

SECTION 000007 – ADDENDUM NUMBER 8

DATE: JANUARY 30, 2026

TO: ALL BIDDERS

**FROM: PERKINS & WILL
225 FRANKLIN STREET, SUITE 700
BOSTON, MA 02110**

RE: WORCESTER SOUTH DIVISION FIRE STATION, WORCESTER, MA

THIS ADDENDUM FORMS A PART OF THE CONTRACT AND MODIFIES THE ORIGINAL DOCUMENTS DATED DECEMBER 2025.

PART 1 - GENERAL

- 1.1** This addendum must be returned with plans and specifications (if not already returned) to have your deposit returned.
- 1.2** This addendum modifies, amends, and supplements the Contract Documents for the above referenced project. This addendum is hereby made a part of the Contract Documents by reference and shall be as binding as though inserted in locations designated hereunder.
- 1.3** Each general bidder shall be responsible for notifying all his non-filed sub-bidders and suppliers of the content of this addendum. No claim for additional compensation will be considered because of lack of knowledge of changes or modifications contained in this addenda.
- 1.4** Questions or requests for clarification shall be in writing, addressed to Jeremy C. Flansburg, Assistant Purchasing Director at **PURCHASING DEPARTMENT**, and be sent flansburgjc@worcesterma.gov. Please include your name, phone number, and e-mail.
- 1.5** Part 2 of this addendum indicates revisions to the Project Manual.
- 1.6** Part 3 of this addendum indicates revisions to the Drawings.
- 1.7** Part 4 of this addendum indicates clarification to Contractors Questions.

PART 2 - SPECIFICATION

- 2.1 SECTION 04 20 00 – UNIT MASONRY**
In paragraph 2.12.D.3 **DELETE** item “a. Prefaced CMUs”.
- 2.2 SECTION 04 43 13.13 – ANCHORED STONE MASONRY VENEER**
DELETE section in its entirety and **REPLACE** with the updated version
- 2.3 SECTION 08 71 00 – DOOR HARDWARE**
DELETE section in its entirety and **REPLACE** with the updated version
- 2.4 SECTION 09 77 13 – STRETCHED-FABRIC WALL SYSTEMS**
In the title section **DELETE** “(PART OF TRADE-BID SECTION 09 00 02- ACOUSTICAL TILE)” in its entirety.
- 2.5 SECTION 22 33 00 – ELECTRICAL DOMESTIC WATER HEATERS**
INSERT at the end of Paragraph 3.5.A – “Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.6 SECTION 23 12 13 - FACILITY FUEL OIL PUMPS**
INSERT at the end of Paragraph 3.10.A – “Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.7 SECTION 23 21 23 – HYDRONIC PUMPS**
INSERT at the end of Paragraph 3.8.A – “Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.8 SECTION 23 25 00 – HVAC WATER TREATMENT**
INSERT at the end of Paragraph 3.4.B – “ Include two (2) – 2-hour training sessions for the Owner’s maintenance personnel.”
- 2.9 SECTION 23 29 23 – VARIABLE FREQUENCY MOTOR CONTROLLERS**
INSERT at the end of Paragraph 3.9.A – “Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.10 SECTION 23 34 00 – HVAC FANS**
INSERT at the end of Paragraph 3.10.A – “Include two (2) – 2-hour training sessions for the Owner’s maintenance personnel.”
- 2.11 SECTION 23 36 00 – AIR TERMINAL UNITS**
INSERT at the end of Paragraph 3.9.A – “Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.12 SECTION 23 72 23.29 – PACKAGED, OUTDOOR, FIXED PLATE ENERGY RECOVERY UNITS**
INSERT at the end of Paragraph 3.10.A – “ Include two (2) – 4-hour training sessions for the Owner’s maintenance personnel.”
- 2.13 SECTION 23 74 33 - DEDICATED OUTDOOR-AIR UNITS**
INSERT at the end of Paragraph 3.10.A - “Include two (2) – 4-hour training sessions for the Owner’s maintenance personnel.”
- 2.14 SECTION 23 81 26 – SPLIT SYSTEM AIR CONDITIONERS**
INSERT at the end of Paragraph 2.6.A – “Include two (2) – 2-hour training sessions for the Owner’s maintenance personnel.”

- 2.15 SECTION 23 81 29 – VARIABLE REFRIGERANT FLOW HVAC SYSTEMS**
INSERT at the end of Paragraph 3.24.A – “Provide a minimum of three (3) separate sessions of three (3) hours per session of on-site training”
- 2.16 SECTION 23 81 46.15 – AIR TO WATER HEAT PUMPS**
INSERT at the end of Paragraph 3.8.A – “Provide a minimum of three (3) separate sessions of three (3) hours per session of on-site training.”
- 2.17 SECTION 26 00 01 – ELECTRICAL WORK**
DELETE section in its entirety and REPLACE with the updated version
- 2.18 SECTION 26 09 43 – NETWORK LIGHTING CONTROLS**
INSERT at the end of Paragraph 3.11.A – “Include two (2) – 4-hour training sessions for the Owner’s maintenance personnel.”
- 2.19 SECTION 26 31 20 – PHOTOVOLTAIC SYSTEM**
INSERT at the end of Paragraph 3.5.A - Include two (2) – 4-hour training sessions for the Owner’s maintenance personnel.
- 2.20 SECTION 26 32 13 – DIESEL EMERGENCY ENGINE GENERATORS**
INSERT at the end of Paragraph 3.6.A - Include two (2) – 2-hour training sessions for the Owner’s maintenance personnel.
- 2.21 SECTION 27 53 13 – SYNCHRONIZED CLOCK SYSTEM**
INSERT a new paragraph after Paragraph 3.5 - “3.6. TRAINING. A. Include a 2-hour training session for the Owner’s maintenance personnel.”
- 2.22 SECTION 28 13 00 – ACCESS CONTROL SYSTEMS**
INSERT at the end of Paragraph 3.7.A -“Provide no less than 16 hours of training to the Owner at the Owner’s discretion on proper functioning and operation of all system components.”
- 2.23 SECTION 28 15 23 – SECURITY INTERCOM AND EMERGENCY CALL SYSTEMS**
INSERT at the end of Paragraph 3.5.B.3 – “Include two (2) – 2-hour training sessions for the Owner’s maintenance personnel.”
- 2.24 SECTION 28 20 00 – VIDEO SURVEILLANCE SYSTEMS**
INSERT at the end of Paragraph 3.9.A – “Provide no less than 16 hours of training to the Owner at the Owner’s discretion on proper functioning and operation of all system components.”

PART 3 - DRAWINGS

- 3.1 DELETE** Drawing A11-03 and **INSERT** revised drawing
- 3.2 DELETE** Drawing A20-01 and **INSERT** revised drawing
- 3.3 DELETE** Drawing A34-01 and **INSERT** revised drawing
- 3.4 DELETE** Drawing A41-03 and **INSERT** revised drawing
- 3.5 DELETE** Drawing A41-50 and **INSERT** revised drawing
- 3.6 DELETE** Drawing A62-01 and **INSERT** revised drawing
- 3.7 DELETE** Drawing T-020 and **INSERT** revised drawing

PART 4 - CONTRACTOR QUESTIONS - NONE

List of Attachments

1. Section 04 43 13.13
2. Section 08 71 00

3. Section 26 00 01
4. Drawing A11-03
5. Drawing A20-01
6. Drawing A34-01
7. Drawing A41-03
8. Drawing A41-50
9. Drawing A62-01
10. Drawing T-020

END OF ADDENDUM NUMBER 8

SECTION 04 43 13.13

ANCHORED STONE MASONRY VENEER

(PART OF TRADE BID SECTION 04 00 00 MASONRY WORK)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Stone masonry anchored to concrete backup.
 2. Stone masonry anchored to unit masonry backup.
 3. Stone masonry anchored to cold-formed metal framing and sheathing.

1.2 PREINSTALLATION MEETINGS

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

1.3 ACTION SUBMITTALS

- A. Product Data: For each variety of stone, stone accessory, and manufactured product.
- B. Samples for Verification:
1. For each stone type indicated. Include at least ~~two~~ ~~three~~ ~~four~~ five Samples in each set and show the full range of color and other visual characteristics in completed Work.
 2. For each color of mortar required.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, supply sources, and other information as required to identify materials used. Include mix proportions for mortar and source of aggregates.
1. Neither receipt of list nor approval of mockups constitutes approval of deviations from the Contract Documents contained in mockups unless Architect approves such deviations in writing.
- C. Material Test Reports:
1. Stone Test Reports: For ~~each~~ stone variety proposed for use on Project, by a qualified testing agency, indicating compliance with required physical properties, other than abrasion resistance, according to referenced ASTM standards. Base reports on testing done within previous three ~~five~~ years.

2. Sealant Compatibility and Adhesion Test Report: From sealant manufacturer indicating that sealants will not stain or damage stone. Include interpretation of test results and recommendations for primers and substrate preparation needed for adhesion.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs experienced stonemasons and stone fitters.
- B. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
 1. Build mockup of typical wall area as shown on Drawings.
 2. Protect accepted mockups from the elements with weather-resistant membrane.
 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Sealant Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for staining, compatibility and adhesion testing according to sealant manufacturer's standard testing methods and Section 079200 "Joint Sealants," Samples of materials that will contact or affect joint sealants.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- C. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, in a dry location, or in covered weatherproof dispensing silos.
- D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
- B. Stain Prevention: Immediately remove mortar and soil to prevent them from staining stone masonry face.
 1. Protect base of walls from rain-splashed mud and mortar splatter using coverings spread on the ground and over the wall surface.
 2. Protect sills, ledges, and projections from mortar droppings.
 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 4. Turn scaffold boards near the wall on edge at end of each day to prevent rain from splashing mortar and dirt on completed stone masonry.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace stone masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1.9 COORDINATION

- A. Advise installers of adjacent Work about specific requirements for placement of reinforcement, veneer anchors, flashing, and similar items to be built into stone masonry.
- B. Coordinate locations of dovetail slots installed in concrete that are to receive stone anchors.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Stone: Obtain each variety of stone, from single quarry, whether specified in this Section or in another Section of the Specifications, with resources to provide materials of consistent quality in appearance and physical properties.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of uniform quality for each cementitious component from single manufacturer and each aggregate from single source or producer.

2.2 GRANITE

- A. Material Standard: Comply with ASTM C615/C615M.

- B. Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.
 - 1. Cambria Black, Flamed finish

2.3 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II, except Type III may be used for cold-weather construction; natural color or white cement may be used as required to produce mortar color indicated.
 - 1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in stone masonry mortar.
 - 1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Davis Colors.
 - b. Lanxess Corporation.
 - c. Solomon Colors Inc.
- D. Aggregate: ASTM C144 and as follows:
 - 1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 (1.18-mm) sieve.
 - 2. White Aggregates: Natural white sand or ground white stone.
 - 3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.
 - a. Match Architect's sample.
- E. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
 - 1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Euclid Chemical Company (The); a subsidiary of RPM International, Inc.
 - b. GCP Applied Technologies Inc.
 - c. Sonneborn Products.
- F. Water: Potable.

2.4 STONE ANCHORS

- A. Stone Anchors: Units fabricated with tabs or dowels designed to engage kerfs or holes in stone trim units and holes for fasteners or postinstalled anchor bolts for fastening to substrates or framing as indicated.
 - 1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Canaren Inc.
 - b. Heckmann Building Products, Inc.
 - c. Hohmann & Barnard, Inc.
 - d. Meadow Burke.
- B. Materials: Fabricate anchors from stainless steel, ASTM A240/A240M or ASTM A666, Type 304. Fabricate dowels from stainless steel, ASTM A276, Type 304.
- C. Fasteners for Stone Trim Anchors: Annealed stainless steel bolts, nuts, and washers; ASTM F593 (ASTM F738M) for bolts and ASTM F594 (ASTM F836M) for nuts, Alloy Group 1 (A1).

2.5 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing[, where flashing is exposed or partly exposed and where indicated,] complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:
 - 1. Stainless Steel: ASTM A240/A240M, Type 304, 0.016 inch (0.4 mm) thick.
 - 2. Fabricate continuous flashings in sections 96 inches (2400 mm) long minimum, but not exceeding 12 feet (3.6 m). Provide splice plates at joints of formed, smooth metal flashing.
 - 3. Fabricate through-wall flashing with drip edge [where] [unless otherwise] indicated. Fabricate by extending flashing 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees[and hemmed].
 - 4. Metal Drip Edges: Fabricate from stainless steel. Extend at least 3 inches (75 mm) into wall and 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees[and hemmed].
- B. Flexible Flashing: For flashing unexposed to the exterior, use[one of] the following unless otherwise indicated:
 - 1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive, rubberized-asphalt compound, bonded to a high-density, cross-laminated, polyethylene film to produce an overall thickness of not less than [0.030 inch (0.76 mm)] [0.040 inch (1.0 mm)].
 - a. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - 1) Advanced Building Products Inc.
 - 2) Carlisle Coatings & Waterproofing Inc.
 - 3) Fiberweb, a brand of Clark/Hammerbeam Corp.

- 4) GCP Applied Technologies Inc.
 - 5) Heckmann Building Products, Inc.
 - 6) Hohmann & Barnard, Inc.
 - 7) Polyguard Products, Inc.
 - 8) Williams Products, Inc.
 - 9) Wire-Bond.
- C. Application: Unless otherwise indicated, use the following:
1. Where flashing is fully concealed, use [metal flashing] [or] [flexible flashing].
- D. Solder and Sealants for Sheet Metal Flashings:
1. Solder for Stainless Steel: ASTM B32, Grade Sn60, with acid flux of type recommended by stainless steel sheet manufacturer.
 2. Elastomeric Sealant: ASTM C920, chemically curing [urethane] [polysulfide] [silicone] sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Adhesives, Primers, and Seam Tapes for Flexible Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.
- B. Weep/Vent Products: Use[one of] the following unless otherwise indicated:
1. Mesh Weep Holes/Vents: Free-draining mesh; made from polyethylene strands, full width of head joint and 2 inches (50 mm) high by thickness of stone masonry; in color selected from manufacturer's standard.
 - a. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - 1) CavClear; a division of Archovations, Inc.
 - 2) Mortar Net Solutions.
- C. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Advanced Building Products Inc.
 - b. CavClear; a division of Archovations, Inc.
 - c. Mortar Net Solutions.
 2. Provide one of the following configurations:

- a. Strips, full depth of cavity and 10 inches (250 mm) wide, with dovetail-shaped notches 7 inches (175 mm) deep that prevent mesh from being clogged with mortar droppings.
- b. Strips, not less than [3/4 inch (19 mm)] [1-1/2 inches (38 mm)] thick and 10 inches (250 mm) wide, with dimpled surface designed to catch mortar droppings and prevent weep holes from being clogged with mortar.
- c. Sheets or strips full depth of cavity and installed to full height of cavity.
- d. Sheets or strips not less than [3/4 inch (19 mm)] [1 inch (25 mm)] thick and installed to full height of cavity with additional strips 4 inches (100 mm) high at weep holes and thick enough to fill entire depth of cavity and prevent weep holes from being clogged with mortar.

2.7 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.
 1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
 - b. EaCo Chem, Inc.
 - c. Hydroclean; Hydrochemical Techniques, Inc.
 - d. PROSOCO, Inc.

2.8 FABRICATION

- A. General: Fabricate stone units in sizes and shapes required to comply with requirements indicated.
 1. For granite, comply with recommendations in NBGQA's "Specifications for Architectural Granite."
 2. For limestone, comply with recommendations in ILI's "Indiana Limestone Handbook."
- B. Select stone to produce pieces of thickness, size, and shape indicated, including details on Drawings and pattern specified in "Setting Stone Masonry" Article.
- C. Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated. Shape beds to fit supports.
- D. Cut and drill sinkages and holes in stone for anchors and supports.
- E. Carefully inspect stone at quarry or fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units before shipment.
 1. Clean sawed backs of stone to remove rust stains and iron particles.

- F. Thickness of Stone: Provide thickness indicated, but not less than the following:
 - 1. Thickness: As indicated.
- G. Finish exposed stone faces and edges to comply with requirements indicated for finish and to match approved samples and mockups.
 - 1. Finish: Thermal finish.

2.9 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
 - 1. Do not use calcium chloride.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
 - 3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
 - 4. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches required consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Stone Masonry: Comply with ASTM C270, [Proportion] [Property] Specification.
 - 1. Mortar for Setting Stone: Type N.
 - 2. Mortar for Pointing Stone: Type N.
- D. Pigmented Mortar: Use colored cement product[or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products].
 - 1. Pigments do not exceed 10 percent of portland cement by weight.
 - 2. Pigments do not exceed 5 percent of [masonry cement] [or] [mortar cement] by weight.
 - 3. Mix to match Architect's sample.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces indicated to receive stone masonry, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of stone masonry.

- B. Examine substrate to verify that dovetail slots, inserts, reinforcement, veneer anchors, flashing, and other items installed in substrates and required for or extending into stone masonry are correctly installed.
- C. Examine wall framing, sheathing, and weather-resistant sheathing paper to verify that stud locations are suitable for spacing of veneer anchors and that installation will result in a weatherproof covering.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Accurately mark stud centerlines on face of weather-resistant sheathing paper before beginning stone installation.
- B. Coat concrete and unit masonry backup with asphalt dampproofing.
- C. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

3.3 INSTALLATION OF STONE MASONRY

- A. Perform necessary field cutting and trimming as stone is set.
 - 1. Use power saws to cut stone that is fabricated with saw-cut surfaces. Cut lines straight and true, with edges eased slightly to prevent snipping.
- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.
- C. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
- D. Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place.
- E. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
- F. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 1/4 inch (6 mm) at narrowest points or more than 1/2 inch (13 mm) at widest points.
- G. Provide sealant joints of widths and at locations indicated.
 - 1. Keep sealant joints free of mortar and other rigid materials.
 - 2. Sealant joints are specified in Section 079200 "Joint Sealants."

- H. Install metal expansion strips in sealant joints at locations indicated. Build flanges of expansion strips into masonry by embedding in mortar between stone masonry and backup wythe. Lap each joint 4 inches (100 mm) in direction of water flow. Seal joints below grade and at junctures with horizontal expansion joints if any.
- I. Install embedded flashing and weep holes at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
 - 1. At multiwythe masonry walls, including cavity walls, extend flashing through stone masonry, turned up a minimum of [4 inches (100 mm)] [8 inches (200 mm)] [12 inches (300 mm)] [16 inches (400 mm)], and extend into or through inner wythe to comply with requirements in Section 042000 "Unit Masonry."
 - 2. At concrete backing, extend flashing through stone masonry, turned up a minimum of 8 inches (200 mm), and insert in reglet.
 - 3. Install metal drip edges beneath flexible flashing at exterior wall face. Stop flexible flashing 1/2 inch (13 mm) back from exterior wall face and adhere flexible flashing to top of metal drip edge.
- J. Place weep holes and vents in joints where moisture may accumulate, including at base of cavity walls, above shelf angles, and at flashing.
 - 1. Use mesh weep holes/vents] [aluminum weep holes/vents] [vinyl weep holes/vents to form weep holes.
 - 2. Space weep holes 24 inches (600 mm) o.c.
 - 3. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

3.4 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (10 mm in 6 m), or 1/2 inch in 40 feet (13 mm in 12 m) or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m) or 1/2 inch in 40 feet (13 mm in 12 m) or more.
- B. Variation from Level: For [bed joints and] lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m) or 1/2 inch in 40 feet (13 mm in 12 m) or more.
- C. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet (13 mm in 6 m) or 3/4 inch in 40 feet (19 mm in 12 m) or more.
- D. Measure variation from level, plumb, and position shown in plan as a variation of the average plane of each stone face from level, plumb, or dimensioned plane.
- E. Variation in Mortar-Joint Thickness: Do not vary from joint size range indicated.
- F. Variation in Plane between Adjacent Stones: Do not exceed one-half of tolerance specified for thickness of stone.

