SECTION 07 56 00

FLUID APPLIED ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Preparation
2. Seamless Fluid Applied Composite Roofing Systems
3. Roof Flashings
4. Roof Accessories

1.2 RELATED SECTIONS

1. Section 06 10 00 - Rough Carpentry.
2. Section 07 62 00 - Sheet Metal Flashing and Trim. Metal cap flashing and expansion joints.
3. Section 07 72 00 - Roof Accessories.
4. Section 07 70 00 - Roof and Wall Specialties and Accessories
5. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia, scuppers, gutters, and downspouts.
6. Section 15430 - Plumbing Specialties: Piping vents and roof drains.
7. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 REFERENCES

1. National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual.
2. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
3. American Society of Civil Engineers (ASCE) - ASCE 7 - Minimum Design Loads for Buildings and Other Structures
4. ASTM International (ASTM):
    1. ASTM C 728 - Standard Specification for Perlite Thermal Insulation Board.
    2. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
    3. ASTM D 1079 - Standard Terminology Relating to Roofing, Waterproofing, and Bituminous Materials.
    4. ASTM D1227 - Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
    5. ASTM D 2523 - Standard Practice for Testing Load-Strain Properties of Roofing Membranes.
    6. ASTM D 3019 - Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, and Fibered.

7. ASTM D 3909 - Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules.
8. ASTM D 4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
9. ASTM D 4830 - Standard Test Methods for Characterizing Thermoplastic Fabrics Used in Roofing and Waterproofing.
10. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
11. ASTM E 548 - Standard Guide for General Criteria Used for Evaluating Laboratory Competence.
12. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
13. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.

5. Underwriters Laboratories (UL): ANSI/UL 790 - Standard Test Methods of Roof Coverings.
6. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide.
7. Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.
8. CRRC - Cool Roof Rating Council.
9. California Building Standards Code - Title 24.
10. Sheet Metal and Air Conditioning Contractors National Association, 1nc. (SMACNA) - Architectural Sheet Metal Manual.

1.4 DEFINITIONS

1. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to Work in this Section.

1.5 PERFORMANCE REQUIREMENTS

1. General: Provide watertight roofing membrane and flashing system that does not permit the passage of water, resists uplift pressures specified in this section, and is capable of withstanding thermally induced movement and exposure to weather without failure.
2. Energy Performance:
    1. Low-Slope Roofs: Provide roofing system with Solar Reflectance Index not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
    2. Roof membrane finish must comply with current California Title 24 Part 6 requirements:
        a. Minimum three (3) year aged solar reflectance: 0.55.
        b. Minimum Thermal Emittance: 0.75.
3. Wind Resistance: Provide roofing membrane, base flashings and component materials that comply with requirements in FMG 4450, FMG 4470, UL 580 or UL 1897 as part of a membrane roofing system.
    1. Wind Load Resistance: 1-90

4. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
   1. Exterior Fire-Test Exposure: Class A ASTM E 108 for application and roof slopes indicated.

1.6 SUBMITTALS

1. Submit in accordance with Section 01 30 00 - Administrative Requirements.

2. Product Data: For each product note in this section, submit printed or digital copies of manufacturers product information including the following:
   1. Printed affirmation of performance characteristics.
   2. Roofing system design.
   3. Application Instructions.
   4. Technical Data Sheets.
   5. Material Safety Data Sheets.
3. LEED Submittals:
   1. Product Data for Credit SS 7.2: For roof materials, indicating that roof materials comply with Solar Reflectance Index requirement.
   2. Product Data for Credit EQ 4.1: For adhesives and sealants, including printed statement of VOC content.

4. Shop Drawings: Provide plan, elevation, section, and isometric drawings outlining waterproofing conditions at transitions, terminations, penetrations, and attachments to adjacent work.

5. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of the roofing system.

6. Research & Evaluation Reports: For components of the roofing system.
   1. Include report from UL, Intertek, FMG or another testing and inspecting agency acceptable to authorities having jurisdiction, stating entire system meets fire-test-response characteristics listed.

1.7 QUALITY ASSURANCE

1. Perform Work in accordance with manufacturer's current Application and Installation Guidelines and the NRCA Roofing and Waterproofing Manual.

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum twenty years and experience furnishing specified roof system.

2. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

3. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.

4. Exterior Fire-Test Exposure: ASTM E 108, Class, as directed; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency.

Materials shall be identified with appropriate markings of applicable testing agency.

5. Fire-Resistance Ratings: Where indicated, provide fire-resistance-rated roof assemblies identical to those of assemblies tested for fire resistance per ASTM E 108 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

6. Product Certification: Provide manufacturer's certification that base materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.

7. Source Limitations: Obtain components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

8. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

1.8 PRE-INSTALLATION CONFERENCE

1. Prior to commencement of Work, conduct a conference at project site. Comply with the requirements of Section 01 31 00 - Project Management and Coordination. Review and affirm methods and procedures related to the work specified in this section, including but not limited to the following:
    1. Meet with owner, architect, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
    2. Review methods and procedures related to roofing installation, including the manufacturer's written instructions.
    3. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
    5. Review structural loading limitations of roof deck during and after roofing.
    6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs and condition of other construction that will affect roofing system.
    7. Review governing regulations and requirements for insurance and certificates, if applicable.
    8. Review temporary protection requirements for roofing system during and after installation.
    9. Review roof observation and repair procedures after roofing installation.

1.9 DELIVERY, STORAGE, AND HANDLING

1. Deliver materials to project site in original containers, with seals unbroken, and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage. For bulk-delivered materials, identify manufacturer's name and product designation with delivery receipts and material manifests.

2. Store liquid materials in their original, undamaged containers in a clean, dry, and protected location, and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

3. Storage temperatures should be between 50 degrees F to 80 degrees F (10 degrees to 26.7 degrees C). Indoor ventilated storage is recommended. Ensure jobsite storage is in a shaded and ventilated area. Do not store in direct sunlight Keep materials away from open flame or welding sparks.

4. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

5. Protect roofing materials from physical damage and from deterioration due to sunlight, moisture, soiling and other sources. Store in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

6. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.

1.10 PROJECT CONDITIONS

1. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

2. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

3. Product application must not be done when rain or other conditions such as fog or heavy dew are possible within a 72-hour period. Roof surface must be at least 6 Fahrenheit degrees or 3 Celsius degrees above the dew point and rising.

4. Safety Data Sheets (SDS) must be on location during the transportation, storage, and application of materials.

5. When loading materials onto the roof, the installer must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.

6. Proceed with roofing work only when weather conditions follow the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.

7. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.

8. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles, or other property.

9. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil, and grease.

10. Take precautions to ensure that materials do not freeze.

11. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.

12. Minimum temperature for application of WeatherWeld Emulsion and WeatherWeld Acrylic Coating is 50 degrees F (10 degrees C) and rising.

1.11 WARRANTY

1. Warranty: Manufacturer's standard form, without monetary limitation, Manufacturer's written and signed NDL Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
    1. Warranty includes roofing membrane and base flashings.
    2. Warranty Period: Forty (40) years from date of Substantial Completion.

2. Coating Warranty: Manufacturer's standard form, without monetary limitation, in which coating manufacturer agrees to repair or replace coating that fails in materials or workmanship within specified warranty period. Failure includes shrinkage, flaking, chipping, and peeling during normal wear.
    1. Warranty Period: Twelve (12) years from date of Substantial Completion.

3. Project Warranty: Submit roofing installer's warranty, signed by installer, covering work of this Section, including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards and walkway products for the following warranty period:
    1. Warranty Period: Two (2) years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

1. Acceptable Manufacturer: Liquiform Technologies Inc - WeatherWeld
    1. Subject to compliance with requirements, provide the following composite roofing membrane System: R-16-30-A Flat Roof, R-1P-16-45-A Gravel Roof, R-16-30-M-A Metal roof Encapsulation systems.

