January 4, 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. 3

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
No General Notes

SPECIFICATIONS
ITEM NO. 1 DELETE Section 075216 in its entirety and REPLACE with Section 07 5216 SBS Modified Bitumen Membrane Roofing. Section update to reflect the USM preferred SBS Roofing Specification.

ITEM NO. 2 DELETE Section 075423 in its entirety and REPLACE with Section 07 5423 Thermoplastic Polyolefin (TPO) Membrane Roofing. Fleeced-backed TPO is NOT specified.

DRAWINGS
ITEM NO. 3 REPLACE sheet D100 DEMO Overall Roof Plan w/ the revised, attached version.

ITEM NO. 4 REPLACE sheet A101 Overall Roof Plan w/ the revised, attached version.

ITEM NO. 5 REPLACE sheet A102 South West Roof Plan w/ the revised, attached version.

ITEM NO. 6 REPLACE sheet A103 South East Roof Plan w/ the revised, attached version.

ITEM NO. 7 REPLACE sheet A104 North West Roof Plan w/ the revised, attached version.

ITEM NO. 8 REPLACE sheet A104 North West Roof Plan w/ the revised, attached version.

ITEM NO. 9 REPLACE sheet A105 North East Roof Plan w/ the revised, attached version.

ITEM NO. 10 REPLACE sheet A106 Cupola Roof w/ the revised, attached version.

ITEM NO. 11 REPLACE sheet A401 Roof Details w/ the revised, attached version.

ITEM NO. 12 REPLACE sheet A402 Roof Detail w/ the revised, attached version.

Encl:

07 5216	Mod Bit Specification
07 5423	TPO Specification
D100	Demo Overall Roof Plan
A101	Overall Roof Plan
A102	South West Roof Plan
A103	South East Roof Plan
A104	North West Roof Plan
A105	North East Roof Plan
A106	Cupola Roof
A401	Roof Details
A402	Roof Detail

Cc: All document holders

SBS MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1. SUMMARY
   - A. Steel Deck:
     1. Preparation of existing steel roof deck and all flashing substrates.
     2. Rigid insulation loose laid.
     3. Cover Board pre-secured.
     4. SBS-modified bitumen base ply mechanically fastened.
     5. SBS-modified bitumen cap sheet heat welded.
     6. SBS-modified bitumen membrane flashings.
     7. Edge metals.
   - B. Concrete Deck:
     1. Preparation of existing concrete roof deck, and all flashing substrates.
     2. Rigid insulation adhered in insulation adhesive.
     3. Cover Board adhered in insulation adhesive.
     4. SBS-modified bitumen base ply heat welded.
     5. SBS-modified bitumen cap sheet heat welded.
     6. SBS-modified bitumen membrane flashings.
     7. Edge metals.
2. RELATED SECTIONS
   - A. Division 010000 – General Requirements
   - B. Division 011000 – Summary of Work
3. DEFINITIONS
   - A. ASTM D 1079-Definitions of Term Relating to Roofing and Waterproofing.
   - B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.
4. REFERENCES
   - A. AMERICAN SOCIETY OF CIVIL ENGINEERS - Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.
   - B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
     1. ASTM C 836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
     2. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
     3. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
     4. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
     5. ASTM D 3019 - Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered.
     6. ASTM D 3746 - Standard Test Method for Impact Resistance of Bituminous Roofing System.
     7. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

8. ASTM D 5147 - Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
9. ASTM D 5849 - Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement)
10. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
11. ASTM D 7379 - Standard Test Methods for Strength of Modified Bitumen Sheet Material Laps Using Cold Process Adhesive.
12. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
13. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::
1. ANSI/SPRI/FM 4435/ES-1 Wind Design Standard for Edge System Used with Low Slope Roofing System.
2. ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.

D. FACTORY MUTUAL (FM):
1. FM 4450 - Approval Standard - Class I Insulated Steel Roof Decks.
2. FM 4470 - Approval Standard - Class I Roof Covers.

E. INTERNATIONAL CODES COUNCIL (ICC):
1. 2018 International Building Code (IBC).

F. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA).
1. UL 790 Standard Test Methods for Fire Tests of Roof Coverings.
2. UL 1256 – Fire Test of Roof Deck Constructions.

5. ACTION SUBMITTALS
A. Contractor must submit Project Registration Form (PRF) indicating project has been registered with the manufacturer and approved for warranty.
B. Training Cards/Documentation: 50% of the contractor’s crew actively working on this project site shall hold a certification card from the manufacturer indicating they have been trained on the specific application specified herein. NO EXCEPTIONS.
C. Product Data Sheets: Submit manufacturer’s product data sheets, installation instructions and/or general requirements for each component.
D. Safety Data Sheets: Submit manufacturer’s Safety Data Sheets (SDS) for each component.
E. Sample warranty from the manufacturer and contractor.
F. Provide roof plan and representative detail drawings.

6. INFORMATIONAL SUBMITTALS
A. Submit a letter from the roofing manufacturer indicating the contractor is an authorized applicator.

7. CLOSEOUT SUBMITTALS
A. Warranty: Provide manufacturer’s and contractor’s warranties upon project completion.

8. QUALITY ASSURANCE
   A. PRE-CONSTRUCTION MEETING:
      1. Manufacturer representative, contractors superintendent/project manager, designer of record and building owner representative must be in attendance.
      2. Contractor must present approved submittals.
      3. Contractor shall provide warranty registration form approved by the manufacturer.
   B. MANUFACTURER QUALIFICATIONS:
      1. Manufacturer shall have 20 years of manufacturing experience.
      2. Manufacturer shall have trained technical service representatives employed by the manufacturer, independent of sales.
      3. Manufacturer shall provide site visit reports in a timely manner.
   C. CONTRACTOR QUALIFICATIONS:
      1. Training Cards/Documentation: 50% of the contractor's crew actively working on this project site shall hold a certification card from the manufacturer indicating they have been trained on the specific application specified herein. NO EXCEPTIONS.
      2. Contractor must have 5 years documented commercial experience of similar scope and size. References for building owner and designer must be provided.
      3. Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
      4. Applicators shall have completed projects of similar scope using same or similar materials specified.
      5. Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roofing from beginning through satisfactory project completion.
      6. Applicators shall be skilled in the application methods for all materials.
      7. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
      8. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.
9. DELIVERY, STORAGE AND HANDLING
   A. Refer to each product data sheet or other published literature for specific requirements.
   B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.
   C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location. During cold weather, store materials in a heated location, removed only as needed for immediate use.
   D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with "breathable" tarpaulins to protect materials from precipitation and to prevent exposure to condensation.
   E. Carefully store roof membrane materials delivered in rolls on-end with selvage edges up. Store and protect roll storage to prevent damage.

F. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

10. SITE CONDITIONS

A. SAFETY:

1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.
2. Heat-welding shall include heating the specified membrane ply using propane roof torches or electric hot-air welding equipment. The contractor shall determine when and where conditions are appropriate to utilize heat-welding equipment. When conditions are determined by the contractor to be unsafe to proceed, equivalent SBS-modified bitumen materials and methods shall be utilized to accommodate requirements and conditions.
3. Refer to NRCA CERTA recommendations, local codes and building owner's requirements for hot work operations.
4. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified liquid-applied, or semi-solid roofing materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions.
5. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified hot asphalt-applied materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions. .
6. The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

B. ENVIRONMENTAL CONDITIONS:

1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun, cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.
2. Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.
3. Self-adhesive membrane application: During cold weather, store the specified self-adhesive membrane and primer materials in heated storage areas to ensure materials remain no less than 70°F (21°C) during application. Ensure conditions allow primer to remain tacky, but not wet so that primer will not transfer to finger when touched. Self-adhesive primer shall

not fully dry and lose tack before applying the self-adhesive membrane. Ensure conditions remain satisfactory to achieve membrane adhesion as specified.

11. PERFORMANCE REQUIREMENTS
    A. WIND UPLIFT RESISTANCE:
        1. Performance testing shall be in accordance with ANSI/FM 4474, FM 4450, FM 4470, UL 580 or UL 1897.
            a. Roof System Design Pressures: Calculated in accordance with ASCE 7, or applicable standard, for the specified roof system attachment requirements.
            b. System Testing and Qualification
                1) FM 150 minimum regardless of Design Pressures
                2) A tested assembly is required to meet the pressures for each roof zone. Prescriptive enhancements will not be allowed per IBC.
    B. FIRE CLASSIFICATION:
        1. Performance testing shall be in accordance with UL 790, ASTM E108, FM 4450 or FM 4470 to meet the 1/2:12 roof slope requirement.
            a. Meets requirements of UL Class A or FM Class A.
        2. Performance testing shall be in accordance with UL 1256, FM 4450 or FM 4470 to meet the specified requirements for interior flame spread and fuel contribution.
            a. Meets requirements of UL 1256, or FM Class 1.
    C. ROOF SLOPE:
        1. Finished roof slope for SBS modified bitumen surfaces shall be 1/8 inch per foot (1 percent) minimum for roof drainage.
    D. IMPACT RESISTANCE:
        1. Performance testing for impact resistance shall be in accordance with FM 4450, FM 4470, ASTM D3746 or CGSB 37-GP 56M to meet the specified impact resistance requirements.
            a. Meets requirements for FM-SH (Severe Hail), ASTM D3746, or CGSB 37-GP 56M.
    E. CYCLIC FATIGUE:
        1. The roof system shall pass ASTM D5849 Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement). Passing results shall show no signs of cracking, splitting or tearing over the joint.
            a. Roof system shall pass Test Condition 5, tested at -4°F (-20°C) in accordance with ASTM D5849. (SOPREMA SOPRALENE polyester reinforced membranes).
12. WARRANTY
    A. Manufacturer's No Dollar Limit (NDL) Warranty. The manufacturer shall provide the owner with the manufacturer’s warranty providing labor and materials for 20 years from the date the warranty is issued.
    B. The contractor shall guarantee the workmanship and shall provide the owner with the contractor’s warranty covering workmanship for a period of 5 years from completion date.

PART 2 PRODUCTS

1. MANUFACTURER
   A. SINGLE SOURCE MANUFACTURER: All SBS modified bitumen membrane and flashing sheets shall be manufactured by a single supplier with 20 years or more manufacturing history in the US.
      1. Comply with the Manufacturer's requirements as necessary to provide the specified warranty.
   B. PRODUCT QUALITY ASSURANCE PROGRAM: Manufacturer shall be an ISO 9001 registered company. A 'Quality Compliance Certificate (QCC) for reporting/confirming the tested values of the SBS-Modified Bitumen Membrane Materials will be supplied upon request.
   C. ACCEPTABLE MANUFACTURER:
      1. SOPREMA, located at: 310 Quadral Dr.; Wadsworth, OH 44281; Tel: 800-356-3521; Tel: 330-334-0066; Website: www.soprema.us.
      2. Acceptable Alternate Manufacturers: Johns Manville and Garland
      3. Acceptable Alternate Manufacturers must meet the system testing and physical performance indicated herein. Data sheets not indicating specific product performance will be rejected.
2. ROOFING SYSTEM
   A. ROOFING SYSTEM BASIS OF DESIGN: SOPREMA
3. SBS-MODIFIED BITUMEN MEMBRANES
   A. CONCRETE DECK BASE PLY AND FLASHING BASE PLY
      a. SOPREMA SOPRALENE FLAM 180: SBS-modified bitumen membrane with a burn off film on both top and bottom surfaces. Non-woven polyester reinforcement. Meets or exceeds ASTM D6164, Type I, Grade S, per ASTM D5147 test methods:
         1) Thickness: 118 mils (2.4 mm)
         2) Width: 39.4 in (1 m)
         3) Length: 32.9 ft (15 m)
         4) Roll weight: 92 lb (41.7 kg)
         5) Peak load @ 0°F (-18°C), lbf/in (kN/m).
            a) MD 110 lbf/in (19.3 kN/m), XMD 85 lbf/in (14.9 kN/m)
         6) Elongation at peak load @ 0°F (-18°C), lbf/in (kN/m):
            a) MD 35%, XMD 40%
         7) Peak load @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
         8) Elongation at peak load @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 55%, XMD 60%
         9) Ultimate Elongation @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 60%, XMD 65%
         10) Tear Strength @ 73.4°F (23°C), lbf (N):
            a) MD 125 lbf (556 N), XMD 85 lbf (378 N)
         11) Low temperature flexibility, °F (°C):

a) MD/XMD: -15°F (-26°C)

