

**Part II**  
**Division 8**

**Doors and Windows**



SECTION 08 11 13

STEEL DOORS AND FRAMES

1 PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of contract including General and Supplementary Conditions and Division 1 specification sections apply to Work of this section.

1.2 SECTION INCLUDES

- A. Steel doors panels and frames; non-rated and fire rated

1.3 SUBMITTALS

- A. Shop Drawings: Indicate door and frame elevations, internal reinforcement, cut-outs for glazing, and finishes.
- B. Product Data: Indicate door and frame configurations, location of cut-outs for hardware reinforcement.

1.4 QUALITY ASSURANCE

- A. Conform to the following:
  - 1. SDI-100 - Standard Steel Doors and Frames.
  - 2. DHI - Door Hardware Institute - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
  - 3. Fire Rated Door Panel and Frame Construction: ASTM E152. NFPA 252. UL 10B. NFPA 80, UL 1784.
  - 4. Handicapped: ICC/ANSI A117.1 - 2003, ADA.
- B. Warranty: 10 year warranty against defects in materials and workmanship.

2 PART 2 PRODUCTS

2.1 DOORS AND FRAMES

- A. Manufacturers:
  - 1. Amweld Building Products.
  - 2. Brockway Smith Co.
  - 3. Ceco Door Products.
  - 4. Curries Co.
  - 5. Fleming Door Products.
  - 6. Republic Builders Products.
  - 7. Steelcraft Manufacturing
  - 8. Substitutions: Permitted, subject to compliance with requirements.

- B. Exterior Frames: 14 gage, galvanized steel, with hemmed return, closed cell polyethylene foam, weather stripping and threshold. Prep to receive electric strikes where scheduled.
- C. Interior Frames: 16 gage steel frames with hemmed return.
- D. Exterior Doors: (Insulated) 1-3/4" thick, SSI 100 Level 3, Extra Heavy Duty, 16 gage door faces, flush design, galvanized to ASTM A653 G60.
- E. Interior Doors: (Fire Rated and Non-fire Rated) 1-3/4" thick, SDI 100 Level 2, Heavy Duty, 18 gage door faces, flush design.
- F. Door Core:
  - 1. Exterior Doors: polyurethane foam.
  - 2. Fire Rated Doors: mineral core.
- G. Thermal Insulated Door: Total insulation R value of not less than 10.

## 2.2 ACCESSORIES

- A. Lights: Tempered insulating glass at exterior doors, 1/4" tempered float glass at interior non-fire rated doors, 1/4" wired float glass at interior fire rated doors..
- B. Silencers: Resilient rubber fitted into drilled hole.
- C. Weatherstripping; Integral compression type at jambs and head, bulb and fin at bottom.
- D. Primer: Zinc chromate type.

## 2.3 FABRICATION - DOORS

- A. Astragals for Double Doors (If required): Aluminum, T shaped, specifically for double doors. Provide units with fire rating at fire rated double doors.
- B. Fabricate doors with hardware reinforcement welded in place.
- C. Attach appropriate label to each fire rated door. **DO NOT PAINT OVER LABELS**

## 2.4 FABRICATION - FRAMES

- A. Fabricate steel frames knock-down for field assembly for interior installation in drywall partitions; welded frames for exterior doors, double egress doors and installation in masonry walls.
- B. Fabricate frames with hardware reinforcement plates welded in place.
- C. Prepare frame for silencers and install.
- D. Attach appropriate label to each fire rated frame.

## 2.5 FINISH

- A. Steel Sheet: Galvanized to ASTM A525 G60).

- B. Primer: Air dried.

### 3 PART 3 EXECUTION

#### 3.1 INSTALLATION

- A. Install doors and frames in accordance with SDI-100.
- B. Coordinate installation of doors and frames with installation of hardware specified in Section 08 71 00.
- C. Coordinate with gypsum board wall construction for frame anchor placement.
- D. Install door louvers plumb and level.

#### 3.2 TOLERANCES

- A. Maximum Diagonal Distortion: 1/8 inch measured with straight edge, corner to corner.

...END OF SECTION



SECTION 08 31 00

ACCESS PANELS

1 PART 1 GENERAL

1.1 DESCRIPTION

- A. Bidding requirements, conditions of the contract and pertinent portions of sections in Division One of these specifications, apply to the section as fully as though repeated herein.
- B. Work under this section includes furnishing and installing access panels.
- C. Related work:
  - 1. Section 09 25 00, gypsum wallboard.
  - 2. Section 09 90 00, painting; field paint finish.

1.2 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
  - 1. Product data for access panels and GWB specialties.

1.3 DELIVERY

- A. Package, handle, deliver and store access panels at the project site in a manner that will avoid damage.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Fire-Rated Access Doors and Frames: Conform to U.L. and Warnock Hersey requirements.

2 PART 2 PRODUCTS

2.1 MANUFACTURER:

- A. Access Panels listed as follows as provided by Larsen's Manufacturing Company, or equal. Products of other manufacturers may be considered subject to compliance with requirements as judged solely by Architect.

2.2 MATERIAL:

- A. In accordance with Non-Rated Flush Access Panel for Wall Board Surfaces (Larsen L-DWC Series), provide where penetrating non-fire rated assemblies.
  - 1. 16 Gauge cold rolled steel frame
  - 2. 14 Gauge cold rolled steel door.

3. Phosphate dipped with baked on rust inhibitive gray prime finish
4. 22 Gauge galvanized steel drywall bead
5. Concealed spring pin hinge
6. Frames are provided with .25" mounting holes
7. Flush screwdriver operated cam latch (provided additional cams for panels 18" x 18" and greater in size"

A. In accordance with Fire-Rated Flush Access Panel for Wall Board Surfaces (Larsen L-FRAP Series), provide where penetrating fire rated assemblies.

1. 16 Gauge cold rolled steel frame
2. 20 Gauge cold rolled steel door.
3. Phosphate dipped with baked on rust inhibitive gray prime finish
4. 22 Gauge galvanized steel drywall bead
5. Concealed spring pin hinge
6. Frames are provided with .25" mounting holes
7. Flush screwdriver operated cam latch (provided additional cams for panels 18" x 18" and greater in size"
8. 2" thick fire rated mineral fiber

### 2.3 FABRICATION

A. Furnish as necessary each access panel assembly manufactured complete with all parts ready for installation.

## 3 PART 3 EXECUTION

### 3.1 INSPECTION

A. Verify that wall and ceiling openings are correctly dimensioned to receive access panel.

### 3.2 INSTALLATION

A. Install according to manufacturers instruction.

### 3.3 ADJUST AND CLEAN

A. Adjust latch and lock mechanisms to operate smoothly

...END OF SECTION



SECTION 08 41 13

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

1 PART 1 GENERAL

1.1 SUMMARY

- A. Section includes aluminum-framed storefronts including aluminum and glass doors, frames, hardware, glass, and infill panels.

1.2 SYSTEM DESCRIPTION

- A. Aluminum-Framed Storefront System: Painted tubular aluminum sections with supplementary internal support framing, factory fabricated, factory finished, glass and insulated metal panel infill, related flashings, anchorage and attachment devices.
- B. System Assembly: Site assembled.
- C. System Design: Provide for expansion and contraction within system components caused by temperature cycling. Design and size members to withstand loads caused by pressure and suction of wind.
- D. Air Infiltration: Limit air leakage through assembly to 0.06 cfm/min/sq ft (0.003 cu m/s/sq m) of wall area, measured at reference differential pressure across assembly of 1.57 psf (75 Pa) as measured in accordance with ASTM E283.
- E. Water Leakage: None when measured in accordance with ASTM E331.
- F. System Internal Drainage: Drain water entering framing system to exterior.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work and expansion and contraction joint location and details.
- B. Product Data: Submit component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AAMA SFM-1 and AAMA MCWM-1 - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Surface Burning Characteristics:
  - 1. Foam Insulation: Maximum 75/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
- C. Apply label from agency approved by authority having jurisdiction to identify each foam plastic insulation board.
- D. Maintain one copy of each document on site.

- E. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- F. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.
- G. Design wind loading under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location.

## 1.5 WARRANTY

- A. Furnish five year manufacturer warranty for insulated glass and factory finishes.

## 2 PART 2 PRODUCTS

### 2.1 ALUMINUM-FRAMED STOREFRONTS

- A. Manufacturers:
  - 1. Vistawall Architectural Products.
  - 2. EFCO Corp.
  - 3. Kawneer Co., Inc.
  - 4. Traco.
  - 5. Tubelite.
  - 6. US Aluminum.
  - 7. Substitutions: Permitted subject to compliance with requirements.
- B. Product Description: Aluminum-framed storefronts, extruded aluminum, with aluminum and glass doors, glazing, hardware, and infill panels.

### 2.2 COMPONENTS

- A. Frames: Thermally broken extruded aluminum; flush glazing stops. Frames for interior glazing need not to be thermally broken. Glazing profiles as indicated on drawings.
- B. Reinforced Mullion: Profile of extruded aluminum with internal reinforcement of shaped structural steel section.
- C. Doors: Medium Stile 1-3/4 inches thick, nominal 4 1/2 inch wide top rail, 5" wide vertical stiles, and 10 1/2 inch wide bottom rail; square glazing stops.
- D. Glass and Glazing: Specified in Section 08 80 00.
- E. Glass and Glazing Materials:
  - 1. Glass in Exterior Lights: Clear Low E insulating glass.
  - 2. Glass in Interior Lights: Clear float glass.
  - 3. Glass in Doors and Adjacent Lights: Clear Tempered Low E glass (insulated at exterior lights).
  - 4. Glazing Materials: Storefront manufacturer's standard types to suit application and to achieve weather, moisture, and air infiltration requirements.
- F. Hardware: Manufacturer's standard hardware complying with following basic components.
  - 1. Weatherstripping: Wool pile, continuous and replaceable.

2. Sill Sweep Strips: resilient seal type, of neoprene compound.
  3. Threshold: Extruded aluminum, thermally broken, one piece for each door opening, ribbed non-slip surface, sloped to exterior; maximum 1/2 inch height.
  4. Pivots: Offset type.
  5. Push Bar/Pull Handle: Style as selected from manufacturer's full range of available push/pulls, Vistawall PB-21, PH-20 or equal, match door color.
  6. Exit Device: Specified in Section 08 71 00, installed by door supplier, match door color.
  7. Closer: Specified in Section 08 71 00, installed by door supplier, , match door color.
  8. Finish: Exposed hardware to match hardware finishes specified in 2.4.A.
  9. Lock Cylinders: Specified in Section 08 71 00, installed by door supplier.
  10. Electric Strikes: Specified in Section 08 71 00, installed by door supplier.
- G. Flashings: Minimum 0.040 inch (1.0 mm) thick aluminum, to match mullion sections where exposed.
- H. Steel Sections: ASTM A36/A36M, Structural shapes to suit mullion sections; galvanized.
- I. Fasteners: Stainless steel.
- J. Sill Pan – Provide sill pan flashing sealed to substructure below and integral with all thresholds.
- K. Perimeter Sealant and Backing Materials: Specified in Section 07 90 00.
- L. Provide Deflection Control Slip Track at all storefront head details.