B. Within 24 hours of the job walk, equal systems from Garland Co. or Tremco Roofing will be considered, providing the systems meet warranty requirements and physical characteristics.

2.2 COMPOSITE MEMBRANE

1. Roofing system shall comply with 2019 CBC, Chapter 15.

2. Physical Characteristics:
    1. Total weight: 1.4 pounds per square foot (.64 Kg) dry.
    2. Total thickness: 250 mil dry.
    3. Minimum Strength: 300 psi(689 kN/m2) per ASTM D 4830.
    4. Minimum Elongation: 5% per ASTM D 4830.
    5. Minimum Puncture Resistance: 500 lb. (226 kg) per ASTM D 4830.

6. Water Absorption: 1% max by weight per ASTM D 570.
7. Fire Rating: UL Class A assembly

2.3 COMPOSITE MEMBRANE MATERIALS

1. Asphalt Emulsion: WeatherWeld Asphalt Emulsion meeting or exceeding the requirements of ASTM D1227.
   1. VOC Content (Maximum): 0 g/L.
   2. Weight: 8.5 – 9.1 Lbs./Gal. (1018 - 1089 g/l).
   3. Solids Content by Volume: 45-52%.
   4. Product number: WW471145
2. Fiberglass Reinforcement (Type E): WeatherWeld FG100 Multi-end continuous fiberglass roving designed for spray operations.
   1. Yield yd/lb: 207
   2. Tex g/km: 2400
   3. Spool Weight: 41.9 LB (19kg)
   4. Product number: WWFG100
3. Surfacing:
   1. Acrylic Basecoat:
      a. Solids Content by Volume: >45-50%.
      b. VOC Content (maximum): 400 g/l.
      c. Weight: 7.7 - 8.7 lbs./Gal. (922 – 1041 g/l).
      d. Product Number: WW473049
   2. Acrylic Topcoat: CA Title 24 Cool Roof Reflective Coating
      a. Solids Content by Volume: >45-50%.
      b. VOC Content (maximum): 400 g/l.
      c. Weight: 7.7 - 8.7 lbs./Gal. (922 – 1041 g/l).
      d. Product Number: WW472049
      e. Solar Reflectance: Initial: 0.53.
         1) 3 Year Aging: 0.42.
      f. Thermal Emittance:
         1) Initial: 0.50.
         2) 3 Year Aging: 0.56.
      g. Solar Reflectance Index (SRI)
         1) Initial: 48.
         2) 3 Year Aging: 33.
         3) 3 Year Aging: 44.

2.4 ACCESSORIES

1. General materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.
2. Roof Insulation:
3. Polyester Ply: Stich Bonded Polyester sheet.

1. Elongation: 61%.
2. Puncture Resistance: 176 lbs.
3. Tensile Strength: 57 lbs.
4. Tear Strength: 16 lbs.
5. Weight: 3 oz/ sq. yd.

4. Self-Adhering Membrane: SBS-modified membrane sheet with adhesive backing.
   1. Elongation: 85%.
   2. Thickness: 75 mils.
   3. Weight: 3 oz/ sq. yd.
   4. Roll Width: 36 inches.

5. Base Sheet: Asphalt coated, glass fiber reinforced, mechanically fastened venting base sheet: Conforms to or exceeds requirements of ASTM D 3672 Type II and ASTM D 4897, Type II and UL Type G2 BUR
   1. VOC Content (Maximum): 0 g/l.

6. Base Sheet Adhesive: General purpose roof adhesive meeting or exceeding the requirements of ASTM D 3019 Type III.
   1. VOC Content (Maximum): 300 g/l.
   2. Weight per Gallon: 8.3 - 8.5 Lbs. (994 - 1017 Kg).
   3. Solids Content by Volume: 70%.

7. Foam Adhesive: Two-component, low-rise polyurethane foam adhesive designed to secure insulation to roof decks.

8. Fasteners: Factory-coated steel fasteners and metal meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing membrane components to substrate, tested by manufacturer for required pullout strength and acceptable to roofing system manufacturer.

9. Flashing Cement: Trowel grade SBS-modified flashing cement made from heavy-bodied asphalt reinforced with organic fibers.
   1. VOC Content (Maximum): 290 g/l.
   2. Weight per Gallon: 8.25 – 9.25 Lbs (988 – 1107 g/l).

10. Metal Flashing Sheet: sheetmetal coil
    A. 24 Ga. Galvanized sheet metal
    B. Refer to Division 07 Section "Sheet Metal Flashing and Trim."

11. Separation Sheet:
    1. Elongation: 50%.
    2. Puncture Resistance: 535 lbs.
    3. Tensile Strength: 205 lbs.
    4. Tear Strength: 85 lbs.
    5. Weight: 8 oz/ sq. yd.

12. Walkway Surfacing: Topping.
    1. Walkway Coating: Single-component 100% Acrylic, safety yellow liquid waterproofing walking

surface when used with walkway Granules.

a. Tensile Strength: ASTM D 412, 350 psi
b. Elongation: ASTM D 412, 174%
c. Solids Content: ASTM D 2369, Typical 95%
d. VOC: <50 g/l
e. Flash Point: ASTM D 93, 141 degrees F min. (60.6 degrees C)
f. Appearance: Safety Yellow

2. Non-Skid Surface: Walkway Granules: Yellow granules designed to enhance the traffic resistance of the roof surface when embedded in walkway Coating,
   a. Specific Gravity, ASTM C 128, 2.65
   b. Bulk Density: ASTM C29, 90-100 lbs./Cu. Ft.

C. Cant Strips: Glass Fiber Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

13. Wood Nailer Strips: Exterior grade fire rated lumber conforming to ASTM 3201

14. Tapered Edge Strips: ASTM C 728 perlite insulation board.

15. Substrate Joint Tape: 6 inch (152mm) or 8 inch (203mm) wide, coated, glass-fiber joint tape.

2.5 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

1. Flashing Boot: 24 Ga. Galvanized sheetmetal pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.

2. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.

3. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.

4. Drain Flashing should be 4lb (1.8kg) sheet lead formed and rolled.

5. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.

6. Fabricated Flashing: Fabricated flashings and trim are specified in Section 07620.
   1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.

7. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07710.
   1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

2.6 WALKWAYS

1. Walkway Pads: Mineral-granule-surfaced, reinforced asphaltic composition, slip-resisting pads, manufactured as a traffic pad for foot traffic and acceptable to roofing system manufacturer, 1/2 in (13mm). thick, minimum.
    1. Pad Size: 36 inches by 60 inches (914mm x 1524mm) minimum.

PART 3 EXECUTION

3.1 EXAMINATION

1. Examine substrates, work areas and field conditions, for compliance with the following requirements and other conditions which may affect the performance of roofing system:
    1. Do not begin installation until substrates have been properly prepared.
    2. Verify that surfaces are clean, rigid, dry, smooth, and free from cracks, holes, blisters, debris, and sharp changes in elevation greater than 1/4 inch (6mm).
    3. Verify that roof openings and penetrations are adequately installed, and that roof drains are securely clamped in place.
    4. Verify that the deck is free of depressions, waves or projections and properly sloped to drains, valleys, eaves, scuppers, or gutters.
    5. Verify that all drains and scuppers are free of ruptures and sealed on all four sides on the exterior face of walls.
    6. Verify that surface plane flatness and fastening of roof deck complies with manufacturers requirements.
    7. Verify that concrete curing compounds and any chemicals that may impair adhesion of roofing components have been removed.
    8. Verify that existing roof assembly is dry by conducting infrared Thermal scan.
    9. Verify that substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method in accordance with ASTM D 4263.
    10. Proceed with installation only after unsatisfactory conditions have been corrected.
    11. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2. Compatibility, verify all materials including existing roof are compatible.
    1. Verify existing roof, if any, is NOT coated with silicone style coatings.
    2. Verify existing roof, if any, is NOT a PVC single ply membrane.

3.2 SCOPE / APPLICATION

1. Provide labor, equipment, and materials to furnish a WeatherWeld roofing system over properly prepared and approved substrate.

2. Removal: Remove perimeter edge flashing system.

3. Removal: Gravel Roofs Vacuum Loose Gravel

4. Roof System: A fully seamless reinforced WeatherWeld Roof system over entire roof area including walls, equipment flashings, and base flashings.

5. Flashings: Provide a waterproof, Sheetmetal edge flashing system around perimeter edges.

3.3 ROOF PREPARATION AND REPAIR

1. General: All necessary field and flashing repairs must be done according to good construction practices, including the removal of all wet insulation and defective materials as identified through a moisture detection survey such as an infrared scan and replacement with like materials.
    1. Remove damaged roof flashings from curbs and parapet walls down to the surface of the roof.
    2. Remove damaged existing flashings at roof drains and roof penetrations.
    3. Remove all wet, deteriorated, blistered, or delaminated roofing membrane or insulation and fill in any low spots with like materials occurring because of removal work to create a smooth, even surface for application of new roof membranes.
    4. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
    5. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
    6. Existing roof surfaces shall be primed as necessary and allowed to dry prior to installing the roofing system.

2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3. Repair all defects such as deteriorated roof decks, saturated materials, loose or brittle membrane or membrane flashings, etc. Verify that existing conditions meet the following requirements:
    1. Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
    2. Application of roofing materials over a brittle, damaged or poor condition roof membrane is not permitted.

4. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.

5. Clean and seal all parapet walls, gutters, and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints, and penetrations where water could enter the building envelope.

6. Confirm local water run-off ordinances and restrictions prior to cleaning roof. Clean the entire roof surface by removing all dirt, algae, mold, moss, paint, oil, talc, rust, or other foreign substance. Use a bio-degradable cleaner when necessary and warm water. Scrub heavily soiled areas with a brush.

7. Power wash roof thoroughly with an industrial surface cleaner. Rinse with fresh water to completely remove all residuals. Allow roof to dry thoroughly before continuing.

8. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects must be repaired/renovated and be made watertight. Any repairs must be with materials compatible with the fluid-applied roofing system.

3.4 METAL ROOF PREPARATION R-16-30-M-A

1. Surface Preparation:
   a. Remove rust by the most rigorous method suitable for the project and as approved by WeatherWeld.
   b. Tighten all fasteners and verify that neoprene washers are in place.
   c. Replace missing fasteners using oversize fasteners as necessary.
   d. Repair gaps, holes and joints in the metal roof with appropriate patching materials.
   e. Completely remove existing seam coatings, mastics and sealants.
   f. Ensure skylights, scuppers, gutters, penetrations and structures are firmly secured, watertight and in good working condition.
   g. Where necessary, install water deflecting crickets behind rooftop mechanical units.
   h. All roof areas must promote positive drainage.

2. Standing Seam metal roof Preparation R-16-30-M-A
   A. Install a continuous cant strip on each side of standing seams greater than 2.5 inches (63mm) tall and have a gap of no more than 1/8 inch from metal seam.
   B. Adhere cant strip in asphalt adhesive or low rise foam.
   C. Terminate cant at 45-degree angle 6 inches (152mm) from termination edge.

3.5 EXISTING GRAVEL ROOF PREPARATION R-1P-16-45-A

1. Vacuum loose gravel using "vacuum broom vacuum" method. Where gravel cannot be mechanically vacuumed, manual removal is permitted. Ensure all loose gravel is removed leaving embedded gravel in place.
2. Remove/ spud embedded gravel 8 inches (203mm) away from flashings, penetrations, and drains to facilitate proper adhesion of roofing materials.
3. Apply fill coat of Asphalt Emulsion at the following ratio:
   A. Asphalt Emulsion (undiluted): 15-25 gal. per 100 square feet (56-75 L/m2).
   B. Install over embedded gravel.
   C. Embed polyester ply in Asphalt Emulsion fill if embedded gravel is ½" (12mm) diameter or larger.
   D. Where polyester ply is not required, Asphalt Emulsion fill can be installed with Seamless Composite Membrane quantities below.
   E. Quantities of Asphalt Emulsion are relative to size of embedded gravel.

3.6 EXISTING FOAM ROOF PREPARATION R-16-30-A

Preparation of existing foam coated roofs requires time allowing moisture to escape through the top coating.

1. Coat foam covered roof using Asphalt Emulsion at the following rates:
   A. 1 Gallon (3.7 L/2) per square.
   B. Allow to cure for 15 Days.
2. Remove blisters that occur and patch with repair material.
3. Do not install roof membrane until all blisters have been removed and repaired.
4. Blisters that occur after roof membrane installation must be removed and repaired.
5. Cut back foam material 12" (304mm) from perimeter edges exposing existing roof or deck to facilitate adhesion of new membrane flashing.

3.7 ROOFING MEMBRANE INSTALLATION - GENERAL

1. Install roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations of ARMA/NRCA.
2. Commence installation of roofing membrane in presence of roofing system manufacturer's technical personnel.
3. Cooperate with testing and inspecting agencies engaged or required to perform services during roofing system installation.
4. Coordinate installation so materials that will not be permanently exposed are not subject to moisture or left uncovered at the end of a workday.
    1. Provide tie-offs at the end of each day's work to cover exposed roofing membrane and insulation with a layer of polyester sheet set in emulsion with joints and edges sealed.
    2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
    3. Remove and discard temporary seals before beginning work on adjoining roofing.
5. Substrate Joint Penetrations: Prevent roofing cement from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
6. Adequate membrane thickness is essential to performance. If the applicator is unfamiliar in gauging application rates, we suggest that a controllable area be measured, and the specified material be applied. In all cases, all minimum specified material must be applied, and proper minimum dry film thicknesses must be achieved. Care must be taken to ensure that all areas completed including all flashings, roof penetrations, etc. are coated sufficiently to ensure a watertight seal.
7. Insurance/Code Compliance: Where required by code, install, and test the roofing system to comply with governing regulation and specified insurance requirements.
8. Protect work from spillage of roofing materials and prevent materials from entering drains and conductors. Replace or restore adjacent work damaged by installation of the roofing system.
9. Protect roof drains and edges during construction to prevent materials from entering roof drains and conductors or migrating onto surfaces of adjacent construction. Remove roof drain plugs when no work is taking place or when rain is forecast.
10. Protect adjacent materials and structures prior to starting work, in accordance with roofing system manufacturer's instructions.

3.8 FLASHING INSTALLATION

1. Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07620.
    1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual"
2. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section 07710.
    1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractors Association "Roofing and Waterproofing Manual" as applicable.

3. Refer to the manufacturer's application manual for flashing of specific details.
4. Flashing heights shall be min 8 inches (203mm) above roof level. Contact Manufacturer for guidance on flashing elevations lower than 8 inches (203mm).
5. All flashings must have a minimum 250 mil of fiberglass composite upon completion of the installation.
6. All metal flanges to be covered with roofing material must be primed at a rate of 100 square feet per gallon and allow to dry.
7. Expansion and Control Joints: Any joint in the structure intended to allow for movement must be divorced from the seamless reinforcement composite. Install an 18 inch (457mm). wide dry slip sheet consisting of inverted (mineral-side down) cap sheet, laid dry over the joint and extending 36 inches (914mm) at each end. Over the slip sheet, solidly adhere a 36 inches (914mm) polyester ply in 4 gallons per 100 square feet (1.63 L/m^2) of emulsion and reinforce with 500 mil of seamless composite.
8. Base Flashings and Cant Strips: If not existing. Minimum 3-inch (76mm) cant strips must be installed at base flashings, walls, and curbs. Set cant in adhesive. Miter cants at ends to provide a smooth transition.
9. Metal Edge:
    1. Inspect the nailers to assure proper attachment and configuration.
    2. Run one ply of self-adhering membrane 1 inch (25mm) over the edge. Assure coverage of all wood nailers.
    3. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
    4. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailers every 3 inches (76 mm) o.c. staggered.
    5. Prime metal edge at a rate of 100 square feet per gallon and allow to dry.
    6. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    7. Assure membrane laps do not coincide with metal laps.
    8. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    9. Ensure that composite is flush with the edge such that water does not pond.
10. Raised Metal Edge:
    1. Inspect the nailer to assure proper attachment and configuration.
    2. Run one ply of self-adhering membrane 1 inch (25mm) over the edge. Assure coverage of all wood nailers.
    3. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
    4. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
    5. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    6. Assure membrane laps do not coincide with metal laps.
    7. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    8. Ensure that composite is flush with the edge such that water does not pond.

11. Roof Edge With Gutter:
    1. Inspect the nailer to assure proper attachment and configuration. Increase slope at metal edge by additional degree of slope in first board.
    2. Run one ply of self-adhering membrane 2 inches (50mm) over the edge. Assure coverage of all wood nailers.
    3. Install gutter and strapping.
    4. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
    5. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
    6. Prime metal edge at a rate of 100 square feet per gallon and allow to dry.
    7. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    8. Assure ply laps do not coincide with metal laps.
    9. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    10. Ensure that composite is flush with the edge such that water does not pond.

12. Scupper Through Roof Edge:
    1. Inspect the nailer to assure proper attachment and configuration.
    2. Run one ply of self-adhering membrane 1 inch (25mm) over the edge. Assure coverage of all wood nailers.
    3. Install a scupper box in a 1/4 inch (6 mm) bed of roof cement. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
    4. Fasten flange of scupper box to nailer every 3 inches (76mm) o.c. staggered.
    5. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    6. Assure ply laps do not coincide with metal laps.
    7. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    8. Ensure that composite is flush with the edge such that water does not pond.
    9. Ensure scupper is edge is turned down min. 1" at outside edge of wall.
    10. Ensure scupper is sealed at outside edge of wall.

13. Scupper Through Wall:
    1. Inspect the nailer to assure proper attachment and configuration.
    2. Run one ply of self-adhering membrane 1 inch (25mm) over the edge. Assure coverage of all wood nailers.
    3. Install a scupper box in a 1/4 inch (6 mm) bed of roof cement. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
    4. Fasten flange of scupper box to nailer every 3 inches (76mm) o.c. staggered.
    5. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    6. Assure ply laps do not coincide with metal laps.
    7. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    8. Ensure that composite is flush with the edge such that water does not pond.

9. Ensure scupper is edge is turned down min. 1" at outside edge of wall.
10. Ensure scupper is sealed at outside edge of wall.

14. Scupper Through Wall (Overflow):
    1. Inspect the nailer to assure proper attachment and configuration.
    2. Run one ply of self-adhering membrane 1 inch (25mm) over the edge. Assure coverage of all wood nailers.
    3. Install a scupper box in a 1/4 inch (6 mm) bed of roof cement. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
    4. Fasten flange of scupper box to nailer every 3 inches (76mm) o.c. staggered.
    5. Adhere a continuous strip of self-adhering membrane to the metal flange approximately 2 inches (51mm) from the edge and 6 inches (152mm) onto the existing roof surface.
    6. Assure ply laps do not coincide with metal laps.
    7. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of the metal flashing.
    8. Ensure that composite is flush with the edge such that water does not pond.
    9. Ensure scupper is edge is turned down min. 1" at outside edge of wall.
    10. Ensure scupper is sealed at outside edge of wall.

15. Coping Cap:
    1. Attach tapered board to top of wall (minimum slope 1/4 -12).
    2. Cover tapered board and all exposed wood with self-adhering membrane extending 2 inches (50mm) over the edge
    3. Reinforce with 500 mil of seamless composite. Extend field application of composite to the outside edge of wall.
    4. Install continuous cleat and fasten at 6 inches (152 mm) o.c. to outside wall.
    5. Install new metal coping cap hooked to continuous cleat.
    6. Overlap coping joints by 4inches (101 mm). Install a joints in a 1/4 inch (6 mm) bed of polyurethane sealant.
    7. Fasten inside of cap 24 inch (609 mm) o.c. with approved fasteners and neoprene washers.
    8. Install 6 inch (152mm) strip of Self Adhering membrane cover plates extending 3" onto each side of joint. Extend down front and back face of coping.
    9. Install coping cap per manufacturer's recommendations.

16. Surface Mounted Counterflashing:
    1. Secure counterflashing set in adhesive above flashing at 8 inches (203 mm) o.c.
    2. Install sealant at top of counterflashing.

17. Reglet Mounted Counterflashing:
    1. Cut reglet in masonry one joint above flashing.
    2. Secure reglet counterflashing with expansion fasteners.
    3. Install sealant at top of counterflashing.

18. Expansion Joint:
    1. Install compressible insulation in neoprene cradle.

2. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
3. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
4. Install pre-manufactured expansion joint cover. Fasten sides at 12 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with sealant between metal covers.

19. Area Divider:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers through slotted holes. Furnish all joint cover laps with butyl tape between metal covers.

20. Equipment Support:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with sealant between metal covers.
    4. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

21. Curb Detail/Air Handling Station:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.

22. Skylight:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured lens and fasten flashing sides at 8 inches (203 mm) o.c. with fasteners and neoprene washers.

23. Skylight With Protection Screen:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured lens and fasten flashing sides at 8 inches (203 mm) o.c. with

fasteners and neoprene washers.

4. Install OSHA compliant, compression mounted skylight protection screen per membranes manufacturer's written instructions.

24. Pre-manufactured Curb for Equipment Support:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with sealant between metal covers.
    4. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

25. Pre-manufactured Curb for Roof Hatch:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install pre-manufactured roof hatch. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with sealant between metal covers.

26. Exhaust Fan:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

27. Passive Vent/Air Intake:
    1. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    2. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    3. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.

28. Roof Drain:
    1. Plug drain to prevent debris from entering plumbing.
    2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
    3. Run self-adhering membrane sheet over drain. Cut out sheet inside drain bowl.
    4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of roof cement. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
    5. Reinforce with 500 mil of seamless composite extending down walls of drain bowl.
    6. Allow to cure.
    7. Install clamping ring.
    8. Remove drain plug and install strainer.

29. Plumbing Stack:
    1. Run roof system over the entire surface of the roof. Seal the base of the stack with sealant.
    2. Prime flange of sleeve. Install properly sized sleeves set in 1/4-inch (6 mm) bed of roof cement.
    3. Install Self adhering membrane sheet covering curb with 9 inches (228 mm) on to field of the roof.
    4. Reinforce with 500 mil of seamless composite. Extend field application of composite to the top of curb.
    5. Caulk the intersection of the membrane with elastomeric sealant.
    6. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.

30. Heat Stack:
    1. Run roof system over the entire surface of the roof. Seal the base of the stack with sealant.
    2. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
    3. Reinforce with 500 mil of seamless composite.
    4. Install new collar over cape. Weld collar or install stainless steel draw brand.

31. Pitch Pocket:
    1. Place the pitch pocket over the penetration and prime all flanges.
    2. Strip in flange of pitch pocket with self-adhering membrane. Extend 6 inches (152 mm) onto field of roof.
    3. Fill pitch pocket half full with non-shrink grout.
    4. Encapsulate entire pitch pocket with 500 mil of seamless composite.
    5. Caulk joint between roof system and pitch pocket with roof cement.
    6. Place a watershedding type bonnet over the top of the pitch pocket and clamp the top with a drawband collar. Caulk the upper edge of the band with sealant.

32. Pipe Penetrations: All penetrations must be flashed with a minimum 24-gauge galvanized sheet metal storm collars attached approximately 1 inch (25mm) above the top of the flashing boot, secured with a draw band and approved sealant.

33. Pipe Supports:
    1. All pipes 2 inches (51mm) in diameter or less must be supported with polymer pipe supports at no greater than 8 feet (2438mm) on center.
    2. Install in accordance with support manufacturer guidelines for spacing requirements. Traffic pad cushions must be installed under pipe supports. Fasteners must not penetrate the roofing membrane.
    3. All pipes over 2 inches (51mm) in diameter must be supported in movable pipe hangers or other approved support system.

34. Moisture vents: Install 1 way aluminum moisture vents every 1000 sq ft. Apply 500 mils of seamless composite to the aluminum flange such that the seamless composite seals a minimum of 3 inches (76mm) to forms a solid continuous seal.

35. Sloped Shingle roof termination: Remove 3 rows of shingles min 24" above flat roof termination. Install self-adhesive membrane extending 12 inches(304mm) onto flat roof.
    1. Install self-adhesive membrane extending 12 inches(304mm) onto flat roof.
    2. Reinforce with 500 mil of seamless composite.
    3. Reinstall shingle course.

3.1 GRAVEL LEVELING FILL

1. Apply fill coat of Asphalt Emulsion at the following ratio:
    1. Asphalt Emulsion (undiluted): 15-25 gal. per 100 square feet (56-75 L/m2).
    2. Install over embedded gravel.
    2. Embed polyester ply in Asphalt Emulsion fill if embedded gravel is ½" (12mm) diameter or larger.
    3. Where polyester ply is not required, Asphalt Emulsion fill can be installed with Seamless Composite Membrane quantities below.
    4. Quantities of Asphalt Emulsion are relative to size of embedded gravel.

3.2 SEAMLESS COMPOSITE REINFORCEMENT INSTALLATION

1. Apply one layer of the composite roofing at the following ratio:
    1. Asphalt Emulsion (undiluted): 30 gal. per 100 square feet (12.2 L/m2).
    2. Fiberglass Reinforcement: 16 lb. per 100 square feet (0.78 Kg/m2).
2. Apply Seamless Composite to entire roof surface terminating at tops of
    1. Base flashings
    2. Outside edge of parapet walls
    3. Equipment flashings
    4. Edge flashings
    5. Inside walls of drain bowls
3. No water or other material may be added to the emulsion to thin or extend pot life.
4. Fiberglass must be disbursed from the applicator in varying intertwined lengths, up to 24 inches (610mm).
5. Thoroughly mix fiberglass and emulsion prior to application on roof deck.
6. Any loose strands must be brushed by hand, removed or filled-in with emulsion to create a solid surface.
7. Upon completion, no area may be less than 330 mil dry film thickness (DFT).
8. Areas such as base flashings and penetrations, where application exceeds 500 mils wet, must be brushed by hand to prevent surface crazing.

NOTE: Composite roofing may be applied in two passes of half the wet recommended thickness if necessary due to weather or new construction phasing.

3.3 SHEETMETAL DUCT ENCAPSULATION

1. Encapsulate Sheetmetal ducts composite membrane 250 mills (DFT)
    1. Install WeatherWeld 16-30 seamless reinforced membrane (per Square)
    2. Install on 3 sides of Sheetmetal duct system.
        A. Top.
        B. Left side wall.
        C. Right side wall.
        D. Bottom side is not encapsulated with composite membrane.
        E. Do not install composite over flexible bellows or mechanical units.

3.4 REFLECTIVE COATING INSTALLATION

1. Apply coating to entire roof surface.

2. Prior to reflective coating application, wash the roof surface with water. Do not commence application until the system has thoroughly dried, as registered by a reading of zero on a calibrated moisture meter.

3. Apply Title 24 roof coating at a minimum of 1 1/2 gal. per 100 square feet (0.6 L/m2). in each of two passes to total 3 gallons per 100 square feet. (1.2 L/m2). Back rolling is recommended to ensure even coverage throughout.

4. Surfacing/Non-Skid
    1) Apply at 1.5 gallons per 100 SF over acrylic base coat.
    2) Broadcast dry granules at 30 lbs./sq. into wet coating and immediately back-roll to set.
    3) Install in designated areas.

3.5 WALKWAY INSTALLATION

1. Walkway Pads:
    1. Install walkway pads using units of size indicated on contract drawings.
    2. Where not expressly specified, install manufacturer's recommended size for the location and anticipated traffic volume.
    3. Install walkway pads with a cold adhesive compatible with the membrane specified.

3.6 FIELD QUALITY CONTROL

1. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system.

2. Perform field inspection and [and testing] as required under provisions of Section 01410.

3. Correct defects or irregularities discovered during field inspection.

3.7 FINAL INSPECTION

1. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly

concerned with performance of roofing system.

2. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs, and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.

3. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.

4. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

5. Notify Architect upon completion of corrections.

6. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.8 PROTECTION

1. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.

2. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roof for deterioration and damage. Where any defects or damage are identified describe their nature and extent in a written report, with copies to architect and owner.

3. Protect exposed surfaces of finished walls with tarps to prevent damage.

4. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.

5. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.9 CLEANING

1. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles, and other debris resulting from these operations.

2. Remove coating markings from finished surfaces.

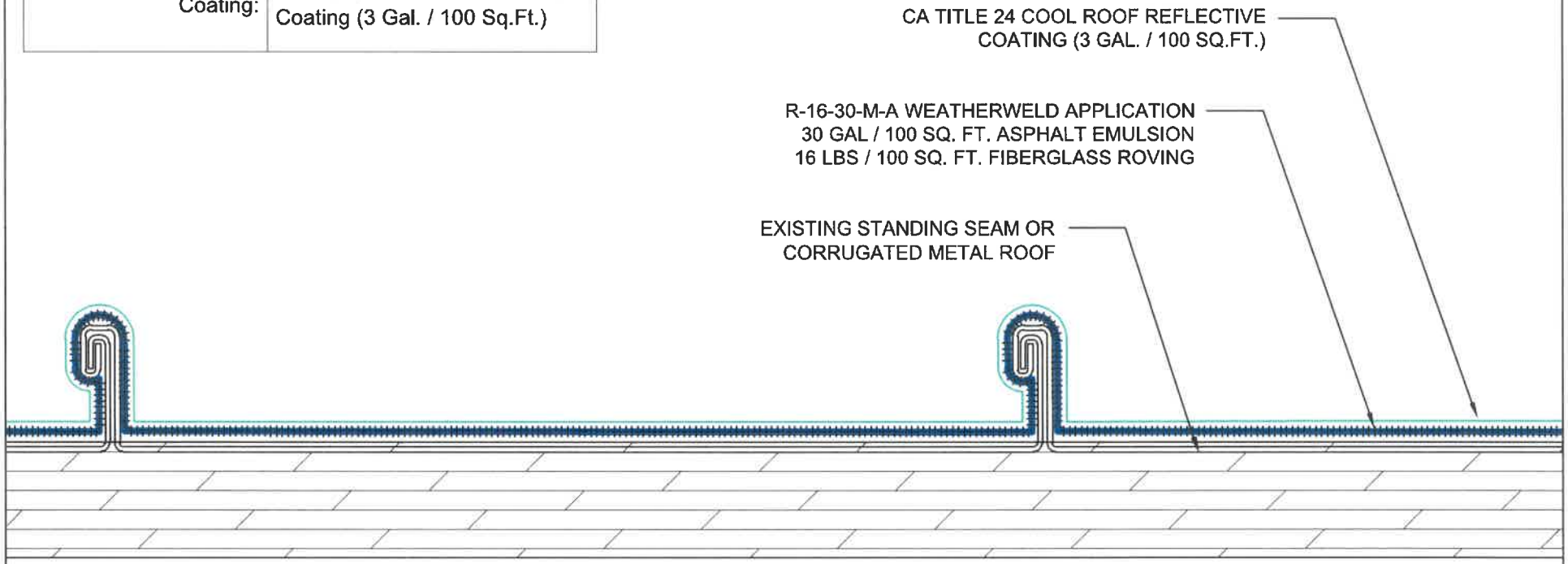
3. Repair or replace defaced or disfigured finishes caused by Work of this section.

4. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

System Overview

Deck:	Standing Seam or Corrugated Metal Roof
Base Sheet:	None
Asphalt Emulsion:	30 Gal
Fiberglass Roving:	16 Lbs
Coating:	CA Title 24 Cool Roof Reflective Coating (3 Gal. / 100 Sq.Ft.)



SYSTEM:

R-16-30-M-A

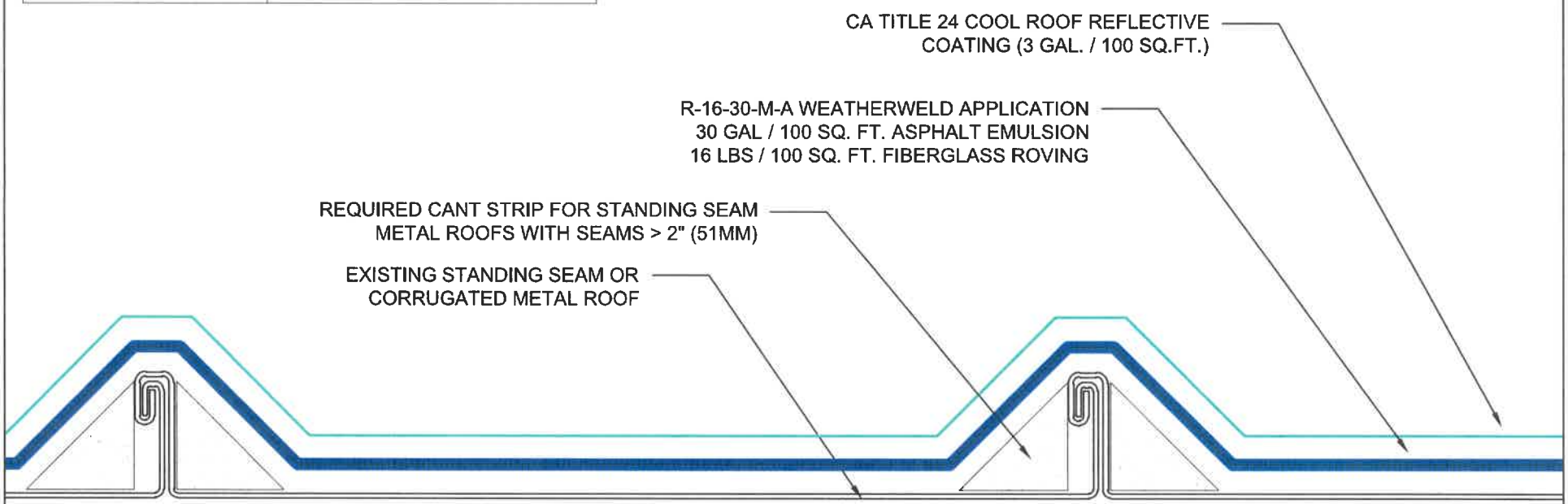
WEATHERWELD
A DIVISION OF LIQUIFORM TECHNOLOGIES, INC.
9757 7th Street
Suite 803
Rancho Cucamonga, CA 91730-5297
(888) 440-3224
www.weatherweld.com

PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
SYSTEM OVERVIEW				11/11/20	NTS

System Overview

Deck:	Standing Seam or Corrugated Metal Roof
Base Sheet:	None
Asphalt Emulsion:	30 Gal
Fiberglass Roving:	16 Lbs
Coating:	CA Title 24 Cool Roof Reflective Coating (3 Gal. / 100 Sq.Ft.)



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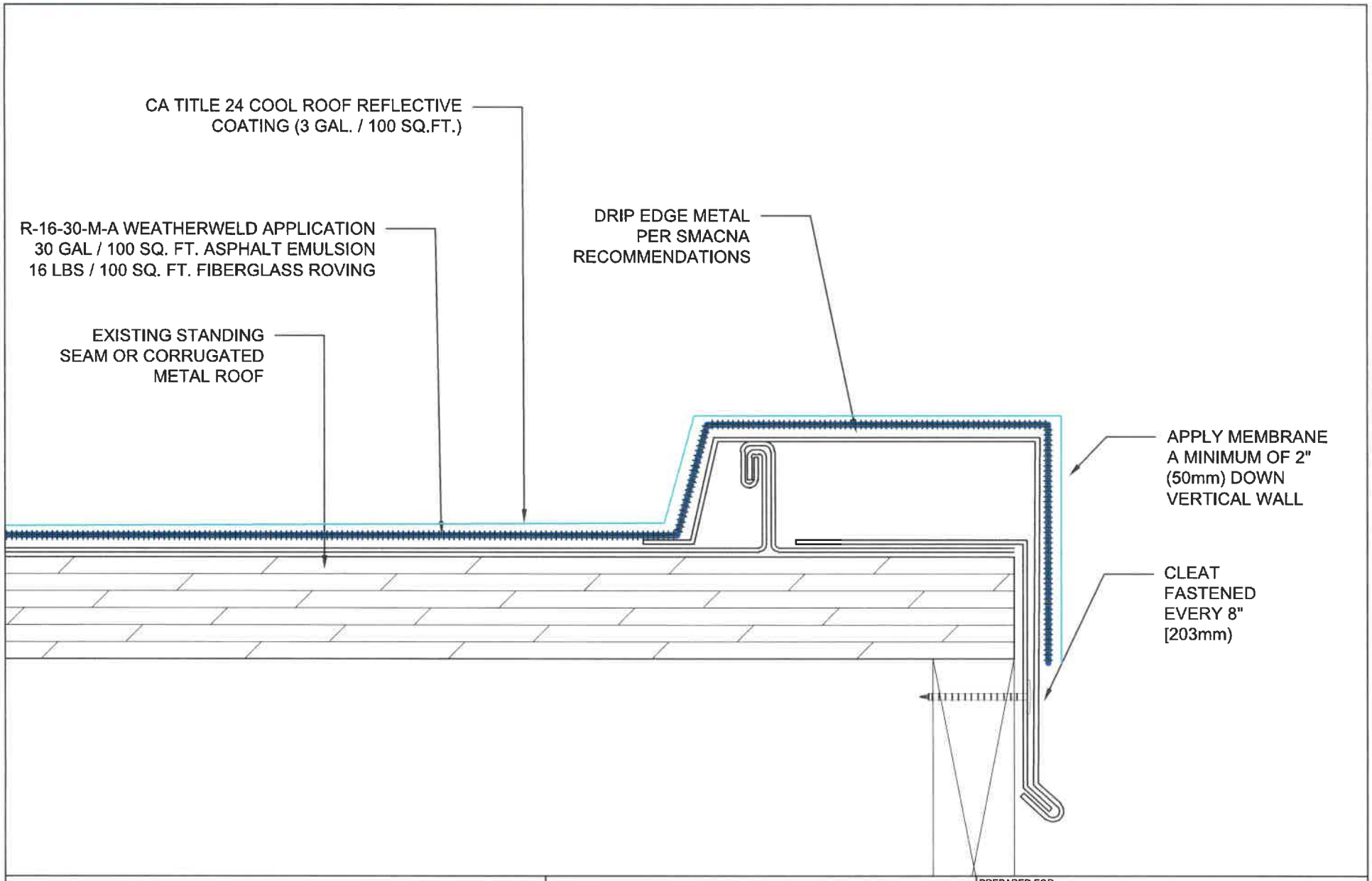
PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
SYSTEM OVERVIEW (ALT)				11/11/20	NTS



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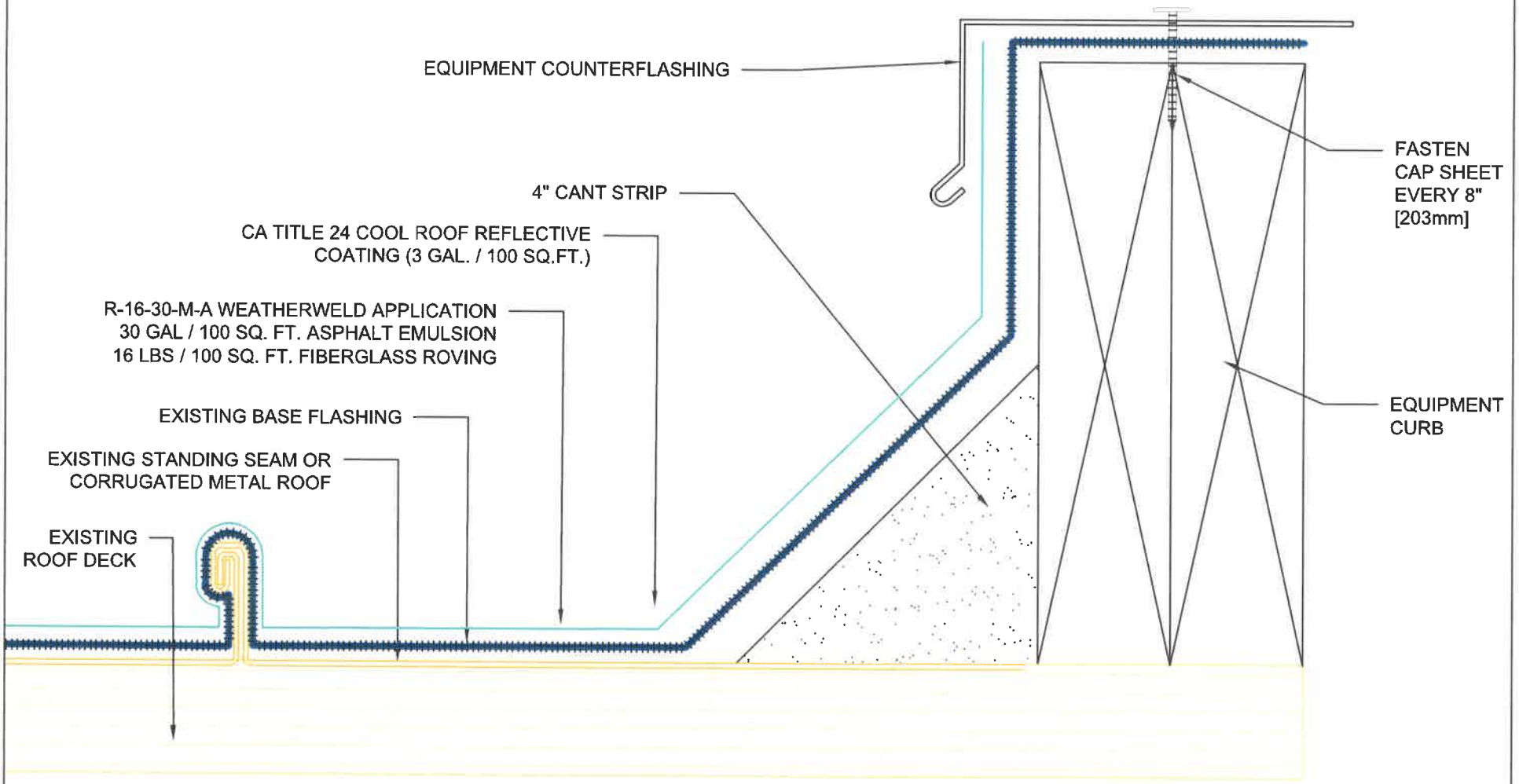
PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
EDGE FLASHING				11/11/20	NTS



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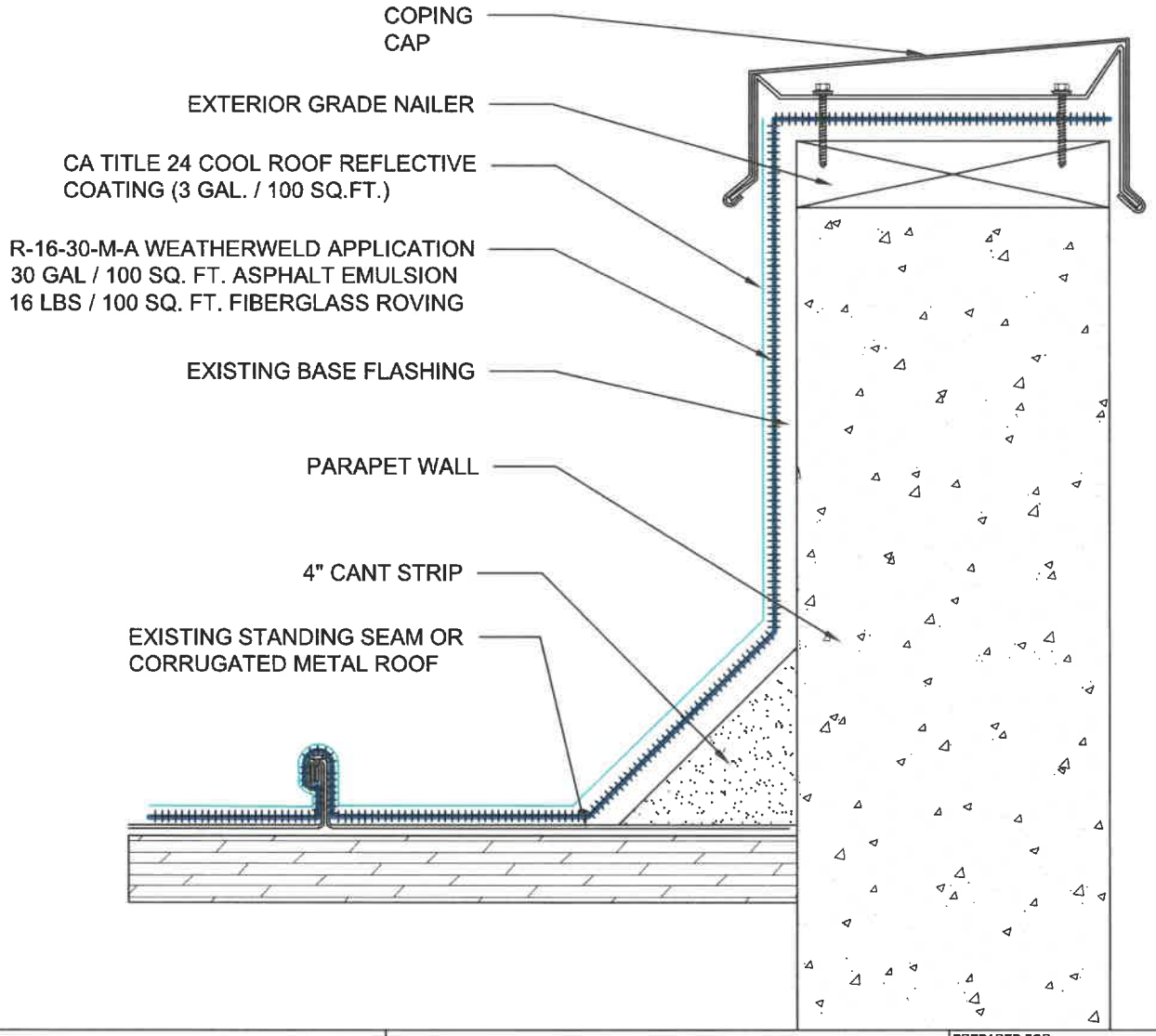
PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
EQUIPMENT PAD FLASHING				11/11/20	NTS



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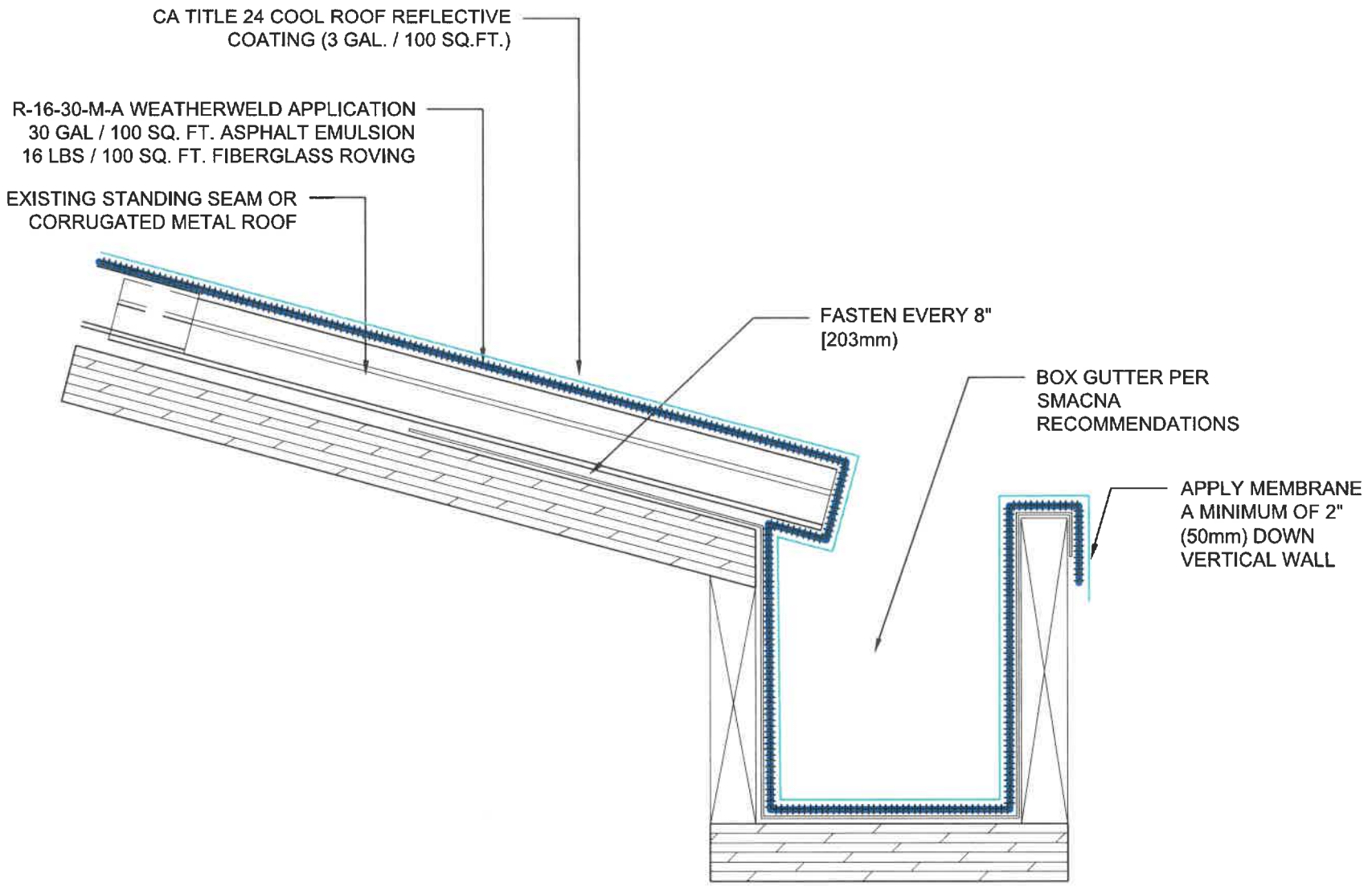
PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
PARAPET WALL FLASHING				11/11/20	NTS



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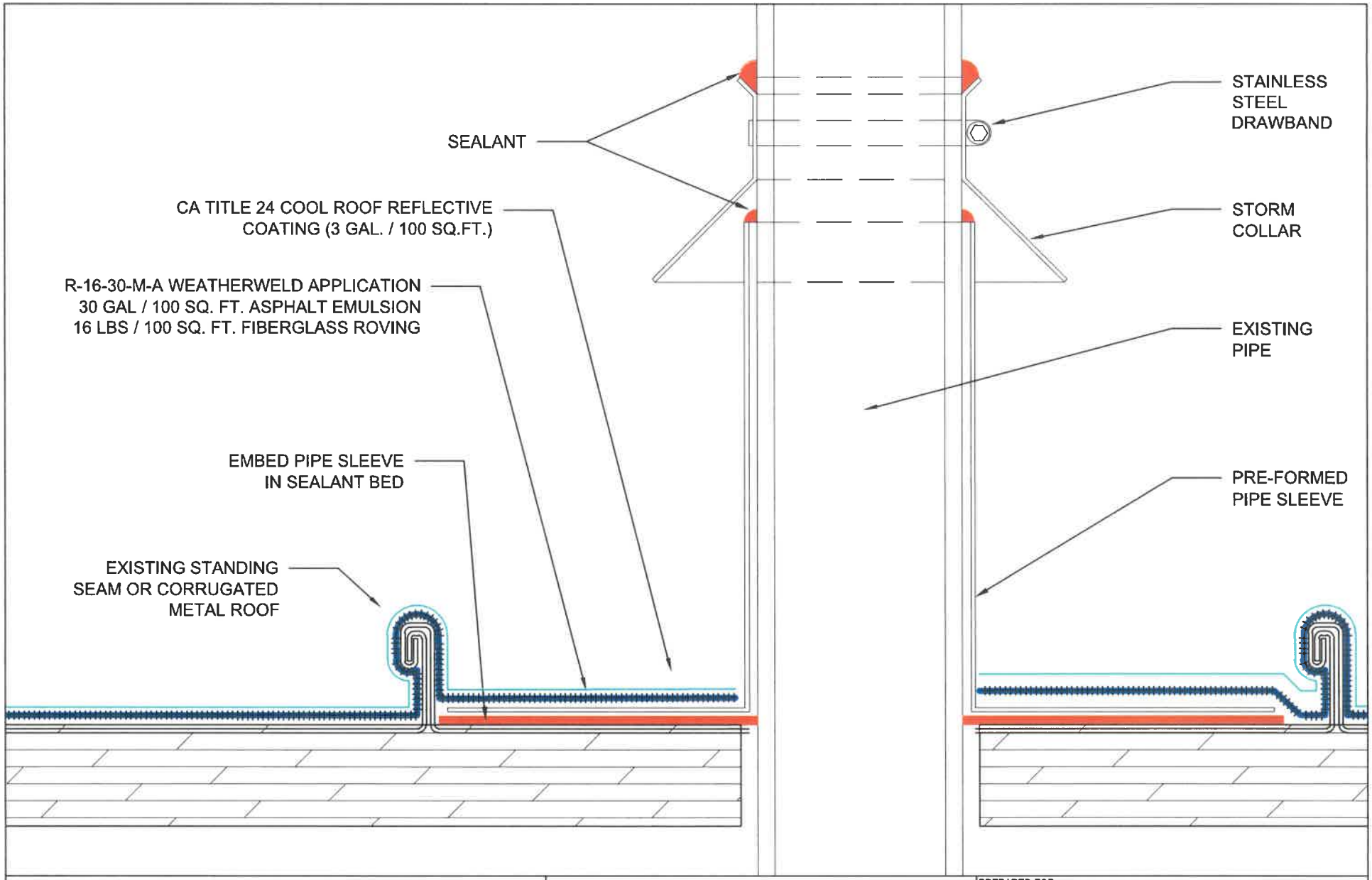
PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
BOX GUTTER				11/11/20	NTS



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PREPARED FOR:

DRAWING TITLE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:
PIPE FLASHING				11/11/20	NTS