

Addendum

MHT-Boston Airport-Skylight Replsmt Project

Project No: 22-074-00

Manchester, New Hampshire

Date: 12/05/22

Addendum No: 02

To: Bidders and All Others to Whom Bidding Documents have been issued by the Architect.

All items in this Addendum shall supersede or clarify the Bidding Documents as originally issued. The cost of the Work of all trades affected by the changes in this Addendum shall be included in the Base Bid or Alternates, on the Proposal Form, as applicable. Failure to do so may subject the Bidder to disqualification. This addendum forms a part of the Contract Documents. It supplements and/or modifies them as follows:

Item Description

SPECIFICATIONS

Item No 1: DELETE "Specifications Section 07 54 00 - THERMOPLASTIC MEMBRANE ROOFING"... and REPLACE with "Specifications Section 07 54 19 - PVC THERMOPLASTIC SINGLE-PLY ROOFING". Make the same Specification reference changes in the "Table of Contents".

Item No 2: Specification Section 08 45 23 INSULATED TRANSLUCENT FIBERGLASS SANDWICH PANEL SKYLIGHT SYSTEM, Paragraph 1.6, A, 3; ADD in the following paragraphs:

- a. Live Load (PSF) " 20 PSF min. and " in accordance...
- b. Snow Load (PSF) " 65 PSF min. and " in accordance...
- d. Wind Speed (PSF) " 113 MPH min. and " in accordance...

Item No. 3: ADD the below sentence to Attachment B, CSPP, Section 8.b(2) Marking and Lighting of vehicles: "This section applies to any cranes used on the project."

DRAWINGS

Item No 1: Drawings Sheet, A5.1 Section Details - Skylights; REPLACE in Detail notes the specification section reference "07 54 00 - THERMOPLASTIC MEMBRANE ROOFING" with "07 54 19 - PVC THERMOPLASTIC SINGLE-PLY ROOFING".

QUESTION

Q: What is the estimated budget for the project?

A: \$3,000,000.

Addendum

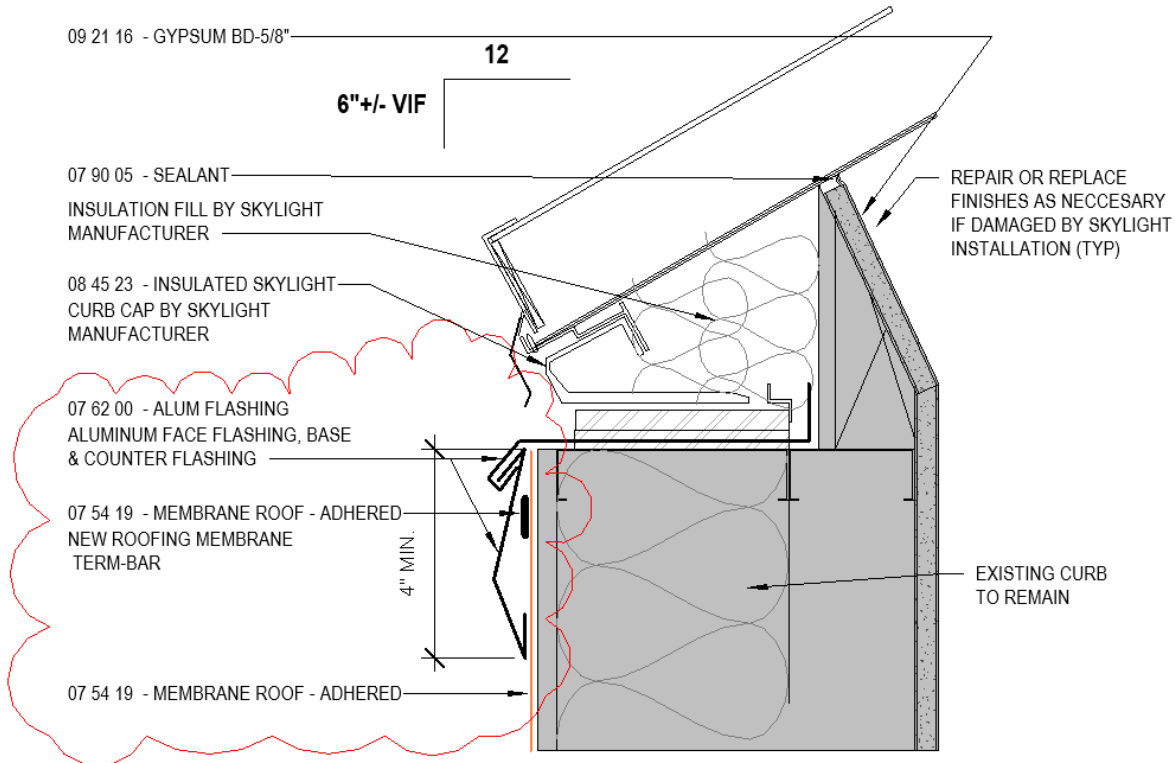
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Item No 2: Drawings Sheet, A5.1; REVISE "Detail F1" as shown below:



End of Addendum #2

SECTION 07 54 19
PVC THERMOPLASTIC SINGLE-PLY ROOFING (ADD #2)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Adhered polyvinyl chloride (PVC) roofing membrane system: Membrane and membrane flashing replacement associated with and resulting from the replacement of translucent skylights.
- B. Roofing accessories and materials.
- C. Conformance and certification of new work abutting existing roofing systems in accordance with applicable warranties.
- D. Manufacturer written certification of approval confirming integration of new Carlisle roof system with existing Hypalon by Carlisle roof system.

