

ADDENDUM NO. 4

TO: All Bidders

FROM: LeChase Construction

PROJECT: Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

DATE: 9/22/26

RE: Azar Clarifications – Addendum

Please see the enclosed addendum issued by Azar Design Co. For purposes of this bid process and LeChase's document control, this addendum shall be considered LeChase Addendum No. 4, following the sequential numbering of previously issued addenda. Please note that while Azar Design Co. has identified the enclosed document as Addendum No. 01, all bidders shall acknowledge and reference it as LeChase Addendum No. 4 in their bid submissions.

Thank you,

A handwritten signature in black ink, appearing to read 'Sam Pomerantz'.

Sam Pomerantz

Sr. Project Manager

LeChase Construction Services

ADDENDUM #01

Project No. 16057.40

DASNY 371230

Building 75 – Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street
Binghamton, NY 14224

September 22, 2026

GENERAL:

All Bidders submitting proposals for the above named project shall take note of the following additions, changes, and clarifications which modify the original bidding documents. The instructions included in this Addendum have precedence over anything contrarily shown on the Drawings or described in the Specifications, and all such shall be taken into consideration and be included in the Proposal. Receipt of this Addendum shall be acknowledged by the Bidder in the space provided on the proposal form.

This addendum is part of the Contract Documents and modifies the original drawings and specifications as noted below:

1.01) MODIFICATIONS TO THE SPECIFICATIONS:

- a) Specification Section Table of Contents: **REPLACE** original with revised Table of Contents specification section marked Addendum 01.
- b) Specification Section 042000 Unit Masonry: **REPLACE** original with revised 042000 Unit Masonry specification section marked Addendum 01.
- c) Specification Section 061000 Rough Carpentry: **REPLACE** original with revised 061000 Rough Carpentry specification section marked Addendum 01.
- d) Specification Section 081416 Flush Wood Doors: **REPLACE** original with revised 081416 Flush Wood Doors specification section marked Addendum 01.
- e) Specification Section 083100 Access Doors and Panels: **REPLACE** original with revised 083100 Access Doors and Panels specification section marked Addendum 01.
- f) Specification Section 089119 Fixed Louvers: **REPLACE** original with revised 089119 Fixed Louvers specification section marked Addendum 01.
- g) Specification Section 090160.91 Terrazzo Flooring Restoration: **ADD** 090160.91 Terrazzo Flooring Restoration specification section marked Addendum 01.

Buffalo
 295 Main Street
 Suite 200
 Buffalo, NY 14203
 716.856.3933

Albany
 435 New Karner Road
 Albany, NY 12205
 518.452.1037

Ithaca
 123 W. State Street
 Suite 201
 Ithaca, NY 14850
 607.288.2088

Manhattan
 215 West 94th Street
 Suite 517
 New York, NY 10025
 212.372.4813

Queens
 89-31 161st Street
 Suite 901
 Jamaica, NY 11432
 718.374.3422

Philadelphia
 123 S. Broad Street
 15th Floor
 Philadelphia, PA 19109
 267.703.6655

- h) Specification Section 093013 Ceramic Tiling: **REPLACE** original with revised 093013 Ceramic Tiling specification section marked Addendum 01.
- i) Specification Section 102800 Toilet, Bath, and Laundry Accessories: **REPLACE** original with revised 102800 Toilet, Bath, and Laundry Accessories specification section marked Addendum 01.
- j) Specification Section 233300 Air Duct Accessories: **REPLACE** original with revised 233300 Air Duct Accessories specification section marked Addendum 01.
- k) Specification Section 260544 Sleeves and Sleeve Seals for Electrical Raceways and Cabling: **REPLACE** original with revised 260544 Sleeves and Sleeve Seals for Electrical Raceways and Cabling specification section marked Addendum 01.
- l) Specification Section 265119 LED Interior Lighting: **REPLACE** original with revised 265119 LED Interior Lighting specification section marked Addendum 01.
- m) Specification Section 283111 Digital, Addressable Fire-Alarm Systems: **REPLACE** original with revised 283111 Digital, Addressable Fire-Alarm Systems specification section marked Addendum 01.

1.02) MODIFICATIONS TO THE DRAWINGS:

- a) G107 – Phasing Plans: **REVISE** plans 1/G107 3RD FLOOR PHASING and 2/G107 4TH FLOOR PHASING to indicate Phases 1, 2, and 3.
- b) AD113B – Partial Ceiling Removal Plan – 3rd Floor – Wing B: **REVISE** ceiling tags in the following rooms: Conference RM 3-23, Nursing Skills Lab 3-32, Conference Rm 3-36, Copy Rm, 3-48, and Break Rm 3-50.
- c) AD113C – Partial Ceiling Removal Plan – 3rd Floor – Wing C: **REVISE** ceiling tag in room ITS 3-74.
- d) AD113D – Partial Ceiling Removal Plan – 3rd Floor – Wing D: **REVISE** ceiling tags in the following rooms: Conference Rm 3-108, Classroom 3-112, and Conference Rm 3-122.
- e) AD113E – Partial Ceiling Removal Plan – 3rd Floor – Wing E: **REVISE** ceiling demolition scope in Office 3-135A and ceiling tags in the following rooms: Medical Records Rm 3-135 and Main Office 3-137.
- f) AD114D – Partial Ceiling Removal Plan – 4th Floor – Wing D: **REVISE** Laundry Room 4-110's ceiling tag for the ceiling removal portion to state a ceiling height of 6' – 10", and ceiling removal scope and tags in the following rooms: MDSO Conference Rm 4-122.
- g) AD201B – Exterior Elevations Removal: **REVISE** detail 3/AD201B to change the window of Wing 3A to be existing to remain.
- h) A114D – Partial Ceiling Plan – 4th Floor – Wing D: **REVISE** Laundry Room 4-110's ceiling alteration portion to be 3' – 10" wide by 5' – 9" long.



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- i) A501 – Window Details: **REVISE** detail 6/A501 to include the fan coil unit outside air duct width.
- j) F000 and FD103A – Removal Legend: **REVISE** drawing sheet to include removal legend.
- k) FD103B, FD103C, FD103D, FD103E, FD104A, FD104B, FD104C, FD104D, FD104E, FD105A, FD105B, FD105C, FD105D, and FD105E – Removal Legend and Notes: **REVISE** drawing sheet to include removal legend removal notes.
- l) F600 – Notes: **REVISE** drawing sheet to include note C and Sequence of Operation Notes A, B, C, D, and E.

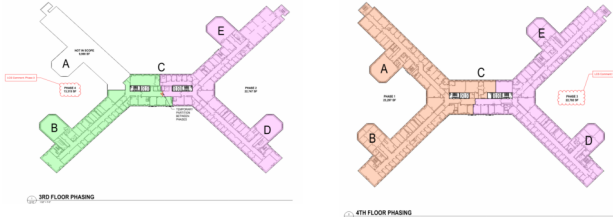
END OF ADDENDUM #01



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Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

Drawing Title	TYPE	Question	Comments	Status: In Review, Returned, Closed	Expected Date	
G107 - Phasing Plans	General	G107 - Phasing Schedule Notes Phase 1, Phase 2 and Phase 3 (No Phase 4 noted)	 3rd Flooring Phasing plan notes Phase 4, 13,315 SF. 4th Floor Phasing plan notes Phase 3, 22,782 SF, for the pink shaded area instead of Phase 2, 22,782 SF. Correct Phases called out on Plans.	Returned	Due - 8/21/26	9/22/2026
AD113C - Partial Ceiling Removal Plans - 3rd Floor - Wing C	Architectural Removals	AD113C - Partial Ceiling Plan - Keynote 'A' isn't shown on the plan, there are dashed lines and dimensions between rooms 3-C and 3-74. Update plan. 1. Keynote A needs to point at dashed lines between 3-C and 3-74, update location.	Keynote A has been added.	Returned	Due - 8/21/26	
A114D - Partial Ceiling Plan - 4th Floor - Wing D	Architectural	A114D - Partial Ceiling Plan - Room 4-110 Laundry Room ceiling work dimensions to not match work noted on AD114D. Verify work to be completed. 1. A114D Room 4-110; 9'-0"/GWB note dimensions are 2'-8" x 3'-10" while the on AD114D the Demo work dimensions are 10'-0"/Demo 3'-10" x 5'-9" update & correct dimensions.	Ceiling tag has been updated to indicate removal work.	Returned	Due - 8/21/26	

Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

Spec No.	Specification Title	TYPE	Question	Comments	Status: Open In Review, Returned, Closed	Expected Date
	Table of Contents	All	Page total is incorrect for multiple sepc sections: 081113, 087100, 092900, 230529, 230553, , 230713, 230719, 230923.11, 232113, 233300, and 238219	The page numbering for these specifications has been updated.	Open - In Review	Due - 8/21/26
042000	Unit Masonry	Div 4 - Masonry	Page numbering is incorrect; page 1 is page 11 and page 2 is 22 and so forth	The specification footer has been updated.	Open - In Review	Due - 8/21/26
081416	Flush Wood Doors	Div 8 - Openings	Page numbering is incorrect; page 1 is page 11 and page 2 is 22 and so forth	The specification footer has been updated.	Open - In Review	Due - 8/21/26
083100	Access Doors and Panels	Div 8 - Openings	Page numbering is incorrect; page 1 is page 11 and page 2 is 22 and so forth	The specification footer has been updated.	Open - In Review	Due - 8/21/26
089119	Fixed Louvers	Div 8 - Openings	Duplicated spec section - Remove extra copy	The duplicate portion has been removed.	Open - In Review	Due - 8/21/26
092900	Gypsum Board	Div 9 - Finishes	092900 - Spec sections 8 pages, - Table of Contents note 6 pages	The page numbering for this specification has been updated.	Open - In Review	Due - 8/21/26
102800	Toilet, Bath, and Laundry Accessories	Div 10 Specialties	Page numbering is incorrect; page 1 is page 11 and page 2 is 22 and so forth	The specification footer has been updated.	Open - In Review	Due - 8/21/26
260544	Sleeves and Sleeve Seals For Electrical Raceways and Cabling	Div 26 - Electrical	Footer has incorrect spec section '230010' not 260544	The specification footer has been updated.	Open - In Review	Due - 8/21/26
265119	LED Interior Lighting	Div 26 - Electrical	Change END OF SECTION "265116" to 265119 on page 6	The specification number has been updated.	Open - In Review	Due - 8/21/26

9/22/2026

Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

ID	Specification / Drawing Title	Type	Question	Comments
01	A123 - Finish Selection Schedule - Ref. drawings A123B, A123C, 123D, & 123 E	Architectural	A123, the schedule specifies Terrazzo Flooring (TZ03) – Should a Terrazzo refinishing section be added to specifications?	Agreed, specification section 090160.91 Terrazzo Flooring Restoration has been added to the Project Manual. See Addendum 01.
02	Project Manual	General Conditions	Please add H103A, AD113A, MD103A, M103A, E306A, and E306E to Table of Contents	The Table of Contents has been updated to include these drawings within the drawing list.
03	01 40 00 - Quality and Code Requirements	General Conditions	Our review shows that Special inspection requirements are not consistent with scope of work.	Clarification of comment required.
04	23 08 00 - Commissioning of HVAC	Mechanical	Will CM be responsible to engage Commissioning Agent? Confirm Commissioning for Electrical and Plumbing is not required for this project	Yes, that is correct for Commissioning of HVAC systems.
05	23 05 93 - Testing, Adjusting and Balancing for HVAC	Mechanical	Section calls for balancing existing FCU system to meet performance requirements. Issues have occurred on other projects getting the AHU to reach the CFM targets. Spec. indicates HVAC contractor is responsible for variations. Is the goal for the pre construction balance to get ahead of these potential final balancing issues?	Yes, that is correct. In additional, the pre-construction readings i.e. air volume (cfm), static pressure, transverse air flow readings, etc. will be used for re-balancing, troubleshooting the renovated/modified systems, and etc.
06	23 33 30 - Air Duct Accessories	Mechanical	Where are fire smoke dampers required for the project and what voltage will control them? This tends to be a coordination item either the BAS contractor provides power and controls and the fire alarm system monitors or the other way around.	There is no new FSD in the project. FSD section has been removed from the specification.
07	23 09 23 - Direct Digital Control (DDC) System for HVAC	Mechanical	Some HVAC specification sections are not complete. Refer to control valves section.	Please provide specific details. Is there a question about the control valves?
08	28 31 11 - Digital Addressable Fire Alarm System	Electrical	Specifies all fire alarm cable to be installed in EMT. This is typically not done in a building of this type. Possible considerable savings when using plenum rated cable where above ceilings and in hollows of walls. All exposed cable in EMT makes sense for protection, consider EMT up to the ceiling space and then exposed.	Specification has been edited to read: 3.4PATHWAYS A.Pathways above recessed ceilings and in inaccessible locations may be routed exposed. 1.Exposed pathways located less than 96 inch
09	AD113B - Partial Ceiling Removal Plan - 3rd Floor Wing B	Architectural	Certain ceiling demo requirements not shown (ex: Conference Room, Office, and Nursing Lab). Please review and update as needed.	Architectural ceiling tags and removal scope have been updated on drawing sheets AD113B, AD113C, AD113D, AD113E, and AD114D. See Addendum 01 for specific changes. Ceilings not called out on the architectural removal drawings are called out on the abatement drawings.

Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

ID	Specification / Drawing Title	Type	Question	Comments
10	AD113B - Partial Ceiling Removal Plan - 3rd Floor Wing B	Architectural	Certain ceiling soffits to be demo'd are not labeled as such (ex: Break Room and Copy Room). Please review and update as needed.	Architectural ceiling tags and removal scope have been updated on drawing sheets AD113B, AD113C, AD113D, AD113E, and AD114D. See Addendum 01 for specific changes. Ceilings not called out on the architectural removal drawings are called out on the abatement drawings.
11	A501 - Window Details	Architectural	Coordinate Section 3 on this drawing with 1/M201 with respect to brick vent sizing and configuration. Clarify all brick vent sizing is 20" x 5" as shown (coordinate with Mechanicals)	The height of the duct is shown in this section while the width of the duct is shown in details 6, 7, and 8/A501. Detail 6/A501 has been updated to include the same width dimension as details 7 and 8/A501.
12	A501 - Window Details	Architectural	Add corridor section showing minimum clearances between soffits and new suspended ceilings.	This is to be coordinated in the field, detail will not be provided.
13	FD103A - FD105E - Partial Plan FP - Demolition Plan Wing A - E	Fire Protection	Add legends and clarify meaning of shaded rooms in demo plans	Legends has been added to the cover sheet. The shaded rooms are rooms with an existing gyp ceiling.
14	FD103A - FD105E - Partial Plan FP - Demolition Plan Wing A - E	Fire Protection	Fire protection demo plans indicate removal of all existing fire protection piping. Is selective reuse of fire protection mains an option?	Selective reuse of the existing mains may be acceptable if the condition of the pipe is acceptable. The diameter of the mains will also need to be capable to hydraulically supplying the system.
15	FD103A - FD105E - Partial Plan FP - Demolition Plan Wing A - E	Fire Protection	Are any precautionary measures required for core drilling of slabs for new risers (ex: rebar location)?	A pilot hole should be made to confirm that existing structure will not hinder the core hole for the standpipe.
16	F600 - Site Location for Temporary Fire Pump	Fire Protection	Additional notes on fire protection temp. pump regarding sequencing, fire watch, etc. would be helpful.	This information has been added to the sheet.
17	P000 - Plumbing Cover Sheet	Plumbing	Add quantities to Schedule for plumbing fixtures	This is to be determined by the contractors estimator, detail will not be provided.

Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

ID	Specification / Drawing Title	Type	Question	Comments
18	M000 - Mechanical Title Sheet	Mechanical	How does contractor bid requirement to clean and repair existing mechanical equipment. Has a recent assessment been performed?	If this question is referring to "HVAC Demolition Note #2", the intent of the note is limited to the repair or replacement of existing equipment, piping, ductwork, controls, and accessories that are designated to remain and are damaged by the Contractor during the course of the work. This requirement is not intended to include or apply to the general cleaning, maintenance, repair, or servicing of existing mechanical equipment that is not damaged as a result of the Contractor's work.
19	M000 - Mechanical Title Sheet	Mechanical	Is contractor to assume that existing hydronic piping and ductwork will support sufficient flow, pressure, and temperature to meet design requirements (pending confirmation by field testing)?	That is correct pending pre-construction scope of work and modification to the existing systems.
20	M301	Mechanical	No riser connection detail(s) to existing hydronic system. Please provide riser details. Please provide riser details.	Are you referring to the connection of the new horizontal piping to the existing vertical risers? If so, please confirm. Otherwise, please provide additional details regarding the specific condition you are referring to.
21	E203B-E204E - Partial 3rd & 4th Floor Lighting Plans - Wing A - E	Electrical	Exit signs, typically require fixtures on emergency circuits to lead you out of the path of egress. This could require additional emergency lighting. Has this been reviewed?	Lighting General Notes already indicate "ALL LIGHTING CIRCUITS ARE POWERED FROM LEVEL 1 ATS AS DEFINED BY NFPA 110." Additional Emergency power is not indicated.
22	AD201B & A201B	Architectural	Demo drawing AD201B shows the left most window on the third floor to be removed and A201B does not show a new window going back in. Please update A201B to show a new window.	The left-most window on the third floor of elevation 3/AD201B has been updated. The window is existing to remain as that window is part of Wing 3A.
23	A200A - A205E Exterior Elevations	Architectural	Exterior elevations (A200A- A205E): Elevation note #3 regarding adding film to existing windows at L1A, 2A, 2B, 2D, and 2E. 1. Please confirm that lower level 1 and lower level 2 at all wings do not receive film. Confirm if C wing windows require film. 2. Please confirm that removal of the film is required once work is complete.	1. Only the wings mentioned in the note are to receive the privacy film. 2. The film applied to the exterior of the building is to be removed once work is complete.

Building 75 - Garvin Building Hazardous Material Abatement & Renovation Floors 3, 4, & 5

ID	Specification / Drawing Title	Type	Question	Comments
24	A123 - Finish Selection Schedule	Architectural	The finish schedule specifies terrazzo flooring TZ03 - Should a Terrazzo refinishing section be added to the specificatoins.	Agreed, specification section 090160.91 Terrazzo Flooring Restoration has been added to the Project Manual. See Addendum 01.

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APPENDICIES

Appendix A - Pre-Renovation Asbestos-Containing Materials, Lead-Based Paint, PCB-Containing Materials, Mold, Universal and Hazardous Waste Inspection Report Prepared by Encorus Group Dated July 2024

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AD114B – PARTIAL CEILING REMOVAL PLAN - 4TH FLOOR - WING B
AD114C – PARTIAL CEILING REMOVAL PLAN - 4TH FLOOR - WING C
AD114D – PARTIAL CEILING REMOVAL PLAN - 4TH FLOOR - WING D
AD114E – PARTIAL CEILING REMOVAL PLAN - 4TH FLOOR - WING E
AD115A – PARTIAL CEILING REMOVAL PLAN - 5TH FLOOR - WING A
AD115B – PARTIAL CEILING REMOVAL PLAN - 5TH FLOOR - WING B
AD115C – PARTIAL CEILING REMOVAL PLAN - 5TH FLOOR - WING C
AD115D – PARTIAL CEILING REMOVAL PLAN - 5TH FLOOR - WING D
AD115E – PARTIAL CEILING REMOVAL PLAN - 5TH FLOOR – WING E

AD200A – EXTERIOR ELEVATIONS REMOVAL
AD200A2 – EXTERIOR ELEVATIONS REMOVAL
AD201B – EXTERIOR ELEVATIONS REMOVAL
AD202C – EXTERIOR ELEVATIONS REMOVAL
AD203D – EXTERIOR ELEVATIONS REMOVAL
AD204E – EXTERIOR ELEVATIONS REMOVAL
AD205E – EXTERIOR ELEVATIONS REMOVAL

A102E – PARTIAL PLAN – 2ND FLOOR - WING E
A103B – PARTIAL PLAN - 3RD FLOOR - WING B
A103C – PARTIAL PLAN - 3RD FLOOR - WING C
A103D – PARTIAL PLAN - 3RD FLOOR - WING D
A103E – PARTIAL PLAN - 3RD FLOOR - WING E
A104A – PARTIAL PLAN - 4TH FLOOR - WING A
A104B – PARTIAL PLAN - 4TH FLOOR - WING B
A104C – PARTIAL PLAN - 4TH FLOOR - WING C

A104D – PARTIAL PLAN - 4TH FLOOR - WING D
A104E – PARTIAL PLAN - 4TH FLOOR - WING E
A105A – PARTIAL PLAN - 5TH FLOOR - WING A
A105B – PARTIAL PLAN - 5TH FLOOR - WING B
A105C – PARTIAL PLAN - 5TH FLOOR - WING C
A105D – PARTIAL PLAN - 5TH FLOOR - WING D
A105E – PARTIAL PLAN - 5TH FLOOR - WING E

A109A – PARTIAL CEILING PLAN – LOWER LEVEL 2 – WING A
A112 – PARTIAL CEILING PLAN – 2ND FLOOR – WINGS B, C, D, & E
A113B – PARTIAL CEILING PLAN - 3RD FLOOR - WING B
A113C – PARTIAL CEILING PLAN - 3RD FLOOR - WING C
A113D – PARTIAL CEILING PLAN - 3RD FLOOR - WING D
A113E – PARTIAL CEILING PLAN - 3RD FLOOR - WING E
A114A – PARTIAL CEILING PLAN - 4TH FLOOR - WING A
A114B – PARTIAL CEILING PLAN - 4TH FLOOR - WING B
A114C – PARTIAL CEILING PLAN - 4TH FLOOR - WING C
A114D – PARTIAL CEILING PLAN - 4TH FLOOR - WING D
A114E – PARTIAL CEILING PLAN - 4TH FLOOR - WING E

A123 – FINISH SELECTION SCHEDULE
A123B – PARTIAL FINISH FLOOR PLAN - 3RD FLOOR - WING B
A123C – PARTIAL FINISH FLOOR PLAN - 3RD FLOOR - WING C
A123D – PARTIAL FINISH FLOOR PLAN - 3RD FLOOR - WING D
A123E – PARTIAL FINISH FLOOR PLAN - 3RD FLOOR - WING D
A124A – PARTIAL FINISH FLOOR PLAN - 4TH FLOOR - WING A
A124B – PARTIAL FINISH FLOOR PLAN - 4TH FLOOR - WING B
A124C – PARTIAL FINISH FLOOR PLAN - 4TH FLOOR - WING C
A124D – PARTIAL FINISH FLOOR PLAN - 4TH FLOOR - WING D
A124E – PARTIAL FINISH FLOOR PLAN - 4TH FLOOR - WING E

A200A – EXTERIOR ELEVATIONS
A200A2 – EXTERIOR ELEVATIONS
A201B – EXTERIOR ELEVATIONS
A202C – EXTERIOR ELEVATIONS
A203D – EXTERIOR ELEVATIONS
A204E – EXTERIOR ELEVATIONS
A205E – EXTERIOR ELEVATIONS

A403B – ENLARGED BATHROOM
A403C – ENLARGED BATHROOM
A403D – ENLARGED BATHROOM
A403E – ENLARGED BATHROOM
A404A – ENLARGED BATHROOM
A404A2 – ENLARGED BATHROOM
A404B – ENLARGED BATHROOM
A404C – ENLARGED BATHROOM
A404D – ENLARGED BATHROOM

A404D2 – ENLARGED BATHROOM
A404E – ENLARGED BATHROOM
A404E2 – ENLARGED BATHROOM
A405 – ENLARGED STAIRS
A406 – ENLARGED MILLWORK PLANS & ELEVATIONS

A500 - DETAILS
A501 – WINDOW DETAILS

A600 – DOOR SCHEDULE
A601 – WINDOW ELEVATIONS & SCHEDULE

F000 - FIRE PROTECTION TITLE SHEET

FD103A – PARTIAL PLAN - 3RD FLOOR FP DEMOLITION PLAN - WING A
FD103B – PARTIAL PLAN - 3RD FLOOR FP DEMOLITION PLAN - WING B
FD103C – PARTIAL PLAN - 3RD FLOOR FP DEMOLITION PLAN - WING C
FD103D – PARTIAL PLAN - 3RD FLOOR FP DEMOLITION PLAN - WING D
FD103E – PARTIAL PLAN - 3RD FLOOR FP DEMOLITION PLAN - WING E
FD104A – PARTIAL PLAN - 4TH FLOOR FP DEMOLITION PLAN - WING A
FD104B – PARTIAL PLAN - 4TH FLOOR FP DEMOLITION PLAN - WING B
FD104C – PARTIAL PLAN - 4TH FLOOR FP DEMOLITION PLAN - WING C
FD104D – PARTIAL PLAN - 4TH FLOOR FP DEMOLITION PLAN - WING D
FD104E – PARTIAL PLAN - 4TH FLOOR FP DEMOLITION PLAN - WING E
FD105A – PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING A
FD105B – PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING B
FD105C – PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING C
FD105D – PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING D
FD105E – PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING E
FD106 - SUB BASEMENT LL3 FIRE PROTECTION MAIN DEMOLITION PLAN
FD107 – FP RISER DIAGRAM WITH DEMOLITION

F101E – PARTIAL FIRST FLOOR FIRE PROTECTION - E WING
F103A – PARTIAL PLAN - 3RD FLOOR FIRE PROTECTION PLAN - WING A
F103B – PARTIAL PLAN - 3RD FLOOR FIRE PROTECTION PLAN - WING B
F103C – PARTIAL PLAN - 3RD FLOOR FIRE PROTECTION PLAN - WING C
F103D – PARTIAL PLAN - 3RD FLOOR FIRE PROTECTION PLAN - WING D
F103E – PARTIAL PLAN - 3RD FLOOR FIRE PROTECTION PLAN - WING E
F104A – PARTIAL PLAN - 4TH FLOOR FIRE PROTECTION PLAN - WING A
F104B – PARTIAL PLAN - 4TH FLOOR FIRE PROTECTION PLAN - WING B
F104C – PARTIAL PLAN - 4TH FLOOR FIRE PROTECTION PLAN - WING C
F104D – PARTIAL PLAN - 4TH FLOOR FIRE PROTECTION PLAN - WING D
F104E – PARTIAL PLAN - 4TH FLOOR FIRE PROTECTION PLAN - WING E
F105A – PARTIAL PLAN - 5TH FLOOR FIRE PROTECTION PLAN - WING A
F105B – PARTIAL PLAN - 5TH FLOOR FIRE PROTECTION PLAN - WING B
F105C – PARTIAL PLAN - 5TH FLOOR FIRE PROTECTION PLAN - WING C
F105D – PARTIAL PLAN - 5TH FLOOR FIRE PROTECTION PLAN - WING D
F105E – PARTIAL PLAN - 5TH FLOOR FIRE PROTECTION PLAN - WING E

F106A – PARTIAL PLAN – ROOF FIRE PROTECTION PLAN – WING A
F106C – PARTIAL PLAN – ROOF FIRE PROTECTION PLAN – WING C
F106E – PARTIAL PLAN – ROOF FIRE PROTECTION PLAN – WING E
F107C – PENTHOUSE FIRE PROTECTION PLAN

F201 – FP RISER DIAGRAM – NEW
F203 – PARTIAL PLAN – SUB BASEMENT LL 3 FP PLAN WING A
F204 – PARTIAL PLAN – SUB BASEMENT LL 3 FP PLAN WING B
F205 – PARTIAL PLAN – SUB BASEMENT LL 3 FP PLAN WING C
F206 – PARTIAL PLAN – SUB BASEMENT LL 3 FP PLAN WING D
F207 – SUB BASEMENT LL 3 FIRE PUMP LAYOUT WING E
F208 – SUB BASEMENT LL 2 RENOVATED MAIN PLAN
F209 – PARTIAL – PLAN SUB BASEMENT LL 2
F210 – SUB-BASMENT LL2 FP LAYOUT WING E

F501 – FIRE PROTECTION DETAILS & SCHEDULES
F502 – DETAILS
F503 – DETAILS
F600 – SITE LOCATION FOR TEMPORARY FIRE PUMP

P000 – PLUMBING COVER SHEET

PD103B – ENLARGED 3RD FLOOR PLUMBING DEMOLITION PLAN - WING B
PD103C – ENLARGED 3RD FLOOR PLUMBING DEMOLITION PLAN - WING C
PD103D – ENLARGED 3RD FLOOR PLUMBING DEMOLITION PLAN - WING D
PD103E – ENLARGED 3RD FLOOR PLUMBING DEMOLITION PLAN - WING E
PD104A – ENLARGED 4TH FLOOR PLUMBING DEMOLITION PLAN - WING A
PD104B – ENLARGED 4TH FLOOR PLUMBING DEMOLITION PLAN - WING B
PD104C – ENLARGED 4TH FLOOR PLUMBING DEMOLITION PLAN - WING C
PD104D – ENLARGED 4TH FLOOR PLUMBING DEMOLITION PLAN - WING D
PD104E – ENLARGED 4TH FLOOR PLUMBING DEMOLITION PLAN - WING E

P100 - OVERALL PLAN - LOWER LEVEL 3 PLUMBING PLAN
P103A – ENLARGED 3RD FLOOR PLUMBING PLAN - WING A
P103B – ENLARGED 3RD FLOOR PLUMBING PLAN - WING B
P103C – ENLARGED 3RD FLOOR PLUMBING PLAN - WING C
P103D – ENLARGED 3RD FLOOR PLUMBING PLAN - WING D
P103E – ENLARGED 3RD FLOOR PLUMBING PLAN - WING E
P104A – ENLARGED 4TH FLOOR PLUMBING PLAN - WING A
P104B – ENLARGED 4TH FLOOR PLUMBING PLAN - WING B
P104C – ENLARGED 4TH FLOOR PLUMBING PLAN - WING C
P104D – ENLARGED 4TH FLOOR PLUMBING PLAN - WING D
P104E – ENLARGED 4TH FLOOR PLUMBING PLAN - WING E

P401 – ENLARGED PLUMBING PLANS
P402 – ENLARGED PLUMBING PLANS

P501 – PLUMBING DETAILS

M000 – MECHANICAL TITLE SHEET
M001 – MECHANICAL SCHEDULES

MD103A - PARTIAL 3RD FLOOR MECHANICAL DEMOLITION PLAN – WING A (SW)
MD103B - PARTIAL 3RD FLOOR MECHANICAL DEMOLITION PLAN – WING B (SE)
MD103C - PARTIAL 3RD FLOOR MECHANICAL DEMOLITION PLAN – WING C (CORE)
MD103D - PARTIAL 3RD FLOOR MECHANICAL DEMOLITION PLAN – WING D (NE)
MD103E - PARTIAL 3RD FLOOR MECHANICAL DEMOLITION PLAN – WING E (NW)
MD104A - PARTIAL 4TH FLOOR MECHANICAL DEMOLITION PLAN – WING A (SW)
MD104B - PARTIAL 4TH FLOOR MECHANICAL DEMOLITION PLAN – WING B (SE)
MD104C - PARTIAL 4TH FLOOR MECHANICAL DEMOLITION PLAN – WING C (CORE)
MD104D - PARTIAL 4TH FLOOR MECHANICAL DEMOLITION PLAN – WING D (NE)
MD104E - PARTIAL 4TH FLOOR MECHANICAL DEMOLITION PLAN – WING E (NW)
MD105D - PARTIAL 5TH FLOOR MECHANICAL DEMOLITION PLAN – WING D (NE)
MD106A - PARTIAL ROOF LEVEL MECHANICAL DEMOLITION PLAN – WING A (SW)
MD106C - PARTIAL ROOF LEVEL MECHANICAL DEMOLITION PLAN – WING C (CORE)
MD106E - PARTIAL ROOF LEVEL MECHANICAL DEMOLITION PLAN – WING E (NW)
MD107 – 3RD FLOOR MECHANICAL PRE-CONSTRUCTION SCOPE OF WORK
MD108 – 4TH FLOOR MECHANICAL PRE-CONSTRUCTION SCOPE OF WORK
MD109 – 5TH FLOOR MECHANICAL PRE-CONSTRUCTION SCOPE OF WORK
MD110 – ROOF MECHANICAL PRE-CONSTRUCTION SCOPE OF WORK

M103A - PARTIAL 3RD FLOOR MECHANICAL PLAN – WING A (SW)
M103B - PARTIAL 3RD FLOOR MECHANICAL PLAN – WING B (SE)
M103C - PARTIAL 3RD FLOOR MECHANICAL PLAN – WING C (CORE)
M103D - PARTIAL 3RD FLOOR MECHANICAL PLAN – WING D (NE)
M103E - PARTIAL 3RD FLOOR MECHANICAL PLAN – WING E (NW)
M104A - PARTIAL 4TH FLOOR MECHANICAL PLAN – WING A (SW)
M104B - PARTIAL 4TH FLOOR MECHANICAL PLAN – WING B (SE)
M104C - PARTIAL 4TH FLOOR MECHANICAL PLAN – WING C (CORE)
M104D - PARTIAL 4TH FLOOR MECHANICAL PLAN – WING D (NE)
M104E - PARTIAL 4TH FLOOR MECHANICAL PLAN – WING E (NW)
M105A - PARTIAL 5TH FLOOR MECHANICAL PLAN – WING A (SW)
M105B - PARTIAL 5TH FLOOR MECHANICAL PLAN – WING B (SE)
M105C - PARTIAL 5TH FLOOR MECHANICAL PLAN – WING C (CORE)
M105D - PARTIAL 5TH FLOOR MECHANICAL PLAN – WING D (NE)
M105E - PARTIAL 5TH FLOOR MECHANICAL PLAN – WING E (NW)
M106A - PARTIAL ROOF LEVEL MECHANICAL PLAN – WING A (SW)
M106C - PARTIAL ROOF LEVEL MECHANICAL PLAN – WING C (CORE)
M106E - PARTIAL ROOF LEVEL MECHANICAL PLAN – WING E (NW)

M201 – MECHANICAL DETAILS
M202 – MECHANICAL DETAILS
M203 – MECHANICAL DETAILS

M301 – MECHANICAL WATER RISER DIAGRAM SHEET #1
M302 – MECHANICAL WATER RISER DIAGRAM SHEET #2

M303 – MECHANICAL EXHAUST RISER DIAGRAMS (DEMO & NEW WORK)

M401 – MECHANICAL CONTROL DIAGRAMS

E000 - ELECTRICAL TITLE SHEET

ED103B - PARTIAL 3RD FLOOR ELECTRICAL DEMOLITION PLAN - WING B
ED103C - PARTIAL 3RD FLOOR ELECTRICAL DEMOLITION PLAN - WING C
ED103D - PARTIAL 3RD FLOOR ELECTRICAL DEMOLITION PLAN - WING D
ED103E - PARTIAL 3RD FLOOR ELECTRICAL DEMOLITION PLAN - WING E
ED104A - PARTIAL 4TH FLOOR ELECTRICAL DEMOLITION PLAN - WING A
ED104B - PARTIAL 4TH FLOOR ELECTRICAL DEMOLITION PLAN - WING B
ED104C - PARTIAL 4TH FLOOR ELECTRICAL DEMOLITION PLAN - WING C
ED104D - PARTIAL 4TH FLOOR ELECTRICAL DEMOLITION PLAN - WING D
ED104E - PARTIAL 4TH FLOOR ELECTRICAL DEMOLITION PLAN - WING E
ED506E – PARTIAL SUB BASEMENT 2 DEMOLITION PLAN – WING E

E203B - PARTIAL 3RD FLOOR LIGHTING PLAN - WING B
E203C - PARTIAL 3RD FLOOR LIGHTING PLAN - WING C
E203D - PARTIAL 3RD FLOOR LIGHTING PLAN - WING D
E203E - PARTIAL 3RD FLOOR LIGHTING PLAN - WING E
E204A - PARTIAL 4TH FLOOR LIGHTING PLAN - WING A
E204B - PARTIAL 4TH FLOOR LIGHTING PLAN - WING B
E204C - PARTIAL 4TH FLOOR LIGHTING PLAN - WING C
E204D - PARTIAL 4TH FLOOR LIGHTING PLAN - WING D
E204E - PARTIAL 4TH FLOOR LIGHTING PLAN- WING E

E303A - PARTIAL 3RD FLOOR POWER/SYSTEMS PLAN - WING A
E303B - PARTIAL 3RD FLOOR POWER/SYSTEMS PLAN - WING B
E303C - PARTIAL 3RD FLOOR POWER/SYSTEMS PLAN - WING C
E303D - PARTIAL 3RD FLOOR POWER/SYSTEMS PLAN - WING D
E303E - PARTIAL 3RD FLOOR POWER/SYSTEMS PLAN - WING E
E304A - PARTIAL 4TH FLOOR POWER/SYSTEMS PLAN - WING A
E304B - PARTIAL 4TH FLOOR POWER/SYSTEMS PLAN - WING B
E304C - PARTIAL 4TH FLOOR POWER/SYSTEMS PLAN - WING C
E304D - PARTIAL 4TH FLOOR POWER/SYSTEMS PLAN - WING D
E304E - PARTIAL 4TH FLOOR POWER/SYSTEMS PLAN - WING E
E305A - PARTIAL 5TH FLOOR POWER/SYSTEMS PLAN - WING A
E305B - PARTIAL 5TH FLOOR POWER/SYSTEMS PLAN - WING B
E305C - PARTIAL 5TH FLOOR POWER/SYSTEMS PLAN - WING C
E305D - PARTIAL 5TH FLOOR POWER/SYSTEMS PLAN - WING D
E305E - PARTIAL 5TH FLOOR POWER/SYSTEMS PLAN - WING E
E306A - PARTIAL ROOF POWER/SYSTEMS PLAN - WING A
E306C - PARTIAL ROOF POWER/SYSTEMS PLAN - WING C
E306E - PARTIAL ROOF POWER/SYSTEMS PLAN - WING E

E505C - PARTIAL LOWER LEVEL 2 POWER/SYSTEMS PLAN - WING C
E506 – LOWER LEVEL 2 POWER/SYSTEMS PLAN - OVERALL

OMH BINGHAMTON PC – GARVIN BUILDING
RENOVATE VARIOUS FLOORS
DASNY JDE #371230
F/A PROJECT #16057.40

ADDENDUM 01

E506E - PARTIAL LOWER LEVEL 3 POWER/SYSTEMS PLAN - WING E

E601 – ELECTRICAL DETAILS

E602 – ELECTRICAL DETAILS

E603 - FIRE ALARM DETAILS

E801 - ELECTRICAL SCHEDULES

E802 - ELECTRICAL SCHEDULES

E803 - ELECTRICAL SCHEDULES

E804 - ELECTRICAL SCHEDULES

E805 - ELECTRICAL SCHEDULES

E901 – PARTIAL ONE-LINE DIAGRAM

END OF SECTION 000001

SECTION 042000 - UNIT MASONRY

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Firestopping 079200
- C. Hollow Metal Doors & Frames 081113

1.2 SUMMARY

- A. Section Includes:
 - 1. Concrete masonry units.
 - 2. Mortar and grout.
 - 3. Ties and anchors.
 - 4. Miscellaneous masonry accessories.
 - 5. Clay tile.

