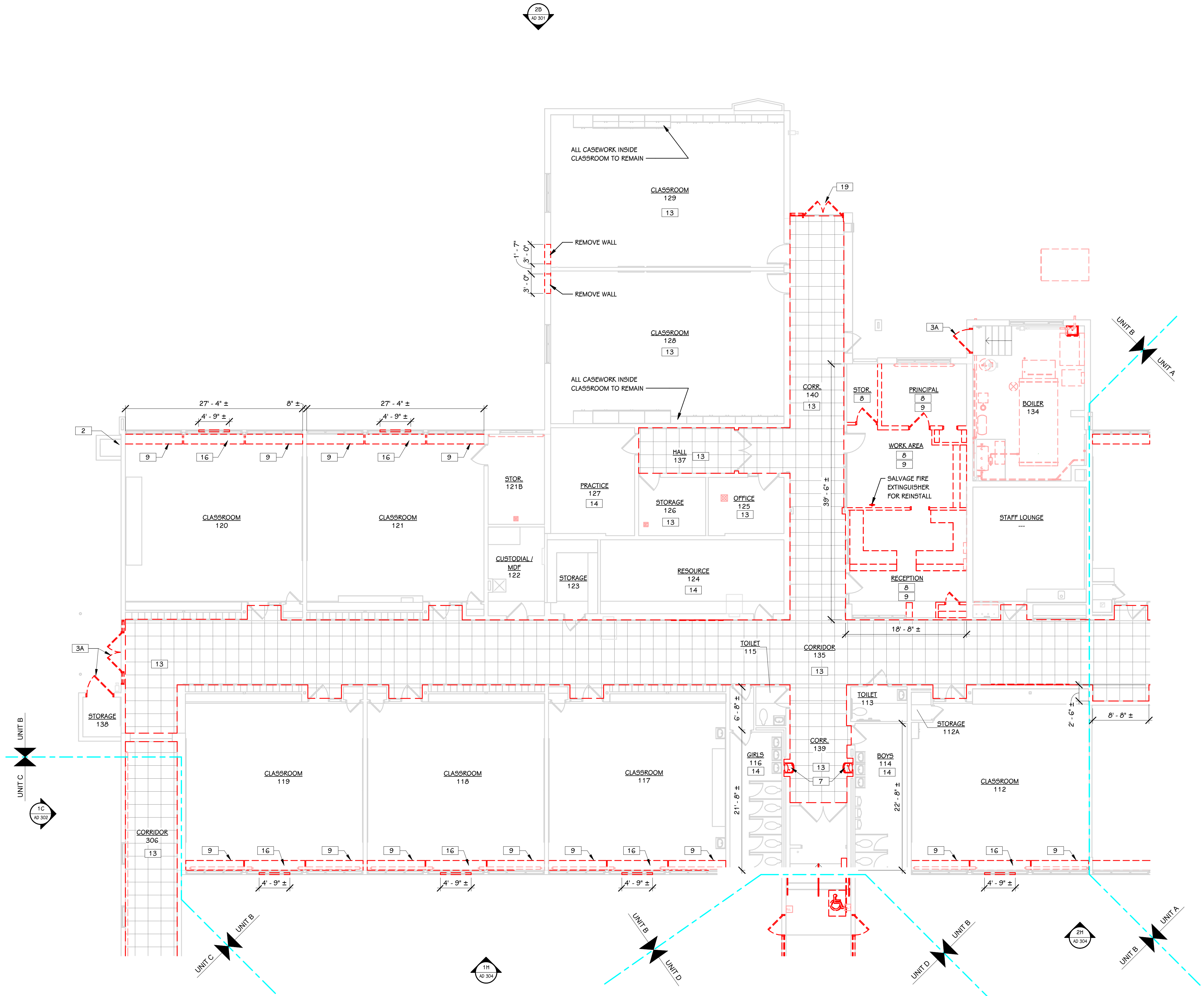


FIRST FLOOR DEMOLITION PLAN - UNIT A
1/8" = 1'-0"

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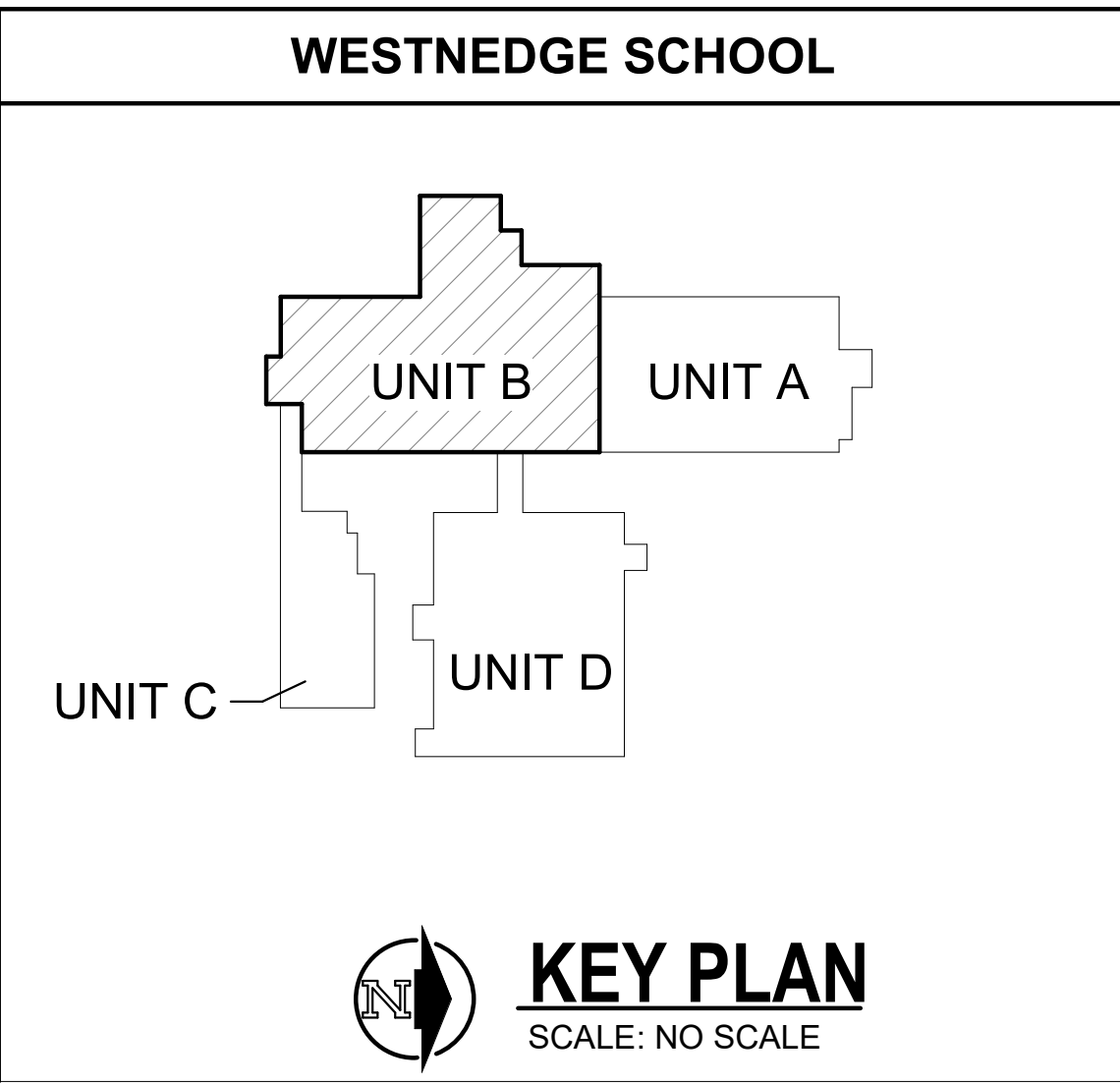


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FIRST FLOOR DEMOLITION PLAN - UNIT B
1/8" = 1'-0"

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IMAGE 1
WOODEN PLATFORM

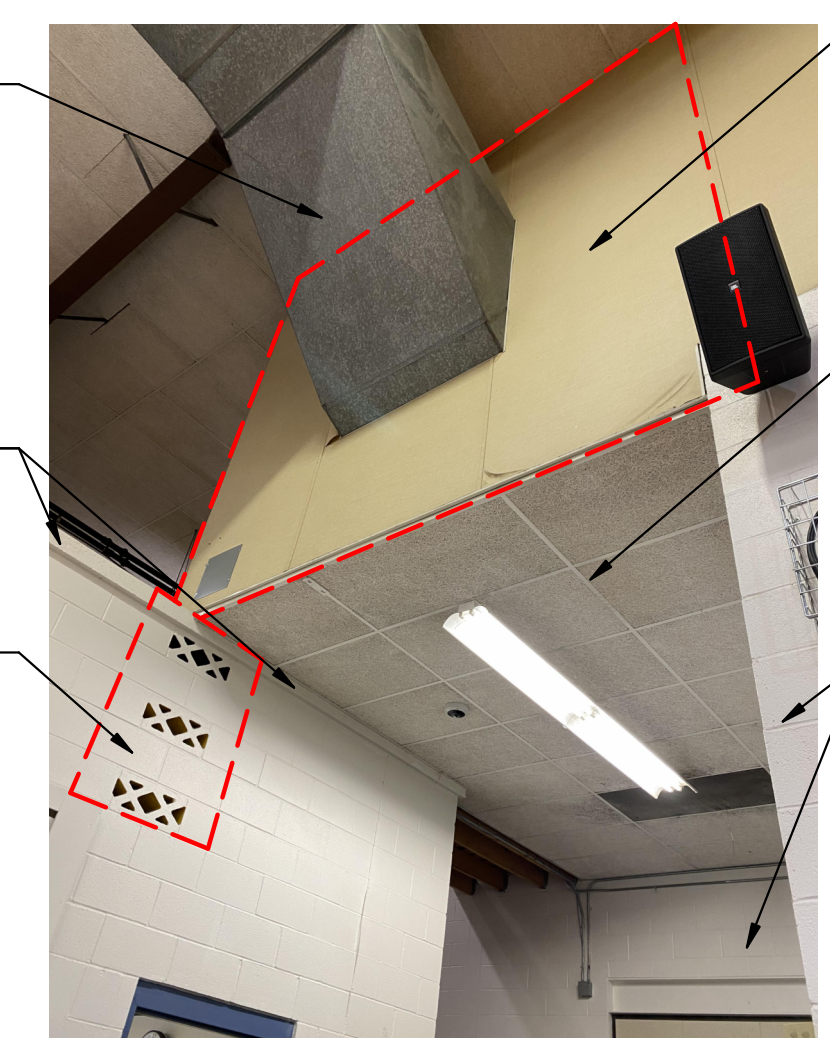
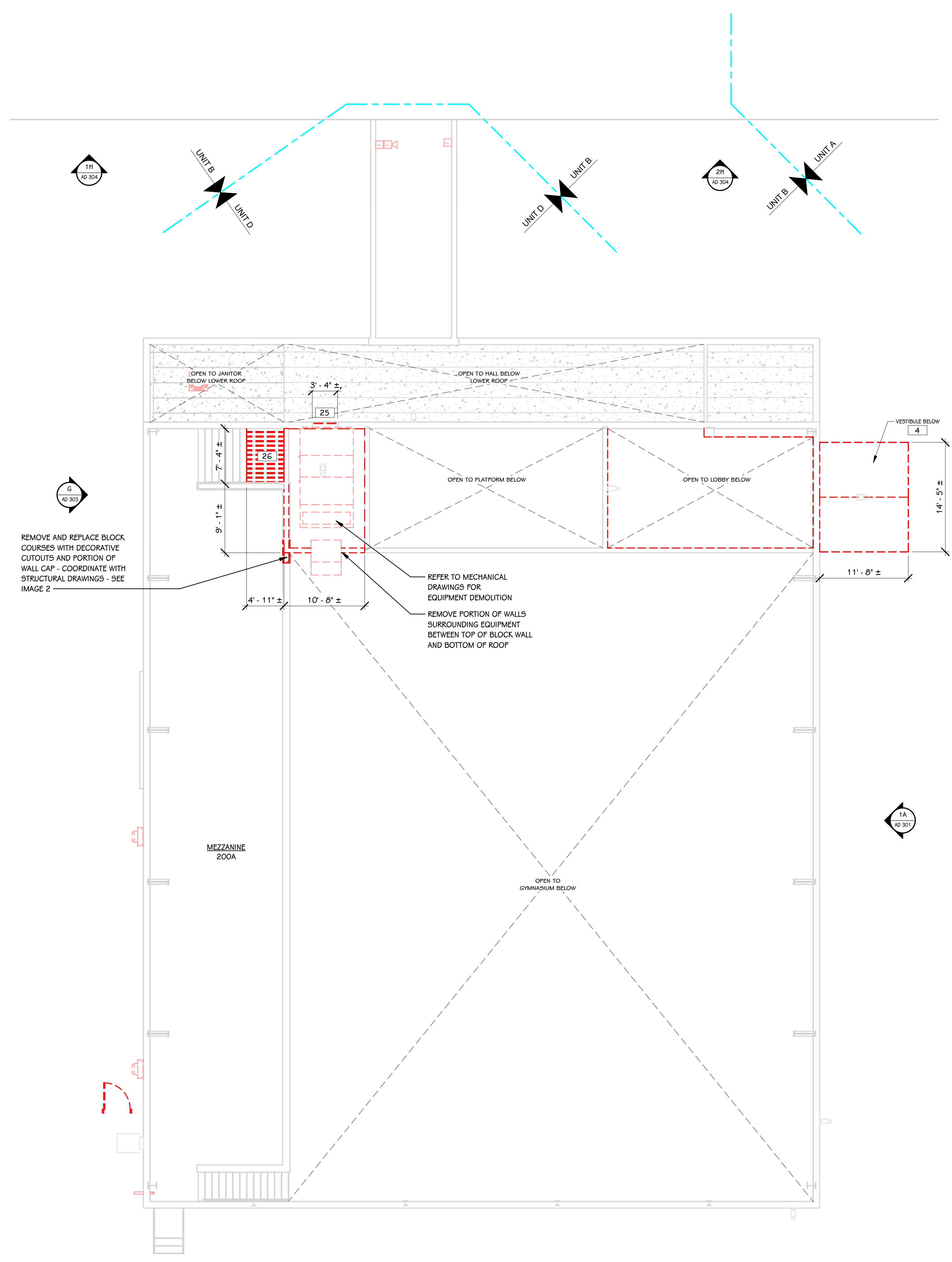


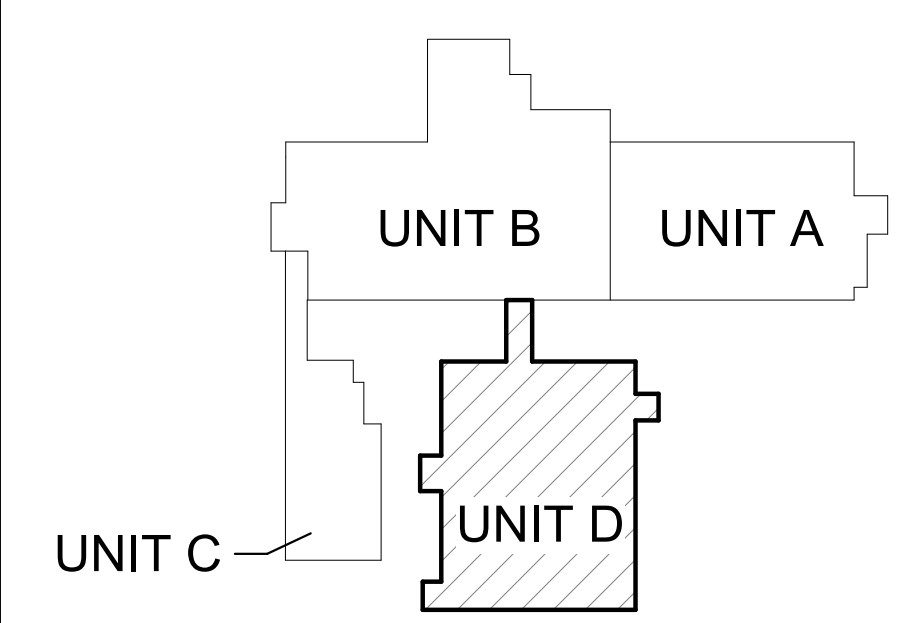
IMAGE 2
DECORATIVE BLOCK



FIRST FLOOR DEMOLITION PLAN - UNIT D
1/8" = 1'-0"

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WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE

ADDENDUM No. 4 SEPTEMBER 4, 2024

ISSUED FOR DATE

PROJECT TITLE
SOUTH WESTNEDGE SCHOOL REMODELING AND SITE IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, Michigan

SHEET TITLE
UPPER FLOOR DEMOLITION PLAN - UNIT D

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
AD 100D
23-606.00

ADDENDUM No. 1 SEPTEMBER 1, 2024

ISSUED FOR _____ DATE _____

PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS

Kalamazoo, Michigan

SHEET TITLE
OVERALL LOWER LEVEL DEMOLITION
PLAN

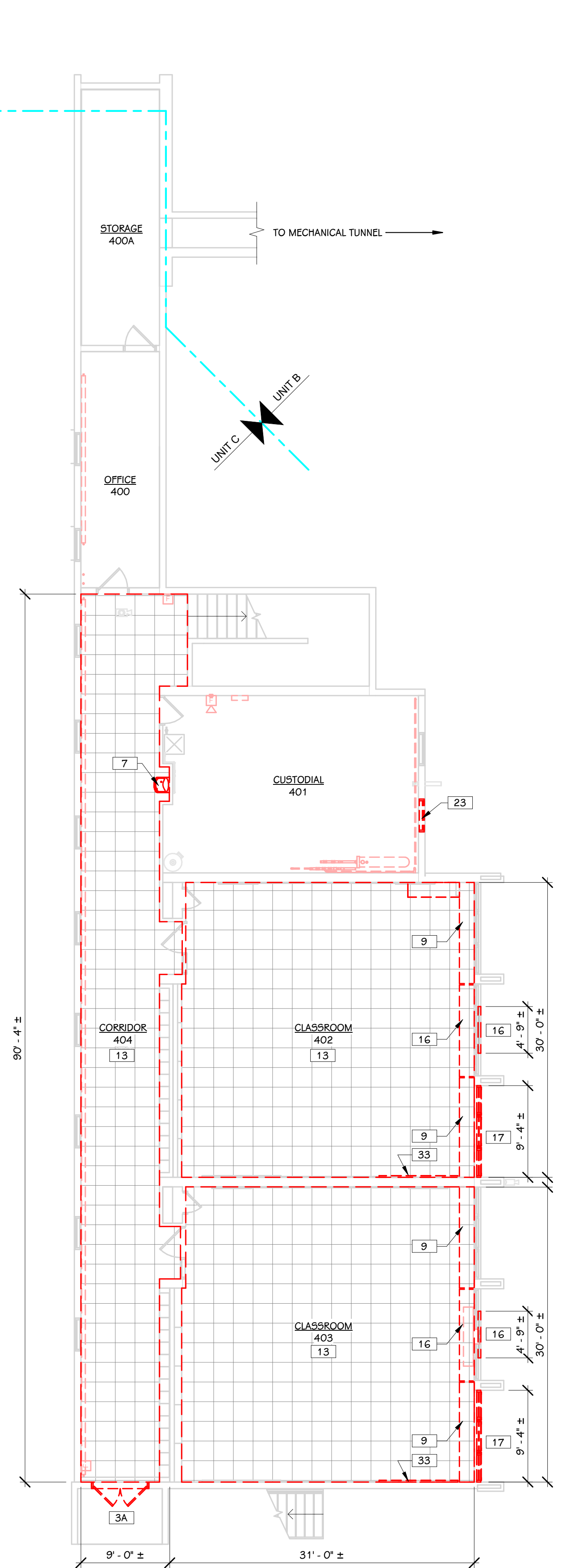
DATE
SEPTEMBER 6, 2024

SHEET NUMBER
AD 101
23-606.00

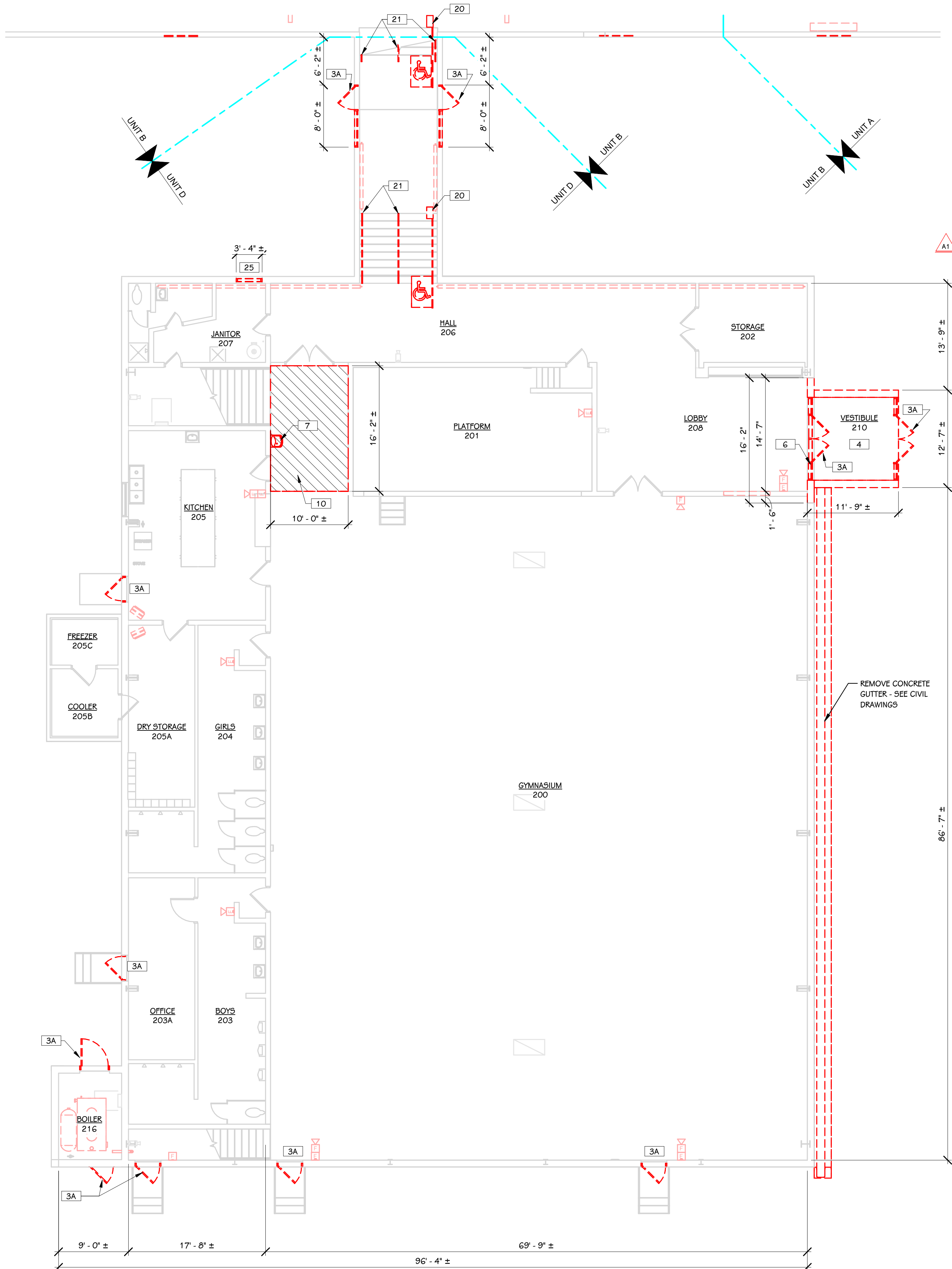
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- 30 REMOVE FLOOR TILE - GRIND FLOOR SMOOTH AS REQUIRED.
- 31 REMOVE PORTION OF CONCRETE SLAB FOR VOLLEYBALL SLEEVE ASSEMBLY - COORDINATE WITH NEW CONSTRUCTION GENERAL FLOOR MARKING NOTES.
- 32 REMOVE EXISTING WINDOW TREATMENT
- 33 REMOVE TACKBOARD.

REMOVE CONCRETE GUTTER - SEE CIVIL DRAWINGS



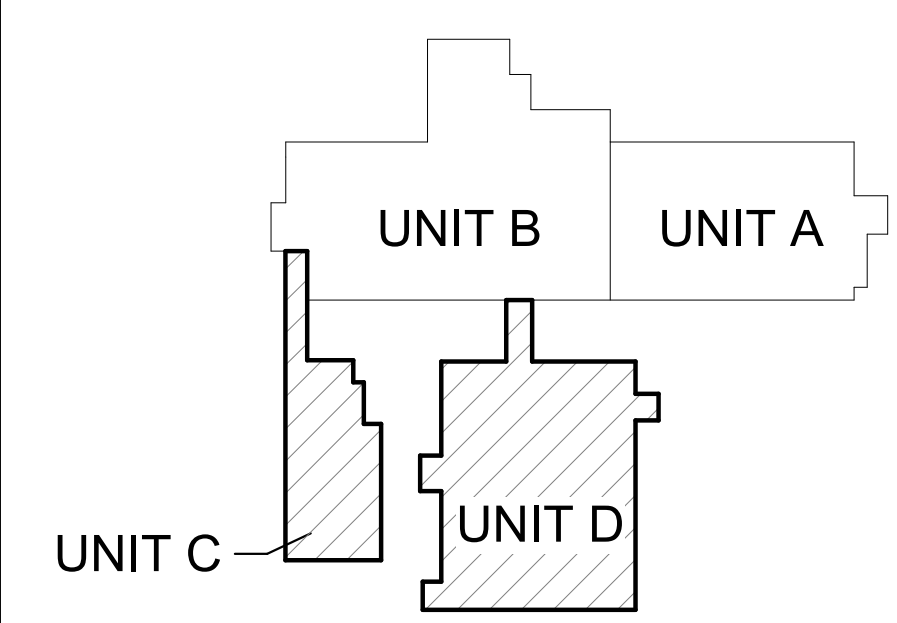
LOWER LEVEL - DEMOLITION PLAN - UNIT C
1/8" = 1'-0"



GYM LEVEL - DEMOLITION PLAN - UNIT D
1/8" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE

KEY - REFLECTED CEILING

	GYPSUM BOARD ON METAL STUD FRAMING
	ACP-1 - LAY-IN ACOUSTICAL TILE AND GRID
	REMOVED AND REINSTALLED EXISTING ACP LAY-IN TILE CEILING GRID AND TILES
	EXISTING ACP LAY-IN ACOUSTICAL TILE CEILING TO REMAIN
	LINEAR LAY-IN ACOUSTICAL TILE GRID
	PAINTED CONCRETE DECK PANELS
	METAL SHEET
	LIGHTING - REFER TO ELECTRICAL LIGHTING PLAN
	MECHANICAL - REFER TO MECHANICAL SHEET METAL PLAN

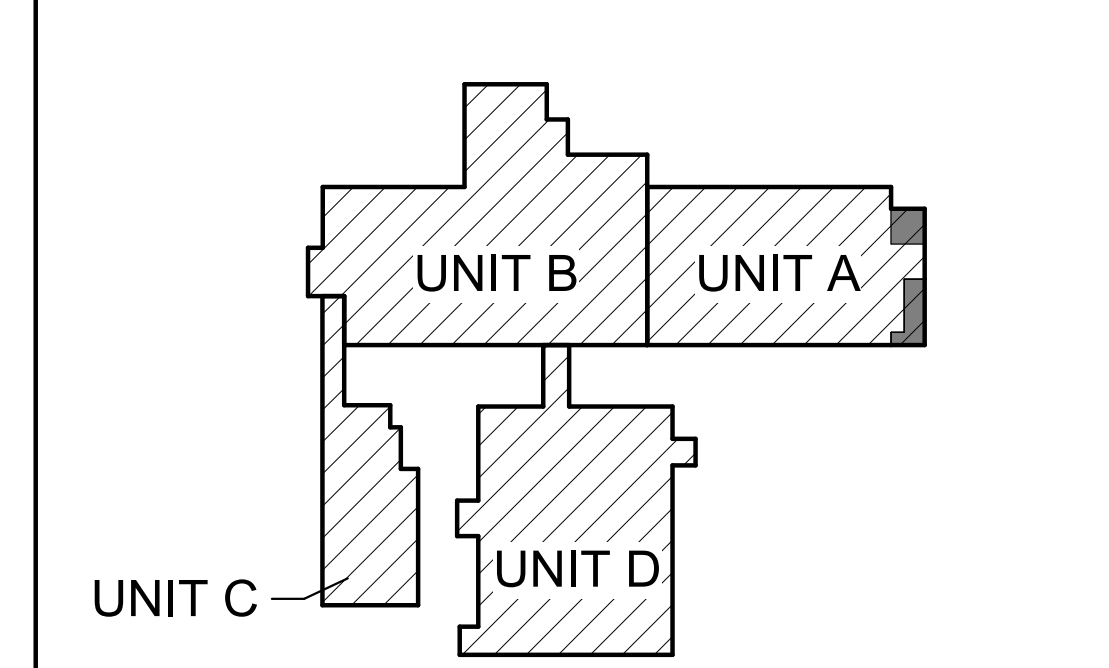
GENERAL NOTES - REFLECTED CEILINGS

- WHERE CEILING TILE IS LESS THAN 3" AT PERIMETER OF ROOM PROVIDE A CUT 2x4 TILE IN LIEU OF FULL 2x2 TILE AND SMALL PIECE OF TILE OR DOUBLE GRID - MATCH 2x2 FOR STYLE AND COLOR.
- AT AREAS OF EXPOSED CEILING PAINT ALL STRUCTURE, DUCTWORK, PIPING, CONDUIT, HANGERS ETC., COORDINATE WITH MECHANICAL, ELECTRICAL AND PLUMBING SPECIFICATIONS. REFER TO THE REFLECTED CEILING PLANS FOR PAINT COLORS.