1.02 RELATED REQUIREMENTS

- A. Section 02 41 00 - Demolition: Selective skylight curb membrane removal for replacement.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Metalwork flashings and counterflashing's.
- C. Section 08 45 23 – Insulated Translucent Fiberglass Sandwich Panel Skylight Systems.

1.03 REFERENCE STANDARDS

- A. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing; 2012.
- B. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials; 2010.
- C. FM DS 1-28 - Wind Design; Factory Mutual Research Corporation; Current Edition.
- D. ITS - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.
- E. NRCA - The NRCA Roofing and Waterproofing Manual; National Roofing Contractors Association; Current Edition, with interim updates.
- F. UL - Roofing Materials and Systems Directory; Underwriters Laboratories Inc.; current edition.
- G. UL - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting: Convene at least two weeks before starting work of this Section, after the submission and review of roofing and flashing shop drawings, samples and printed data. Review preparation and installation procedures, coordination and scheduling necessary for related work, determine access, staging and storage areas, establish working weather conditions, roofing protection provisions, considerations for safety of building occupants and other relevant issues.
 - 1. Review preparation and installation procedures and coordinating and scheduling required with related work.
 - 2. The following personnel shall be present:
 - a. Contractor (Project Manager, Superintendent)
 - b. Roofing Sub-Contractor (Project Manager, Foreman)
 - c. Roofing and Flashing Materials Manufacturers
 - d. Skylight System Sub-Contractor (Project Manager, Foreman)
 - e. Architect, Project Manager and Owner's Representative
 - 3. Verify compatibility of all materials in contact with roofing, including but not limited to:
 - a. Treated lumber.
 - b. Sealants and adhesives.
 - c. All other roofing materials.

- d. Conformance and acceptance of new work in accordance with existing roof warranties (Existing roof system: Hypalon by Carlisle)

1.05 SUBMITTALS

- A. See Section 01 30 00 - Submittals, for submittal procedures.
- B. Product Data: Provide data indicating membrane materials, flashing materials, surfacing, and fasteners.
- C. Specimen Warranty: For approval.
- D. Shop Drawings: Roof details and roof plan.
 - 1. Indicate joint or termination detail conditions and conditions of interface with other materials.
 - 2. Joint details between new and existing roof system.
- E. Samples:
 - 1. Submit samples 6x6 inches in size illustrating insulation, membrane, underlayments, overlayments.
- F. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- G. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- H. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, supplementary instructions given, and acceptance of substrate.
- I. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with minimum twenty years of documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this Section:
 - 1. With minimum ten years documented experience.
 - 2. Approved by membrane manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
- B. Store products in weather protected environment, clear of ground and moisture.
- C. Protect foam insulation from direct exposure to sunlight.

1.08 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.09 WARRANTY

- A. See Section 01 78 10 - Warranties, for additional warranty requirements.
- B. Applicator/Contractor Warranty: The roofing subcontractor hereby guarantees that all NEW roofing items not covered by the roofing manufacturer's total system warranty shall be free from defective materials and workmanship for a period of three (3) years from the date of Substantial Completion. Upon notification of any such defects within said guarantee period the roofing

subcontractor shall promptly make all necessary repairs and replacements at no cost or expense to the Owner. This warranty shall be signed and countersigned by the installer (Roofer) and the Contractor.

- C. Manufacturer's Total System Warranty (New Work): Roofing materials manufacturer shall furnish the Owner a "Total System" warranty insuring a watertight roof for a period of twenty (20) years. The warranty shall cover all repairs necessary over the period up to the original cost of the original roofing contract. Warranty shall include maximum peak gust wind speed coverage of up to 55 mph.
- D. Manufacturer written certification stating all work has been completed in conformance within the requirements of the existing roof Manufacturer's Total System Warranty. Written Certification that existing warranties remain valid and in good standing. Certification shall state remaining terms of existing roof warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Polyvinyl Chloride (PVC) Membrane Materials:
 - 1. Carlisle SureFlex FleeceBACK KEE HP PVC. (Existing Membrane Manufacturer – Existing roof system membrane is Hypalon by Carlisle.)
 - 2. No Substitutions.
- B. Manufacturer of insulation, fasteners, polymeric components, edgings and other accessories or components required to complete the specified system: Same manufacturer as roof membrane or accepted by the manufacturer as compatible.