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For the following:
 - 1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
- C. Samples for Initial Selection:
 - 1. Concrete Masonry Units
 - 2. Colored mortar.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each type and size of the following:
 - 1. Masonry units.
 - a. Include data on material properties.
 - b. For concrete units, include size-variation data verifying that actual range of sizes falls within specified tolerances.
 - 2. Cementitious materials. Include name of manufacturer, brand name, and type.

3. Joint reinforcement.
4. Anchors, ties, and metal accessories.
- B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
 2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement.
- C. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to TMS 602/ACI 530.1/ASCE 6.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.7 FIELD CONDITIONS

- A. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops indicated net-area compressive strengths at 28 days.
 - 1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to TMS 602/ACI 530.1/ASCE 6.
 - 2. Determine net-area compressive strength of masonry by testing masonry prisms according to ASTM C1314.

2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
 - 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
- B. CMUs: ASTM C90.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi .
 - 2. Density Classification: Normal weight unless otherwise indicated.
 - 3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.
 - 4. Exposed Faces: Provide color and texture matching adjacent existing CMUs.

2.5 MORTAR AND GROUT MATERIALS

- A. Masonry Cement: ASTM C91/C91M.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Holcim (US) Inc.
- b. Lafarge North America Inc.
- c. Lehigh Hanson; Heidelberg Cement Group.

B. Water: Potable.

2.6 TIES AND ANCHORS

- A. General: Ties and anchors shall extend at least 1-1/2 inches into veneer but with at least a 5/8-inch cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
 - 1. Mill-Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A641/A641M, Class 1 coating.
 - 2. Galvanized-Steel Sheet: ASTM A653/A653M, Commercial Steel, G60 zinc coating.
 - 3. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
- C. Adjustable Masonry-Veneer Anchors:
 - 1. General: Provide anchors that allow vertical adjustment but resist a 100-lbf load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch .
 - 2. Fabricate sheet metal anchor sections and other sheet metal parts from 0.078-inch-thick, stainless steel sheet .
 - 3. Fabricate wire ties from 0.25-inch- diameter, stainless steel wire unless otherwise indicated.
 - 4. Contractor's Option: Unless otherwise indicated, provide any of the adjustable masonry-veneer anchors specified.
 - 5. Stainless Steel Drill Screws for Steel Studs: ASTM C954 except manufactured with hex washer head and neoprene or EPDM washer, No. 10 diameter by length required to penetrate steel stud flange with not less than three exposed threads; either made from Type 410 stainless steel or made with a carbon-steel drill point and 300 Series stainless steel shank.

2.7 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
- b. EaCo Chem, Inc.
- c. PROSOCO, Inc.

2.8 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use masonry cement mortar unless otherwise indicated.
- B. Mortar for Unit Masonry: Comply with ASTM C270, Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
 - 1. For reinforced masonry, use Type N.
 - 2. For interior nonload-bearing partitions, Type O may be used instead of Type N.
- C. Grout for Unit Masonry: Comply with ASTM C476.
 - 1. Proportion grout in accordance with ASTM C476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi .
 - 2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C143/C143M.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
 - 2. Verify that reinforcing dowels are properly placed.
 - 3. Verify that substrates are free of substances that impair mortar bond.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Thickness: Build masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. Build chases and recesses to accommodate items specified in this and other Sections.

- C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.
- D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- F. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- G. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C67. Allow units to absorb water so they are damp but not wet at time of laying.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

- 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch .
- 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch .
- 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

- 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet , or 1/2-inch maximum.
- 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet , 1/4 inch in 20 feet , or 1/2-inch maximum.
- 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet , 3/8 inch in 20 feet , or 1/2-inch maximum.
- 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet , 1/4 inch in 20 feet , or 1/2-inch maximum.
- 5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet , 3/8 inch in 20 feet , or 1/2-inch maximum.
- 6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet or 1/2-inch maximum.

7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch , with a maximum thickness limited to 1/2 inch .
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch .
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch .
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch . Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch .
5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in a manner that matches existing adjacent construction; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.
- G. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- H. Build nonload-bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.
 1. Install compressible filler in joint between top of partition and underside of structure above.

2. Wedge nonload-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.
3. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Section 078443 "Joint Firestopping."

3.5 MORTAR BEDDING AND JOINTING

- A. Lay CMUs as follows:
 1. Bed face shells in mortar and make head joints of depth equal to bed joints.
 2. Bed webs in mortar in all courses of piers, columns, and pilasters.
 3. Bed webs in mortar in grouted masonry, including starting course on footings.
 4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
 5. Fully bed units and fill cells with mortar at anchors and ties as needed to fully embed anchors and ties in mortar.
- B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
 1. For glazed masonry units, use a nonmetallic jointer 3/4 inch or more in width.
- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.
- E. Cut joints flush where indicated to receive cavity wall insulation unless otherwise indicated.

3.6 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches .
 1. Space reinforcement not more than 16 inches o.c.
 2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
 3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings in addition to continuous reinforcement.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.

- E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 CONTROL AND EXPANSION JOINTS

- A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry using one of the following methods:
 - 1. Fit bond-breaker strips into hollow contour in ends of CMUs on one side of control joint. Fill resultant core with grout, and rake out joints in exposed faces for application of sealant.
 - 2. Install preformed control-joint gaskets designed to fit standard sash block.
 - 3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar, or rake out joint for application of sealant.
 - 4. Install temporary foam-plastic filler in head joints, and remove filler when unit masonry is complete for application of sealant.
- C. Form expansion joints in brick as follows:
 - 1. Build flanges of metal expansion strips into masonry. Lap each joint 4 inches in direction of water flow. Seal joints below grade and at junctures with horizontal expansion joints if any.
 - 2. Build flanges of factory-fabricated, expansion-joint units into masonry.
 - 3. Build in compressible joint fillers where indicated.
 - 4. Form open joint full depth of brick wythe and of width indicated, but not less than 3/8 inch for installation of sealant and backer rod specified in Section 079200 "Joint Sealants."
- D. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 079200 "Joint Sealants," but not less than 3/8 inch.
 - 1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.8 REINFORCED UNIT MASONRY

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
 - 1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.

2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.

- B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

3.9 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood blocking and nailers.

1.2 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. Lumber grading agencies, and abbreviations used to reference them, include the following:
1. NeLMA: Northeastern Lumber Manufacturers' Association.
 2. NLGA: National Lumber Grades Authority.
 3. SPIB: The Southern Pine Inspection Bureau.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
- B. Maximum Moisture Content of Lumber:
 - 1. Boards: 19 percent.
 - 2. Dimension Lumber: 19 percent unless otherwise indicated.

2.2 PRESERVATIVE TREATMENT

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all rough carpentry unless otherwise indicated.

2.3 FIRE-RETARDANT TREATMENT

- A. General: Where fire-retardant-treated materials are indicated, materials are to comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E84, and with no evidence of significant

progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

1. Treatment is not to promote corrosion of metal fasteners.
2. Exterior Type: Treated materials are to comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
3. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested according to ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.

C. Application: Treat all rough carpentry unless otherwise indicated.

1. Concealed blocking.
2. Roof construction.

2.4 MISCELLANEOUS LUMBER

A. Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.

B. Dimension Lumber Items: Construction or No. 2 grade lumber of any of the following species:

1. Hem-fir (north); NLGA.
2. Mixed southern pine or southern pine; SPIB.
3. Spruce-pine-fir; NLGA.

C. Concealed Boards: 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine or southern pine; No. 2 grade; SPIB.

D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 FASTENERS

- A. General: Fasteners are to be of size and type indicated and comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M or ASTM F2329 .
 - 2. For pressure-preservative-treated wood, use stainless steel fasteners.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.6 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets:
 - 1. Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch nominal thickness, compressible to 1/32 inch; selected from manufacturer's standard widths to suit width of sill members indicated.
 - 2. Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- D. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:

1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
- E. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
1. Use inorganic boron for items that are continuously protected from liquid water.
 2. Use copper naphthenate for items not continuously protected from liquid water.
- G. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
- I. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- 3.2 PROTECTION
- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 081416 - FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Flush wood doors; flush and flush glazed configuration; fire-rated and non-rated and bullet resistant/vandal resistant.
- B. Attack-resistant door opening assemblies.

1.2 RELATED REQUIREMENTS

- A. Section 087100 - Door Hardware.
- B. Section 088000 - Glazing.

1.3 REFERENCE STANDARDS

- A. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2022.
- B. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2017.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- D. ASTM F476 - Standard Test Methods for Security of Swinging Door Assemblies; 2023.
- E. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).
- F. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.
- G. BHMA A156.13 - Mortise Locks & Latches Series 1000; 2022.
- H. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- I. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2021, with Errata (2022).

1.4 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
 - 1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

2. Include certification program label.
- D. Certificate: Submit labels and certificates required by quality assurance and quality control programs.
- E. Test Reports: Show compliance with specified requirements for the following:
 1. Bullet resistant doors and frames.

1.5 QUALITY ASSURANCE

- A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
- C. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 1. Haley Brothers: www.haleybros.com/#sle.
 2. Masonite Architectural; Aspiro Select Wood Veneer Doors: www.architectural.masonite.com/#sle.
 3. VT Industries, Inc: www.vtindustries.com/#sle.

2.2 DOORS

- A. Doors: See drawings for locations and additional requirements.
 1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), AWMAC/WI (NAAWS) or WDMA I.S. 1A.
 2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 1. Provide solid core doors at each location.

2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.

2.3 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.
- B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.4 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Natural birch, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
 1. Vertical Edges: Compatible hardwood.
 2. "Running Match" each pair of doors and doors in close proximity to each other.
 3. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet of each other when doors are closed.
- B. Facing Adhesive: Type I - waterproof.

2.5 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
 1. Provide solid blocks at lock edge for hardware reinforcement.
- C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- E. Provide edge clearances in accordance with the quality standard specified.

2.6 ATTACK-RESISTANT DOOR OPENING ASSEMBLIES

- A. Provide assemblies meeting referenced general and attack-resistance performance requirements.
 1. Door Performance Level: WDMA I.S. 1A Extra Heavy Duty.
 2. Shooter/Attack Test Methods:
 - a. Modified ASTM F476 test, using high potential energy levels, impacting door glass and hardware at each potential energy level twice. Failure is established

when breach in door opening has occurred or an opening that allows a 3 inch diameter sphere to pass through one side to the other.

B. Opening Sizes:

1. Single Openings: As indicated on drawings.

C. Door Frames:

1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 4 - Maximum-duty.
 - b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Frame Metal Thickness: 14 gauge, 0.067 inch, minimum.
 - d. Zinc Coating: Manufacturer's standard coating thickness; ASTM A653/A653M.

D. Door Types:

1. Flush wood doors with wood veneer facing.

E. Door Hardware: Match project elements with similar functionality and performance requirements, and as follows:

1. Hardware Locks: Manufacturer's standard.
 - a. BHMA A156.13 Grade 1 Hardware mortise lock with latchbolt, deadbolt, and escutcheon plate.
2. Balance of door hardware, see Section 087100.

2.7 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:

1. Transparent:
 - a. System - 1, Lacquer, Nitrocellulose.
 - b. Stain: As selected by Architect.
 - c. Sheen: Satin.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.

- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.
- E. Coordinate installation of glazing.

3.3 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.4 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

END OF SECTION

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SECTION 083100 - ACCESS DOORS AND PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Wall- and ceiling-mounted access units.

1.2 RELATED REQUIREMENTS

- A. Section 099123 - Interior Painting: Field paint finish.

1.3 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.
- C. Shop Drawings: Indicate exact position of each access door and/or panel unit.
- D. Samples: Submit two access units, 24 by 24 inches in size indicating frame configuration.
- E. Project Record Documents: Record actual locations of each access unit.

PART 2 PRODUCTS

2.1 ACCESS DOORS AND PANELS ASSEMBLIES

A. Wall-Mounted Units in Wet Areas:

1. Location: As indicated on drawings.
2. Panel Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
3. Size: 24 by 24 inches.
4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.
6. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
7. Plaster Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
8. Masonry Mounting Criteria: Provide surface-mounted frame with door surface flush with frame surface.

B. Fire-Rated Wall-Mounted Units:

1. Location: As indicated on drawings.
2. Wall Fire-Rating: As indicated on drawings.

3. Panel Material: Steel.
4. Size: 24 by 24 inches.
5. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle.

C. Fire-Rated Ceiling-Mounted Units:

1. Location: As indicated on drawings.
2. Ceiling Fire-Rating: As indicated on drawings.
3. Panel Material: Steel.
4. Size: 12 by 12 inches.
5. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.

D. Wall-Mounted Security Units:

1. Location: As indicated on drawings.
2. Panel Material: Steel.
3. Size: 24 by 24 inches.
4. Door/Panel and Frame: Heavy duty.
5. Security type lock as indicated.

2.2 WALL- AND CEILING-MOUNTED ACCESS UNITS

A. Manufacturers:

1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com/#sle.
 - a. Medium-Security (10 ga) Access Panel: Activar/JL Industries SP.
2. ACUDOR Products Inc: www.acudor.com/#sle.
 - a. Anti-Ligature Wall Units: ACUDOR AL-9500.
3. Babcock-Davis: www.babcockdavis.com/#sle.
4. Best Access Doors: www.bestaccessdoors.com/#sle.

B. Wall- and Ceiling-Mounted Units: Factory-fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.

1. Door Style: Single thickness with rolled or turned in edges.
2. Frames: 16-gauge, 0.0598-inch minimum thickness.
3. Heavy-Duty Single Steel Sheet Door Panels: 14-gauge, 0.0747-inch minimum thickness.
4. Door Panels to Receive Wall/Ceiling Finish: Surface recessed 5/8 inch back from wall face.

5. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
6. Steel Finish: Primed.
7. Primed and Factory Finish: Polyester powder coat; color as selected by Architect from manufacturer's standard colors.
8. Door/Panel Size: As indicated on the drawings.
9. Hardware:
 - a. Hardware for Fire-Rated Units: As required for listing.
 - b. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.
 - c. Handle: Fixed.
 - d. Latch/Lock: Screw driver slot for quarter turn cam latch.
 - e. Number of Locks/Latches Required: As recommended by manufacturer for size of unit.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that rough openings are correctly sized and located.
- B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to proceeding with this work.
- B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.3 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Install frames plumb and level in openings, and secure units rigidly in place.
- C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION

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SECTION 089119 - FIXED LOUVERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fixed extruded-aluminum louvers.
2. Blank-off panels for louvers

1.2 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.
- B. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.

B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.

1. Show weep paths, gaskets, flashings, sealants, and other means of preventing water intrusion.
2. Show mullion profiles and locations.

C. Samples: For each type of metal finish required.

1.4 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed in accordance with AMCA 500-L by a qualified testing agency or by manufacturer and witnessed by a qualified testing agency, for each type of louver and showing compliance with performance requirements specified.

B. Sample Warranties: For manufacturer's special warranties.

1.5 FIELD CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.6 WARRANTY

- A. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.
 - 1. Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, peeling, or chipping.
 - 2. Warranty Period: 1 year Standard Product Warranty; 10 year Standard Finish Warranty from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain fixed louvers from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Louvers withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver-blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures are considered to act normal to the face of the building.
 - 1. Wind Loads:
 - a. Determine loads based on pressures as indicated on architectural Drawings.
- B. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width in accordance with AMCA 500-L.

- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- D. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

2.3 FIXED EXTRUDED-ALUMINUM LOUVERS

- A. Horizontal Drainable-Blade Louver, Extruded Aluminum:
 - 1. Greenheck model ESD-202, Ruskin approved equal model#.
 - 2. Louver Depth: 2 inches (50 mm).
 - 3. Frame and Blade Nominal Thickness: Not less than 0.063 inch (1.52 mm) for blades and 2 inch x 0.063 inch (1.523 mm) for frames.
 - 4. Mullion Type: Exposed.
 - 5. Louver Performance Ratings:
 - a. Free Area: Not less than 0.29 sq. ft. (0.0270 sq. m) for 30.75-inch- (1220-mm-) wide by 6.75-inch high louver.
 - b. Point of Beginning Water Penetration: Not less than 1050 fpm (5.3 m/s).
 - c. Air Performance:
 - 1) Not more than 0.021-inch wg static pressure drop at 400-fpm free-area intake velocity.
 - 6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.4 BLANK-OFF PANELS

- A. Insulated Blank-Off Panels: Laminated panels consisting of an insulating core surfaced on back and front with metal sheets and attached to back of louver.
 - 1. Thickness: 1 inch (25 mm).
 - 2. Metal Facing Sheets, Aluminum: Not less than 0.032-inch (0.81-mm) nominal thickness.
 - 3. Metal Facing Sheets, Galvanized Steel: Not less than 0.028-inch (0.71-mm) nominal thickness.
 - 4. Insulating Core: Rigid, glass-fiber-board insulation.
 - 5. Edge Treatment: Trim perimeter edges of blank-off panels with louver manufacturer's standard extruded-aluminum-channel frames, not less than 0.080-inch (2.03-mm) nominal thickness, with corners mitered and with same finish as panels.
 - 6. Seal perimeter joints between panel faces and louver frames with gaskets or sealant.
 - 7. Panel Finish: Same finish applied to louvers.
 - 8. Attach blank-off panels with sheet metal screws.

2.5 MATERIALS

- A. Aluminum Extrusions: ASTM B221 (ASTM B221M), Alloy 6063-T5, T-52, or T6.
- B. Aluminum Sheet: ASTM B209 (ASTM B209M), Alloy 3003 or 5005, with temper as required for forming, or as otherwise recommended by metal producer for required finish.
- C. Galvanized-Steel Sheet: ASTM A653/A653M, G90 (Z275) zinc coating, mill phosphatized.
- D. Fasteners: Use types and sizes to suit unit installation conditions.
 - 1. Use Phillips flat-head screws for exposed fasteners unless otherwise indicated.
 - 2. For fastening aluminum, use aluminum or 300 series stainless steel fasteners.
 - 3. For fastening galvanized steel, use hot-dip-galvanized-steel or 300 series stainless steel fasteners.
 - 4. For fastening stainless steel, use 300 series stainless steel fasteners.
 - 5. For color-finished louvers, use fasteners with heads that match color of louvers.
- E. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, fabricated from stainless steel components, with allowable load or strength design capacities calculated in accordance with ICC-ES AC193 and ACI 318 greater than or equal to the design load, as determined by testing in accordance with ASTM E488/E488M conducted by a qualified testing agency.
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.6 FABRICATION

- A. Factory assemble louvers to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- B. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.
- C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.
 - 1. Frame Type: Channel unless otherwise indicated.
- D. Include supports, anchorages, and accessories required for complete assembly.
- E. Provide vertical mullions of type and at spacings indicated, but not more than is recommended by manufacturer, or 72 inches (1830 mm) o.c., whichever is less.

1. Fully Recessed Mullions: Where indicated, provide mullions fully recessed behind louver blades. Where length of louver exceeds fabrication and handling limitations, fabricate with close-fitting blade splices designed to permit expansion and contraction.
2. Semirecessed Mullions: Where indicated, provide mullions partly recessed behind louver blades, so louver blades appear continuous. Where length of louver exceeds fabrication and handling limitations, fabricate with interlocking split mullions and close-fitting blade splices designed to permit expansion and contraction.
3. Exposed Mullions: Where indicated, provide units with exposed mullions of same width and depth as louver frame. Where length of louver exceeds fabrication and handling limitations, provide interlocking split mullions designed to permit expansion and contraction.
4. Exterior Corners: Prefabricated corner units with mitered blades with concealed close-fitting splices and with fully recessed mullions at corners.

F. Provide subsills made of same material as louvers or extended sills for recessed louvers.

2.7 ALUMINUM FINISHES

- A. Finish louvers after assembly.
- B. Finish Performance: AAMA 2605.
- C. Coating Type: 2Ct70% Kynar/100% Fluoropolymer.
- D. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
 1. Color: Classic Bronze (GF-108) or as selected by Architect.
- E. Conversion-Coated Finish: AA-C12C42, nonetched, cleaned with inhibited chemicals, and chemical conversion coated with acid chromate-fluoride-phosphate.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.3 INSTALLATION

- A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.
- D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- E. Protect unpainted galvanized- and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.
- F. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required.

3.4 ADJUSTING AND CLEANING

- A. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.
- B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
- C. Restore louvers damaged during installation and construction, so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.
 - 1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION 089119

SECTION 090160.91 – TERRAZZO FLOORING RESTORATION

PART 1 GENERAL

1.1 DESCRIPTION

- A. This specification provides guidance for the restoration of terrazzo flooring.
- B. This specification has been developed for use on historic properties (defined as any district, site, building, structure, or object that is listed in or eligible for listing in the National Register of Historic Places) and provides an overview of accepted practices.
- C. Provide all labor, material, equipment, and operations required to complete the rehabilitation work indicated herein.

1.2 SUMMARY

- A. Section includes
 - 1. Regrinding of terrazzo floors
 - 2. Preparation of surfaces for patching
 - 3. Repairs of delamination
 - 4. Crack repairs
 - 5. Placement of patching matrix
 - 6. Finish and curing of terrazzo

1.3 RELATED DOCUMENTS

- A. Section 013510 for general historic preservation project guidelines to be reviewed along with this procedure. These guidelines cover the following sections and should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from Historic Preservation:
 - 1. Safety Precautions
 - 2. Historic Structures Precautions
 - 3. Submittals
 - 4. Quality Assurance
 - 5. Delivery, Storage and Handling
 - 6. Project/Site Conditions
 - 7. Sequencing and Scheduling
 - 8. General Protection (Surface and Surrounding)
 - 9. Historic Building Treatment Procedures

1.4 QUALITY ASSURANCE

- A. The Contractor performing the work described in this Section to have a minimum of five years experience in terrazzo cleaning and restoration and successfully completed at least three projects of similar scope within the previous five years. Installer to be a contractor member of NTMA (National Terrazzo and Mosaic Association) in good standing and perform all work in accordance with NTMA standards. Demonstrate a working knowledge of The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.

1.5 SUBMITTALS

- A. Shop Drawings with identification of existing terrazzo system (epoxy, or cement) submitted in writing. All proposed methods and materials must be compatible with identified system.
- B. Schedule:
 - 1. A detailed description and schedule of the areas to be treated, including an assessment of the problem surfaces, any necessary testing, and proposed general cleaning, polishing and repair techniques.
 - 2. A detailed description and schedule of areas for grinding.
 - 3. All cracks will be identified as No Action (NA), Repair Crack (RC), or Replace Terrazzo (RT), in accordance with the standards set in this specification. Crack classifications are to be reviewed and approved prior to the start of work.
- C. Product Data: The manufacturer's product literature for all proprietary products. If a custom formula is used, all ingredients must be documented and submitted for approval as with proprietary formulas. Product literature including specification data, Safety Data Sheets (SDS), and instructions for storage, handling, and use.
- D. Warranty: Ongoing care and warranty requirements for all restored and newly installed materials.
- E. As-Builts: Provide a final report of completed work, including all approved submittals and photographs of the areas repaired that were taken before, during, and after the work.

1.6 TESTING AND MOCKUPS

- A. Perform small test patches (no larger than 6 inches by 6 inches) for all products to be used. Testing will determine the best method(s) to perform the work and ensure that the chosen products do not cause harm. The "best method" shall be defined as that which successfully cleans and/or repairs the existing terrazzo with no, or minimal unavoidable damage to the existing terrazzo.
- B. Following testing, mockup panels shall be created (mockup panels may incorporate successful test patches) using the chosen methods. Size and location of mockup panels shall be determined by the project team.
- C. The methods used, their application, etc. shall be in accordance with manufacturer's instructions and shall duplicate those procedures proposed for the terrazzo restoration work.

- D. Mockups shall include an evaluation of the materials and techniques proposed for the protection of surrounding areas.
- E. For proprietary systems, a representative of the materials manufacturer(s) shall be present during the preparation and application of the test areas.
- F. Approved mockups shall become part of the work and shall serve as the quality standard for all similar work.
- G. Any testing, demonstrations, or mockup that is rejected by the project team shall be removed in its entirety without damage to the surrounding masonry and a new demonstration/mockup shall be performed for the project team's review.
- H. Prepare the following mockups:
 - 1. Crack Repair: Prepare a sample area for each type of crack repair required (Hairline cracks 1/64" to 1/16" in size; cracks and voids larger than 1/8"). Repair shall demonstrate methods and quality of workmanship.
 - 2. Patching: Prepare on-floor, a sample of patching to include each type of repair required for the project. Patch shall demonstrate methods and quality of workmanship of patch repair.
 - 3. Cleaning including polishing.

1.7 DELIVERY, STORAGE, AND HANDLING (AS APPLIED TO PRODUCTS AND MATERIALS)

- A. Deliver all materials and proprietary products to the project site in manufacturer's or distributor's packaging, undamaged, complete with application instructions and Safety Data Sheets (SDS).
- B. Transport, store, and use cleaning agents, chemicals, and solvents within the temperature range recommended by the manufacturer and away from direct sunlight. Handle all materials according to manufacturer's instructions.
- C. Collect and dispose of waste material, packaging, debris, and effluent associated with the work in accordance with local, state, and federal environmental regulations.

PART 2 – PRODUCTS

2.1 PRODUCTS

- A. Cleaner: Potable water, free of iron, and/or chemical cleaners, all cleaners must be pH neutral
- B. Sealer: Liquid type to completely seal matrix surface, compatible with terrazzo components
- C. Grout: Color to match existing matrix unless noted otherwise
- D. Matrix: Pigmented epoxy or cement to match approved sample
- E. Aggregates: Aggregates to match approved sample
- F. Divider Strips: Match width, material and color of divider strips, unless otherwise required

- G. Control Joint Strips: Use same material and color as divider strips, unless otherwise specified
- H. All work shall be executed with conventional terrazzo grinding equipment

2.2 EQUIPMENT

- A. Hand sander, small grinding tools
- B. Grinding stones: Fine grit emery stones manufactured specifically for restorative type grinding and surfacing of terrazzo surfaces (#40 and #80 grit stones).
- C. Resurfacing Screens: A fine grit screen manufactured specifically for restorative type grinding and resurfacing terrazzo surfaces.
- D. Soft natural bristle brushes
- E. Circular buffing machine (for floors) with grinding and polishing screens as recommended by NTMA. Use conventional terrazzo grinding equipment rather than lighter type machines.
- F. Mop and bucket (non-metallic)
- G. Sponges
- H. Clean, dry cloths

PART 3 - EXECUTION

3.1 GENERAL

- A. Standards
 - 1. Resurface terrazzo in accordance with NTMA specifications.
 - 2. Grind and polish the terrazzo floor as required to produce a clean, smooth, and uniform finish, capable of being sealed and polished to match existing. EXERCISE CAUTION WHEN GRINDING NEAR COATED DIVIDER STRIPS.
 - 3. Hairline cracks are classified as less than 1/32" (0.030) as per the National Terrazzo and Mosaic Association (NTMA) guidelines.
 - 4. Replacement (RT) shall be from architectural break to architectural break, and should be performed only if necessary.
- B. Resurfacing
 - 1. Grinding: Care should be taken to limit grinding and polishing to a small distance beyond the perimeter of the patch, until grout has been removed from the terrazzo surface. Avoid grinding divider strips.
 - a. For small areas, sand surface with a hand sander or small grinding tool, using fine stones to achieve desired finish.
 - b. For larger areas (such as floors), use a circular buffing machine with grinding and polishing pads as recommended by NTMA.

- c. Use a #24 or finer grit stone/screen (or as recommended by NTMA) for the initial grinding, exposing the marble chips. Fine mesh sand may be used if necessary. Follow with a fine #80 or finer grit stone/screen (or as recommended by NTMA).
 2. Rinse floor thoroughly with clean, clear water.
 3. Remove excess rinse water and machine or hand apply grout using identical Portland cement/acrylic or epoxy, color, and pigments as used in topping taking care to fill all voids completely.
 4. Cover grouted surface with paper or polyethylene for at least 72 hours.
 5. Final polish with a #80 or finer grit stone (or as recommended by NTMA), until grout has been removed from the terrazzo surface.
 6. Wash surface with neutral cleaner and thoroughly rinse with clean, clear water. Allow the surface to thoroughly dry.
 7. Seal terrazzo with a penetrating type sealer as recommended by manufacturer.
- C. Epoxy Repair Crack (RC)
 1. Crack shall be cleaned of all loose material, dirt and coatings.
 - a. Remove all foreign matter from the void, followed by routing with a power tool.
 - b. Remove all sealer from the surface adjacent to the void with a stripper or ammonia.
 2. Crack shall be filled with resin to match existing color, texture, and hardness.
 - a. Resin shall be standard 2-component epoxy resin, designed specifically for patching of terrazzo materials or approved alternative.
 - 1) Blend the resin materials to match the color matrix, by adding marble dust or pigment to match color of existing terrazzo matrix.
 - 2) Force mixed resin into the void, making sure it is pressured into the crack as deep as possible. In some cases, the supplier will instruct using a primer for their materials.
 3. If crack is wider than 1/4" aggregate shall be used. Aggregate for epoxy shall be natural, sound, crushed marble chips without excessive flats or flakes, complying with NTMA requirements.
 - a. Aggregate shall match existing in color and gradation of sizes.
 - b. Aggregate colors should be matched after cleaning or taken from the interior of core samples depending upon scope of work.
- D. Cement Repair Crack (RC)
 1. If the binder of the existing terrazzo floor is Portland cement-based, fine-line cracks or chips can be repaired using a cement grout. This is a more labor intensive repair than epoxy, but is usually more durable in comparison.

- a. Use a cement grout of approved color with approved aggregate mixture/blend, to match existing terrazzo matrix.
- b. Mix the grout into a thick paste and carefully work it into the cracked portion with the use of a putty knife.
- c. Once the grout is in place, a terrazzo mixture of marble chips and cement grout should be applied over the first layer of grout before it has dried. Once the second layer is applied, level the area with a trowel.
- d. Once the mixture is leveled and dried, the area should be sanded down with a 40-grit sandpaper to be followed up with a finer grit, like the 80-grit sandpaper to further smoothen the repaired patch.
- e. After sanding the patch, seal the area with a clear penetrating sealer. Note that the pH should be between 7 and 10.

E. Replace Terrazzo (RT)

1. Areas deemed necessary for removal are to be removed carefully to prevent damage to surrounding existing terrazzo not scheduled for repair.
2. Clean area and prepare for new terrazzo, using a mix that matches the existing in texture, color, and matrix (epoxy or cement).
3. Repair substrate as needed. Fill cracks with hardening epoxy or, for epoxy systems only, use mesh isolation membrane to cover crack with liquid membrane.
4. Place divider strips prior to pouring terrazzo topping.
5. Fill area with epoxy or cement /cement matrix and approved aggregate mixture/blend.
6. If repair is not to architectural break or existing terrazzo divider strip, the joining edge shall be a saw tooth (jagged edge). Intent is to disguise the line so it will blend into the rest of the terrazzo floor, irregularly place marble chips matching the existing terrazzo blend along the line, approximately one to two inches on center, while the patching resin is still in a wet state. Finally, tool off surface and allow to cure.

F. Replace Divider Strips, as needed

1. Existing divider strips should be retained if possible. If replacement is necessary, due to missing or damaged divider strips, divider strips should be of solid composition and match existing in size, color, sheen and metal (brass, zinc, aluminum.). Do not use coated divider strips, unless specified.
2. Install divider and control joint strips straight and level to locations indicated.

G. Control Joint Strips:

1. Double or split units, 1/8" wide, of same material and color as divider strips with 1/8" wide full-depth filler, laminated between strips.
2. Install base and border divider and control joint strips to match existing floor pattern.

3.2 INITIAL GRINDING

- A. Areas for grinding of existing terrazzo should be agreed upon by the project team and carefully marked. For newly poured terrazzo, care should be taken to limit grinding and polishing to a small distance beyond the perimeter of the patch, until grout has been removed from the terrazzo surface. Avoid grinding divider strips.
- B. When the material has hardened, sand surface with a hand sander or small grinding tool, using fine stones.
- C. Wet or dry grind with appropriate medium diamonds/Stones as approved from mockup.
- D. Grind with 24 or finer grit stone — fine mesh sand can be used if needed — all in the presence of water.
- E. Follow initial grind with 80 or finer grit stones in the presence of water, but omit sand.