3.5 INSTALLATION OF ANCHORED STONE MASONRY

- A. Anchor stone with stone anchors where indicated. Install anchors by fastening to substrate and inserting tabs and dowels into kerfs and holes in stone units. Provide compressible filler in ends of dowel holes and bottoms of kerfs to prevent end bearing of dowels and anchor tabs on stone. Fill remainder of anchor holes and kerfs with mortar.
- B. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.
- C. Provide 2-inch (50-mm) cavity between stone masonry and backup construction unless otherwise indicated. Keep cavity free of mortar droppings and debris.
 - 1. Slope beds toward cavity to minimize mortar protrusions into cavity.
 - 2. Do not attempt to trowel or remove mortar fins protruding into cavity.

3.6 ADJUSTING AND CLEANING

- A. Remove and replace stone masonry of the following description:
 - 1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
 - 2. Defective joints.
 - 3. Stone masonry not matching approved samples and mockups.
 - 4. Stone masonry not complying with other requirements indicated.
- B. Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.
 - 5. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20, Revised II, using job-mixed detergent solution.
 - 6. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

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Worcester, MA
Construction Documents
Addendum 8

Perkins&Will
157132.000
~~19 December 2025~~
30 January 2026

3.7 EXCESS MATERIALS AND WASTE

- A. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other waste, and legally dispose of off Owner's property.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

PART 1- GENERAL

1.1 SUMMARY

- A. Section Includes: Door hardware for wood doors, steel doors, aluminum framed entrance doors, all glass entrance doors, and miscellaneous hardware items.
- B. Provide hardware not described herein but otherwise required for proper completion of the project, conforming to size, function, quality, and finish of other specified hardware.

1.2 RELATED SECTIONS

- A. Division 6: Rough Carpentry.
- B. Division 8: Aluminum Doors and Frames
- C. Division 8: Hollow Metal Doors and Frames.
- D. Division 8: Wood Doors.
- E. Division 26 Electrical
- F. Division 28: Electronic Security

1.3 REFERENCED STANDARDS

- A. American National Standards Institute (ANSI):
 - 1. ANSI A117.1 Accessible and Usable Buildings and Facilities.
- B. Builders Hardware Manufacturers Association (BHMA):
 - 1. ANSI/BHMA A156.1 Butts and Hinges.
 - 2. ANSI/BHMA A156.2 Bored and Preassembled Locks and Latches.
 - 3. ANSI/BHMA A156.3 Exit Devices.
 - 4. ANSI/BHMA A156.4 Door Controls - Closers.
 - 5. ANSI/BHMA A156.5 Auxiliary Locks and Associated Products.
 - 6. ANSI/BHMA A156.6 Architectural Door Trim.
 - 7. ANSI/BHMA A156.7 Template Hinge Dimensions.
 - 8. ANSI/BHMA A156.8 Door Controls - Overhead Stops and Holders.
 - 9. ANSI/BHMA A156.10 Power Operated Pedestrian Doors.
 - 10. ANSI/BHMA A156.13 Mortise Locks and Latches.
 - 11. ANSI/BHMA A156.14 Sliding and Folding Door Hardware.
 - 12. ANSI/BHMA A156.15 Release Devices: Closer Holders, Electromagnetic and Electromechanical.

13. ANSI/BHMA A156.16 Auxiliary Hardware.
 14. ANSI/BHMA A156.17 Self-Closing Hinges and Pivots.
 15. ANSI/BHMA A156.18 Materials & Finishes.
 16. ANSI/BHMA A156.19 Power Assist & Low Energy Power Operated Doors.
 17. ANSI/BHMA A156.21 Thresholds.
 18. ANSI/BHMA A156.22 Door Gasketing and Edge Seal Systems.
 19. ANSI/BHMA A156.23 Electromagnetic Locks.
 20. ANSI/BHMA A156.24 Delayed Egress Locks.
 21. ANSI/BHMA A156.25 Electrified Locking Devices.
 22. ANSI/BHMA A156.26 Continuous Hinges.
 23. ANSI/BHMA A156.28 Recommended Practices for Mechanical Keying Systems.
 24. ANSI/BHMA A156.29 Exit Locks, Exit Locks with Exit Alarms, Exit Alarms, Alarms for Exit.
 25. ANSI/BHMA A156.30 High Security Cylinders.
 26. ANSI/BHMA A156.31 Electrified Strikes and Frame Mounted Activators.
 27. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors with Steel Frames.
 28. ANSI/BHMA A156.115W Hardware Preparation in Wood Doors with Wood or Steel Frames.
- C. Door and Hardware Institute (DHI):
1. ANSI/DHI A115.IG Installation Guide for Doors and Hardware
 2. DHI Keying Systems and Nomenclature
 3. DHI Sequence and Format for the Hardware Schedule
- D. International Building Code (IBC)
- E. National Fire Protection Association (NFPA):
1. NFPA 80 Fire Doors and Fire Windows
 2. NFPA 252 Fire Tests of Door Assemblies
- F. Underwriters Laboratories Inc. (UL):
1. UL 10C Positive Pressure Fire Tests Of Door Assemblies
 2. UL 305 Panic Hardware
 3. UL 437 Drill and Pick Resistant Key Cylinders
 4. UL 1034 Burglary-Resistant Electric Locking Mechanisms

1.4 SUBMITTALS

- A. Products other than those designated herein must be approved as substitutions prior to submittal of Door Hardware.
- B. Door Hardware Schedule: Vertical format conforming to DHI "Sequence and Format for the Hardware Schedule." Horizontal format schedules will be rejected without review. Format shall be 8-1/2 by 11 inch page size. Organize Schedule into headings, grouping doors to receive same hardware items, indicating quantity and complete designations of every item required for each door opening.
- C. Schedule shall be submitted in searchable digital file format.

- D. The schedule shall include:
1. Cover sheet indicating name and location of Project; name of Architect; name of Contractor; name, address and phone of hardware supplier, name of hardware consultant preparing the schedule; date of submittal or revised submittal.
 2. A list of abbreviations used in schedule.
 3. An index of door openings, listed in numerical order, with hardware heading identification cross-referenced to Architect's set identification.
 4. Hardware headings shall be listed in numerical order corresponding, as closely as possible, with numerical order of Architect's set numbers.
 5. Each hardware heading shall have each door listed in numerical order according to door numbers in the Architect's door schedule, and denoting: location, configuration (single, pair, etc.), type (elevation, etc.), door and frame size(s), door and frame material(s), handing, fire rating, and key set identification.
 6. Type, complete model number, style, function, size, hand, and finish of each door hardware item.
 7. Manufacturer of each item.
 8. Fastenings and other pertinent information.
- E. Manufacturer's Technical Product Data / Catalog Cut Sheets: Clearly marked for each hardware item, including installation details, material descriptions, dimensions of individual components and profiles, and finishes. Format shall be 8-1/2 by 11 inch page size.
- F. Wiring Diagrams: No later than 14 days after receipt of reviewed hardware schedule submittal, submit detailed wiring diagrams for power, signaling, monitoring, and control of the access control system electrified hardware or other system electrified components such as sensors, switches, or indicator/strobe lights; identified by door number(s), and detailed specifically for each type and function of electrified door opening. Format shall be 8-1/2 by 11 inch page size. Include the following:
1. System Description of Operation. Include description of component functions including, but not limited to, the following situations: normal secured/unsecured state of door; authorized access; authorized egress; unauthorized access; unauthorized egress; fire alarm and loss of power conditions, and interfaces with other building control systems.
 2. Elevation single-line diagram, showing interface between electrified door hardware and fire alarm, power, access control, and security systems as applicable.
 3. Point-to-point wiring diagram for field-installed wiring.
- G. Keying Schedule: In accordance with Owner's final keying instructions for locks. Conform to DHI "Keying Systems and Nomenclature." Format shall be 8-1/2 by 11 inch page size.
- H. Operation and Maintenance Data: Provide complete operating and maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides.

- I. Qualification Data: For firms and persons specified in "Quality Assurance" Article.
- J. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
- B. Manufacturers, Hardware Supplier, and Installer shall have no less than five years' experience in the provision of Door Hardware for projects similar in size, complexity and type to this Project.
- C. Hardware Schedule and Keying Schedule submittals shall be prepared by a Hardware Consultant holding the credentials of Architectural Hardware Consultant (AHC) issued by the Door and Hardware Institute. Hardware Consultant shall have no less than five years' experience in the scheduling of Door Hardware for projects similar in size, complexity and type to this Project; and shall be available, at no additional cost, during the course of the Work to consult with Contractor, Architect, and Owner regarding door hardware and keying.

1.6 REGULATORY REQUIREMENTS

- A. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with all applicable regulations, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. At rated doors with panic exit devices, provide devices labeled as "Fire Exit Device."
- B. Comply with all applicable accessibility regulations as set forth in the 2010 ADA Standards.
- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines (ADAAG) and the Regulations of the Massachusetts Architectural Barriers Board (MAAB).
- D. Latching and locking doors that are hand-activated and that are in a path of travel shall be operable with a single effort by lever-type hardware, panic bars, push-pull activating bars, or other hardware designed to be easy to grasp with one hand, not requiring tight grasping, tight pinching or twisting of the wrist; from egress side shall not require the use of a key, tool, or special knowledge for operation.
 - 1. All hand-activated hardware shall be mounted between 34 inches and 48 inches above finished floor.
- E. At sliding and pocket doors, when fully open, operating hardware shall be exposed and usable from both sides.
- F. Door closing devices shall comply with the following maximum opening-force requirements:

1. Interior Hinged Doors: 5 lbf applied perpendicular to door at latch.
 2. Sliding or Folding Doors: 5 lbf applied parallel to door at latch.
 3. Fire Rated Doors: 5 lbf applied perpendicular to door at latch. To ensure latching, may be increased to the minimum force allowable by the appropriate administrative authority, not to exceed 15 lbf.
- G. Thresholds shall be maximum 1/2 inch in height above floor and landing on both sides of openings. Bevel raised thresholds with a slope of not more than 1:2.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Each article of hardware shall be delivered individually packaged in the manufacturer's standard commercial carton or container, and shall be properly marked or labeled to be readily identifiable with the approved hardware schedule.
- B. Manufacturer's printed installation instructions, fasteners, and special tools shall be included in each package.
- C. Hardware shall be stored in a dry, secure locked area, complete with shelving for unpacking and sorting of the door hardware.
- D. Deliver all master keys by restricted, receipted delivery directly from the manufacturer to the Owner.

1.8 COORDINATION

- A. Provide hardware templates to the parties involved for doors, frames, and other work specified to be factory prepared for door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. When required by door or frame fabricator, furnish physical samples of each mortised and recessed hardware item required.
- C. Coordinate layout and installation of recessed pivots and closers with floor construction.
- D. Electrical System Rough-in: Coordinate layout and installation of electrified door hardware with connections to power supplies, fire alarm system and detection devices, access control system, and security system as applicable.
- E. Pre-Installation Conference: Arrange conference at job site to coordinate door, frame, hardware and electronic security hardware installation; to be attended by the Architect, Owner, Contractor and representative personnel of firms involved in the provision and installation of said items.
- F. Keying Conference: Arrange conference with Owner, or designated representative, and Manufacturer's/ Hardware Supplier's Architectural Hardware Consultant to establish keying requirements. Incorporate keying conference decisions into Keying Schedule.

1.9 WARRANTY

- A. In addition to, and not precluding, other warranty requirements in the Contract Documents, the following hardware items shall carry extended minimum warranties as indicated:
1. Hinges: Ten years from date of Substantial Completion.
 2. Locks: Five years from date of Substantial Completion.
 3. Exit Devices: Three years from date of Substantial Completion.
 4. Door Closers: Ten years from date of Substantial Completion.

1.10 MAINTENANCE

- A. 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.

1.11 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- B. Provide the following:
1. Two Locks
 2. Two Door Closers
 3. Two Door Stops.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements herein, provide products by one of the following manufacturers for each type of hardware:
1. Butt Hinges: Hager, Ives, McKinney.
 2. Cam Lift Hinges: ABH, McKinney, Zero.
 3. Continuous Pinned Hinges: Architectural Builders Hardware, Hager, Markar, Select, BEST.
 4. Continuous Geared Hinges: Architectural Builders Hardware, Hager, National Guard Products, Pemko, Select.
 5. Concealed/Invisible Hinge: Tectus, McKinney, RocYork, Soss.
 6. Pivots: Architectural Builders Hardware, dormakaba, Ives, Rixson.
 7. Cylinders and Keying: Per Owner's Requirements.
 8. Locksets and Latchsets: Accurate, Best, Corbin Russwin, Sargent, Schlage.
 9. Multi-Family Housing Unit Entry Door Lockset: Latch M2, Accentra, dormakaba, Schlage
 10. Narrow Backset Mortise Lock: Adams Rite, Accurate.
 11. Push-Pull Locksets and Latchsets: Architectural Builders Hardware, Corbin Russwin, Glynn-Johnson, Sargent.
 12. Exit Devices: Corbin Russwin, Precision, Sargent, Von Duprin.
 13. Weatherized Exit Devices: Detex, Locinox.
 14. Tubular Exit Devices: CR Laurence PA100, Rockwood PDU8000/8500 Series.

15. Electric Strikes: Folger Adam, Hanchett Entry Systems (HES), Rutherford Controls Intl. (RCI), Von Duprin.
16. Electromagnetic Lock Assemblies: Rutherford Controls Intl. (RCI), Schlage, Securitron.
17. Electrical Power Transfers: Architectural Builders Hardware, Precision, Securitron, Von Duprin.
18. Locking Ladder Pulls: Architectural Builders Hardware, Rockwood, CRL.
19. Power Supplies for Electrified Hardware: Securitron, Security Door Controls, Von Duprin.
20. Flush Bolts and Door Coordinators: Architectural Builders Hardware, Ives, Rockwood, Trimco.
21. Surface Door Closers: LCN, Norton, Sargent.
22. Surface Cam and Roller Door Closers: Dorma TS93 Series, Sargent 421 Series.
23. Overhead Concealed Door Closers: Dorma, LCN, Rixson.
24. Floor Closers: Dorma, Jackson, Rixson.
25. Overhead Holders and Stops: Architectural Builders Hardware RA Series, Glynn-Johnson, Rixson.
26. Overhead Surface and Concealed Automatic / Low Energy Door Operators: Allegion, Assa Abloy Entrance Systems, Horton, Motion Access, Norton, Stanley.
27. Automatic Door Actuators: BEA, Horton, Motion Access, Norton.
28. Bollards: BEA, Norton, Wikk.
29. Automatic Door Controls Kit for Restrooms: Camden Door Controls.
30. In-Floor Automatic / Low Energy Door Operator: Assa Abloy Entrance Systems, Tormax, Opcon,
31. In-Floor Automatic / Low Energy Door Operator Converters: Assa Abloy Entrance Systems, dormakaba, Motion Access, Record USA.
32. Electromagnetic Holder / Releases: Architectural Builders Hardware, LCN, Rixson, Security Door Controls.
33. Architectural Door Trim: Architectural Builders Hardware, Ives, Rockwood, Trimco.
34. Auxiliary Hardware: Ives, Rockwood, Trimco.
35. Electric Door Hardware Accessories: Allegion, Assa Abloy, dormakaba, SDC.
36. Door Bottoms, Metal Thresholds, Weatherstripping and Gaskets: National Guard Products, Pemko, Zero.
37. Pocket, Folding and Sliding Door Hardware: Cavity Sliders, Hafele, KN Crowder, Pemko.
38. Key Storage System: Lund, MMF Industries, Telkee.

2.2 MATERIALS AND FABRICATION

- A. Requirements for grade, materials, size, and other distinctive qualities of each type of door hardware are indicated herein. Furnish items in types, sizes or weight, in accordance with manufacturer's standards, appropriate for the conditions of installation and service, unless otherwise indicated.
- B. Products named or identified by make or model number, or other designation and described herein are base products. Base products establish the standards of type, in-service performance, physical properties, appearance, warranty, cost, and other characteristics required by the Project.

2.3 FASTENERS

- A. Provide concealed fasteners for hardware items on exterior doors which are exposed when door is closed.
- B. Combination machine screws and expansion shields shall be used for attaching hardware to concrete or masonry.

- C. Fasteners exposed to the weather in the finished work shall be of brass, bronze, or stainless steel.

2.4 BUTT HINGES

- A. Butt hinges shall meet the requirements of ANSI/BHMA A156.1.
- B. Hinge dimensions shall meet the requirements of ANSI/BHMA A156.7.
- C. Base Metal shall be steel plated for fire-rated doors; bronze or stainless steel for exterior out swinging doors; bronze or plated steel elsewhere as scheduled.
- D. Provide hinges with antifriction bearings for doors with closers.
- E. Unless otherwise indicated, provide hinges in heights and weights as follows:
 - 1. Doors to 36 inches wide: 4-1/2 inches Standard Weight.
 - 2. Doors over 36 inches to 48 inches wide: 5 inches Heavy Weight.
 - 3. Doors over 48 inches wide: 6 inches Heavy Weight.
 - 4. Doors over 1-3/4 inch thick shall be per hinge manufacturers published listings or recommendations.
- F. Provide in minimum width sufficient to clear trim when door swings 180 degrees, whether or not shown on Drawings to swing 180 degrees.
- G. Number of hinges per leaf shall be as follows:
 - 1. Doors to 60 inches in height: 2 hinges.
 - 2. Doors over 60 to 90 inches in height: 3 hinges.
 - 3. Doors over 90 to 120 inches in height: 4 hinges.
 - 4. For doors over 120 inches in height: 4 hinges plus 1 hinge for every 30 inches, or fraction thereof, door height greater than 120 inches.
- H. Screws: Flat head wood screws not less than 1-1/2 inches long for hinges for wood doors; flat head machine screws elsewhere.
- I. Hinges reverse bevel doors with key locks shall have pins that are made non-removable [NRP] when the door is in the closed position by means of a set screw in the hinge pin barrel. Where passage or privacy sets, push/pulls openings are specified, non-removable pins are not required.
- J. Electrified hinges:
 - 1. Coordinate number and size of wires for electrified hardware served.
 - 2. Provide junction box/ mortar shield for each electrified hinge.
 - 3. All electric hinges to have quick connector-type connectors.

2.5 CONTINUOUS PINNED HINGES

- A. Continuous hinges shall meet ANSI/BHMA A156.26 requirements.
- B. Type: Pin and barrel construction; 1/4 inch diameter stainless steel pin; split nylon or stainless steel bearings. Fabricated from 14 gauge cold-rolled steel or 304 stainless steel as indicated.

- C. Provide in minimum width sufficient to clear trim when door swings 180 degrees, whether or not shown on Drawings to swing 180 degrees.
- D. Hole pattern for fasteners shall be symmetrical and located to template dimensions.
- E. All electric hinges to have quick connector-type connectors.

2.6 CONTINUOUS GEARED HINGES

- A. Continuous hinges shall meet ANSI/BHMA A156.26 requirements.
- B. Type: Heavy duty assembly of 3 interlocking aluminum extrusions. Door leaf and jamb leaf shall be continuously geared together the full hinge length; secured together with full length cover channel permitting 180 degree operation. Vertical door loads carried on integrated thrust bearings spaced no more than 3 inches apart.
- C. Hinges shall have non-removable cap at hinge top to prevent foreign material from becoming lodged in hinge gear mechanism.
- D. Unless otherwise noted, provide factory finished to match door and frame finish.
- E. Hole pattern for fasteners shall be symmetrical and located to template dimensions.
- F. All electric hinges to have quick connector-type connectors.

2.7 CONCEALED/ INVISIBLE HINGES

- A. Concealed Hinges: Hinges mortised into door and frame so that they are concealed when the door is closed.
- B. Hinges shall be adjustable three ways:
 - 1. Vertically
 - 2. Horizontally
 - 3. Compression (in/out) (i.e., capable of a 180 degree swing).
- C. Hinges are to be non-handed.
- D. Provide fastener type, size, and quantity as recommended by hinge manufacturer for properly installing concealed hinges in the door and frame type application.
- E. Provide steel receiver for metal door and frame cutouts for receiving concealed hinges.
- F. Provide option for applied panels and flush mounting.
- G. Electrified concealed/invisible hinges:
 - 1. Coordinate number and size of wires for electrified hardware served.
 - 2. Provide junction box/ mortar shield for each electrified hinge.

2.8 PIVOT HINGES

- A. Pivot hinges shall meet ANSI/BHMA A156.4 Grade 1 requirements.
- B. Pivots shall be constructed of steel, cast or forged bronze, or stainless steel as indicated by BHMA finish specified.
- C. Where offset pivots are used, provide intermediate pivots as follows:
 - 1. Doors over 60 to 90 inches in height provide one intermediate pivot.
 - 2. For doors over 90 inches in height provide one additional intermediate pivot for every 30 inches, or fraction thereof.
- D. Electrified pivots:
 - 1. Coordinate number and size of wires for electrified hardware served.
 - 2. Provide junction box/ mortar shield for each electrified pivot.
- E. All electric pivots to have quick connector-type connectors.

2.9 CYLINDERS, KEYING AND KEY STORAGE

- A. Lock cylinders shall meet ANSI/BHMA A156.5 requirements.
- B. Keying system shall meet ANSI/BHMA A156.28 requirements.
- C. All cylinders shall be interchangeable core type.
- D. Provide mortise or rim type cylinders as required by device for all exit devices having key locking function.
- E. Keying shall be provided per the Owner's requirements.
- F. Cylinders shall be keyed according to approved Keying Schedule.
- G. Provide a temporary keying system for interim use during construction.
- H. Provide change keys in individual envelopes for each cylinder delivered. Envelopes shall be marked with respective door identification numbers.
- I. Key set symbol, and inscription "Do Not Duplicate" shall be stamped on all keys.
- J. Key set symbol shall be concealed stamped on all cylinders/ removable/ Interchangeable cores.
- K. Keys shall be supplied as follows:
 - 1. Locks: 2 change keys each lock.
 - 2. Master keyed sets: 2 keys each set.
 - 3. Grand master keys: 5 total.
 - 4. Great Grand master keys: 5 total.
 - 5. Interchangeable Core control keys: 2 total.
 - 6. Construction keys: 10 total.

7. Blank keys: 100 total.

2.10 LOCKSETS AND LATCHSETS

- A. Mortise Locks and Latches shall meet ANSI/BHMA A156.13 Grade 1 requirements.
- B. Cylindrical Locks and Latches shall meet ANSI/BHMA A156.2 Series 4000 Grade 1 requirements.
- C. Auxiliary Locks shall meet ANSI/BHMA A156.5 requirements.
- D. Electrified Locks shall also meet ANSI/BHMA A156.25 requirements.
- E. Operating trim shall be lever type: Refer to hardware sets.
- F. Lock functions which include thumb turn trim shall be provided with thumb turns compliant with accessibility code requirements.
- G. Lock Throw: Comply with requirements for length of latch bolts to comply with labeled fire door requirements.
- H. Lock backset shall be 2-3/4 inches unless otherwise indicated.
- I. Electromechanical locksets utilized at fire rated openings shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction, and shall maintain door in positive latched position when power is off.
- J. Narrow backset locksets to be used when standard width/ backset devices do not fit door stile.
- K. Provide occupancy indicator at all cylindrical and mortise privacy sets. Architect to select if wording to be Unlocked/Locked or Vacant/Occupied. Indicator shall be at each side of door. Example, Sargent V11/V21.
- L. All electric locks to have quick connector-type connectors.

2.11 EXIT DEVICES

- A. Exit devices and exit device accessories shall meet ANSI/BHMA A156.3, Grade 1 requirements.
- B. Electromechanical exit devices shall also meet ANSI/BHMA A156.25 requirements.
- C. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- D. Fire Exit Devices: Complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.

- E. Outside Trim: Design, material and finish to match locksets, unless otherwise indicated.
- F. Adjustable strikes shall be provided for rim type and vertical rod devices.
- G. Fire Exit Removable Mullions: Where indicated, provide removable mullions for use with fire exit devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252. Mullions shall be used only with exit devices for which they have been tested.
- H. Electromechanical exit devices utilized at fire rated openings shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction, and shall maintain door(s) in positive latched position when power is off.
- I. Narrow backset devices shall be provided to match specified device when standard width chassis/ devices do not fit door stile.
- J. Provide flush end caps at exit devices.
- K. Provide device for proper door thickness.
- L. Weatherized exit device:
 - 1. Areas where hardware is prone to corrosion provide powder coated metal finish.
- M. At locations where exit devices are being used in a Pool/Aquatic area, provide 628 or powder coated metal finish.
- N. All electric exit devices to have quick connector-type connectors.

2.12 MULLIONS

- A. Extruded Aluminum Removable Mullions: ANSI/BHMA A156.3 anodized, removable mullions with malleable-iron top and bottom retainers. Mullions to be provided standard with stabilizers and imbedded weatherstrip.
 - 1. Manufacturers: Same as exit device manufacturer.
- B. Steel Removable Mullions: ANSI/BHMA A156.3 steel removable mullions with options for fire rating, locking, through-wire electrification and hurricane compliance as specified.
 - 1. Provide mullions with functions and features as follows:
 - a. At openings designed for severe wind load conditions due to hurricanes or tornadoes, provide manufacturer's certified mullion and accessories to meet applicable state and local wind-storm codes.
 - b. Provide keyed removable feature where specified in the Hardware Sets.
 - c. Provide stabilizers and mounting brackets as required.
 - d. Provide electrical quick connection wiring options as specified in the hardware sets.
 - e. Manufacturers: Same as exit device manufacturer.

2.13 TUBULAR EXIT DEVICES

- A. Tubular exit devices with grip diameter of 1-1/4".
 - 1. Stainless steel and powder coat finishes shall be certified to ANSI/BHMA A156.18.
 - 2. Style: Exposed vertical rod. 1-1/4" grip diameter with interior operating panic handle in combination with exterior fixed pull handle. Panic mechanism shall be concealed within brass or stainless steel tubing. Optional entrance from exterior by a keyed cylinder.
 - 3. Configurations (provide as specified):
 - a. Full Height L-Shape Pull.
 - b. Half Height L-Shape Pull.
 - c. Full Height Straight Pull.
 - d. Half Height Straight Pull.
 - e. Half Height Centered Straight Pull.
 - f. Horizontal Straight Pull.
 - g. Exit Only (No Exterior Pull).
 - 4. Push/pull operation when dogged from the inside.
 - 5. Latching: Top latching. Reversed, flat, Pullman style. Roller-type latching not acceptable.
 - 6. Engraved "PUSH" signage with optional paint infill and boundary grooves.

2.14 ELECTRIC STRIKES

- A. Electric strikes shall meet ANSI/BHMA A156.31 Grade 1 requirements and be listed and labeled under UL 1034 Burglary Resistant Electric Locking Equipment.
- B. Electric strikes for fire rated openings shall be listed and labeled for such use by a testing agency acceptable to authorities having jurisdiction. Fail Secure (fail locked) strikes shall be used at all fire rated openings.
- C. All electric strikes to have quick connector-type connectors.

2.15 ELECTROMAGNETIC LOCK ASSEMBLIES

- A. Electromagnetic lock assemblies shall meet ANSI/BHMA A156.23 Grade 1 requirements and be labeled under UL 294
- B. Locks shall be field-selectable for 12 or 24 VDC operation, and provide 1,500 lbf minimum holding force for direct pull applications and 2,000 lbf holding force for shear type applications.
- C. Wiring connections shall be via on-board screw terminal connections. Lock shall have built-in circuit/ surge and voltage kickback suppression protection.
- D. Where indicated, locks shall be equipped with concealed sensors to monitor magnetic bond status and door position status.
- E. Locks used on fire rated doors shall be listed and labeled for such use by a testing agency acceptable to authorities having jurisdiction.

- F. All electric magnetic locks to have quick connector-type connectors.

2.16 FLUSH BOLTS

- A. Automatic flush bolts shall meet ANSI/BHMA A156.3
- B. Manual flush bolts shall meet BHMA A156.16 requirements.
 - 1. Bottom bolt shall have 12 inch long operating rod. Top bolt operating rod shall be determined by door height, assuring the operator is located less than 72 inches above the floor.
 - 2. Manual Flush Bolts are not to be utilized except where a pair of non-rated doors serving a room not normally occupied is needed for the movement of equipment.
- C. Provide dust proof strikes for bottom bolts. Dust proof strikes shall meet BHMA A156.16.

2.17 DOOR COORDINATORS

- A. Door coordinators shall meet ANSI/BHMA A156.3 requirements.
- B. Door coordinators shall be flat bar type; stop mounted with all necessary filler bars and mounting brackets to accommodate required hardware.
- C. Provide carry bar at each pair of doors equipped with an overlapping astragal, except when automatic or self-latching bolts are used.

2.18 SURFACE DOOR CLOSERS

- A. Door closing devices shall meet ANSI/BHMA A156.4, Grade 1 requirements.
- B. Surface closers shall be fully adjustable with sweep speed, latch speed and back check position valves.
- C. Provide closers size adjusted in accordance with ANSI/BHMA A156.4; sized as required to insure closing and latching of doors.
- D. Arm selection shall follow the requirements of the manufacturer's recommendations with brackets, drop plates and miscellaneous accessories provided as necessary.
- E. Provide closers with arms designed to permit openings of doors as far as job conditions will permit; unless otherwise indicated closers with arms restricting opening of door will not be acceptable.

2.19 OVERHEAD CONCEALED DOOR CLOSERS

- A. Overhead Concealed Door Closers shall meet ANSI/BHMA A156.4 requirements.
- B. Closers shall be fully adjustable with sweep speed, latch speed and back check position valves.

- C. Provide closers size adjusted in accordance with ANSI/BHMA A156.4; sized as required to ensure closing and latching of doors.
- D. Closer shall be sized to suit door weight and size.

2.20 FLOOR CLOSERS

- A. Floor Closers shall meet ANSI/BHMA A156.4, Grade 1 requirements.
- B. Closers shall be fully adjustable with sweep speed, latch speed and back check position valves.
- C. Floor closers shall have cement boxes.
- D. Pivots used on doors with floor closers shall be of the same manufacturer as the floor closers.
- E. Provide flush floor cover plates for floor closers unless thresholds are indicated. Match door hardware finish, unless otherwise indicated.
- F. Provide recessed floor plates/ pans to accommodate insert of floor finish material for floor closers, unless thresholds are indicated. Provide extended closer spindle to accommodate thickness of floor finish.

2.21 LOW ENERGY DOOR OPERATORS

- A. Surface Applied Operator: The operator header shall be mounted to the surface of the door frame or wall. Connecting hardware shall be a double arm arrangement that can either push the door or pull the door open to suit the job condition. Provide parallel arm when operator mounting is on the pull side, and adjacent wall is within 4 inches of the door frame. Provide fire labeled unit for use at rated doors.
- B. Overhead Concealed Operator: The operator header shall be mounted directly over the door and serve as the door frame header. The operator output shaft shall connect to an arm that transmits power to the door via a slide block which moves in track that is recess mounted in the top of the door.
- C. In-Floor Operator Converter: Manufacturer's specialized unit to adapt specified automatic swing door operator to in-floor use. The converter shall be mounted beneath the door leaf and jamb area utilizing a standard pivot set-back. Heavy-duty pivot shall incorporate 1200 pound rated, sealed thrust bearings in 1 inch steel bearing plate.
- D. Low Energy Door Operators shall meet ANSI/BHMA A156.19 requirements.
 - 1. Provide safety sensors and features to meet A156.19 requirements and all applicable codes.
 - 2. Door shall not open to back check faster than 3 seconds, and shall require no more than 15 lbf applied 1 inch from latch edge to stop door movement.
 - 3. Door shall remain in fully open position for no less than 5 seconds.

4. Door shall close from 90 degrees to 10 degrees no faster than 3 seconds, and 10 degrees to fully close no faster than 1-1/2 seconds.
 5. Power operation shall be activated by push plate switch, or other actuators as indicated.
- E. Provide UL labeled operators at fire-rated openings. Provide power-disconnect interface to Fire Alarm; doors to be self closing and latching, in full compliance with Code requirements for "Fire Assembly, Self Closing" doors.
 - F. Provide UL labeled operators at smoke barrier openings. Provide hold-open circuitry and power-disconnect interface to Fire Alarm; doors to be automatic closing and latching, in full compliance with Code requirements for "Fire Assembly, Automatic Closing" doors.
 - 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.

2.22 AUTOMATIC DOOR ACTUATORS

- A. Provide as a standard, one at each side of automated entrance. Refer to hardware sets for type.

2.23 ELECTROMAGNETIC HOLDER / RELEASES

- A. Electromagnetic holders shall meet ANSI/BHMA A156.15 requirements.
- B. Size and configuration shall provide degree of swing and hold open position as indicated on the drawings.
- C. Coordinate length for attachment based on lever and locking device trim to wall.

2.24 ARCHITECTURAL DOOR TRIM

- A. Architectural door trim shall meet ANSI/BHMA A156.6 requirements.
- B. Door Protection Plates: Kick, mop, and armor plates shall be 0.050 inch thick brass, bronze, or stainless steel depending on finish indicated. Plates shall have beveled edges, and shall be provided with countersunk mounting holes and No. 6 oval head screw fasteners. Width of kick and armor plates shall be 2 inches less than door width for single doors and 1 inch less for pairs of doors. Width of mop plates shall be 1 inch less than door width.
 1. Kick Plates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.
 2. Mop Plates: Provide with four beveled edges ANSI J103, 4 inches high by width less 1 inch on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

3. Armor Plates: Provide ANSI J101 with four beveled edges, 30 inches high by width less 1 inch on single or pairs of doors. Furnish oval-head countersunk screws to match finish.
 4. At fire rated doors, provide UL labeled protection plates in sizes, types, fasteners and materials only in accordance with door manufacturer's listings for respective ratings.
 5. Provide cutouts for hardware as listed in the hardware sets.
- C. Door Edging and Astragals: Fabricated from 18 gauge cold-rolled steel or 304 stainless steel as indicated; factory prepared for all mortise hardware; countersunk screw mounting.
1. At fire rated doors, provide UL labeled edge protection in sizes, types, fasteners and materials only in accordance with door manufacturer's listings for respective ratings.
- D. Push and pull plates shall be 0.050 inch thick brass, bronze, or stainless steel depending on finish indicated. Plates shall have beveled edges, and shall be furnished with countersunk mounting holes and No. 6 oval head screw fasteners. Pull plates shall also be furnished with flat-head through bolts for pull grip.
- E. Push and pull bars and grip handles shall be brass, bronze, or stainless steel depending on BHMA finish indicated.

2.25 LOCKING LADDER PULLS

- A. Lock functions which include thumb turn trim shall be provided with thumb turns compliant with accessibility code requirements.

2.26 AUXILIARY HARDWARE

- A. Auxiliary hardware shall meet ANSI/BHMA A156.16 requirements.
- B. A door stop shall be bid/provided at every door location, regardless if one is itemized in the heading/group.
- C. Door Stops: Provide floor stop or wall bumper. Where it is not possible to properly place a floor or wall type stop, provide heavy duty overhead type stop, or when door closer is indicated on the push side of the door, provide heavy-duty dead stop function in closer.
 1. Stops shall be of heavy duty construction.
 - a. Wall bumpers shall have no visible fasteners.
 - b. Floor stops shall be of height required by floor conditions.
 - c. At areas where ligature resistant is required, provide Kingsway Group KG182.
 2. Overhead Stops
 - a. Overhead holders and stops shall meet ANSI/BHMA A156.8 requirements.
 - b. Overhead door holders and stops shall be adjustable from 90 to 110 degrees dead stop or hold open position, as applicable.

- c. Overhead door stops shall have shock absorbers providing 5 to 7 degrees compression before dead stop.
 - d. Overhead stops shall not be provided with hold open function when used at fire rated doors.
 - e. Overhead stop to work with closer.
- D. Silencers: Rubber, non-marring configured for metal or wood frames as scheduled. Provide quantity based on door size.

2.27 ELECTRICAL POWER TRANSFERS

- A. Electrical power transfers shall be capable of transferring sufficient electrical current to properly operate electrified hardware in door.
- B. Electrical power transfers used on fire rated doors shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction.
- C. Verify and provide at all doors with Pivots.
- D. At frames that are 1.5" or less or doors with swing clear hinges, provide Securitron EPT or ABH PT1000SC power transfer.
- E. Provide with quick connector. Coordinate with hardware item being provided.
- F. Power over Ethernet transfer shall incorporate pin connector to match locking device.

2.28 POWER SUPPLIES FOR ELECTRIFIED HARDWARE

- A. Power supplies shall be UL listed for applicable use; shall be housed in an approved enclosure; and provide both Class 1 and Class 2 outputs. Provide security relays as part of power supply.
- B. Output shall be filtered and regulated. Relay, timer, and logic modules shall be provided as required for interface to related security components; and shall be assembled, connected, and fully contained within the power supply enclosure. A fire alarm emergency release input terminal shall be provided for connection to fire / life safety system at fire-rated openings.
- C. Power supplies shall provide sufficient power capacity for the worst-case condition that could occur in the operating environment without any loss or degradation of operation.
- D. Power supplies shall be provided at all doors where electric latch retraction is specified.

2.29 ELECTRIFIED ACCESSORIES

- A. 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 Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.
 2. Manufacturers - Coordinate with hardware item being provided:
 - a. Hager Companies (HA) - Quick Connect.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC-C Series.
 - c. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - PoE Series.
 - d. Allegion CON.
 - e. dormakaba
- B. Request-to-Exit Motion Sensor: Request-to-Exit Sensors motion detectors specifically designed for detecting exiting through a door from the secure area to a non-secure area. Include built-in timers (up to 60 second adjustable timing), door monitor with sounder alert, internal vertical pointability coverage, 12VDC or 24VDC power and selectable relay trigger with fail safe/fail secure modes.

2.30 DOOR BOTTOMS

- A. Door bottoms shall be of aluminum or extruded bronze of the type and finish indicated and shall provide proper clearance and an effective seal with specified thresholds.
- B. Door bottom shall have a vinyl, neoprene, silicone rubber, polyurethane or brush seal as indicated.
- C. The door bottom shall exclude light when the door is in the closed position and shall inhibit the flow of air through the unit.

2.31 METAL THRESHOLDS

- A. Thresholds shall meet ANSI/BHMA A156.21 requirements.
- B. Thresholds shall be heavy-gauge aluminum or bronze of the configuration and finish indicated, and shall provide an effective seal with door bottom.
- C. Where required, thresholds shall be prepared to accommodate floor closers, pivots, and projecting bolts of latching hardware.

- D. Thresholds at floor closers shall have mitered returns and removable access portion for floor closer maintenance.
- E. Provide thresholds at doors where indicated. Refer to Door Schedule and Drawing details for type and configuration required. Additionally, where combustible flooring passes under doors, provide fire door thresholds in accordance with applicable regulatory requirements.

2.32 METAL HOUSED TYPE WEATHERSTRIP

- A. Metal Housed Type Weatherstrip shall meet ANSI/BHMA A156.22 requirements.
- B. Metal Housed Type Weatherstrip shall be aluminum or bronze of the type and finish indicated, comprised of metal retainers with vinyl, neoprene, silicone rubber, polyurethane or brush inserts as indicated.

2.33 GASKETING

- A. Gasketing shall meet ANSI/BHMA A156.22 requirements.
- B. Shall be a compression type product for use with wood or steel doors; labeled for use on smoke-control and fire-rated doors where required.

2.34 POCKET, FOLDING AND SLIDING DOOR HARDWARE

- A. Folding and Sliding Door Hardware shall meet ANSI/BHMA A156.14 requirements.
- B. Provide complete sets of type indicated, consisting of overhead track, hangers, supports, track stoppers, floor guides, and other required accessories.
- C. Provide soft close stop as part of folding, or sliding track assembly.