### 2.3 FABRICATION

- A. Fabricate doors and frames allowing for minimum clearances and shim spacing around perimeter of assembly.
- B. Accurately and rigidly fit and secure joints and corners, flush, hairline, and weatherproof.
- C. Arrange fasteners, attachments, and jointing to ensure concealment from view.
- D. Prepare components with internal reinforcement for door hardware [and door operator hinge hardware].

### 2.4 SHOP FINISHING

- A. Painted Aluminum Surfaces: Factory finish, AAMA 2605 ten year standard 70% Kynar 500 PVDF hardcoat finish Color: "Dark Bronze"
- B. Concealed Steel Items: Galvanized to ASTM A123/A123M; minimum 2.0 oz/sq ft coating thickness; galvanize after fabrication.
- C. Apply bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar metals.

### 3 PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

#### 3.2 INSTALLATION

- A. Install doors, frames, glazing, hardware and flashings in accordance with AAMA MCWM-1 - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Use anchorage devices to securely attach frame assembly to structure.
- C. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- D. Coordinate attachment and seal of air and vapor retarder materials. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- E. Install hardware in accordance with Section 08 71 00.
- F. Install infill panels using method required to achieve performance criteria.
- G. Install glass in accordance with Section 08 80 00; separate glass from metal surfaces.
- H. Install perimeter sealants in accordance with Section 07 90 00.
- I. Tolerances:
  - 1. Variation from Plane: 1/8 inch per foot (3 mm/m) maximum, or 1/4 inch per 30 feet (6 mm/m); whichever is less.

...END OF SECTION

SECTION 08 51 00

METAL WINDOWS

1 PART 1 GENERAL

1.1 SUMMARY

- A. Section includes aluminum windows, factory glazing, and framed insect screens.

1.2 SYSTEM DESCRIPTION

- A. Metal Windows: Factory fabricated, factory finished, vision glass, related flashings, anchors, and attachment devices.
- B. Configuration: Conform with ANSI 101 Designations for windows required for Project; H-hung sash, A-awning sash.
- C. Certification: Provide only windows certified by NFRC.
- D. System Design: Design and size components to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of wall to a minimum design pressure of 29 psi at Zone 4 locations and 52 psi at Zone 5 locations and as tested in accordance with ASTM E330. REFERENCE: WIND LOADING ELEVATIONS, DETAIL ON DRAWING 10/A9.01
- E. Air Infiltration: Limit air leakage through assembly to 0.3 cfm/sq ft of wall area, measured at reference differential pressure across assembly of 1.57 psf as measured in accordance with ASTM E283.
- F. Water Leakage: None when measured in accordance with ASTM E331.
- G. System Internal Drainage: Drain water entering framing system to exterior.

1.3 SUBMITTALS

- A. Shop Drawings: Submit shop drawings, including typical unit elevations at 1/4 inch scale, and half size detail sections of every typical composite member. Indicate opening dimensions, framed opening tolerances, affected related work; and installation requirements. Show anchors, hardware, operators and other components as appropriate if not included in manufacturer's standard data. Include glazing details and standards for factory glazed units.
- B. Product Data: Provide manufacturer's specifications, recommendations and standard details for aluminum window units, component dimensions, anchorage and fasteners, and glass.
- C. Samples:
  - 1. Submit one sample of each required aluminum finish, on 3 x 3 inch long sections of extrusion shapes or aluminum sheets as required for window units.

2. Submit additional samples, if and as directed by Architect, to show fabrication techniques, workmanship of component parts, and design of hardware and other exposed auxiliary items.
- D. Certifications: Submit certified test laboratory reports by independent laboratory substantiating performance of system.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer and Installer: Companies specializing in manufacturing commercial window units with minimum three years documented experience.
- B. Perform Work in accordance with the following:
  1. Metal Windows and Sliding Doors: Fabricate and label window and door assemblies in accordance with AAMA 101 for types of windows required.

#### 1.5 WARRANTY

- A. Furnish five year manufacturer warranty for insulated glass units and factory finishes.

## 2 PART 2 PRODUCTS

### 2.1 METAL WINDOWS AND SLIDING DOORS

- A. Manufacturers:
  1. Traco-Aluminum Windows. (Product Base Manufacturer)
  2. EFCO Corp.-Aluminum Windows.
  3. Graham Architectural Products.
  4. Kawneer Co. Inc.-Aluminum Windows.
  5. St. Cloud Windows Inc.-Aluminum Windows.
  6. Universal Window and Door LLC.
  7. Wausau Metals-Aluminum Windows.
  8. Substitutions: Permitted.
- B. Product Description:
  1. Hung Windows: Double-Hung (Mechanically fixed upper sash, bottom sash limited to 18" clear when open), tilt wash operation, with screens at operable sash, offset sight lines for upper and lower sash, custom formed brake metal panning at exterior and sill as indicated on the drawings.
  2. Hopper Windows: Inward projecting "Hopper" operation, top hinged, with screens at operable sash, custom formed brake metal panning at exterior and sill as indicated on the drawings.
  3. Frames: Thermally broken hollow aluminum extrusions with interior portion of frame insulated from exterior portion, flush glass stops of snap-on type.

4. Window Schedule:

- A. ZONE 4 (29 PSF) WIND LOAD, 3 ¼" FRAME DEPTH:  
TOP WINDOW: PROJECT-IN HOPPER, TRACO #: TR-3400 (AAMA 101 Window Classification: AP-HC80)  
HORIZ. MULLION: TRACO #: S-520  
BOTTOM WINDOW: DOUBLE-HUNG (FIXED UPPER SASH, BOTTOM SASH LIMITED TO 18" CLEAR WHEN OPEN), TRACO #: TR-5000 (AAMA 101 Window Classification: H-C45)  
VERTICAL MULLION @ BAYS: TRACO #: S-1653
- B. ZONE 5 (52 PSF) WIND LOAD, 4 ½" FRAME DEPTH:  
TOP WINDOW: PROJECT-IN HOPPER, TRACO #: TR-740 (AAMA 101 Window Classification: AP-HC80)  
HORIZ. MULLION: TRACO #: S-1780  
BOTTOM WINDOW: DOUBLE-HUNG (FIXED UPPER SASH, BOTTOM SASH LIMITED TO 18" CLEAR WHEN OPEN), TRACO #: TR-9900 (AAMA 101 Window Classification: H-HC65)  
VERTICAL MULLION @ BAYS: TRACO #: S-1653

REFERENCE: WIND LOADING LEGEND, DETAIL 3 ON DRAWING 10/A9.01.

2.2 COMPONENTS

- A. Extruded Aluminum: Alloy and temper recommended by window manufacturer for strength, corrosion resistance and application of required finish, but not less than 22,000 psi ultimate tensile strength, a yield of 16,000 psi. Comply with ASTM B221.
- B. Glass and Glazing Materials in Windows:
1. Insulated glass, SIGMA sealed double pane float glass with clear outer pane, Low-E coating on clear inner pane, total thickness 1 inch.
- C. Compression Glazing Strips and Weatherstripping: At manufacturer's option, provide neoprene gaskets complying with ASTM D 2000 Designation 2BC415 to 3BC415, PVC gaskets complying with ASTM D2287, or expanded neoprene gaskets complying with ASTM C 509, Grade 4.
- D. Sealant:
1. Provide elastomeric type as recommended by window manufacturer for joint size and movement, to remain permanently elastic, non-shrinking and non-migrating. Provide product complying with AAMA Specification 803 and 808.
  2. Refer to Division 7 for perimeter sealants between window units and surrounding construction.
- E. Anchors, Clips and Window Accessories: Depending on strength and corrosion-inhibiting requirements, fabricate units of aluminum, non-magnetic stainless steel or hot-dip zinc coated steel or iron complying with ASTM A 123.
- F. Window Hardware: Manufacturer's standard hardware based on following requirements.
1. Single Hung Sash: Ultra-lift balances, each sash, each jamb.

2. Single Hung Sash Lifts: As selected from manufacturer's options.
  3. Projected Sash: Heavy duty stainless steel hinge assemblies with manufacturer's standard limit hardware.
  4. Sash lock: Stainless steel lever handle with cam lock.
- G. Insect Screen Frames: Rolled aluminum, of rectangular sections with ASTM D3656, Class 2, 18 by 16 mesh set into frame and secured with vinyl splines.
- H. Panning: Custom formed prefinished aluminum brake metal, 0.040" minimum thickness. Form head and jamb panning sill panning to match drawings. Match finish of windows.
- I. Bituminous Paint: Asphaltic coating.

### 2.3 FABRICATION

- A. General: Provide manufacturer's standard fabrication and accessories which comply with specifications. Include complete system for assembly of components and anchorage of window units and provide complete pre-glazing at the factory.
- B. Fabricate framing, mullions and sash members of hollow extruded aluminum with reinforced corners and joints. Supplement frame with internal reinforcement where required for structural rigidity.
- C. Permit internal drainage weep holes and channels to encourage moisture migration to exterior.
- D. Form glass stops, exterior sills, closures, weather stops, and flashings of same material as window frame.
- E. Fit insect screen frames with four spring loaded pin retainers.
- F. Double weatherstrip operable units.
- G. Apply asphaltic paint to concealed metal surfaces in contact with cementitious surfaces or dissimilar metals.

### 2.4 SHOP FINISHING

- A. Exterior Surfaces: 50% Fluoropolymer coating, AAMA 2604, color to match "Dark Bronze", provide samples, as approved by architect..
- B. Interior Surfaces: 50% Fluoropolymer coating, AAMA 2604, color as selected from full range of Manufacturer's options.
- C. Concealed Steel Items: Galvanize to 2.0 oz/sq ft.
- D. Apply bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.



### 3 PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify rough openings are correctly sized and located, and in accordance with approved shop drawings.

#### 3.2 PREPARATION

- A. Prepare opening to permit correct installation of frame and achieve continuity of air and vapor retarder seal.

#### 3.3 INSTALLATION

- A. Comply with manufacturer's specifications and recommendations for installation of window units, hardware, operators and other components of work. In no case shall attachment to structure or to components of the window system be through or affect the thermal barriers of the window units.
- B. Set units plumb, level and true to line, without warp or rack of frames or sash. Anchor securely in place. Maintain assembly dimensional tolerances, aligning with adjacent work. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action.
- C. Coordinate attachment and seal of air and vapor retarder materials. Install non-expanding foam insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- D. Set sill members and other members in bed of compound, or with joint fillers or gaskets, to provide weathertight construction. Seal units following installation and as required to provide weathertight system.
- E. Coordinate installation of perimeter sealants and backing materials with Section 07900.

#### 3.4 ADJUST AND CLEAN

- A. Adjust operating sash and hardware to provide tight fit at contact points and at weatherstripping, for smooth operation and weathertight closure.
- B. Clean aluminum surfaces promptly after installation of windows, exercising care to avoid damage to protective coatings and finishes. Remove excess glazing and sealant compounds, dirt, and other substances. Lubricate hardware and moving parts.
- C. Clean glass promptly after installation of windows. Remove glazing and sealant compound, all labels, dirt and other substances.

#### 3.5 SCHEDULES

- A. Refer to Window Schedules on the Drawings for window types, sizes and configurations.

...END OF SECTION



SECTION 08 71 00

DOOR HARDWARE

1 PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract including General and Supplementary Conditions and Division 1 specification sections apply to Work of this section.

1.2 SUMMARY

- A. Hardware for wood, hollow steel, doors.
- B. Closers, door operators, electric strikes, spring hinges.
- C. Thresholds, weatherstripping, seals, door gaskets, viewers and protection plates.

1.3 SUBMITTALS

- A. Hardware Schedule: Indicate hardware components in sets correlated to door schedule.
- B. Product Data: Submit data for hardware components illustrating style, operating features, color, and finish.
- C. Operating and Maintenance Instructions: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

1.4 QUALITY ASSURANCE

- A. Hardware Supplier: Company specializing in supplying commercial door hardware with 5 years documented experience approved by manufacturer.

1.5 COORDINATION

- A. Coordinate work of this section with other directly affected sections requiring any integral reinforcement for door hardware.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually. Label and identify package with door opening code to match schedule.
- B. Deliver keys to Owner.

1.7 MAINTENANCE

- A. Provide manufacturer's maintenance services on door closers and locksets for one year from Date of Substantial Completion.
- B. Provide special wrenches and tools applicable to each different or special hardware component.

## 2 PART 2 PRODUCTS

### 2.1 SUPPLIERS

A. Suppliers: Products of one or more manufacturers are listed in the Hardware Schedule to establish quality and performance characteristics. Products of other manufacturers may be accepted subject to review by Architect.

1. Manufacturers of Locksets:

- a. Corbin
- b. Sargent.
- c. Schlage.

2. Manufacturers of closers:

- a. LCN.
- b. Norton.
- c. Rixson.
- d. Sargent.

3. Manufacturers of hinges:

- a. Hager.
- b. McKinney.
- c. Stanley.

4. Manufacturers of thresholds and weatherstripping.

- a. National Guard Products.
- b. Pemko.
- c. Reese.
- d. Zero.

5. Manufacturers of panic sets:

- a. Sargent.
- b. Von Duprin

6. Manufacturers of door trim and accessories:

- a. Hiawatha.
- b. Ives.
- c. Rockwood.

### 2.2 ELECTRONIC ACCESS SYSTEM

A. Proximity Card Access System: Provide integrated proximity access control system for exterior building entrance doors and vehicle gate as indicated in door schedule. Provide products with non-volatile memory. Provide products offering credential of Keycodes and Proximity with a minimum of 1,000 users and provide audit trail for the last 1,000 events.

B. Provide 100 proximity cards, proximity reader and interface with door operator and electric strike.

- C. Contractor to make provisions for card access system, including providing necessary power supplies and conduits, and to coordinate installation of system components with doors and hardware.

### 2.3 KEYING

- A. Door Locks: Master keyed with high security keying system. Include construction keying.
- B. Cores: Provide removable cores for all locks, with 25 extra cores for apartment entrance door locks.
- C. Review keying system with Owner prior to ordering locks.
- D. Supply 3 change keys for each lock and 5 master keys for each master level, each tagged. Provide keys of nickel silver only.
- E. Provide 1 Key Cabinet: Sheet steel construction, enamelled finish, hinged door with key lock, internal hooks for 600 keys and identification labeling.

### 2.4 MATERIALS AND FABRICATION

- A. Provide products complying with ANSI A 156.1 standards.
- B. Name Plates: Do not provide products with manufacturers name or trade name displayed in a visible location except in conjunction with required UL labels.
- C. Provide hardware manufactured to conform to templates with machine screw installation. Do not provide hardware prepared for self-tapping screws.
- D. Fasteners: Provide Phillips flat head screws except as otherwise indicated. Finish screws to match adjacent hardware finish.
- E. Lever Handles: Provide lever handles at all doors except bifold and sliding bypass.

### 2.5 FINISHES

- A. Finishes are identified in the Hardware Schedule at end of this section.

## 3 PART 3 EXECUTION

### 3.1 EXAMINATION AND PREPARATION

- A. Verify that doors and frames are ready to receive work and dimensions are as instructed by the manufacturer.
- B. Verify that electric power is available to power operated devices and is of the correct characteristics. Coordinate with other trades on electrical devices.

### 3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions.

- B. Install hardware at fire rated doors in accordance with NFPA 80.
- C. Use templates provided by hardware item manufacturer.
- D. Adjust hardware and door control devices for proper operation, and to comply with requirements of the ADA, and NFPA 80 for fire rated openings.

...END OF SECTION

SECTION 08 80 00  
GLASS AND GLAZING

1 PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 SUMMARY:

- A. Extent of glass and glazing work is indicated on drawings and schedules.
- B. Types of work in this section include glass and glazing for:
  - 1. Interior borrowed lites, not indicated as "preglazed".
  - 2. Storefront construction.
  - 3. Entrances and other doors, not indicated as "preglazed".

1.3 SYSTEM DESCRIPTION:

- A. Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.
- B. Normal thermal movement is defined as that resulting from an ambient temperature range of 120 deg. F (67 deg. C) and from a consequent temperature range within glass and glass framing members of 180 deg. F (100 deg. C).
- C. Deterioration of insulating glass is defined as failure of hermetic seal due to other causes than breakage which results in intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coating, if any, resulting from seal failure, and any other visual evidence of seal failure or performance.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each glazing material and fabricated glass product required, including installation and maintenance instructions.
- B. Separate certification will not be required for glazing materials bearing manufacturer's permanent labels designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authorities having jurisdiction.

1.5 QUALITY ASSURANCE:

- A. Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent.

requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.

- B. Safety Glazing Standard: Where safety glass is indicated or required by authorities having jurisdiction or by Chapter 24 GLASS AND GLAZING of IBC 2003, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.
  - 1. Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.
- C. Fire Resistance Rated Wire Glass: Provide wire glass products that are identical to those tested per ASTM E 163 (UL 9) and are labeled and listed by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.
- D. Insulating Glass Certification Program: Provide insulating glass units permanently marked either on spacers or at least one component pane of units with appropriate certification label of inspecting and testing organization indicated below:
  - 1. Insulating Glass Certification Council (IGCC).
  - 2. Associated Laboratories, Inc. (ALI).
- E. Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator for each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.

#### 1.6 DELIVERY, STORAGE, AND HANDLING:

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

#### 1.7 PROJECT CONDITIONS:

- A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, frost, condensation or other causes.
- B. Install liquid sealants at ambient and substrate temperatures above 40 deg. F (4.4? C).

#### 1.8 WARRANTY:

- A. General: Warranties shall be in addition to, and not a limitation of, other rights the Owner may have under the Contract Documents.
- B. Manufacturer's Special Project Warranty on Insulating Glass: Provide written warranty signed by manufacturer of insulating glass agreeing to furnish f.o.b. point of manufacture, freight allowed project site, within specified warranty period indicated below, replacements for those insulating glass units developing manufacturing defects. Manufacturing defects are defined as failure or hermetic seal of air space (beyond that due to glass breakage) as evidenced by intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coatings, if any, and



other visual indications of seal failure or performance; provided the manufacturer's instructions for handling, installing, protecting and maintaining units have been complied with during the warranty period.

1. Warranty Period: Manufacturer's standard but not less than 10 years after date of substantial completion.

## 2 PART 2 - PRODUCTS

### 2.1 MANUFACTURERS:

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include; but are not limited to, the following:
- B. Manufacturers of Clear and Tinted Float Glass:
  1. AFG Industries, Inc.
  2. Ford Glass Division.
  3. Guardian Industries Corp.
  4. LOF Glass, Inc.
  5. PPG Industries, Inc.
  6. Saint-Gobain/Euroglass.
- C. Manufacturers of Wire Glass:
  1. AFG Industries, Inc.
  2. Guardian Industries Corp.
  3. Hordis Brothers, Inc.
  4. Pilkington Sales (North America) Limited.
- D. Manufacturers of Heat-Treated Glass:
  1. AFG Industries, Inc.
  2. Cardinal IG.
  3. Environmental Glass Products.
  4. Falconer Glass Industries.
  5. Ford Glass Division.
  6. Guardian Industries Corp.
  7. Hordis Brothers, Inc.
  8. LOF Glass, Inc.
  9. PPG Industries, Inc.
  10. Saint-Gobain/Euroglass.
  11. Spectrum Glass Prod. Div., H. H. Robertson Co.
  12. Viracon, Inc.
- E. Manufacturers of Fire and Impact Rated Glazing:
  1. Specialty Architectural & Fire Technology International.
  2. Technical Glass Products.

2.2 GLASS PRODUCTS, GENERAL:

- A. Primary Glass Standard: Provide primary glass which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.
- B. Heat-Treated Glass Standard: Provide heat-treated glass which complies with ASTM C 1048 requirements, including those indicated by reference to kind, condition, type, quality, class, and, if applicable, form, finish, and pattern.
- C. Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated.

2.3 PRIMARY GLASS PRODUCTS:

- A. Clear Float Glass: Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select).
- B. Wired Glass: Type I (transparent and wired glass, flat), Class 1 (clear), Quality q8 (glazing); complying with ANSI Z97.1; 1/4" thick; of form and mesh pattern indicated below:
  - 1. Polished Wire Glass: Form 1 (wired, polished both sides), Mesh m2 (square).

