ADDENDUM

Public Building Commission of Chicago | Richard J. Daley Center | 50 West Washington Street, Room 200 | Chicago, Illinois 60602 | (312) 744-3090 | pbcchicago.com

ADDENDUM NO.: 04

PROJECT NAME: Ernst Prussing Elementary School Annex & Renovations

PROJECT NO.: 05175

CONTRACT NO.: C1587

DATE OF ISSUE: December 1, 2017

NOTICE OF CHANGES, MODIFICATIONS, OR CLARIFICATIONS TO CONTRACT DOCUMENTS

The following changes, modifications, or clarifications are hereby incorporated and made an integral part of the Contract Documents. Unless clearly expressed otherwise by this Addendum, all terms and conditions defined in the original Contract Documents shall continue in full force and effect and shall have the same meaning in this Addendum. Issued Addenda represent responses/clarifications to various inquiries. Contractors shall be responsible for including all associated labor/material costs in its bid. Drawings/specifications corresponding to inquiry responses will be issued with the Issue for Construction Documents, upon issuance of building permit.

ITEM NO. 1: CHANGE TO KEY DATES
None.

ITEM NO. 2: REVISIONS TO BOOK 1 – PBC INSTRUCTIONS TO BIDDERS

Change 1 REMOVE Section III. Instructions for Bidder, P. Basis of Award in its entirety and REPLACE WITH the following:

'P. Basis of Award

Award will be made to the Bidder submitting the lowest Award Criteria Figure whose corresponding Total Base Bid is within the Available Funds for this Project and is otherwise responsive to all the requirements of the Contract Documents. Firms are required to submit pricing for Base Work Only and Base Work plus Alternate #1 to be considered responsive. The firm submitting the lowest, responsive bid, within the Available Funds will be deemed the low bidder. The Commission will notify the low bidder of their status for attendance at the Pre-Award Meeting on the date and time as described in §II.A.18 of this Book. "Available Funds" is described as the total Project budget less the budgeted planning, design, management, and supervision costs.'

Change 2 REMOVE Section III. Instructions for Bidder, U. Alternates-Commission Discretion, in its entirety and REPLACE WITH the following:

'U. Alternates-Commission Discretion

1. The Commission expressly reserves the right to accept or decline any alternates offered by Bidder. The Commission will notify the successful Bidder, in writing, whether any alternate(s) will be awarded.'

Change 3 Under Section IV. Proposal and Execution Documents, EXHIBIT A – REVISED BID FORM (revised per Addendum No. 1), ADD EXHIBIT A – ALTERNATE BID FORM.

Change 4 REMOVE Section IV. Proposal and Execution Documents, I. Alternates, in its entirety and REPLACE WITH the following:

'ALTERNATES

ACCEPTED BY THE COMMISSION		ALTERNATE DESCRIPTION	PROPOSED ALTERNATE PRICE
Yes ☐	No ☐	Alternate #1: Lead Based Paint (LBP) mitigation at the first and second floor corridors of the existing Prussing Elementary School building (from the finished floor to approximately 6'-0" above finished floor) as indicated on the drawings. Costs shall include the patching and painting of walls following LBP mitigation.	$

ITEM NO. 3: REVISIONS TO BOOK 2 – PBC STANDARD TERMS AND CONDITIONS

None.

ITEM NO. 4: REVISIONS TO BOOK 3 – TECHNICAL SPECIFICATIONS

Change 1 Book 3 – Volume 1 – Division 01 – General Requirements, ADD Specification 01 23 00 Alternates to include Lead Based Paint (LBP) Mitigation at corridors.

Change 2 Book 3 – Volume 1 – Division 01 – General Requirements, ADD line after "07 27 00 – Air Barriers" to read as follows: "07 27 00.1 – Self Adhering Air and Vapor Barrier…02_11/30/17."

Change 3 Book 3 – Volume 1 – Division 01 – General Requirements, DELETE line reading "07 27 00 – Air Barriers"

Change 4 Book 3 – Volume 1 – Section 02 24 01 – Environmental Scope Sheets: REPLACE Section WITH attached.

Change 5 Book 3 – Volume 1 – Division 07, REPLACE section "07 27 00 – Air Barriers" WITH attached spec section: 07 27 00.1 – Self Adhering Air and Vapor Barrier…02_11/30/17." – per attached

Change 6 Book 3 – Volume 1 – Division 07, INSERT after "07 11 13 – Bituminous Dampproofing" attached spec section: "07 13 26 – Self-Adhering Sheet Waterproofing…01_02/28/06." – per attached.

Change 7 Book 3 – Volume 1 – Section 08 80 00 – Glazing: REPLACE Section WITH attached.

Change 8 Book 3 – Volume 1 – Section 09 21 16 Gypsum Board Assemblies: REPLACE Section WITH attached.

Change 9 Book 3 – Volume 1 – Division 09 – General Requirements, ADD line after "09 65 19 – Resilient Tile Flooring" to read as follows: "09 67 25 – Resinous Epoxy Flooring…02_08/22/07"

Change 10 Book 3 – Volume 1 – Division 09, INSERT after "09 65 19 – Resilient Tile Flooring" attached spec section: "09 67 25 – Resinous Epoxy Flooring…02_08/22/07."

ITEM NO. 5: REVISIONS TO DRAWINGS

Change 1 REPLACE Sheets LBP-1, LBP-2, and LBP-3 WITH attached revised sheets.

Change 2 REPLACE Sheets C2.01 and C5.00 WITH attached revised sheets.

Change 3 REPLACE Sheets SR1.0 and SR2.0 WITH attached revised sheets.

Change 4 REPLACE Sheet AD1.01 WITH attached revised sheet.

Change 5 REPLACE Sheets A1.11, and A1.21 WITH attached revised sheets.

Change 6 ON Sheets A3.11, A3.12, A5.01, A5.02, A5.21, REPLACE note reading "SHEET APPLIED WEATHER BARRIER" WITH note reading "FLUID-APPLIED AIR AND VAPOR BARRIER".

Change 7 REPLACE Sheet A2.01 WITH attached revised sheet.

Change 8 REPLACE Sheet A3.11 WITH attached revised sheet.

Change 9 REPLACE Sheet A6.01 WITH attached revised sheet

Change 10 REPLACE Sheets E1.3 WITH attached revised sheet.

Change 11 INSERT Sheet E1.3A AFTER sheet E1.3

ITEM NO. 6: REQUESTS FOR INFORMATION

RFI-1.

Question: Please confirm that the chimney cell tower cost for removal and coordination will be handled between CPS and the cell companies.

Response: Cellular array and equipment on the chimney will be removed temporarily for the masonry repair work by the Owner in coordination with CPS and cellular vendor. Coordinate deactivation with PBC PM/CPS PM and vendor prior to repair work. T-Mobile Point of Contact is Chris Lytle, chris.lytle@t-mobile.com and David Frankavitz, david.frankavitz@t-mobile.com, 773.444.5604

RFI-2.

Question: Assumed ACM areas roof note specifies treat as ACM until tested and proven otherwise. As the existing roof system is a modified bituminuous membrane system which has never been made with asbestos fibers who is responsible for ACM testing and when?

Response: PBC to provide and coordinate testing with Contractor.

RFI-3.

Question: Copper roofs call out resoldering of all seams. Due to the age and degree of contamination of the copper this cannot be accomplished. Please advise.

Response: No change to the Contract Documents.

RFI-4.

Question: Resinous flooring is indicated on the drawings, and no specification has been provided – please provide a specification.

Response: Specification section 09 67 25 Resinous Epoxy Flooring is included in this addendum.

RFI-5.

Question: Corner Guards are indicated on the drawings, and no specification has been provided – please provide a specification.

Response: Spec section 09 21 16 GWB Assemblies - Misc Materials revised to include Corner Guards and is included in this addendum.

RFI-6.

Question: Please reference sheet A1.02 detail 2. This detail calls for self-adhering sheet waterproofing. However, there is no spec section for this scope.

Response: Specification section 07 13 26 Self-Adhering Sheet Waterproofing is included in this addendum.

RFI-7.

Question: The bid documents call for 'Sheet applied weather barrier' (A3.11). However, there is no spec for sheet applied weather barrier. Only fluid applied air and vapor barriers.
Additionally, the plans call for self-adhering sheet waterproofing (A1.02), however, there is no spec for self-adhering sheet waterproofing.

Response: Refer to response to RFI # 6 and changes in this addendum regarding wall sections and exterior details. Notes revised textually to read "Fluid-Applied Air and Vapor Barrier" Sheet A3.11 is revised and included in this addendum.

RFI-8.

Question: The drawings call out a ¾" monolithic Firelite glass type to be out into hollow metal frames by others. The drawings specify that this is a 1-HR rated wall. At a 1-hr rated wall the glass has to meet ASTM E-119, which mandates protecting against heat rise. Firelite cannot meet this requirement, but a thicker glass type like Pyrostop would. Should this be priced up as Pyrostop instead of Firelite, or should we price the glass as Firelite?

Response: See revised spec section 08 80 00 Glazing, included in this addendum.

RFI-9.

Question: Please advise that G1 glazing as found in drawings on page A2.01, is in accordance to 084113 page 4 reference to Viracon Guard-Vue as stated in the specs.

Response: Sheets A2.01 and A6.01 have been revised and to indicate type E-2 at certain locations, and are included in this addendum. Revised spec section 08 80 00 Glazing was provided in Addendum No. 2.

RFI-10.

Question: There is a spec for FRP Doors, but I am unsure if there are any on the jobsite. The doors also have a fire rating which we will disqualify since we see them as aluminum doors.

Response: Door schedule on A6.01 has been revised and included in this addendum. Non-entrance exterior doors are FRP panels with aluminum frames.

RFI-11.

Question: For the Fire Rated Glass in the Cafeteria shown on sheet A2.12, are the frames TGP or H/M? Also, Door 018B, 019D, 030C, 030D, 036A, AND O36B are shown as Fire Rated Aluminum Doors and Frames. Is this Correct? They are shown on the door schedule as Aluminum but drawn as solid. Please advise.

Response: Refer to responses to RFIs #9, 10, 19, 20. Fire rated glazing at the corridor wall of the Dining Room shall be in hollow metal framing. Sheet A6.01 has been revised and included in this addendum.

RFI-12.

Question: There is piping and conduit mounted horizontally to the tunnel walls where vertical cracks are to be repaired. Please provide mechanical and electrical drawings showing the removal and reinstallation of piping and conduit related to the structural repairs.

Response: Sheets AD1.01, SR1.0, SR2.0, E1.3, and E1.3A have been revised included in this addendum.

RFI-13.

Question: There is loose fill insulation on the plaster ceilings. What is the scope of work related to this insulation?

Response: No new loose fill insulation at these locations is required as a part of this project. Contractor shall redistribute existing loose fill insulation upon completion of the work.

RFI-14.

Question: Can you please confirm that structural repair work on drawings SR1.0 thru SR8.0 are base bid.

Response: Confirmed. This is base bid scope of work.

RFI-15.

Question: Please confirm that the Dever Beam Allowance is in addition to the base bid structural repairs.

Response: Confirmed. This is in addition to the base bid scope of work indicated in the drawings.

RFI-16.

Question: Please reference AC.01 – Detail 16 of A5.01. In the detail there is blocking shown for valence box. Can you please provide further details on how the blocking is to be supported in that area? Is it hanging off the RCP? If so, how so?

Response: Blocking at this location should be supported by the metal studs at the exterior wall.

RFI-17.

Question: Please reference both details 1, 2 and 4 of A3.11. In all details there are further details such as detail 4 – A5.21 and detail 10 – A5.01. At the beam wraps there is no consistency between the three drawings. In the wall sections there is no gypsum board around the beams, while in the other details there is either (1) or (2) layers of gyp board. Please provide a standard detail on how the beams are to be wrapped.

Response: Contractors shall defer to larger scale details where noted. Beam details may differ where required fire ratings differ. Sheet A3.11 has been revised and is included in this addendum.

RFI-18.

Question: Drawing SR2.0 indicates the following notes at the tunnel to the boiler house:
PERFORM 70 LIN. FT. OF INJECTION OF CRACKS IN TUNNEL WALLS USING POLYURETHANE GROUT AT AREAS TO BE SELECTED BY ENGINEER.
PERFORM 80 SQ. FT. OF CONCRETE REPAIRS ON UNDERSIDE OF TUNNEL ROOF SLAB AT LOCATIONS OF UNSOUND CONCRETE TO BE IDENTIFIED BY ENGINEER. PROVIDE SHORING AS REQUIRED. REFER TO DETAIL 3/SR7.0.
PERFORM 80 SQ. FT. OF CONCRETE REPAIRS ON WALLS OF TUNNEL AT AREAS SELECTED BY ENGINEER. REFER TO DETAIL 2/SR7.0.
The tunnel is full of MEP piping.
Are the 70 LF crack, 80 SF wall and 80 SF ceiling in concentrated areas, or will the areas be divided into several smaller areas?
What MEP piping removal/replacement is required for this work? .

Response: Refer to response to RFI #12 and revised sheets SR1.0 and SR2.0 included in this addendum.

RFI-19.

Question: Please confirm doors 018A, 030C, 030D, 036A & 036B are Aluminum storefront doors and not fire rated doors.

Response: Confirmed. These are Aluminum storefront doors and not fire rated. See revised sheet A6.01, included in this addendum.

RFI-20.

Question: Please confirm all of the aluminum storefront windows as identified on the elevations do have project out vents in the bottom lite. The exterior elevations show some type of vent but the interior elevations do not.

Response: Refer to response to RFI #25. Confimed. Lower lites of exterior classroom windows have project out vents. See revised sheet A2.01, included in this addendum.

RFI-21.

Question: Glazing -

a. A2.01 indicates G-1 on the elevations for the exterior insulated glass. The specification released with addendum #2 for Glazing - page 3 - indicates the exterior glass is E-1. Please confirm/clarify if that G-1 for the exterior means the Laminated Exterior Insulated Glass - equal to Guardvue by Viracon or equal which is shown in the Aluminum storefront specification is for areas which are accessible for potential damage and that do not call for guard screens.
b. Please confirm that A2.11 means G-1 & G-2 for the HM framing at the Cafeteria area. The addendum for the glazing indicates this is fire rated glazing. If that is the case, is it correct that doors 039A & 039C are not fire rated?.

Response: Refer to response to RFI #23. Sheets A2.01 and A6.01 have been revised to show this more clearly and are included in this addendum.

RFI-22.

Question: A2.01 indicates G-1 on the elevations for the exterior insulated glass. The specification released with addendum #2 - page 3 indicates the exterior glass is E-1. Assume G-1 for the exterior implies the Laminated Insulated Glass equal to Guardvue or equal by Viracon in the Aluminum SF specification for areas which are accessible for potential damage and they do not call for guard screens. Please advise.

Response: Refer to response to RFI #21. A2.01 and A6.01 have been revised to show this more clearly and included in this addendum.

RFI-23.

Question: A2.11 implies G-1 & G-2 for the HM framing at the Cafeteria area. The addendum for the glazing indicates that is fire rated glazing. Fire rated glazing is very expensive. If that is the case, why is the glazing for doors 039A and 039C, which are in that wall, not fire rated?

Response: Sheet A6.01 has been revised and is included in this addendum. Fire rated glazing is required at this location and fire-ratings for the doors are also required.

RFI-24.

Question: Please verify that doors 018A, 030C, 030D, 036A & 036B Aluminum Storefront doors fire rated doors. Door 018A indicate a fire rating, but doors 018B-018D, which are adjacent have no rating indicated on the door schedule. Doors 030C, 030D, 036A & 036B indicate fire rating but the glass is not fire rated. Please advise.

Response: Sheet A6.01 has been revised and is included in this addendum.

RFI-25.

Question: Please verify that the aluminum storefront with aluminum windows all have projected vents in the bottom section of the storefront, or is it just the ADA marked locations. Per detail 14/A5.01 it alludes that only the ADA windows will have projected vents. Please advise.

Response: Confirmed. Detail 14/A5.01 is a typical detail. A2.01 has been revised to show this more clearly and is included in this addendum.

RFI-26.

Question: Will Peoples Gas run a new gas line to the boiler house meter, and if yes what is the routing?

Response: Existing meters and gas service to be demolished to extents shown on MD1.1. New service shall be extended around new addition from medium pressure service along Eastwood Avenue. Meter location proposed to People's Gas is in same location as existing.

RFI-27.

Question: Sheet G1.1 "Index of Drawings and Code Information" states that the roof construction and the beams supporting the roof should receive 1 hr fire protection. In addition, the "beams for roof construction" in the remarks sections states a "0 hr at light hazard occupancy" but then provides the UL rating "UL #S707". This is a discrepancy as it is unclear if the roof construction should receive a 1 hour spray fireproofing or not.

Note: In the past the roof construction for Building Types 1C the roofs are not spray fireproofed. Please advise.

Response: Refer to wall sections and Safety Reference plans - isolated beams for roof construction are required to receive a spray fire proofing as they support a rated wall construction.

RFI-28.

Question: Item 44 in the Foodservice Equipment Specification Section 11 40 00 indicates that the Crowd Control Rails are provided by others.

The Foodservice Drawing FS1.0 lists item 44 Crowd Control Rails, but does not indicate that they are provided by others.

Please clarify who is to provide and install these rails.?

Response: Crowd Control Rails shall be provided by others as indicated in the specifications.

RFI-29.

Question: Specification Sections 12 24 13 Roller Window Shades – Manual and 12 24 14 Roller Window Shades – Motorized indicate that the shade cloth is to be "100% light proof".

However, they also indicate "Opacity: 3% open".

Please clarify if the shades are to "100% light proof" (room darkening) or "3% open" (open weave). If they are to be "open wave", please provide acceptable manufacturers, type, style and openness for pricing purposes.

Response: Shade cloth is to be 3% open (CPS Standard). Refer to IFB finish legend for additional information regarding manufacturers, type, style, and openness.

List of Attachments and Drawings:

This Addendum includes the following attached Specifications and/or Documents:

1. Exhibit A – Alternate Bid Form
2. Section 01 23 00 – Alternates
3. Section 02 24 01 – Environmental Scope Sheets
4. Section 07 13 26 – Self-Adhering Sheet Waterproofing
5. Section 07 27 00.1 – Self Adhering Air and Vapor Barrier
6. Section 08 80 00 – Glazing
7. Section 09 21 16 Gypsum Board Assemblies
8. Section 09 67 25 – Resinous Epoxy Flooring

This Addendum includes the following attached Drawings:

9. Sheets LBP-1, LBP-2, LBP-3
10. Sheets C2.01 and C5.00
11. Sheets SR1.0 and SR2.0
12. Sheets AD1.01
13. Sheet A1.11, A1.21
14. Sheet A2.01
15. Sheet A3.11
16. Sheet A6.01
17. Sheets E1.3 and E1.3A

END OF ADDENDUM NO. 04

EXHIBIT A – ALTERNATE BID FORM

B. BID FORM – BASE + ALTERNATE #1

FIRM NAME:

LINE	ITEM	AMOUNT
1.	BASE WORK ONLY	$
2.	ALTERNATE #1 – Lead-Based Paint (LBP) Mitigation	$
3.	COMMISSION'S CONTRACT CONTINGENCY	$ 540,000.00
4.	SITE WORK ALLOWANCE	$ 150,000.00
5.	ENVIRONMENTAL ALLOWANCE	$ 75,000.00
6.	CAMERA ALLOWANCE	$ 100,000.00
7.	MOISTURE MITIGATION ALLOWANCE	$ 175,000.00
8.	DEVER BEAM ALLOWANCE	$ 200,000.00
9	TOTAL BASE BID (1+2+3+4+5+6+7+8)	$
AWARD CRITERIA FIGURE (See Section V. Proposal Support Document, line 15 of Award Criteria Figure)		$

SURETY: Please specify full legal name and address of Surety:

_____

_____

_____

SECTION 01 23 00
ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Board decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. **01** State the amount to be ADDED TO the Base Bid for Lead Based Paint (LBP) mitigation at the first and second floor corridors of the existing Prussing Elementary School building (from the finished floor to approximately 6’-0” above finished floor) as indicated on the drawings. Costs shall include the patching and painting of walls following LBP mitigation.

END OF SECTION

02 24 01
ENVIRONMENTAL SCOPE SHEETS – ADDENDUM 04

School Name:	Ernst Prussing Elementary School Annex & Renovations
PBC Project No.:	05175
Date:	November 30, 2017
Environmental Consultant:	Accurate/GSG AJV
EC Project No.:	I17-329.03

Room ID/Name: Second Floor Corridors & Stairwells

LBP Areas:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Lower Walls	X	X	X	X			Refer to Section 02 83 19.13: LBP Mitigation – Remove loose, peeling, cracking, and flaking paint. Prepare stabilized and prime surfaces as needed for completion of scope of work (from finish floor approx. 6'-0" @ color change).	Refer to Contract Documents for the scope and extent of work.

Non-LBP Areas:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Ceiling (above ceiling tiles)					X		Refer to Section 02 41 16: Building Demolition. **<u>Dust, Fume and Odor Control</u>** Section 01 56 11.	Refer to Contract Documents for the scope and extent of work.
Plaster	Upper walls @ color change (including wall above C. T.)	X	X	X	X				

Non-ACM AREAS:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Walls and Ceiling	X	X	X	X	X		Refer to Section 02 41 16: Building Demolition. **<u>Dust, Fume and Odor Control</u>** Section 01 56 11.	Refer to Contract Documents for the scope and extent of work.
Any	2' x 4' Ceiling Tile								

02 24 01
ENVIRONMENTAL SCOPE SHEETS – ADDENDUM 04

School Name:	Ernst Prussing Elementary School Annex & Renovations
PBC Project No.:	05175
Date:	November 30, 2017
Environmental Consultant:	Accurate/GSG AJV
EC Project No.:	I17-329.03

Room ID/Name: First Floor Corridors & Stairwells

LBP Areas:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Lower Walls	X	X	X	X			Refer to Section 02 83 19.13: LBP Mitigation – Remove loose, peeling, cracking, and flaking paint. Prepare stabilized and prime surfaces as needed for completion of scope of work (from finish floor approx. 6'-0" @ color change).	Refer to Contract Documents for the scope and extent of work.

Non-LBP Areas:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Ceiling (above ceiling tiles)					X		Refer to Section 02 41 16: Building Demolition. **<u>Dust, Fume and Odor Control</u>** Section 01 56 11.	Refer to Contract Documents for the scope and extent of work.
Plaster	Upper walls @ color change (including wall above C. T.)	X	X	X	X				

Non-ACM AREAS:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Plaster	Walls and Ceiling	X	X	X	X	X		Refer to Section 02 41 16: Building Demolition. **<u>Dust, Fume and Odor Control</u>** Section 01 56 11.	Refer to Contract Documents for the scope and extent of work.
Any	2' x 4' Ceiling Tile								

02 24 01
ENVIRONMENTAL SCOPE SHEETS – ADDENDUM 04

School Name:	Ernst Prussing Elementary School Annex & Renovations
PBC Project No.:	05175
Date:	November 30, 2017
Environmental Consultant:	Accurate/GSG AJV
EC Project No.:	I17-329.03

Room ID/Name: Basement Tunnel (Tunnel leading to boiler house)

ACM Areas:

Substrate	Component	Walls				Ceiling	Floor	Response Action	Comments
		N	E	S	W	C	F		
Metal	Pipe Insulation & associated fittings (except fiberglass)							Refer to Section 02 82 14: Asbestos Abatement Interiors. ACM removal and disposal, **as needed for completion of scope of work.** **Note:** Patch and Repair ACM pipe insulation as needed.	Refer to contract documents, architect's drawings, specifications, and/or photos for scope and extent of work, exact location(s) and/or number(s) and/or size(s).

SECTION 07 13 26

SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes waterproofing system indicated and as specified.

1.2 SUBMITTALS

A. Product Data: Submit complete printed data for each product to be provided. Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.

B. Shop Drawings: Submit shop drawings. Show locations and extent of waterproofing. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.

C. Include setting drawings showing layout, sizes, sections, profiles, and joint details of sheet waterproofing per manufacturer recommendations.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A firm that is acceptable to waterproofing manufacturer for installation of waterproofing required for this Project.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.

C. Remove and replace liquid materials that cannot be applied within their stated shelf life.

D. Store rolls according to manufacturer's written instructions.

E. Protect stored materials from direct sunlight.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.

1. Do not apply waterproofing in snow, rain, fog, or mist.

B. Maintain adequate ventilation during preparation and application of waterproofing materials.

PART 2 - PRODUCTS

2.1 MODIFIED BITUMINOUS SHEET WATERPROOFING

A. Modified Bituminous Sheet: 60 mil (1.5 mm) thick, self-adhering sheet consisting of 56 mils (1.4 mm) of rubberized asphalt laminated to a 4 mil (0.10 mm) thick, polyethylene film with release liner on adhesive side.

1. Products: Subject to compliance with requirements, provide one of the following:

a. American Hydrotech, Inc.; VM 75.
b. Carlisle Coatings & Waterproofing Inc.; CCW MiraDRI 860/861.
c. CETCO Building Materials Group; Envirosheet.
d. Grace, W. R. & Co.; Bituthene.
e. Henry Company; Blueskin WP 200.
f. Meadows, W. R., Inc.; SealTight Mel-Rol.
g. Progress Unlimited, Inc.; Plastiwrap 60.

2.2 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.

1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.

B. Primer: Liquid primer recommended for substrate by manufacturer of sheet waterproofing material.

C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.

D. Liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, trowel grade or low viscosity.

E. Substrate Patching Membrane: Low-viscosity, two-component, asphalt-modified coating.

F. Sheet Strips: Self-adhering, rubberized-asphalt sheet strips of same material and thickness as sheet waterproofing.

G. Metal Termination Bars: Aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick, predrilled at 9 inch (229 mm) centers.

H. Protection Course: ASTM D 6506, semirigid sheets of fiberglass or mineral-reinforced-asphaltic core, pressure laminated between two asphalt-saturated fibrous liners and as follows:

1. Thickness: **1/8 inch (3 mm)**.
2. Adhesive: Rubber-based solvent type recommended by waterproofing manufacturer for type of protection course.

2.3 MOLDED-SHEET DRAINAGE PANELS

A. Nonwoven-Geotextile-Faced, Molded-Sheet Drainage Panel: Manufactured composite subsurface drainage panels consisting of a nonwoven, needle-punched geotextile facing with an apparent opening size not exceeding No. 70 (0.21 mm) sieve laminated to one side with a polymeric film bonded to the other side of a studded, nonbiodegradable, molded-plastic-sheet drainage core, with a vertical flow rate of 9 to 15 gpm per ft. (112 to 188 L/min. per m).

2.4 INSULATION

A. Board Insulation: Extruded-polystyrene board insulation complying with ASTM C 578.

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

   a. Diversifoam.
   b. Dow.
   c. Owens Corning.

2. Type IV, 25 psi (173 kPa) minimum compressive strength.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.

1. Verify that concrete has cured and aged for minimum time period recommended by waterproofing manufacturer.
2. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.

3.2 SURFACE PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.

B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.

C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.

D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.

E. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.

F. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.3 WATERPROOFING APPLICATION

A. Install modified bituminous sheets according to waterproofing manufacturer's written instructions and according to recommendations in ASTM D 6135.

B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.

C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch- (64-mm-) minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.

1. When ambient and substrate temperatures range between 25 and 40 deg F (minus 4 and plus 5 deg C), install self-adhering, modified bituminous sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F (16 deg C).

D. Seal exposed edges of sheets at terminations not concealed by metal counterflashings or ending in reglets with mastic.

E. Install sheet waterproofing and auxiliary materials to tie into adjacent waterproofing.

F. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches (150 mm) beyond repaired areas in all directions.

G. Install protection course with butted joints over waterproofing membrane immediately.

H. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

3.4 MOLDED-SHEET DRAINAGE PANEL INSTALLATION

A. Place and secure molded-sheet drainage panels, with geotextile facing away from wall or deck substrate, according to manufacturer's written instructions. Use adhesives that do not penetrate waterproofing. Lap edges and ends of geotextile to maintain continuity. Protect installed molded-sheet drainage panels during subsequent construction.

1. For vertical applications, install extruded polystyrene and protection course before installing drainage panels.

3.5 INSULATION INSTALLATION

A. Install one or more layers of board insulation to achieve required thickness over waterproofed surfaces. Cut and fit to within 3/4 inch (19 mm) of projections and penetrations.

B. On vertical surfaces, set insulation units in adhesive or tape applied according to manufacturer's written instructions.

C. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

3.6 PROTECTION AND CLEANING

A. Protect waterproofing from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

SECTION 07 27 00.1

SELF-ADHERING AIR AND VAPOR BARRIER

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes self-adhering air and vapor barriers applied in exterior wall assemblies as shown and as specified.