3.3 GROUTING

- A. Cleanse floor with clean water and rinse. Wet grind with 50 or higher abrasive grit medium diamonds.
- B. Remove excess water and machine or hand grout with cement/acrylic or epoxy material, with or without color added to match the matrix of the existing Terrazzo floor, to fill as needed. Make sure to fill all voids.

3.4 CURING GROUT

- A. Allow grout to cure a minimum of 72 hours. Maintain ambient air temperature between 70°F (21°C) and 80°F (27°C). If necessary, Cover grouted surface with paper or polyethylene for at least 72 hours.

3.5 FINE (FINAL) GRINDING

- A. Final polish with a #80 or finer grit stone. Care should be taken to limit grinding and polishing to a small distance beyond the perimeter of the patch, until grout has been removed from the terrazzo surface. Avoid grinding divider strips.

3.6 CLEANING AND SEALING

- A. Wash all surfaces with a neutral cleaner, rinse with clean water and allow to dry fully.
- B. Seal: Apply sealer per sealer manufacturer's written directions. Interior floor sealer shall be odorless, slip and stain resistant penetrating sealer with pH factor between 7 and 10, that does not affect color or physical properties of terrazzo surface.
- C. Remove protection and clean any adjacent surfaces affected by the refinishing process

3.7 PROTECTION

- A. If necessary, protect the finished floor from all site activity until Substantial Completion.

END OF SECTION

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Porcelain tile.
2. Glazed wall tile.
3. Tiling Accessories.
4. Crack isolation membranes.
5. Metal Edge Strips
6. Waterproof Membranes

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for glass-mat, water-resistant backer board.

1.2 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. Face Size: Actual tile size, excluding spacer lugs.
- C. Module Size: Actual tile size plus joint width indicated.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.

D. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required.
2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least 36 inches square, but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
3. Full-size units of each type of trim and accessory for each color and finish required.
4. Metal edge strips in 6-inch lengths.

1.5 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For tile-setting and -grouting products and certified porcelain tile.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.
2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer employs only Ceramic Tile Education Foundation Certified Installers [**or**] installers recognized by the U.S. Department of Labor as Journeyman Tile Layers for Project.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of each type of floor tile installation.
2. Build mockup of each type of wall tile installation.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Tile: Obtain tile of each type and color or finish from single source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.
 - 1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.

2.2 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

2.3 TILE PRODUCTS

- A. Porcelain Tile Types as indicated in Schedule on Drawings:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Daltile; a brand of Dal-Tile Corporation., Basis of Design: See drawings
 - 2. Sizes: As selected by Architect in Finish Selection Schedule.
 - 3. Tile Color, Glaze, and Pattern: As indicated Finish Selection Schedule.
 - 4. Grout Color: As selected by Architect from manufacturer's full range.
- B. Glazed Wall Tile Types as indicated in Schedule on Drawings:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Daltile Corp., Basis of design: See drawings.
 - 2. Sizes: As selected by Architect in Finish Selection Schedule.
 - 3. Finish: glossy stone look and matte glaze.
 - 4. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
 - 5. Grout Color: As selected by Architect from manufacturer's full range.

2.4 GROUT MATERIALS

- A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.
- B. Standard Cement Grout: ANSI A118.6.
- C. Water-Cleanable Epoxy Grout: ANSI A118.3.
 - 1. Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 and 212 deg F, respectively, and certified by manufacturer for intended use.

2.5 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

2.6 CRACK ISOLATION MEMBRANES

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Crack Isolation Membrane, Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch (0.2-mm) nominal thickness.
- C. Corrugated Polyethylene: Corrugated polyethylene with dovetail-shaped corrugations and with anchoring webbing on the underside; 3/16-inch (4-mm) nominal thickness.

2.7 TRIM AND ACCESSORIES

- A. Ceramic Accessories: See architectural drawings
- B. Non-Ceramic Transition Trim and reducers: Maximum change in level: 12.6mm (0-1/2 inch). Maximum slope: 1:2 Material and finish, style and dimensions to suit application, for setting using tile mortar or adhesive; use in the following locations:
 - 1. Transition between floor finishes of different heights.
 - 2. Thresholds at door openings.
 - 3. Expansion and Control Joints for floors and walls:
 - 4. See architectural drawings

2.8 WATERPROOF MEMBRANES

- A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by manufacturer for application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Waterproof Membrane, Sheet: Polyethylene sheet faced on one or both sides with polyester fabric.
 - 1. 2. Nominal Thickness: 0.03 inch.

2.9 MISCELLANEOUS MATERIALS

- A. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
- B. Grout Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.
 - 1. Grout sealers shall comply with requirements of FloorScore certification.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with thin set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
 - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
 - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- B. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION OF CERAMIC TILE

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:
 - a. Tile floors consisting of tiles 8 by 8 inches or larger.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
- E. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
 - 1. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
 - 2. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- F. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
 - 1. Ceramic Mosaic Tile: 1/8 inch.
 - 2. Glazed Wall Tile: 1/8 inch.
 - 3. Porcelain Tile: 1/4 inch.
- G. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

- H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
- I. Metal Edge Strips: Install at locations indicated where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with top of tile.
- J. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as the grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 INSTALLATION OF TILE BACKING PANELS

- A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated. Use modified dry-set mortar for bonding material unless otherwise directed in manufacturer's written instructions.

3.5 ADJUSTING AND CLEANING

- A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove grout residue from tile as soon as possible.
 - 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.6 PROTECTION

- A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.7 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

1. TCNA F132: Water-cleanable, tile-setting epoxy on cured cement mortar bed installed over crack isolation membrane; epoxy grout.
 - a. Tile Types: TL01 per Finish Selection Schedule on Drawings.
 - b. Grout: Water-cleanable epoxy grout.

B. Interior Wall Installations, Metal Studs or Furring:

1. TCNA W222: One-coat cement mortar bed (thickset) on solid backing.
 - a. Bond Coat for Wet-Set Method: Standard dry-set mortar.
 - b. Bond Coat for Cured-Bed Method: Standard dry-set mortar.
 - c. Grout: Standard unsanded cement grout.
2. TCNA W244C or TCNA W244F: Thinset mortar on cementitious backer units or fiber-cement backer board.
 - a. Thinset Mortar: Standard dry-set mortar.
 - b. Grout: Standard unsanded cement grout.

C. Interior Wall Installations, Existing Masonry:

1. TCNA W222: One-coat cement mortar bed (thickset) on solid backing.
 - a. Bond Coat for Wet-Set Method: Standard dry-set mortar.
 - b. Bond Coat for Cured-Bed Method: Standard dry-set mortar.
 - c. Grout: Standard unsanded cement grout.
2. TCNA W244C or TCNA W244F: Thinset mortar on cementitious backer units.
 - a. Thinset Mortar: Standard dry-set mortar.
 - b. Grout: Standard unsanded cement grout.

END OF SECTION 093013

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Commercial shower and bath accessories.
- C. Institutional ligature-resistant toilet accessories.
- D. Under-lavatory pipe supply covers.
- E. Utility room accessories.
- F. Drinking Fountain Cane Detection.

1.2 RELATED REQUIREMENTS

- A. Section 224000 - Plumbing Fixtures: Under-lavatory pipe and supply covers.

1.3 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium; 2017 (Reapproved 2022).
- C. ASTM C1036 - Standard Specification for Flat Glass; 2021.
- D. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2024.
- E. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

1.4 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Samples: Submit two full-size samples of each accessory, illustrating color and finish.
- D. Approved full-size samples will be returned and may be used in the Work.
- E. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 WARRANTY

- A. Manufacturer's Special Warranty for Toilet-Compartment Occupancy-Indicator Systems: Manufacturer agrees to repair or replace toilet-compartment occupancy-indicator systems that fail in materials or workmanship within specified warranty period.
 - 1. Warranty period: Five years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Commercial Toilet, Shower, and Bath Accessories:
 - 1. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - 2. Bradley Corporation; ____: www.bradleycorp.com/#sle.
- B. Healthcare Accessories:
 - 1. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
- C. Under-Lavatory Pipe Supply Covers:
 - 1. Plumberex Specialty Products, Inc; ____: www.plumberex.com/#sle.

2.2 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.

2.3 FINISHES

- A. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.

2.4 COMMERCIAL TOILET ACCESSORIES

- A. Toilet Paper Dispenser: Double roll, surface mounted, for coreless type rolls.
 - 1. Products:
 - a. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - b. Kimberly-Clark Corporation; Kimberly-Clark Professional Scott Pro Toilet Paper Dispenser: www.kcprofessional.com/#sle.
- B. Combination Towel Dispenser/Waste Receptacle: Recessed flush with wall at gang toilet rooms & surface mounted at single use toilet rooms, stainless steel; seamless wall flanges, continuous piano hinges, ____.
 - 1. Waste receptacle liner: Reusable, heavy-duty vinyl.
 - 2. Towel dispenser capacity: 400 C-fold.

3. Waste receptacle capacity: 4 gallons.
4. Products:
 - a. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - b. Bobrick.
 - c. Substitutions: Section 016000 - Product Requirements.
- C. Automated Soap Dispenser: Liquid soap dispenser, wall-mounted, with stainless steel cover and window to gauge soap level, tumbler lock.
 1. Minimum Capacity: 48 ounces.
 2. Products:
 - a. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - b. Stern Engineering; Behind the Mirror Soap Dispenser: www.sternfaucets.com/#sle.
 - c. Kimberly-Clark Corporation; Kimberly-Clark Professional ICON Electronic Skin Care Dispenser: www.kcprofessional.com/#sle.
- D. Automated Soap Dispenser: Foam soap dispenser, deck-mounted on vanity, with container concealed below deck; chrome-plated brass with bright polished finish; chrome-plated deck escutcheon.
 1. Minimum Capacity: 27 ounces.
 2. Power: Battery operated.
 3. Products:
 - a. Advanced Modern Technologies Corporation; ____: www.amtcorporation.com/#sle.
 - b. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - c. Stern Engineering; Extreme Soap Dispenser Series: www.sternfaucets.com/#sle.
 - d. Kimberly-Clark Corporation; Kimberly-Clark Professional Scott Counter Mount Skin Care Dispenser: www.kcprofessional.com/#sle.
- E. Soap Dispenser: Liquid soap dispenser, wall-mounted, surface, with stainless steel cover and horizontal stainless steel tank and working parts; push type soap valve, check valve, and window gauge refill indicator, tumbler lock.
- F. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
 1. Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
 2. Size: As indicated on drawings.
 3. Frame: 0.05 inch angle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.

4. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
 5. Products:
 - a. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - b. Ketcham Medicine Cabinets, a Division of Fred Silver and Company, Inc; Accessible Washroom Mirrors: www.ketchamcabinets.com/#sle.
 - G. Seat Cover Dispenser: Stainless steel, surface-mounted, reloading by concealed opening at base, tumbler lock.
 1. Minimum capacity: 250 seat covers.
 2. Products:
 - a. Kimberly-Clark Corporation; Kimberly-Clark Professional Scott Personal Seat Cover Dispenser: www.kcprofessional.com/#sle.
 - H. Grab Bars: Stainless steel, smooth surface.
 1. Standard Duty Grab Bars:
 - a. Push/Pull Point Load: 250 pound-force, minimum.
 - b. Dimensions: 1-1/4 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
 - c. Finish: Satin.
 - d. Length and Configuration: As indicated on drawings.
 - e. Products:
 - 1) American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - 2) Bradley Corporation
 - I. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
 1. Products:
 - a. American Specialties, Inc
 - b. Bobrick Washroom Equipment, Inc..
 - c. Bradley Corporation.
- 2.5 COMMERCIAL SHOWER AND BATH ACCESSORIES
- A. Shower Curtain Rod: Stainless steel tube, 1 inch outside diameter, 0.04 inch wall thickness, satin-finished, with 3 inch outside diameter, minimum 0.04 inch thick satin-finished stainless steel flanges, for installation with exposed fasteners.
 1. Products:
 - a. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - b. Bobrick Washroom Equipment, Inc.

c. Bradley Corporation

B. Shower Curtain:

1. Material: Opaque vinyl, 0.008 inch thick, matte finish, with antibacterial treatment, flameproof and stain-resistant.
2. Material: Cotton, machine washable, and mildew-resistant.
3. Grommets: Stainless steel; pierced through top hem on 6 inch centers.
4. Color: White.
5. Shower Curtain Hooks: Chrome-plated or stainless steel spring wire designed for snap closure.

C. Folding Shower Seat: Wall-mounted surface; welded tubular seat frame, structural support members, swing-down legs, hinges, and mechanical fasteners of Type 304 stainless steel, L-shaped, right hand seat.

D. Wall-Mounted Soap Dish: Heavy duty, seamless stainless steel, surface-mounted with drain holes, without grab bar, satin finish; with concealed mechanical fastening suitable for substrate and backplate.

E. Towel Bar: Stainless steel, 3/4 inch square tubular bar; rectangular brackets, concealed attachment, satin finish.

F. Robe Hook: Heavy-duty stainless steel, single-prong, rectangular-shaped bracket and backplate for concealed attachment, satin finish.

2.6 UNDER-LAVATORY PIPE AND SUPPLY COVERS

A. Specified in 224000 - Plumbing Fixtures.

2.7 UTILITY ROOM ACCESSORIES

A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.

1. Holders: Three spring-loaded rubber cam holders.
2. Length: 36 inches.
3. Length: Manufacturer's standard length for number of holders.
4. Products:
 - a. American Specialties, Inc; _____: www.americanspecialties.com/#sle.
 - b. Rubbermaid Commercial Products; FG199300 Closet Organizer/Tool Holder Kit: www.rubbermaidcommercial.com/#sle.

c. _____.

2.8 CANE DETECTION GRAB BAR AT DRINKING FOUNTAINS

A. Manufacturers

1. AJW Architectural Products;[_____]: www.ajw.com/#sle.

2. American Specialties, Inc;[____]: www.americanspecialties.com/#sle.
3. Bradley Corporation;[____]: www.bradleycorp.com/#sle.
- B. Mounting: flanges with concealed fasteners.
- C. Material: Stainless steel, 0.05 inch thick.
 1. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin).
- D. Outside Diameter: 1-1/4 inches.
- E. Configuration and length: As indicated on drawings.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.

3.2 PREPARATION

- A. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
 1. Grab Bars: As indicated on drawings.

3.4 PROTECTION

- A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Backdraft and pressure relief dampers.
2. Barometric relief dampers.
3. Manual volume dampers.
4. Control dampers.
5. Fire dampers.
6. Ceiling radiation dampers.
7. Smoke dampers.
8. Corridor dampers.
9. Flange connectors.
10. Turning vanes.
11. Remote damper operators.
12. Duct-mounted access doors.
13. Duct access panel assemblies.
14. Flexible connectors.
15. Duct security bars.
16. Duct accessory hardware.

- B. Related Requirements:

1. Section 233346 "Flexible Ducts" for insulated and non-insulated flexible ducts.
2. Section 283111 "Digital Addressable Fire-Alarm System" for duct-mounted fire and smoke detectors.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1. For duct silencers, include pressure drop, dynamic insertion loss, and self-generated noise data. Include breakout noise calculations for high-transmission-loss casings.

- B. Sustainable Design Submittals:

1. Product data showing compliance with ASHRAE 62.1.

- C. Shop Drawings: For duct accessories. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail duct accessories' fabrication and installation in ducts and other construction. Include dimensions, weights, loads, and required clearances; and method of field assembly into duct systems and other construction. Include the following:
 - a. Special fittings.
 - b. Manual volume damper installations.
 - c. Control-damper installations.
 - d. Fire-damper, smoke-damper, combination fire- and smoke-damper, ceiling, and corridor-damper installations, including sleeves; and duct-mounted access doors and remote damper operators.
 - e. Duct security bars.
 - f. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, or BIM model, drawn to scale, on which ceiling-mounted access panels and access doors required for access to duct accessories are shown and coordinated with each other, using input from installers of the items involved.
- B. Source quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fusible Links: Furnish quantity equal to 10 percent of amount installed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with NFPA 90A and NFPA 90B.
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, dis-

colorations, and other imperfections.

2.2 BACKDRAFT AND PRESSURE RELIEF DAMPERS

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

1. Greenheck Fan Corporation.
2. Pottorff.
3. Ruskin Company.

B. Description: Gravity balanced.

C. Performance:

1. Maximum Air Velocity: 1500 fpm.
2. Maximum System Pressure: 3 inches wg.
3. AMCA Certification: Test and rate in accordance with AMCA 511.
4. Leakage:
 - a. Class IA: Leakage shall not exceed 3 cfm/sq. ft. against 1-inch wg differential static pressure.

D. Construction:

1. Frame:
 - a. Hat shaped.
 - b. 0.093-inch-thick extruded aluminum, with welded or mechanically attached corners and mounting flange.
2. Blades:
 - a. Multiple single-piece blades.
 - b. Off-center pivoted, maximum 6-inch width, 0.050-inch-thick aluminum sheet noncombustible, tear-resistant, neoprene-coated fiberglass with sealed edges.
3. Blade Action: Parallel.

E. Blade Seals: Neoprene, mechanically locked.

F. Blade Axles:

1. Material: Galvanized steel.

G. Diameter: 0.20 inch.

- H. Tie Bars and Brackets: Aluminum.
- I. Return Spring: Adjustable tension.
- J. Bearings: Brass sleeve or synthetic pivot bushings.
- K. Accessories:
 - 1. Adjustment device to permit setting for varying differential static pressure.
 - 2. Counterweights and spring-assist kits for vertical airflow installations.
 - 3. 90-degree stops.

2.3 BAROMETRIC RELIEF DAMPERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Greenheck Fan Corporation.
 - 2. Pottorff.
 - 3. Ruskin Company.
- B. General Requirements:
 - 1. Suitable for horizontal or vertical mounting.
 - 2. Maximum Air Velocity: 1500 fpm.
 - 3. Maximum System Pressure: 4 inches wg.
- C. Construction:
 - 1. Frame: Hat shaped, 0.093-inch-thick extruded aluminum, with welded corners or mechanically attached and mounting flange.
 - 2. Blades:
 - a. Multiple, 0.025-inch-thick formed aluminum.
 - b. Maximum Width: 6 inches.
 - c. Action: Parallel.
 - d. Balance: Gravity.
 - e. Eccentrically pivoted.
 - 3. Blade Seals: Vinyl.
 - 4. Blade Axles: Nonferrous metal.
 - 5. Tie Bars and Brackets:
 - a. Material: Aluminum.
 - b. Rattle free with 90-degree stop.
 - 6. Bearings: Synthetic.

D. Pressure Adjustment: Return spring or counter weight with adjustable tension.

E. Accessories:

1. Flange on intake.
2. Adjustment device to permit setting for varying differential static pressures.

2.4 MANUAL VOLUME DAMPERS

A. Standard, Steel, Manual Volume Dampers:

1. Performance:

- a. Leakage Rating Class IA: Leakage not exceeding 3 cfm/sq. ft. against 1-inch wg differential static pressure.

2. Construction:

- a. Linkage out of airstream.
- b. Suitable for horizontal or vertical airflow applications.

3. Frames:

- a. Hat-shaped, 16-gauge-thick, galvanized sheet steel.
- b. Mitered and welded corners.
- c. Flanges for attaching to walls and flangeless frames for installing in ducts.

4. Blades:

- a. Multiple or single blade.
- b. Parallel- or opposed-blade design.
- c. Stiffen damper blades for stability.
- d. Galvanized steel; 16 gauge thick.

5. Blade Axles: Galvanized steel.

6. Bearings:

- a. Molded synthetic.
- b. Dampers mounted with vertical blades to have thrust bearing at each end of every blade.

7. Tie Bars and Brackets: Galvanized steel.

8. Locking device to hold damper blades in a fixed position without vibration.

B. Standard, Aluminum, Manual Volume Dampers:

- a. Performance: Leakage Rating Class III: Leakage not exceeding 40 cfm/sq. ft.

against 1-inch wg differential static pressure.

2. Construction:
 - a. Linkage out of airstream.
 - b. Suitable for horizontal or vertical airflow applications.
3. Frames:
 - a. Hat-shaped, 0.10-inch-thick, aluminum sheet channels.
 - b. Flanges for attaching to walls and flangeless frames for installing in ducts.
4. Blades:
 - a. Multiple or single blade.
 - b. Opposed-blade design.
 - c. Stiffen damper blades for stability.
 - d. Roll-Formed Aluminum Blades: 0.10-inch-thick aluminum sheet.
5. Blade Axles: Galvanized steel.
6. Bearings:
 - a. Molded synthetic.
 - b. Dampers mounted with vertical blades to have thrust bearing at each end of every blade.
7. Tie Bars and Brackets: Aluminum.
8. Locking device to hold damper blades in a fixed position without vibration.

C. Jackshaft:

1. Size: 1-inch diameter.
2. Material: Galvanized-steel pipe rotating within pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies.
3. Length and Number of Mountings: As required to connect linkage of each damper in multiple-damper assembly.

D. Damper Hardware:

1. Zinc-plated, die-cast core with dial and handle, made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut.
2. Include center hole to suit damper operating-rod size.
3. Include elevated platform for insulated duct mounting.

2.5 FIRE DAMPERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the fol-

lowing:

1. Greenheck Corporation.
 2. Pottorff.
 3. Ruskin Company.
- B. Type: dynamic; rated and labeled in accordance with UL 555 by an NRTL.
- C. Closing rating in ducts up to 4-inch wg static pressure class and minimum 2000 fpm velocity.
- D. Fire Rating: 1-1/2 and 3 hours.
- E. Frame: Curtain type with blades outside airstream; fabricated with roll-formed galvanized steel; with mitered and interlocking corners; gauge in accordance with UL listing.
- F. Mounting Sleeve: Factory- or field-installed, galvanized sheet steel; gauge in accordance with UL listing.
- G. Mounting Orientation: Vertical or horizontal as indicated.
- H. Blades: Roll-formed galvanized sheet steel,. Material gauge is to be in accordance with UL listing.
- I. Horizontal Dampers: Include blade lock and stainless steel closure spring.
- J. Heat-Responsive Device:
1. Replaceable, 165 deg F rated, fusible links.

2.6 CEILING RADIATION DAMPERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Greenheck Corporation.
 2. Pottorff.
 3. Ruskin Company.
- B. General Requirements:
1. Labeled according to UL 555C by an NRTL.
 2. Comply with construction details for tested floor- and roof-ceiling assemblies as indicated in UL's "Fire Resistance Directory."
- C. Frame: Galvanized sheet steel, round or rectangular, style to suit ceiling construction; gauge in accordance with UL listing.

- D. Blades: Galvanized sheet steel with refractory insulation; gauge in accordance with UL listing.
- E. Heat-Responsive Device: Replaceable, 165 deg F rated, fusible links.
- F. Fire Rating: 2 hour(s).

2.7 SMOKE DAMPERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Greenheck Corporation.
 - 2. Pottorff.
 - 3. Ruskin Company.
- B. General Requirements:
 - 1. Label to indicate conformance to UL 555 and UL 555S by an NRTL.
 - 2. Label to indicate conformance to NFPA 80 and NFPA 90A by an NRTL.
 - 3. Unless otherwise indicated, use parallel-blade configuration.
 - 4. Factory or field assemble multiple damper sections to provide a single damper assembly of size required by the application.
 - 5. Factory install damper actuator by damper manufacturer as integral part of damper assembly. Coordinate actuator location, mounting, and electrical requirements with damper manufacturer.
- C. Performance:
 - 1. AMCA Certification: Test and rate in accordance with AMCA Publication 511.
 - 2. Leakage:
 - a. Class IA: Leakage shall not exceed 3 cfm/sq. ft. against 1-inch wg differential static pressure.
 - 3. Pressure Drop: 0.05 inch wg at 1500 fpm across a 24-by-24-inch damper when tested in accordance with AMCA 500-D, Figure 5.3.
 - 4. Velocity: Up to 3000 fpm.
 - 5. Temperature: Minus 25 to plus 180 deg F.
 - 6. Pressure Rating: Damper close-off pressure equal to fan shutoff pressure with a maximum blade deflection of 1/200 of blade length.
- D. Construction:
 - 1. Suitable for horizontal or vertical airflow applications.
 - 2. Linkage out of airstream.
 - 3. Frame:
 - a. Hat shaped.

- b. Galvanized sheet steel, with interlocking, gusseted or mechanically attached corners and mounting flange.
 - c. Gauge in accordance with UL listing.
 - 4. Blades:
 - a. Roll-formed, horizontal, v-groove, galvanized sheet steel.
 - b. Maximum width and gauge in accordance with UL listing.
 - 5. Blade Edging Seals:
 - a. Silicone rubber.
 - 6. Blade Jamb Seal: Flexible stainless steel, compression type.
 - 7. Blade Axles: 1/2-inch diameter; galvanized steel; blade-linkage hardware of zinc-plated steel and brass; ends sealed against blade bearings. Linkage is to be mounted out of airstream.
 - 8. Bearings:
 - a. Stainless steel sleeve.
- E. Mounting Sleeve: Factory-installed, galvanized sheet steel; length to suit wall or floor application; gauge in accordance with UL listing.
- F. Damper Actuator - Electric:
 - 1. Electric - 120 V ac or 24 V ac.
 - 2. UL 873, plenum rated.
 - 3. Designed to operate in smoke-control systems complying with UL 555S requirements.
 - 4. Two position with fail-safe spring return.
 - a. Sufficient motor torque and spring torque to drive damper fully open and fully closed with adequate force to achieve required damper seal.
 - b. Maximum 15-second full-stroke closure.
 - c. Minimum 90-degree drive rotation.
 - 5. Clockwise or counterclockwise drive rotation as required for application.
 - 6. Environmental Operating Range:
 - a. Temperature: Minus 40 to plus 130 deg F.
 - b. Humidity: 5 to 95 percent relative humidity noncondensing.
 - 7. Environmental Enclosure: NEMA 2.
 - 8. Actuator to be factory mounted and provided with single-point wiring connection.
- G. Controllers, Electrical Devices, and Wiring:
 - 1. Comply with requirements for electrical devices and connections specified in

Section 230923 "Direct Digital Control (DDC) System for HVAC."

2. Electrical Connection: 115 V, single phase, 60 Hz or 24 V, 60 Hz.

H. Accessories:

1. Auxiliary switches for signaling or position indication.
2. Test and reset switches, remote mounted.
3. Smoke Detector: Integral, factory wired for single-point connection.

2.8 COMBINATION FIRE AND SMOKE DAMPERS-**NOT USED.**

2.9 TURNING VANES

- A. Manufactured Turning Vanes for Metal Ducts: Fabricate curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
 1. Acoustic Turning Vanes: Fabricate airfoil-shaped aluminum extrusions with perforated faces and fibrous-glass fill.
- B. Manufactured Turning Vanes for Nonmetal Ducts: Fabricate curved blades of resin-bonded fiberglass with acrylic polymer coating; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
- C. General Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
- D. Vane Construction:
 1. Single or Double wall, refer to details.

2.10 REMOTE DAMPER OPERATORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. METALAIRE, Inc.
 2. United Enertech.
 3. Young Regulator Company.
- B. Description: Cable system designed for remote manual damper adjustment.
- C. Tubing: Copper.
- D. Cable: Stainless steel.

- E. Wall-Box Mounting: Recessed.
- F. Wall-Box Cover-Plate Material: Stainless steel.

2.11 DUCT-MOUNTED ACCESS DOORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ductmate Industries, Inc.
 - 2. Duro Dyne Inc.
 - 3. Ventfabrics, Inc.
- B. Duct-Mounted Access Doors: Fabricate access panels in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figure 7-2 (7-2M), "Duct Access Doors and Panels," and Figure 7-3, "Access Doors - Round Duct."
 - 1. Door:
 - a. Double wall, rectangular.
 - b. Galvanized sheet metal with insulation fill and thickness as indicated for duct pressure class.
 - c. 24-gauge-thick galvanized steel or 0.032-inch thick aluminum or 24-gauge-thick stainless steel door panel.
 - d. Vision panel.
 - e. Hinges and Latches: 1-by-1-inch butt or piano hinge and cam latches.
 - f. Fabricate doors airtight and suitable for duct pressure class.
 - 2. Frame: Galvanized sheet steel, with bend-over tabs and foam gaskets.
 - a. 24-gauge-thick galvanized steel or 0.032-inch-thick aluminum frame.
 - 3. Number of Hinges and Locks:
 - a. Access Doors Less Than 12 Inches Square: No hinges and two sash locks.
 - b. Access Doors up to 18 Inches Square: Continuous and two sash locks.
 - c. Access Doors up to 24 by 48 Inches: Three hinges and two compression latches.
 - d. Access Doors Larger Than 24 by 48 Inches: Four hinges and two compression latches with outside and inside handles.
- C. Pressure Relief Access Door:
 - 1. Door and Frame Material: Galvanized sheet steel.
 - a. 24-gauge-thick galvanized steel or 0.032-inch-thick aluminum or 24-gauge-thick stainless steel door panel.

2. Door: Double wall with insulation fill with metal thickness applicable for duct pressure class.
3. Operation: Open outward for positive-pressure ducts and inward for negative-pressure ducts.
4. Factory set at 3.0 to 8.0 inches wg.
5. Doors close when pressures are within set-point range.
6. Hinge: Continuous piano.
7. Latches: Cam.
8. Seal: Neoprene or foam rubber.
9. Insulation Fill: 1-inch- thick, fibrous-glass or polystyrene-foam board.

2.12 DUCT ACCESS PANEL ASSEMBLIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. CL WARD & Family Inc.
 2. Ductmate Industries, Inc.
 3. Flame Gard, Inc. Access panels used in cooking applications:
 4. Labeled compliant to NFPA 96 for grease duct access doors.
 5. Labeled in accordance with UL 1978 by an NRTL.
- B. Panel and Frame: Minimum thickness 16-gauge carbon or 16-gauge stainless steel to match duct.
- C. Fasteners: Stainless steel. Panel fasteners shall not penetrate duct wall.
- D. Gasket: Comply with NFPA 96, grease-tight, high-temperature ceramic fiber, rated for minimum 2000 deg F.
- E. Minimum Pressure Rating: 10 inches wg positive or negative.

2.13 FLEXIBLE CONNECTORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ductmate Industries, Inc.
 2. Duro Dyne Inc.
 3. Ventfabrics, Inc.
- B. Fire-Performance Characteristics: Adhesives, sealants, fabric materials, and accessory materials shall have flame-spread index not exceeding 25 and smoke-developed index not exceeding 50 when tested in accordance with ASTM E84.
- C. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in

ASHRAE 62.1.

- D. Materials: Flame-retardant or noncombustible fabrics.
- E. Coatings and Adhesives: Comply with UL 181, Class 1.
- F. Metal-Edged Connectors: Factory fabricated with a fabric strip 5-3/4 inches wide attached to two strips of 2-3/4-inch-wide, 0.028-inch-thick, galvanized sheet steel or 0.032-inch-thick aluminum sheets. Provide metal compatible with connected ducts.
- G. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.
 - 1. Minimum Weight: 26 oz./sq. yd..
 - 2. Tensile Strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling.
 - 3. Service Temperature: Minus 40 to plus 200 deg F.
- H. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.
 - 1. Minimum Weight: 24 oz./sq. yd.
 - 2. Tensile Strength: 530 lbf/inch in the warp and 440 lbf/inch in the filling.
 - 3. Service Temperature: Minus 50 to plus 250 deg F.
- I. Thrust Limits: Combination coil spring and elastomeric insert with spring and insert in compression, and with a load stop. Include rod and angle-iron brackets for attaching to fan discharge and duct.
 - 1. Frame: Steel, fabricated for connection to threaded rods and to allow for a maximum of 30 degrees of angular rod misalignment without binding or reducing isolation efficiency.
 - 2. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
 - 3. Minimum Additional Travel: 50 percent of the required deflection at rated load.
 - 4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
 - 5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
 - 6. Elastomeric Element: Molded, oil-resistant rubber or neoprene.
 - 7. Coil Spring: Factory set and field adjustable for a maximum of 1/4-inch movement at start and stop.

2.14 DUCT ACCESSORY HARDWARE

- A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.
- B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline

and grease.

2.15 MATERIALS

- A. Galvanized Sheet Steel: Comply with ASTM A653/A653M.
 - 1. Galvanized Coating Designation: G90.
 - 2. Exposed-Surface Finish: Mill phosphatized.
- B. Stainless Steel Sheets: Comply with ASTM A480/A480M, Type 304, and having a No. 2 finish for concealed ducts and finish determined by architect for exposed ducts.
- C. Aluminum Sheets: Comply with ASTM B209, Alloy 3003, Temper H14; with mill finish for concealed ducts and standard, one-side bright finish for exposed ducts.
- D. Extruded Aluminum: Comply with ASTM B221, Alloy 6063, Temper T6.
- E. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless steel ducts.
- F. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install duct accessories in accordance with applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116 for fibrous-glass ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless steel accessories in stainless steel ducts, and aluminum accessories in aluminum ducts.
- C. Install control dampers at inlet of exhaust fans or exhaust ducts as close as possible to exhaust fan unless otherwise indicated. Provide 2" rigid insulation from exterior penetration to damper, if damper is not at penetration.
- D. Where multiple damper sections are necessary to achieve required dimensions, provide reinforcement to fully support damper assembly when fully closed at full system design static pressure.
- E. Install volume dampers at points on supply, return, and exhaust systems where branches extend from larger ducts. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel.

1. Install steel volume dampers in steel ducts.
 2. Install aluminum volume dampers in aluminum ducts.
- F. Set dampers to fully open position before testing, adjusting, and balancing.
- G. Provide concealed remote volume damper operators for all volume dampers in inaccessible locations. An inaccessible location is defined as a location where no access door has been provided. Operator shall be installed within the ceiling or wall such that the unit is flush with the finished surface. Operators for diffusers shall not be located in active supply portions of the diffuser, but may be installed in blank-off locations and/or return diffusers. Coordinate location of operator with the Architect.
- H. Install test holes at fan inlets and outlets and elsewhere as indicated and as needed for testing and balancing.
- I. Install fire and smoke dampers in accordance with UL listing.
- J. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations:
1. On both sides of duct coils.
 2. Upstream from duct filters.
 3. At outdoor-air intakes and mixed-air plenums.
 4. At drain pans and seals.
 5. Downstream from manual volume dampers, control dampers, backdraft dampers, and equipment.
 6. Adjacent to and close enough to fire or smoke dampers, to reset or reinstall fusible links. Access doors for access to fire or smoke dampers having fusible links shall be pressure relief access doors and shall be outward operation for access doors installed upstream from dampers and inward operation for access doors installed downstream from dampers.
 7. At each change in direction and at maximum 50-ft. spacing.
 8. Upstream from turning vanes.
 9. For grease ducts, install at locations and spacing as required by NFPA 96.
 10. Control devices requiring inspection.
 11. Elsewhere as indicated.
- K. Install access doors with swing against duct static pressure.
- L. Access Door Sizes:
1. One-Hand or Inspection Access: 12 by 12 inches.
 2. Two-Hand Access: 12 by 12 inches.
 3. Head and Hand Access: 18 by 10 inches.
 4. Head and Shoulders Access: 21 by 14 inches.
 5. Body Access: 25 by 14 inches.
 6. Body plus Ladder Access: 25 by 17 inches.