12) Dimensional stability, %:
    a) MD/XMD: Less than 0.5%
13) Compound stability, °F (°C):
    a) MD/XMD: 240°F (116°C)

B. STEEL DECK BASE PLY
    a. SOPREMA SOPRAFIX 612: SBS-modified bitumen membrane with a burn off film on both top and bottom surfaces. Non-woven polyester reinforcement. Meets or exceeds ASTM D6164, Type I, Grade S, per ASTM D5147 test methods:
        1) Thickness: 118 mils (2.4 mm)
        2) Width: 39.4 in (1 m)
        3) Length: 32.9 ft (15 m)
        4) Roll weight: 92 lb (41.7 kg)
        5) Peak load @ 0°F (-18°C), lbf/in (kN/m).
            a) MD 110 lbf/in (19.3 kN/m), XMD 85 lbf/in (14.9 kN/m)
        6) Elongation at peak load @ 0°F (-18°C), lbf/in (kN/m):
            a) MD 35%, XMD 40%
        7) Peak load @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
        8) Elongation at peak load @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 55%, XMD 60%
        9) Ultimate Elongation @ 73.4°F (23°C), lbf/in (kN/m):
            a) MD 60%, XMD 65%
        10) Tear Strength @ 73.4°F (23°C), lbf (N):
            a) MD 125 lbf (556 N), XMD 85 lbf (378 N)
        11) Low temperature flexibility, °F (°C):
            a) MD/XMD: -15°F (-26°C)
        12) Dimensional stability, %:
            a) MD/XMD: Less than 0.5%
        13) Compound stability, °F (°C):
            a) MD/XMD: 240°F (116°C)

C. CAP SHEET:
    1. FIELD AND FLASHING CAP SHEET, HEAT WELDED:
        a. SOPREMA SOPRALENE FLAM 180 FR GR: SBS-modified bitumen membrane Cap Sheet with a burn off film bottom surface and mineral granule top surface Meets or exceeds ASTM D6164, Type I, Grade G, per ASTM D5147 test methods:
            1) Thickness: 160 mils
            2) Roll width: 39.4 in (1 m)
            3) Roll length: 32.8 ft (10 m)
            4) Peak load @ 0°F (-18°C), lbf/in (kN/m).

a) MD 110 lbf/in (19.3 kN/m), XMD 85 lbf/in (14.9 kN/m)

5) Elongation at peak load @ 0°F (-18°C), lbf/in (kN/m):
   a) MD 35%, XMD 40%
6) Peak load @ 73.4°F (23°C), lbf/in (kN/m):
   a) MD 85 lbf/in (14.9 kN/m), XMD 65 lbf/in (11.4 kN/m)
7) Elongation at peak load @ 73.4°F (23°C), lbf/in (kN/m):
   a) MD 55%, XMD 60%
8) Ultimate Elongation @ 73.4°F (23°C), lbf/in (kN/m):
   a) MD 60%, XMD 65%
9) Tear Strength @ 73.4°F (23°C), lbf (N):
   a) MD 125 lbf (556 N), XMD 85 lbf (378 N)
10) Low temperature flexibility, °F (°C):
   a) MD/XMD: -15°F (-26°C)
11) Dimensional stability, %:
   a) MD/XMD: Less than 0.5%
12) Compound stability, °F (°C):
   a) MD/XMD: 240°F (116°C):
13) Granule Surfacing:
   a) White mineral granules.

4. ACCESSORIES
   A. RIGID INSULATION
      1. SOPREMA SOPRA-ISO: Closed cell polyisocyanurate foam core bonded on each side to a glass fiber-reinforced felt facer.
         1) Thickness: 1.5 in minimum board thickness. Total thickness to meet specified insulation system thermal resistance ‘R’ value
         2) Meets or exceeds ASTM C1289, Type II, Class 1, Grade 2 (20 psi).
   B. COVER-BOARD
      a. SOPREMA SOPRABOARD (Resisto Board, Ecology Roof System Corp. ERS Ecology Roof Board, Viridian Systems, LLC., Pika Ply Recovery Board, IKO Industries, Ltd., ProtectoBoard, Henry Company Recover Board): Mineral fortified, asphaltic roof substrate board with glass fiber facers. For use as roof cover-board and for vertical flashing substrate. ASPHALTIC ROOF BOARD shall be manufactured by the membrane supplier.
         1) Thickness: 1/8 in
         2) Dimensions: 4 x 8 ft acceptable for mechanical attachment, insulation adhesive or asphalt application.
         3) Water absorption: Less than 1 percent per ASTM D994.
         4) Impact resistance: Included in FM Approvals per 4450/4470 for FM Severe Hail (SH) rating.
         5) Compressive strength, psi (kPa) measured at 50 percent compression, per ASTM C472:

a) 1/8 in board: 1,610 (11,100)

6) Puncture resistance, lbf (N) per ASTM E154:

b. SOPRASMART BOARD 180 (may be used in lieu of Sopraboard and base ply)

1) Non-woven polyester reinforced SBS modified bitumen membrane base ply factory laminated to 1/8 in thick SOPRABOARD.

2) Dimensions: 3 x 8 ft board dimension.

3) Top Surfacing: SBS-modified bitumen membrane ply with sanded top surface.

4) Side-laps: 3 in DUO-Selvage side-lap consisting of 2 in self-adhesive, and 1 in SBS-modified bitumen for heat welding.

5) End-laps: Butted end-laps, with 1 in membrane overlap. Sealed watertight using SOPRALAP SP.

01) a) 1/8 in board: 90 (400)

C. INSULATION CANT AND TAPERED STRIP

1. MB CANT STRIP

a. High density, laminated board made of high strength modified bitumen.

1) Length: 4 ft sections.

2) Size as required for flashing conditions.

3) MB CANT

2. TAPERED EDGE STRIP AND BOARDS:

a. Expanded perlite, blended with binders and fibers.

1) Dimensions: 6 in x 1/2 in, 12 in x 1/2 in, 1 in or 1-1/2 in, 18 in x 1 in or 1-1/2 in. Size as required.

2) Meets or exceeds ASTM C728.

D. INSULATION ADHESIVE

1. POLYURETHANE FOAM INSULATION ADHESIVE

a. SOPREMA DUOTACK 365 or DUOTACK SPF: Two-component, polyurethane foam insulation adhesive, applied in ribbons from cannisters, cartridges or two-component bulk packaging with pump-driven delivery system.

1) Ribbon size: As required by manufcaturer

2) Ribbon spacing: As required to meet specified wind uplift resistance performance.

a) 12 in on-centers

b) 6 in on-centers

c) 4 in on-centers

E. EDGE METALS:

1. Fascia, Copings and Expansion Joints pre fabricated and provided by the roof membrane manufacturer. Shop broke or contractor provided edge metals will not ne accepted.

a. Meets or exceeds ANSI/SPRI ES-1

F. PRIMERS:

1. SOPREMA ELASTOCOL STICK Primer: Solvent based primer for self adhered underlayment.

2. SOPREMA ELASTOCOL 500 Primer: Asphalt cut-back primer. Primer for the preparation of membrane substrates for asphalt, heat-welded, hot asphalt and COLPLY and COLPLY MODIFIED ADHESIVE, solvent-based, cold adhesive-applied and cement applications.
    a. Meets or exceeds ASTM D41
    b. VOC content: 350 g/L or less.

G. GENERAL PURPOSE ROOFING CEMENT AND MASTIC
1. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 5 gallon pails. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.
    a. VOC Content: 190 g/L or less.
    b. Meets or exceeds ASTM D4586, Type I, Class II.
2. SOPREMA SOPRAMASTIC: SBS Mastic. Fiber-reinforced, roofing cement, packaged in 10.4 oz caulk tubes. General purpose roofing cement for low-slope roofing used for sealing membrane T-joints and membrane edges along terminations, transitions and at roof penetrations.
    a. VOC Content: 190 g/L or less.
    b. Meets or exceeds ASTM D4586, Type I, Class II.

H. GENERAL PURPOSE SEALANT
1. SOPREMA SOPRAMASTIC SP1: General purpose, paintable, gun-grade, elastomeric, polyether moisture curing sealant for sealing SBS membrane terminations, Kynar 500 PVDF, horizontal and vertical construction joints.
    a. VOC Content: 20 g/L or less.
    b. Meets or exceeds ASTM C920, Type S, Grade NS, Class 50.
    c. Standard color, custom color.

I. HIGH TEMPERATURE UNDERLAYMENT
1. LASTOBOND SHIELD HT: Self Adhered membrane to be applied under all edgmetals and expansion joints.
    a. High Temperature Resistance of 240 deg F
    b. Trilaminate facer

J. MEMBRANE FASTENERS AND PLATES
1. SOPREMA #14 MP Fastener: Membrane base ply fastener.
2. SOPREMA #15 HD Fastener: Membrane base ply fastener.
3. SOPREMA 2 in SEAM PLATE: Membrane base ply seam plate.

K. LIQUID-APPLIED REINFORCED FLASHING SYSTEM: (REQUIRED AT DRAINS & SCUPPERS)
1. SOPREMA ALSAN RS 230 FLASH: Catalyzed polymethyl methacrylate (PMMA) resin with polyester reinforcing fleece fabric fully embedded into the resin to form fully reinforced waterproofing membrane flashings. Not for use over SBS cap sheets adhered with solvent-based SOPREMA COLPLY adhesive or flashing cement.
    a. VOC Content: No VOC content.
    b. SOPREMA ALSAN RS 230 FLASH: Polymethyl methacrylate (PMMA) liquid resin.

c. SOPREMA ALSAN RS CATALYST POWDER: Reactive agent added to the PMMA liquid resin to induce curing.
d. SOPREMA ALSAN RS FLEECE: Polyester reinforcement fabric.
e. Color: Flash color and finish to match Field.

L. LIQUID-APPLIED REINFORCED FLASHING SYSTEM:
1. SOPREMA ALSAN FLASHING: Single-component, polyurethane-bitumen resin with polyester reinforcing fleece fabric fully embedded into the resin to form roof system flashings.
a. VOC Content: 250 g/L.
b. SOPREMA ALSAN FLASHING: Liquid resin, Meets or exceeds ASTM C836.
c. SOPREMA ALSAN POLYFLEECE: Non-woven polyester reinforcement.
d. Surfacing: SOPREMA ALSAN FLASHING with mineral granules broadcast into wet SOPREMA ALSAN FLASHING to match adjacent SBS-modified bitumen cap sheet.

M. MINERAL GRANULES:
1. SOPREMA Granules: No. 11, mineral coated colored granules, color to match cap sheet, supplied by membrane cap sheet manufacturer.
a. SOPREMA SG GRANULES

N. EXPANSION JOINT:
1. SOPREMA SOPRAJOINT: Low-profile, polyester knit-reinforced, SBS-modified bitumen expansion joint membrane. Top surface consists of an aluminum-clad bond-breaker, with plastic burn-off film on the bottom surface for torch or hot air welding.
a. Thickness: 160 mils (4.0 mm)
b. Width: 18 in (457 mm)
c. Roll Length: 32.8 ft (10 m)
d. Expansion joint, maximum unsupported span: 2 in (51 mm)
e. Expansion joint, maximum displacement: 5/8 in (16 mm)

O. WALKWAY PROTECTION:
1. SOPREMA SOPRAWALK: Polyester reinforced SBS modified bitumen walkway protection with a granule surface and sanded underside.
a. Thickness: 200 mils (5.0 mm)
b. Width: 39.4 in (1 m)
c. Roll Length: 26 ft (7.9 m)
d. Granule Surfacing:
1) Color: black, grey, tan

PART 3 EXECUTION

1. EXAMINATION
A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.
B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.

C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.

D. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

2. PREPARATION

A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning.

B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3. PRIMER APPLICATION

A. Examine all substrates, and conduct adhesion peel tests as necessary, to ensure satisfactory adhesion is achieved.

B. Apply the appropriate specified primer to dry, compatible substrates as required to enhance adhesion of new specified roofing materials.