2.35 FINISHES

- A. Provide hardware in finishes as indicated in hardware set or as noted below:
- B. Aluminum Framed Entrance Hardware Finish to be Selected by Architect.
- C. Finish hardware to be Satin Stainless.
- D. Finish for Thresholds and Surface Door Bottoms shall be Aluminum
- E. Closers shall be Powder Coated.
- F. Adhesive Gasketing shall be Black.
- G. Areas where hardware may be prone to corrosion, 32D-316 metal finish or Clear Powder Coat Finish.
- H. Interior and Exterior Aluminum Framed Openings: Finish to be selected by Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

- A. Steel doors shall be factory prepared for hardware per ANSI/BHMA A156.115.
- B. Wood doors shall be factory prepared for hardware per ANSI/BHMA A156.115W.
- C. Installation shall be in accordance with DHI A115.IG.
- D. Hardware for fire door assemblies shall be installed conforming with NFPA 80, and all other applicable building codes and regulations.
- E. Hardware for smoke door assemblies shall be installed conforming with NFPA 105, and all other applicable building codes and regulations.
- F. Install each door hardware item according to manufacturer's printed instructions, utilizing templates and proper fasteners provided by manufacturer.
- G. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
- H. 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 other Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- I. Install each door hardware item to comply with manufacturer's written instructions. Install overhead surface closers for maximum degree of opening obtainable. Place on room side of corridor doors, stair side of stair doors, secondary corridor side of doors between corridors. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be finished, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- J. All wall stops shall be installed with reinforced blocking in wallboard construction. Drywall anchors are not an acceptable means of reinforcement/blocking.

Provide intermediate steel plates or channel reinforcement backing at wall stops mounted in wallboard construction.

- K. Do not install permanent key cylinders in locks until the time of preliminary acceptance by the Owner. At the time of preliminary acceptance, and in the presence of the Owner's representative, permanent key all lock cylinders. Record and file all keys in the key control system specified, and turn system over to Owner for sole possession and control.
- L. Key control storage system shall be installed where directed by the Owner.
- M. Thresholds shall be secured with a minimum of 3 fasteners per single door width and 6 fasteners per double door width with a maximum spacing of 12 inches; with a minimum of 1 inch thread engagement into the floor or anchoring device used. Thresholds over 6 inches in width shall be secured with a double row of fasteners.
- N. Exterior thresholds shall be installed in a bed of sealant with combination expansion anchors and stainless steel machine screws, except that bronze or anodized bronze thresholds shall be installed with expansion anchors with brass screws.

3.3 CONTINUOUS HINGES

- A. Prevent conflicts with other installed hardware mounted in the same location.
- B. Coordinate continuous hinge lengths to prevent conflicts with other door hardware such as door sweeps and door bottoms. Door bottoms shall be installed full width of door to create a full seal.

3.4 DOOR CLOSING DEVICES

- A. Surface closers on doors opening to or from halls and corridors shall be mounted on the room side of the door.
- B. Surface closers on doors opening into stairs or stair vestibules shall be mounted on the stair or stair vestibule side of the door.
- C. Surface closers on exterior doors shall be mounted on the interior side of building utilizing regular arm, or parallel arm mounting as required.
- D. Door closing devices with adjustable spring power shall be adjusted for proper door operation, and compliance with all applicable codes and regulations.
- E. Cutting of gasketing or weatherstripping to accommodate closer installation is not acceptable.

3.5 PUSH-PULL PLATES

- A. Pull plate grip handles shall be through bolted through the door. When push plate is indicated on opposite door side, through bolts shall be countersunk with push plate mounted to conceal through bolts.

3.6 KEY CONTROL STORAGE SYSTEMS

- A. Key control storage system shall be installed where directed by the Architect.
- B. Place keys on markers and hooks in key control system cabinet, as determined by final keying schedule.

3.7 GASKETING/ WEATHERSTRIPPING

- A. Prevent conflicts with other installed hardware mounted in the same location.
- B. Coordinate door sweep and door bottom widths to prevent conflicts with other door hardware such as continuous hinges. Door bottoms shall be installed full width of door to create a full seal.

3.8 ASTRAGALS

- A. Unless otherwise indicated install overlapping astragals as follows:
 - 1. At out-swing pairs of doors, mount astragal on active leaf.
 - 2. At in-swing pairs of doors, mount astragal on inactive leaf.

3.9 HARDWARE LOCATIONS

- A. Unless otherwise indicated install hardware as follows or as local codes require:
 - 1. Bottom Hinge: 10 inches from door bottom to bottom of hinge.
 - 2. Top Hinge: 5 inches from door top to top of hinge.
 - 3. Center Hinge(s) or Pivot(s): Spaced equidistantly between top and bottom hinges/ pivots.
 - 4. Lockset / Latchset: 38 inches from finished floor to center of lever.
 - 5. Hospital Push-Pull Latchset/ Lockset: 42 inches from finished floor to center of latch.
 - 6. Exit Device: 38 inches from finished floor to device centerline.
 - 7. Deadlock: 42 inches from finished floor to center key cylinder / thumb turn.
 - 8. Push Plate/ Pull Plate: 42 inches from finished floor to center of pull.
 - 9. Wall Bumper: Centered at point on wall where lever, or other operating trim, first makes contact with wall.
 - 10. Floor Stop: Adjacent to wall; not to exceed 4 inches from face of wall; located 3 inches from latch edge of door; in any case never more than 50 percent of door width from latch edge of door.

3.10 ADJUSTING

- A. 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.
- B. Engage a factory-authorized service representative to adjust door closing devices, compensating for final operation of heating and ventilating equipment, and to comply with referenced accessibility requirements.

- C. Follow-up Adjustment: Approximately 6 months after date of Substantial Completion, Installer shall perform the following:
 - 1. Examine and readjust each item of door hardware as necessary to ensure function of door hardware.
 - 2. Consult with and instruct Owner's personnel on recommended maintenance procedures.
 - 3. Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.
- D. Where door closers are provided, adjust sweep speed so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

3.11 COMPLETION

- A. When complete all hardware shall be properly secured in place and all exposed surfaces shall be clean and free from scratches, paint, and other defects and damages.
- B. Contractor shall demonstrate that all keys properly operate the locks as identified in the approved Keying Schedule.

3.12 DOOR HARDWARE SETS

- A. The following is a general listing of hardware requirements. Provide hardware items required by established standards and practices to meet state and local codes, whether or not specifically indicated in the following sets.
- B. Silencers and gasketing, where listed in Hardware Sets, may be omitted at openings where door frames are provided with integral seals if integral seals satisfy all applicable Codes and Regulations.
- C. Refer to Door Schedule and/ or Drawings for door opening information, hardware set assignment, and related requirements.
- D. Door contacts where indicated on security drawings.
- E. Access Control Reader where indicated on security drawings.
- F. Provide spacer, blade stop, drop plate as required for door closers.
- G. At aluminum openings, coordinate gasketing, and/or astragal with Aluminum Entrances and Storefronts Section.
- H. Provide knurled lever at boiler, electrical, mechanical, and required rooms per 521 CMR.

Worcester South Division Fire Station Project
Worcester, MA
Construction Documents
Addendum 8

Perkins&Will
157132.000
19 December 2025
30 January 2026

Set: 1.0

Description: Paired Opening – Exterior, Main Entry

2 Continuous Hinge	FM-HD1	Pemko
1 Mullion	KRM	Von Duprin
1 Rim Exit Only, Cylinder Dogging	CD 33A.EO	Von Duprin
1 Rim Exit Device, Aux TT, Cylinder Dogging	CD 33A.T .360T(Std)	Von Duprin
2 Offset Door Pull	RM3312 x Height Selected by Architect x Mtg-Type 12XHD [MP]	Rockwood
2 Overhead Stop	6-ADJ Series	Rixson
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Door Operator	4600 x Two BEA MS41 Actuators	LCN
1 Threshold	1/2" High	NGP

Notes: Coordinate gasketing, and/or astragal with Aluminum Entrances and Storefronts Section
Provide spacer, blade stop, drop plate as required for door closer
Operator on LHR leaf

Set: 2.0

Description: Single Opening – Exterior, Main Entry

1 Continuous Hinge	FM-HD1	Pemko
1 Rim Exit Device, Aux TT, Cylinder Dogging	CD 33A.T .360T(Std)	Von Duprin
1 Offset Door Pull	RM3312 x Height Selected by Architect x Mtg-Type 12XHD [MP]	Rockwood
1 Overhead Stop	6-ADJ Series	Rixson
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Threshold	1/2" High	NGP

Notes: Coordinate gasketing, and/or astragal with Aluminum Entrances and Storefronts Section
Provide spacer, blade stop, drop plate as required for door closer

Set: 3.0

Description: Paired Opening - Access Controlled, Main Entry Vestibule

2 Continuous Hinge x Power Transfer	FM-HD1 ACC8	Pemko
1 Mullion	KRM	Von Duprin
1 Rim Exit Only, QEL, RX	QEL RX 33A.EO	Von Duprin
1 Rim Exit Device, QEL, RX, Aux TT	QEL RX 33A.T .360T(Std)	Von Duprin
2 Offset Door Pull	RM3312 x Height Selected by Architect x Mtg-Type 12XHD [MP]	Rockwood
2 Overhead Stop	6-ADJ Series	Rixson
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Door Operator	4600 x Two BEA MS41 Actuators	LCN
1 Threshold	1/2" High	NGP
2 Door Harness		
2 Frame Harness		

Notes: Coordinate gasketing, and/or astragal with Aluminum Entrances and Storefronts Section
Provide spacer, blade stop, drop plate as required for door closer
Operator on LHR leaf

Operation:

*Door normally closed and secured.

*Upon use of mechanical key or presentation of authorized credentials door to unlock allowing authorized entry.

*Built in request to exit switch to shunt door contact where contacts are indicated on security drawings.

*Upon loss of power door to remain locked from key side.

*Always free egress.

*Coordinate power with electrical/LV contractor

* Provide door/frame harnesses

Worcester South Division Fire Station Project
Worcester, MA
Construction Documents
Addendum 8

Perkins&Will
157132.000
19 December 2025
30 January 2026

Set: 4.0

Description: Single Opening - Exterior – Exercise, Stairwell, Exit Only

1 Continuous Hinge	FMHD1 SLF	Pemko
1 Rim Exit Device, Exit Only	99.NL x Less Trim [F]	Von Duprin
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Gasketing	290 x 2891 APK	Pemko
1 Gasketing	120NA	NGP
1 Drip Strip	16A	NGP
1 Door Shoe	234AV	Pemko
1 Sweep	198NA	NGP
1 Threshold	1/2" High	NGP

Set: 5.0

Description: Single Opening - Exterior – Training Tower

1 Continuous Hinge	FMHD1 SLF	Pemko
1 Rim Exit Device, Exit Only	99L-.NL x 996L-NL [F]	Von Duprin
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Gasketing	290 x 2891 APK	Pemko
1 Gasketing	120NA	NGP
1 Drip Strip	16A	NGP
1 Door Shoe	234AV	Pemko
1 Sweep	198NA	NGP
1 Threshold	1/2" High	NGP

Set: 6.0

Description: Single Opening - Access Controlled, Exterior

Hinge, Full Mortise, Hvy Wt	5BB1HW [NRP]	Ives
1 Electric Power Transfer	EPT10	Von Duprin
1 Rim Exit Device, Fail Secure, RX	RX 99.L .FSE .M996L(Std)	Von Duprin
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Gasketing	5050C	NGP
1 Drip Strip	16A	NGP
1 Perimeter Gasket	290 x 2891APK	Pemko
1 Door Shoe	234AV	NGP
1 Sweep	198NA	NGP
1 Threshold	1/2" High	NGP
2 Door Harness		
2 Frame Harness		

Notes: Operation:

*Door normally closed and secured.

*Upon use of mechanical key or presentation of authorized credentials door to unlock allowing authorized entry.

*Built in request to exit switch to shunt door contact where contacts are indicated on security drawings.

*Upon loss of power door to remain locked from key side.

*Always free egress.

*Coordinate power with electrical/LV contractor

* Provide door/frame harnesses

Set: 7.0

Description: Single Opening - Access Controlled, Garage, Stair

1 Continuous Hinge x Power Transfer	FM300 EL8	Markar
1 Rim Exit Device, QEL, RX, Aux TT	QEL RX 33A.T .360T(Std) [F]	Von Duprin
1 Offset Door Pull	RM3312 x Height Selected by Architect x Mtg-Type 12XHD [MP]	Rockwood
1 Surf Overhead Stop	9-ADJ-Series	Rixson
1 Surface Closer	4040XP SCUSH	LCN
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood
1 Gasketing	5050C	NGP
1 Sweep	198NA	NGP
1 Threshold	1/2" High	NGP
1 Rain Drip at Exterior Doors		NGP

Notes: Operation:

*Door normally closed and secured.

*Upon use of mechanical key or presentation of authorized credentials door to unlock allowing authorized entry.

*Built in request to exit switch to shunt door contact where contacts are indicated on security drawings.

*Upon loss of power door to remain locked from key side.

*Always free egress.

*Coordinate power with electrical/LV contractor

* Provide door/frame harnesses

Set: 8.0

Description: Single Opening - Vestibule

1 Continuous Hinge	FM300	Markar
1 Push Bar	330	Von Duprin
1 Offset Door Pull	RM3312 x Height Selected by Architect x Mtg-Type 12XHD [MP]	Rockwood
1 Surf Overhead Stop	9-ADJ-Series	Rixson
1 Surface Closer	4040XP SCUSH	LCN
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood

Notes: Operation:

*Door normally closed and secured.

*Upon use of mechanical key or presentation of authorized credentials door to unlock allowing authorized entry.

*Built in request to exit switch to shunt door contact where contacts are indicated on security drawings.

*Upon loss of power door to remain locked from key side.

*Always free egress.

*Coordinate power with electrical/LV contractor

* Provide door/frame harnesses

Set: 9.0

Description: Single Opening - Office

Hinge, Full Mortise	5BB1	Ives
1 Office Lock	ND50 ATH	Schlage
1 Door Stop	446	Rockwood

Provide acoustical gasketing where indicated on door schedule

Set: 10.0

Description: Single Opening – Toilet, Shower

Hinge, Full Mortise	5BB1	Ives
1 Privacy Lock x Occupancy Indicator	ND40 ATH x Indicator	Schlage
1 Door Stop	404	Rockwood
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood
1 Gasketing	5050C	NGP
1 Coat Hook	RM802	Rockwood

Set: 11.0

Description: Single Opening – Bunk Room

Hinge, Full Mortise	5BB1	Ives
1 Privacy Lock x Occupancy Indicator	ND40 ATH x Indicator	Schlage
1 Overhead Stop	9-ADJ Series	Rixson
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood
1 Door Bottom	234AV	Pemko
1 Perimeter Gasket	290 x 2891	Pemko

Set: 12.0

Description: Single Opening – Corridor

Hinge, Full Mortise	5BB1	Ives
1 Lockset	TBD	
1 Overhead Stop	9-ADJ Series	Rixson
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood
1 Door Bottom	234AV	Pemko
1 Perimeter Gasket	290 x 2891	Pemko

Worcester South Division Fire Station Project
Worcester, MA
Construction Documents
Addendum 8

Perkins&Will
157132.000
19 December 2025
30 January 2026

Set: 13.0

Description: Closet – Sliding Door

1 Bypassing Door Set

Pemko

2 Door Pulls

BF97L

Rockwood

Set: 14.0

Description: Single Opening – Access Controlled

Hinge, Full Mortise	5BB1	Ives
1 Continuous Hinge x Power Transfer @ doors 42" and wider and heavy use doors		
1 Electric Power Transfer	EPT10	Von Duprin
1 Fail Secure Lock, RX	RX ND80EU ATH	Schlage
	4040XP REG / EDA / SCUSH.SRI	
1 Surface Closer	Provide Rockwood 404/446 where SCUSH arm will not work	LCN
1 Kick Plate	K1050 16" High x CSK x 4BE	Rockwood
1 Gasketing	5050C - Head and Jambs	NGP
1 Door Harness		
1 Frame Harness		

Notes: Operation:

*Door normally closed and secured.

*Upon use of mechanical key or presentation of authorized credentials door to unlock allowing authorized entry.

*Built in request to exit switch to shunt door contact where contacts are indicated on security drawings.

*Upon loss of power door to remain locked from key side.

*Always free egress.

*Coordinate Power with Electrical/LV Contractor

* Provide Door/Frame Harnesses

Set: 15.0

Description: Single Opening –, Locker Room

1 Continuous Hinge	A500	ABH
1 Push Plate/Pull Set	110 x 73C/73CL	Rockwood
1 Surface Closer x Optional Hold Open x Stop Arm	4040XP .SCUSH .SRI	LCN
1 Armor Plate	K1050 30" High x CSK x 4BE	Rockwood
1 Gasketing	5050C	NGP

Set: 16.0

Description: Single Opening – Stairwell, Rated Fire Pole Door

Continuous Hinge	A500	ABH
1 Exit Device, Passage	99.L-NL [F] 996L-NL	Von Duprin
1 Surface Closer	4040XP SCUSH	LCN
1 Gasketing	5050C - Head and Jambs	NGP

Set: 17.0

Description: Paired Opening – Electrical Room

Hinge, Full Mortise	5BB1	Ives
2 Flush Bolt	555 / 557	Rockwood
1 Dust Proof Strike	570	Rockwood
1 Storeroom Lock	ND80 ATH x Knurled Lever	Schlage
1 Surf Overhead Stop	9-ADJ-Series	Rixson
1 Surface Closer	4040XP SCUSH	LCN

Set: 18.0

Description: Paired Opening – Storage, Ice, Table and Chair Storage

Hinge, Full Mortise	5BB1	Ives
2 Flush Bolt	555 / 557	Rockwood
1 Dust Proof Strike	570	Rockwood
1 Classroom Lock	ND70 ATH	Schlage
2 Surf Overhead Stop	9-ADJ-Series	Rixson
2 Kick Plates	K1050 12" High CSK 4BE	Rockwood
2 Armor Plates at table and chair storage	K1050 30" High CSK 4BE	Rockwood

Set: 19.0

Description: Single Opening – Water Service, MEP

Hinge, Full Mortise	5BB1	Ives
1 Storeroom Lock	ND80 ATH	Schlage
1 Surface Closer	4040XP Reg	LCN
1 Door Stop	404	Rockwood
Silencers		

Set: 20.0

Description: Single Opening – Storage, Exercise, Training Room, Watch Room

Hinge, Full Mortise	5BB1	Ives
1 Classroom Lock	ND70 ATH	Schlage
1 Surface Closer	4040XP Reg/SCUSH Provide hold open arm per conditions	LCN
1 Door Stop	404	Rockwood
Silencers		

Set: 21.0

Description: Single Opening – Custodial

Hinge, Full Mortise	5BB1	Ives
1 Storeroom Lock	ND80 ATH	Schlage
1 Surface Closer x Hold Open Arm	4040XP SHCUSH	LCN
1 Kick Plate	K1050 16" High CSK	Rockwood

Set: 22.0

Description: Single Opening – Electrical Room

Hinge, Full Mortise, Heavy Weight	5BB1 HW	Ives
1 Exit Device, Nightlatch, Knurled Lever	99.L-NL [F] 996L-NL	Von Duprin
1 Surface Closer	4040XP EDA	LCN
1 Gasketing	5050C - Head and Jambs	NGP

Set: 23.0

Description: Paired Opening – Electrical Room

Hinge, Full Mortise, Heavy Weight	5BB1 HW	Ives
1 Auto Flush Bolt Set	2845	Rockwood
1 Dust Proof Strike	570	Rockwood
1 Exit Device, Nightlatch, Knurled Lever	9975.L-NL [F] 996L-NL x Knurled Lever	Von Duprin
2 Surface Closer	4040XP EDA	LCN
1 Gasketing	5050C - Head and Jambs	NGP
1 Astragal Set	178SA	NGP

Set: 24.0

Description: Single Opening –Shower

1 Continuous Hinge	FMHD1	Pemko
1 Push Plate	70C x US32D316 finish	Rockwood
1 Door Pull	107 x US32D316 Finish	Rockwood
1 Overhead Stop	9-ADJ Series	Rixson
1 Deadbolt	L460 x OCC O/S	Schlage
1 Gasketing	5050C	NGP

Set: 25.0

Description: Paired Opening – Compressor, Work Room

Hinge, Full Mortise, Heavy Weight	5BB1 HW	Ives
1 Auto Flush Bolt Set	2845	Rockwood
1 Dust Proof Strike	570	Rockwood
1 Classroom Lock	ND70 ATH	Schlage
2 Surface Closer	4040XP SCUSH	LCN
1 Gasketing	5050C - Head and Jambs	NGP
1 Astragal Set	178SA	NGP