2.4 HEAT-TREATED GLASS PRODUCTS:

- A. Manufacturing Process: Manufacture heat-treated glass as follows:
- B. By vertical (tong-held) or horizontal (roller hearth) process, at manufacturer's option, except provide horizontal process where indicated as "tongless" or "free of tong marks".
- C. Uncoated Clear Heat-Treated Float Glass: Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), kind as indicated below.
  - 1. Kind FT (fully tempered) where indicated.

2.5 FIRE AND IMPACT RATED GLAZING:

- A. Clear Glazing Material: ASTM C 1036, Type 1.
  - 1. Impact Rating: Complying with ANSI Z97.1 and CPSC 16CFR1201.
  - 2. Fire Rating: Tested under UL 10b, 60 minutes.

2.6 SEALED INSULATING GLASS UNITS:

- A. General: Provide preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space and complying with ASTM E 774 for performance classification indicated as well as with other requirements specified for glass characteristics, air space, sealing system, sealant, spacer material, corner design and desiccant.

- B. For properties of individual glass panes making up units, refer to product requirements specified elsewhere in this section applicable to types, classes, kinds and conditions of glass products indicated.
- C. Provide heat-treated panes of kind and at locations indicated or, if not indicated, provide heat-strengthened panes where recommended by manufacturer for application indicated and tempered where indicated or where safety glass is designated or required.
  - 1. Performance Classification per ASTM E 774: Class A.
  - 2. Thickness of Each Pane: 1/4".
  - 3. Air Space Thickness: 1/2".
  - 4. Sealing System: Manufacturer's standard.
  - 5. Spacer Material: Manufacturer's standard metal.
  - 6. Desiccant: Manufacturer's standard; either molecular sieve or silica gel or blend of both.
  - 7. Corner Construction: Manufacturer's standard corner construction.
- D. Low Emissivity-Coated Insulating Glass Units: Manufacturer's standard units with one pane of glass coated with a durable, neutral-colored, low-emissivity metallic coating, of type and on surface indicated, and complying with the following requirements:
  - 1. Exterior Pane: Clear float glass, coated on second surface.
    - a. Kind: As indicated.
  - 2. Interior Pane: Clear float glass, uncoated.
    - a. Kind: As indicated.
- E. Performance Characteristics: Visible light transmittance of 63 percent, summer daytime U-value of 0.34, winter nighttime U-value of 0.31, shading coefficient of 0.47 and outdoor reflectance of 11 percent.

## 2.7 ELASTOMERIC GLAZING SEALANTS AND PREFORMED GLAZING TAPES:

- A. General: Provide products of type indicated and complying with the following requirements:
- B. Compatibility: Select glazing sealants and tapes of proven compatibility with other materials with which they will come into contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.
- C. Suitability: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants and tapes which have performance characteristics suitable for applications indicated and conditions at time of installation.
- D. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.
  - 1. Colors: Provide color of exposed sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

2.8 GLAZING GASKETS:

- A. Dense Elastomeric Compression Seal Gaskets: Molded or extruded gaskets of neoprene or EPDM, complying with ASTM C 864, of profile and hardness required to maintain watertight seal:

2.9 MISCELLANEOUS GLAZING MATERIALS:

- A. Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
- D. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
- E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

3 PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION:

- A. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.

3.3 GLAZING, GENERAL:

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove

from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.

- C. Apply primers to joint surfaces where required for adhesion of sealants.

#### 3.4 GLAZING:

- A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6" from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.
- B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
- D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joint back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.
- F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.
- I. Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

#### 3.5 PROTECTION AND CLEANING:

- A. Protect glass from breakage immediately upon installation. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.

- C. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- D. Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

...END OF SECTION

645 Congress Street - Portland Hall													
Portland, Maine													
Door Schedule:													
No.	Location	Opening	W	H	T	Door Material	Door Type	Glass Type	Frame Type	Lock Function	Hardware	Label	Notes
<b>BASEMENT LEVEL</b>													
001A	Elev Lobby to Laundry	New	36	84	1-3/4	Hollow Metal	Flush	NVL	KD Steel	Lockset 1		45 min	
001B	Elev Lobby to Laundry	New	36	84	1-3/4	Hollow Metal	Flush	NVL	KD Steel	Lockset 1		45 min	
002A	Elev Lobby to Basement Retail	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Entrance		45 min	
002B	Stair 1 to Basement Retail	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Entrance		90 min	
005	Stair 1 to Sprink	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Store Room		90 min	
009	Basement 008 to Electrical Room	New	(2)36	84	1-3/4	Hollow Metal	Flush		KD Steel	Store Room		45 min	
0011	Corridor to Stair 5	New	42	84	1-3/4	Hollow Metal	Flush	NVL	KD Steel	Classroom Lock		90 min	
0012	Corridor to Mechanical	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Store Room		45 min	
0013	Bike storage to Corridor	New	42	84	1-3/4	Hollow Metal	Flush	NVL	KD Steel	Passage		45 min	
016A	Elev Lobby to Corridor 016	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Passage		45 min	
016B	Basement 008 to Corridor 016	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Passage		45 min	
0017	Basement 015 to Jan 017	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Store Room		45 min	
018	Corridor to Jan 018	New	36	84	1-3/4	Hollow Metal	Flush		KD Steel	Store Room			
<b>FIRST FLOOR</b>													
100	Exterior to Resident's Lobby	New	39	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		Prox.
101	Exterior to ATM	New	36	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
102	Resident's Lobby to ATM Room	New	36	84	1-3/4	Hollow Metal	Flush		Welded Steel	High Security	ATM Card Strike		
103	Exterior to Retail 3	New	42	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
104	Retail Lobby to Mail	New	36	84		Storefront	Med. Style	Full Glass	Storefront	Push / Pull			
105	Retail Lobby to Mail Room	New	42	84	1-3/4	Hollow Metal	Flush		Welded Steel	High Security	Postal Keying		
106A	Elevator Lobby to Resident's Lobby	New	36	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
106B	Elevator Lobby to Retail Lobby	New	36	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
107	Retail 3 to Retail Lobby	New	36	84	1-3/4	Hollow Metal	Flush		Welded Steel	Entrance	Storefront System	45 min	
109	Exterior to Rear Lobby Entry	New	42	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
110	Exterior to Stair 4	New	42	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
111A	Corridor 111 to Rear Lobby Entry	New	36	84	1-3/4	Hollow Metal	Flush	NVL	KD Steel	Entrance			
111B	Retail 2 to Corridor 111	New	36	84	1-3/4	Hollow Metal	Flush		Welded Steel	Store Room		90 min	
111C	Exterior to Corridor 111	New	36	84	1-3/4	Insulated Steel	Flush		Welded Steel	Store Room		90 min	
111D	Exterior to Corridor 111	New	36	84	1-3/4	Insulated Steel	Flush		Welded Steel	Entrance			
111E	Stair 2 to Corridor 111	New	36	84	1-3/4	Hollow Metal	Flush	NVL	Welded Steel	Classroom Lock			
113	Exterior to Retail 2	New	42	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
114	Exterior to Retail 1	New	42	84		Storefront	Med. Style	Full Glass	Storefront	Entrance	Storefront System		
<b>NOTES:</b>													
All basement and first floor doors shall be equipped with closers.													