1. Work includes leaving the site after the initial barrier sheet has been installed and to return after other components have been installed to ensure that detailing of all transitions, terminations and penetrations are performed for continuity of the building envelope.
2. Work to include stripping in of fasteners, structural supports, wall-penetrations, and flashings required for exterior cladding system installed by others.
3. Work to include installation of aluminum trims at all terminations of barrier with adjacent construction to provide substrate for proper sealant installation and to ensure barrier performance.
4. Work to include termination of barrier to all adjacent construction and to ensure barrier performance.
5. Work shall include detailing for continuity of air-barrier while accommodating deflection and movement as noted on drawings:

    a. Horizontally; at all control and building expansion joints, and
    b. Vertically; at all continuous shelf angles and similar conditions

B. Related Documents:

1. Drawings
2. Book 1: Project Information, Instructions to Bidders, and Execution Documents
3. Book 2: Standard Terms and Conditions for Construction Contracts

C. Related Sections:

1. Section 01 14 10 – Pre-Construction Project Mock-Up
2. Section 01 35 60.1 – LEED Requirements
3. Section 07 27 00.2 – Fluid-Applied Air and Vapor Barrier
4. Section 07 62 00 – Sheet Metal Flashing and Trim
5. Section 07 92 00 – Joint Sealants

D. The materials in this section are part of the overall USGBC "Leadership in Energy and Environmental Design" (LEED) prerequisites and credits needed for the Project to obtain LEED Silver certification based on *LEED* v3 BD+C requirements. See Section 01 60.1 "LEED Requirements" and this section for more information.

1.2 PERFORMANCE REQUIREMENTS

A. Material Performance:

1. Air permeance not to exceed 0.004 cubic feet per minute per square foot under a pressure differential of 0.3 in. water (1.57 pounds per square foot) when tested according to ASTM E 2178
2. Vapor permeance of 0.1 perms or less when tested according to ASTM E 96.

B. Assembly Performance:

1. Air and vapor barrier assembly that has an air leakage not to exceed 0.040 cubic feet per square foot per minute under a pressure differential of 0.3 in. water (1.57 pounds per square foot) when tested in accordance with ASTM E 2357 and Vapor permeance of 0.1 perms or less when tested according to ASTM E 96:

   a. Provide an assembly capable of withstanding positive and negative combined design wind, fan and stack pressures on the envelope and transfer the load to the structure without damage or displacement.
   b. Provide an assembly that does not displace adjacent materials under full load.
   c. Provide an assembly joined in an airtight and flexible manner to the air barrier material of adjacent assemblies, allowing for the relative movement of assemblies due to thermal and moisture variations and creep, and anticipated seismic movement.
   d. Provide connections to prevent air leakage and vapor migration at all adjacent construction.

C. Connections to Adjacent Materials: Provide connections to prevent air leakage and vapor migration at the following locations:

1. Foundation and walls, including penetrations, ties and anchors.
2. Walls, windows, storefronts, louvers and doors, including metal transition strips where shown and where required for sealant compatibility.
3. Different wall assemblies and fixed openings within those assemblies.
4. Wall and roof connections.
5. Floors over unconditioned space.
6. Walls, floor and roof across construction, control and expansion joints.
7. Walls, floors and roof to utility, pipe and duct penetrations.
8. Seismic and expansion joints.
9. All other leakage pathways in the building envelope.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each product proposed for use in the system, manufacturer's printed instructions for evaluating, preparing, and treating substrate, temperature and other limitations of installation conditions, technical data, and tested physical and performance properties.

1. Submit letter from primary materials manufacturer indicating approval of products not manufactured by primary manufacturer.
2. Include statement that materials are compatible with adjacent construction.
3. Submit reports indicating that field peel-adhesion test on all materials to which sealants are adhered have been performed and the changes made, if required, to other approved materials, in order to achieve successful adhesion..

4. Include statement that materials/system has been tested and will comply with performance requirements of this specification.

B. Shop Drawings: Submit shop drawings showing locations and extent of air and vapor barrier assemblies and details of each condition and intersections with adjacent construction of other envelope assemblies and materials utilizing shop drawings for them, membrane counter-flashings, and details showing the following:

1. How gaps in the construction will be bridged, including inside and outside corners.

   a. Include details of prefinished aluminum transition strips at all terminations of air barrier system against adjacent construction requiring sealant installation.

2. How materials that cover the air and vapor barrier are stripped-in to maintain air-tight condition.
3. How miscellaneous penetrations such as conduits, pipes, electric boxes, mechanical fasteners, and similar items are sealed.
4. Include VOC content of each material, and applicable legal limit in the jurisdiction of the project.
5. Include statement that materials are compatible with adjacent construction.
6. Include recommended values for field adhesion test on each substrate.

C. Samples: Submit samples, 3 by 4 inch minimum size of each material required.

D. Quality Assurance Program:

1. The air barrier system shall be installed according to the methods prescribed by the Air Barrier Association of America and the manufacturer's current specification and installation guidelines.
2. Submit evidence of installer current accreditation and certification under the Air Barrier Association of America's (ABAA) Quality Assurance Program.
3. Submit ABAA certification numbers of installers.

E. Field Test Results of Mock-Up: Submit test results of air leakage test and water leakage test of mock-up in accordance with specified standards, including retesting if initial results are not satisfactory.

F. Compatibility: Submit letter from manufacturer stating that materials proposed for use are permanently chemically compatible and adhesively compatible with adjacent construction and that cleaning materials used during installation are chemically compatible with adjacent materials construction.

G. Submit three (3) fully executed copies of installer's warranty.

H. Certification: Submit a statement signed by the system manufacturer stating that manufacturers shop drawings and system details were reviewed and found to be acceptable.

I. Closeout submittal: At completion of the installation, submit a statement from the ABAA's on-site representative that the installed system complies with the system manufacturer's installation details.

J. LEED Submittals:

1. Complete the "Materials Credits Documentation Sheet" attached to Section 0035 60.1 "LEED Requirements" for products in this section. Include statement indicating costs for each product having recycled content.
2. Credit MR 4: Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
3. Credit MR 5: Submit product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
4. Credit IEQ 4: Submit evidence that all sealants installed within the building envelope meet the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Currently accredited by the Air Barrier Association of America (ABAA) whose applicators are certified in accordance with the ABAA Quality Assurance Program.

B. Manufacturer: Obtain primary materials from a single manufacturer regularly engaged in manufacturing air and vapor barrier membrane as specified. Obtain secondary materials from a source acceptable to the primary materials manufacturer.

C. Accredited Laboratory Testing for Materials: Laboratory accredited by International Accreditation Service Inc. (IAS), American Association for Laboratory Accreditation (A2LA), or the Standards Council of Canada (SCC).

D. Pre-installation Conference: Conduct conference at Project site.

1. Include installers of other construction connecting to air barrier, Contractor, Architect, and Authorized Commission Representative.
2. Review air barrier requirements including status of all required submittals required prior to commencement of work, surface preparation, substrate condition and pretreatment, minimum substrate curing period, forecasted weather conditions, special details and sheet flashings, mockups, installation procedures, sequence of installation, testing and inspecting procedures, and protection and repairs.

E. Field Quality Assurance: Implement the ABAA Quality Assurance Program requirements. Cooperate with ABAA inspectors and independent testing and inspection agencies engaged by the Owner (if any). Do not permit covering of the air and vapor barrier membrane until it has been inspected, tested and accepted.

F. Mock-Up: Build mock-up of barrier on exterior wall assembly where directed by Architect, minimum 10 ft. by 10ft.

1. Coordinate construction of mockup to permit inspection and testing before external insulation and cladding is installed.
2. If the Architect determines mockups do not comply with requirements, reconstruct mockups and apply barrier until mockups are approved.
3. Remove mock-up when acceptable to the Architect.

G. Mock-Up Tests for Air and Water Infiltration: Test mock-up at Contractor's expense for air and water infiltration in accordance with ASTM E 1186 (air leakage location), ASTM E 783 (air leakage quantification), and ASTM E 1105 (water penetration). Use smoke tracer to locate sources of air leakage. If deficiencies are found, reconstruct mock-up and retest until satisfactory results are obtained. Deficiencies include air leakage beyond values specified, uncontrolled water leakage, unsatisfactory workmanship.

1. Perform the air leakage tests and water penetration test of mock-up prior to installation of cladding and trim but after installation of all fasteners for cladding and trim and after installation of other penetrating elements having been flashed in.
2. Perform additional tests as necessary to achieve specified performance criteria after initial testing.

H. Mock-Up Tests for Membrane Adhesion: Test mock-up at Contractor's expense of membrane for adhesion at in accordance with ASTM D 4541 using a Type 1 pull tester except that the disk used shall be 100mm in diameter and the membrane shall be cut through to separate the material attached to the disk from the surrounding material. Perform test after curing period recommended by the manufacturer. Record mode of failure and area which failed in accordance with ASTM D 4541.

1. Modify products or procedures and retest until successful.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product, date of manufacture, and directions for storage.

B. Store materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by air and vapor barrier membrane manufacturer. Protect stored materials from direct sunlight.

C. Handle materials in accordance with manufacturer's recommendations.

1.6 PROJECT CONDITIONS

A. Temperature: Install air and vapor barrier within range of ambient and substrate temperatures recommended by air and vapor barrier manufacturer. Do not apply air and vapor barrier to a damp or wet substrate.

B. Field Conditions: Do not install air and vapor barrier in snow, rain, fog, or mist. Do not install air and vapor barrier when the temperature of substrate surfaces and surrounding air temperatures are below those recommended by the manufacturer.

1.7 WARRANTY

A. Installation Warranty: Provide installer's 2 year warranty from date of Substantial Completion, including all components of the air and vapor barrier assembly, against failures including loss of air tight seal, loss of watertight seal, loss of adhesion, loss of cohesion, failure to cure properly.

PART 2 - PRODUCTS

2.1 MATERIALS/SYSTEM

A. Sheet Air and Vapor Barrier: Self-adhering membrane composed of flexible facing material coated completely on one side with adhesive material, formed into flexible sheets, interleaved with disposable release liner. Provide associated accessories including primer, seam tape, mastic, fluid and sealant recommended by manufacturer. Subject to compliance with requirements, provide a system by one of the following:

1. Carlisle Coatings and Waterproofing:
2. Grace Construction Products
3. Henry
4. Tremco
5. W. R. Meadows

B. Sheet Metal Transition Strips: Prefinished aluminum, shaped and cut to fit all termination conditions of air barrier system against any adjacent construction. Strips shall be fabricated in longest lengths possible to minimize joints. Strips shall be set in a continuous bed of compatible non-hardening sealant, adjacent strips shall be lapped and sealed to shed and prohibit water intrusion. Metal finish must be fully compatible with all sealants to be used to close building envelope.

1. Aluminum Sheet Stock: ASTM B 209 (ASTM B 209M), 3003-H14, with a minimum thickness of 0.040" (1.0mm), unless otherwise indicated.
2. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions under which air and vapor barrier assemblies will be applied, with Installer present, for compliance with requirements.

1. Verify that surfaces and conditions are suitable prior to commencing work of this section. Do not proceed with installation until unsatisfactory conditions have been corrected.

2. Do not proceed with installation until after minimum concrete curing period recommended by air and vapor barrier manufacturer.
3. Ensure that the following conditions are met:

    a. Surfaces are sound, dry, even, and free of oil, grease, dirt, excess mortar or other contaminants
    b. Concrete surfaces are cured and dry, smooth without large voids, spalled areas or sharp protrusions.
    c. Masonry joints are flush and completely filled with mortar, and all excess mortar sitting on masonry ties has been removed.

4. Verify substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 and take suitable measures until substrate passes moisture test.
5. Verify sealants used in sheathing are compatible with membrane proposed for use.

3.2 SURFACE PREPARATION

A. Clean, prepare, and treat substrate according to manufacturer's written instructions. Ensure clean, dust-free, and dry substrate for air and vapor barrier application. Mask off adjoining surfaces to prevent overspray and spillage.

B. Prime substrate for application of sheet membrane transition strips as recommended by manufacturer and as follows:

1. Prime masonry, concrete substrates with conditioning primer.
2. Prime glass-fiber surfaced gypsum sheathing an adequate number of coats to achieve required bond, with adequate drying time between coats.
3. Prime wood, metal, and painted substrates with primer.
4. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through air and vapor barrier and at protrusions.
5. Mask-off adjoining surfaces to prevent overspray and spillage.

3.3 INSTALLATION

A. Self-Adhering Sheet Air and Vapor Barrier: Install membrane to provide continuity throughout the building envelope. Install materials in accordance with ABAA recommendations and manufacturer's recommendations and the following:

1. Provide materials and installation to bridge and seal the following, but not limited to, air leakage pathways and gaps:

    a. Connection of the wall air and vapor barrier system to the roof air and vapor barrier system.
    b. Connection of the wall air and vapor barrier system to the foundation.
    c. Expansion joints and control joints.
    d. Openings and penetrations of window frames, storefront, curtain wall, window-wall, door framing, louver framing, ventilator framing, and wall dampers.
    e. Barrier precast concrete and other envelope systems.

f. Perimeter of all wall-penetrating piping, conduits, ducts, vents, outside air-intakes, and similar penetrations.
g. Masonry ties, screws, bolts and similar penetrations.
h. All other air leakage pathways in the building envelope.

2. Apply primer at rate recommended by manufacturer prior to membrane installation. Allow primer to dry completely before membrane application. Apply primer for transition strip adhesion at rate recommended by manufacturer and allow to dry before application. Apply as many coats as necessary for proper adhesion.
3. When membrane is properly positioned, press into place and roll membrane with roller immediately after placement.
4. Apply membrane sheets to shed water naturally without interception by a sheet edge, unless that edge is sealed with permanently flexible termination mastic.
5. Position subsequent sheets of membrane applied above so that membrane overlaps the membrane sheet below by a minimum of 2 inches (50 mm), unless greater overlap is recommended by manufacturer. Roll into place with roller.
6. Overlap horizontally adjacent pieces a minimum of 2 inches (50 mm), unless greater overlap is recommended by manufacturer. Roll seams with roller.
7. Seal around all penetrations with termination mastic, extruded silicone sealant, membrane counter-flashing or other procedure in accordance with manufacturer's recommendations.
8. Connect air and vapor barrier in exterior wall assembly continuously to all adjacent construction and seal penetrations, using accessory materials and methods in accordance with the manufacturer's recommendations and as specified herein.

   a. At all air barrier system terminations install aluminum transition strips in full bed of compatible mastic to completely seal to air barrier and mechanically fasten to substrate.
   b. Lap and fully seal all joints in aluminum strips with compatible mastic.
   c. Remove excess mastic on outer surface of aluminum strips to facilitate adhesion of sealants to adjacent systems.

9. At changes in substrate plane, provide transition material (bead of sealant, mastic, extruded silicone sealant, membrane counterflashing or other material recommended by manufacturer) under membrane to eliminate all sharp 90 degree inside corners and to make a smooth transition from one plane to another.
10. Provide mechanically fastened non-corrosive metal sheet to span gaps in substrate plane and to make a smooth transition from one plane to the other. Membrane shall be continuously supported by substrate.
11. At through-wall flashings, girts or other supports systems for exterior cladding. Provide an additional 6 inch wide strip of manufacturer's recommended membrane counterflashing to seal top of through-wall flashing to membrane. Seal exposed top edge of strip with bead of mastic as recommended by manufacturer.
12. At deflection and control joints, provide air barrier manufacturer's standard detailing, and/or manufacturer's approved job-specific joint detailing to accommodate anticipated movement. Provide backup for the membrane to accommodate anticipated movement. Coordinate and align all locations of sheathing and air barrier movement joints.
13. At expansion and seismic joints provide transition to the joint assemblies.
14. Apply a bead or trowel coat of mastic along membrane seams at reverse lapped seams, rough cuts, and as recommended by the manufacturer.

15. At end of each working day, seal top edge of membrane to substrate with termination mastic.
16. Inspect installation prior to enclosing assembly and repair punctures, damaged areas and inadequately lapped seams with a patch of membrane lapped as recommended by manufacturer.

3.4 FIELD QUALITY CONTROL

A. Owner's Inspection: At Owner's option, Owner will engage a qualified independent testing and inspection agency. Cooperate with Owner's inspection agency. Allow access to work areas and staging. Notify Owner's agency in writing of schedule for Work of this Section to allow sufficient time for observation. Do not cover Work of this Section until testing and inspection is accepted.

B. Air Barrier Association of America Installer Audits: Contractor shall perform and pay for ABAA installer audit certification. Allow access to work areas and staging. Do not cover Work of this Section until installer audit is accepted.

C. Testing Quantity: All testing of newly installed barrier shall be as specified by ABAA.

D. Testing Method: Testing method shall include Bubble Gun Testing per ASTM 1186; Adhesion Testing per ASTM 4541, and Thickness Testing per manufacturer. All tests shall be in accordance with ABAA.

E. All work that fails the field tests shall be re-executed, at Contractor's cost, until the installation passes the field testing. Modify methods of installation of subsequent work to incorporate required corrections identified by the testing process and approved by architect and commission representative and ABAA manufacturers authorized representative.

3.5 PROTECTING AND CLEANING

A. Protect air and vapor barrier assemblies from damage during application and remainder of construction period, according to manufacturer's written instructions.

1. Coordinate with installation of materials which cover air and vapor membrane, to ensure exposure period does not exceed that recommended by the air and vapor barrier manufacturer.
2. Do not allow materials to come in contact with chemically incompatible materials.
3. Do not expose membrane to sunlight longer than as recommended by the manufacturer.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction and acceptable to the primary material manufacturer.

END OF SECTION

SECTION 08 80 00

GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes glazing shown and required to complete the Work not specified in other sections.

1.2 SUBMITTALS

A. Product Data:

1. **Glass Types. Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements on each type of glazing product.**
2. **Glazing Compounds. Provide chemical, functional and environmental characteristics, limitations, special application requirements on each type of glazing compound. Identify available colors.**
3. **Certificates. Certify that products meet or exceed specified requirements.**
4. **Manufacturer's Certificate. Certify that glass meets or exceeds specified requirements.**

B. Samples: Submit minimum 6" square samples of each type of glazing product.

C. Certification: Submit letter from manufacturer stating that wired glass complies with ANSI 97.1, 1984 including impact requirements.

D. Glazing Schedule: submit a glazing schedule including elevations and glazing details utilizing the same designation as indicated on the drawings identifying types and thicknesses of glazing products and methods of installation.

E. LEED Submittal:

1. LEED Credit EQ 4: Submit manufacturers' product data proving that the mirror mastic meets the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various sources Using Small Scale Environmental Chambers,* including 2004 addenda.

1.3 QUALITY ASSURANCE

A. Installer: Experienced in installation of glazing required.

B. Safety Glass: Comply with ANSI Z97.1, the Safety Standard for Architectural Glazing Material Standard for Architectural Glazing Materials (16 CFR 1201) issued by the Consumer Product Safety Commission and requirements of authorities having jurisdiction.

C. Fire Resistance Rated glazing: Provide wire glass products that are identical to those tested per NFPA 80 and ASTM E 163 (UL 9) and are labeled and listed by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.

1.4 DELIVERY, STORAGE AND HANDLING

A. Protect materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

1.5 PROJECT CONDITIONS

A. Condition of Other Work: The Glazier must examine the framing or glazing channel surfaces, backing, removable stop design, and the conditions under which the glazing is to be performed, and notify the Contractor of any conditions detrimental to the proper and timely completion of the Work. Start of work will evidence acceptance of conditions.

1.6 **JOB CONDITIONS**

A. **Do not install glazing when ambient temperature is less than 50 degrees Fahrenheit.**

B. **Maintain minimum ambient temperature before, during, and 24 hours after installation of glazing compounds.**

PART 2 - PRODUCTS

2.1 MATERIALS

A. Primary Glass:

1. Wired Glass: ASTM C 1036, Type II (patterned and wired glass, flat), Class 1 (transparent), Quality q6 (glazing); complying with ANSI Z97.1; 1/4" thick, Form 1 (wired, polished both sides), complying with UL requirements for use in fire-rated doors.

a. **Provide substitution product in lieu of wired glass in rated doors and framed walls where wired glass cannot be certified as complying to ANSI Z97.1 1984 in accordance with requirements in this section**

1) **Provide products listed by ITS (DIR) or UL (DIR) and approved by authorities having jurisdiction.**
2) **Safety Glazing Certification: 16 CFR 1201 Category II.**
3) **Glazing Method: As required for fire rating.**
4) **Fire-Rating Period: As indicated on drawings.**
5) **Markings for Fire-Resistance-Rated Glazing Assemblies: Provide permanent markings on fire-resistance-rated glazing in compliance with CBC, local building code, and authorities having jurisdiction.**
6) **"W" - meets wall assembly criteria of ASTM E119 or UL 263 fire test standards.**

7) **"D" - meets fire door assembly criteria of NFPA 252, UL 10B, or UL 10C fire test standards.**
8) **"H" - meets fire door assembly hose stream test of NFPA 252, UL 10B, or UL 10C fire test standards.**
9) **"T" - meets temperature rise of not more than 450 degrees F above ambient at end of 30 minutes fire exposure in accordance with NFPA 252, UL 10B, or UL 10C fire test standards.**
10) **"XXX" - placeholder that represents fire-rating period, in minutes.**
11) **Manufacturers:**

    a) **SAFTIFIRST, a division of O'Keeffe's Inc; SuperLite II-XL: www.safti.com/sle**
    b) **Technical Glass Products; Pilkington Pyrostop: www.fireglass.com.**
    c) **Vetrotech Saint-Gobain North America; Contraflam: www.vetrotechusa.com.**
    d) **Substitutions: Refer to Section 01 60 00 - Product Requirements.**

2. Tempered Glass: ASTM C 1048, Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1. (clear), Quality q3 (glazing select), kind FT (fully tempered.

   a. **Float Glass Manufacturers**

      1) **Guardian Industries Corporation: www.guardian.com**
      2) **PPG Industries, Inc. www.ppgideascapes.com**
      3) **Viracon; www.viracon.com**

   b. **Sealed Insulating Glass Unit Manufacturers**

      1) **Any of the manufacturers specified for float glass.**
      2) **Any fabricator by glass manufacturer for type of glass, coating, and treatment involved and capable of providing specified warranty, if any.**
      3) **Cardinal Glass Industries: www.cardinalcorp.com.**
      4) **Viracon, Apogee Enterprises, Inc: www.viracon.com.**

   c. **Insulated Exterior Low E Tinted Units (Type E-1): double pane with silicone sealant edge seal.**

      1) **Outer pane of 1/4 inch clear tempered glass; 1/2" air space; inner pane of 1/4" tinted tempered glass, Low E. Place Low E coating on No. 2 surface within the unit**
      2) **Durability: Certified by an independent testing agency to comply with ASTM E 2190.**

         a) **Visible Light Transmittance: 31 percent**
         b) **Reflectance Out: 11 percent**
         c) **Reflectance In: 12 percent**
         d) **U-Value: 0.25**
         e) **Shading Coefficient: 0.44**
         f) **Solar Heat Gain Coefficient: 0.26**
         g) **Light to Solar Gain LSG: 1.79**

3) **Comply with CPSC – Consumer Product Safety Commission – 16 CFR, 1201**
4) **Purge interpane space with dry hermetic air**

B. Clear Ceramic Glazing Material (**Types G-1 and G-2**): Firelite Plus Clear Fire Rated Ceramic by Technical Products, Inc.

1. **Provide at all interior glass locations unless noted otherwise.**
2. **Provide impact resistance at locations designated on drawings.**

a. **Comply with 16 CFR 1201 test requirements for Category II**

C. **Impact Rated Glazing Material (Type G-3): Float glass laminated in accordance with ASTM C 1172**

1. **Laminated Safety Glass: Comply with 16 CFR 1201 test requirements for Category II**
2. **Laminated with 1/16 inch thick interlayer; comply with ASTM C 1172**
3. **Total Glass Thickness: 9/16 inches, consisting of two units of clear 1/4 inch glass with plastic interlayer laminated between.**
4. **Comply with ASTM C1036, Type I, transparent flat, Class I clear, Quality Q3 (glazing select) and ASTM C 1048.**
5. **Comply with CPSC – Consumer Product Safety Commission – 16 CFR, Part 1201.**

D. Glazing Materials:

1. Compatibility: Select tapes of proven compatibility with other materials with which they will come into contact, including glass products and glazing channel substrates, under conditions of installation and service.
2. Cellular Elastomeric Preformed Gaskets (CE-PG): Extruded or molded closed cell, integral-skinned neoprene of profile and hardness required to maintain seal; complying with ASTM C 509, Type II; black.
3. Polyvinyl Chloride Foam Glazing Tape (PVC-GT): PVC foam tape with adhesive one side and one peel paper liner; Norseal U780, Norton or equal.

E. **Plastic Films**

1. **Manufacturers**

a. **Flexvue Films: www.flexvuefilms.com**
b. **3M Window Film: www.3m.com/US/arch_construct/scpd/windowfilm**
c. **LLumar: www.llumar.com**

2. **Provide frosted film at exterior glazing as indicated on drawings (interior side of glazing).**

a. **Film to be selected by AOR from manufacturer's standards.**

F. Miscellaneous Glazing Materials:

1. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

2. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
3. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
4. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

2.2 FABRICATION

A. Cut to size in the shop and key to glazing schedule

B. Permanently mark each lite of safety glazing and fire resistive glazing where seen when installed on the lower right hand corner.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect glass from edge damage at all times during handling, installation and operation of the building. Glass breakage during the guarantee period will be considered a form of faulty material or workmanship (resulting from edge damage), unless known to result from vandalism or other causes not related to materials and workmanship.

B. Glazing channel dimensions must provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thicknesses, with reasonable tolerances. The Glazier is responsible for correct glass size for each opening, within the tolerances and necessary dimensions established.

3.2 INSTALLATION

A. Basic Requirements:

1. Comply with combined recommendations of glazing product manufacturer and manufacturer of sealants and other materials used in glazing, except where more stringent requirements are shown or specified, and except where manufacturers' technical representatives direct otherwise.
2. Inspect each piece immediately before installation. Do not use pieces which have observable edge damage or face imperfections.
3. Do not attempt to cut, seam, nip or abrade glass which is tempered.
4. Clean the glazing channel, or other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to the substrate.
5. Install setting blocks of proper size at quarter points of sill rabbet.
6. Provide spacers inside and out, and of proper size and spacing, for all glass sizes larger than 50 united inches, except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass, and use thickness equal to sealant width; except with sealant tape, use thickness slightly less than final compressed thickness of tape.

7. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
8. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
9. Install pressurized tapes and gaskets to protrude slightly out of the channel, so as to eliminate dirt and moisture pockets.

B. Glazing Systems:

1. Glaze lites in labeled assemblies in accordance with UL requirements.
2. Glaze balance of door lites and borrowed lights using setting blocks and PVC-GT or CE-PG having adhesive to stop between glass and stops both sides compressed 35 to 50%.

C. Install mirrors using Palmer mirror mastic in exact accordance with recommendations and bottom supports of aluminum or stainless steel. Do not use reglets.

3.3 CURE, PROTECTION AND CLEANING

A. Remove and replace glazing products which is broken, chipped, cracked, abraded or damaged in other ways during the construction period, including natural causes, accidents and vandalism.

B. Maintain in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other work.

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes gypsum board systems indicated and as specified.

1.2 SUBMITTALS

A. Product Data: Submit copies of manufacturer's product specifications and installation instructions for each gypsum drywall product required, including other data as may be required to show compliance with these Specifications.

B. LEED Submittals (see also LEED Project Plan on Sheet G4.1 of drawings):

1. Credit MR 4: Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
2. Credit MR 5: Submit product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
3. Credit EQ 4: Submit certification stating all adhesives and sealants installed in the building interior (defined as inside of the weatherproofing system and applied on-site) shall meet testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.
4. Credit EQ 4: Submit certification stating all gypsum board and insulation installed in the building interior shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

1.3 QUALITY ASSURANCE

A. Fire-Resistive Rating: Where indicated for fire-resistance ratings, provide materials and installations identical with applicable assemblies, which have been tested per ASTM E 119 and listed by a testing laboratory recognized by authorities having jurisdiction.

B. References:

1. Steel Framing Standard: Comply with applicable requirements of ASTM C 754 for installation of steel framing for gypsum board and as specified.
2. Gypsum Board Standard: Comply with applicable requirements of ANSI/ASTM C 840 for application and finishing of gypsum board and as specified.

C. Allowable Tolerances: 1/16" offsets between planes of board faces, and 1/8" in 8' for plumb, level, warp and bow.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's unopened containers, packages or bundles identified with manufacturer's name, brand, type and grade. Store inside in a dry area and protect from dampness and deterioration. Protect ready-mixed compounds (if any) from freezing.

1.5 PROJECT CONDITIONS

A. Environmental Requirements: Maintain interior ambient temperatures at not less than 55 degrees F. for a period of at least 48 hours prior to application of gypsum board and joint treatment application, during application, and subsequently until joint treatment materials are dry. Ventilate as required.

PART 2 - PRODUCTS

2.1 STEEL FRAMING COMPONENTS

A. LEED Requirements:

1. Maximize the percentage of recycled steel in metal components, but not less 50%.
2. Maximize materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

B. General: Provide components complying with ASTM C 754 for conditions indicated.

C. Cast-in-Place and Post installed Anchors in Concrete: Anchors of type indicated below, fabricated from corrosion-resistant materials, with holes or loops for attaching hanger wires, and with capability to sustain, without failure, a load equal to 5 times that imposed by ceiling construction, as determined by testing according to ASTM E 488 conducted by a qualified independent testing agency.

1. Cast-in-place type designed for attachment to concrete forms.
2. Chemical anchor.
3. Expansion anchor.

D. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190 conducted by a qualified independent testing agency.

E. Wire Ties: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, 0.162-inch (4.1-mm) diameter.

F. Wire Hangers: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, 0.162-inch (4.1-mm) diameter.

G. Channels: Cold-rolled steel, 0.0598 inch (1.5 mm) minimum thickness of base (uncoated) metal and 7/16 inch (11.1 mm) wide flanges, and as follows:

1. Carrying Channels: 1-1/2 inches (38.1 mm) deep, 475 lb/1000 feet (70 kg/100 m), unless otherwise indicated.
2. Furring Channels: 3/4 inch (19.1 mm) deep, 300 lb/1000 feet (45 kg/100 m), unless otherwise indicated.
3. Finish: Rust-inhibitive paint, except ASTM A 653, G 60 (ASTM A 653M,Z 180) hot-dip galvanized coating for framing for exterior soffits and where indicated.

H. Steel Studs and Runners: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch- (5-mm-) wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal, width and limiting heights. Limiting heights are based on using 16" o.c. stud spacing with 1/2" thick Gypsum board panels and 5 psf load perpendicular to partition or furring with an allowable detection of L/360.

1. Thickness, Width and Limiting Height:

Stud Width & Thickness	Limiting Height with One Layer of Gyp. Bd. Each Side
(0.0179") 25 ga.	
2 1/2"	9'-10"
3 5/8"	12'-4"
4"	13'-4"
6"	17'-11"

a. Where abuse-resistive gypsum fiber panels are to be used, minimum 0.0312 inch (20 gauge).
b. At all door or borrowed lite jambs, use minimum 0.0312-inch (20 gauge).

2. Protective Coating: Manufacturer's standard corrosion-resistant coating for exterior soffits and ceiling suspension members.
3. Runners: Match studs; type recommended by stud manufacturer for floor and ceiling support of studs, and for vertical abutment of drywall work at other work.
4. Stiffeners: 3/4" cold-rolled steel channels at 0.3 lb. Per ft., rust-inhibitive paint finish.
5. Stud System Accessories: Provide stud manufacturer's standard clips, shoes, ties, reinforcements, fasteners and other accessories as needed for a complete stud system.

I. Steel Channel Bridging: Cold-rolled steel, 0.0598 inch (1.5 mm) minimum thickness of base (uncoated) metal and 7/16 inch (11.1 mm) wide flanges, 1-1/2 inches (38.1 mm) deep, 475 lb/1000 feet (45 kg/100 m), unless otherwise indicated.

J. Steel Flat Strap and Backing Plate: Steel sheet for blocking and bracing complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M), length and width as indicated, and with a minimum base metal (uncoated) thickness as follows:

1. Thickness: 0.027 inch (0.7 mm) where indicated.

K. Fasteners for Metal Framing: Provide fasteners of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members

securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

L. Firestop Track System: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work if required by the firestop assembly, include, but are not limited to, the following:

a. Fire Trak Corp,; Fire Trak attached to studs with Fire Trak Slip Clip.
b. Metal-Lite, Inc,; The System.
c. Equal.

2.2 GYPSUM BOARD PRODUCTS

A. LEED Requirements:

1. Provide gypsum board products containing minimum 90% synthetic Gypsum (recycled post-consumer waste) and having 100% recycled paper faces (if any).
2. Maximize materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.
3. Provide gypsum board and insulation meeting the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

B. Exposed Gypsum Board: Comply with ASTM C 36.

1. Type X: Provide Type X where required to achieve indicated fire-resistance ratings and where shown.
2. Sheet Size: 4' wide x maximum length available which will minimize the number of end joints in the work.
3. Sag-resistant type for ceiling surfaces.

C. Gypsum Backing Board: Comply with ASTM C 36. Provide Type X where required to achieve indicated fire-resistance ratings and where shown.

D. Water-Resistant Gypsum Board: Comply with ASTM C 630. Type X where shown or required. Use where base for tile and where indicated except where tile backer board is specified.

1. Tapered-Edge Profile where water-resistant type is indicated to extend beyond the application of wall tile and receive a painted finish, provides standard taper long-edge profile.

E. Ceramic Tile Backer Board: Use where base for tile in shower rooms, Dens-Shield Tile Base by G.P., type X where shown or required.

1. Accessory Materials: Provide tape and tape bedding materials recommended by backer board manufacturer.

F. Abuse Resistant Board: Use where indicated, type X where shown and required; homogeneous fiber reinforced gypsum panel, U.S. Gypsum "Fiberock" VHI.

2.3 TRIM ACCESSORIES

A. Trim: Paper-faced metal for taping.

2.4 MISCELLANEOUS MATERIALS

A. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

1. Provide all adhesives installed in the building interior (defined as inside of the weatherproofing system and applied on-site) meeting the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers,* including 2004 Addenda.

B. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal doorframes.

C. Firestopping Pad: International Protective Coating Inc.; FSP 1077 Flame Safe Pads.

D. Screws: ASTM C 1002, except ASTM C 954 for fastening to steel thicker than 0.033 inch (0.84 mm)

E. Concealed Acoustical Sealant: Non-drying, non-hardening, non-skinning, non-staining, non-bleeding, gunnable sealant.

1. Provide Sealants installed in the building interior (defined as inside of the weatherproofing system and applied on-site shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic emissions from Various Sources Using Small-Scale Environmental Chambers,* including 2004 Addenda.

F. Sound Attenuation Blankets: Unfaced mineral fiber blanket insulation produced by combining mineral fibers manufactured from slag wool or rock wool as required to achieve required acoustical and fire rating for the assembly, with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing).

G. Thermal Insulation:

1. Unfaced Mineral Fiber Blanket Insulation: Unfaced mineral fiber blanket insulation to comply with ASTM C 665 for Type I (blankets without membrane facing).

H. Vapor Retarder: ASTM D 4397, minimum 6 mil (0.15 mm) polyethylene.

I. **High Impact Corner Guard: provide high-impact corner guards complying with the following attributes:**

1. **Fire Performance Characteristics: Provide UL Classified corner guards conforming with NFPA Class A fire rating.**
2. **Impact Strength: Provide rigid vinyl profile materials that have an Impact Strength of 30.2 ft-lbs/inch of thickness as tested in accordance with the procedures specified in ASTM D-256-90b, Impact Resistance of Plastics.**
3. **GREENGUARD Certified: Provide GREENGUARD Certified material. Profiles shall meet the requirements of GREENGUARD Certification Standards for Low-Emitting Products and GREENGUARD Product Emission Standard for Children & Schools.**
4. **6. Fungal and Bacterial Resistance: Provide rigid vinyl that does not support fungal or bacterial growth as tested in accordance with ASTM G-21 and ASTM G-22.**
5. **7. Color Consistency: Provide components matched in accordance with SAE J-1545 - (Delta E) with a color difference no greater than 1.0 units using CIE Lab, CIE CMC, CIE LCh, Hunter Lab or similar color space scale systems.**
6. **Manufacturers:**

    a. **Inpro Corporation. http://www.inprocorp.com**
    b. **CS Group Acrovyn. http://www.c-sgroup.com/**
    c. **Wallguard. http://www.wallguard.com/**

2.5 JOINT TREATMENT MATERIALS

A. General: Provide joint treatment materials and systems complying with ASTM C 475 and the recommendations of both the manufacturer of the board and joint treatment materials for reach application.

B. Joint Tapes: Paper reinforcing tape complying with ASTM C 475.

C. Joint Compound: ASTM C 475, dry powder type compound ready for mixing with water, or ready-mixed type adhesive ready for application, at Installer's option.

1. Provide drying type compound or setting type compound for the entire system except where otherwise specified or recommended by the board manufacturer.
2. Provide exterior chemical-hardening type, which is moisture-resistant and recommended by the manufacturer for use on exterior gypsum boards.
3. Provide setting type compound on abuse resistant board.

D. Tile Backer Board Finish Materials: Tape and joint compounds as recommended by board manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION OF METAL SUPPORT SYSTEMS

A. General: Comply with ASTM C 754 and C 840 and as further specified.

B. Support Suspension Systems:

1. Furnish and install hanger devices in coordination with other work.

2. Secure hanger wires to structural support by wire-tying directly to structure where possible; otherwise, tie to inserts, clips or other anchorage devices or fasteners. Wire-tie hanger wires to main runners.
3. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
4. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
5. Space main runners 4' o.c. and space hangers 4' along runners, except as otherwise shown.
6. Level main runners to a tolerance of 1/4" in 12', measured both lengthwise on each runner and transversely between parallel runners.
7. Wire-tie or clip furring members to main runners and to other structural supports.
8. Space furring member 16" o.c., except as otherwise indicated closer.
9. Install auxiliary framing at termination of drywall work, and at openings for light fixtures and similar work, as required for support of both the drywall construction and other work indicated for support thereon.
10. For exterior soffits, provide cross bracing and additional framing required to resist wind uplift.

C. Wall/Partition Support Systems:

1. Install supplementary framing, solid blocking and bracing to support fixtures, equipment, services, heavy trim, furnishings, woodwork, accessories and similar work.
2. Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading. Cut studs 1/2” short of full height.
3. Install runner tracks where gypsum drywall stud system abuts other work.
4. Terminate partition stud system at underside of construction above, except where indicated. Provide bracing to structure above in long runs and elsewhere where required but not less than 16 foot centers.
5. Space studs 16" o.c., except as otherwise indicated closer.
6. Fasten studs only at ends of floor and ceiling runner tracks by installing a screw into both flanges at each end.
7. Install horizontal stiffeners in stud system faced on one side only; space 4' o.c. vertically; wire-tie at each intersection.
8. Secure jamb studs to frames of openings with screws, wire- ties or welds, either directly to frames or to special frame-support brackets; and install runner track sections (for jack studs) above and below openings, secured to jamb studs.

    a. Space jack studs same as partition studs, and screw to runner tracks above and below.
    b. Install 2 studs at each jamb of each opening.
    c. Install horizontal stiffeners 6" above and 6" below each opening more than 3'-0" wide, and extend 2 regular stud spaces beyond each jamb.

D. Exterior Wall Insulation System:

1. Fill spaces between studwork with blanket insulation cut to provide friction fit and to provide complete coverage.
2. Cover surface with vapor barrier draped from top in as long lengths as practical. Lap and join over studs and seal with pressure sensitive vapor retardant tape.
3. Extend vapor retarder to extremities of exterior insulated walls and to cover miscellaneous voids in insulated substrates, including those which have been stuffed with loose thermal insulation.
4. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches on center.
5. Seal joints in vapor retarder caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with cloth or aluminized tape which bonds permanently to vapor retarder.
6. Repair any tears or punctures in vapor retarder immediately before concealment by application of gypsum board or other construction.

3.2 INSTALLATION OF GYPSUM BOARD

A. Preparations and Coordination:

1. Prior to the start of installation of gypsum board, meet at the Project Site with the installers of related work including work requiring openings, chases, frames, access panels, support and similar integrated requirements (including mechanical and electrical work). Review areas of potential interference and conflicts, and coordinate layout and sequencing requirements for proper integration of the work.
2. Do not proceed with gypsum board installation until blocking, framing, bracing and other supports for subsequently applied work have been installed.
3. Do not install gypsum board until thermal insulation to be concealed by board has been installed.
4. Install sound attenuation blankets where indicated and where required to achieve fire-resistance ratings, before installation of gypsum board unless blankets can be readily installed after board has been installed.

B. Basic Installation Requirements:

1. Comply with requirements for fire-resistance ratings.
2. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 1' in alternate courses of board.
3. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16" open space between boards. Do not force into place.
4. Apply board vertically, one-piece full height. Locate edge end joints over supports. Position boards so that both tapered edge joints abut, and mill-cut or field-cut end joints abut. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
5. Attach gypsum board to framing and blocking as required for additional support at openings and cutouts.
6. After scoring face paper and breaking core, cut back paper; do not tear or snap. Bevel panel ends 1/8" at 45 degree angle with sharp knife.

7. Do not locate joints within 8" of corners or openings. Where necessary, place a single vertical joint over the center of wide openings.
8. Install gypsum board on both faces of steel stud partition framing above ceilings.
9. Provide perimeter isolation where partitions abut structural elements. Allow not less than 1/4", not more than 3/8" gap between gypsum and structure. Finish edges of face layer with J-type (semi-finishing) casing bead. Seal space between casing bead and structure with continuous acoustical sealant bead. Attach gypsum board to studs not less than 1/2" below bottom edge of ceiling track flanges and to first stud adjacent to vertical tracks. Do not attach board directly to tracks.
10. At partitions, provide continuous beads of acoustical sealant at juncture or both faces of runners of plates with floor and ceiling construction, and wherever work abuts dissimilar materials. Seal prior to installation of gypsum boards.
11. At ceilings, provide continuous beads of acoustical sealants wherever work abuts dissimilar materials.
12. Wrap all electrical and communication boxes and all other back-boxes to completely close up all openings and joints with firestopping pads.
13. At openings and cutouts, fill open spaces between edges of gypsum board and fixtures, cabinets, ducts and other flush or penetrating items, with continuous bead of acoustical sealant.
14. Install sound attenuation blankets, in partitions where indicated. Completely blanket space between studs to full height of partitions. Fit carefully behind electrical outlets and other work which penetrates partitions. Attach to back face of gypsum board in accordance with manufacturer's instructions.
15. Unless otherwise specifically shown, continue all sound attenuation blankets and gypsum board above ceiling to provide complete closure. Fit tight to abutting and penetrating construction and seal.
16. Fill joint between tracks and abutting construction with safing insulation.
17. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations and requirements of fire rating design (if any), but not less than 12” o.c. except 8” o.c. for abuse resistant board (if any) and the backer board.

C. Control Joints: Provide control joints at maximum 30 foot spacing located at door jamb or window jamb studs where practical. Provide on both sides of partitions. Install in accordance with ASTM C 840 and manufacturer’s recommendations.

D. Grouting Frames:

1. Where grouting is indicated, fully grout frames with stiff gypsum grout to depth of clip before installing jamb stud.
2. Where grouting is not indicated, spot grout by applying gypsum grout or joint compound just before inserting gypsum board sheet.

E. Ceilings:

1. Apply exposed gypsum board on ceilings, before applications on walls and partitions, to the greatest extent possible.
2. Apply in direction which will minimize end joints.
3. Fasten with screws.
4. Where gypsum board ceiling is shown as base for adhesively-applied acoustical ceiling tile, install gypsum backing board, with end joints staggered over supports.

F. Single-Layer Walls and Partitions:

1. Apply sheets vertically and provide full height sheet lengths.
2. Locate edge joints over supports; stagger joints over supports on opposite sides of partitions.
3. Fasten with screws.
4. Except where otherwise specified or indicated, where drywall is base for thin-set ceramic tile and similar rigid applied wall finishes, install water-resistant gypsum backing board to comply with ASTM C 840 and recommendations of gypsum board manufacturer.
5. At showers, (tubs) and where indicated, install tile backer board and treat joints to comply with manufacturer's recommendations for type of application indicated.

G. Double-Layer Walls and Partitions:

1. Install base layer of gypsum backing board (or exposed gypsum board, at Installer's option), and face layer of exposed gypsum board. Apply both layers vertically, with joints of base layer over supports and joints of face layer offset at least 10" with base layer joints. Provide full height sheet lengths.
2. Fasten base layer with screws.
3. Fasten face layer with screws through base layer and into supports or laminating adhesive. Brace to temporarily fasten face layer until adhesive has dried.
4. Supplement adhesive with permanent screw fastening of face layer through base layer and into supports.

3.3 INSTALLATION OF TRIM ACCESSORIES

A. Coordinate the installation of trim accessories with the installation of gypsum board. Use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports.

B. Install paper tape-in type metal corner beads at external corners of drywall work.

C. Install paper tape-in type metal edge trim wherever edge of gypsum board would otherwise be exposed or semi-exposed.

1. Install L-type trim-beads (for joint compound) where edge is shown to be tightly fitted to abutting work (without reveal or sealant pocket).
2. Install U-type trim-beads (for joint compound) where edge is not tightly fitted to abutting work (exposed, revealed, sealant pocket, gasketed, or other separation), except as otherwise indicated.

FINISHING

D. Comply with manufacturer's instructions for the mixing, handling and application of materials. Machine or hand application is Installer's option. Apply treatment at joints both directions, flanges of trim accessories, penetrations of the gypsum board (electrical boxes, piping and similar work), fastener heads, surface defects and elsewhere as indicated; and apply in the manner which will result in each of these being concealed when applied decoration has been completed.

E. Where open joints of more than 1/16" occur, including edges of boards with rounded or beveled corners, prefill joint with special chemical-hardening-type bedding compound, prior to bedding of joint tape.

F. Comply with the requirements for a level 4 finish except where otherwise specified. Embed tape in joint compound in all joints and interior angles and apply two (2) additional separate coats of joint compound over all flat joints and one separate coat of joint compound overall interior angles. Cover fastener heads and accessories with three separate coats of joint compound. Provide compound free of tool marks and ridges and the Gypsum board surface free of joint compound. Smooth compound by wiping with a damp sponge.

G. Where water resistant gypsum board is indicated as a base for ceramic tile and similar rigid applied finishes, finish joints with tape and setting. Tape joint compound to comply with gypsum board manufacturer's recommendations.

H. Where tile backer board is indicated as a base for ceramic tile tape and finish joints in accordance with recommendations of the manufacturer of the selected backer board.

I. Where gypsum board is indicated as a base for the adhesive-application of wall coverings, comply with manufacturer's instructions for applying joint compound and joint tape in minimum thicknesses over end-joints and cut-joints, so as to avoid a build-up of tape and compound which would telegraph through. Select topping coat for maximum strength and bond with gypsum board.

J. Partial Finishing: Omit third coat and sanding on concealed drywall construction which is indicated for drywall finishing or which requires finishing to achieve fire-resistance rating, sound rating or to act as air or smoke barrier.

END OF SECTION

SECTION 09 67 25

RESINOUS EPOXY FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes epoxy flooring as indicated and as specified.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's technical information and installation instructions for each type of special flooring and accessory items. Include certification indicating compliance of materials with requirements.

B. Shop Drawings: Submit detailed shop drawings showing edge, joint, and penetration details, details for treatment of cracks, and overall plan layout.

C. Submit the following samples for approval before commencing operations or ordering construction materials:

1. Epoxy Flooring: Three samples of each finish and color combination, 12" x 12" each.
2. Stop Strips: Three inch lengths of each type of strip.

D. Maintenance Literature: Written recommended maintenance procedures.

E. LEED Submittal: Submit Certification stating that all flooring elements installed in the building interior meets the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers,* including 2004 Addenda.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer shall have produced the types of flooring systems required for not less than 10 years, with not less than 5 similar projects that have been in successful use for not less than 5 years. Manufacturer shall have the capacity to produce the quantities required without causing delays.

1. Single Source Responsibility: Obtain primary flooring materials including primers, resins, hardening agents, finish or sealing coats from a single manufacturer with not less than 5 years of successful experience in supplying principal materials for work of type required. Provide secondary materials only of type and from source recommended by manufacturer of primary materials.

B. Installer Qualifications: Minimum of 5 years experience installing plastic matrix or epoxy flooring on comparable projects. All work shall be performed by an installer trained, approved and authorized (in writing) by the epoxy flooring manufacturer, and has had experience in the actual application of the specified material.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Materials shall be delivered to the job in original containers or bundles with seals unbroken and labels intact, and stored in a place protected from damage, moisture, and exposure to the elements.

B. In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Architect and at no additional cost to the Owner.

1.5 PROJECT CONDITIONS

A. In cold weather, the building shall be heated during the installation of epoxy flooring to maintain a uniform temperature in the range of 55 deg F to 75 deg F. Ventilation shall also be provided. Do not apply flooring when subfloor or air temperature is below 55 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements provide one of the following:

1. Crossfield Products; Dex-o tex; Cheminert K.
2. HB Fuller; Tech Products Epoxy Flooring.
3. General Polymers; TPM 115 U-4.
4. Stonhard; Stonclad, Stonkote GS4.
5. Selby/Ucrete; Selbaclad 415.

2.2 MATERIALS

A. Provide all flooring elements installed in the building interior that meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

B. Flooring shall be epoxy flooring consisting of a 100% solids pigmented epoxy resin base and epoxy curing agent:

C. Matrix color shall be as selected by Architect.

D. Acceptable aggregates shall be granite, traprock, or silica quartz in special sizes. Marble dust or Pool mix shall not be used as a filler.

E. Primer for concrete subfloor shall be as recommended by the epoxy flooring manufacturer, two-part epoxy primer.

2.3 ACCESSORIES

A. Sealants: As recommended by flooring manufacturer for type of service and joint condition indicated.

B. Stop and Divider Strips: Strips shall be stainless steel and shall be installed in accordance with instructions supplied by the manufacturer of epoxy flooring.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which flooring is be applied. Do not proceed with the work until unsatisfactory conditions have been corrected.

B. Starting of work will be construed as acceptance of the surfaces within any particular area.

3.2 PREPARATION

A. Surfaces which are to be covered with epoxy flooring shall be clean and dry, reasonably smooth and free from loose and foreign materials, and any holes and cracks in subfloor shall be pointed flush in accordance with epoxy flooring manufacturer's instructions.

B. Before applying flooring, concrete subfloor shall be swept to remove all loose materials, dirt and dust. Prepare concrete by mechanical means including use of a scabbler, scarifier or shot blast machine for removal of bond inhibiting materials such as curing compounds or laitance.

C. Method of application and quantities of materials shall be in strict accordance with the instructions of the manufacturer whose materials are used, by an applicator certified by such manufacturer and under his supervision.

D. Prime concrete surfaces in accordance with epoxy flooring manufacturer's recommendations:

1. Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates.
2. Coordinate timing of primer application with application of troweled mortar to ensure optimum adhesion between resinous flooring materials and substrate.

E. Carefully mix and prepare materials for flooring systems in compliance with manufacturer's instructions.

F. Perform bond tests for epoxy flooring in accordance with manufacturer's instruction and record results. Do not install flooring until adequate bond has been demonstrated.

3.3 INSTALLATION

A. Install stop strips at doorways and at top of wall be in accordance with instructions supplied by the manufacturer of epoxy flooring.

B. Provide divider strips at cove base set in epoxy flooring, parallel to all cove base sections. Extend divider strips on the floor into adjacent cove base. Provide or extend divider strip through internal corners of floor.

C. Set stop strips and divider strips straight, true, without kinks or distortions, fitted tightly and square at all intersections.

D. Epoxy flooring shall be installed at a minimum thickness of 3/16 inch in strict accordance with the manufacturer's application directions.

E. Form wall base with cove base at floor of 1/4 inch radius and square top neatly metered at corners, and with intersections with floor straight and flush. Finish shall match floor. Wall base shall be 6" high.

F. The finished surfaces shall be smooth and uniform in texture and appearance, the same color and texture as approved samples, and free of pitting, bubbles, trowel marks, separation between adjacent floor mix by the Architect, shall be repaired or replaced to the Architect's satisfaction at no additional cost to the Owner.

3.4 PROTECTION OF EPOXY FLOORING

A. Close areas to traffic during installation of epoxy flooring.

B. Cure resinous flooring in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing.

C. Clean flooring after installation and finishing operations are completed, complying with manufacturer's instructions.

D. Cover floor with heavy reinforced Kraft paper after epoxy flooring has cured sufficiently and maintain in position.

E. Clean flooring as recommended by manufacturer when building is ready for occupancy.

END OF SECTION

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1/32" = 1'-0"

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1/16" = 1'-0"

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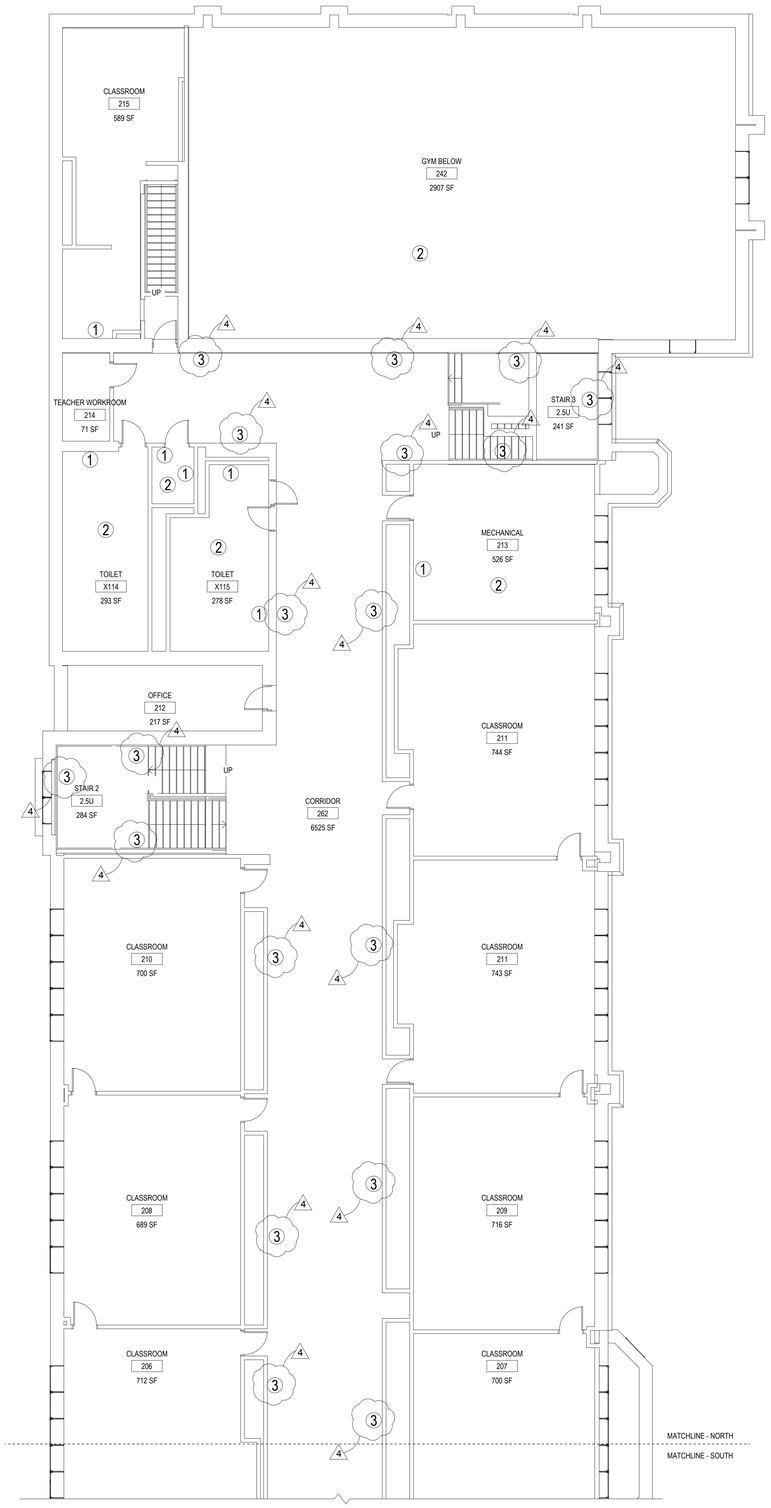
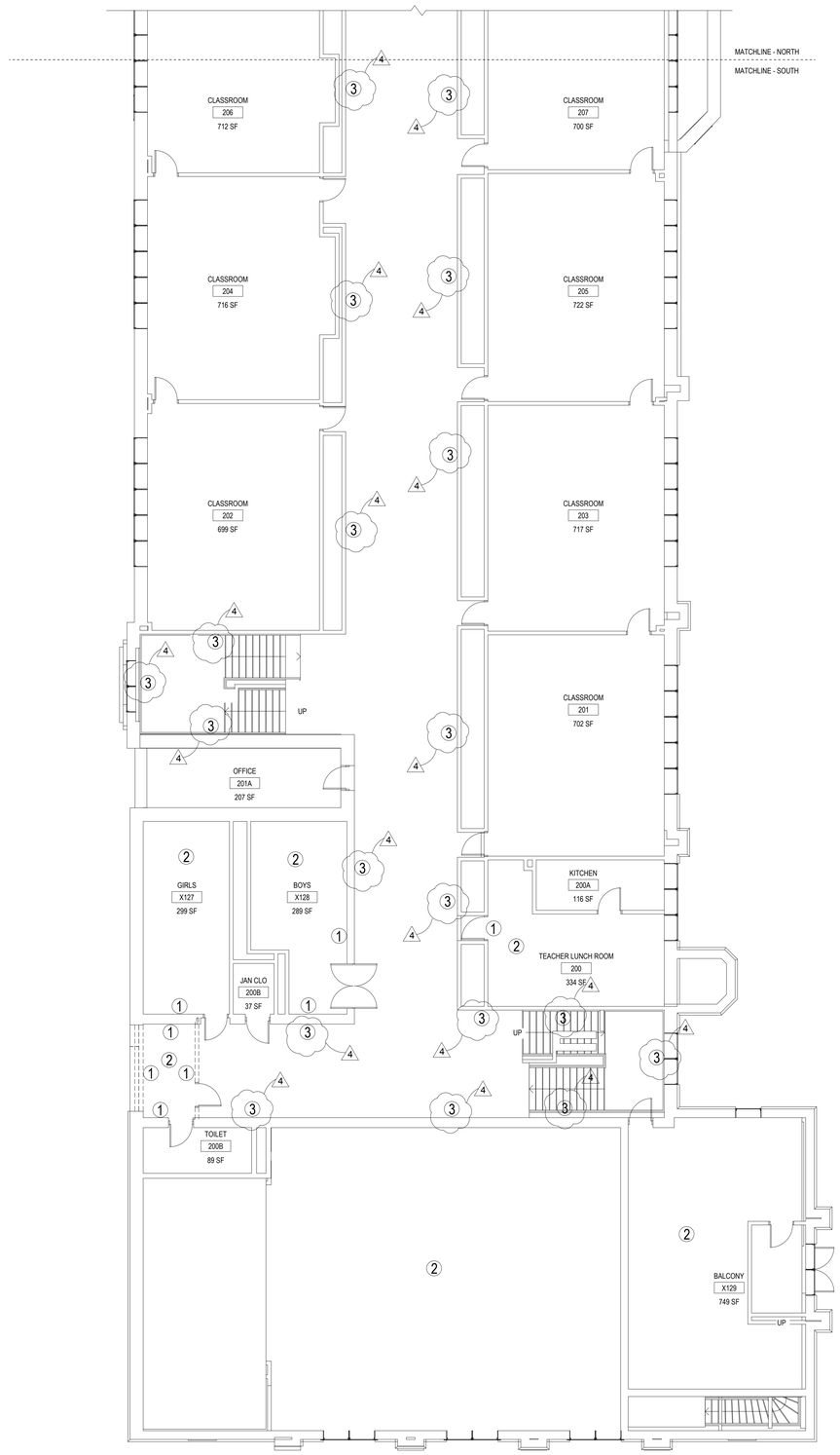


1 PARTIAL SECOND FLOOR PLAN - NORTH
1/8" = 1'-0"



2 PARTIAL SECOND FLOOR PLAN - SOUTH
1/8" = 1'-0"

SHEET NOTES

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10. CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGING EXISTING WORK WHICH IS TO REMAIN AS PART OF THE REMODELED SPACE. DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPANSE.