Set: 26.0

Description: Single Opening – Storage Gate

Balance of hardware by gate manufacturer

1 Storeroom Lock	ND80 ATH	Schlage
------------------	----------	---------

Set: 27.0

Description: Single Opening – Roof Dining Space

1 Continuous Hinge	FM-HD1	Pemko
1 Narrow Stile Lock	2190 x Key on inside	Adams Rite
1 Overhead Stop	6-ADJ Series	Rixson
1 Surface Closer	4040XP REG / EDA / SCUSH.SRI	LCN
1 Threshold	1/2" High	NGP

Notes: Coordinate gasketing, and/or astragal with Aluminum Entrances and Storefronts Section
Provide spacer, blade stop, drop plate as required for door closer

Set: 28.0

Description: Training Tower

1 Continuous Hinge	FM-HD1	Pemko
1 Storeroom Exit Lock (Key on interior side)	ND25 x 80	Schlage
1 Door Pull on interior side	107	Rockwood
1 Door Stop/holder	494	Rockwood
1 Perimeter Gasket	290 x 2891APK	Pemko
1 Rain Drip	346 C	Pemko
1 Perimeter Gasket	S88BL	Pemko

END OF SECTION

SECTION 26 00 01

ELECTRICAL WORK

(Trade Bid Required)

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Time, Manner and Requirements for Submitting Trade Bids:
1. Trade bids for work under this Section shall be for the complete work and shall be filed in a sealed envelope with the Owner at a time and place as stipulated in the "INSTRUCTIONS TO BIDDERS".
 - a. The following should appear on the upper left hand corner of the envelope:
 - b. NAME OF TRADE BIDDER: (Insert name of trade bidder)
 - c. TRADE BID FOR SECTION: 26 00 01 - ELECTRICAL WORK
 - d. Each trade bid submitted for work under this Section shall be on forms furnished by the Owner as required by Section 8 of Chapter 149A of the General Laws, as amended. Trade bid forms may be obtained at the office of the Owner.
 2. Trade bids filed with the Owner shall be accompanied by BID BOND or CASH or CERTIFIED CHECK or TREASURER'S CHECK or CASHIER'S CHECK issued by a responsible bank or trust company payable to the City of Worcester in the amount of five percent of the trade bid. A trade bid accompanied by any other form of bid deposit than those specified will be rejected.
- C. Trade Sub-Bid Requirements:
1. Section 28 31 11 - DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM for fire alarm system work.
 2. DIVISION 27 - COMMUNICATIONS for communications infrastructure systems work.
 3. Section 27 41 ~~33.00~~ - CATV DISTRIBUTION SYSTEM for Audiovisual system work.
 4. Section 28 00 00 - ELECTRONIC SECURITY GENERAL REQUIREMENTS for Security system work.
 5. Section 26 41 13 - LIGHTNING PROTECTION FOR STRUCTURES for lightning protection work.
- D. Reference Drawings: The Work of this Trade Bid is shown on the following Contract Drawings:

1. 01-GENERAL Series
2. 26-ELECTRICAL Series

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. All Work of the following sections:
 - a. 26-ELECTRICAL sections
 - b. Section 270000 - Communications Systems.
 - c. Section 280000 - Security Systems.
 2. Firestopping for the Work of this Section, including cutting penetrations and firestopping; complying with requirements specified in Section 07 84 13 - PENETRATION FIRESTOPPING.
 3. Core drilling for the Work of this Section.
 4. Certified seismic restraints to meet the Commonwealth of Massachusetts Building Code applicable at the time the building permit is issued.
 5. Coordination drawings and record drawings and similar requirements.
 6. CAMIS excel spreadsheet data collection for Equipment Template and PM Procedure tabs as described in Section 01 77 00 - CLOSEOUT PROCEDURES
 7. BIM modeling as specified in this Section and in Section 01 31 06 - COORDINATION DRAWINGS.
 8. Including Pre-Purchase of equipment in the following sections:
 - a. Section 26 12 19 - Pad-mounted, Liquid-Filled, Medium-Voltage Transformers
 - b. Section 26 13 23 - Medium-Voltage Metal-Enclosed Switchgear
 - c. Section 26 24 13 - Switchboards
 - d. Section 26 32 13 - Diesel Emergency Engine Generators
 - e. Section 26 36 00 - Transfer Switches
- B. Alternates: Photovoltaic System - see SECTION 01 23 00 for Alternate #1.
- C. Items to Be Installed Only: Install the following items as furnished by the designated Sections:
1. Section 08 33 23 - OVERHEAD COILING DOORS:
 - a. Controllers, wiring and power connections for overhead coiling doors.
 2. Section 08 36 13 - RESIDENTIAL APPLIANCES:
 - a. Controllers, wiring and power connections for sectional overhead doors.
 3. Section 11 30 00 - PROJECTION SCREENS:
 - a. Controllers, wiring and power connections for electrically-operated projection screens.
 4. Section 14 21 23 - ELECTRIC TRACTION MRL ELEVATORS:
 - a. Power connections for elevators.
 5. Section 21 00 01 - FIRE PROTECTION:
 - a. Connections to fire alarm system for water flow switches and tamper switches.
 6. Section 22 00 01 - PLUMBING:
 - a. Power connections for water heaters.

7. Section 23 00 01 - HEATING, VENTILATING AND AIR CONDITIONING:
 - a. Power connections for DDC control panels, pumps, fans, electric unit heaters.
 - b. Magnetic starters.

- D. Items to Be Furnished Only: Furnish the following items for installation by the designated Sections:
 1. Section 03 30 00 - CAST-IN-PLACE CONCRETE:
 - a. Lintels, sleeves, anchors, inserts, plates and similar items for electrical systems.
 2. Section 04 20 00 - UNIT MASONRY:
 - a. Elevator rail bracket inserts.
 - b. Access doors in masonry openings.
 3. Section 09 29 00 - GYPSUM BOARD ASSEMBLIES:
 - a. Access doors in gypsum board assemblies.
 4. Section 09 30 00 - TILING:
 - a. Access doors in tile.
 5. Section 09 51 13 - ACOUSTICAL PANEL CEILINGS:
 - a. Access doors in acoustical tile.
 6. Section 23 00 01 - HEATING, VENTILATING AND AIR CONDITIONING:
 - a. Duct smoke detectors and sampling tubes.

- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 1. Section 03 30 00 - CAST-IN-PLACE CONCRETE for interior concrete equipment pads and installation of backboxes and conduit for electrical devices and light fixtures.
 2. Section 05 12 00 - STRUCTURAL STEEL FRAMING for structural supports necessary to distribute loading from equipment to roof or floor.
 3. Section 06 10 00 - ROUGH CARPENTRY for plywood packing panels.
 4. Section 08 71 00 - DOOR HARDWARE for coordination with electrified door hardware.
 5. Section 09 29 00 - GYPSUM BOARD ASSEMBLIES for coordination with gypsum ceilings.
 6. Section 09 51 13 - ACOUSTICAL PANEL CEILINGS for coordination with acoustical ceilings.
 7. Section 23 00 01 - HEATING, VENTILATING AND AIR CONDITIONING for coordination with HVAC piping and ductwork, motors, and DDC wiring except 120 VAC power to control panel as indicated on the Drawings
 8. Section 31 00 00 - EARTHWORK for excavation and backfilling for underground work.

- F. The Electrical Trade Contractor shall be responsible for filing all documents, , and securing of all inspections and approvals necessary for the electrical work.

END OF SECTION

ROOF PLAN GENERAL NOTES

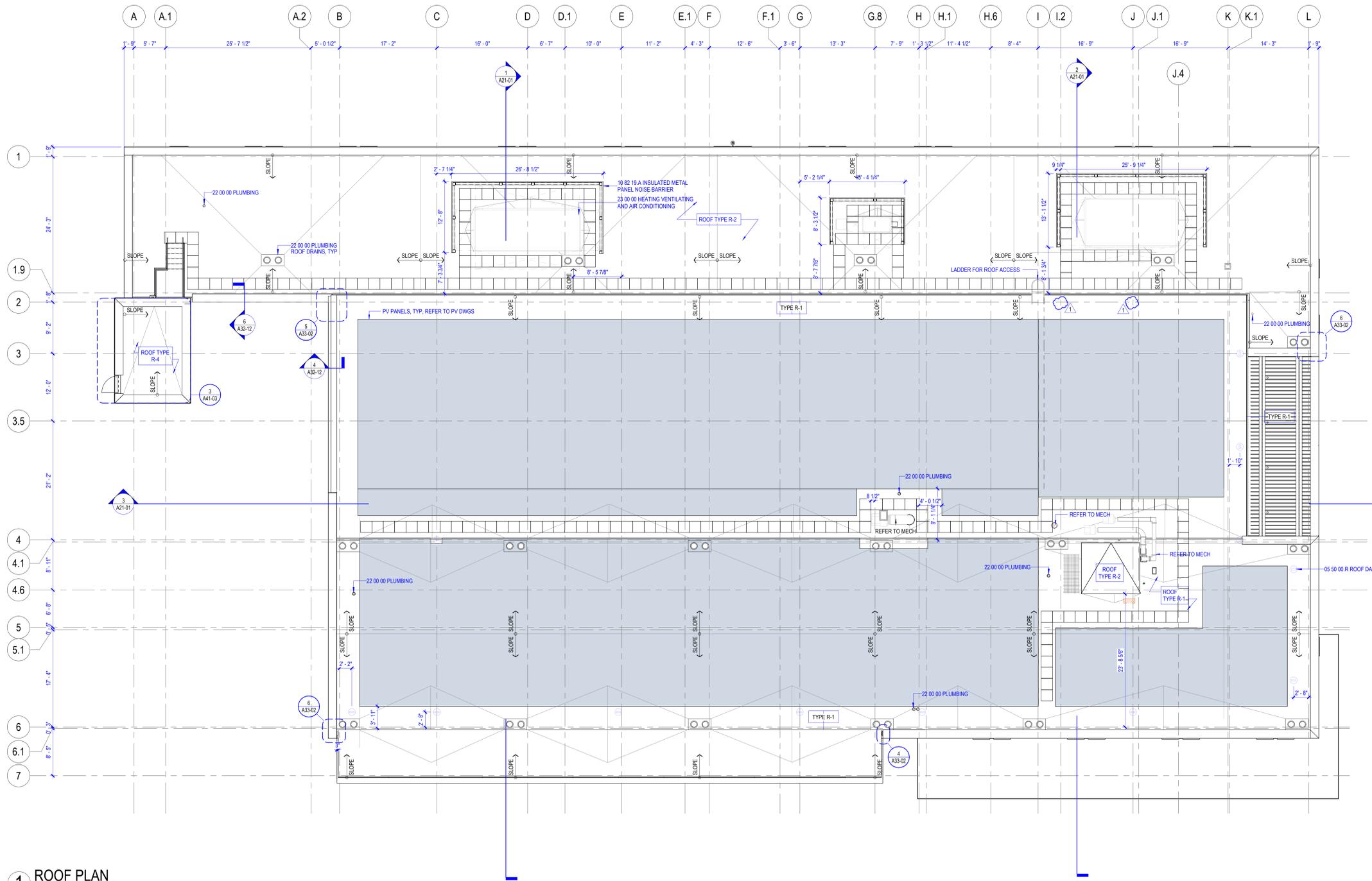
- REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL FOR LOCATIONS OF OTHER ITEMS ON THE ROOF SURFACE.
- PAINT EXPOSED ROOF MOUNTED EQUIPMENT, PIPING, ETC., EXCEPT THOSE ITEMS WHICH ARE PREFINISHED OR STAINLESS STEEL. COLOR AS SELECTED BY ARCHITECT.
- REFER TO PLUMBING DRAWINGS FOR ROOF DRAIN SIZES.
- PROVIDE ROOF CRICKETS AT ALL MECHANICAL EQUIPMENT AND OTHER ROOF TOP OBSTRUCTIONS TO ENSURE POSITIVE DRAINAGE TO ROOF DRAINS.

ROOF PLAN LEGEND

- NOT IN CONTRACT
- 24"x24" FLEXIBLE WALKWAY
- ROOF DRAIN AND OVERFLOW
- ← INSULATION SLOPE
- ⊖ ROOF DAVITS

ROOF PLAN KEYNOTES

<<< Indicates Sheet Keynote on Plan



1 ROOF PLAN
SCALE 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS 12/19/25

PROJECT



WORCESTER SOUTH DIVISION FIRE STATION PROJECT
25 MADISON ST
WORCESTER, MA 01608



CITY OF WORCESTER

455 MAIN STREET
WORCESTER, MA 01605

KEY PLAN



ISSUE CHART

T	Addendum #5	1/30/26
ISSUE	ISSUE	1
Job Number	157132.000	TITLE

ROOF PLAN

SHEET NUMBER

A11-03

CONSULTANTS

FREEMATIC
WENDEL | MITCHELL ASSOCIATES
29 THATCHER PARK RD., VOORHEESVILLE, NY 12186
CIVIL/LANDSCAPE
WESTON & SAMPSON
1 WASHINGTON ST., 10TH FL., BOSTON, MA 02108

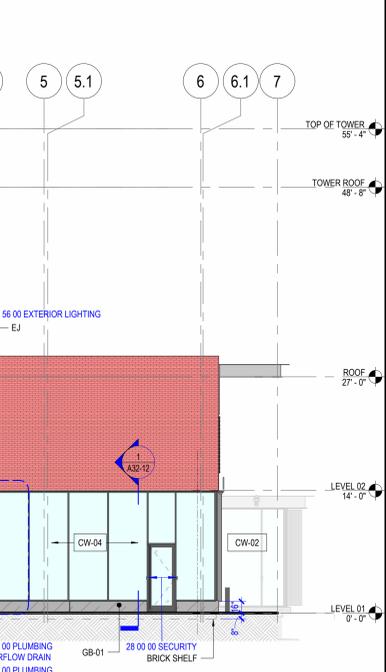
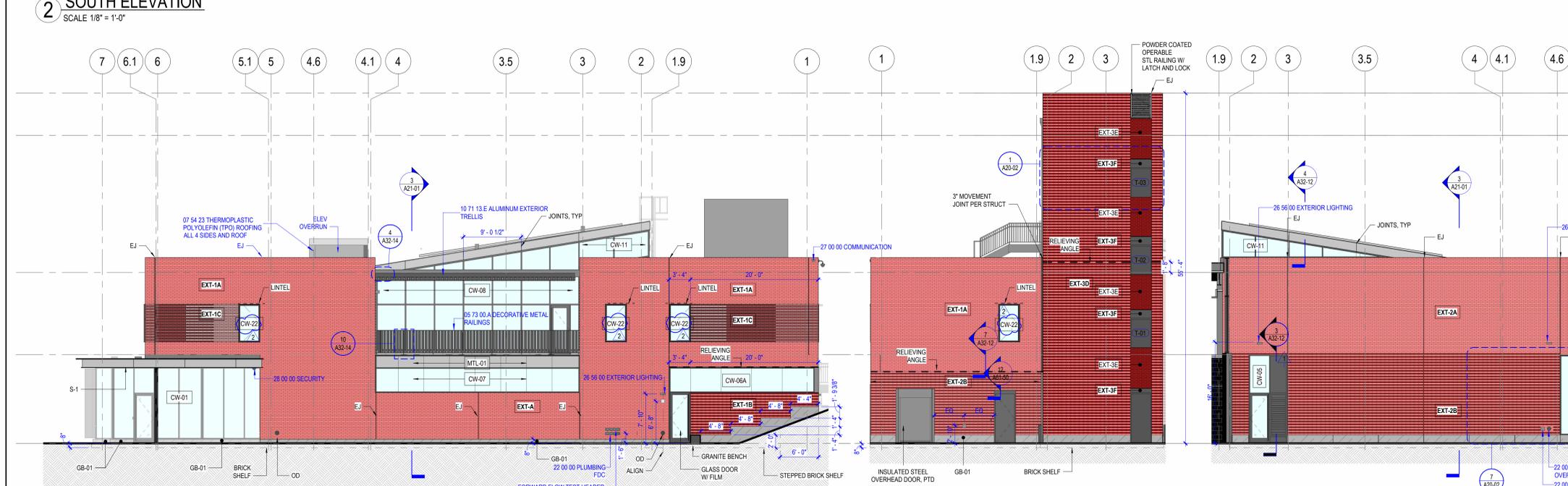
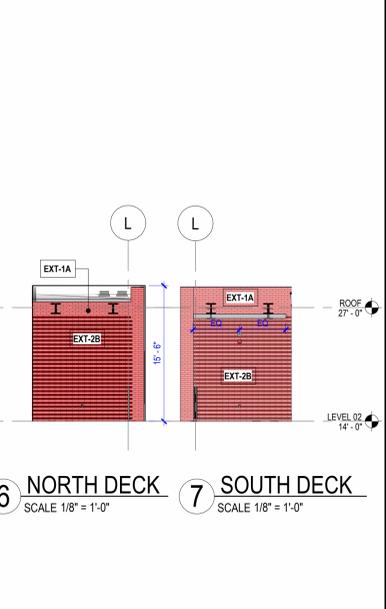
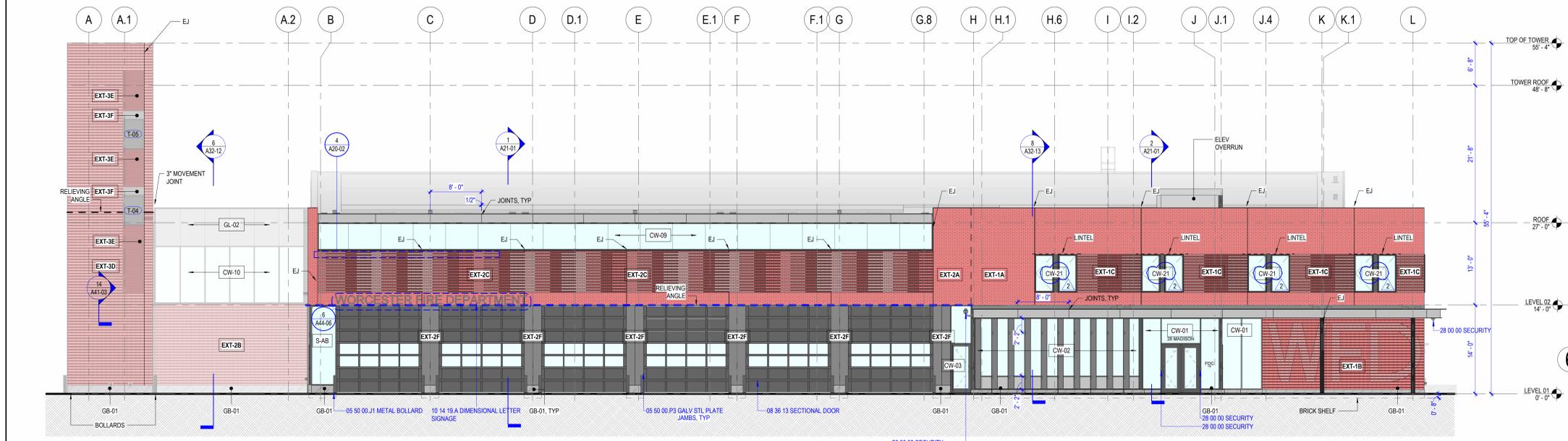
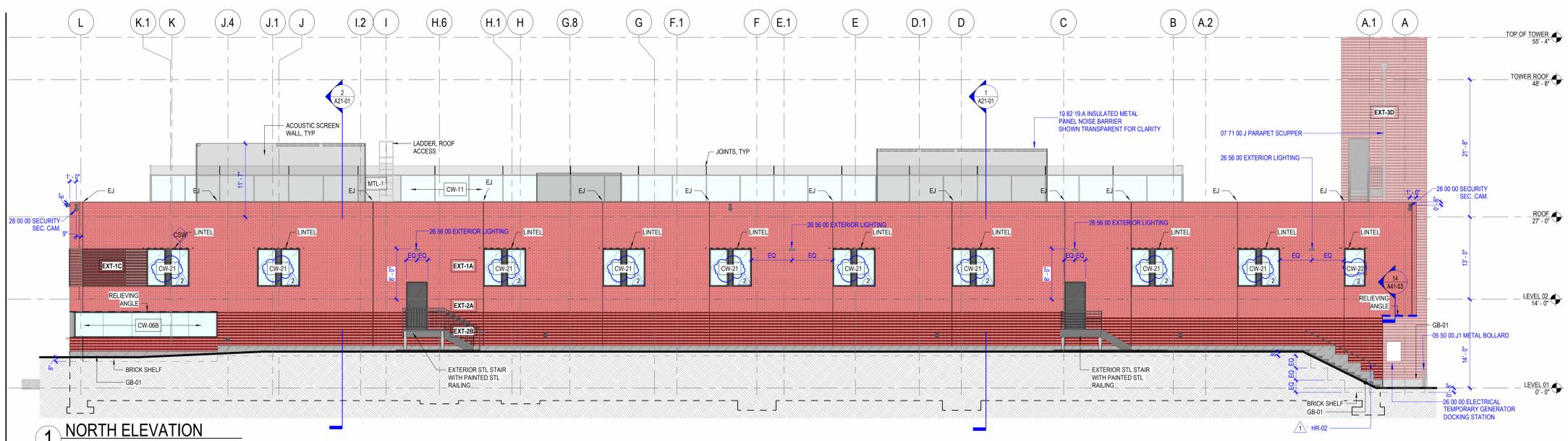
STRUCTURAL
RSE ASSOCIATES
63 PLEASANT ST., WATERTOWN, MA 02471
MEPP/LIGHTING
ARUP
60 STATE ST., BOSTON, MA 02109
CDD/IT
JENSEN HUGHES
33 ARCH ST., BOSTON, MA 02110
ENERGY MODEL
ANDELMANLEK
1408 PROVIDENCE HWY., NORWOOD, MA 02062

EXTERIOR ELEVATION GENERAL NOTES

- MATERIAL SYMBOLS ON ELEVATIONS ARE TO DISPLAY THE EXTENT OF THE MATERIAL ONLY. THEY ARE NOT TO SCALE.
- FINISH GRADE ELEVATIONS AND TAKEOFFS MAY VARY BASED ON GRADE COORDINATION.
- SEE A32-01 AND A32-02 FOR EXTERIOR WALL & ROOF ASSEMBLIES.

EXTERIOR ELEVATION LEGEND

- SMOOTH FACE BRICK
- TEXTURED FACE BRICK
- MTL-01 - METAL PANEL
- GB-01 - GRANITE BASE
- GL-01 - WINDOW GLAZED ASSEMBLY
- GL-02 - SHADOWBOX GLAZED ASSEMBLY



CONSTRUCTION DOCUMENTS 12/19/25

PROJECT
WORCESTER SOUTH DIVISION FIRE STATION PROJECT
25 MADISON ST
WORCESTER, MA 01608

CITY OF WORCESTER

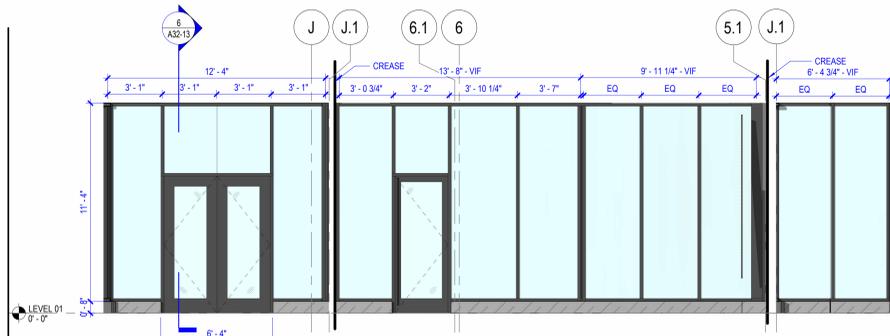
455 MAIN STREET
WORCESTER, MA 01605

KEY PLAN

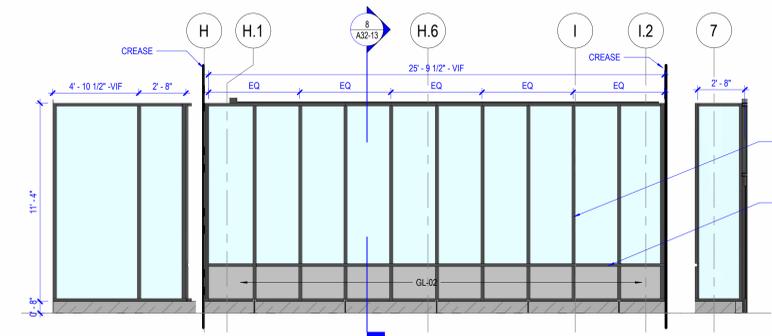
ISSUE CHART

NO.	DATE	DESCRIPTION
2	1/30/25	Addendum #5
1	1/23/25	Addendum #5
1	1/16/25	ISSUE

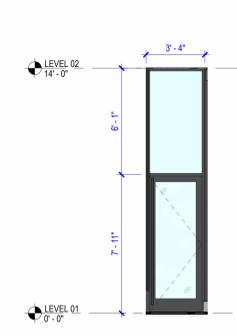
Job Number 157132.000
TITLE



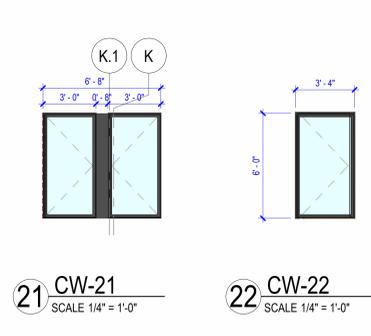
1 CW-01 - ENTRY - UNFOLDED (EGA-1.2)
SCALE 1/4" = 1'-0"



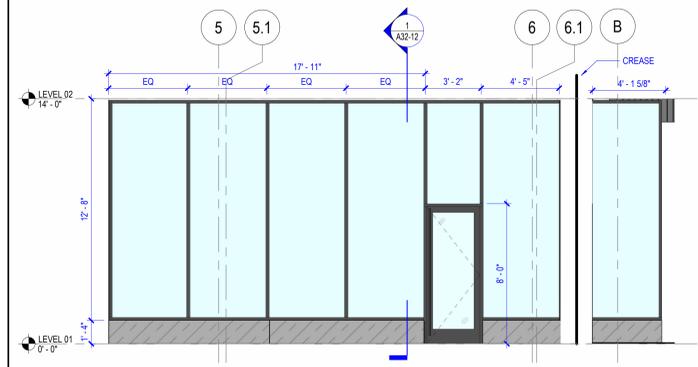
2 CW-02 - WATCH ROOM - UNFOLDED (EGA-1.2)
SCALE 1/4" = 1'-0"



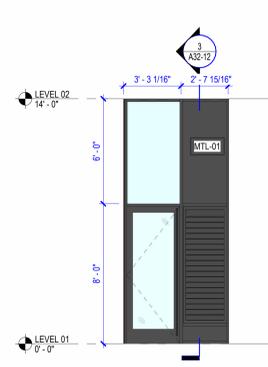
3 CW-03 - APPARATUS BAY ENTRY (EGA-1.2)
SCALE 1/4" = 1'-0"



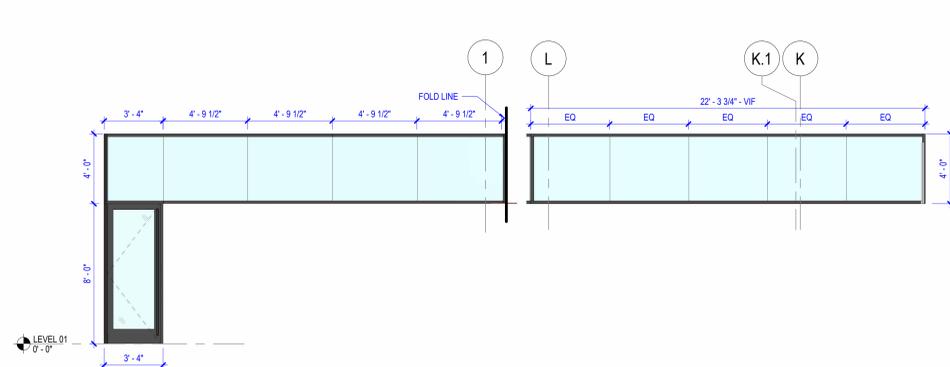
21 CW-21 SCALE 1/4" = 1'-0"
22 CW-22 SCALE 1/4" = 1'-0"



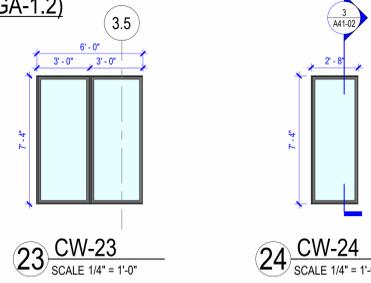
4 CW-04 - APPARATUS BAY - WEST ENTRY (EGA-1.2)
SCALE 1/4" = 1'-0"



5 CW-05 - NORTH WEST ENTRY (EGA-1.2)
SCALE 1/4" = 1'-0"

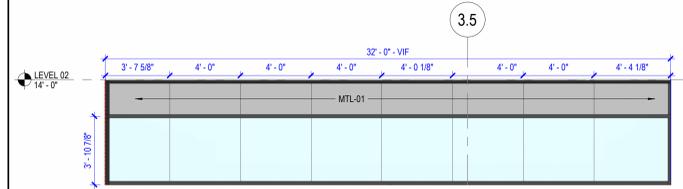


6A CW-06A - FITNESS EAST (EGA-1.1) SCALE 1/4" = 1'-0"
6B CW-06B - FITNESS NORTH (EGA-1.1) SCALE 1/4" = 1'-0"

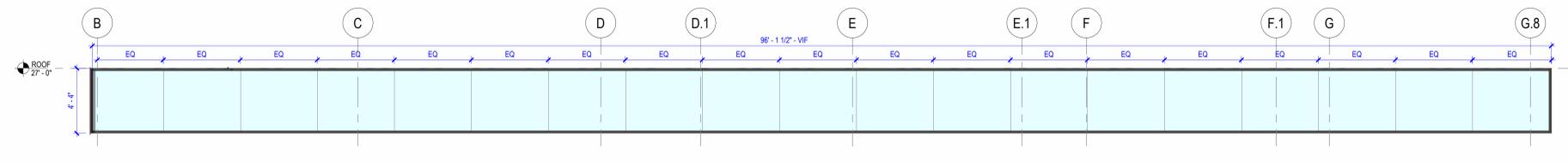


23 CW-23 SCALE 1/4" = 1'-0"
24 CW-24 SCALE 1/4" = 1'-0"

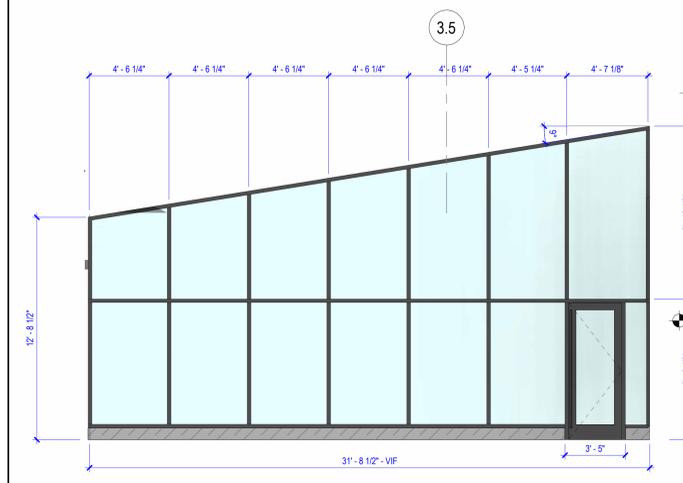
NOTE:
1. SEE A32-01 FOR EXTERIOR GLAZING INFORMATION
2. SEE A45-03 FOR SF-07
3. ALL CW FRAMES TO PERIMETER EXTENDED SNAP COVER, UNLESS SHOWN OTHERWISE. SEE 3/A34-11 FOR SILL AND HEAD DETAIL. SEE 8/33-01 FOR JAMB DETAIL.



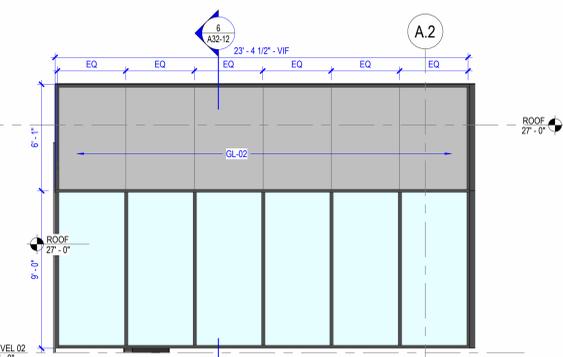
7 CW-07 - TRAINING ROOM (EGA-1.1)
SCALE 1/4" = 1'-0"



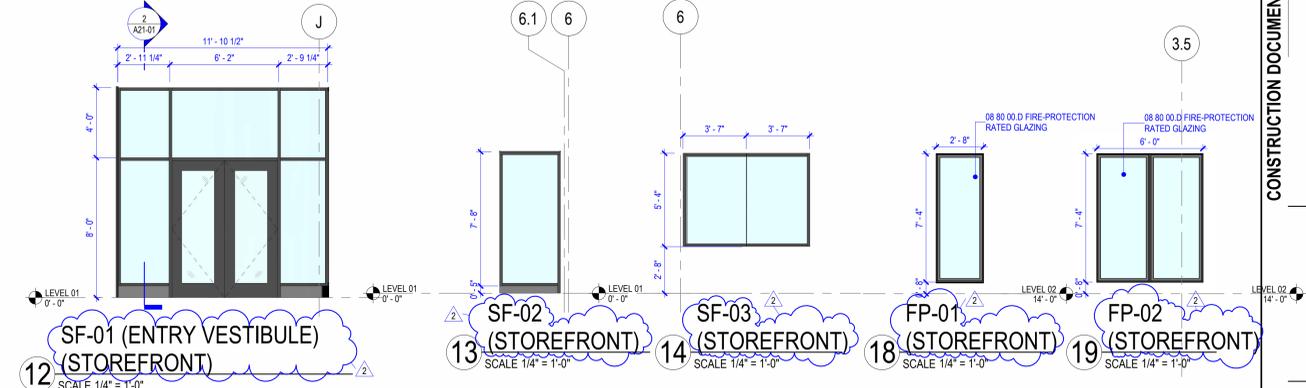
9 CW-09 - SOUTH CLERESTORY (EGA-1.1)
SCALE 1/4" = 1'-0"



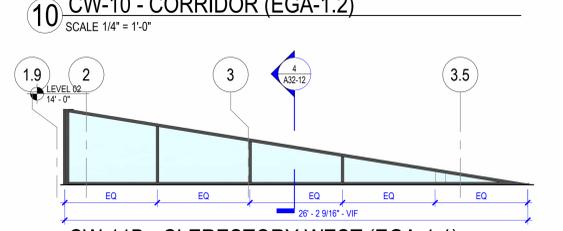
8 CW-08 - KITCHEN (EGA-1.3)
SCALE 1/4" = 1'-0"



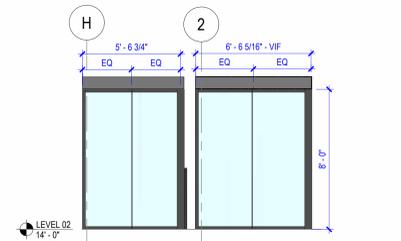
10 CW-10 - CORRIDOR (EGA-1.2)
SCALE 1/4" = 1'-0"



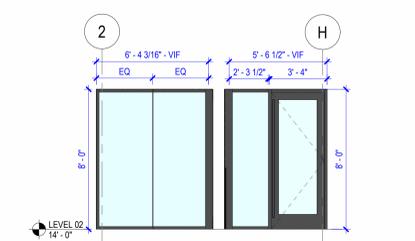
12 SF-01 (ENTRY VESTIBULE) (STOREFRONT) SCALE 1/4" = 1'-0"
13 SF-02 (STOREFRONT) SCALE 1/4" = 1'-0"
14 SF-03 (STOREFRONT) SCALE 1/4" = 1'-0"
18 FP-01 (STOREFRONT) SCALE 1/4" = 1'-0"
19 FP-02 (STOREFRONT) SCALE 1/4" = 1'-0"



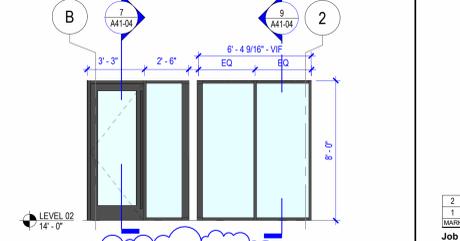
11B CW-11B - CLERESTORY WEST (EGA-1.1)
SCALE 1/4" = 1'-0"



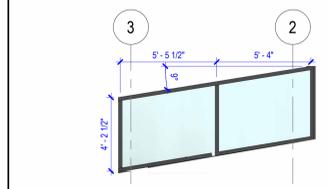
15 SF-04 - UNFOLDED (STOREFRONT) SCALE 1/4" = 1'-0"



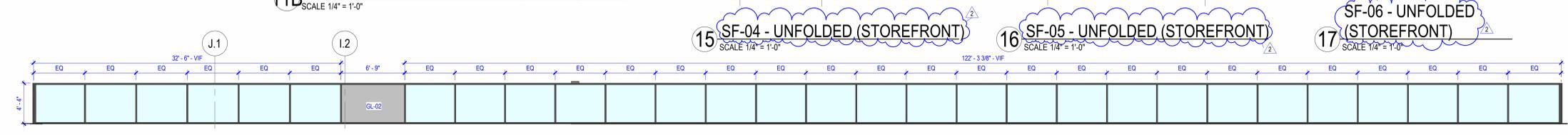
16 SF-05 - UNFOLDED (STOREFRONT) SCALE 1/4" = 1'-0"



17 SF-06 - UNFOLDED (STOREFRONT) SCALE 1/4" = 1'-0"



11A CW-11A - CLERESTORY EAST (EGA-1.1) SCALE 1/4" = 1'-0"



11 CW-11 - CLERESTORY NORTH (EGA-1.1) SCALE 3/16" = 1'-0"

CONSTRUCTION DOCUMENTS 12/19/25

PROJECT

WORCESTER SOUTH DIVISION FIRE STATION PROJECT
25 MADISON ST
WORCESTER, MA 01608

CITY OF WORCESTER

455 MAIN STREET
WORCESTER, MA 01605

KEY PLAN

ISSUE CHART

2	Addendum #5	1/30/25
1	Addendum #5	1/23/25
1	ISSUE	1/23/25
Job Number		157132.000
		TITLE

EXTERIOR GLAZING ELEVATIONS

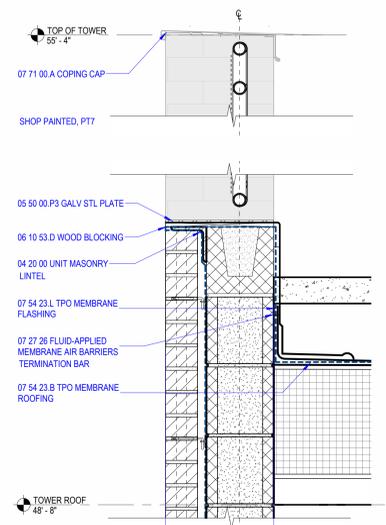
SHEET NUMBER

A34-01

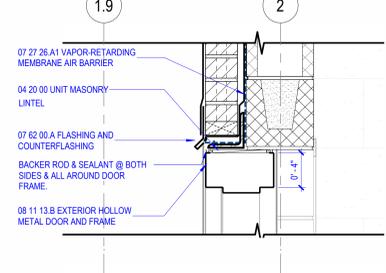


2	Addendum #5	1/30/25
1	Addendum #5	1/23/25
ISSUE	ISSUE	DATE
Job Number	157132.000	TITLE

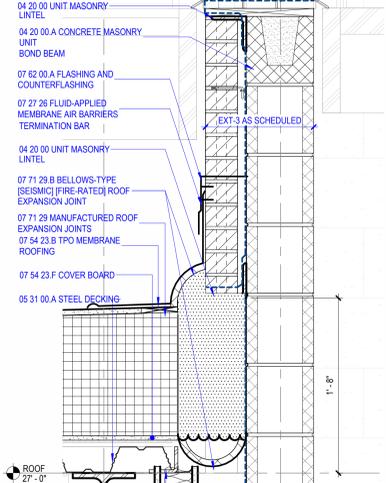
CONSTRUCTION DOCUMENTS 12/19/25



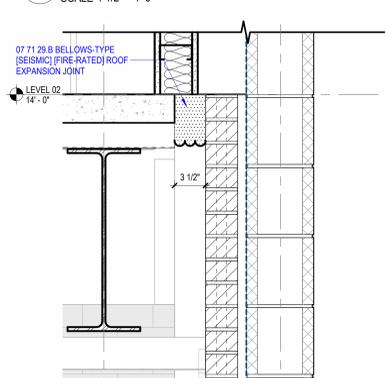
16 TRAINING TOWER GATE SECTION
SCALE 1 1/2" = 1'-0"



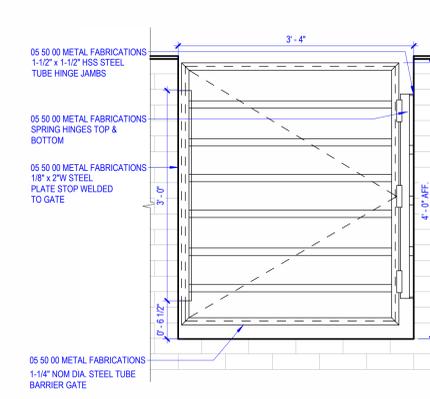
15 DOOR FRAME - TOWER ROOF
SCALE 1 1/2" = 1'-0"



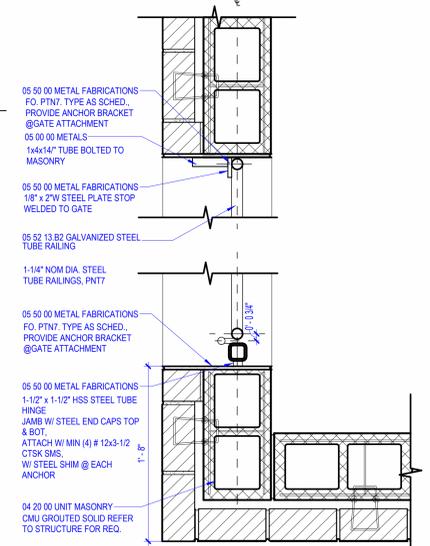
14 EXPANSION JOINT DTL @ FLOOR
SCALE 1 1/2" = 1'-0"



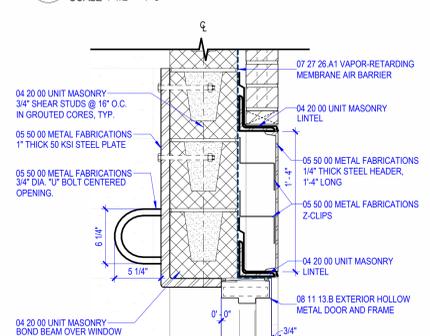
10 FRAME @ EXTERIOR TRAINING WINDOW
SCALE 1 1/2" = 1'-0"



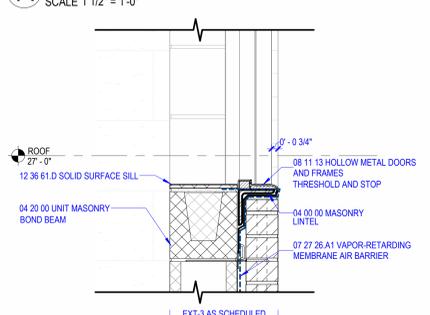
13 TRAINING TOWER GATE ELEVATION
SCALE 1" = 1'-0"



12 TRAINING GATE PLAN DETAIL
SCALE 1 1/2" = 1'-0"



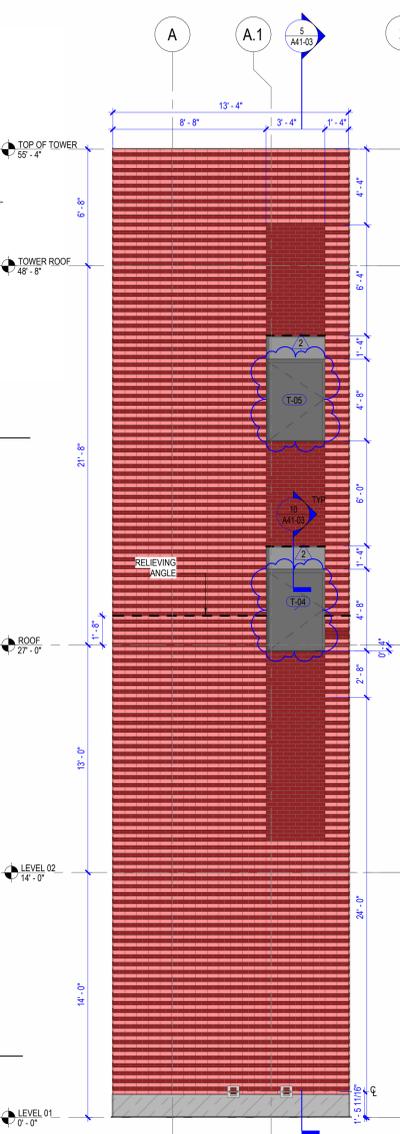
11 HEAD DETAIL @ EXT. TRAINING WINDOW
SCALE 1 1/2" = 1'-0"



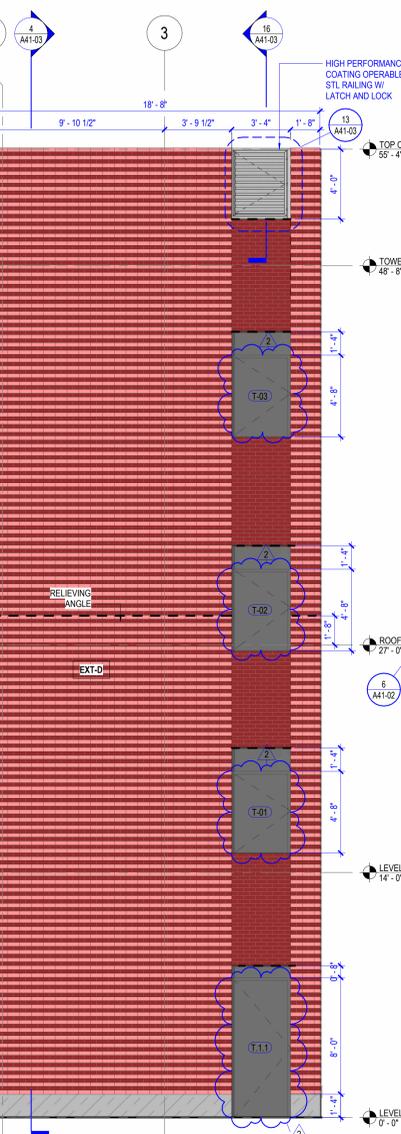
9 TRAINING WINDOW JAMB
SCALE 1 1/2" = 1'-0"



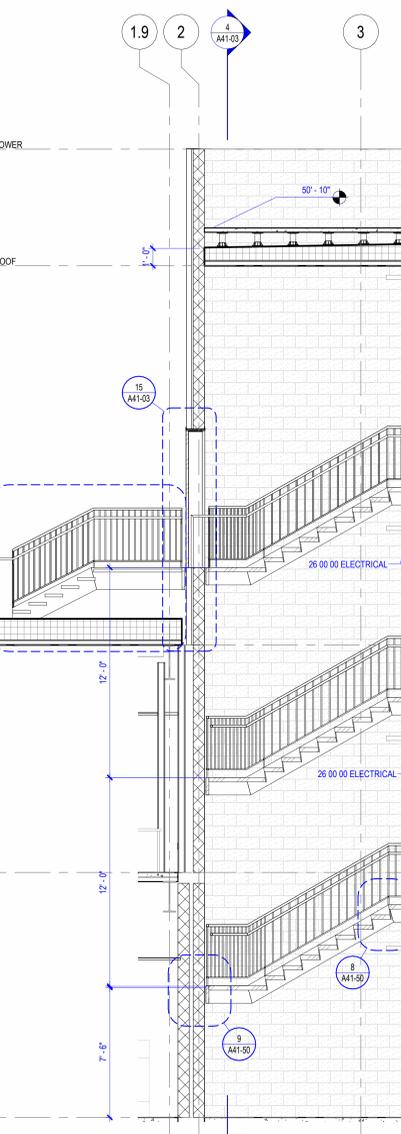
8 TRAINING WINDOW - INT. ELEVATIONS
SCALE 1/2" = 1'-0"



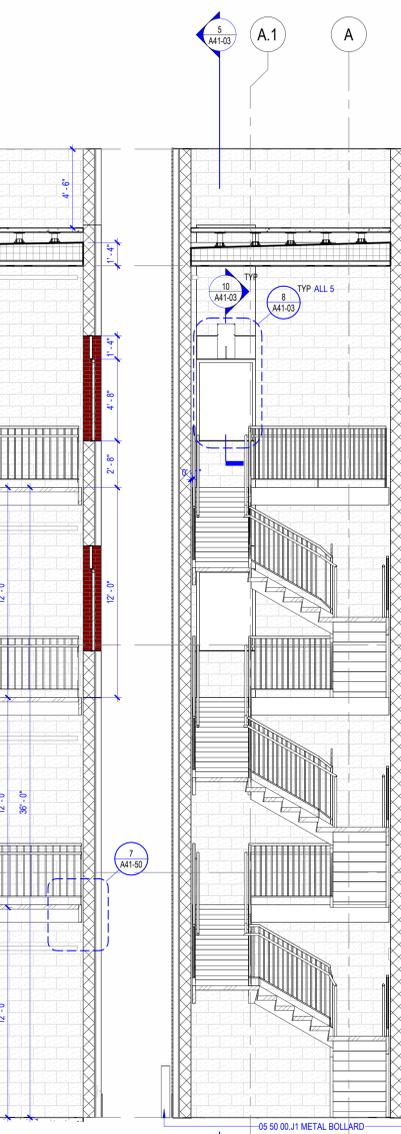
7 TOWER SOUTH ELEVATION
SCALE 1/4" = 1'-0"



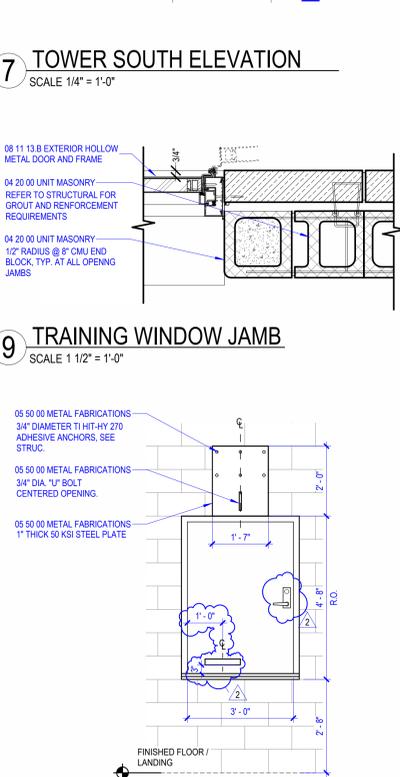
6 TOWER WEST ELEVATION
SCALE 1/4" = 1'-0"



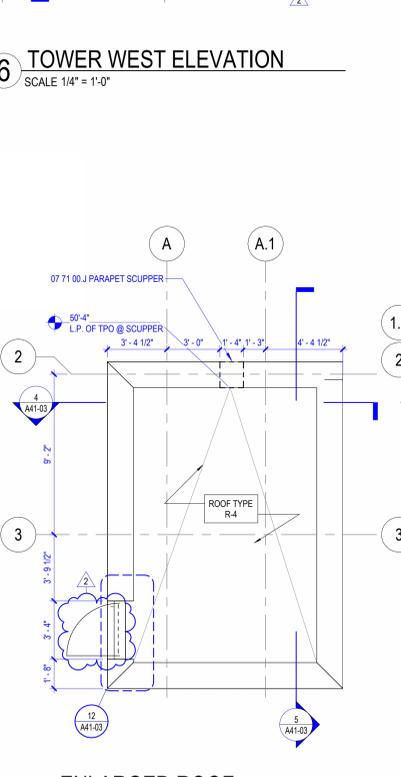
5 SECTION - WEST
SCALE 1/4" = 1'-0"



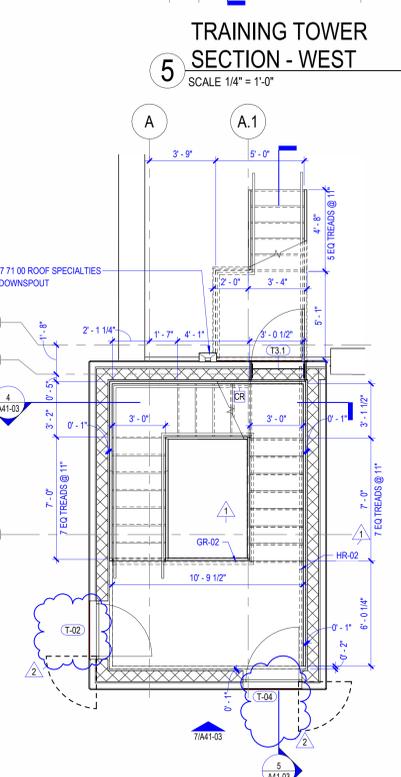
4 SECTION - SOUTH
SCALE 1/4" = 1'-0"



3 TOWER
SCALE 1/4" = 1'-0"



2 ENLARGED ROOF PLAN - TRAINING TOWER
SCALE 1/4" = 1'-0"



1 ENLARGED PLAN - TRAINING TOWER - LEVEL 01
SCALE 1/4" = 1'-0"

1/30/2025 2:41:55 PM Autodesk Docs: City of Worcester - South Division Firehouse/ARCH_City of Worcester - South Division Firehouse.rvt



**WORCESTER SOUTH
DIVISION FIRE
STATION PROJECT**
25 MADISON ST
WORCESTER, MA 01608



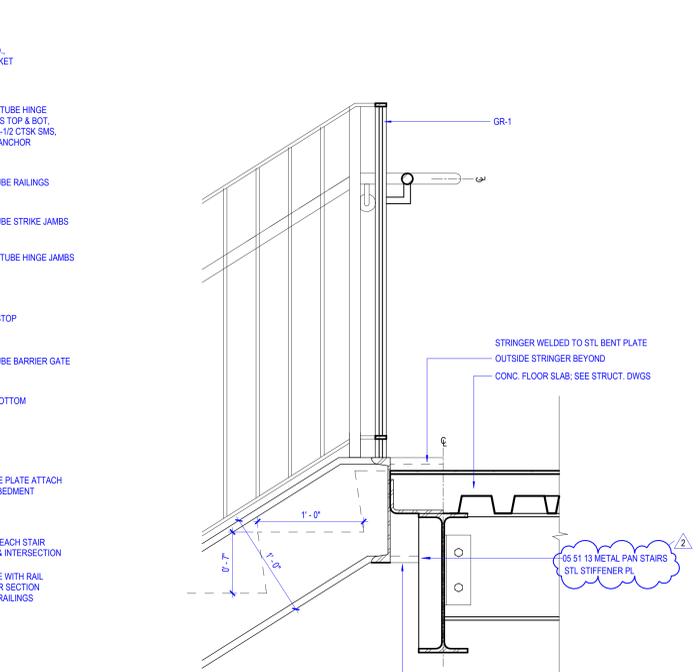
CITY OF WORCESTER

455 MAIN STREET
WORCESTER, MA 01605

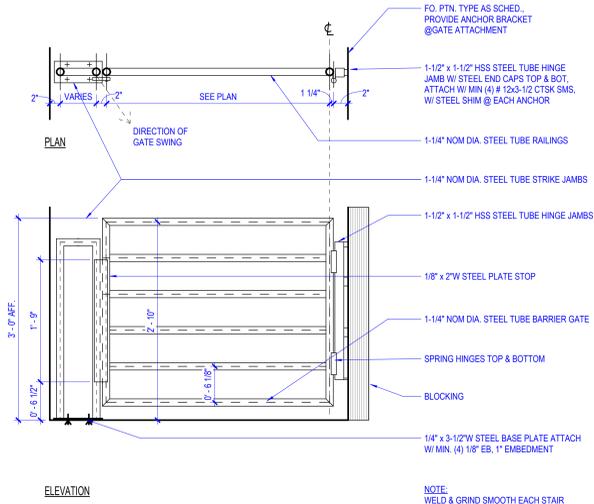
CONSTRUCTION DOCUMENTS 12/19/25



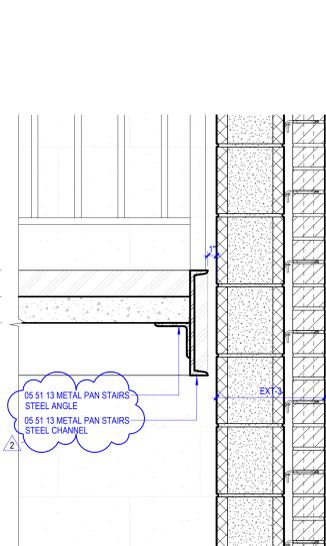
2	Addendum #5	1/30/25
1	Addendum #5	1/23/25
ISSUE	ISSUE	DATE
Job Number	157132.000	TITLE



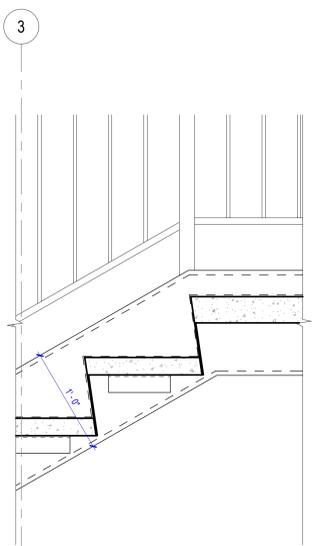
**6 STAIR B/C - LEVEL 2
TOP OF LANDING**
SCALE 1 1/2" = 1'-0"



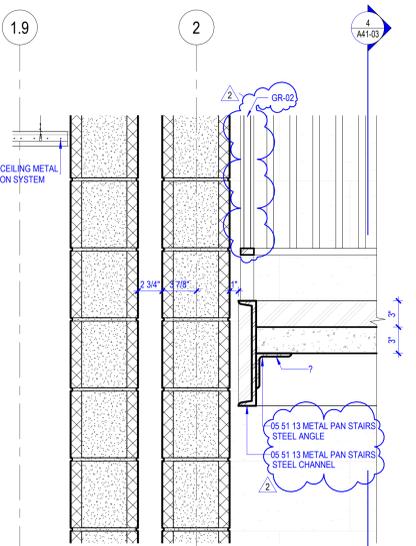
5 STAIR BARRIER GATE EXIT LANDING
SCALE 1" = 1'-0"



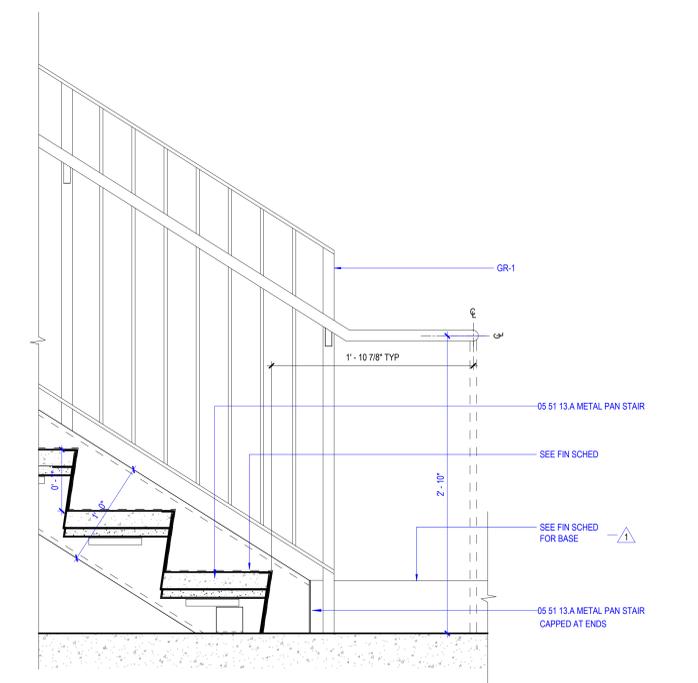
**7 TOWER STAIR
SECTION DETAIL -
EXTERIOR WALL**
SCALE 1 1/2" = 1'-0"