C. Apply primer using brush, roller, or sprayer at the rate published on the product data sheet. Lightly prime for uniform coverage, do not apply heavy or thick coats of primer.

D. Asphalt Primer: Apply primer to dry compatible masonry, metal, wood and other required substrates before applying asphalt and heat-welded membrane plies. Primer is optional for solvent based solvent-based SBS adhesives and cements. Refer to product data sheets.

E. Self-Adhesive Membrane Primer: Apply SOPREMA ELASTOCOL STICK to dry, compatible substrates as required to enhance adhesion of self-adhesive membrane plies. Ensure self-adhered membrane primer is tacky to-the-touch, but not wet. Primer should not transfer to the finger tips when touched.

F. Project conditions vary throughout the day. Monitor changing conditions, monitor the drying time of primers, and monitor the adhesion of the membrane plies. Adjust primer and membrane application methods as necessary to achieve the desired results.

4. SBS MASTIC AND GENERAL PURPOSE ROOFING CEMENT APPLICATION

A. Apply SOPREMA SOPRAMASTIC general purpose SBS mastic and roofing cement to seal drain leads, metal flanges, seal along membrane edge at terminations, and where specified and required in detail drawings.

B. Do not use general purpose SBS mastics and roofing cement where flashing cement applications are required. Do not use SBS mastics and roofing cement beneath SBS-modified bitumen membrane and flashing plies.

C. Apply general purpose SBS mastic and elastic roofing cement using caulk gun, or notched trowel at 2.0 – 2.5 gallons per square on each surface. Application rates vary based on substrate porosity and roughness. Tool-in as necessary to seal laps

D. Embed matching granules into wet cement where exposed.

5. INSULATION ADHESIVE APPLICATION
   A. Apply the specified two-component insulation adhesive to adhere (Insulation Base Layer, Insulation Layers, Cover-board) to the deck and insulation substrate(s).
   B. Follow insulation adhesive product data sheets and published general requirements for installation requirements.
   C. Apply insulation adhesive in uniform ribbons, 1/2 in to 3/4 in wide.
   D. Immediately install insulation components into insulation adhesive, and apply weight to ensure the materials maintain full contact with all ribbons for complete adhesion. Do not allow insulation adhesive to skin-over before placing the insulation materials into the adhesive.
   E. Adhere the insulation system to meet the specified wind uplift resistance performance and specified warranty requirements.
   F. Minimum insulation adhesive ribbon spacing:
      1. Field of Roof (Zone 1): 12 in on-centers.
      2. Perimeter of Roof (Zone 2): 6 in on-centers.
      3. Corners of Roof (Zone 3): 4 in on-centers.
6. INSULATION SYSTEM APPLICATION
   A. Follow insulation system component product data sheets, published general requirements and, approvals.
   B. Install all insulation system components on clean, dry, uniform and, properly prepared substrates.
   C. All insulation system boards shall be carefully installed and fitted against adjoining sheets to form tight joints.
   D. Insulation system boards that must be cut to fit shall be saw-cut or knife-cut in a straight line, not broken. Chalk lines shall be used to cut insulation components. Uneven or broken edges shall not be accepted. Remove dust and debris that develops during cutting operations.
   E. Stagger successive layers of insulation 12 in vertically and laterally to ensure board joints do not coincide with joints from the layers above and below.
   F. Cricket, saddles, and tapered edge strips shall be installed before install Cover-boards.
   G. Install tapered insulation, saddles and crickets as required to ensure positive slope for complete roof drainage
   H. Cover-boards shall be installed to fit tight against adjacent boards. When required by the Cover-board manufacturer, a uniform gap shall be provided between Cover-boards using a uniform guide placed between board joints to form a gap between all boards during installation.
   I. The finished insulation system surface shall be tight to, and flush with, adjacent substrates to form a satisfactory substrate to install specified roof membrane and flashings.
   J. Install specified cants where required for membrane flashing transitions.
7. MECHANICALLY FASTENED SOPRAFIX BASE PLY APPLICATION
   A. Refer to agency approvals for fastening and other system requirements.
   B. Mechanically fastened membrane base ply installation:
      1. Follow product data sheets and published detail requirements for additional installation instructions.

2. Ensure environmental conditions are satisfactory, and will remain satisfactory, during the application.
3. Unroll the sheet onto the roof surface and allow time to relax before fastening as necessary to prevent wrinkling once fastened.
4. Starting at the low point of the roof, lay out the membrane to ensure the plies are installed perpendicular to the roof slope, shingled to prevent back-water laps.
5. Remove all wrinkles from the sheet.
6. Ensure all roofing and flashing substrates are prepared and acceptable to receive the mechanically fastened membrane.
7. Ensure the specified side-lap and end-lap widths are maintained. End-laps should be staggered 3 ft. apart.
8. Unroll the first roll onto the roof substrate, re-roll the adjacent roll.
9. Starting at one end of the sheet, install the mechanical fasteners along the center of the side-lap. Ensure spacing between fasteners in the laps meets specified wind uplift resistance requirements.
10. Do not over-drive fasteners. Install fasteners as necessary to firmly set the fastener and seam plate tight against the sheet. Prevent wrinkles from forming in the sheet as the fasteners are installed.
11. At the end of the sheet where it terminates at roof edges, walls and curbs, fasten the end-laps to the deck 12 in on-centers or less.
12. When the side-lap is fastened, un-roll the adjacent roll over the fasteners. Maintain the required side-lap width.
13. Ensure the full side-lap width, and all 6 in end-laps, are sealed water-tight.
14. For heat-welded side-laps using a torch, ensure the substrate is satisfactory for torch application. Apply heat within the side-lap while unrolling the membrane. Apply heat until the bitumen melts to ensure full adhesion. Ensure a continuous weld is produced across the full side-lap width.
15. For hot-air welded side-laps, insert the hot-air welder shoe within the lap, and adjust the hot-air welder as required to produce a continuous weld across the full lap width.
16. While heat-welding the membrane side-laps, ensure approximately 1/8 to ¼ in bleed-out is achieved at laps.
17. Adjust the application of heat to the underside of the membrane and to substrate as required for varying substrates and environmental conditions.
18. For self-adhesive side-laps, remove the release film on the underside of the membrane while immediately following with a steel roller. Immediately heat-weld all 6 in end-laps, and fully seal all T-joints.
19. At end-laps, cut a 45 degree dog-ear away from the selvage edge, or otherwise ensure the membrane is fully heat-welded watertight at all end- laps and T-joints.
20. Each day, physically inspect all side and end-laps, and ensure the membrane is sealed watertight. Where necessary, use a torch or hot-air welder and a clean trowel to ensure all laps are fully sealed.

21. Offset cap sheet side and end-laps away from the base ply laps so that cap sheet laps are not located within 18 in of adjacent ply laps.
22. Inspect the mechanically fastened base ply each day to ensure the plies are water tight. Repair all un-adhered voids, wrinkles, open laps and all other deficiencies before installing the inter-ply and/or cap sheet over completed fastened base ply sheet.

8. HEAT-WELDED, FULLY ADHERED MEMBRANE APPLICATION
   A. Follow material product data sheets and published general requirements for installation instructions.
   B. Ensure environmental conditions are safe and satisfactory, and will remain safe and satisfactory, during the application of the heat-welded membrane and flashings.
   C. Ensure all primers are fully dry before beginning heat-welding operations.
   D. Unroll membrane onto the roof surface and allow time to relax prior to heat welding.
   E. Starting at the low point of the roof, lay out the membrane to ensure the plies are installed perpendicular to the roof slope, shingled to prevent back-water laps.
   F. Ensure all roofing and flashing substrates are prepared and acceptable to receive the heat-welded membrane.
   G. Cut membrane to working lengths and widths to conform to rooftop conditions, and lay out to always work to a selvage edge.
   H. Ensure specified side-laps and end-laps are maintained. End-laps should be staggered 3 ft apart.
   I. Direct roof torch on the roll as necessary to prevent overheating and damaging the membrane and substrates.
   J. As the membrane is unrolled, apply heat to the underside of the membrane until the plastic burn-off film melts away. Continuously move the torch side-to-side across the underside of the roll to melt the bitumen on the underside of the sheet, while continuously unrolling membrane.
   K. While unrolling and heating the sheet, ensure approximately ¼ to 1/2 in of hot bitumen flows ahead of the roll as it is unrolled, and there is 1/8 to 1/4 in bleed out at all laps.
   L. Adjust the application of heat to the underside of the membrane and to substrate as required for varying substrates and environmental conditions.
   M. At the 6 in end-laps, melt the plastic burn-off film from the top surface or embed granules and remove surfacing, where present, using a torch or hot-air welder.
   N. At end-laps where T-Joints exist, cut a 45 degree dog-ear away from the selvage edge, or otherwise ensure the membrane is fully heat-welded watertight at all T-joints.
   O. Each day, physically inspect all side and end-laps, and ensure the membrane is sealed watertight. Where necessary, use a torch or hot-air welder and a clean trowel to ensure all laps are fully sealed.
   P. Inspect the installation each day to ensure the plies are fully adhered. Repair all voids, wrinkles, open laps and all other deficiencies.
   Q. Offset cap sheet side and end-laps away from the base ply laps so that cap sheet laps are not located within 18 in of base ply laps.

9. FLASHING APPLICATION, HEAT WELDED
   A. Refer to SBS manufacturer's membrane application instructions, flashing detail drawings, and follow product data sheets and other published requirements for installation instructions. Refer to manufacturer's membrane flashing detail drawings.
   B. The contractor is responsible for project safety. Refer to NRCA CERTA recommendations and building owner requirements for hot work operations.
   C. Where required to seal substrates for fire safety, install specified adhered, self-adhered or fastened backer ply to the substrate. Ensure backer-ply covers and seals all substrates requiring protection from exposure to torch operations.
   D. Ensure all flashing substrates that require primer are primed, and the primer is fully dry.
   E. Unroll the flashing base ply and flashing cap sheet onto the roof surface to their complete length. Once relaxed, cut the membrane to the required working lengths to accommodate the flashing height, cants and the required over-lap onto the horizontal roof surface.
   F. Cut the flashing membrane from the end of the roll in order to always install flashings to the side-lap line or selvage edge line.
   G. Lay out the flashing base ply and flashing Cap Sheet to offset all side-laps a minimum of 12 inches so that side-laps are never aligned on top of the ply beneath. Shingle the flashing ply laps to prevent back-water laps.
   H. Install non-combustible cant strips at transitions where required.
   I. Ensure correct membrane and flashing sequencing to achieve redundant, multi-ply, watertight flashings.
   J. ROOF MEMBRANE BASE PLY:
      1. Before installing flashings, install the roof membrane base ply in the horizontal field of the roof, and extend the base ply up to the top of the cant, where present, at roof terminations, transitions and penetrations.
   K. FLASHING BASE PLY:
      1. Install the flashing base ply starting at the top leading edge of the vertical flashing substrate, down over the cant and onto the horizontal surface of the roof a minimum of 3 inches beyond the of base of the cant onto the roof. Cut the base ply at corners to form 3 inch side-laps. Install gussets to seal corner transitions.
      2. Install one or more flashing base ply(s) at all roof terminations, transitions and penetrations.
   L. ROOF MEMBRANE CAP SHEET:
      1. Install the roof membrane Cap Sheet in the horizontal field of the roof over the flashing base ply up to the roof termination, transition or penetration, and up to the top of cants where present.
      2. Using a chalk line, mark a line on the membrane cap sheet a minimum of 4 inches from the base of the cant onto the roof. Where granules are present, embed the cap sheet granules using a torch and trowel or granule embedder to prepare the surface to receive the flashing cap sheet.
   M. FLASHING CAP SHEET:

1. Install the flashing Cap Sheet starting at the top leading edge on the vertical substrate, over the cant and onto the roof surface 4 inches from the base of the cant onto the roof.
2. Install the flashing Cap Sheet to ensure a minimum two (2) ply flashing system is present at all roof terminations, transitions and penetrations.

N. During the membrane and flashing installation, ensure all plies are completely adhered into place, with no bridging, voids or openings. Ensure bitumen or flashing cement bleed-out is present at all flashing side and end-laps.