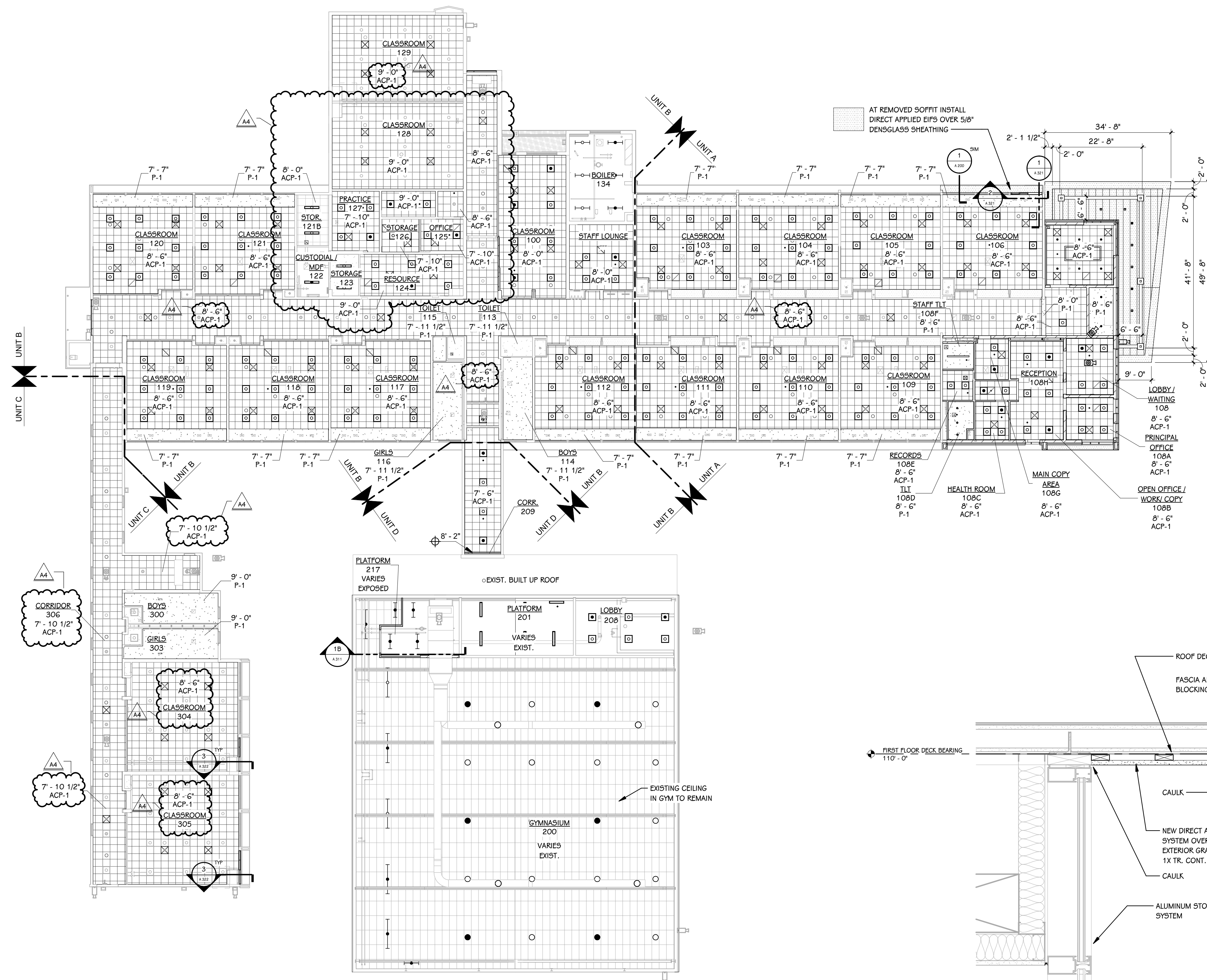
KEYED NOTES - ARCHITECTURAL - NEW CONSTRUCTION

- NOT USED
- COLUMN SURROUND - 4" BRICK VENEER WITH 1" AIR GAP AROUND, AND FASTENED TO STEEL COLUMN - REFER TO STRUCTURAL DRAWINGS.
- EXPANSION JOINT.
- CASEWORK AND COUNTERTOP - REFER TO INTERIORS DRAWINGS.
- INSTALL PLUMBING FIXTURE AT ADA HEIGHT - COORDINATE WITH MECHANICAL DRAWINGS.
- PANELBOARD - REFER TO ELECTRICAL DRAWINGS.
- 4'-0" x 3'-0" PASS-THROUGH - REFER TO WALL SECTIONS.
- WALL INFILL - MATCH EXISTING WALL CONSTRUCTION.
- REMOVE AND SALVAGE PORTION OF ACOUSTICAL LAY-IN CEILING AND FRAME FOR GYPSUM BOARD ON METAL STUD BULKHEAD - COORDINATE WITH INTERIORS ALTERNATES DRAWINGS.
- MECHANICAL LOUVER - PROVIDE WEATHERTIGHT SEAL WITH FLASHING AND BLANK OFF PANELS - COORDINATE WITH MECHANICAL DRAWINGS.
- 1/2" DIAMOND PLATE FLOORING ON STEEL FRAME - COORDINATE WITH STRUCTURAL DRAWINGS.
- STEEL GUARDRAIL AND LADDER - PRIME AND PAINT.
- INSTALL PLUMBING FIXTURE AT STANDARD HEIGHT - COORDINATE WITH MECHANICAL DRAWINGS.
- PROVIDE EXPANSION JOINT BETWEEN SLAB TO REMAIN AND NEW CONCRETE SLAB.
- CASEWORK AND COUNTER - SEE INTERIORS DRAWINGS
- CASEWORK AND COUNTER - REFER TO INTERIORS DRAWINGS - SEE MECHANICAL DRAWINGS FOR PLUMBING FIXTURES.
- GYPSUM BOARD AND METAL STUD WALL CENTERED ABOVE PARTIAL HEIGHT CMU BLOCK WALL AND WALL CAP - COORDINATE WITH EXISTING MASONRY KNEE WALL.
- NEW CONC. SLAB TO MATCH EXIST. THICKNESS OVER V.B. TO BE TIED INTO EXIST. DOWEL ALL SIDES PER STRUCT. DWG'S

WESTNEDGE SCHOOL

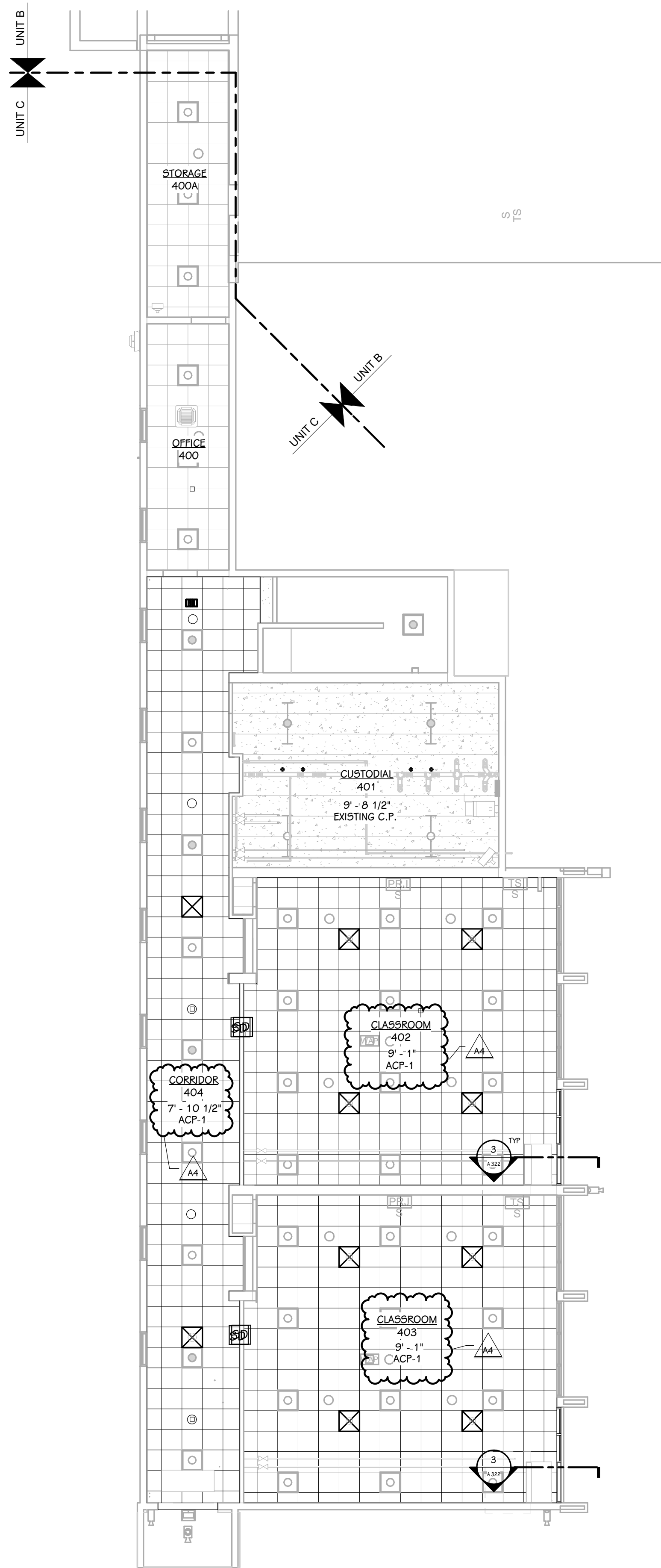


KEY PLAN
SCALE: NO SCALE



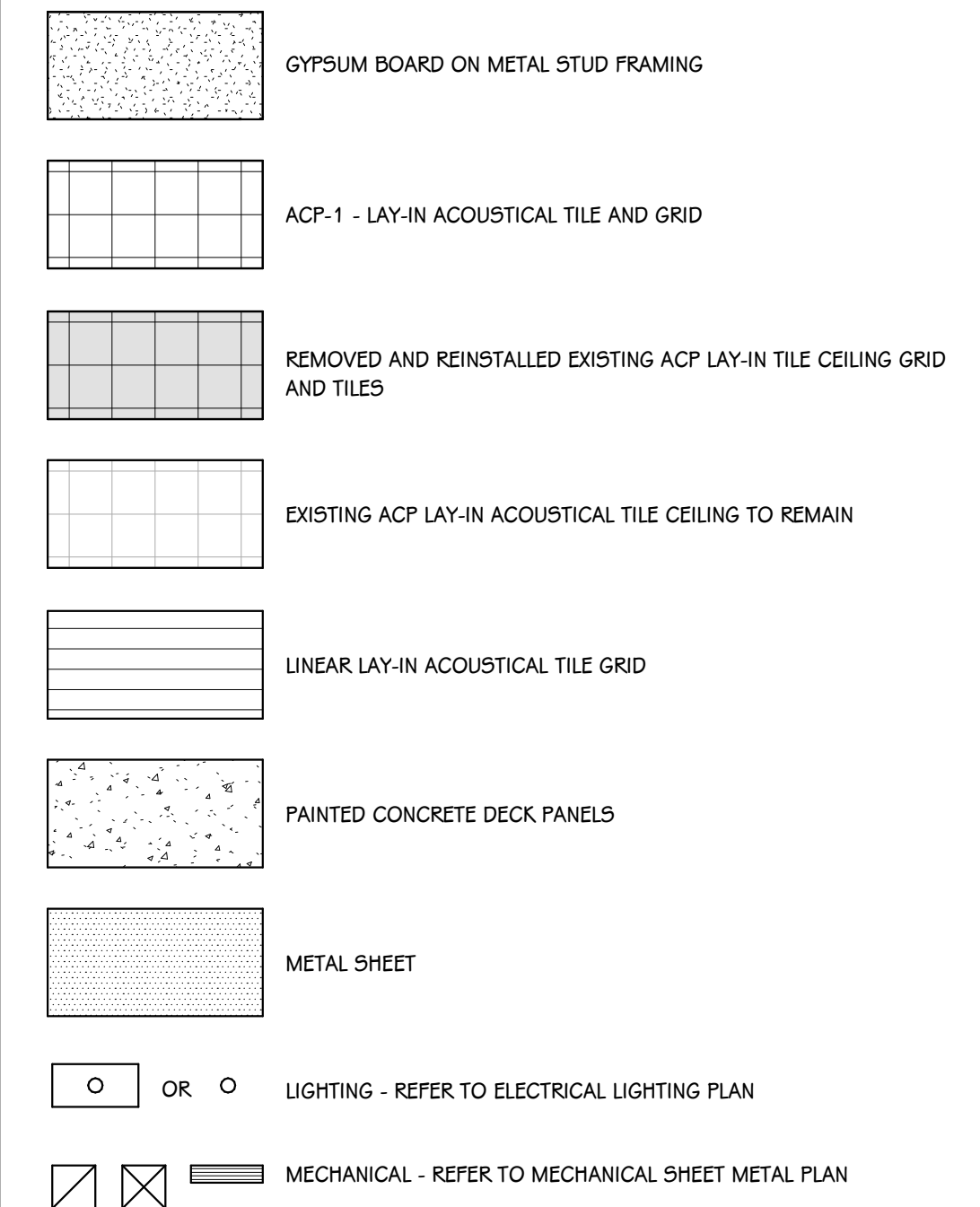
OVERALL FIRST FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"

SOFFIT DETAIL BASE BID
1 1/2" = 1'-0"



LOWER LEVEL - REFLECTED CEILING PLAN - UNIT C
 1/8" = 1'-0"

KEY - REFLECTED CEILING



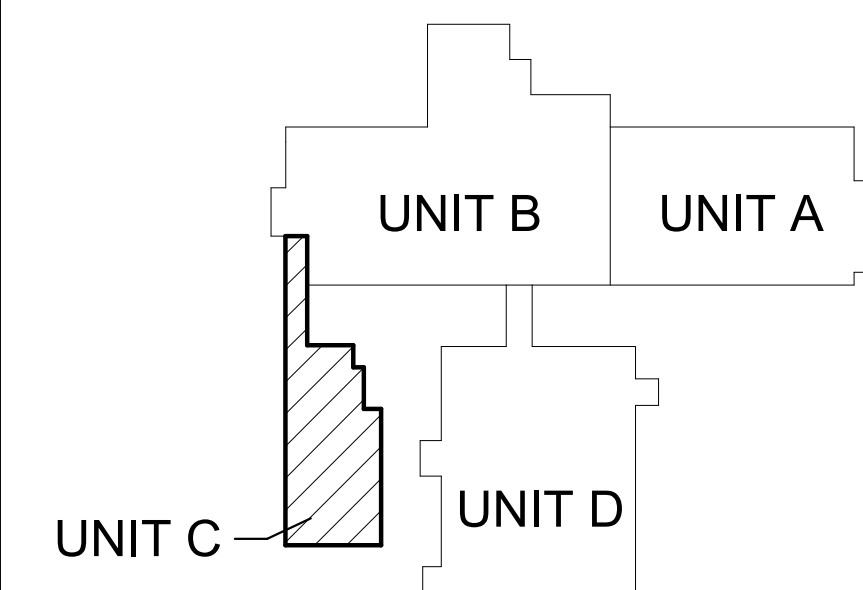
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WESTNEDGE SCHOOL



KEY PLAN
 SCALE: NO SCALE

ADDENDUM No. 4 SEPTEMBER 4, 2024

ISSUED FOR DATE

PROJECT TITLE
**SOUTH WESTNEDGE
 SCHOOL REMODELING
 AND SITE
 IMPROVEMENTS**

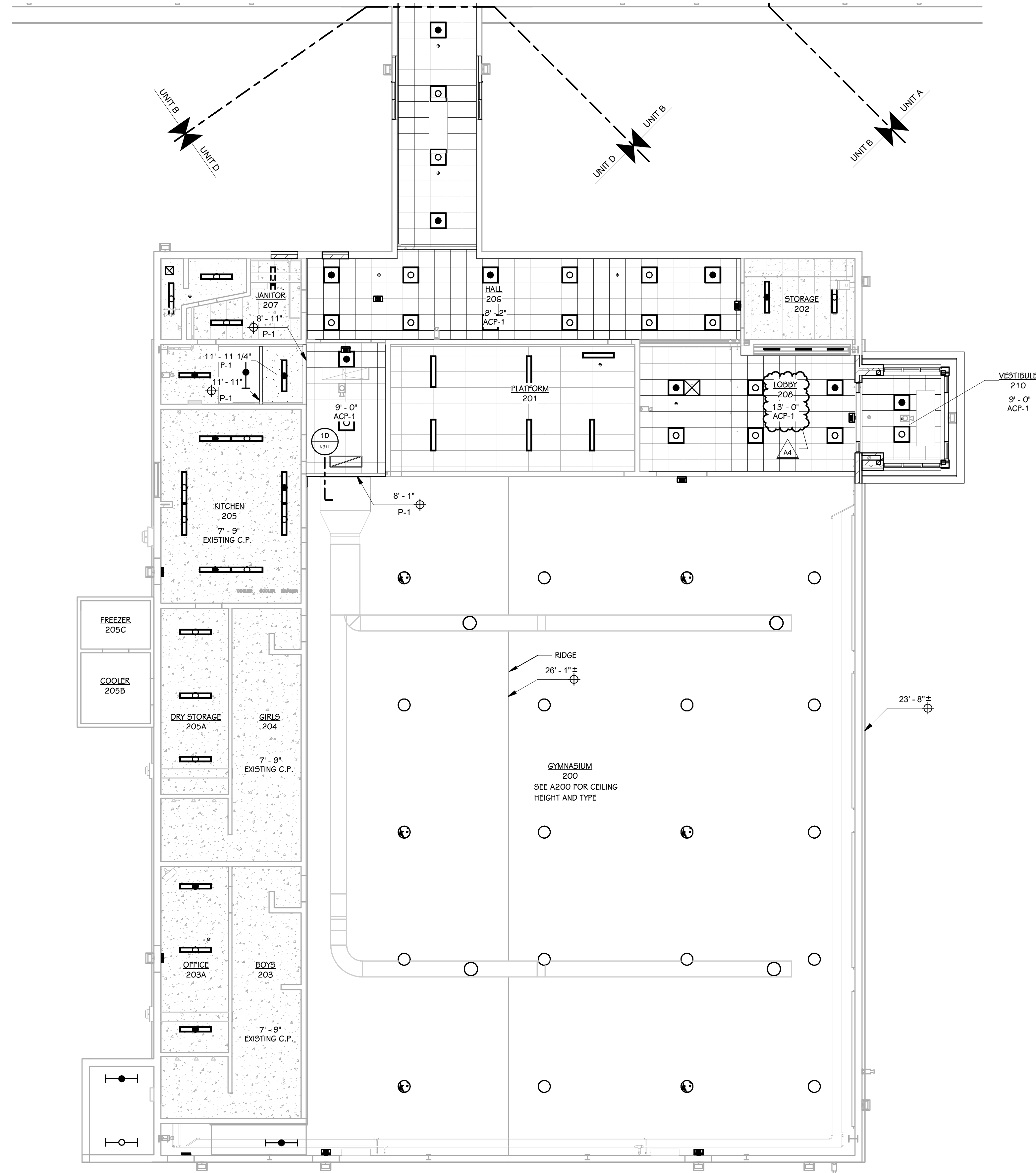
OWNER
**KALAMAZOO PUBLIC
 SCHOOLS**

Kalamazoo, Michigan

SHEET TITLE
**LOWER LEVEL REFLECTED CEILING
 PLAN - UNIT C**

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
A 201C
 23-606.00



LOWER LEVEL - REFLECTED CEILING PLAN - UNIT D
 1/8" = 1'-0"

KEY - REFLECTED CEILING

	GYPSUM BOARD ON METAL STUD FRAMING
	ACP-1 - LAY-IN ACOUSTICAL TILE AND GRID
	REMOVED AND REINSTALLED EXISTING ACP LAY-IN TILE CEILING GRID AND TILES
	EXISTING ACP LAY-IN ACOUSTICAL TILE CEILING TO REMAIN
	LINEAR LAY-IN ACOUSTICAL TILE GRID
	PAINTED CONCRETE DECK PANELS
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	LIGHTING - REFER TO ELECTRICAL LIGHTING PLAN
	MECHANICAL - REFER TO MECHANICAL SHEET METAL PLAN

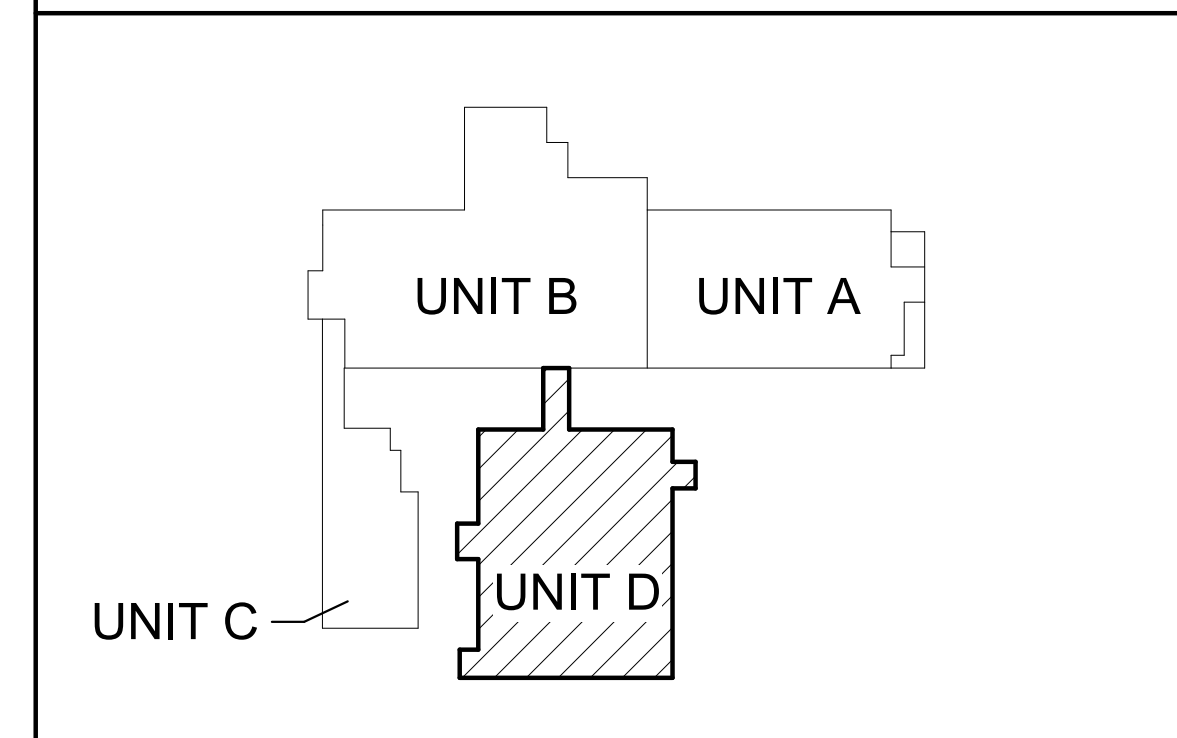
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WESTNEDGE SCHOOL



KEY PLAN
 SCALE: NO SCALE

ADDENDUM No. 4 SEPTEMBER 4, 2024

ISSUED FOR _____ DATE _____

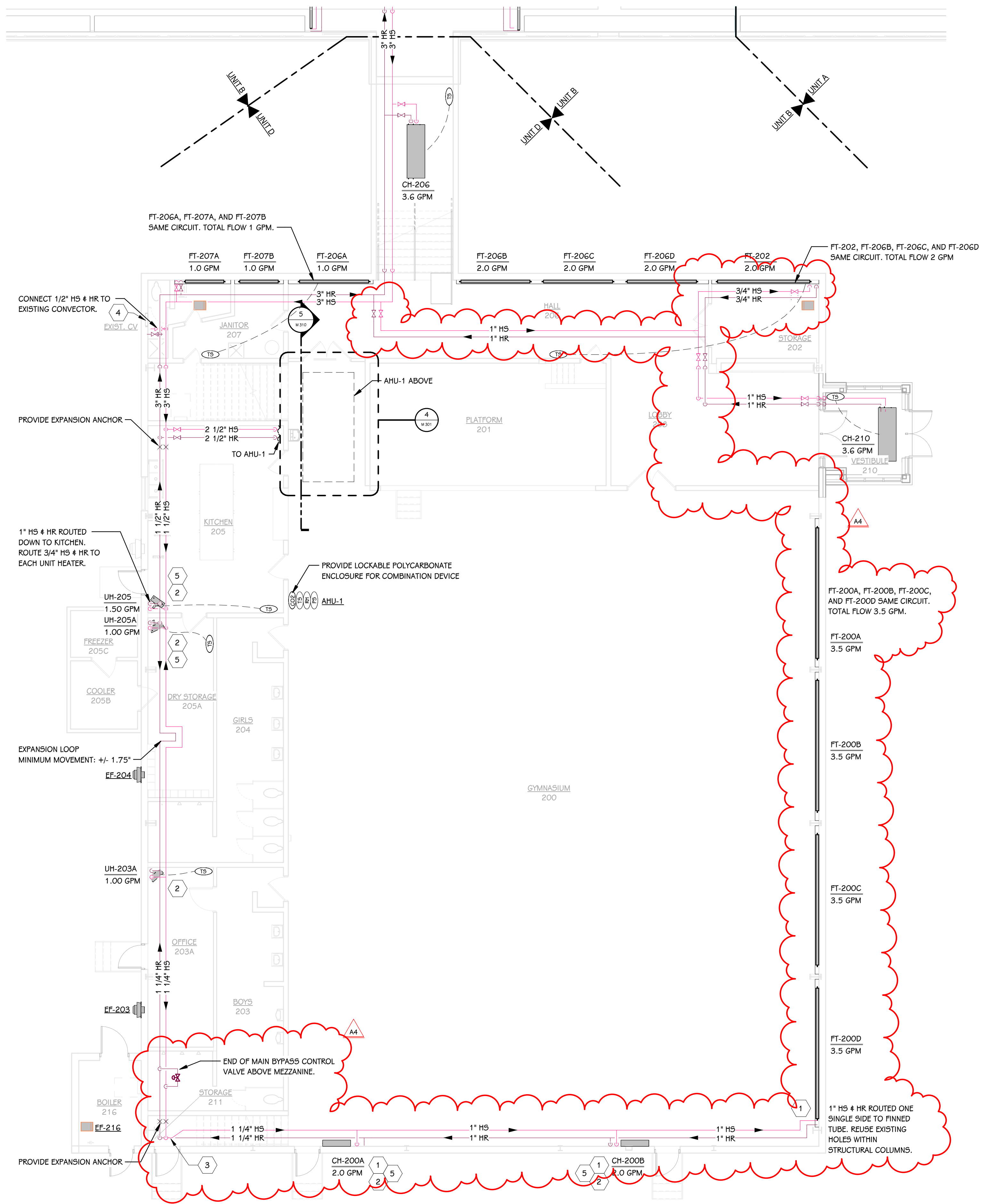
PROJECT TITLE
**SOUTH WESTNEDGE
 SCHOOL REMODELING
 AND SITE
 IMPROVEMENTS**

OWNER
**KALAMAZOO PUBLIC
 SCHOOLS**
 Kalamazoo, Michigan

SHEET TITLE
**LOWER LEVEL REFLECTED CEILING
 PLAN - UNIT D**

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
A 201D
 23-606.00

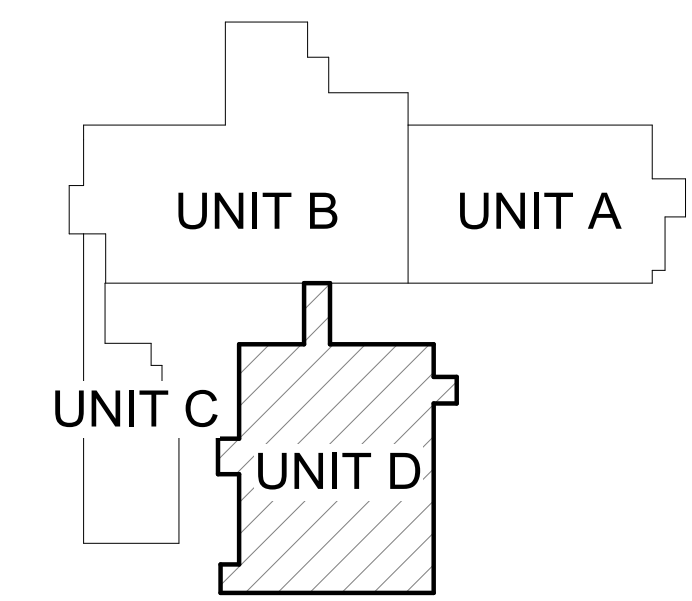


FIRST FLOOR HVAC PIPING PLAN - UNIT D
 1/8" = 1'-0"

- KEYED NOTES - MECHANICAL - HVAC PIPING**
1. INSTALL SHUTOFF VALVES ON VERTICAL PIPES.
 2. ROUTE 3/4" HR & HS TO UNIT.
 3. PIPING SHOWN OFF THE WALL FOR CLARITY. PIPING TO BE INSTALLED STACKED ALONG THE WALL.
 4. PROVIDE NEW TEMPERATURE CONTROLS INCLUDING FIELD CONTROLLER, SENSORS, DAMPERS, CONTROL VALVES, AND ACTUATORS FOR EXISTING EQUIPMENT.
 5. ENCLOSE EXPOSED VERTICAL PIPING WITH PIPE SHROUD.

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
 SCALE: NO SCALE

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ADDENDUM #4 10-04-2024
 ISSUED FOR DATE

PROJECT TITLE
SOUTH WESTNEDGE SCHOOL REMODELING AND SITE IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC SCHOOLS
 Kalamazoo, Michigan

SHEET TITLE
FIRST FLOOR HVAC PIPING PLAN - UNIT D

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
M 201D
 23-606.00

UNIT VENTILATOR - HOT WATER / DX **BASED ON "AIREDALE"**

MARK	MODEL	TYPE	CABINET		S.A. FAN				HOT WATER COIL				DX COOLING COIL				REMARKS		
			RA INLET	OA LOUVER	SUPPLY CFM	MIN O.A. CFM	MAX O.A. CFM	HP	VOLTAGE	MBH	GPM	EAT	WPD	ROWS	TBMH	SMBH		EAT (DB/WB)	LAT (DB/WB)
VUV-128	CMD48	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1500	90	400	1	208/3/60	80.9	4.8	70	2	2	45.4	33.9	80.0/67.0	59.6/57.5	1,2,3
VUV-129	CMD48	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1500	90	400	1	208/3/60	80.9	4.8	70	2	2	45.4	33.9	80.0/67.0	59.6/57.5	1,2,3
VUV-304	CMD60	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1800	100	450	1	208/3/60	97.8	5.8	70	2.8	2	55.9	40.9	80.0/67.0	59.6/57.2	1,2,3
VUV-305	CMD60	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1800	100	450	1	208/3/60	97.8	5.8	70	2.8	2	55.9	40.9	80.0/67.0	59.6/57.2	1,2,3
VUV-402	CMD48	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1500	100	450	1	208/3/60	84.1	5	70	2.1	2	45.4	33.9	80.0/67.0	59.6/57.5	1,2,3
VUV-403	CMD36	PACKAGED, VERTICAL	FRONT/SIDE	ALUMINUM, REAR	1500	100	450	1	208/3/60	84.1	5	70	2.1	2	45.4	33.9	80.0/67.0	59.6/57.5	1,2,3

- NOTES:**
- PROVIDE 6" FALSE BACK AND TRIM PIECES AS NECESSARY TO MATCH EXISTING STRUCTURE.
 - PROVIDE WITH POWERED EXHAUST/ECONOMIZER.
 - BASED ON 130°F EWT.

TERMINAL UNITS **BASED ON PRICE**

MARK	MIN CFM	MAX CFM	TYPE	NC (MAX)	SP DROP (MAX)	INLET SIZE	REHEAT COIL				REMARKS
							MBH	LAT (F)	W.P.D.	GPM	
TU-1	100	300	SDV	25	0.3"	06	13.1	95	5' MAX	1.07	1
TU-2	145	450	SDV	25	0.3"	10	19.6	95	5' MAX	1.23	1
TU-3	300	1,000	SDV	25	0.3"	14	43.4	1	95	5' MAX	2.72
TU-4	75	250	SDV	25	0.3"	06	10.9	95	5' MAX	0.77	1

- NOTES:**
- REHEAT COIL SIZING BASED ON 130°F EWT, 110°F LWT, W/ BOX AT MAXIMUM FLOW.

CABINET HEATERS - WATER **BASED ON RITTLING**

MARK	MODEL	TYPE	SIZE	AIRFLOW (CFM)	HEATING COIL			MOTOR DATA			REMARKS
					CAPACITY (MBH)	FLOW (GPM)	MAX WPD (FT)	HP	VOLTAGE	PHASE	
CH-135A	RFRC-420	CEILING, RECESSED	08	440	19.1	2.0	2.00	0.067	120	1	1
CH-135B	RFRC-420	CEILING, RECESSED	08	440	19.1	2.0	2.00	0.067	120	1	1
CH-146	RFRC-420	CEILING, RECESSED	10	720	35.3	3.6	10.00	0.067	120	1	1
CH-200A	RW-280	WALL	08	440	19.1	2.0	2.00	0.067	120	1	1
CH-200B	RW-280	WALL	08	440	19.1	2.0	2.00	0.067	120	1	1
CH-206	RFRC-420	CEILING, RECESSED	10	720	35.3	3.6	10.00	0.067	120	1	1
CH-210	RFRC-420	CEILING, RECESSED	10	720	35.3	3.6	10.00	0.067	120	1	1
CH-306A	RFRC-420	CEILING, RECESSED	08	440	19.1	2.0	2.00	0.067	120	1	1
CH-306B	RFRC-420	CEILING, RECESSED	10	720	35.3	3.6	10.00	0.067	120	1	1
CH-404	RFRC-420	CEILING, RECESSED	08	440	19.1	2.0	2.00	0.067	120	1	1

- NOTES:**
- BASED ON 130°F EWT, 20°F ΔT, 60°F EAT.

UNIT HEATER - HOT WATER **BASED ON RITTLING**

MARK	MODEL	TYPE	CFM	MBH	GPM	WPD	HP	FAN SPEED	VOLTAGE	REMARKS
UH-134	RV-42	VERTICAL	2,500	53.8	5.4	0.2	1/4	HIGH	120/1/60	1
UH-203A	RH-47	HORIZONTAL	565	11.4	1.1	0.1	1/15	LOW	120/1/60	1
UH-205	RH-63	HORIZONTAL	870	15.7	1.6	0.1	1/10	LOW	120/1/60	1
UH-205A	RH-47	HORIZONTAL	565	11.4	1.1	0.1	1/15	LOW	120/1/60	1
UH-400A	RH-18	HORIZONTAL	565	13.4	1.3	0.1	1/15	LOW	120/1/60	1
UH-401	RH-33	HORIZONTAL	1,040	24.6	2.5	0.1	1/10	LOW	120/1/60	1

- NOTES:**
- BASED ON 130°F EWT, 20°F ΔT, 60°F EAT.

EXHAUST FANS **BASED ON GREENHECK**

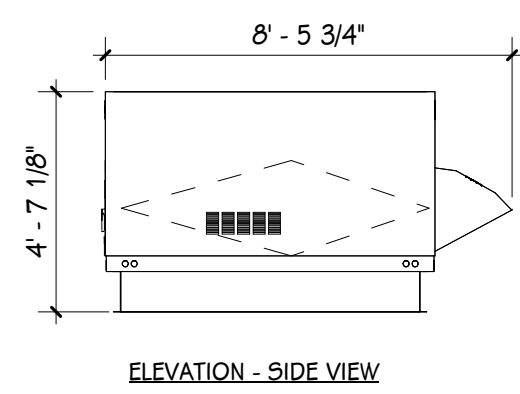
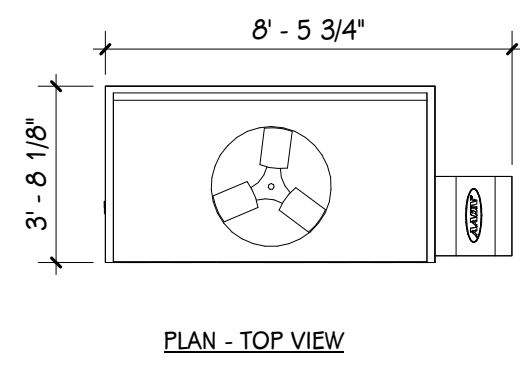
MARK	MODEL	TYPE	AIR FLOW (CFM)	ESP (IN WC)	SONES	MOTOR DATA					REMARKS	
						EC MOTOR	NOMINAL HP	BRAKE HP	RPM	VOLTAGE		PHASE
EF-106B	G-095-VG	ROOF, CENTRIFUGAL	350	0.50	7.4	Yes	0.17	0.07	1366	120	1	1,2,3
EF-122	G-080-VG	ROOF, CENTRIFUGAL	290	0.50	8.2	Yes	0.1	0.07	1661	120	1	1,2,3
EF-138	CSP-A390-VG	IN-LINE	75	0.50	2.1	Yes	0.1	0.03	1288	120	1	INTEGRAL BACKDRAFT DAMPER
EF-139	G-130-VG	ROOF, CENTRIFUGAL	1550	0.50	9.0	Yes	0.75	0.26	1324	208	1	1,2,3
EF-200A	BSQ-200	ROOF, CENTRIFUGAL	4000	0.30	12.9	Yes	0.75	0.74	836	480	3	1,2,3
EF-200B	BSQ-200	ROOF, CENTRIFUGAL	4000	0.30	12.9	Yes	0.75	0.74	836	480	3	1,2,3
EF-202	CSP-A510-VG	IN-LINE	200	0.50	2.2	Yes	0.1	0.05	1257	120	1	INTEGRAL BACKDRAFT DAMPER
EF-203	CUE-090-VG	WALL, CENTRIFUGAL	500	0.50	7.5	Yes	0.1	0.09	1564	120	1	1,2,3
EF-204	CUE-090-VG	WALL, CENTRIFUGAL	500	0.50	7.5	Yes	0.1	0.09	1564	120	1	1,2,3
EF-207	CSP-A390-VG	IN-LINE	200	0.50	2.2	Yes	0.1	0.05	1257	120	1	INTEGRAL BACKDRAFT DAMPER
EF-216	CSP-A390-VG	IN-LINE	100	0.50	2.0	Yes	0.1	0.03	1244	120	1	INTEGRAL BACKDRAFT DAMPER
EF-301	G-130-VG	ROOF, CENTRIFUGAL	1100	0.50	8.2	Yes	0.75	0.15	1098	208	1	1,2,3
EF-400A	CUE-080-VG	WALL, CENTRIFUGAL	150	0.50	7.7	Yes	0.1	0.06	1364	120	1	INTEGRAL BACKDRAFT DAMPER
EF-401	CSP-A510-VG	IN-LINE	460	0.50	2.0	Yes	0.17	0.08	1330	120	1	1,2,3

- NOTES:**
- INTERLOCK EXHAUST FAN WITH ASSOCIATED DAMPER.
 - PROVIDE WITH VARI-GREEN MOTOR FOR 0-10V SPEED CONTROL BY BAS.
 - PROVIDE WITH THERMALLY ISOLATED MOTORIZED DAMPER.

GRILLES, REGISTERS, & DIFFUSERS **BASED ON PRICE**

MARK	PANEL SIZE	FACE SIZE	NECK SIZE	MODEL	CFM RANGE	VCD	THROW	MATERIAL	FINISH	INSTALLATION	REMARKS
SA-1	24"x24"	24"x24"	10" Ø	ASDA	210-870	NO	3-4-8	ALUMINUM	WHITE	LAY-IN	
SA-2	24"x24"	24"x24"	8" Ø	ASDA	140-558	NO	2-3-7	ALUMINUM	WHITE	LAY-IN	
SA-3	24"x24"	24"x24"	6" Ø	ASDA	78-314	NO	2-2-5	ALUMINUM	WHITE	LAY-IN	
SA-4	-	36" Ø	20" Ø	RCDE	875-3500	NO	15-24-37	ALUMINUM	CLR ANODIZED	DUCT	
SA-5	24"x24"	24x24	12" Ø	ASDA	314-1256	NO	3-5-10	ALUMINUM	WHITE	LAY-IN	
SA-6	12"x12"	12"x12"	4"	ASDA	50	NO	2-3-5	ALUMINUM	WHITE	LAY-IN	
RA-1	24"x24"	24"x24"	22x22	80	0-4000	NO	-	ALUMINUM	WHITE	LAY-IN	
RA-2	48"x16"	48"x16"	80	0-5000	NO	-	-	ALUMINUM	WHITE	LAY-IN	
RA-3	60"x16"	60"x16"	96	0-5000	YES	-	-	ALUMINUM	WHITE	LAY-IN	
EA-1	-	14"x14"	12"x12"	80	0-500	NO	-	ALUMINUM	WHITE	SURFACE	
EA-2	-	14"x14"	12"x12"	80	0-500	NO	-	ALUMINUM	WHITE	SURFACE	
EA-3	8"x4"	8"x4"	8"x4"	630	0-100	NO	-	ALUMINUM	WHITE	SURFACE	1

- NOTES:**
- 45° DEFLECTION.



ROOFTOP UNIT (RTU-1)

AREA SERVED: OFFICE ADDITION
TYPE: ROOFTOP SINGLE ZONE, TWO STAGE VOLUME, DOWNWARD DISCHARGE
MANUFACTURER: BASED ON "AAON" MODEL RQA04
WEIGHT: 925 LB
OUTSIDE AIR: MINIMUM 75 CFM, MAXIMUM 200 CFM
LOCATION: ROOFTOP
UNIT MOUNTING: 14' FULL PERIMETER ROOF CURB
FILTER SECTION: 2" PLEATED MERV 13 FILTERS

HEATING SECTION: 100 MBH INPUT, 81 MBH OUTPUT, EAT (DBWB) 57.6 °F / 44.2 °F, LAT (DBWB) 107.3 °F / 64.4 °F, MODULATING NATURAL GAS - TEMP. CONTROL, 10:1 TURNDOWN, STAINLESS STEEL HEAT EXCHANGER.

COOLING SECTION: EER 10.6, 47.1 TMBH, 38.0 SMBH, EAT (DBWB) 77.7 °F / 64.0 °F, LAT (DBWB) 54.1 °F / 53.0 °F, DX COOLING, TWO-STAGE STANDARD COMPRESSOR.

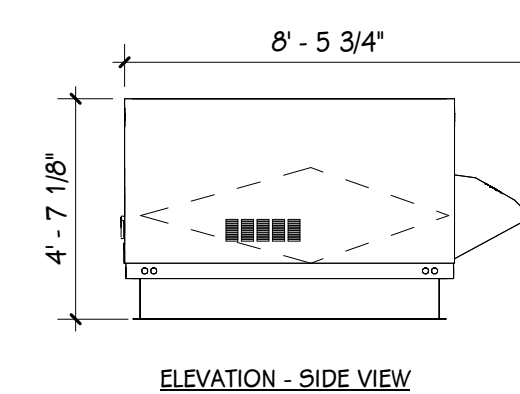
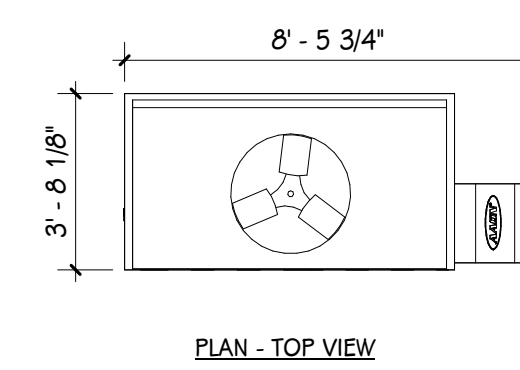
SUPPLY FAN: 1 FAN @ 2 HP, 1400 CFM, 1499 RPM, PREMIUM EFFICIENCY FOR USE WITH VFD, VFD PROVIDED BY MANUFACTURER.

COMPRESSOR: R-454B, 1 CIRCUIT, 11.9 RLA, 114 OZ SYSTEM CHARGE.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY NON-FUSED DISCONNECT W/ LOCKING HANDLE, 208/3/60, 25 MCA, 35 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE, PHASE & BROWN OUIT PROTECTION.

OPTIONS: RETURN AIR CO2, BI-POLAR IONIZATION (GPS AIR MODEL *GPS-FC24-AC*), MODULATING ULTRA LOW LEAK DRY-BULB ECONOMIZER, BAROMETRIC RELIEF, CONDENSER COIL HAIL GUARD ASSEMBLY, DDC READY FOR FIELD INSTALLED CONTROLS.

TYPE	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
DISCHARGE	81	81	83	74	68	65	62	56
RETURN	79	74	73	65	63	61	54	46



ROOFTOP UNIT (RTU-2)

AREA SERVED: OFFICES, TEACHERS' SPACES
TYPE: ROOFTOP, VARIABLE VOLUME, SIDE DISCHARGE
MANUFACTURER: BASED ON "AAON" MODEL RQA05
WEIGHT: 1038 LB
OUTSIDE AIR: MINIMUM 185 CFM, MAXIMUM 750 CFM
LOCATION: ROOFTOP
UNIT MOUNTING: 14' FULL PERIMETER ROOF CURB
FILTER SECTION: 2" PLEATED MERV 13 FILTERS

HEATING SECTION: 160 MBH INPUT, 129.6 MBH OUTPUT, EAT (DBWB) 38.3 °F / 31.6 °F, LAT (DBWB) 98.5 °F / 60.0 °F, MODULATING NATURAL GAS - TEMP. CONTROL, 10:1 TURNDOWN, STAINLESS STEEL HEAT EXCHANGER.

COOLING SECTION: EER 10.6, 66.3 TMBH, 55.3 SMBH, EAT (DBWB) 82.5 °F / 67.3 °F, LAT (DBWB) 58.7 °F / 57.2 °F, DX COOLING, TWO-STAGE STANDARD COMPRESSOR.

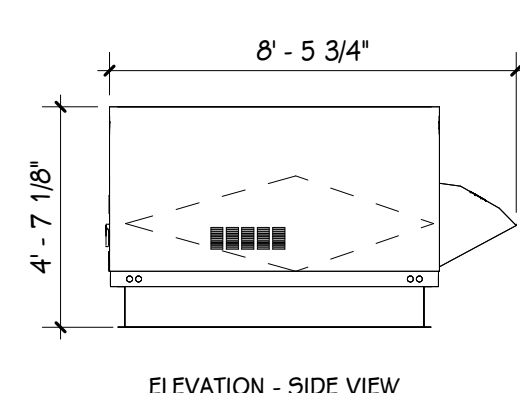
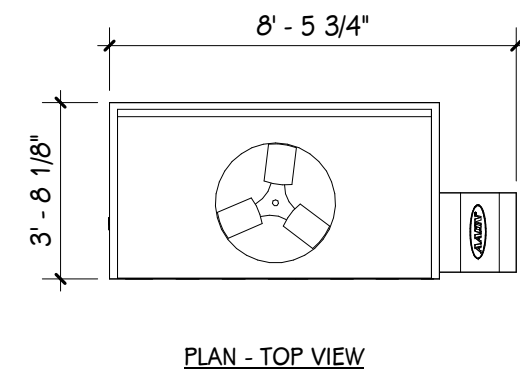
SUPPLY FAN: 1 FAN @ 2 HP, 2000 CFM, 1739 RPM, PREMIUM EFFICIENCY FOR USE WITH VFD, VFD PROVIDED BY MANUFACTURER.

COMPRESSOR: R-454B, 1 CIRCUIT, 13.8 RLA, 132 OZ SYSTEM CHARGE.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY NON-FUSED DISCONNECT W/ LOCKING HANDLE, 208/3/60, 28 MCA, 40 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE, PHASE & BROWN OUIT PROTECTION.

OPTIONS: RETURN AIR CO2, BI-POLAR IONIZATION (GPS AIR MODEL *GPS-FC24-AC*), MODULATING ULTRA LOW LEAK DRY-BULB ECONOMIZER, BAROMETRIC RELIEF, CONDENSER COIL HAIL GUARD ASSEMBLY, DDC READY FOR FIELD INSTALLED CONTROLS.

TYPE	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
DISCHARGE	86	83	87	79	71	69	66	60
RETURN	82	74	75	68	65	63	57	49



ROOFTOP UNIT (RTU-103, 104, 106, 109, 110, 112, 118, 119, 121)

AREA SERVED: CLASSROOM
TYPE: ROOFTOP SINGLE ZONE, TWO STAGE VOLUME, DOWNWARD DISCHARGE
MANUFACTURER: BASED ON "AAON" MODEL RQA04
WEIGHT: 887 LB
OUTSIDE AIR: MINIMUM 90 CFM, MAXIMUM 410 CFM
LOCATION: ROOFTOP
UNIT MOUNTING: 14' FULL PERIMETER ROOF CURB
FILTER SECTION: 2" PLEATED MERV 13 FILTERS

HEATING SECTION: 100 MBH INPUT, 81.0 MBH OUTPUT, EAT (DBWB) 38.9 °F / 31.8 °F, LAT (DBWB) 106.8 °F / 63.0 °F, MODULATING NATURAL GAS - TEMP. CONTROL, 10:1 TURNDOWN, STAINLESS STEEL HEAT EXCHANGER.

COOLING SECTION: EER 11.6, 47 TMBH, 33.9 SMBH, EAT (DBWB) 82.5 °F / 67.3 °F, LAT (DBWB) 53.1 °F / 53.4 °F, DX COOLING, TWO-STAGE STANDARD COMPRESSOR.

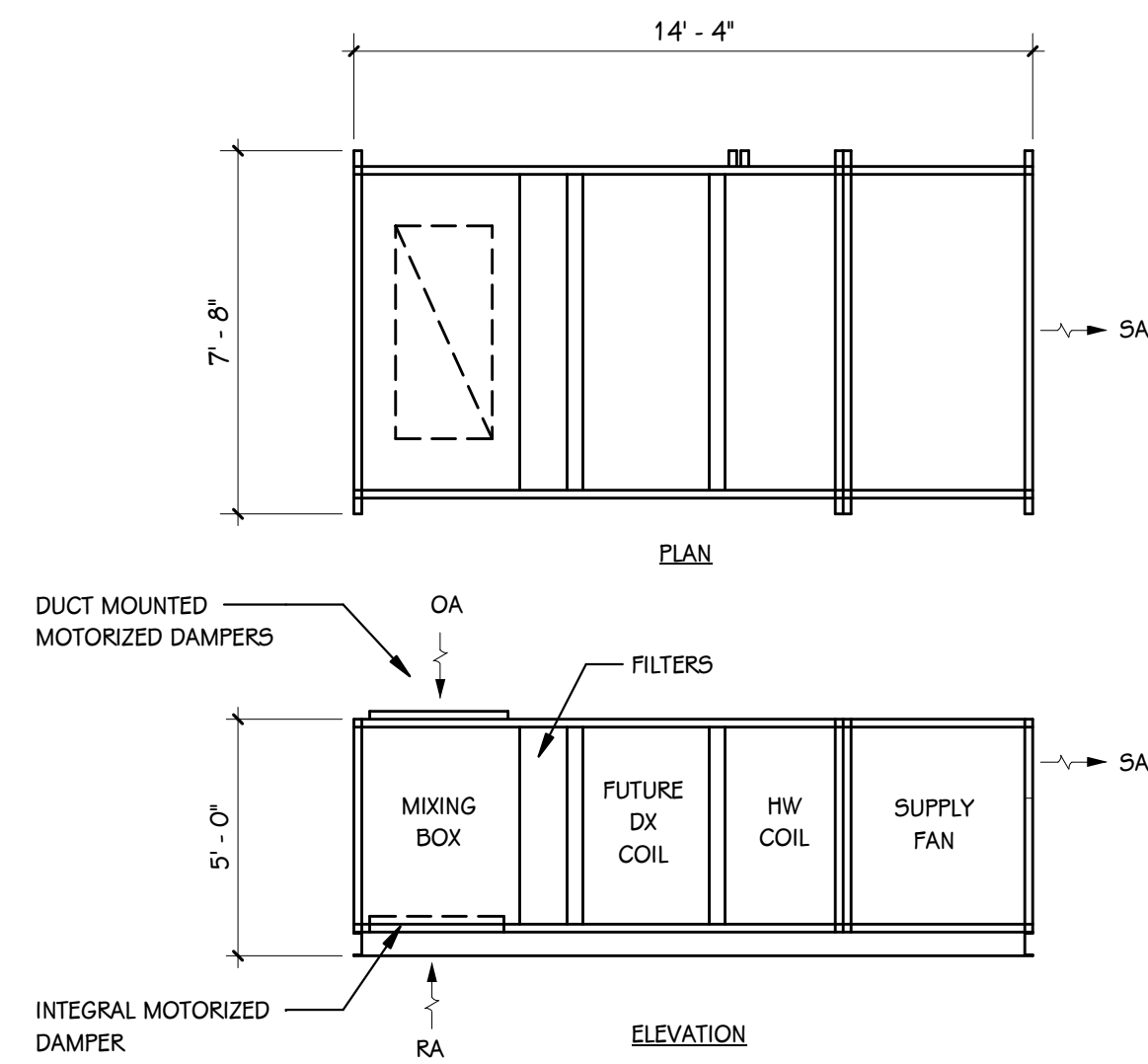
SUPPLY FAN: 1 FAN @ 1 HP, 1100 CFM, 1529 RPM, PREMIUM EFFICIENCY FOR USE WITH VFD, VFD PROVIDED BY MANUFACTURER.

COMPRESSOR: R-454B, 1 CIRCUIT, 11.9 RLA, 114 OZ SYSTEM CHARGE.

ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH FACTORY NON-FUSED DISCONNECT W/ LOCKING HANDLE, 208/3/60, 25 MCA, 35 MOCP, AND DEDICATED 120/1/60 POWER CONNECTION FOR CONVENIENCE RECEPTACLE, PHASE & BROWN OUIT PROTECTION.

OPTIONS: RETURN AIR CO2, BI-POLAR IONIZATION (GPS AIR MODEL *GPS-FC24-AC*), MODULATING ULTRA LOW LEAK DRY-BULB ECONOMIZER, BAROMETRIC RELIEF, CONDENSER COIL HAIL GUARD ASSEMBLY, DDC READY FOR FIELD INSTALLED CONTROLS.

TYPE	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz</
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AIR HANDLING UNIT (AHU-1)

AREA SERVED: GYMNASIUM
 TYPE: SINGLE ZONE VARIABLE VOLUME, HOT WATER HEATING
 MANUFACTURER: BASED ON DAIKIN "VISION" MODEL CAH023GDGM
 WEIGHT: 3,318 LB.
 OUTSIDE AIR: MINIMUM 1,775 CFM, MAXIMUM 3,750 CFM
 LOCATION: GYMNASIUM MEZZANINE
 UNIT MOUNTING: DIAMOND PLATE PLATFORM AND BEAM SYSTEM

FILTER SECTION: 2" PLEATED MERV 13 FILTERS, QUANTITY OF 8

DX COOLING: MODULE AND DRAIN PAN INCLUDED FOR FUTURE DX COOLING.

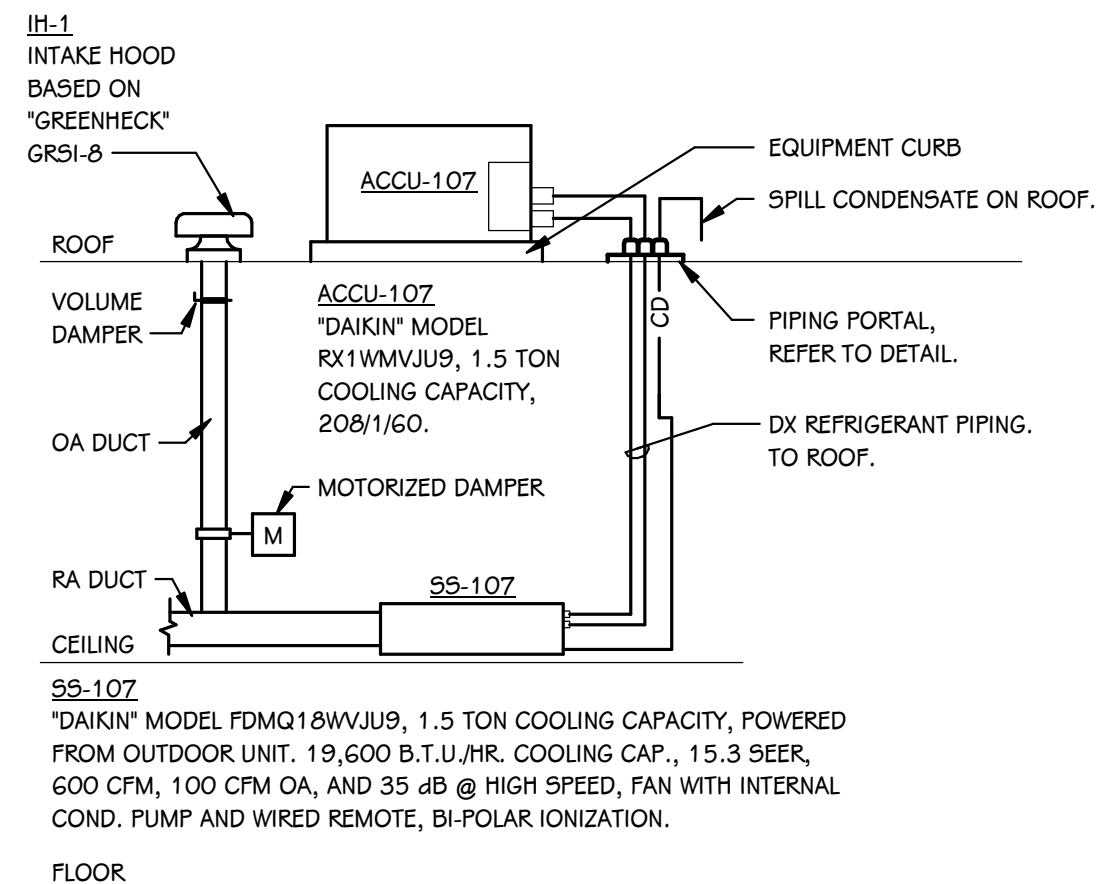
HEATING SECTION: 671.1 MBH, 38.9" EAT/100.3" LWT, 130" EWT/110" LWT, 67 GPM @ 5' FT HEAD

SUPPLY FAN: 1 FAN @ 10 HP, 10,000 CFM @ 3.11 TSP, 1596 RPM, PREMIUM EFFICIENCY FOR USE WITH VFD, VFD PROVIDED BY MANUFACTURER.

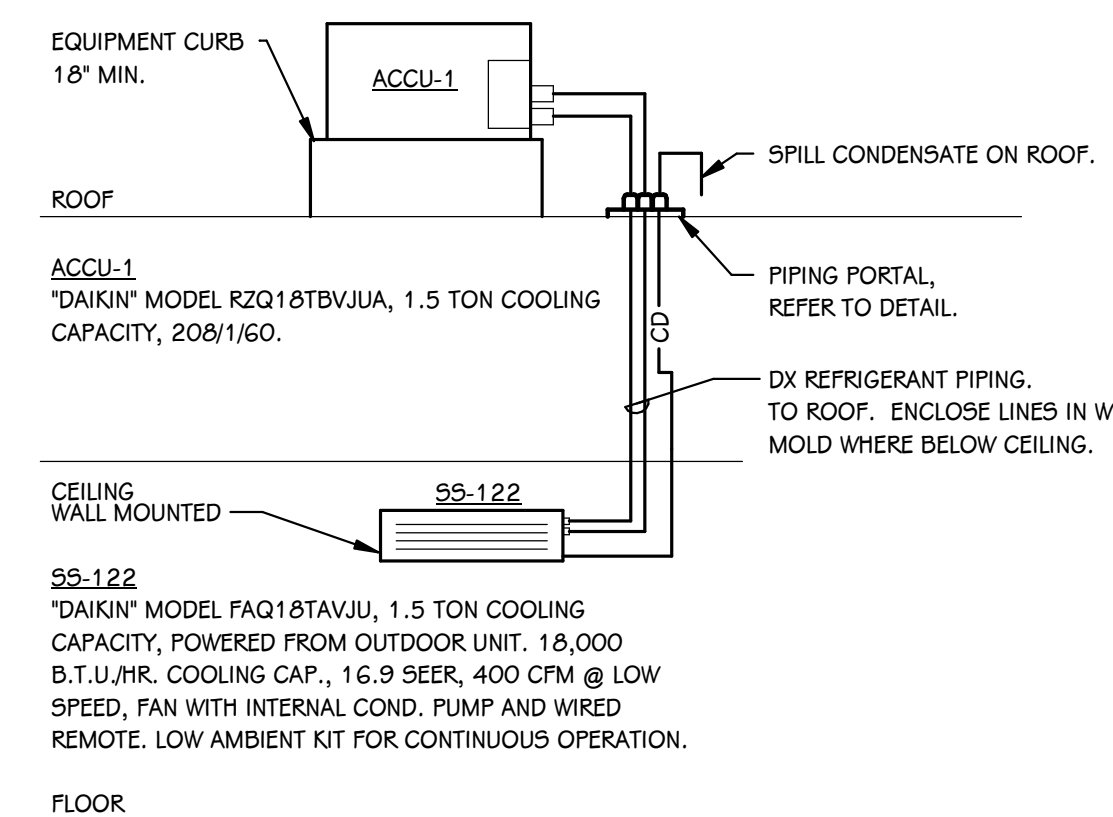
ELECTRICAL: SINGLE-POINT POWER CONNECTION WITH NON-FUSED DISCONNECT W/ LOCKING HANDLE, VARIABLE SPEED DRIVE, 208/240V, 5.1 KW, 38.50 FLC

OPTIONS: BI-POLAR IONIZATION, ECONOMIZER, DDC READY FOR FIELD INSTALLED CONTROLS.

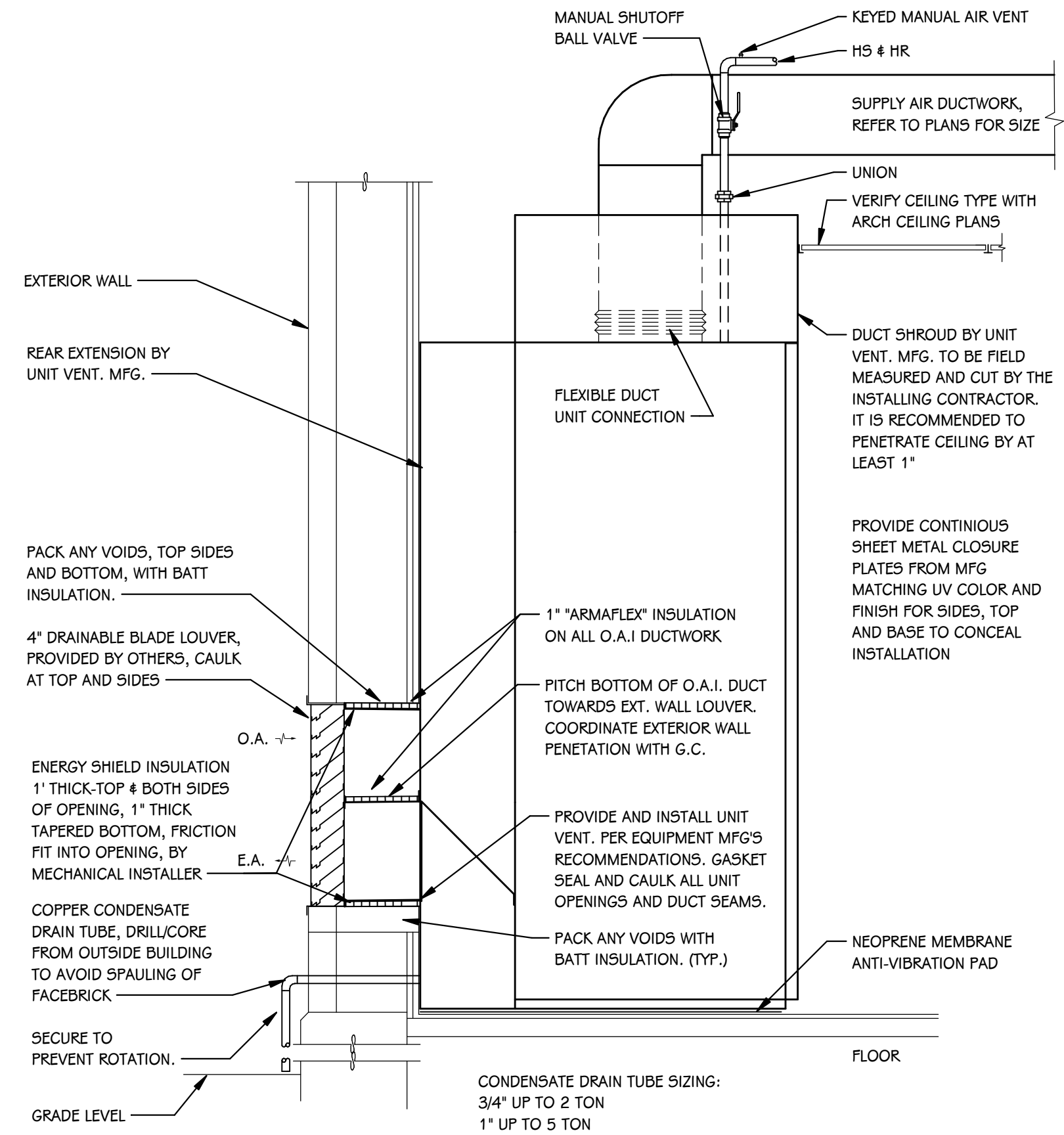
TYPE	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
RADIATED	72	69	71	62	60	52	46	51
DISCHARGE	80	71	78	75	74	72	67	61
RETURN	72	69	77	66	64	64	56	51



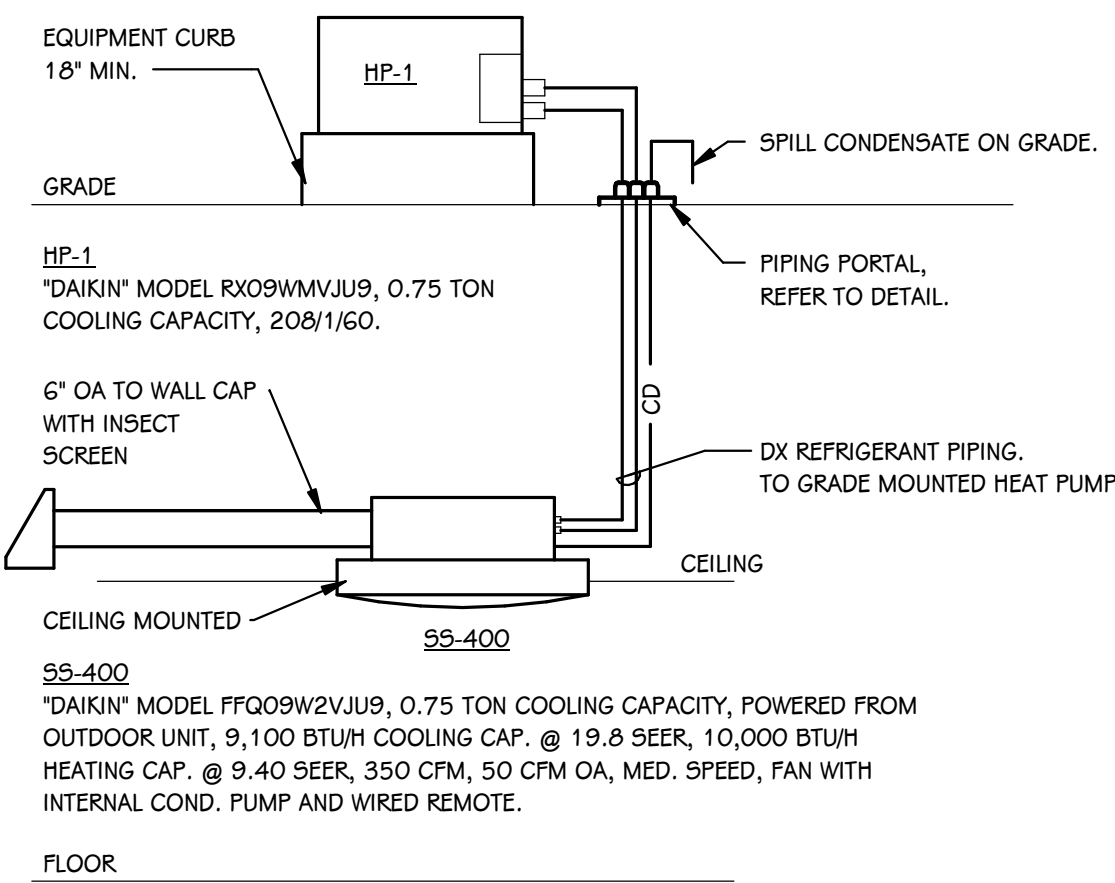
SPLIT SYSTEM UNIT PIPING DETAIL - CEILING UNIT
 SCALE: NONE



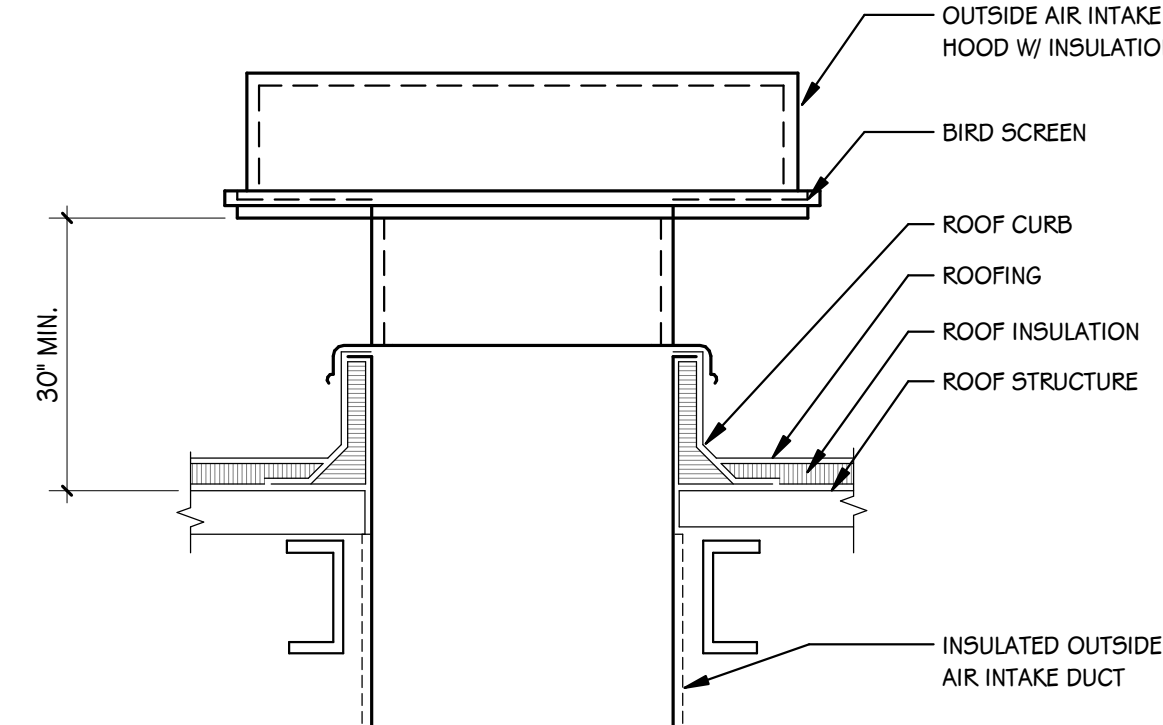
SPLIT SYSTEM UNIT PIPING DETAIL - WALL MOUNT
 SCALE: NONE



UNIT VENTILATOR DETAIL - VERTICAL
 SCALE: NONE



SPLIT SYSTEM PIPING DETAIL - CEILING MOUNT
 SCALE: NONE



OUTSIDE AIR INTAKE DETAIL
 SCALE: NONE

CONVECTORS - HOT WATER **BASED ON MODINE**

MARK	TYPE	MBH	GPM	SIZE			MAX RECESS	MOUNTING HGT. A.F.F.	REMARKS
				H	L	D			
CV-300	SLOPE-TOP, FLOOR MOUNTED	4.6	2.0	32"	64"	6"	0"	4"	1,2
CV-303	SLOPE-TOP, FLOOR MOUNTED	4.6	2.0	32"	64"	6"	0"	4"	1,2
CV-114	SLOPE-TOP, FLOOR MOUNTED	4.6	2.0	32"	64"	6"	0"	4"	1,2
CV-116	SLOPE-TOP, FLOOR MOUNTED	4.6	2.0	32"	64"	6"	0"	4"	1,2

- NOTES:
 1. BASED ON 130 EWT, 20 dT
 2. COVER EXPOSED PIPING BELOW CEILING WITH PIPE ENCLOSURE.

PUMPS **BASED ON BELL & GOSSETT**

MARK	MODEL	FLOW RATE (GPM)	HEAD (FT)	PEIcl	MOTOR DATA				SYSTEM	LOCATION	REMARKS	
					HP	BHP	RPM	VOLTAGE				PHASE
B-3	2 BD	160	65	0.85	5	3.55	1800	208	3	HEATING HOT WATER	BOILER ROOM 134	1,3
B-4	2 BD	160	65	0.85	5	3.55	1800	208	3	HEATING HOT WATER	BOILER ROOM 134	1,4
P-3	ecoarc XL 40-275	140	25	-	2	1.46	2733	208	1	BOILER CIRCULATION	BOILER ROOM 134	2
P-4	ecoarc XL 40-275	140	25	-	2	1.46	2733	208	1	BOILER CIRCULATION	BOILER ROOM 134	2
P-5	ecoarc XL 65-130	20	50	-	1	1	3102	208	1	FILTER	BOILER ROOM 134	2
P-6	ecoarc XL 20-140	67	18	-	0.5	0.5	3193	208	1	AHU HEATING COIL	GYM MEZZANINE	2

- NOTES:
 1. VFD RATED MOTOR, VFD PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR.
 2. WET ROTOR PUMP WITH INTEGRATED VARIABLE FREQUENCY DRIVE AND BMS COMMUNICATIONS. ALL AVAILABLE POINTS SHALL BE REVEALED TO THE BMS.
 3. PRIMARY
 4. STANDBY

SOUND TRAPS **BASED ON PRICE**

MARK	MODEL	AIRFLOW (CFM)	TYPE	LENGTH	INLET LEG	OUTLET LEG	AIR VELOCITY (FPM)	MAX P.D. AT 1200 FPM FACE VELOCITY (WC")	ATTENUATION (dB) AT SELECT FREQUENCIES (HZ)								LOCATION	REMARKS
									63	125	250	500	1K	2K	4K	8K		
ST-1	ERM60BC	1100	ELBOW	5'-0"	36"	52"	760	.05	8	12	17	24	28	25	22	18	CLASSROOM	
ST-2	ERM729F	1060	ELBOW	5'-2"	38"	64"	550	.08	11	19	26	34	40	34	28	23	RECEPTION	
ST-3	ERM108/5C	2100	ELBOW	9'-0"	66"	64"	1150	.14	11	17	28	44	47	43	36	29	ADMIN	
ST-4	ERM120/5B	2100	ELBOW	10'-0"	60"	82"	760	.07	14	16	20	32	32	34	31	25	ADMIN	
ST-5	RM48/6E	10000	STRAIGHT	4'-0"	-	-	860	.15	5	10	19	33	29	23	16	12	GYM	
ST-13																		

HEATING COILS - HOT WATER **BASED ON DAIKIN**

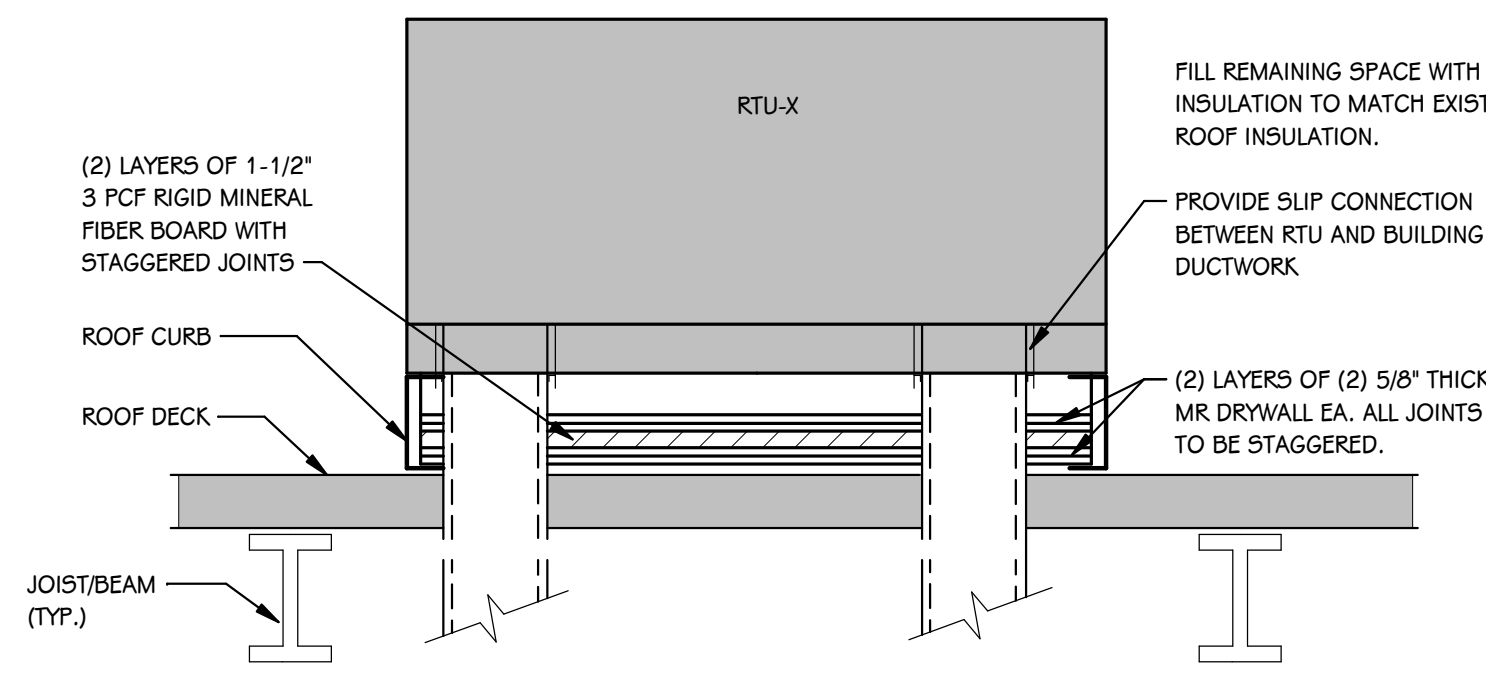
MARK	SIZE	ROWS	CFM	TMBH	E.A.T. (°F)	L.A.T. (°F)	GPM	A.P.D. (IN WC)	W.P.D. (FT)	MAX AIR VELOCITY (FPM)	REMARKS

- NOTES:
 1. BASED ON 130°F EWT, 110°F LWT.

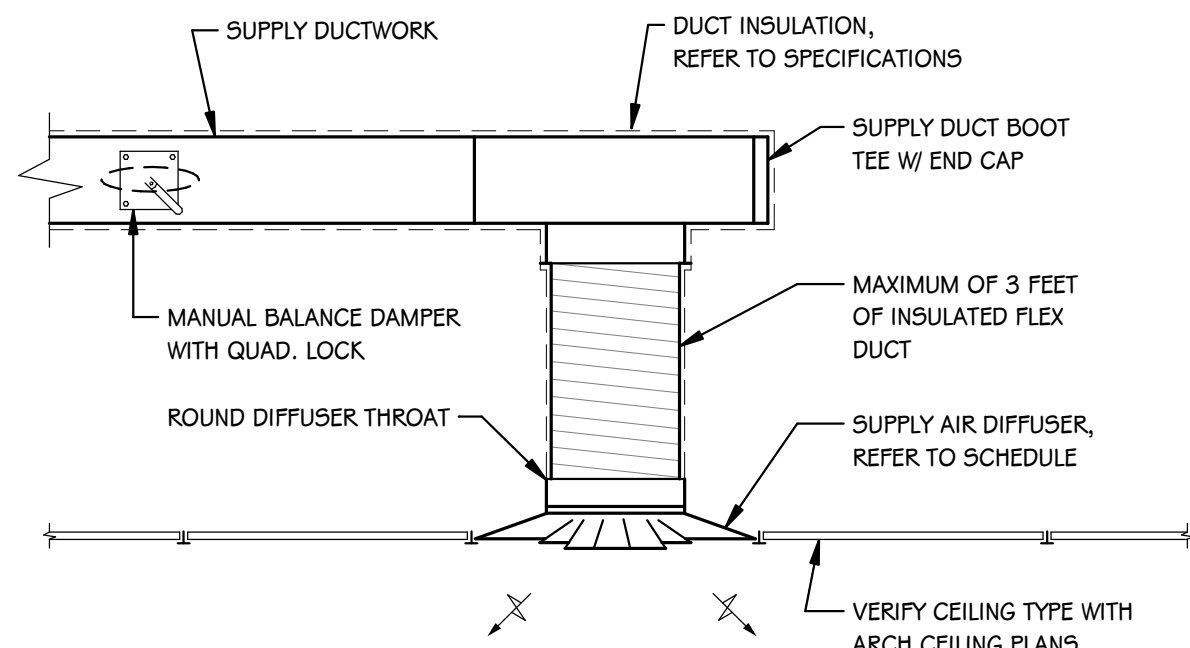
FINNED TUBE - WATER **BASED ON RITTLING**

MARK	MODEL	HEATING ELEMENT					COVER					REMARKS
		SIZE	ROWS	LENGTH	QTY	CAPACITY (BTU/H/FT)	FLOW (GPM)	TYPE	HEIGHT	ENCLOSURE LENGTH		
FT-200A	F905	1C-4-1/4 X 4-1/4 X 40	1	17'-0"	2 @ 8'-6"	509	3.5	DOUBLE SLOPED WALL	2'-4"	W.T.W.	1	
FT-200B	F905	1C-4-1/4 X 4-1/4 X 40	1	17'-0"	2 @ 8'-6"	509	3.5	DOUBLE SLOPED WALL	2'-4"	W.T.W.	1	
FT-200C	F905	1C-4-1/4 X 4-1/4 X 40	1	17'-0"	2 @ 8'-6"	509	3.5	DOUBLE SLOPED WALL	2'-4"	W.T.W.	1	
FT-200D	F905	1C-4-1/4 X 4-1/4 X 40	1	17'-0"	2 @ 8'-6"	509	3.5	DOUBLE SLOPED WALL	2'-4"	W.T.W.	1	
FT-202	F9	3/4C-4-1/4 X 4-1/4 X 40	1	12'-0"	1 @ 12'-0"	496	2.0	SLOPED WALL	1'-6"	W.T.W.	1, 2	
FT-206A	F9	3/4C-4-1/4 X 4-1/4 X 40	1	9'-0"	1 @ 9'-0"	496	1.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-206B	F9	3/4C-4-1/4 X 4-1/4 X 40	1	9'-0"	1 @ 9'-0"	496	2.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-206C	F9	3/4C-4-1/4 X 4-1/4 X 40	1	9'-0"	1 @ 9'-0"	496	2.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-206D	F9	3/4C-4-1/4 X 4-1/4 X 40	1	9'-0"	1 @ 9'-0"	496	2.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-207A	F9	3/4C-4-1/4 X 4-1/4 X 40	1	5'-0"	1 @ 5'-0"	496	1.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-207B	F9	3/4C-4-1/4 X 4-1/4 X 40	1	5'-0"	1 @ 5'-0"	496	1.0	SLOPED WALL	1'-6"	W.T.W.	1	
FT-306A	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1, 2	
FT-306B	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306C	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306D	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306E	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306F	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306G	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306H	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306I	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306J	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306K	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306L	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1	
FT-306M	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	2.0	SLOPED WALL	2'-0"	W.T.W.	1, 2	
FT-404A	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1, 2	
FT-404B	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404C	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404D	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404E	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404F	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404G	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1	
FT-404H	F9	3/4C-4-1/4 X 4-1/4 X 40	1	6'-0"	1 @ 6'-0"	539	1.5	SLOPED WALL	2'-0"	W.T.W.	1, 2	

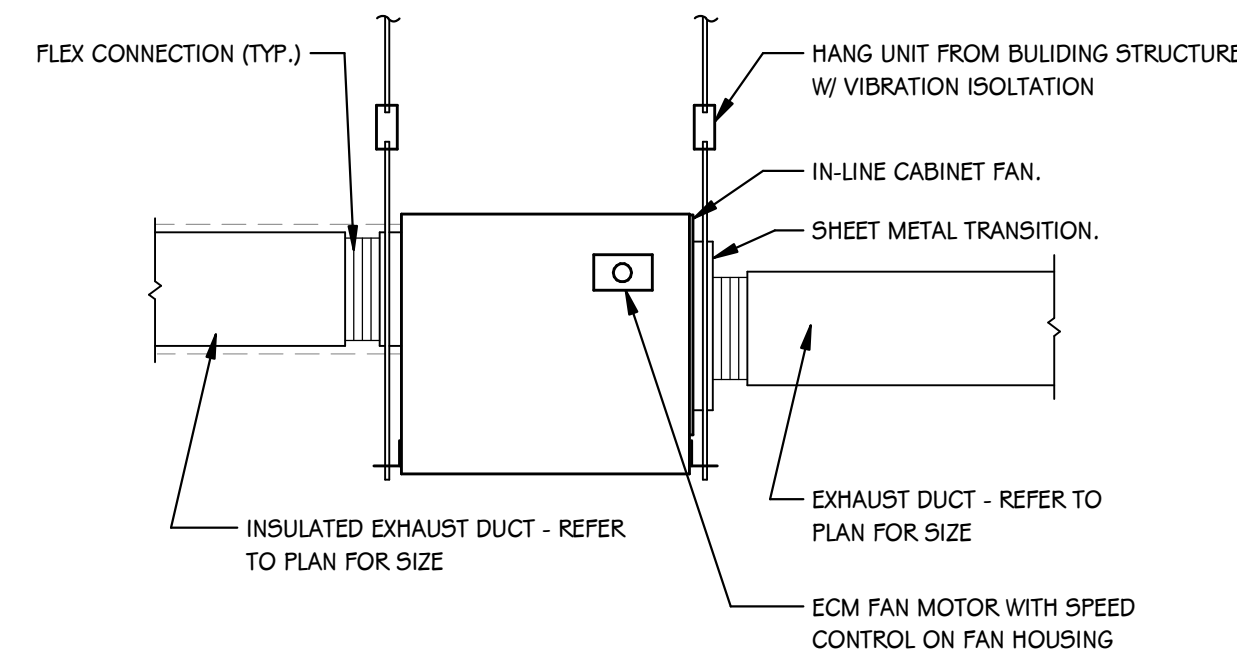
- NOTES:
 1. BASED ON 130 EWT, 20 dT
 2. COVER EXPOSED PIPING BELOW CEILING WITH PIPE ENCLOSURE.



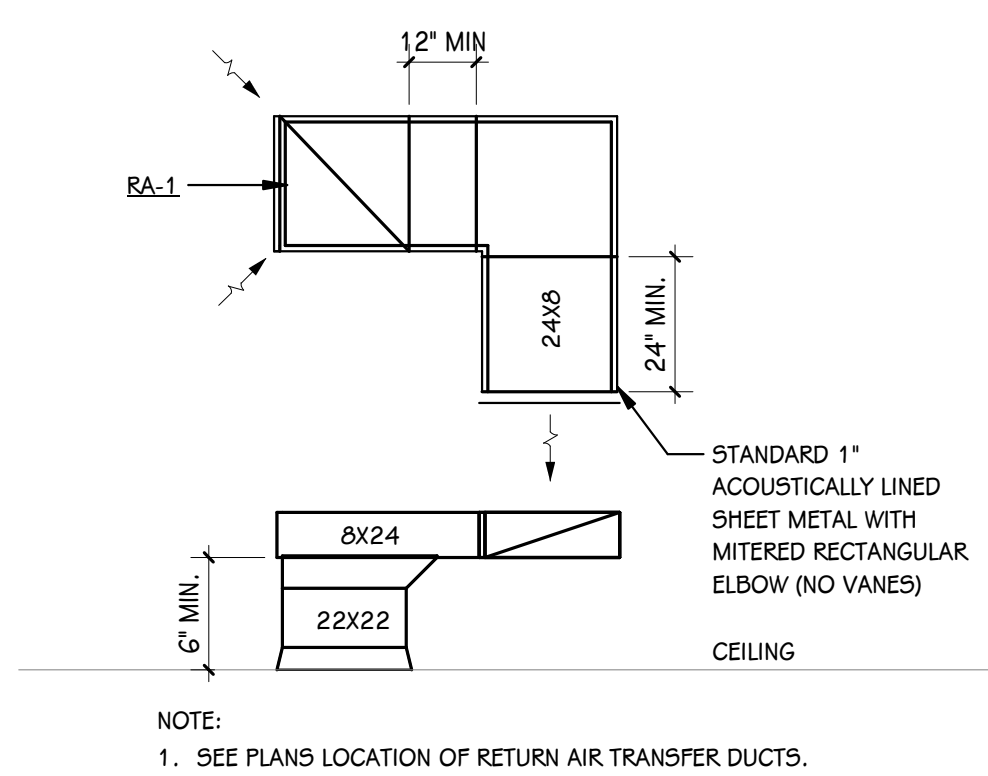
AHU ROOF CURB INSULATION DETAIL
SCALE: NONE



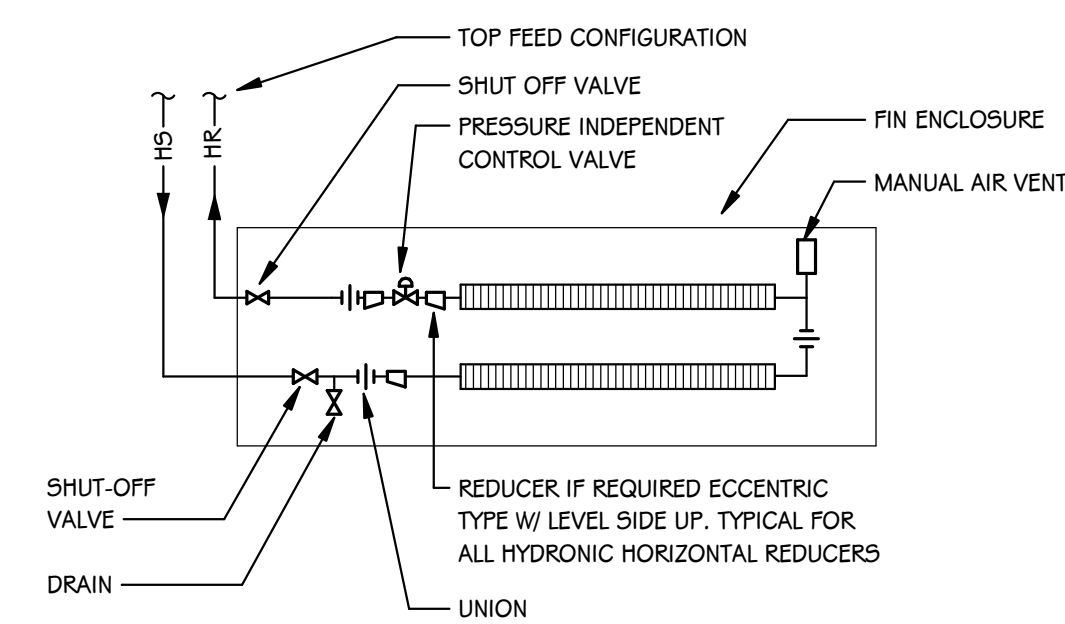
CEILING MOUNTED SUPPLY DIFFUSER DETAIL
SCALE: NONE



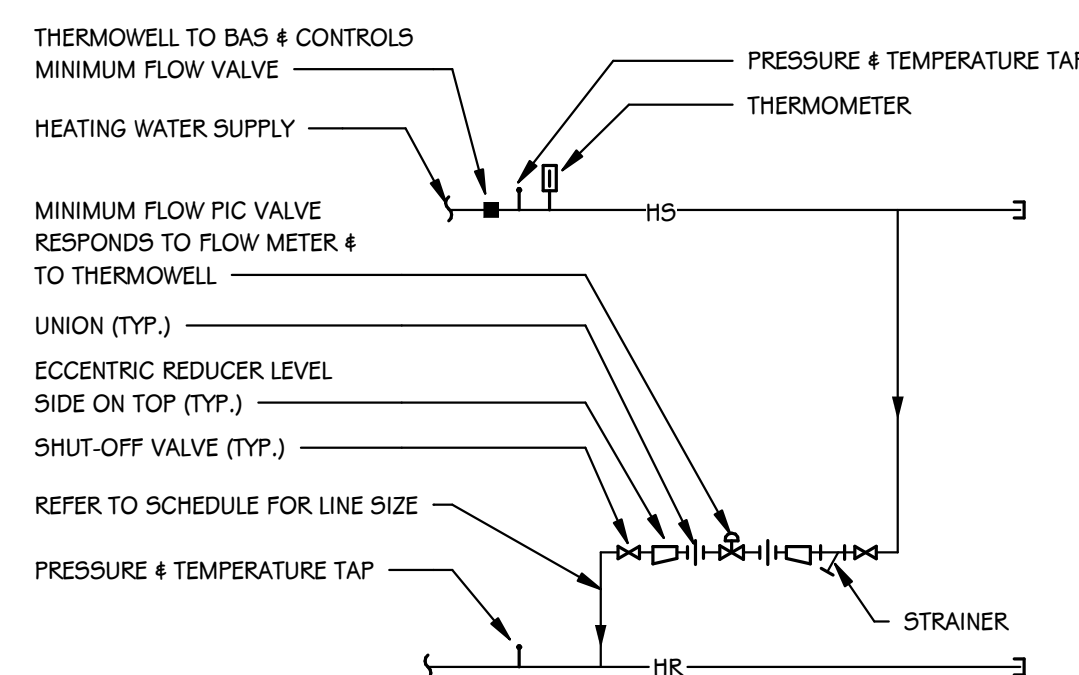
EXHAUST FAN DETAIL - IN-LINE
SCALE: NONE



RETURN AIR PLENUM TRANSFER DUCT DETAIL
SCALE: NONE

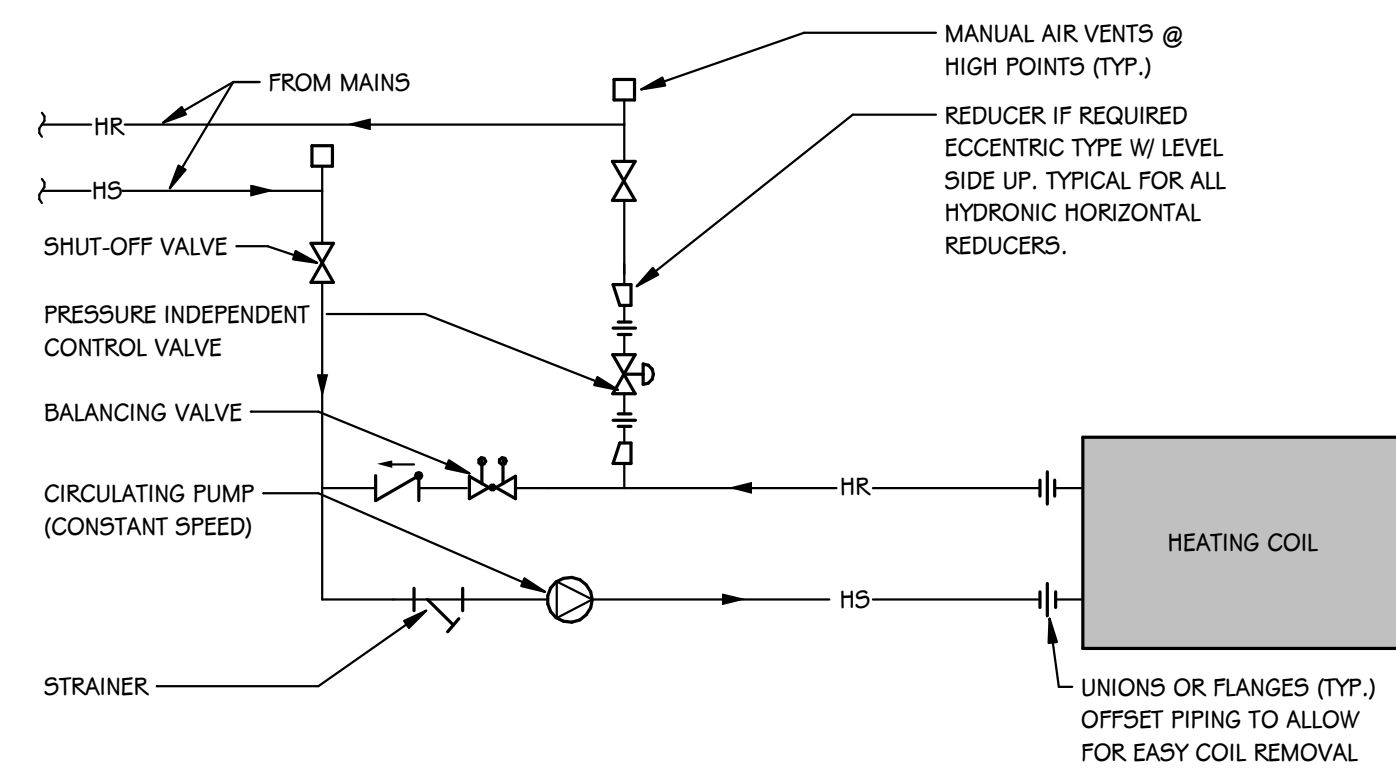


FIN RADIATION PIPING DETAIL - TWO ROW (PICV)
SCALE: NONE

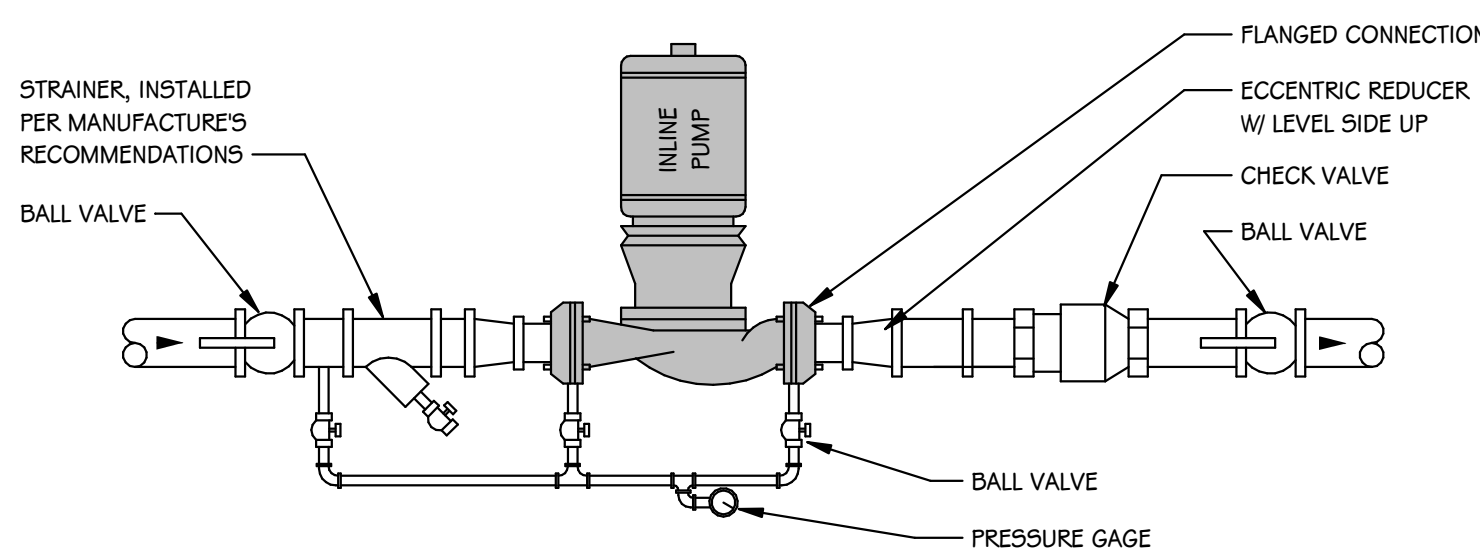


LOCATION	SERVICE	LINE SIZE	FLOW RANGE
CORRIDOR 1	HEATING WATER	1"	0 - 7 GPM
CORRIDOR 306	HEATING WATER	1 1/4"	0 - 13 GPM
CORRIDOR 404	HEATING WATER	1 1/4"	0 - 13 GPM
GYM MEZZANINE	HEATING WATER	1 1/4"	0 - 7 GPM
HEATING WATER MINIMUM FLOW RATE			40 GPM

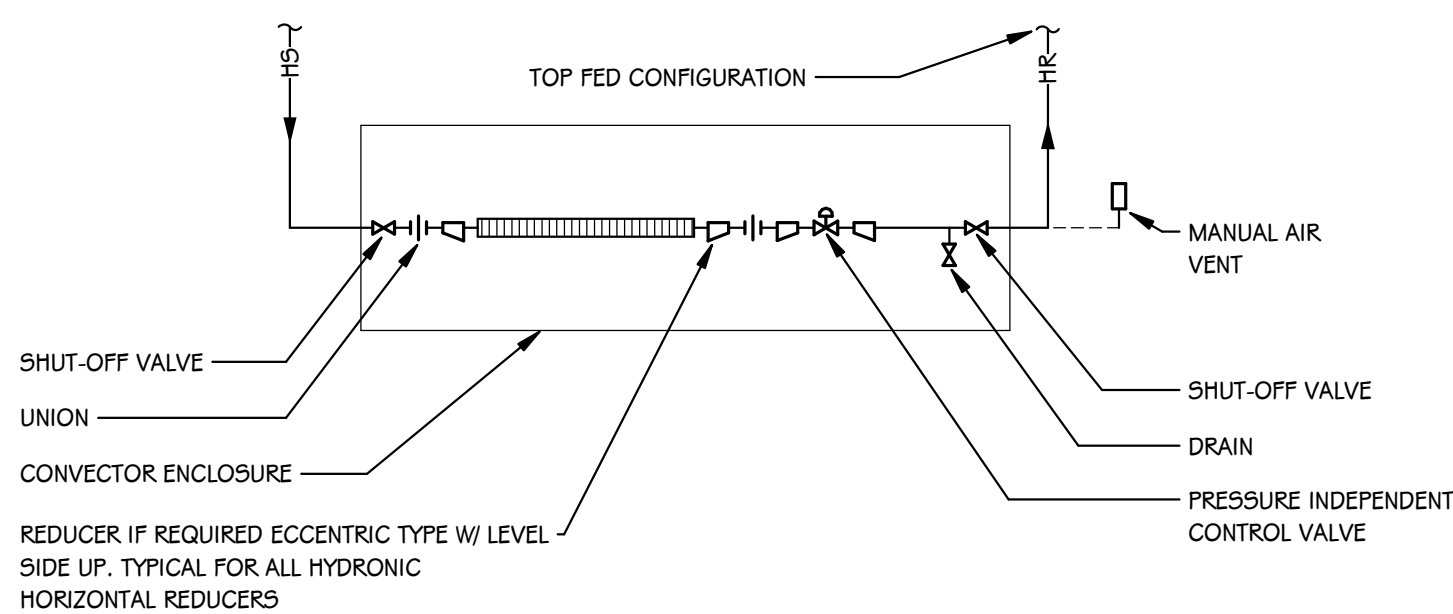
MINIMUM FLOW & TEMP PICV DETAIL
SCALE: NONE



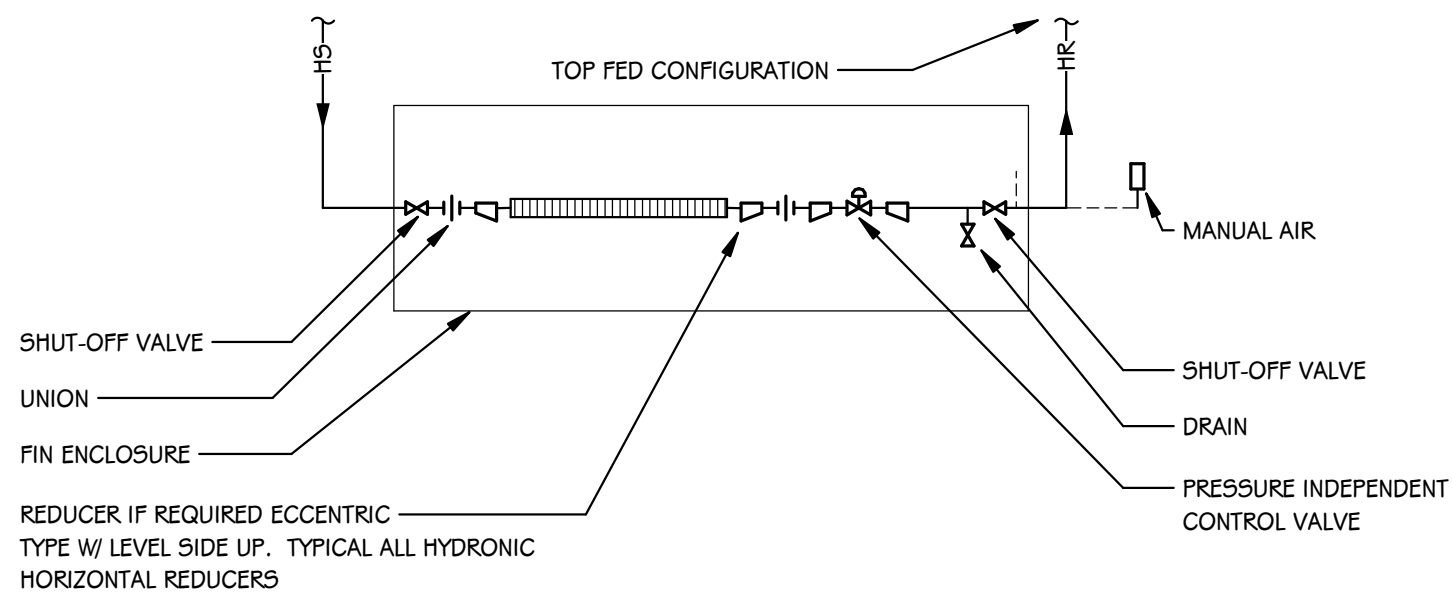
PUMPED HEATING COIL PIPING DETAIL (PICV)
SCALE: NONE



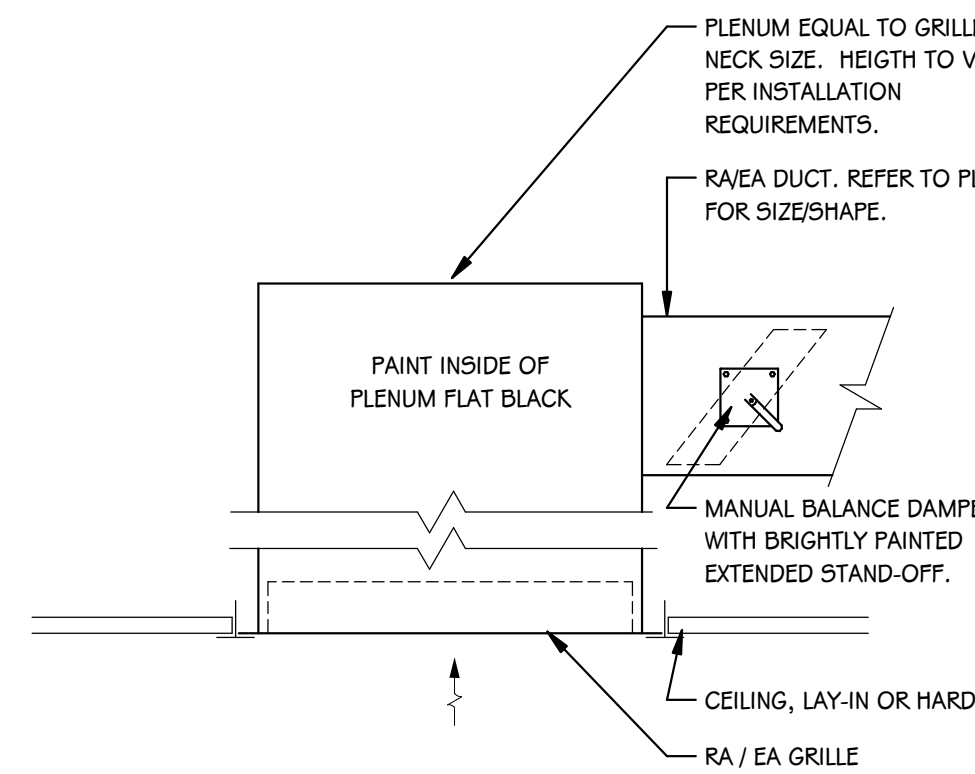
PUMP - IN-LINE PIPING DETAIL
SCALE: NONE



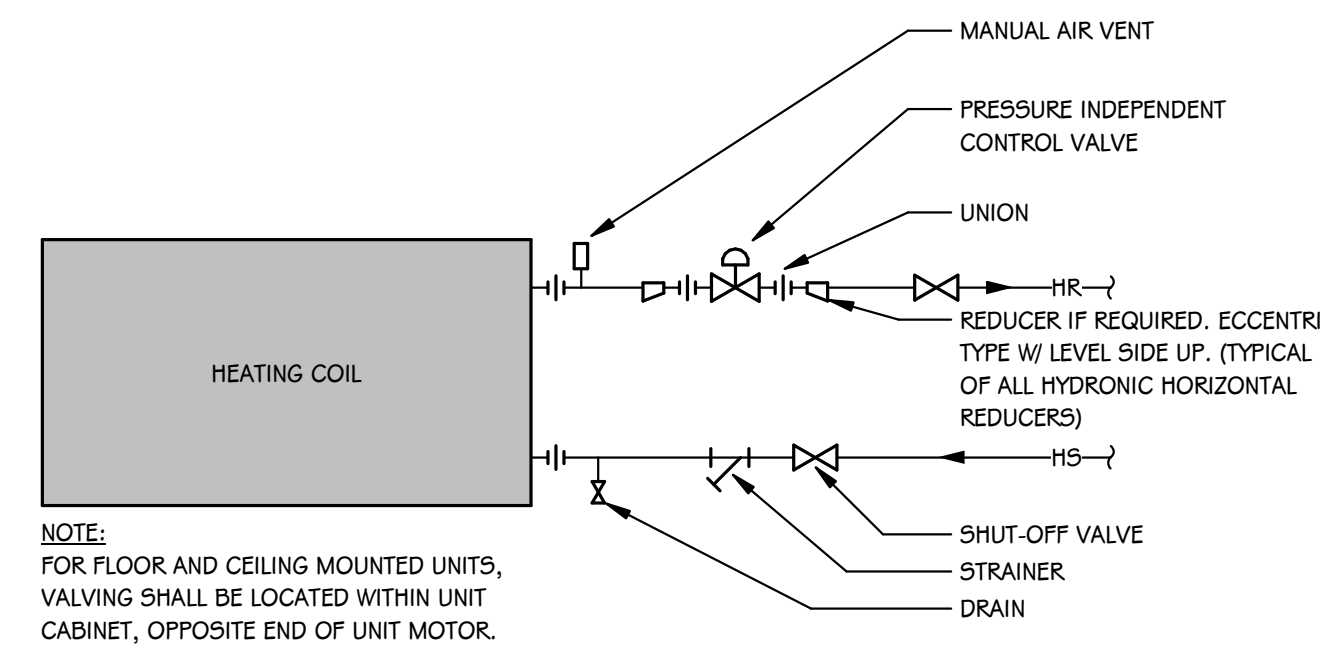
CONVECTOR PIPING DETAIL (PICV)
SCALE: NONE



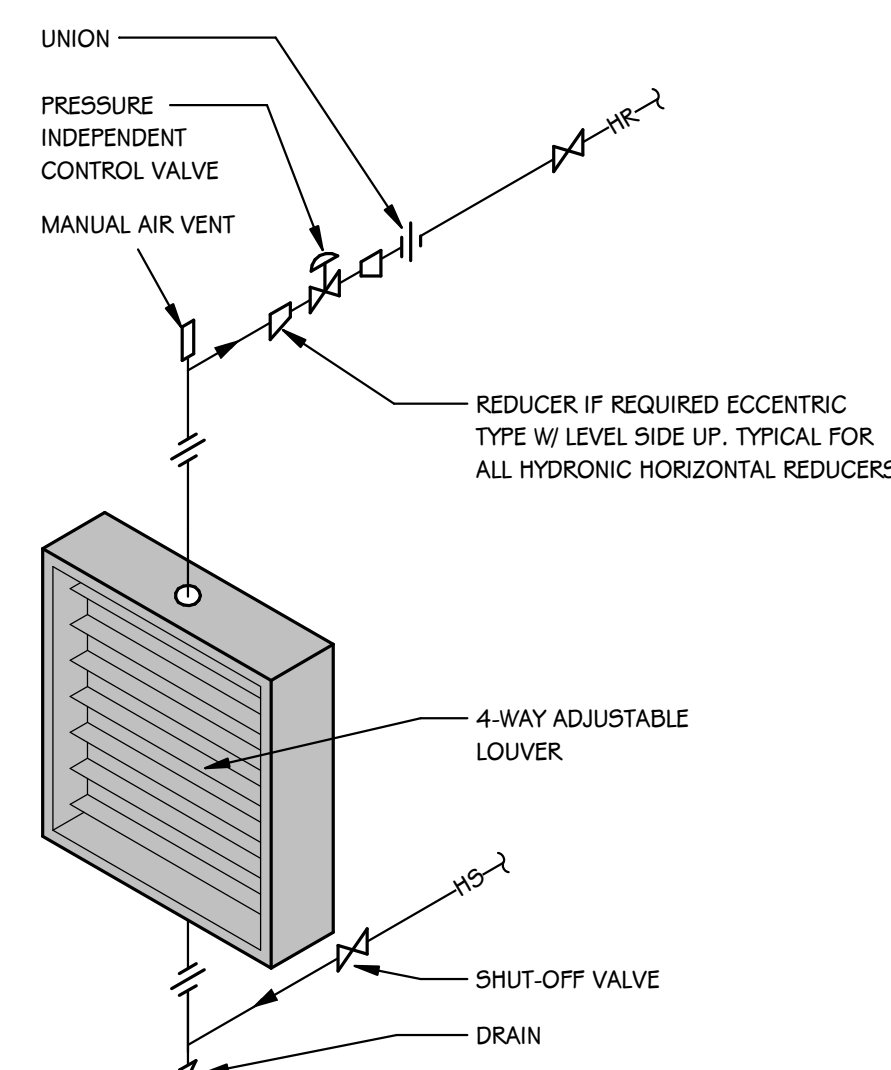
FIN RADIATION PIPING DETAIL - SINGLE ROW (PICV)
SCALE: NONE



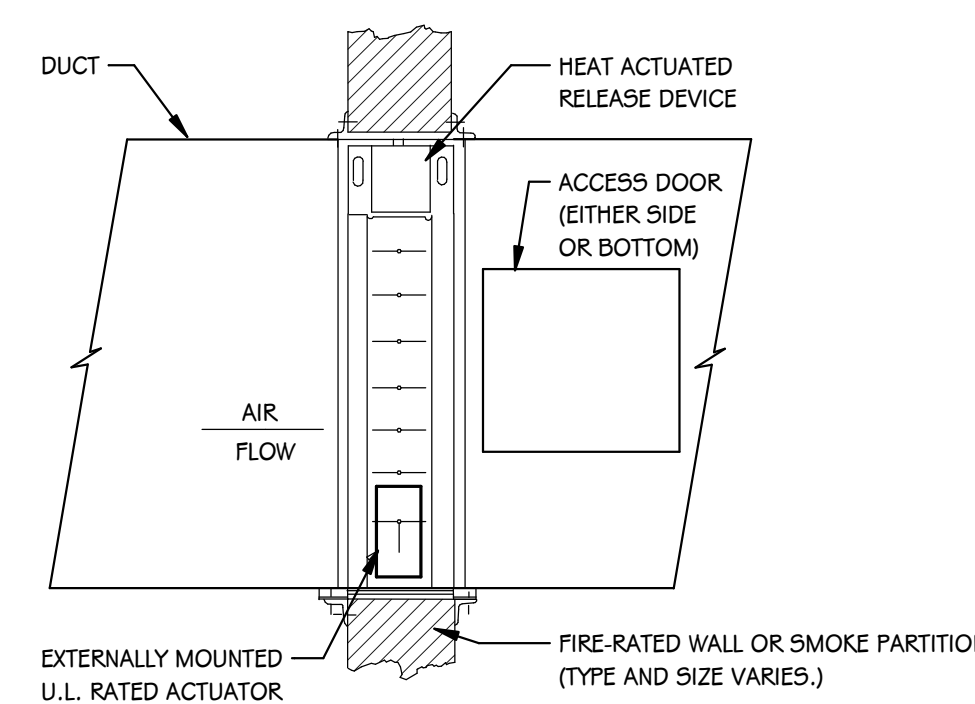
RETURN / EXHAUST AIR GRILLE PLENUM DETAIL
SCALE: NONE



HEATING PIPING DETAIL (PICV)
SCALE: NONE

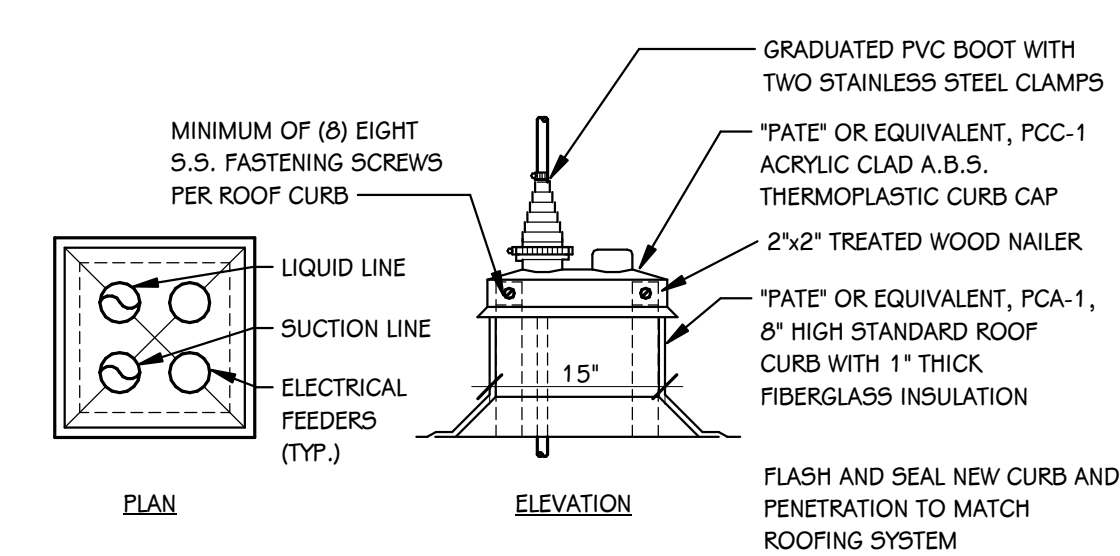


UNIT HEATER PIPING DETAIL (PICV)
SCALE: NONE

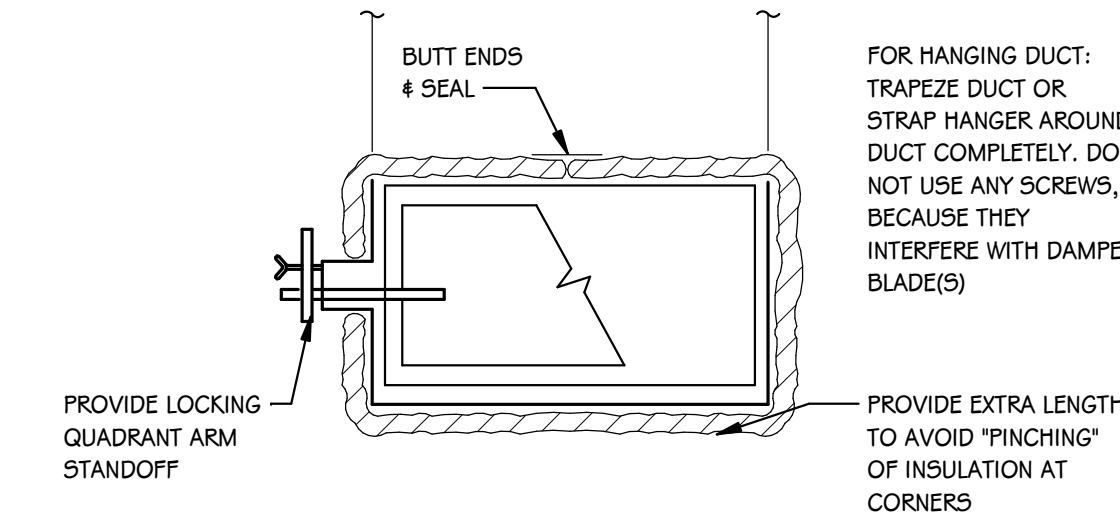


- NOTES:
1. ANY CLEARANCE BETWEEN FIRE-RATED WALL OR SMOKE PARTITION AND DAMPER SLEEVE OR DAMPER SHALL BE FILLED WITH FIRE-RESISTANT PACKING ON ALL SIDES TO MAINTAIN FIRE RATING.
 2. WHEN DUCTWORK IS INSULATED OR LINED, PROVIDED INSULATED ACCESS DOOR.
 3. ACCESS DOOR SHALL BE 12" x 12" OR LARGER IF REQUIRED FOR HEAT ACTUATED RELEASE DEVICE REPLACEMENT.
 4. INSTALLATION SHOWN AS AN EXAMPLE. SPECIFIC INSTALLATION SHALL CONFORM WITH MANUFACTURER'S, UL APPROVED INSTRUCTIONS.

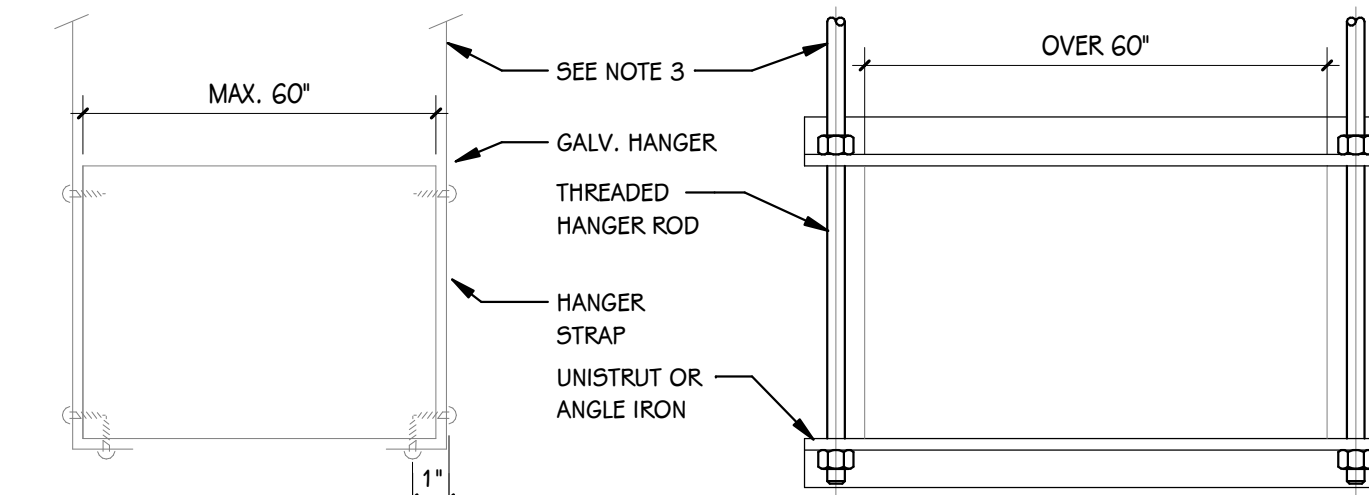
FIRE/SMOKE DAMPER DETAIL
SCALE: NONE



PIPING PORTAL / CURB DETAIL
SCALE: NONE

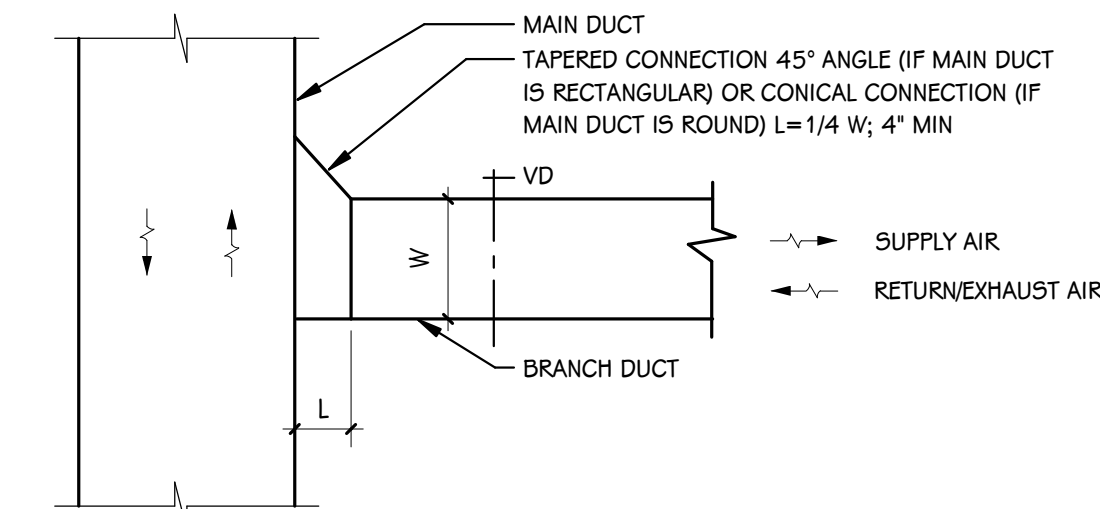


VOLUME DAMPER SUPPORT DETAIL
SCALE: NONE



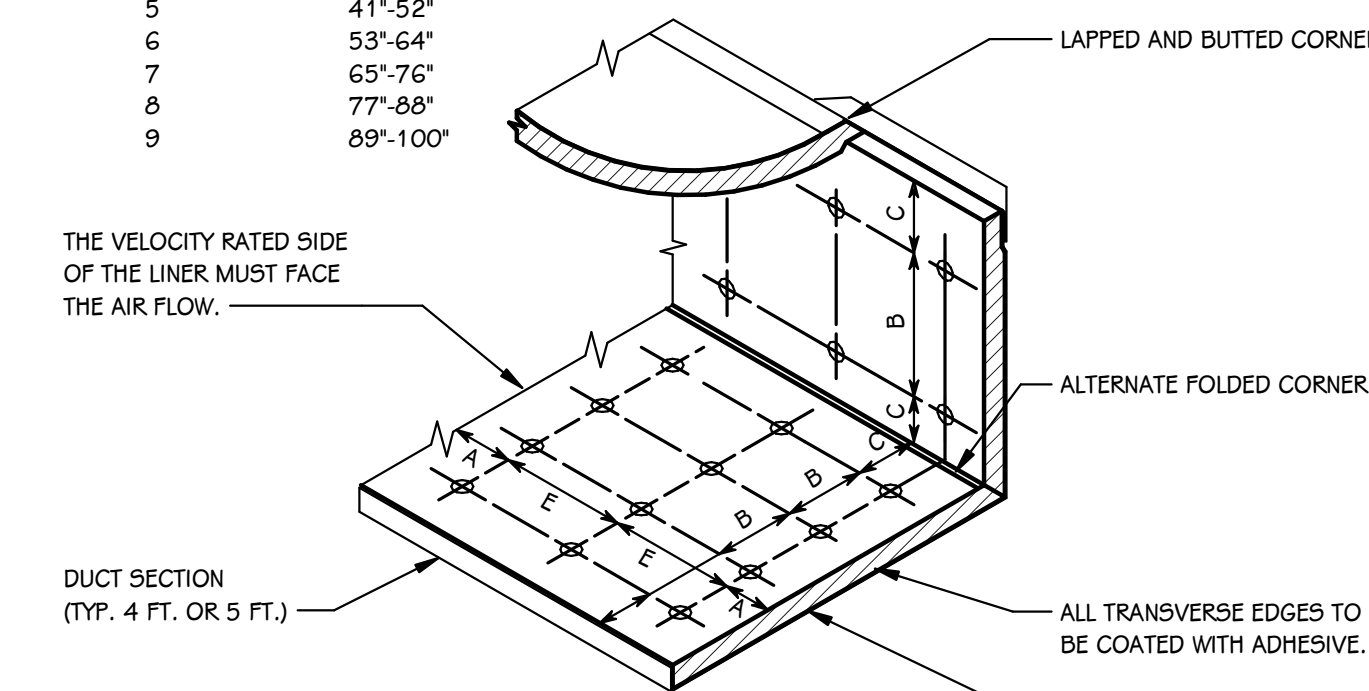
- NOTES:
1. ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACE BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQ FT, DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.
 2. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
 3. SUPPORTS SHALL BE SPACED AND SIZED PER SMACNA.

DUCT HANGER SUPPORT DETAIL
SCALE: NONE



BRANCH TAKE OFFS DETAIL
SCALE: NONE

NO. PINS	LINER INTERIOR WIDTH
0	8" DN
2	9"-16"
3	17"-28"
4	29"-40"
5	41"-52"
6	53"-64"
7	65"-76"
8	77"-88"
9	89"-100"



- MAXIMUM SPACING FOR FASTENERS. ACTUAL INTERVALS ARE APPROXIMATE.

VELOCITY	DIMENSIONS			
	A	B	C	E
0-2500 FPM	3"	12"	4"	18"
2501-6000 FPM	3"	6"	4"	16"

DUCT LINER INSTALLATION DETAIL
SCALE: NONE

APPENDUM #4 10-04-2024
ISSUED FOR DATE

PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS

Kalamazoo, Michigan

SHEET TITLE
MECHANICAL SCHEDULES AND DETAILS

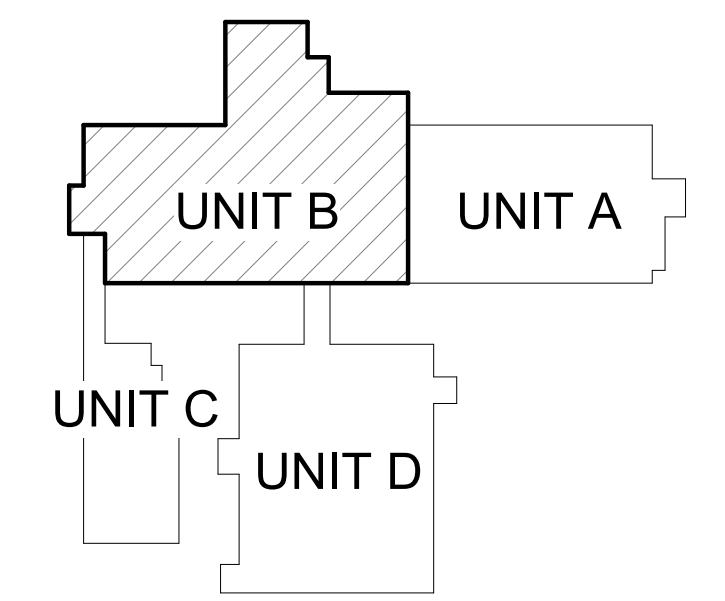
DATE
SEPTEMBER 6, 2024

SHEET NUMBER
M 503
23-606.00

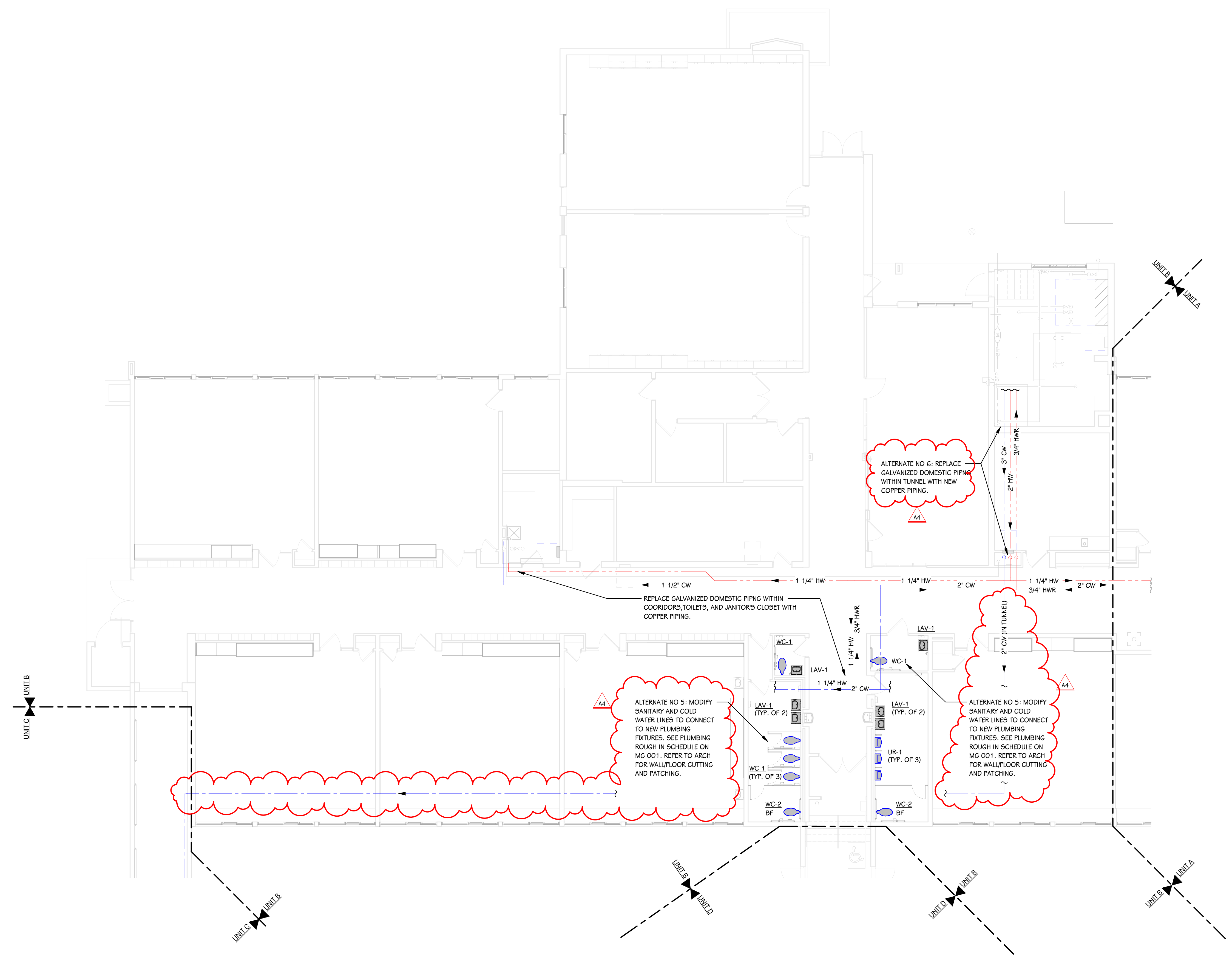
- KEYED NOTES - PLUMBING - DOMESTIC**
- CONNECT TO EXISTING PIPING.
 - WC: 1" CW, 4" WASTE, 2" VENT.
 - SK & LAV: 1/2" HW, 1/2" CW, 1-1/2" WASTE, 1-1/4" VENT.
 - EWG: 1/2" CW, 1-1/4" WASTE, 1-1/4" VENT.
 - SH: 1/2" HW, 1/2" CW, 3" WASTE
 - ELECTRIC WATER FOUNTAINS PREORDERED AND PROVIDED BY OWNER, CONTRACTOR TO INSTALL.

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
 SCALE: NO SCALE



FIRST FLOOR PLUMBING PLAN - UNIT B
 1/8" = 1'-0"

ADDENDUM #4 10-04-2024

ISSUED FOR DATE

PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS

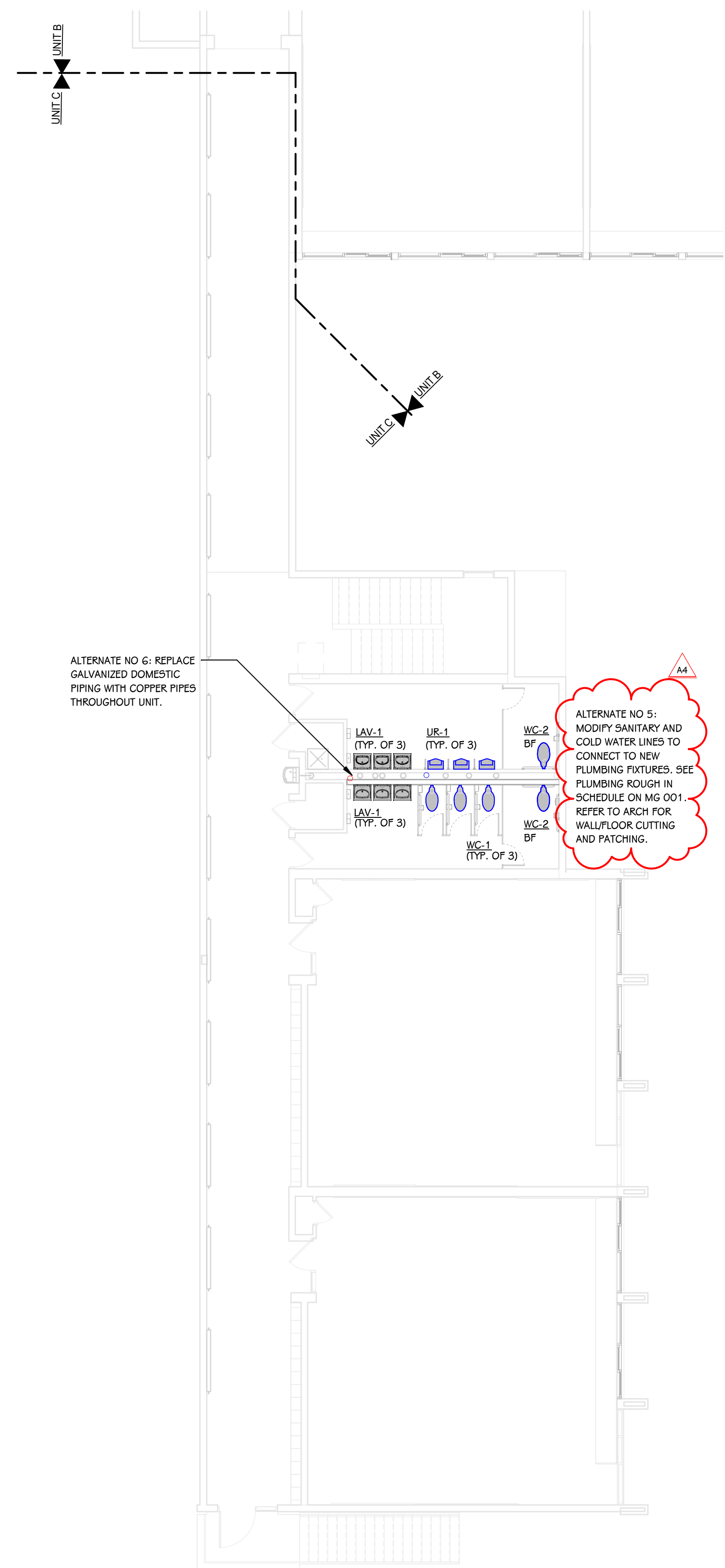
Kalamazoo, Michigan

SHEET TITLE
ALTERNATES - FIRST FLOOR PLUMBING
PLAN - UNIT C

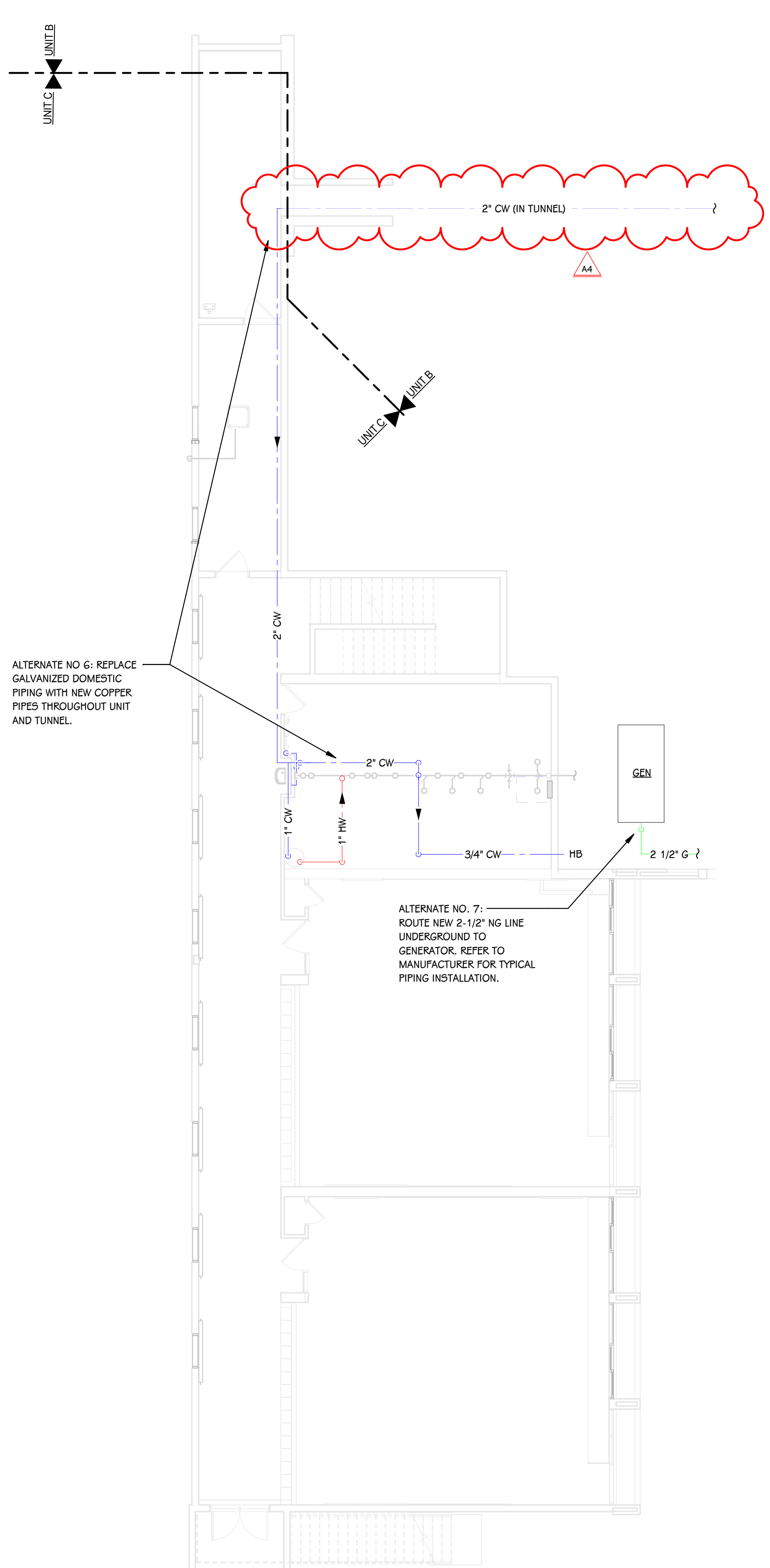
DATE
SEPTEMBER 6, 2024

SHEET NUMBER
P 801C
23-606.00

- KEYED NOTES - PLUMBING - DOMESTIC**
- CONNECT TO EXISTING PIPING.
 - WC: 1" CW, 4" WASTE, 2" VENT.
 - SK & LAV: 1/2" HW, 1/2" CW, 1-1/2" WASTE, 1-1/4" VENT.
 - EWG: 1/2" CW, 1-1/4" WASTE, 1-1/4" VENT.
 - SH: 1/2" HW, 1/2" CW, 3" WASTE
 - ELECTRIC WATER FOUNTAINS PREORDERED AND PROVIDED BY OWNER, CONTRACTOR TO INSTALL.



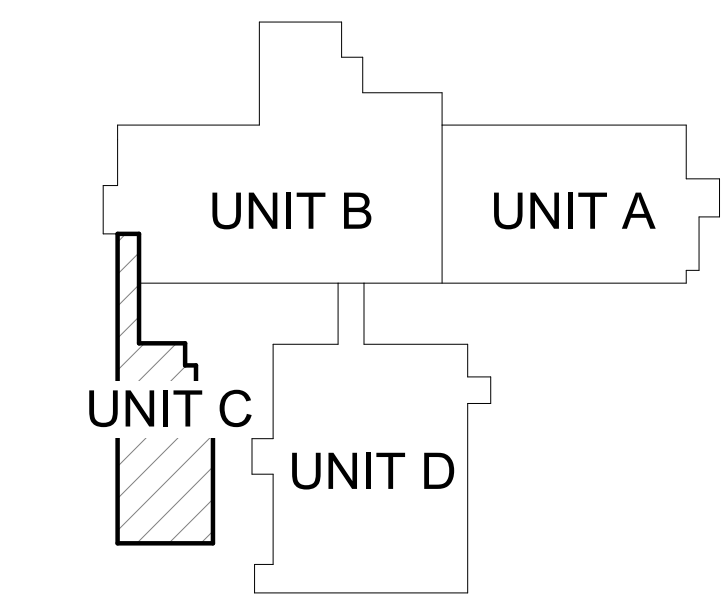
UPPER LEVEL PLUMBING PLAN - UNIT C
1/8" = 1'-0"



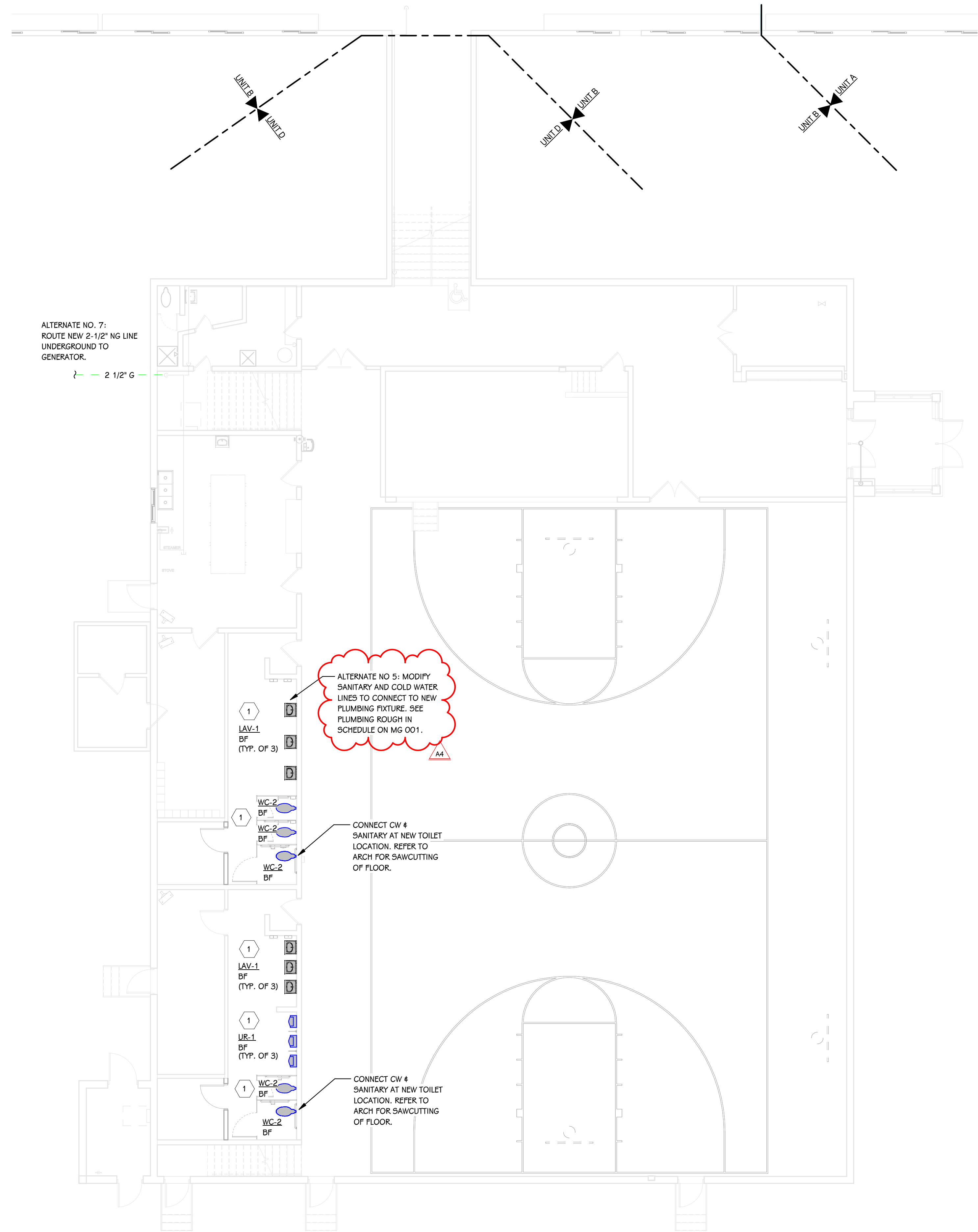
LOWER LEVEL PLUMBING PLAN - UNIT C
1/8" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE



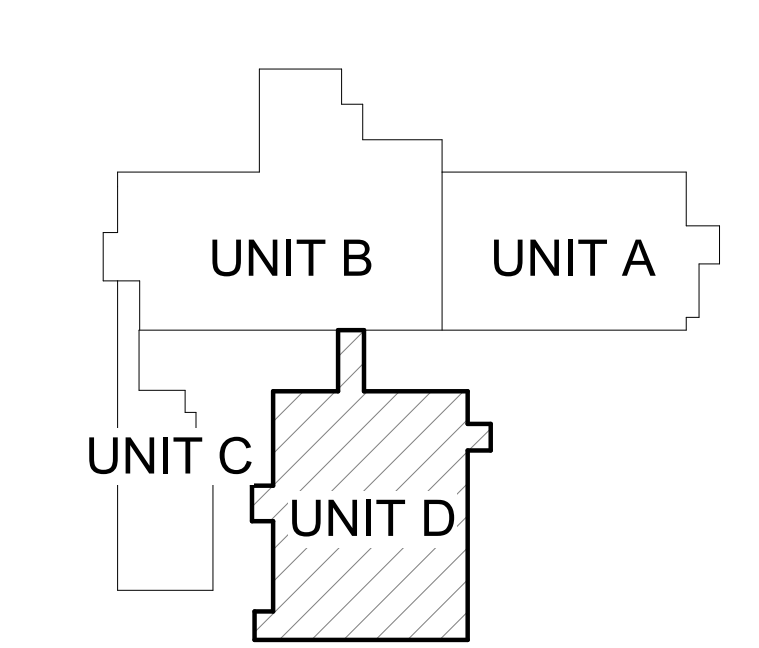
FIRST FLOOR PLUMBING PLAN - UNIT D
1/8" = 1'-0"

KEYED NOTES - PLUMBING - DOMESTIC

- 1 CONNECT TO EXISTING PIPING.
- 2 WC: 1" CW, 4" WASTE, 2" VENT.
- 3 SK # LAV: 1/2" HW, 1/2" CW, 1-1/2" WASTE, 1-1/4" VENT.
- 4 EWC: 1/2" CW, 1-1/4" WASTE, 1-1/4" VENT.
- 5 SH: 1/2" HW, 1/2" CW, 3" WASTE
- 6 ELECTRIC WATER FOUNTAINS PREORDERED AND PROVIDED BY OWNER, CONTRACTOR TO INSTALL.

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE

ADDENDUM #4 10-04-2024
ISSUED FOR DATE

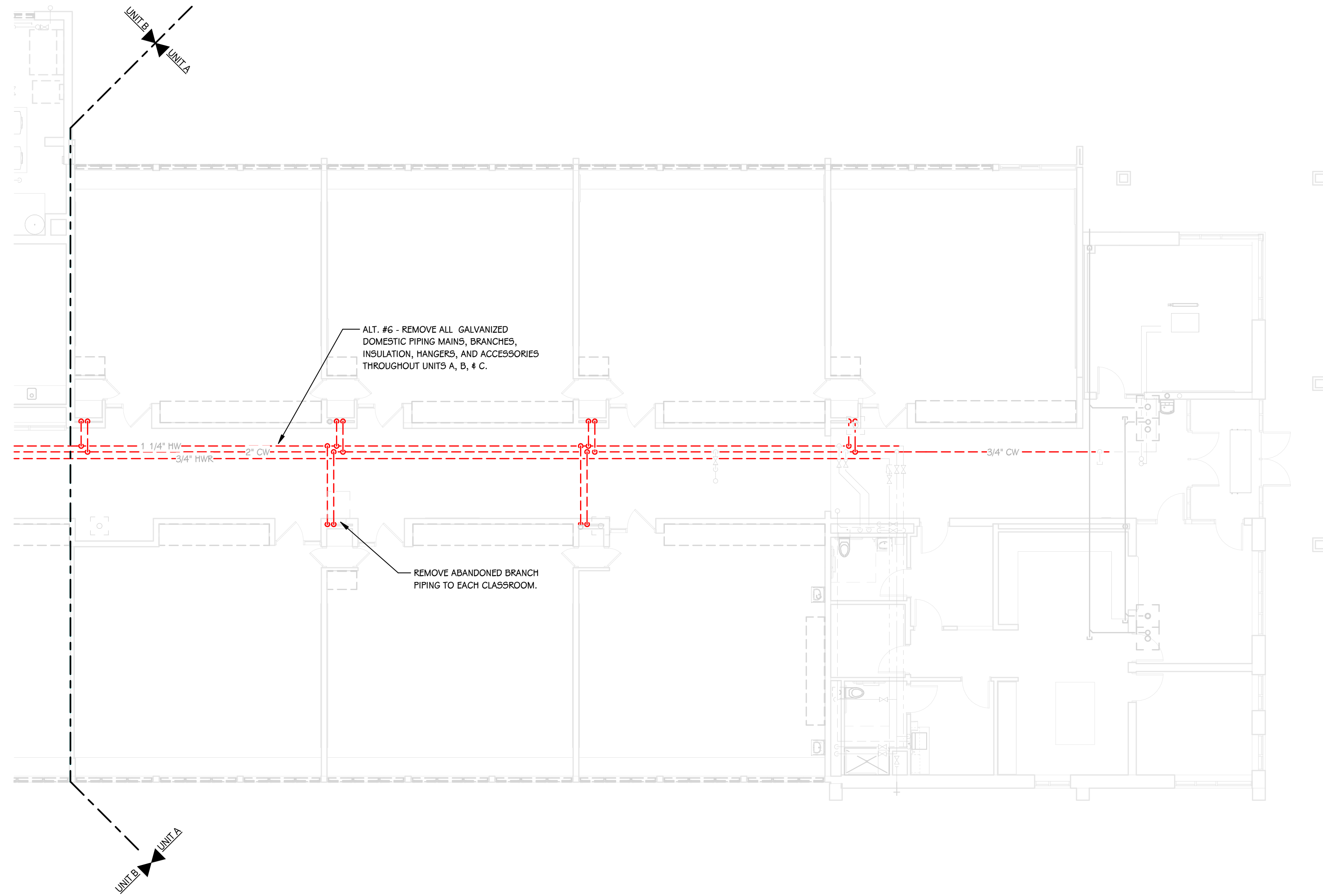
PROJECT TITLE
**SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS**

OWNER
**KALAMAZOO PUBLIC
SCHOOLS**
Kalamazoo, Michigan

SHEET TITLE
**ALTERNATES - FIRST FLOOR PLUMBING
PLAN - UNIT D**

DATE
SEPTEMBER 6, 2024

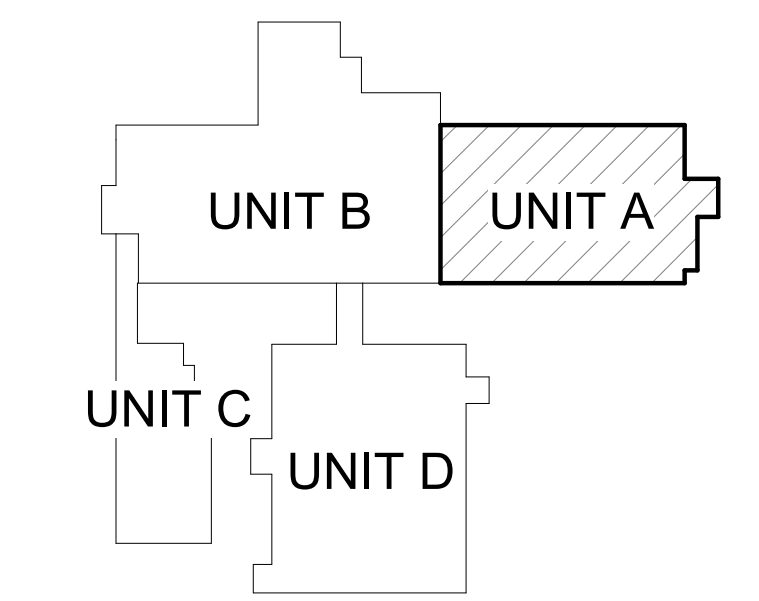
SHEET NUMBER
P 801D
23-606.00



 **FIRST FLOOR PLUMBING DEMOLITION PLAN - UNIT A**
1/8" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



 **KEY PLAN**
SCALE: NO SCALE

ADDENDUM #4 10-04-2024
ISSUED FOR DATE

PROJECT TITLE
**SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS**

OWNER
**KALAMAZOO PUBLIC
SCHOOLS**
Kalamazoo, Michigan

SHEET TITLE
**ALTERNATES - FIRST FLOOR PLUMBING
DEMOLITION PLAN - UNIT A**

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
PD 801A
23-606.00

ADDENDUM #4 10-04-2024
ISSUED FOR DATE

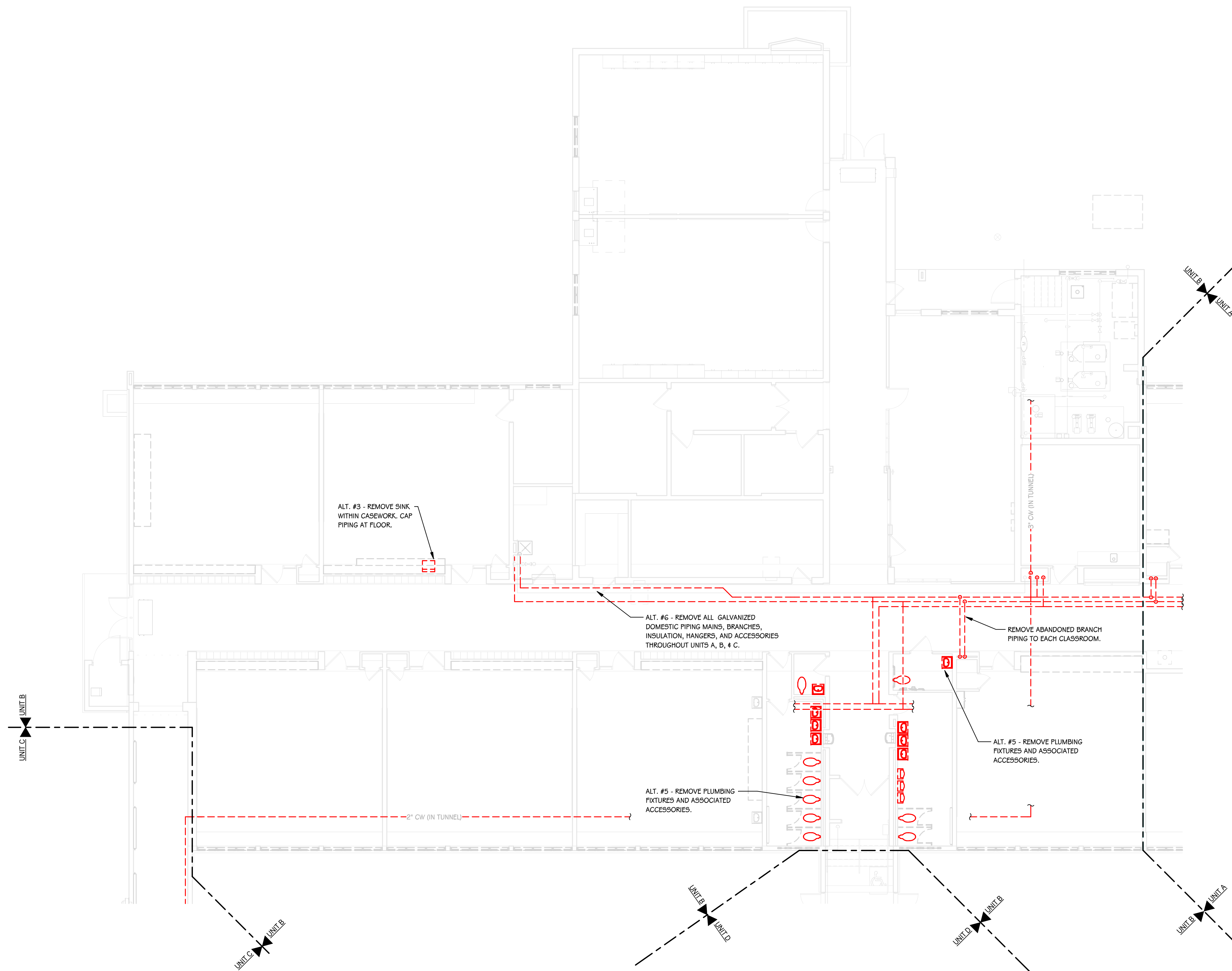
PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
ALTERNATES - FIRST FLOOR PLUMBING
DEMOLITION PLAN - UNIT B

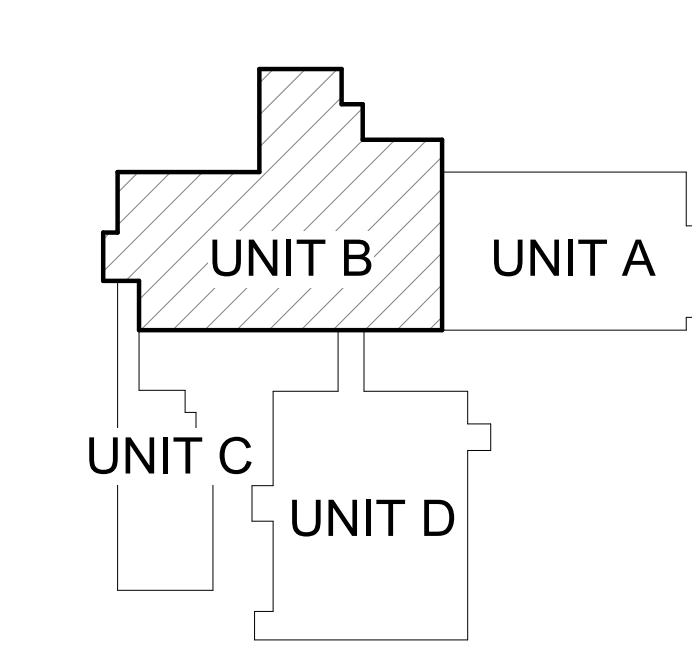
DATE
SEPTEMBER 6, 2024

SHEET NUMBER
PD 801B
23-606-00

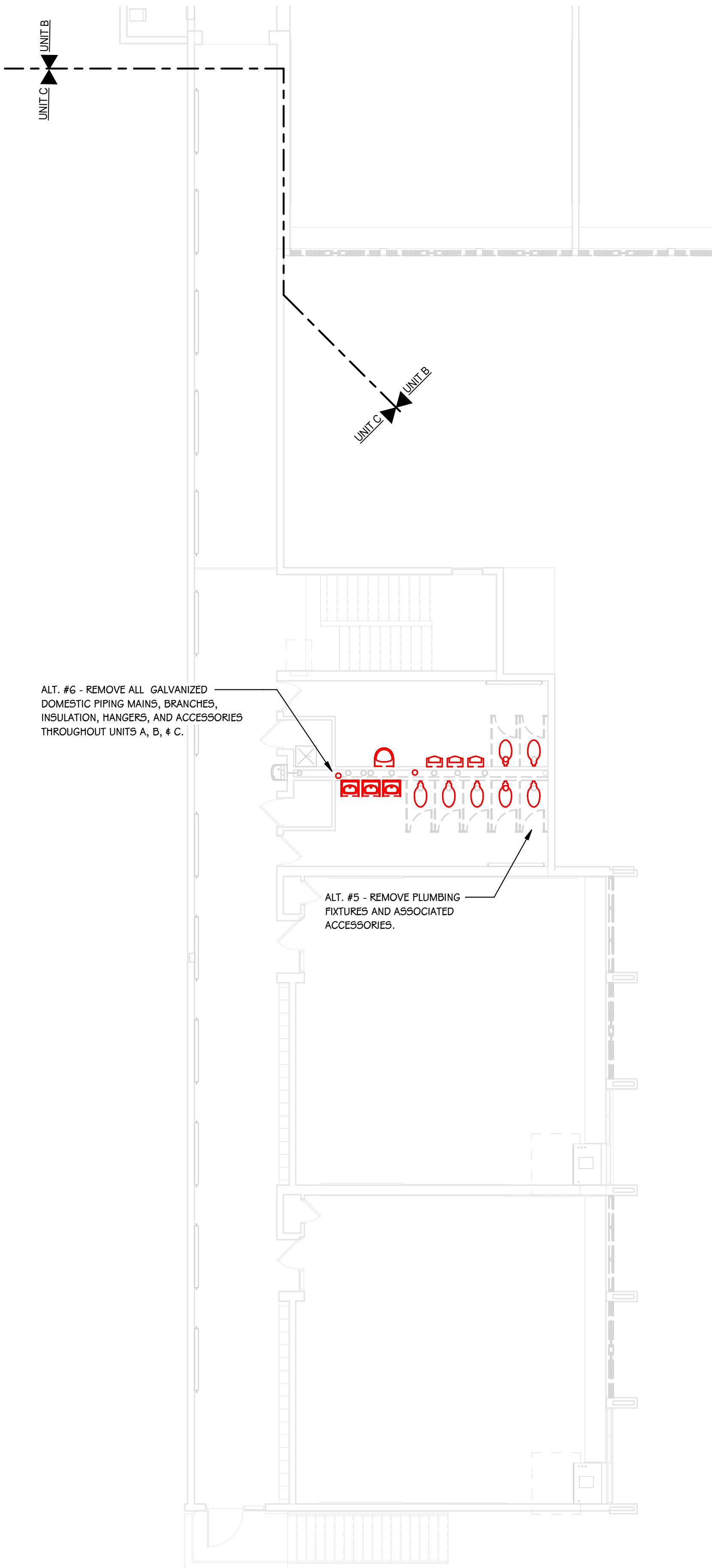


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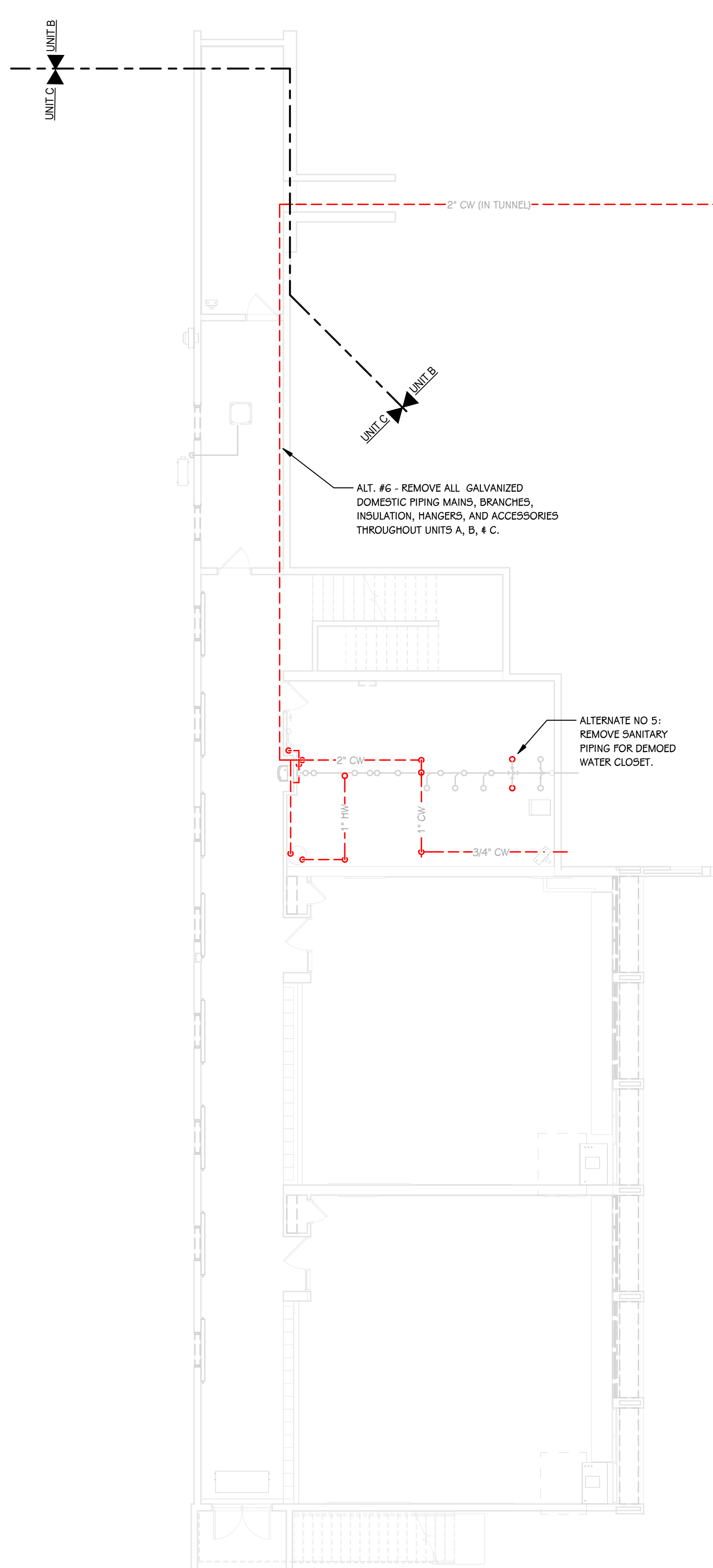
WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE



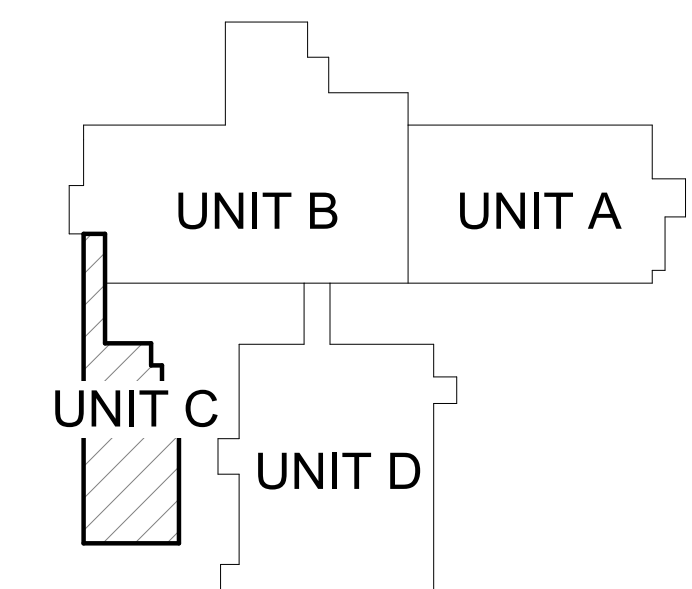
UPPER LEVEL PLUMBING DEMOLITION PLAN - UNIT C
1/8" = 1'-0"



LOWER LEVEL PLUMBING DEMOLITION PLAN - UNIT C
1/8" = 1'-0"

THIS DRAWING SHEET IS INTENDED TO BE PLOTTED IN COLOR. IF THIS TEXT APPEARS IN BLACK AND WHITE, IT IS PLOTTED INCORRECTLY. DISCARD AND OBTAIN AN ACCURATE DRAWING

WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE

ADDENDUM #4 10-04-2024
ISSUED FOR DATE

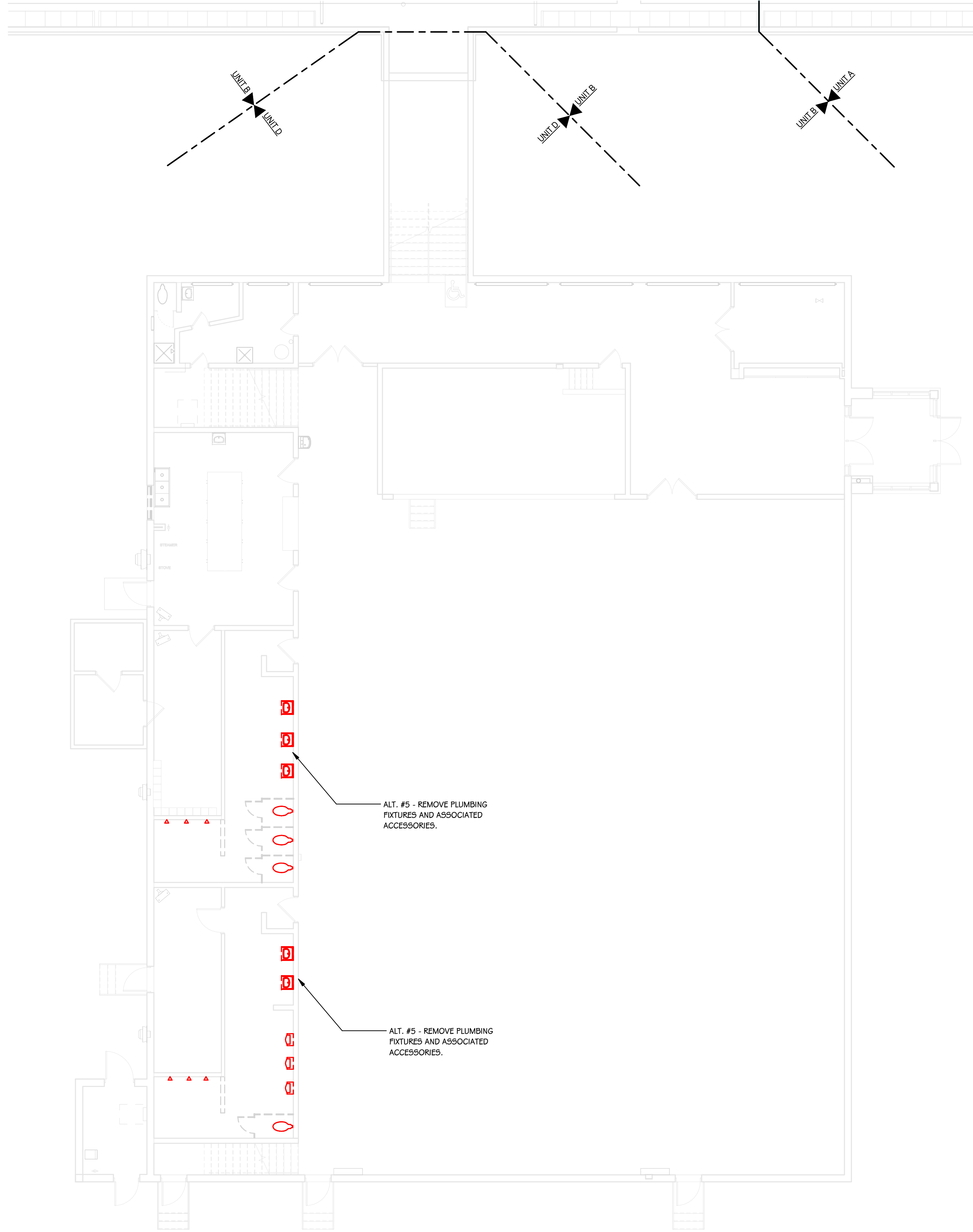
PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
ALTERNATES - FIRST FLOOR PLUMBING
DEMOLITION PLAN - UNIT C

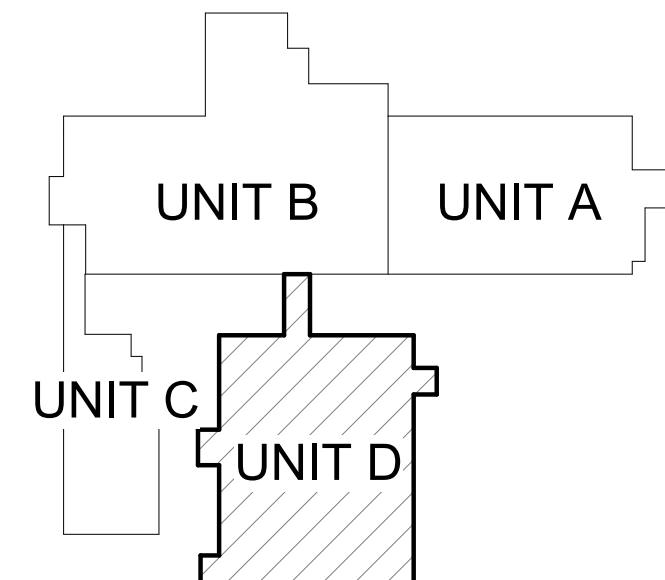
DATE
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SHEET NUMBER
PD 801C
23-606.00



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WESTNEDGE SCHOOL



KEY PLAN
SCALE: NO SCALE

ADDENDUM #4 10-04-2024
ISSUED FOR DATE

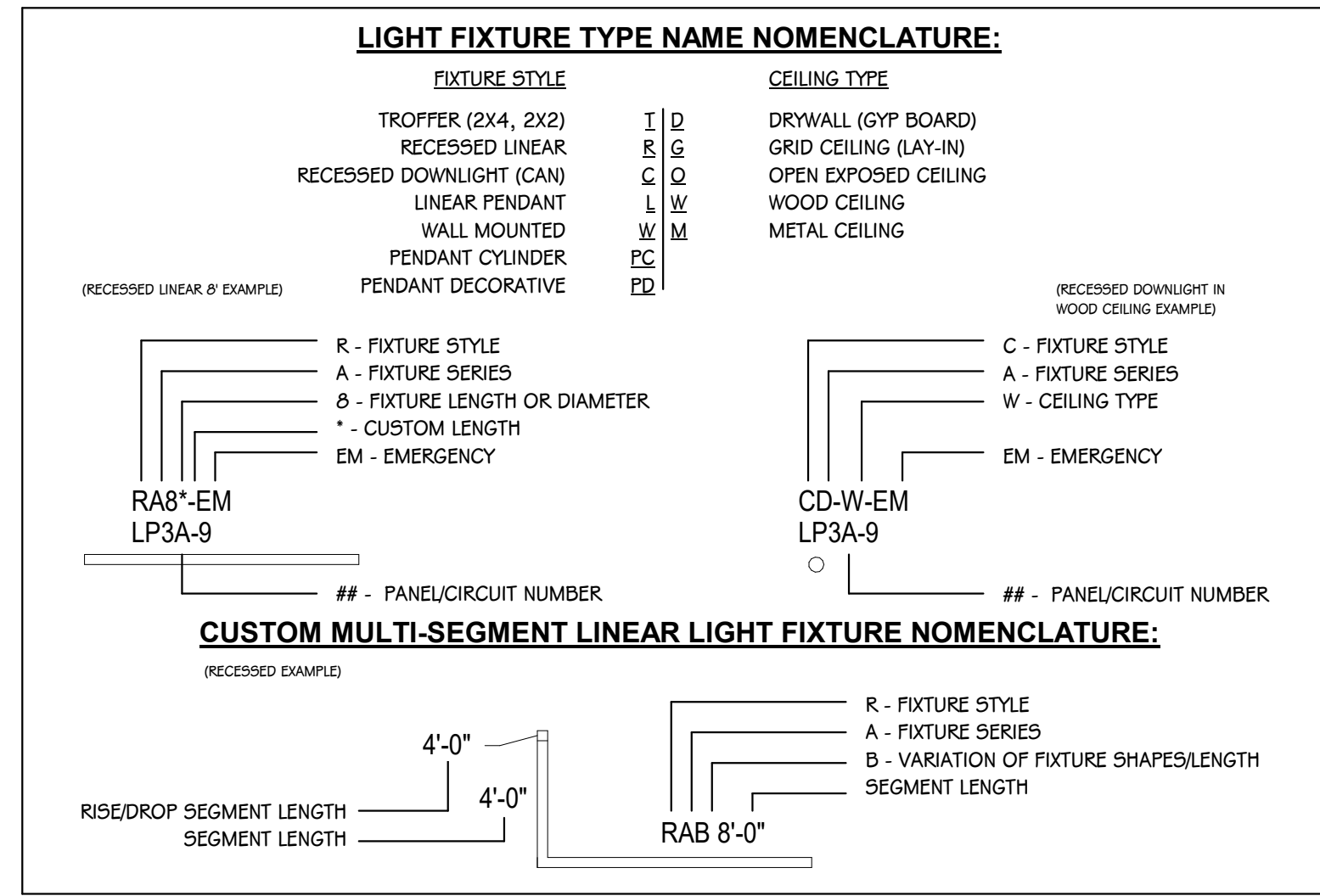
PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
ALTERNATES - FIRST FLOOR PLUMBING
DEMOLITION PLAN - UNIT D

DATE
SEPTEMBER 6, 2024

SHEET NUMBER
PD 801D
23-606.00



LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	CEILING TYPE	COLOR TEMP	DRIVER	MANUFACTURER	NOTES
BA	RECESSED DOWNLIGHT	RECESSED	UNIVERSAL	4000K	0-10V	GOTHAM #EVO6-40/250-AR-MWD-L55-120V-010V-5F-(COLOR)-EM-RAL CUSTOM COLOR OR EQUAL BY PRESCOLITE OR EQUAL BY ALPHABET NUG	1, 2, 3
C1	RECESSED DOWNLIGHT	RECESSED	UNIVERSAL	4000K	0-10V	GOTHAM #EVO6SW-40/15-DPR-ND-L55-120V-0-10V-5F-(COLOR)-EM OR EQUAL BY PRESCOLITE OR EQUAL BY ALPHABET NUG	1, 2, 3
C2	RECESSED DOWNLIGHT	RECESSED	UNIVERSAL	4000K	0-10V	GOTHAM #EVO6-40/30-AR-MWD-L55-120V-010V-5F-(COLOR)-EM OR EQUAL BY PRESCOLITE OR EQUAL BY ALPHABET NUG	1, 2, 3
HA	SURFACE WRAP, 4' - 0" LONG	RECESSED	EXPOSED DECK	4000K	0-10V	KENALL #MLH48-48-R-MW-PP-1-45L40K-1-DV-DL-PH-EM OR EQUAL BY NEW STAR OR EQUAL BY FAIL SAFE	1, 2, 3
HB	HIGH BAY	CHAIN	EXPOSED DECK	4000K	0-10V	HOLOPHANE #PH2 40000-MDFR-MVOLT40K-80CRI-P-W-DIM-(COLOR)-PHZCHAIN XIN-EM OR EQUAL BY LITHONIA #JBL WITH FROSTED LENS OR EQUAL BY METALUX BMX-60-MFL-UNV-L840-CD1-LOOP-410 OR EQUAL BY	1, 2, 3
IA	INDRUSTRAL PENDANT, 4' - 0" LONG	CABLE	UNIVERSAL	4000K	0-10V	LITHONIA #CX-L48-4000LM-SEF-FDL-120V-40K-80CRI-ZACVH-EM OR EQUAL BY METALUX OR EQUAL BY COLUMBIA	1, 2, 3
IB	INDRUSTRAL PENDANT, 8' - 0" LONG	CABLE	UNIVERSAL	4000K	0-10V	LITHONIA #CX-L96-8000LM-SEF-FDL-120V-40K-80CRI-ZACVH-EM OR EQUAL BY METALUX OR EQUAL BY COLUMBIA	1, 2, 3
M	MIRROR VANITY, 0' - 4" LONG	WALL	WALL	4000K	0-10V	BROWNLEE #5174-27-(OPTIONAL)-H31-40K OR EQUAL BY SAL VETRO 40"	1, 2
P4x10	PENDANT LINEAR SQUARE	CABLE GRID	ACOUSTIC GRID	4000K	0-10V	FINELITE #HO4-ID-RO-4X10 SQUARE-B-V-840-WSOTG-120-FA-OE-DC-C1, CUSTOM MITERED CORNERS OR EQUAL BY PINNACLE OR EQUAL BY AXIS BEAM	1, 2
RD6"	LINEAR RECESSED, 6' - 0" LONG	RECESSED DRYWALL	GYP DRYWALL	4000K	0-10V	FINELITE #HO4-R-RO-XX-B-840-OPN-120V-SC-5E-5F-EM OR EQUAL BY PINNACLE OR EQUAL BY BBRLED-932-80-40-FL-XX-W-UNV-DP-1-TB15	1, 2, 3
TG	RECESSED TROFFER, 2' - 0" FEET, 2' - 0" LONG	RECESSED	ACOUSTIC GRID	4000K	0-10V	FINELITE #HPR-LED-A-2X2-DCO-B-840-120V-SC-C1-EM OR EQUAL BY PINNACLE OR EQUAL BY AXIS LIGHTING	1, 2, 3
U	DISPLAY CASE LIGHT, 2' - 0" LONG	RECESSED	DISPLAY CASE	4000K	0-10V	ECOSENSE #SCD-M-48-40K-MULT-SCD-A-FRLS-48-SCD-2P-LWH-LDR-UNV-10-SCD-DCM-277-010V-WH OR EQUAL BY TEMPO LIGHTING	1, 2
X1	EXIT SIGN - SINGLE FACE	UNIVERSAL	UNIVERSAL			LITHONIA #LQC-W-1-R-ELN OR EQUAL BY SURE LITES OR EQUAL BY DUAL LITE	1, 2, 3
X2	EXIT SIGN - DOUBLE FACE	UNIVERSAL	UNIVERSAL			LITHONIA #LQC-W-2-R-ELN OR EQUAL BY SURE LITES OR EQUAL BY DUAL LITE	1, 2, 3
X3	EXIT SIGN - HIGH ABUSE	WALL	WALL			KENALL #METSW-MW-R-DT-EM OR EQUAL BY SURE LITES CX61WH OR EQUAL BY DUAL LITE SEWL-S-R-W	1, 2, 3

APPENDUM #4 10-04-2024
ISSUED FOR DATE

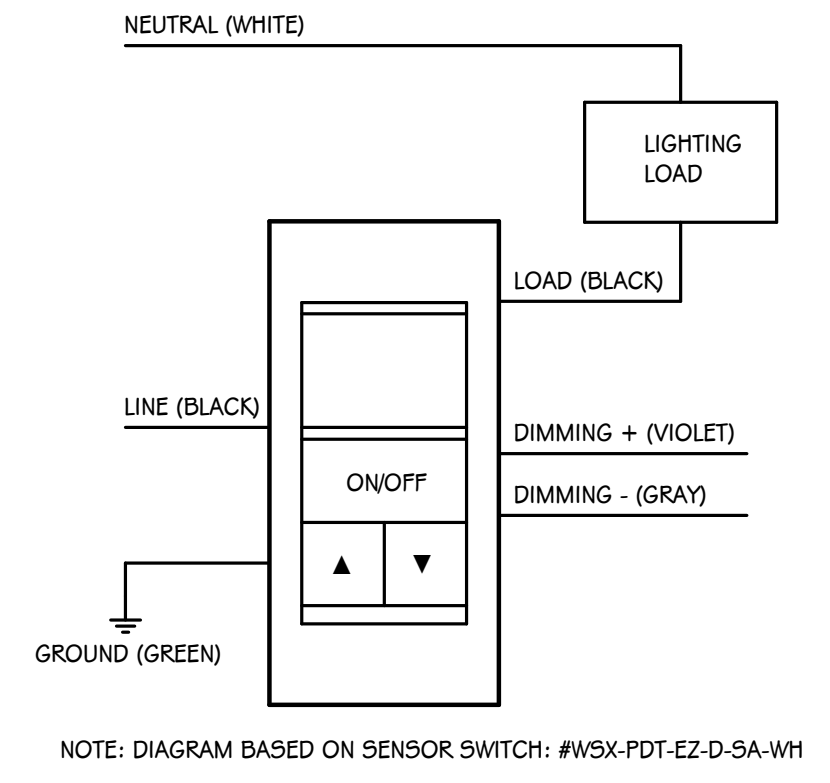
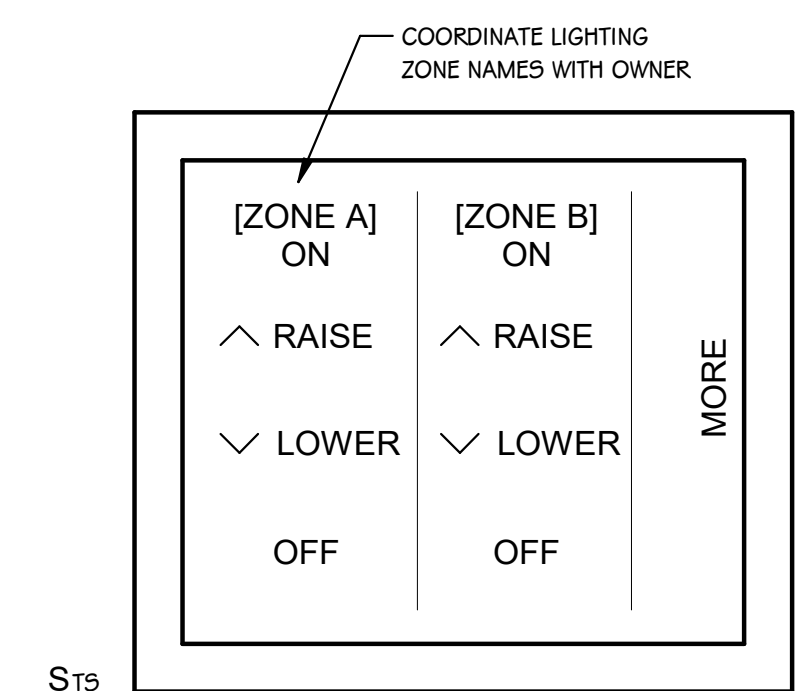
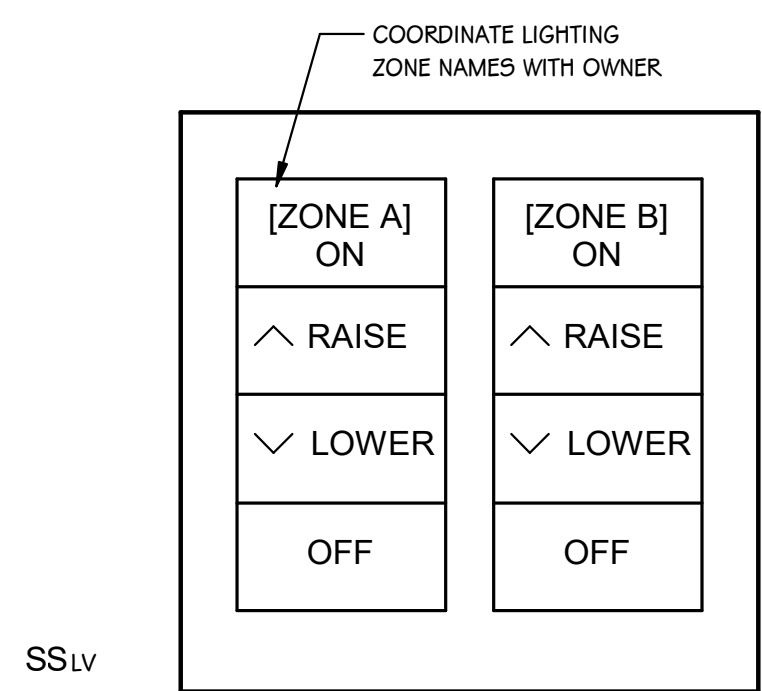
PROJECT TITLE
SOUTH WESTNEDGE
SCHOOL - REMODELING
AND SITE
IMPROVEMENTS