- M. Label access doors according to Section 230553 "Identification for HVAC Piping and Equipment" to indicate the purpose of access door.
- N. Install flexible connectors to connect ducts to equipment.
- O. For fans developing static pressures of 5 inches wg and more, cover flexible connectors with loaded vinyl sheet held in place with metal straps.
- P. Install duct test holes where required for testing and balancing purposes.
- Q. Install thrust limits at centerline of thrust, symmetrical on both sides of equipment. Attach thrust limits at centerline of thrust and adjust to a maximum of 1/4-inch movement during start and stop of fans.

3.2 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Operate dampers to verify full range of movement.
 - 2. Inspect locations of access doors, and verify that size and location of access doors are adequate to perform required operation.
 - 3. Operate fire, smoke, and combination fire and smoke dampers to verify full range of movement and that proper heat-response device is installed.
 - 4. Inspect turning vanes for proper and secure installation, and verify that vanes do not move or rattle.
 - 5. Operate remote damper operators to verify full range of movement of operator and damper.

END OF SECTION 233300

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sleeves for raceway and cable penetration of non-fire-rated construction walls and floors.
2. Sleeve-seal systems.
3. Sleeve-seal fittings.
4. Grout.
5. Silicone sealants.

PART 2 - PRODUCTS

2.1 SLEEVES

A. Wall Sleeves:

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

B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

C. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

D. Molded-PVC Sleeves: With nailing flange for attaching to wooden forms.

E. Molded-PE or -PP Sleeves: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

F. Sleeves for Rectangular Openings:

1. Material: Galvanized sheet steel.
2. Minimum Metal Thickness:
 - a. For sleeve cross-section rectangle perimeter less than 50 inches and with no side larger than 16 inches, thickness shall be 0.052 inch.
 - b. For sleeve cross-section rectangle perimeter 50 inches or more and one or more sides larger than 16 inches, thickness shall be 0.138 inch.

2.2 SLEEVE-SEAL SYSTEMS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advance Products & Systems, Inc.
 - b. CALPICO, Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 - e. Proco Products, Inc.
 - 2. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
 - 3. Pressure Plates: Carbon steel.
 - 4. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating of length required to secure pressure plates to sealing elements.

2.3 GROUT

- A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.
- B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- C. Design Mix: 5000-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.4 SILICONE SEALANTS

- A. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
- B. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

2.5 FIRE RATED RACEWAY AND CABLE PENETRATION

- A. System used for penetrations shall be NRTL listed as suitable for the purpose and shall maintain the original fire rating of the penetrated floor, wall, etc.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A. Comply with NECA 1.
- B. Comply with NEMA VE 2 for cable tray and cable penetrations.
- C. Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:
 - 1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 07 92 00 "Joint Sealants."
 - b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed.
 - 4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
- D. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:
 - 1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.
- E. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work. Roof penetrations shall be avoided if at all possible.
- F. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe 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.
- G. Underground, Exterior-Wall and Floor Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between raceway or cable and sleeve for installing sleeve-seal system.

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at raceway entries into building.
- B. Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.3 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

END OF SECTION 260544

SECTION 265119 - LED INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. LED Interior lighting fixtures.
2. Emergency lighting units.
3. Exit signs.
4. Lighting fixture supports.

1.2 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color-rendering index.
- C. HID: High-intensity discharge.
- D. LER: Luminaire efficacy rating.
- E. Lumen: Measured output of lamp and luminaire, or both.
- F. Luminaire: Complete lighting fixture, including ballast housing if provided.

1.3 SUBMITTALS

- A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
1. Physical description of lighting fixture including dimensions.
 2. Energy-efficiency data.
 3. Photometric data and adjustment factors based on laboratory tests, complying with IESNA Lighting Measurements Testing & Calculation Guides, of each lighting fixture type. The adjustment factors shall be for lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project.
- B. Installation instructions.
- C. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NFPA 70.
- D. Energy Efficiency: Meet applicable requirements of the IECC/DOE Energy Code and ANSI/ASHRAE/IESNA 90.1-2010 Energy Standard.

1.5 COORDINATION

- A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

1.6 WARRANTY

- A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.
- B. Warranty Period: Ten year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Ambient Temperature: 41 to 104 deg F.
 - 1. Relative Humidity: Zero to 95 percent.
- B. Altitude: Sea level to 1000 feet.

2.2 LUMINAIRE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Locate labels where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

1. Label shall include the following lamp characteristics:

- a. "USE ONLY" and include specific lamp type.
- b. Lamp diameter, shape, size, wattage, and coating.
- c. CCT and CRI.

C. Recessed luminaires shall comply with NEMA LE 4.

D. NRTL Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by an NRTL.

2.3 MATERIALS

A. Metal Parts:

1. Free of burrs and sharp corners and edges.
2. Sheet metal components shall be steel unless otherwise indicated.
3. Form and support to prevent warping and sagging.

B. Steel:

1. ASTM A 36/A 36M for carbon structural steel.
2. ASTM A 568/A 568M for sheet steel.

C. Stainless Steel:

1. Manufacturer's standard grade.
2. Manufacturer's standard type, ASTM A 240/240 M.

D. Galvanized Steel: ASTM A 653/A 653M.

E. Aluminum: ASTM B 209.

2.4 EMERGENCY POWER UNIT

A. Internal Type: Self-contained, modular, battery-inverter unit, factory mounted within lighting fixture body and compatible with ballast. Comply with UL 924.

1. Emergency Connection: Operate fluorescent lamp(s) or LEDs continuously at an output of 1400 lumens each. Connect unswitched circuit to battery-inverter unit and switched circuit to fixture ballast.
2. Nightlight Connection: Operate lamp or LEDs continuously.
3. Test Push Button and Indicator Light: Visible and accessible without opening fixture or entering ceiling space.
 - a. Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
 - b. Indicator Light: LED indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

4. Battery: Sealed, maintenance-free, nickel-cadmium type.
5. Charger: Fully automatic, solid-state, constant-current type with sealed power transfer relay.
6. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.

2.5 EXIT SIGNS

- A. General Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
- B. Internally Lighted Signs:
 1. Operating at nominal voltage of 120 V ac or 277 V ac.
 2. Lamps for AC Operation: LEDs; 50,000 hours minimum rated lamp life.
 3. Self-Powered Exit Signs (Battery Type): Internal emergency power unit.

2.6 METAL FINISHES

- A. Variations in finishes are unacceptable in the same piece. Variations in finishes of adjoining components are acceptable if they are within the range of approved Samples and if they can be and are assembled or installed to minimize contrast.

2.7 LUMINAIRE SUPPORT

- A. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.
- B. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
- C. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage.
- D. Wires for Humid Spaces: ASTM A 580/A 580M, Composition 302 or 304, annealed stainless steel, 12 gauge.
- E. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.
- F. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1.
- B. Lighting fixtures:
 - 1. Set level, plumb, and square with ceilings and walls unless otherwise indicated.
 - 2. Install lamps in each luminaire.
- C. Temporary Lighting: If it is necessary, and approved by Architect, to use permanent luminaires for temporary lighting, install and energize the minimum number of luminaires necessary. When construction is sufficiently complete, remove the temporary luminaires, disassemble, clean thoroughly, install new lamps, and reinstall.
- D. Lay-in Ceiling Lighting Fixtures Supports: Use grid as a support element.
 - 1. Install ceiling support system rods or wires, independent of the ceiling suspension devices, for each fixture. Locate not more than 6 inches from lighting fixture corners.
 - 2. Support Clips: Fasten to lighting fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
 - 3. Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch metal channels spanning and secured to ceiling tees.
 - 4. Install at least one independent support rod or wire from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
- E. Suspended Lighting Fixture Support:
 - 1. Pendants and Rods: Where longer than 48 inches, brace to limit swinging.
 - 2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
 - 3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
 - 4. Do not use grid as support for pendant luminaires. Connect support wires or rods to building structure.

3.2 IDENTIFICATION

- A. Install labels with panel and circuit numbers on concealed junction and outlet boxes. Identify light fixtures that are fed by an emergency generator with a label stating "EMERGENCY SERVICE". Place label on the ballast near the wire terminations.

3.3 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
 2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.
- B. Luminaire will be considered defective if it does not pass operation tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 265119

SECTION 283111 - ADDRESSABLE FIRE-ALARM SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Fire-alarm control unit.
 - 2. Manual fire-alarm boxes.
 - 3. System smoke detectors.
 - 4. Heat detectors.
 - 5. Notification appliances.
 - 6. Magnetic Door Holders.
 - 7. Addressable interface device.

1.3 DESCRIPTION OF WORK

- A. Fire alarm system is an existing Simplex 4100 system. Provide extension of system as described on the drawings. Provide all hardware, software and programming as required by the fire alarm system manufacturer to accommodate the extension of the system for this project.
 - 1. JCI Contact:
Peter Meredith
peter.l.meredity@JCI.com
- B. Provide all labor, materials and equipment for a complete and operating fire alarm system.
- C. Codes and standards: all fire alarm work shall be in strict compliance with OSHA requirements as well as all the codes listed in the code compliance statement on this sheet. Fire alarm system and its components and system operations shall also meet the approval of the local fire department.
- D. All materials shall be new, free from defects, and shall bear the underwriter's label for its intended use.
- E. Permits, fees and notices: secure and pay for all required by the work of this division. Provide final inspection certificate(s) as applicable.
- F. Contractor shall thoroughly investigate site before bidding. No changes will be allowed in contract price for work required to comply with existing conditions.

- G. Workmanship shall meet NECA guidelines.
- H. If, through errors or omissions, the intent of architect/engineer with regard to any detail is not clear, or is capable of more than one interpretation, such matters must be brought to the attention of the architect/engineer in writing before the submission of bids, and the architect/engineer shall make correction or explanation in writing. Otherwise, no extra charge will be allowed for the work or material which the architect/engineer will require, provided that it comes within a reasonable interpretation of the drawings and specifications.
- I. The plans and specifications are intended as a general description of the work to be performed. All items not specifically mentioned or shown, but necessary for the completion of the installation, shall be furnished and installed by this contractor. This contractor shall thoroughly acquaint himself with the mechanical, architectural, structural and electrical plans before submitting his final bid. No additional compensation will be allowed due to the contractor's failure to familiarize himself with the plans.

1.4 DEFINITIONS

- A. EMT: Electrical Metallic Tubing.
- B. FACP: Fire Alarm Control Panel.
- C. NICET: National Institute for Certification in Engineering Technologies.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product, including furnished options and accessories.
 - 1. Include construction details, material descriptions, dimensions, profiles, and finishes.
 - 2. Include rated capacities, operating characteristics, and electrical characteristics.
- B. Shop Drawings: For fire-alarm system.
 - 1. Submit technical information on all major equipment. Mark-up prints of the design drawings with red as items are installed and submit showing an accurate "as-built" record of the entire system. Provide the owner with instructions in operation of the system. Secure from the owner a signed memo stating that technical information, as-built drawings and instructions in operation have been received. Submit memo to the architect.
 - 2. Comply with recommendations and requirements in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - 3. Include plans, elevations, sections, details, and attachments to other work.
 - 4. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
 - 5. Detail assembly and support requirements.
 - 6. Include voltage drop calculations for notification-appliance circuits.

7. Include battery-size calculations.
8. Include input/output matrix.
9. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
10. Include performance parameters and installation details for each detector.
11. Provide program report showing that air-sampling detector pipe layout balances pneumatically within the airflow range of the air-sampling detector.
12. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale; coordinate location of duct smoke detectors and access to them.
 - a. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
 - b. Show field wiring required for HVAC unit shutdown on alarm.
 - c. Locate detectors according to manufacturer's written recommendations.
 - d. Show air-sampling detector pipe routing.
13. Include voice/alarm signaling-service equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.
14. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.

C. General Submittal Requirements:

1. Submittals shall be approved by authorities having jurisdiction prior to submitting them to Architect.
2. Shop Drawings shall be prepared by persons with the following qualifications:
 - a. Trained and certified by manufacturer in fire-alarm system design.
 - b. NICET-certified, fire-alarm technician; Level III minimum.

D. Delegated-Design Submittal: For notification appliances and smoke and heat detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Drawings showing the location of each notification appliance and smoke and heat detector, ratings of each, and installation details as needed to comply with listing conditions of the device.
2. Design Calculations: Calculate requirements for selecting the spacing and sensitivity of detection, complying with NFPA 72. Calculate spacing and intensities for strobe signals and sound-pressure levels for audible appliances.
3. Indicate audible appliances required to produce square wave signal per NFPA 72.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Field quality-control reports.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following and deliver copies to authorities having jurisdiction:
 - a. Comply with the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - b. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - c. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
 - d. Riser diagram.
 - e. Device addresses.
 - f. Record copy of site-specific software.
 - g. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:
 - 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
 - h. Manufacturer's required maintenance related to system warranty requirements.
 - i. Abbreviated operating instructions for mounting at fire-alarm control unit and each annunciator unit.
- B. Software and Firmware Operational Documentation:
 - 1. Software operating and upgrade manuals.
 - 2. Program Software Backup: On magnetic media or compact disk, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Keys and Tools: One extra set for access to locked or tamper-proofed components.
 - 2. Fuses: Two of each type installed in the system. Provide in a box or cabinet with compartments marked with fuse types and sizes.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.
- B. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level III technician.
- C. NFPA Certification: Obtain certification according to NFPA 72 by a UL-listed alarm company.

1.10 PROJECT CONDITIONS

- A. Use of Devices during Construction: Protect devices during construction unless devices are placed in service to protect the facility during construction.
- B. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Extent: All equipment and components not covered in the Maintenance Service Agreement.
 - 2. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FUNCTIONS

- A. Upon actuation of any manual alarm station or automatic alarm initiating device the system shall illuminate the zone led at the control panel and remote annunciators as well as:
 - 1. Operate all audible and visual alarm signals.
 - 2. Transmit fire alarm signal to the local fire department.
- B. Power failure, opens, grounds or any disarrangement of system wiring or components shall be indicated by a visual and audible trouble signal at remote annunciators and the fire control panel. The trouble signal may be silenced, but the trouble light must remain illuminated until the system has been returned to normal, at which time the trouble signal shall resound until the trouble silence switch has been returned to the normal position.

2.2 SYSTEM DESCRIPTION

- A. Provide system manufacturer's certification that all components provided have been tested as, and will operate as, a system.
- B. Noncoded, UL-certified addressable system, with multiplexed signal transmission and horn/strobe evacuation.
- C. Automatic sensitivity control of certain smoke detectors.

- D. All components provided shall be listed for use with the selected system.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 SYSTEMS OPERATIONAL DESCRIPTION

- A. Fire-alarm signal initiation shall be by one or more of the following devices:
 - 1. Manual stations.
 - 2. Heat detectors.
 - 3. Smoke detectors.
 - 4. Duct smoke detectors.
 - 5. Automatic sprinkler system water flow.
- B. Fire-alarm signal shall initiate the following actions:
 - 1. Continuously operate alarm notification appliances.
 - 2. Identify alarm and specific initiating device at fire-alarm control unit and remote annunciators.
 - 3. Transmit an alarm signal to the remote alarm receiving station.
 - 4. Unlock electric door locks in designated egress paths.
 - 5. Activate alarm communication system.
 - 6. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
 - 7. Recall elevators to primary or alternate recall floors.
 - 8. Activate emergency shutoffs for gas and fuel supplies.
 - 9. Record events in the system memory.
- C. Supervisory signal initiation shall be by one or more of the following devices and actions:
 - 1. Valve supervisory switch.
 - 2. Alert and Action signals of air-sampling detector system.
 - 3. Independent fire-detection and -suppression systems.
 - 4. User disabling of zones or individual devices.
 - 5. Loss of communication with any panel on the network.
- D. System trouble signal initiation shall be by one or more of the following devices and actions:
 - 1. Open circuits, shorts, and grounds in designated circuits.
 - 2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
 - 3. Loss of communication with any addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
 - 4. Loss of primary power at fire-alarm control unit.
 - 5. Ground or a single break in internal circuits of fire-alarm control unit.
 - 6. Abnormal ac voltage at fire-alarm control unit.
 - 7. Break in standby battery circuitry.
 - 8. Failure of battery charging.
 - 9. Abnormal position of any switch at fire-alarm control unit or annunciator.

E. System Signal Actions:

1. Identify specific device initiating the event at fire-alarm control unit and remote annunciators.
2. Transmit an appropriate signal to the remote alarm receiving station and campus security.
 - a. A 200 second delay for primary power failure shall be permitted.

2.4 SCOPE

- A. Upgrade the existing fire alarm control panel to power and monitor all existing and new system devices.
- B. Provide a fire alarm terminal cabinet to power and monitor all fire alarm system devices.
- C. Provide all fire alarm devices as indicated on the floor plans.
- D. Provide complete connection between the new building/area and the existing facp so that an alarm signal from the new building/area will activate the fire alarm system as described above.
- E. Provide battery calculation for total system operation for no less than three hours. Submit with shop drawings.

2.5 FIRE-ALARM CONTROL UNIT

- A. Existing Fire Alarm Control Panel to Remain – Simplex 4100.
- B. General Requirements for Fire-Alarm Control Unit:
 1. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL 864.
 - a. System software and programs shall be held in nonvolatile flash, electrically erasable, programmable, read-only memory, retaining the information through failure of primary and secondary power supplies.
 - b. Include a real-time clock for time annotation of events on the event recorder and printer.
 - c. Provide communication between the FACP and remote circuit interface panels, annunciators, and displays.
 - d. The FACP shall be listed for connection to a central-station signaling system service.
 - e. Provide nonvolatile memory for system database, logic, and operating system and event history. The system shall require no manual input to initialize in the event of a complete power down condition. The FACP shall provide a minimum 500-event history log.
 2. Addressable Initiation Device Circuits: The FACP shall indicate which communication zones have been silenced and shall provide selective silencing of alarm notification appliance by building communication zone.

3. Addressable Control Circuits for Operation of Notification Appliances and Mechanical Equipment: The FACP shall be listed for releasing service.
- C. Alphanumeric Display and System Controls: Arranged for interface between human operator at fire-alarm control unit and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and the programming and control menu.
 1. Annunciator and Display: Liquid-crystal type, 80 characters, minimum.
 2. Keypad: Arranged to permit entry and execution of programming, display, and control commands.
- D. Initiating-Device, Notification-Appliance, and Signaling-Line Circuits:
 1. Pathway Class Designations: NFPA 72, Class B.
 2. Pathway Survivability: Level 1.
 3. Install no more than 50 addressable devices on each signaling-line circuit.
 4. Serial Interfaces:
 - a. One dedicated RS 485 port for central-station operation using point ID DACT.
 - b. One RS 485 port for remote annunciators, Ethernet module, or multi-interface module (printer port).
 - c. One USB port for PC configuration.
- E. Smoke-Alarm Verification:
 1. Initiate audible and visible indication of an "alarm-verification" signal at fire-alarm control unit.
 2. Activate an approved "alarm-verification" sequence at fire-alarm control unit and detector.
 3. Sound general alarm if the alarm is verified.
 4. Cancel fire-alarm control unit indication and system reset if the alarm is not verified.
- F. Notification-Appliance Circuit:
 1. Audible appliances shall sound in a three-pulse temporal pattern, as defined in NFPA 72.
 2. Where notification appliances provide signals to sleeping areas, the alarm signal shall be a 520-Hz square wave with an intensity 15 dB above the average ambient sound level or 5 dB above the maximum sound level, or at least 75 dBA, whichever is greater, measured at the pillow.
 3. Visual alarm appliances shall flash in synchronization where multiple appliances are in the same field of view, as defined in NFPA 72.
- G. Elevator Recall:
 1. Elevator recall shall be initiated only by one of the following alarm-initiating devices:
 - a. Elevator lobby detectors except the lobby detector on the designated floor.
 - b. Smoke detectors in elevator hoistway.

2. Elevator controller shall be programmed to move the cars to the alternate recall floor if lobby detectors located on the designated recall floors are activated.
3. Water-flow alarm connected to sprinkler in an elevator shaft and elevator machine room shall shut down elevators associated with the location without time delay.
 - a. Water-flow switch associated with the sprinkler in the elevator pit may have a delay to allow elevators to move to the designated floor.
- H. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.
- I. Primary Power: 24-V dc obtained from 120-V ac service and a power-supply module. Initiating devices, notification appliances, signaling lines, trouble signals, supervisory and digital alarm communicator transmitters shall be powered by 24-V dc source.
 1. Alarm current draw of entire fire-alarm system shall not exceed 80 percent of the power-supply module rating.
- J. Secondary Power: 24-V dc supply system with batteries, automatic battery charger, and automatic transfer switch.
 1. Batteries: Sealed lead calcium.
 2. Provide sufficient capacity to operate the complete alarm system in normal or supervisory (non-alarm) mode for a period of 24 hours. Following this period of operation on battery power, the battery shall have sufficient capacity to operate all components of the system, including all alarm notification devices in alarm mode for a period of 15 minutes.
- K. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.

2.6 MANUAL FIRE-ALARM BOXES

- A. Manufacturer: Shall be compatible with existing FACP.
- B. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.
 1. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.
 2. Station Reset: Key- or wrench-operated switch.
 3. Indoor Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm. Lifting the cover actuates an integral battery-powered audible horn intended to discourage false-alarm operation.

4. Weatherproof Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm.

2.7 SYSTEM SMOKE DETECTORS

- A. Manufacturer: Shall be compatible with existing FACP.
- B. General Requirements for System Smoke Detectors:
 1. Comply with UL 268, operating at 24-V dc, nominal.
 2. Detectors shall be four-wire type.
 3. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
 4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
 5. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
- C. Photoelectric Smoke Detectors:
 1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
 2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).

2.8 HEAT DETECTORS

- A. Manufacturer: Shall be compatible with existing FACP.
- B. General Requirements for Heat Detectors: Comply with UL 521.
 1. Temperature sensors shall test for and communicate the sensitivity range of the device.
- C. Heat Detector, Combination Type: Actuated by either a fixed temperature of 135 deg F or a rate of rise that exceeds 15 deg F per minute unless otherwise indicated.
 1. Mounting: Twist-lock base interchangeable with smoke-detector bases.
 2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.
- D. Conventional Two-wire Detector: Actuated by a rate of rise that exceeds 15 deg F per minute unless otherwise indicated.

1. Manufacturer: Shall be compatible with existing FACP.
2. General Requirements for Heat Detectors: Comply with UL 521.
3. Mounting: Manufacturer's twist lock base.

2.9 NOTIFICATION APPLIANCES

- A. Manufacturer: Shall be compatible with existing FACP.
- B. General Requirements for Notification Appliances: Individually addressed, connected to a signaling-line circuit, equipped for mounting as indicated, and with screw terminals for system connections.
- C. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.
- D. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet from the horn, using the coded signal prescribed in UL 464 test protocol.
- E. Visible Notification Appliances: Xenon strobe lights complying with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch-high letters on the lens.
 1. Rated Light Output:
 - a. 15/30/75/110 cd, selectable in the field.
 2. Mounting: Wall mounted unless otherwise indicated.
 3. For units with guards to prevent physical damage, light output ratings shall be determined with guards in place.
 4. Flashing shall be in a temporal pattern, synchronized with other units.
 5. Strobe Leads: Factory connected to screw terminals.
 6. Mounting Faceplate: Factory finished, red.
- F. Description: Annunciator functions shall match those of fire-alarm control unit for alarm, supervisory, and trouble indications. Manual switching functions shall match those of fire-alarm control unit, including acknowledging, silencing, resetting, and testing.
 1. Mounting: Surface cabinet, NEMA 250, Type 1.
- G. Display Type and Functional Performance: Alphanumeric display and LED indicating lights shall match those of fire-alarm control unit. Provide controls to acknowledge, silence, reset, and test functions for alarm, supervisory, and trouble signals.

2.10 MAGNETIC DOOR HOLDERS

- A. Description: Units are equipped for wall or floor mounting as indicated and are complete with matching doorplate.
 - 1. Electromagnets: Require no more than 3 W to develop 25-lbf holding force.
 - 2. Wall-Mounted Units: Flush mounted unless otherwise indicated.
 - 3. Rating: 24-V ac or dc.
- B. Material and Finish: Match door hardware.

2.11 ADDRESSABLE INTERFACE DEVICE

- A. Manufacturer: Shall be compatible with existing FACP.
- B. General:
 - 1. Include address-setting means on the module.
 - 2. Store an internal identifying code for control panel use to identify the module type.
 - 3. Listed for controlling HVAC fan motor controllers.
- C. Monitor Module: Microelectronic module providing a system address for alarm-initiating devices for wired applications with normally open contacts.
- D. Integral Relay: Capable of providing a direct signal to elevator controller to initiate elevator recall.
 - 1. Allow the control panel to switch the relay contacts on command.
 - 2. Have a minimum of two normally open and two normally closed contacts available for field wiring.
- E. Control Module:
 - 1. Operate notification devices.
 - 2. Operate solenoids for use in sprinkler service.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
 - 1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.

- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION - GENERAL

- A. The contractor shall adapt his work to job conditions and make such changes as required and permitted by the architect, such as moving his work to clear beams, joists, and adjusting his risers or other apparatus to avoid interferences with windows and openings; or raising or lowering his work to permit the passing of ductwork or the work of other trades; all as required or as job conditions dictate, without any additional costs to the owner.
- B. Examine areas and conditions under which work is to be performed and products are to be installed and notify general contractor in writing of conditions detrimental to proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- C. Do not allow or cause any of the work of this division or cause other divisions of work to be covered up or enclosed until it has been inspected, tested and approved by the architect and by all other authorities having jurisdiction.
- D. All control panels, devices, and any and all other fire alarm equipment provided shall be thoroughly cleaned of all dirt, oil, concrete, etc. Any dents, scratches or other visible blemishes shall be corrected and the appearance and corrosion resistance of the equipment made "like new", to the satisfaction of the architect/engineer.
- E. Perform all adjustments necessary to ensure proper system operation in accordance with manufacturers written instructions.

3.3 EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
 - 1. Devices placed in service before all other trades have completed cleanup shall be replaced.
 - 2. Devices installed but not yet placed in service shall be protected from construction dust, debris, dirt, moisture, and damage according to manufacturer's written storage instructions.
- B. Equipment Mounting: Install fire-alarm control unit on finished floor.
- C. Install wall-mounted equipment, with tops of cabinets not more than 78 inches above the finished floor.
- D. Manual Fire-Alarm Boxes:

1. Install manual fire-alarm box in the normal path of egress within 60 inches of the exit doorway.
2. Mount manual fire-alarm box on a background of a contrasting color.
3. The operable part of manual fire-alarm box shall be between 42 inches and 48 inches above floor level. All devices shall be mounted at the same height unless otherwise indicated.

E. Smoke- or Heat-Detector Spacing:

1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
3. Smooth ceiling spacing shall not exceed 30 feet.
4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A in NFPA 72.
5. HVAC: Locate detectors not closer than 36 inches from air-supply diffuser or return-air opening.
6. Lighting Fixtures: Locate detectors not closer than 12 inches from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.

F. Install a cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.

G. Audible Alarm-Indicating Devices: Install not less than 6 inches below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all devices at the same height unless otherwise indicated.

H. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches below the ceiling. Install all devices at the same height unless otherwise indicated.

I. Device Location-Indicating Lights: Locate in public space near the device they monitor.

3.4 PATHWAYS

A. Pathways above recessed ceilings and in inaccessible locations may be routed exposed.

1. Exposed pathways located less than 96 inch above floor must be installed in EMT.

B. Exposed EMT shall be painted red enamel.

3.5 CONNECTIONS

A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.

1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.
- B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
 1. Alarm-initiating connection to elevator recall system and components.
 2. Alarm-initiating connection to activate emergency shutoffs for gas and fuel supplies.
 3. Supervisory connections at valve supervisory switches.

3.6 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 27 05 53 "Identification for Communications Systems."
- B. Install framed instructions in a location visible from fire-alarm control unit.

3.7 GROUNDING

- A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire-alarm control unit.
- B. Ground shielded cables at the control panel location only. Insulate shield at device location.

3.8 FIELD QUALITY CONTROL

- A. Field tests shall be witnessed by authorities having jurisdiction.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Statement of Compliance: Where required by the Authority Having Jurisdiction an in accordance with 2020 FCNYS, provide a written statement stating the fire alarm system has been installed in accordance with approved plans, has been tested in accordance with the manufacturer's specifications, and has been installed in accordance with appropriate installation standards. List any deviations and approvals for such deviations.
- D. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.

- b. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
 4. Test audible appliances for the private operating mode according to manufacturer's written instructions.
 5. Test visible appliances for the public operating mode according to manufacturer's written instructions.
 6. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
- F. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- G. Prepare test and inspection reports.
- H. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.
- I. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

3.9 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
 1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

3.10 SOFTWARE SERVICE AGREEMENT

- A. Comply with UL 864.
- B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.
- C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
 - 1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.

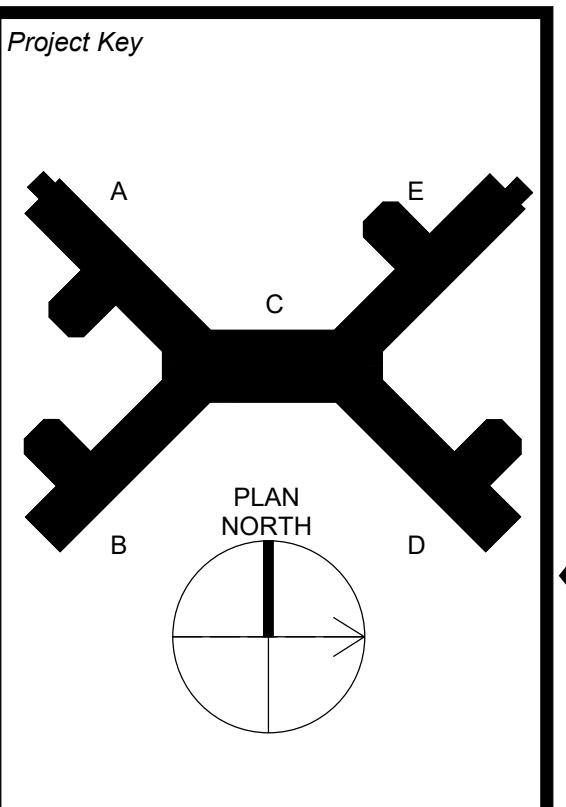
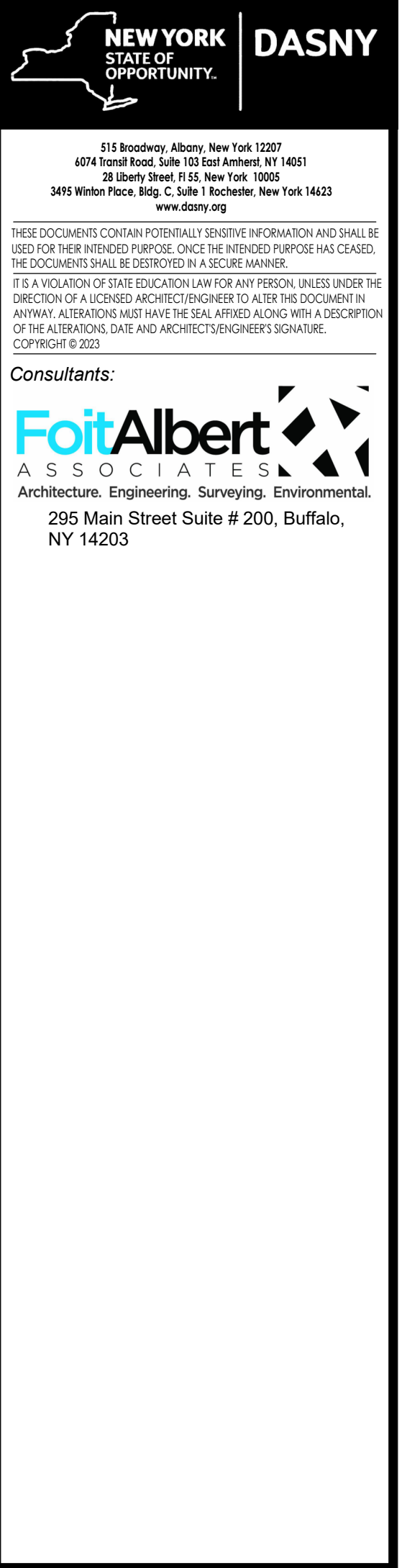
3.11 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system.

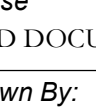
END OF SECTION 283111



COLOR	PHASE DESCRIPTION	DURATION
	PHASE 1: RENOVATE WING 4A , WING 4B, & PART OF 4C	6 MONTHS
	PHASE 2: RENOVATE 3D, 3E, PART OF 3C, 4D, 4E, & PART OF 4C	12 MONTHS
	PHASE 3: RENOVATE 3B & PART OF 3C	6 MONTHS
		= 24 MONTHS

[illegible]

The logo for the client, New York State Office of Mental Health, Greater Binghamton Health Center, is located in the top left corner. It features a stylized map of New York with an arrow pointing to the text "NEW YORK STATE OF OPPORTUNITY." and "Office of Mental Health".

Drawing Title			
PHASING PLANS			
Phase			
BID DOCUMENTS			
Drawn By:		Checked By:	
CMV		SRK	
Date:		08/11/26	
Seal & Signature		DASNY Project No:	
		371230	
		Drawing 13 of 304	

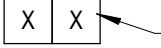
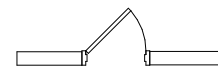
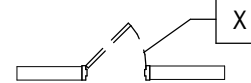
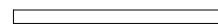
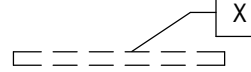
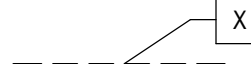


1
AD113B

PAR
1/8" = 1'-0"

1. UNIVERSAL WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE FLUORESCENT LAMPS, SMOKE DETECTORS, EXIST SIGNS, AND FIRE STROBE UNITS. PCBs AND CAPACITORS MAY BE PRESENT IN ELECTRICAL EQUIPMENT. ALL UNIVERSAL WASTE AND MUST BE HANDLED AS HAZARDOUS WASTE. UNIVERSAL WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.
2. DISTRIBUTION OF UNIVERSAL WASTE MATERIALS TO THE PUBLIC SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING EPA 40 CFR PART 273 AND NYS DEC 615.5.
3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING UNIVERSAL WASTE MATERIALS WHERE APPLICABLE.
5. THE DATE OF THE UPDATED JUNE 9, 2028 VERSION OF THE FOLLOWING MAY 14TH, 2024 CONCURS GOUR PUBLIC INFORMATION FOR DETAILED INSPECTION INFORMATION:
6. REMEDIATION AND RISK ASSESSMENT REPORT FOR THE 1000 WEST 10TH STREET PCB-CONTAINING MATERIALS, MOLD, UNIVERSAL AND HAZARDOUS WASTE INSPECTION REPORT, OFFICE OF MEDICAL HEALTH GREATER BINGHAMTON HEALTH CENTER, 1000 WEST 10TH BUILDING, BINGHAMTON, NEW YORK 13902-1000, 1000 WEST STREET, BINGHAMTON, NY 13902, DASNY PROJECT NO. 371230, EXG 24208.