O. Use a damp sponge float or damp rag to press-in the heat-welded flashing plies during installation.

P. Where sufficient bitumen bleed-out is not present, and for all self-adhered plies, apply specified gun-grade sealant or mastic to seal the membrane termination along all roof terminations, transitions and penetrations. These include gravel stop edge metal, pipe penetrations, along the top edge of curb and wall flashing, and all other flashing terminations where necessary to seal flashings watertight.

Q. Fasten the top leading edge of the flashing 8 in on-centers with appropriate 1 in metal cap nails or other specified fasteners and plates. Seal fastener penetrations watertight using specified sealant or mastic.

10. LIQUID-APPLIED, ALSAN RS 230 (PMMA) MEMBRANE AND FLASHING APPLICATION

A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions.

B. Pre-cut SOPREMA ALSAN RS FLEECE polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.

C. Apply the base coat of catalyzed SOPREMA ALSAN RS 230 resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.

D. Immediately apply the SOPREMA ALSAN RS FLEECE reinforcing into the wet base coat of resin. Using a brush or roller, work the (SOPREMA ALSAN FLEECE reinforcing fabric into the wet resin while applying the second coat of catalyzed SOPREMA ALSAN RS 230 resin to completely encapsulate the fleece.

E. Refer to reinforced, polymethyl-methacrylate (PMMA) specification section and application instructions, details drawings, product data sheets and published general requirements for installation instructions.

11. LIQUID-APPLIED, SINGLE-COMPONENT, BITUMEN-URETHANE FLASHING SYSTEM APPLICATION (SOPREMA ALSAN FLASHING):

A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions

B. Pre-cut SOPREMA ALSAN POLYFLEECE polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.

C. Apply the base coat of SOPREMA ALSAN FLASHING liquid-applied flashing resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion at 2.0 gallons per square.

D. Immediately apply the SOPREMA ALSAN POLYFLEECE reinforcing into the wet base coat of resin. Using a brush or roller, work the SOPREMA ALSAN POLYFLEECE into the wet resin while applying the second coat of SOPREMA ALSAN FLASHING resin to completely encapsulate the fleece at 2.0 gallons per square, and extend the liquid resin 1 inch beyond the fleece.

E. Allow the liquid membrane to sufficiently cure for 24 to 48 hours then apply the finish coat of SOPREMA ALSAN FLASHING resin at 2.0 gallons per square.

F. Broadcast mineral granules into the wet finish coat as required to match the adjacent cap sheet.

12. WALKWAYS

A. At areas outlined on the drawings, and around the perimeter of all rooftop equipment and at all door and stair landings, install walkway protection.

B. Cut walkway from end of rolls. No piece shall be less than 24 in.

C. Spot adhere walkway protection with SOPREMA SOPRAMASTIC SP1.

D. Provide a 2 in space between sheets for drainage.

13. CLEAN-UP

A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION

Thermoplastic Polyolefin (TPO) Membrane Roofing - Carlisle

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. NRCA (RM) - The NRCA Roofing Manual 2023.
   F. 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 ____ degrees F (____ 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. GAF
   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, reinforced membrane.
b. GAF EverGuard TPO

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
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. Membrane Adhesive: As recommended by membrane manufacturer.
1. Product:
D. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
E. Sealants: As recommended by membrane manufacturer.
1. Product:
a. Sure-Weld Cut Edge Sealant.
F. Cleaner: Manufacturer's standard, clear, solvent-based cleaner.
1. Product: Carlisle Weathered Membrane Cleaner.
G. Edgings and Terminations: Manufacturer's standard edge and termination accessories.

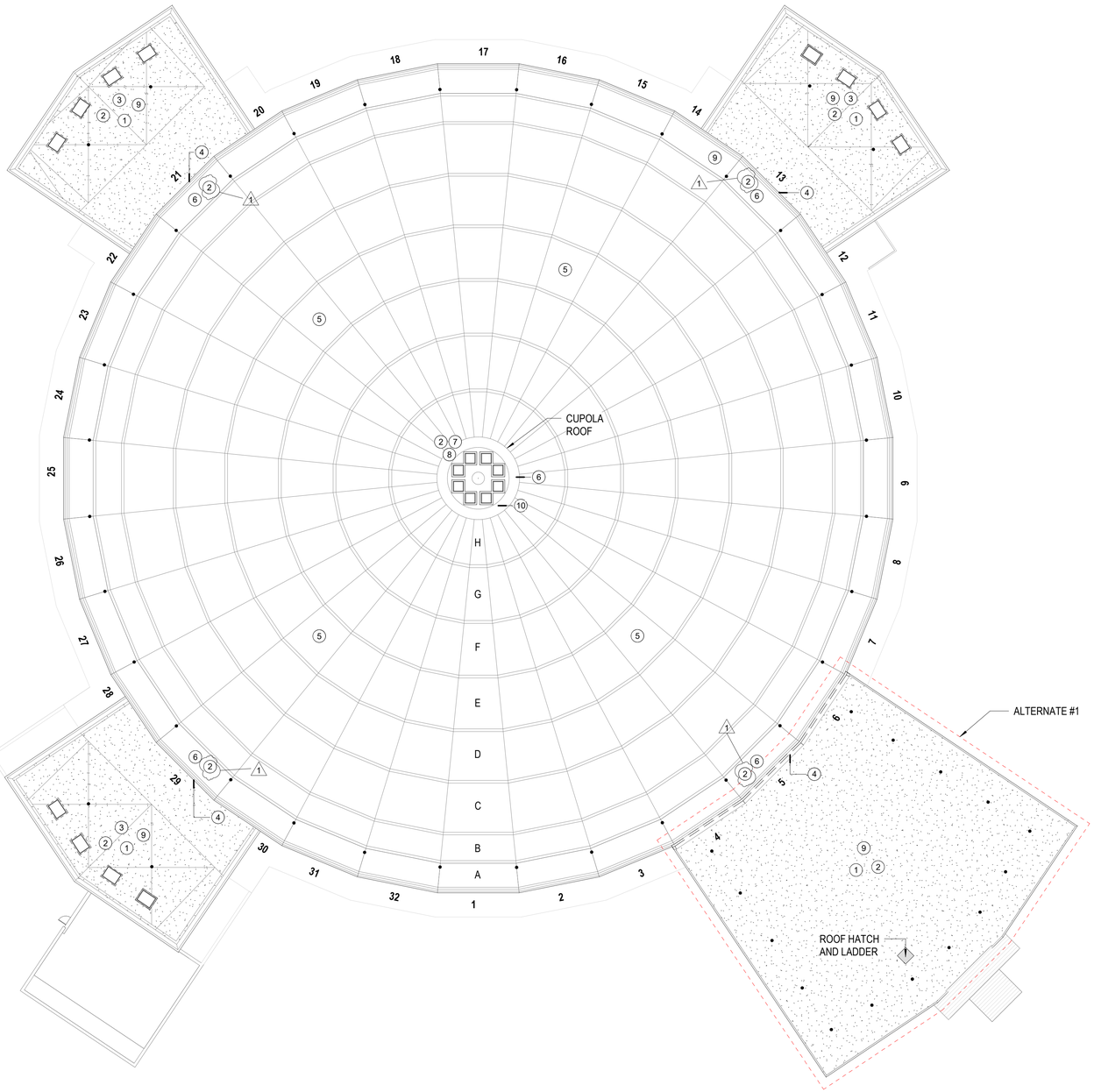
PART 3 EXECUTION

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. 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 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



1 DEMO OVERALL ROOF PLAN
3/64" = 1'-0"

GEN. NOTES - DEMOLITION

A. ALL INFORMATION IS BASED ON FIELD OBSERVATIONS & OWNER SUPPLIED DOCUMENTS & MAY NOT REFLECT ACTUAL FIELD CONDITIONS. UPON DISCOVERY OF ANY DISCREPANCIES BETWEEN DRAWINGS DEPICTING EXIST. CONDITIONS OR UPON DISCOVERY OF UNKNOWN CONDITIONS DETRIMENTAL TO THE COMPLETION OF THE WORK AS INDICATED IN THE DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT, IN WRITING, OF THE CONDITION IN QUESTION BEFORE PROCEEDING WITH WORK IN THAT AREA.

B. SALVAGE IS DEFINED AS CAREFULLY REMOVING & RETAINING ITEMS FOR REUSE. FURTHER EVALUATION OF CERTAIN ITEMS IN TERMS OF SALVAGE DESIRABILITY MAY OCCUR PRIOR TO CONSTRUCTION.

C. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING & BRACING NECESSARY TO MAINTAIN INTEGRITY OF EXIST. STRUCTURE AT ALL TIMES.

D. IF ANY EXIST. FIREPROOFING OR ASSEMBLIES WHICH ARE INDICATED TO REMAIN ARE DAMAGED DURING DEMOLITION THE CONTRACTOR SHALL REPAIR DAMAGE TO THE LEVEL OF THE ORIGINAL FIRE PROTECTION REQUIREMENTS.

E. CARE SHALL BE TAKEN AT INTERFACE BETWEEN DEMOLITION & EXIST. CONSTRUCTION TO REMAIN TO AVOID DAMAGE TO ALL SYSTEMS THAT REMAIN. ALL EXIST. CONSTRUCTION REMAINING AFTER DEMOLITION THAT INTERFERES WITH NEW CONSTRUCTION SHALL BE REMOVED AS DIRECTED BY THE ARCHITECT UPON NOTIFICATION BY THE CONTRACTOR.

G. REMOVE EXIST. CONSTRUCTION AS INDICATED. THE TYPICAL WALL REMOVAL INCLUDES FINISHES & MECHANICAL, PLUMBING & ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE ALL WALLCOVERING @ WALLS TO REMAIN & PREP FOR PAINT WITHIN EXTENTS OF PHASE. REMOVE ALL WALL BASE. REMOVE DOORS, CASEWORK, WINDOWS, FRAMES, & OTHER FIXTURES AS REQUIRED. REMOVE ALL WINDOW COVERINGS IN THEIR ENTIRETY. AFTER REMOVAL OF PIPE CHASES, PATCH HOLES IN FLOORS OR EXIST. WALLS TO REMAIN TO MEET ORIGINAL FIRE PROTECTION & STRUCTURAL REQUIREMENTS. PATCH ADJOINING WALLS, FLOORS & DECK & PREPARE SURFACES TO RECEIVE A NEW FINISH AS PER FINISH SCHEDULE. REMOVE ALL REMAINING MORTAR / SETTING BEDS & RESIDUE FROM EXIST. FLOORING SURFACES.

H. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXIST. SUBSTRATE CORRECTION IN ALL AREAS WHERE MECHANICAL, PLUMBING & ELECTRICAL EQUIP. & SERVICES ARE REMOVED.

I. IT IS INTENDED THAT REMOVAL OF ALL MAJOR MECHANICAL, PLUMBING & ELECTRICAL ITEMS BE COMPLETED BY THEIR RESPECTIVE TRADES. ALL ITEMS TO BE REMOVED ARE NOT NECESSARILY SHOWN ON THESE DOCUMENTS. ONCE REMOVAL OF MAJOR ITEMS IS COMPLETED BY RESPECTIVE TRADES, THE REMAINING ITEMS ARE TO BE REMOVED BY THE GENERAL CONTRACTOR.

J. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES & ORDINANCES AS SET FORTH BY ALL GOVERNING AUTHORITIES.

K. THE CONTRACTOR SHALL NOTIFY, COORDINATE, SCHEDULE & RECEIVE PRIOR PERMISSION FROM THE OWNER IF ANY SHUTDOWN OF SERVICES IS NECESSARY TO COMPLETE THE WORK. NOTIFICATION SHALL INCLUDE THE TYPE OF SERVICE, AREA AFFECTED, REQUESTED SHUTDOWN TIME, LENGTH OF TIME. SERVICE TO BE DISCONNECTED & PROPOSED RECONNECTION TIME. PROVIDE MIN. 48-HOURS WRITTEN NOTICE TO OWNER FOR ALL SCHEDULED SHUT-DOWNS. DO NOT PERFORM UTILITY SHUT-DOWNS WITHOUT THE OWNERS WRITTEN CONSENT. COORDINATE WORK RELATED TO SHUT-DOWN TO MINIMIZE UTILITY DOWN- TIME. THE OWNER SHALL REQUIRE ALL UTILITY SHUT-DOWNS TO BE PREFORMED AT NON-PEAK DEMAND TIMES. THE OWNER MAY REQUIRE UTILITY SHUT-DOWNS TO BE PREFORMED AFTER NORMAL BUSINESS HOURS.

L. ALL OPNG.S, GAPS & VOIDS IN EXIST. CONSTRUCTION LEFT OR UNCOVERED BY DEMOLITION ARE TO BE FILLED USING MATERIALS THAT MATCH SIZE & CONFIGURATION OF ADJACENT EXIST. CONSTRUCTION UNLESS OTHERWISE NOTED HEREIN & AS APPROVED BY THE ARCHITECT.

M. CONTRACTOR SHALL MAINTAIN ADEQUATE EGRESS AT ALL TIMES.

N. SEE HAZARDOUS MATERIAL INSPECTION REPORTS & ABATEMENT SPECIFICATION DIAGRAMS FOR EXTENT OF ACM. & LBP. TO BE ABATED.

O. WHERE EXISTING CEILINGS ARE TO BE DEMOLISHED, DEMOLISH CEILING IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, SUSPENDED CEILING ASSEMBLIES, DIRECT MOUNT CEIILNG ASSEMBLIES, LIGHTING FIXTURES, & MECH. GRILLES.

GENERAL DEMO KEY NOTES

1 STRUCTURAL DECK TO REMAIN
2 REMOVE AND DISPOSE OF EXISTING ROOFING SYSTEM DOWN TO DECK (IF DEEMED INSUFFICENT BY ARCHITECT)
3 REMOVE AND DISPOSE OF EXISTING SKYLIGHTS AND INFILL PER 7/A402
4 REPLACE FLASHING MEMBRANE WITH METAL FLASHING
5 REMOVE AND DISPOSE OF COPPER MEMBRANE ROOF SYSTEM ALONG BUILDING DOME
6 PATCH AND REPAIR STUCCO SOFFIT PANELS (ALTERNATE #2)
7 DEMO ALL CUPOLA WALL PANELING TO THE STRUCTURE
8 REMOVE AND DISPOSE OF SKYLIGHTS; TO BE REPLACED
9 REMOVE AND DISPOSE OF EXISTING ROOF DRAINS
10 DEMO CUPOLA ROOF TO THE DECK

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM.
1 / A101 — DETAIL MARK
2 — DEMO KEYNOTE
AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308
REED GREEN COLISEUM ROOF REPLACEMENT

University of Southern Mississippi
M.K. Turk Cir,
Hattiesburg, MS 39406

SEPTEMBER 12, 2023

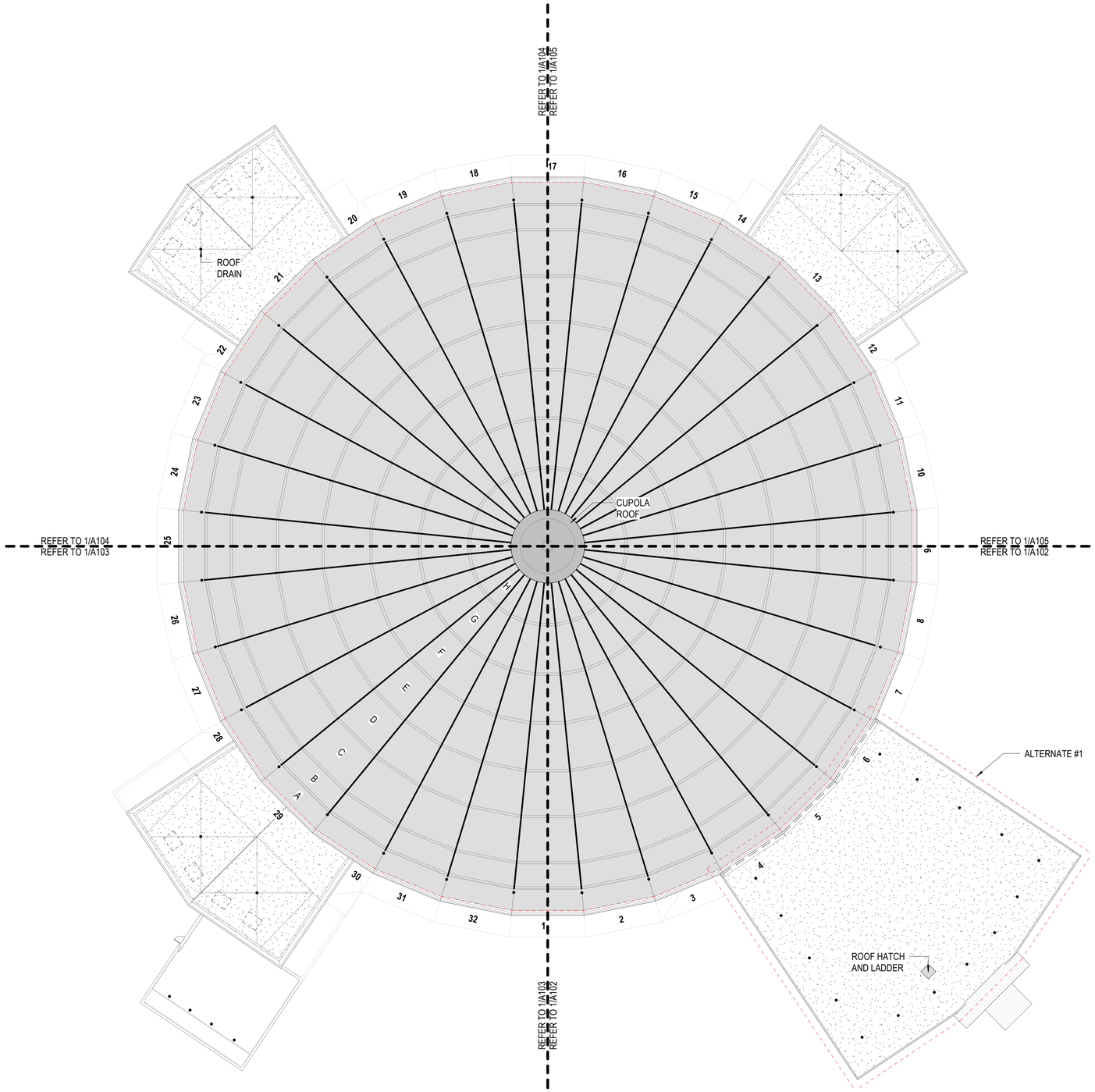
100% CD SET

WBA # 22-087

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum #3	1/4/2024

D100
DEMO OVERALL ROOF PLAN



1 OVERALL ROOF PLAN
3/64" = 1'-0"

GENERAL NOTES

1. NOTES APPEAR ON VARIOUS DRAWINGS FOR VARIOUS DISCIPLINES FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.

2. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.

3. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.

4. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.

5. PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.

6. OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.

7. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.

8. PROVIDE CONTINUOUS PERIMETER FIRE SAFING BETWEEN FLOORS AND COORDINATE THE INSTALLATION WITH THE EXTERIOR WALL. FIRE RATING OF SAFING SHALL MATCH FIRE RATING OF FLOOR CONSTRUCTION.

9. DO NOT SCALE THE DRAWINGS.

10. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.

11. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

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RENOVATION NOTES

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3. INSTALL NEW ROOF DRAINS TO MATCH EXISTING DRAIN LOCATIONS
4. ROOF ACCESS HATCH TO BE CLEANED AND REFINISHED
5. INFILL SKYLIGHTS WHERE SHOWN PER PER 7/A402
6. UNLESS DETERMINED INSUFFICIENT IN THE FIELD, EXISTING LT. WEIGHT CONCRETE AND TECTUM DECK TO REMAIN (TO BE VERIFIED BY ARCHITECT)
7. IF DEEMED INSUFFICIENT BY OWNER, ARCHITECT, OR CONTRACTOR, THE PREFERED METHOD OF ROOF CONSTRUCTION SHALL COORDINATE WITH THE ROOF ASSEMBLY LEGEND.
8. RE-ROOF LARGER SOUTH EAST LOWER ROOF AS DESIGNATED (ALTERNATE #1)
9. PATCH AND REPAIR STUCCO SOFFIT PANELS (ALTERNATE #2)

ROOF TYPE LEGEND

MODIFIED BITUMINOUS ROOF SYSTEM

TPO ROOFING ASSEMBLY

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM.

1 / A101 — DETAIL MARK

2 — DEMO KEYNOTE

AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308
REED GREEN COLISEUM ROOF REPLACEMENT

University of Southern Mississippi
M.K. Turk Cir,
Hattiesburg, MS 39406

SEPTEMBER 12, 2023

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WBA # 22-087

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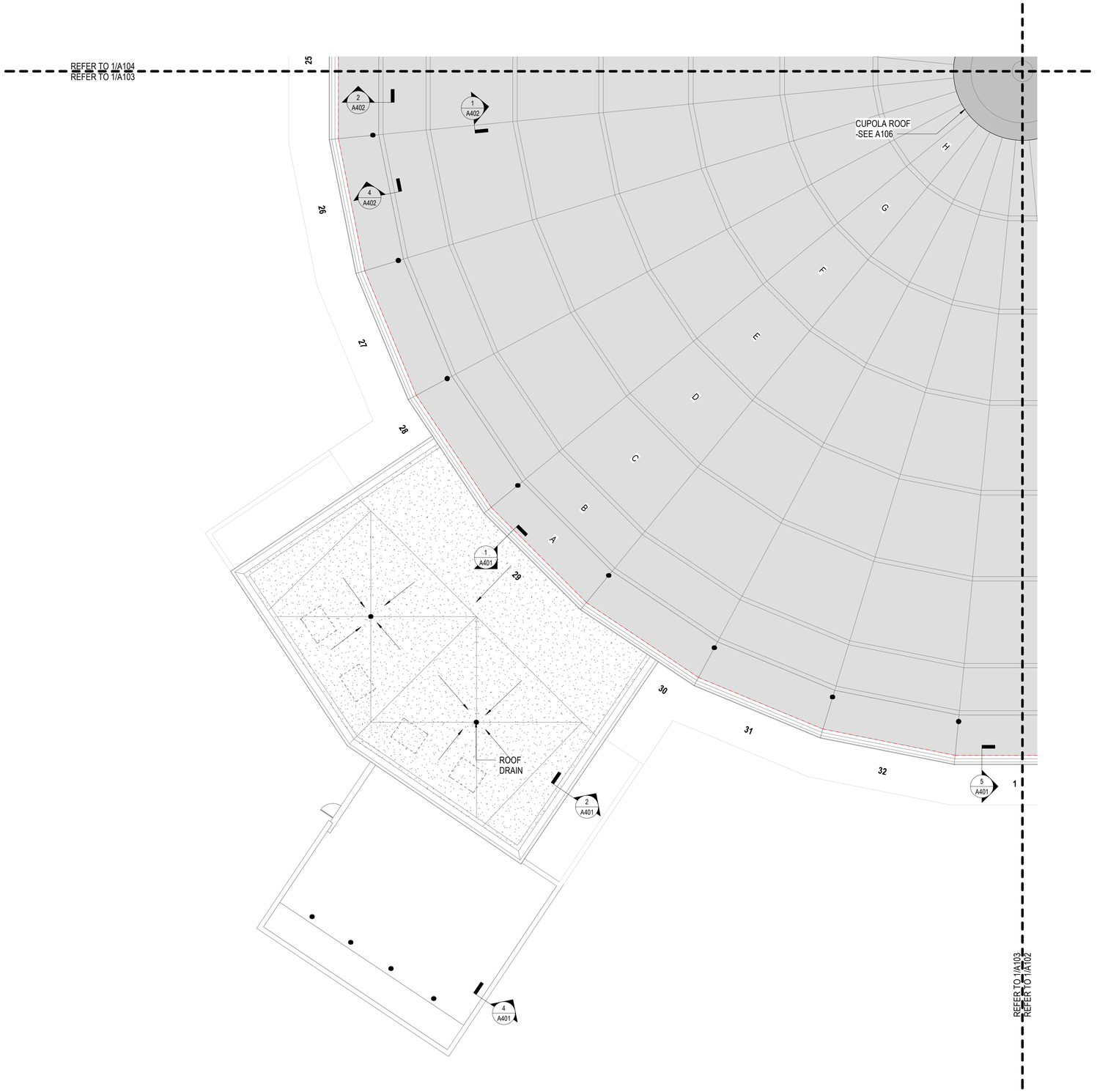
A101
OVERALL ROOF PLAN