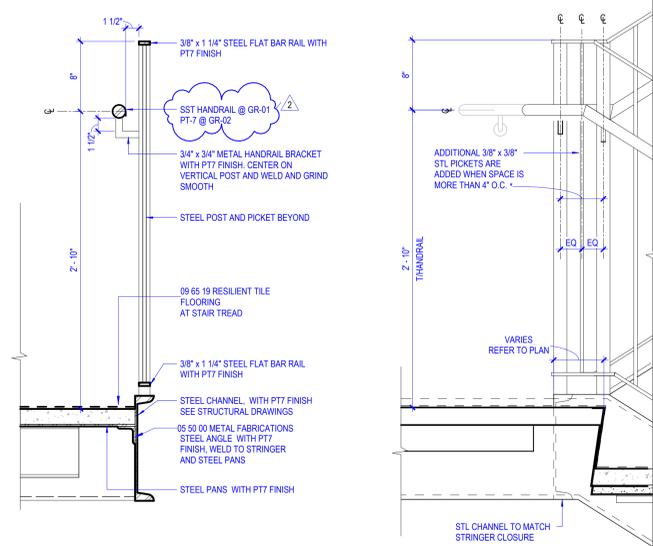
**8 TOWER STAIR -
TRAINING
PLATFORM**
SCALE 1 1/2" = 1'-0"



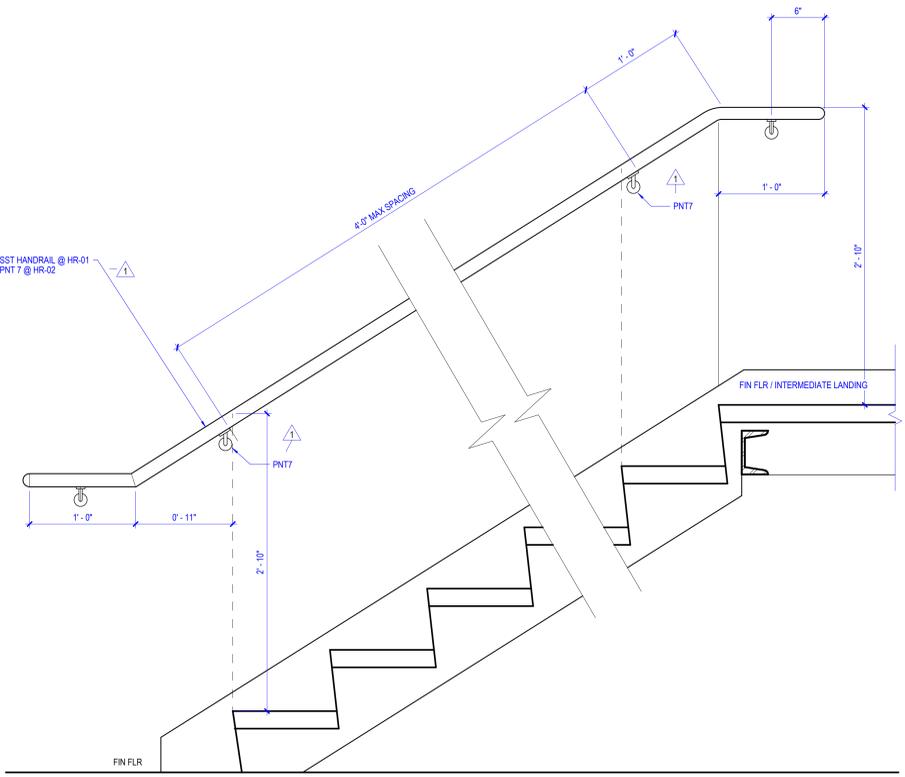
**9 TOWER STAIR -
TRAINING
PLATFORM AT MID
LANDING**
SCALE 1 1/2" = 1'-0"



**1 STAIR B/C -
MID-LANDING GUARDRAIL**
SCALE 1 1/2" = 1'-0"



2 STAIR B/C - MID-LANDING GUARDRAIL
SCALE 1 1/2" = 1'-0"



4 HR-01 & HR-02 - TYP HANDRAIL DETAIL
SCALE 1 1/2" = 1'-0"

3 GR-01 & GR-02 - TYP. GUARDRAIL DETAIL
SCALE 1 1/2" = 1'-0"

DOOR SCHEDULE

MARK	To Room Number	MARK	FIRE RATING	DOOR				FRAME		DETAILS		HARDWARE SET NUMBER	REMARKS			
				W	HT	THK	TYPE	MATERIAL	FINISH	HEAD	JAMB					
LEVEL 01																
101.2	101	SCBA FILL	-	3'-6"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
102.2	102	YARD STORAGE	-	3'-6"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
103	103	COMPRESSOR ROOM	-	5'-0"	7'-10"	0'-1 3/4"	FF	HM	PNT3	D	HM	PNT3	12A61-50	15A61-50	25.0	STC 35-40
104	104	EMS STO	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
105	105	DEPT STORAGE	-	3'-8"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
106.1	106	TURN OUT GEAR	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
106.2	106	TURN OUT GEAR	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
107	107	STORAGE ROOM 182	-	3'-8"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	10.0	
107a	107	STORAGE ROOM 182	-	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	19.0	
108	108	BAY WC	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	10.0	
109	109	BAY CUSTODIAL	-	3'-6"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	21.0	
110	110	SCBA SHOP	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
111.1	121	CORRIDOR	60	5'-0"	7'-10"	0'-1 3/4"	FF	HM	PNT1	D	HM	PNT1	10A61-50	9A61-50	22.0	STC 35-40
111.2	111	MAIN ELEC	90	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	10A61-50	9A61-50	22.0	
112.1	121	CORRIDOR	90	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	22.0	STC 35-40
112.2	112	EMERGENCY ELEC	90	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	10A61-50	9A61-50	22.0	
113.1	113	EXERCISE	-	3'-0"	7'-10"	0'-1 3/4"	FG	HM	PNT7	S	HM	PNT7	10A61-50	9A61-50	20.0	STC 35-40
114	114	WATER SERVICE	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	19.0	STC 35-40
115.1	115	TRAINING ROOM	-	3'-0"	8'-0"	0'-1 3/4"	FG	AL	PNT11	S	AL	PNT11	10A61-50	9A61-50	20.0	STC 35-40
115.2	115	TRAINING ROOM	-	3'-0"	8'-0"	0'-1 3/4"	FG	AL	PNT11	S	AL	PNT11	10A61-50	9A61-50	20.0	STC 35-40
115a	115	TRAINING ROOM	60	5'-0"	7'-8"	0'-1 3/4"	FF	WD	SEAL	D	HM	PNT3	10A61-50	9A61-50	18.0	
116	116	WC 2	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	7A41-04	16A61-50	10.0	STC 35-40
117	117	WC 1	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	7A41-04	16A61-50	10.0	STC 35-40
118	118	WORK ROOM	-	5'-0"	7'-10"	0'-1 3/4"	FF	HM	PNT3	D	HM	PNT3	12A61-50	15A61-50	25.0	
119	119	DECOR	20	3'-8"	7'-10"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	7.0	
119a	119a	PPE DRYING ROOM	20	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	20.0	
119c1	119c	SHOWER LOCKERS	-	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	15.0	
119c2	119c	SHOWER LOCKERS	20	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	15.0	
119d1	119d	SHOWERS	-	2'-6"	7'-0"	0'-1 3/4"	F	FB	-	S	FB	-	12A61-50	15A61-50	24.0	
119d2	119d	SHOWERS	-	2'-6"	7'-0"	0'-1 3/4"	F	FB	-	S	FB	-	12A61-50	15A61-50	24.0	
119d3	119d	SHOWERS	-	2'-6"	7'-0"	0'-1 3/4"	F	FB	-	S	FB	-	12A61-50	15A61-50	24.0	
119e	119e	CTL RM	60	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	19.0	
120	120	SHOWER WC	-	3'-0"	7'-0"	0'-1 3/4"	F	HM	PNT3	S	HM	PNT3	12A61-50	15A61-50	10.0	
121.1	121.1	CLOSET	-	5'-0"	7'-8"	0'-1 3/4"	FF	WD	SEAL	S	MW	PNT3	7A52-01	12A52-01	18.0	BLIND CUT DOORS - REFER TO A52-01
121.2	121.2	CLOSET	-	5'-0"	7'-8"	0'-1 3/4"	FF	WD	SEAL	S	MW	PNT3	7A52-01	12A52-01	18.0	BLIND CUT DOORS - REFER TO A52-01
121.3	121.3	CLOSET	-	5'-0"	7'-8"	0'-1 3/4"	FF	WD	SEAL	S	MW	PNT3	7A52-01	12A52-01	18.0	BLIND CUT DOORS - REFER TO A52-01
121.4	121.4	ICE	-	2'-6"	7'-10"	0'-1 3/4"	F	HM	PNT1	D	HM	PNT1	10A61-50	9A61-50	18.0	
121a.3	121a	VESTIBULE	-	6'-0"	7'-10"	0'-1 3/4"	FGFG	AL	PNT11	AL	PNT11	AL	PNT11	16A61-50	3.0	
121b.1	121b	VEST 1	-	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT1	S	HM	PNT1	12A61-50	15A61-50	7.0	
121b.2	121b	VEST 1	-	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT8	S	HM	PNT8	7A41-04	16A61-50	8.0	
121c.1	121c	VEST 2	-	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	
121c.2	121c	VEST 2	-	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT8	S	HM	PNT8	7A41-04	16A61-50	8.0	
122	122	CUSTODIAL	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	21.0	
123	123	WATCH ROOM	-	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	21.0	
123a	123a	BUNK	20	3'-0"	7'-10"	0'-1 3/4"	F	HM	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
S-1.1	S-A1	STAIR A	60	3'-0"	7'-10"	0'-1 3/4"	AC	HM	PNT8	S	HM	PNT8	14A41-01	14A41-01	11.0	STC 35-40
S-B1.2	S-B1	STAIR B	60	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT8	S	HM	PNT8	12A61-50	15A61-50	16.0	
S-B1.3	S-B1	STAIR B	-	3'-8"	3'-0"	0'-1 3/4"	BG	-	-	-	-	-	-	-	-	EGRESS BARRIER GATE
S-C1.2	S-C1	STAIR C	60	3'-0"	7'-10"	0'-1 3/4"	N	HM	PNT8	S	HM	PNT8	12A61-50	15A61-50	7.0	
S-C1.3	S-C1	STAIR C	-	3'-8"	3'-0"	0'-1 3/4"	BG	-	-	-	-	-	-	-	-	EGRESS BARRIER GATE

MARK	To Room Number	MARK	FIRE RATING	DOOR				FRAME		DETAILS		HARDWARE SET NUMBER	REMARKS			
				W	HT	THK	TYPE	MATERIAL	FINISH	HEAD	JAMB					
LEVEL 02																
200F	200	CORRIDOR	-	6'-0"	7'-10"	0'-1 3/4"	FF	HM	PNT3	D	HM	PNT3	10A61-50	9A61-50	9.0	
201	201	COMPANY OFFICER	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	SEAL	S	HM	PNT3	10A61-50	9A61-50	13.0	STC 35-40
201.1	201.1	CLO	-	5'-0"	7'-10"	0'-1 3/4"	S	WD	SEAL	D	HM	PNT3	10A61-50	9A61-50	13.0	
201a	201	COMPANY OFFICER	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	SEAL	S	HM	PNT3	10A61-50	9A61-50	11.0	STC 35-40
202	202	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	PNT1	SEAL	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
203	203	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
204	204	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
205	205	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
206	206	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
207	207	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
208.1	208	COMPANY OFFICER	20	3'-0"	7'-10"	0'-1 3/4"	FG	WD	PNT7	S	HM	PNT7	10A61-50	9A61-50	9.0	STC 35-40
208.2	208.1	CLO	-	4'-0"	7'-10"	0'-1 3/4"	S	WD	SEAL	D	HM	PNT3	10A61-50	9A61-50	13.0	
208a	208a	C/O BUNK ROOM	-	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	
209	209	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
210	210	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-40
211	211	BUNK ROOM	20	3'-0"	7'-10"	0'-1 3/4"	F	WD	PNT1	S	HM	PNT1	10A61-50	9A61-50	11.0	STC 35-

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CODE
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ENERGY MODEL
ANDELMANLELEK
1408 PROVIDENCE HWY, NORWOOD, MA 02062

SYNCHRONIZED CLOCK SYSTEM LEGEND									
SYMBOL	DESCRIPTION	DETAIL	MOUNTING HEIGHT ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE	BY SYNCHRONIZED CLOCK SYSTEM CONTRACTOR		ROUGH-IN AND SUPPORT BY ELECTRICAL CONTRACTOR			
				NOTES	NOTES	PROVIDE BACKBOX	PROVIDE PLASTER RING	PROVIDE CONDUIT	NOTES
H-C1	xx' - SYNCHRONIZED CLOCK - BATTERY	--	+84"	PROVIDE AND INSTALL CLOCK. COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO INSTALLATION.	--	--	--	--	--
H-C2	SYNCHRONIZED CLOCK - DIGITAL	--	+84"	PROVIDE AND INSTALL CLOCK. COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO INSTALLATION.	SEE NOTE	--	(1) 1"	INSTALL CUSTOM BACKBOX FURNISHED WITH CLOCK. PROVIDE CONDUIT FROM BOX UP INTO CLOSEST ACCESSIBLE CEILING SPACE OF THE SAME ROOM AS THE STATION AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING. PROVIDE POWER, CONNECT TO PIGTAIL CORD.	
H-ET	SYNCHRONIZED CLOCK - DIGITAL ELAPSED TIMER	--	+84"	PROVIDE AND INSTALL CLOCK. FURNISH BACKBOX TO ELECTRICAL CONTRACTOR.	2-GANG	1-GANG	(1) 1"	INSTALL CUSTOM BACKBOX FURNISHED WITH CLOCK. PROVIDE CONDUIT FROM BOX UP INTO CLOSEST ACCESSIBLE CEILING SPACE OF THE SAME ROOM AS THE STATION AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING. PROVIDE POWER, CONNECT TO PIGTAIL CORD.	
H-ET ^{S/S}	ELAPSED TIMER START / STOP / RESET CONTROLLER	--	+48"	PROVIDE AND INSTALL CONTROLLER.	2-GANG	1-GANG	(1) 1"	PROVIDE CONDUIT FROM BOX TO THE BACKBOX OF THE CONTROLLED CLOCK. PROVIDE PULL STRING.	

STATION ALERTING / PAGING COMBINED-USE PURVIS SYMBOL LIST									
SYMBOL	DESCRIPTION	DETAIL	MOUNTING HEIGHT ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE	BY OVERHEAD PAGING SYSTEM CONTRACTOR		ROUGH-IN AND SUPPORT BY ELECTRICAL CONTRACTOR			
				NOTES	NOTES	PROVIDE BACKBOX	PROVIDE PLASTER RING	PROVIDE CONDUIT	NOTES
OVERHEAD PAGING									
PS	OVERHEAD PAGING SYSTEM ANALOG LOUDSPEAKER - 2X2' DROP-TILE MOUNTED LOUDSPEAKER	--	IN FINISHED CEILING	PROVIDE LOUDSPEAKER. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	--	--	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO NEXT LOUDSPEAKER BOX OR TO ACCESSIBLE CEILING AS SHOWN ON DRAWINGS. CAP WITH NYLON BUSHINGS AND PROVIDE PULL STRINGS.	
PS _L	OVERHEAD PAGING SYSTEM ANALOG LOUDSPEAKER - 2X2' DROP-TILE MOUNTED LOUDSPEAKER WITH BEACON LIGHT	--	IN FINISHED CEILING	PROVIDE LOUDSPEAKER BEACON ASSEMBLY. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	--	--	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO NEXT LOUDSPEAKER BOX OR TO ACCESSIBLE CEILING AS SHOWN ON DRAWINGS. CAP WITH NYLON BUSHINGS AND PROVIDE PULL STRINGS.	
PS	OVERHEAD PAGING SYSTEM ANALOG LOUDSPEAKER - GYPSUM CEILING MOUNTED LOUDSPEAKER	--	IN FINISHED CEILING	PROVIDE LOUDSPEAKER. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	1-GANG	--	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO NEXT LOUDSPEAKER BOX OR TO ACCESSIBLE CEILING AS SHOWN ON DRAWINGS. CAP WITH NYLON BUSHINGS AND PROVIDE PULL STRINGS.	
H-PSX	OVERHEAD PAGING SYSTEM ANALOG LOUDSPEAKER - WALL MOUNTED LOUDSPEAKER	--	+84"	PROVIDE LOUDSPEAKER. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	1-GANG	--	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING.	
PSX	OVERHEAD PAGING SYSTEM ANALOG DIRECTIONAL/HORN LOUDSPEAKER - CEILING MOUNTED LOUDSPEAKER	--	IN FINISHED CEILING	PROVIDE LOUDSPEAKER. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	1-GANG	--	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING.	
PS _{PEND}	OVERHEAD PAGING SYSTEM ANALOG LOUDSPEAKER - PENDANT MOUNTED LOUDSPEAKER	--	FROM STRUCTURE THROUGH CEILING	PROVIDE LOUDSPEAKER. ROUTE CABLE AS REQUIRED BY SYSTEM IN DESIGNATED ZONES. PROVIDE ZONING AS SHOWN ON PLANS, ZONE CHART AND SPECIFICATIONS.	1-GANG	--	(1) 3/4"		
M	OVERHEAD PAGING SYSTEM MICROPHONE	--	BOX AT +18". DEVICE ON WORK SURFACE	ROUTE CABLE AS REQUIRED BY SYSTEM.	2-GANG	1-GANG	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING.	
VOL	OVERHEAD PAGING SYSTEM VOLUME CONTROL	--	+48"	ROUTE CABLE SO VOLUME CONTROL CONTROLS THE ASSOCIATED LOUDSPEAKER'S VOLUME.	2-GANG	1-GANG	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING.	
DR	DORM REMOTE DEVICE	--	+48"	ROUTE CABLE SO DORM REMOTE DEVICE CONTROLS THE ASSOCIATED LIGHTING LEVEL.	2-GANG	1-GANG	(1) 3/4"	PROVIDE CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE AND CAP WITH NYLON BUSHING. PROVIDE PULL STRING.	
NS	AMBIENT NOISE SENSOR	--	+12'-0"		--	--	--		

PAGING ZONE NOTES	
1.	REFER TO OVERHEAD PAGING ZONE CHART FOR DEPARTMENT LEVEL ZONING.
2.	IN ADDITION TO THE OVERHEAD PAGING ZONING CHART, CONFIGURE ALL CALL TO ADDRESS EVERY ZONE/LOUDSPEAKER PER LEVEL AND THROUGHOUT THE BUILDING.
3.	ANY OVERHEAD PAGING LOUDSPEAKERS IN ELEVATOR CABS WILL BE ON THE ALL CALL ZONE.
4.	COORDINATE FINAL ZONING WITH OWNER PRIOR TO SUBMITTALS.

PROJECT



455 MAIN STREET
WORCESTER, MA 01605

KEY PLAN

ISSUE CHART

2	ADDENDUM #8	1/30/26
1	ADDENDUM #4	1/19/26
ISSUE	ISSUE	DATE

Job Number 157132.000

TITLE
SYNCHRONIZED CLOCK AND OVERHEAD PAGING SYSTEM LEGENDS
SHEET NUMBER

T-020

ADDENDUM #4 1/19/26 7/25/25