



December 6, 2023

Bureau of Buildings, Grounds and Real Property
501 North West Street, Suite 1401B, Jackson MS

Project Name: Reed Green Roof Replacement
Project Number: GS# 108-308

ADDENDUM NO. 1

NOTICE TO ALL DOCUMENT HOLDERS:

The following additions, deletions, changes, and clarifications to the drawings and specifications are to be included as part of the Contract Documents.

GENERAL

ITEM NO. 1 A pre-bid meeting will be held on **December 13, 2023, at 10:30 a.m.** The meeting will be held at The University of Southern Mississippi Physical Plant Division, located at 3105 West 4th Street, Hattiesburg, MS 39401. The Bidders will be able to visit the project site after the meeting.

ITEM NO. 2 The bid opening on December 14 at 2:00 p.m. is rescheduled and will be on **January 9, 2024, at 2:00 p.m.** Bids will be received and opened at the office of the Bureau of Buildings, Grounds and Real Property located at 501 North West Street, Suite 1401B, Jackson MS (Woolfolk Building).

SPECIFICATIONS

ITEM NO. 3 DELETE Section 075423 in its entirety and REPLACE with Section 07 5423 Thermoplastic Polyolefin (TPO) Membrane Roofing. This adds additional information for the TPO batten strips.

DRAWINGS

ITEM NO. <#> none

Encl: 075423 Thermoplastic Polyolefin (TPO) Roofing Membrane
Cc: All document holders
 <insert name>

Thermoplastic Polyolefin (TPO) Membrane Roofing

PART 1 GENERAL

1. SECTION INCLUDES

- A. Adhered system with thermoplastic polyolefin (TPO) roofing membrane.
- B. Insulation, flat and tapered.
- C. Deck sheathing.
- D. Roofing stack boots, roofing expansion joints, and walkway pads.

2. REFERENCE STANDARDS

- A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.
- B. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.
- C. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board 2023.
- D. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin-Based Sheet Roofing 2021.
- E. FM DS 1-28 - Wind Design 2015, with Editorial Revision (2022).
- F. FM DS 1-29 - Roof Deck Securement and Above-Deck Roof Components 2016, with Editorial Revision (2022).
- G. NRCA (RM) - The NRCA Roofing Manual 2023.
- H. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings Current Edition, Including All Revisions.

3. ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.
 - 1. Review preparation and installation procedures and coordinating and scheduling required with related work.

4. SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturer's written information listed below.
 - 1. Product data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.
- C. Shop Drawings: Indicate joint or termination detail conditions and conditions of interface with other materials.
- D. Warranty:
 - 1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - 2. Submit installer's certification that installation complies with all warranty conditions for the waterproof membrane.

5. QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum twenty (20) years of documented experience.

6. DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
- B. Protect products in weather protected environment, clear of ground and moisture.
- C. Protect foam insulation from direct exposure to sunlight.
- D. Provide Safety Data Sheets (SDS) at the project site at all times during transportation, storage, and installation of materials.
- E. Comply with requirements from Owner to prevent overloading or disturbance of the structure when loading materials onto the roof.

7. FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather. Refer to manufacturer's written instructions.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F (5 degrees C) or above 105 degrees F (40 degrees C).
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- E. Proceed with work so new roofing materials are not subject to construction traffic as work progresses.
- F. Do not allow grease, oil, fats, or other contaminants to come into direct contact with membrane.

8. WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
- B. Material Warranty: Provide membrane manufacturer's warranty agreeing to replace material that shows manufacturing defects within 20 years after installation.
- C. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind or other natural causes.
 - 1. Warranty Term: 20 years.
 - 2. For repair and replacement include costs of both material and labor in warranty.
 - 3. Include accidental punctures according to the manufacturer's standard warranty terms.
 - 4. Include hail damage according to the manufacturer's standard warranty terms.

PART 2 PRODUCTS

1. MANUFACTURER

- A. Carlisle SynTec Systems: www.carlisle-syntec.com/#sle.
- B. John Mansville: jm.com
- C. Substitutions: See Section 01 6000 - Product Requirements.

2. ROOFING APPLICATIONS

- A. TPO Membrane Roofing: One-ply membrane, fully adhered.
- B. Roofing Assembly Performance Requirements and Design Criteria:
 - 1. Roof Covering External Fire Resistance Classification: Class A when tested per UL 790.
 - 2. Wind Uplift:

- a. Designed to withstand wind uplift forces calculated with ASCE 7.
 - b. Design Wind Speed: In accordance with local building code and authorities having jurisdiction (AHJ).
 3. Drainage: No standing water within 48 hours after precipitation.
3. ROOFING MEMBRANE AND ASSOCIATED MATERIALS
 - A. Single Source Responsibility: Provide and install products from single source.
 - B. Membrane:
 1. Material: Thermoplastic Polyolefin (TPO) complying with ASTM D6878/D6878M.
 2. Thickness: 60 mil (0.060 inch) (1.5 mm), minimum.
 3. Color: Medium Bronze.
 4. Products:
 - a. Carlisle SynTec Systems; Sure-Weld EXTRA.
 - C. Seaming Materials: As recommended by membrane manufacturer.
 - D. Membrane Fasteners: As recommended and approved by membrane manufacturer.
 - E. Flexible Flashing Material: Same material as membrane.
 - F. Base Flashing: Provide waterproof, fully adhered base flashing system at all penetrations, plane transitions, and terminations.
4. DECK SHEATHING AND COVER BOARDS
 - A. Deck Sheathing and Cover Board: Glass mat faced gypsum panels, ASTM C1177/C1177M, fire resistant type, 1/4 inch (6 mm) thick.
5. INSULATION
 - A. Polyisocyanurate (ISO) Board Insulation: Complies with ASTM C1289, Type II, Class 1 - Faced with glass-reinforced felt on both surfaces of core foam.
 1. Grade and Compressive Strength: Grade 2, 20 psi (Grade 2, 138 kPa), minimum.
 2. Board Thickness: 1 inch (25.4 mm).
 3. Product: Carlisle InsulBase.
6. ACCESSORIES
 - A. Rib Profile: Carlisle TPO Contour Ribs (1 ¼" tall and 2 ½" wide with welding flanges) or equal
 1. Profile to be manufactured from the same material as the roof membrane
 2. Profile to match the color of the roof membrane.
 3. Profiles are to be installed per roof plan.
 - B. Prefabricated Flashing Accessories:
 1. Corners and Seams: Same material as membrane, in manufacturer's standard thicknesses.
 2. Penetrations: Same material as membrane, with manufacturer's standard cut-outs, rigid inserts, clamping rings, and flanges.
 3. Sealant Pockets: Same material as membrane, with manufacturer's standard accessories, in manufacturer's standard configuration.
 4. Pressure Sensitive Cover Strips: 6 inches (152 mm) wide, 45 mil, 0.045 inch (1.1 mm) thick, non-reinforced TPO membrane laminated to 35 mil, 0.035 inch (0.9 mm) thick cured synthetic rubber with pressure sensitive adhesive.

- 5. Miscellaneous Flashing: Non-reinforced TPO membrane; 80 mil, 0.080 inch (2.0 mm) thick, in manufacturer's standard lengths and widths.
- C. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
- D. Membrane Adhesive: As recommended by membrane manufacturer.
 - 1. Product:
- E. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
- F. Sealants: As recommended by membrane manufacturer.
 - 1. Product:
 - a. Sure-Weld Cut Edge Sealant.
- G. Cleaner: Manufacturer's standard, clear, solvent-based cleaner.
 - 1. Product: Carlisle Weathered Membrane Cleaner.
- H. Edgings and Terminations: Manufacturer's standard edge and termination accessories.

PART 3 EXECUTION

- 1. 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 openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.
- 2. PREPARATION, GENERAL
 - A. Clean substrate thoroughly prior to roof application.
- 3. INSTALLATION - GENERAL
 - A. Perform work in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
 - 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.
- 4. INSULATION APPLICATION
 - A. Attachment of Insulation:
 - 1. Mechanically fasten first layer of insulation to deck in accordance with roofing manufacturer's instructions and Factory Mutual requirements.
 - 2. Embed second layer of insulation into full bed of adhesive in accordance with roofing and insulation manufacturers' instructions.
 - B. Lay subsequent layers of insulation with joints staggered minimum 6 inch (152 mm) from joints of preceding layer.

- C. Lay boards with edges in moderate contact without forcing, and gap between boards no greater than 1/4 inch (6.3 mm). Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- D. Do not apply more insulation than can be completely waterproofed in the same day.
- 5. 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. Asphalt Adhered Application: Apply asphalt at manufacturer's recommended rate. Fully embed membrane in adhesive except in areas directly over or within 3 inches (75 mm) of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
 - D. Seam Welding:
 - 1. Seam Welding: Overlap edges and ends and seal seams by heat welding, minimum 2 inches (51 mm).
 - 2. Cover seams with manufacturer's recommended joint covers.
 - 3. Probe seams once welds have thoroughly cooled, in approximately 30 minutes.
 - 4. Repair deficient seams within the same day.
 - 5. Seal cut edges of reinforced membrane after seam probe is complete.
 - E. At intersections with vertical surfaces:
 - 1. Extend membrane over cant strips and up a minimum of 4 inches (100 mm) onto vertical surfaces.
 - 2. Fully adhere flexible flashing over membrane and up to nailing strips.
 - F. Coordinate installation of roof drains and sumps and related flashings. Locate all field splices away from low areas and roof drains. Lap upslope sheet over downslope sheet.
 - G. Daily Seal: Install daily seal per manufacturers instructions at the end of each work day. Prevent infiltration of water at incomplete flashings, terminations, and at unfinished membrane edges.

END OF SECTION

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