1 SOUTH EAST ROOF PLAN
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GENERAL NOTES

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RENOVATION NOTES

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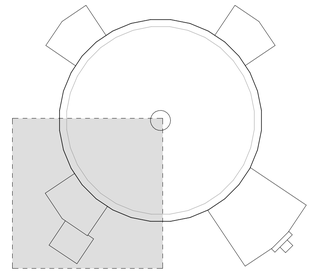


ROOF TYPE LEGEND

MODIFIED BITUMINOUS ROOF SYSTEM

TPO ROOFING ASSEMBLY

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM.
1 A101 — DETAIL MARK

2 — DEMO KEYNOTE

AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308
REED GREEN COLISEUM ROOF REPLACEMENT

University of Southern Mississippi
M.K. Turk Cir,
Hattiesburg, MS 39406

SEPTEMBER 12, 2023

100% CD SET

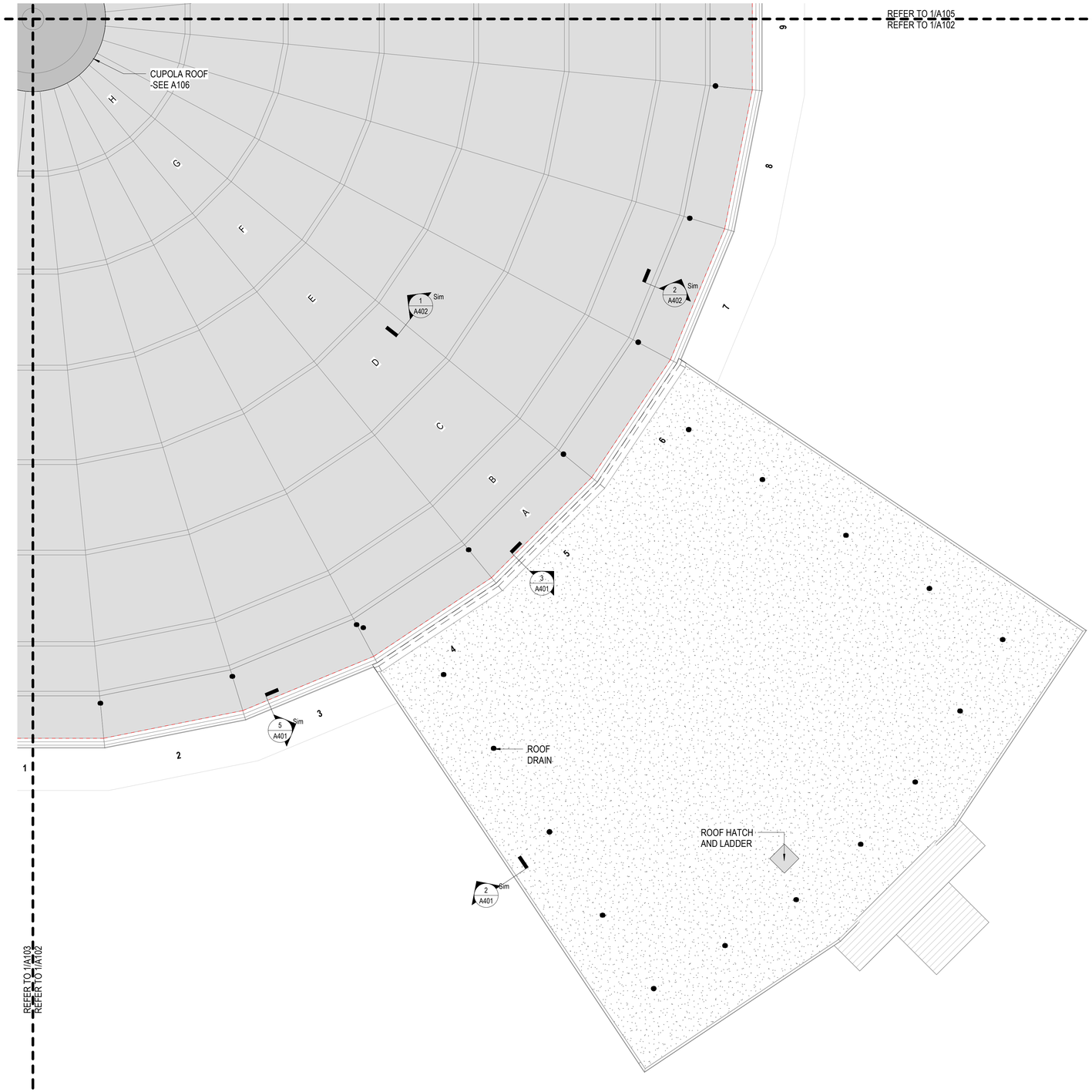
WBA # 22-087

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum #3	1/4/2024

1

A102
SOUTH WEST ROOF PLAN



1 SOUTH WEST ROOF PLAN - ALT #1
3/32" = 1'-0"

GENERAL NOTES

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RENOVATION NOTES

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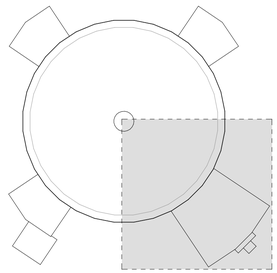
9. PATCH AND REPAIR STUCCO SOFFIT PANELS (ALTERNATE #2)



ROOF TYPE LEGEND

MODIFIED BITUMINOUS ROOF SYSTEM

TPO ROOFING ASSEMBLY

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM.

1 / A101 — DETAIL MARK

2 — DEMO KEYNOTE

AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308
REED GREEN COLISEUM ROOF REPLACEMENT

University of Southern Mississippi
M.K. Turk Cir,
Hattiesburg, MS 39406

SEPTEMBER 12, 2023

100% CD SET

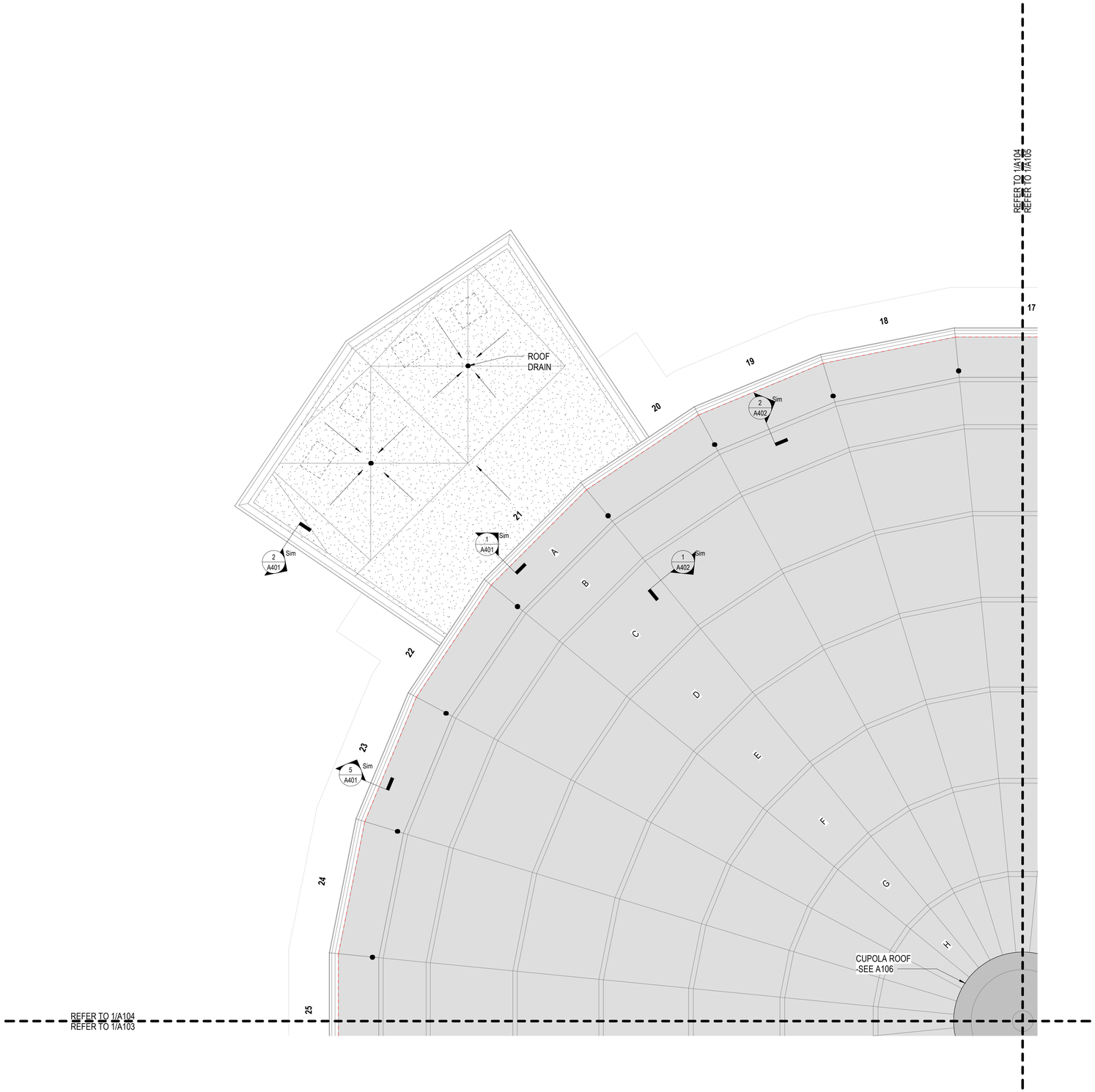
WBA # 22-087

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum #3	1/4/2024

1

A103
SOUTH EAST ROOF PLAN



1 NORTH WEST ROOF PLAN
3/32" = 1'-0"

GENERAL NOTES

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9. DO NOT SCALE THE DRAWINGS.

10. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.

11. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

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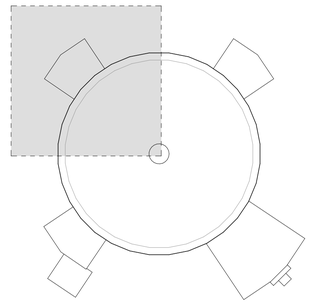

ROOF TYPE LEGEND

MODIFIED BITUMINOUS ROOF SYSTEM

TPO ROOFING ASSEMBLY

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM.

1 / A101 — DETAIL MARK

2 — DEMO KEYNOTE

AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308 REED GREEN COLISEUM ROOF REPLACEMENT

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WBA # 22-087

REVISIONS

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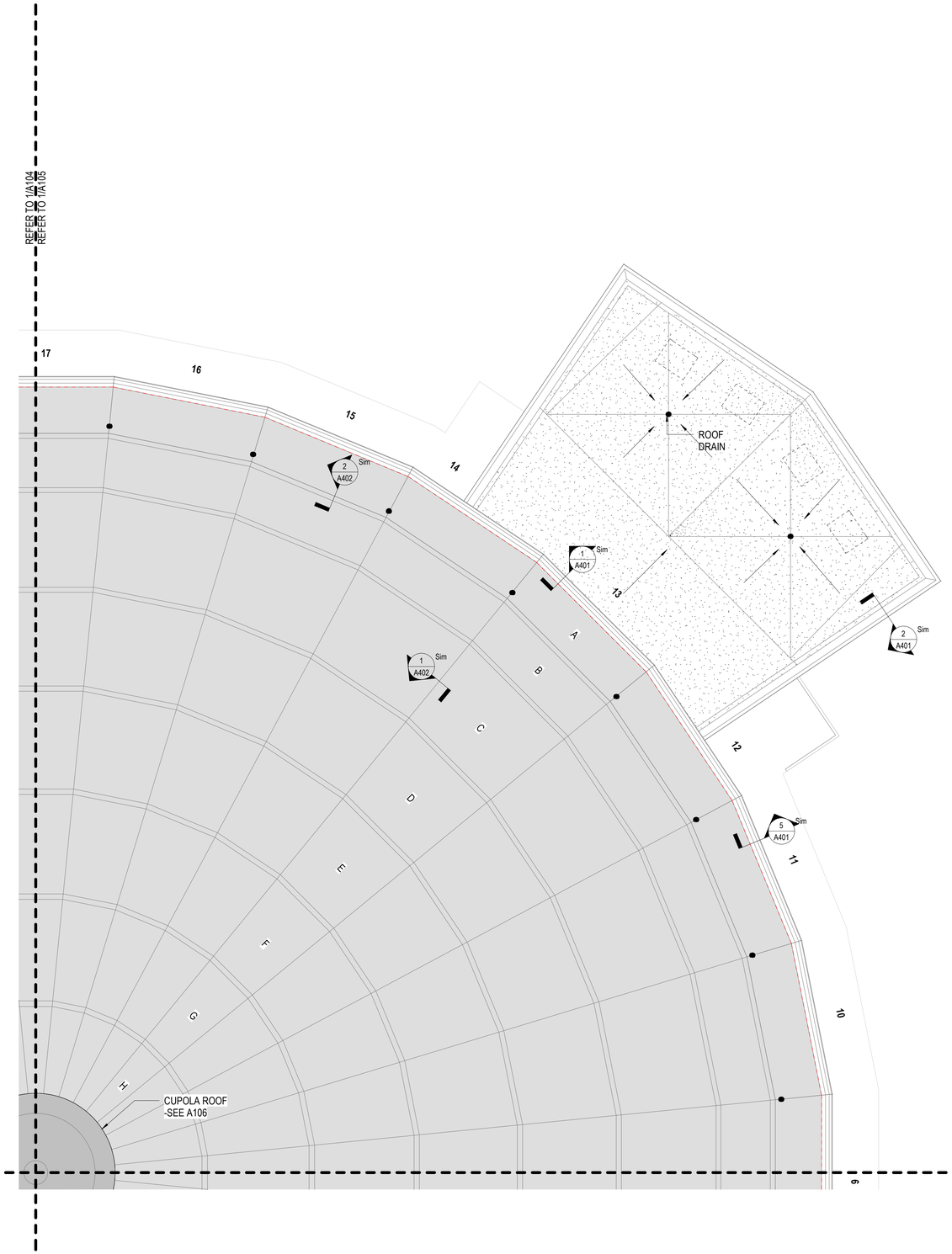
1	Addendum #3	1/4/20 24

1

A104
NORTH WEST ROOF PLAN



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3/32" = 1'-0"

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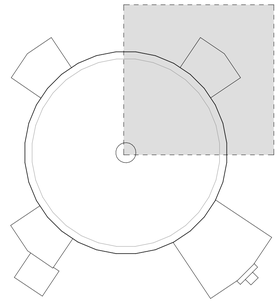


ROOF TYPE LEGEND

MODIFIED BITUMINOUS ROOF SYSTEM

TPO ROOFING ASSEMBLY

SYMBOLS LEGEND

FOR SIMILAR DETAILS SIM. — 1 / A101 — DETAIL MARK

2 — DEMO KEYNOTE

AREA NOT IN SCOPE

WBA ARCHITECTURE

GS# 108-308 REED GREEN COLISEUM ROOF REPLACEMENT

University of Southern Mississippi
M.K. Turk Cir,
Hattiesburg, MS 39406

SEPTEMBER 12, 2023

100% CD SET

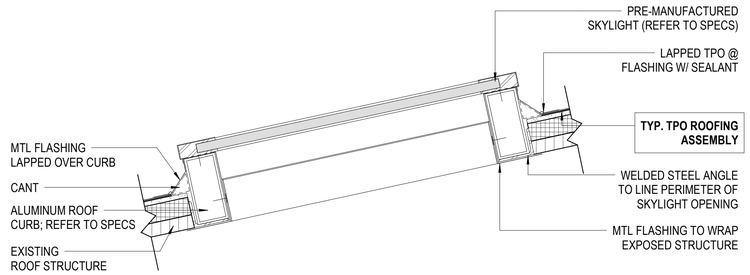
WBA # 22-087

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum #3	1/4/2024

1

A105
NORTH EAST ROOF PLAN



3 TYP. SKYLIGHT REPLACEMENT DETAIL
1 1/2" = 1'-0"

ROOF ASSEMBLIES:

TYP. MODIFIED BITUMINOUS ROOFING ASSEMBLY:
- MOD. BIT. ROOFING SYS.
- COVER BOARD - REFER TO SPECS
- TAPERED INSUL. [AS REQ'D. TO ACHIEVE SLOPE]
- 1 1/2" MIN. RIGID INSUL. BD.
- ROOF STRUCTURE

TYP. TPO ROOFING ASSEMBLY:
- TPO MEMBRANE ROOFING SYS.
- COVER BOARD - REFER TO SPECS
- TAPERED INSUL. [AS REQ'D. TO ACHIEVE SLOPE]
- 1 1/2" MIN. RIGID INSUL. BD.
- ROOF STRUCTURE

GENERAL NOTES

1. NOTES APPEAR ON VARIOUS DRAWINGS FOR VARIOUS DISCIPLINES FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.

2. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.

3. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.

4. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.

5. PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.

6. OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.

7. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.

8. PROVIDE CONTINUOUS PERIMETER FIRE SAFING BETWEEN FLOORS AND COORDINATE THE INSTALLATION WITH THE EXTERIOR WALL. FIRE RATING OF SAFING SHALL MATCH FIRE RATING OF FLOOR CONSTRUCTION.

9. DO NOT SCALE THE DRAWINGS.

10. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.

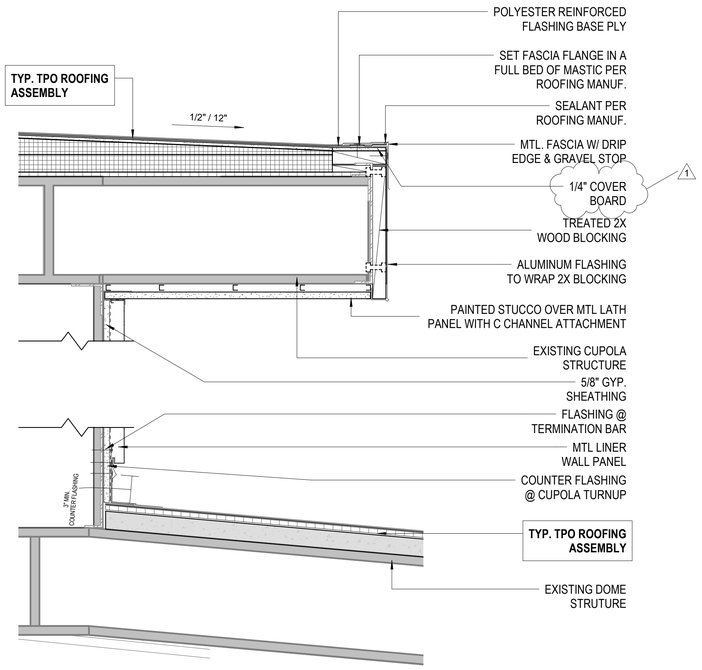
11. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

12. COORDINATE ALL BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT.

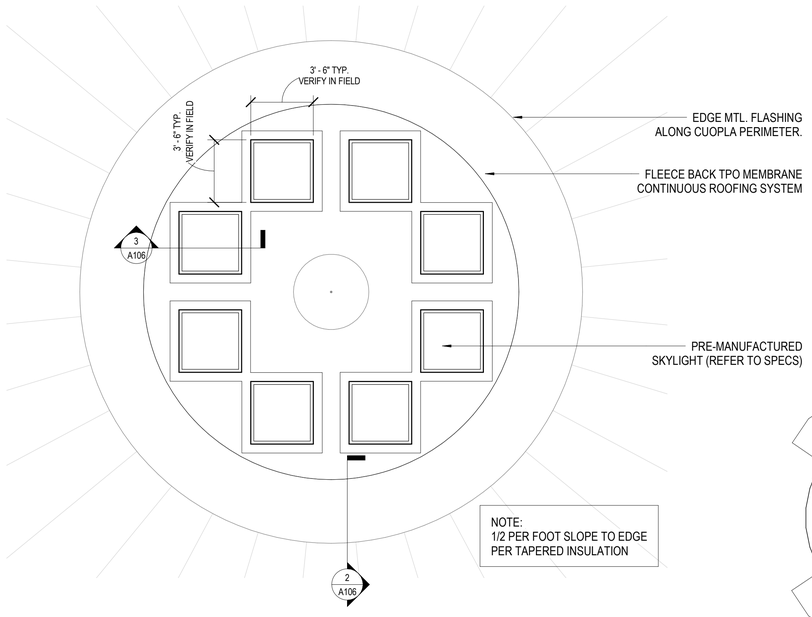
13. LOCATE ACCESS PANELS AS INDICATED ON DRAWINGS. FOR ACCESS PANELS NOT SHOWN BUT REQUIRED BY PROVISIONS OF THE CONTRACT DOCUMENTS, LOCATED IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT PROPOSED LOCATIONS TO THE ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.

RENOVATION NOTES

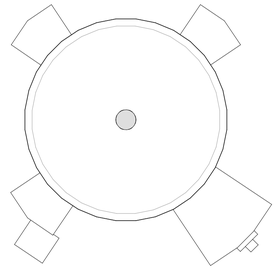
1. FOR ALL ROOF PIPE PENTRATIONS, USE DETAIL 4/A401
2. ROOF ACCESS LADDERS TO BE CLEANED AND REFINISHED
3. INSTALL NEW ROOF DRAINS TO MATCH EXISTING DRAIN LOCATIONS
4. ROOF ACCESS HATCH TO BE CLEANED AND REFINISHED
5. INFILL SKYLIGHTS WHERE SHOWN PER PER 7/A402
6. UNLESS DETERMINED INSUFFICIENT IN THE FIELD, EXISTING LT. WEIGHT CONCRETE AND TECTUM DECK TO REMAIN (TO BE VERIFIED BY ARCHITECT)
7. IF DEEMED INSUFFICIENT BY OWNER, ARCHITECT, OR CONTRACTOR, THE PREFERED METHOD OF ROOF CONSTRUCTION SHALL COORDINATE WITH THE ROOF ASSEMBLY LEGEND.
8. RE-ROOF LARGER SOUTH EAST LOWER ROOF AS DESIGNATED (ALTERNATE #1)
9. PATCH AND REPAIR STUCCO SOFFIT PANELS (ALTERNATE #2)



2 CUPOLA WALL SECTION
1 1/2" = 1'-0"



1 CUPOLA ROOF PLAN
1/4" = 1'-0"



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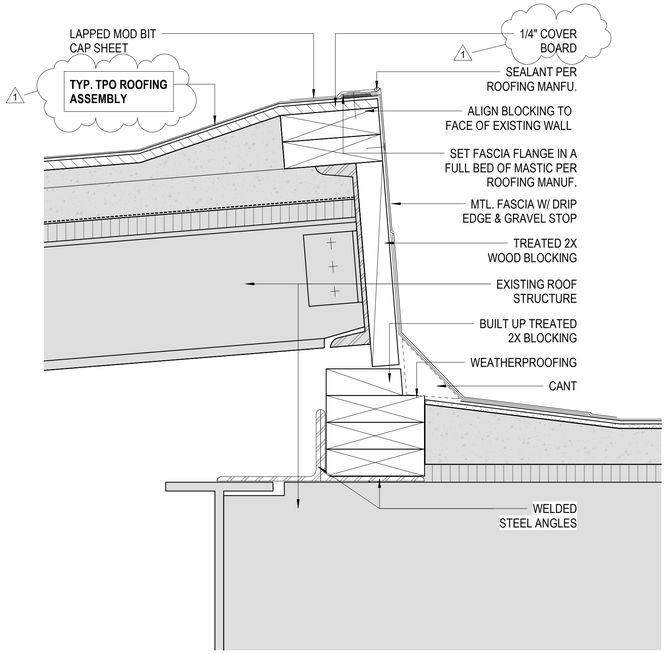
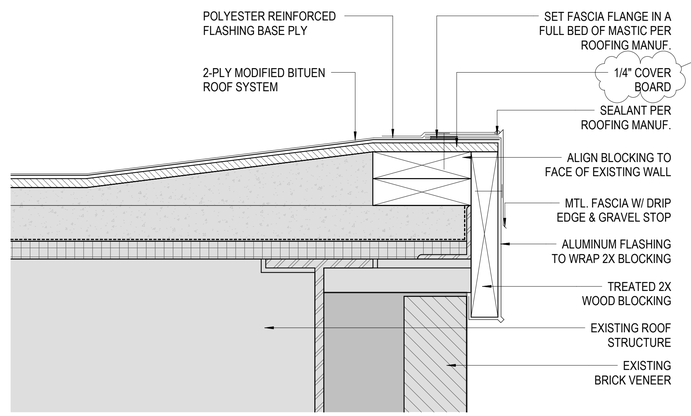
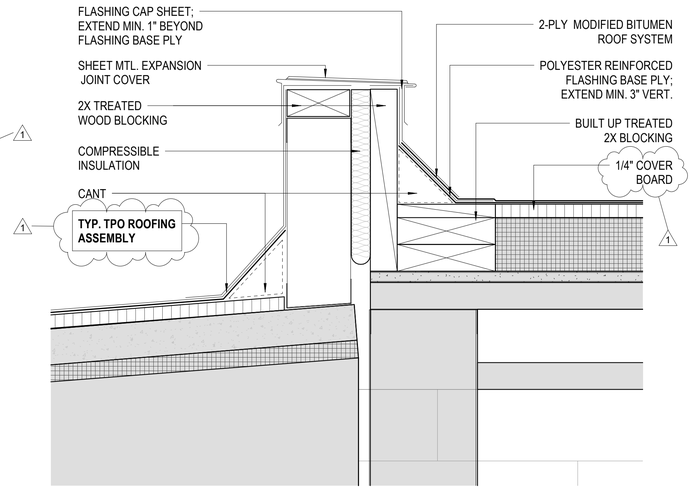
A106
CUPOLA ROOF