- THESE GENERAL DEMOLITION NOTES SHALL BE USED IN CONJUNCTION WITH THE WRITTEN SPECIFICATION FOR SELECTIVE DEMOLITION.
1. CERTAIN AREAS OF THE PROJECT MAY BE DESIGNATED AS A FIELD PRIORITY TO THE START OF DEMOLITION/CONSTRUCTION EFFORTS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IN COMPARISON TO THE DOCUMENTS PRIOR TO BEGINNING THE WORK.
2. COORDINATE WITH THE ARCHITECT AND ENGINEER REGARDING DESIGN DECISIONS ISSUED AS PART OF THIS SET OF CONSTRUCTION DOCUMENTS, INCLUDING BUT NOT LIMITED TO HAZARDOUS MATERIAL ABATEMENT, MECHANICAL, ELECTRICAL, PLUMBING, AND HVAC.
3. ALL DIMENSIONS ARE TAKEN FROM FACE OF EXISTING WALL AND/OR COLUMN CENTERLINES.
4. EXPOSED EXISTING UNOCCUPIED AREAS DURING CONSTRUCTION.
5. ALL EXISTING SURFACES WHICH HAVE BEEN DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR REPAVED, PATCHED, REPLACED TO MATCH EXISTING CONDITIONS PRIOR TO THE WORK.
6. VERIFY ALL FIRE OR SMOKE RATED PARTITIONS/WALLS, COORDINATE WITH DRAWINGS.
7. DEMOLITION OF EXISTING WALLS SHALL BE IN ACCORDANCE WITH THE FOLLOWING: A. THAT ARE EXPOSED AND NOT FIRE RATED OR SMOKE RATED PER THE RATED RATING SHALL BE FIRE STOPPED OR SMOKE STOPPED AS REQUIRED BY CODE. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE WORK.
8. WHERE DEMOLITION EFFORTS ARE ADJACENT TO OCCUPIED SPACES, CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION TO BUILDING AND OCCUPANTS PER THE NEARBY OCCUPANCY. PROVIDE ADEQUATE PROTECTION TO ADJACENT AREAS TO PREVENT SUITABLE MATERIALS, TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR, TO THE LOWEST PRACTICAL LEVEL.
9. PROVIDE SPRINKLING AND/OR FLOODING AS REQUIRED AS PART OF THE DEMOLITION WORK.
10. DEMOLITION OF EXISTING REFRIG AND DEERS DAILY AND ANYTHING THAT CANNOT BE REMOVED FROM THE SITE IS TO BE STORED IN A SECURE AREA, CLEAN, DRY, CLEAN SITE DAILY.
11. MATERIALS WITH THE OWNER'S MATERIALS TO BE SALVAGED. TAKE CARE NOT TO DAMAGE EXISTING MATERIALS TO BE SALVAGED. MATERIALS TO BE SALVAGED ARE TO BE STORED IN A STORAGE LOCATION AS DIRECTED BY THE OWNER.
12. MAINTAIN EXISTING UTILITIES TO REMAIN. KEEP IN SERVICE AND PROTECT AGAINST DAMAGE.
13. ALL TEMPORARY OR NEW CONSTRUCTION ITEMS INCLUDING EQUIPMENT AND ACCESSORIES SHALL BE SECURED IN SUCH A MANNER TO PRECLUDE ANY POTENTIAL DAMAGE TO THE PROJECT.

SYMBOL/TAG	DESCRIPTION
ROOM NAME → ROOM NAME  KEYNOTE DIRECTIVE(S) FOR ENTIRE ROOM	ROOM IDENTIFICATION TAG AND KEYNOTE REFERENCES
	EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING DEMOLITION EFFORTS
	EXISTING DOOR AND FRAME TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING PARTITION WALL TO REMAIN
	EXISTING PARTITION WALL TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ITEM TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ACCESS PANEL TO REMAIN

- A REMOVE EXISTING PLASTER CEILING. COORDINATE CEILING REMOVALS WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING CONTRACT REMOVALS. REFER TO THE HAZARDOUS MATERIAL DRAWINGS FOR DETAILED ABATEMENT INFORMATION. GENERAL CEILING DEMOLITION SHALL PROCEED ONLY AFTER COMPLETION OF ABATEMENT ACTIVITIES IDENTIFIED IN NOTE A10.

[illegible]

Client

 **NEW YORK**
STATE OF
OPPORTUNITY | **Office of
Mental Health**

Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title
**PARTIAL CEILING
REMOVAL PLAN -
3RD FLOOR - WING B**

Phase		
BID DOCUMENTS		
Drawn By:	Checked By:	Date:
CMV	SRK	08/11/26
Seal & Signature		DASNY Project No:
		371230
		AD113
Drawing		53 of 304

AD1131

Drawing
53 of 304

ACM IS KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF EXISTING ACM, AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF EXISTING ACM.

A. ASBESTOS HAS BEEN IDENTIFIED IN THE FOLLOWING MATERIALS. THESE ARE NOT ANTICIPATED TO BE DISBURSED DURING THE CURRENT PROJECT SCOPE, IF SUCH CONTRACTOR CONTRACT PROVISIONS ARE IN PLACE (PROTECTED ACCORDING):

- a. FLANGE GASKETS - IL2 & IL3 MECHANICAL
- b. FIRE RATED DOOR FRAME HANGER (DOOR NON-ACM) - LOWER LEVEL 3.
- c. ACCT INSULATION - 600 RATED

D. TRACED ASBESTOS HAS BEEN CONFIRMED IN THE FOLLOWING MATERIALS:

- a. GREY EPOXY RESIN

ANY DISTURBANCE OF ACM SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

EXISTING MATERIALS SHALL BE PROTECTED TO PREVENT DISTURBANCE. MATERIALS SHALL NOT BE DISBURD AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNER'S REPRESENTATIVE FOR AN ACCURATE INTERPRETATION OF THE SAME AND A CORRECTIVE ACTION.

6. NEW YORK STATE INDUSTRIAL CODE RULE 56 (HEREIN REFERRED TO AS CODE RULE 56) AND USEPA NESHAP'S REGULATIONS DO NOT APPLY TO TRACE (+1%) ASBESTOS MATERIALS. HOWEVER, THE USEPA NESHAP'S REGULATIONS DO APPLY TO ASBESTOS MATERIALS. THE CONCENTRATION OF ASBESTOS MATERIALS IN AIR MUST BE LESS THAN 0.1 FIBERS PER CUBIC CENTIMETER (FIBERS/CC) (USEPA STANDARD) APPLIES REGARDLESS OF THE CONCENTRATION OF ASBESTOS PRESENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT AND ADHERE TO ALL ASBESTOS CONTROL STANDARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING WHEN IMPACTING TRACE ASBESTOS MATERIALS. FOR COMPLETE DETAILS ON OSHA'S ASBESTOS CONSTRUCTION STANDARD REFER TO 29 CFR 1926.1101. FOR A SUMMARY OF THE 2017 UPDATED OSHA ASBESTOS CONSTRUCTION STANDARD REFER TO 29 CFR 1926.1101. FOR THE 2020 ENCLOSURE GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION.

PRE-RENOVATION ASBESTOS CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-CONTAINING MATERIALS, AND POLYCHLORINATED BIPHENYL (PCB) CONTAINING MATERIALS REPORT. OFFICES OF MENTAL HEALTH, GREATER BRIGHTMAN/HEALTH CENTER, GARVIN BUILDING, BUILDING #75 RENOVATIONS, 420 ROBINSON STREET, BRIGHTMAN, NY 12014

[illegible]

1. PCB CONTAINING MATERIALS ARE KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION AND QUANTITY AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF PCBs.
2. THE PRESENCE OF PCB CONTAINING MATERIALS SHALL ONLY BE PERFORMED BY A LICENSED CONTRACTOR EMPLOYING PROPERLY TRAINED AND CERTIFIED PERSONNEL.
3. ANY QUESTIONABLE MATERIAL OR MATERIAL SUSPECTED TO CONTAIN PCBs SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNERS REPRESENTATIVE FOR ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.
4. EXTERIOR GREY PINK WINDOW CALKING AT HAS BEEN IDENTIFIED AS CONTAINING BOTH ASBESTOS AND PCBs. THIS MATERIAL MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE ASBESTOS AND PCB REGULATIONS AND GUIDANCE, AND MUST BE PROPERLY TRANSPORTED AND MANAGED IN ACCORDANCE WITH ALL APPLICABLE HAZARDOUS WASTE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS.

1. HAZARDOUS WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDING LEAD-BASED PAINT (LBP) AND LEAD-CONTAINING PAINT (LCP), WASTE PCB/PCBENH CONTAINING PAINT, PCB-CONTAINING PAINT, SOLVENTS, OILS, FUELS, ACID, ALKALIS, AND OTHER LIQUIDS. CONTRACTORS ARE RESPONSIBLE FOR MAKING THESE MATERIALS AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF THESE MATERIALS AND TO WARN THE EMPLOYEES OF THE DANGERS OF DISTURBING OR HANDLING THESE MATERIALS. HAZARDOUS WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.

2. DISTRIBUTION, REMOVAL, STORAGE, OR DISPOSAL OF HAZARDOUS WASTE SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH AGR (RCRATSCA, OSCA, NYSDOB & 6 NYCRR PARTS 370-374), AND ALL OTHER APPLICABLE STATE AND LOCAL REGULATIONS.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSQA OR APPLICABLE ENVIRONMENTAL REGULATIONS.

4. CONTRACTORS AND THEIR EMPLOYEES SHALL BE ADVISED THAT ANY DISTURBANCE OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING HAZARDOUS WASTE MATERIALS WERE APPLICABLE.

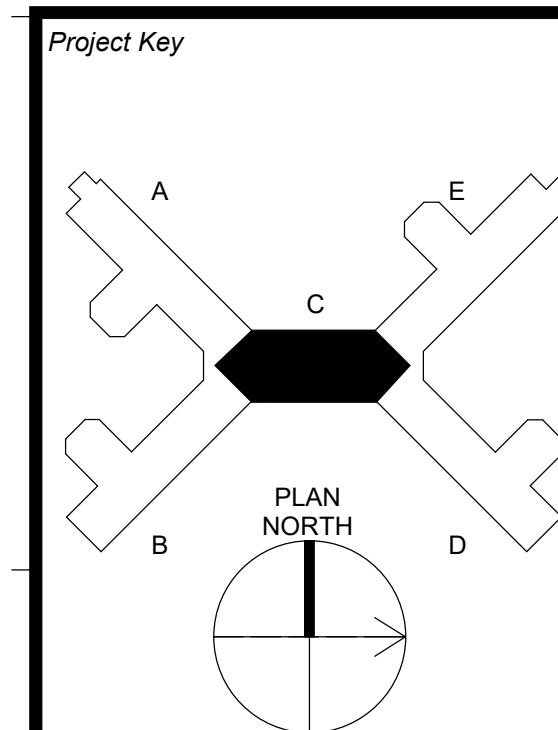
5. THIS REPORT IS DATED JUNE 8, 2026 VERSION OF THE FOLLOWING MAY 14TH, 2024 ENCLOSURE GOURP PUBLICATION FOR DETAILED INSPECTION INFORMATION.

PRIOR-RENOVATION ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-CONTAINING MATERIALS AND MOLD-CONTAINING MATERIALS. THIS INFORMATION WAS OBTAINED FROM THE RECORDS OF MEDICAL HEALTH, GREATER BRIGHTMAN HEALTH CENTER, GARVIN BUILDING (BUILDING 75) RENOVATIONS, 425 ROBINSON STREET, BRIDGEWATER, NJ 08906

1. UNIVERSAL WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE:
FLUORESCENT LAMPS, SMOKE DETECTORS, EXT. SIGNS, AND FIRE STROBE UNITS. PCB
CONTAMINATED MATERIALS AND CAPACITORS. UNIVERSAL WASTE MATERIALS
WASTE AND MUST BE HANDLED AS HAZARDOUS WASTE. UNIVERSAL WASTE MATERIALS
MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.
2. ENVIRONMENTAL RESTORATION OF THE SITE SHALL BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH
FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING EPA 40 CFR PART 273 AND NYS DE
ENV 615.3.
3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES
UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THEIR EMPLOYEES OF THE
POTENTIAL DANGERS OF DISTURBING OR HANDLING UNIVERSAL WASTE MATERIALS WHERE
APPLICABLE.
5. REFERENCE THE UPDATED JUNE 2026 VERSION OF THE FOLLOWING MAY 14TH 2024
ENCLOSURE GOURP PUBLICATION FOR DETAILED INSPECTION INFORMATION.
PRE-RENOVATION ASBESTOS CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-
CONTAMINATED MATERIALS, AND UNIVERSAL WASTE MATERIALS. UNIVERSAL WASTE
REPORT: OFFICE OF MENTAL HEALTH, GREATER BRIGHTMAN HEALTH CENTER
GARVIN BUILDING (BUILDING 75) RENOVATIONS, 425 ROBINSON STREET,
BIRMINGHAM, NY 13924

SYMBOL/TAG	DESCRIPTION
ROOM NAME ——— ROOM NAME KEYNOTE DIRECTIVE(S) FOR ENTIRE ROOM	ROOM IDENTIFICATION TAG AND KEYNOTE REFERENCES
	EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING DEMOLITION EFFORTS
	EXISTING DOOR AND FRAME TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING PARTITION WALL TO REMAIN
	EXISTING PARTITION WALL TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ITEM TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ACCESS PANEL TO REMAIN

A REMOVE EXISTING PLASTER CEILING. COORDINATE CEILING REMOVALS WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING CONTRACT REMOVALS. REFER TO THE HAZARDOUS MATERIAL DRAWINGS FOR DETAILED ABATEMENT INFORMATION. GENERAL CEILING DEMOLITION SHALL PROCEED ONLY AFTER COMPLETION OF ABATEMENT ACTIVITIES IDENTIFIED IN NOTE A10.

[illegible]



ACM IS KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE AND LOCATION OF ANY POTENTIAL ASBESTOS, AND TO WARN THE EMPLOYEES OF THE POTENTIAL DANGERS OF ASBESTOS.

A. ASBESTOS HAS BEEN IDENTIFIED IN THE FOLLOWING MATERIALS. THESE ARE NOT LIMITED TO BE LIMITED TO THE FOLLOWING LISTED MATERIALS. IF ANY OTHER SCORING CHANGES, CONTRACT DOCUMENTS MUST BE UPDATED ACCORDINGLY:

- a. FLANGE GASKETS – 125 & 134 MECHANICAL
- b. FLOOR COVERING (FLOORING) – 100% (NON-ACM) – LOWER LEVEL 3.
- c. ACM DUST INSULATION – 600 MECHANICAL

B. TRACE ASBESTOS HAS BEEN CONFIRMED IN THE FOLLOWING MATERIALS:

- a. GROUT – EXTERIOR WINDOW

ANY DISTURBANCE OF ACM SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

ALL IDENTIFIED MATERIALS MUST BE PROTECTED TO CONTAIN ASBESTOS SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNER'S REPRESENTATIVE FOR AN ACCURATE INTERPRETATION OF THE RESULTS.

NEW YORK STATE INDUSTRIAL CODE RULE 56 (HEREIN REFERRED TO AS CODE RULE 56) AND US EPA HESHA REGULATIONS DO NOT APPLY TO THIS TRACE (+)AS ASBESTOS. CONTRACTORS, THEREAFTER, SHALL BE REQUIRED TO FOLLOW THE STANDARD ASBESTOS STANDARD) APPLIED REGARDLESS OF THE CONCENTRATION OF ASBESTOS PRESENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE FOLLOWING:

- a. APPLICABLE ASHA STANDARD WORK PRACTICES AND PROHIBITIONS AND REQUIREMENTS WHEN IMPACTING TRACE ASBESTOS MATERIALS. FOR COMPLETE DETAILS ON OSHA'S ASBESTOS CONSTRUCTION STANDARDS, VISIT: <https://www.osha-slc.gov/asbestos>
- b. REFER TO THE UPDATED JUNE 9, 2028 VERSION OF THE FOLLOWING MAY 14TH, 2024 ENCL009 GROUT PUBLICATION FOR DETAILED INSPECTION INFORMATION
- c. REMEDIATION: VISIT: <https://www.osha-slc.gov/asbestos> FOR ASBESTOS INSPECTION, PCB-CONTAINING MATERIALS, MOLD, UNIVERSAL AND HAZARDOUS WASTE HAZARD PAINT REPORT, OFFICES OF MEDICAL HEALTH, GREATER BINGHAMTON HEALTH CENTER, BINGHAMTON, NY 13902
- d. VISIT: <https://www.osha-slc.gov/asbestos> FOR ASBESTOS INSPECTION, PCB-CONTAINING MATERIALS, MOLD, UNIVERSAL AND HAZARDOUS WASTE HAZARD PAINT REPORT, OFFICES OF MEDICAL HEALTH, GREATER BINGHAMTON HEALTH CENTER, BINGHAMTON, NY 13902

BINGHAMTON, NY 13901 DASNY PROJECT NO. 317320, EG824028

1. PCB CONTAINING MATERIALS ARE KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION AND QUANTITY AND TO WARN THEIR EMPLOYEES THE POTENTIAL DANGERS OF PCBs.
2. THE PRESENCE OF PCB CONTAINING MATERIALS SHALL ONLY BE PERFORMED BY A LICENSED CONTRACTOR EMPLOYING PROPERLY TRAINED AND CERTIFIED PERSONNEL.
3. ANY QUESTIONABLE MATERIAL OR MATERIAL SUSPECTED TO CONTAIN PCB'S SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNERS REPRESENTATIVE FOR ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.
4. EXTERIOR GRIFF WINDOW CALLING AT HAS BEEN IDENTIFIED AS CONTAINING BOTH ASBESTOS AND PCB'S. THIS MATERIAL MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE ASBESTOS AND PCB REMEDIATION REGULATIONS AND MUST BE PROPERLY PACKAGED, TRANSPORTED, AND DISPOSED OF AS HAZARDOUS WASTE IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS.

1. HAZARDOUS WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE LEAD-BASED PAINT (LBP) AND LEAD-CONTAINING PAINT (LCP) WASTE, PCB/PCB-CONTAINING MATERIALS, AND PCB/PCB-CONTAINING WASTE. CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF THESE MATERIALS AND TO WARN THE EMPLOYEES OF THE PRESENCE OF THESE MATERIALS. HAZARDOUS WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.

2. DISTURBING, REMOVAL, STORAGE, OR DISPOSAL OF HAZARDOUS WASTE SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH AGR (RCRATISUA, OSHA, NYSDEC (6 NYCRR PARTS 370-374), AND ALL OTHER APPLICABLE STATE, FEDERAL, AND LOCAL LAWS AND REGULATIONS.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.

4. CONTRACTORS MUST BE AWARE OF THE POTENTIAL OF THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING HAZARDOUS WASTE MATERIALS WHERE APPLICABLE.

5. THIS REPORT IS DATED JUNE 9, 2026 VERSION OF THE FOLLOWING MAY 14TH, 2024 ENCLOSURE GOURP PUBLICATION FOR DETAILED INSPECTION INFORMATION.

PRE-RENOVATION ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-CONTAINING MATERIALS, AND PCB-CONTAINING WASTE. ENVIRONMENTAL INSPECTOR REPORT: OFFICES OF MEDICAL HEALTH, GREATER BRIGHTON HEALTH CENTER, GARYN BUILDING, BUILDING 173 RENOVATIONS, 425 ROBINSON STREET, BRIGHTON, NY 13043.

1. UNIVERSAL WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE FLUORESCENT LAMPS, SMOKE DETECTORS, EXIT SIGNS, AND FIRE STROBE UNITS. PCBs AND ASBESTOS CONTAINING MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE WASTE AND MUST BE HANDLED AS HAZARDOUS WASTE. UNIVERSAL WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.

2. DISTURBING REGULATORY REQUIREMENTS FOR ASBESTOS AND PCBs SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING EPA 40 CFR PART 273 AND NYS DEC 615.9-3.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING UNIVERSAL WASTE MATERIALS WHERE APPLICABLE.

5. REPEAL THE UPDATED JUNE 2008 VERSION OF THE FOLLOWING MAY 14TH 2004 ENCLOR GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION:

ASBESTOS RENOVATION/ASBESTOS CONTINUATION MONITORING (L&D-BASED) PCB/CONTAMINANT MATERIALS, SMOKE DETECTORS AND HAZARDOUS WASTE INSPECTION REPORT: OFFICES OF MEDICAL HEALTH GREATER BINGHAMTON HEALTH CARE CENTER BINGHAMTON BUILDING BINGHAMTON, NEW YORK 18020 1000 1000 1000 1000 STREET, BINGHAMTON NY 13904, DASNY PROJECT NO. 371230, EG824008

[illegible]

SYMBOL/TAG	DESCRIPTION
ROOM NAME → ROOM NAME KEYNOTE DIRECTIVE(S) FOR ENTIRE ROOM	ROOM IDENTIFICATION TAG AND KEYNOTE REFERENCES
	EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING DEMOLITION EFFORTS
	EXISTING DOOR AND FRAME TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING PARTITIONWALL TO REMAIN
	EXISTING PARTITIONWALL TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ITEM TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ACCESS PANEL TO REMAIN

A REMOVE EXISTING PLASTER CEILING. COORDINATE CEILING REMOVALS WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING CONTRACT REMOVALS. REFER TO THE HAZARDOUS MATERIAL DRAWINGS FOR DETAILED ABATEMENT INFORMATION. GENERAL CEILING DEMOLITION SHALL PROCEED ONLY AFTER COMPLETION OF ABATEMENT ACTIVITIES IDENTIFIED IN NOTE A10.

[illegible]

1. ACM IS KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF EXISTING ACM, AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF EXISTING ACM.

2. ASBESTOS HAS BEEN IDENTIFIED IN THE FOLLOWING MATERIALS. THESE ARE NOT ANTICIPATED TO BE DISTURBED UNDER THE CURRENT PROJECT SCOPE, IF SCOPED AS FOLLOWS:

- a. FLANGE GASKETS - L2L & L3L MECHANICAL
- b. PLASTER DOOR FRAME - 100% NON-ACM
- c. FLOOR TILE - 100% NON-ACM - LOWER LEVEL 5
- d. ACM DUCT INSULATION - 60% MECHANICAL

3. TRACER ASBESTOS HAS BEEN CONFIRMED IN THE FOLLOWING MATERIALS:

- a. GROUT UNDER FLOORING

4. ANY DISTURBANCE OF ACM SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

5. ALL REMEDIATION MATERIALS SHALL BE PROPERLY PACKAGED TO CONTAIN ASBESTOS SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNER'S REPRESENTATIVE FOR AN ACCURATE INTERPRETATION OF THE DATA SAVING AND RECORDING.

6. NEW YORK STATE GEOTECHNICAL CODE RULE 56 (HEREIN REFERRED TO AS CODE RULE 56) AND USEPA NESHAP'S REGULATIONS DO NOT APPLY TO TRACE (+) ACM ASBESTOS CONTAMINANTS. HOWEVER, THE USEPA NESHAP'S REGULATIONS DO APPLY TO ASBESTOS IN STANDARD APPLIES REGARDLESS OF THE CONCENTRATION OF ASBESTOS PRESENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT AND ADHERE TO ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND STANDARDS. THEREFORE, WHEN IMPACTING TRACER ASBESTOS MATERIALS, FOR COMPLETE COMPLIANCE ON OSHA'S ASBESTOS CONSTRUCTION STANDARD REFER DIRECTLY TO 29 CFR 1926.101. FOR ADDITIONAL INFORMATION, PLEASE VISIT: <https://www.osha-slc.gov/enforcement/2024-encouraging-publication-for-labeling-detection-inspection-information/>.

7. REMEDIATION INFORMATION FOR ALL ASBESTOS CONTAMINANTS, INCLUDING PCB-CONTAINING MATERIALS, MOULD, UNIVERSAL AND HAZARDOUS WASTE INSPECTION REPORT, OFFICES OF MEDICAL HEALTH, GREATER BINGHAMTON HEALTH SERVICES, 1000 BINGHAMTON BUILDING, BINGHAMTON, NY 13902-1000, 607-733-2200, 1000 BINGHAMTON STREET, BINGHAMTON, NY 13904, DASNY PROJECT NO. 37320, EGM24028"

3. PCB CONTAINING MATERIALS ARE KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION AND QUANTITY AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF PCBs.
4. DISTURBANCE OF PCB-CONTAINING MATERIALS SHALL ONLY BE PERFORMED BY A LICENSED PCB CONTRACTOR. CONTRACTORS MUST PROPERLY TRAINED AND CERTIFIED PERSONNEL.
5. ANY QUESTIONABLE MATERIAL OR MATERIAL SUSPECTED TO CONTAIN PCBs SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNERS REPRESENTATIVE FOR ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.
6. EXTERIOR GREY WINDOW CAULKING AT HAS BEEN IDENTIFIED AS CONTAINING BOTH ASBESTOS AND PCB'S. THIS MATERIAL MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE ASBESTOS AND PCB REGULATIONS AND GUIDANCE, AND MUST BE PROPERLY PACKAGED, TRANSPORTED AND DISPOSED IN AN APPROPRIATE MANNER IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.

1. HAZARDOUS WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE LEAD- BASED PAINT (LBP) AND LEAD-CONTAINING PAINT (LCP). WASTE PCB/SH-CONTAINING MATERIALS. CONTRACTORS ARE RESPONSIBLE FOR MAKING THESE MATERIALS AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF THESE MATERIALS AND TO WARD OFF THE DANGERS OF THESE MATERIALS. CONTRACTORS ARE RESPONSIBLE FOR REMOVAL OF HAZARDOUS WASTE MATERIALS. HAZARDOUS WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.

2. PRE-REMOVAL, STORAGE, OR DISPOSAL OF HAZARDOUS WASTE SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH EPA RCRA(ASPCA, OSCA, NYSDDB) 6 NYCRR PARTS 370-374, AND ALL OTHER APPLICABLE STATE AND FEDERAL REGULATIONS.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.

4. CONTRACTORS, SUPERVISORS, AND EMPLOYEES SHALL BE ADVISED BY THEIR EMPLOYERS OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING HAZARDOUS WASTE MATERIALS WHERE APPLICABLE.

5. THIS REPORT IS UPDATED JUNE 2, 2008 VERSION OF THE FOLLOWING MAY 14TH, 2004 ENCORUS GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION.

“PRE-REMOVAL ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-CONTAINING MATERIALS, AND HAZARDOUS WASTE MATERIALS” BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, GREAT BRIGHTEN HAZARD HEALTH CARE CENTER, GARVIN BUILDING (BUILDING #73) RENOVATIONS, 425 ROBINSON STREET, ROCHESTER, NY 14620-1000

1. UNIVERSAL WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE: REFRIGERATION LAMPS, FLUORESCENT LAMPS, BATTERIES, THERMISTORS, BALLASTS AND CAPACITORS ASSOCIATED WITH LIGHT FIXTURES ARE NOT UNIVERSAL WASTE MATERIALS AND MUST BE HANDLED AS HAZARDOUS WASTE. UNIVERSAL WASTE MATERIALS MUST BE REMOVED PRIOR TO THE REMOVAL OF HAZARDOUS WASTE MATERIALS.
2. DISTURBANCE, REMOVAL OR DISPOSAL OF UNIVERSAL WASTE SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS INCLUDING EPA 40 CFR PART 273 AND NYS DEC PART 274.5
3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING UNIVERSAL WASTE MATERIALS WHERE APPLICABLE.
5. REFER TO THE UPDATED JUNE 9, 2025 VERSION OF THE FOLLOWING MAY 14TH, 2024 ENCORUS GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION:
"PRE-REMOVAL ASBESTOS-CONTAINING MATERIALS. LEAD-BASED PAINT. PCB-CONTAINING MATERIALS. UNIVERSAL WASTE MATERIALS." (ENCORUS GROUP INSPECTION REPORT, OFFICES OF MENTAL HEALTH, GREATER BRIGHTON HEALTH CARE CENTER, GARVIN BUILDING) BUILDING #73 RENOVATIONS, 425 ROBINSON STREET, BOSTON, MA 02114 BY TERRY S. WILSON

A. THESE GENERAL DEMOLITION NOTES SHALL BE USED IN CONJUNCTION WITH THE WRITTEN SPECIFICATION FOR (SELECTIVE) DEMOLITION.

B. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO THE START OF DEMOLITION. DEMOLITION EFFORTS SHALL BE THE ARCHITECT OF THE START OF DEMOLITION. DISCREPANCIES IN COMPARISON TO THE DOCUMENTS PRIOR TO BEGINNING THE WORK SHALL BE THE ARCHITECT'S RESPONSIBILITY.

C. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING THE WORK. DISCREPANCIES IN COMPARISON TO THE DOCUMENTS PRIOR TO BEGINNING THE WORK SHALL BE THE ARCHITECT'S RESPONSIBILITY.

D. ALL DIMENSIONS ARE TAKEN FROM FACE OF EXISTING WALL AND/OR COLUMN CENTERS.

E. PROTECT ALL EXISTING UNAFFECTED AREAS DURING CONSTRUCTION.

F. ALL EXISTING SURFACES WHICH HAVE BEEN DISTURBED OR DAMAGED DURING DEMOLITION WHICH WERE NOT MEANT TO BE AFFECTED ARE TO BE REPAIRED, PATCHED, OR REPLACED TO MATCH THE ORIGINAL FINISH.

G. VERIFY ALL FIRE OR SMOKE RATED PARTITIONS/WALLS, COORDINATE WITH DRAWINGS, AND VERIFY THE RATING OF THE PARTITION/WALL. IF THE RATING OF THE PARTITION/WALL IS EXPOSED AND NOT FIRE RATED OR SMOKE RATED PER THE REQUIRED RATING SHALL BE FIRE STOPPED OR SMOKE STOPPED AS REQUIRED BY CODE. NOTIFY ARCHITECT IMMEDIATELY.

H. WHERE DEMOLITION EFFORTS ARE ADJACENT TO OCCUPIED SPACES, CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION TO BUILDING AND OCCUPANTS PER THE NEW YORK CITY BUILDING DEPARTMENT AND ALL APPLICABLE CODES AND ALL OTHER SUITABLE METHODS, TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR, TO THE LOWEST PRACTICAL LEVELS.

I. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AS REQUIRED AS PART OF THE DEMOLITION WORK.

J. DISPOSE OF DEMOLITION REFUSE AND DEBRIS DAILY AND ANYTHING THAT CANNOT BE RECYCLED FROM THE SITE IS TO BE STORED IN A SECURE AREA. BROOM CLEAN SITE.

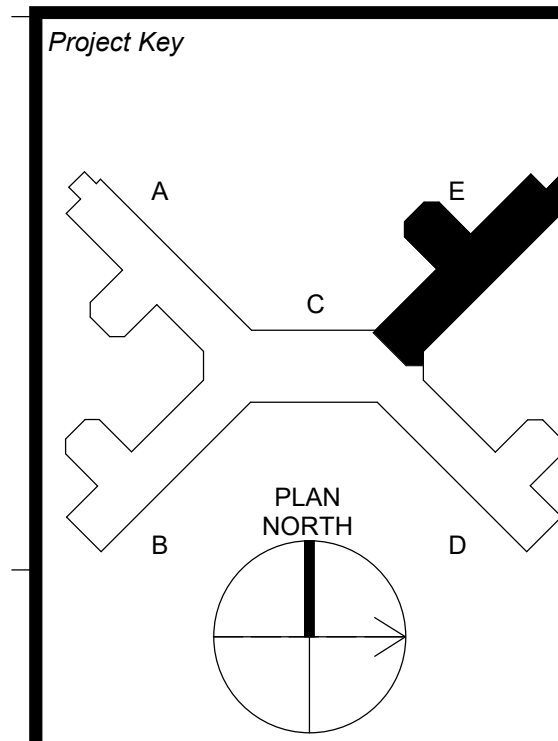
K. VERIFY WITH THE OWNER'S MATERIALS TO BE SALVAGED. TAKE CARE NOT TO DAMAGE SALVAGE MATERIALS. SALVAGE MATERIALS TO BE SALVAGED SHALL BE STORED IN A STORAGE LOCATION AS DIRECTED BY THE OWNER.

L. MAINTAIN EXISTING UTILITIES TO REMAIN. KEEP IN SERVICE AND PROTECT AGAINST DAMAGE FROM DEMOLITION OPERATIONS.

M. ALL TEMPORARY OR NEW CONSTRUCTION ITEMS INCLUDING EQUIPMENT AND ACCESSORIES SHALL BE SECURED IN SUCH A MANNER TO PRECLUDE ANY POTENTIAL DAMAGE FROM OTHER CONSTRUCTION ACTIVITIES.

SYMBOL/TAG	DESCRIPTION
ROOM NAME — ROOM NAME KEYNOTE DIRECTIVE(S) FOR ENTIRE ROOM	ROOM IDENTIFICATION TAG AND KEYNOTE REFERENCES
	EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING DEMOLITION EFFORTS
	EXISTING DOOR AND FRAME TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING PARTITIONWALL TO REMAIN
	EXISTING PARTITIONWALL TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ITEM TO BE REMOVED REFER TO KEYNOTE TAG FOR DIRECTIONS
	EXISTING ACCESS PANEL TO REMAIN

A REMOVE EXISTING PLASTER CEILING. COORDINATE CEILING REMOVALS WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING CONTRACT REMOVALS. REFER TO THE HAZARDOUS MATERIAL DRAWINGS FOR DETAILED ABATEMENT INFORMATION. GENERAL CEILING DEMOLITION SHALL PROCEED ONLY AFTER COMPLETION OF ABATEMENT ACTIVITIES IDENTIFIED IN NOTE A10.

[illegible]

Client

 **NEW YORK**
STATE OF
OPPORTUNITY.

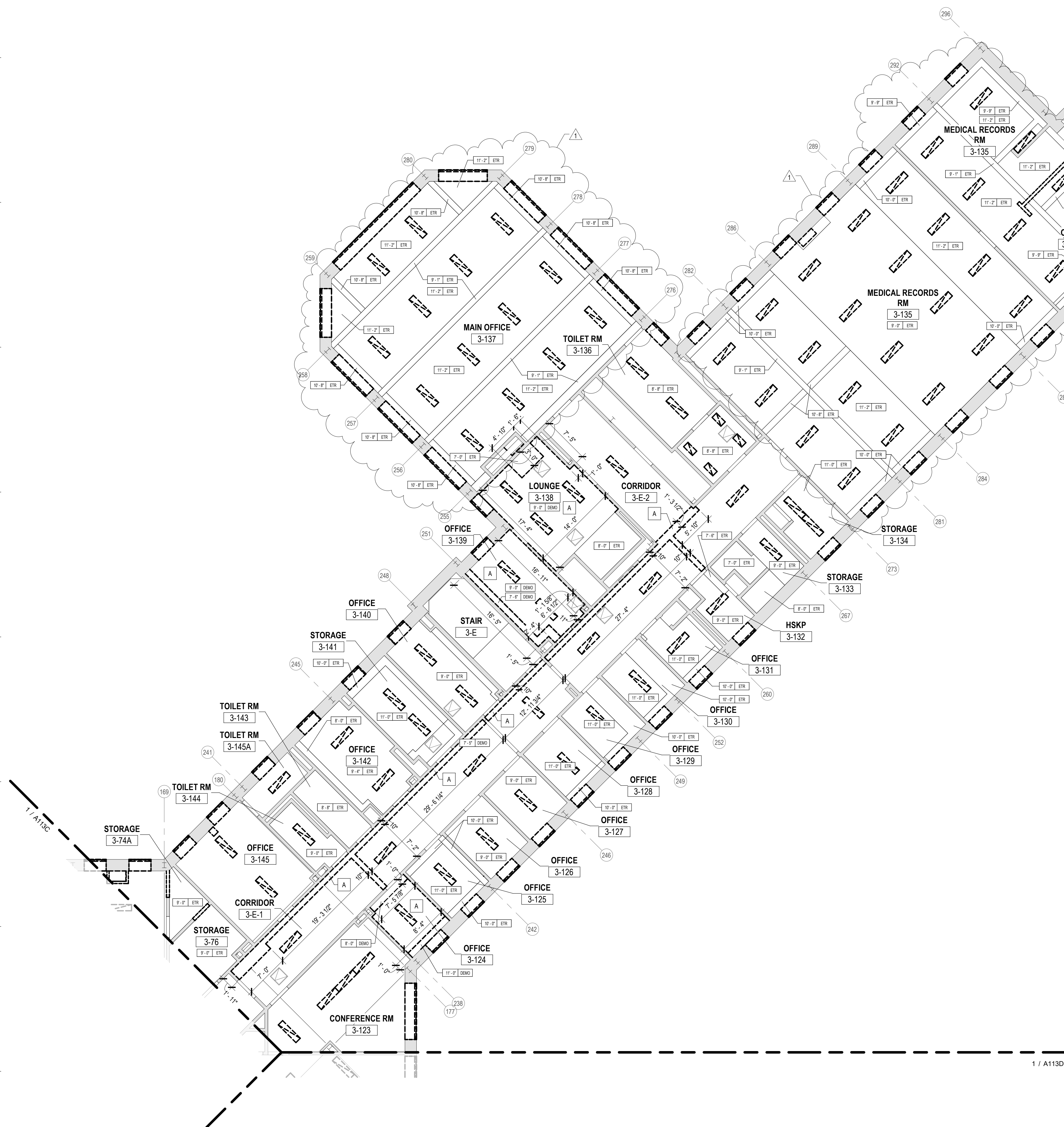
**Office of
Mental Health**

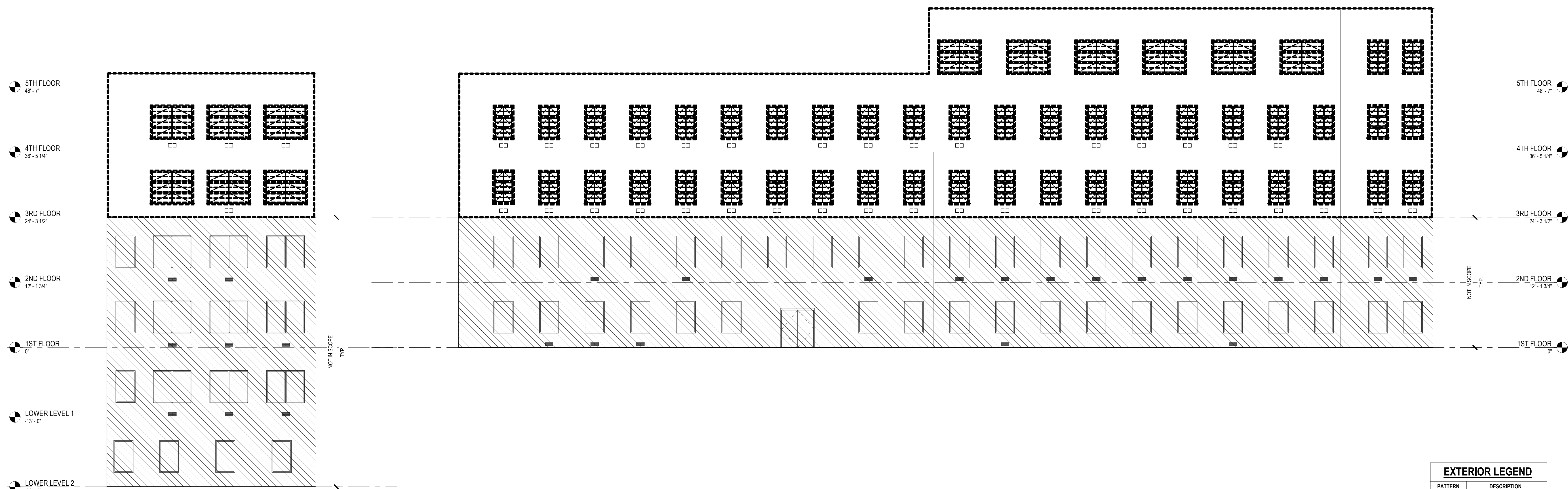
Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title
**PARTIAL CEILING
REMOVAL PLAN -
3RD FLOOR - WING E**

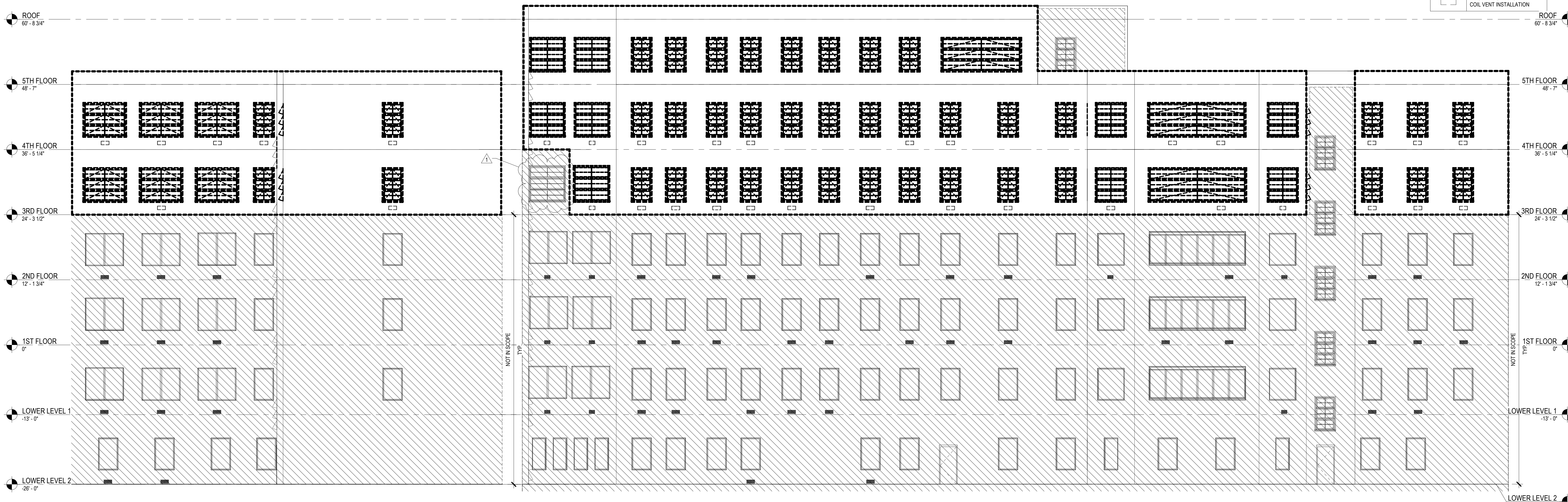
Phase BID DOCUMENTS		
Drawn By: CMV	Checked By: SRK	Date: 08/11/26
Seal & Signature		DASNY Project No: 371230
		AD1133
See back for instructions		Drawing 56 of 304





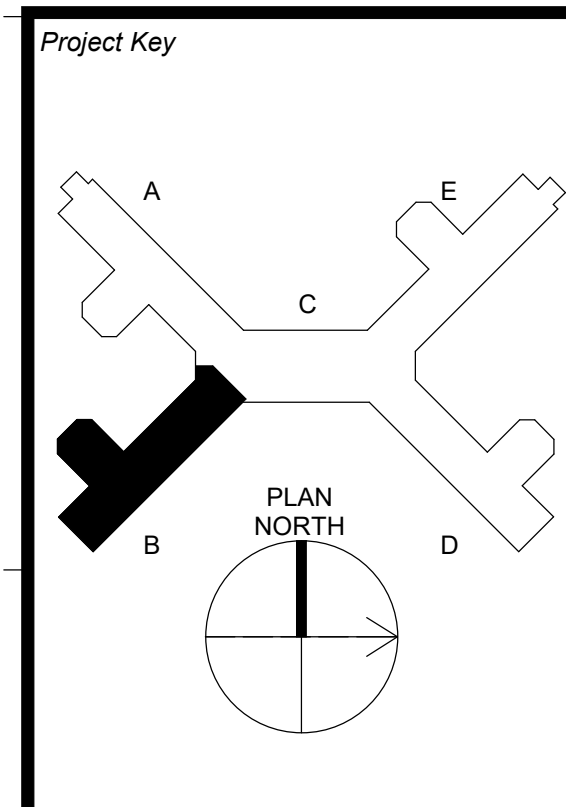
2 ELEVATION WING B - NORTH - REMOVAL
1/8" = 1'-0"

1 ELEVATION WING B EAST - REMOVAL
1/8" = 1'-0"



4 ELEVATION WING B SOUTH - REMOVAL
1/8" = 1'-0"

3 ELEVATION WING B WEST - REMOVAL
1/8" = 1'-0"



REVISIONS

Rev No	Description	Date
1	ADDENDUM 01	09/22/2026

Client
NEW YORK STATE OF OPPORTUNITY
Office of Mental Health
Greater Binghamton Health Center
Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street
Binghamton, NY 13904

Drawing Title
EXTERIOR ELEVATIONS REMOVAL

Phase
BID DOCUMENTS

Drawn By: CMV
Checked By: SRK
Date: 08/11/26
Seal & Signature
DASNY Project No: 371230
Drawing 69 of 304

REGISTERED ARCHITECT
GREGORY R. CARLSON
STATE OF NEW YORK
22435

ALL CEILING SLABS SHALL BE INSTALLED AT THE HEIGHT ABOVE FINISH FLOOR, AS INDICATED ON THE REFLECTED CEILING PLANS.

CONSIDER SUSPENSION INSTALLATION OF CEILING MATERIALS ONLY AFTER ALL OVERHEAD ELECTRICAL, MECHANICAL, AND PLUMBING IS COMPLETED. DO NOT LIMIT TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS. THOSE SYSTEMS SHOULD BE TESTED AND APPROVED BEFORE THE CEILING IS INSTALLED.

VERIFY THE LAYOUT AND ELEVATION OF ALL SYSTEMS, INCLUDING CONDITIONS AND MEASUREMENTS PRIOR TO INSTALLATION. VERIFY LOCATION OF PENETRATING SYSTEMS IN THE FIELD.

SUPPORT SUSPENSION SYSTEMS INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. MAINTAIN FACE PLANE WITH ADJACENT MEMBERS WHEN SPACING CARRIERS. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

USE PROPERLY PLACED AND SUSPENDED LOAD CARRYING FRAME CHANNELS TO MAINTAIN SPACING AND SUPPORT SYSTEMS. PROVIDE SUPPORT FOR ALL MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT, OR ANY OTHER HORIZONTAL RUN EQUIPMENT.

DO NOT MIX WITH OTHER WORK SUPPORTED BY OR PENETRATING THE CEILING SYSTEMS, WHICH MAY BE MECHANICAL OR ELECTRICAL SYSTEMS INCLUDING BUT NOT LIMITED TO RETURN AND SUPPLY AIR DIFFUSERS, LIGHT FIXTURES, EMERGENCY EXIT LIGHTS, WORKING FIRE DETECTION SYSTEMS, FIRE SUPPRESSION SYSTEMS, AUDIO AND VISUAL EQUIPMENT.

FOR SELECTION AND INSTALLATION OF CEILING MATERIALS, INTERFERE WITH REFERENCE TO THE MECHANICAL ENGINEERING DRAWINGS, ELECTRICAL INTERFERENCE DRAWINGS, INCLUDING LIGHTING AND WIRING DEVICES.

FOLLOW ALL CODES AND REGULATIONS FOR SUPPORTING FIRE PROTECTION SPRINKLER SYSTEMS APPROVED BY THE AUTHORITY HAVING JURISDICTION. REFER TO SECTION 21050 FOR COMMON WORK RESULTS FOR FIRE PROTECTION.

ALL ACCESS PANELS SHALL BE INSTALLED IN THE FIELD. THE LOCATION OF CEILING DEVICES SHALL NOT ALLOW INTERFERENCE WITH EXISTING ACCESS PANELS.

SYMBOL/TAG	DESCRIPTION
	MATCHLINE WIPAN REFERENCE
	ROOM IDENTIFICATION TAG
	CEILING HEIGHT/TYPE TAG
	EXISTING CEILING TO REMAIN
	SUSPENDED GRID AND PANEL CEILING ASSEMBLY - ACP-1
	VARIOUS SPRINKLER HEAD LOCATIONS REFERENCE FIRE PROTECTION DWGS
	VARIOUS LIGHT FIXTURES AND CALLOUTS - REFERENCE ELECTRICAL DWGS (L1, L2...)
	EXIT SIGN LIGHT FIXTURES AND CALLOUTS - REFERENCE ELECTRICAL DWGS (X1, X2...)
	MECHANICAL AIR DIFFUSERS/GRILLES REFERENCE MECHANICAL DRAWINGS
	GYPSUM MULL - GWB
	VARIOUS FIRE ALARM DEVICES REFERENCE FIRE PROTECTION DWGS
	ELECTRICAL DEVICES REFERENCE ELECTRICAL DWGS
	PARTITION & TYPE IDENTIFICATION

1. PATCH, SAND, AND PAINT ALL EXISTING CEILING TO REMAIN
2. PROVIDE GRID CROSS BAR AT 2X2 LIGHT FIXTURES PLACED IN 2X4 GRID SYSTEM

[illegible]

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

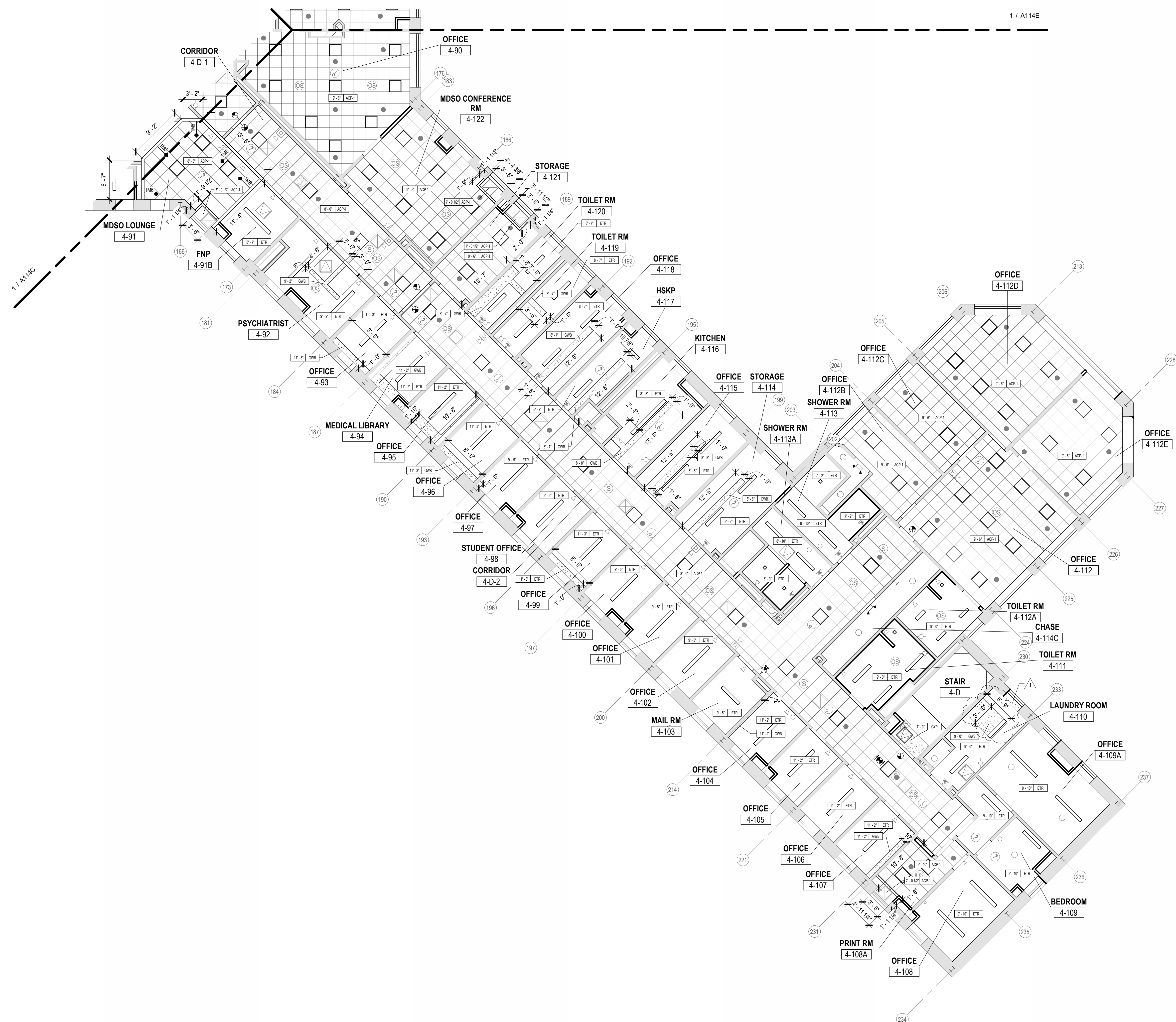
Seal & Signature

REGISTERED ARCHITECT
GREGORY R. CAMILLADA
222435
STATE OF NEW YORK
Exp. Date 12/31/2012

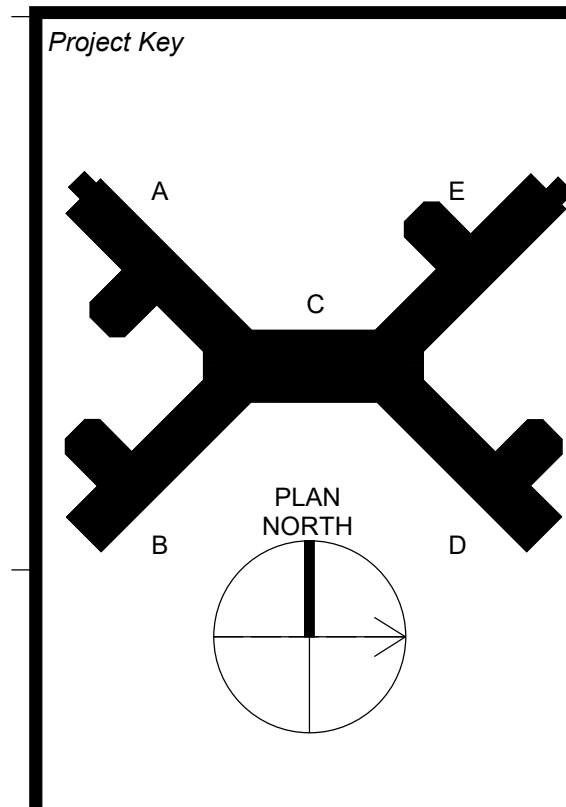
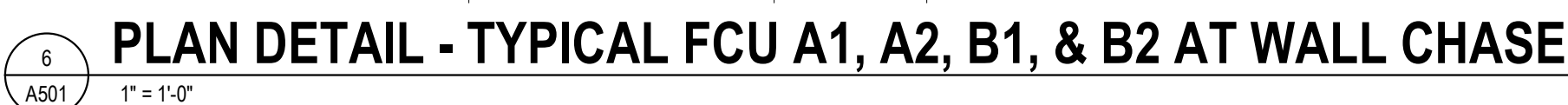
DASNY Project No:
371230

A114D

Drawing
98 of 304



PARTIAL CEILING PLAN - 4TH FLOOR - WING D



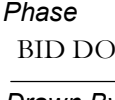
Client

 **NEW YORK**
STATE OF
OPPORTUNITY

**Office of
Mental Health**

Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title WINDOW DETAILS	
Phase BID DOCUMENTS	
Drawn By: CMV	Checked By: SRK Date: 08/11/26
Seal & Signature	DASHNY Project No: 371230 A501
	
Drawing 132 of 304	

	SPRINKLER PIPING
	DEMO PIPING
	WATER SERVICE PIPING
	PIPE TURNED UP
	PIPE TURNED DOWN
	TEE
	CROSS
	UNION
	CAP
	FDC
	FIRE DEPARTMENT CONNECTION
	FLOW SWITCH
	TAMPER SWITCH
	PRESSURE SWITCH
	OS&Y VALVE
	GATE VALVE
	CHECK VALVE
	ANGLE VALVE
	PRESSURE GAUGE
	POINT OF DEMOLITION
	POINT OF CONNECTION
	HYDRAULIC NODE
	WALL POST INDICATOR
	EQUIPMENT TO BE DEMOLISHED

AFF	ABOVE FINISHED FLOOR
BD	BALL DRIP
BLDG	BUILDING
BE	BELOW
BV	BALL VALVE
D	DRAIN
DIA	DIAMETER
DI	DUCTILE IRON
DN	DOWN
DV	DRAIN VALVE
EA	EACH
ELEC	ELECTRIC
EACP	ELECTRIC CONTROL PANEL
FC	FLOOR CONNECTION
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDD	FIRE DEPARTMENT VALVE
FV	FIRE HYDRANT
FP	FIRE PROTECTION
FPS	FEET PER SECOND
FS	FLOW SWITCH
HDR	HEADER
L	ELBOW
MAN	MANUAL
N/C	NOT IN CONTRACT
N/S	NOT TO SCALE
PTS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
SP	STAND PIPE
SPRK	SPRINKLER
TS	TEE
TV	TAMPER SWITCH
V	VALVE
VIF	VALVE IN FIELD
VIR	VALVE IN RISER
W/	WITH

SYMBOL	DESCRIPTION	TEMPERATURE	NOTES
	PENDENT, QUICK RESPONSE SPRINKLERS	ORDINARY	
	UPRIGHT, 1/2" BRASS QUICK RESPONSE	ORDINARY	AREAS WITH EXPOSED CONSTRUCTION
	SIDEWALL, 1/2" BRASS QUICK RESPONSE	ORDINARY	
	SIDEWALL, 3/4" BRASS QUICK RESPONSE EXTENDED COVERAGE	ORDINARY	
	SIDEWALL, 3/4" BRASS QUICK RESPONSE DRY SIDEWALL	ORDINARY	

1. DATE OF TEST: 7/19/2023
2. FLOW TEST PERFORMED BY: JOHNSON CONTROLS
3. STATIC PRESSURE: 80
4. RESIDUAL PRESSURE: 65
5. GALLONS PER MINUTE: 1130

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER FIELD FITTING AND QUANTITY OF WORK. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS REQUIRED AND BE RESPONSIBLE FOR FITTING NEW CONSTRUCTION TO EXISTING CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY EXISTING CONDITIONS DISTURBED OR DAMAGED DURING CONSTRUCTION TO MATCH EXISTING SURFACE CONDITIONS.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE INVESTIGATION PRIOR TO START OF WORK TO REVEAL EXISTING CONDITIONS.

C. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND COORDINATE WORK WITH ALL OTHER TRADES.

D. CONCEAL ALL WORK IN FINISHED AREAS UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ARCHITECT.

E. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND DIMENSIONS OF (PIPING, DUCTWORK, EQUIPMENT, STRUCTURAL ELEMENTS, ETC.) PRIOR TO COMMENCING WITH WORK. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE INSTALLATION OF SPRINKLER EQUIPMENT AND PIPING AGAINST DUCTWORK, LIGHTING AND PIPING SHOP DRAWINGS FROM OTHER TRADES PRIOR TO COMMENCING WITH WORK. PROVIDE ALL IDENTIFIED CONFLICTS IN WRITING TO THE ARCHITECT. PROVIDE FITTINGS, TRANSITIONS, OFFSETS, ELEVATION CHANGES, ETC. TO MINIMIZE CONFLICTS WITH EXISTING CONDITIONS. PROVIDE ADDITIONAL SPRINKLERS AS REQUIRED.

F. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR A COMPLETE INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY THE USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS FOR REASONS INCLUDING, BUT NOT LIMITED TO, THOSE ITEMS NOT MATCHING THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.

G. INSTALL ALL EQUIPMENT AND SYSTEMS IN COMPLETE COMPLIANCE WITH GOVERNING CODES AS RECOGNIZED BY THE AUTHORITY HAVING JURISDICTION. MANUFACTURERS INSTALLATION INSTRUCTIONS AND SPECIFICATIONS.

H. ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND /OR THE EQUIPMENT SCHEDULES. THE CONTRACTOR IS RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY THE USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS FOR REASONS INCLUDING, BUT NOT LIMITED TO, THOSE ITEMS NOT MATCHING THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.

I. DO NOT SCALE DRAWINGS: REFER TO DIMENSIONED ARCHITECTURAL DRAWINGS TO DETERMINE EXACT LOCATION AND LENGTH OF ALL PIPING AND EQUIPMENT INSTALLED.

J. LOCATE PIPING TO PREVENT FREEZING. DO NOT LOCATE ANY WET PIPING IN EXTERIOR WALLS OR IN UNHEATED SPACES UNLESS PROVIDED WITH APPROVED HEAT TRACING.

K. IF FIRE STOPPING SHALL BE BY C CONTRACT, CONTRACTOR SHALL COORDINATE LOCATION OF PENETRATIONS WITH GENERAL CONTRACTOR. "COORDINATE ALL PENETRATION SIZE, LOCATIONS AND TYPES WITH C CONTRACT IN ADVANCE OF INSTALLATION FOR PROPER FIRESTOPPING PER 078400."

L. MAINTAIN SPACING OF SPRINKLERS IN ACCORDANCE WITH NFPA 13. PROVIDE ADDITIONAL SPRINKLERS AT ALL LOCATIONS WHERE OBSTRUCTIONS OR OTHER ELEMENTS INTERFERE WITH SPRINKLER DISCHARGE REACHING THE PROTECTED AREA.

M. COORDINATE THE LOCATION OF ALL DRAINS AND INSPECTOR'S TEST DRAINS TO PLUMBING DRAINS LOCATED IN UNFINISHED AREAS, AND SPECIFICALLY PROVIDED FOR THIS PURPOSE, OR TO AN APPROVED EXTERIOR DRAINAGE LOCATION.

N. PROVIDE ALL ACCESS PANELS NECESSARY FOR BALL DRIP, INSPECTOR'S TEST STATIONS, AND FOR ALL OTHER CONCEALED EQUIPMENT THAT REQUIRES ACCESS.

O. LOCATE SPRINKLERS IN THE CENTER OF CEILING PANELS IN ALL FINISHED AREAS.

P. PAINT ALL FIRE PROTECTION PIPING WHERE EXPOSED, COLOR AS SELECTED BY ARCHITECT. DO NOT PAINT SPRINKLERS.

Q. PERFORM ALL WORK IN COMPLIANCE WITH NFPA 13, 25 (2016 VERSIONS) AND THE BUILDING CODE AND FIRE CODE OF NEW YORK STATE- 2020 VERSION), AS WELL AS WITH ALL LOCAL AND FEDERAL CODES AND ORDINANCES, OTHER APPLICABLE NFPA STANDARDS AND REFERENCED STANDARDS.

R. PROVIDE PIPING ROUGH IN FOR ALL WORK; OBTAIN ALL NECESSARY INSPECTIONS BY AUTHORITY HAVING JURISDICTION PRIOR TO CLOSING WALLS OR CEILINGS WHERE PIPING IS CONCEALED.

S. THE DRAWINGS DO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATION, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE CHANGES IN THE PIPING AND LOCATION OF EQUIPMENT, ETC., TO ACCOMMODATE WORK, OBSTACLES, AND THE WORK OF OTHER CONTRACTORS.

T. COORDINATE HOSE THREAD TYPES WITH THE BINGHAMTON PSYCHIATRIC CENTER FIRE DEPARTMENT.

U. PROVIDE FOR THE ARRANGEMENT OF PIPING IN STAIRWELLS TO BE CLEAR OF THE AREA OF TRAVEL, AND TO NOT OBSTRUCT ANY MEANS OF EGRESS.

V. PROVIDE PENDENT OR CONCEALED SPRINKLERS IN ROOMS WITH SUSPENDED CEILINGS. PROVIDE UPRIGHT SPRINKLERS IN ROOMS WITHOUT SUSPENDED CEILINGS. VERIFY WITH ARCHITECTURAL REFLECTED CEILING PLANS.

W. ALL PENETRATIONS IN CONCRETE/MASONRY WALLS BELOW GRADE FOR FIRE PROTECTION PIPING SHALL BE INSTALLED WITH SLEEVES. EXACT SLEEVE SIZES AND LOCATIONS SHALL BE DETERMINED AND COORDINATED IN THE FIELD BY THE CONTRACTOR PRIOR TO PLACEMENT OF CONCRETE. NOTE: SIX INCH DIAMETER SLEEVES OR SMALLER SHALL BE POSITIONED TO AVOID CONFLICT WITH STEEL REINFORCEMENT. ANY FOUNDATION WALL SLEEVES THAT ARE LARGER THAN SIX INCH DIAMETER SHALL BE IDENTIFIED BY THE CONTRACTOR ON STEEL REINFORCEMENT SHOP DRAWINGS FOR REVIEW BY STRUCTURAL ENGINEER.

X. PROVIDE INDICATING-TYPE SPRINKLER CONTROL VALVES.

Y. SPRINKLER CONTROL VALVES SHALL BE LOCKED IN WIDE OPEN POSITION AND BE PROVIDED WITH TAMPER SWITCHES WIRED TO THE BUILDING FIRE ALARM SYSTEM.

Z. ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED OR FM GLOBAL APPROVED.

AA. TEST ALL ABOVEGROUND PIPING IN ACCORDANCE WITH NFPA-13. DOCUMENT THE RESULTS ON THE NFPA-13 CONTRACTORS MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING.

AB. PROVIDE FOR THE PROPER OFF-SITE DISPOSAL OF ALL CONSTRUCTION DEBRIS AND/OR EXCAVATED MATERIALS ASSOCIATED WITH WORK IN THIS TRADE IN COMPLIANCE WITH LOCAL, NEW YORK STATE AND FEDERAL LAWS AND REQUIREMENTS.

AC. PROVIDE INTERMEDIATE AND HIGH TEMPERATURE SPRINKLERS WHERE REQUIRED AT HEAT SOURCES IN COMPLIANCE WITH NFPA-13 (2016)...

CONTRACTOR TO HIRE A PRIVATE UNDERGROUND UTILITY LOCATION FIRM FOR ALL UNDERGROUND INVESTIGATION OPERATIONS. THE BINGHAMTON PC IS A PRIVATE CAMPUS THAT WILL NOT ACCEPT "DIG SAFELY" FOR UNDERGROUND INVESTIGATION WORK.

CONTRACTOR TO HIRE A PRIVATE UNDERGROUND UTILITY LOCATION FIRM FOR ALL UNDERGROUND INVESTIGATION OPERATIONS. THE BINGHAMTON PC IS A PRIVATE CAMPUS THAT WILL NOT ACCEPT "DIG SAFELY" FOR UNDERGROUND INVESTIGATION WORK.

A. SHADED AREAS ON DEMOLITION DRAWINGS ARE EXISTING GYP CEILINGS TO REMAIN. THESE CEILINGS ARE NOT BEING DISTURBED. SPRINKLERS IN THESE AREAS WILL BE HORIZONTAL SIDEWALLS. ONLY AREAS WHERE CEILINGS ARE BEING REPLACED WILL BE FIRE PROTECTED WITH PENDENT SPRINKLERS.

ACM IS KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION, AND QUANTITY OF EXISTING ACM, AND TO WARN THEIR EMPLOYEES OF POTENTIAL DANGERS OF ASBESTOS EXPOSURE.

1. ASBESTOS HAS BEEN IDENTIFIED IN THE FOLLOWING MATERIALS. THESE ARE NOT ANTICIPATED TO BE DISTURBED UNDER THE CURRENT PROJECT SCOPE, IF SUCH MATERIALS CONTRACTOR SHALL BE IDENTIFIED AND TREATED ACCORDINGLY:

- a. FLANGE GASKETS - L2L2 & L3 MECHANICAL
- b. FIRE RATED DOOR FRAME HANGER (DOOR NON-ACM) - LOWER LEVEL 3.
- c. ASBESTOS INSULATION - 2ND FLOOR
- d. TRAC ASBESTOS HAS BEEN IDENTIFIED IN THE FOLLOWING MATERIALS:

a. THEY ARE NOT TO BE DISTURBED

2. ANY DISTURBANCE OF ACM SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

3. CONTRACTORS AND MATERIAL HANDLERS ARE PROHIBITED TO CONTAIN ASBESTOS SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNER'S REPRESENTATIVE FOR AN ACCURATE INTERPRETATION OF THE SAMPLE RESULTS.

4. NEW YORK STATE INDUSTRIAL CODE RULE 8 (H) REFERENCE TO AS CODE RULE 856 AND USEPA NESHAP REGULATIONS DO NOT APPLY TO TRACE (+) ASBESTOS PRESENT IN MATERIALS. HOWEVER, CONTRACTORS ARE REQUIRED TO FOLLOW THE NESHAP STANDARD APPLICABLE REGARDLESS OF THE CONCENTRATION OF ASBESTOS PRESENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT AND ADHERE TO ALL CURRENT STATE AND FEDERAL REGULATIONS AND STANDARDS. CONTRACTORS ARE REQUIRED WHEN IMPACTING TRACE ASBESTOS MATERIALS, FOR COMPLETE DETAILS ON OSHA'S ASBESTOS CONSTRUCTION STANDARDS, TO REFER TO THE FOLLOWING WEBSITE: <https://www.osha-slc.gov/standards/asbestos>

5. FOR THE PURPOSES OF THIS PROJECT, THE REFERENCE TO THE FOLLOWING MAY 14TH, 2024 ENFORCER GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION:

"ASBESTOS REMEDIATION AND ABATEMENT REGULATIONS FOR THE REMOVAL OF PCB-CONTAINING MATERIALS, MOLD, UNUSUAL AND HAZARDOUS WASTE INSPECTION REPORT, OFFICES OF MENTAL HEALTH, GREATER BINGHAMTON HEALTH CENTER, 4000 BINGHAM BUILDING, 4000 BINGHAM BUILDING, 4000 BINGHAM BUILDING, STREET, BINGHAMTON, NY 13904, DASNY PROJECT NO. 317320, EGM24028"

1. PCB CONTAINING MATERIALS ARE KNOWN OR SUSPECTED TO BE PRESENT AT THE SITE. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THEMSELVES AND THEIR EMPLOYEES AWARE OF THE PRESENCE, LOCATION AND QUANTITY AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF PCBs.
2. A LICENSED PCB-CONTAINING MATERIALS SHALL ONLY BE PERFORMED BY A DISBURSED CONTRACTOR EMPLOYING PROPERLY TRAINED AND CERTIFIED PERSONNEL.
3. ALL PCB-CONTAINING MATERIALS OR MAKE OR MODEL, SUSPECTED TO CONTAIN PCBs SHALL NOT BE BUILT AND SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OWNER OR THE BUILDING OWNERS REPRESENTATIVE FOR ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.
4. EXTERIOR GREY WINDING CAULKING AT HAS BEEN IDENTIFIED AS CONTAINING BOTH ASBESTOS AND PCBs. THIS MATERIAL MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. ALL REMOVED MATERIALS MUST BE PROPERLY PACKAGED, TRANSPORTED, AND DISPOSED OF AS HAZARDOUS WASTE IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS.

1. HAZARDOUS WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE LEAD-BASED PAINT (LBP) AND LEAD-CONTAINING PAINT (LCP) WASTE, PCB/DEHP-CONTAINING LIQUID BALLASTS AND PCB CONTAINING GREY EXTERIOR WINDOW CAULKING. ALL CONTRACTORS ARE RESPONSIBLE FOR MAKING THESE EXTENSIVE AND THEIR EMPLOYEES AWARE OF THE PRESENCE OF THESE HAZARDOUS WASTE MATERIALS AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS ASSOCIATED WITH HAZARDOUS WASTE MATERIALS. HAZARDOUS WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.
2. DISTURBANCE, REMOVAL, STORAGE, OR DISPOSAL OF HAZARDOUS WASTE SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL IN COMPLIANCE WITH EPA (RCRA/SCSA), OSHA, WYDOWBEN (NRCR PARTS 370-374), AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS. CONTRACTORS/SPRINT/RENOVATORS ARE REQUIRED TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING HAZARDOUS WASTE MATERIALS WHERE APPLICABLE.
4. REFER TO THE UPDATED JUNE 9, 2026 VERSION OF THE FOLLOWING MAY 14TH, 2024 ENDOUSC GRP-1400 PCB AND LEAD-BASED PAINT INFORMATION.
PRE-RENOVATION ASBESTOS CONTAINING MATERIALS, LEAD-BASED PAINT, PCB-CONTAINING MATERIALS, MOLD, UNIVERSAL AND HAZARDOUS WASTE INSPECTION REPORT, OFFICES OF MENTAL HEALTH, GREATER BINGHAMTON HEALTH CENTER, CARPENTER BUILDING (BINGHAMTON, NY 13904, DASH PROJECT NO. 317232, EAGE24028)

1. UNIVERSAL WASTE MATERIALS IDENTIFIED FOR REMOVAL AT THE SITE INCLUDE FLUORESCENT LAMPS, SMOKE DETECTORS, EXIT SIGNS, AND FIRE STROKE UNITS. PCB BALLASTS AND CAPACITORS ASSOCIATED WITH LIGHT FIXTURES WILL NOT BE UNIVERSAL WASTE MATERIALS AND THEREFORE WILL NOT BE REMOVED. ALL OTHER WASTE MATERIALS MUST BE REMOVED PRIOR TO ASBESTOS AND PCB ABATEMENT.

2. DANGEROUS WASTE MATERIALS IDENTIFIED FOR REMOVAL SHALL ONLY BE PERFORMED BY PROPERLY TRAINED AND CERTIFIED PERSONNEL. IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING EPA 40 CFR PART 273 AND NYS DEC REGULATIONS 61.03 AND 61.05.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED AS RELIEF OF RESPONSIBILITIES UNDER OSHA OR APPLICABLE ENVIRONMENTAL REGULATIONS.

4. THE INFORMATION CONTAINED HEREIN IS NOT TO BE DISCLOSED TO ANY OTHER EMPLOYEES OF THE POTENTIAL DANGERS OF DISTURBING OR HANDLING UNIVERSAL WASTE MATERIALS WHERE APPLICABLE.

5. THIS REPORT IS UPDATED JUNE 9, 2005 VERSION OF THE FOLLOWING MAY 14TH, 2004 ENCLOSURE GROUP PUBLICATION FOR DETAILED INSPECTION INFORMATION:

PRE-REMEDIATION ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT, PCB CONTAINING MATERIALS, AND UNIVERSAL WASTE MATERIALS INSPECTION REPORT, OFFICES OF MENTAL HEALTH, GREATER BOSTON HEALTH CARE CENTER, GARVIN BUILDING, BUILDING #75, RENAISSANCE BOULEVARD, 425 ROBINSON STREET, BOSTON, MA 02114

515 Broadway, Albany, New York 12207
6074 Transit Road, Suite 103 East Amherst, NY 14051
28 Liberty Street, Fl 55, New York, New York 10005
3495 Winton Place, Bldg. C, Suite 1 Rochester, New York 14623

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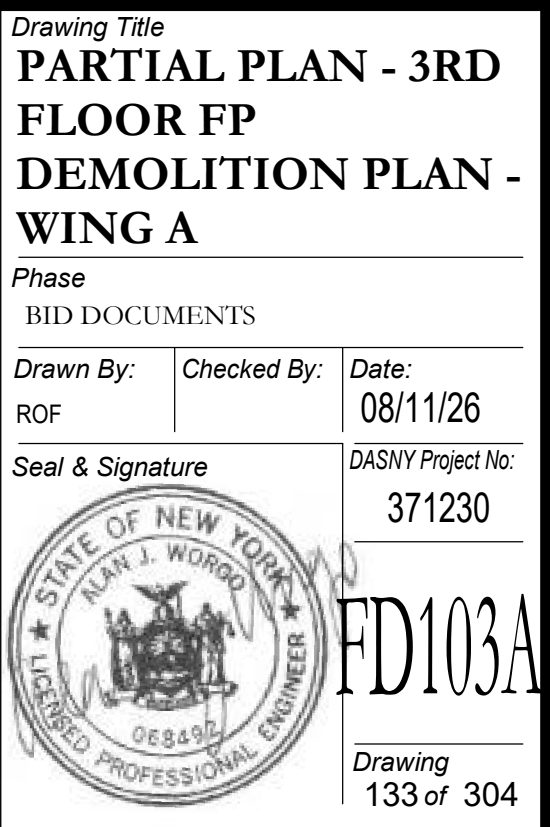
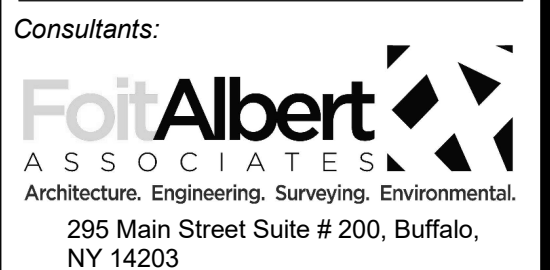
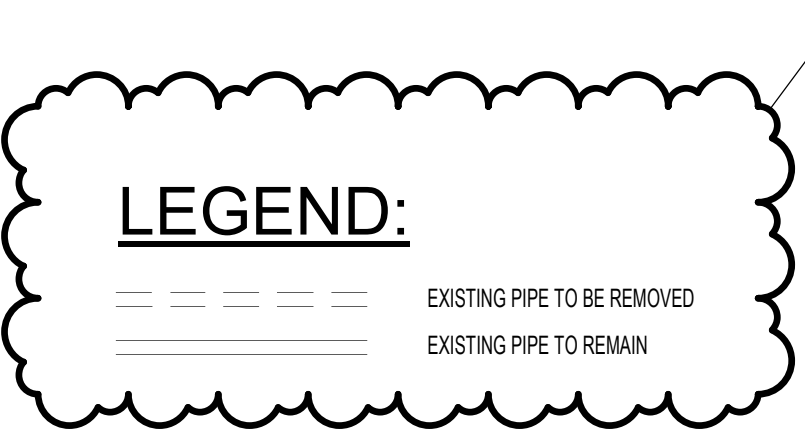
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295 Main Street Suite # 200, Buffalo,
NY 14203

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Greater Binghamton Health Center
Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

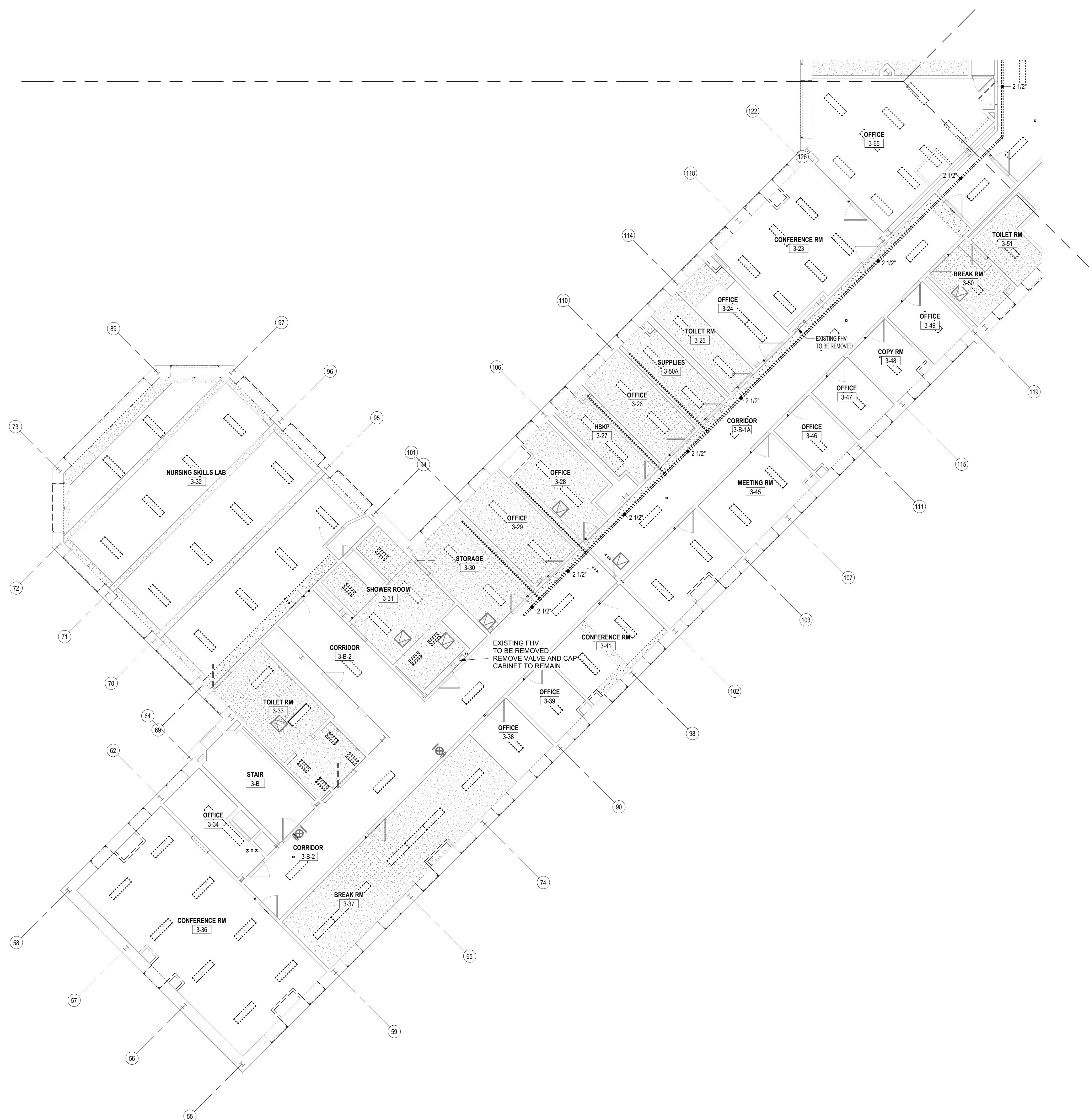
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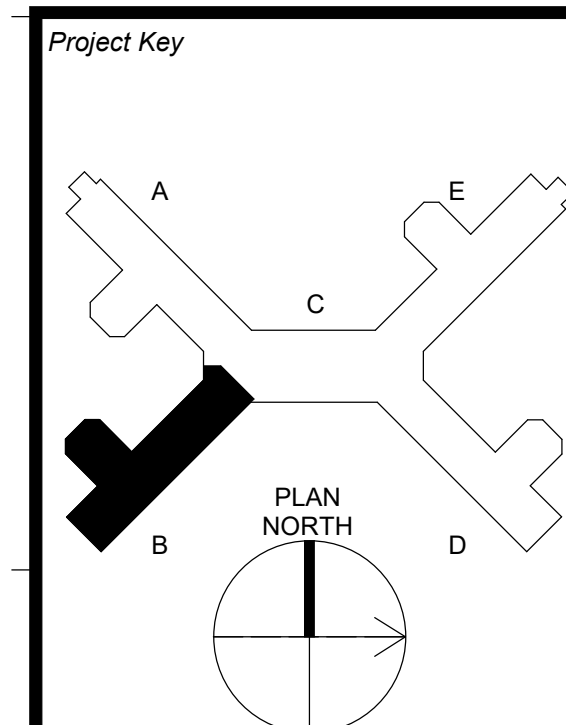
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NY 14203



A. EXISTING FIRE MAIN MAY BE REUSED IF AN INTERNAL INSPECTION PROVES THAT IT IS STILL SERVICEABLE AND IT WILL SATISFY THE HYDRAULIC DEMANDS OF THE SYSTEM.

EXISTING PIPE TO BE REMOVED

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Client

 **NEW YORK**
STATE OF OPPORTUNITY.

**Office of
Mental Health**

Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title
PARTIAL PLAN - 3RD
FLOOR FP
DEMOLITION PLAN -
WING B

Phase
BID DOCUMENTS

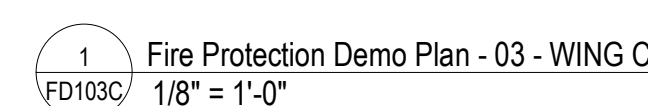
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FD103E

Drawing
134 of 304



Drawing Title
**PARTIAL PLAN - 3RD
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 WING C**

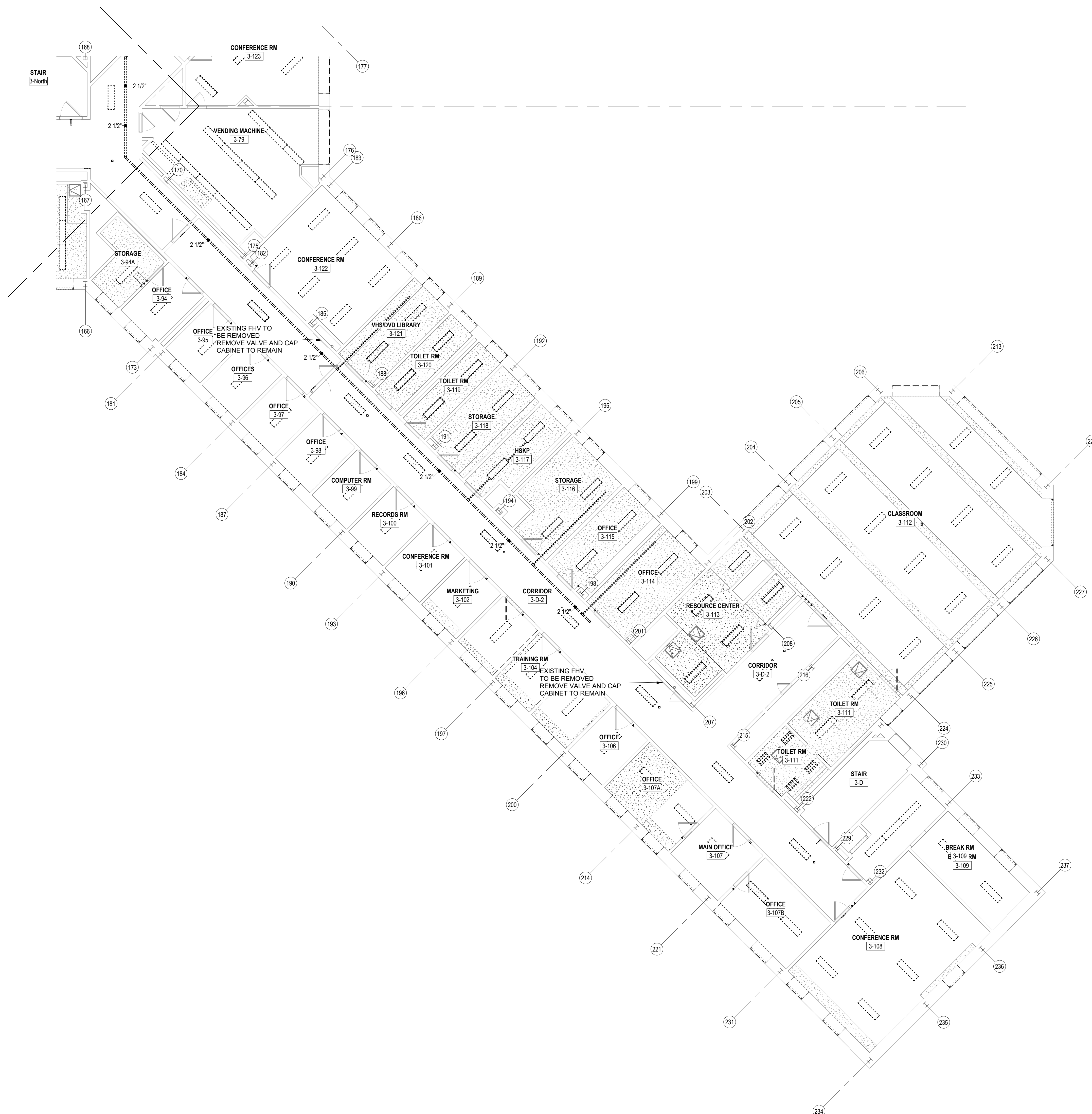
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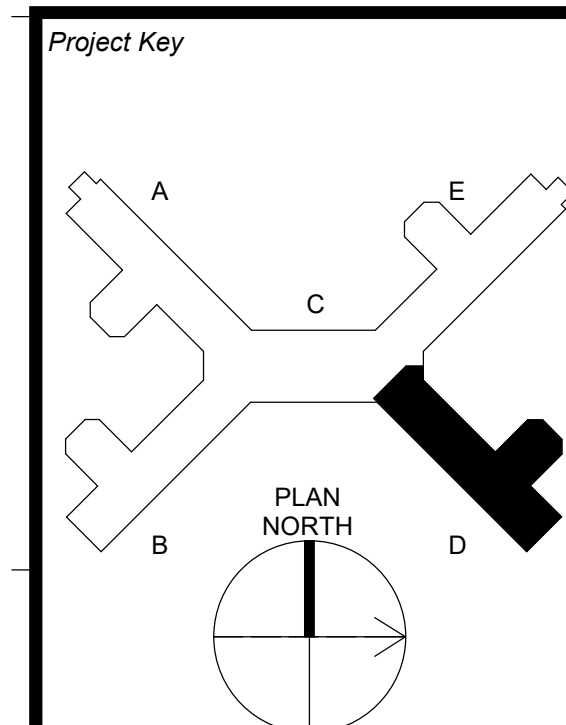
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Drawing
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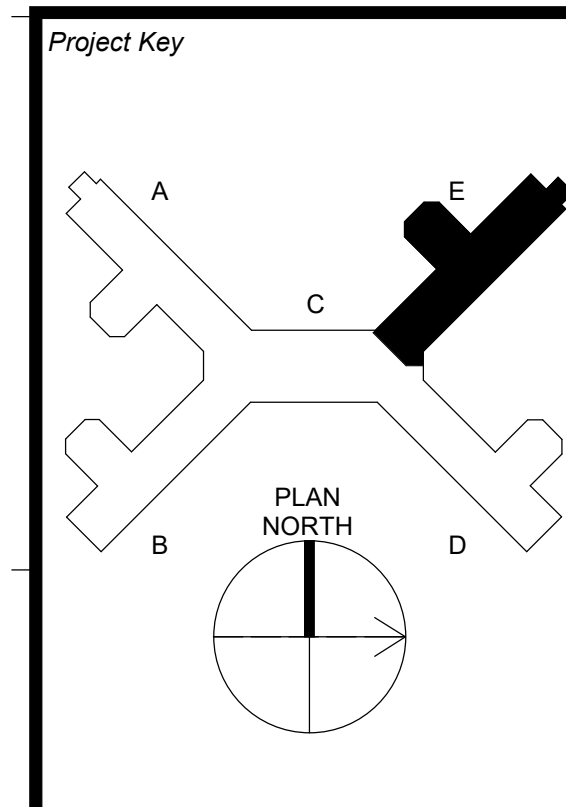
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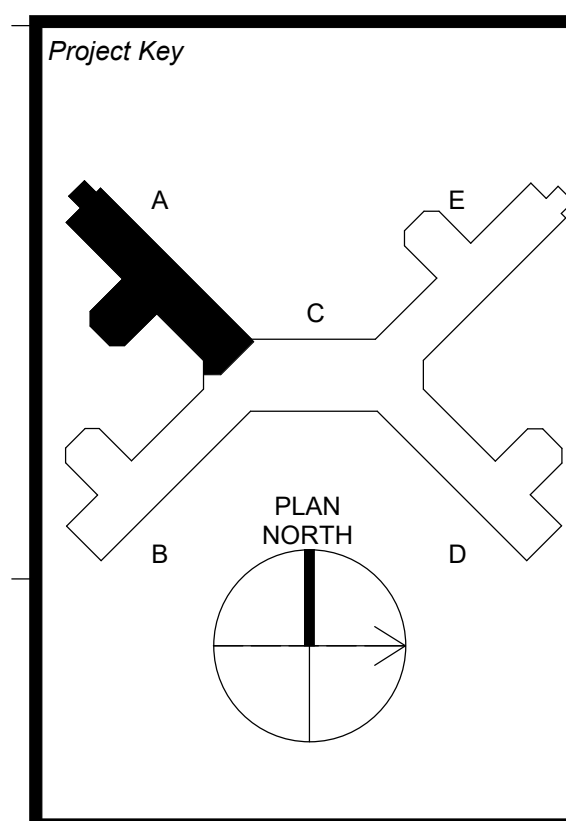
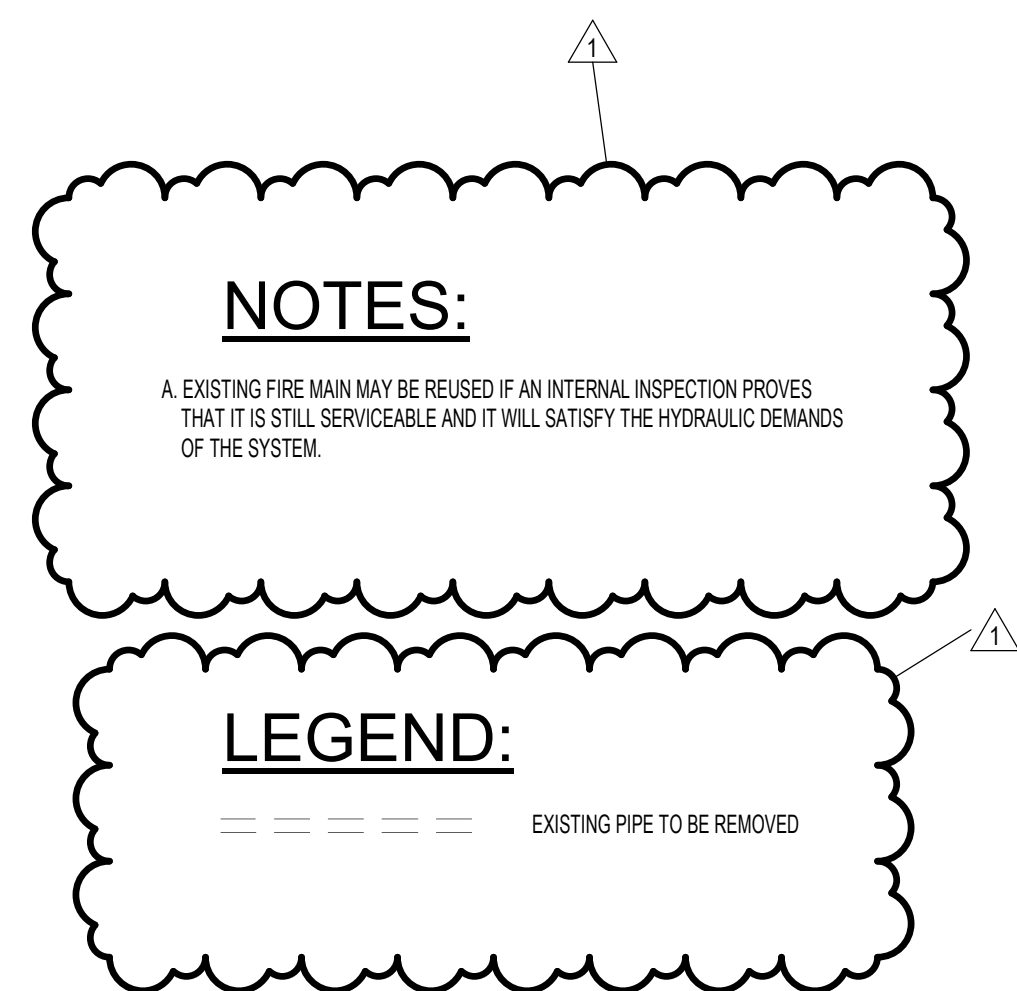
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FLOOR FP
DEMOLITION PLAN -
WING E

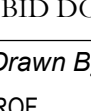
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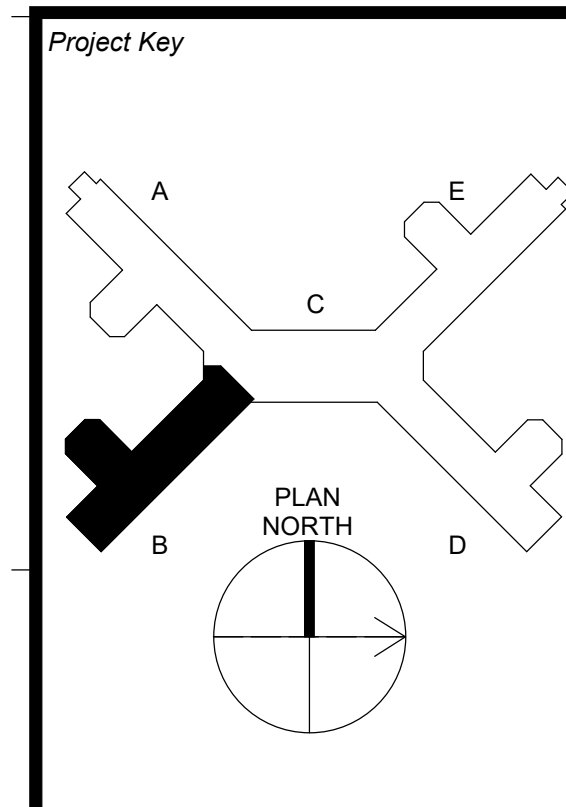
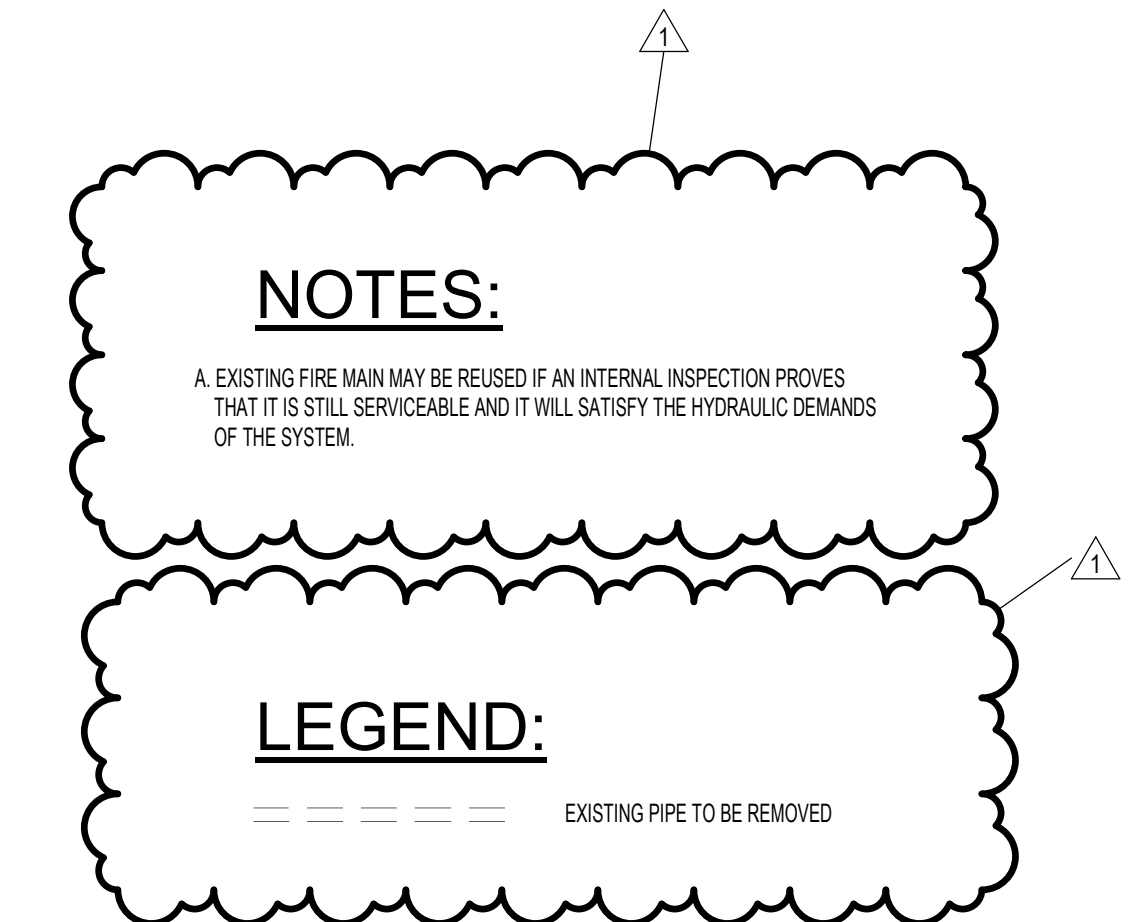
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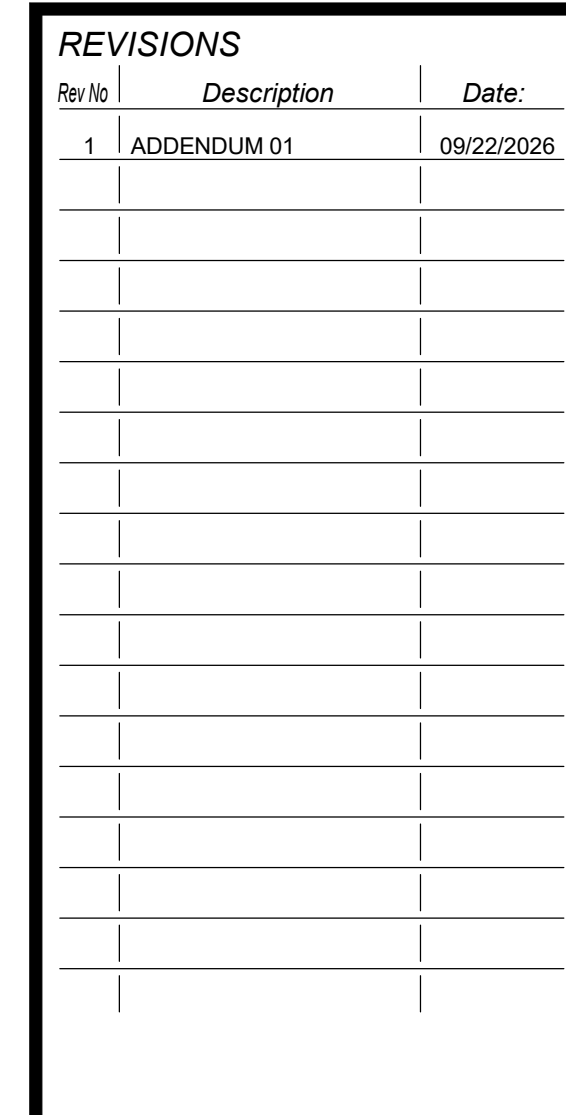
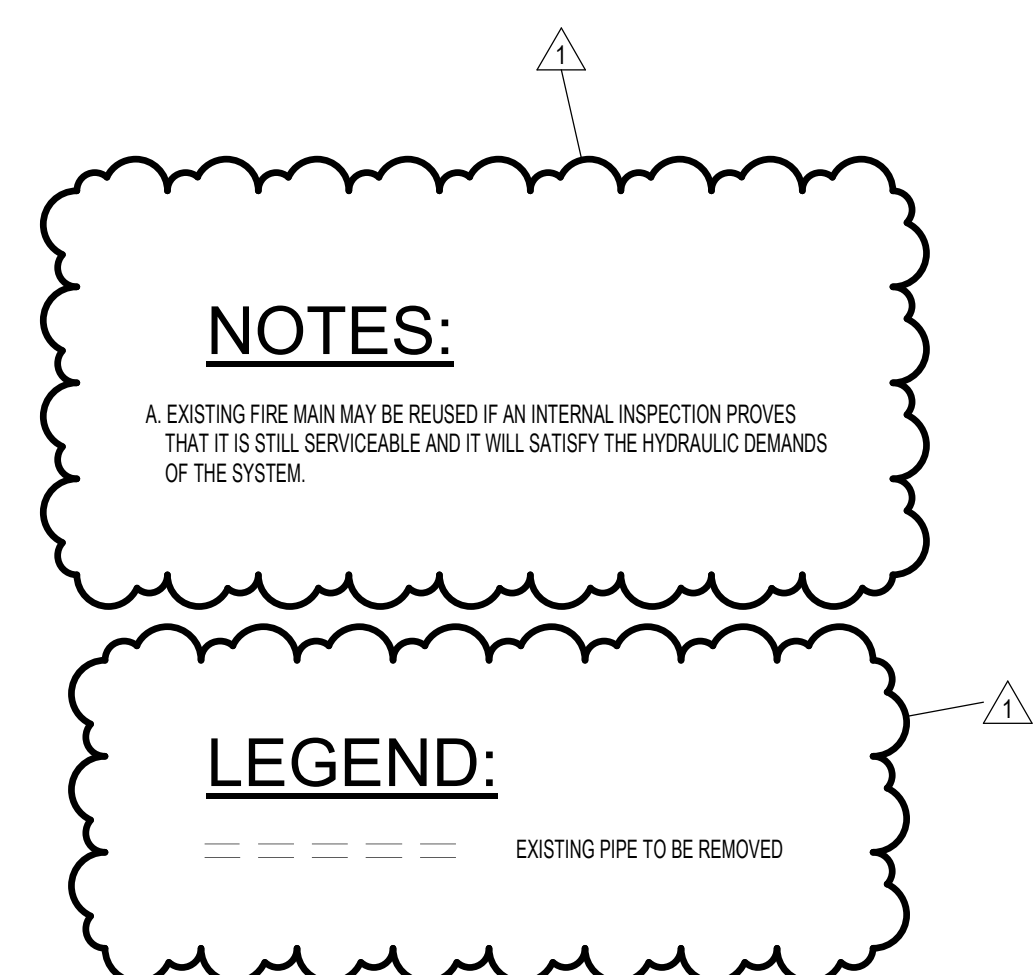
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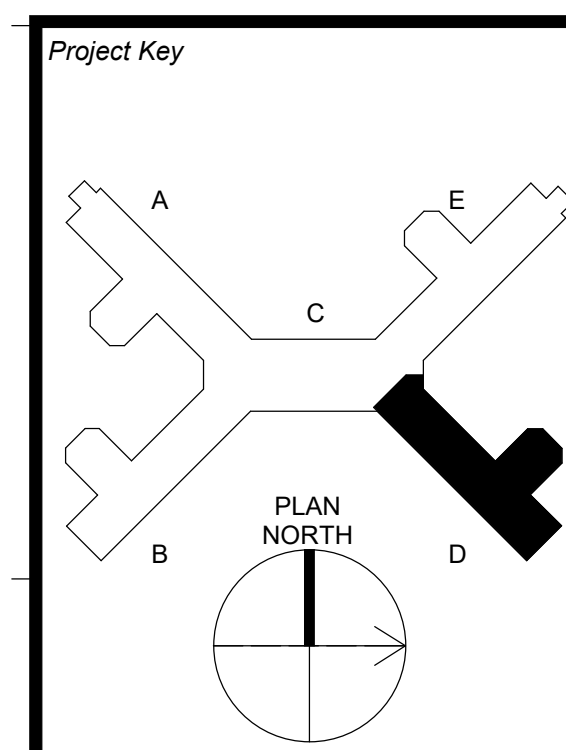
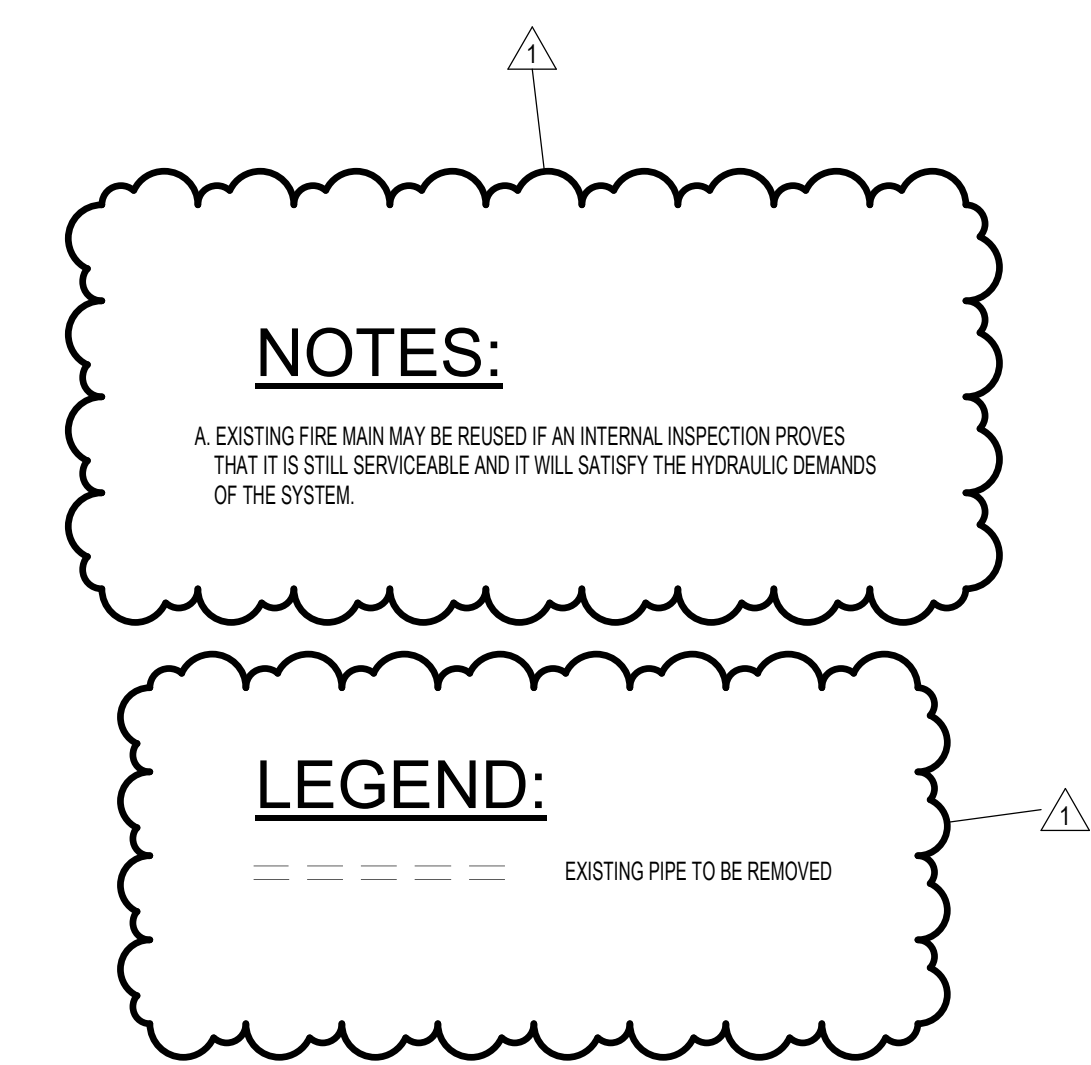
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Phase	
BID DOCUMENTS	
Drawn By:	Checked By:
ROF	Date: 08/11/26
Seal & Signature	DASNY Project No: 371230
	
Drawing 138 of 304	

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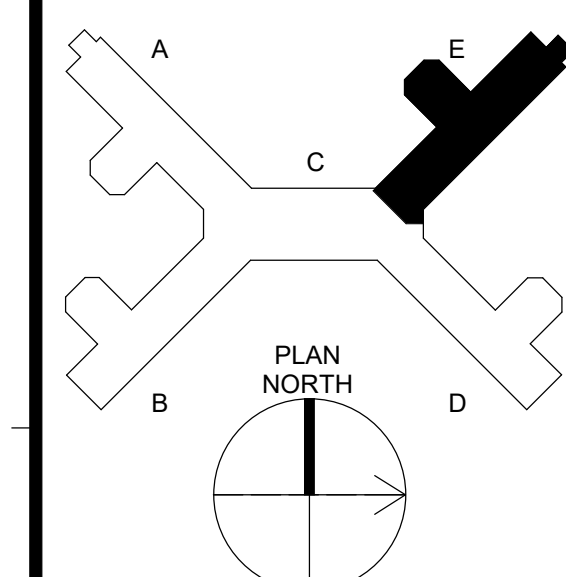
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A. EXISTING FIRE MAIN MAY BE REUSED IF AN INTERNAL INSPECTION PROVES THAT IT IS STILL SERVICEABLE AND IT WILL SATISFY THE HYDRAULIC DEMANDS OF THE SYSTEM.

EXISTING PIPE TO BE REMOVED

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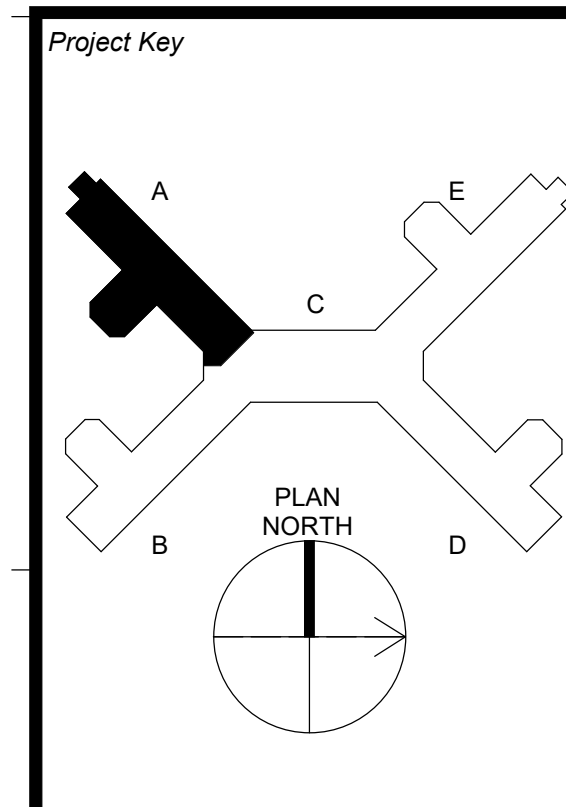
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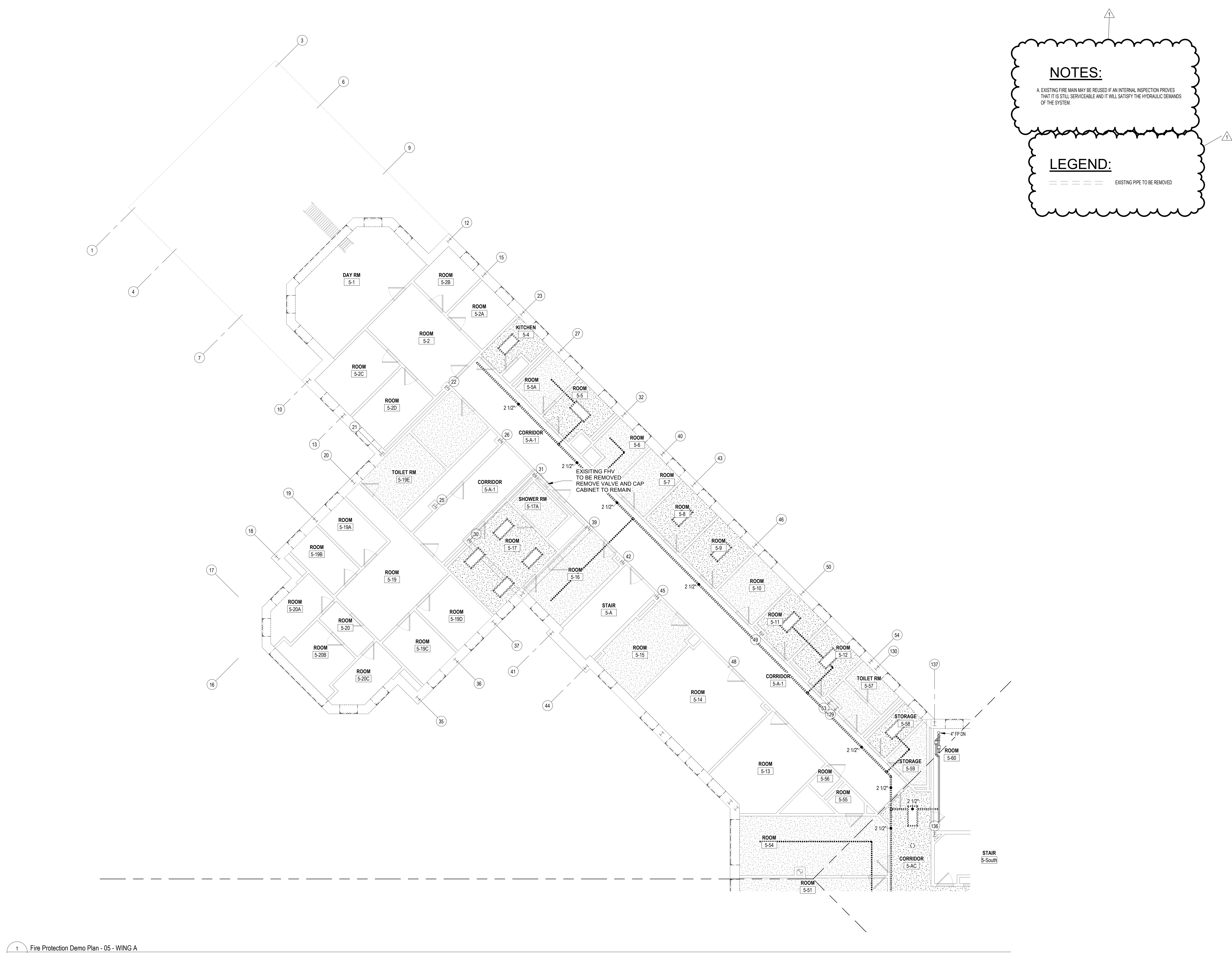
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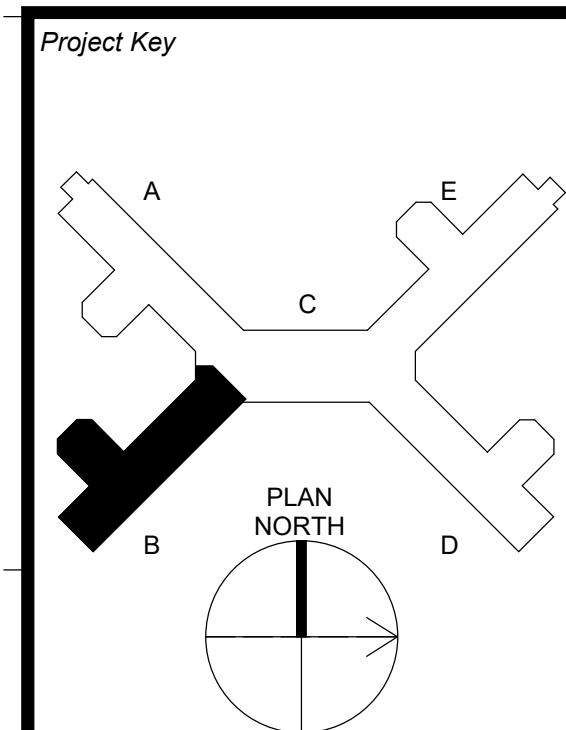
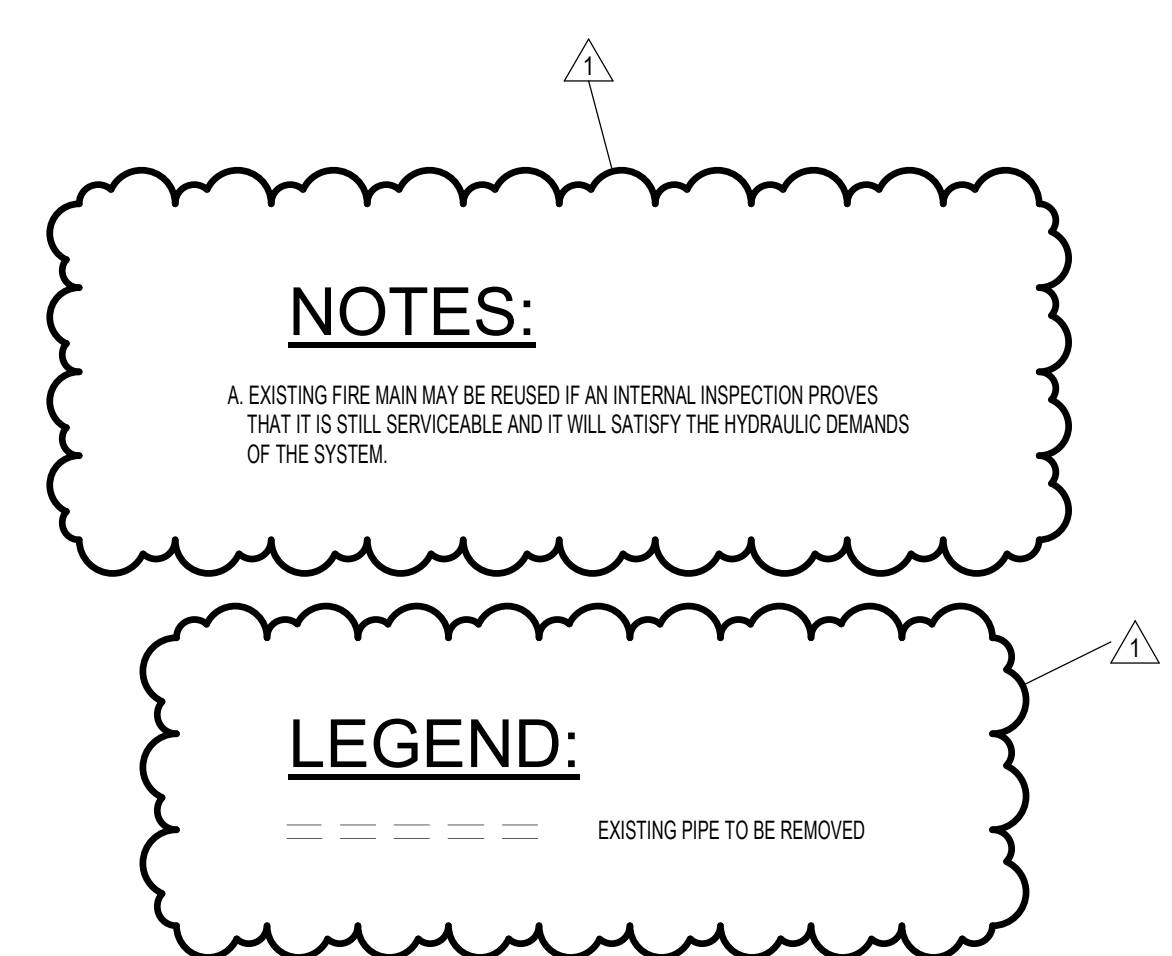
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Architecture, Engineering, Surveying, Environmental.
295 Main Street Suite # 200, Buffalo,
NY 14203

[illegible]

Drawing Title	
PARTIAL PLAN - 5TH FLOOR FP DEMOLITION PLAN - WING A	
Phase	
BID DOCUMENTS	
Drawn By:	Checked By:
ROF	Date: 08/11/26
Seal & Signature	DASNY Project No: 371230
	FD105A
Drawing 143 of 304	



[illegible]

Drawing Title
**PARTIAL PLAN - 5TH
FLOOR FIRE
PROTECTION
DEMOLITION PLAN -
WING B**
BID DOCUMENTS

<i>Drawn By:</i>	<i>Checked By:</i>	<i>Date:</i>
ROF		08/11/26
<i>Seal & Signature</i>		<i>DASNY Project No.:</i>
		371230
		FD105B
		<i>Drawing</i> 144 of 304

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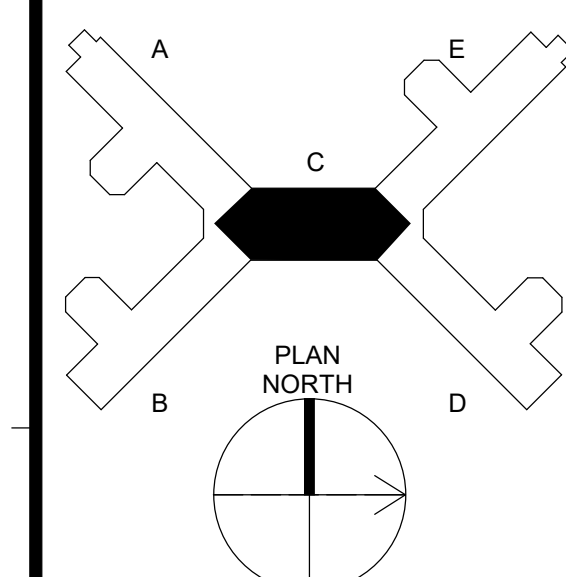
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Consultants:

Foitz Albert
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A. EXISTING FIRE MAIN MAY BE REUSED IF AN INTERNAL INSPECTION PROVES THAT IT IS STILL SERVICEABLE AND IT WILL SATISFY THE HYDRAULIC DEMANDS OF THE SYSTEM.

EXISTING PIPE TO BE REMOVED



REVISIONS

[illegible]

Client

 **NEW YORK**
STATE OF
OPPORTUNITY.

**Office of
Mental Health**

Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title
PARTIAL PLAN - 5TH
FLOOR FP
DEMOLITION PLAN -
WING C

Phase
BID DOCUMENTS

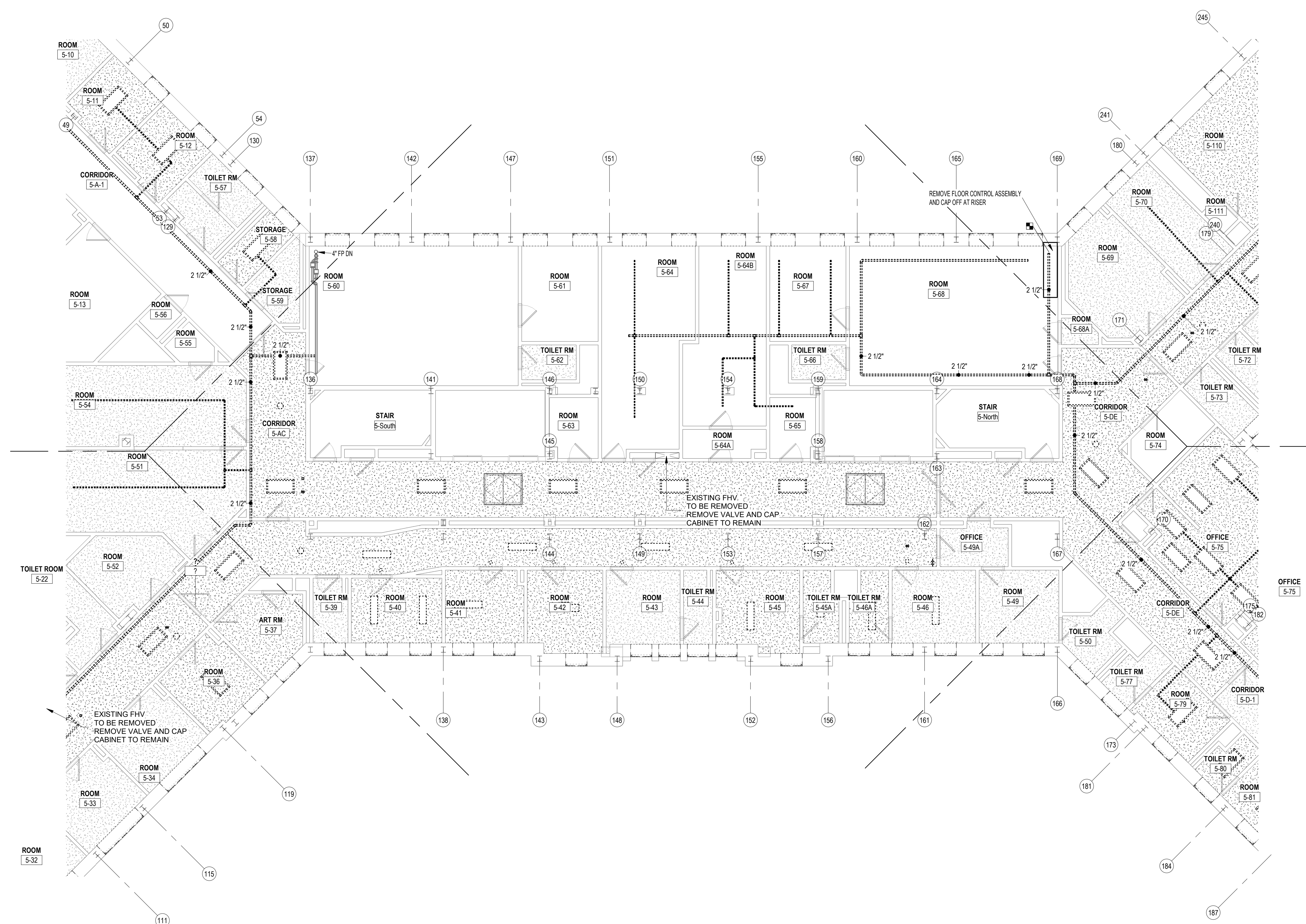
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FD105C

Drawing
145 of 304

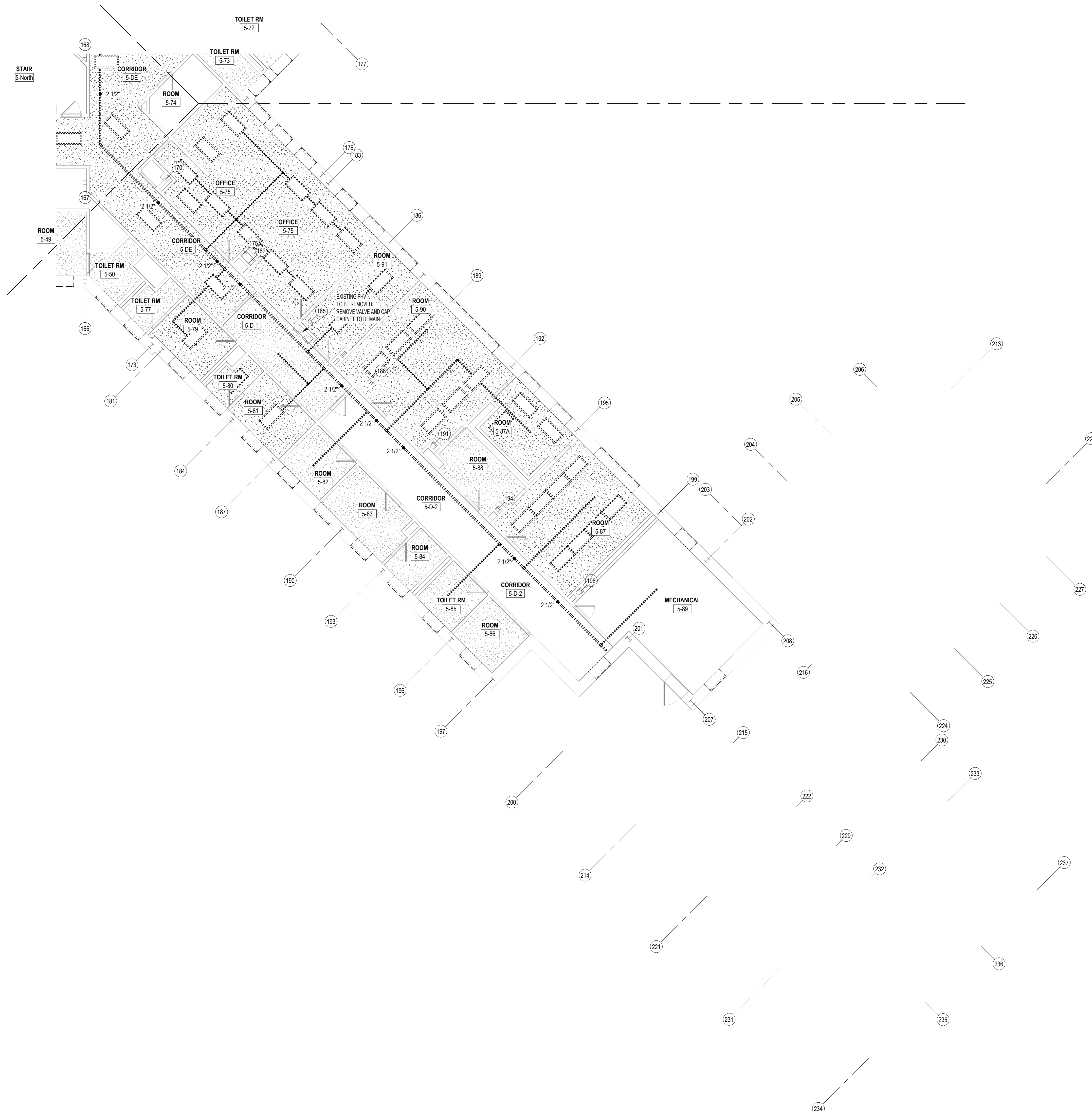


1 Fire Protection Demo Plan - 05 - WING C
FD105C 1/8" = 1'-0"

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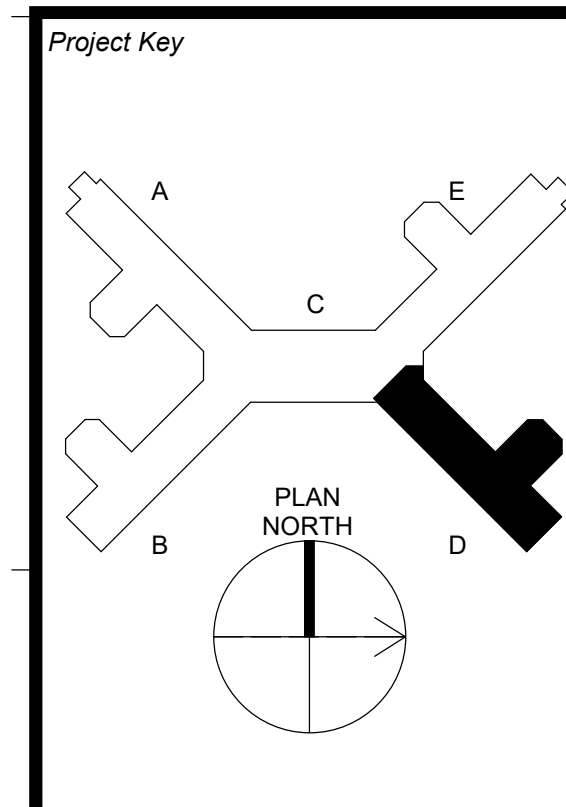
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A. EXISTING FIRE MAIN MAY BE REUSED IF AN INTERNAL INSPECTION PROVES THAT IT IS STILL SERVICEABLE AND IT WILL SATISFY THE HYDRAULIC DEMANDS OF THE SYSTEM.

EXISTING PIPE TO BE REMOVED



REVISIONS

[illegible]

Client

 **NEW YORK**
STATE OF
OPPORTUNITY.

**Office of
Mental Health**

Greater Binghamton Health Center

Project Title: Building 75
Garvin Building Hazardous Material
Abatement & Renovation Floors 3, 4, & 5
425 Robinson Street,
Binghamton, NY 13904

Drawing Title
PARTIAL PLAN - 5TH
FLOOR FIRE
PROTECTION
DEMOLITION PLAN -
WING D
BID DOCUMENTS

Drawn By:	Checked By:	Date:
ROF		08/11/26

Seal & Signature	DASNY Project No: 371230
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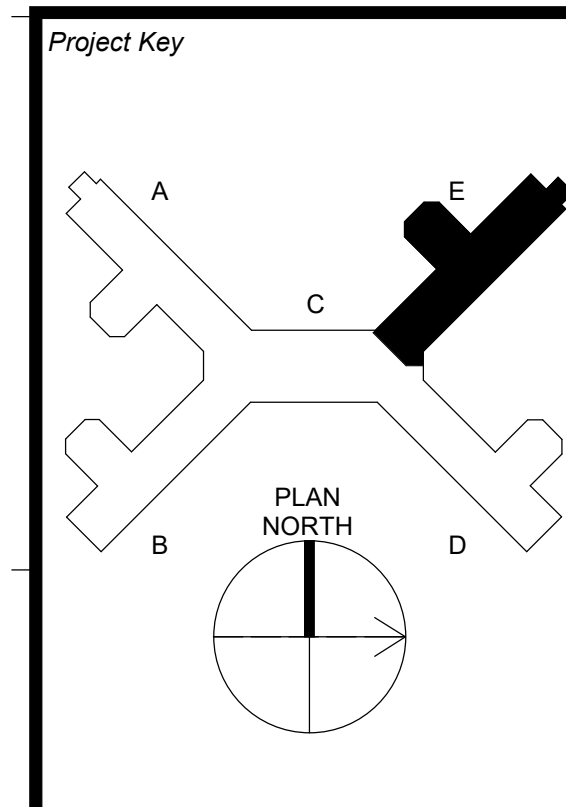
FD105L

Drawing
146 of 304

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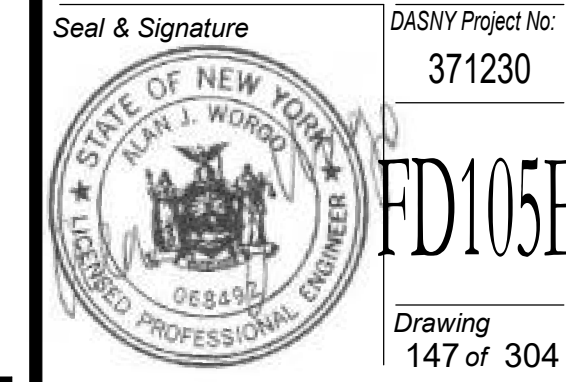
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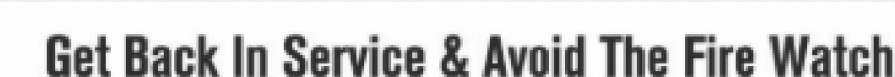
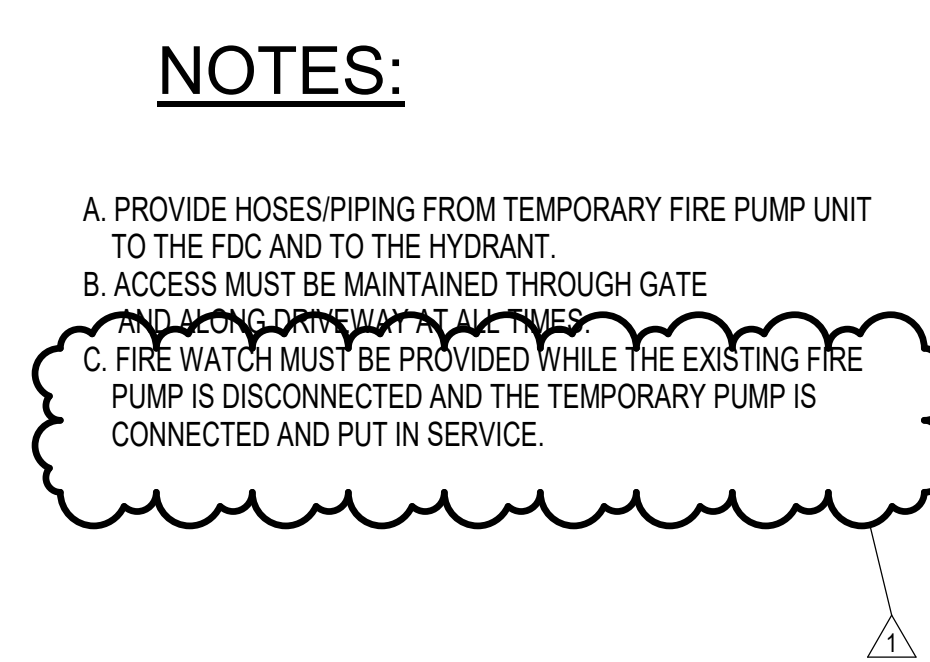
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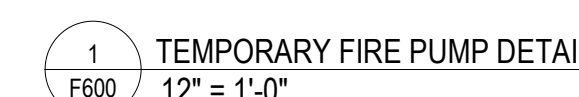
Drawing Title
PARTIAL PLAN - 5TH
FLOOR FIRE
PROTECTION
DEMOLITION PLAN -
WING E
BID DOCUMENTS

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ROF		08/11/26

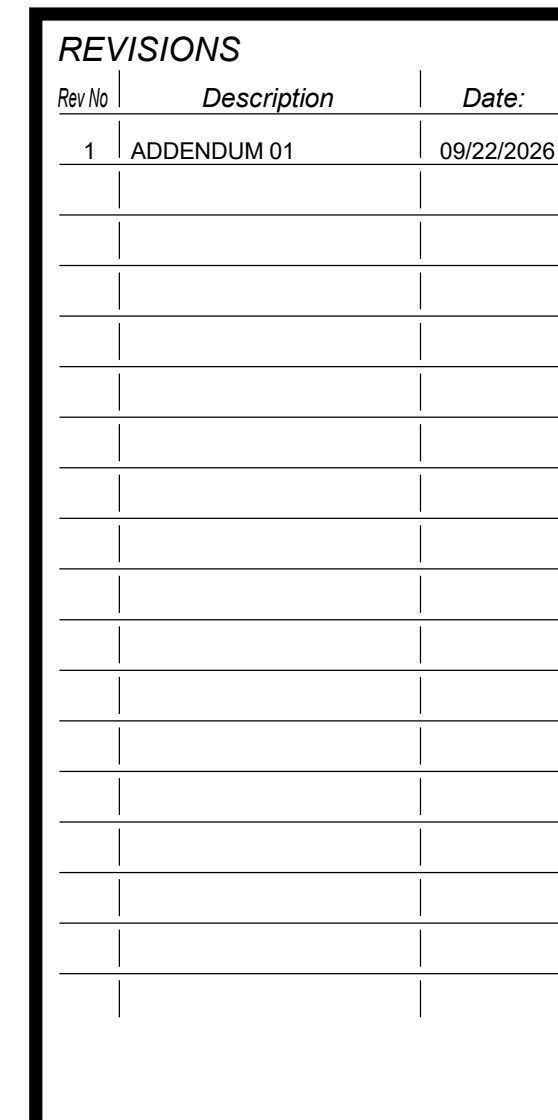




Introducing RentFirePumps.com, an emergency diesel fire pump trailer available for immediate assistance when your fire pump is down and you can't afford to be without fire protection services. This portable fire pump system will get your facility back in service and avoid costly Fire Department Fire Watch.



- NFPA 13 Chapter 13.1.9 When a fire protection system is out of service for more than 4 hours in a 24 hour period, the AHJ shall be permitted to require the building to be evacuated or an approved fire watch to be maintained at all times until the fire protection system has been returned to service.
- Diesel Fire Pump UL FM listed for fire service
- 120-200 PSI discharge pressure to 110 psi
- Controller – needs power
- Existing Jockey pumps maintain system pressure
- Water supply from Hydrant – 5" Butt – Flex pipe, 100' pump discharge is tied into the existing Fire Department Connection – reconfigured – add a tee and additional check valve so to allow Fire Department Pumper – to attach
- Automatic start – pressure drop for remote starting
- Loss of Pressure – activated Diesel Pump
- Manual or automatic
- Field proven record of service
- Field Trailer



Drawing Title
**SITE LOCATION FOR
TEMPORARY FIRE
PUMP**

Phase BID DOCUMENTS		
Drawn By: ROF	Checked By:	Date: 08/11/26
Seal & Signature		DASNY Project No: 371230
		F600
Drawing 181 of 304		