PLAN LEGEND

1. ABATE/MITIGATE LBP □ ALL□S□AS NEEDED FOR COMPLETION OF SCOPE OF □ OR□
2. ABATE / MITIGATE LBP CEILING□S□AS NEEDED FOR COMPLETION OF SCOPE OF □ OR□
3. LBP MITIGATION REMOVE LOOSE, PEELING, CRAC□ING, AND FLA□ING PAINT. PREPARE STABILI□ED AND PRIME SURFACES AS NEEDED FOR COMPLETION OF SCOPE OF □ OR□ □FROM FINISHED FLOOR APPROX. 6'-0" □ COLOR CHANGE□

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

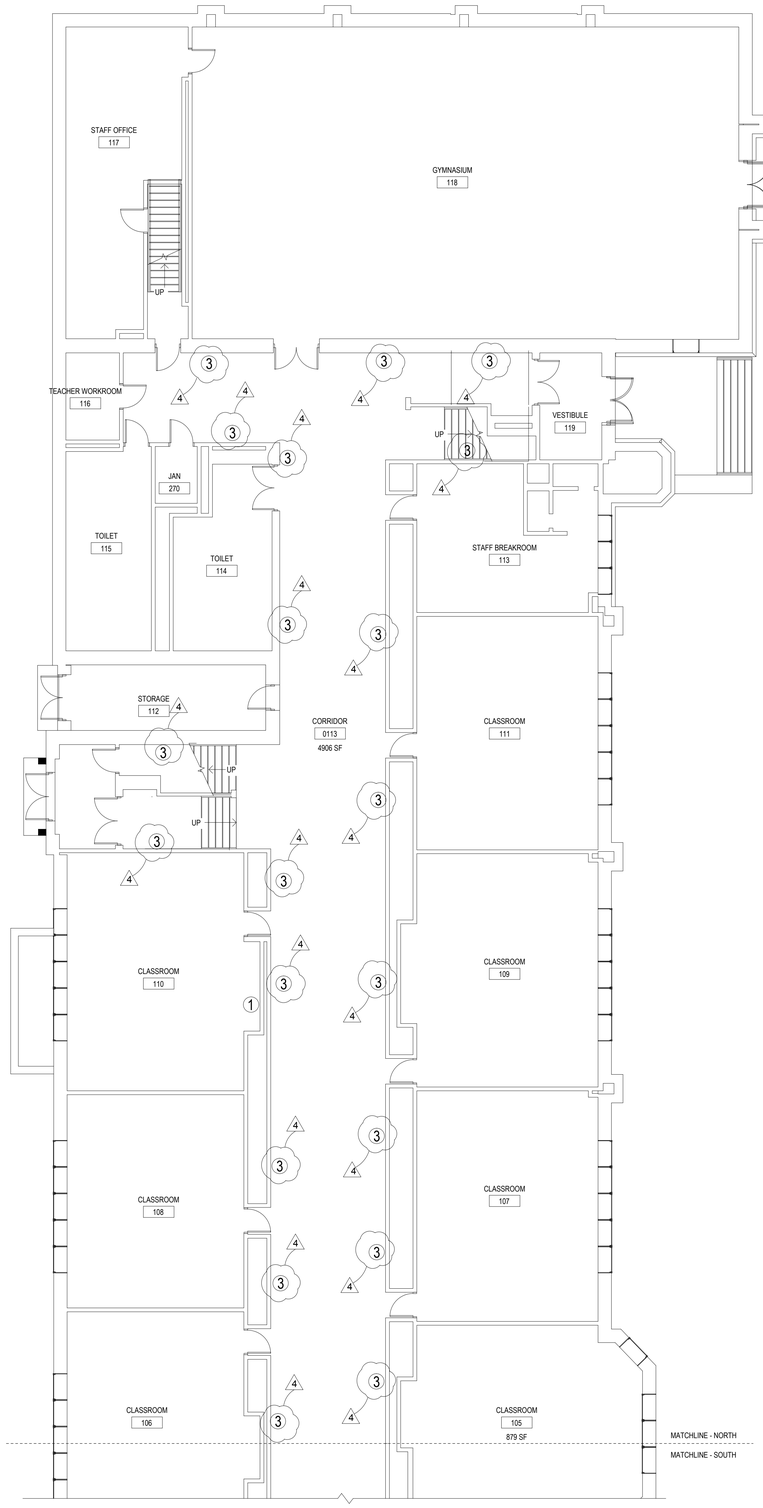
Title

SECOND FLOOR PLAN NORTH/SOUTH

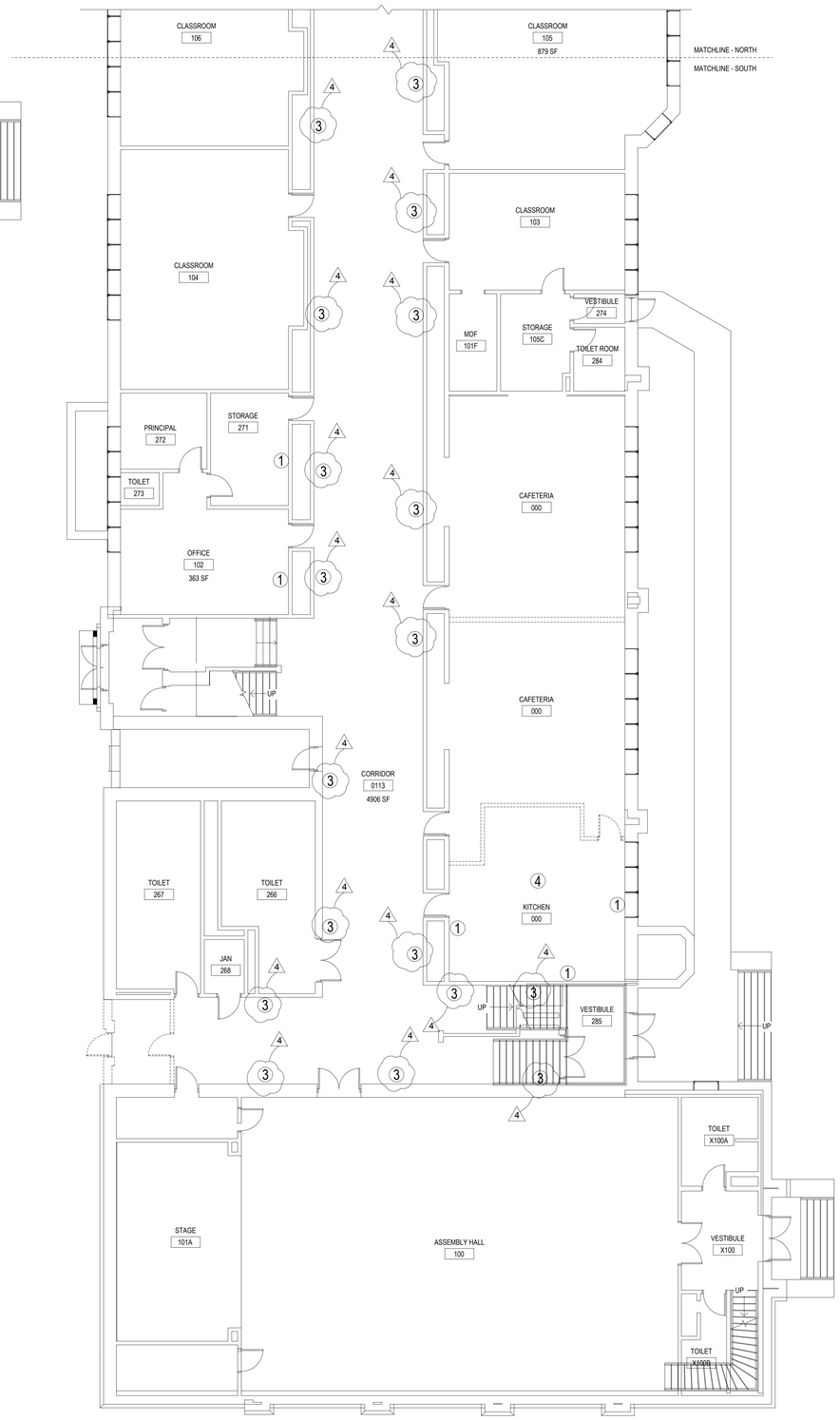
Sheet

LBP-1

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 PARTIAL FIRST FLOOR PLAN - NORTH
1/8" = 1'-0"



2 PARTIAL FIRST FLOOR PLAN - SOUTH
1/8" = 1'-0"

SHEET NOTES

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PLAN LEGEND

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3. LBP MITIGATION REMOVE LOOSE, PEELING, CRAC(K)ING, AND FLA(K)ING PAINT. PREPARE STABILI(Z)ED AND PRIME SURFACES AS NEEDED FOR COMPLETION OF SCOPE OF (W)OR(K) FROM FINISHED FLOOR APPROX. 6'-0" (W) COLOR CHANGE
4. REMOVE / MITIGATE LBP RADIATOR AS NEEDED FOR COMPLETION OF SCOPE OF (W)OR(K)

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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

FIRST FLOOR PLAN NORTH/SOUTH

Sheet

LBP-2

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
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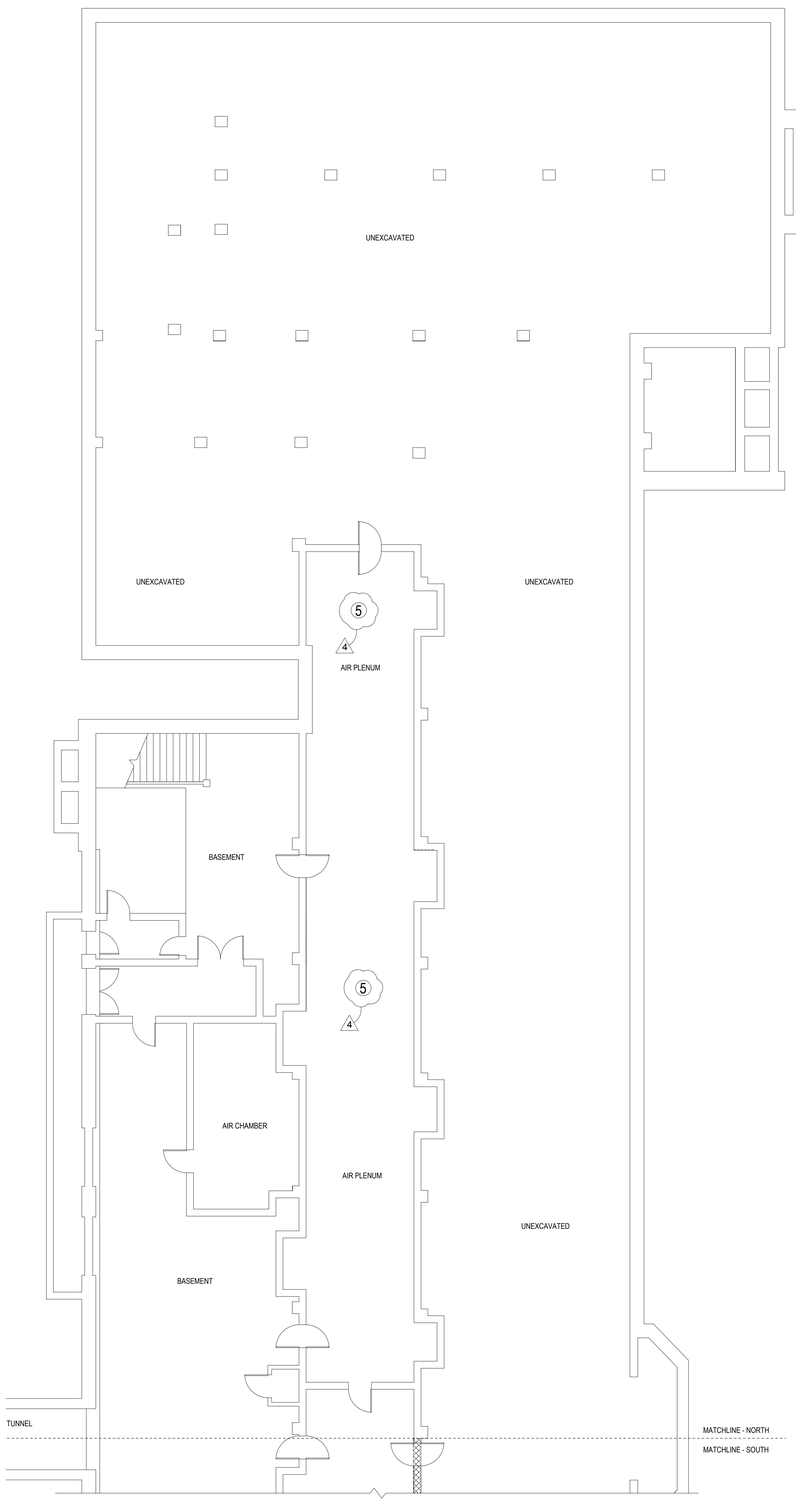
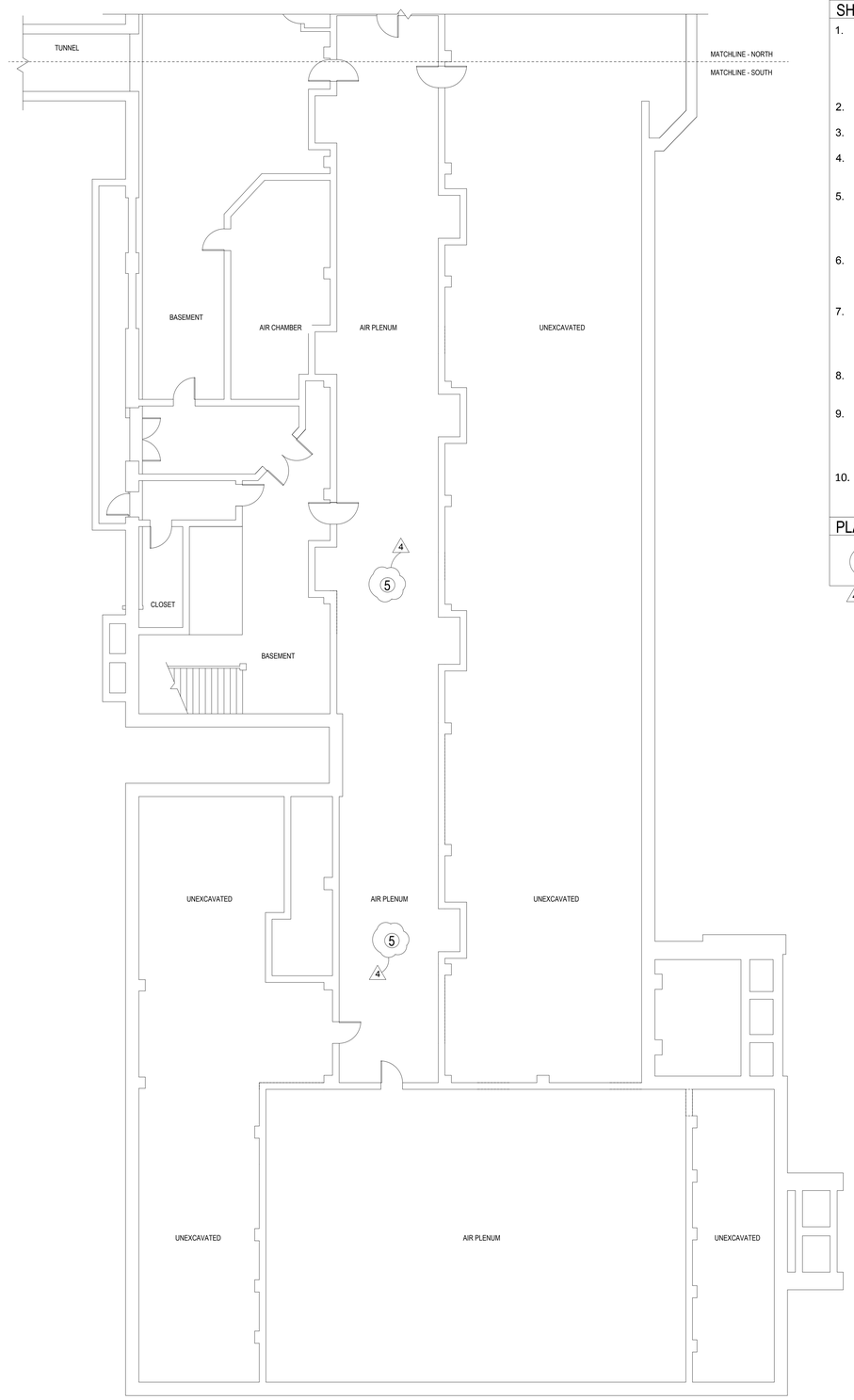


1 PARTIAL BASEMENT PLAN - NORTH
1/8" = 1'-0"



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1/8" = 1'-0"

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PLAN LEGEND

5 / 4 — ABATE / MITIGATE LBP DUCT (OR) AS NEEDED FOR COMPLETION OF SCOPE OF (OR)

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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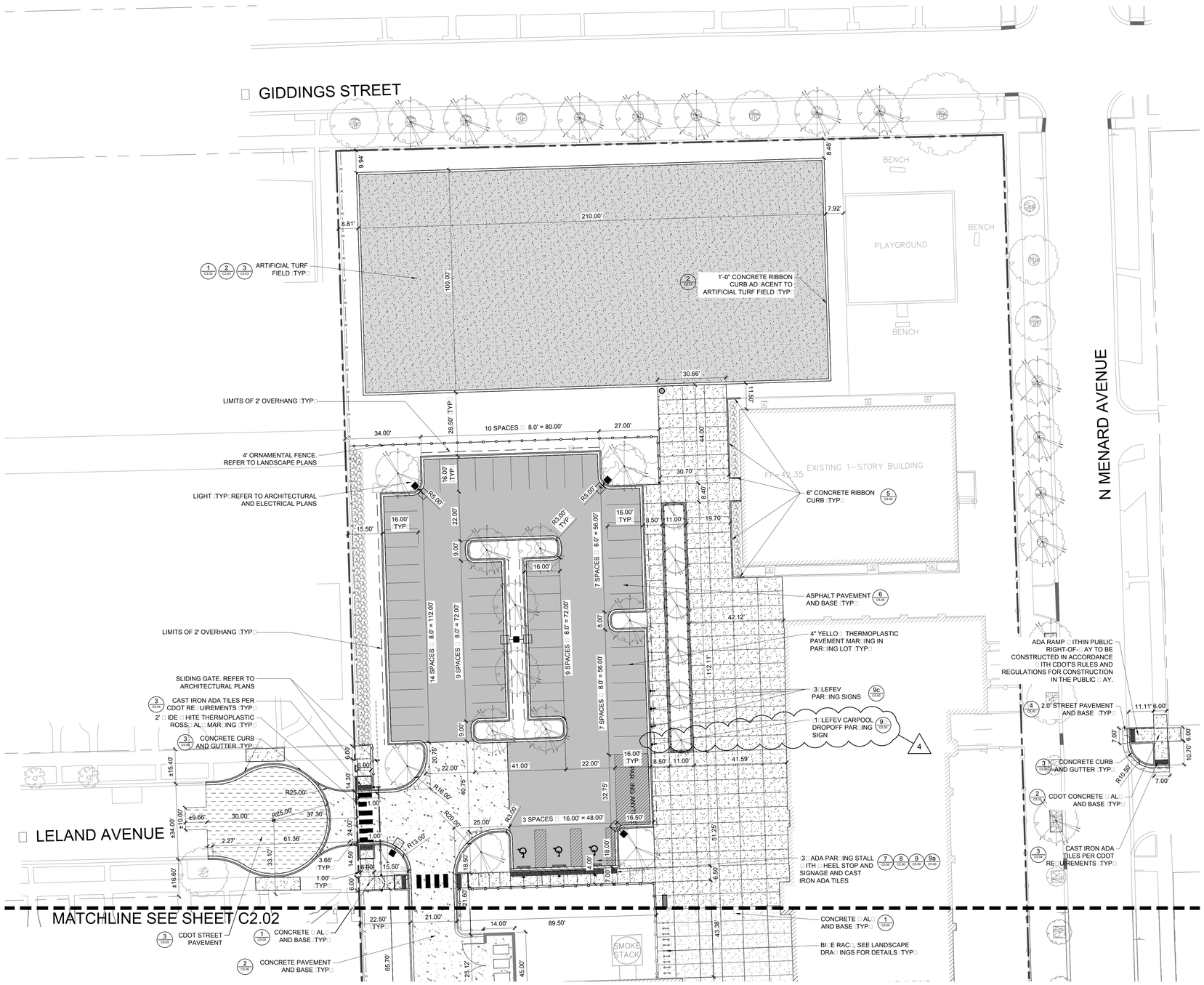
BASEMENT PLAN NORTH/SOUTH

Sheet

LBP-3



Scale: 1 inch = 20 ft.

LEGEND:

- PROPOSED BUILDING
- EXISTING BUILDING
- CONCRETE PAVEMENT AND BASE
- CONCRETE WALK AND BASE
- ASPHALT PAVEMENT AND BASE
- STREET PAVEMENT AND BASE
- ASPHALT SURFACE COURSE
- ARTIFICIAL TURF
- CONCRETE CURB AND GUTTER
- 6" CONCRETE RIBBON CURB
- DEPRESSED CURB
- 1' CONCRETE RIBBON CURB
- 4' ORNAMENTAL FENCE
- 6' WOOD SCREEN FENCE
- BIKE RACKS
- TRASH RECEPTACLE
- BENCH
- LIGHT
- ADA TILE
- SIGN

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Design Architect:
LEGAT ARCHITECTS
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KMI Engineering
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Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Acoustics Consultant

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
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1	ADDENDUM 01	11/09/2017
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4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

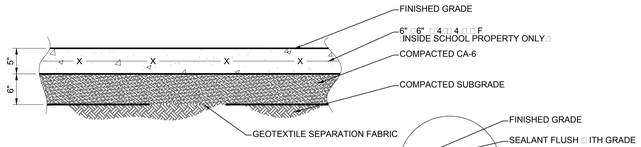
Project No: 217102.00

Title

SITE DIMENSION PLAN - NORTH

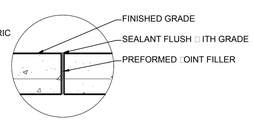
Sheet

C2.01

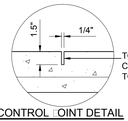


GENERAL NOTES:

1. □ELDED □IRE FABRIC TO BE INSTALLED □ITHIN SCHOOL PROPERTY ONLY.
2. SET □ELDED □IRE FABRIC □□F□2-1/2" BELO□ FINISHED SURFACE.
3. CONCRETE SHALL BE 3,500 PSI, A/E. LIGHT BROOM FINISH.
4. PROVIDE ¾" PREFORMED EXPANSION □OINT □HERE PAVEMENT ABUTS RIGID STRUCTURES.
5. MAINTAIN 1□ MINIMUM SLOPE ON FINISH SURFACE FOR POSITIVE DRAINAGE A□AY FROM BUILDINGS TO DRAINAGE STRUCTURES/SYSTEMS.
6. SET ¾" PREFORMED EXPANSION □OINTS 50' O.C. RECESS PREFORMED □OINT FILLER ½" TO ALLO□ FOR APPLICATION OF SEALANT.
7. SEALANT SHALL BE □ATER RESISTANT AND APPLICABLE TO TEMPERATURES BET□EEN -30 DEGREES TO 110 DEGREES FARENHEIT□. COLOR TO BE SELECTED BY ARCHITECT/ENGINEER. SUBMIT PRODUCT DATA TO ARCHITECT/ENGINEER □ITH STANDARD COLOR CHART FOR REVIE□ AND APPROVAL.
8. PROVIDE CONTROL □OINTS 5' O.C. □HERE CURB ABUTS CONCRETE PAVEMENT, ALIGN □OINTS □ITH AD□ACENT CONCRETE PAVEMENT □OINTS.
9. UPON INSTALLATION OF POURED CONCRETE, VERIFY PLANARITY AND ENSURE NO DEPRESSIONS OR BIRD BATHS □ILL RESULT.

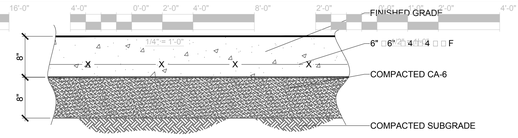


EXPANSION □OINT DETAIL
N.T.S.



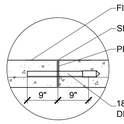
CONTROL □OINT DETAIL
N.T.S.

1 5" SIDEWALK PAVEMENT AND BASE
SCALE: NTS

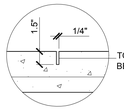


GENERAL NOTES:

1. SET □ELDED □IRE FABRIC □□F□2-1/2" FROM BOTTOM OF SLAB.
2. REFER TO DRA□INGS FOR PAVEMENT LOCATIONS AND ELEVATIONS.
3. CONCRETE SHALL BE 3,500 PSI, A/E. LIGHT BROOM FINISH.
4. PROVIDE ¾" PREFORMED EXPANSION □OINT □HERE PAVEMENT ABUTS RIGID STRUCTURES.
5. MAINTAIN 1□ MINIMUM SLOPE ON FINISH SURFACE FOR POSITIVE DRAINAGE A□AY FROM BUILDINGS TO DRAINAGE STRUCTURES/SYSTEMS.
6. SET ¾" PREFORMED EXPANSION □OINTS 30' O.C. RECESS PREFORMED □OINT FILLER ½" TO ALLO□ FOR APPLICATION OF SEALANT.
7. SEALANT SHALL BE □ATER RESISTANT AND APPLICABLE TO TEMPERATURES BET□EEN -30 DEGREES TO 110 DEGREES FARENHEIT□. COLOR TO BE SELECTED BY ARCHITECT/ENGINEER. SUBMIT PRODUCT DATA TO ARCHITECT/ENGINEER □ITH STANDARD COLOR CHART FOR REVIE□ AND APPROVAL.
8. UPON INSTALLATION OF POURED CONCRETE, VERIFY PLANARITY AND ENSURE NO DEPRESSIONS OR BIRD BATHS □ILL RESULT.
9. REFER TO DRA□INGS FOR □OINTING LAYOUT.

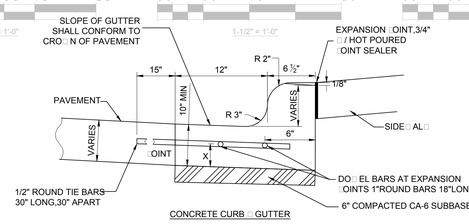


EXPANSION □OINT DETAIL
N.T.S.

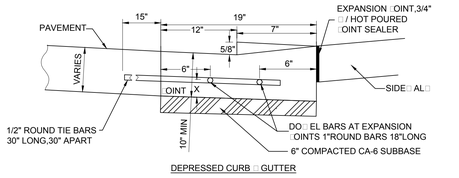


CONTROL □OINT DETAIL
N.T.S.

2 8" CONCRETE PAVEMENT AND BASE
SCALE: NTS



CONCRETE CURB □GUTTER



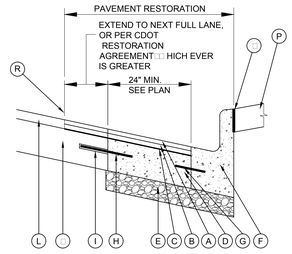
DEPRESSED CURB □GUTTER

X = ONE HALF THE THIC□NESS OF CONCRETE PAVEMENT

NOTES:

1. TRANSVERSE □OINTS OF A TYPE SIMILAR TO THAT USED IN THE AD□ACENT PAVEMENT SHALL BE INSTALLED AND ALIGNED □ITH THE □OINTS IN THE AD□ACENT PAVEMENT.
2. 1" THIC□EXPANSION □OINTS COMPOSED OF BITUMINOUS PREFORMED □OINT FILLER SHALL BE INSTALLED IN THE CURB AND/OR GUTTER AT POINTS OF CURVATURE AND AT CONSTRUCTION □OINTS.
3. □HEN CURB □GUTTER IS CONSTRUCTED AD□ACENT TO A FLEXIBLE BASE, TRACTION □OINTS SHALL ALSO BE PLACED BET□EEN EXPANSION □OINTS AT DISTANCES NOT EXCEEDING 20 FEET.
4. ALL TIE BARS SHALL BE CORRUGATED AND ALL DO□EL BARS SHALL BE SMOOTH.
5. ALL TIE BARS AND DO□EL BARS SHALL BE EPOXY COATED.
6. ALL EXPANSION □OINTS IN CURBING SHALL BE SEALED □ITH □OINT SEALER.

3 CONCRETE CURB AND GUTTER
SCALE: NTS



LEGEND:

- (A) SEE TABLE 4.3.1-1
- (B) SEE TABLE 4.3.1-1
- (C) BITUMINOUS MATERIAL □PRIME COAT□□ AGGREGATE □PRIME COAT□
- (D) SEE TABLE 4.3.1-1
- (E) SUB - BASE GRANULAR MATERIAL, TYP B, 6"
- (F) TYPE 3 CURB □GUTTER / TYPE 4 CURB □GUTTER
- (G) TIE - BAR - SEE CURB □GUTTER STANDARD DETAILS
- (H) TIE BAR - □5 DO□EL BARS - 18" LONG □ 18" OC□DRILL □GROUT
- (I) BORE □GROUT
- (J) 3/4" PREFORMED □OINT FILLER
- (K) EXISTING CONCRETE BASE
- (L) EXISTING BITUMINOUS SURFACE
- (P) □AL□ OR PAR□□AY
- (R) SA□ CUT EXISTING MATERIAL □FULL DEPTH□

Table 4.3.1-1 Asphalt and Concrete Pavement Specifications

Street Classification	Agg Sub-base, Type B (Inches) Note 1	P.C. Concrete Base Course (Inches) Note 2	HMA Binder (Inches) (Mix Design) Note 3	HMA Surface (Inches) (Mix Design) Note 3	Total Pavement Thickness
Composite Pavement					
Residential	6	7 3,500 psi, Type PV	1.5 (Mix D, N 50)	1.5 (Mix D, N 50)	16
Primary Arterial	6	10 3,500 psi, Type PV	0.75 (Polymerized, IL-4.75, N 50)	1.75 (Polymerized Mix E, N 70)	18.5
Secondary Arterial and Collector	6	9 3,500 psi, Type PV	0.75 (Polymerized, IL-4.75, N 50)	1.5 (Mix D, N 70)	17.25
Concrete Pavement					
Residential	6	8 3,500 psi, Type PV			14
Primary Arterial	6	12 3,500 psi, Type PV			18
Secondary Arterial and Collector	6	10 3,500 psi, Type PV			16

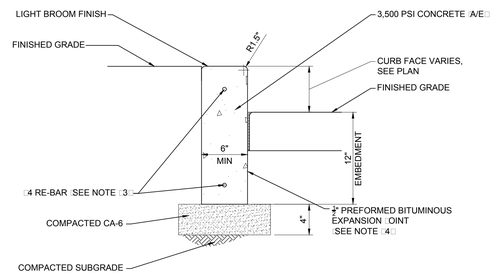
Notes:

1. Aggregate Sub-Base, Type B: Construction in accordance with SSRBC Section 311 & Art. 420.04; Material in accordance with Section 1003 and 1004.
2. Portland Cement Concrete Base Course: Construction in accordance with SSRBC Section 353 & 354; Material in accordance with Section 1020.
3. Bituminous Surface Treatment: Construction in accordance with SSRBC Section 403; Material in accordance with Section 1004 & 1032.

NOTE:

1. □GIDDINGS ST. □□ EAST□OOD AVE. □□LELAND AVE AND MENARD AVE ARE RESIDENTIAL STREETS.
2. SEE CDOT TABLE 4.3.1-1 ABOVE FOR PAVEMENT AND BASE THIC□NESS IN □LELAND AVENUE.

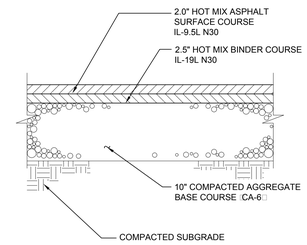
4 STREET PAVEMENT RESTORATION FOR NEW CONSTRUCTION
SCALE: NTS



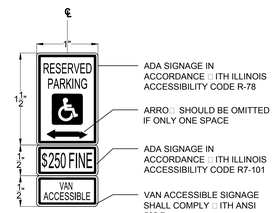
GENERAL NOTES:

1. PROVIDE FLUSH TRANSITION BET□EEN TOP OF CURB AND AD□ACENT □AL□□AY SURFACES, UNLESS INDICATED OTHER□ISE.
2. SOILS/ENGINEERED FILL SHALL BE COMPACTED TO 95□ MODIFIED PROCTOR DENSITY □ASTM D1557□
3. RE-BAR SHALL BE SET CENTERED AND 3" CLEAR FROM FROM TOP AND BOTTOM OF CURB.
4. INSTALL PREFORMED EXPANSION □OINT FULL DEPTH □HERE CURB ABUTS STRUCTURES, CONCRETE PAVEMENT, AND RIGID STRUCTURES. EXPANSION □OINTS SHALL BE SEALED PER IDOT RE□UIREMENTS.
5. VIBRATE POURED CONCRETE ADE□UATELY FOR PROPER CONSOLIDATION.
6. CONTROL □OINTS ALONG CURB LINE SHALL BE AT 10' O.C. AND ALIGNED □ITH AD□ACENT PAVEMENT CONTROL □OINTS □HERE APPLICABLE. EXPANSION □OINTS SHALL BE 30' O.C. AND ALIGNED □ITH AD□ACENT PAVEMENT EXPANSION □OINTS □HERE APPLICABLE.

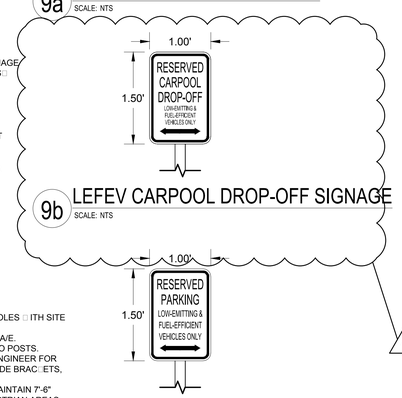
5 CONCRETE BARRIER CURB
SCALE: NTS



6 ASPHALT PAVEMENT AND BASE
SCALE: NTS

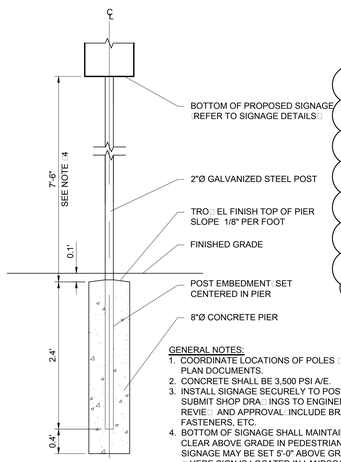


9a ACCESSIBLE STALL SIGNAGE
SCALE: NTS



9b LEFEV CARPOOL DROP-OFF SIGNAGE
SCALE: NTS

9c LEFEV STALL SIGNAGE
SCALE: NTS



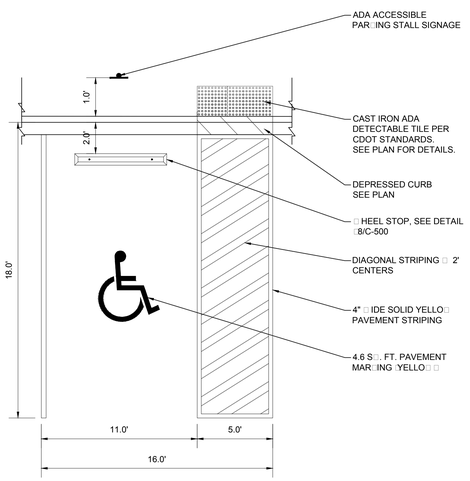
GENERAL NOTES:

1. COORDINATE LOCATIONS OF POLES □ITH SITE PLAN DOCUMENTS.
2. CONCRETE SHALL BE 3,500 PSI A/E.
3. INSTALL SIGNAGE SECURELY TO POSTS. SUBMIT SHOP DRA□INGS TO ENGINEER FOR REVIE□ AND APPROVAL□INCLUDE BRAC□ETS, FASTENERS, ETC.
4. BOTTOM OF SIGNAGE SHALL MAINTAIN 7'-6" CLEAR ABOVE GRADE IN PEDESTRIAN AREAS. SIGNAGE MAY BE SET 5'-0" ABOVE GRADE □HERE SIGN IS LOCATED IN LANDSCAPE AREAS NOT SUB□ECT TO PEDESTRIAN TRAFFIC.
5. POST DETAIL FOR SIGNAGE UP TO 900 S□□INCHES IN SI□E.
6. PROVIDE 24"Ø PLASTIC □CANE DETECTOR COLUMN FOR SIGNAGE LOCATED IN PAVED PATH□AYS SUB□ECT TO PEDESTRIAN TRAFFIC.

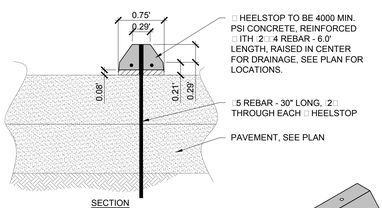
NOTES:

1. COORDINATE LOCATION OF POLES □SIGNAGE □ITH SITE PLAN DOCUMENTS
2. SIGNAGE SHALL CONFORM TO MUTCD □CURRENT EDITION□
3. SUBMIT SHOP DRA□INGS TO ENGINEER FOR REVIE□ AND APPROVAL□INCLUDE SIGNAGE MATERIAL, REFLECTIVITY INFORMATION, FASTENERS, ETC.
4. INSTALL SIGNAGE SECURELY TO POSTS.

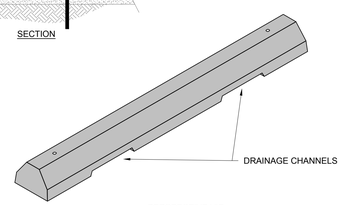
9 SIGNAGE POST
SCALE: NTS



7 ACCESIBLE PARKING STALL AND SIGN
SCALE: NTS

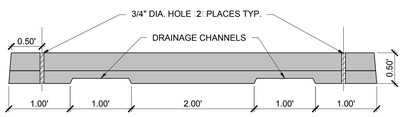


SECTION



PERSPECTIVE VIE□

8 CONCRETE WHEEL STOP
SCALE: NTS



ELEVATION

GENERAL NOTES:

1. REFER TO PLAN FOR LOCATIONS.
2. REFER TO DETAILS FOR AD□ACENT PAVEMENT SECTIONS DETAILS.

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
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Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
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MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
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Chicago, IL 60603
Acoustics Consultant

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4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
SITE DETAILS

Sheet
C5.00

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

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

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

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"

SCOPE OF WORK

1. INSTALL FIBER-REINFORCED POLYMER (FRP) REPAIRS ON CONCRETE GIRDERS AND JOISTS AS INDICATED ON THE REPAIR PLANS AND SCHEDULES. (SEE SHEETS SR2.0 THROUGH SR4.0 AND SR8.0)

2. PERFORM EPOXY AND POLYURETHANE GROUT INJECTION OF CRACKED CONCRETE MEMBERS AT LOCATIONS NOTED ON DRAWINGS AND AT LOCATIONS TO BE SELECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION. REFER TO EPOXY AND POLYURETHANE GROUT INJECTION NOTES ON THIS SHEET FOR REQUIREMENTS. ALSO PERFORM EPOXY INJECTION AS REQUIRED AT FRP REPAIR LOCATIONS. REFER TO FRP NOTES ON THIS SHEET FOR REQUIREMENTS. REFER TO ESTIMATED REPAIR QUANTITIES TABLE ON THIS SHEET FOR EPOXY INJECTION QUANTITIES TO BE INCLUDED AS PART OF THE BASE SCOPE OF WORK.

2 3. PERFORM CONCRETE REPAIRS TO EXISTING CONCRETE JOISTS, COLUMNS, GIRDERS, WALLS, AND SLABS AT LOCATIONS NOTED ON SHEETS SR2.0 THROUGH SR4.0, AT OTHER LOCATIONS TO BE SELECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION, AND ALSO AS REQUIRED AT FRP REPAIR LOCATIONS. CONTRACTOR TO PROVIDE SHORING AND BRACING AS REQUIRED AT REPAIR LOCATIONS. THE ANTICIPATED REPAIR LOCATIONS THAT WILL REQUIRE SHORING ARE NOTED ON THE DRAWINGS, REFER TO THE NOTES ON SHEETS SR2.0-SR4.0 AND SR8.0. REFER TO NOTE 13 OF THE GENERAL NOTES ON THIS SHEET FOR ADDITIONAL SHORING REQUIREMENTS AND INFORMATION. REFER TO ESTIMATED REPAIR QUANTITIES TABLE ON THIS SHEET FOR CONCRETE REPAIR QUANTITIES TO BE INCLUDED AS PART OF THE BASE SCOPE OF WORK.

4. INSTALL NEW CONCRETE SHEAR COLLARS AND SUPPLEMENTAL COLUMNS AT LOCATIONS INDICATED ON PLANS.

5. REMOVE AND DISPOSE OF THE EXISTING SUPPLEMENTAL STEEL SUPPORTING THE ROOF GIRDERS ALONG THE MAIN CORRIDOR, INCLUDING ALL STEEL BEAMS, CHANNELS, AND ACCESSORIES ABOVE THE ROOF SLAB AND IN THE ATTIC SPACE BETWEEN THE SECOND FLOOR CEILING AND THE ROOF SLAB. COORDINATE REMOVAL OF EXISTING STEEL FRAMING WITH INSTALLATION OF FRP REINFORCEMENT AND OTHER REPAIRS. ALL REPAIRS AND REINFORCEMENT SHALL BE COMPLETED PRIOR TO REMOVAL OF EXISTING STEEL BEAMS. SUBMIT PROPOSED SEQUENCE OF WORK TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO REMOVING EXISTING STEEL FRAMING.

6. REPAIR CONCRETE ROOF DECK AT ALL STEEL TIE ROD PENETRATIONS AFTER REMOVAL OF STEEL BEAMS AND HANGER RODS.

7. INSTALL NEW STEEL PLATE FLEXURAL REINFORCEMENT ON THE TOP SIDE OF THE ROOF STRUCTURE AT THE LOCATIONS IDENTIFIED ON SHEETS SR4.0 AND SR8.0.

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF CHICAGO BUILDING CODE, 2017 EDITION.

2. REPAIR DESIGN LOADS:

ROOF SNOW LOAD	25 PSF, PLUS DRIFTING
FLOOR LIVE LOADS	
CLASSROOMS	40 PSF
CORRIDORS, 2ND FLOOR	80 PSF
1ST FLOOR	100 PSF
GYMNASIUM	100 PSF
AUDITORIUM (FIXED SEATS)	60 PSF

3. CONTRACTOR SHALL NOT USE THE EXISTING PLASTER CEILING AS A STAGING AREA FOR THE WORK OR FOR STORAGE OF MATERIALS.

4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS IN THE FIELD. DO NOT SCALE DRAWINGS. DIMENSIONS SHOWN ON THE DRAWINGS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL REPORT ANY INCONSISTENCIES OR VARIANCES TO THE ENGINEER/ARCHITECT BEFORE PROCEEDING WITH THE WORK.

5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES AND GOVERNMENT FEES AS REQUIRED. THE CONTRACTOR SHALL COMPLY WITH CODES, ORDINANCES, RULES, REGULATIONS, ORDERS AND OTHER LEGAL REQUIREMENTS OF PUBLIC AUTHORITY, WHICH BEAR ON THE PERFORMANCE OF THE WORK.

6. THE EXISTING BUILDING WILL REMAIN IN OPERATION FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CONTROLS AS NECESSARY TO ALLOW FOR THE BUILDING OPERATIONS.

7. CONTRACTOR SHALL PROVIDE AND MAINTAIN REQUIRED DUST BARRIERS, BARRICADES, PROTECTION AND WARNING LIGHTS IN GOOD WORKING CONDITION UNTIL COMPLETION OF THE WORK REQUIRING SUCH PROTECTION AND THEN REMOVE THE SAME. ALL SIGNS, BARRIERS AND BARRICADES SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

8. THE CONTRACTOR SHALL MAINTAIN PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIAL AND RUBBISH. PRECAUTIONS SHOULD BE TAKEN TO MINIMIZE DUST FROM ENTERING THE BUILDING. ALL DUST AND DEBRIS CREATED BY THE WORK WITHIN THE BUILDING SHALL BE REMOVED AND THE WORK AREAS CLEANED, INCLUDING THE FINISHED AND UNFINISHED ATTIC AND BASEMENT AREAS.

9. CONTRACTOR SHALL REMOVE AND REPLACE PORTIONS OF EXISTING SUSPENDED CEILING, PLASTER CEILING, AND EXISTING PARTITION WALLS AS NECESSARY TO ACCESS REPAIR LOCATIONS AND INSTALL SHORING. AFTER COMPLETION OF THE REPAIR WORK IN EACH AREA, CONTRACTOR SHALL REPLACE ALL REMOVED PORTIONS OF THE CEILING AND PARTITION WALLS TO MATCH THE ORIGINAL. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

10. CONTRACTOR SHALL DETERMINE THE NEED FOR, AND PERFORM, ALL DISCONNECTION AND/OR TEMPORARY OR PERMANENT REROUTING OF EXISTING UTILITIES, INCLUDING ELECTRICAL, HVAC, AND PLUMBING, IN CONSULTATION WITH THE OWNER, SCHOOL, AND CONSTRUCTION MANAGER, TO FACILITATE THE INSTALLATION OF REPAIRS. THE ARCHITECTURAL AND MECHANICAL DRAWINGS INDICATE THE LOCATIONS OF SOME OF THE KNOWN INTERFERENCES. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTING UTILITIES AND RELATED INTERFERENCES AT ALL REPAIR LOCATIONS. UPON COMPLETION OF THE REPAIR WORK AT EACH AREA, CONTRACTOR SHALL REINSTALL ALL UTILITIES TO MATCH EXISTING. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS.

11. THE CONTRACTOR SHALL AT ALL TIMES PROTECT THE BUILDING EXTERIOR AND INTERIOR FINISHES AGAINST DAMAGE RESULTING FROM THE WORK PERFORMED. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY PROTECTION AND ROOFING AS REQUIRED TO PROTECT BUILDING ELEMENTS AND FINISHES FROM WATER INFILTRATION OR OTHER ELEMENTS DURING THE COURSE OF THE WORK. ANY DAMAGE CAUSED TO THE EXISTING BUILDING ELEMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

12. FIBER-REINFORCED POLYMER (FRP) REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*.

2 13. CONTRACTOR SHALL INSTALL TEMPORARY SHORING AND BRACING WHERE REQUIRED AT ALL CONCRETE REPAIR LOCATIONS, INCLUDING JOIST, COLUMN, SLAB AND GIRDER REPAIR LOCATIONS. THE ANTICIPATED REPAIR LOCATIONS THAT WILL REQUIRE SHORING ARE NOTED ON THE DRAWINGS, REFER TO THE NOTES ON SHEETS SR2.0-SR4.0 AND SR8.0. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, AND SUPPORT AS REQUIRED TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE NEW OR EXISTING CONSTRUCTION DURING THE WORK. CONSTRUCTION DEBRIS SHALL BE REMOVED IN A MANNER THAT AVOIDS OVERLOADING ADJACENT STRUCTURAL MEMBERS. SHORING SHALL BE INSTALLED PRIOR TO CONCRETE REMOVAL AT ALL REPAIR LOCATIONS. WHERE SHORING IS REQUIRED, ASSUME SHORING WILL NEED TO EXTEND DOWN TO GRADE, WITH SHORING ON THE 2ND FLOOR, 1ST FLOOR, AND BASEMENT LEVEL. CONTRACTOR SHALL SUBMIT PROPOSED SHORING TO ENGINEER FOR REVIEW PRIOR TO INSTALLING SHORING. SHORING SUBMITTAL SHALL INCLUDE DRAWINGS AND CALCULATIONS STAMPED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER.

FRP REPAIR NOTES

1. THE CONTRACTOR SHALL INSTALL THE FRP SYSTEM IN ACCORDANCE WITH ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*, THE MANUFACTURER'S REQUIREMENTS AND INSTRUCTIONS, AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

2. SUBMIT DESIGN CALCULATIONS PREPARED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF FRP COMPOSITE STRENGTHENING SYSTEMS ON BEHALF OF THE CONTRACTOR TO DETERMINE THE DESIGN AND LAYOUT OF THE FRP MATERIALS TO BE INSTALLED. SUBMITTED CALCULATIONS SHALL BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS. DESIGN CALCULATIONS SHALL CONFORM TO REQUIREMENTS SET FORTH IN ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*, AND BE BASED ON THE DESIGN MODULUS AND AREA OF THE COMPOSITE TO BE INSTALLED. THE COMPOSITE SYSTEM SHALL BE DESIGNED TO ACHIEVE THE STRUCTURAL PERFORMANCE SHOWN ON THE DRAWINGS. THE ADDITIONAL CAPACITY REQUIRED TO BE PROVIDED BY THE FRP IS SHOWN IN THE REPAIR SCHEDULES ON SHEET SR8.0. THE FRP SYSTEM SHALL BE CAPABLE OF PROVIDING THE ADDITIONAL CAPACITY REQUIRED WHILE ACCOUNTING FOR THE AS-BUILT GEOMETRY OF THE JOISTS AND GIRDERS, INCLUDING THE BUMP-OUT ON THE VERTICAL FACE OF THE GIRDERS. THE FRP DESIGN ENGINEER AND MANUFACTURER SHALL SPECIFY THE REQUIRED INSTALLATION AND ANCHORAGE OF THE FRP REINFORCEMENT TO ACCOMMODATE THE AS-BUILT GEOMETRY, INCLUDING ALL ASSOCIATED DETAILING, ANCHORAGE, SUPPLEMENTAL FIBER ANCHORS, OR OTHER ITEMS/WORK REQUIRED, AND THE CONTRACTOR SHALL INCLUDE THIS WORK AS PART OF THE INSTALLATION.

2 3. ~~CARBON FIBER REINFORCED POLYMER (CFRP) SYSTEM SHALL HAVE A MINIMUM ELASTIC MODULUS OF 8,500 KSI AND A LAYER THICKNESS OF 0.04 IN. THE CFRP SYSTEM SHALL BE USED FOR ALL SHEAR REPAIRS.~~

4. THE FRP SYSTEM SHALL BE DESIGNED FOR A MAXIMUM ULTIMATE STRAIN OF 0.002 FOR SHEAR.

5. MATERIAL WITNESS PANELS OF EACH COMPOSITE TYPE SHALL BE MANUFACTURED ON SITE TO BE TESTED BY AN INDEPENDENT LAB IN ACCORDANCE WITH ASTM D3039 AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT* TO VERIFY THE PROPERTIES USED FOR DESIGN.

6. CONCRETE SURFACES TO RECEIVE FRP SHALL BE SOUNDED BY THE CONTRACTOR. ANY UNSOUND CONCRETE SHALL BE REMOVED AND REPAIRED IN ACCORDANCE WITH SPECIFICATION *SECTION 03 95 00 - CONCRETE REPAIR*.

7. BEFORE INSTALLING FRP, ALL CRACKS IN THE REPAIR AREA GREATER THAN 0.010 INCH SHALL BE EPOXY INJECTED IN ACCORDANCE WITH THE SPECIFICATION *SECTION 03 64 23 - EPOXY INJECTION*.

8. WHERE FIBERS WILL BE WRAPPED AROUND THE CORNERS OF RECTANGULAR CROSS SECTIONS, THE CORNERS SHOULD BE ROUNDED TO PROVIDE A MINIMUM RADIUS OF 3/4 IN.

9. UNEVEN CONCRETE SURFACES SHALL BE GROUND OR FILLED WITH APPROVED FILLER MATERIALS IN ACCORDANCE WITH FRP MANUFACTURER'S REQUIREMENTS AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

10. PREPARE SUBSTRATE CONCRETE SURFACES TO RECEIVE FRP BY ABRASIVE BLASTING OR OTHER EQUIVALENT MECHANICAL MEANS TO REMOVE ALL LAITANCE, GREASE, CURING COMPOUNDS, WAXES, AND OTHER BOND INHIBITING MATERIALS. THE SURFACE OF THE CONCRETE SHALL BE PROFILED USING ABRASIVE BLASTING AND/OR DISC GRINDING TO A MINIMUM CONCRETE SURFACE PROFILE DESIGNATION OF CSP-3 AS DEFINED BY ICRI GUIDELINE 03732.

11. SPLICES IN THE FRP MATERIAL SHALL BE AVOIDED, UNLESS APPROVED BY THE ENGINEER.

12. WHERE SPLICES ARE APPROVED BY THE ENGINEER, MINIMUM LAP LENGTH IN THE STRONG FIBER DIRECTION OF THE FRP MATERIAL SHALL BE 12 IN.

13. THE MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL BE PRESENT TO INSPECT THE SURFACE PREPARATION OR BEFORE THE FRP IS APPLIED AND TO OBSERVE THE INITIAL FRP INSTALLATION IN ITS ENTIRETY.

14. CURE FRP RESINS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

15. APPLY A CLASS 1 A SMOKE AND FLAME SPREAD COATING TO ALL FRP REPAIRS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

EPOXY AND POLYURETHANE GROUT INJECTION NOTES

1. REFER TO SCOPE OF WORK NOTE 2 FOR DESCRIPTION OF INJECTION SCOPE.

2. REFERENCE SPECIFICATION SECTION 03 64 23 - *EPOXY AND GROUT INJECTION* FOR REPAIR MATERIALS AND PROCEDURES.

3. TUNNEL WALL CRACKS TO BE INJECTED SHALL BE FILLED USING DENEEF FLEX LV PURE / SLV PURE POLYURETHANE, OR APPROVED EQUAL. INJECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

CONCRETE REPAIR NOTES

1. THE CONCRETE REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTIONS *03 20 00 CONCRETE REINFORCEMENT, 03 30 01 - CAST IN PLACE CONCRETE, 03 95 00 - CONCRETE REPAIR, AND 03 37 13 SHOTCRETE*.

2. CONTRACTOR SHALL INSTALL SHORING AND BRACING WHERE REQUIRED PRIOR TO REMOVING CONCRETE. REFER TO NOTE 13 OF THE GENERAL NOTES ON THIS SHEET.

3. ALL UNSOUND CONCRETE SHALL BE REMOVED TO SOUND CONCRETE, EXTENDING A MINIMUM OF 3/4 IN. BEYOND EXPOSED REINFORCEMENT.

4. EXPOSED REINFORCING SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING TO REMOVE ALL RUST AND UNSOUND CONCRETE.

5. ARCHITECT/ENGINEER SHALL BE ALLOWED A MINIMUM OF 24 HOURS FOR THE INSPECTION OF PROPERLY PREPARED CONCRETE SURFACES AND REINFORCEMENT BEFORE BEGINNING THE CONCRETE PLACEMENT.

6. INSTALL NEW SUPPLEMENTAL STEEL DOWELS OR BARS AT THE DIRECTION OF THE ENGINEER AT THE CONCRETE REPAIR LOCATIONS.

7. CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH SPECIFICATION SECTIONS *03 30 01 - CAST IN PLACE CONCRETE AND 03 95 00 - CONCRETE REPAIR*. SHOTCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH SECTION *03 37 13 - SHOTCRETE*. RECAST CONCRETE REPAIR AREAS TO MATCH EXISTING GIRDER AND JOIST SECTIONS INCLUDING TAPERED AREAS (HORIZONTAL AND VERTICAL) ON JOISTS, AND BUMP-OUTS ON GIRDERS.

8. THE CONCRETE REPAIR AREAS WILL BE MEASURED AND QUANTIFIED PER SQUARE FOOT OR PER LINEAR FOOT FOR THE VARIOUS REPAIR TYPES AS INDICATED ON THE DRAWINGS AND IN THE ESTIMATED REPAIR QUANTITIES TABLE. AREAS WILL BE ROUNDED UP TO THE NEAREST 1/2 SQUARE FOOT.

SHEAR COLLAR AND COLUMN NOTES

1. NEW SHEAR COLLAR AND COLUMN WORK SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTIONS 03 20 00 AND 03 30 01.

2. HANGER RODS SUPPORTING CONCRETE GIRDERS AT SHEAR COLLAR LOCATIONS SHOULD BE TENSIONED TO ENSURE EXISTING SHORING IS TIGHT TO UNDERSIDE OF GIRDER AND DEAD LOAD IS TRANSFERRED TO STEEL BEAM ABOVE ROOF.

3. ROUGHEN ALL SURFACES OF CONCRETE COLUMNS AND WALLS AT LOCATION OF NEW SHEAR COLLARS AND COLUMNS TO A FULL AMPLITUDE OF 1/4 IN.

4. CONSTRUCT NEW CONCRETE SHEAR COLLAR AND COLUMN AS SPECIFIED. CLEAN ROUGHENED CONCRETE SURFACES OF DUST AND LAITANCE IMMEDIATELY PRIOR TO CONCRETE PLACEMENT.

5. ALLOW ALL CONCRETE TO CURE 28 DAYS OR UNTIL CONCRETE CYLINDER TESTS VERIFY THE CONCRETE HAS ACHIEVED ITS DESIGN STRENGTH BEFORE REMOVING STEEL SHORING AT SHEAR COLLAR LOCATIONS.

BEARING PADS

1. BEARING PADS AT CONCRETE SHEAR COLLARS AND SUPPLEMENTAL COLUMNS SHALL BE MASTICORD TYPE AS MANUFACTURED BY AVI, OR APPROVED EQUAL. BEARING PAD THICKNESS SHALL BE 1/2 IN.

2. INSTRUCT MANUFACTURER TO REMOVE WAX COATING OF MASTICORD PAD PRIOR TO DELIVERING. MASTICORD CANNOT BE INSTALLED WITH WAX COATING.

3. ADHERE BEARING PAD TO CONCRETE SURFACES WITH AVITEX O-PART EPOXY, OR APPROVED EQUAL

a. SURFACE PREPARATION
   i. CLEAN BONDING SURFACE TO REMOVE ANY DUST, DIRT, GREASE, OILS, OR WAXES.
   ii. DRY SURFACES PRIOR TO APPLICATION OF EPOXY.

b. GENERAL BINDING PROCEDURE
   i. MIX EPOXY 1:1 RATIO BY WEIGHT
   ii. TRANSFER EPOXY TO ONE SURFACE AND PLACE BEARING PAD ON EPOXY.
   iii. USE CLAMPS TO APPLY PRESSURE TO THE BEARING PAD AND AID IN THE CURING PROCESS.
   iv. ALLOW 24 HOURS FOR INITIAL SET OF EPOXY, AND 7 DAYS FOR FULL CURE.

CONCRETE ANCHORS AND DOWELS

1. ANCHORS SHALL BE AS NOTED ON DRAWINGS.

2. EPOXY USED TO SET DOWELED-IN REINFORCING STEEL BARS SHALL BE HILTI HIT-RE 500 OR HIT-HY 200 EPOXY ADHESIVE AS NOTED ON THE DRAWINGS. MINIMUM EMBEDMENT DEPTH AS SHOWN ON DRAWINGS. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

3. POST INSTALLED ANCHORS MUST BE INSTALLED USING THE SPACING AND EDGE DISTANCES GIVEN ON THE PLANS OR DETAILS. IF FIELD CONDITIONS DICTATE THAT THE ANCHORS SPACING OR EDGE DISTANCES BE MODIFIED, THE CONTRACTOR SHALL SUBMIT A FIELD SKETCH TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO MAKING ANY MODIFICATIONS.

ESTIMATED REPAIR QUANTITIES

2

Item	Description	Detail	Unit	Total Quantity Shown on Sheets SR2.0-SR4.0 at Specified Repair Locations	Total Quantity from Roof Joist Concrete Repair Tables on Sheet SR8.0	Overall Total
1	Perform epoxy injection of cracks on underside, top, and/or sides of concrete slabs, joists, and beams	N/A	Lin. Ft.	1461	392	1853
2	Repair spalled or delaminated concrete on underside surface or vertical surface of concrete beam, column, or joist(1)	2/SR6.0	Sq. Ft.	153	0	153
3	Repair spalled or delaminated concrete at bottom of a joist stem(2)	1/SR6.0	Lin. Ft.	39	13	52
4	Perform full depth concrete joist repair	4-6/SR6.0	Lin. Ft.	0	20	20
5	Perform full depth concrete repair at joist slab between joist stems	3/SR6.0	Sq. Ft.	111	0	111
6	Repair spalled or delaminated concrete on underside surface of concrete slab	3/SR7.0	Sq. Ft.	80	0	80
7	Repair spalled or delaminated concrete on vertical surface of tunnel walls/columns	2/SR7.0	Sq. Ft.	35 4	0	4 35
8	Install supplemental epoxy dowel shear reinforcement into concrete beam	7/SR6.0	Ea.	0	0	0
9	Perform polyurethane grout injection of cracks in tunnel walls	N/A	Lin. Ft.	80 4	0	4 80
10	Install new concrete shear collars	6-7/SR5.0	Ea.	5	0	5
11	Install new supplemental concrete columns	8/SR5.0	Ea.	2	0	2
12	Repair spalled or delaminated concrete on top surface of concrete spandrel beam on exterior of building	4/SR7.0	Sq. Ft.	0	0	0
13	Repair spalled or delaminated concrete on vertical surface of concrete spandrel beam on exterior of building	5/SR7.0	Sq. Ft.	0	0	0

2 Notes:
1. Repair height varies. Assume 5 inch repair height/depth unless noted otherwise on Sheets SR2.0 through SR4.0.
2. Repair height varies. Assume 6 inch repair height unless noted otherwise on Sheets SR2.0 through SR4.0.
3. The estimated repair quantities listed do not include the concrete slab repairs required at all existing tie rod penetrations through the roof slab. Refer to Detail 1/SR7.0. Contractor to verify quantity and locations on site during removal of roof level steel beams and tie rods.
4. The estimated repair quantities listed do not include FRP or steel plate reinforcement. Refer to Sheet SR8.0 for FRP and steel plate reinforcement quantities.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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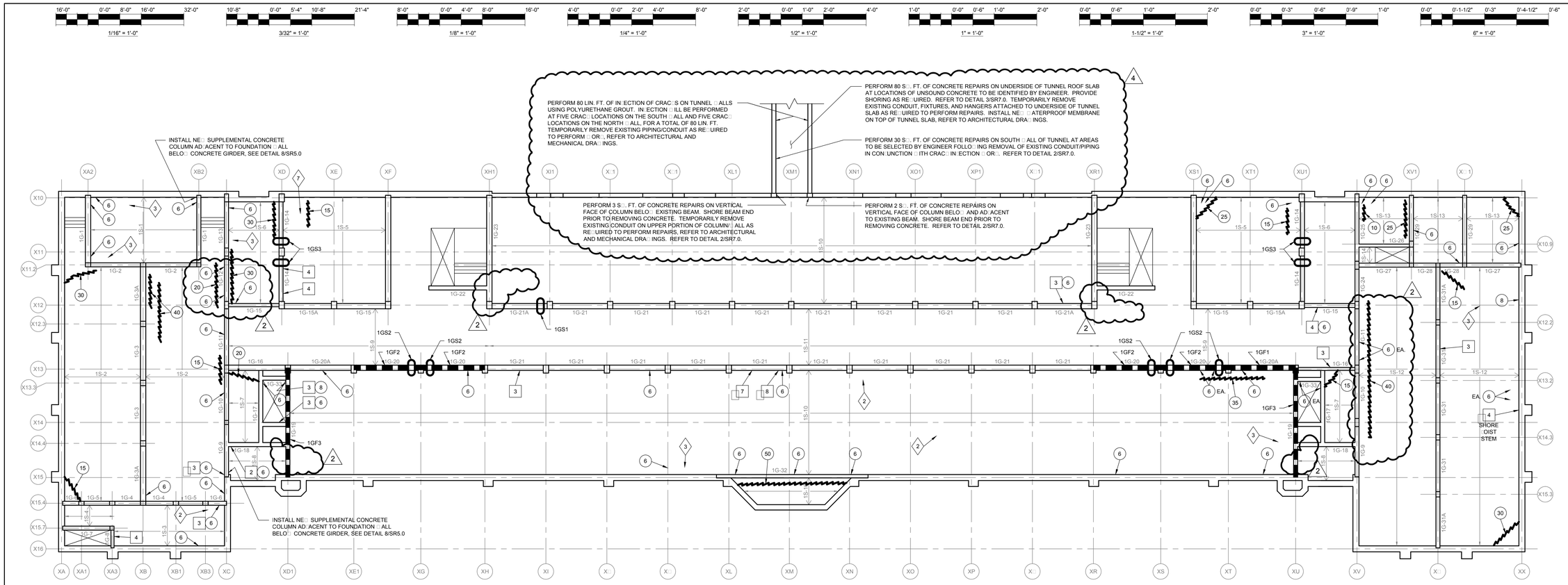
Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/17/2017
3	ADDENDUM 03	11/29/2017
4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
NOTES

Sheet
SR1.0



1 FIRST FLOOR PLAN
SCALE: 3/32" = 1'-0"

LEGEND:

- GIRDER SHEAR REINFORCEMENT - REF. DETAILS 1 AND 2 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- GIRDER FLEXURAL REINFORCEMENT - REF. DETAILS 4 AND 5 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- SHEAR COLLAR - REF. DETAILS 6 AND 7 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- EPOXY IN□ECT CRAC□ □APPROXIMATE LIN. FT.□
- GIRDER CONCRETE REPAIR □APPROXIMATE S□. FT.□ SEE DETAIL 2 ON SHEET SR6.0. ASTERIS□ □□INDICATES THAT SHORING IS RE□UIRED AT REPAIR LOCATION PRIOR TO CONCRETE REMOVAL.
- □OIST CONCRETE REPAIR □APPROXIMATE LIN. FT.□ SEE DETAIL 1 ON SHEET SR6.0. ASTERIS□ □□INDICATES THAT SHORING IS RE□UIRED AT REPAIR LOCATION PRIOR TO CONCRETE REMOVAL.
- FULL DEPTH □OIST SLAB REPLACEMENT - SEE DETAIL 3 ON SHEET SR6.0. INSTALL SHORING PRIOR TO CONCRETE REMOVAL.

NOTES:

1. BASEMENT IS ONLY PARTIALLY EXCAVATED AT SOME LOCATIONS. EXCAVATE SOIL AS RE□UIRED TO ACCESS REPAIR LOCATIONS.
2. EXISTING FRAMING LAYOUT INCLUDING GIRDER AND □OIST MEMBER DESIGNATIONS □ AS REPRODUCED FROM ORIGINAL 1925 DESIGN DRA□INGS PRODUCED BY □OHN C. CHRISTENSEN.

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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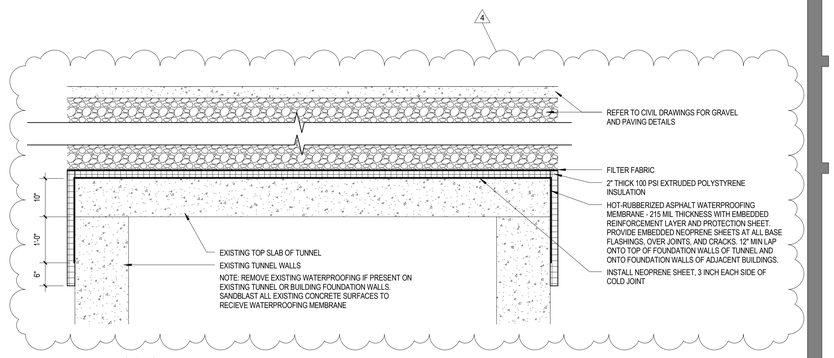
PBC Contract No: 05175

Project No: 217102.00

Title
FIRST FLOOR PLAN

Sheet
SR2.0

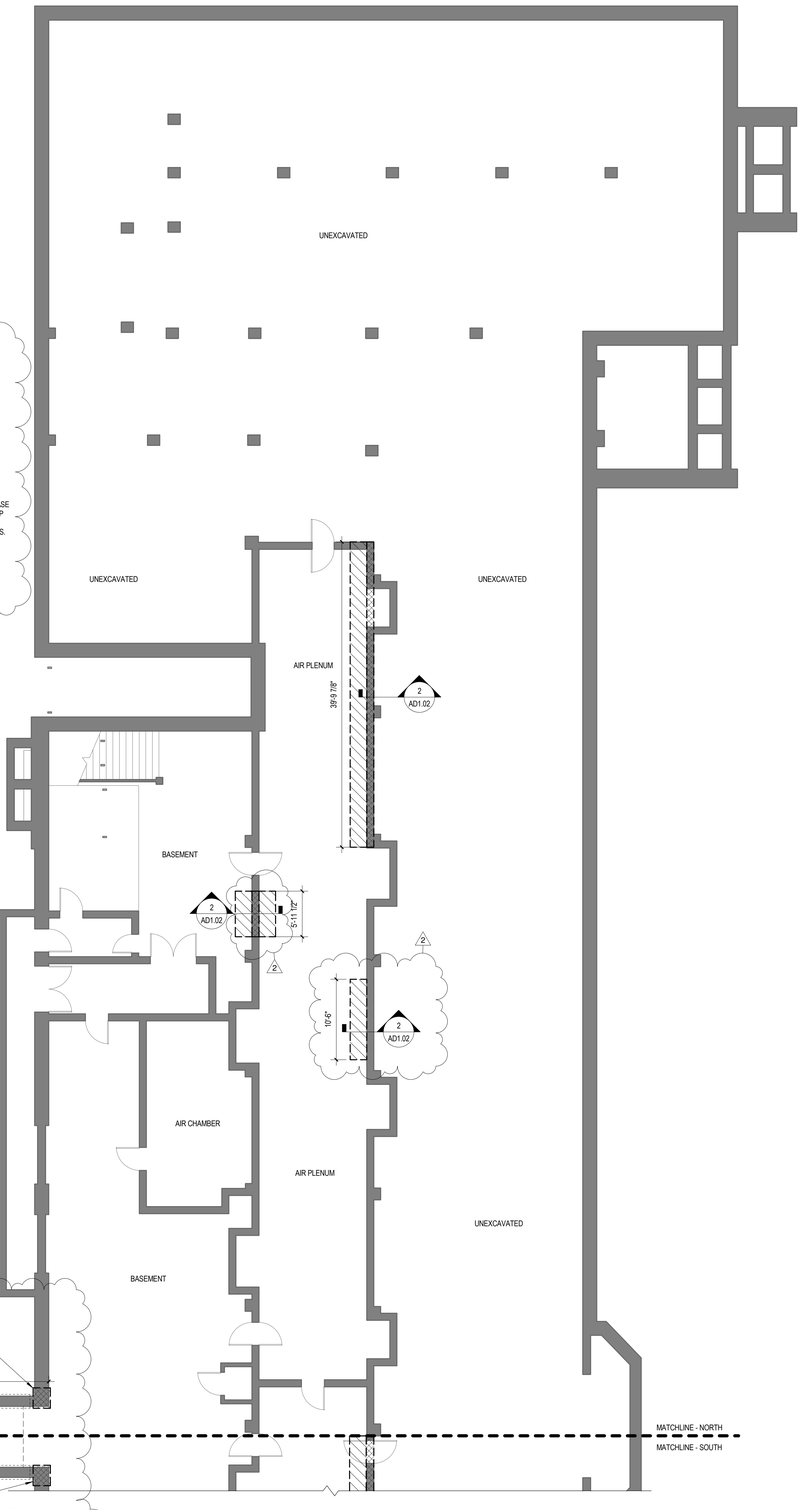
1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"

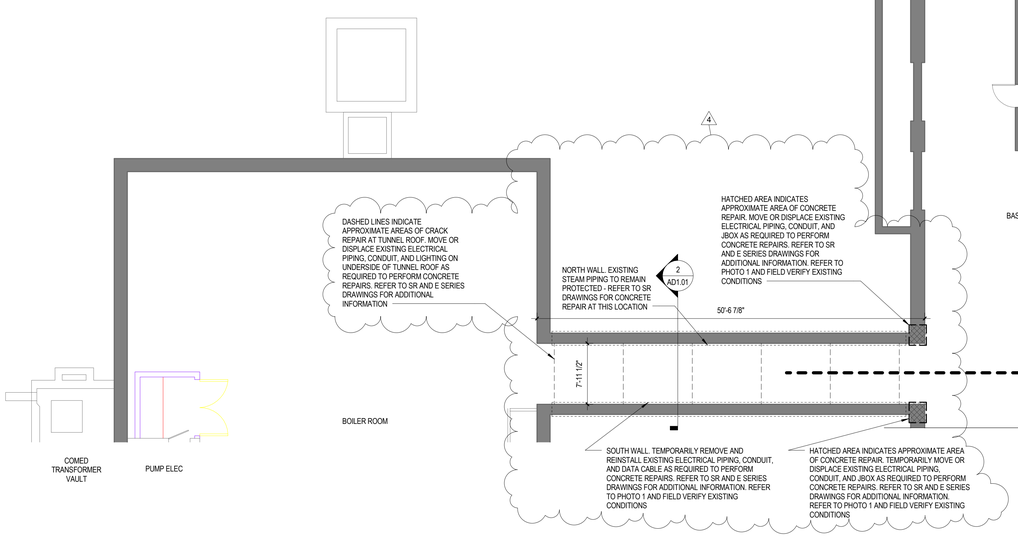


2 SKETCH - TUNNEL WATERPROOFING
3/4" = 1'-0" AD1.01

PHOTO 2 - SOUTH WALL
ASSUME WALL MOUNTED RUNS OF ELECTRICAL PIPING WILL BE TEMPORARILY DISCPLACED TO GAIN ACCESS TO CONCRETE BEYOND.

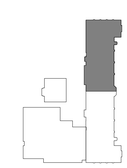
PHOTO 1 - NORTH WALL





NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS REQUIRED TO ACCESS STRUCTURAL REPAIR LOCATIONS SPECIFIED ON SR SERIES DRAWINGS AND STEEL BEAMS IN ATTIC SPACE. CONTRACTOR TO SIZE OPENINGS AS REQUIRED TO PERFORM SPECIFIED WORK.

1 PARTIAL BASEMENT DEMOLITION PLAN - NORTH
1/8" = 1'-0"



N
KEY PLAN

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR. ALL FOOD SERVICE EQUIPMENT IDENTIFIED FOR DEMOLITION OR REMOVAL TO MAINTAIN IN OWNER POSSESSION. COORDINATE WITH CPS NUTRITION AND SUPPORT SERVICES.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH RESULTING FROM CONSTRUCTION ON A DAILY BASIS.
21. GENERAL CONTRACTOR SHALL RECYCLE DEMOLITION CONSTRUCTION DEBRIS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND SUSTAINABLE BEST PRACTICES.
22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
24. STRUCTURAL ITEMS SHOWN AS 'TO BE REMOVED' ARE FOR REFERENCE ONLY. VERIFY APPROPRIATE SHORING OR REINFORCEMENT CONDITION WITH STRUCTURAL DRAWINGS.
25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.
26. THIS DRAWING IS BASED ON ORIGINAL, HISTORIC DRAWINGS OF THE BUILDING. SOME INTERIOR PARTITIONS AND ROOM NAME CHANGES MAY HAVE OCCURRED. VERIFY CURRENT USAGE AND PARTITION PLACEMENT.
27. ALL EXISTING WALLS, CEILINGS, AND FLOORS SHALL BE PATCHED TO MATCH ADJACENT SURFACES AT REMOVAL OF ITEMS SCHEDULED FOR DEMOLITION.
28. THE LIST OF "REFERENCED DEMOLITION NOTES" IS STANDARD FOR ALL AD.100 SHEETS. NOT ALL NOTES REFERENCED ON THIS SHEET.

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES. CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL **LOCATIONS**, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.

MD	EXISTING WALL-MOUNTED MOTION DETECTOR	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

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Issuance

MARK	DESCRIPTION	DATE
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4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

PARTIAL BASEMENT DEMOLITION PLAN - NORTH

Sheet

AD1.01

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

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

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

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

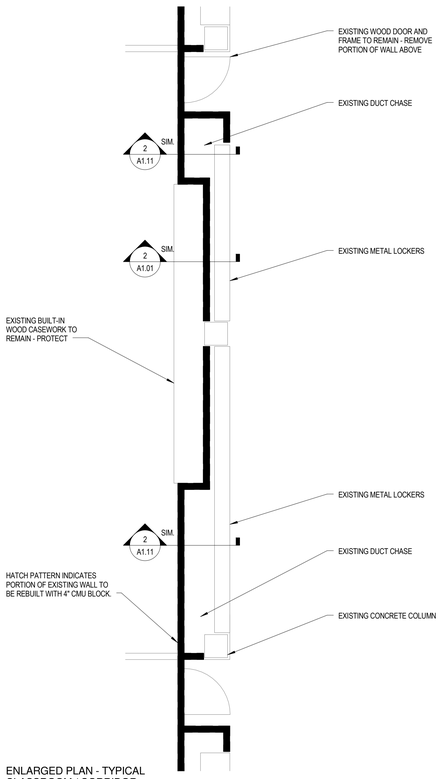
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

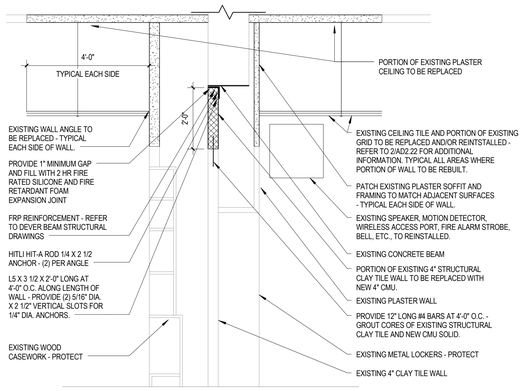
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

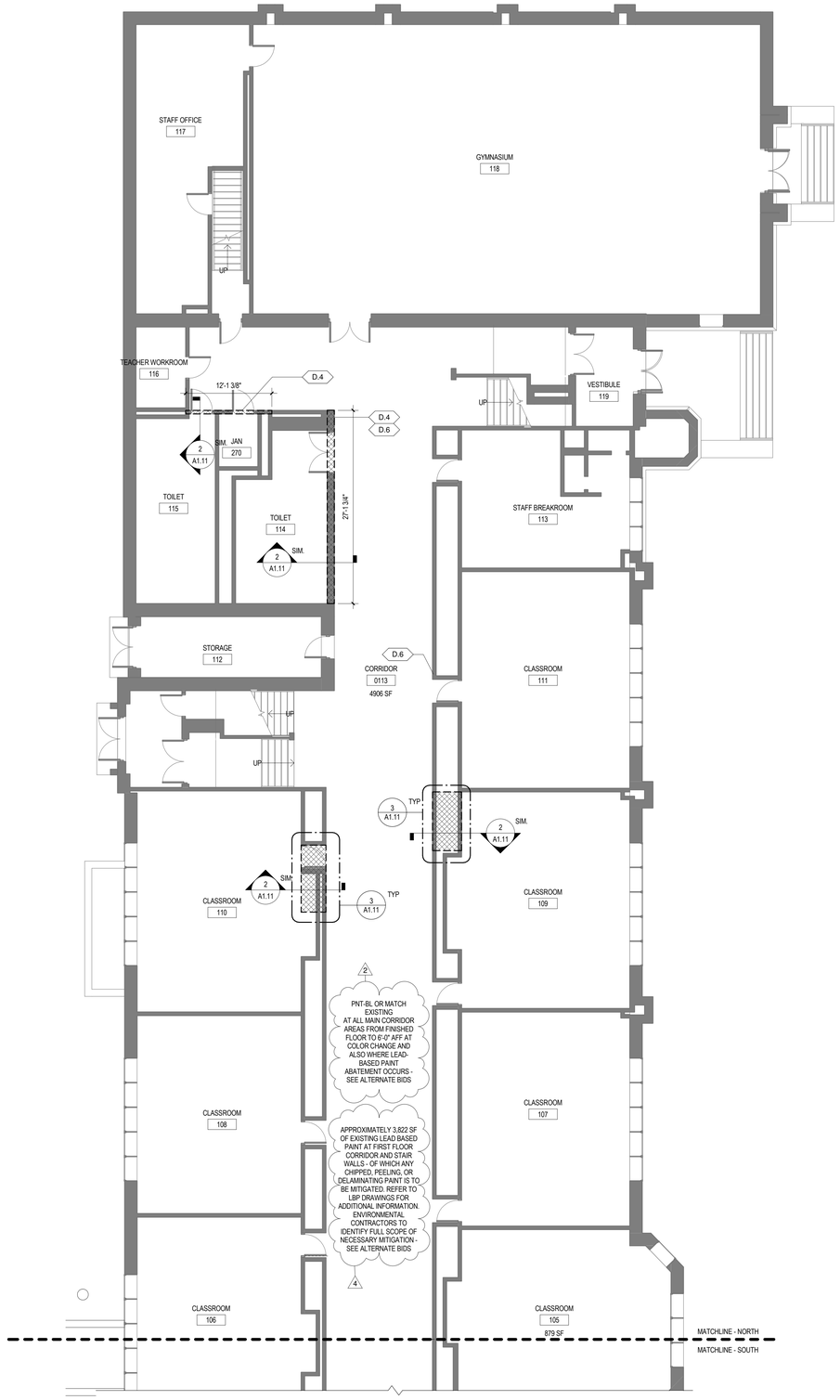
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



3 ENLARGED PLAN - TYPICAL CLASSROOM / CORRIDOR WALL NEW CONSTRUCTION
1/4" = 1'-0" A1.11



2 ENLARGED REPLACEMENT WALL SECTION
1/2" = 1'-0" A1.11



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1 PARTIAL FIRST FLOOR PLAN - NORTH
1/8" = 1'-0" A2.01

FLOOR PLAN LEGEND

TOP 2'-0" OF WALL TO BE REBUILT WITHIN HATCH PATTERN. AT 1ST AND 2ND FLOORS, REBUILD ASSOCIATED PLASTER SOFFITS AT EACH SIDE OF WALL. REFER TO DETAIL 2/A1.11.

D.X ARCHITECTURAL PLAN NOTE

GENERAL REMODELING NOTES

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4. REFER TO SHEET A5.13 FOR TYPICAL INTERIOR SIGNAGE.
5. REFER TO SHEET A5.15 FOR TYPICAL MOUNTING HEIGHTS OF TOILET FIXTURES AND ACCESSORIES.

REFERENCED REMODELING NOTES

#

1. PROVIDE UNISEX TOILET DIRECTIONAL SIGN. REFER TO SHEET A5.13
2. PROVIDE NEW ROOM IDENTIFICATION SIGN. REFER TO SHEET A5.13
3. PROVIDE NEW ELEVATOR DIRECTIONAL SIGN. REFER TO SHEET A5.13

ARCHITECTURAL PLAN NOTES

D.1	PATCH EXISTING PLASTER WALLS AT REMOVAL OF EXISTING WALLS
D.2	INFILL NEW SCHEDULED WALL AT REMOVAL OF EXISTING DOOR OR OPENING. REFER TO DEMOLITION PLANS
D.3	NEW WALL AND DOOR FOR ENTRY TO KINDERGARTEN CLASSROOMS. FULL ADA COMPLIANCE IS TECHNICALLY INFEASIBLE. REFER TO 3/A5.11
D.4	PROVIDE UNISEX TOILET DIRECTIONAL SIGN. REFER TO SHEET A5.13
D.5	PROVIDE AREA OF RESUCE ASSISTANCE DIRECTIONAL SIGN. REFER TO SHEET A5.13
D.6	PROVIDE NEW ELEVATOR DIRECTIONAL SIGN. REFER TO SHEET A5.13

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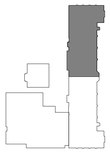
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

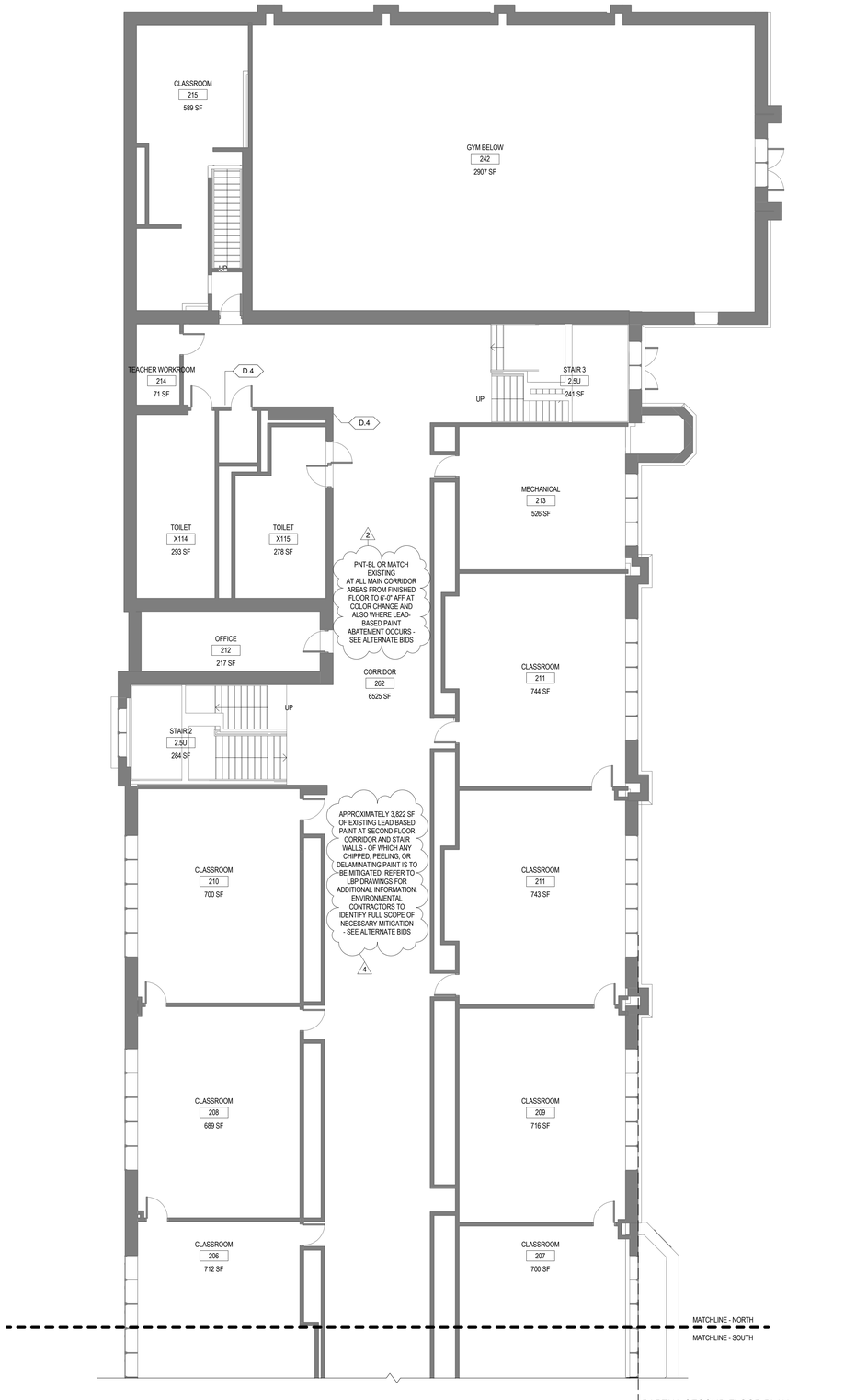
Title
PARTIAL FIRST FLOOR PLAN - NORTH

Sheet
A1.11



N
KEY PLAN

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 PARTIAL SECOND FLOOR PLAN - NORTH
1/8" = 1'-0" A2.01

FLOOR PLAN LEGEND

TOP 2'-0" OF WALL TO BE REBUILT WITHIN HATCH PATTERN. AT 1ST AND 2ND FLOORS, REBUILD ASSOCIATED PLASTER SOFFITS AT EACH SIDE OF WALL. REFER TO DETAIL 2/A1.11.

D.X ARCHITECTURAL PLAN NOTE

GENERAL REMODELING NOTES

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3. ALL EXISTING WALLS, CEILINGS AND FLOORS SHALL BE PATCHED TO MATCH ADJACENT EXISITNG SURFACES AT REMOVAL OF ITEMS SCHEDULED FOR DEMOLITION.
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5. REFER TO SHEET A5.13 FOR TYPICAL INTERIOR SIGNAGE.
6. REFER TO SHEET A5.15 FOR TYPICAL MOUNTING HEIGHTS OF TOILET FIXTURES AND ACCESSORIES.

REFERENCED REMODELING NOTES

#

1. PROVIDE UNISEX TOILET DIRECTIONAL SIGN. REFER TO SHEET A5.13
2. PROVIDE NEW ROOM IDENTIFICATION SIGN. REFER TO SHEET A5.13
3. PROVIDE NEW ELEVATOR DIRECTIONAL SIGN. REFER TO SHEET A5.13

ARCHITECTURAL PLAN NOTES

D.1	PATCH EXISTING PLASTER WALLS AT REMOVAL OF EXISTING WALLS
D.2	INFILL NEW SCHEDULED WALL AT REMOVAL OF EXISTING DOOR OR OPENING. REFER TO DEMOLITION PLANS
D.3	NEW WALL AND DOOR FOR ENTRY TO KINDERGARTEN CLASSROOMS. FULL ADA COMPLIANCE IS TECHNICALLY INFEASIBLE. REFER TO 3/A5.11
D.4	PROVIDE UNISEX TOILET DIRECTIONAL SIGN. REFER TO SHEET A5.13
D.5	PROVIDE AREA OF RESUCE ASSISTANCE DIRECTIONAL SIGN. REFER TO SHEET A5.13
D.6	PROVIDE NEW ELEVATOR DIRECTIONAL SIGN. REFER TO SHEET A5.13

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4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017
4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

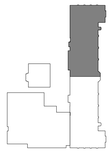
Project No: 217102.00

Title

PARTIAL SECOND FLOOR PLAN - NORTH

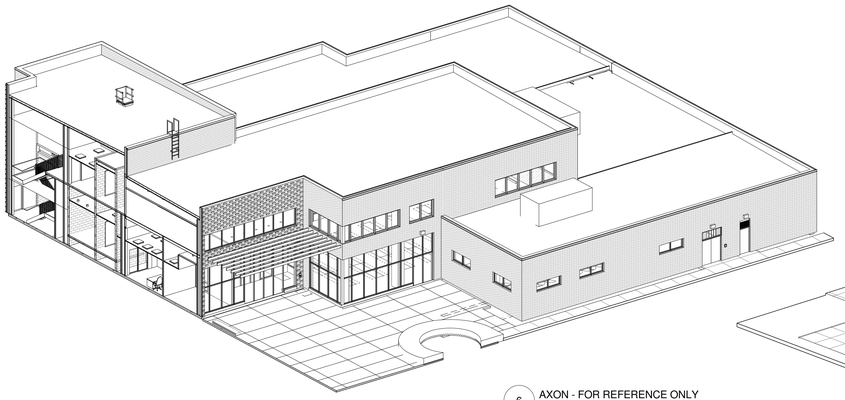
Sheet

A1.21

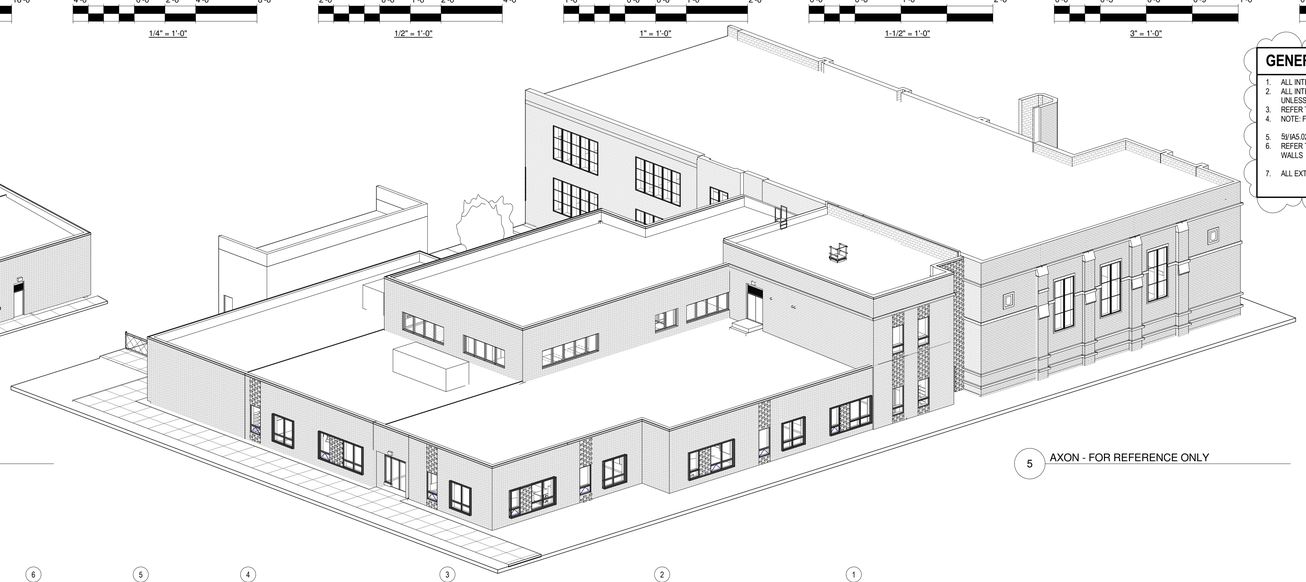


N
KEY PLAN

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"
16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"
8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"
4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"
1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"
0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



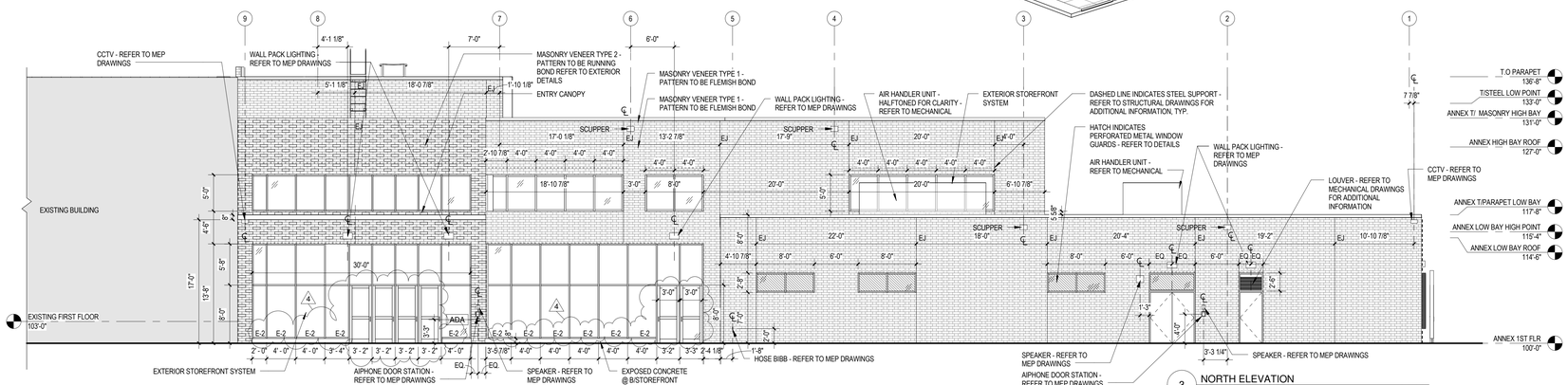
6 AXON - FOR REFERENCE ONLY



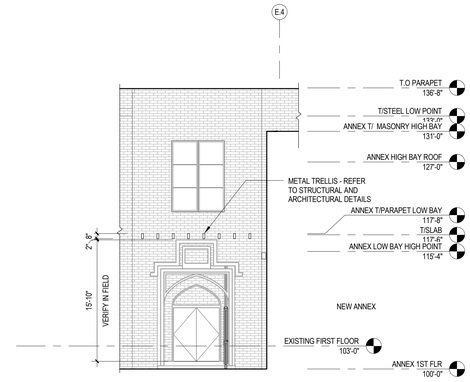
5 AXON - FOR REFERENCE ONLY

GENERAL NOTES

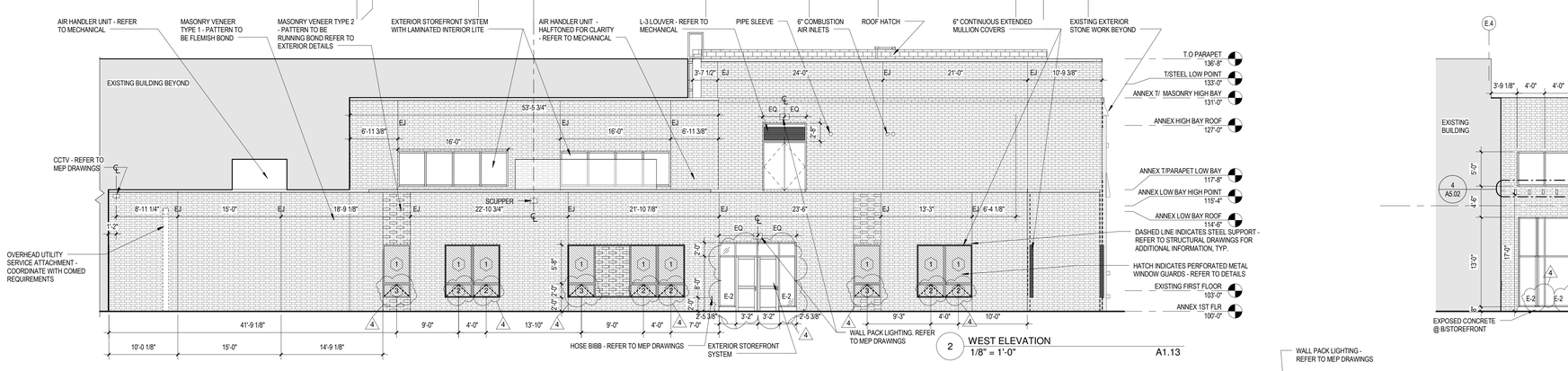
1. ALL INTERIOR WALLS TO BE OF TYPE S3FA(4) UNLESS NOTED OTHERWISE.
2. ALL INTERIOR WALLS ON A COLUMN ENCLOSURE TO BE OF TYPE S6F(2) UNLESS NOTED OTHERWISE.
3. REFER TO A6.01 GLAZING LEGEND FOR GLAZING TYPES
4. NOTE: FOR ALL EXPANSION JOINT LOCATIONS (EJ) - REFER TO DETAIL FOR ADDITIONAL INFORMATION - TYPICAL
5. 5/IA5.02/O A6.01 FOR WINDOW AND DOOR SCHEDULE.
6. REFER TO SAFETY REFERENCE PLANS FOR FIRE RATINGS:FOR EXTERIOR WALLS - 1 HOUR RATING = (1) LAYER INTERIOR TYPE X GWB
   2 HOUR RATING = (2) LAYERS INTERIOR TYPE X GWB
7. ALL EXTERIOR GLAZING TYPES SHALL BE E-1 UNLESS NOTED OTHERWISE



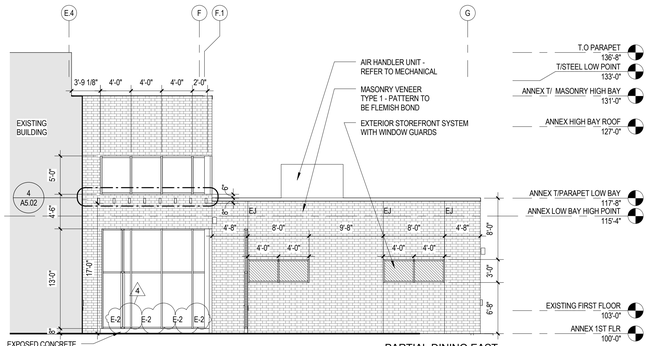
3 NORTH ELEVATION
1/8" = 1'-0" A1.12



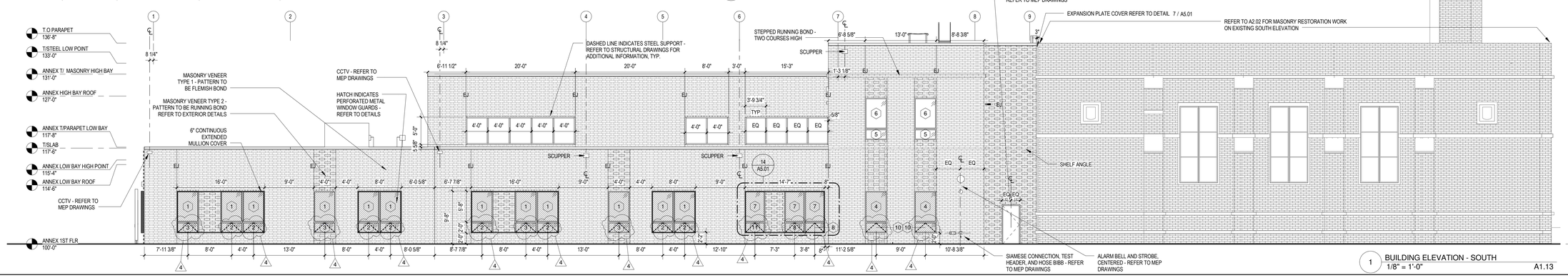
7 CANOPY CONNECTION
1/8" = 1'-0" A1.13



2 WEST ELEVATION
1/8" = 1'-0" A1.13



4 PARTIAL DINING EAST ELEVATION
1/8" = 1'-0" A1.13



1 BUILDING ELEVATION - SOUTH
1/8" = 1'-0" A1.13

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

ADDRESS: 651 W Washington Blvd. #1
Chicago, Illinois 60661
PHONE: 312.258.9595
FAX: 312.258.1555
WEB: www.legat.com

Design Architect:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

KMI Engineering
223 W. Jackson Blvd, #1010
Chicago, IL
Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

EXTERIOR BUILDING ELEVATIONS

Sheet

A2.01

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

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

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
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1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
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0'-0" 0'-6" 1'-0" 2'-0"
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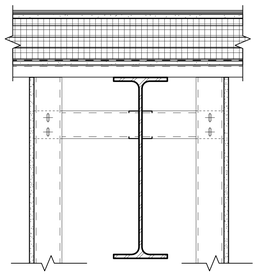
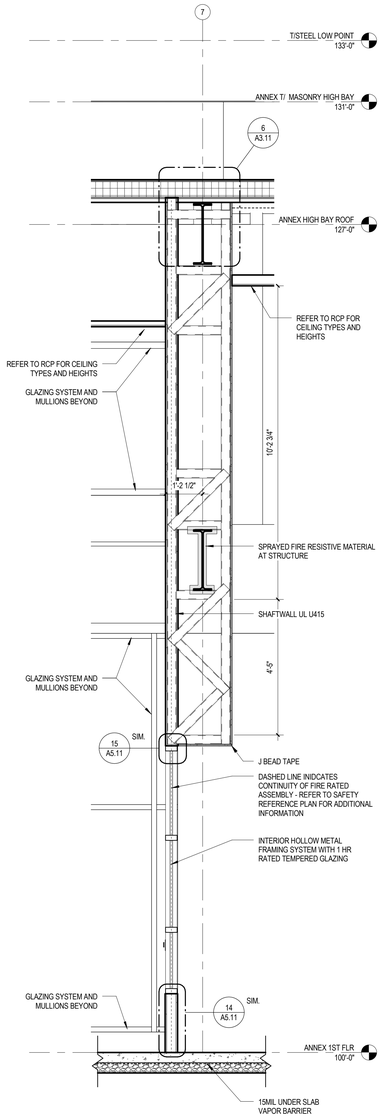
0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

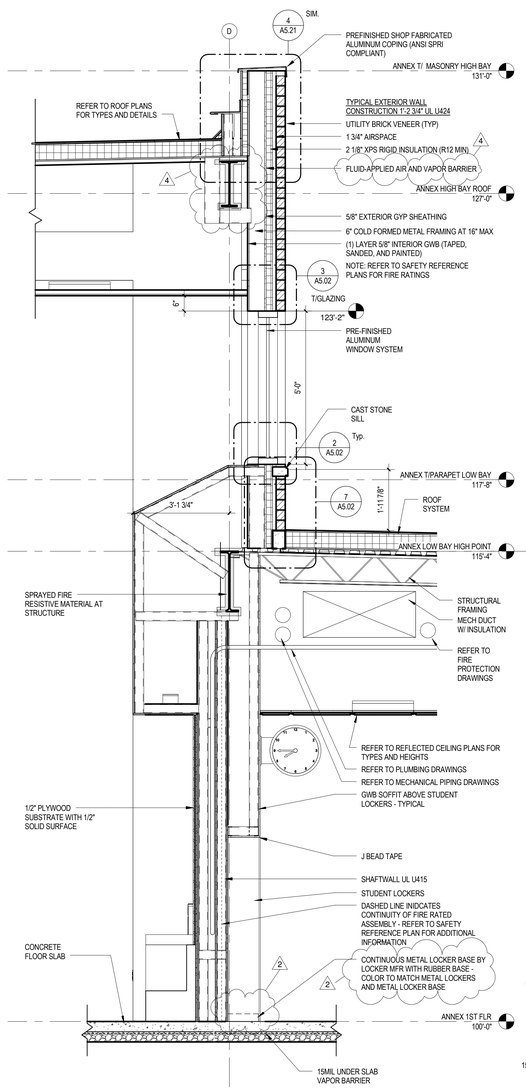
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



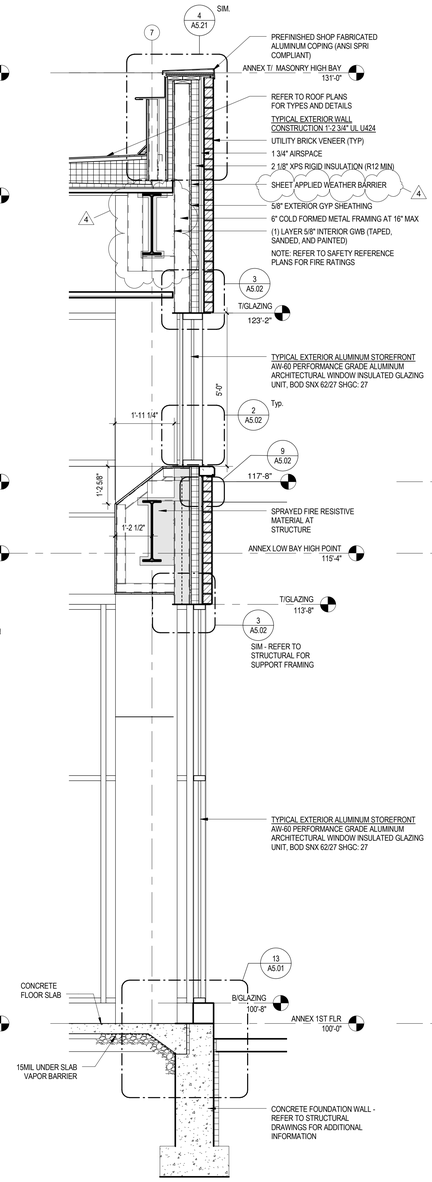
6 WALL SECTION - E/7 - TOP OF WALL DETAIL
1 1/2" = 1'-0" A3.11



5 WALL SECTION
1/2" = 1'-0" A1.13



4 WALL SECTION
1/2" = 1'-0" A1.13



3 WALL SECTION
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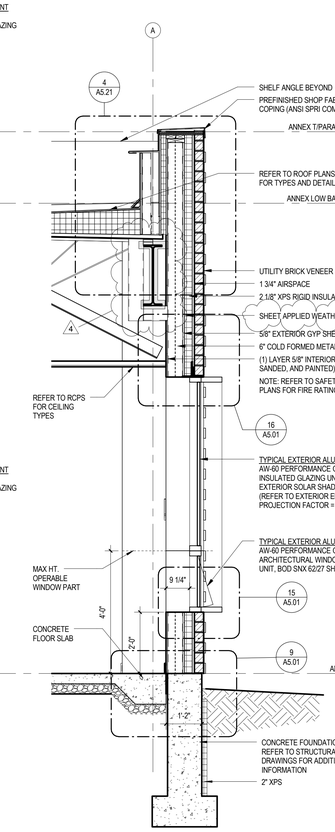
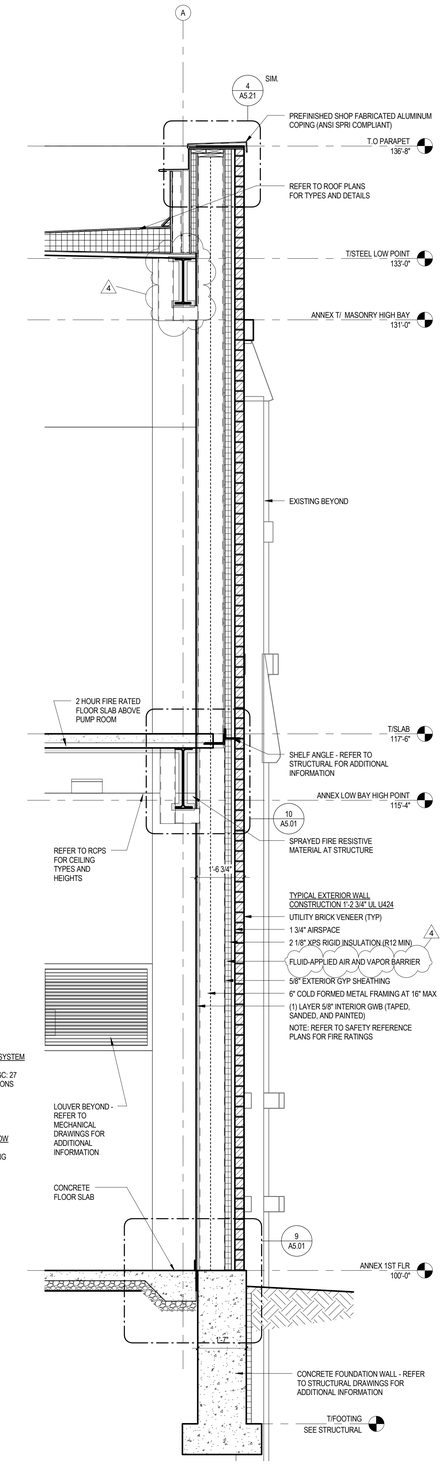


2 WALL SECTION
1/2" = 1'-0" A1.13



1 WALL SECTION
1/2" = 1'-0" A1.13

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

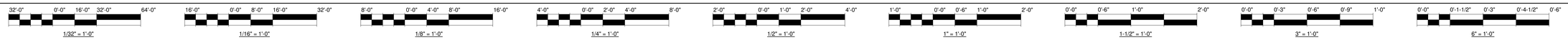
Project No: 217102.00

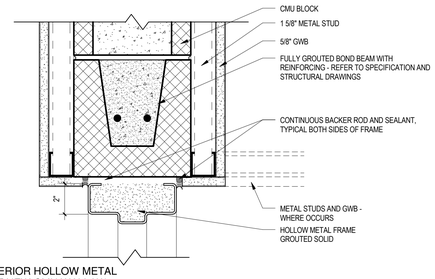
Title

WALL SECTIONS

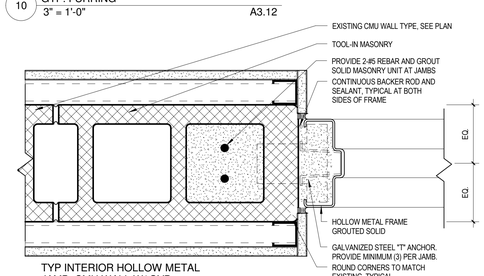
Sheet

A3.11

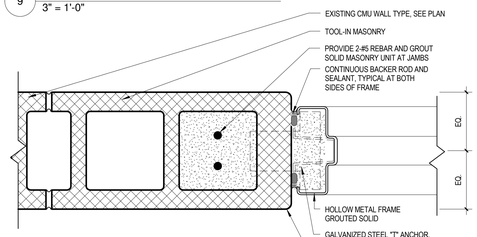




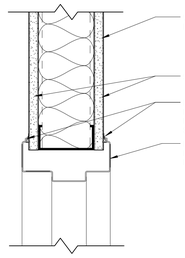
10 TYP INTERIOR HOLLOW METAL HEAD AT NEW CMU WALL W/ GYP. FURRING
3" = 1'-0"
A3.12



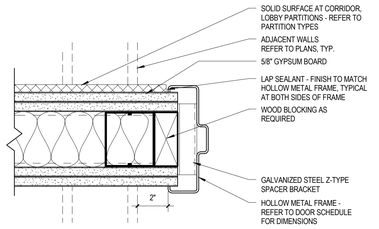
9 TYP INTERIOR HOLLOW METAL JAMB CMU WALL W/ GYP. FURRING
3" = 1'-0"



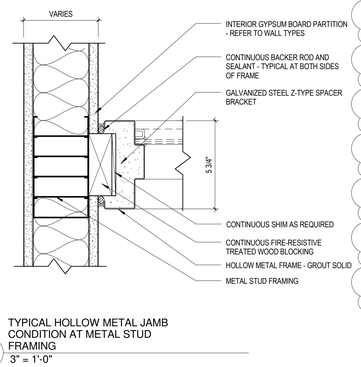
8 TYP INTERIOR HOLLOW METAL JAMB CMU WALL
3" = 1'-0"



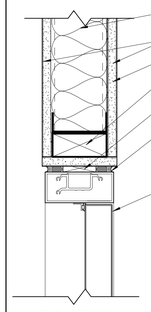
4 TYP INTERIOR HOLLOW METAL HEAD IN STUD WALL
3" = 1'-0"



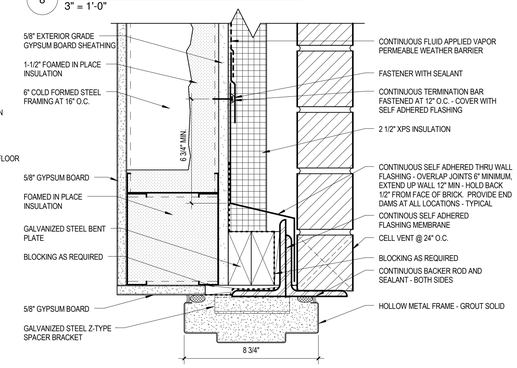
3 TYP INTERIOR HOLLOW METAL JAMB IN STUD WALL
3" = 1'-0"



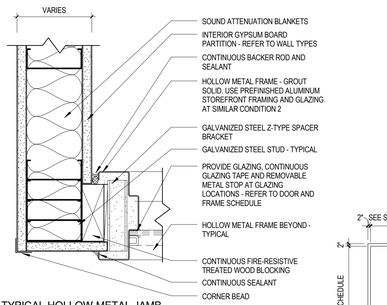
2 TYPICAL HOLLOW METAL JAMB CONDITION AT METAL STUD FRAMING
3" = 1'-0"



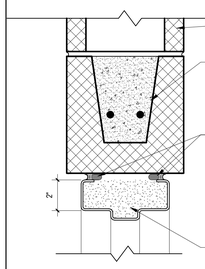
12 TYP INTERIOR ALUMINUM HEAD IN STUD WALL
3" = 1'-0"



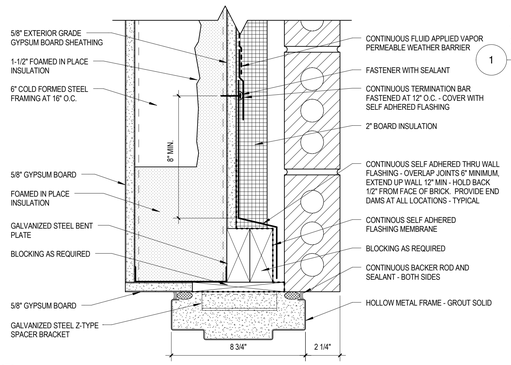
6 DOOR FRAME DETAIL - HEAD
3" = 1'-0"



1 TYPICAL HOLLOW METAL JAMB CONDITION AT METAL STUD FRAMING
3" = 1'-0"



11 TYP INTERIOR HOLLOW METAL HEAD AT NEW CMU WALL
3" = 1'-0"



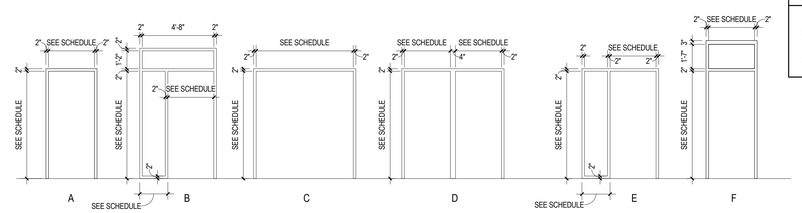
5 DOOR FRAME DETAIL - JAMB
3" = 1'-0"

DOOR AND FRAME SCHEDULE

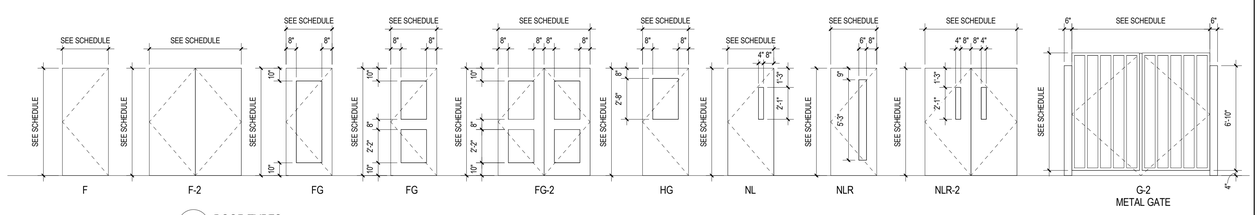
DOOR #	DOOR TYPE	DOOR MATERIAL	DOOR WIDTH	DOOR HEIGHT	DOOR THICK	FRAME TYPE	FRAME MATERIAL	FIRE RATING	HDWR	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS JAMB	FRAME DETAILS SILL	*PROVIDE SWEEPS - ALL DOORS REFERENCED NOTES
010A	F-2	HM	8'-0"	8'-0"	1 3/4"	Frame - A : A	HM	180	65	10/A6.01	9/A6.01	9/A6.01		PANIC HARDWARE AND HOLD OPENS
010B	F-2	HM	7'-10"	7'-0"	1 3/4"	Frame - A : A	HM	180	65	11/A6.01	8/A6.01	8A6.01		PANIC HARDWARE AND HOLD OPENS
010C	F	HM	3'-6"	7'-0"	1 3/4"	A	HM	180	71	8/A6.01	8/A6.01	8A6.01		
012	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	58	4/A6.01	3/A6.01	3/A6.01		KNURLED KNOB
013	G	FRP	3'-0"	7'-0"	1 3/4"	Frame - A : A	AL	90	67	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
014	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	57	4/A6.01	3/A6.01	8A6.01		KNURLED KNOB
016	NL	HM	3'-0"	7'-0"	1 3/4"	B	HM	45	72	4/A6.01	3/A6.01			DOOR GLAZING = 0.69 SF,SIDELITE GLAZING = 12.22 SF
016A	SLIDING	WD	6'-0"	7'-0"	2"		AL	n/a						
017	NL	HM	3'-0"	7'-0"	1 3/4"	B	HM	45	72	4/A6.01		3/A6.01		DOOR GLAZING = 0.69 SF,SIDELITE GLAZING = 12.22 SF
018A	FG	AL	3'-0"	7'-11"	1 3/4"		AL		51					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018B	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018C	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018D	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
019A	FG	AL	3'-0"	7'-11"	1 3/4"		AL		73	11/A6.01				PANIC HARDWARE
019B	FG	AL	3'-0"	7'-11"	1 3/4"		AL		52	11/A6.01				PANIC HARDWARE
019C	FG	AL	3'-0"	7'-11"	1 3/4"		AL		52	11/A6.01				PANIC HARDWARE
019D	FG	AL	3'-0"	7'-11"	1 3/4"		AL		52	11/A6.01				PANIC HARDWARE
021	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
022	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	74	4/A6.01	3/A6.01	3/A6.01		
023	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	57	4/A6.01	3/A6.01	3/A6.01		
024	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
025	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	74	4/A6.01	3/A6.01	3/A6.01		
026	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
027	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM		74	4/A6.01	3/A6.01	3/A6.01		
028	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
029	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
029A	FG	HM	3'-0"	8'-0"	1 3/4"	A	HM	45	70					PAIR OF DOORS
029C	FG	HM	3'-0"	8'-0"	1 3/4"	A	HM	45	69					
030C	FG	AL	3'-0"	7'-11"	1 3/4"		AL		50	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE
030D	FG	AL	3'-0"	7'-11"	1 3/4"		AL		50	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE
031A	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	45	64	4/A6.01	3/A6.01	3/A6.01		
031B	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	45	64	4/A6.01	3/A6.01	3/A6.01		
031C	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	45	64	4/A6.01	3/A6.01	3/A6.01		
032A	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM		66	4/A6.01	3/A6.01	3/A6.01		
032B	H	FRP	6'-0"	7'-0"	1 3/4"	Frame - A : A	AL	90	68	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
034B	G	FRP	3'-0"	7'-0"	1 3/4"	Frame - A : A	AL	90	63	6/A6.01	5/A6.01	5/A6.01		WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
035	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM		74	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE
036A	FG	AL	3'-0"	7'-11"	1 3/4"		AL		50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
036B	FG	AL	3'-0"	7'-11"	1 3/4"		AL		62					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
036C	FG	AL	3'-0"	7'-9"	1 3/4"		AL		52	11/A6.01				PANIC HARDWARE
036D	FG	AL	3'-0"	7'-9"	1 3/4"		AL		52	11/A6.01				PANIC HARDWARE
038	F	HM	3'-0"	7'-0"	1 3/4"	A	HM		76	4/A6.01	3/A6.01	3/A6.01		
039	F	HM	3'-0"	7'-0"	1 3/4"	A	HM		61	4/A6.01	3/A6.01	3/A6.01		
040	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	90	55	4/A6.01	3/A6.01	3/A6.01		
042	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM		57	4/A6.01	3/A6.01	3/A6.01		
044	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM		76	4/A6.01	3/A6.01	3/A6.01		
045	NL	WD	4'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	75	4/A6.01	3/A6.01	3/A6.01		
046	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	74	4/A6.01	3/A6.01	3/A6.01		
201C	F-2	HM	8'-0"	8'-0"	1 3/4"	Frame - A : A	HM	180	65	10/A6.01	9/A6.01	9/A6.01		
201D	F-2	HM	8'-0"	8'-0"	1 3/4"	A	HM	180	53	11/A6.01	8/A6.01	8A6.01		KNURLED KNOB
201E	F	HM	3'-0"	7'-0"	1 3/4"	A	HM	180	59	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE
217	F	HM	3'-6"	7'-0"	1 3/4"	A	HM	120	56	11/A6.01	8/A6.01	8A6.01		PANIC HARDWARE, 180 SWING
218	F	HM	3'-0"	7'-0"	1 3/4"	A	HM		57	4/A6.01	3/A6.01	3/A6.01		
219	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	90	54	6/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)

EXTERIOR WINDOW SCHEDULE

TYPE MARK	HEIGHT	WIDTH	COUNT	DESCRIPTION
1	5'-8"	4'-0"	21	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
2	2'-0"	4'-0"	14	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
3	2'-0"	4'-0"	7	ADA OPERABLE EXTERIOR WINDOW - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
4	5'-8"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
5	2'-0"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
6	5'-8"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS
7	5'-8"	3'-8"	3	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
8	2'-0"	3'-8"	2	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
10	2'-0"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
11	2'-0"	3'-8"	1	ADA OPERABLE EXTERIOR WINDOW - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
12	4'-0"	4'-0"	1	



FRAME TYPES
1/4" = 1'-0"



DOOR TYPES
1/4" = 1'-0"

GENERAL NOTES

GENERAL:

1. ALL DOOR AND FRAME TYPES ARE SHOWN AS EXTERIOR VIEW.
2. FRAME WIDTHS ARE INDICATED ON THE FLOOR PLANS. FRAME HEIGHTS ARE INDICATED ON THE FRAME TYPES. DOOR DIMENSIONS ARE INDICATED ON THE DOOR AND FRAME SCHEDULE.
3. DIMENSIONS ARE INDICATED FOR BIDDING PURPOSES ONLY AND SHALL BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS AND FABRICATION.
4. THE MANUFACTURER(S) SHALL BE RESPONSIBLE FOR THE ENGINEERING AND STRUCTURAL INTEGRITY OF THEIR FRAME SYSTEMS.
5. ALL FRAMES IN MASONRY OPENINGS REQUIRE A LINTEL. REFER TO DOOR AND FRAME SCHEDULE AND/OR STRUCTURAL DRAWINGS.
6. ALL OPENINGS IN FRAMES REQUIRE GLAZING PANELS OR INFILL PANELS EXCEPT FOR DOOR OPENINGS. GLAZING TYPES FOR EXTERIOR FRAMES ARE INDICATED ON THE FRAME TYPES. GLAZING TYPES FOR INTERIOR FRAMES ARE INDICATED ON THE DOOR AND FRAME SCHEDULE OR HEREIN.
7. ALL OPENINGS IN DOORS REQUIRE GLAZING PANELS UNLESS NOTED OTHERWISE. GLAZING TYPES FOR DOORS ARE INDICATED ON THE DOOR AND FRAME SCHEDULE OR HEREIN.
8. HARDWARE SETS AND GLAZING TYPES ARE SPECIFIED IN THE PROJECT MANUAL.
9. ALL INTERIOR DOOR SHALL RECIEVE SWEEPS
10. FRAMES SHALL BE DESIGNED, CUT, AND FABRICATED TO MINIMIZE JOINTS:
    A. JOINTS IN HOLLOW METAL FRAMES SHALL RECEIVE METAL FILLER, BE GROUND SMOOTH AND SHOP/FIELD PRIMED PRIOR TO FINISH PAINT.
    B. JOINTS IN EXTERIOR ALUMINUM FRAMES SHALL BE AIR AND WATER TIGHT IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE PROJECT MANUAL. LAP AND SEAL ALL JOINTS. ALLOW FOR EXPANSION IN THE TRIM AND AT JOINTS AND INTERSECTIONS OF ADJACENT FRAMES.
11. COORDINATE WITH CARPENTER TO PROVIDE NECESSARY BLOCKING AND FIRE TREATED BLOCKING AND ANCHORAGE FOR DOORS AND WALL STOPS
12. AT ALL HOLD-OPENS AT FIRE RATED DOORS SHALL BE MAGNETIC HOLD-OPENS THAT ARE TO RELEASE UPON NOTIFICATION BY FIRE/SMOKE ALARM.

ALUMINUM FRAMING SYSTEMS:

10. ALUMINUM STOREFRONT AND INTERIOR ALUMINUM FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2"
    B. FRAME DEPTH: 4-1/4"
11. ALUMINUM CURTAIN WALL FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2-1/2"
    B. FRAME DEPTH: 5-1/2", 7-1/2", 9-1/2"
12. ANCHORAGE AT ALUMINUM STOREFRONT AND WINDOW SYSTEMS:
    A. PROVIDE ANCHORAGE IN ACCORDANANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO MEET THE REQUIRED DESIGN LOADS BUT NOT LESS THAN THREE (3) ANCHORS PER JAMB LOCATION.
    B. PROVIDE ALUMINUM FASTENERS, NON-MAGNETIC STAINLESS STEEL FASTENERS, OR OTHER FASTENER TYPES WARRANTED BY THE SYSTEM MANUFACTURER TO BE NON-CORROSIVE, NON-CORRODIBLE, AND COMPATIBLE WITH OTHER BUILDING COMPONENTS.
    C. PROVIDE REINFORCEMENT WHERE FASTENERS ARE SCREWED INTO ALUMINUM COMPONENTS LESS THAN 1/8" THICK.
    D. DO NOT USE EXPOSED FASTENERS AT BUILDING EXTERIOR. AT BUILDING INTERIOR FASTENERS ARE TO MATCH THE FINISH OF THE FRAME.
    E. INTERNALLY REINFORCE MULLIONS AS REQUIRED TO MEET SPANS AS INDICATED IN THE DRAWINGS AND PROJECT MANUAL.
    F. NO EXPOSED FASTERNERS.

HOLLOW METAL DOORS AND FRAMES:

13. ALL HOLLOW METAL FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2"
    B. FRAME DEPTH: 5-3/4" UNLESS NOTED OTHERWISE
    C. THROAT: 4-7/8"
    D. RETURN: 7/16"
14. ANCHORAGE AT HOLLOW METAL FRAMES:
    A. PROVIDE FASTENERS AT 18" ON CENTER AND MINIMALLY THREE (3) ANCHORS PER JAMB.
    B. AT FRAMES INSTALLED PRIOR TO MASONRY INSTALLATION PROVIDE GALVANIZED STEEL "T" ANCHORS.
    C. AT FRAMES INSTALLED AFTER MASONRY INSTALLATION OR AT EXISTING MASONRY OPENINGS PROVIDE GALVANIZED STEEL SPACER BRACKETS, ANCHOR SLEEVES WELDED TO THE INTERIOR OF THE FRAME, AND COUNTERSUNK 3/8" FLATHEAD EXPANSION ANCHORS. COVER HEAD OF FASTENERS WITH METAL FILLER, GRIND SMOOTH, PRIME AND FINISH PAINT.
    D. AT FRAMES INSTALLED IN STUD PARTITIONS PROVIDE GALVANIZED STEEL Z-TYPE SPACE BRACKETS.
15. JAMBS OF FRAMES INSTALLED IN EXTERIOR WALLS AND WHERE INDICATED SHALL BE GROUTED SOLID. COVER GROUT HOLES WITH METAL FILLER, GRIND SMOOTH, PRIME AND FINISH PAINT.

GLAZING:

16. GLAZING AT INTERIOR DOORS AND FRAMES SHALL BE TYPE G-3 UNLESS NOTED OTHERWISE
17. GLAZING AT FIRE RATED INTERIOR DOORS AND FRAMES SHALL BE TYPE G-1 UNLESS NOTED OTHERWISE.
18. GLAZING AT EXTERIOR DOORS SHALL BE TYPE E-2 UNLESS NOTED OTHERWISE.

GLAZING TYPES

GLAZING TYPES

EXTERIOR:

E-1 1" INSULATED CLEAR GLAZING UNIT

E-2 E-1 WITH A LAMINATED OUTER LITE

INTERIOR:

G-1 IMPACT SAFETY AND FIRE RATED GLAZING UNIT (REFER TO G1.2 FOR UL ASSEMBLIES)

G-2 FIRE RATED GLAZING UNIT (REFER TO G1.2 FOR UL ASSEMBLIES)

G-3 IMPACT SAFETY RATED GLAZING UNIT

REFERENCED NOTES

1. PROVIDE CARD READER AND ELECTRIC LATCH
2. REFER TO ALUMINUM FRAME TYPES FOR ADDITIONAL INFORMATION. ALUMINUM STOREFRONT AND CURTAIN WALL ELEVATION TAGS ARE SHOWN ON FLOOR PLANS.
3. DOOR ASSEMBLY TO MEET FULL RATING.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017
4	ADDENDUM 04	11/30/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

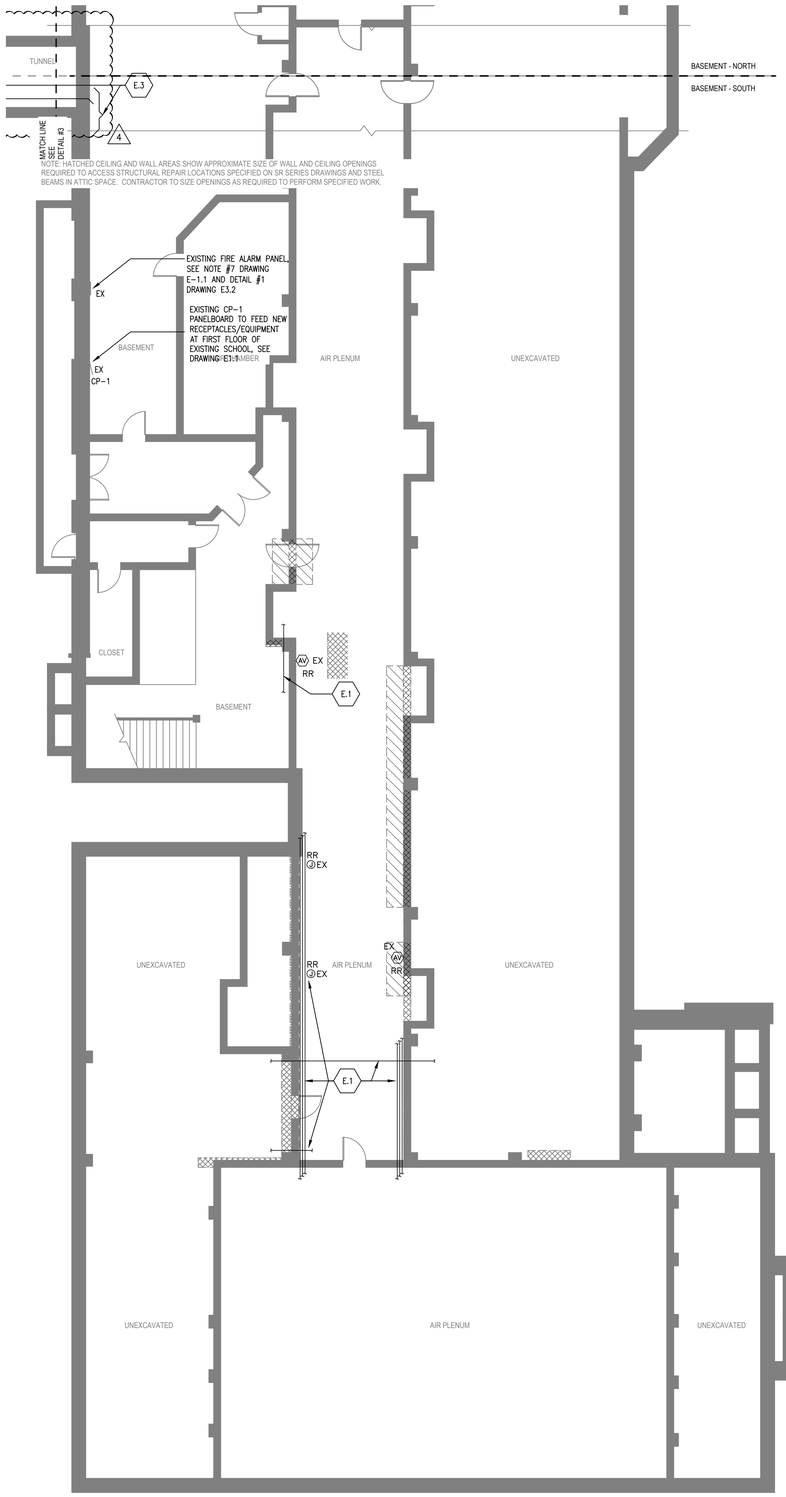
PBC Contract No: 05175

Project No: 217102.00

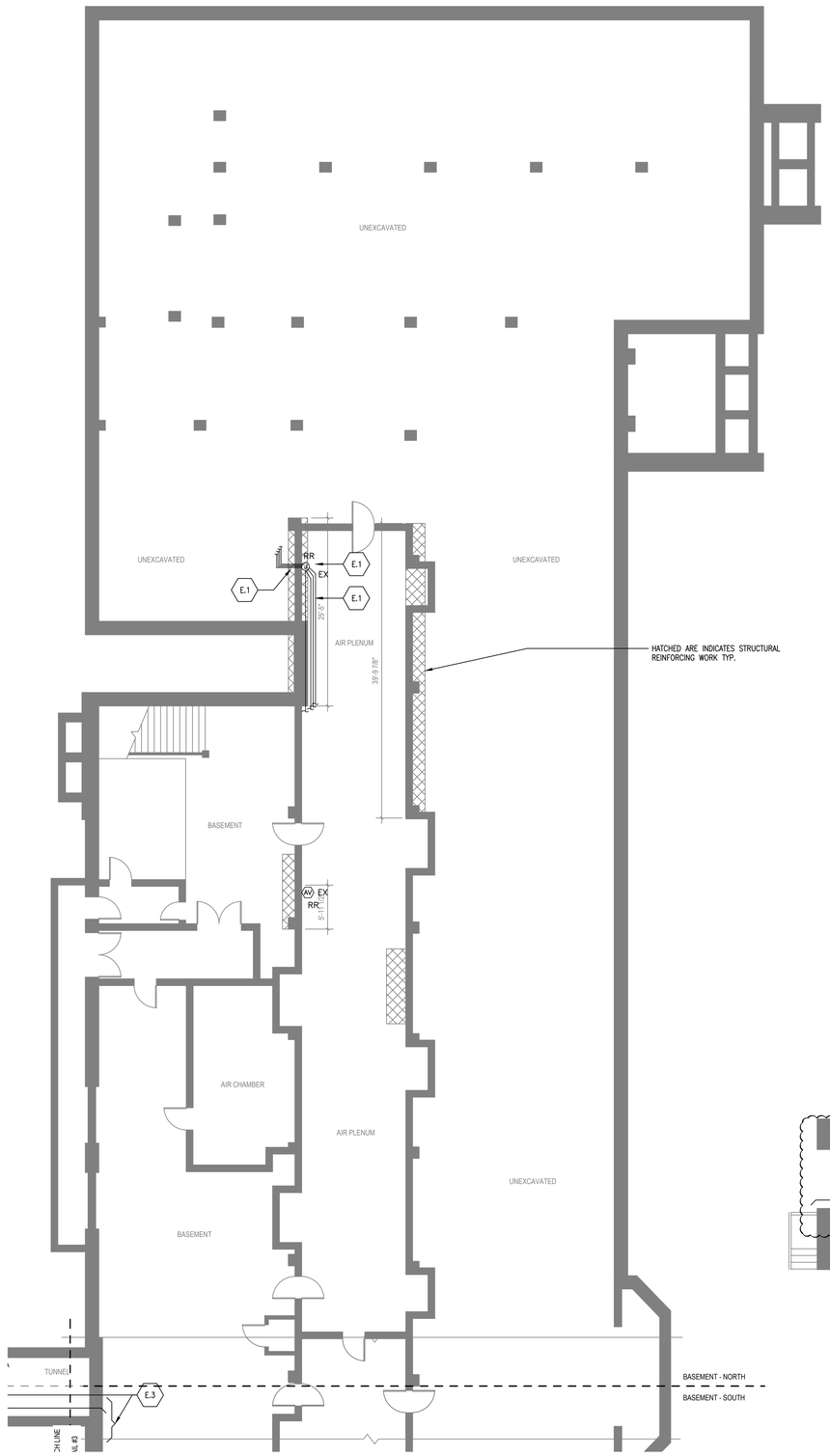
Title
DOOR AND FRAME DETAILS

Sheet
A6.01

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



2 BASEMENT PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



1 BASEMENT PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

NOTES:

1. ALL DEVICES AND EQUIPMENT SHOWN ARE BASED ON VISUAL SITE INVESTIGATION VISIBLE TO EYE ONLY, NOT ALL DEVICES AND INFRASTRUCTURE MAY BE IDENTIFIED. IT IS THIS CONTRACTOR RESPONSIBILITY TO GET FAMILIAR WITH EXISTING CONDITIONS AND PERFORM THE WORK OUTLINED IN CONTRACT DOCUMENTS.
2. ELECTRICAL POWER AND LIGHTING, FIRE ALARM, SECURITY AND TECHNOLOGY DEVICES ARE AFFECTED FOR PROPOSED DEVER WORK, ALL CONTRACTORS TO COORDINATE THE WORK WITHIN DISCIPLINES.
3. IN AREAS WHERE WORK TO BE PERFORMED CONTRACTORS TO DISCONNECT AND REMOVE DEVICES/EQUIPMENT AND ASSOCIATED INFRASTRUCTURE TO ALLOW STRUCTURAL WORK TO BE PERFORMED, AND REINSTALL IN PLACE. AFTER INSTALLATION ALL SYSTEMS TO MUST BE TESTED.
4. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEYED NOTES: E.X

E.1 EXISTING CONDUIT(S) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

E.2 EXISTING CONDUIT(S) (3-1"C) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED.

E.3 ELECTRICAL CONTRACTOR TO DISCONNECT AND REROUTE EXISTING MAIN AND BRANCH FEEDERS LOCATED AT FULL LENGTH OF SOUTH WALL OF THE TUNNEL (EXCEPT TELE/DATA & FIBER-OPTIC CONDUITS, SEE ATTACHED PICTURES). REINSTALL ALL CONDUITS ON NEW CONDUIT RACKS OR UNISTUT SUPPORTS MINIMUM 1-FOOT AWAY FROM THE WALL. FURNISH AND INSTALL PULL BOXES IF REQUIRED. FIELD COORDINATE WITH STRUCTURAL REPAIR WORK. TEST ALL FEEDERS AND EQUIPMENT AFTER INSTALLATION.

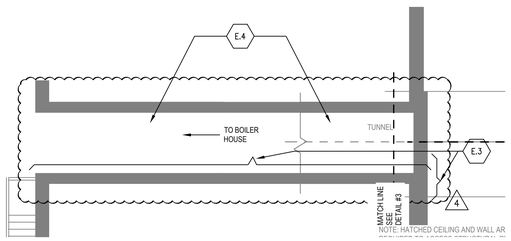
E.4 ELECTRICAL AND FIRE ALARM CONTRACTOR TO TEMPORALLY DISCONNECT AND REMOVE ANY CEILING MOUNTED BRANCH FEEDERS AND DEVICES (LIGHTS, J-BOXES AND PULL BOXES) TO PREPARE THE SPACE FOR STRUCTURAL CEILING REPAIRS. COORDINATE IN FIELD. INSTALL NEW BRANCH FEEDERS AND DEVICES ON NEW UNISTUT SUPPORTS. ALL FREE RUNNING EXPOSED LOW VOLTAGE CABLES SHALL BE SHIFTED AWAY FROM AREAS TO BE REPAIRED AND PROTECTED AT ALL TIMES.

4

LEGEND:

EX - EXISTING

RR - REMOVED AND REINSTALLED



3 BASEMENT PLAN - EXISTING TUNNEL TO BOILER HOUSE
1/8" = 1'-0"

N
KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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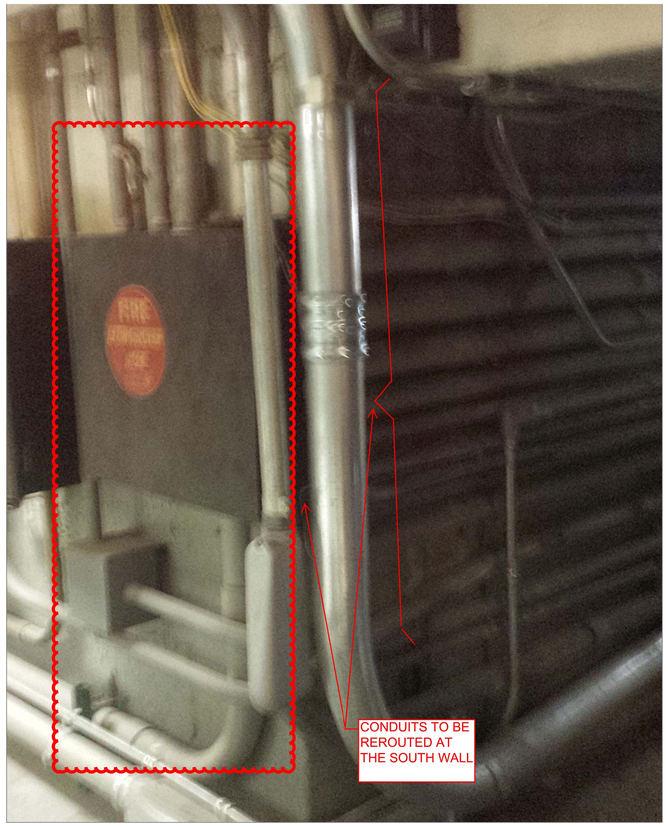
ELECTRICAL BASEMENT PLAN - EXISTING BLDG

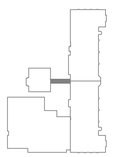
Sheet

E1.3

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 CONDUIT PICTURES - EXISTING TUNNEL TO BOILER HOUSE
SCALE: NONE



N
KEY PLAN

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Title
TUNNEL PHOTOS ADDENDUM #4

Sheet
E1.3A