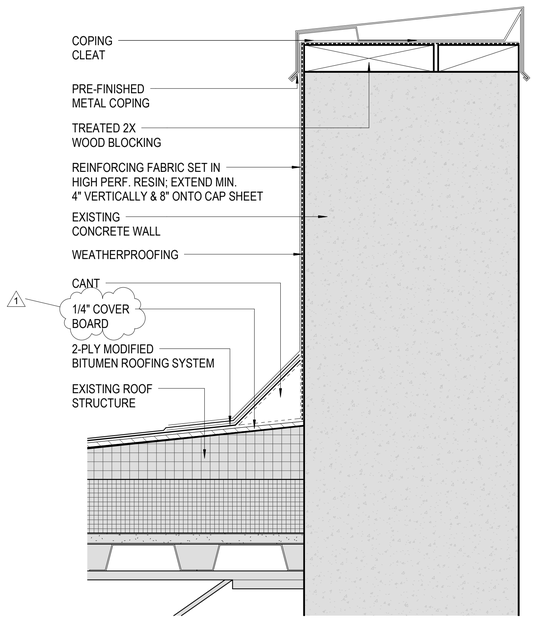
1 TYP. ROOF EXPANSION JOINT
3" = 1'-0"



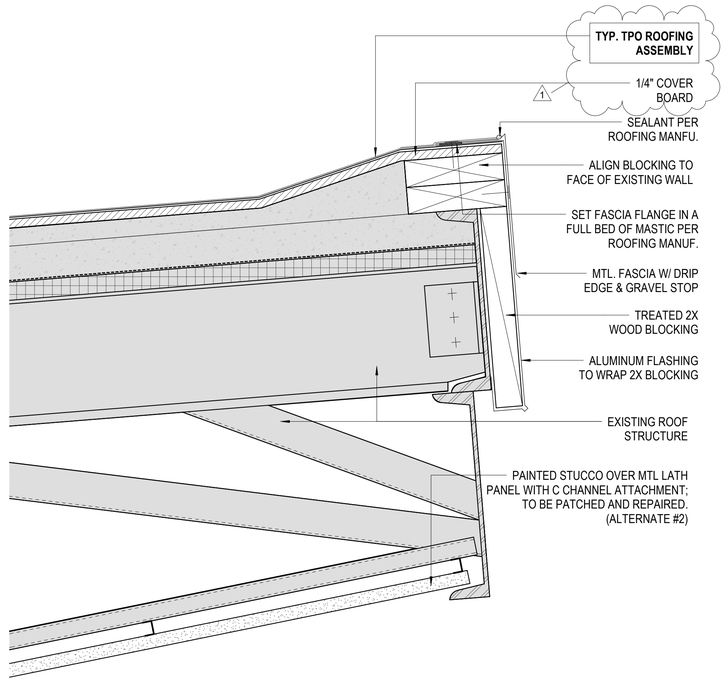
2 ROOF EDGE DETAIL 2
3" = 1'-0"



3 ROOF EXPANSION JOINT - ALT #1
3" = 1'-0"



4 TYP. PARAPET
3" = 1'-0"



5 ROOF EDGE DETAIL 1
3" = 1'-0"

1

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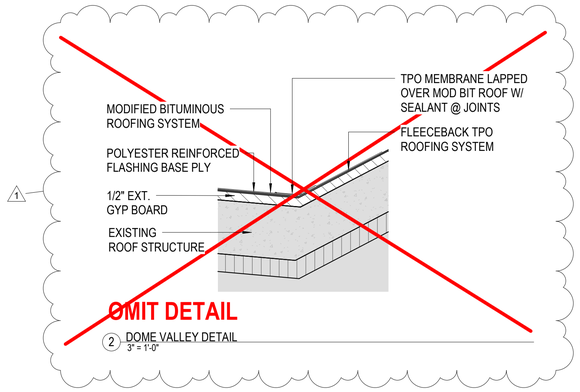
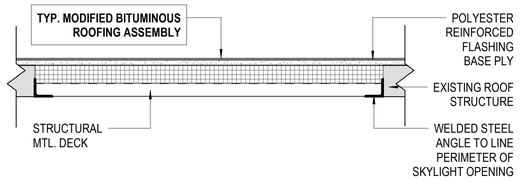
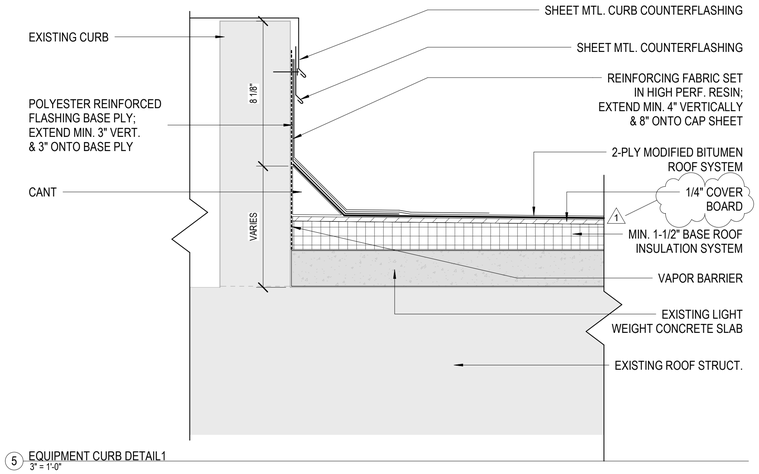
A401
ROOF DETAILS



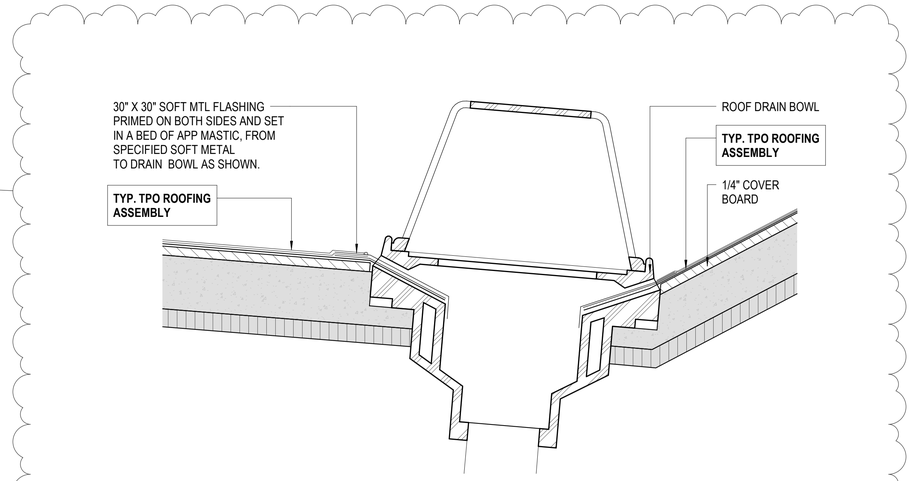
2 DOME VALLEY DETAIL
3" = 1'-0"



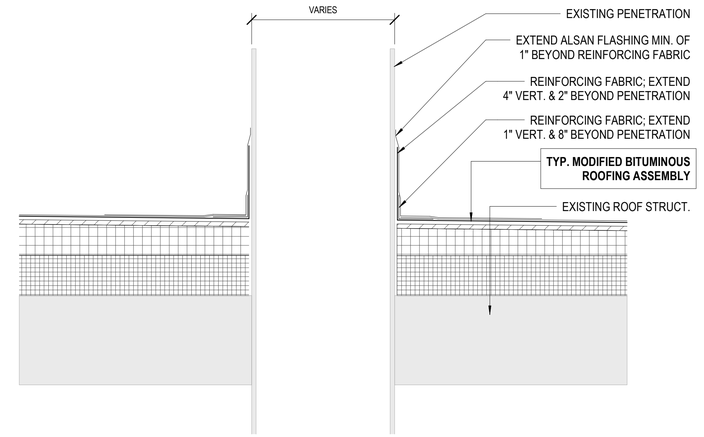
7 TYP. SKYLIGHT INFILL DETAIL
1 1/2" = 1'-0"



5 EQUIPMENT CURB DETAIL1
3" = 1'-0"



4 TYP. DOME ROOF DRAIN
3" = 1'-0"



6 TYP. ROOF PENTRATION DETAIL
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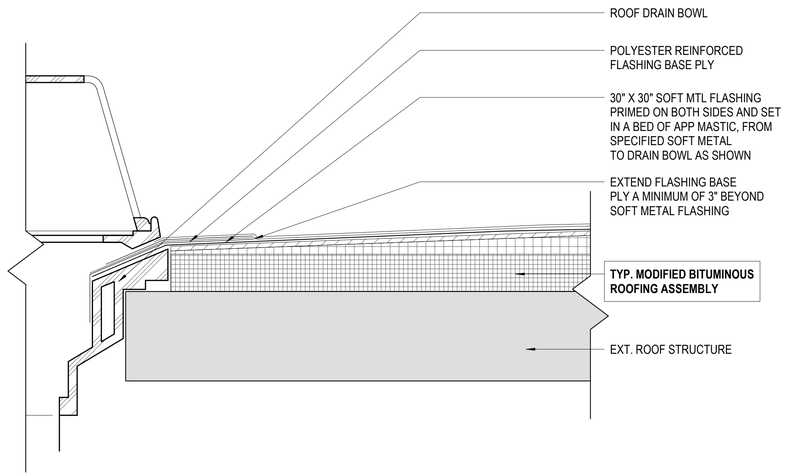
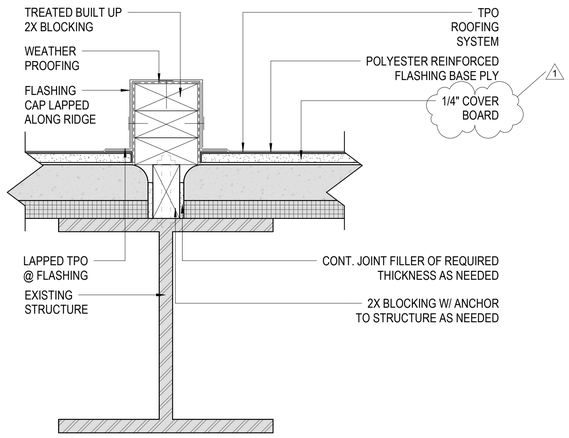


3 TYP. ROOF DRAIN
3" = 1'-0"



1 TYP. DOME RIDGE CAP
3" = 1'-0"

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A402
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