645 Congress Street - Portland Hall					
Portland, Maine					
Hardware Schedule					
Item/function	Manufacturer	Model No.	Finish	Remarks	
Lockset 1	Sargent	10-10G05-LL	US10B / 613	Public entrance - lever handle	
Lockset 2	Sargent	10-75G05-LL	US10B / 613	Apartment double locking interconnected entrance lockset/deadbolt - lever handle	
Lockset 3	Sargent	10-75G15-LL	US10B / 613	Apartment single locking interconnected passage set/deadbolt - lever handle	
Passage 1	Sargent	10U15-LL	US10B / 613	Public passage - lever handle	
Passage 2	Sargent	65G15-LL	US10B / 613	Apartment passage - lever handle	
Privacy 1	Sargent	10U65-LL	US10B / 613	Public privacy - lever handle	
Privacy 2	Sargent	65U65-LL	US10B / 613	Apartment privacy - lever handle	
Storeroom Lock 1	Sargent	10-10G04-LL	US10B / 613	Public storeroom - knurled lever	
Panic device 1	Sargent	8906 ETL	US10B / 613	Mortise panic device - knurled knob	
Panic device 2	Sargent	8715 ETL	US10B / 613	Vertical surface rod panic device - lever handles	
Panic device 3	Sargent	8706 ETL	US10B / 613	Vertical surface rod panic device - knurled lever	
Door Operator	Sargent	MPower 4000	US10B / 613	ADA compliant	
Mag Holder	Sargent	1560 series	US10B / 613	Coordinate with fire alarm system	
Electric Strike	HES	1006 series	US10B / 613	continuous duty rated	
Threshold 1	National Guard	425	US10B / 613	ADA compliant - maximum 1/2" height	
Threshold 2	National Guard	659	US10B / 613	ADA compliant - maximum 1/2" height	
Threshold 3	National Guard	415	US10B / 613	ADA compliant - maximum 1/2" height	
Threshold 4	National Guard	350	US10B / 613	ADA compliant - maximum 1/2" height	
Hinges	McKinney	Full mortise	US10B / 613	Match lockset finish. Provide only ball bearing hinges at doors with closers.	
Floor Stop	Ives	436	US10B / 613		
Wall Stop	Ives	406 1/2	US10B / 613		
Roller Bumper	Ives	471	US10B / 613		
Kickplate	Ives	8400	US10B / 613		
Viewer	Ives	U969	US10B / 613	On push side of Door	
Notes					

**645 Congress Street - Portland Hall**

Portland, Maine

**Hardware Schedule**

Item/function	Manufacturer	Model No.	Finish	Remarks
<p>1.) Provide new high security masterkey system, with construction keying system. Consult with Owner for instructions on keying.</p> <p>2.) Products of one or more manufacturers are listed to establish quality and performance characteristics. Products of other manufacturers may be accepted subject to judgement solely by Architect of equivalent quality, performance and appearance.</p> <p>3.) Provide concave wall mounted door stops where framing is adequate for installation, at all doors opening against an adjacent wall or door. Ives No. 406 1/2 or equal.</p> <p>4.) Provide floor mounted door stops where wall stops can not be installed. Ives 436 or equal.</p> <p>5.) Provide a door mounted roller bumper at all doors opening against an opposite hand door (1 per pair). Ives No. 471 or equal. Mount at top of door.</p>				
<b>Acceptable Manufacturers</b>				
Locksets:	Sargent, Schlage, Corbin			
Closers:	Sargent, LCN, Norton, Rixson			
Hinges:	Hager, McKinney, Stanley			
Thresholds:	National Guard Products, Pemko, Reese, Zero			
Accessories:	Ives, Rockwood, Hiawatha			