



## ADDENDUM NO. 001

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Date: August 21, 2020

Project: **City Hall Electrical Renovations  
Portsmouth, New Hampshire**

This Amendment is issued prior to receipt of the bids and does hereby become a part of the Contract Documents, and in case of conflict, it shall supersede the original Contract Documents.

The work of the Amendment shall comply with all contract requirements including Division 00 and 01 specifications and the following specific items noted.

Each bidder shall be responsible for issuing information contained herein to sub-contractors and suppliers to ensure that his/her proposal covers all work required by the Contract Documents including this Amendment.

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### General

1. **QUESTION 01:** Could the requirement for a chart plotter with pens and paper for trending demand data be removed?  
**RESPONSE 01:** Yes, requirement can be deleted – see revision to specification Section 262413 below.

### Specifications

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1. **Replace** the Table of Contents in its entirety, see below.

#### SECTION 003126 – BID FORM

1. After paragraph 6.02; **Add** the following paragraph “6.03 THE CONTRACT TIME SHALL BE 300 CALENDER DAYS FROM NOTICE TO PROCEED.”

#### SECTION 019113 – GENERAL COMMISSIONING REQUIREMENTS

1. Paragraph 3.8, D; **Revise** line two to read “NOTIFY ARCHITECT OF COMMISSIONING SCHEDULE CHANGES AT LEAST TWO WORK DAYS IN ADVANCE FOR ACTIVITIES REQUIRING THE PARTICIPATION OF OWNER’S WITNESS.”

#### SECTION 085113 – ALUMINUM WINDOWS

1. **Add** section in its entirety, see below.

#### **SECTION 087100 – DOOR HARDWARE**

1. Paragraph 3.8, Door Hardware Schedule; **Add** Door 121B to Hardware Set HW-3

#### **SECTION 262413 – DOOR HARDWARE**

1. **Delete** paragraph 2.3, B, 1, item j.
2. **Delete** paragraph 2.3, C in its entirety.

## **Drawing**

#### **G-001 – COVER SHEET**

1. General Construction Notes, **Add** note 14 “Prior to commencement of work, the contractor and sub-contractors will be required to undergo a security check. The application process take approximately one week. Police escorts will be required in room 127. Coordinate escorts with the Portsmouth Police Department at least 72 hours in advance.”

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- 085113 Aluminum Windows (Addendum No. 001)
- 087100 Door Hardware

**DIVISION 09 - FINSHES**

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- 092216 Non-Structural Metal Framing
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SECTION 085113 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes aluminum windows and glazing for exterior locations.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Review and discuss the finishing of aluminum windows that is required to be coordinated with the finishing of other aluminum work for color and finish matching.
  - 3. Review, discuss, and coordinate the interrelationship of aluminum windows with other exterior wall components and salvaged stained glass. Include provisions for anchoring, flashing, weeping, sealing perimeters, and protecting finishes.
  - 4. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
  - 5. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

1.4 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.
- C. Shop Drawings: For aluminum windows.
  - 1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- D. Samples: For each exposed product and for each color specified, 2 by 4 inches in size.

- E. Samples for Initial Selection: For units with factory-applied finishes.
  - 1. Exposed Finishes: 2 by 4 inches.
  - 2. Samples for Glazing: 12 inches square.
- F. Product Schedule: For aluminum windows with stained glass inserts. Use same designations indicated on Drawings.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Qualification Data: For manufacturer and Installer.
- C. Product Test Reports: For each type of aluminum window, for tests performed by a qualified testing agency.
- D. Field quality-control reports.
- E. Sample Warranties: For manufacturer's warranties.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum windows that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations.
- B. Installer Qualifications: An installer acceptable to aluminum window manufacturer for installation of units required for this Project.

#### 1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Failure to meet performance requirements.
    - b. Structural failures including excessive deflection, water leakage, condensation, and air infiltration.
    - c. Faulty operation of movable sash and hardware.
    - d. Deterioration of materials and finishes beyond normal weathering.
    - e. Failure of insulating glass.
  - 2. Warranty Period:
    - a. Window: 10 years from date of Substantial Completion.

- b. Glazing Units: 10 years from date of Substantial Completion.
- c. Aluminum Finish: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain aluminum windows from single source from single manufacturer.

### 2.2 WINDOW PERFORMANCE REQUIREMENTS

- A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440-05 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
  - 1. Window Certification: AAMA certified with label attached to each window.
- B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440-05 as follows:
  - 1. Minimum Performance Class: AW.
  - 2. Minimum Performance Grade: 80.
- C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.35 Btu/sq. ft. x h x deg F.
- D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.30.
- E. Condensation-Resistance Factor (CRF): Provide aluminum windows tested for thermal performance according to AAMA 1503, showing a CRF of 57.
- F. Thermal Movements: Provide aluminum windows, including anchorage, that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  - 1. Temperature Change: 120 deg F ambient; 180 deg F material surfaces.
- G. Sound Transmission Class (STC): Rated for not less than 30 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.
- H. Outside-Inside Transmission Class (OITC): Rated for not less than 26 OITC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 1332.



## 2.3 ALUMINUM WINDOWS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Kawneer AA 6400 thermal window or comparable product.
- B. Operating Types: Provide the following operating types in locations indicated on Drawings:
  - 1. Fixed.
- C. Frames and Sashes: Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.
  - 1. Thermally Improved Construction: Fabricate frames, sashes, and muntins with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.
- D. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.
- E. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.
  - 1. Exposed Hardware Color and Finish: As selected by Architect from manufacturer's full range.
- F. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
  - 1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

## 2.4 GLAZING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Cardinal Glass Industries.
  - 2. Oldcastle BuildingEnvelope™.
  - 3. Pilkington North America.
  - 4. Viracon.
  - 5. Vitro Architectural Glass (Formerly PPG).
- B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

- C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.
- D. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- E. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazing.
- F. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300.
  - 1. Design Wind Pressures: As indicated on Drawings.
    - a. Wind Design Data: As indicated on Drawings.
  - 2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.
  - 3. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
- G. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.
- H. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
  - 1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.
  - 2. For laminated-glass lites, properties are based on products of construction indicated.
  - 3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
  - 4. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
  - 5. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
  - 6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.
- I. Glass Products:
  - 1. Ultraclear Float Glass: ASTM C 1036, Type I, Class I (clear), Quality-Q3; and with visible light transmission of not less than 91 percent and solar heat gain coefficient of not less than 0.87.
  - 2. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

- a. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

J. Insulating Glass

1. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.
  - a. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
  - b. Spacer: Manufacturer's standard spacer material and construction.
    - 1) Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      - a) Technoform Glass Insulation NA, Inc.
      - b) Thermix; a brand of Ensinger USA.
  - c. Desiccant: Molecular sieve or silica gel, or a blend of both.

K. Glazing Sealants

1. General:
  - a. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  - b. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
  - c. Subparagraph below applies to LEED 2009 NC, CI, and CS; LEED v4; IgCC; ASHRAE 189.1; and Green Globes.
  - d. Sealant shall have a VOC content of 250 g/L or less.
  - e. Subparagraph below applies to LEED v4.
  - f. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
  - g. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
2. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT.
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) BASF Corporation; Construction Systems.
    - 2) Dow Corning Corporation.
    - 3) GE Construction Sealants; Momentive Performance Materials Inc.

- 4) Pecora Corporation.
- 5) Sika Corporation.
- 6) Tremco Incorporated.

## 2.5 ACCESSORIES

### A. Glazing Beads

1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.
2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
3. They shall be factory fitted and attached.
4. Glazing beads shall also be secured with stainless steel fasteners where required.

### B. Weatherstripping

1. Each sash shall have three continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

### C. Subsills: Thermally broken, extruded-aluminum subsills in configurations indicated on Drawings.

### D. Interior Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

### E. Panning Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

## 2.6 FABRICATION

### A. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.

1. Main sections shall have a minimum depth of 3-1/2 inch with wall thicknesses ranging from .094 to .125.
2. Glazing rebates shall not be less than 5/8 inch in height.
3. Interior art glass muntins shall be 1-1/8 inch deep with 1/8-inch walls.
4. The airspace between the art and protection glass shall be a minimum of 5/8 inch.
5. The extruded window members shall form a channel separating the glass which will act as a condensation gutter.
6. This channel shall be an integral part of the aluminum extrusion. An add on piece will not be accepted.
7. Either glass shall be able to be removed or installed without disturbing the glass on the opposite side.
8. Main sections shall utilize a thermal barrier to separate the exterior and interior metal surfaces
9. Thermal barriers shall be a minimum 5/16 inch and shall align at all frame and sash corners.

10. No hardware or fasteners of any kind shall bridge or penetrate the thermal barrier.
11. Muntins and meeting rails shall be double tubular.
12. Joints shall be cut to a hairline fit and be either fully sigma arc welded or shall be heavy angle reinforced, cold welded with epoxy adhesive and hydraulically crimped or double fastened with stainless steel fasteners.
13. Joints shall be factory sealed.

- B. Glaze aluminum windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.
- E. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation.

## 2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.8 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
  1. Refer to Section 084413 "Glazed Aluminum Curtainwalls" for aluminum finish.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.

- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

### 3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
  - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
- B. Testing Services: Testing and inspecting of installed windows shall take place as follows:
  - 1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
  - 2. Air-Infiltration Testing:
    - a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
    - b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.
  - 3. Water-Resistance Testing:
    - a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
    - b. Allowable Water Infiltration: No water penetration.

4. Testing Extent: Three windows of each type as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested after perimeter sealants have cured.
5. Test Reports: Prepared according to AAMA 502.

C. Windows will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

#### 3.4 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
  1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION