

TOWN OF DEDHAM



INVITAION FOR BID

Dedham Middle School Safety Vestibule Construction

Contract Number #20230012

Addendum Date: Tuesday April 18th, 2023

Original IFB Release Date: Wednesday March 22nd, 2023

Filed Sub Bids (**Metal Windows**): Wednesday May 3rd, 2023 @ 11:00 AM

Bids Due Date: Monday May 15th, 2023 @ 10:00 AM

Response to questions:

1. The Dedham Middle School IFB (including the one issued with the addendum) mentions the Glass and Glazing FSB, however, the filed sub-bid indicated in the specifications is actually a Metal Window Filed sub-bid that includes glazing. Can you confirm this is actually a Metal Window FSB, not a Glass and Glazing FSB?

1.1 The filed sub bid is in fact metal windows not glass and glazing. All vendors please take note this is no longer a glass and glazing filed sub bid but metal windows. Please note section 088000 has been replaced with section 08 000 1. Kindly find the attached section to this addendum.

2. Sheet A1.01 references new surface walk off mat with tapered aluminum frame. But the specifications ' 12 48 16 Entrance floor grilles' indicate recessed foot grilles and frames and provide drain pan and outlet. Please clarify

REPLACE SECTION 12 48 16 of the Project Manual in its entirety with the attached file.

Point of Information:

1. General Contractor to coordinate all work and include the Owner's security vendor's cost estimate for material and labor in their base bid price.
Equipment and labor cost for Setronics: - \$26,472.00, cost estimate and scope of work proposed by Setronics are attached. (Titled Exhibit B)
2. Clarification regarding Filed Sub Bids:

We published a Central Register advertisement that went live on March 22nd, 2023, at that time the cost estimate we had indicated we would have filed sub bids of Masonry, Glass/Glazing/Openings, HVAC & Electrical. This was based on a cost estimate that was done in November of 2022. (categories of work estimated at \$25,000 or more per DCAMM/ C149). A cost estimate was provided by the designer on March 21st, 2023 that indicated that the only filed sub bid category at \$25,000 or more is the openings or DCAMM category Glass/Glazing, which includes glazing, doors, glazing aluminum curtainwall, etc.. There was a reduction in scope for Masonry, HVAC and Electrical.

At this time the ONLY filed Sub Bid category we are asking for bids for is Metal Windows, this filed sub bid was incorrectly filed as glazing.

Changes to the IFB:

1. General and Filed Sub Bid dates were changed to reflect the following changes:
 - 1.1 Filed Sub Bids (Metal Windows) now due Wednesday May 3rd, 2023 @ 11:00 AM
 - 1.2 General Bids now due Monday May 15th, 2023 @ 10:00 AM
2. The Town of Dedham is now adding an Ad Alt line in the bid form for level 3 bullet proof glass. Please see all the attached documents regarding this glass. Please note that this only an ad alt and does not affect the original scope. Please use the bid form ad alt line item and refer to the ballistic glass as add alt #1.

New Documents attached to the IFB:

1. 00 01 10 TABLE OF CONTENTS
2. 01 23 00 ALTERNATES
3. 01 12 00 SUMMARY OF MULTIPLE CONTRACTS
4. 08 34 53 BULLET RESISTANT OPENING PROTECTION
5. 08 44 13.13 GLAZED BALLISTIC RATED FRAMING SYSTEM
6. 08 00 01 METAL WINDOWS FILED SUB BID
7. 08 88 53 SECURITY GLAZING
8. 09 21 16 GYPSUM BOARD ASSEMBLIES
9. 12 48 16 ENTRANCE FLOOR GRILLES
10. 08 71 00 Door Hardware
11. Dedham Middle School Safety Vestibule Project drawings Addendum Set. Please note the architectural section item A1. 06 Add/Alt No.01 Ballistic Rated Construction.

Sincerely,
Rana Mana-Doerfer
Director of Procurement
PH: 781-751-9105
EM: rmanadoerfer@dedham-ma.gov
Pronouns: She/Her/Hers
CC: Denise Moroney, Director of Facilities & Maintenance
CC: Fenton Bradley, D21 Architects

TOWN OF DEDHAM



INVITAION FOR BID

Dedham Middle School Safety Vestibule Construction

Contract Number #20230012

Addendum Date: Wednesday April 5th, 2023

Original IFB Release Date: Wednesday March 22nd, 2023

Filed Sub Bids (Glass & Glazing): Thursday April 20th, 2023 @ 10:00 AM

Bids Due Date: Thursday April 27^h, 2023 @ 10:00 AM

Response to questions:

1. Drawing FA901:

1.1 Provide model number for existing notifier FACP

Answer 1.1 : Notifier NFS2-3030 (See IMG_3906.HEIC)



1.2 Provide Fire Alarm System Maintenance Vendor of Record- contact information.

Answer 1.2: Norel Service, Co.



2. Drawing E700:

2.1 Provide manufacturer & model number for existing panel “ PP1B SEC 3”

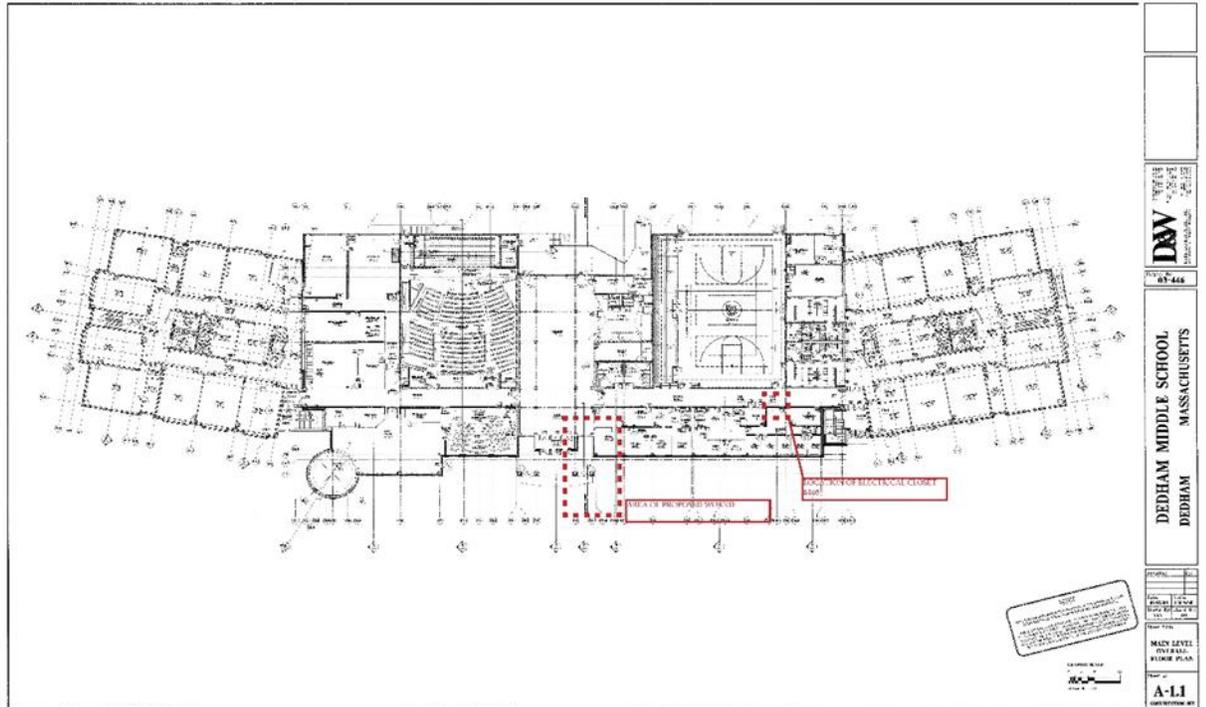
Answer 2.1: Square-D NQOD (See 20220816_100426.jpg)



2.2 Indicate location on drawings for existing panel “ PP1B SEC 3”

Answer 2.2: The panel is located in Electrical Closet B105 (see Existing Drawing sheet A1.1 Main Level Overall Floor Plan Dore & Whittier Existing Drawing set)

Please see exhibit A attached to this PDF.



3. We have a question about the doors and hardware. Do you have a door schedule you can send over? We are unable to find the hardware you would like for the 3 doors listed as well as the makeup of the two interior doors. Is this something you could help with or maybe point us in the right direction.

Answer #3: The drawing set attached includes revision 1 - revision cloud added to Sheets A1.04 & A1.05 - Door schedule and hardware set information were added to drawing sheets A1.04, & A1.05.

4. What is the Time of Completion and Liquidated Damages for the project referenced in Subject Line?

Answer #4: Time of Completion is about 120 days from Notice to Proceed (NTP). Liquidated damages are one thousand dollars per day (\$1,000)

Point of Information:

1. General Contractor to coordinate all work and include the Owner's security vendor's cost estimate for material and labor in their base bid price.
Equipment and labor cost for Setronics: - \$26,472.00, cost estimate and scope of work proposed by Setronics are attached. (Titled Exhibit B)
2. Clarification regarding Filed Sub Bids:
We published a Central Register advertisement that went live on March 22nd, 2023, at that time the cost estimate we had indicated we would have filed sub bids of Masonry,

Glass/Glazing/Openings, HVAC & Electrical. This was based on a cost estimate that was done in November of 2022. (categories of work estimated at \$25,000 or more per DCAMM/ C149). A cost estimate was provided by the designer on March 21st, 2023 that indicated that the only filed sub bid category at \$25,000 or more is the openings or DCAMM category Glass/Glazing, which includes glazing, doors, glazing aluminum curtainwall, etc.. There was a reduction in scope for Masonry, HVAC and Electrical. At this time the ONLY filed Sub Bid category we are asking for bids for is Glass & Glazing, as indicated in the IFB documents on page 7 of 544, or page number 00100-1 paragraph

Changes to the IFB:

1. Page 7 of the project manual was updated to reflect a change in the list of drawings. Drawing H700 was included in the bid set but not listed under the list of drawings.
2. Liquidated damages were added to reflect an amount of \$1,000 per day.
3. Project completion is 120 days from issuance of the Notice to Proceed.
4. Updated Project Manual section - 087100 -Door Hardware Section. Note: Replaces section 087100 of the Project Manual and Specifications dated 3/20/23.
5. General and Filed Sub Bid dates were changed to reflect the following changes:
 - 5.1 Filed Sub Bids (Glass & Glazing) now due Thursday April 20th, 2023 @ 10:00 AM
 - 5.2 General Bids now due Thursday April 27th, 2023 @ 10:00 AM.

New Documents attached to the IFB:

1. Exhibit A: Dedham Middle School floor plan with mark ups of proposed area of work or an electrical closet.
2. ITC71 Access Controls & IP Cameras quote from Setronics. Owner provided and installed equipment.
3. Dedham Middle School Safety Vestibule Project drawings Addendum Set.
4. Dedham Middle School Safety Vestibule Project Manual. Please note the changes to section 08 7 100 Door Hardware.
5. New and updated Prevailing wage schedule.

Sincerely,
Rana Mana-Doerfer
Director of Procurement
PH: 781-751-9105
EM: rmanadoerfer@dedham-ma.gov
Pronouns: She/Her/Hers
CC: Denise Moroney, Director of Facilities & Maintenance
CC: Fenton Bradley, D21 Architects

Town of Dedham
Rana Mana-Doerfer
Director of Procurement



Town of Dedham
Department of Facilities &
Maintenance
Denise Moroney, Director of
Facilities & Maintenance
Web site: www.dedham-ma.gov

Dedham Middle School Safety Vestibule Construction
Invitation for Bid
20230012

Procurement Overview

Primary Contact (bid questions)	Rana Mana-Doerfer, Director of Procurement
Contract Manager	Denise Moroney, Director of Facilities & Maintenance
Bid Package Available	Wednesday March 22nd, 2023 -Information and details of bidding requirements may be obtained at the Town Manager's Office, 450 Washington St, Dedham, MA 02026, 3 rd floor for a \$50 non-refundable fee, or online at the Town's Website for FREE
Pre-Bid Meeting	Tuesday March 28th, 2023, @ 10:00 AM (70 Whiting Ave, Dedham, MA 02026)
Bid Deposit	5% bid deposit is required as part of bid
Deadline for Written Questions	Thursday March 30th, 2023 @ 12:00 PM. Questions can be submitted via mail, or email using the information below. By mail: Attn: Procurement Office, 450 Washington Street, Dedham, MA 02026 By Email: procurement@dedham-ma.gov All Question Will be Answered in a formal addendum
Addenda	If any changes are made to this bid, an addendum will be issued. Addenda will be posted on the Town's Webpage and emailed to all bidders on our recorded bidders list.
When and Where are Filed Sub Bid Due	Wednesday April 12th, 2023 @ 10:00 AM Thursday April 20th, 2023 @ 10:00 AM Wednesday May 3rd, 2023 @ 11:00 AM Attn: Director of Procurement, Town Hall, 450 Washington St, Dedham, MA 02026.
When and Where General Bids are Due	Thursday April 20th, 2023 @ 10:00 AM Thursday April 27th, 2023 @ 10:00 AM Monday May 15th, 2023 @ 10:00 AM Attn: Director of Procurement, Town Hall, 450 Washington St, Dedham, MA 02026.
Bid Opening	Wednesday May 3rd, 2023 @ 11:00 AM & Monday May 15th, 2023 @ 10:00 AM Dedham Town Hall, Room 305, 3 rd Floor
Number of Required Copies	ONE (1) Original, 3 Copies, AND 1 Digital USB Copy. 5 total.
Contract Award	Award will be made within 90 business days upon Town Manager and Town Counsel Approval and Signature
Upon Award of Contract	
Payment Bond	100% of the bid value
Performance Bond	100% of the bid value
Insurance Refer to Contract Terms	Insurance Refer to Contract Terms (See page 00800-2)

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Attachment A – Wage Rates

SECTION 00020

INVITATION FOR BIDS

Sealed bids for furnishing the following item will be received at the Office of the Town Manager, Third Floor, Suite 322, Dedham Town Hall, Dedham, MA 02026 until the time specified below at which time the bids will be publicly opened and read:

Specifications and bid forms may be obtained at the Office of the Town Manager's Office, 450 Washington St, Dedham, MA 02026, 3rd floor for a \$50 non-refundable fee, or online at the Town's [Website](#) for **FREE**

Filed Sub-bids will be opened in the Office of the Town Manager on ~~Wednesday April 12th, 2023, at 10:00 a.m. Thursday April 20th, 2023 @ 10:00 AM~~ **Wednesday May 3rd, 2023 @ 11:00 AM** General Bids will be opened on ~~Thursday April 20th, 2023 @ 10:00 AM Thursday April 27th, 2023 @ 10:00 AM~~ **Monday May 15th, 2023 @ 10:00 AM** at the same location.

Each Bid and filed sub-bid must be accompanied by a bid security consisting of a BID BOND, CASH, or, CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

Pre-Bid Conference and Site Visit will be held at 70 Whiting Ave, Dedham, MA 02026_ on Tuesday March 28th, 2023 at 10:00 AM. It is imperative that all prospective bidders have a representative in attendance.

A performance bond in an amount equal to 100 percent of the total amount of the contract price with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract as well as a labor and materials bond in an amount equal to 100 percent of the total contract price.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including G.L. c.149, § 44A through 44H, as amended.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Workforce Development and the weekly payroll record submittal requirements under the provisions of Massachusetts General Laws, Chapter 149, Section 26 through 27D inclusive.

Attention is further directed to the requirements of G.L. c.149, §44D requiring submission of a Division of Capital Asset Management approved Certificate of Eligibility and Update Statement with all bids.

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

The Town reserves the right to waive any informalities, to accept or reject, in whole or in part any or all bids, or take whatever other action may be deemed to be in the best interest of the Town.

The Town of Dedham

By Leon I. Goodwin, III

Its Town Manager

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of Dedham, Massachusetts, herein called the Owner or Awarding Authority, acting by and through its Town Manager, will receive sealed Bids for the project known as Dedham Middle School Safety Vestibule Construction.

This Project is subject to the public bidding statutes, G.L. c. 149, §§44A-44H, including filed sub-bids for the trades noted herein (Metal Windows) . Filed sub-bids addressed to the Town Manager's Office, 450 Washington Street, Dedham, MA 02026 , and endorsed "Sub-bid for Dedham Middle School Safety Vestibule Construction (Project): Filed Sub-bid for METAL WINDOWS (Vendor to write in the item that applies)_", will be received at the Office of the Town Manager until ~~Wednesday April 12th, 2023, at 10:00 a.m. Thursday April 20th, 2023 @ 10:00 AM~~ **Wednesday May 3rd, 2023 @ 11:00 AM** . prevailing time, at which time and place said filed sub-bids will be publicly opened and read aloud.

General bids similarly addressed to the Town Manager's Office, 450 Washington Street, Dedham, MA 02026 and endorsed "Bid for Dedham Middle School Safety Vestibule Construction _" will be received at the Office of the Town Manager until 10:00 a.m. prevailing time, on ~~Thursday April 20th, 2023 Thursday April 27th, 2023 @ 10:00 AM~~ **Monday May 15th, 2023 @ 10:00 AM**, at which time and place said bids will be publicly opened and read aloud.

. Sub-bids: Every sub-bid shall be for the complete work of the sub-trade as specified, and must be submitted on the Form for Sub-bid furnished by the Awarding Authority, a sample of which is included in these Contract Documents.

1. Every such sub-bid shall be accompanied by a bid deposit in the amount of 5% of the Bid.
2. Every sub-bidder duly filing a sub-bid with the Awarding Authority shall be bound thereby to every general bidder not excluded therein from the use thereof; and any variance from such sub-bid communicated to a general bidder shall be of no effect.
3. Every sub-bid for a sub-trade designated in Item 2 of the FORM FOR GENERAL BID shall be publicly opened and read by the Awarding Authority at the time and place specified in the advertised Invitation to Bid. Not later than the second day, Saturdays, Sundays and legal holidays excluded, prior to the advertised General Bid Deadline, the Awarding Authority shall mail to every person on record as having taken a set of Contract Documents, a list of sub-bidders. The list shall be arranged by sub-trades and listing for each sub-trade the name, address and sub-bid price of every sub-bidder who has submitted a sub-bid which has not been rejected by the Awarding Authority.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The location, general characteristics, and principal details of the Work are indicated on plans entitled:

The Project consists of but not limited to:

Modification to the existing school and addition at main entry to create a new entrance vestibule; selective demolition of the building envelope, exterior concrete walk, and administrative office; construction of a new safety vestibule including but not limited to new foundation and masonry walls, curtain wall system, transaction window, laminate film security glazing, finishes, new exterior and interior doors, security cameras, HVAC equipment, fire protection equipment, security hardware coordination, reconfigure the administrative office, and site improvements.

Scope of work included in the bid consist of but not limited to:

1. Site Preparation and Temporary Facilities: Prepare site for demolition work including temporary construction fencing and gates, security, erosion and sediment control, dust control and sweeping, waste containers and waste separation, temporary sheds and offices, fire protection, temporary water source for construction purposes, and all other temporary facilities for execution of the work. Refer to the Drawings and Specifications.
2. Selective building and site demolition: Demolition Removal shall include locations noted on the Drawings and Specifications.
3. Site Elements: Remove on-site elements to construct new foundation, walkways, and other site improvements as indicated on Drawings. Refer to the Drawings and Specifications.
4. Building Utilities: Utilities servicing the building shall be disconnected or removed by General Contractor as required, Refer to the Drawings and Specifications.
5. Restoration of Site: Backfilling of disturbed areas with clean compacted fill; provide all filling and grading of all areas to provide a finished grade of areas with required slope and matching existing topography on site and to blend with adjacent properties. Refer to the Drawings and Specifications.
6. Salvaging of building materials and furnishings for Future Use by Owner: Carefully remove and salvage and clean all items indicated on the drawings. Refer to the Drawings and Specifications. Material shall be stored at a location in Town as designated by the Owner.

7. Removal of Temporary Facilities: Provide clean site with temporary facilities removed and area left acceptable to the Town of Dedham. Refer to the Specifications.
8. Construct new concrete footing and foundation, new masonry walls.
9. Install interior flooring - above existing exterior slab.
10. Construct exterior concrete slab and walkway - sloped in front of entrance away from building.
11. Install exterior doors (1 leaf), new interior doors and transom (1 leaf).
12. Install unit vent/heat at vestibule heater.
13. Paint all new and existing walls in administration main office to match existing color, paint walls within the Limit of Work area in existing lobby to match the adjacent surface colors. Refer to the Drawings and Specifications.
14. Install interior horizontal sliding pass-thru window with aluminum frame and sash
15. Construct new metal stud walls.
16. Install new curtainwall window and door assembly and security window film, contractor to apply security film on inside face of glass. Refer to the Drawings and Specifications.
17. Provide power and data outlets, Refer to the Electrical Drawings and Specifications.
18. Relocated existing power, data outlets, and intercom devices. Refer to the Electrical Drawings and Specifications.
19. Installation of fire protection equipment. Refer to the Fire Alarm and Fire Protection Drawings and Specifications.
20. Provide steel lintels to support existing masonry wall above new sliding transaction window.
21. Provide new brick to match existing brick adjacent to work area in all new construction locations. Refer to the Drawings and Specifications.

Security Scope of Work:

Scope of work includes but not limited to: General Contractor to coordinate with Town's security Vendor Setronics

1. Provide and install (3) AWID Card Readers for two new exterior and interior double doors and (1) door leading into the Main Office
2. leading into the Dedham Middle School
3. Provide and install (5) Door Contacts for the two new doors
4. Provide and install (3) REX motions for the doors
5. Provide and install power supply for the electronic door locking hardware
6. Provide and install (1) 5MP IP AXIS dome camera on the exterior of the building for the front entrance
7. Provide and install (1) 6MP 360 IP dome camera for the interior of the new vestibule
8. Provide and install (2) Exacq IP Camera licenses
9. Provide and install (1) Aiphone Audio/Video kit which includes door station and Master station for the New Front entrance
10. Provide and install (2) release buttons for the interior vestibule door and Main Office new entry door with power supply

11. Provide and install Cat 6 cable for the IP cameras back to the Head End
12. Provide and install Composite Access Control cable for the Keyscan access control devices
13. Provide and install (1) 4 door Keyscan Controller for the three (3) new doors
14. Program in the 3 new doors into the Keyscan system

Construction Period:

1. Construction shall be executed in a timely and orderly manner in accordance with the construction period established by the Designer and Owner; in this IFB.

Contractor's Use of Premises:

1. Work will be constructed in accordance with the Construction Schedule established by the Owner and the Contractor, in conjunction with the Contractor's proposed work plan.
2. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on the site.
3. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.
4. Obtain and pay for the use of additional storage or work areas needed for operations.

Hours of Work

Normal hours of work shall be between the hours of 8:00 am and 4:00 pm, Monday through Friday, unless otherwise specified. No work shall be performed on Saturdays, Sundays, Holidays, or any other times other than normal hours of work without express permission from the Director of Facilities & Maintenance or their designee. All work in this contract will be identified by the Director of Facilities & Maintenance and shall be constructed in accordance with Town Specification or as directed by the Director.

Response Time

The contractor must designate an employee or contact the authority to speak on behalf of the contractor for initiating requests for service. The Town will select a designee or designees to initiate work on behalf of the Town. A request for service will be generated in writing (including email, mail, and fax) for work as scheduled. For emergency work, the first point of contact may be a phone call with a follow up written request. Contractor must respond to emergency calls within two (2) hours after notification is made. Contractor must respond to on-call immediate response calls within forty-eight (48) hours after notification is made. Contractor must respond to scheduled work within forty-eight (48) hours after notification is made and schedule work to be completed within two (2) weeks.

All work performed under this contract will be done in accordance with industry standards and in accordance with local, state, and federal building regulations. All

areas disturbed in the performance of this contract will be restored to the original conditions. The restoration to original conditions may include but are not limited to: cleaning, patching, painting, carpentry work, electrical, plumbing, masonry, landscaping, HVAC, glazing, or the employment of any trade required in restoring conditions to original prior to work commencing.

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the Owner or its Architect/Engineer, and shall then become a part of the Contract Documents.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the Work and as herein specified.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item.

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids, above.

Properly executed bid security shall be placed in a sealed envelope and shall be attached to the outside of the envelope containing the bid.

Bid signatures will be checked.

All addenda will be sent certified mail, with return receipt requested, and/or facsimile or e-mail to all prospective bidders.

The total dollar amount of each bid will be read. All those present at the bid opening may examine all bids after the bid opening.

5. Modification

Any bidder may modify his bid by written communication at any time prior to the scheduled closing time for receipt of bids. Any telegraphic communication must be received by the Owner prior to the closing time, and, provided further, the Owner must be satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation is not received within two days from the closing time, no consideration will be given to a telegraphic communication.

The communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive, and binding.

The Owner may make such investigations as it deems necessary, and the bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.

7. Conditions of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

8. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other prebid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the Owner.

Questions concerning this IFB must ONLY be submitted in writing to the Procurement Office before **4:00 PM Friday March 10th, 2023** Questions may be emailed to procurement@dedham-ma.gov

Or mailed to 450 Washington St, Dedham, MA, 02026. Attn: Rana Mana-Doerfer Written responses will be emailed to all bidders on record as having received the IFB package.

The Town of Dedham has identified a sole point of contact with bidders for the purpose of this IFB. Any attempt to contact any other Town of Dedham employee or to circumvent these procedures in any manner may be grounds for disqualification of the bidder from the procurement process.

Bidders shall promptly raise the issue of any ambiguity, inconsistency, or error, which they may discover upon examination of the bid documents, the work site or any other conditions which apply to the work. Inquiries concerning any part of this Bid shall be directed to the individual(s) listed under the **Procurement Overview**. Bidders should note that **oral communications are not binding on the Town and only written responses by the Town will be considered.** All requests/questions must be submitted in writing. Questions may be delivered by hand, or email as referenced under the **Procurement Overview** by the deadline. Questions that may be asked during any pre-bid conference should also be sent in writing in order to receive an official response. Requests properly presented that in the opinion of the Town require interpretation, correction, or change in the Bid Documents will result in an issuance of an Addendum to the Bid Documents. Such Addendum shall subsequently become part of the contract. The Town will forward responses to all persons who are on record as receiving the bid package. Questions received after the due date will not be responded to unless the Town determines it is necessary. Bidders, please allow enough time for hand delivery or facsimile transmissions.

All addenda so issued shall become part of the Contract Documents

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract as specified in Section 00700, GENERAL CONDITIONS included herein. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

11. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though written out in full. Attention is directed to Section 00850 and to other applicable sections of the Contract Documents.

12. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after presentation thereof by the Owner, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid, but the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

13. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

14. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

If is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner or the Architect/Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

15. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the Owner, in the amount of five (5) percent of the value of the bid. Such security of general bidders will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter. Bid security of sub-bidders, except that of the sub-bidders named in the general bids of the three lowest responsible and eligible general bidders and those of the three lowest responsible and eligible sub-bidders for each sub-trade, shall be returned within five (5) days, Saturdays, Sundays and legal holidays excluded. After the opening of general bids, the bid security of the sub-bidders not returned as aforesaid, shall be returned within five (5) days, Saturdays, Sundays and legal holidays excluded, after the execution of the General Contract.

16. Right to Reject Bid

The Owner reserves the right to waive any informalities in bids and to reject any and all bids, should the Owner deem it to be in the public interest to do so.

The Owner may also reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities.

17. Time for Completion

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00300, FORM OF GENERAL BID.

18. Comparison of Bids

Bids will be compared on the basis of prices set forth in the bid forms.

In the event that there is a discrepancy between the lump sum or unit prices written in words and figures, the prices written in words will govern.

19. Award of Contract

The Contract will be awarded to "the lowest responsible and eligible bidder" pursuant to General Laws Chapter 149, Section 44A(2), as amended. Such a bidder shall possess the

skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding.

20. Statutes Regulating Competitive Bidding

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 149, Sections 44A through 44H, as amended, need not be accepted and the Owner may reject every such bid.

21. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of the Department of Labor and Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the bidder, before bid opening, to request any additional information on Prevailing Wage Rates for those tradespeople who may be employed for the proposed work under this contract.

State schedules of Prevailing wage rates are included in the Supplemental General Conditions section of the Contract Documents.

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records.

23. INSURANCE

The Contractor shall carry and continuously maintain until completion of the Contract, insurance as specified in the General Conditions and in such form as shall protect him performing work covered by this Contract, and the Town of Dedham and its employees, agents and officials, from all claims an liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract. The Town shall be named as an additional insured. The Contractor covenants and agrees to hold the Town and its employees, agents and officials harmless from loss or damage due to claims for bodily injury or death and/or property damage arising from, or in connection with, operations under this Contract.

25. PROJECT MANAGER

In addition to a project Architect/Engineer, the Owner may utilize the services of a project manager, whose duties shall be as set forth in the Agreement for Project Manager Services.

21. Certificate of Eligibility and Update Statement

In accordance with G.L. c.149, §44D, every bid and sub-bid must be accompanied by a copy of a certificate of eligibility issued by the Division of Capital Asset Management showing that the bidder or sub-bidder has the classification and capacity rating to perform the work required. An appropriate update statement must also be provided with each bid. Any bid or sub-bid submitted without an appropriate certificate of eligibility or update statement shall be invalid.

SECTION 00300

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

(____) a corporation, organized and existing under the laws of the state of

(____) a partnership

(____) a joint venture

(____) an individual
doing business as _____

To the Town of Dedham, Massachusetts (hereinafter called "Owner").

Gentlemen:

A) The undersigned Bidder, in compliance with your invitation for bids for the project known as _____, having examined the plans and specifications and related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents and the plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

The Bidder hereby agrees to commence work on or before the date to be specified in written "Notice to Proceed" of the Owner, and to substantially complete the project within 120 consecutive calendar days thereafter. The Bidder further agrees to pay as liquidated damages the sum of One Thousand (\$1,000) Dollars for each consecutive calendar day thereafter that the work is not complete as provided in Section 00700 GENERAL CONDITIONS.

*Specify corporation, partnership or individual as applicable.

requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this bid.

The undersigned agrees that if he is selected as general contractor, he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.

The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than one surety company, the surety companies shall be jointly and severally liable.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00100 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bonds are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract price in accordance with Section 00610 PERFORMANCE BOND, Section 00620 PAYMENT BOND, and as stipulated in Section 00700 GENERAL CONDITIONS and any supplemental general conditions thereto.

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

1. Have been in business under present name for ____ years.
2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as principals, are as follows:

(attach supplementary list if necessary)

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

<u>Completion Date</u>	<u>Project Name</u>	<u>Contract Amount</u>	<u>Design Architect</u>	<u>Reference Name</u>	<u>Telephone No.</u>
----------------------------	-------------------------	----------------------------	-----------------------------	---------------------------	--------------------------

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

Pursuant to M.G.L. C. 62C, Sec. 49A, I certify hereby in writing, under penalties of perjury, that the within named Bidder/Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the Awarding Authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

Respectfully submitted:

Date: _____

By: _____

(Signature)

(Type Name of Bidder)

(Title)

(Business Address)

(City and State)

(Telephone Number)

SECTION 00400

FORM OF SUB-BID

To all General Bidders Except those Excluded:

A. The Undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described plans, specifications and addenda, all the work specified in Section No. _____ of the specifications and in any plans specified in such section, prepared by _____, for the contract sum of _____ dollars (\$_____).

For Alternate No. _____; Add \$ _____ Subtract \$ _____

Alternate No. _____; Add \$ _____ Subtract \$ _____

B. This sub-bid includes addenda numbered _____.

C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

[To exclude general bidders, insert "X" in one box only and fill in blank following that box. Do not answer C if no general bidders are excluded.]

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within five days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general bidder selected as the general contractor, execute with such general bidder a subcontract in accordance with the terms of this sub-bid, and contingent upon the execution of the general contract, and, if requested so to do in the general bid by such general bidder, who shall pay the premiums therefor, furnish a performance and payment bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority, in the full sum of the subcontract price.

E. The names of all persons, firms and corporations furnishing to the undersigned labor or labor and materials for the class or classes or part thereof of work for which the provisions of the section of the specifications for this sub-trade require a listing in this paragraph, including the undersigned if customarily furnished by persons on his own payroll and in the absence of a contrary provision in the specifications, the name of each such class of work or part thereto and the bid price for such class of work or part thereof are:

Name	Class of Work	Bid Price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Do not give bid price for any class or part thereof furnished by undersigned.]

F. The undersigned agrees that the above list of bids to the undersigned represents bona fide bids based on the hereinbefore described plans, specifications and addenda and that, if the undersigned is awarded the contract, they will be used for the work indicated at the amounts stated, if satisfactory to the awarding authority.

G. The undersigned further agrees to be bound to the general contractor by the terms of the hereinbefore described plans, specifications, including all general conditions stated therein, and addenda, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the owner.

H. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications:

1. Have been in business under present business name _____ years.
2. Ever failed to complete any work awarded: _____
3. List one or more recent buildings with names of the general contractor and architect on which you served as a subcontractor for work of similar character as required for the above-named building.

Building	Architect	General Contractor	Amount of Contract
(a) _____	_____	_____	_____
(b) _____	_____	_____	_____
(c) _____	_____	_____	_____

4. Bank reference _____

l. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

The undersigned further certifies under penalties of perjury that this sub-bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

(Name of Sub-bidder)

By: _____
(Title and Name of Person
Signing Bid)

(Business Address)

(City and State)

SECTION 00500

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 200_, by and between the party of the first part, the Town of Dedham_, hereinafter called "OWNER," acting herein through its Town Manager_, and the party of the second part, _____ doing business as *(an individual) (a partnership) (a joint venture) (a corporation) located in the *(City) (Town) of _____, County of _____, and State of _____, hereinafter called "CONTRACTOR."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the OWNER to commence and complete the project described as follows: _____, hereinafter called the Project, for the sum of _____ Dollars (\$ _____) and all extra work in connection therewith, under the terms as stated in the Contract Documents; and at his (its or their) own proper cost and expense to furnish all the materials, supplies, machinery equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in Section 00300 FORM OF GENERAL BID, Section 00700 GENERAL CONDITIONS, and Section 00800 SUPPLEMENTAL GENERAL CONDITIONS, the plans, which include all maps, plates, blue prints, and the specifications and Contract Documents as prepared by the Owner.

The CONTRACTOR hereby agrees to commence work under this Contract on or before a date to be specified in written "Notice to Proceed" of the OWNER.

The CONTRACTOR further agrees to substantially complete the project within _____ consecutive calendar days of the date of the notice to proceed.

The CONTRACTOR further agrees to pay as liquidated damages the sum of \$1,000 for each consecutive calendar day thereafter as provided in the Liquidated Damages Paragraph of Article 8 of Section 00700 GENERAL CONDITIONS.

The CONTRACTOR agrees not to discriminate against or exclude any person from participation herein on grounds of race, religion, color, sex, age or national origin; and that it shall take affirmative actions to ensure that applicants are employed, and that employees are treated during their employment, without regard to race, religion, color, sex, age, handicapped status, or national origin.

The CONTRACTOR agrees not to participate in or cooperate with an international boycott, as defined in Section 999 (b)(3) and (4) of the Internal Revenue Code of 1986, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to additions and deductions, as provided in Section 00700 GENERAL CONDITIONS, and to make payments on account thereof as provided in Article 9 of Section 00700 GENERAL CONDITIONS.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in two (2) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

AGREED:

TOWN OF DEDHAM, MASSACHUSETTS
(Owner)

By _____

(Name)

(Title)

CONTRACTOR: _____

By _____

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____
(Owner's Counsel)

In accordance with M.G.L. C.44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefor and that the _____ has been authorized to execute the contract and approve all requisitions and change orders.

By _____
(Owner's Accountant)

(Name)

CERTIFICATE OF VOTE

00500-3

(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified
(Secretary of the Corporation)

and acting Secretary of _____ and I further certify that a meeting of the
(Name of Corporation)
Directors of said Company, duly called and held on _____, at which
(Date of Meeting)

all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

**CERTIFICATIONS REQUIRED BY LAW
FOR PUBLIC CONSTRUCTION CONTRACTS**

You must COMPLETE and SIGN the following certifications. You must also print, at the bottom of this page, the name of the contractor for whom these certifications are submitted.

TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I, the undersigned, authorized signatory for the below named contractor, do hereby certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

NON-COLLUSION

The undersigned certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

PUBLIC CONTRACTOR DEBARMENT

The undersigned certifies under penalty of perjury that the below named contractor is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

OSHA TRAINING

Pursuant to G.L. c. 30, §39S, the Contractor hereby certifies under penalties of perjury as follows:

- (1) Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work;
- (2) All employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and they shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and
- (3) All employees to be employed in the work subject to this contract have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

COMPLETE AND SIGN BELOW:

Authorized Person's Signature

Date

Print Name & Title of Signatory

Name of Contractor

SECTION 00610

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture or Individual)

_____ of _____, State of _____
(Surety) (City & State)

_____ hereinafter called the "Surety" and licensed by the State
Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are
held and firmly bound to the City/Town of _____, Massachusetts, hereinafter called
"Owner", in the penal sum of

_____ Dollars
(\$ _____) in lawful money of the United States, for the payment of which
sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and
successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered
into a certain contract with the Owner, dated the _____ day of _____,
20__ (the "Construction Contract"), for the construction described as follows: _____
_____.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,
all the undertakings, covenants, terms, conditions, and agreements of the Construction Contract
during the original term thereof, and any extensions thereof which may be granted by the Owner,
with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under
the Construction Contract, and shall fully indemnify and save harmless the Owner from all costs
and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the
Owner all outlay and expense which the Owner may incur in making good any default, then this
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the Surety's obligation under this Bond shall arise after (1)
the Owner has declared the Principal in default of the Construction Contract or any provision
thereof or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to
execute the work consistent with, and in conformance to, the Construction Contract (collectively
referred to as a "Contractor Default"). The determination of a Contractor Default shall be made
solely by the Owner. The Owner need not terminate the Construction Contract to declare a
Contractor Default or to invoke its rights under this Bond.

When the Surety's obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of the following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract; (2) arrange for a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

After the Surety's obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Construction Contract; (2) additional design, professional services, and legal costs, including attorneys' fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Construction Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligation of the Principal, if any, as provided in the Construction Contract; and (5) liquidated damages as provided in the Construction Contract, or if none are so specified, actual and foreseeable consequential damages resulting from the Contractor Default or default of the Surety under this Bond.

Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the Commonwealth of Massachusetts.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the work or to the specifications.

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a _____
(Name of Contractor) (Corporation, Partnership, Joint Venture or Individual)

hereinafter called "Principal" and _____ of _____,
(Surety)

State of _____ hereinafter called the "Surety" and licensed by the State
(City and State)

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City/Town of _____, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, for the construction described as follows:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____	By	_____ Surety
		_____ (Attorney-in-Fact)
		_____ (Address-Zip Code)
_____ Witness as to Surety	(SEAL)	

_____ (Address-Zip Code)		

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

SECTION 00700

GENERAL CONDITIONS

Use AIA A201 (2007 edition)

SECTION 00750

SUPPLEMENTARY CONDITIONS

Insert standard Supplementary General Conditions to AIA A201.

SECTION 00800
SPECIAL CONDITIONS

Page

1. Introduction
2. Prevailing Wage Rates
3. Insurance Requirements

SECTION 00850 - Incorporation of Applicable Provisions of the Massachusetts General Laws

Attachment A - Wage Rates and Certificate
of Compliance

§ SC 1.1 INTRODUCTION

The following provisions modify, change, delete from or add to Section 00700 GENERAL CONDITIONS. Where any Subsection of the General Conditions is modified or any Article Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplemental General Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

§ SC 2.1 PREVAILING WAGES

In accordance with General Laws Chapter 149, Section 26 through 27D, the Contractor is obligated to comply with the prevailing wage rates established by the Commissioner of the Department of Labor and Workforce Development for mechanics, apprentices, chauffeurs, teamsters and laborers employed on the Project. The schedule of applicable prevailing wage rates for the Project, together with a Certificate of Compliance therewith, are set forth in Attachment A herein.

§ SC 3.1 CONTRACTOR'S LIABILITY INSURANCE

In no case shall the limits of liability be less than the following:

1. Contractor's Liability Insurance
 - a. Workers' Compensation:
 1. State: Statutory
 2. Employer Liability:
 - \$ _____ Bodily Injury by Accident
 - \$ _____ Bodily Injury by Disease - policy limit
 3.
 - \$ _____ Bodily Injury by Disease - each
 - \$ _____ Umbrella Liability - all limits
 - b. Comprehensive General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):
 1. Bodily Injury:
 - \$ _____ Each Occurrence
 - \$ _____ Aggregate
 2. Products and Completed Operations
 - \$ _____ Each Occurrence (bodily injury and property damage)
 - \$ _____ Aggregate
 3. Property Damage Liability (including coverage for XCU hazards).
 - \$ _____ Each Occurrence
 - \$ _____ Aggregate
 4. Products and Completed Operations insurance shall be maintained for a minimum period of 2 years after final payment and Contractor shall continue to provide evidence of such coverage to Owner on an annual basis during the aforementioned.
 5. Contractual Liability (Hold Harmless Coverage):
 - \$ _____ Bodily Injury Each Occurrence
 - \$ _____ Property Damage Each Occurrence

\$_____ Property Damage Aggregate

6. Personal Injury, with Employment Exclusion deleted:
\$_____ All Limits

c. Comprehensive Automobile Liability (owned, non-owned, hired):

1. Bodily Injury
\$_____ Each Person
\$_____ Each Accident

2. Property Damage
\$_____ Each Accident

d. Property Insurance / Builders Risk: the full Contact sum

e. Umbrella Liability Coverage
\$_____ All Limits

SECTION 00850

Incorporation of Applicable Provisions of the Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.

"ATTACHMENT A"
[Wage Rates]

ADDENDUM No. 2

Attachments:

00 01 10	TABLE OF CONTENTS
01 23 00	ALTERNATES
01 12 00	SUMMARY OF MULTIPLE CONTRACTS
08 34 53	BULLET RESISTANT OPENING PROTECTION
08 44 13.13	GLAZED BALLISTIC RATED FRAMING SYSTEM
08 00 01	METAL WINDOWS FILED SUB BID
08 88 53	SECURITY GLAZING
09 21 16	GYPSUM BOARD ASSEMBLIES
12 48 16	ENTRANCE FLOOR GRILLES

Change to Specifications

Section 00 01 10 Table of Contents

Add the following new Sections:

01 23 00	ALTERNATES
08 34 53	BULLET RESISTANT OPENING PROTECTION
08 44 13.13	GLAZED BALLISTIC RATED FRAMING SYSTEM** (included in FSB 08 00 01)
08 88 53	SECURITY GLAZING

Section 00 01 15 List of Drawings

Add the following new Drawing:

A1.06 ADD / ALTERNATE NO. 1 BALLISTIC RATED CONSTRUCTION

Section 01 12 00 Summary of Multiple Contracts

Section revised.

Section 03 45 00 Precast Architectural Concrete

Delete Paragraph 1.1 in its entirety.

Section 04 00 01 Masonry Filed Sub Bid**

Delete Section in its entirety.

Section 04 21 13 Brick Masonry

Delete Paragraph 1.1 in its entirety.

Section 08 00 01 Metal Windows Filed Sub Bid

Section revised.

Section 09 21 16 Gypsum Board Assemblies

Section revised.

Section 12 48 16 Entrance Floor Grilles

Section revised.

END OF SECTION

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 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 Owner 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. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. 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.

1.4 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. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in 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. 1: Ballistic rated construction.

1. Provide glazed ballistic rated framing system including glazing and entrance doors, in lieu of glazed aluminum curtain wall and framing systems in accordance with Division 08 Section "Glazed Ballistic Rated Framing System."
2. Provide bullet resistant wood door and bullet resistant hollow metal frame in lieu of flush wood door and hollow metal frame in accordance with Division 08 Sections "Bullet Resistant Opening Protection" and "Security Glazing."
3. Provide bullet resistant transaction window in lieu of standard transaction window in accordance with Division 08 Section "Bullet Resistant Opening Protection."
4. Provide bullet resistant fiberglass panels in accordance with "Gypsum Board Assemblies."

END OF SECTION 01 23 00

SECTION 01 12 00 - SUMMARY OF MULTIPLE CONTRACTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls, and Filed Sub Bid requirements.
- B. Related Sections include the following:
 - 1. Division 01 Section "Summary" for the Work covered by the Contract Documents, restrictions on use of the premises, Owner-occupancy requirements, and work restrictions.
 - 2. [Division 01 Section "Alternates."](#)
 - 3. Division 01 Section "Project Management and Coordination" for general coordination requirements.
 - 4. Division 01 Section "Temporary Facilities and Controls" for specific requirements for temporary facilities and controls.
 - 5. Divisions 03 through 26 Sections for additional Filed Sub Bid requirements.

1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 COORDINATION

- A. The Contractor shall be responsible for coordination between all Filed Subcontractors.

1.5 PROJECT COORDINATOR

- A. Coordination activities of the Contractor include, but are not limited to, the following:
 - 1. Provide overall coordination of the Work by the Contractor and Filed Subcontractors.
 - 2. Coordinate shared access to workspaces.
 - 3. Coordinate product selections for compatibility.
 - 4. Provide overall coordination of temporary facilities and controls.
 - 5. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.

6. Coordinate construction and operations of the Work with work performed by each contract and Owner's construction forces.
 7. Coordinate sequencing and scheduling of the Work. Include the following:
 - a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with separate contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
 - b. Prepare a combined Contractor's Construction Schedule for entire Project. Base schedule on Preliminary Construction Schedule. Secure time commitments for performing critical construction activities from separate contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.
 - c. Complete mockups for Architect's review in a timely manner.
 - d. Distribute copies of schedules to Architect, Owner, Project Manager and separate contractors.
 8. Provide quality-assurance and quality-control services specified in Division 01 Section "Quality Requirements."
 9. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
 10. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
 11. Locate existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
 12. Provide field surveys of in-progress construction.
 13. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
 14. Coordinate cutting and patching.
 15. Coordinate protection of the Work.
 16. Coordinate completion of interrelated punch list items.
 17. Coordinate preparation of Project Record Documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
 18. Print and submit Record CAD Drawings if installations by more than one contractor are indicated on the same Contract Drawing or Shop Drawing.
 19. Collect Record Specification Sections from other contractors, collate Sections into numeric order, and submit complete set.
 20. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
- B. Responsibilities of Contractor and Filed Subcontractors for temporary facilities and controls are specified in Division 01 Section "Temporary Facilities and Controls."

1.6 GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract:
1. Unless otherwise indicated, the Work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
 2. Cutting and Patching: Provided by the Contractor and Filed Subcontractors for their own Work as required by Division 01 Section "Cutting and Patching."

3. Within five working days after the initial Coordination Meeting, submit a matching preliminary schedule and preliminary network diagram showing construction operations sequenced and coordinated with overall construction.
4. Project closeout requirements.

B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the Work.

1. Contractor shall coordinate substitutions.

1.7 GENERAL CONSTRUCTION CONTRACT

A. Work in the General Construction Contract includes, but is not limited to, the following:

1. [All work indicated on Drawings and in Specification with the exception of glazed aluminum curtainwall and associated glazing, glazed ballistic rated framing system \(alternate\), and glazing films.](#)

B. Temporary facilities and controls in the General Construction Contract include, but are not limited to, the following:

1. Temporary facilities and controls that are not otherwise specifically assigned to Filed Subcontractors as indicated in Division 01 Section "Temporary Facilities and Controls."
2. Project identification and temporary signs.
3. General waste disposal facilities.
4. Temporary fire-protection facilities.
5. Barricades, warning signs, and lights.
6. Security enclosure and lockup.
7. Environmental protection.

1.8 FILED SUBCONTRACTS

A. General: All Filed Subcontractors are required to review all Drawings for information as it relates to conditions of the Work for proper phasing, coordination, and execution of the Work.

1. Specification Sections included in each Filed Sub Bid category may contain additional scope requirements as referenced in separate Specification Sections.
2. The Contractor and each Filed Subcontractor must review and incorporate all Addenda items into the Contract Documents, and respective scopes of Work.

B. The Project includes the following Filed Sub-Bid categories and related Specification Sections. Refer to the Table of Contents and Divisions 03 through 26 for Filed Sub Bid Specification Sections.

1. ~~Masonry Filed Sub Bid – 04 00 01.~~
2. Metal Windows Filed Sub Bid – 08 00 01.
3. ~~Electrical – 26 00 00.~~

SAFETY VESTIBULE ADDITION
DEDHAM MIDDLE SCHOOL
Dedham, MA

Issued for Bid
March 20, 2023

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 12 00

SECTION 08 34 53 – BULLET RESISTANT OPENING PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes the following:

1. Bullet resistant flush wood door, factory glazed and factory finished.
2. Bullet resistant hollow metal frame.
3. Bullet resistant transaction window and accessories, factory glazed.

- B. Related Sections:

1. Division 01 Section "Alternates" for bidding requirements of this Section.
2. Division 06 Section "Miscellaneous Rough Carpentry" for wood blocking.
3. Division 07 Section "Joint Sealants" for joint sealants to the extent not specified in this Section.
4. Division 08 Section "Flush Wood Doors" for flush wood doors, and matching finish requirements for bullet resistant wood doors.
5. Division 08 Section "Glazed Ballistic Rated Framing System" for exterior bullet resistant framing and doors.
6. Division 08 Section "Door Hardware" for door hardware to the extent not specified in this Section.
7. Division 08 Section "Security Glazing" for bullet resistant glass for bullet resistant flush wood door.
8. Division 09 Section "Gypsum Board Assemblies" for bullet resistant fiberglass panels.
9. Division 09 Section "Painting" for field finishing of bullet resistant hollow metal frame.
10. Division 26 Electrical Sections.

1.3 PERFORMANCE REQUIREMENTS

- A. Ballistics-Resistance Performance: Provide units identical to those tested for compliance with requirements indicated, and as follows:

1. Listed and labeled as bullet resisting according to UL 752, Level 3.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, label compliance, fire-resistance rating, and finishes for each type of detention doors and frames specified.

- B. Shop Drawings: In addition to requirements below, provide a schedule using same reference numbers for details and openings as those on Drawings:
1. Elevations of each door design.
 2. Direction of swing.
 3. Details of doors, including vertical and horizontal edge details, and metal thicknesses.
 4. Details of frames, including dimensioned profiles, and metal thicknesses.
 5. Locations of reinforcement and preparations for hardware.
 6. Details of each different wall opening condition.
 7. Details of anchorages, joints, field splices, and connections.
 8. Details of speaking apertures.
 9. Details of moldings, removable stops, and glazing.
 10. Details of conduit, junction boxes, and preparations for electrified door hardware.
- C. Samples for Initial Selection: For factory-finished wood doors.
- D. Samples for Verification:
1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish.
 2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edgings representing typical range of color and grain for each species of veneer and solid lumber required. Finish sample with same materials proposed for factory-finished doors.
 3. Frames for light openings, 6 inches long, for each material, type, and finish required.
 4. For the following items, prepared on Samples about 12 by 12 inches to demonstrate compliance with requirements for quality of materials and construction:
 - a. Bullet Resistant Doors: Show vertical-edge, top, and bottom construction; insulation; face stiffeners; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
 - b. Bullet Resistant Frames: Show profile, welded corner joint, welded hinge reinforcement, grout-cover boxes, floor and wall anchors, and silencers. Include separate section showing fixed steel panels and glazing if applicable.
- E. Coordination Drawings: Drawings of each bullet resistant door and frame, drawn to scale, on which connections and interface with electrified control systems are shown.
- F. Qualification Data: For qualified Installer.
- G. Welding certificates.
- H. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for detention doors and frames. Indicate metal thickness of each component of tested assembly and describe construction methods.
- I. Field quality-control reports documenting inspections of installed products.
- J. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

- B. Source Limitations: Obtain bullet resistant doors and frames from single source from single manufacturer.
- C. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3, "Structural Welding Code - Sheet Steel."
 - 3. AWS D1.6, "Structural Welding Code – Stainless Steel Sheet."
- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination".
 - 1. Meet with Architect, security systems supplier, and installers whose work interfaces with or affects bullet resistant wood doors and frames.
 - 2. Review requirements for type of cut-out and back box as part of the door and frame assembly.
 - 3. Document proceedings, including receipt of samples and shop drawings of appropriate security contact devices and that drawings as submitted accurately represent the installation of the device, back box and conduit terminations required. Furnish copy of record to each participant.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver bullet resistant doors and frames palleted, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
- B. Deliver bullet resistant frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Inspect units, on delivery, for damage. Minor damage may be repaired provided refinished items match new work and are approved by Architect; otherwise, remove and replace damaged items as directed.
- D. Store bullet resistant doors and frames under cover at building site. Place units in a vertical position with heads up, spaced by blocking, on minimum 4-inch- high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber.
 - 1. Provide minimum 1/4-inch space between each stacked unit to permit air circulation.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of bullet resistant hollow metal doors and frames that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Bullet Resistant Hollow Metal Frames, Wood Doors, and Transaction Windows:
 - a. Warranty Period: One year from date of Substantial Completion.
- B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace bullet resistant wood doors that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
 - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
 2. Warranty shall include installation and finishing that may be required due to repair or replacement of defective doors, distribution, glass and glazing and removal of defective doors.
 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS (Commercial Steel), Type B.
- B. Stainless-Steel Sheet: ASTM A 240/A 240M, austenitic stainless steel, Type 304.
- C. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- D. Concealed Bolts: ASTM A 307, Grade A unless otherwise indicated.
- E. Masonry Anchors: Fabricated from same steel sheet as door face.
- F. Postinstalled Expansion Anchors: With capability to sustain, without failure, a load equal to 4 times the load imposed, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.
 1. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (0.005 mm) for Class SC 1 service condition (mild).
- G. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

2.2 BULLET RESISTANT WOOD DOOR

- A. Basis of Design Product: Subject to compliance with requirements, provide **VT Industries; Heritage BR-5** or comparable product by one of the following:
 1. AMBICO Limited.
 2. Overly Door Company.

- B. Interior Bullet Resistant Wood Doors:
1. Grade: Custom (Grade A faces).
 2. Thickness: 1-3/4 inches.
 3. Species and Cut: Red oak, plain sliced.
 4. Match between Veneer Leaves: Book Match.
 5. Assembly of Veneer Leaves on Door Faces: Running match.
 6. Ballistics Resistance: Level 3 when tested according to UL 752.
 7. Core: Particleboard with bullet resistant reinforced fiberglass.
 8. Construction: Five plies with stiles and rails bonded to core, then entire unit abrasive planed before veneering.
 9. Stiles: 1-3/8 inch laminated strand lumber (LSL) with veneer band to match face.
 10. Crossbands: Engineered fiber.
 11. Top and Bottom Rails: 1-1/8 inch LSL or hardwood.
- C. Factory Prefit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:
1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements in NFPA 80 for fire-rated doors.
- D. Factory premachine doors for hardware that is not surface applied. Locate hardware to comply with "Door Hardware Institute-WDHS-3". Comply with final hardware schedules, door frame Shop Drawings, "Door Hardware Institute – A115-W Series Standards, and hardware templates.
1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 2. Drill all screw pilot holes for butt hinges and lock fronts at the factory.
- E. Factory Glazing: Refer to Division 08 Section "Security Glazing" for glass view panels in flush wood doors. Factory install glass. Fill glazing bead nail holes in factory finished doors.
- F. Prepare doors to receive security systems hardware in accordance with final security systems shop drawings and templates provide by security systems supplier.
1. Include an integral ½-inch diameter wire tube in doors to receive electrified locksets, exit devices, mortised electrical locksets, or electric strikes in the inactive leaf of pairs of doors to accommodate wiring associated with the power transfer hinges, knuckles, and electrified hardware within the door.
- G. Finish doors at factory. Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- H. Transparent Finish:
1. Grade: Premium.
 2. Finish: AWI's "Architectural Woodwork Standards" System 11, catalyzed polyurethane.
 3. Staining: Custom to match Architect's sample.
 4. Effect: Open finish.
 5. Sheen: Satin.

2.3 BULLET RESISTANT HOLLOW METAL FRAMES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Bullet Resistant Hollow Metal Frame:
 - a. Armortex.
 - b. North American Bullet Proof, Inc.
 - c. U.S. Bullet Proofing, Inc.
- B. General: Provide fully welded frames with integral stops, of seamless construction without visible joints or seams. Fabricate detention frames with contact edges closed tight and corners mitered, reinforced, and continuously welded full depth and width of detention frame.
1. Frame: Non-ricochet type, 16 gauge steel lined with bullet resistant fiberglass.
 - a. Bullet Resistance: Level 3 in accordance with UL 752.
 2. Finish: Factory primed to be field finished by Division 09 Section "Painting."
- C. Provide two temporary steel spreaders spot welded to bottom of jambs to act as bracing during shipping and storage. Remove prior to installation.
- D. Hardware Reinforcement: Fabricate reinforcing plates from same material as frame.
- E. Hardware Enclosures: Provide enclosures and junction boxes for electrically operated detention door hardware, interconnected with UL-approved, 1/2-inch- diameter conduit and connectors.
- F. Jamb Anchors: Weld jamb anchors to detention frames near hinges and directly opposite on strike jamb or as required to secure detention frames to adjacent construction.
1. Number of Anchors: Provide three anchors per jamb.
 2. Masonry Anchors: Adjustable, corrugated or perforated, strap-and-stirrup anchors to suit detention frame size; formed of same material and thickness as detention frame; with strap not less than 2 inches wide by 10 inches long.
 3. Postinstalled Expansion Anchors: Minimum 1/2-inch- diameter concealed bolts with expansion shields or inserts. Provide conduit spacer from detention frame to wall, welded to detention frame. Reinforce detention frames at anchor locations.
- G. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, formed of same material and thickness as frame, and as follows:
1. Monolithic Concrete Slabs: Clip anchors, with two holes to receive fasteners, welded to bottom of jambs and mullions with at least four spot welds per anchor.
- H. Rubber Door Silencers: Except on weather-stripped doors, drill stops in strike jambs to receive three silencers on single-door frames and drill head jamb stop to receive two silencers on double-door frames. Keep holes clear during construction.
- I. Glazing: Factory glaze sidelights with bullet resistant glazing to requirements specified in Division 08 Section "Security Glazing."

2.4 BULLET RESISTANT TRANSACTION WINDOW

- A. Basis of Design Product: Subject to compliance with requirements, provide **Armortex; Model W1-TW-CT-NV** or one of the following:
1. Action Bullet Resistant; Model STW-2.
 2. North American Bullet Proof, Inc.; Shotgard Model EXTW.
- B. General: Provide fully welded frames with integral stops, of seamless construction without visible joints or seams. Fabricate detention frames with contact edges closed tight and corners mitered, reinforced, and continuously welded full depth and width of detention frame.
1. Frame: Non-ricochet type, extruded aluminum frame with bullet resistant fiberglass.
 - a. Bullet Resistance: Level 3 in accordance with UL 752.
 - b. Include stainless steel glazing cap at bottom mullion where deal tray is indicated.
 - c. Finish: Clear anodized.
- C. Glass-Clad Polycarbonate Units: SC (Single Core) consisting of outer and inner lites of heat-strengthened float glass with an interior core consisting of one lite of polycarbonate sheet.
1. Bullet Resistance: Level 3 in accordance with UL 752.
- D. Countertop: Furnished and installed by General Contractor.
1. Do not provide integral countertop with transaction windows.
- E. Recessed, Nonricochet Deal Trays: Formed from stainless steel; fabricated with recessed bullet trap to ricochet bullets away from secure side, with exposed flanges for recessed installation into horizontal surface, and with sliding stainless-steel cover.
1. Basis of Design Product: Subject to compliance with requirements, provide the following or equal:
 - a. **Armortex; RMD-NR 1012, non-ricochet deal tray.**
 2. Clear Opening Size: 16 inches wide by 8 inches deep by 1-1/2 inches high.
 3. Bullet Trap Location: Secure side.
 4. Ballistics Resistance: UL Level 3.
 5. Listed and labeled as bullet resisting according to UL 752.

2.5 FABRICATION

- A. Fabricate bullet resistant doors and frames rigid, neat in appearance, and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Weld exposed joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Glazing Stops: Finish glazing stops to match framing.
1. Secure-Side (Exterior) Glazing Stops: Welded or integral to framing.

2. Nonsecure-Side (Interior) Glazing Stops: Removable, coordinated with glazing indicated.
- C. Coordinate rabbet width between fixed and removable stops with type of glass or panel and type of installation indicated.
- D. Hardware Preparation: Factory prepare doors and frames to receive mortised hardware, including cutouts, reinforcement, mortising, drilling, and tapping, according to final door hardware schedule and templates provided by detention door hardware supplier.
 1. Reinforce doors and frames to receive surface-mounted door hardware. Drilling and tapping may be done at Project site.
 2. Locate door hardware as indicated on approved Shop Drawing.
- E. Factory cut openings in bullet resistant doors.
- F. Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

2.6 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish bullet resistant hollow metal doors and frames after assembly.

2.7 STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning"; remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- B. Factory Priming for Field-Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.7 mils.
 1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, corrosion-inhibiting, lead- and chromate-free, universal primer complying with ANSI A250.10 acceptance criteria; compatible with substrate and field-applied finish paint system indicated; and providing a sound foundation for field-applied topcoats despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of detention doors and frames.

- B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of detention doors and frames.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory.
- B. Prior to installation and with shipping spreaders removed, adjust detention frames for squareness, alignment, twist, and plumbness to the following tolerances:
 - 1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb and perpendicular to frame head.
 - 2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of face.
 - 3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of door rabbet.
 - 4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

3.3 INSTALLATION OF BULLET RESISTANT FRAMES AND DOORS

- A. General: Install bullet resistant doors and frames plumb, rigid, properly aligned, and securely fastened in place, complying with Drawings, schedules, and manufacturer's written recommendations.
- B. Anchorage: Set bullet resistant frame anchorage devices according to details on Shop Drawings and per anchorage device manufacturer's written instructions.
 - 1. Postinstalled Expansion Anchors: Drill holes in existing construction at locations to match bolt locations and install bolt expansion shields or inserts.
- C. Assemble frames fabricated in sections. Install angle splices at each corner, of same material and thickness as detention frame, and extend at least 4 inches on both sides of joint.
 - 1. Field splice only at approved locations. Weld, grind, and finish as required to conceal evidence of splicing on exposed faces.
 - 2. Continuously weld and finish smooth joints between faces of abutted, multiple-opening, detention frame members.
 - 3. Field Welding: Comply with the following requirements:
 - a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - b. Obtain fusion without undercut or overlap.
 - c. Remove welding flux immediately.
 - d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

- D. Placing Frames: Install frames of sizes and profiles indicated. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
 - 1. Postinstalled Expansion Anchors: Install bolt. After bolt is tightened, weld bolt head to provide nonremovable condition. Grind, dress, and finish smooth welded bolt head.
 - 2. At fire-rated openings, install detention frames according to NFPA 80.
 - 3. Install frames with removable stops located on non-inmate side of opening.
- E. Doors: Fit non-fire-rated doors accurately in their frames, with the following clearances:
 - 1. Between Doors and Frames at Jambs and Head: 1/8 inch.
 - 2. Between Edges of Pairs of Doors: 1/8 inch.
 - 3. At Door Sills with Threshold: 3/8 inch.
 - 4. At Door Sills without Threshold: 3/4 inch.
 - 5. Between Door Bottom and Nominal Surface of Floor Covering: 1/2 inch.
- F. Factory prefit and premachined door: Align in frames for uniform clearance at each edge.
 - 1. Prefitting includes trimming to net size allowing for head, jamb and sill, clearances; rabbeting, and other detail work, beveling both jambs and easing edges.
 - 2. Premachining includes complete preparation for finish hardware other than surface applied items and screws, including drilling, mortising, routing, cutting, boring and other work required.
- G. Installation Tolerances: Comply with installation tolerances indicated in HMMA 863.
- H. Glazing: Furnished and installed by Division 08 Section "Security Glazing", unless otherwise indicated for bullet resistant transaction windows.

3.4 ERECTION TOLERANCES

- A. Install aluminum-framed systems to comply with the following maximum erection tolerances:
 - 1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet; 1/4 inch over total length.
 - 2. Alignment:
 - a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch.
 - b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch.
- B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.

3.5 FIELD QUALITY CONTROL

- A. Inspect installed products to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.
- B. Remove and replace work where inspections indicate that work does not comply with specified requirements.

- C. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.
- D. Prepare field quality-control certification that states installed products and their installation comply with requirements in the Contract Documents.

3.6 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including detention doors and frames that are warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
 - 1. After finishing smooth field welds, apply air-drying primer.
- C. Stainless-Steel Surfaces: Clean surfaces according to manufacturer's written instructions.

END OF SECTION 08 34 53

SECTION 08 44 13.13 - GLAZED BALLISTIC RATED FRAMING SYSTEM

PART 1 - GENERAL

1.1 GENERAL PROVISIONS – FILED SUB-BID REQUIRED AS PART OF 08 00 01 METAL WINDOWS FILED SUB BID

- A. Work of this Section requires Filed Sub-Bids and is governed by the provisions of the Massachusetts General Laws (MGL), Public Bidding Law Chapter 149, Sections 44A to 44J inclusive; and applicable Section of the MGL, Public Contract Law Chapter 30 as amended.

1.2 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.3 SUMMARY

- A. Section includes:

1. Glazed ballistic rated aluminum curtain walls (storefront).
2. Glazed ballistic rated aluminum entrance doors.
3. Ballistic rated glazing for interior and exterior glazed ballistic rated curtain walls and doors.
4. Brake metal fabrications to match curtainwall framing.

- B. Related Sections:

1. Division 01 Section "Alternates" for bidding requirements of this Section.
2. Division 06 Section "Miscellaneous Rough Carpentry" for wood blocking.
3. Division 07 Section "Sheet Metal Flashing and Trim" for brake metal sill flashing furnished and installed by this Section.
4. Division 07 Section "Joint Sealants" for joint sealants furnished and installed with aluminum-framed systems and for sealants to the extent not specified in this Section.
5. Division 07 Section "Spray Foam Sealants."

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 PERFORMANCE REQUIREMENTS

- A. General Performance: Comply with performance requirements specified, as determined by preconstruction testing of manufacturer's standard glazed ballistic rated curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Glazed ballistic rated curtain walls shall withstand movements of supporting structure indicated on Drawings including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
 2. Failure also includes the following:
 - a. Thermal stresses transferring to building structure.
 - b. Glass breakage.
 - c. Noise or vibration created by wind and thermal and structural movements.
 - d. Loosening or weakening of fasteners, attachments, and other components.
 - e. Failure of operating units.
- B. Structural Loads:
1. Wind Loads: Provide glazed ballistic rated curtain wall systems capable of withstanding wind-load design pressures calculated using a "design wind pressure" as determined from the Massachusetts State Building Code, and as indicated on Structural Drawings, whichever is greater, and as determined by the Fabricator's design engineer.
 - a. Basic Wind Speed: 140 mph (129 mph).
 - b. Exposure Category: Exposure B.
 - c. Risk Category: III.
 2. Seismic Loads: Provide glazed ballistic rated curtain wall systems capable of withstanding the effects of earthquake motions calculated according to the Massachusetts State Building Code, and as indicated on Structural Drawings, whichever is greater, as determined by the Fabricator's design engineer.
- C. Structural-Test Performance: Test according to ASTM E 330 as follows:
1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
 2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
 3. Test Durations: As required by design wind velocity, but not less than 10 seconds.
- D. Deflection of Framing Members: At design wind pressure, as follows:
1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches or an amount that restricts edge deflection of individual glazing lites to 3/4 inch, whichever is less.
 2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components directly below them to less than 1/8 inch and clearance between members and operable units directly below them to less than 1/16 inch.
 3. Cantilever Deflection: Where framing members overhang an anchor point, limit deflection to two times the length of cantilevered member, divided by 175.
- E. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 15 lbf/sq. ft.

- F. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures:
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
 2. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to The 2003 IECC and ASHRAE/IESNA 90.1 require that all fenestration be certified and labeled by the manufacturer for energy performance, based on ratings established by NFRC. Verify which manufacturers have tested glazed aluminum curtain walls and can demonstrate compliance with NFRC. Verify requirements of authorities having jurisdiction.
- G. Energy Performance: Glazed ballistic rated curtain walls shall have certified and labeled energy performance ratings in accordance with NFRC.
1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than 0.38 Btu/sq. ft. x h x deg F as determined according to NFRC 102.
 2. Air Infiltration: Maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. of fixed wall area as determined according to ASTM E 283 at a minimum static-air-pressure differential of 6.24 lbf/sq. ft.
 3. Solar Heat Gain Coefficient: SHGC of not more than 0.38.
- H. Ballistics-Resistance Performance: Installed bullet-resistant glazing shall withstand ballistic impact loads and forces without damage to the glazing beyond that allowed by referenced standards:
1. Listed and labeled as bullet resisting according to UL 752, Level 3.

1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Provide structural-sealant-glazed curtain walls that comply with test-performance requirements indicated, as evidenced by reports of tests performed on manufacturer's standard assemblies by a qualified testing agency.
- B. Preconstruction Sealant Testing: Perform sealant manufacturer's standard tests for compatibility with and adhesion of each material that will come in contact with sealants and each condition.
1. Test a minimum five production-run samples each of metal, glazing, and other material.
 2. Prepare samples using techniques and primers required for installed assemblies.
 3. Perform tests under environmental conditions that duplicate those under which assemblies will be installed.
 4. For materials that fail tests, determine corrective measures necessary to prepare each material to ensure compatibility with and adhesion of sealants including, but not limited to, specially formulated primers. After performing these corrective measures on the minimum number of samples required for each material, retest materials.

1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Shop Drawings: For glazed ballistic rated curtain walls. Include plans, elevations, sections, details, and attachments to other work prepared by or under the supervision of a qualified professional engineer licensed in the Commonwealth of Massachusetts.
 - 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
 - 2. Include full-size isometric details of each vertical-to-horizontal intersection of glazed ballistic rated curtain walls, showing the following:
 - a. Joinery, including concealed welds.
 - b. Anchorage.
 - c. Expansion provisions.
 - d. Glazing.
 - e. Flashing and drainage.
 - C. Delegated-Design Submittal: For aluminum-framed systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer licensed in the Commonwealth of Massachusetts responsible for their preparation.
 - 1. Detail fabrication and assembly of aluminum-framed systems.
 - 2. Include design calculations.
 - 3. Include structural analysis of story drift and deflection from anticipated live loads and determine if receptor heads are required.
 - D. Samples for Initial Selection: For units with factory-applied color finishes.
 - E. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.
 - 1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
 - 2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
 - 3. Accessories and Miscellaneous Materials: Full-size Sample.
 - F. Fabrication Sample: Of each vertical-to-horizontal intersection of assemblies, made from 12-inch lengths of full-size components and showing details of the following:
 - 1. Joinery, including concealed welds.
 - 2. Anchorage.
 - 3. Expansion provisions.
 - 4. Glazing.
 - 5. Flashing and drainage.
 - G. Coordination Drawings: Drawings of each bullet resistant door and frame, drawn to scale, on which connections and interface with electrified control systems are shown.
- 1.8 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For qualified Installer.

- B. Seismic Qualification Certificates: For glazed ballistic rated curtain walls, doors, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
- C. Welding certificates.
- D. Energy Performance Certificates: For glazed ballistic rated curtain walls, accessories, and components, from manufacturer.
 - 1. Basis for Certification: NFRC-certified energy performance values for each glazed aluminum curtain wall.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified preconstruction testing agency, for glazed ballistic rated curtain walls, indicating compliance with performance requirements.
- F. Warranties: Sample of special warranties.

1.9 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For glazed ballistic rated curtain walls to include in maintenance manuals.

1.10 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer capable of fabricating glazed ballistic rated curtain walls that meet or exceed energy performance requirements indicated and of documenting this performance by certification, labeling, and inclusion in lists.
- B. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- C. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the Commonwealth of Massachusetts and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of curtainwall framing that are similar to those indicated for this project in material, design and extent.
 - 1. The engineer shall make two visits to the site (once during installation and once after completion of the work) to inspect their respective components for conformance with the approved shop drawings.
- D. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
 - 1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.

- E. Source Limitations for Aluminum-Framed Systems: Obtain glazed ballistic rated aluminum curtain walls and ballistic rated doors from a single source from a single manufacturer.
- F. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
- G. Accessible Entrances: Comply with applicable provisions in AAB and 2010 ADA Standards.
- H. Energy Performance Standards: Comply with NFRC for minimum standards of energy performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.
 - 1. Provide NFRC-certified glazed ballistic rated curtain walls with an attached label.
- I. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Build mockup of typical wall area as directed by the Architect.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.11 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of structural supports for glazed ballistic rated curtain walls by field measurements before fabrication and indicate measurements on Shop Drawings.

1.12 WARRANTY

- A. Special Assembly Warranty: Standard form in which manufacturer agrees to repair or replace components of glazed ballistic rated curtain walls that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including, but not limited to, excessive deflection.
 - b. Noise or vibration created by wind and thermal and structural movements.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - d. Water penetration through fixed glazing and framing areas.
 - e. Failure of operating components.
 - 2. Warranty Period: One year from date of Substantial Completion.

- B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.
 - 1. Warranty Period: 20 years from date of Substantial Completion.
- C. Special Project Warranty: Submit Installer's warranty, signed by Installer, covering Work of this Section, including all installation components of aluminum framing system for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Sheet and Plate: ASTM B 209.
 - 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
 - 3. Extruded Structural Pipe and Tubes: ASTM B 429.
 - 4. Structural Profiles: ASTM B 308/B 308M.
 - 5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.
- B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.
 - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
 - 3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.2 BALLISTIC RATED ALUMINUM FRAMING

- A. Ballistic Rated Aluminum Framing: Flush glazed, thermally broken, extruded aluminum framed, ballistic resistant curtain wall.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide **Total Security Solutions; TSS-650 Thermal Ballistic Framing System** or one of the following:
 - a. Insulgard Security Products; Stormdefend TTH600 Framing.
 - b. U.S. Bullet Proofing, Inc.; USAW-400.
- B. Framing Members: Manufacturer's standard extruded- or formed-aluminum framing members of minimum wall thickness of 0.093-inch to 0.125-inch and reinforced as required to support imposed loads.

1. Construction: Thermally improved.
 2. Glazing System: Retained mechanically with gaskets on four sides.
 3. Depth of Frame: 6-1/2 inches, not less than 6 inches.
 4. Face of Frame: 2-1/2 inches.
- C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.
- D. Fasteners: Zinc coated, with no exposed fasteners.
- E. Gasket Material: Composition of thermoplastic elastomer (Type 65AB) and polyolefin foam concentrate, with a Shore A durometer of 55 to 65.
- F. Ballistic Armor: UL Level 3, totally concealed within the framing system.
- G. Glazing: Bullet resistant, Level 3, factory installed.
1. Provide bullet resistant units for interior framing.
 2. Provide bullet resistant insulated units for exterior framing.

2.3 BALLISTIC RATED ALUMINUM DOORS

- A. Ballistic Rated Aluminum Doors: Extruded aluminum framed, ballistic resistant entrance doors.
1. Basis of Design Product: Subject to compliance with requirements, provide **Total Security Solutions; Ballistic Aluminum Storefront Doors** or one of the following:
 - a. Insulgard Security Products; Stormdefend TTH350 Aluminum Door System.
 - b. U.S. Bullet Proofing, Inc.; USAD-1000.
- B. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.
1. Door Construction: 2-3/4-inch overall thickness, with minimum 0.125-inch- thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 2. Door Design: Wide stile (monumental); 5-/16-inch nominal width.
 - a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches above floor or ground plane.
 3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.
 4. Provide an integral 1/2-inch diameter wire tube in doors to receive electrified locksets, panic bars, mortised electric locksets, or electric strikes in the inactive leaf of pairs of doors to accommodate wiring associated with power transfer hinges, knuckles, and electrified hardware within the door.
- C. Fasteners: Zinc coated, with no exposed fasteners.

- D. Gasket Material: Composition of thermoplastic elastomer (Type 65AB) and polyolefin foam concentrate, with a Shore A durometer of 55 to 65.
- E. Ballistic Armor: UL Level 3, totally concealed within the framing system.
- F. Glazing: Bullet resistant, Level 3, factory installed.
 - 1. Provide bullet resistant units for interior doors.
 - 2. Provide bullet resistant insulated units for exterior doors.
- G. Door Hardware: Provide manufacturer's standard door hardware as follows:
 - 1. Hinges: Heavy duty concealed continuous hinge.
 - 2. Closer: Surface mounted.
 - 3. Weatherstripping.
 - 4. Sweep.
 - 5. Threshold: ADA compliant.
 - 6. Balance of Door Hardware: Comply with Division 08 Section "Door Hardware."

2.4 BALLISTIC RATED GLAZING

- A. Insulating Ballistic Rated Glazing: Factory-assembled units, consisting of sealed lites of glazing material indicated separated by a dehydrated interspace, qualified according to ASTM E2190
 - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
 - 2. Spacer: Aluminum with mill or clear anodic finish.
 - a. Provide custom filler at locations of standard insulated glass units installed in ballistic rated framing.
 - 3. Desiccant: Molecular sieve or silica gel, or blend of both.
- B. Interior Bullet Resistant Glazing: Nonsymmetrical clear laminated glass and polycarbonate with glass plies on the attack or threat side, polycarbonate plies on the interior, and glass ply on the witness side.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide **Total Security Solutions; TSS 003 LS 1-1/4"** or comparable product by one of the following:
 - a. Global Security Glazing.
 - b. LTI Smart Glass, Inc.
 - c. Oldcastle Building Envelope.
 - d. Patriot Armor.
 - 2. Ballistics Resistance: Level 3 per UL 752.
 - 3. Overall Nominal Unit Thickness: 1-1/4 inches.
 - 4. Makeup:
 - a. Outer Glass Ply: 3/8 inch heat-strengthened float glass.
 - b. Interlayer Thickness: 0.025 inch urethane.
 - c. First Inner Glass Ply: 3/8 inch heat-strengthened float glass.
 - d. Interlayer Thickness: 0.050 inch urethane.
 - e. Inner Polycarbonate Ply: 1/8 inch Type I (standard, UV-stabilized) polycarbonate.

- f. Interlayer Thickness: 0.050 inch urethane.
 - g. Outer Glass Ply (Secure Layer): 3/16 inch heat-strengthened float glass.
 - C. Exterior Insulated Bullet Resistant Glazing: Low-e-coated, clear insulating security glazing. Outdoor lite is made of monolithic glass and indoor lite is made of glass-clad polycarbonate.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide **Total Security Solutions; TSS 003 LS 1-1/4"** or comparable product by one of the following:
 - a. Global Security Glazing.
 - b. LTI Smart Glass, Inc.
 - c. Oldcastle Building Envelope.
 - d. Patriot Armor.
 - 2. Ballistics Resistance: Level 3 per UL 752.
 - 3. Overall Unit Thickness: 2 inches nominal.
 - 4. Outdoor Lite: Clear fully tempered float glass, 1/4 inch thickness.
 - 5. Low-E Coating: Sputtered on second surface.
 - 6. Interspace Content (Air Gap): Argon, 1/2 inch air gap.
 - 7. Indoor Lite:
 - a. Outer Glass Ply: 3/8 inch heat-strengthened float glass.
 - b. Interlayer Thickness: 0.025 inch urethane.
 - c. First Inner Glass Ply: 3/8 inch heat-strengthened float glass.
 - d. Interlayer Thickness: 0.075 inch urethane.
 - e. Inner Polycarbonate Ply: 1/8 inch Type I (standard, UV-stabilized) polycarbonate.
 - f. Interlayer Thickness: 0.075 inch urethane.
 - g. Outer Glass Ply (Secure Layer): 3/16 inch heat-strengthened float glass.
 - 8. Overall Visible Light Transmittance: 65 percent minimum.
 - 9. Winter Nighttime U-Factor: 0.24 maximum.
 - 10. Solar-Heat-Gain Coefficient: 0.38 maximum.
 - 11. Provide safety glazing labeling.
 - D. Comply with Division 08 Section "Glazing" for glazing and Low E coating requirements.

2.5 ACCESSORY MATERIALS

- A. Joint Sealants: Furnish and install exterior joint sealants to comply with Division 07 Section "Joint Sealants."
- B. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil thickness per coat.

2.6 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

- C. Fabricate components that, when assembled, have the following characteristics:
 - 1. Profiles that are sharp, straight, and free of defects or deformations.
 - 2. Accurately fitted joints with ends coped or mitered.
 - 3. Physical and thermal isolation of glazing from framing members.
 - 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 - 5. Provisions for field replacement of glazing from exterior.
 - 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

- D. Fabricate components that, when assembled, have the following characteristics:
 - 1. Internal guttering system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.
 - 2. Pressure-equalized system or double barrier design with primary air and vapor barrier at interior side of glazed aluminum curtain wall and secondary seal weeped and vented to exterior.

- E. Curtain-Wall Framing: Fabricate components for assembly using screw-spline system.

- F. Mullions: Provide mullions and cover plates as shown, matching curtainwall units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of curtainwall units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design loads of curtainwall units.

- G. Factory-Assembled Frame Units:
 - 1. Rigidly secure nonmovement joints.
 - 2. Seal joints watertight unless otherwise indicated.

- H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.7 ALUMINUM FINISHES

- A. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1. Colors:
 - a. Framing: Custom to match existing (Sherwin Williams SW 6523 Denim).
 - b. Doors: Custom to match existing (Sherwin Williams #SW 6300 Burgundy).

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

- A. General:
 - 1. Comply with manufacturer's written instructions.
 - 2. Do not install damaged components.
 - 3. Fit joints to produce hairline joints free of burrs and distortion.
 - 4. Rigidly secure nonmovement joints.
 - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 - 6. Weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.
 - 7. Seal joints watertight unless otherwise indicated.
- B. Metal Protection:
 - 1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
 - 2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.
- D. Install components plumb and true in alignment with established lines and grades.
- E. Furnish and ballistic rated glazing as specified in this Section.
- F. Furnish and install exterior perimeter joint sealants specified in Division 07 Section "Joint Sealants", to produce weathertight installation.

3.3 ERECTION TOLERANCES

- A. Erection Tolerances: Install glazed ballistic rated curtain walls to comply with the following maximum tolerances:
 - 1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
 - 2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet.
 - 3. Alignment:

- a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit offset from true alignment to 1/16 inch.
 - b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from true alignment to 1/8 inch.
 - c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from true alignment to 1/4 inch.
4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified third party testing agency to perform tests and inspections and prepare test reports.
- B. Test Area: Perform tests on representative areas of glazed ballistic rated curtain walls.
- C. Testing Services: Testing and inspecting of installed glazed aluminum curtain walls shall take place as follows:
 1. Testing Methodology: Testing of curtain walls for water resistance shall be performed according to AAMA 503, at rated laboratory performance pressure.
 2. Testing Extent: Test curtain walls as selected by the Commissioning agent, Architect, Contractor, and a qualified independent testing and inspecting agency. Curtain walls shall be tested immediately after complete installation.
 - a. Water test three (3) units prior to installation of 10 percent of each size/type. Perform corrective action and retesting until specified levels of performance are achieved.
 - b. Test two (2) additional, randomly selected units between installation of 25 and 50 percent of each size/type.
 3. Test Reports: Shall be prepared according to AAMA 503.
- D. Glazed ballistic rated curtain walls will be considered defective if they do not pass tests and inspections.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements. Retesting to include compensation for Commissioning Agent to witness re-testing.
- F. Prepare test and inspection reports.

3.5 ADJUSTING, CLEANING, AND PROTECTION

- A. Clean aluminum surfaces immediately after installing curtain wall systems. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- B. Clean glass immediately after installation. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect curtain wall surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact surfaces, remove contaminants immediately according to manufacturer's written recommendations.

END OF SECTION 08 44 13.13

SECTION 08 00 01 – METAL WINDOWS FILED SUB BID

PART 1 - GENERAL

1.1 GENERAL PROVISIONS – FILED SUB-BID REQUIRED

- A. Work of this Section requires Filed Sub-Bids and is governed by the provisions of the Massachusetts General Laws (MGL), Public Bidding Law Chapter 149, Sections 44A to 44J inclusive; and applicable Section of the MGL, Public Contract Law Chapter 30 as amended.

1.2 RELATED DOCUMENTS

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

1.3 REQUIREMENTS FOR FILING SUB-BIDS

- A. Time, Manner and Requirements for Submitting Sub-Bids:
 - 1. Sub-bids for work under this Section shall be for the complete work and shall be submitted electronically as stipulated in the “ebidding Instructions to Bidders.”
 - 2. Sub-bidders must be DCAMM Certified in the listed trade and shall include a current DCAMM sub-bidder Certificate of Eligibility and Update Statement with the bid.
 - 3. Each sub-bid submitted for work under this Section shall be on forms furnished by the Awarding Authority as required by Section 44F of Chapter 149 of the General Laws, as amended.
 - 4. Sub-bids filed with the Awarding Authority shall be accompanied by Bid Bond, Cash, Certified Check, Treasurer’s Check, or Cashier’s Check issued by a responsible bank or trust company payable to the Town of Dedham in the amount of 5 percent of the sub-bid. A sub-bid accompanied by any other form of bid deposit than those specified will be rejected.
- B. Sub Sub-Bid Requirements: None required under this Section.

1.4 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including the following Specification Sections:
 - 1. Division 08 Section “Glazed Aluminum Curtain Walls.”
 - 2. [Division 08 Section "Glazed Ballistic Rated Framing System."](#)
 - 3. Division 08 Section "Glazing" for partial work of this Section.
 - 4. Division 08 Section "Glazing Films."

B. The Work of this Section is shown on the following Drawings:

- AG0.01 ABBREVIATIONS, SYMBOLS, MATERIAL AND LEGEND
- AD1.01 PARTIAL DEMOLITION PLAN
- A1.01 FLOOR PLAN, INTERIOR ELEVATIONS
- A1.02 REFLECTED CEILING PLAN, EXTERIOR ELEVATIONS, WALL SECTIONS
- A1.03 SECTION DETAILS
- A1.04 GLAZING TYPES, DOOR TYPES, PLAN DETAILS
- A1.05 REFERENCE IMAGES
- [A1.06 ADD / ALTERNATE NO. 1 BALLISTIC RATED CONSTRUCTION](#)

The Filed Subcontractor shall also review all other Drawings and all other Sections of the Specifications for coordination requirements therein affecting the Work of this Section, not just those pertaining to this Sub-trade.

C. [Alternates: Refer to Division 01 Section "Alternates."](#)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 08 00 01

SECTION 08 88 53 - SECURITY GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes glazing for the following products and applications and of the following types:
 - 1. Products and applications specified in other sections where glazing requirements are specified by reference to this Section:
 - a. Bullet resistant wood doors (factory glazed).
 - 2. Security glazing types:
 - a. Non-symmetrical glass-clad polycarbonate units.
- B. Related Sections include the following:
 - 1. Division 01 Section "Alternates" for bidding requirements of this Section.
 - 2. Division 08 Section "Bullet Resistant Opening Protection" for factory glazed bullet resistant transaction windows and flush wood doors.
 - 3. Division 08 Section "Glazed Ballistic Rated Framing System" for bullet resistant glazing installed in glazed ballistic rated curtain walls and entrance doors.
 - 4. Division 08 Section "Glazing" for nonsecurity-glazing.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Provide security glazing materials capable of complying with performance requirements indicated under the following conditions:
 - 1. Exposure to other security-related loads and forces without damage to the glazing materials beyond that allowed for each performance requirement.
 - 2. Thicknesses of glazing materials indicated are minimums and are for detailing only. Confirm glazing material thicknesses by analyzing Project loads and in-service conditions. Provide glazing material for various size openings in nominal thicknesses indicated, but not less than thicknesses and in strengths required to meet or exceed performance criteria.
- B. Forced-Entry Resistance: Provide glazing materials capable of resisting forced entry at ratings indicated as determined from testing identical materials according to HPW-TP-0500.03.
- C. Ballistics Resistance: Provide glazing materials capable of resisting ballistic impact at levels indicated as determined from testing identical materials according to UL 752.

1.4 SUBMITTALS

- A. Product Data: For each glazing material indicated.
- B. Samples: For each glazing lite and glazing sealant product, in 12-inch- square Samples for glass and 12-inch- long Samples for sealants. Install sealant Samples between two strips of material representative in color of the adjoining framing system.
- C. Glazing Schedule: Use same designations indicated on Drawings and on Door Schedule for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.
- D. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
- E. Qualification Data: For Installer.
- F. Preconstruction Adhesion and Compatibility Test Report: From glazing sealant manufacturer indicating glazing sealants were tested for adhesion to glazing materials and glazing channel substrates and for compatibility with glazing materials.
- G. Product Test Reports: For each type of security glazing product indicated.
- H. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glazing installations with a record of successful in-service performance; and who employs glazing installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).
- B. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- C. Glazing Sealant Product Testing: Obtain sealant test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period.
 - 1. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
 - 2. Test elastomeric glazing sealants for compliance with requirements specified by reference to ASTM C 920 and, where applicable, to other standard test methods.
- D. Preconstruction Adhesion and Compatibility Testing: Submit to glazing sealant manufacturers, for testing indicated below, samples of each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member that will contact or affect elastomeric glazing sealants.
 - 1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.

2. Submit no fewer than eight pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 4. For materials failing tests, obtain sealant manufacturer's written instructions for corrective measures, including the use of specially formulated primers.
- E. Testing will not be required if elastomeric glazing sealant manufacturers submit data based on previous testing of current sealant products for adhesion to, and compatibility with, glazing materials matching those submitted.
- F. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201.
1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
- G. Glazing Publications: Comply with published recommendations of glazing product manufacturers and organization below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
1. GANA Publications: GANA'S "Glazing Manual" and "Laminated Glass Design Guide."
 2. Fire-Test-Response Characteristics: Provide plastic sheets identical to those tested for the following fire-test-response characteristics per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting agency.
 - a. Self-Ignition Temperature: 650 deg F or more when tested per ASTM D 1929 on plastic sheets in thicknesses indicated for the Work.
 - b. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in thicknesses indicated for the Work.
 - c. Relative Burning Characteristics: As follows, when tested per ASTM D 635:
 - d. Burning extent of 1 inch or less when tested on monolithic polycarbonate plastic glazing with a nominal thickness of 0.060 inch or thickness indicated for the Work.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- 1.7 PROJECT CONDITIONS
- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40 deg F.

1.8 WARRANTY

- A. Manufacturer's Special Warranty for Glass-Clad Polycarbonate: Manufacturer's standard form in which glass-clad polycarbonate manufacturer agrees to replace glass-clad polycarbonate that deteriorates within specified warranty period. Deterioration is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning glass-clad polycarbonate contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glazing, blemishes exceeding those allowed by referenced glass-clad polycarbonate standard, yellowing, and loss of light transmission.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS

- A. Heat-Treated Float Glass: ASTM C 1048; Type I (transparent flat glass); Quality q3; class, kind, and condition as indicated in other Part 2 articles.
1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.
- B. Laminated Glass: ASTM C 1172, kinds of laminated glass as specified in other Part 2 articles.
1. Interlayers: Type as indicated below and of thickness indicated or required to comply with performance requirements and with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating to glass and installation:
 - a. Manufacturer's standard interlayer material, clear.
 2. Fabrication: Laminate glass to interlayers to produce laminated lites free of foreign substances, air, and glass pockets.
- C. Glass-Clad Polycarbonate: ASTM C 1349, kinds and other requirements as specified in other Part 2 articles.

2.2 POLYCARBONATE GLAZING PRODUCTS

- A. Polycarbonate Sheet: ASTM C 1349, Appendix X1, type as specified in other Part 2 articles.
- B. Laminated Assemblies: Laminated security glass assemblies are to be bonded with polyvinyl and/or aliphatic polyurethane interlayers, as required, and fabricated in an autoclave using heat, plus pressure producing products free of foreign substances and air pockets.

2.3 ELASTOMERIC GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:

1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glazing lites, seals of insulating-glass and air-gap glazing units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 2. Suitability: Comply with sealant and glazing unit manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
 3. VOC Content: For sealants used inside of the weatherproofing system, not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
- B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 791.
 - b. GE Advanced Materials - Silicones; SilPruf NB SCS9000.
 - c. Pecora Corporation; 895NST.
 2. Applications: For all locations of security glazing, with the exception of cells.
- C. Glazing Sealant: Single-Component, nonsag, tamper resistant elastomeric joint sealant complying with ASTM C 920, Type S, Grade NS, Class 12.5, for Use NT.
1. Products: Subject to compliance with requirements, provide the following:
 - a. Pecora Corporation; Dynaflex SC.
 2. Applications: For all cell locations with security glazing.

2.4 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glazing unit manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
1. AAMA 804.3 tape, where indicated.
 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
- B. Expanded Cellular Glazing Tape: Closed-cell, PVC foam tape; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
1. Type 1, for glazing applications in which tape acts as the primary sealant.
 2. Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard and requirements of manufacturers of glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glazing unit manufacturer to maintain glazing units in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit lateral movement (side walking) of glazing units.
- F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.6 FABRICATION OF GLAZING UNITS

- A. General: Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.

2.7 NONSYMMETRICAL LAMINATED-GLASS-AND-POLYCARBONATE UNITS

- A. Nonsymmetrical Laminated-Glass-and-Polycarbonate Units: Consisting of laminated glass on the attack side and laminated-polycarbonate sheet on the witness side.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide **Oldcastle Building Envelope; ArmorResist Plus 223000** or comparable product by one of the following:
 - a. Global Security Glazing; Armor-Gard BALULN25.
 - b. LTI Smart Glass, Inc.; Smartgard-BR3.
 - c. Standard Bent Glass; SP-311.
 - 2. Overall Unit Thickness: 1.22-inches.
 - 3. Laminated-Glass Lite on attack side:
 - a. Outer Lite: Class 1 (clear) Kind HS (heat-strengthened), Condition A (uncoated glass) 3 mm float glass laminated to a multiply glass core.
 - 4. Laminated-Polycarbonate Lite: Type II (coated, mar-resistant, UV-stabilized) polycarbonate.
 - 5. Ballistics Resistance: Level 3 per UL 752.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing for glazing, with Installer present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 - 2. Presence and functioning of weep system.
 - 3. Minimum required face or edge clearances.
 - 4. Effective sealing between joints of glazing-unit-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glazing units immediately before glazing. Remove coatings not firmly bonded to substrates.

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glazing lites, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Glazing channel dimensions, as indicated on Drawings or determined by glazing material thicknesses and by other requirements indicated, provide necessary bite on lites, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glazing-lite edges from damage during handling and installation. Remove damaged glazing lites from Project site and legally dispose of off Project site. Damaged glazing lites are those with edge damage or other imperfections that, when installed, could weaken glazing lites and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glazing unit manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glazing unit manufacturers for installing lites.
- G. Provide spacers for glazing lites where the length plus width is larger than 50 inches as follows:
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glazing lites. Install correct size and spacing to preserve required face clearances unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.

2. Provide 1/8-inch minimum bite of spacers on glazing lites and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glazing lites from moving sideways in glazing channel, as recommended in writing by glazing unit manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glazing units, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Where framing joints are vertical, cover joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover joints by applying tapes to jambs first and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until just before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glazing units in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glazing units and glazing stops to maintain face clearances and to prevent sealant from extruding into glazing channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glazing unit and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glazing units.

3.6 PROTECTION AND CLEANING

- A. Protect exterior glazing units from damage immediately after installation by attaching crossed streamers to framing held away from glazing unit. Do not apply markers to glazing unit surfaces. Remove nonpermanent labels, and clean surfaces.
- B. Protect glazing units from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glazing units, remove substances immediately as recommended in writing by glazing unit manufacturer.
- C. Examine glazing unit surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glazing unit manufacturer.
- D. Remove and replace glazing units that are broken, chipped, cracked, or abraded or that are damaged from natural causes, accidents, or vandalism during construction period.
- E. Wash glazing units on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glazing units as recommended by glazing unit manufacturer.

END OF SECTION 08 88 53

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

1. Exterior non-load-bearing wall framing.
2. Non-load-bearing steel framing members for the following applications:
 - a. Interior framing systems (e.g., supports for partition walls, framed soffits, and furring).
3. Interior gypsum board.
4. Exterior gypsum board (patching and repair of existing).
5. [Bullet resistant fiberglass panels.](#)

- B. Related Sections include the following:

1. [Division 01 Section "Alternates" for bidding requirements of this Section for bullet resistant panels.](#)
2. Division 06 Section "Miscellaneous Rough Carpentry" for wood blocking built into gypsum board assemblies.
3. Division 06 Section "Sheathing" for exterior gypsum sheathing.
4. Division 07 Section "Thermal Insulation" for insulation installed in assemblies that incorporate gypsum board.
5. Division 07 Section "Joint Sealants" for acoustical sealants furnished and installed by this Section in gypsum board assemblies.
6. Division 09 Section "Painting" for primers applied to gypsum board surfaces.

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide interior and exterior non-load-bearing metal framing capable of withstanding design loads within limits and under conditions indicated.

1. Design Loads: In accordance with the Massachusetts State Building Code and as indicated on Structural Drawings.
2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
 - a. Exterior Non-Load-Bearing Framing for Masonry: Horizontal deflection of 1/600 of the wall height.
 - b. Interior Framing Systems:

- 1) Maximum Deflection: $L/240$ at 5 psf, maximum stud spacing at 16 inches o.c.
 3. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.
 4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
 - a. Upward and downward movement of 3/4 inch.
 5. Design jamb studs, jack studs cripple studs, sills and headers to support weight of wall components (dead load) and horizontal loads.
- B. Cold-Formed Steel Framing, General: Design according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."
1. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.
 2. Provide interior framing systems sized to accommodate maximum deflection using limiting heights of metal studs without contribution of gypsum wallboard (non-composite).

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Control Joint Locations: Submit plan with proposed locations of control joints for approval. Architect to provide final determination of all locations.
- C. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
 1. For non-load-bearing metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional structural engineer licensed in the Commonwealth of Massachusetts responsible for their preparation.
 2. Include calculations for span capabilities of cold-formed metal framing for deflection criteria specified.
- D. Samples: For the following products:
 1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.
- E. Qualification Data: For professional engineer.

- F. Product Test Reports: From a qualified testing agency, unless otherwise stated, indicating that each of the following complies with requirements, based on evaluation of comprehensive tests for current products:
 - 1. Steel sheet.
 - 2. Expansion anchors.
 - 3. Power-actuated anchors.
 - 4. Mechanical fasteners.
- G. Research/Evaluation Reports: For cold-formed metal framing.
- H. [Warranty: Special warranties included in this Section.](#)

1.5 QUALITY ASSURANCE

- A. Engineering Responsibility: Preparation of Shop Drawings, design calculations, and other structural data by a qualified professional engineer.
- B. Professional Engineer Qualifications: A professional structural engineer who is legally qualified to practice in the Commonwealth of Massachusetts and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of cold-formed metal framing that are similar to those indicated for this Project in material, design, and extent.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated.
- D. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.
- E. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."
- F. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- G. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups for the following:
 - a. Each level of gypsum board finish indicated for use in exposed locations.
 - 2. Apply or install final decoration indicated, including painting and wallcoverings, on exposed surfaces for review of mockups.
 - 3. Simulate finished lighting conditions for review of mockups.
 - 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.
- C. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install interior products until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace bullet resistant fiberglass panels that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 EXTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Manufacturers: Subject to compliance with requirements, provide cold-formed metal framing by one of the following:
 - 1. ClarkDietrich Building Systems.
 - 2. MarinoWare; a division of Ware Industries.
 - 3. SCAFCO Steel Stud Company.
- B. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.

2. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized.
- C. Steel Studs: ASTM C 645, manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
 1. Minimum Base-Metal Thickness: As required by structural performance.
 2. Flange Width: 1-5/8 inches.
- D. Steel Track: ASTM C 645, manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
 1. Minimum Base-Metal Thickness: As required by structural performance.
 2. Flange Width: 1-1/4 inches.
- E. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads and transfer them to the primary structure, and as follows:
 1. Minimum Base-Metal Thickness: As required by structural performance.
 2. Flange Width: 1 inch plus the design gap for 1-story structures and 1 inch plus twice the design gap for other applications.

2.2 INTERIOR NON-LOAD-BEARING STEEL FRAMING

- A. Manufacturers: Subject to compliance with requirements, provide cold-formed metal framing by one of the following:
 1. ClarkDietrich Building Systems; ProSTUD Series.
 2. MarinoWare; a division of Ware Industries.
 3. SCAFCO Steel Stud Company.
- B. Interior Framing Members, General: Comply with ASTM C 645 for conditions indicated.
 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal.
 2. Protective Coating: Comply with ASTM C 645; roll-formed from hot-dipped galvanized steel; complying with ASTM A 1003/A 1003M and ASTM A 653/A 653M G40 or having a coating that provides equivalent corrosion resistance. A40 galvanized products are not acceptable.
 - a. Coatings shall demonstrate equivalent corrosion resistance with an evaluation report acceptable to the authority having jurisdiction.
- C. Steel Studs and Runners: ASTM C 645.
 1. Non-Structural Studs: Cold-formed galvanized steel C-studs as per ASTM C 645 for conditions indicated below:
 - a. Flange Size: 1-1/4-inch.
 - b. Web Depth: As indicated on Drawings.
 - 1) Minimum Thickness: 0.033 inch.
 - 2) Minimum Design Thickness: 0.0346 inch.

D. Slip-Type Head Joints: Where indicated, provide the following:

1. Deflection Track: Slotted steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

2.3 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C 36 or ASTM C 1396, as applicable to type of gypsum board indicated and whichever is more stringent.

B. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and coated surfaces.

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

- a. CertainTeed; M2Tech.
- b. G-P Gypsum; ToughRock Moisture-Guard Gypsum Board.
- c. National Gypsum Company; Gold Bond XP Gypsum Board.
- d. USG Corporation; Mold Tough Panels.

2. Thickness: 5/8 inch, Type X.

3. Long Edges: Tapered.

4. Mold Resistance: ASTM D 3273, score of 10.

D. Abuse-Resistant and Moisture- and Mold-Resistant Gypsum Board (A.R.G.B.): Manufactured to produce greater resistance to surface indentation and abrasion than standard, regular-type and Type X gypsum board.

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

- a. CertainTeed; AirRenew Extreme Abuse Resistant Gypsum Board.
- b. National Gypsum Company; Gold Bond Hi-Abuse Brand XP Gypsum Board.
- c. USG Corporation; Mold Tough AR Panels.

2. Core: 5/8 inch, Type X.

3. Long Edges: Tapered.

4. Mold Resistance: ASTM D 3273, score of 10.

5. Abuse-Resistant Performance: Comply with ASTM C 1629 and the following:

- a. Surface Abrasion: ASTM D 4977 modified with 25 lbs of additional weight, 0.059" maximum (Level 2 minimum).
- b. Surface Indentation: ASTM D 5420, 0.10" maximum (Level 1).
- c. Soft-Body Impact: ASTM E 695, surface failure at 195 ft.-lbs minimum (Level 2).
- d. Hard-Body Impact: ASTM E 1629 Annex A.1, surface failure at 50 ft.-lbs minimum (Level 1).

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - d. Expansion (control) joint.

2.5 EXTERIOR GYPSUM BOARD FOR CEILINGS

- A. Exterior Gypsum Board: ASTM C 931/C 931M or ASTM C 1396/C 1396M, with manufacturer's standard edges.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. CertainTeed; Exterior Soffit Board.
 - b. G-P Gypsum; ToughRock Soffit Board.
 - c. National Gypsum Company; Gold Bond Exterior Soffit Board.
 - d. USG Corporation; SHEETROCK Brand Exterior Gypsum Ceiling Board.
 2. Core: 1/2 inch.

2.6 BULLET RESISTANT FIBERGLASS PANELS

- A. Bullet Resistant Fiberglass Panels: Non-ricochet type permitting the encapture and retention of an attacking projectile lessening the potential of a random injury or lateral penetration.
 1. Product: Subject to compliance with requirements, provide one of the following:
 - a. Action Bullet Resistant, Inc.; ArmorCore Level 3.
 - b. Armortex, Inc.; O.F. 300.
 - c. North American Bullet Proof, Inc.; Shotgard BB-3.
 2. Panels: Multiple layers of starch-oil woven roving ballistic grade fiberglass cloth impregnated with a thermoset polyester resin and compressed into flat rigid sheets.
 3. Security Level: UL 752, rated for performance Level 3.
 4. Thickness: 7/16-inch, or as required for performance level.
 5. Weight: 4.00 lbs./sq.ft. minimum (varies by manufacturer).

2.7 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 1. Interior Gypsum Wallboard: Paper.
 2. Exterior Gypsum Soffit Board: Paper.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.

2.8 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."
- C. Thermal Insulation: As specified in Division 07 Section "Thermal Insulation."
- D. Isolation Strip at Exterior Walls: Provide the following:
 1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

2.9 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.

- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Commencement of work indicates acceptance of areas and substrates.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.3 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.
- B. Fasten both flanges of studs to top and bottom track, and to bottom track only where deflection track is indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches o.c.
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
 - 1. Install single-leg deflection tracks and anchor to building structure, where indicated.
- E. Install horizontal bridging in wall studs, spaced in rows indicated on Shop Drawings but not more than 48 inches apart. Fasten at each stud intersection.
 - 1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of flat, taut, steel sheet straps of width and thickness indicated and stud or stud-track solid blocking of width and thickness matching studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - a. Install solid blocking at 96-inch centers.

- F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable wall-framing system.

3.4 INTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
 - 1. Space studs for all applications at 16 inches o.c., unless otherwise indicated.
- C. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 - 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- D. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.5 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.

- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

3.6 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Moisture- and Mold-Resistant Type X Gypsum Board: All wall and ceiling locations, unless otherwise noted.
 - 2. Abuse-Resistant Type X: Wall types, as indicated on Drawings.
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels either vertically (parallel to framing) or horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

- a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.7 APPLYING EXTERIOR GYPSUM PANELS FOR CEILINGS AND SOFFITS

- A. Apply panels perpendicular to supports, with end joints staggered and located over supports.
1. Install with 1/4-inch open space where panels abut other construction or structural penetrations.
 2. Fasten with corrosion-resistant screws.

3.8 INSTALLATION OF BULLET RESISTANT FIBERGLASS PANELS

- A. Install bullet resistant panels in accordance with manufacturer's written recommendations. Method of application shall maintain the bullet resistive rating at junctures with the floor slab, bullet resistive door and window frames, and all required penetrations.
1. Install bullet resistant panels behind all electrical devices.
- B. Reinforce all joints with a back-up layer of bullet resistant material. The bullet resistance of the joint, as reinforced, shall be at least equal to that of the panel. Minimum width of reinforcing layer at joint to be 4-inches wide.

3.9 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings, or if not indicated, according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
1. Cornerbead: Use at outside corners.
 2. LC-Bead: Use at exposed panel edges.

3.10 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.

- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.

3.11 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 21 16

SECTION 12 48 16 – ENTRANCE FLOOR GRILLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes:
 - 1. [Surface mounted](#) foot grilles and frames.

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide foot grilles and frames capable of withstanding the following loads and stresses:
 - 1. Uniform floor load of 350 lbf/sq. ft.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain foot grilles and frames through one source from a single manufacturer.
- B. Accessibility Requirements: Provide installed foot grilles that comply with 2010 ADA Standards and AAB.
- C. Static Coefficient of Friction: Provide products with the following values as determined by testing identical products per ASTM C 1028:
 - 1. Level Surfaces: Minimum 0.60.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace foot grilles that fail in performance, materials, or workmanship within specified warranty period.
 - 1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Sheet: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of Alloy 5005-H15.
- B. Extruded Aluminum: ASTM B 221, Alloy 6061-T6 or Alloy 6063-T5, T6, or T52 as standard with manufacturer. Coat surface of frame in contact with cementitious materials with manufacturer's standard protective coating.

2.2 FOOT GRILLES

- A. General: Provide manufacturer's standard foot-grille assemblies consisting of treads of type and profile indicated, interlocked or joined together by cross members, and other components needed to produce a complete installation.
 - 1. Product: Subject to compliance with requirements, provide the following, or equal:
 - a. **Construction Specialties; PediTred LP G3.**
- B. Aluminum Foot Grille: Provide manufacturer's standard foot grilles, bolt-through design, with extruded members, top-surfaced tread rails, and as follows:
 - 1. Tread Rails: Extruded-aluminum tread rails.
 - a. Aluminum Color: Clear anodized.
 - 2. Tread Rail Spacing: 1-1/2 inches o.c. with 1/8- to 3/16-inch- o.c. wide openings between treads, with top surface ~~alternating with serrated aluminum and~~ exterior carpet.
 - ~~3. Top Surface: Serrated aluminum.~~
 - ~~a. Top Surface Color: Match tread rail.~~
 - 4. Top Surface: Exterior carpet, solution dyed polypropylene fibers, fusion bonded to a two-ply backing, 32 oz./sq. yd.
 - a. Top Surface Color: As selected by Architect from manufacturer's full range.
 - 5. Thickness: 1/2 inch.
 - 6. Grille Size: As indicated, with module size of at least 12'-0" in width, 3'-0" in length.

2.3 FRAMES

- A. Provide manufacturer's standard frames of size and style for grille type, for permanent recessed installation in subfloor, complete with installation anchorages and accessories. Fabricate frame of same material and finish as grilles.
 - 1. Interior Frame: Surface mounted aluminum frame, 2 1/2" wide 6063-T6 aluminum alloy and permanently positions mat for surface mounted applications.

~~2.4 DRAIN PANS~~

- ~~A. Provide manufacturer's standard, 16 gauge aluminum sheet drain pan with NPS 2 drain outlet for each exterior floor grille unit. Coat bottom of pan with protective coating recommended by manufacturer.~~

2.5 FABRICATION

- A. Shop fabricate foot grilles and mats to greatest extent possible in sizes as indicated. Unless otherwise indicated, provide each grille as a single unit; do not exceed manufacturer's recommended maximum sizes for units that are removed for maintenance and cleaning. Where joints in grilles are necessary, space symmetrically and away from normal traffic lanes.
- B. Fabricate frame members in single lengths or, where frame dimensions exceed maximum available lengths, provide minimum number of pieces possible, with hairline joints equally spaced and pieces spliced together by straight connecting pins.

2.6 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

END OF SECTION 12 48 16

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:

1. Swinging doors.

- B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Automatic operators.

- C. Related Sections:

1. Division 01 Section "Alternates."
2. Division 08 Section "Hollow Metal Frames".
3. Division 08 Section "Flush Wood Doors".
4. Division 08 Section "Bullet Resistant Opening Protection."
5. Division 08 Section "Glazed Aluminum Curtain Walls."
6. Division 08 Section "Glazed Ballistic Rated Framing System."
7. Division 26 Electrical Section.

- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ICC/IBC - International Building Code.
2. NFPA 70 - National Electrical Code.
3. NFPA 80 - Fire Doors and Windows.
4. NFPA 101 - Life Safety Code.
5. NFPA 105 - Installation of Smoke Door Assemblies.
6. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
7. State Building Codes, Local Amendments.
8. 521 CMR - Massachusetts Architectural Board Regulations.

- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

- a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
 2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
 - D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
 - E. Informational Submittals:
 1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
 - F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.
- 1.4 QUALITY ASSURANCE
- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
 - B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
 - C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
 - D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
 - E. Automatic Operator Supplier Qualifications: Power operator products and accessories are required to be supplied and installed through the Norton Preferred Installer (NPI) program. Suppliers are to be factory trained, certified, and a direct purchaser of the specified power operators and be responsible for the installation and maintenance of the units and accessories indicated for the Project.

- F. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 - 2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
 - G. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
 - H. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
 - I. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 - 3. Review sequence of operation narratives for each unique access controlled opening.
 - 4. Review and finalize construction schedule and verify availability of materials.
 - 5. Review the required inspecting, testing, commissioning, and demonstration procedures
 - J. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
 - B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" heavy weight.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 - 4. Hinge Options: Comply with the following:

- a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
5. Manufacturers:
- a. Hager Companies (HA) - BB Series, 5 knuckle.
 - b. McKinney (MK) - TA/T4A Series, 5 knuckle.
 - c. dormakaba Best (ST) - F/FBB Series, 5 knuckle.
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
1. Manufacturers:.
- a. Hager Companies (HA).
 - b. Ives (IV).
 - c. Pemko (PE).

2.3 POWER TRANSFER DEVICES

- A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
1. Manufacturers:
- a. Pemko (PE) - EL-CEPT Series.
 - b. Securitron (SU) - EL-CEPT Series.
 - c. Von Duprin (VD) - EPT-10 Series.
- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.
1. Provide one each of the following tools as part of the base bid contract:
- a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
 - b. McKinney (MK) - Connector Hand Tool: QC-R003.
2. Manufacturers:

- a. Hager Companies (HA) - Quick Connect.
- b. McKinney (MK) - QC-C Series.
- c. Von Duprin (VD) - Connect.

2.4 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 4. Tubular deadlocks and other auxiliary locks.
 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 6. Keyway: Match Facility Restricted Keyway.
- C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed cylinders employing a utility patented and restricted keyway requiring the use of a patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents.
 1. Patented key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.
 2. Manufacturers:
 - a. Medeco (MC) - X4.
 - b. No Substitution.
- E. Keying System: Each type of lock and cylinders to be factory keyed.
 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Field verify and key cylinders to match Owner's existing system.
- F. Key Quantity: Provide the following minimum number of keys:
 1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
 4. Construction Control Keys (where required): Two (2).
 5. Permanent Control Keys (where required): Two (2).

- G. Construction Keying: Provide construction master keyed cylinders.
- H. Construction Keying: Provide temporary keyed construction cores.
- I. Key Registration List (Bitting List):
 - 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 - 2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
 - 1. Heavy duty mortise locks shall have a ten-year warranty.
 - 2. Mortise locks to be certified Security Grade 1.
 - 3. Extended cycle test: Locks to have been cycle tested in ordinance with ANSI/BHMA 156.13 requirements to 14.5 million cycles or greater.
 - 4. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ML2000 Series.
 - b. Sargent Manufacturing (SA) - 8200 Series.
 - c. Schlage (SC) - L9000 Series.

2.6 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 - 4. Short-lipped strikes: For locks at double doors.
- B. Standards: Comply with the following:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 - 4. Dustproof Strikes: BHMA A156.16.

2.7 ELECTRIC STRIKES

- A. Standard Electric Strikes: Electric strikes conforming to ANSI/BHMA A156.31, Grade 1, for use on non-rated or fire rated openings. Strikes shall be of stainless steel construction tested to a minimum of 1500 pounds of static strength and 70 foot-pounds of dynamic strength with a minimum endurance of 1 million operating cycles. Provide strikes with 12 or 24 VDC capability, fail-secure unless otherwise specified. Where specified provide latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.
1. Manufacturers:
 - a. HES (HS) - 1500/1600 Series.
 - B. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

2.8 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
1. Exit devices shall have a five-year warranty.
 2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
 3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
 4. Except on fire rated doors, provide exit devices with keyed cylinder dogging device to hold the pushbar and latch in a retracted position.
 5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
 6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
 7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
 9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
 10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
 - c. Von Duprin (VD) - 35A/98 XP Series.

2.9 ELECTROMECHANICAL EXIT DEVICES

- A. Electromechanical Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices subject to same compliance standards and requirements as mechanical exit devices. Electrified exit devices to be of type and design as specified below and in the hardware sets.
1. Where conventional power supplies are not sufficient, include any specific controllers required to provide the proper inrush current.
 2. Motorized Electric Latch Retraction: Devices with an electric latch retraction feature must use motors which have a maximum current draw of 600mA. Solenoid driven latch retraction is not acceptable.
 3. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
 - c. Von Duprin (VD) - 35A/98 XP Series.

2.10 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Cycle Testing: Provide closers which have surpassed 15 million cycles.
 4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
 5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
1. Heavy duty surface mounted door closers shall have a 30-year warranty.
 2. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DC8000 Series.
 - b. Norton Rixson (NO) - 7500 Series.
 - c. Sargent Manufacturing (SA) - 351 Series.

2.11 ELECTROHYDRAULIC DOOR OPERATORS

- A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.
1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.
- B. Standard: Conforming to ANSI/BHMA A156.19.
- C. Performance Requirements:
1. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
 2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.

- D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.
- E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19. When not in automatic mode, door operator to function as manual door closer with fully adjustable opening and closing forces, with or without electrical power.
- F. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.
- G. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
- H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.
- I. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Norton Rixson (NO) - 6000 Series.

2.12 ARCHITECTURAL TRIM

- A. Door Protective Trim
 - 1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
 - 2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
 - 3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
 - 4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
 - 5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.

6. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).
 - c. Trimco (TC).

2.13 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).
 - c. Trimco (TC).
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 1. Manufacturers:
 - a. Norton Rixson (RF).
 - b. Rockwood (RO).
 - c. Sargent Manufacturing (SA).

2.14 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 - 1. National Guard Products (NG).
 - 2. Pemko (PE).
 - 3. Reese Enterprises, Inc. (RE).

2.15 ELECTRONIC ACCESSORIES

- A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
 - 1. Manufacturers:
 - a. Sargent Manufacturing (SA) - 3280 Series.
 - b. Security Door Controls (SD) - DPS Series.
 - c. Securitron (SU) - DPS Series.
- B. Intelligent Switching Power Supplies: Provide power supplies with single, dual or multi-voltage configurations at 12 and/or 24VDC. Power Supply shall have battery backup function with an integrated battery charging circuit. The power supply shall have a standard, integrated Fire Alarm Interface (FAI). The power supply shall provide capability for secondary voltage, power distribution, direct lock control and network monitoring through add on modules. The power supply shall be expandable up to 16 individually protected outputs. Output modules shall provide individually protected, continuous outputs and/or individually protected, relay controlled outputs. Network modules shall provide remote monitoring functions such as status reporting, fault reporting and information logging.
 - 1. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
 - 2. Manufacturers:
 - a. Securitron (SU) - AQL Series.
 - b. Altronix (AS) - Maximal 11F.

2.16 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.17 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 3. Where indicated to comply with accessibility requirements, comply with AAB.
 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Power Operator products and accessories are required to be installed through current members of the manufacturer's "Power Operator Preferred Installer" program.
- D. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- E. Thresholds: Set thresholds for exterior doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.

- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

- 1. Quantities listed are for each pair of doors, or for each single door.
- 2. The supplier is responsible for handling and sizing all products.
- 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

- B. Manufacturer's Abbreviations:

- 1. MK - McKinney
- 2. PE - Pemko
- 3. SA - SARGENT
- 4. MC - Medeco
- 5. HS - HES
- 6. RF - Rixson
- 7. NO - Norton
- 8. RO - Rockwood
- 9. SU - Securitron

Hardware Sets

Set: 1.0

Doors: 101

Description: Alum Security Vest - Card Access; Auto; Remote Release

1	Continuous Hinge	CFM-SLF-HD1 EL-CEPTx32D Series		PE
1	Exit Device (rim, NL,EL,RX,LX,CD)	16 53 55 56 70 8804	US32D	SA
1	Offset Pull	862	US32D	SA
2	Small Format Inter Core	Medeco X4 keyed to existing	26	MC
1	Concealed Overhead Stop	1-X36	630	RF
1	Automatic Opener	6061; 6071 D	689	NO
1	Threshold (coord w/ details)	273x292AFGPK FHSL14SS-2		PE
1	Sweep	315CN		PE
1	Door Wiring Harness	QC Series (hinge to device)		MK
1	Frame Wiring Harness	QC Series (jamb to J-box)		MK
1	Position Switch	DPS Series (coord w/ security)		SU
2	Door Switch	671		NO
1	Power Supply	AQL4-R8E1		SU
1	Weather/Perimeter Seals	Supplied with door/frame assembly		
1	Card Reader	By Security		
1	Remote Release Switch	By Security		

Notes:

Operation: Door is normally closed and locked. Valid card at reader or signal from remote switch retracts latch for momentary access, then enables outside actuator. Inside actuator retracts latch, then auto opens door. Monitoring by door position switch. During a loss of power the door will default to secure. Free egress at all times. Lock status will not change when the fire detection/suppression systems are activated. Depressing pushrail will activate request to exit switch for appropriate monitor by EAC systems. Outside key override.

Set: 2.0

Doors: 102

Description: Admin Office - Card Access; Auto; Remote Release

4	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1	Storeroom Lock	70 8204 LNL	US26D	SA
1	Small Format Inter Core	Medeco X4 keyed to existing	26	MC
1	Electric Strike	1500C-LM	630	HS
1	SMART Pac Bridge Rectifier	2005M3 x 2004M		HS
1	Concealed Overhead Stop	1-X36	630	RF
1	Automatic Opener	6061; 6071 D	689	NO
1	Kick Plate	K1050 10" 4BE CSK	US32D	RO
1	Gasketing	S88BL		PE
1	Sweep	18061CNCB		PE
1	Request to Exit	By Security		
1	Frame Wiring Harness	QC Series (jamb to J-box)		MK
1	Position Switch	DPS Series (coord w/ security)		SU
2	Door Switch	671		NO
1	Power Supply	AQL4-R8E1		SU
1	Card Reader	By Security		
1	Remote Release Switch	By Security		

Notes:

Operation: Door is normally closed and locked. Valid card at reader or signal from remote switch unlocks door for momentary access, then enables outside actuator. Inside actuator unlocks, then auto opens door. Monitoring by door position switch. During a loss of power the door will default to secure. Free egress at all times. Lock status will not change when the fire detection/suppression systems are activated. Outside key override.

Set: 3.0

Doors: 103

Description: Alum Security Vest/Lobby - Card Access; Auto; Remote Release

1 Continuous Hinge	CFM-SLF-HD1 EL-CEPTx32D Series		PE
1 Exit Device (rim, NL,EL,RX,LX,CD)	16 53 55 56 70 8804	US32D	SA
1 Offset Pull	862	US32D	SA
2 Small Format Inter Core	Medeco X4 keyed to existing	26	MC
1 Concealed Overhead Stop	1-X36	630	RF
1 Automatic Opener	6061; 6071 D	689	NO
1 Threshold (coord w/ details)	271A FHSL14SS		PE
1 Sweep	315CN		PE
1 Door Wiring Harness	QC Series (hinge to device)		MK
1 Frame Wiring Harness	QC Series (jamb to J-box)		MK
1 Position Switch	DPS Series (coord w/ security)		SU
2 Door Switch	671		NO
1 Power Supply	AQL4-R8E1		SU
1 Weather/Perimeter Seals	Supplied with door/frame assembly		
1 Card Reader	By Security		
1 Remote Release Switch	By Security		

Notes:

Operation: Door is normally closed and locked. Valid card at reader or signal from remote switch retracts latch for momentary access, then enables outside actuator. Inside actuator retracts latch, then auto opens door. Monitoring by door position switch. During a loss of power the door will default to secure. Free egress at all times. Lock status will not change when the fire detection/suppression systems are activated. Depressing pushrail will activate request to exit switch for appropriate monitor by EAC systems. Outside key override.

END OF SECTION 08 71 00



DEDHAM MIDDLE SCHOOL SAFETY VESTIBULE PROJECT

APRIL 18, 2023

ARCHITECT

D21 ARCHITECTS, LLC
234 W. CENTER STREET, UNIT 14
WEST BRIDGEWATER, MA 02379
TEL. (508) 807-8043

CIVIL

NORWOOD ENGINEERING CO., INC.
1410 ROUTE ONE
NORWOOD, MA 02062
TEL. (781) 762-0143

STRUCTURAL

ENGINEERS DESIGN GROUP INC.
389 MAIN STREET, SUITE 401
MALDEN, MA 02148
PHONE: (781) 396-9007 EXT. 13

SPECIFICATIONS

ARCHITX, LLC
5 TOPSY DRIVE
STAFFORD SPRINGS, CT 06076
TEL. (860) 872-9627

CODE CONSULTANT

R.W. SULLIVAN ENGINEERING
529 MAIN STREET, SUITE 203 .
BOSTON, MA 02129
TEL. (617) 523-8227

MECH. / ELEC. ENGINEERS / FIRE ALARM / FIRE PROTECTION

FITZMEYER & TOCCI ASSOCIATES, INC.
300 UNICORN PARK DRIVE, 5TH FLOOR,
WOBURN, MA 01801
TEL. (781) 285-2284

COST ESTIMATOR

ELLANA CONSTRUCTION CONSULTANTS
32 BROADWAY, SUITE 801
NEW YORK, NY 10004
TEL. (212) 971-0936



DEDHAM PUBLIC SCHOOLS

"America's first tax supported, free public school"

BID SET ADDENDUM # 2

ARCHITECTURAL

- G0.00 COVER SHEET
- G0.01 ABBREVIATIONS SYMBOLS MATERIAL AND LEGEND
- AD1.01 PARTIAL DEMOLITION PLAN
- A1.01 FLOOR PLANS, INTERIOR ELEVATIONS
- A1.02 REFLECTED CEILING PLAN, EXTERIOR ELEVATIONS, WALL SECTIONS
- A1.03 SECTION DETAILS
- A1.04 GLAZING TYPES, DOOR TYPES, AND PLAN DETAILS
- A1.05 REFERENCE IMAGES

A1.06 ADD/ALTERNATE NO.01
BALLISTIC RATED CONSTRUCTION

CIVIL

- C1.01 LIMITED EXISTING CONDITIONS PLAN
- C1.02 PROPOSED SLOPES / CONCRETE WALK

STRUCTURAL

- S0.01 GENERAL NOTES
- S0.01 TYPICAL DETAILS
- S1.00 FRAMING PLANS

ELECTRICAL

- E000 ELECTRICAL LEGEND
- E001 ELECTRICAL NOTES AND ABBREVIATIONS
- E101 ELECTRICAL LEVEL 1 LIGHTING DEMOLITION PLAN
- E111 ELECTRICAL LEVEL 1 POWER DEMOLITION PLAN
- E301 ELECTRICAL LEVEL 1 LIGHTING PLAN
- E311 ELECTRICAL LEVEL 1 POWER PLAN
- 700 ELECTRICAL LEVEL 1 POWER PLAN

FIRE ALARM

- FA000 FIRE ALARM LEGEND
- FA321 FIRE ALARM LEVEL 1 PLAN
- FA901 FIRE ALARM RISER DIAGRAM AND DETAILS

FIRE PROTECTION

- FP000 FIRE PROTECTION LEGEND
- FP301 FIRE PROTECTION LEVEL 1 PLAN
- FA900 FIRE PROTECTION DETAILS

HVAC

- H000 HVAC LEGEND
- H121 HVAC LEVEL 1 DUCT & PIPING DEMOLITION PLAN
- H321 HVAC LEVEL 1 DUCT & PIPING PLAN
- H700 HVAC SCHEDULES
- H900 HVAC DETAILS

STAMP:

CONSULTANT:

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TOWN OF DEDHAM



DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 4/18/2023

PROJECT NO: 22.003

DRAWN BY: NE

CHECKED BY: FPB

REVISIONS:

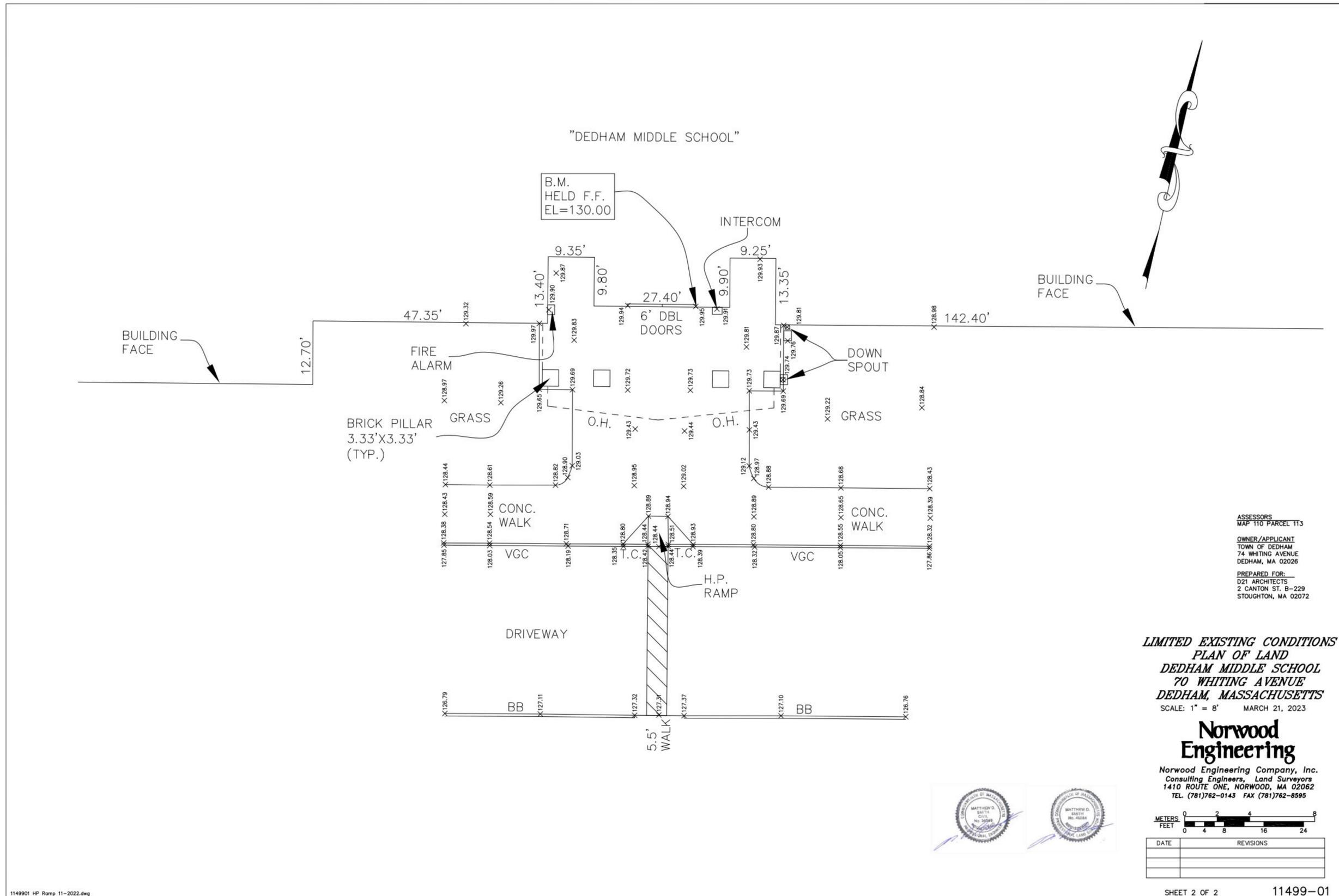
NO.	DATE	DESCRIPTION
1	03/31/23	

DRAWING TITLE:

LIMITED EXISTING CONDITIONS PLAN

DRAWING NO.:

C1.01



ASSESSORS
MAP 110 PARCEL T13
OWNER/APPLICANT
TOWN OF DEDHAM
74 WHITING AVENUE
DEDHAM, MA 02026
PREPARED FOR:
D21 ARCHITECTS
2 CANTON ST. B-229
STOUGHTON, MA 02072

LIMITED EXISTING CONDITIONS PLAN OF LAND
DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MASSACHUSETTS
SCALE: 1" = 8' MARCH 21, 2023

Norwood Engineering

Norwood Engineering Company, Inc.
Consulting Engineers, Land Surveyors
1410 ROUTE ONE, NORWOOD, MA 02062
TEL. (781)762-0143 FAX (781)762-8595



DATE	REVISIONS

STAMP:

CONSULTANT:

TOWN OF DEDHAM
MIDDLE SCHOOL

DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 4/18/2023

PROJECT NO: 22.003

DRAWN BY: NE

CHECKED BY: FPB

REVISIONS:

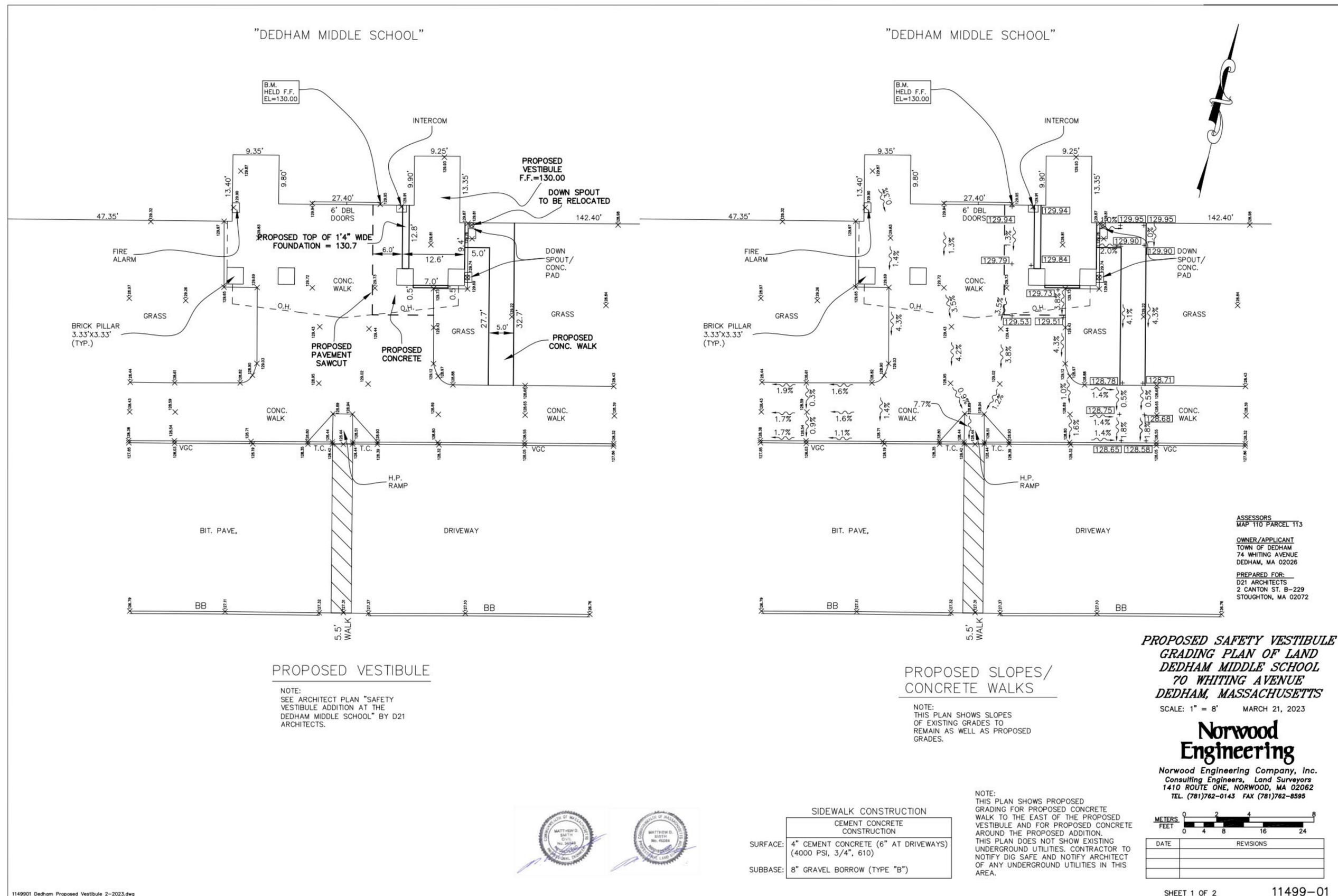
NO.	DATE	DESCRIPTION
1	03/31/23	

DRAWING TITLE:

PROPOSED SLOPES / CONCRETE WALK

DRAWING NO.:

C1.02



PROPOSED VESTIBULE

NOTE:
SEE ARCHITECT PLAN "SAFETY VESTIBULE ADDITION AT THE DEDHAM MIDDLE SCHOOL" BY D21 ARCHITECTS.

PROPOSED SLOPES / CONCRETE WALKS

NOTE:
THIS PLAN SHOWS SLOPES OF EXISTING GRADES TO REMAIN AS WELL AS PROPOSED GRADES.

SIDEWALK CONSTRUCTION

SURFACE:	4" CEMENT CONCRETE (6" AT DRIVEWAYS) (4000 PSI, 3/4", 610)
SUBBASE:	8" GRAVEL BORROW (TYPE "B")



PROPOSED SAFETY VESTIBULE GRADING PLAN OF LAND DEDHAM MIDDLE SCHOOL 70 WHITING AVENUE DEDHAM, MASSACHUSETTS

SCALE: 1" = 8' MARCH 21, 2023

Norwood Engineering
Norwood Engineering Company, Inc.
Consulting Engineers, Land Surveyors
1410 ROUTE ONE, NORWOOD, MA 02062
TEL (781)762-0143 FAX (781)762-8595



DATE	REVISIONS

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CONSULTANT:

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DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 4/18/2023

PROJECT NO: 22.003

DRAWN BY: MC

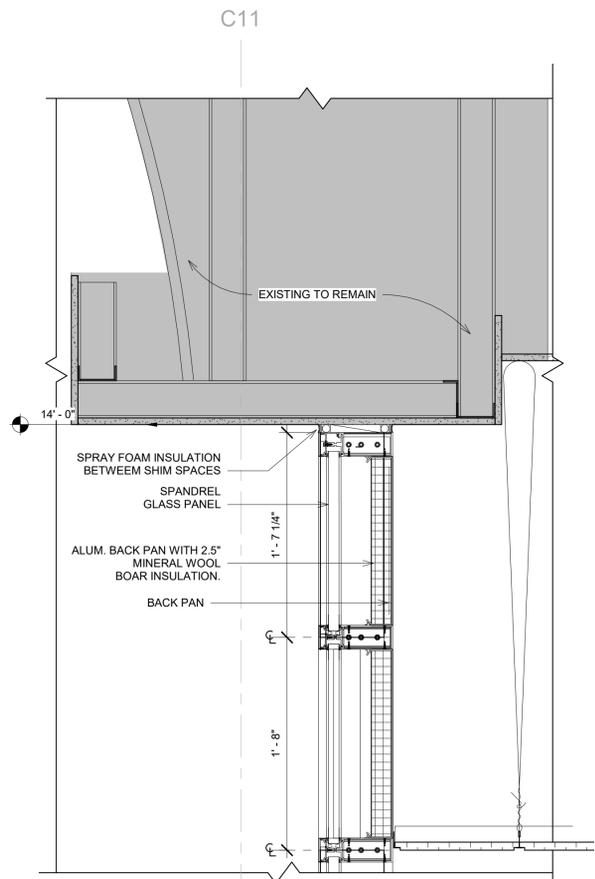
CHECKED BY: FPB

REVISIONS:

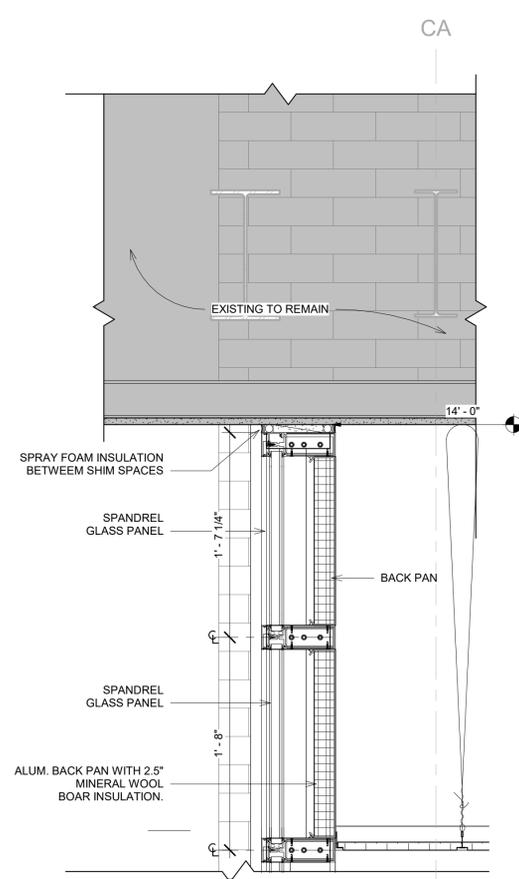
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SECTION DETAILS

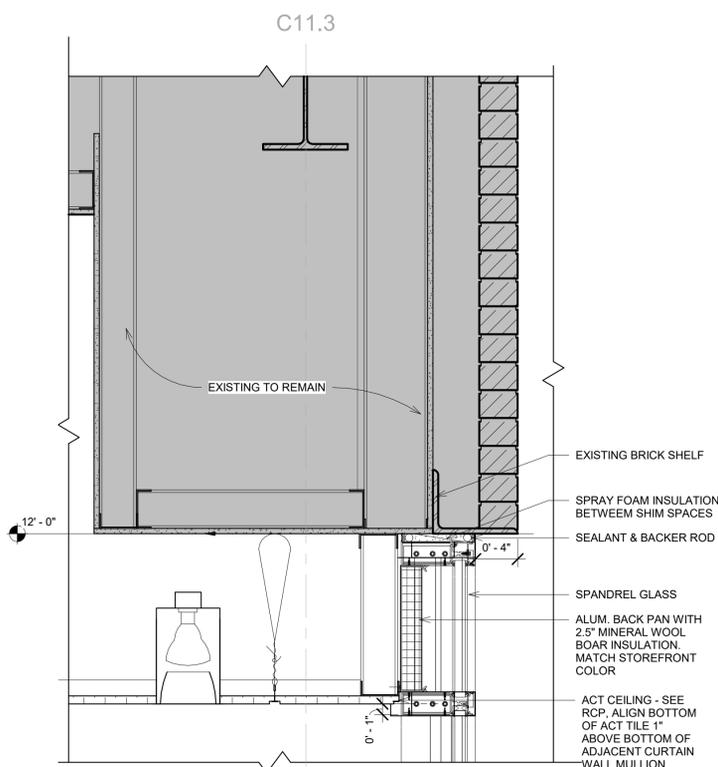
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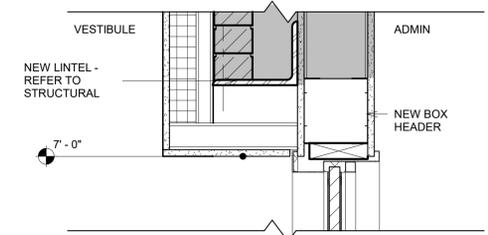
8 HEAD DETAIL - CW 3
1 1/2" = 1'-0"



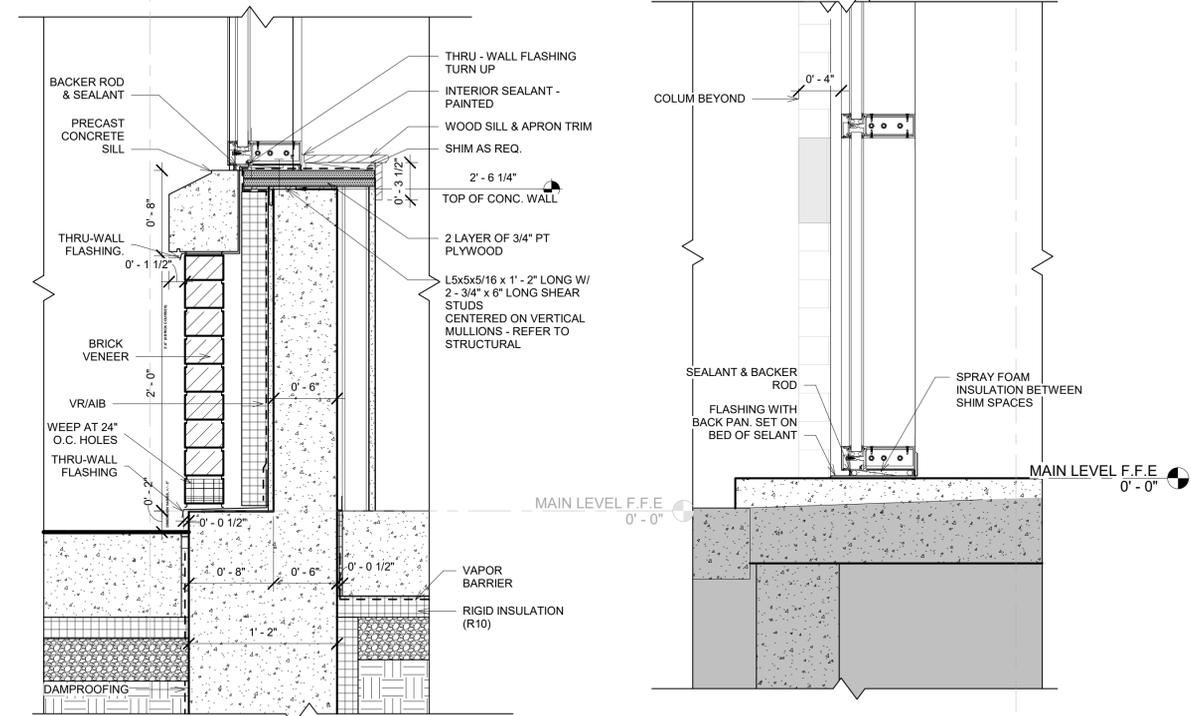
7 HEAD DETAIL - CW 2
1 1/2" = 1'-0"



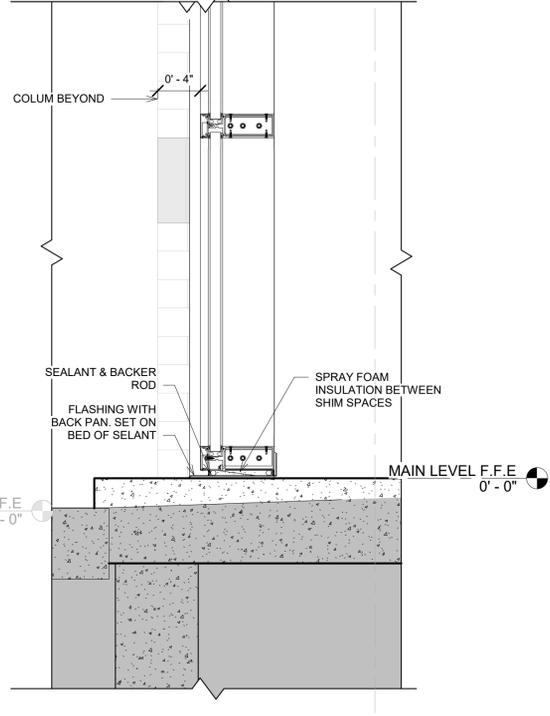
6 HEAD DETAIL - CW 1
1 1/2" = 1'-0"



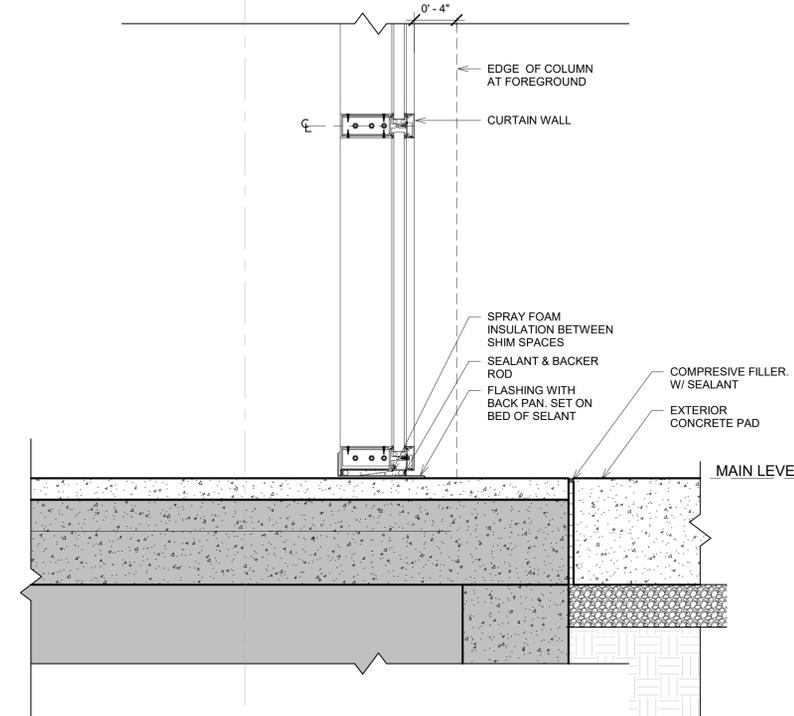
5 TRANSACTION WINDOW HEAD
1 1/2" = 1'-0"



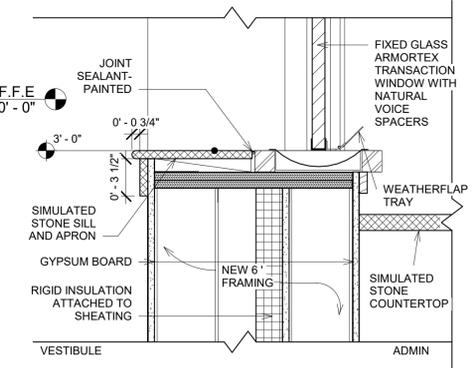
4 SILL DETAIL CW 3
1 1/2" = 1'-0"



3 SILL DETAIL CW 2
1 1/2" = 1'-0"



2 SILL DETAIL - CW 1
1 1/2" = 1'-0"



1 TRANSACTION WINDOW SILL
1 1/2" = 1'-0"

NOTE: FIELD VERIFY ALL DIMENSIONS IN THE FIELD

4/18/2023 3:51:19 PM C:\Users\henry\OneDrive\Documents\Projects\2023\2023 DEDHAM MIDDLE SCHOOL\15-CD PHASE1\100 CD\BID ADDENDUM 2.DWG_1.18.D21_ADDENDA_2.rvt

STAMP:

CONSULTANT:

TOWN OF DEDHAM
MIDDLE SCHOOL

DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 4/18/2023

PROJECT NO: 22.003

DRAWN BY: MC

CHECKED BY: FPB

REVISIONS:

1	3.31.23	Door Hardware Schedule
---	---------	------------------------

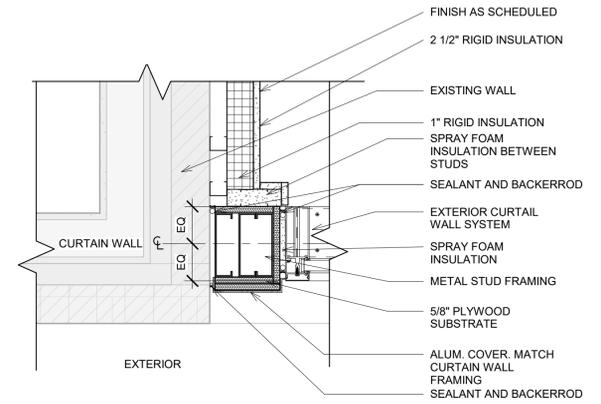
DRAWING TITLE:

**GLAZING TYPES,
DOOR TYPES,
PLAN DETAILS**

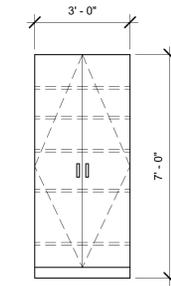
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A1.04

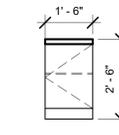
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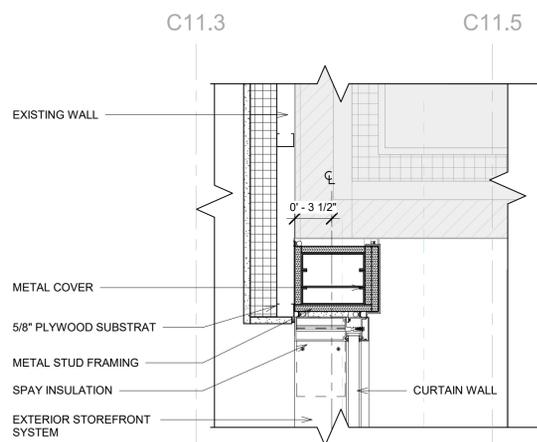
EXTERIOR CURTAINWALL JAMB DETAIL
- TYP
1 1/2" = 1'-0"



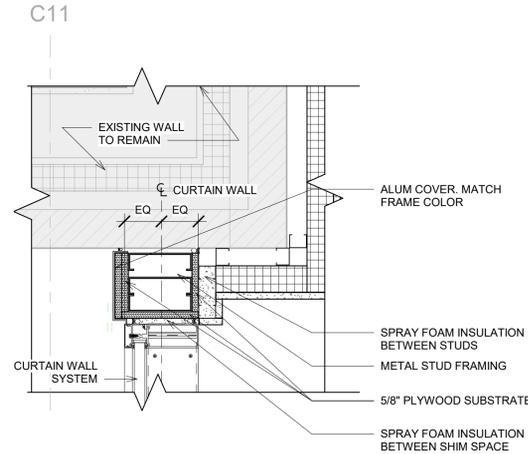
12 CASEWORK TYPE 1
3/8" = 1'-0"



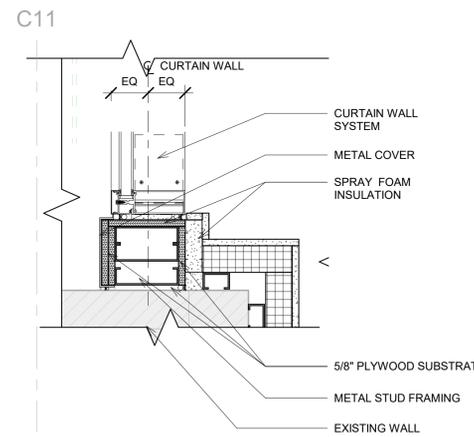
11 CASEWORK TYPE 2
3/8" = 1'-0"



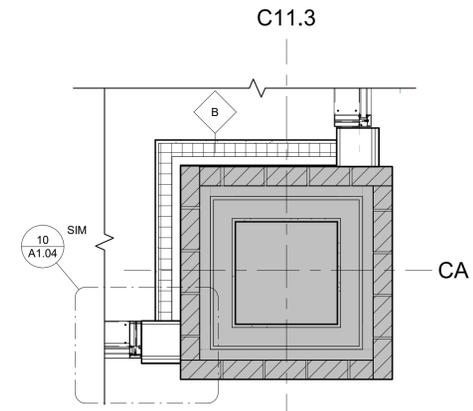
9 PROPOSED VESTIBULE PLAN - Callout 4
1 1/2" = 1'-0"



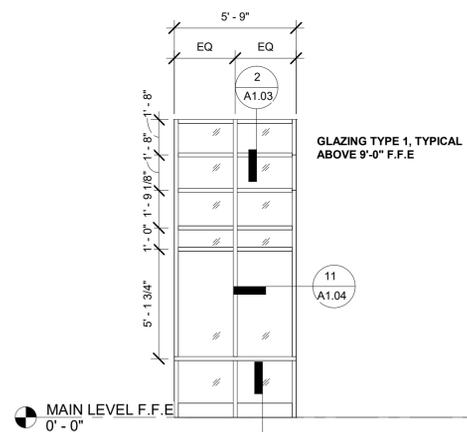
8 CURTAIN WALL JAMB - TYP
1 1/2" = 1'-0"



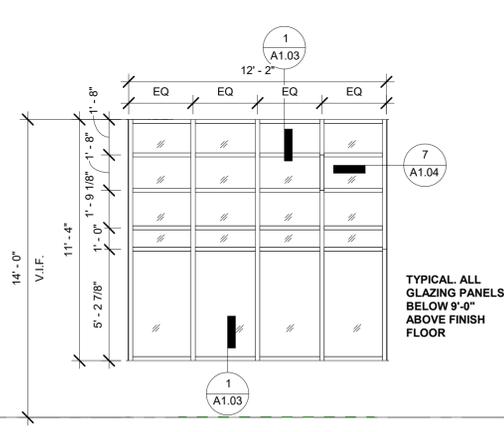
7 PROPOSED VESTIBULE PLAN - Callout 2
1 1/2" = 1'-0"



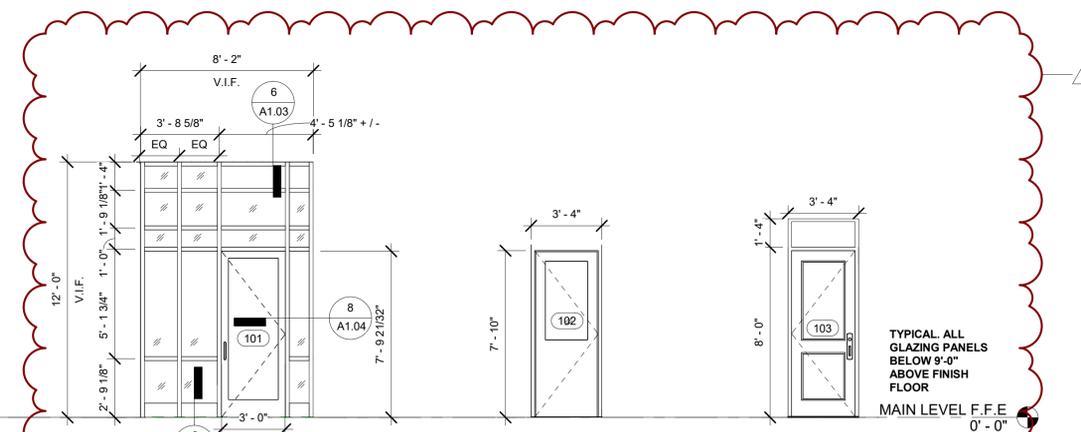
6 PLAN DETAIL - EXISTING COLUMN
3/4" = 1'-0"



5 CURTAIN WALL TYPE 2
1/4" = 1'-0"



4 CURTAIN WALL TYPE 3
1/4" = 1'-0"



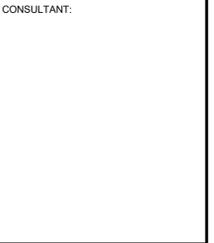
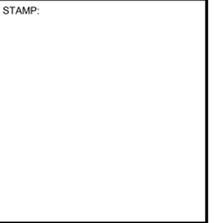
3 CURTAIN WALL TYPE 1
1/4" = 1'-0"

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

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

GLAZING NOTES :
GLAZING TYPE 1, TYPICAL 9'-0" ABOVE MAIN LEVEL 0'-0"
GLAZING TYPE 2, TYPICAL 9'-0" BELOW MAIN LEVEL 0'-0"

NOTE: FIELD VERIFY ALL DIMENSIONS IN THE FIELD



TOWN OF DEDHAM
MIDDLE SCHOOL

DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE:	4/18/2023
PROJECT NO.:	22.003
DRAWN BY:	FPB
CHECKED BY:	FPB
REVISIONS:	
1	3.31.23 Door Hardware Schedule

DRAWING TITLE:
REFERENCE IMAGES

DRAWING NO.:
A1.05

Door Schedule

Door Number	Type	Door				Finish	Hardware	Frame			Comments
		Width	Height	Thickness	Material			Type	Material	Finish	
101	1	3' - 0"	7'-10"	0' - 2"	ALUMINUM	CUSTOM COLOR TO MATCH EXISTING ENTRY DOORS	HW SET 1	1	ALUMINUM	CUSTOM COLOR TO MATCH EXISTING CURTAIN WALL SYSTEM FRAMING	
102	2	3' - 0"	7' - 10"	0' - 2 3/4"	WOOD	STAIN FINISH PER SPECIFICATIONS	HW SET 2	2	HOLLOW METAL	CUSTOM COLOR TO MATCH EXISTING CURTAIN WALL SYSTEM FRAMING	
103	1	3' - 0"	7' - 10"	0' - 2"	ALUMINUM	CUSTOM COLOR TO MATCH EXISTING ENTRY DOORS	HW SET 3	1	ALUMINUM	CUSTOM COLOR TO MATCH EXISTING CURTAIN WALL SYSTEM FRAMING	

Hardware Sets
HW-1

Doors: 101
Description: Alum Security Vest - Card Access; Auto; Remote Release

- | | | |
|-------------------------------------|-----------------------------------|----------|
| 1 Continuous Hinge | CFM-SLF-HD1 EL-CEPTx32D Series | PE |
| 1 Exit Device (rim, NL,EL,RX,LX,CD) | 16 53 55 56 70 8804 | US32D SA |
| 1 Offset Pull | 862 | US32D SA |
| 2 Small Format Inter Core | Medeco X4 keyed to existing | 26 MC |
| 1 Concealed Overhead Stop | 1-X36 | 630 RF |
| 1 Automatic Opener | 6061; 6071 D | 689 NO |
| 1 Threshold (coord w/ details) | 273x292AFGPK FHSL14SS-2 | PE |
| 1 Sweep | 315CN | PE |
| 1 Door Wiring Harness | QC Series (hinge to device) | MK |
| 1 Frame Wiring Harness | QC Series (jamb to J-box) | MK |
| 1 Position Switch | DPS Series (coord w/ security) | SU |
| 2 Door Switch | 671 | NO |
| 1 Power Supply | AQL4-R8E1 | SU |
| 1 Weather/Perimeter Seals | Supplied with door/frame assembly | |
| 1 Card Reader | By Security | |
| 1 Remote Release Switch | By Security | |

NOTES: OPERATION: DOOR IS NORMALLY CLOSED AND LOCKED. VALID CARD AT READER OR SIGNAL FROM REMOTE SWITCH RETRACTS LATCH FOR MOMENTARY ACCESS. THEN ENABLES OUTSIDE ACTUATOR. INSIDE ACTUATOR RETRACTS LATCH, THEN AUTO OPENS DOOR. MONITORING BY DOOR POSITION SWITCH. DURING A LOSS OF POWER THE DOOR WILL DEFAULT TO SECURE. FREE EGRESS AT ALL TIMES. LOCK STATUS WILL NOT CHANGE WHEN THE FIRE DETECTION/SUPPRESSION SYSTEMS ARE ACTIVATED. DEPRESSING PUSHRAIL WILL ACTIVATE REQUEST TO EXIT SWITCH FOR APPROPRIATE MONITOR BY EAC SYSTEMS. OUTSIDE KEY OVERRIDE.

Hardware Sets
HW-3

Doors: 103
Description: Alum Security Vest/Lobby - Card Access; Auto; Remote Release

- | | | |
|-------------------------------------|-----------------------------------|----------|
| 1 Continuous Hinge | CFM-SLF-HD1 EL-CEPTx32D Series | PE |
| 1 Exit Device (rim, NL,EL,RX,LX,CD) | 16 53 55 56 70 8804 | US32D SA |
| 1 Offset Pull | 862 | US32D SA |
| 2 Small Format Inter Core | Medeco X4 keyed to existing | 26 MC |
| 1 Concealed Overhead Stop | 1-X36 | 630 RF |
| 1 Automatic Opener | 6061; 6071 D | 689 NO |
| 1 Threshold (coord w/ details) | 271A FHSL14SS | PE |
| 1 Sweep | 315CN | PE |
| 1 Door Wiring Harness | QC Series (hinge to device) | MK |
| 1 Frame Wiring Harness | QC Series (jamb to J-box) | MK |
| 1 Position Switch | DPS Series (coord w/ security) | SU |
| 2 Door Switch | 671 | NO |
| 1 Power Supply | AQL4-R8E1 | SU |
| 1 Weather/Perimeter Seals | Supplied with door/frame assembly | |
| 1 Card Reader | By Security | |
| 1 Remote Release Switch | By Security | |

NOTES: OPERATION: DOOR IS NORMALLY CLOSED AND LOCKED. VALID CARD AT READER OR SIGNAL FROM REMOTE SWITCH RETRACTS LATCH FOR MOMENTARY ACCESS. THEN ENABLES OUTSIDE ACTUATOR. INSIDE ACTUATOR RETRACTS LATCH, THEN AUTO OPENS DOOR. MONITORING BY DOOR POSITION SWITCH. DURING A LOSS OF POWER THE DOOR WILL DEFAULT TO SECURE. FREE EGRESS AT ALL TIMES. LOCK STATUS WILL NOT CHANGE WHEN THE FIRE DETECTION/SUPPRESSION SYSTEMS ARE ACTIVATED. DEPRESSING PUSHRAIL WILL ACTIVATE REQUEST TO EXIT SWITCH FOR APPROPRIATE MONITOR BY EAC SYSTEMS. OUTSIDE KEY OVERRIDE.

Hardware Sets
HW-2

Doors: 102
Description: Admin Office - Card Access; Auto; Remote Release

- | | | |
|-------------------------------|--------------------------------|----------|
| 4 Hinge, Full Mortise, Hvy Wt | T4A3786 4-1/2" x 4-1/2" | US26D MK |
| 1 Storerom Lock | 70 8204 LNL | US26D SA |
| 1 Small Format Inter Core | Medeco X4 keyed to existing | 26 MC |
| 1 Electric Strike | 1500C-LM | 630 HS |
| 1 SMART Pac Bridge Rectifier | 2005M3 x 2004M | HS |
| 1 Concealed Overhead Stop | 1-X36 | 630 RF |
| 1 Automatic Opener | 6061; 6071 D | 689 NO |
| 1 Kick Plate | K1050 10" 4BE CSK | US32D RO |
| 1 Gasketing | S88BL | PE |
| 1 Sweep | 18061CNB | PE |
| 1 Request to Exit | By Security | |
| 1 Frame Wiring Harness | QC Series (jamb to J-box) | MK |
| 1 Position Switch | DPS Series (coord w/ security) | SU |
| 2 Door Switch | 671 | NO |
| 1 Power Supply | AQL4-R8E1 | SU |
| 1 Card Reader | By Security | |
| 1 Remote Release Switch | By Security | |

NOTES: OPERATION: DOOR IS NORMALLY CLOSED AND LOCKED. VALID CARD AT READER OR SIGNAL FROM REMOTE SWITCH UNLOCKS DOOR FOR MOMENTARY ACCESS. THEN ENABLES OUTSIDE ACTUATOR. INSIDE ACTUATOR UNLOCKS, THEN AUTO OPENS DOOR. MONITORING BY DOOR POSITION SWITCH. DURING A LOSS OF POWER THE DOOR WILL DEFAULT TO SECURE. FREE EGRESS AT ALL TIMES. LOCK STATUS WILL NOT CHANGE WHEN THE FIRE DETECTION/SUPPRESSION SYSTEMS ARE ACTIVATED. OUTSIDE KEY OVERRIDE.

MATCH EXISTING BENCH AT HIGH SCHOOL LOBBY IN ALL RESPECTS OF MATERIALS AND CONSTRUCTION. CONTRACTORS ARE REQUIRED TO PROVIDE DETAILED SHOP DRAWINGS AND MATERIALS SUBMITTALS TO ARCHITECT.

HARDWOOD SLATS FOR BENCH. PROVIDE SHOP DRAWINGS. SLATS SHALL BE OF AMERICAN HICKORY, CLEAR HEART, VERTICAL GRAIN, FREE OF KNOTS, KILN DRIED, AND HAND SELECTED FOR TRUE, STRAIGHT LENGTHS. NHLA GRADE OF F.A.S. SELECTS "PRIME GRADE". JANKA HARDNESS RATING GREATER THAN 1700. DIMENSIONS AS INDICATED ON DRAWINGS. ALL SLATS SHALL BE FINISHED WITH EASED EDGES, AND SANDED SMOOTH FOR CLEAR FINISH. SLATS SHALL BE SHOP FABRICATED AND PANELS OF SLATS SHALL BE PRE-ASSEMBLED ON STEEL ANGLES TO ENSURE UNIFORMITY OF SPACING. FINISH SHALL BE SHOP-APPLIED. ALL FASTENER LOCATIONS SHALL BE PRE-MEASURED AND PRE-DRILLED TO ENSURE SECURE AND PERMANENT CONNECTIONS WITH NO CRACKING OR SPLITTING OF WOOD, FOLLOWING BEST TRADE PRACTICES. AS PRODUCED BY BAIRD BROS. FINE HARDWOODS, 7060 CRORY RD. CANFIELD, OH 44406 1-800-732-1697 OR EQUAL."



4 STAINLESS STEEL HARDWOOD BENCH
NOT TO SCALE



3 SOUTH EAST VIEW



2 SOUTH WEST VIEW



1 SOUTH VIEW

STAMP:

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TOWN OF DEDHAM
MIDDLE SCHOOL
D
Dedham

DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 03 / 21 / 2023

PROJECT NO:

DRAWN BY: PAS

CHECKED BY: MVD

REVISIONS:

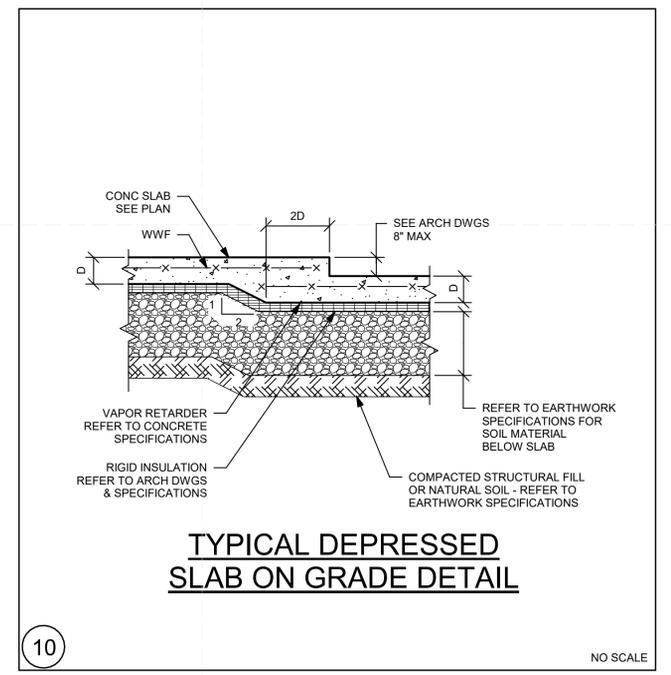
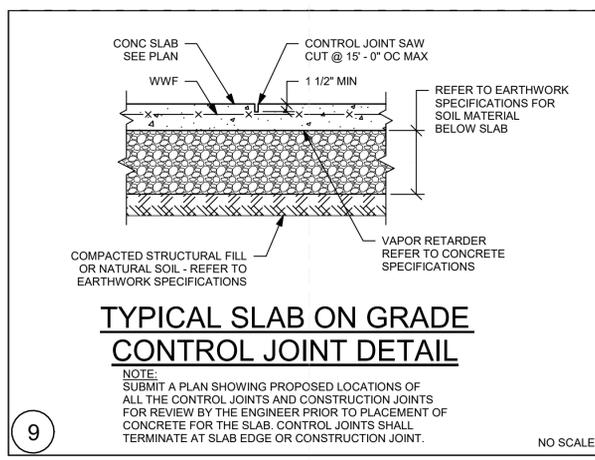
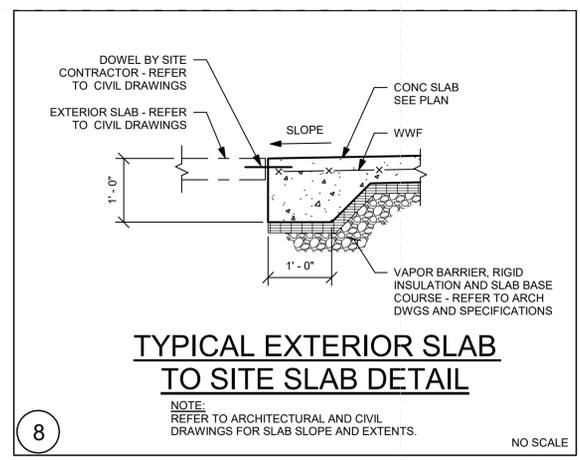
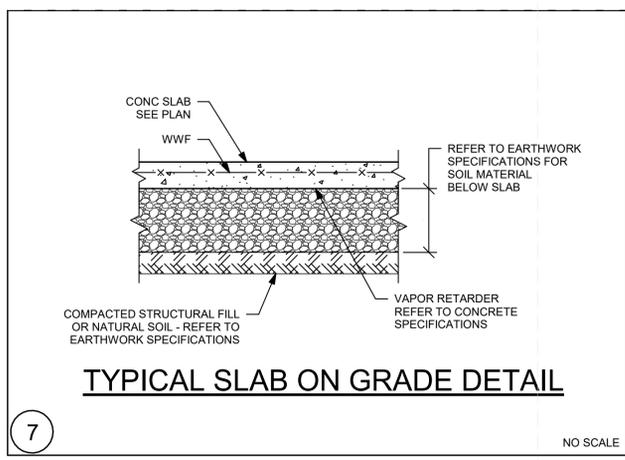
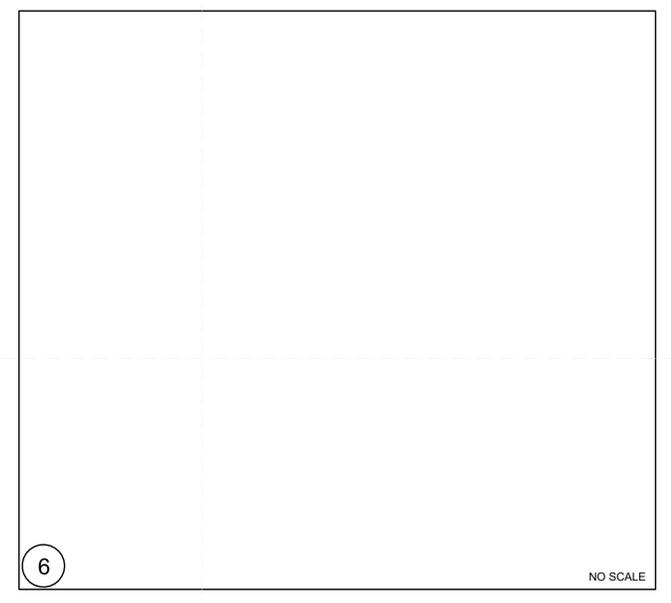
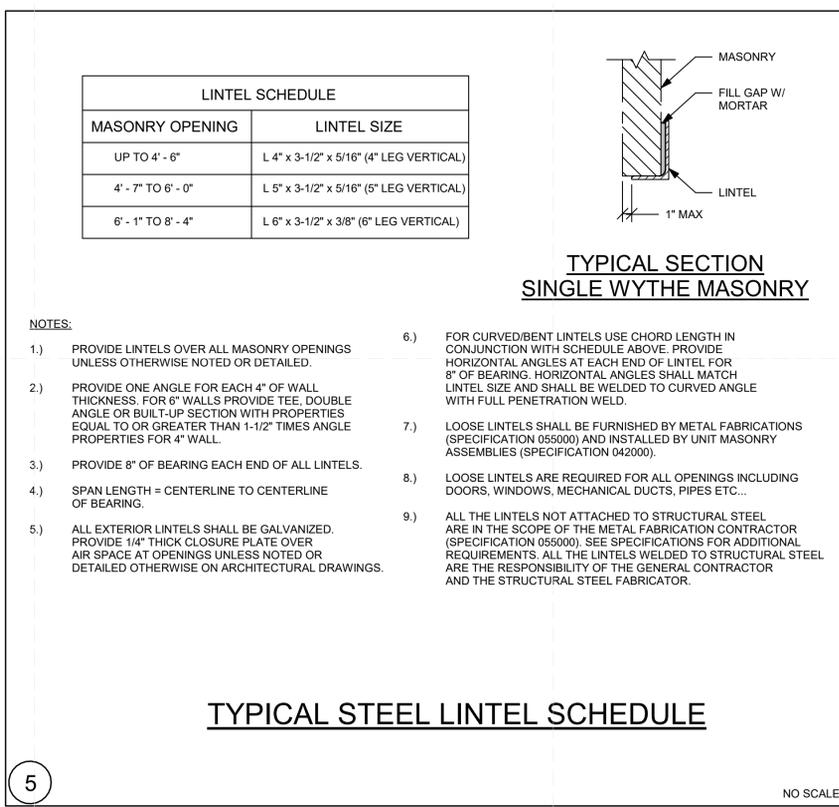
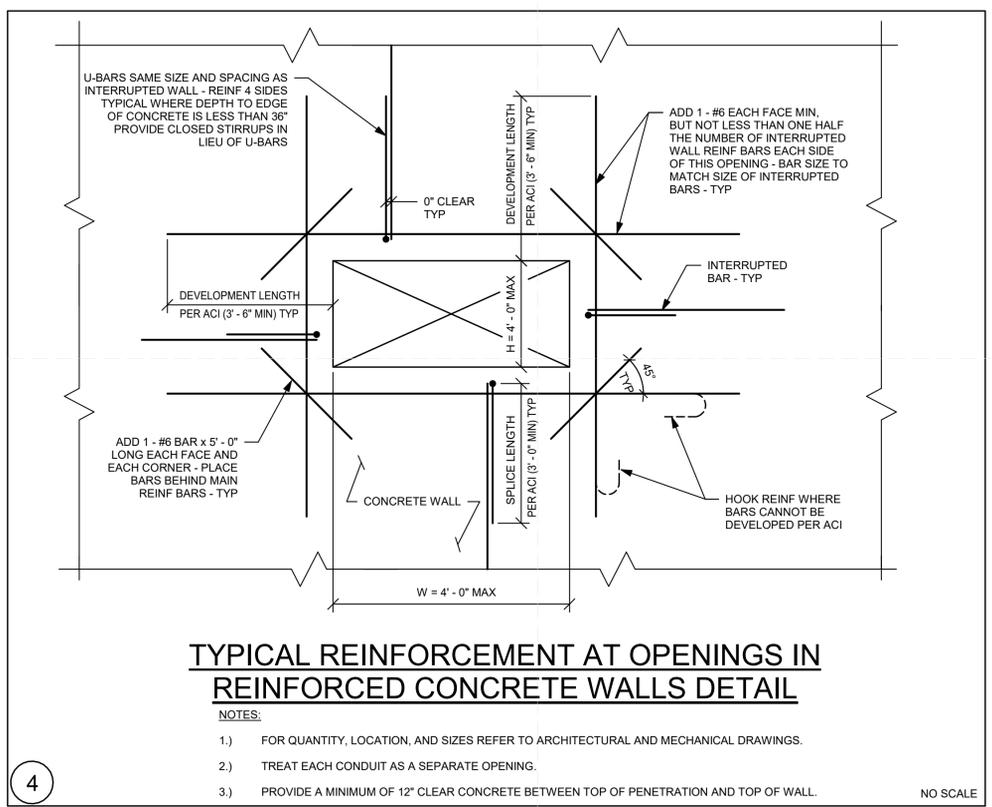
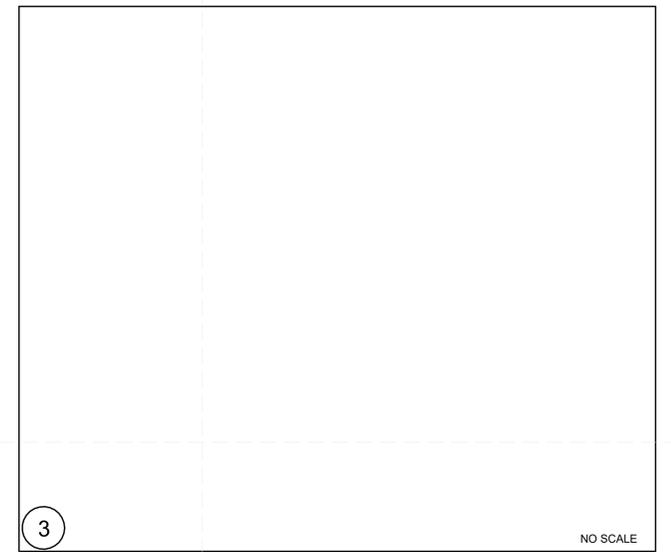
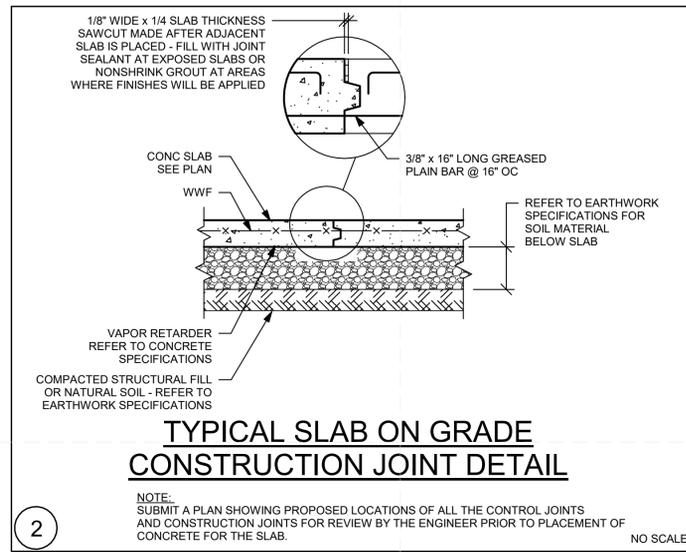
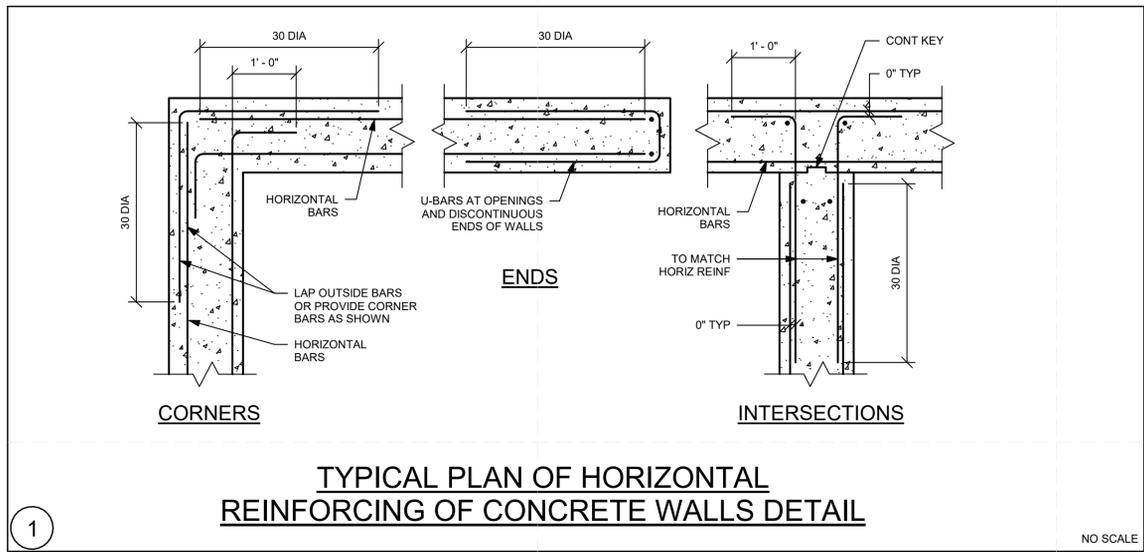
DRAWING TITLE:

TYPICAL DETAILS

DRAWING NO.:

S0.02

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TOWN OF DEDHAM



DEDHAM MIDDLE
SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

**SAFETY
VESTIBULE
PROJECT**

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03 / 21 / 2023

PROJECT NO:

DRAWN BY: PAS

CHECKED BY: MVD

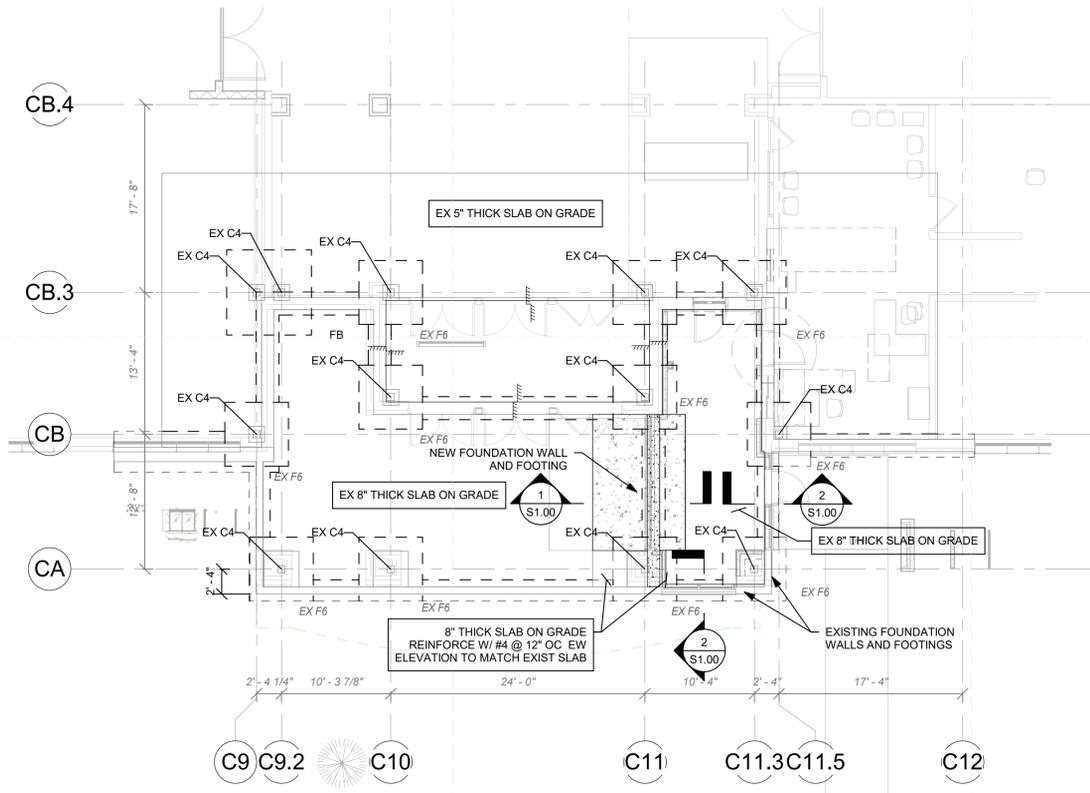
REVISIONS:

DRAWING TITLE:

**FRAMING PLANS
AND SECTIONS**

DRAWING NO.:

S1.00



FOUNDATION PLAN

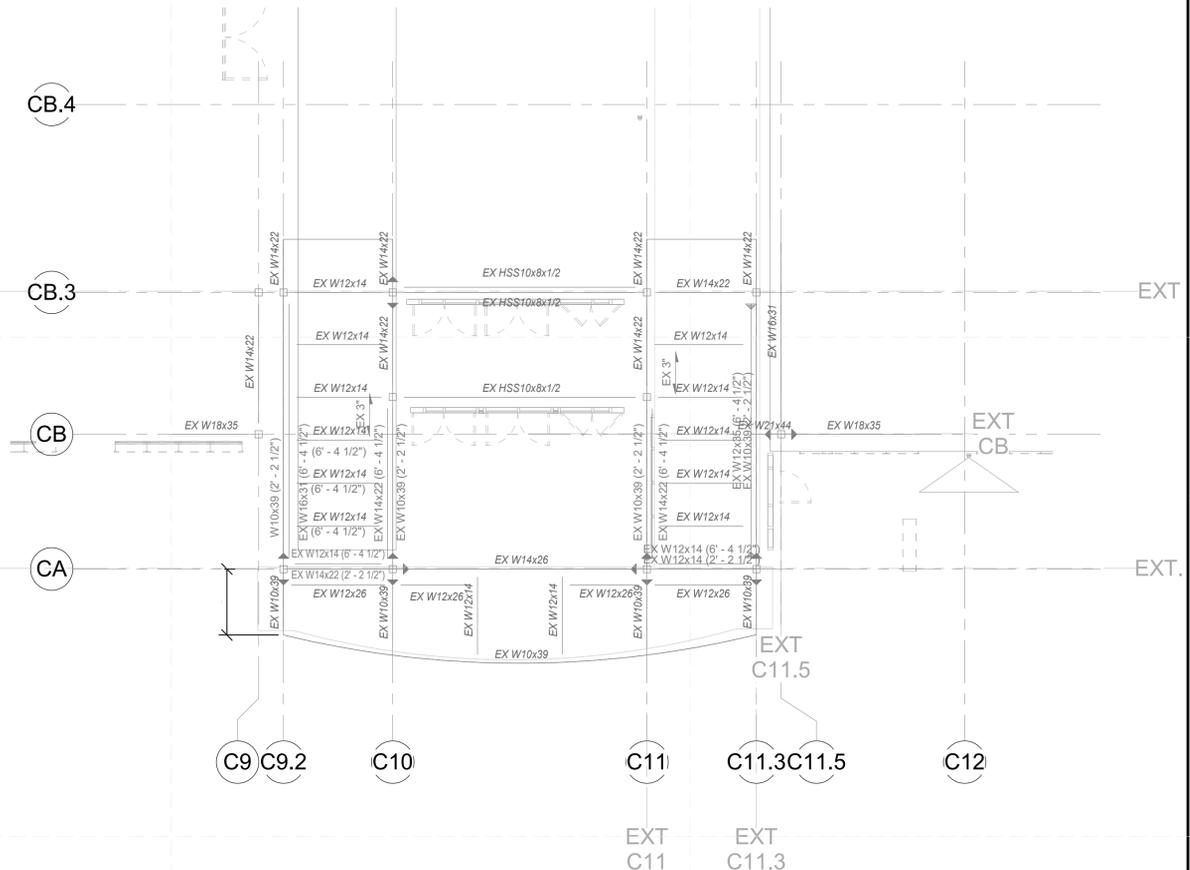
1/8" = 1' - 0"

GENERAL NOTES:

G1.) FOR GENERAL NOTES REFER TO S0.01 AND FOR TYPICAL DETAILS REFER TO S0.02

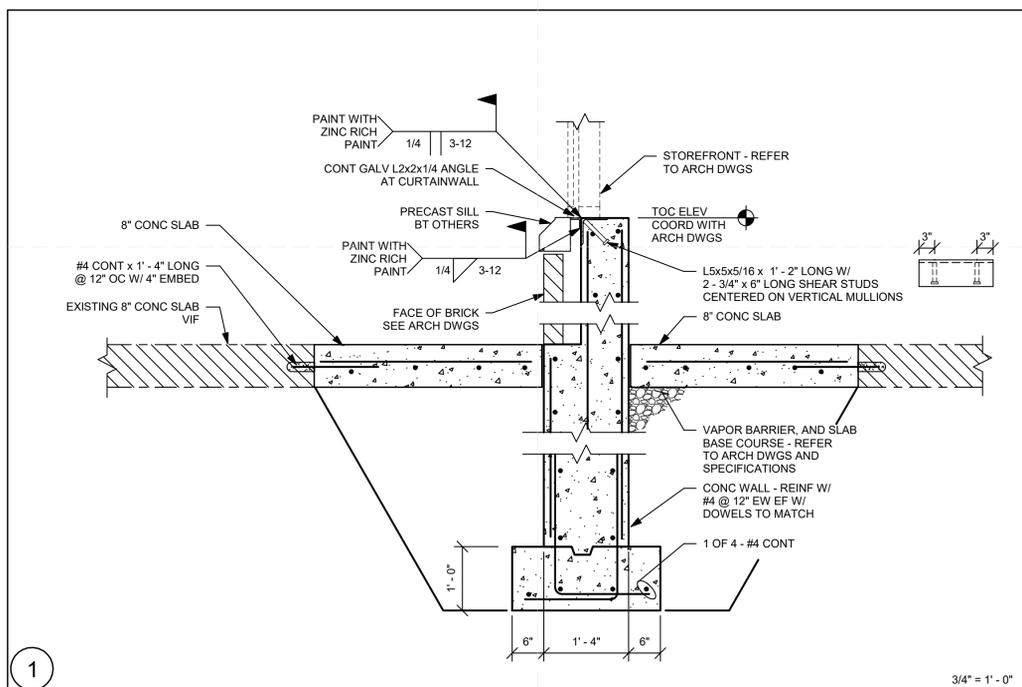
FRAMING NOTES:

- F1.) REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS AND VERTICAL DIMENSIONS.
- F2.) FOR EDGE OF SLAB DIMENSIONS, REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- F3.) FOR DIMENSIONS AND ELEVATIONS NOT GIVEN, REFER TO ARCHITECTURAL DRAWINGS.



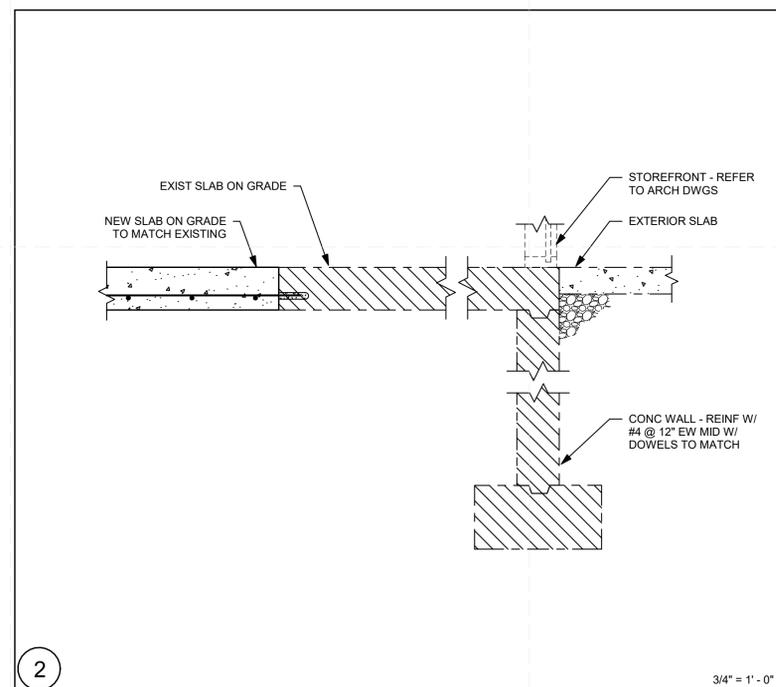
1ST FLOOR FRAMING PLAN

1/8" = 1' - 0"



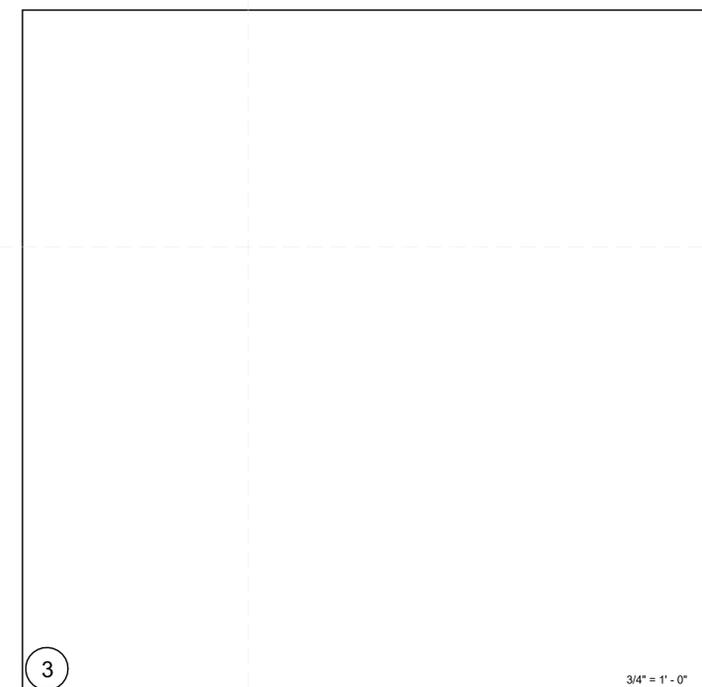
1

3/4" = 1' - 0"



2

3/4" = 1' - 0"



3

3/4" = 1' - 0"

GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH LABOR, MATERIALS, TOOLS AND OTHER EQUIPMENT REQUIRED TO INSTALL THE WORK INDICATED. THE CONTRACTOR SHALL FURNISH AND INSTALL ITEMS NECESSARY FOR A COMPLETE FIRE PROTECTION SYSTEM. MATERIALS SHALL BE NEW AND SHALL BEAR UL LISTING / FM APPROVAL. WORK SHALL CONFORM WITH ALL APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND APPLICABLE FEDERAL, STATE AND LOCAL CODES. CONTRACTOR SHALL SECURE PERMITS AND PAY THE FEES REQUIRED TO CARRY OUT HIS WORK. THE CONTRACTOR SHALL FURNISH COPIES OF CERTIFICATES AND PERMITS TO THE ARCHITECT.
- ALL WORK SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS. IN EVENT OF CONFLICT BETWEEN OR AMONG SPECIFIED REQUIREMENTS AND PERTINENT CODES OR REGULATIONS, MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- THE FIRE PROTECTION CONTRACTOR SHALL DEVELOP AND WORKING PLANS (SHOP DRAWINGS) FOR THE SPECIFIED SYSTEMS IN ACCORDANCE WITH NFPA 13 AND APPLICABLE INSURANCE REQUIREMENTS. WORKING PLANS SHALL BE APPROVED BY THE ENGINEER, IN WRITING PRIOR TO SUBMITTAL TO THE AUTHORITY HAVING JURISDICTION. WORKING PLANS SHALL BE DEVELOPED UNDER THE DIRECTION OF AND BEAR THE STAMP OF EITHER A REGISTERED PROFESSIONAL ENGINEER IN THE APPLICABLE STATE OR THE LICENSE NUMBER OF A NICET LEVEL III OR IV FIRE PROTECTION TECHNICIAN. IF THE JURISDICTION REQUIRES A LICENSED ENGINEER TO STAMP WORKING PLANS, THEN THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- WORKING PLANS SHALL BEAR THE NAME, LICENSE NUMBER, AND EXPIRATION DATE OF THE SPRINKLER FITTER LICENSE (WHERE APPLICABLE).
- THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, CUTTING, AND STORAGE OF CEILING TILES TO ACCOMMODATE THE INSTALLATION OF SPRINKLERS. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CEILING TILES.
- DESIGN INTENT IS TO PROVIDE ALL AREAS WITH FULL NFPA 13 SPRINKLER COVERAGE WITH MAINS ROUTED AND SIZED AS INDICATED ON CONTRACT DRAWINGS.
- SPRINKLERS SHALL BE THOSE SCHEDULED OR AN APPROVED EQUAL (REFER TO SPECIFICATIONS). TEMPERATURE RATING SHALL BE AS SCHEDULED EXCEPT WHERE NFPA 13 REQUIRES A HIGHER TEMPERATURE RATING. SHOULD FIELD CONDITIONS REQUIRE HIGHER TEMPERATURE RATED SPRINKLERS, NOTIFY THE ENGINEER PROMPTLY AND IN WRITING.
- INTENT IS THAT SPRINKLERS IN AREAS WITH FINISHED CEILING BE INSTALLED IN THE LOCATION INDICATED ON CONTRACT DOCUMENTS. ANY DEVIATIONS SHALL BE INDICATED ON SHOP DRAWINGS.
- SPRINKLER LOCATIONS IN AREAS WITHOUT FINISHED CEILING ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW AN APPROXIMATE QUANTITY OF CEILING-LEVEL SPRINKLERS REQUIRED. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS, STRUCTURAL, MECHANICAL, AND ARCHITECTURAL DRAWINGS TO ENSURE PROPER COVERAGE, FULL COVERAGE, COORDINATED WITH ALL OBSTRUCTIONS PER NFPA 13, SHALL BE PROVIDED.
- UNLESS NOTED OTHERWISE, ABOVE-CEILING AREAS ARE CONSIDERED CONCEALED SPACES WITH MINIMAL COMBUSTIBLE LOADING AND SHALL NOT REQUIRE SPRINKLER PROTECTION PER NFPA 13 §8.15.1.2, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL ADVISE THE ENGINEER, IN WRITING, IF FIELD CONDITIONS VARY FROM DESIGN DRAWINGS SUCH THAT ABOVE-CEILING SPRINKLER PROTECTION IS REQUIRED.
- AT TIME OF BID, THE SPRINKLER CONTRACTOR SHALL SUBMIT UNIT PRICES FOR ADDITIONAL SPRINKLERS THAT MAY BE REQUIRED BASED UPON DESIGN CHANGES. UNIT PRICE FOR ADDITIONAL SPRINKLERS SHALL INCLUDE ALL REQUIRED LABOR AND MATERIALS TO ADD A SPRINKLER INCLUDING SPRINKLER INSTALLATION, TAPPING BRANCH PIPING, ARMOVER / RUNOUT PIPING, SPRINKLER, DRAINDOWN, ETC..
- PIPING INSTALLED ABOVE SENSITIVE AREAS (ELECTRICAL ROOMS, DATA ROOMS, ETC.) SHALL BE LIMITED TO THE PIPING REQUIRED TO SERVE THE SPACE. NO OTHER FIRE PROTECTION PIPING SHALL BE PERMITTED WITHIN THESE AREAS. PIPING SERVING THE SENSITIVE AREA SHOULD BE FED FORM ABOVE THE DOOR TO AVOID ROUTING OVER EQUIPMENT.
- FIRE PROTECTION SYSTEM PIPE ROUTING AS SHOWN IS DIAGRAMMATIC AND FOR REFERENCE ONLY. DRAWINGS SHOW A SUGGESTED PIPING ROUTE ONLY AND ARE NOT INTENDED TO SHOW ALL REQUIRED OFFSETS. FIRE PROTECTION CONTRACTOR MAY ALTER PIPING WITH WRITTEN APPROVAL OF ENGINEER. PIPE ROUTING SHALL BE ADJUSTED FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL CLEARANCES AND LIMITATIONS AND FOR EQUIPMENT SELECTION. FURNISH AND INSTALL ALL ELEMENTS REQUIRED TO COMPLETE INTENDED PIPING SYSTEMS WHETHER OR NOT THESE ELEMENTS ARE SPECIFICALLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS. IN FINISHED AREAS OR WHERE OTHERWISE REQUIRED BY ARCHITECTURAL DRAWINGS.
- PAINT ALL EXPOSED PIPING. REFER TO ARCHITECTURAL SPECIFICATIONS AND COORDINATE COLOR WITH ARCHITECT.
- DRAWINGS ARE NOT INTENDED TO SHOW ALL REQUIRED TAKEOFFS / TAPS FROM EXISTING PIPING. FIRE PROTECTION CONTRACTOR SHALL INSTALL NEW PIPING TAKE-OFFS WHERE NECESSARY TO PROVIDE ADEQUATE COVERAGE, TO AVOID SUSPENDED CEILING FRAMING, OR TO COORDINATE WITH OTHER TRADES.
- ALL PIPING CUT DURING DEMO PHASE SHALL BE CAPPED WHETHER INDICATED ON DRAWING OR NOT.
- CONSULT ALL DRAWINGS. NOTE ARCHITECTURAL DETAILS AND ALL CONDITIONS THAT MAY AFFECT THE WORK AND CARE FOR SAME, WHILE EXECUTING THE WORK UNDER THIS SECTION. COOPERATE AND COORDINATE WITH THE ARCHITECT, ALL OTHER TRADES, BUILDING MANAGEMENT, AND THE OWNER.
- TAKE ALL MEASURES REQUIRED TO PROTECT OWNER'S PROPERTY AND EQUIPMENT DURING COURSE OF WORK. SHOULD DAMAGE TO OWNER'S PROPERTY OR EQUIPMENT OCCUR, REPAIR DAMAGE PROMPTLY AT NO COST TO OWNER.
- INSTALL ALL EQUIPMENT AND MATERIALS IN STRICT CONFORMANCE WITH EQUIPMENT AND MATERIALS MANUFACTURERS' WRITTEN RECOMMENDATIONS.
- LOCATE PIPES TO FALL WITHIN PARTITIONS, WALLS, OR ROOF CAVITIES AND TO PRECLUDE FURRING, OTHER THAN THAT SHOWN ON ARCHITECTURAL DRAWINGS. DO NOT ROUTE PIPE IN LOCATIONS SUBJECT TO FREEZING. IF DURING THE COURSE OF CONSTRUCTION A AREA SUBJECT TO FREEZING IS IDENTIFIED IDENTIFY THE ENGINEER PROMPTLY AND IN WRITING.
- ALL FIRE PROTECTION EQUIPMENT, VALVES, ETC. SHALL BE INSTALLED WITH CLEARANCE FOR SERVICING AS RECOMMENDED BY THE MANUFACTURER.

FIRE PROTECTION EQUIPMENT COORDINATION

FIRE PROTECTION CONTRACTOR SHALL PROVIDE AND INSTALL ALL SUPERVISORY AND FLOW SWITCHES FOR SYSTEM OPERATION. FIRE ALARM CONTRACTOR SHALL PROVIDE AND INSTALL REQUIRED INTERFACE MODULES AS WELL AS THE ELECTRIC BELL. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR WIRING ALL SUPERVISORY AND ALARM SWITCHES TO THE ASSOCIATED INTERFACE MODULE AND / OR ELECTRIC BELL.

HYDRAULIC DESIGN REQUIREMENTS

THE SPRINKLER SYSTEM SHALL DELIVER THE MINIMUM REQUIRED DISCHARGE DENSITIES AS REQUIRED BY NFPA 13, AND AS SPECIFIED BELOW:

- MAXIMUM SPRINKLER COVERAGE AREA LISTED IS FOR STANDARD COVERAGE SPRINKLERS UNDER SMOOTH FLAT CEILING. THIS SHALL BE ADJUSTED AS REQUIRED BY CODE FOR OTHER SITUATIONS.
- MAXIMUM SPRINKLER COVERAGE AREA IS PERMITTED TO BE REDUCED WHERE ALLOWED BY THE §11.2.3.2.3.1 OF NFPA 13.
- ROOM DESIGN METHOD OF §11.2.3.3 OF NFPA 13 IS PERMITTED.

OCCUPANCY CLASSIFICATION	LIGHT HAZARD
SYSTEM TYPE	WET PIPE
DISCHARGE DENSITY	0.10 GPM / SF
MAX SPRINKLER COVERAGE AREA	225 SF (UPR/PEN); 196 SF (SIDEWALL)
MAXIMUM AREA OF APPLICATION	1,500 SF
HOSE ALLOWANCE	100 GPM

NOTES: UNLESS NOTED OTHERWISE.

SUBMITTAL PROCESS AND CLOSEOUT DOCUMENTATION

- REQUIRED SUBMITTALS (REFERENCE SPECIFICATIONS) MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO SUBMISSION TO OWNER'S INSURER AND AUTHORITY HAVING JURISDICTION.
- THE ENGINEER SHOULD BE NOTIFIED AT THE FOLLOWING INTERVALS: START OF CONSTRUCTION, ROUGH-IN COMPLETE, COMPLETION OF WORK.
- PRIOR TO PROJECT CLOSEOUT AND ISSUANCE OF FINAL CONSTRUCTION CONTROL DOCUMENTS (WHERE APPLICABLE) THE FOLLOWING DOCUMENTS MUST BE RECEIVED, REVIEWED, AND ACCEPTED BY THE ENGINEER:
 - CERTIFICATION OF COMPLIANCE (REQUIRED 5 DAYS PRIOR TO SIGNOFF). WRITTEN CERTIFICATION ON COMPANY LETTERHEAD FROM THE SUBCONTRACTOR (OR GENERAL CONTRACTOR) ADDRESSED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE STATING THAT TO THE BEST OF THE CONTRACTOR'S KNOWLEDGE AND BELIEF THAT CONSTRUCTION WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND APPLICABLE CODES AND STANDARDS. APPLICABLE CODES AND STANDARDS SHOULD BE LISTED, INCLUDING THE APPLICABLE YEAR OF NFPA STANDARDS.
 - AS-BUILT DRAWINGS (REQUIRED 5 DAYS PRIOR TO SIGNOFF). THE FIRE PROTECTION CONTRACTOR SHALL SUBMIT ACCURATE AS-BUILT DOCUMENTS WILL BE REJECTED.
 - PUNCH LIST ITEMS COMPLETE (REQUIRED 3 DAYS PRIORS TO SIGNOFF). WRITTEN CERTIFICATION THAT ALL CODE-RELATED PUNCH LIST ITEMS HAVE BEEN COMPLETED. THE ENGINEER WILL IDENTIFY, ON THE PUNCH LIST, WHICH ITEMS ARE REQUIRED FOR SIGNOFF TO BE ISSUED.
 - ACCEPTANCE TEST COMPLETED (REQUIRED 5 DAYS PRIOR TO SIGNOFF). **NOTIFY THE ENGINEER IN WRITING AT LEAST 3 DAYS PRIOR TO PERFORMANCE OF ACCEPTANCE TEST SO THAT HE OR SHE MAY ATTEND AT HIS OR HER SOLE DISCRETION.** ALL CODE-REQUIRED ACCEPTANCE TESTS MUST BE PERFORMED AND SUBMITTED IN WRITING TO THE ENGINEER, INCLUDING THE FOLLOWING:
 - NFPA 13 CONTRACTOR'S MATERIAL TEST CERTIFICATE FOR ABOVEGROUND PIPING. A COMPLETE FORM IS REQUIRED FOR EACH SYSTEM/ZONE.

DEVICE LEGEND

SPRINKLER TAGS

OPTIONAL TYPE DESIGNATORS	DESCRIPTION
"BLANK"	- SPRINKLER WITH NO OPTION
"SC"	- STANDARD RESPONSE / GASKETED
"CC"	- COMBUSTIBLE CONCEALED
"S"	- STANDARD RESPONSE
"C"	- CORROSION RESISTANT
"G"	- GASKETED
"W"	- WINDOW
"V"	- VERTICAL

SPRINKLER SYMBOLS	SPRINKLER SYMBOL DESCRIPTION
●	- CONCEALED PENDENT
■	- CONCEALED PENDENT K8.0
●	- CONCEALED PENDENT EXTENDED COVERAGE
●	- CONCEALED PENDENT SPECIAL APPLICATION
○	- DRY CONCEALED PENDENT
●	- PENDENT
■	- PENDENT K8.0
●	- PENDENT STORAGE
○	- DRY PENDENT
●	- UPRIGHT
■	- UPRIGHT K8.0
○	- UPRIGHT STORAGE
●	- UPRIGHT SPECIAL APPLICATION
▼	- CONCEALED SIDEWALL
▼	- CONCEALED SIDEWALL EXTENDED COVERAGE
▼	- CONCEALED SIDEWALL SPECIAL APPLICATION
▼	- DRY SIDEWALL CONCEALED
▼	- DRY SIDEWALL RECESSED

ABBREVIATIONS

AD	AUTOMATIC BALL DRIP DRAIN
AV	ALARM VALVE
CP	COMPRESSOR
CONTR	CONTRACTOR
CLDI	CEMENT-LINED DUCTILE IRON
DI	UNLINED DUCTILE IRON
DN	DOWN
DP	DROP
DR	DRAIN RISER
DSV	DRY SYSTEM VALVE
DWG	DRAWING
EA	EACH
FBOC	FURNISHED BY OTHER CONTRACTOR
GPM	GALLONS PER MINUTE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PEN	PENDENT SPRINKLER
PSI	POUNDS PER SQUARE INCH
RCV	RISER CHECK VALVE
RS	RISE
RTI	RESPONSE TIME INDEX
RM	ROOM
RN	RISER NIPPLE
SB	SPLASH BLOCK
SIN	SPRINKLER IDENTIFICATION NUMBER
SW	SIDEWALL SPRINKLER
TB	THRUST BLOCK
TS	TAMPER SWITCH
TYP	TYPICAL
UG	UNDERGROUND
UPR	UPRIGHT SPRINKLER

PIPING LEGEND

FP	FIRE PROTECTION MAIN
FP	FIRE PROTECTION MAIN UNDERGROUND
WP	WET PIPE SPRINKLER PIPING
DS	DRY PIPE SPRINKLER PIPING
PA	PREACTION SPRINKLER PIPING
D	DRAIN PIPING
FTH	FIRE PUMP TEST HEADER PIPING
BTH	BACKFLOW TEST HEADER PIPING
FDC	FIRE DEPARTMENT CONNECTION PIPING
○	PIPE ELEVATION CHANGE
□	CAP ON END OF PIPE
—	PIPE BREAK
→	DIRECTION OF FLOW INDICATION
48"x18" S/A	OBSTRUCTION FROM DUCTWORK 48" AND GREATER

DEMOLITION / RELOCATION LEGEND

E	EXISTING SPRINKLER EQUIPMENT, DEVICE AND/OR SYSTEM TO REMAIN
X	EXISTING SPRINKLER EQUIPMENT, DEVICE AND/OR SYSTEM TO BE SELECTIVELY DEMOLISHED
XT	EXISTING SPRINKLER EQUIPMENT AND/OR DEVICE TO BE REMOVED AND TURNED OVER TO OWNER FOR RE-USE
XR	EXISTING SPRINKLER EQUIPMENT AND/OR DEVICE TO BE REMOVED, STORED AND RE-LOCATED.
XL	EXISTING SPRINKLER EQUIPMENT AND/OR DEVICE INDICATED IN NEW LOCATION

DEMOLITION / RELOCATION NOTES
PHASE LABELS SHOWN ABOVE ARE APPLIED IN SELECT AREAS AND MAY NOT ALWAYS BE PRESENT. REFER TO LINETYPE AND LINEWEIGHT TO DETERMINE EXISTING CONDITIONS AND DEMOLISHED EQUIPMENT.

SYMBOLS

AVA	AUTOMATIC AIR VENT
MAV	MANUAL AIR VENT
BFV	BUTTERFLY VALVE, NORMALLY OPEN
BFVC	BUTTERFLY VALVE, NORMALLY CLOSED
BTH	BACKFLOW TEST HEADER
CV	CHECK VALVE
DO	DRAIN OUTLET
DV	DRAIN VALVE
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FDVC	FIRE DEPARTMENT VALVE CABINET
FM	FIRE METER
FSW	FLOW SWITCH
FTH	FIRE PUMP TEST HEADER
GV	GATE VALVE, NORMALLY OPEN
GVNC	GATE VALVE, NORMALLY CLOSED
ITC	INSPECTOR'S TEST CONNECTION
N2	NITROGEN GENERATOR
N2P	NITROGEN PURGE VALVE
PG	PRESSURE GAUGE
PV	POST INDICATOR VALVE
PS	PRESSURE SWITCH
WPV	WALL POST INDICATOR VALVE
OS&Y	OS&Y GATE VALVE
DSR	DRY SYSTEM RISER
PAR	PREACTION RISER
WSR	WET SYSTEM RISER
ZCV	ZONE CONTROL VALVE ASSEMBLY
BP	BACKFLOW PREVENTER ASSEMBLY

DRAWING NOTES

A	HYDRAULIC NODE
1	DEMOLITION NOTE
1	NEW WORK NOTE
○	CONNECT TO EXISTING
○	CAP EXISTING
■	LIMIT OF DEMOLITION
▲	DRAWING REVISION DESIGNATION
☁	REVISION CLOUD
□	ELECTRICAL / SENSITIVE AREA. REFER TO GENERAL NOTE
—	HYDRAULIC AREA BOUNDARY

WATER SUPPLY

DATE OF TEST	07/27/2022
LOCATION	MAIN DRAIN TEST TAG
STATIC PRESSURE	45 PSI
RESIDUAL PRESSURE / FLOW	40 PSI
SOURCE	NOREL SERVICE TAG
FOR REFERENCE ONLY. AREA IS NOT ANTICIPATED TO BE HYDRAULICALLY MOST DEMANDING AREA.	

DEMOLITION NOTES

- CONTRACTOR SHALL VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK OF THIS SECTION. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS.
- PRIOR TO COMMENCING WORK OF THIS SECTION, EXAMINE SITE AND CONDITIONS UNDER WHICH WORK WILL BE PERFORMED. DETERMINE EXACT LOCATIONS OF EXISTING EQUIPMENT, PIPING AND CONTROLS. REPORT TO ARCHITECT, IN WRITING, ANY CONDITIONS THAT MIGHT ADVERSELY AFFECT WORK. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS AND PREPARATORY WORK.
- ABANDONING OF SPRINKLERS, VALVES, PIPING OR EQUIPMENT IN PLACE SHALL NOT BE ALLOWED. COMPLETE REMOVAL REQUIRED UNLESS EXPLICITLY NOTED OTHERWISE.
- PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP REMAINING PIPING.
- SPRINKLER WORK SHALL BE PLANNED AND EXECUTED IN MANNER SUCH THAT IMPAIRMENTS ARE MINIMIZED. ALL IMPAIRMENTS SHALL BE MANAGED IN ACCORDANCE WITH NFPA 25 REQUIREMENTS. UNDER NO CIRCUMSTANCES WILL IT BE ACCEPTABLE TO IMPAIR SPRINKLERS FOR AN EXTENDED DURATION WITHOUT WRITTEN APPROVAL FROM THE A.H. SPRINKLER IMPAIRMENTS IN A MULTI-STORY BUILDING SHALL BE LIMITED TO A SINGLE FLOOR.
- SPRINKLERS TO BE REMOVED: WHERE AN AREA WILL BE WITHOUT SPRINKLER PROTECTION FOR MORE THAN FOUR HOURS A FIRE WATCH SHALL BE PLACED INTO EFFECT UNTIL PROTECTION HAS BEEN RESTORED. ALL SPRINKLER HEADS MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED.
- EQUIPMENT TO BE REMOVED: DISCONNECT AND REMOVE EQUIPMENT. WHERE THE SYSTEM WILL BE EFFECTED FOR MORE THAN FOUR HOURS PROVIDE A TEMPORARY SYSTEM CAPABLE OF PROVIDING FOR THE EXISTING SYSTEM BEING REMOVED. COMPLETELY REMOVE ALL UNUSED EQUIPMENT CONNECTED TO DEMOLISHED EQUIPMENT.
- COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AS TO REMOVAL AND DISPOSAL OF EQUIPMENT REMOVED FROM THE SITE.
- COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION.
- COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
- COMPLY WITH ANSI A10.6 (SAFETY REQUIREMENTS FOR DEMOLITION OPERATIONS) AND NFPA 241 (STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS)
- PERMITS: GIVE ALL REQUIRED NOTICES. FILE ALL REQUIRED PLANS AND SPECIFICATIONS RELATING TO THE WORK OF THIS SECTION WITH THE PROPER AUTHORITIES AND PAY FOR ANY REQUIRED PERMITS.
- ALL EQUIPMENT AND SYSTEMS TO BE REMOVED OR DEMOLISHED UNDER THIS SECTION AND NOT DESIRED BY OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE ALL SUCH EQUIPMENT FROM THE SITE PROMPTLY AFTER DETACHMENT FROM BUILDING STRUCTURE.
- STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED.
- IT IS UNKNOWN WHETHER HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY ARCHITECT AND OWNER IN WRITING.
- EXISTING PIPING SHOWN ON DRAWINGS DOES NOT INDICATE FULL EXTENT OF PIPING DEMOLITION. FIELD VERIFICATIONS REQUIRED.
- SPRINKLERS EXISTING TO REMAIN: SPRINKLERS SHALL BE PROTECTED DURING DEMOLITION. SPRINKLERS DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH NEW SPRINKLERS MATCHING THE SAME VISUAL AND PERFORMANCE CHARACTERISTICS (COLOR, STYLE, RTI, K-FACTOR, ETC) AT NO COST TO OWNER. MANUFACTURER SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO INSTALLATION.
- CONTRACTOR SHALL PRODUCE AND SUBMIT TO ALL APPLICABLE AUTHORITIES HAVING JURISDICTION ALL SPRINKLER IMPAIRMENT PLANS REQUIRED BY STATE AND LOCAL JURISDICTIONS AND INSURANCE REQUIREMENTS. TEMPORARY SPRINKLER PROTECTION SHALL BE PROVIDED, AS REQUIRED.

DRAWING LIST

SHEET NUMBER	SHEET NAME
FP000	FIRE PROTECTION LEGEND
FP301	FIRE PROTECTION LEVEL 1 PLAN
FP900	FIRE PROTECTION DETAILS

F Sprinkler Schedule

DESCRIPTION	MANUFACTURER	SIN	K-FACTOR	TEMP RATING	NPT	COVERAGE	RESPONSE TYPE	ESCUTCHEON FINISH	SPRINKLER FINISH	COMMENTS
PENDENT	RELIABLE	RA1414	5.6	200 °F	1/2"	STANDARD	UL QR & FM QR	WHITE	WHITE	



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TOWN OF DEDHAM



DEDHAM MIDDLE SCHOOL
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DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: MT

CHECKED BY: PH

REVISIONS:

DRAWING TITLE:

FIRE PROTECTION LEGEND

DRAWING NO.:

FP000



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SAFETY VESTIBULE PROJECT

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ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: MT

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REVISIONS:

NO.	DATE	DESCRIPTION

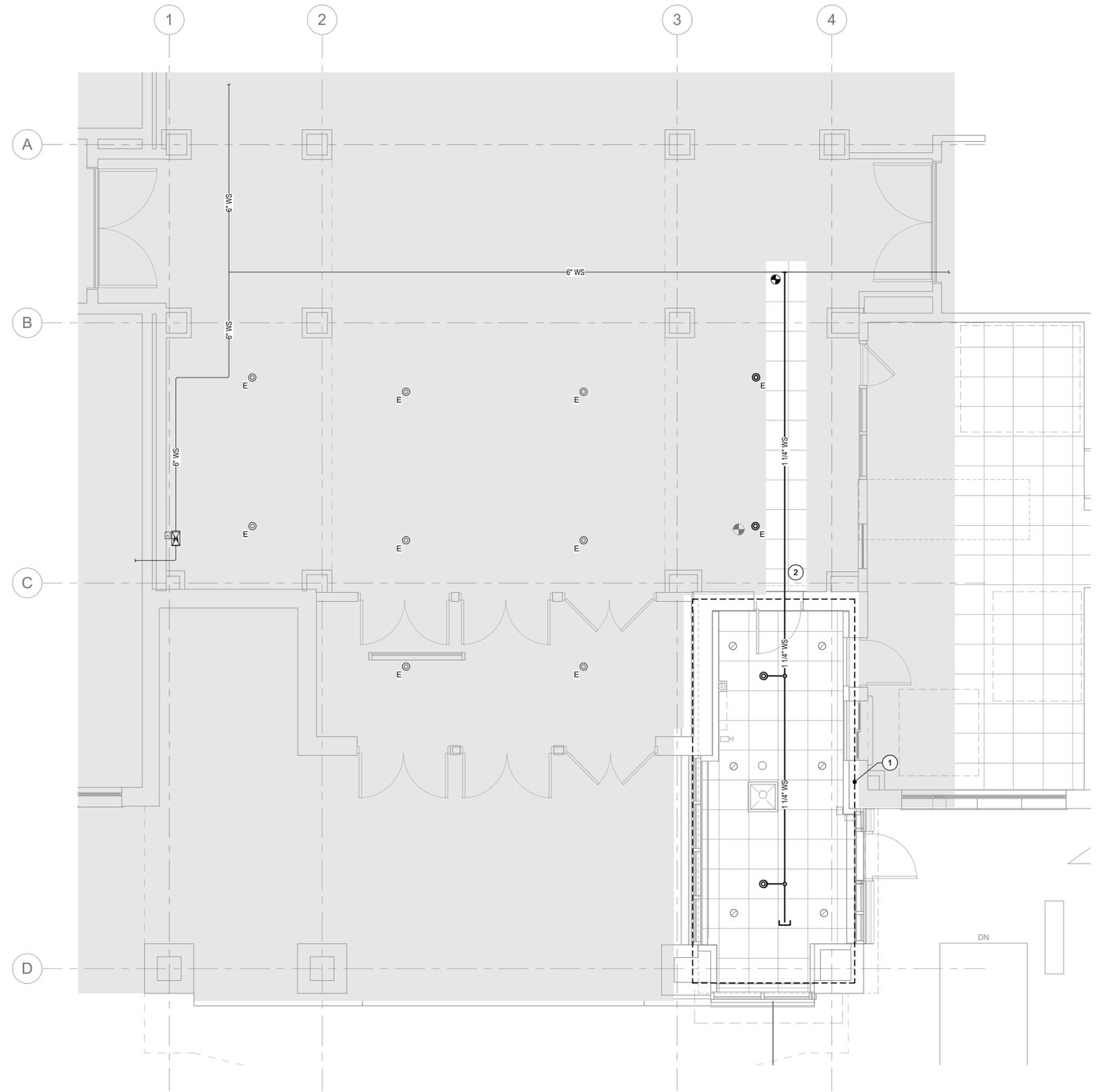
DRAWING TITLE:

FIRE PROTECTION LEVEL 1 PLAN

DRAWING NO.:

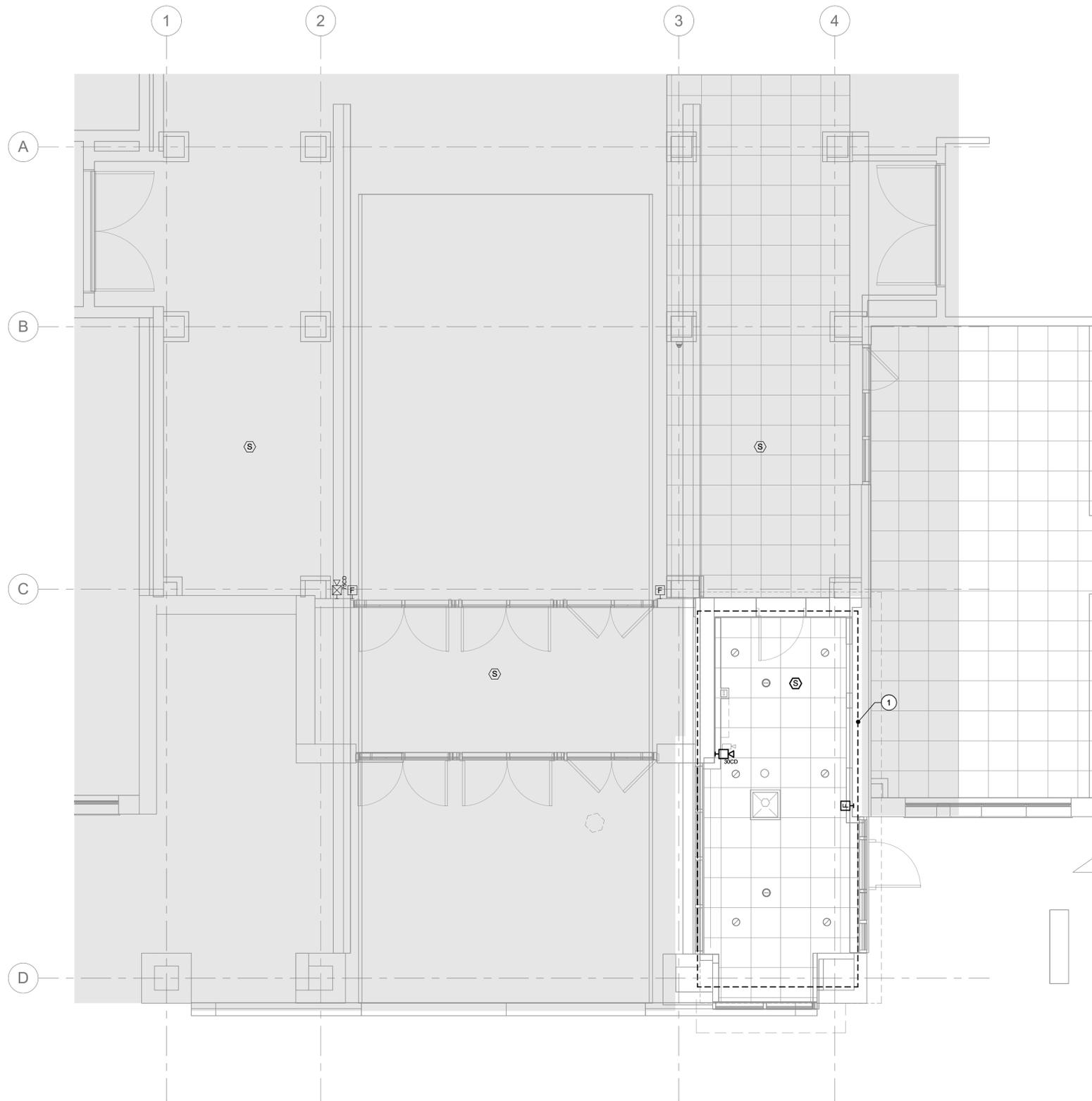
FP301

KEYNOTES	
1	PROVIDE NEW NFPA 13 COMPLIANT SPRINKLER COVERAGE TO NEW SAFETY VESTIBULE. CONNECT NEW BRANCH PIPING TO MAIN LOCATED WITHIN THE LOBBY. ALL BRANCH PIPING TO BE SHOWN ON SHOP DRAWINGS.
2	NEW BRANCH PIPING TO BE CONNECTED TO CLOSEST EXISTING MAIN OF SUFFICIENT HYDRAULIC SIZE. ALL PIPING TO BE SHOWN ON TIER-2 SHOP DRAWING.



1 FIRE PROTECTION LEVEL 1 PLAN
FP301
1/4" = 1'-0"
0 2 4 8'

KEYNOTES	
1	PROVIDE NEW SAFETY VESTIBULE WITH NFPA 72 COMPLIANT HORN/STROBE, NEW SMOKE DETECTION, AND NEW PULL STATION WHERE INDICATED. UTILIZE THE EXISTING CIRCUIT WITHIN ITS CAPACITY TO SERVE THE NEW NOTIFICATION APPLIANCE AND INITIATION DEVICES. CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRING, AND ANCILLARY EQUIPMENT NECESSARY TO MAINTAIN A FULLY FUNCTIONAL SYSTEM. CONTRACTOR SHALL PROVIDE VOLTAGE DROP CALCULATIONS TO DETERMINE IF AN ADDITIONAL NAC BOOSTER PANEL IS NECESSARY.



1
FA321
ELECTRICAL FIRE ALARM 1ST FLOOR PLAN
1/4" = 1'-0"

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SAFETY VESTIBULE PROJECT

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023
PROJECT NO: 220205.01
DRAWN BY: MT
CHECKED BY: PH

REVISIONS:

NO.	DESCRIPTION

DRAWING TITLE:

**FIRE ALARM
LEVEL 1 PLAN**

DRAWING NO.:

FA321



SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: MT

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REVISIONS:

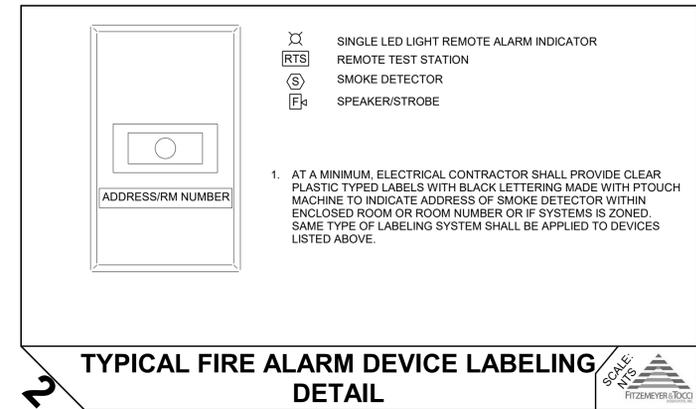
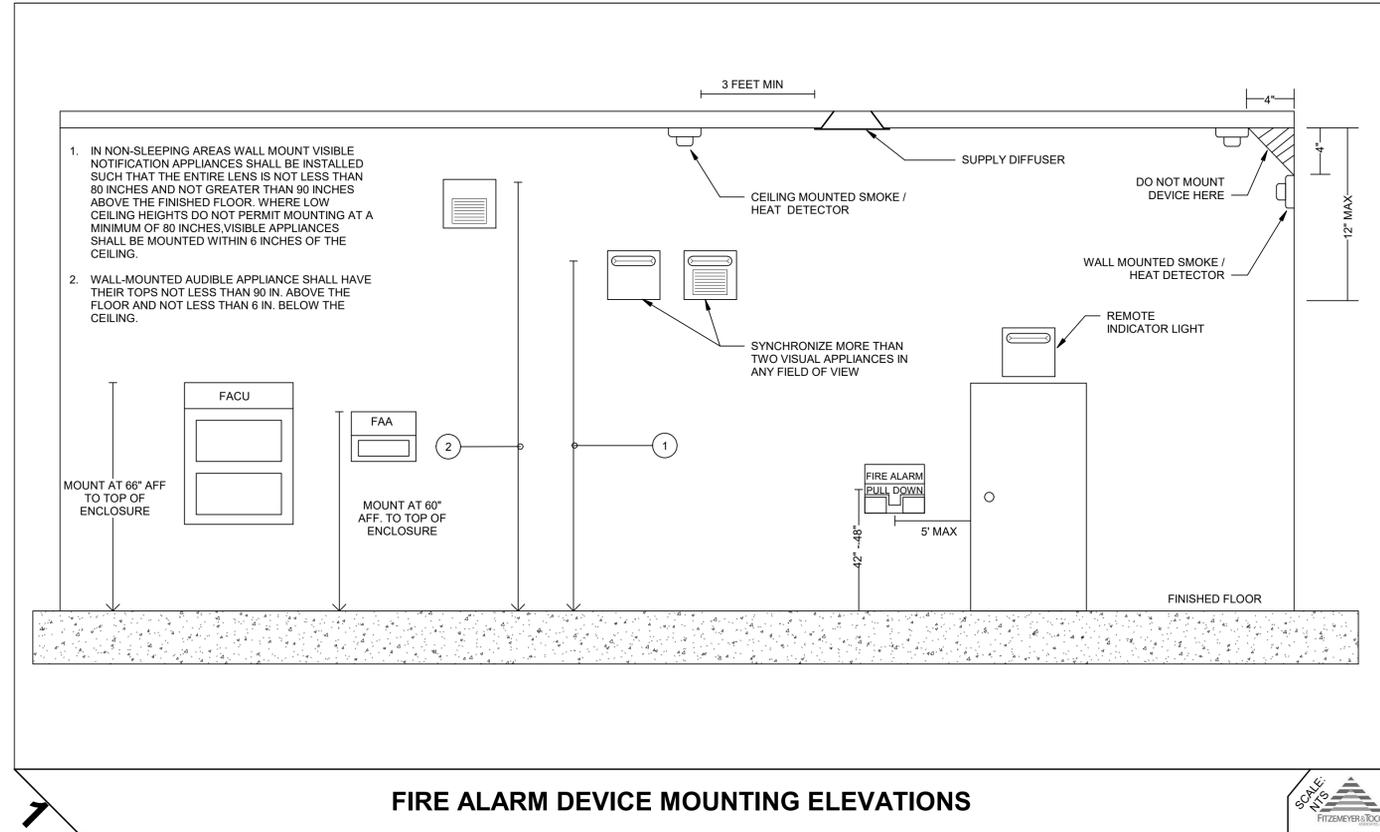
NO.	DATE	DESCRIPTION

DRAWING TITLE:

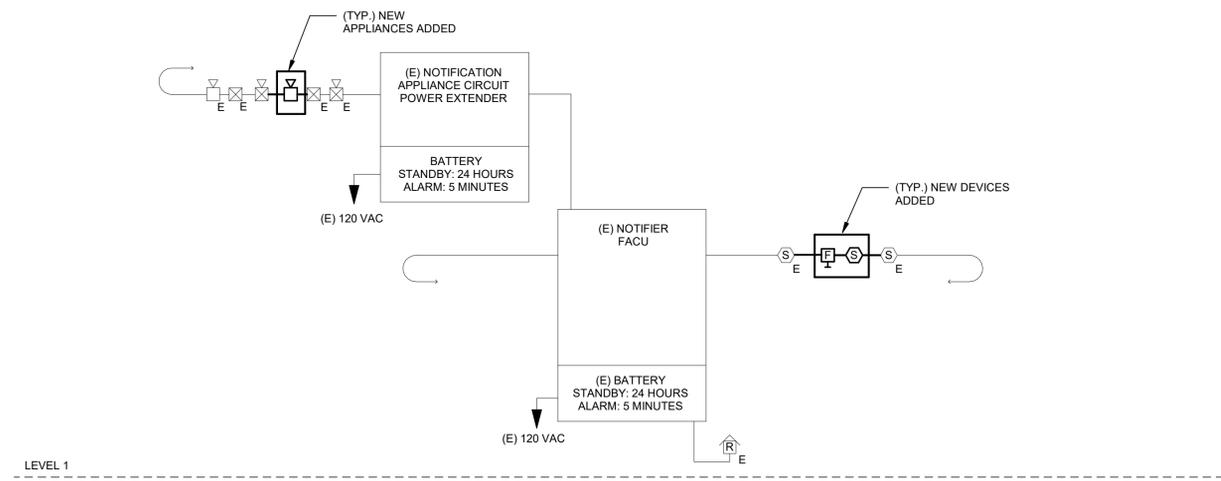
FIRE ALARM RISER DIAGRAM AND DETAILS

DRAWING NO.:

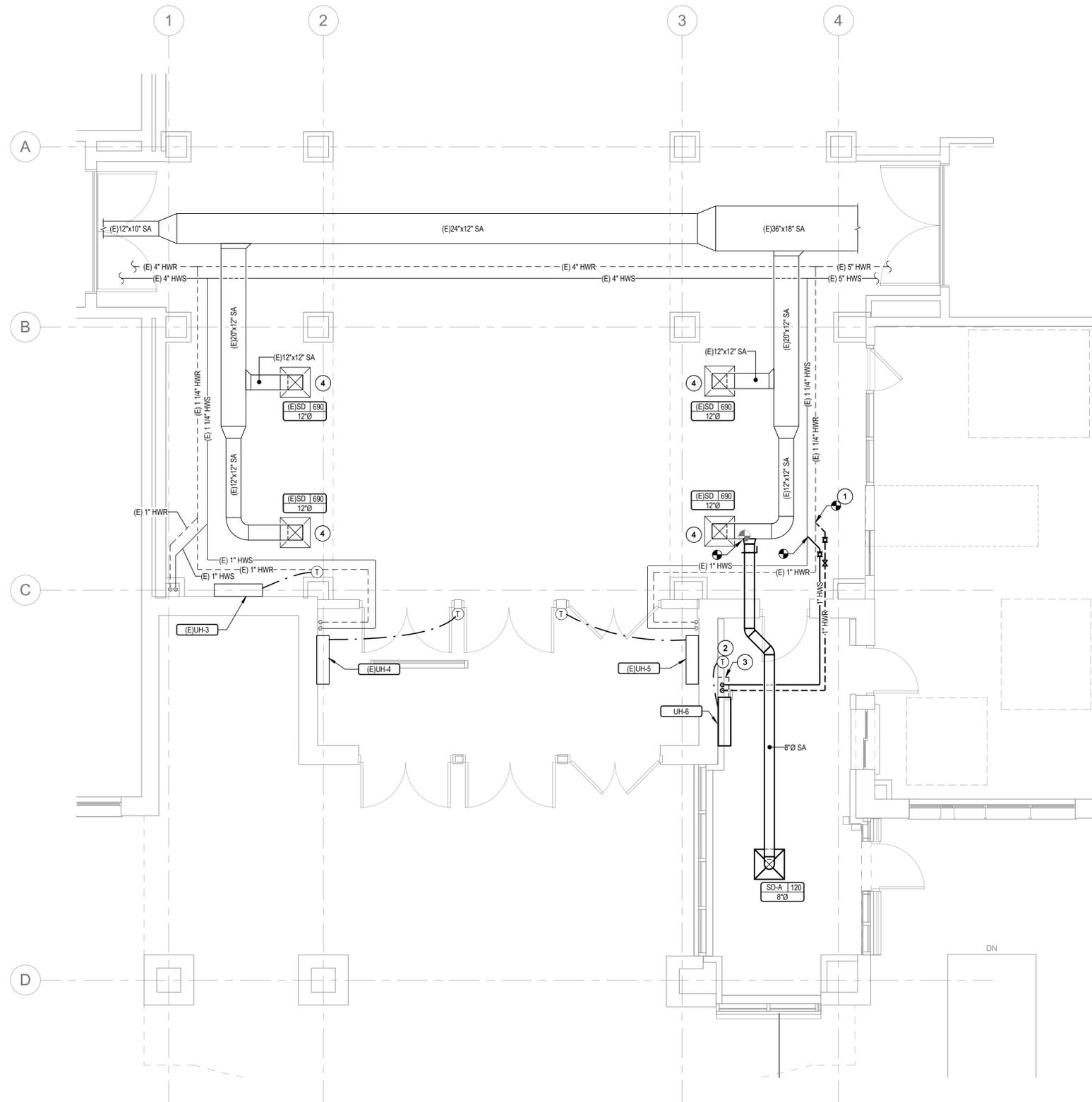
FA901



- NOTES:
1. FIRE ALARM SYSTEM IS WIRED IN A CLASS A CONFIGURATION.
 2. DESIGN INTENT IS TO INSTALL NEW NOTIFICATION APPLIANCES TO THE EXISTING NAC SERVING THE RENOVATION AREA.
 3. NEW HORN / STROBE NOTIFICATION APPLIANCES SHALL MATCH THE EXISTING PATTERN FOR THE BUILDING.
 4. CONTRACTOR TO PERFORM VOLTAGE DROP CIRCUIT LOADING AND BATTERY CALCULATIONS TO DETERMINE IF THE BATTERY NEEDS TO BE UPSIZED OR IF ANOTHER NAC BOOSTER IS NEEDED. TRACING OF CIRCUIT OR FIELD MEASUREMENTS ARE REQUIRED.
 5. NO CHANGES TO BUILDING SEQUENCE OF OPERATIONS. NEW INITIATING DEVICES RESULT IN ALARM CONDITION AND GENERAL ALARM EVACUATION.



KEYNOTES	
1	CONNECT NEW HWS/HWR PIPE TO EXISTING 1" TAPS.
2	NEW UH CONTROLS SHALL BE TIED INTO EXISTING BMS.
3	ROUTE NEW HWS / HWR PIPING IN NEW ARCHITECTURAL ENCLOSURE, COORDINATE NEW ENCLOSURE DESIGN WITH ARCHITECT.
4	REBALANCE EXISTING AIR TERMINAL TO INDICATED AIRFLOW.



1 HVAC LEVEL 1 DUCT & PIPING PLAN
 H321
 1/4" = 1'-0"

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SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2	
DATE:	03/21/2023
PROJECT NO.:	220205.01
DRAWN BY:	KB
CHECKED BY:	PH

REVISIONS:

NO.	DESCRIPTION	DATE

DRAWING TITLE:
**HVAC LEVEL 1
 DUCT & PIPING
 PLAN**

DRAWING NO.:
H321

3/21/2023 11:58:21 AM Autodesk Docs:IDedham-MA - MS Vestibule - 220205.01.MEP22 - Dedham-MA - MS Vestibule - 220205.01.rvt



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**SAFETY
VESTIBULE
PROJECT**

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: KB

CHECKED BY: PH

REVISIONS:

NO.	DATE	DESCRIPTION

DRAWING TITLE:

**HVAC
SCHEDULES**

DRAWING NO.:

H700

CABINET UNIT HEATER SCHEDULE

- NOTES:
1. PROVIDE WITH DISCONNECT.
2. PROVIDE WITH EC MOTOR.
3. TOP DISCHARGE, BOTTOM RETURN.
4. REFER TO PROJECT SPECIFICATIONS FOR ALL REQUIRED OPTIONS AND ACCESSORIES.

TAG	TYPE	FAN				COIL				MOTOR HP	ELECTRICAL DATA				BASIS OF DESIGN		
		CFM LOW / MED / HIGH	TYPE/FLUID	SENS MBH HIGH SPEED FAN	EDB (°F)	WATER/GLYCOL					VOLTS	PH	Hz	FLA	NOTES	MFR	MODEL
						EWT (°F)	LWT (°F)	GPM	MAX WPD (FT)								
UH-6	PEDESTAL STYLE	330 / 265 / 195	100% WATER	19,196	60	180	160	1.9	0.3	0.25	115	1	60	0.37	1-4	MODINE	C-003

REGISTER, GRILLE AND DIFFUSER SCHEDULE

- NOTES:
1. COORDINATE FINISH WITH ARCHITECTUAL DOCUMENTS.
2. COORDINATE MOUNTING STYLE WITH ARCHITECTURAL DOCUMENTS.
3. REFER TO DRAWINGS FOR QUANTITIES.
4. REFER TO DRAWINGS FOR NECK SIZES, DISCHARGE ORIENTATIONS, AND AIRFLOW.
5. REFER TO PROJECT SPECIFICATIONS FOR ALL ADDITIONAL REQUIRED OPTIONS AND ACCESSORIES.

TAG	SYSTEM	TYPE	MOUNTING	FACE TYPE	MATERIAL	FINISH	BASIS OF DESIGN		NOTES
							MFR	MODEL	
SD-A	SUPPLY	DIFFUSER	CEILING	24"x24" SQUARE	ALUMINUM	WHITE ENAMEL	TITUS	TMS-AA	1-5

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**SAFETY
VESTIBULE
PROJECT**

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: SH

CHECKED BY: PH

REVISIONS:

DRAWING TITLE:

**ELECTRICAL
LEGEND**

DRAWING NO.:

E000

ONE LINE DIAGRAM LEGEND

CR43A1 PANELBOARD "CR43A1"

TRANSFER SWITCH

- "ATS" = AUTOMATIC TRANSFER SWITCH
- "MTS" = MANUAL TRANSFER SWITCH
- "BP" = BYPASS ISOLATION SWITCH
- "LS" = LIFE SAFETY BRANCH
- "CR" = CRITICAL BRANCH
- "EQ" = EQUIPMENT BRANCH
- "ELEV" = ELEVATOR BRANCH
- "X-RAY" = X-RAY EQUIPMENT BRANCH
- "EM" = EMERGENCY
- "LR" = LEGALLY REQUIRED
- "OS" = OPTIONAL STANDBY
- "3P" = NUMBER OF POLES; 3 POLE
- "4P" = NUMBER OF POLES; 4 POLE

GROUND CONNECTION

SURGE PROTECTIVE DEVICE

CIRCUIT BREAKER DRAW OUT

100AF - DENOTES CIRCUIT BREAKER FRAME
60AT - DENOTES CIRCUIT BREAKER TRIP

CIRCUIT BREAKER FIXED

100AF - DENOTES CIRCUIT BREAKER FRAME
60AT - DENOTES CIRCUIT BREAKER TRIP

TRANSFORMER

- BOX REPRESENTS PAD MOUNTED

CURRENT TRANSFORMER

POTENTIAL TRANSFORMER

DISCONNECT SWITCH FUSED / LOW VOLTAGE FUSIBLE SWITCH

DISCONNECT SWITCH UNFUSED

MEDIUM VOLTAGE FUSIBLE SWITCH

FUSE

KIRK KEY INTERLOCK

VOLTMETER

SHUNT TRIP DEVICE

RECEPTACLE NOTES

- REFER TO DEMOLITION / RELOCATION LEGEND FOR LINETYPE AND LINEWEIGHT TO DETERMINE EXISTING CONDITIONS AND DEMOLISHED EQUIPMENT.

DRAWING LIST

SHEET NUMBER	SHEET NAME
E000	ELECTRICAL LEGEND
E001	ELECTRICAL NOTES AND ABBREVIATIONS
E101	ELECTRICAL LEVEL 1 LIGHTING DEMOLITION PLAN
E111	ELECTRICAL LEVEL 1 POWER DEMOLITION PLAN
E301	ELECTRICAL LEVEL 1 LIGHTING PLAN
E311	ELECTRICAL LEVEL 1 POWER PLAN
E700	ELECTRICAL SCHEDULES

THIS IS A STANDARD SYMBOL LIST. ALL DEVICE SYMBOLS AND ABBREVIATIONS MAY NOT NECESSARILY APPEAR ON THE DESIGN PLANS OR DETAIL SHEETS. ONLY THOSE SYMBOLS INDICATED ON THE DESIGN PLANS ARE USED AND OTHERS SHOULD BE DISREGARDED.

LIGHTING LEGEND

RECEPTACLE TAGS

- "LP" - LIGHTING PENDANT
- "LD" - LIGHTING DOWNLIGHT
- "LS" - LIGHTING SURFACE MOUNTED
- "LR" - LIGHTING RECESSED
- "SL" - SITE LIGHTING
- "NL" - NIGHT LIGHT

1,2,3 ETC. - NUMERAL TYPE DESIGNATOR

OPTIONAL TYPE DESIGNATOR

- "BLANK" - NORMAL POWER
- "E" - PROVIDED WITH EMERGENCY BATTERY

PANELBOARD BRANCH CIRCUIT NUMBER

LOWERCASE LETTER DENOTES LOCAL SWITCH

REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION PERTAINING TO EACH FIXTURE TYPE LISTED ON PLAN DRAWINGS

LIGHTING SYMBOLS

LIGHTING SYMBOL DESCRIPTION

- LR1 SURFACE OR RECESSED MOUNTED LIGHTING FIXTURE
- LR1 RECESSED LINEAR WALL WASH
- LS1 STRIP LIGHTING FIXTURE
- LS1 COMMERCIAL STRIP LIGHTING FIXTURE
- LS1 WALL MOUNTED LIGHTING FIXTURE
- LS1 TRACK MOUNTED LIGHTING FIXTURE
- LS1 REMOTE EMERGENCY LIGHTING, SINGLE HEAD MOUNT 7'-6" AFF
- LS1 REMOTE EMERGENCY LIGHTING, DUAL HEAD MOUNT 7'-6" AFF
- LS1 EMERGENCY BATTERY UNIT, MOUNT 7'-6" AFF; NO. OF EMERGENCY LIGHTING HEADS AS INDICATED.
- SL1 SITE LIGHTING FIXTURE
- SL2 STRIP LIGHTING BOLLARD

WALL CLG FLR

LD1 CIRCULAR LIGHT FIXTURE

EXIT SIGN - SHADED AREA INDICATES LOCATION AND QUANTITY OF FIXTURES; DIRECTIONAL ARROWS AS INDICATED

LIGHT FIXTURE CONNECTED TO:

NORMAL BRANCH CIRCUITRY	EMERGENCY BRANCH CIRCUITRY
[Symbol]	[Symbol]

CRITICAL BRANCH CIRCUITRY

LIFE SAFETY BRANCH CIRCUITRY

LEGALLY REQUIRED STANDBY

OPTIONAL STANDBY BRANCH CIRCUITRY

SWITCHES LEGEND

DEVICE INDICATOR LETTER "X" EQUALS DESIGNATION BELOW WALL MOUNTED SWITCHES TO BE AT 48" AFF UNQ

- "EMPTY" - SINGLE POLE SWITCH
- "2" - TWO POLE, SINGLE THROW SWITCH
- "3" - 3-WAY, SINGLE POLE, DOUBLE THROW
- "4" - 4-WAY, DOUBLE POLE, DOUBLE THROW
- "D" - DIMMER SWITCH, SINGLE POLE
- "LV" - LOW VOLTAGE
- "MS" - MASTER STATION OVERRIDE
- "WP" - WEATHERPROOF
- "OS" - OCCUPANCY SENSOR - WALL MOUNTED, INTEGRAL DUAL TECHNOLOGY, SINGLE POLE SWITCH
- "a" - SMALL CASE LETTER DENOTES LIGHT FIXTURE CONTROL

OCCUPANCY SENSOR - WALL MOUNTED, INTEGRAL DUAL TECHNOLOGY, DUAL RELAY SWITCH.

OCCUPANCY SENSOR - CEILING MOUNTED, INTEGRAL DUAL TECHNOLOGY, DUAL RELAY SWITCH.

VACANCY SENSOR - WALL MOUNTED, INTEGRAL DUAL TECHNOLOGY.

VACANCY SENSOR - CEILING MOUNTED, INTEGRAL DUAL TECHNOLOGY.

PHOTOCELL - CEILING MOUNTED

PHOTOCELL - WALL MOUNTED

FOR CEILING MOUNTED OCCUPANCY SENSORS:
PROVIDE THE APPROPRIATE QUANTITY OF POWER SUPPLIES FOR SINGLE AND MULTIPLE LEVEL SWITCHING. REFER TO FLOOR PLANS FOR SWITCHING LAYOUTS TO DETERMINE EXACT QUANTITY OF POWER SUPPLIES

DEVICE LEGEND

RECEPTACLE TAGS

OPTIONAL TYPE DESIGNATOR

- "BLANK" - RECEPTACLE WITH NO OPTION
- "GFI" - GROUND FAULT INTERRUPTER
- "C" - MOUNTED 8" ABOVE WORK SURFACE OR COUNTERTOP
- "REF" - MOUNTED AT 48" FOR FULL HEIGHT REFRIGERATOR
- "UC" - MOUNTED AT 18" UNDER CABINET
- "WP" - WEATHERPROOF TYPE: NEMA 3R MINIMUM
- "WR" - WEATHER RESISTANT DEVICE AND COVER
- "TP" - TAMPER PROOF
- "USB" - COMBINATION USB DEVICE
- "CP" - RECEPTACLE MOUNTED IN CEILING FOR PROJECTOR
- "PT" - 2 HOUR FIRE RATED POKE-THROUGH
- "TV" - MOUNTED HIGH ON WALL FOR TELEVISION.
- "H" - MOUNTED HIGH ON WALL
- "HS" - HALF SWITCHED

PANELBOARD BRANCH CIRCUIT NUMBER

REC SYMBOLS

RECEPTACLE SYMBOL DESCRIPTION

- DUPLIX RECEPTACLE
- DOUBLE DUPLIX RECEPTACLE
- SINGLE RECEPTACLE
- DUPLIX RECEPTACLE, ON GENERATOR
- DOUBLE DUPLIX RECEPTACLE, ON GENERATOR
- SINGLE RECEPTACLE, ON GENERATOR
- HOSPITAL GRADE, DUPLIX RECEPTACLE
- HOSPITAL GRADE, DOUBLE DUPLIX RECEPTACLE
- HOSPITAL GRADE, DUPLIX RECEPTACLE, ON GENERATOR
- HOSPITAL GRADE, DOUBLE DUPLIX RECEPTACLE, ON GENERATOR
- HOSPITAL GRADE, DOUBLE DUPLIX RECEPTACLE, ON GENERATOR
- SPECIAL PURPOSE RECEPTACLE NEMA TYPE AS INDICATED ON THE PLANS

RECEPTACLE NOTES

- ALL RECEPTACLES ARE MOUNTED 18" AFF UNLESS OTHERWISE NOTED.
- COORDINATE MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO INSTALLATION.
- ALL RECEPTACLES SHALL BE NEMA 5-20R UNLESS OTHERWISE NOTED.
- ALL RECEPTACLES WITHIN PATIENT ACCESSIBLE AREAS SHALL BE TAMPERPROOF TYPE DEVICES.
- PROVIDE ALL RECEPTACLES WITHIN 6'-0" OF A SINK WITH GFCI PROTECTION.
- PROVIDE TAMPERPROOF RECEPTACLES IN ALL CHILD CARE FACILITIES, PRESCHOOLS AND EDUCATION FACILITIES, DORMITORY UNITS, AND WITHIN BUSINESS OFFICES / CORRIDORS / WAITING ROOMS ETC. WITHIN CLINICS / MEDICAL OFFICES / OUTPATIENT FACILITIES.

JUNCTION BOX TAGS

DEVICE INDICATOR LETTER "X" COMMUNICATES CONNECTION TYPE

OPTIONAL TYPE DESIGNATOR

- "BLANK" - JUNCTION BOX WITH NO OPTION
- "ADO" - AUTOMATIC DOOR OPERATOR
- "ATC" - AUTOMATIC TEMPERATURE CONTROLS
- "B" - JUNCTION BOX WITH BLANK COVER
- "CCTV" - CLOSED CIRCUIT SECURITY CAMERA
- "ELF" - ELECTRONIC FAUCET OR FLUSH VALVE
- "EM" - EMERGENCY POWER CIRCUIT AS INDICATED
- "EWC" - ELECTRIC WATER COOLER
- "NM" - NORMAL POWER CIRCUIT AS INDICATED
- "PS" - MOTORIZED PROJECTION SCREEN
- "SEC" - SECURITY DEVICES
- "TD" - TEL/DATA WIRING
- "USB" - COMBINATION USB DEVICE

WALL CLG FLR

JUNCTION BOX SYMBOL DESCRIPTION

JUNCTION BOX

DEVICE SYMBOLS

DEVICE SYMBOL DESCRIPTION

- TRIPLE CHANNEL, SURFACE MOUNTED, ALUMINUM RACEWAY, DUAL COVER WIREMOLD #AL7450 SERIES OR APPROVED EQUAL. RACEWAY TO BE MOUNTED 6" ABOVE WORK SURFACE OR AS DIRECTED BY OWNER/ARCHITECT. PRE-WIRED, WITH DUPLIX NEMA 5-20R RECEPTACLES FOR NORMAL POWER, (RED RECEPTACLES FOR EMERGENCY), AND VOICEDATA PROVISION LOCATIONS. NORMAL POWER DEVICES 24" ON CENTER, EMERGENCY POWER DEVICES 48" ON CENTER, AND TELE/DATA LOCATIONS 48" ON CENTER, UNLESS OTHERWISE NOTED.
- ENCLOSED CIRCUIT BREAKER - NEMA 1 ENCLOSURE
- PULL BOX
- PUSHBUTTON - REFER TO ARCHITECT'S DOOR HARDWARE SCHEDULE FOR EXACT REQUIREMENTS
- "ADO" - AUTOMATIC DOOR OPENER
- "EPO" - EMERGENCY PUSH OFF

POWER LEGEND

PANEL TAGS

"BUILDING NUMBER"

- "CR" - CRITICAL
- "LS" - LIFE SAFETY
- "EQ" - EQUIPMENT BRANCH
- "E" - EMERGENCY
- "LK" - LEGAL STANDBY
- "OX" - OPTIONAL STANDBY
- "S" - SWITCHBOARD
- "D" - DISTRIBUTION PANEL
- "L" - LIGHTING
- "M" - MECHANICAL
- "K" - KITCHEN PANEL
- "P" - POWER

FLOOR

SEQUENTIAL PANEL NUMBER PER FLOOR

"NOTE: PANEL NAMES MAY NOT USE ALL TAG LANGUAGE."

PANEL MOUNTING SYMBOL DESCRIPTION

- FLUSH MOUNTED PANELBOARD
- SURFACE MOUNTED PANELBOARD

PANEL HATCH SYMBOL DESCRIPTION

- 240/ 208/ 120V PANELBOARD
- 600/ 480/ 277V PANELBOARD
- 240/ 208/ 120V DISTRIBUTION BOARD
- 600/ 480/ 277V DISTRIBUTION BOARD

POWER SYMBOLS

POWER SYMBOL DESCRIPTION

- DISCONNECT SWITCH - NEMA 1 ENCLOSURE - UNFUSED
- DISCONNECT SWITCH - NEMA 1 ENCLOSURE - FUSED
- 30A/3P UNLESS OTHERWISE NOTED
- 60AS - DENOTES SWITCH AMPERAGE RATING 3P - DENOTES 40AF - DENOTES FUSE AMPERAGE RATING 3-POLE
- MANUAL MOTOR STARTER - INTEGRAL THERMAL PROTECTION
- VARIABLE FREQUENCY DRIVE
- DRY TYPE TRANSFORMER
- # - SIZE. REFER TO TRANSFORMER SCHEDULE

MECHANICAL EQUIPMENT COORDINATION

ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLUMBING, AND FIRE PROTECTION DRAWINGS AND SPECIFICATIONS FOR LOCATIONS AND QUANTITIES OF EQUIPMENT RELEASED TO EACH TRADE.

- PROVIDED BY ELECTRICAL CONTRACTOR
- PROVIDED BY MECHANICAL CONTRACTOR

SECURITY SYSTEMS LEGEND

- M CCTV CLOSED CIRCUIT TELEVISION MONITOR JUNCTION BOX
- CR CARD READER OUTLET BOX
- EL ELECTRO-MAGNETIC DOOR LOCK CONNECTION/ LOCATION
- ES ELECTRIC DOOR STRIKE CONNECTION/ LOCATION
- EB DURESS BUTTON LOCATION
- DS DOOR SWITCH/ CONTACT CONNECTION/ LOCATION
- DR DOOR RELEASE PUSHBUTTON LOCATION
- KP KEY PAD LOCATION
- MD MOTION DETECTOR LOCATION
- CCTV CCTV CAMERA
- GB GLASS BREAK DETECTOR CONNECTION/LOCATION
- WC WINDOW CONTACTS CONNECTION/ LOCATION
- IC SECURITY INTERCOM LOCATION

NOTE:
ALL DOOR CONTROL LOCATIONS SHALL BE COORDINATED WITH FACILITY REPRESENTATIVE PRIOR TO INSTALLATION.

TYPICAL SECURITY DEVICE NOTE:
MINIMUM REQUIREMENTS FOR EACH DEVICE SHALL BE A BACKBOX AND 3/4" C (EMPTY WITH PULLSTRINGS) RUN CONCEALED IN WALL INTO CEILING SPACE ABOVE AND TERMINATING ABOVE ACCESSIBLE CEILINGS. TERMINATE WITH BELL END BUSHING. REFER TO FLOOR PLANS AND DETAILS FOR ADDITIONAL REQUIREMENTS. COORDINATE EXACT REQUIREMENTS WITH SECURITY AND HARDWARE VENDORS.

WIRING LEGEND

- J-HOOK CABLE MANAGEMENT TYPICALLY MOUNTED 6" ABOVE FINISHED CEILING
- LADDER STYLE CABLE TRAY (WITH FITTING)
- CHANNEL STYLE CABLE TRAY (WITH FITTING)
- FITTING CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT STUBBED 6" ABOVE ACCESSIBLE CEILING AT 90° ANGLE WITH BUSHED END
- FLEXIBLE RACEWAY
- PP123 HOMERUN TO PANELBOARD "PP123"; BRANCH CIRCUIT No. 5; NO SLASH LINES INDICATE 2#12 & 1#12G, 3/4" C. UNLESS OTHERWISE NOTED; MINIMUM SIZE CONDUCTOR #12 AWG/ MINIMUM SIZE CONDUIT 3/4" C.

WIRING METHODS

REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

NOTE: SIZE AND INSTALL BRANCH CIRCUIT CONDUCTORS FOR A MAXIMUM BRANCH CIRCUIT VOLTAGE DROP OF 3% FROM PANELBOARDS. TOTAL VOLTAGE DROP FROM SERVICE ENTRY TO LAST DEVICE ON THE CIRCUIT TO NOT EXCEED 5%. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND OPTIONS.

FEEDER TYPE	CONDUCTOR TYPE
NORMAL SYSTEM FEEDERS	THHN/THWN/XHHW CONDUCTORS IN EMT
EMERGENCY SYSTEM FEEDERS	MI CABLE
EQUIPMENT SYSTEM FEEDERS	THHN/THWN/XHHW CONDUCTORS IN EMT
NORMAL BRANCH CIRCUITS	THHN/THWN/XHHW CONDUCTORS IN EMT OR HOSPITAL GRADE AC CABLE
EMERGENCY SYSTEM (LIFE SAFETY AND CRITICAL) BRANCH CIRCUITS	THHN/THWN/XHHW CONDUCTORS IN EMT
NURSE CALL SYSTEM WIRING	CONDUCTORS IN EMT
TELEDATA WIRING	CA16 WIRING IN EMT (REFER TO COMMUNICATIONS LEGEND FOR ADDITIONAL INFORMATION)



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STAMP:

CONSULTANT:



TOWN OF DEDHAM



DEDHAM MIDDLE
SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

**SAFETY
VESTIBULE
PROJECT**

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: SH

CHECKED BY: PH

REVISIONS:

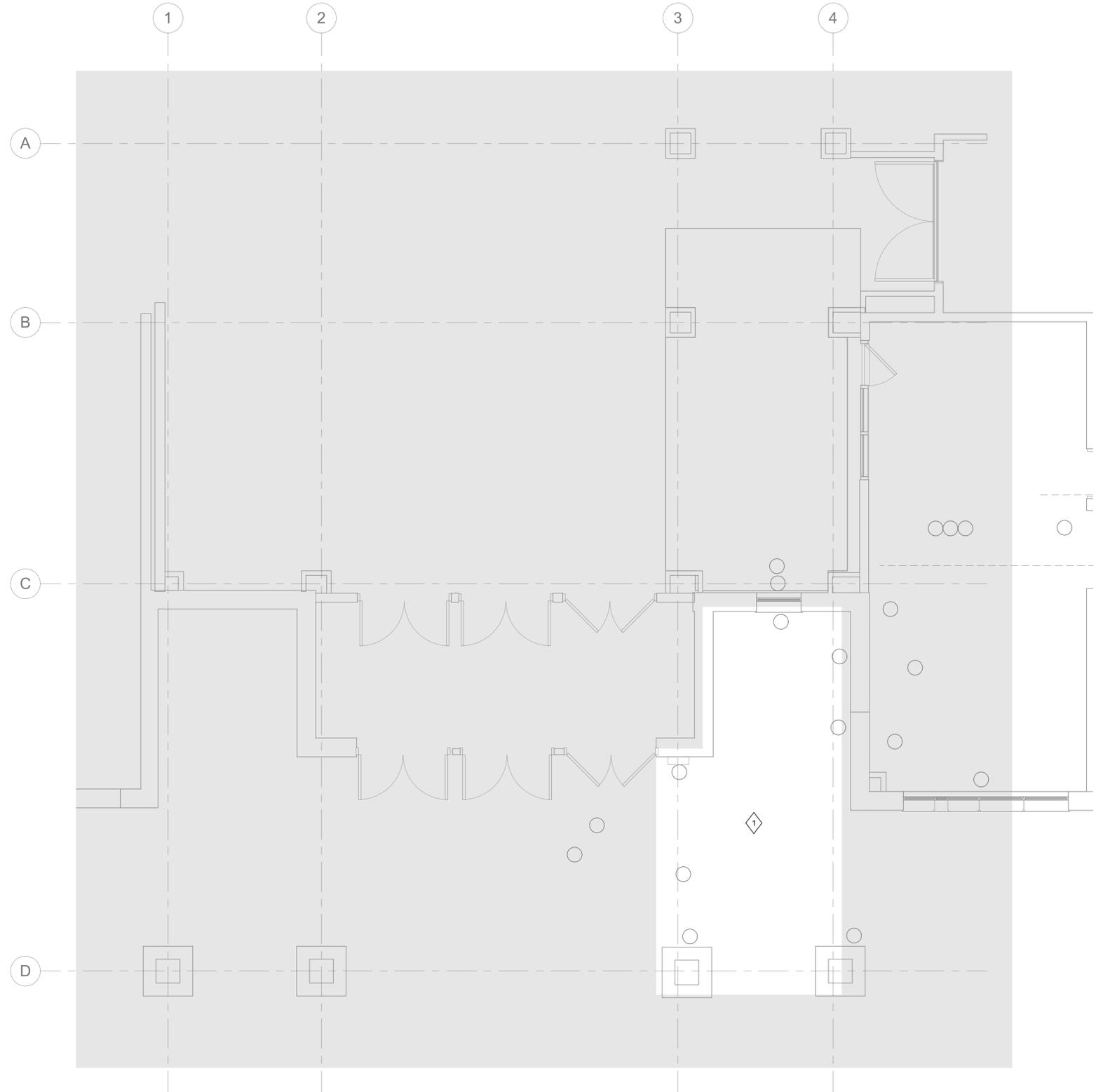
NO.	DESCRIPTION	DATE

DRAWING TITLE:
**ELECTRICAL
LEVEL 1
LIGHTING
DEMOLITION
PLAN**

DRAWING NO.:

E101

KEYNOTES
1 ALL EXISTING LIGHT FIXTURES AND DEVICES, ASSOCIATED WIRING AND RACEWAYS SHALL BE REMOVED BACK TO ITS POINT OF ORIGIN. ASSOCIATED CIRCUIT BREAKER SHALL BE MAINTAINED FOR RE-USE UNLESS OTHERWISE NOTED.



1
E101
ELECTRICAL LEVEL 1 LIGHTING DEMOLITION PLAN
1/4" = 1'-0"

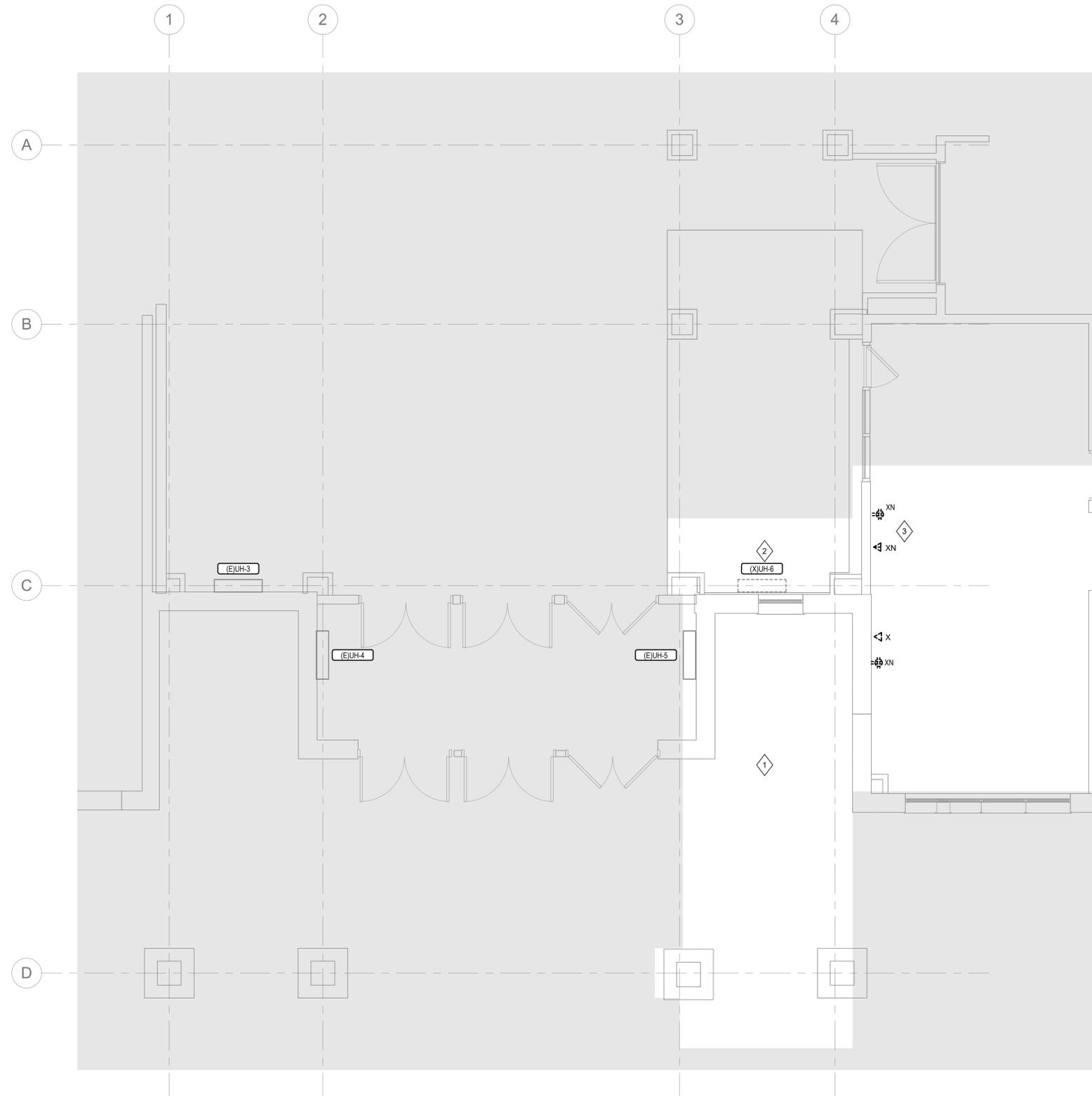


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KEYNOTES	
1	ALL EXISTING POWER AND DATA FIXTURES AND DEVICES, ASSOCIATED WIRING AND RACEWAYS SHALL BE REMOVED BACK TO ITS POINT OF ORIGIN. ASSOCIATED CIRCUIT BREAKER SHALL BE MAINTAINED FOR RE-USE UNLESS OTHERWISE NOTED.
2	EXISTING UNIT HEATER TO BE DEMOLISHED BY OTHERS. DISCONNECT AND MAKE SAFE FOR REMOVAL. REMOVE EXISTING CONDUIT AND WIRE BACK TO THE PANEL.
3	RELOCATE EXISTING RECEPTACLES AND DATA OUTLETS SERVING EXISTING ADMIN DESK TO LOCATOIN OF NEW ADMIN DESK.



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CONSULTANT:

FITZMEYER & TOCCI
ASSOCIATES, INC.
300 Unicorn Park Drive, 5th Floor
Woburn, MA 01801
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TOWN OF DEDHAM

DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: SH

CHECKED BY: PH

REVISIONS:

NO.	DESCRIPTION	DATE

DRAWING TITLE:
**ELECTRICAL
LEVEL 1 POWER
DEMOLITION
PLAN**

DRAWING NO.:

E111

1 ELECTRICAL LEVEL 1 POWER DEMOLITION PLAN
E111 1/4" = 1'-0" 0 2 4 8

KEYNOTES	
1	EXTEND AND CONNECT TO EXISTING LOCAL NORMAL BRANCH LIGHTING CIRCUIT SERVING THE AREA.
2	EXTEND AND CONNECT TO EXISTING LOCAL LIGHTING CONTROLS SERVING THIS COORDOR.
3	EXTEND AND CONNECT TO EXISTING LOCAL LIFE SAFETY BRANCH LIGHTING CIRCUIT SERVING THE AREA.



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SAFETY VESTIBULE PROJECT

PROJECT STATUS:

**BID SET
ADDENDUM #2**

DATE: 03/21/2023

PROJECT NO: 220205.01

DRAWN BY: SH

CHECKED BY: PH

REVISIONS:

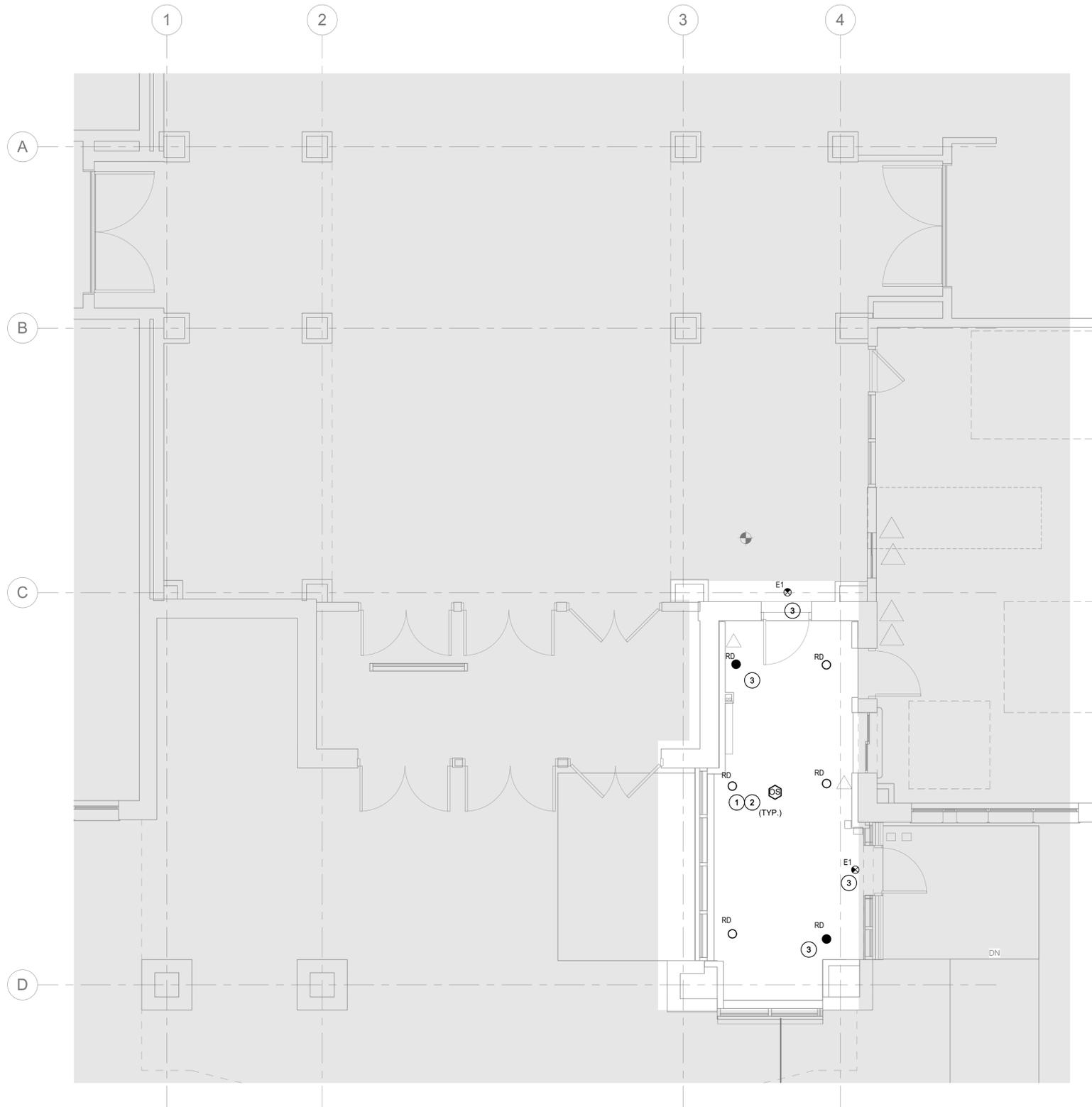
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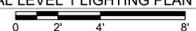
**ELECTRICAL
LEVEL 1
LIGHTING PLAN**

DRAWING NO.:

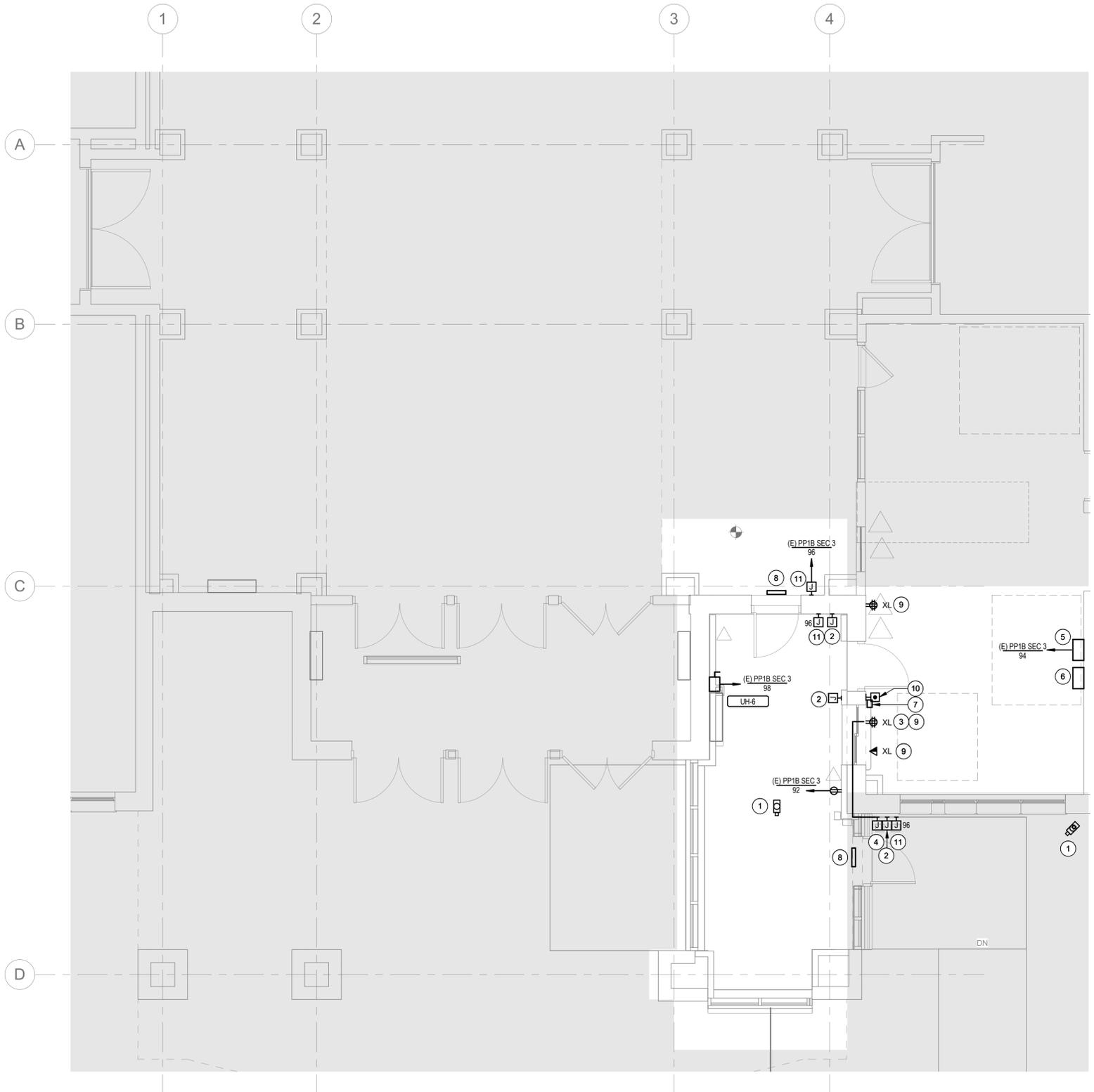
E301



1
E301
ELECTRICAL LEVEL 1 LIGHTING PLAN
1/4" = 1'-0"



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KEYNOTES	
1	SECURITY CAMERA BY OTHERS. PROVIDE JUNCTION BOX AND CAT6 CABLE BACK TO ACCESS CONTROL PANEL. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
2	CARD READER BY OTHERS. PROVIDE JUNCTION BOX AND COMPOSITE PLENUM CONTROL ACCESS CABLE BACK TO ACCESS CONTROL PANEL. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
3	POWER FOR MASTER STATION TO BE FED FROM RELOCATED DUPLEX OUTLET. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
4	VIDEO DOOR STATION BY OTHERS. PROVIDE JUNCTION BOX AND COMPOSITE PLENUM CONTROL ACCESS CABLE BACK TO MASTER STATION. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
5	PROVIDE 120V POWER TO FEED ALTRONIX POWER SUPPLY BY OTHERS. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
6	ACCESS CONTROL PANEL BY OTHERS.
7	DOOR RELEASE PUSH BUTTON BY OTHERS. PROVIDE COMPOSITE PLENUM CONTROL ACCESS CABLE BACK TO ACCESS CONTROL PANEL. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
8	REQUEST TO EXIT STATION BY OTHERS. PROVIDE COMPOSITE PLENUM CONTROL ACCESS CABLE BACK TO ACCESS CONTROL PANEL. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
9	PROVIDE NEW CONDUIT AND WIRE TO INTERCEPT AND EXTEND EXISTING BRANCH CIRCUIT MAINTAINED THROUGH DEMOLITION TO NEW DEVICE LOCATION. NEW CONDUIT AND WIRE SHALL MATCH EXISTING IN ALL RESPECTS. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS.
10	LOCKDOWN BUTTON BY OTHERS. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.
11	HANDICAP DOOR OPENER BY OTHERS. PRIOR TO ROUGH-IN COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR. REFER TO SECURITY DRAWINGS FOR EXACT REQUIREMENTS.

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SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE:	03/21/2023
PROJECT NO:	220205.01
DRAWN BY:	SH
CHECKED BY:	PH
REVISIONS:	

DRAWING TITLE:

ELECTRICAL LEVEL 1 POWER PLAN

DRAWING NO.:

E311

1 ELECTRICAL POWER 1ST FLOOR PLAN
E311 1/4" = 1'-0"

LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MANUFACTURER	MODEL	COLOR TEMP	LUMENS	MOUNTING	WATTS	VOLTS	BALLAST/DRIVER	NOTE
E1	CEILING EXIT LIGHT, AC ONLY	LITHONIA	EXRG	--	--	CEILING	1 W	1VOLT	--	1
RD	RECESSED DOWNLIGHT, WHITE, MATTE DIFFUSE	LITHONIA	LDN6	3500K	3000lm	RECESSED	35 W	1VOLT	0-10 VDC DIMMABLE LED DRIVER	

LIGHTING FIXTURE SCHEDULE NOTES:

THE BASIS OF DESIGN FOR LIGHTING FIXTURES WILL BE AS INDICATED ON THESE DOCUMENTS. IDENTIFY ANY SUBSTITUTIONS AND / OR ALTERNATE MANUFACTURERS IN CONTRACTOR'S BID FOR THE PROJECT. ALL PROPOSED SUBSTITUTIONS TO BE ACCOMPANIED WITH A FULL SUBMITTAL. THE ARCHITECT, OWNER, AND ENGINEER MUST PROVIDE APPROVAL FOR THE SUBSTITUTIONS FOR EQUIVALENT PERFORMANCE AND AESTHETIC APPEARANCE PRIOR TO THE SUBSTITUTIONS BEING ACCEPTED. DEMONSTRATE EQUIVALENT FIXTURE PERFORMANCE THROUGH LIGHTING PERFORMANCE CALCULATIONS IF REQUESTED AS WELL AS INCLUDING ABILITY TO MEET UTILITY COMPANY INCENTIVE PROGRAMS.

(NOTES LF1 THROUGH LF10 ARE GENERAL NOTES AND APPLY TO ALL LIGHT FIXTURES).

- LF1. FINAL MOUNTING HEIGHT AND LOCATION AS DIRECTED BY ARCHITECT.
- LF2. COORDINATE TASK LIGHT FIXTURE INSTALLATION WITH CASEWORK AS DETAILED ON ARCHITECTURAL DRAWINGS.
- LF3. MODEL NUMBERS INDICATED ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL FIXTURE COORDINATION AND INSTALLATION. REFER TO SPECIFICATIONS.
- LF4. COORDINATE EXACT FIXTURE MOUNTING REQUIREMENTS, LAMPING AND ADDITIONAL INFORMATION WITH ARCHITECT AND LIGHTING DESIGNER PRIOR TO INSTALLATION AND ORDERING.
- LF5. RECESSED FIXTURES LOCATED WITHIN INSULATED CEILINGS OR WALLS TO BE "IC" RATED.
- LF6. FINAL FINISH/COLOR OF FIXTURE TO BE APPROVED IN WRITING BY ARCHITECT.
- LF7. COORDINATE LIGHTING FIXTURE INSTALLATION AND TRIM KIT WITH CEILING TYPE INDICATED ON ARCHITECTURAL DRAWINGS.

TYPICAL PANELBOARD NOTES

1. PROVIDE SUB-FEED LUGS FOR MULTI-SECTION PANELS.
2. FURNISH ALL PANELBOARDS FULLY POPULATED WITH BRANCH CIRCUIT BREAKERS, THAT IS, ALL SPACES SHALL HAVE A 20AMP, 1 POLE CIRCUIT BREAKER INSTALLED.
3. PANEL FACE PLATES SHALL BE ATTACHED TO BACK BOX WITH FULL-LENGTH PIANO HINGE AND PROVIDED WITH LOCKING DOOR IN DOOR. PANELBOARDS CONTAINING MAIN SERVICE DISCONNECT MUST BE LISTED FOR THE USE. SERIES RATED INTERRUPTING CAPACITY IS NOT ALLOWED.
4. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND HACR RATED.
5. NEW CIRCUIT BREAKERS TO BE INSTALLED IN EXISTING PANELBOARDS SHALL MATCH EXISTING PANELBOARD IN ALL RESPECTS INCLUDING SHORT CIRCUIT RATING (KAC). BOLD CIRCUITS INDICATE NEW CIRCUIT WITHIN EXISTING PANELBOARD.

Branch Panel: (E) PP1B SEC 3

Location:
Supply From: (E) PP1B SEC 3
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120
Phases: 3
Wires: 4

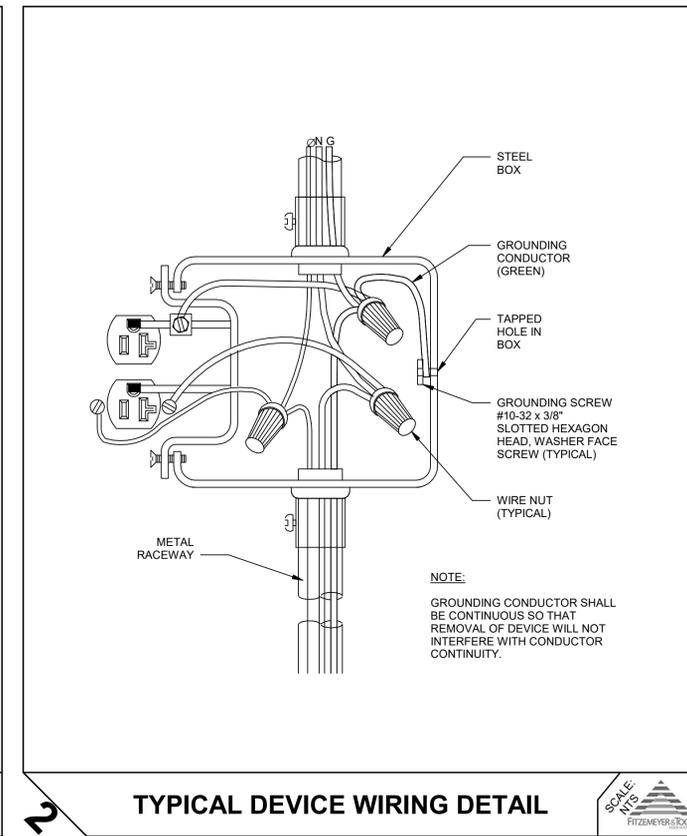
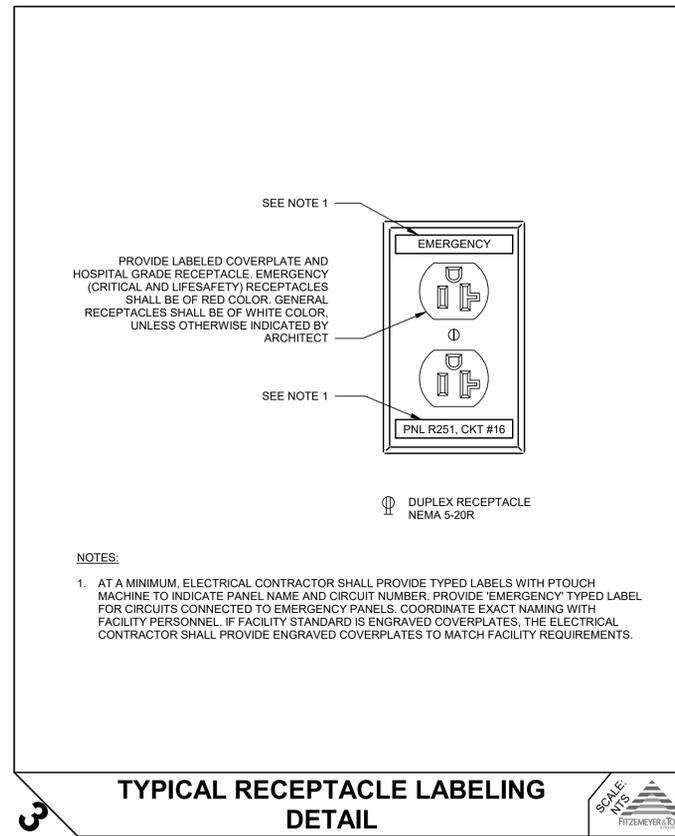
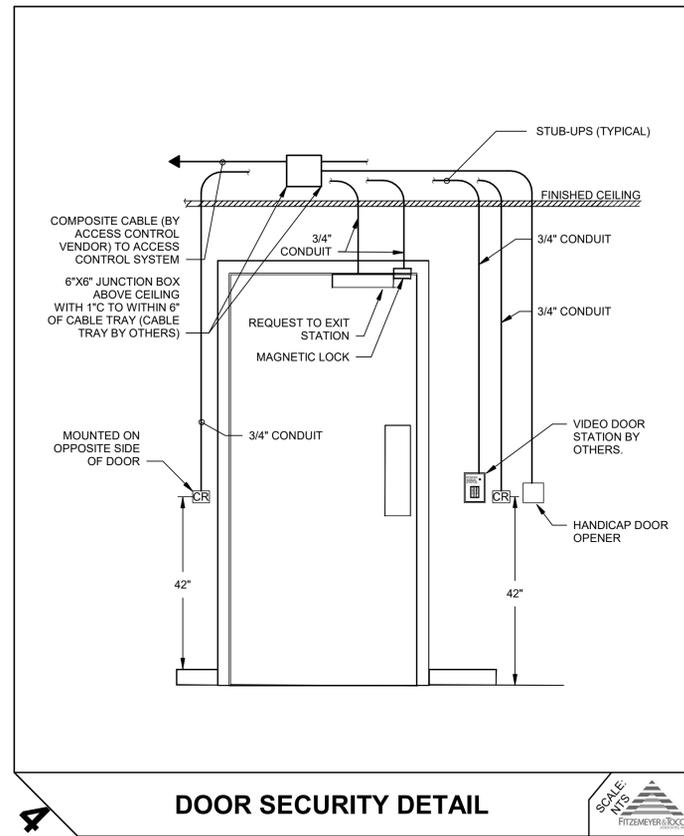
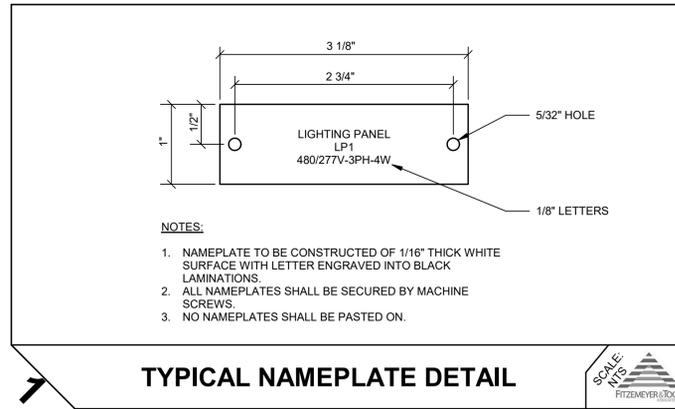
A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MAIN CB
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
85	STAGE 127	20 A	1	0.00...	0.00...			1	20 A	VESTIBULE 127B	86
87	STAGE 127	20 A	1		0.00...	0.00...		1	20 A	STAGE 127, AUD 118	88
89	AUDITORIUM 118	20 A	1			0.00...	0.00...	1	20 A	STAGE 127	90
91	AUDITORIUM 118	20 A	1	0.00...	0.18...			1	20 A	RCPT VESTIBULE	92
93	MEDIA OFFICE 120C	20 A	1		0.00...	0.00...		1	20 A	ALTRONIX POWER SUPPLY	94
95	MEDIA OFFICE 120C	20 A	1			0.00...	0.00...	1	20 A	HANDICAP ACCESS	96
97	MEDIA OFFICE 120C	20 A	1	0.00...	0.00...			1	20 A	UH-6	98
99	MEDIA OFFICE 120C	20 A	1		0.00...	0.00...		1	20 A	SPARE	100
101	MEDIA CONFERENCE 120A	20 A	1			0.00...	0.00...	1	20 A	SPARE	102
103	DIST LEARN LAB 117	20 A	1	0.00...	0.00...			1	20 A	AUDITORIUM ROOF	104
105	DIST LEARN LAB 117	20 A	1		0.00...	0.00...		1	20 A	AUDITORIUM ROOF	106
107	AUDITORIUM 118	20 A	1			0.00...	0.00...	1	20 A	DIST LEARN LAB 117	108
109	DIST LEARN LAB 117	20 A	1	0.00...	0.00...			1	20 A	DIST LEARN LAB 117	110
111	DIST LEARN LAB 117	20 A	1		0.00...	0.00...		1	20 A	DIST LEARN LAB 117	112
113	SPACE	--	1			--	0.00...	1	20 A	DIST LEARN LAB 117	114
115	CAFE CLOCK	20 A	1	0.00...	0.00...			1	20 A	DIST LEARN LAB 117	116
117	DIST LEARN LAB 117	20 A	1		0.00...	0.00...		1	20 A	DIST LEARN LAB 117	118
119	DIST LEARN LAB 117	20 A	1			0.00...	0.00...	1	20 A	DIST LEARN LAB 117	120
121	DIST LEARN LAB 117	20 A	1	0.00...	0.00...			1	20 A	DIST LEARN LAB 117	122
123	DIST LEARN LAB 117	20 A	1		0.00...	0.00...		1	20 A	DIST LEARN LAB 117	124
125	SPACE	--	1			--	0.00...	1	20 A	DIST LEARN LAB 117	126
				Total Load:	0.18 kVA	0.00 kVA	0.00 kVA				
				Total Amps:	2 A	0 A	0 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0.00 kVA	0.00%	0.00 kVA	
Power	0.00 kVA	0.00%	0.00 kVA	Total Conn. Load: 0.18 kVA
Receptacles	0.18 kVA	100.00%	0.18 kVA	Total Est. Demand: 0.18 kVA
				Total Conn.: 0 A
				Total Est. Demand: 0 A



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TOWN OF DEDHAM
MIDDLE SCHOOL
DEDHAM MIDDLE SCHOOL
70 WHITING AVENUE
DEDHAM, MA 02026

SAFETY VESTIBULE PROJECT

PROJECT STATUS:

BID SET ADDENDUM #2

DATE:	03/21/2023
PROJECT NO:	220205.01
DRAWN BY:	SH
CHECKED BY:	PH
REVISIONS:	

DRAWING TITLE:
ELECTRICAL SCHEDULES

DRAWING NO.:
E700



Exhibit B

Access Control & IP Cameras for New Entry Vestibule ITC 71

Prepared for:

Dedham Middle School

Denise Moroney
dmoroney@dedham-ma.gov

Prepared by:

setronics
security integrators

Andy Wilder
awilder@setronics.com

Tuesday, February 07, 2023

Dedham Middle School
Denise Moroney
70 Whiting Ave.
Dedham, MA 02026
dmoroney@dedham-ma.gov

Dear Denise,

Thank you for the opportunity to present the following Proposal # 22-003932.

The following detail outlines the scope of work for the sale and installation of (3) Additional AWID Card readers, (2) additional IP cameras, (1) New Aiphone Audio/Video Intercom with release button for New Vestibule.

Scope of Work:

- Provide and install (3) AWID Card Readers for two new exterior and interior double doors and (1) door leading into the Main Office leading into the Dedham Middle School
- Provide and install (5) Door Contacts for the two new doors
- Provide and install (3) REX motions for the doors
- Provide and install power supply for the electronic door locking hardware
- Provide and install (1) 5MP IP AXIS dome camera on the exterior of the building for the front entrance
- Provide and install (1) 6MP 360 IP dome camera for the interior of the new vestibule
- Provide and install (2) Exacq IP Camera licenses
- Provide and install (1) Aiphone Audio/Video kit which includes door station and Master station for the New Front entrance
- Provide and install (2) release buttons for the interior vestibule door and Main Office new entry door with power supply
- Provide and install Cat 6 cable for the IP cameras back to the Head End
- Provide and install Composite Access Control cable for the Keyscan access control devices
- Provide and install (1) 4 door Keyscan Controller for the three (3) new doors
- Program in the 3 new doors into the Keyscan system

Customer Responsibilities:

- Provide the electronic hardware on the new doors

Sincerely,



Andy Wilder
Senior Sales Executive
Setronics Corp.

COVID-19 & Other Hazardous Conditions

■ COVID-19 & Other Hazardous Conditions

In response to the COVID-19 pandemic, Setronics has implemented certain protocols to better protect the safety of our employees, customers, and others with whom we come in contact while performing installations and service at customer locations. Following guidelines issued as by the US CDC and other state regulatory authorities, all Setronics employees will arrive at customer locations wearing masks and gloves (as required).

In addition, all equipment and tooling will be sanitized for use. All Setronics employees have been directed to maintain social distancing and to monitor their personal health. Setronics employees will excuse themselves from work should they be exposed to COVID-19, develop a temperature, or experience any flu-like symptoms. Setronics is prepared to review and implement additional safety processes in response to specific customer requirements.

For the safety of all, Setronics encourages and expects all customers to require their staff and others visiting their locations to adapt these safety procedures as outlined above.

Please see Section 1.B.2. of our Terms and Conditions for information on identification of any other potentially hazardous job site conditions.

Payment Terms

■ Municipality - Prevailing Wage Labor Rates - NET30

This proposal is valid for thirty days. Labor charges assume prevailing-wage labor rates. Applicable shipping charges are not included. Customer has advised Setronics, in writing, of any special circumstances associated with completing the proposed work (e.g. hazardous materials, presence of asbestos, etc.), if applicable.

Any changes to project scope or unplanned project delays may result in additional charges for which you will be notified in advance.

Setronics shall invoice the cost of all equipment and materials upon receipt by Setronics. These invoices are due upon receipt. Payment is required to schedule installation resources. The remaining project balance (plus any mutually agreed upon project change orders) shall be invoiced upon project completion and acceptance.

Terms for the final project invoice are net 30 days.

The terms and conditions of this proposal are as outlined on Exhibit A.

Signed approval of this proposal and applicable purchase order is required by Setronics to purchase materials and schedule installation resources.

Project Price

Qty	Description
3	GRAY, AWID LOGO SENT. PROX MULTI-PROT READER
1	Keyscan 4 Door Reader Panel
3	Request To Exit Detector - Light Gray
2	Surface Mount Door Release Button - Momentary Rele
1	5MP IP Outdoor Bullet Camera w/IR & WDR
1	12MP IP Exterior 360 Degree Camera
5	2500 Series Aluminum Housing Armored Cable Wide Gap, SPDT 3W/VA 3 Inch Sense Range
1	7" Touchscreen Video Intercom Set
4	Battery - 12V 7AH
2	IP Professional Camera License
1	12/24 VDC Power Supply - 8 CH
1	Cable, Materials and Labor

Subtotal: **\$26,472.00**

Access Control & IP Cameras for New Entry Vestibule ITC 71

Prepared by:

Setronics Corp.

Andy Wilder
Main Office: 978-671-5450
Mobile: 978-835-9571
Fax 978-6715448
awilder@setronics.com

Prepared for:

Dedham Middle School

70 Whiting Ave.
Dedham, MA 02026
Denise Moroney
(781) 310-1141
dmoroney@dedham-ma.gov

Quote Information:

Quote #: 22-003932

Version: 2
Delivery Date: 02/07/2023
Expiration Date: 03/05/2023

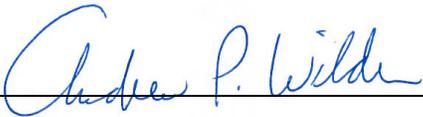
Quote Summary

Description	Amount
Project Price	\$26,472.00
Total:	\$26,472.00

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Setronics Corp.

Dedham Middle School

Signature: 
Name: Andy Wilder
Title: Senior Sales Executive
Date: 02/07/2023

Signature: _____
Name: _____
Title: _____
Date: _____

Terms and Conditions

I. SERVICES

- A. Setronics, Inc. shall provide the following services under the Proposal.
1. Supply all materials required for performance of the proposal, purchase order, or other form of the parties' agreement(s) in compliance with all terms therein;
 2. Install products in accordance with the proposal, purchase order, or other form of agreement(s) in accordance with the scope of same, in a good and workmanlike fashion, using Setronics personnel or persons who may be arranged by Setronics on an as-needed basis;
 3. Test any systems installed and ensure that all operate in accordance with industry standards for the purposes agreed upon by the parties;
 4. Maintain a reasonably clean and safe working environment at all times, removing all debris from the job site upon completion of the work and keeping all areas reasonably neat/clean during the performance of the work.
- B. Customer shall provide the following services under the Proposal.
1. Cooperate fully with all planning and performance of the work, ensuring that Setronics and its personnel have appropriate access to all areas where work is to be performed during times and on schedules as may be reasonably agreed by Setronics for performance of work;
 2. Prior to the start of any work, inform Setronics of any and all known hazards or potential hazards in the work area that may be relevant to Setronics' performance under the Proposal, along with any other conditions that might materially affect Setronics in the performance of agreed work, wherever located and of any nature whatsoever, including but not limited to conditions of construction and orders of any local or other governmental authority.

II. PAYMENTS

Timing of invoices and related terms are as outlined in the proposal cover letter. Any invoice that is not timely paid shall be subject to interest at the rate 12% per annum, compounded monthly. Setronics reserves the right to cease all work in the event any invoice is not timely paid. If invoices for work performed or products purchased are not paid on time and in full, Setronics may institute legal proceedings to collect same, in which case Customer shall pay, in addition to prior assessments, interest at the statutory rate along with all costs and legal fees Setronics may incur to collect any amount owed.

III. INDEMNIFICATION

The Customer shall indemnify, defend and hold Setronics harmless from any claim, suit, cause of action or legal action that arises from Customer's negligent conduct; from any hazardous condition that may exist at property where services are performed by Setronics; from the failure to inform Setronics about material or hazardous conditions that it will or may encounter during performance of work; and from any breach of any condition agreed upon by the parties. This indemnification shall include but not be limited to all financial losses suffered by Setronics along with any and all costs or legal fees it may incur in connection with any matter covered by this indemnification.

IV. TERM AND TERMINATION

Work shall commence on the date and under terms agreed by the Parties as same may be specified in the proposal, purchase order, or other agreement(s), written or oral, between the parties. Work shall continue for so long as all conditions of same and of these terms/conditions are complied with.

V. VENUE AND ENFORCEMENT

Any agreement between the parties shall be subject to and enforceable under the laws of the Commonwealth of Massachusetts. All disputes under any agreement or these terms/conditions shall be settled by binding arbitration in accordance with the rules and procedures of JAMS in Boston, Massachusetts. Upon the conclusion of any arbitration proceedings, the arbitrator shall render findings of fact and conclusions of law and a written opinion setting forth the basis and reasons for any decision reached by him or her and shall deliver same to each party to this Agreement along with a signed copy of the award. Costs of arbitration shall be shared equally by the parties and shall be subject to reasonable reapportionment by the arbitrator who, in the event he/she finds that Customer breached any substantive term of its agreement(s) with Setronics or the term/s conditions herein, shall require that Customer reimburse Setronics for all arbitration fees along with all costs and legal fees it may incur during the arbitration process. Nothing in this paragraph shall preclude Setronics from applying to a court of competent jurisdiction for injunctive relief in the event Setronics deems such relief necessary or appropriate.

VI. ADDITIONAL TERMS

- 6.1 Failure by Setronics at any time or from time to time to enforce any of the provisions of the parties agreement(s) or these terms/conditions shall not be construed to be a waiver of such provision or of its right to thereafter enforce same.
- 6.2 Setronics shall at all times retain complete discretion and control over its business operations; workforce; and decisions as to implementation of the terms of the parties' agreement(s) and these terms/conditions.
- 6.3 These terms and conditions shall form an integral part of the parties' agreement(s) and they along with such agreement(s) represent the entire agreement between the parties. No term, condition or agreement shall be amended, altered or changed except by written agreement signed by both parties.
- 6.4 In the event any condition encountered during the work requires an expansion of the scope of work agreed to by the parties, or if Customer opts during the work to expand the scope, any such additional work required or desired shall be agreed upon by written change order that specifies the agreed additional work, time for performance, and price to be paid by Customer. Setronics shall not be obligated to perform any work or provide any service that is not included in the proposal, purchase order or other agreement(s) except by written change order. If any such condition makes continued performance by Setronics impracticable, or if same occurs due to a force majeure, Setronics may terminate this agreement by delivering written notice. Any amounts then owed to Setronics shall be paid upon delivery of the final invoice by Setronics.
- 6.5 Any and all notices and other communications permitted or required to be given hereunder shall be validly given or made in writing if (a) personally delivered, (b) delivered and confirmed by telecopies or like instantaneous transmission service, (c) delivered by reputable overnight courier delivery service or (d) deposited in the United States mail, first class, postage prepaid, addressed to the Customer at the address set forth in the proposal, purchase order, or other form of agreement between the parties.
- 6.6 Customer represents that it has read these terms/condition and fully understands all terms. It recognizes and agrees that all terms herein shall form an integral part of any and all agreement(s) between the parties, regardless of form. Customer materially represents that it will comply in good faith with all terms and conditions stated herein.

Statement from Brian LaCroix, President - Setronics Corp.

To Our Customers:

In response to the critical importance of providing security services during the COVID -19 pandemic, Setronics is classified as an essential business and has remained open during the entire period of government-enforced business closures. Setronics is committed to remaining open and supporting our customers with uninterrupted access to system sale, installation and service. Setronics has advised all employees of CDC recommended personal health and hygiene protocols and adopted CDC and other regulatory authority recommended practices to best ensure the health and safety of our employees, customers and their clients.

These practices, among others, include:

- Frequent sanitizing of all equipment and work tools
- Maintaining social distancing while performing all work
- Wearing mask & gloves at all customer locations

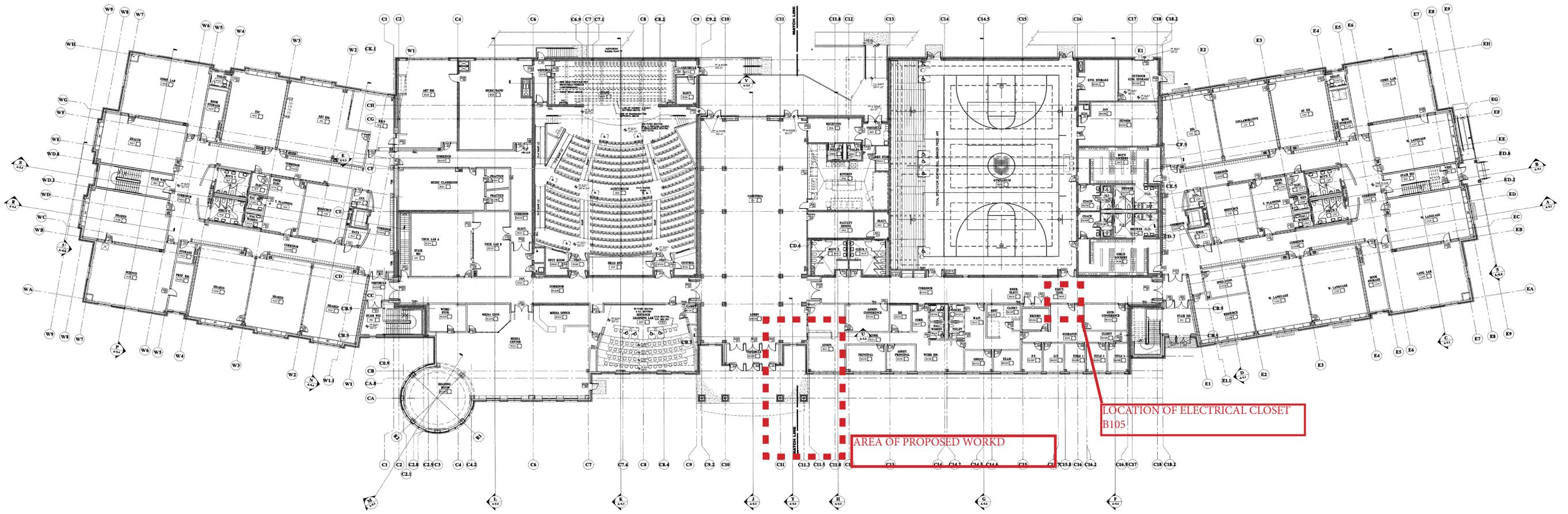
As guidance from the CDC and other regulatory authorities regarding best practices continues to evolve, Setronics will monitor and adopt such practices to ensure our employees perform our work safely.



Sincerely,

Brian LaCroix
President of Setronics Corp.

Exhibit A

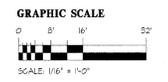


D&W
 DEDHAM AND WILMINGTON, MASSACHUSETTS
 ARCHITECTS - ENGINEERS
 1400 HANCOCK STREET
 DEDHAM, MASSACHUSETTS 01917
 PHONE: (617) 471-7800
 FAX: (617) 471-7801

Project No. **03-446**

DEDHAM MIDDLE SCHOOL
DEDHAM MASSACHUSETTS

NOTICE
 THESE DRAWINGS ARE A COMPILATION OF THE ORIGINAL BID AND CONTRACT DOCUMENT PLANS AND PUBLISHED ADDENDA. THESE COMPILATION DRAWINGS WERE PREPARED FOR THE SOLE CONVENIENCE OF THE CONTRACTOR. THE COMPLETENESS AND/OR ACCURACY OF THE COMPILATION INFORMATION IS NOT GUARANTEED. ANY INCONSISTENCIES WITH THE CONTRACT DOCUMENTS DO NOT ALTER THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.



Revision:	By:
Date: 01/02/04	Scale: 1/16"=1'-0"
Drawn By: XXX	Chk'd By: JFT

Sheet Title:
MAIN LEVEL OVERALL FLOOR PLAN

Sheet #:
A-1.1
 CONSTRUCTION SET



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Town of Dedham
Contract Number: 20230012 **City/Town:** DEDHAM
Description of Work: The Project consists of but not limited to:
Modification to the existing school and addition at main entry to create a new entrance vestibule; selective demolition of the building envelope.
Job Location: 70 Whiting Ave

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- **The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor.** For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.05	\$13.41	\$16.01	\$0.00	\$66.47
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.12	\$13.41	\$16.01	\$0.00	\$66.54
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.24	\$13.41	\$16.01	\$0.00	\$66.66
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.93	\$9.10	\$17.57	\$0.00	\$70.60
	06/01/2023	\$44.93	\$9.10	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.18	\$9.10	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$43.33	\$9.35	\$17.82	\$0.00	\$70.50
	06/01/2023	\$44.33	\$9.35	\$17.82	\$0.00	\$71.50
	12/01/2023	\$45.58	\$9.35	\$17.82	\$0.00	\$72.75
	06/01/2024	\$47.06	\$9.35	\$17.82	\$0.00	\$74.23
	12/01/2024	\$48.53	\$9.35	\$17.82	\$0.00	\$75.70
	06/01/2025	\$50.03	\$9.35	\$17.82	\$0.00	\$77.20
	12/01/2025	\$51.53	\$9.35	\$17.82	\$0.00	\$78.70
	06/01/2026	\$53.08	\$9.35	\$17.82	\$0.00	\$80.25
	12/01/2026	\$54.58	\$9.35	\$17.82	\$0.00	\$81.75
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2020	\$38.10	\$12.80	\$9.45	\$0.00	\$60.35
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.93	\$9.10	\$17.57	\$0.00	\$70.60
	06/01/2023	\$44.93	\$9.10	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.18	\$9.10	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$43.33	\$9.35	\$17.82	\$0.00	\$70.50
	06/01/2023	\$44.33	\$9.35	\$17.82	\$0.00	\$71.50
	12/01/2023	\$45.58	\$9.35	\$17.82	\$0.00	\$72.75
	06/01/2024	\$47.06	\$9.35	\$17.82	\$0.00	\$74.23
	12/01/2024	\$48.53	\$9.35	\$17.82	\$0.00	\$75.70
	06/01/2025	\$50.03	\$9.35	\$17.82	\$0.00	\$77.20
	12/01/2025	\$51.53	\$9.35	\$17.82	\$0.00	\$78.70
	06/01/2026	\$53.08	\$9.35	\$17.82	\$0.00	\$80.25
	12/01/2026	\$54.58	\$9.35	\$17.82	\$0.00	\$81.75
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2023	\$47.37	\$7.07	\$20.31	\$0.00	\$74.75
	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$30.79	\$7.07	\$13.22	\$0.00	\$51.08
2	65	\$30.79	\$7.07	\$13.22	\$0.00	\$51.08
3	70	\$33.16	\$7.07	\$14.23	\$0.00	\$54.46
4	75	\$35.53	\$7.07	\$15.24	\$0.00	\$57.84
5	80	\$37.90	\$7.07	\$16.25	\$0.00	\$61.22
6	85	\$40.26	\$7.07	\$17.28	\$0.00	\$64.61
7	90	\$42.63	\$7.07	\$18.28	\$0.00	\$67.98
8	95	\$45.00	\$7.07	\$19.32	\$0.00	\$71.39

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2023	\$58.21	\$11.49	\$21.65	\$0.00	\$91.35
BRICKLAYERS LOCAL 3 (FOXBORO)	08/01/2023	\$60.26	\$11.49	\$21.65	\$0.00	\$93.40
	02/01/2024	\$61.51	\$11.49	\$21.65	\$0.00	\$94.65
	08/01/2024	\$63.61	\$11.49	\$21.65	\$0.00	\$96.75
	02/01/2025	\$64.91	\$11.49	\$21.65	\$0.00	\$98.05
	08/01/2025	\$67.06	\$11.49	\$21.65	\$0.00	\$100.20
	02/01/2026	\$68.41	\$11.49	\$21.65	\$0.00	\$101.55
	08/01/2026	\$70.61	\$11.49	\$21.65	\$0.00	\$103.75
	02/01/2027	\$72.01	\$11.49	\$21.65	\$0.00	\$105.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Foxboro

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.11	\$11.49	\$21.65	\$0.00	\$62.25
2	60	\$34.93	\$11.49	\$21.65	\$0.00	\$68.07
3	70	\$40.75	\$11.49	\$21.65	\$0.00	\$73.89
4	80	\$46.57	\$11.49	\$21.65	\$0.00	\$79.71
5	90	\$52.39	\$11.49	\$21.65	\$0.00	\$85.53

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.13	\$11.49	\$21.65	\$0.00	\$63.27
2	60	\$36.16	\$11.49	\$21.65	\$0.00	\$69.30
3	70	\$42.18	\$11.49	\$21.65	\$0.00	\$75.32
4	80	\$48.21	\$11.49	\$21.65	\$0.00	\$81.35
5	90	\$54.23	\$11.49	\$21.65	\$0.00	\$87.37

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2022	\$43.73	\$9.35	\$17.97	\$0.00	\$71.05
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2023	\$44.73	\$9.35	\$17.97	\$0.00	\$72.05
	12/01/2023	\$45.98	\$9.35	\$17.97	\$0.00	\$73.30
	06/01/2024	\$47.46	\$9.35	\$17.97	\$0.00	\$74.78
	12/01/2024	\$48.93	\$9.35	\$17.97	\$0.00	\$76.25
	06/01/2025	\$50.43	\$9.35	\$17.97	\$0.00	\$77.75
	12/01/2025	\$51.93	\$9.35	\$17.97	\$0.00	\$79.25
	06/01/2026	\$53.48	\$9.35	\$17.97	\$0.00	\$80.80
	12/01/2026	\$54.98	\$9.35	\$17.97	\$0.00	\$82.30

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2022	\$42.58	\$9.35	\$17.97	\$0.00	\$69.90
	06/01/2023	\$43.58	\$9.35	\$17.97	\$0.00	\$70.90
	12/01/2023	\$44.83	\$9.35	\$17.97	\$0.00	\$72.15
	06/01/2024	\$46.31	\$9.35	\$17.97	\$0.00	\$73.63
	12/01/2024	\$47.78	\$9.35	\$17.97	\$0.00	\$75.10
	06/01/2025	\$49.28	\$9.35	\$17.97	\$0.00	\$76.60
	12/01/2025	\$50.78	\$9.35	\$17.97	\$0.00	\$78.10
	06/01/2026	\$52.33	\$9.35	\$17.97	\$0.00	\$79.65
	12/01/2026	\$53.83	\$9.35	\$17.97	\$0.00	\$81.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2022	\$42.58	\$9.35	\$17.97	\$0.00	\$69.90
	06/01/2023	\$43.58	\$9.35	\$17.97	\$0.00	\$70.90
	12/01/2023	\$44.83	\$9.35	\$17.97	\$0.00	\$72.15
	06/01/2024	\$46.31	\$9.35	\$17.97	\$0.00	\$73.63
	12/01/2024	\$47.78	\$9.35	\$17.97	\$0.00	\$75.10
	06/01/2025	\$49.28	\$9.35	\$17.97	\$0.00	\$76.60
	12/01/2025	\$50.78	\$9.35	\$17.97	\$0.00	\$78.10
	06/01/2026	\$52.33	\$9.35	\$17.97	\$0.00	\$79.65
	12/01/2026	\$53.83	\$9.35	\$17.97	\$0.00	\$81.15
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	03/01/2023	\$55.62	\$8.68	\$19.97	\$0.00	\$84.27

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.81	\$8.68	\$1.73	\$0.00	\$38.22
2	60	\$33.37	\$8.68	\$1.73	\$0.00	\$43.78
3	70	\$38.93	\$8.68	\$14.78	\$0.00	\$62.39
4	75	\$41.72	\$8.68	\$14.78	\$0.00	\$65.18
5	80	\$44.50	\$8.68	\$16.51	\$0.00	\$69.69
6	80	\$44.50	\$8.68	\$16.51	\$0.00	\$69.69
7	90	\$50.06	\$8.68	\$18.24	\$0.00	\$76.98
8	90	\$50.06	\$8.68	\$18.24	\$0.00	\$76.98

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$35.03/ 3&4 \$42.20/ 5&6 \$63.53/ 7&8 \$70.74

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	04/01/2022	\$28.62	\$7.21	\$5.80	\$0.00	\$41.63
	04/01/2023	\$28.97	\$7.21	\$5.80	\$0.00	\$41.98

All Aspects of New Wood Frame Work

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$14.31	\$7.21	\$0.00	\$0.00	\$21.52
2	50	\$14.31	\$7.21	\$0.00	\$0.00	\$21.52
3	55	\$15.74	\$7.21	\$2.00	\$0.00	\$24.95
4	55	\$15.74	\$7.21	\$2.00	\$0.00	\$24.95
5	70	\$20.03	\$7.21	\$5.80	\$0.00	\$33.04
6	70	\$20.03	\$7.21	\$5.80	\$0.00	\$33.04
7	80	\$22.90	\$7.21	\$5.80	\$0.00	\$35.91
8	80	\$22.90	\$7.21	\$5.80	\$0.00	\$35.91

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$14.49	\$7.21	\$0.00	\$0.00	\$21.70
2	50	\$14.49	\$7.21	\$0.00	\$0.00	\$21.70
3	55	\$15.93	\$7.21	\$2.00	\$0.00	\$25.14
4	55	\$15.93	\$7.21	\$2.00	\$0.00	\$25.14
5	70	\$20.28	\$7.21	\$5.80	\$0.00	\$33.29
6	70	\$20.28	\$7.21	\$5.80	\$0.00	\$33.29
7	80	\$23.18	\$7.21	\$5.80	\$0.00	\$36.19
8	80	\$23.18	\$7.21	\$5.80	\$0.00	\$36.19

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$20.09/ 3&4 \$24.95/ 5&6 \$33.04/ 7&8 \$35.91

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	01/01/2023	\$49.45	\$12.75	\$22.74	\$0.87	\$85.81
BRICKLAYERS LOCAL 3 (FOXBORO)	07/01/2023	\$50.59	\$12.75	\$22.74	\$0.87	\$86.95
	01/01/2024	\$51.73	\$12.75	\$22.74	\$0.87	\$88.09

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Foxboro

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.73	\$12.75	\$15.49	\$0.00	\$52.97
2	60	\$29.67	\$12.75	\$22.74	\$0.87	\$66.03
3	65	\$32.14	\$12.75	\$22.74	\$0.87	\$68.50
4	70	\$34.62	\$12.75	\$22.74	\$0.87	\$70.98
5	75	\$37.09	\$12.75	\$22.74	\$0.87	\$73.45
6	80	\$39.56	\$12.75	\$22.74	\$0.87	\$75.92
7	90	\$44.51	\$12.75	\$22.74	\$0.87	\$80.87

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.30	\$12.75	\$15.49	\$0.00	\$53.54
2	60	\$30.35	\$12.75	\$22.74	\$0.87	\$66.71
3	65	\$32.88	\$12.75	\$22.74	\$0.87	\$69.24
4	70	\$35.41	\$12.75	\$22.74	\$0.87	\$71.77
5	75	\$37.94	\$12.75	\$22.74	\$0.87	\$74.30
6	80	\$40.47	\$12.75	\$22.74	\$0.87	\$76.83
7	90	\$45.53	\$12.75	\$22.74	\$0.87	\$81.89

Notes:
Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 1	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	12/01/2022	\$54.68	\$14.25	\$16.05	\$0.00	\$84.98
	06/01/2023	\$55.95	\$14.25	\$16.05	\$0.00	\$86.25
	12/01/2023	\$57.23	\$14.25	\$16.05	\$0.00	\$87.53
	06/01/2024	\$58.55	\$14.25	\$16.05	\$0.00	\$88.85
	12/01/2024	\$60.03	\$14.25	\$16.05	\$0.00	\$90.33
	06/01/2025	\$61.36	\$14.25	\$16.05	\$0.00	\$91.66
	12/01/2025	\$62.83	\$14.25	\$16.05	\$0.00	\$93.13
	06/01/2026	\$64.16	\$14.25	\$16.05	\$0.00	\$94.46
	12/01/2026	\$65.64	\$14.25	\$16.05	\$0.00	\$95.94

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$35.08	\$14.25	\$16.05	\$0.00	\$65.38
	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
	01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
	07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
	01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$8.65	\$0.00	\$0.00	\$36.68
2	55	\$30.83	\$8.65	\$6.27	\$0.00	\$45.75
3	60	\$33.64	\$8.65	\$6.84	\$0.00	\$49.13
4	65	\$36.44	\$8.65	\$7.41	\$0.00	\$52.50
5	70	\$39.24	\$8.65	\$19.63	\$0.00	\$67.52
6	75	\$42.05	\$8.65	\$20.20	\$0.00	\$70.90
7	80	\$44.85	\$8.65	\$20.77	\$0.00	\$74.27
8	90	\$50.45	\$8.65	\$21.91	\$0.00	\$81.01

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$8.65	\$0.00	\$0.00	\$37.28
2	55	\$31.49	\$8.65	\$6.27	\$0.00	\$46.41
3	60	\$34.36	\$8.65	\$6.84	\$0.00	\$49.85
4	65	\$37.22	\$8.65	\$7.41	\$0.00	\$53.28
5	70	\$40.08	\$8.65	\$19.63	\$0.00	\$68.36
6	75	\$42.95	\$8.65	\$20.20	\$0.00	\$71.80
7	80	\$45.81	\$8.65	\$20.77	\$0.00	\$75.23
8	90	\$51.53	\$8.65	\$21.91	\$0.00	\$82.09

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.33	\$9.10	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.33	\$9.10	\$17.57	\$0.00	\$71.00
	12/01/2023	\$45.58	\$9.10	\$17.57	\$0.00	\$72.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$44.33	\$9.10	\$17.57	\$0.00	\$71.00
	06/01/2023	\$45.33	\$9.10	\$17.57	\$0.00	\$72.00
	12/01/2023	\$46.58	\$9.10	\$17.57	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 1</i>	12/01/2022	\$44.08	\$9.10	\$17.57	\$0.00	\$70.75
	06/01/2023	\$45.08	\$9.10	\$17.57	\$0.00	\$71.75
	12/01/2023	\$46.33	\$9.10	\$17.57	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2022	\$44.33	\$9.10	\$17.57	\$0.00	\$71.00
	06/01/2023	\$45.33	\$9.10	\$17.57	\$0.00	\$72.00
	12/01/2023	\$46.58	\$9.10	\$17.57	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$44.08	\$9.10	\$17.57	\$0.00	\$70.75
	06/01/2023	\$45.08	\$9.10	\$17.57	\$0.00	\$71.75
	12/01/2023	\$46.33	\$9.10	\$17.57	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.33	\$9.10	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.33	\$9.10	\$17.57	\$0.00	\$71.00
	12/01/2023	\$45.58	\$9.10	\$17.57	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
2	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
3	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
4	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
5	50	\$29.62	\$13.00	\$16.63	\$0.00	\$59.25
6	55	\$32.58	\$13.00	\$17.13	\$0.00	\$62.71
7	60	\$35.54	\$13.00	\$17.63	\$0.00	\$66.17
8	65	\$38.50	\$13.00	\$18.13	\$0.00	\$69.63
9	70	\$41.46	\$13.00	\$18.62	\$0.00	\$73.08
10	75	\$44.42	\$13.00	\$19.13	\$0.00	\$76.55

Notes:
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
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Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/05/2022	\$48.67	\$14.25	\$16.05	\$0.00	\$78.97
	05/01/2023	\$49.91	\$14.25	\$16.05	\$0.00	\$80.21
	11/01/2023	\$51.15	\$14.25	\$16.05	\$0.00	\$81.45
	05/01/2024	\$52.39	\$14.25	\$16.05	\$0.00	\$82.69
	11/01/2024	\$53.68	\$14.25	\$16.05	\$0.00	\$83.98
	05/01/2025	\$55.12	\$14.25	\$16.05	\$0.00	\$85.42
	11/01/2025	\$56.41	\$14.25	\$16.05	\$0.00	\$86.71
	05/01/2026	\$57.85	\$14.25	\$16.05	\$0.00	\$88.15
	11/01/2026	\$59.14	\$14.25	\$16.05	\$0.00	\$89.44
05/01/2027	\$60.57	\$14.25	\$16.05	\$0.00	\$90.87	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2022	\$50.22	\$14.25	\$16.05	\$0.00	\$80.52
	05/01/2023	\$51.47	\$14.25	\$16.05	\$0.00	\$81.77
	11/01/2023	\$52.72	\$14.25	\$16.05	\$0.00	\$83.02
	05/01/2024	\$53.97	\$14.25	\$16.05	\$0.00	\$84.27
	11/01/2024	\$55.27	\$14.25	\$16.05	\$0.00	\$85.57
	05/01/2025	\$56.72	\$14.25	\$16.05	\$0.00	\$87.02
	11/01/2025	\$58.02	\$14.25	\$16.05	\$0.00	\$88.32
	05/01/2026	\$59.47	\$14.25	\$16.05	\$0.00	\$89.77
	11/01/2026	\$60.77	\$14.25	\$16.05	\$0.00	\$91.07
05/01/2027	\$62.22	\$14.25	\$16.05	\$0.00	\$92.52	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2022	\$24.31	\$14.25	\$16.05	\$0.00	\$54.61
	05/01/2023	\$25.05	\$14.25	\$16.05	\$0.00	\$55.35
	11/01/2023	\$25.78	\$14.25	\$16.05	\$0.00	\$56.08
	05/01/2024	\$26.51	\$14.25	\$16.05	\$0.00	\$56.81
	11/01/2024	\$27.27	\$14.25	\$16.05	\$0.00	\$57.57
	05/01/2025	\$28.12	\$14.25	\$16.05	\$0.00	\$58.42
	11/01/2025	\$28.88	\$14.25	\$16.05	\$0.00	\$59.18
	05/01/2026	\$29.73	\$14.25	\$16.05	\$0.00	\$60.03
	11/01/2026	\$30.49	\$14.25	\$16.05	\$0.00	\$60.79
05/01/2027	\$31.34	\$14.25	\$16.05	\$0.00	\$61.64	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35
<i>LOCAL 103</i> For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$43.54	\$14.25	\$16.05	\$0.00	\$73.84
	06/01/2023	\$44.56	\$14.25	\$16.05	\$0.00	\$74.86
	12/01/2023	\$45.57	\$14.25	\$16.05	\$0.00	\$75.87
	06/01/2024	\$46.63	\$14.25	\$16.05	\$0.00	\$76.93
	12/01/2024	\$47.81	\$14.25	\$16.05	\$0.00	\$78.11
	06/01/2025	\$48.87	\$14.25	\$16.05	\$0.00	\$79.17
	12/01/2025	\$50.04	\$14.25	\$16.05	\$0.00	\$80.34
	06/01/2026	\$51.10	\$14.25	\$16.05	\$0.00	\$81.40
	12/01/2026	\$52.28	\$14.25	\$16.05	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$25.23	\$9.35	\$17.82	\$0.00	\$52.40
	06/01/2023	\$25.98	\$9.35	\$17.82	\$0.00	\$53.15
	12/01/2023	\$25.98	\$9.35	\$17.82	\$0.00	\$53.15
	06/01/2024	\$27.01	\$9.35	\$17.82	\$0.00	\$54.18
	12/01/2024	\$27.01	\$9.35	\$17.82	\$0.00	\$54.18
	06/01/2025	\$28.09	\$9.35	\$17.82	\$0.00	\$55.26
	12/01/2025	\$28.09	\$9.35	\$17.82	\$0.00	\$55.26
	06/01/2026	\$29.21	\$9.35	\$17.82	\$0.00	\$56.38
	12/01/2026	\$29.21	\$9.35	\$17.82	\$0.00	\$56.38
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2022	\$49.93	\$8.68	\$20.27	\$0.00	\$78.88

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.97	\$8.68	\$1.79	\$0.00	\$35.44
2	55	\$27.46	\$8.68	\$1.79	\$0.00	\$37.93
3	60	\$29.96	\$8.68	\$14.90	\$0.00	\$53.54
4	65	\$32.45	\$8.68	\$14.90	\$0.00	\$56.03
5	70	\$34.95	\$8.68	\$16.69	\$0.00	\$60.32
6	75	\$37.45	\$8.68	\$16.69	\$0.00	\$62.82
7	80	\$39.94	\$8.68	\$18.48	\$0.00	\$67.10
8	85	\$42.44	\$8.68	\$18.48	\$0.00	\$69.60

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 \$32.94/ 3&4 \$39.66/ 5&6 \$60.32/ 7&8 \$67.10

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$35.08	\$14.25	\$16.05	\$0.00	\$65.38
	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$83.05
	07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$84.25
	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$85.45
	07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$86.65
	01/01/2025	\$56.15	\$8.65	\$23.05	\$0.00	\$87.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33
2	55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16
3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30
4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44
5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23
6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36
7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50
8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93
2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82
3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02
4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22
5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07
6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26
7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46
8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
OPERATING ENGINEERS LOCAL 4	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$29.50	\$14.25	\$0.00	\$0.00	\$43.75
2	60	\$32.18	\$14.25	\$16.05	\$0.00	\$62.48
3	65	\$34.86	\$14.25	\$16.05	\$0.00	\$65.16
4	70	\$37.54	\$14.25	\$16.05	\$0.00	\$67.84
5	75	\$40.22	\$14.25	\$16.05	\$0.00	\$70.52
6	80	\$42.90	\$14.25	\$16.05	\$0.00	\$73.20
7	85	\$45.59	\$14.25	\$16.05	\$0.00	\$75.89
8	90	\$48.27	\$14.25	\$16.05	\$0.00	\$78.57

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.18	\$14.25	\$0.00	\$0.00	\$44.43
2	60	\$32.93	\$14.25	\$16.05	\$0.00	\$63.23
3	65	\$35.67	\$14.25	\$16.05	\$0.00	\$65.97
4	70	\$38.42	\$14.25	\$16.05	\$0.00	\$68.72
5	75	\$41.16	\$14.25	\$16.05	\$0.00	\$71.46
6	80	\$43.90	\$14.25	\$16.05	\$0.00	\$74.20
7	85	\$46.65	\$14.25	\$16.05	\$0.00	\$76.95
8	90	\$49.39	\$14.25	\$16.05	\$0.00	\$79.69

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.50	\$20.80	\$0.00	\$96.73
	09/01/2023	\$65.18	\$12.50	\$20.80	\$0.00	\$98.48
	03/01/2024	\$66.98	\$12.50	\$20.80	\$0.00	\$100.28
	09/01/2024	\$68.78	\$12.50	\$20.80	\$0.00	\$102.08
	03/01/2025	\$70.58	\$12.50	\$20.80	\$0.00	\$103.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
	09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
	03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
	09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
	03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.93	\$9.10	\$17.57	\$0.00	\$70.60
	06/01/2023	\$44.93	\$9.10	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.18	\$9.10	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$43.33	\$9.35	\$17.82	\$0.00	\$70.50
	06/01/2023	\$44.33	\$9.35	\$17.82	\$0.00	\$71.50
	12/01/2023	\$45.58	\$9.35	\$17.82	\$0.00	\$72.75
	06/01/2024	\$47.06	\$9.35	\$17.82	\$0.00	\$74.23
	12/01/2024	\$48.53	\$9.35	\$17.82	\$0.00	\$75.70
	06/01/2025	\$50.03	\$9.35	\$17.82	\$0.00	\$77.20
	12/01/2025	\$51.53	\$9.35	\$17.82	\$0.00	\$78.70
	06/01/2026	\$53.08	\$9.35	\$17.82	\$0.00	\$80.25
	12/01/2026	\$54.58	\$9.35	\$17.82	\$0.00	\$81.75
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2022	\$53.85	\$13.80	\$17.14	\$0.00	\$84.79

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.93	\$13.80	\$12.42	\$0.00	\$53.15
2	60	\$32.31	\$13.80	\$13.36	\$0.00	\$59.47
3	70	\$37.70	\$13.80	\$14.31	\$0.00	\$65.81
4	80	\$43.08	\$13.80	\$15.25	\$0.00	\$72.13

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	09/16/2022	\$51.59	\$8.25	\$26.70	\$0.00	\$86.54
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$30.95	\$8.25	\$26.70	\$0.00	\$65.90
2	70	\$36.11	\$8.25	\$26.70	\$0.00	\$71.06
3	75	\$38.69	\$8.25	\$26.70	\$0.00	\$73.64
4	80	\$41.27	\$8.25	\$26.70	\$0.00	\$76.22
5	85	\$43.85	\$8.25	\$26.70	\$0.00	\$78.80
6	90	\$46.43	\$8.25	\$26.70	\$0.00	\$81.38

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 1	12/01/2022	\$43.18	\$9.10	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.43	\$9.10	\$17.57	\$0.00	\$72.10

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.91	\$9.10	\$17.57	\$0.00	\$52.58
2	70	\$30.23	\$9.10	\$17.57	\$0.00	\$56.90
3	80	\$34.54	\$9.10	\$17.57	\$0.00	\$61.21
4	90	\$38.86	\$9.10	\$17.57	\$0.00	\$65.53

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.51	\$9.10	\$17.57	\$0.00	\$53.18
2	70	\$30.93	\$9.10	\$17.57	\$0.00	\$57.60
3	80	\$35.34	\$9.10	\$17.57	\$0.00	\$62.01
4	90	\$39.76	\$9.10	\$17.57	\$0.00	\$66.43

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2022	\$42.58	\$9.35	\$17.82	\$0.00	\$69.75
	06/01/2023	\$43.58	\$9.35	\$17.82	\$0.00	\$70.75
	12/01/2023	\$44.83	\$9.35	\$17.82	\$0.00	\$72.00
	06/01/2024	\$46.31	\$9.35	\$17.82	\$0.00	\$73.48
	12/01/2024	\$47.78	\$9.35	\$17.82	\$0.00	\$74.95
	06/01/2025	\$49.28	\$9.35	\$17.82	\$0.00	\$76.45
	12/01/2025	\$50.78	\$9.35	\$17.82	\$0.00	\$77.95
	06/01/2026	\$52.33	\$9.35	\$17.82	\$0.00	\$79.50
	12/01/2026	\$53.83	\$9.35	\$17.82	\$0.00	\$81.00

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 12/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.55	\$9.35	\$17.82	\$0.00	\$52.72
2	70	\$29.81	\$9.35	\$17.82	\$0.00	\$56.98
3	80	\$34.06	\$9.35	\$17.82	\$0.00	\$61.23
4	90	\$38.32	\$9.35	\$17.82	\$0.00	\$65.49

Effective Date - 06/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.15	\$9.35	\$17.82	\$0.00	\$53.32
2	70	\$30.51	\$9.35	\$17.82	\$0.00	\$57.68
3	80	\$34.86	\$9.35	\$17.82	\$0.00	\$62.03
4	90	\$39.22	\$9.35	\$17.82	\$0.00	\$66.39

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 1	12/01/2022	\$43.18	\$9.10	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.43	\$9.10	\$17.57	\$0.00	\$72.10

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 1	12/01/2022	\$43.18	\$9.10	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.43	\$9.10	\$17.57	\$0.00	\$72.10

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 1	12/01/2022	\$43.33	\$9.10	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.33	\$9.10	\$17.57	\$0.00	\$71.00
	12/01/2023	\$45.58	\$9.10	\$17.57	\$0.00	\$72.25

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 1	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	06/01/2024	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.18	\$9.10	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.43	\$9.10	\$17.57	\$0.00	\$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.18	\$9.10	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.43	\$9.10	\$17.57	\$0.00	\$72.10
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2023	\$46.25	\$11.49	\$20.37	\$0.00	\$78.11
	08/01/2023	\$47.89	\$11.49	\$20.37	\$0.00	\$79.75
	02/01/2024	\$48.89	\$11.49	\$20.37	\$0.00	\$80.75
	08/01/2024	\$50.57	\$11.49	\$20.37	\$0.00	\$82.43
	02/01/2025	\$51.61	\$11.49	\$20.37	\$0.00	\$83.47
	08/01/2025	\$53.33	\$11.49	\$20.37	\$0.00	\$85.19
	02/01/2026	\$54.41	\$11.49	\$20.37	\$0.00	\$86.27
	08/01/2026	\$56.17	\$11.49	\$20.37	\$0.00	\$88.03
	02/01/2027	\$57.29	\$11.49	\$20.37	\$0.00	\$89.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.13	\$11.49	\$20.37	\$0.00	\$54.99
2	60	\$27.75	\$11.49	\$20.37	\$0.00	\$59.61
3	70	\$32.38	\$11.49	\$20.37	\$0.00	\$64.24
4	80	\$37.00	\$11.49	\$20.37	\$0.00	\$68.86
5	90	\$41.63	\$11.49	\$20.37	\$0.00	\$73.49

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$20.37	\$0.00	\$55.81
2	60	\$28.73	\$11.49	\$20.37	\$0.00	\$60.59
3	70	\$33.52	\$11.49	\$20.37	\$0.00	\$65.38
4	80	\$38.31	\$11.49	\$20.37	\$0.00	\$70.17
5	90	\$43.10	\$11.49	\$20.37	\$0.00	\$74.96

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2023	\$60.37	\$11.49	\$22.31	\$0.00	\$94.17
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2023	\$62.42	\$11.49	\$22.31	\$0.00	\$96.22
	02/01/2024	\$63.67	\$11.49	\$22.31	\$0.00	\$97.47
	08/01/2024	\$65.77	\$11.49	\$22.31	\$0.00	\$99.57
	02/01/2025	\$67.07	\$11.49	\$22.31	\$0.00	\$100.87
	08/01/2025	\$69.22	\$11.49	\$22.31	\$0.00	\$103.02
	02/01/2026	\$70.57	\$11.49	\$22.31	\$0.00	\$104.37
	08/01/2026	\$72.77	\$11.49	\$22.31	\$0.00	\$106.57
	02/01/2027	\$74.17	\$11.49	\$22.31	\$0.00	\$107.97

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.19	\$11.49	\$22.31	\$0.00	\$63.99
2	60	\$36.22	\$11.49	\$22.31	\$0.00	\$70.02
3	70	\$42.26	\$11.49	\$22.31	\$0.00	\$76.06
4	80	\$48.30	\$11.49	\$22.31	\$0.00	\$82.10
5	90	\$54.33	\$11.49	\$22.31	\$0.00	\$88.13

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$22.31	\$0.00	\$65.01
2	60	\$37.45	\$11.49	\$22.31	\$0.00	\$71.25
3	70	\$43.69	\$11.49	\$22.31	\$0.00	\$77.49
4	80	\$49.94	\$11.49	\$22.31	\$0.00	\$83.74
5	90	\$56.18	\$11.49	\$22.31	\$0.00	\$89.98

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	01/02/2023	\$47.27	\$8.58	\$21.57	\$0.00	\$77.42
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Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/02/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.00	\$8.58	\$5.72	\$0.00	\$40.30
2	65	\$30.73	\$8.58	\$17.93	\$0.00	\$57.24
3	75	\$35.45	\$8.58	\$18.98	\$0.00	\$63.01
4	85	\$40.18	\$8.58	\$20.01	\$0.00	\$68.77

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$24.37	\$14.25	\$16.05	\$0.00	\$54.67
	06/01/2023	\$24.94	\$14.25	\$16.05	\$0.00	\$55.24
	12/01/2023	\$25.51	\$14.25	\$16.05	\$0.00	\$55.81
	06/01/2024	\$26.11	\$14.25	\$16.05	\$0.00	\$56.41
	12/01/2024	\$26.77	\$14.25	\$16.05	\$0.00	\$57.07
	06/01/2025	\$27.37	\$14.25	\$16.05	\$0.00	\$57.67
	12/01/2025	\$28.03	\$14.25	\$16.05	\$0.00	\$58.33
	06/01/2026	\$28.62	\$14.25	\$16.05	\$0.00	\$58.92
	12/01/2026	\$29.29	\$14.25	\$16.05	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$29.57	\$14.25	\$16.05	\$0.00	\$59.87
	06/01/2023	\$30.27	\$14.25	\$16.05	\$0.00	\$60.57
	12/01/2023	\$30.96	\$14.25	\$16.05	\$0.00	\$61.26
	06/01/2024	\$31.68	\$14.25	\$16.05	\$0.00	\$61.98
	12/01/2024	\$32.48	\$14.25	\$16.05	\$0.00	\$62.78
	06/01/2025	\$33.20	\$14.25	\$16.05	\$0.00	\$63.50
	12/01/2025	\$34.00	\$14.25	\$16.05	\$0.00	\$64.30
	06/01/2026	\$34.72	\$14.25	\$16.05	\$0.00	\$65.02
	12/01/2026	\$35.52	\$14.25	\$16.05	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE I</i>	01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
	01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
	07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
	01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$8.65	\$0.00	\$0.00	\$36.68
2	55	\$30.83	\$8.65	\$6.27	\$0.00	\$45.75
3	60	\$33.64	\$8.65	\$6.84	\$0.00	\$49.13
4	65	\$36.44	\$8.65	\$7.41	\$0.00	\$52.50
5	70	\$39.24	\$8.65	\$19.63	\$0.00	\$67.52
6	75	\$42.05	\$8.65	\$20.20	\$0.00	\$70.90
7	80	\$44.85	\$8.65	\$20.77	\$0.00	\$74.27
8	90	\$50.45	\$8.65	\$21.91	\$0.00	\$81.01

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$8.65	\$0.00	\$0.00	\$37.28
2	55	\$31.49	\$8.65	\$6.27	\$0.00	\$46.41
3	60	\$34.36	\$8.65	\$6.84	\$0.00	\$49.85
4	65	\$37.22	\$8.65	\$7.41	\$0.00	\$53.28
5	70	\$40.08	\$8.65	\$19.63	\$0.00	\$68.36
6	75	\$42.95	\$8.65	\$20.20	\$0.00	\$71.80
7	80	\$45.81	\$8.65	\$20.77	\$0.00	\$75.23
8	90	\$51.53	\$8.65	\$21.91	\$0.00	\$82.09

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2023	\$52.75	\$8.65	\$23.05	\$0.00	\$84.45
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE I</i>	07/01/2023	\$53.95	\$8.65	\$23.05	\$0.00	\$85.65
	01/01/2024	\$55.15	\$8.65	\$23.05	\$0.00	\$86.85
	07/01/2024	\$56.35	\$8.65	\$23.05	\$0.00	\$88.05
	01/01/2025	\$57.55	\$8.65	\$23.05	\$0.00	\$89.25

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.38	\$8.65	\$0.00	\$0.00	\$35.03
2	55	\$29.01	\$8.65	\$6.27	\$0.00	\$43.93
3	60	\$31.65	\$8.65	\$6.84	\$0.00	\$47.14
4	65	\$34.29	\$8.65	\$7.41	\$0.00	\$50.35
5	70	\$36.93	\$8.65	\$19.63	\$0.00	\$65.21
6	75	\$39.56	\$8.65	\$20.20	\$0.00	\$68.41
7	80	\$42.20	\$8.65	\$20.77	\$0.00	\$71.62
8	90	\$47.48	\$8.65	\$21.91	\$0.00	\$78.04

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.98	\$8.65	\$0.00	\$0.00	\$35.63
2	55	\$29.67	\$8.65	\$6.27	\$0.00	\$44.59
3	60	\$32.37	\$8.65	\$6.84	\$0.00	\$47.86
4	65	\$35.07	\$8.65	\$7.41	\$0.00	\$51.13
5	70	\$37.77	\$8.65	\$19.63	\$0.00	\$66.05
6	75	\$40.46	\$8.65	\$20.20	\$0.00	\$69.31
7	80	\$43.16	\$8.65	\$20.77	\$0.00	\$72.58
8	90	\$48.56	\$8.65	\$21.91	\$0.00	\$79.12

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2023	\$50.81	\$8.65	\$23.05	\$0.00	\$82.51
PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$52.01	\$8.65	\$23.05	\$0.00	\$83.71
	01/01/2024	\$53.21	\$8.65	\$23.05	\$0.00	\$84.91
	01/01/2025	\$55.61	\$8.65	\$23.05	\$0.00	\$87.31
	07/01/2025	\$54.41	\$8.65	\$23.05	\$0.00	\$86.11

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.41	\$8.65	\$0.00	\$0.00	\$34.06
2	55	\$27.95	\$8.65	\$6.27	\$0.00	\$42.87
3	60	\$30.49	\$8.65	\$6.84	\$0.00	\$45.98
4	65	\$33.03	\$8.65	\$7.41	\$0.00	\$49.09
5	70	\$35.57	\$8.65	\$19.63	\$0.00	\$63.85
6	75	\$38.11	\$8.65	\$20.20	\$0.00	\$66.96
7	80	\$40.65	\$8.65	\$20.77	\$0.00	\$70.07
8	90	\$45.73	\$8.65	\$21.91	\$0.00	\$76.29

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.01	\$8.65	\$0.00	\$0.00	\$34.66
2	55	\$28.61	\$8.65	\$6.27	\$0.00	\$43.53
3	60	\$31.21	\$8.65	\$6.84	\$0.00	\$46.70
4	65	\$33.81	\$8.65	\$7.41	\$0.00	\$49.87
5	70	\$36.41	\$8.65	\$19.63	\$0.00	\$64.69
6	75	\$39.01	\$8.65	\$20.20	\$0.00	\$67.86
7	80	\$41.61	\$8.65	\$20.77	\$0.00	\$71.03
8	90	\$46.81	\$8.65	\$21.91	\$0.00	\$77.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$83.05
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$84.25
	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$85.45
	07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$86.65
	01/01/2025	\$56.15	\$8.65	\$23.05	\$0.00	\$87.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33
2	55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16
3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30
4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44
5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23
6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36
7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50
8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93
2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82
3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02
4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22
5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07
6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26
7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46
8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2023	\$49.41	\$8.65	\$23.05	\$0.00	\$81.11
PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$50.61	\$8.65	\$23.05	\$0.00	\$82.31
	01/01/2024	\$51.81	\$8.65	\$23.05	\$0.00	\$83.51
	07/01/2024	\$53.01	\$8.65	\$23.05	\$0.00	\$84.71
	01/01/2025	\$54.21	\$8.65	\$23.05	\$0.00	\$85.91

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.71	\$8.65	\$0.00	\$0.00	\$33.36
2	55	\$27.18	\$8.65	\$6.27	\$0.00	\$42.10
3	60	\$29.65	\$8.65	\$6.84	\$0.00	\$45.14
4	65	\$32.12	\$8.65	\$7.41	\$0.00	\$48.18
5	70	\$34.59	\$8.65	\$19.63	\$0.00	\$62.87
6	75	\$37.06	\$8.65	\$20.20	\$0.00	\$65.91
7	80	\$39.53	\$8.65	\$20.77	\$0.00	\$68.95
8	90	\$44.47	\$8.65	\$21.91	\$0.00	\$75.03

Effective Date - 07/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.31	\$8.65	\$0.00	\$0.00	\$33.96
2	55	\$27.84	\$8.65	\$6.27	\$0.00	\$42.76
3	60	\$30.37	\$8.65	\$6.84	\$0.00	\$45.86
4	65	\$32.90	\$8.65	\$7.41	\$0.00	\$48.96
5	70	\$35.43	\$8.65	\$19.63	\$0.00	\$63.71
6	75	\$37.96	\$8.65	\$20.20	\$0.00	\$66.81
7	80	\$40.49	\$8.65	\$20.77	\$0.00	\$69.91
8	90	\$45.55	\$8.65	\$21.91	\$0.00	\$76.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2022	\$42.58	\$9.35	\$17.82	\$0.00	\$69.75
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$43.58	\$9.35	\$17.82	\$0.00	\$70.75
	12/01/2023	\$44.83	\$9.35	\$17.82	\$0.00	\$72.00
	06/01/2024	\$46.31	\$9.35	\$17.82	\$0.00	\$73.48
	12/01/2024	\$47.78	\$9.35	\$17.82	\$0.00	\$74.95
	06/01/2025	\$49.28	\$9.35	\$17.82	\$0.00	\$76.45
	12/01/2025	\$50.78	\$9.35	\$17.82	\$0.00	\$77.95
	06/01/2026	\$52.33	\$9.35	\$17.82	\$0.00	\$79.50
	12/01/2026	\$53.83	\$9.35	\$17.82	\$0.00	\$81.00

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	12/01/2021	\$36.88	\$13.41	\$16.01	\$0.00	\$66.30
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER LOCAL 56 (ZONE 1)						

For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER LOCAL 56 (ZONE 1)						

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06
2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96
3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87
4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32
5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68
8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER
PIPEFITTERS LOCAL 537

03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.37	\$12.25	\$8.55	\$0.00	\$46.17
2	45	\$28.54	\$12.25	\$20.80	\$0.00	\$61.59
3	60	\$38.06	\$12.25	\$20.80	\$0.00	\$71.11
4	70	\$44.40	\$12.25	\$20.80	\$0.00	\$77.45
5	80	\$50.74	\$12.25	\$20.80	\$0.00	\$83.79

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.07	\$12.25	\$8.55	\$0.00	\$46.87
2	45	\$29.33	\$12.25	\$20.80	\$0.00	\$62.38
3	60	\$39.11	\$12.25	\$20.80	\$0.00	\$72.16
4	70	\$45.63	\$12.25	\$20.80	\$0.00	\$78.68
5	80	\$52.14	\$12.25	\$20.80	\$0.00	\$85.19

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	02/26/2023	\$65.19	\$14.07	\$18.36	\$0.00	\$97.62
	09/03/2023	\$66.94	\$14.07	\$18.36	\$0.00	\$99.37
	03/03/2024	\$68.74	\$14.07	\$18.36	\$0.00	\$101.17
	09/01/2024	\$70.54	\$14.07	\$18.36	\$0.00	\$102.97
	03/02/2025	\$72.34	\$14.07	\$18.36	\$0.00	\$104.77

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 02/26/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.82	\$14.07	\$6.63	\$0.00	\$43.52
2	40	\$26.08	\$14.07	\$7.52	\$0.00	\$47.67
3	55	\$35.85	\$14.07	\$10.24	\$0.00	\$60.16
4	65	\$42.37	\$14.07	\$12.04	\$0.00	\$68.48
5	75	\$48.89	\$14.07	\$13.85	\$0.00	\$76.81

Effective Date - 09/03/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.43	\$14.07	\$6.63	\$0.00	\$44.13
2	40	\$26.78	\$14.07	\$7.52	\$0.00	\$48.37
3	55	\$36.82	\$14.07	\$10.24	\$0.00	\$61.13
4	65	\$43.51	\$14.07	\$12.04	\$0.00	\$69.62
5	75	\$50.21	\$14.07	\$13.85	\$0.00	\$78.13

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$69.00, Step5 with lic\$76.87

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2023	\$63.43	\$12.00	\$20.80	\$0.00	\$96.23
	09/01/2023	\$65.18	\$12.00	\$20.80	\$0.00	\$97.98
	03/01/2024	\$66.98	\$12.00	\$20.80	\$0.00	\$99.78
	09/01/2024	\$68.78	\$12.00	\$20.80	\$0.00	\$101.58
	03/01/2025	\$70.58	\$12.00	\$20.80	\$0.00	\$103.38

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2022	\$44.18	\$9.10	\$17.57	\$0.00	\$70.85
	06/01/2023	\$45.18	\$9.10	\$17.57	\$0.00	\$71.85
	12/01/2023	\$46.43	\$9.10	\$17.57	\$0.00	\$73.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$43.58	\$9.35	\$17.82	\$0.00	\$70.75
	06/01/2023	\$44.58	\$9.35	\$17.82	\$0.00	\$71.75
	12/01/2023	\$45.83	\$9.35	\$17.82	\$0.00	\$73.00
	06/01/2024	\$47.31	\$9.35	\$17.82	\$0.00	\$74.48
	12/01/2024	\$48.78	\$9.35	\$17.82	\$0.00	\$75.95
	06/01/2025	\$50.28	\$9.35	\$17.82	\$0.00	\$77.45
	12/01/2025	\$51.78	\$9.35	\$17.82	\$0.00	\$78.95
	06/01/2026	\$53.33	\$9.35	\$17.82	\$0.00	\$80.50
	12/01/2026	\$54.83	\$9.35	\$17.82	\$0.00	\$82.00
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$35.08	\$14.25	\$16.05	\$0.00	\$65.38
	06/01/2023	\$35.90	\$14.25	\$16.05	\$0.00	\$66.20
	12/01/2023	\$36.72	\$14.25	\$16.05	\$0.00	\$67.02
	06/01/2024	\$37.57	\$14.25	\$16.05	\$0.00	\$67.87
	12/01/2024	\$38.52	\$14.25	\$16.05	\$0.00	\$68.82
	06/01/2025	\$39.37	\$14.25	\$16.05	\$0.00	\$69.67
	12/01/2025	\$40.32	\$14.25	\$16.05	\$0.00	\$70.62
	06/01/2026	\$41.18	\$14.25	\$16.05	\$0.00	\$71.48
	12/01/2026	\$42.13	\$14.25	\$16.05	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Rosenfeld (Walpole)</i>	01/01/2023	\$25.75	\$12.46	\$8.00	\$0.00	\$46.21
	05/01/2023	\$26.40	\$12.46	\$8.00	\$0.00	\$46.86
	01/01/2024	\$26.40	\$12.96	\$8.00	\$0.00	\$47.36
	05/01/2024	\$27.00	\$12.96	\$8.00	\$0.00	\$47.96
	01/01/2025	\$27.00	\$13.46	\$8.00	\$0.00	\$48.46
	05/01/2025	\$27.60	\$13.46	\$8.25	\$0.00	\$49.31
	01/01/2026	\$27.60	\$13.96	\$8.25	\$0.00	\$49.81
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2023	\$48.53	\$12.78	\$20.20	\$0.00	\$81.51
	08/01/2023	\$50.03	\$12.78	\$20.20	\$0.00	\$83.01
	02/01/2024	\$51.28	\$12.78	\$20.20	\$0.00	\$84.26
	08/01/2024	\$52.78	\$12.78	\$20.20	\$0.00	\$85.76
	02/01/2025	\$54.03	\$12.78	\$20.20	\$0.00	\$87.01
	08/01/2025	\$55.53	\$12.78	\$20.20	\$0.00	\$88.51
	02/01/2026	\$56.78	\$12.78	\$20.20	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.27	\$12.78	\$5.59	\$0.00	\$42.64
2	60	\$29.12	\$12.78	\$20.20	\$0.00	\$62.10
3	65	\$31.54	\$12.78	\$20.20	\$0.00	\$64.52
4	75	\$36.40	\$12.78	\$20.20	\$0.00	\$69.38
5	85	\$41.25	\$12.78	\$20.20	\$0.00	\$74.23

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$5.59	\$0.00	\$43.39
2	60	\$30.02	\$12.78	\$20.20	\$0.00	\$63.00
3	65	\$32.52	\$12.78	\$20.20	\$0.00	\$65.50
4	75	\$37.52	\$12.78	\$20.20	\$0.00	\$70.50
5	85	\$42.53	\$12.78	\$20.20	\$0.00	\$75.51

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2023	\$48.78	\$12.78	\$20.20	\$0.00	\$81.76
	08/01/2023	\$50.28	\$12.78	\$20.20	\$0.00	\$83.26
	02/01/2024	\$51.53	\$12.78	\$20.20	\$0.00	\$84.51
	08/01/2024	\$53.03	\$12.78	\$20.20	\$0.00	\$86.01
	02/01/2025	\$54.28	\$12.78	\$20.20	\$0.00	\$87.26
	08/01/2025	\$55.78	\$12.78	\$20.20	\$0.00	\$88.76
	02/01/2026	\$57.03	\$12.78	\$20.20	\$0.00	\$90.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER	02/01/2023	\$55.31	\$14.11	\$26.64	\$2.83	\$98.89
SHEETMETAL WORKERS LOCAL 17 - A	08/01/2023	\$57.01	\$14.11	\$26.64	\$2.83	\$100.59
	02/01/2024	\$58.71	\$14.11	\$26.64	\$2.83	\$102.29
	08/01/2024	\$60.46	\$14.11	\$26.64	\$2.83	\$104.04
	02/01/2025	\$62.21	\$14.11	\$26.64	\$2.83	\$105.79
	08/01/2025	\$64.06	\$14.11	\$26.64	\$2.83	\$107.64
	02/01/2026	\$66.01	\$14.11	\$26.64	\$2.83	\$109.59

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47
2	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47
3	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55
4	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55
5	52	\$28.76	\$14.11	\$12.88	\$1.65	\$57.40
6	52	\$28.76	\$14.11	\$13.13	\$1.65	\$57.65
7	60	\$33.19	\$14.11	\$14.54	\$1.83	\$63.67
8	65	\$35.95	\$14.11	\$15.52	\$1.94	\$67.52
9	75	\$41.48	\$14.11	\$17.48	\$2.16	\$75.23
10	85	\$47.01	\$14.11	\$18.94	\$2.36	\$82.42

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18
2	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18
3	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38
4	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38
5	52	\$29.65	\$14.11	\$12.88	\$1.70	\$58.34
6	52	\$29.65	\$14.11	\$13.13	\$1.70	\$58.59
7	60	\$34.21	\$14.11	\$14.54	\$1.89	\$64.75
8	65	\$37.06	\$14.11	\$15.52	\$2.00	\$68.69
9	75	\$42.76	\$14.11	\$17.48	\$2.23	\$76.58
10	85	\$48.46	\$14.11	\$18.94	\$2.45	\$83.96

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						

SPECIALIZED EARTH MOVING EQUIP > 35 TONS	12/01/2021	\$37.63	\$13.41	\$16.01	\$0.00	\$67.05
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2023	\$66.20	\$10.90	\$23.20	\$0.00	\$100.30
	10/01/2023	\$67.95	\$10.90	\$23.20	\$0.00	\$102.05
	03/01/2024	\$69.75	\$10.90	\$23.20	\$0.00	\$103.85
	10/01/2024	\$71.55	\$10.90	\$23.20	\$0.00	\$105.65
	03/01/2025	\$73.35	\$10.90	\$23.20	\$0.00	\$107.45

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.17	\$10.90	\$9.70	\$0.00	\$43.77
2	40	\$26.48	\$10.90	\$9.70	\$0.00	\$47.08
3	45	\$29.79	\$10.90	\$9.70	\$0.00	\$50.39
4	50	\$33.10	\$10.90	\$9.70	\$0.00	\$53.70
5	55	\$36.41	\$10.90	\$9.70	\$0.00	\$57.01
6	60	\$39.72	\$10.90	\$11.20	\$0.00	\$61.82
7	65	\$43.03	\$10.90	\$11.20	\$0.00	\$65.13
8	70	\$46.34	\$10.90	\$11.20	\$0.00	\$68.44
9	75	\$49.65	\$10.90	\$11.20	\$0.00	\$71.75
10	80	\$52.96	\$10.90	\$11.20	\$0.00	\$75.06

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.78	\$10.90	\$9.70	\$0.00	\$44.38
2	40	\$27.18	\$10.90	\$9.70	\$0.00	\$47.78
3	45	\$30.58	\$10.90	\$9.70	\$0.00	\$51.18
4	50	\$33.98	\$10.90	\$9.70	\$0.00	\$54.58
5	55	\$37.37	\$10.90	\$9.70	\$0.00	\$57.97
6	60	\$40.77	\$10.90	\$11.20	\$0.00	\$62.87
7	65	\$44.17	\$10.90	\$11.20	\$0.00	\$66.27
8	70	\$47.57	\$10.90	\$11.20	\$0.00	\$69.67
9	75	\$50.96	\$10.90	\$11.20	\$0.00	\$73.06
10	80	\$54.36	\$10.90	\$11.20	\$0.00	\$76.46

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.75	\$13.00	\$0.65	\$0.00	\$35.40
2	45	\$21.75	\$13.00	\$0.65	\$0.00	\$35.40
3	50	\$24.17	\$13.00	\$15.20	\$0.00	\$52.37
4	50	\$24.17	\$13.00	\$15.20	\$0.00	\$52.37
5	55	\$26.59	\$13.00	\$15.58	\$0.00	\$55.17
6	60	\$29.00	\$13.00	\$15.96	\$0.00	\$57.96
7	65	\$31.42	\$13.00	\$16.34	\$0.00	\$60.76
8	70	\$33.84	\$13.00	\$16.73	\$0.00	\$63.57
9	75	\$36.26	\$13.00	\$17.11	\$0.00	\$66.37
10	80	\$38.67	\$13.00	\$17.48	\$0.00	\$69.15

Notes:

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2023	\$59.29	\$11.49	\$22.34	\$0.00	\$93.12
	08/01/2023	\$61.34	\$11.49	\$22.34	\$0.00	\$95.17
	02/01/2024	\$62.59	\$11.49	\$22.34	\$0.00	\$96.42
	08/01/2024	\$64.69	\$11.49	\$22.34	\$0.00	\$98.52
	02/01/2025	\$65.99	\$11.49	\$22.34	\$0.00	\$99.82
	08/01/2025	\$68.14	\$11.49	\$22.34	\$0.00	\$101.97
	02/01/2026	\$69.49	\$11.49	\$22.34	\$0.00	\$103.32
	08/01/2026	\$71.69	\$11.49	\$22.34	\$0.00	\$105.52
	02/01/2027	\$73.09	\$11.49	\$22.34	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.65	\$11.49	\$22.34	\$0.00	\$63.48
2	60	\$35.57	\$11.49	\$22.34	\$0.00	\$69.40
3	70	\$41.50	\$11.49	\$22.34	\$0.00	\$75.33
4	80	\$47.43	\$11.49	\$22.34	\$0.00	\$81.26
5	90	\$53.36	\$11.49	\$22.34	\$0.00	\$87.19

Effective Date - 08/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$22.34	\$0.00	\$64.50
2	60	\$36.80	\$11.49	\$22.34	\$0.00	\$70.63
3	70	\$42.94	\$11.49	\$22.34	\$0.00	\$76.77
4	80	\$49.07	\$11.49	\$22.34	\$0.00	\$82.90
5	90	\$55.21	\$11.49	\$22.34	\$0.00	\$89.04

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER LABORERS - FOUNDATION AND MARINE	12/01/2022	\$46.58	\$9.35	\$17.97	\$0.00	\$73.90
	06/01/2023	\$47.58	\$9.35	\$17.97	\$0.00	\$74.90
	12/01/2023	\$48.83	\$9.35	\$17.97	\$0.00	\$76.15
	06/01/2024	\$50.31	\$9.35	\$17.97	\$0.00	\$77.63
	12/01/2024	\$51.78	\$9.35	\$17.97	\$0.00	\$79.10
	06/01/2025	\$53.28	\$9.35	\$17.97	\$0.00	\$80.60
	12/01/2025	\$54.78	\$9.35	\$17.97	\$0.00	\$82.10
	06/01/2026	\$56.33	\$9.35	\$17.97	\$0.00	\$83.65
	12/01/2026	\$57.83	\$9.35	\$17.97	\$0.00	\$85.15

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2022	\$42.70	\$9.35	\$17.97	\$0.00	\$70.02
	06/01/2023	\$43.70	\$9.35	\$17.97	\$0.00	\$71.02
	12/01/2023	\$44.95	\$9.35	\$17.97	\$0.00	\$72.27
	06/01/2024	\$46.43	\$9.35	\$17.97	\$0.00	\$73.75
	12/01/2024	\$47.90	\$9.35	\$17.97	\$0.00	\$75.22
	06/01/2025	\$49.40	\$9.35	\$17.97	\$0.00	\$76.72
	12/01/2025	\$50.90	\$9.35	\$17.97	\$0.00	\$78.22
	06/01/2026	\$52.45	\$9.35	\$17.97	\$0.00	\$79.77
	12/01/2026	\$53.95	\$9.35	\$17.97	\$0.00	\$81.27
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2022	\$42.58	\$9.35	\$17.97	\$0.00	\$69.90
	06/01/2023	\$43.58	\$9.35	\$17.97	\$0.00	\$70.90
	12/01/2023	\$44.83	\$9.35	\$17.97	\$0.00	\$72.15
	06/01/2024	\$46.31	\$9.35	\$17.97	\$0.00	\$73.63
	12/01/2024	\$47.78	\$9.35	\$17.97	\$0.00	\$75.10
	06/01/2025	\$49.28	\$9.35	\$17.97	\$0.00	\$76.60
	12/01/2025	\$50.78	\$9.35	\$17.97	\$0.00	\$78.10
	06/01/2026	\$52.33	\$9.35	\$17.97	\$0.00	\$79.65
	12/01/2026	\$53.83	\$9.35	\$17.97	\$0.00	\$81.15
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.05	\$14.25	\$16.05	\$0.00	\$83.35
	06/01/2023	\$54.29	\$14.25	\$16.05	\$0.00	\$84.59
	12/01/2023	\$55.53	\$14.25	\$16.05	\$0.00	\$85.83
	06/01/2024	\$56.81	\$14.25	\$16.05	\$0.00	\$87.11
	12/01/2024	\$58.25	\$14.25	\$16.05	\$0.00	\$88.55
	06/01/2025	\$59.53	\$14.25	\$16.05	\$0.00	\$89.83
	12/01/2025	\$60.97	\$14.25	\$16.05	\$0.00	\$91.27
	06/01/2026	\$62.25	\$14.25	\$16.05	\$0.00	\$92.55
	12/01/2026	\$63.69	\$14.25	\$16.05	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.92	\$13.41	\$16.01	\$0.00	\$67.34
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2022	\$54.81	\$9.35	\$18.42	\$0.00	\$82.58
	06/01/2023	\$55.81	\$9.35	\$18.42	\$0.00	\$83.58
	12/01/2023	\$57.06	\$9.35	\$18.42	\$0.00	\$84.83
	06/01/2024	\$58.54	\$9.35	\$18.42	\$0.00	\$86.31
	12/01/2024	\$60.01	\$9.35	\$18.42	\$0.00	\$87.78
	06/01/2025	\$61.51	\$9.35	\$18.42	\$0.00	\$89.28
	12/01/2025	\$63.01	\$9.35	\$18.42	\$0.00	\$90.78
	06/01/2026	\$64.56	\$9.35	\$18.42	\$0.00	\$92.33
	12/01/2026	\$66.06	\$9.35	\$18.42	\$0.00	\$93.83
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2022	\$56.81	\$9.35	\$18.42	\$0.00	\$84.58
	06/01/2023	\$57.81	\$9.35	\$18.42	\$0.00	\$85.58
	12/01/2023	\$59.06	\$9.35	\$18.42	\$0.00	\$86.83
	06/01/2024	\$60.54	\$9.35	\$18.42	\$0.00	\$88.31
	12/01/2024	\$62.01	\$9.35	\$18.42	\$0.00	\$89.78
	06/01/2025	\$63.51	\$9.35	\$18.42	\$0.00	\$91.28
	12/01/2025	\$65.01	\$9.35	\$18.42	\$0.00	\$92.78
	06/01/2026	\$66.56	\$9.35	\$18.42	\$0.00	\$94.33
	12/01/2026	\$68.06	\$9.35	\$18.42	\$0.00	\$95.83
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2022	\$46.88	\$9.35	\$18.42	\$0.00	\$74.65
	06/01/2023	\$47.88	\$9.35	\$18.42	\$0.00	\$75.65
	12/01/2023	\$49.13	\$9.35	\$18.42	\$0.00	\$76.90
	06/01/2024	\$50.61	\$9.35	\$18.42	\$0.00	\$78.38
	12/01/2024	\$52.08	\$9.35	\$18.42	\$0.00	\$79.85
	06/01/2025	\$53.58	\$9.35	\$18.42	\$0.00	\$81.35
	12/01/2025	\$55.08	\$9.35	\$18.42	\$0.00	\$82.85
	06/01/2026	\$56.63	\$9.35	\$18.42	\$0.00	\$84.40
	12/01/2026	\$58.13	\$9.35	\$18.42	\$0.00	\$85.90
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2022	\$48.88	\$9.35	\$18.42	\$0.00	\$76.65
	06/01/2023	\$49.88	\$9.35	\$18.42	\$0.00	\$77.65
	12/01/2023	\$51.13	\$9.35	\$18.42	\$0.00	\$78.90
	06/01/2024	\$52.61	\$9.35	\$18.42	\$0.00	\$80.38
	12/01/2024	\$54.08	\$9.35	\$18.42	\$0.00	\$81.85
	06/01/2025	\$55.58	\$9.35	\$18.42	\$0.00	\$83.35
	12/01/2025	\$57.08	\$9.35	\$18.42	\$0.00	\$84.85
	06/01/2026	\$58.63	\$9.35	\$18.42	\$0.00	\$86.40
	12/01/2026	\$60.13	\$9.35	\$18.42	\$0.00	\$87.90
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2022	\$43.43	\$9.10	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.43	\$9.10	\$17.57	\$0.00	\$71.10
	12/01/2023	\$45.68	\$9.10	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2022	\$42.83	\$9.35	\$17.82	\$0.00	\$70.00
	06/01/2023	\$43.83	\$9.35	\$17.82	\$0.00	\$71.00
	12/01/2023	\$45.08	\$9.35	\$17.82	\$0.00	\$72.25
	06/01/2024	\$46.56	\$9.35	\$17.82	\$0.00	\$73.73
	12/01/2024	\$48.03	\$9.35	\$17.82	\$0.00	\$75.20
	06/01/2025	\$49.53	\$9.35	\$17.82	\$0.00	\$76.70
	12/01/2025	\$51.03	\$9.35	\$17.82	\$0.00	\$78.20
	06/01/2026	\$52.58	\$9.35	\$17.82	\$0.00	\$79.75
	12/01/2026	\$54.08	\$9.35	\$17.82	\$0.00	\$81.25
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2022	\$53.63	\$14.25	\$16.05	\$0.00	\$83.93
	06/01/2023	\$54.88	\$14.25	\$16.05	\$0.00	\$85.18
	12/01/2023	\$56.13	\$14.25	\$16.05	\$0.00	\$86.43
	06/01/2024	\$57.43	\$14.25	\$16.05	\$0.00	\$87.73
	12/01/2024	\$58.88	\$14.25	\$16.05	\$0.00	\$89.18
	06/01/2025	\$60.18	\$14.25	\$16.05	\$0.00	\$90.48
	12/01/2025	\$61.63	\$14.25	\$16.05	\$0.00	\$91.93
	06/01/2026	\$62.93	\$14.25	\$16.05	\$0.00	\$93.23
	12/01/2026	\$64.38	\$14.25	\$16.05	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	02/26/2023	\$65.19	\$14.07	\$18.36	\$0.00	\$97.62
	09/03/2023	\$66.94	\$14.07	\$18.36	\$0.00	\$99.37
	03/03/2024	\$68.74	\$14.07	\$18.36	\$0.00	\$101.17
	09/01/2024	\$70.54	\$14.07	\$18.36	\$0.00	\$102.97
	03/02/2025	\$72.34	\$14.07	\$18.36	\$0.00	\$104.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.