OWNER
KALAMAZOO PUBLIC
SCHOOLS

SHEET TITLE
LIGHTING SCHEDULES AND DETAILS

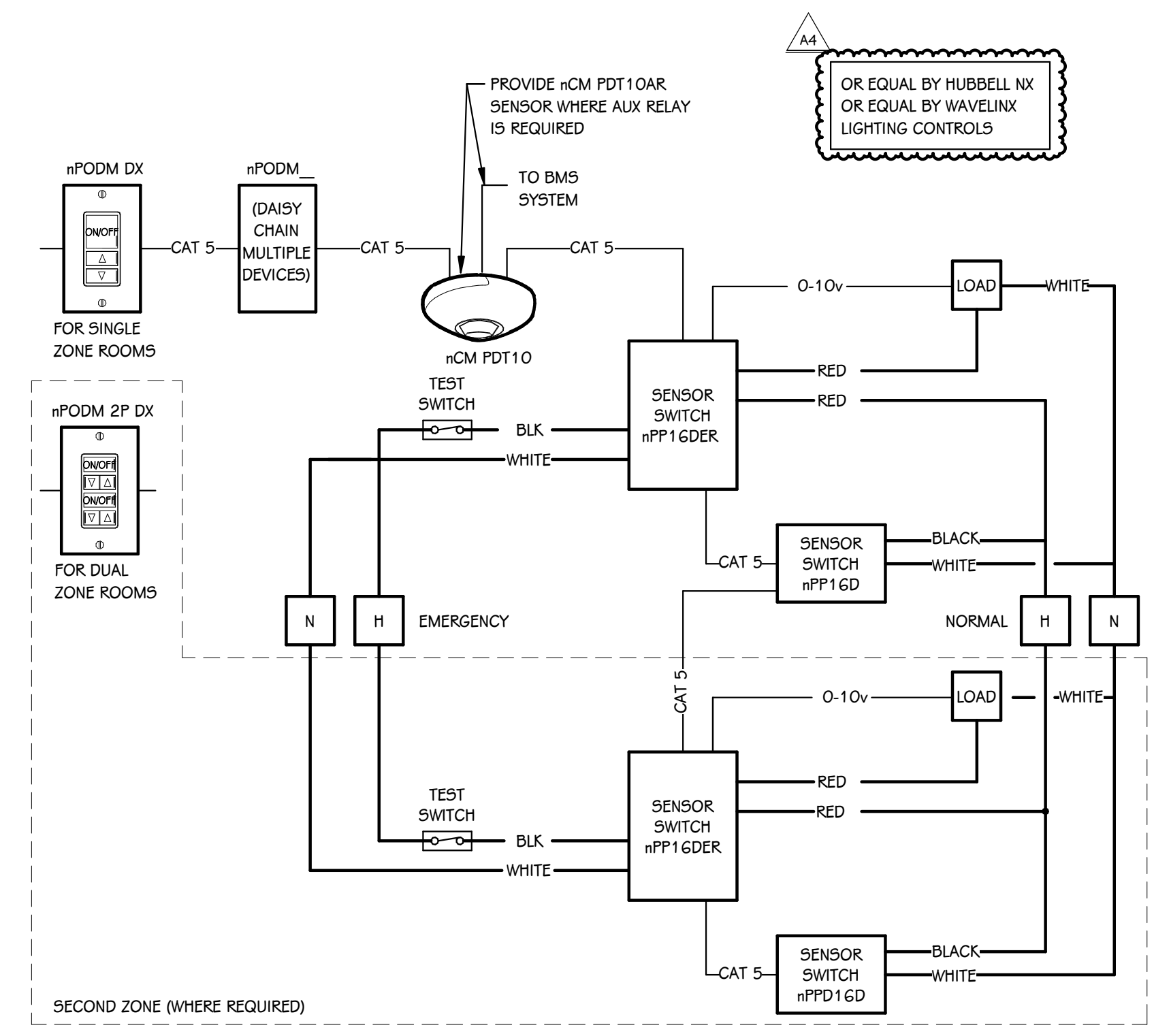
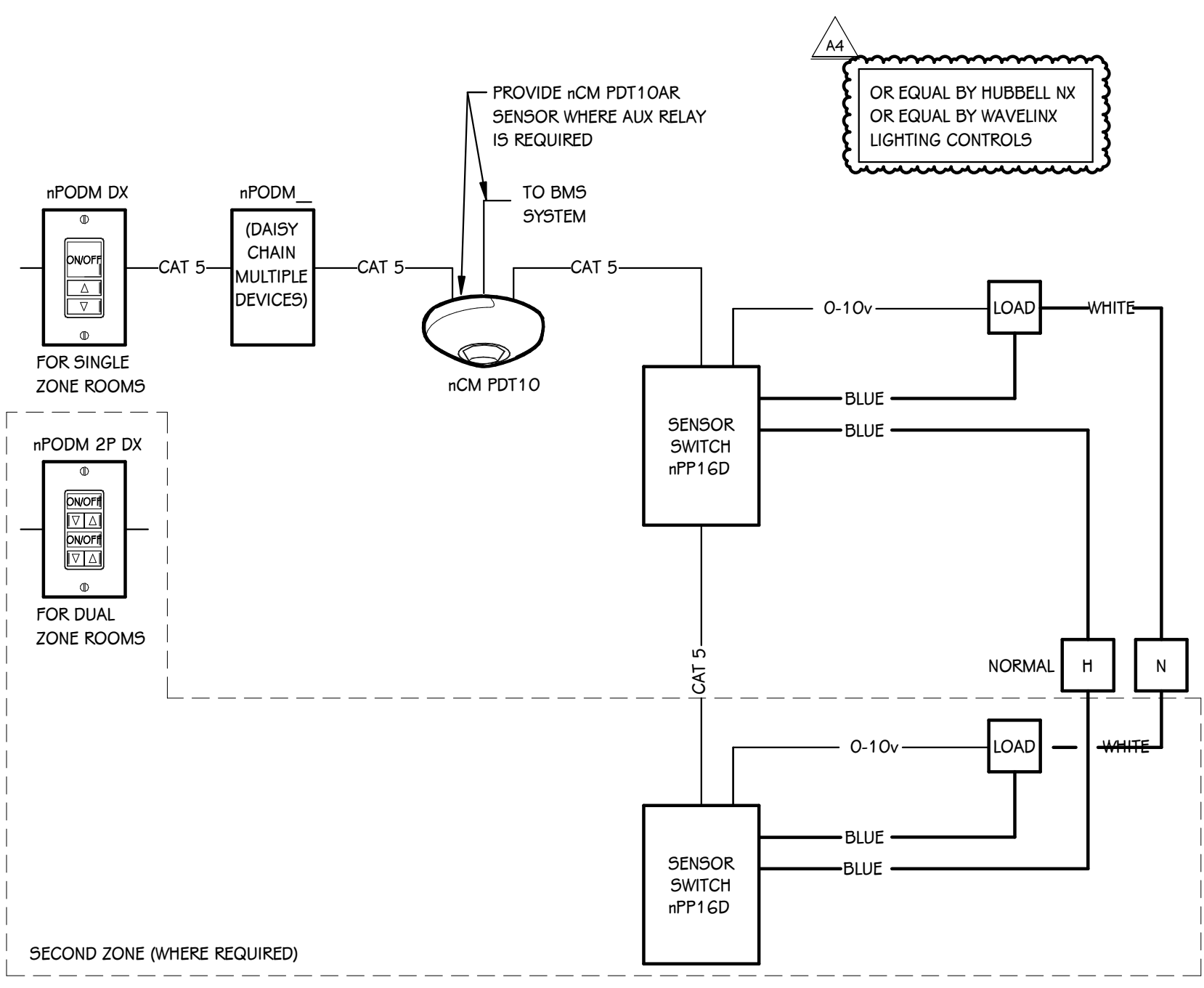
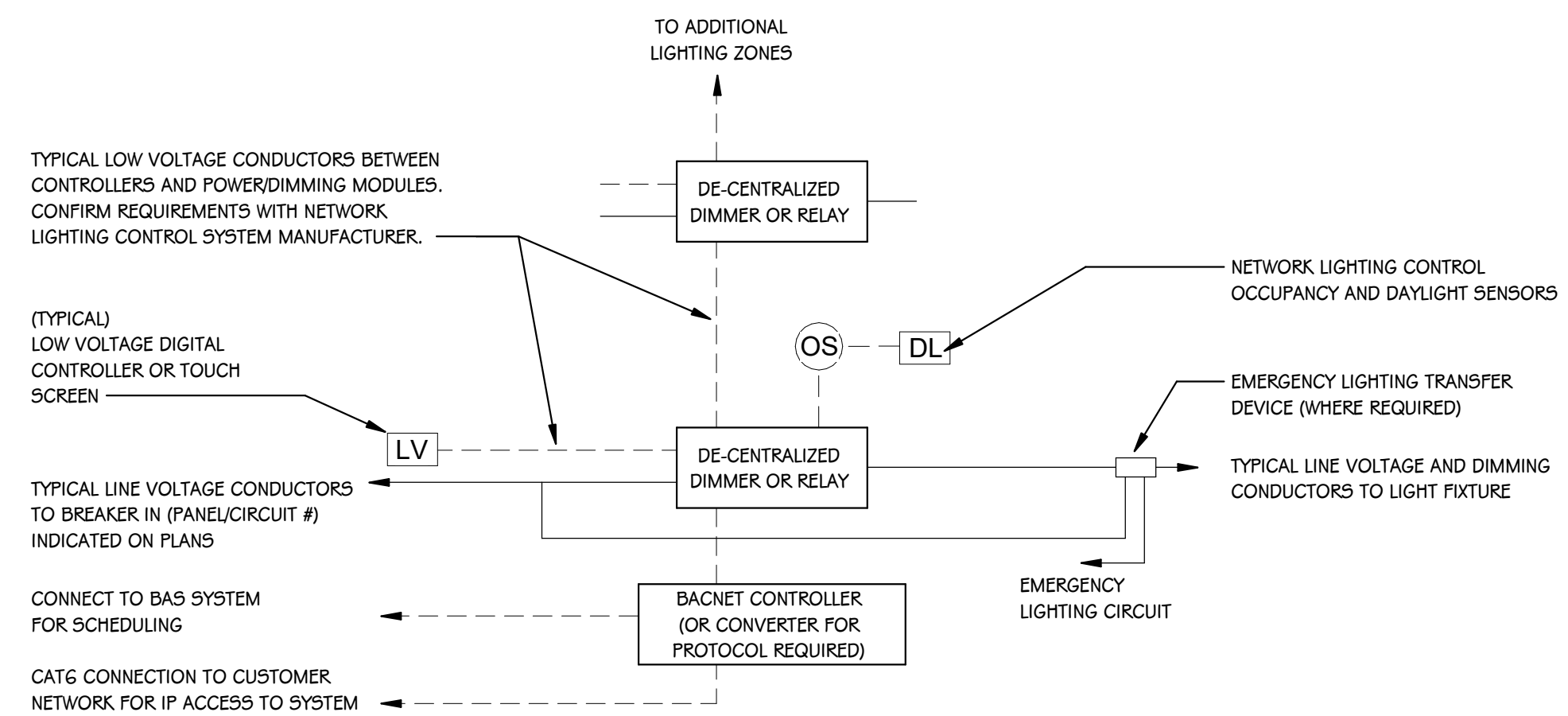
Kalamazoo, Michigan

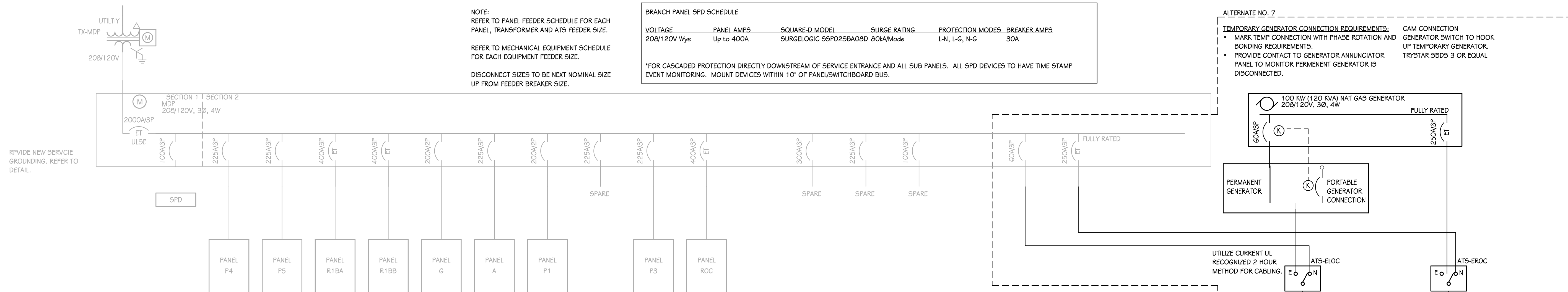
DATE
SEPTEMBER 6, 2024
SHEET NUMBER
E 404
23-606.00



- * FIELD COORDINATE AND FIELD MEASURE FOR CUSTOM LENGTH FIXTURES, LENGTHS PROVIDED ARE ROUNDED AND DEPEND ON FIELD CONDITIONS.
- 1 ALL LED FIXTURES TO HAVE WARRANTY TO MEET OR EXCEED WARRANTY INCLUDED IN BASIS OF DESIGN. FIXTURES LISTED AS EQUALS SHALL MEET DELIVERED LUMENS, CRI, EFFICACY AND OPTIONS OF THAT SPECIFIED. REFER TO SPECIFICATIONS 265100 AND 265600 FOR ADDITIONAL REQUIREMENTS.
- 2 THE MOUNTING DESCRIPTION IS GENERAL. REFER TO SHOP DRAWINGS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR SPECIFIC MOUNTING DETAILS.
- 3 ALTERNATE NO. 7 - PROVIDE CREDIT FOR INDIVIDUAL BATTERIES CALLED OUT IN EM LIGHTING FIXTURES AND EXIT SIGNS. ADD A GENERATOR SYSTEM, EMERGENCY LIGHTING DEVICE FOR EACH SWITCHED LEG, ISOLATED EMERGENCY LIGHTING CIRCUIT, AND CONNECT FIXTURES IDENTIFIED TO GENERATOR CIRCUIT CALLED OUT ON ELECTRICAL ALTERNATE SHEETS. FIXTURES WITH THE CENTER CIRCLE SHALL BE CONNECTED TO EMERGENCY POWER. FIXTURES WITH CENTER CIRCLE SHADED THAT ARE SWITCHED SHALL BE PROVIDED WITH BODINE "ELD" TRANSFER DEVICE. FOR INDIVIDUAL FIXTURES DEVICE SHALL BE MOUNTED INTERNAL TO THE FIXTURE. PROVIDE LABEL ON INSIDE OF FIXTURE INDICATING FED FROM MULTIPLE CIRCUITS. WHERE DEVICE CANNOT BE MOUNTED INSIDE OF FIXTURE, MOUNT ADJACENT TO FIXTURE IN ACCESSIBLE CEILING SPACE.

NOTE:
REFER TO LIGHTING CONTROL ZONE SCHEDULES FOR ZONE CONTROL QUANTITY. PROVIDE LOCALIZED CONTROLLERS IN ELECTRICAL ROOMS AND CEILING SPACES.





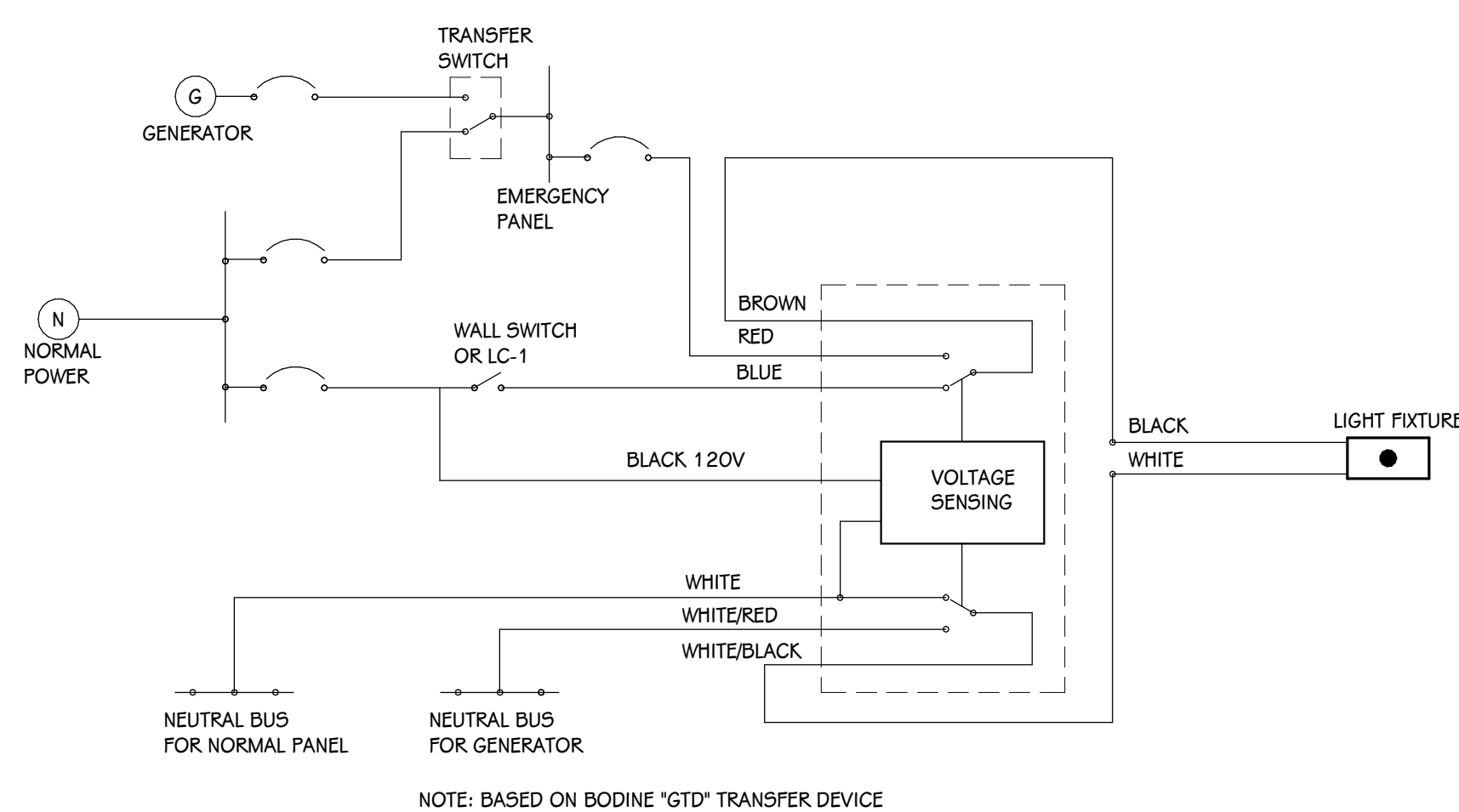
ELECTRICAL ONE-LINE DIAGRAM - ALT NO. 7
SCALE: NONE

ALTERNATE NO. 7 - ELECTRICAL PANEL FEEDER SCHEDULE

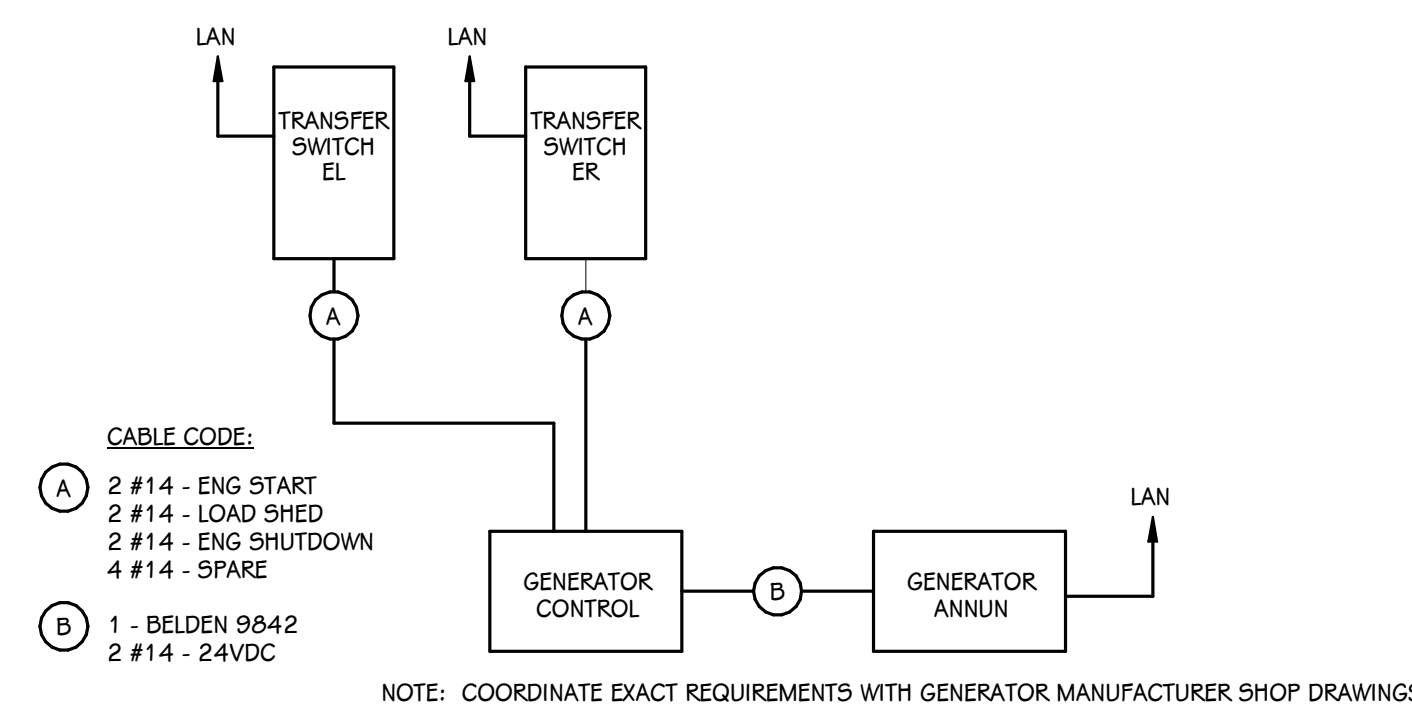
DESCRIPTION	FED FROM	CURRENT (FLA)	DEMAND (FLA)	BREAKER / POLES	# OF SETS	FEEDER			FEED VOLT DROP %
						WIRE	GROUND	EMT	
208 V									
ATS-ELOC	MDP	15 A	7 A	60 A / 3	1 SET	4 #4	#10 GND.	1 1/4"	1.02%
ATS-ELOC	GEN	15 A	7 A	60 A / 3	1 SET	4 #4	#10 GND.	1 1/4"	0.21%
ATS-EROC	MDP	224 A	200 A	250 A / 3	2 SETS	4 #250 KCMIL	#1 GND.	3"	1.84%
ATS-EROC	GEN	224 A	200 A	250 A / 3	1 SET	4 #250 KCMIL	#4 GND.	3"	0.67%
ELOC	ATS-ELOC	15 A	7 A	60 A / 3	1 SET	4 #4	#10 GND.	1 1/4"	0.16%
ELOC	ELOC	8 A	2 A	60 A / 3	1 SET	4 #4	#10 GND.	1 1/4"	0.17%
EROC	ATS-EROC	224 A	200 A	250 A / 3	1 SET	4 #250 KCMIL	#4 GND.	3"	0.57%
EROD	EROC	52 A	35 A	100 A / 3	1 SET	4 #1	#6 GND.	2"	0.56%
ER1A (R1A)	EROC	83 A	83 A	150 A / 3	1 SET	4 #4/0	#3 GND.	2 1/2"	1.84%
ER1B (P2)	EROC	74 A	68 A	100 A / 3	1 SET	4 #2/0	#1 GND.	2"	1.98%

LIGHT FIXTURE SCHEDULE

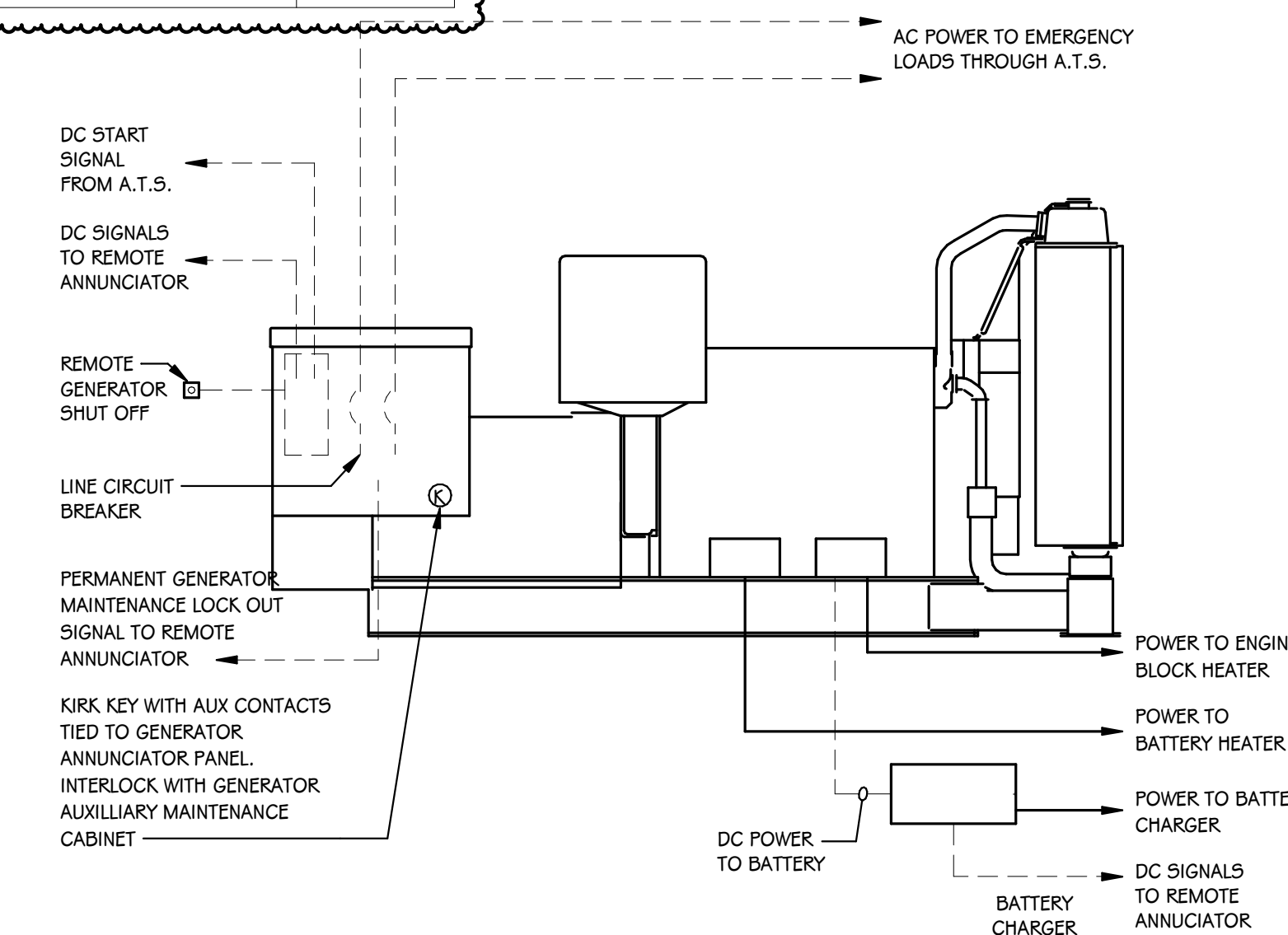
TYPE	DESCRIPTION	MOUNTING	CEILING TYPE	COLOR TEMP	DRIVER	MANUFACTURER	NOTES
C2	RECESSED DOWNLIGHT	RECESSED	UNIVERSAL	4000K	0-10V	GOTHAM #EVO6-40/30-AR-MWD-L55-120V-010V-5F-(COLOR)-EM OR EQUAL BY PRESCOLITE OR EQUAL BY ALPHABET NUG	1, 2, 3
HA	SURFACE WRAP, 4' - 0" LONG	RECESSED	UNIVERSAL	4000K	0-10V	KENALL #MLHAB-48-R-MW-PP-1-45L40K-1-DV-DL-PH-EM OR EQUAL BY NEW STAR OR EQUAL BY FAIL SAFE	1, 2, 3
RD18"	LINEAR RECESSED, 18' - 0" LONG	RECESSED DRYWALL	GYP DRYWALL	4000K	0-10V	FINELITE #HO4-R-RO-XX-B-840-OPN-120V-SC-SE-5F-EM QUAL BY PINNACLE OR EQUAL BY BBRLED-932-80-40-FL-XX-W-UNV-DP-1-TB15	1, 2, 3
RD20"	LINEAR RECESSED, 20' - 0" LONG	RECESSED DRYWALL	GYP DRYWALL	4000K	0-10V	FINELITE #HO4-R-RO-XX-B-840-OPN-120V-SC-SE-5F-EM QUAL BY PINNACLE OR EQUAL BY BBRLED-932-80-40-FL-XX-W-UNV-DP-1-TB15	1, 2, 3



ALT NO. 7 - SWITCHED EMERGENCY LIGHT FIXTURE "ELD" WIRING DIAGRAM
SCALE: NONE



ALT NO. 7 - TYPICAL GENERATOR CONTROL WIRING DIAGRAM
SCALE: NONE



ALT NO. 7 - GENERATOR CONTROL AND ACCESSORY WIRING
SCALE: NONE