2.02 ROOFING - GENERAL

- A. Roofing System: Listed in order from top down.
 - 1. Fully adhered membrane roofing system.
 - 2. Existing skylight system roof curb (substrate, framing, insulation, etc...)
- B. Assembly Requirements:
 - 1. Roof Covering External Fire-Resistance Classification: UL Class A.
 - 2. Factory Mutual Classification: Class I and windstorm resistance of I-90, in accordance with FM DS 1-28.
- C. Wind Load: See Structural Drawings.
 - 1. Design Wind Speed (3 second gust): 95 mph.
 - 2. Wind Exposure: C
 - 3. Importance Factor (wind): 1.15
 - 4. Roof Pressures, interior zone: +13.2 / -23.2 PSF
 - 5. Roof Pressures, exterior zone: +13.2 / -23.2 PSF

2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS

- A. Roofing Membrane:
 - 1. Material: Polyvinyl chloride (PVC) complying with ASTM D4434 / D4434M.
 - 2. Reinforcing: Internal fabric.
 - 3. Backing: Carlisle FleeceBACK
 - 4. Thickness: 80 mils (0.080 inch), minimum.
 - 5. Sheet Width: Factory fabricated into largest sheets possible.
 - 6. Color: Gray; closest matching existing.
- B. Seaming Materials: As recommended by membrane manufacturer.
 - 1. Manufacturer pre-molded corners: REQUIRED.
- D. Fasteners and Fastener Plates:
 - 1. Minimum: 2 inch 22-gauge galvalume with HP fasteners (lengths as required for assemblies in accordance with manufacturer instructions) by Carlisle SynTec.

2. As recommended and approved by membrane manufacturer.
- E. Air and Vapor Barrier: Adhered membrane material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials.
 1. Application(s): Patch & Repair of existing assemblies as required.
 2. Fire-retardant adhesive.
 3. Vapor Permeability, ASTM E96: 0.02 perm.
 4. Air Permeability, E2178: 0.001 ft³/min·ft²
 5. Product:
 - a. VapAir Seal 725TR Air and Vapor Barrier by Carlisle.

2.05 ACCESSORIES

- A. Adhesive: As recommended by the roofing system manufacturer.
- B. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
- C. Thinners and Cleaners: As recommended by the roofing system manufacturer, compatible with membrane.
- D. Sealants: As recommended by the roofing system manufacturer.

PART 3 EXECUTION

3.01 INSTALLATION – GENERAL

- A. Perform work in accordance with NRCA Roofing and Waterproofing Manual, FM Standards and manufacturer's instructions.
- B. Do not apply roofing membrane during unsuitable weather.
- C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- F. Secure existing single-ply membrane edges mechanically prior to application of Fleeceback, as recommended by manufacturer.

3.02 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof curbs are solidly set, and cant strips are in place.
- F. Cut and remove wet insulation and fill all voids with new insulation of type recommended by membrane manufacturer so it is relatively flush (+/- 1/4") with existing surface.

3.03 VAPOR RETARDER REPAIR

- A. Apply vapor retarder to deck surface with adhesive in accordance with manufacturer's instructions.
 1. Extend vapor retarder under blocking as indicated in the Drawings.
 2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.

3.04 MEMBRANE APPLICATION

- A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- B. Shingle joints on sloped substrate in direction of drainage.
- C. Fully Adhered Application: Apply adhesive to substrate at rate recommended by manufacturer to meet requirements. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
- E. At intersections with vertical surfaces:
 - 1. Extend membrane over cant strips and up a minimum of 4 inches onto vertical surfaces.
 - 2. Fully adhere flexible flashing over membrane and up to nailing strips.
 - 3. Wall/Curb Flashing: Remove Fleecebacking along top edge of the membrane prior to completing compression sela terminations so cut-off mastic can be applied directly to membrane surface in accordance with manufacturer's instructions.
- F. At overlap seam joint between new and existing membrane systems:
 - 1. Clean, prime and prepare both membranes in accordance with manufacturer instructions.
 - 2. Extend/adhere/seal new membrane to existing a minimum of 6 inches overlap in accordance with manufacturer approved details.
 - 3. Install 2" seam plates at 6" on center, minimum, through both membranes securely fastened to structural deck below in accordance with manufacturer approved details.
 - 4. Lap Sealant: All edges and other locations recommended by manufacturer approved details.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 40 10 - Testing, for general requirements for field quality control and inspection.
- B. Require site attendance of roofing material manufacturer's representative during installation of the Work and upon completion of the installation, to ascertain that the roofing system has been installed according to the roofing system manufacturer's published specifications and details and in conformance with existing roof system warranties.
 - 1. Submit a copy of the roofing system manufacturer's representative's field report to the Architect and Contractor.
 - 2. Make all corrections recommended by the manufacturer.
 - 3. Provide all required documents to the roofing materials manufacturer as required for issuance of the specified warranty. New and confirmation of maintenance of existing warranties required.

3.06 CLEANING

- A. Remove bituminous markings from finished surfaces.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- C. Repair or replace defaced or damaged finishes caused by work of this section.

3.07 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION