NOTICE TO CONTRACTORS OF INTENT TO RECEIVE BIDS:

PART 1- GENERAL

A. Date of Issue: April 21, 2016

B. The following Addendum shall be incorporated in the Contract Documents of the above named job, and all requirements herein are fully a part of the Contract Documents as if included therein.

C. Contractors shall acknowledge receipt of all Addenda in their Bid, on the Form of Proposal (FS #1). Failure to do so may subject the Bidder to disqualification.

PART 2- ADDENDUM

Division 7 – Thermal and Moisture Protection

1. **DELETE**: Delete Division 7 in its entirety (23 pages).

   **ADD**: Add Division 7, attached herein (23 pages).
### DIVISION 7 - THERMAL AND MOISTURE PROTECTION

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07 30 00  STEEP SLOPE ROOFING

SECTION 07 31 13
STEEP SLOPE ASPHALT SHINGLE ROOFING

1.00  SECTION INCLUDES

A.  This section applies specifically to steep-slope shingle roofs, but also pertains to other methods of roofing or those areas effectively acting as “roofs” (decks, overhangs, balconies, etc.).

B.  Asphalt Shingles, Base Flashings, Metal Accessories.

1.01  RELATED SECTIONS

A.  SECTION 01010  Northern Arizona University Requirements
B.  SECTION 01900  General Requirements

1.02  ROOF SYSTEM DESCRIPTION

A.  Only roof systems meeting the following number and type of plies will be accepted:
   1.  Roof system shall consist of:
       a.  Asphalt Shingles
       b.  Flashing Materials

1.03  CONFORMANCE STANDARDS

A.  Underwriters Laboratories (U.L.):
   1.  Fire Classification Rating: U.L. 790 Standard "Class A".
   2.  Wind Resistance: ASTM D 3161, Type I, Class F (110 mph)
   3.  ASTM D 3462: UL 2390/ASTM D 6381, Class H (150 mph):

B.  Factory Mutual:

C.  Building Code:
   1.  Meet applicable provisions of the 2009 IBC, and local and state building codes. This also applies to agencies regulating safety, environmental, transportation etc.
1.04 WARRANTY

A. Manufacturer materials must be installed by a TAMKO Pro Certified Contractor; the manufacturer shall provide a 30-year warranty and a 130 MPH wind warranty or approved equal.

B. All roof system components; Underlayment, Fasteners, Shingles, Adhesives, Flashings and Accessories shall be supplied by the same manufacturer (single source).

1.05 SUBMITTALS

A. Shop Drawings: Include plans, sections, details and attachments to other work. Include base flashing and membrane terminations.

B. Product Data: Provide data indicating fastening and adhesive materials, flashing materials.

C. Installer’s Certificate: Signed by Roofing manufacturer certifying that Installer is approved, authorized, or licensed by the Manufacturer to install the specified roofing system.

D. Submit technical literature of all system components and maintenance manuals

E. Manufacturer’s Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

F. Manufacturer’s Certificate: Certify that Products meet or exceed specified requirements.

G. Warranties: Provide a copy of the Warranty.

H. Qualification Data: For Installer and Manufacturer.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of contract.

B. Delivery products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
C. Store products in weather protective environment, clear of ground and moisture.

1.07 QUALITY ASSURANCE

A. Contractor:
1. The Contractor shall be a qualified firm with a minimum of five (5) years documented experience installing the specified roof system. The Project Supervisor or Forman shall have a minimum experience of completing five (5) similar projects in scope, size and roof system. Project references are required.
2. The Contractor shall provide a five-year labor and performance agreement.
3. The Contractor shall be a licensed contractor doing business under that license for a minimum of five years without interruption.
4. The financial stability of the Contractor shall include no filing of bankruptcy during the last five years.
5. The Contractor shall provide proof of insurance as required by the Owner.

B. Manufacturer
1. The Manufacturer shall provide a Technical Representative to make periodic job inspections as required by the Associate. The Manufacturer must have a Technical Representative present at the Pre-construction meeting.
2. The Manufacturer shall manufacture products that have been on the U.S. market for a minimum of twenty years. Provide reference of at least ten (10) projects with similar size, scope and roof system.
3. The Manufacturer's financial stability shall include no filing of bankruptcy during the last ten years.
4. The Manufacturer shall provide only materials that meet the requirements of this specification. Installation shall be in accordance with the drawings and specifications provided, even if they are more stringent the manufacturer's specifications.
5. The Manufacturer shall provide a 30-year Warranty based on these specifications.

PART 2 PRODUCTS

2.02 ROOFING SHINGLES
A. Manufacturers: Subject to compliance with requirements, substitution request must be ten (10) days prior to bid date. Provide products by the manufacturers specified that meet or exceed stated manufacturer qualifications, performance requirements and warranty requirements.

B. Fire Test Characteristics: Provide membrane roofing materials with fire-test response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing agency having jurisdiction.

   1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.

C. Approved Manufacturers:
   1. Tamko Shingle
   2. Or Approved Equal

A. Shingles: Laminated or Architectural Asphalt Roof Shingles. Color: To Be Determined by Owner.

E. Roof Adhesives: Liquid type materials shall meet VOC limits of local authorities.

   1. Roof Adhesive: Comply with Roof Shingle Manufacturer.

2.03 FLASHING SYSTEMS

A. Metal Trim and Flashings:
   At Valley: 24-gauge sheet metal valley flashing.

   At Perimeter Eaves and Rakes: minimum 2” x 4” – 24 gauge sheet metal flashing.

   Metal Drip Edge: Brake-formed sheet metal with a four (4") inch roof deck flange and a four (4") inch fascia flange with a hemmed drip at lower edge. Furnish the material in lengths of 8 or 10 feet (2.5 to 3 m). Make certain face of metal fits firmly over edge, with proper three (3") inch lap at ends.

   Metal Flashing: Job-cut to sizes and configuration required, dimensions given are for reference purposes, modify as needed.

   Vent Pipe Flashing: Lead conforming to ASTM B 749, Type L51121, at
Division 7 - Thermal and Moisture Protection

Section Number Title

least 4 lbs. lead, unless otherwise indicated. Provide lead sleeve sized extending at least four (4") inches (100 mm) from pipe onto roof. Completely solder all connections according to SMACNA standards.

All Metal Trim and Flashing shall be made of Galvanized-steel sheets. SBS modified rubberized self-adhered ice shield shall be provided and installed at all eave perimeters and valleys and shall extend 6 feet up from eave edge and 3 feet up the wall.

2.04 ACCESSORIES

A. Sheet Metal:
      a. Laminated Pre-Finished Coated Metal: Provide pre-finished weldable coated metal as provided by the roofing system manufacturer.
      b. Gauge: 24-gauge galvanized steel laminated with polymeric coating
      c. Color: To Be Determined by Owner

B. Fasteners
   1. Nails: Hot dip galvanized steel, 0.120-inch (3mm) diameter barbed shank, sharp pointed conventional roofing nails with minimum d inch (9.5 mm) diameter head and of sufficient length to penetrate ¾ inch (19 mm) into solid decking or at least c inch (3 mm) through plywood sheathing.
   2. Face nails for metal at tie into shingles shall be proper length to penetrate through decking.

C. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.
   3/4" plywood nailers at all parapet walls. Penetration sealing system similar to “Chem-Curb” for all roof penetrations

D. Miscellaneous Products
   1. Lumber (All wood nailers, sleepers, or other wood blocking):
      a. No.2 Douglas Fir or Yellow Pine, pressure-treated in accordance with the current American Wood Preservers Institute (AWPI) Standard
DIVISION 7 - THERMAL AND MOISTURE PROTECTION

LP-2. Retentions, penetrations, and treating procedures as specified in AWPI Standard LP-2 shall be followed.
   b. Each piece of treated lumber shall bear the stamp of the AWPI Quality Mark, indicating compliance with the requirements of the AWPI Quality Control Program.

B. Sealant: "Mono", color compatible with sheet metal; or equal.

C. Vent Pipe Flashing: Comply with manufacturer requirements.

PART 3 EXECUTION

3.02 PREPARATION PROCEDURES

2. All existing metal shall be removed and disposed of in preparation for the installation of new metal.

3. Remove all equipment and apparatus designated by the Owner to be no longer in use.

4. All lightning protection shall be removed and reinstalled.

B. Preparation of Surfaces:
   1. Remove dust, dirt, debris and roofing material residue from all roofing surfaces. Assure that all roofing surfaces are dry, clean (except for residual stains) and suitable to receive new roofing system components.

   2. If conditions are uncovered which may affect the work, report such conditions to the Owner or Owner's representative for decision as to treatment.

   3. The Contractor shall provide the necessary protection to keep the interior of the facility free of all dust and debris.

   4. Shingle application shall only occur in ambient outside temperatures ranging from 40 F to 85 F.

3.03 INSTALLATION OF NEW ROOF SYSTEM
SHINGLE APPLICATION

1. Asphalt Shingles:

   Starter Course: Apply starter course of shingles, with tabs removed, along the full length of the eaves. Overlap edge by minimum of ¾-inch.

   Apply shingles in successive courses with off-set a minimum of six (6) inches between rows in a stepped fashion. Shingle laddering is not acceptable.

   If required by manufacturer, apply dabs of asphalt cement as required. For re-roofing projects: Contractor shall remove all existing roofing, flashings, nails, etc. down to the existing roof deck. All tear-off materials shall be removed from the roof on a daily basis and disposed of in accordance with applicable codes and ordinances. Contractor shall not remove more in one day than can be covered the same day and made completely watertight.

   Fasten asphalt shingles to roof sheathing by hand using nails (6 nails per shingle). Use of pneumatic/electric nail guns and/or staples is not acceptable.

   Felt Underlayment: Apply two layers of felt underlayment horizontally over entire surface to receive asphalt shingles, lapping succeeding courses a minimum of two (2") inches (50 mm), end laps a minimum of four (4") inches (100 mm), and hips and valleys a minimum of six (6") inches (150 mm). Fasten felt with sufficient number of roofing nails to hold underlayment in place until asphalt shingle installation. Do not leave underlayment exposed to the elements for more than thirty (30) days.

   Metal Open Valley: Comply with ARMA and NRCA recommendations. Install a second felt underlayment shingle lapped at least twelve (12") inches (300 mm). Install 2-ply modified sweat sheet and cover outside of valley metal with 2-ply dry-in.

   Flashing: Install metal flashing and trim as indicated and according to details and recommendations of the "Asphalt Roofing" section of the "The NRCA Steep Roofing Manual". Require the roofing installer to receive, accept, and install, all sheet metal flashings.
Install asphalt shingles, beginning at roof’s lower edge, with a starter shingle or strip of roll roofing. Fasten asphalt shingles in the desired weather exposure pattern; use number of fasteners per shingle (minimum of 6) as recommended by manufacturer. Use vertical and horizontal chalk lines to ensure straight coursing. Cut and fit asphalt shingles at valleys, ridges, and edges to provide maximum weather protection. Use fasteners at ridges of sufficient length to penetrate sheathing as specified.

Pattern: a shingle spacing offset at succeeding courses.

Repair or replace loading ground area when / if damaged back to original condition at minimum.

a.

C. FLASHING APPLICATION

1. VENT/TUBULAR PENETRATIONS:

a. Install flashing materials similar to dimensions necessary to accommodate the flashing ply configurations shown on the related drawings.

b. Apply manufacturers pre-molded pipe boots.

3.04 CLEANING

A. Remove all roofing markings from finished surfaces.

B. Repair or replace defaced or disfigured finishes caused by work of this section.

3.05 PROTECTION OF FINISHED WORK

A. Where traffic must continue over finished roof membrane, protect surfaces according to the manufacturer’s recommendations.

END OF SECTION
SECTION 075400 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.00 SECTION INCLUDES

A. This section specifies a new thermoplastic membrane roof applied over cover board over an existing plywood deck and gutter system remain in place.

B. Work include cover board, membrane roofing, base flashings, metal accessories, replacement drain grates, replacement pipe supports, and related flashings.

C. Existing Conditions: Installer shall verify all existing conditions and compare to documents prior to the work, and inform the architect and Owner of any discrepancies that could affect the work. All completed work shall be in full compliance with manufacturer's requirements for warranty.

1.01 RELATED SECTIONS

A. Section 01010 - Northern Arizona University Requirements
B. Section 01900 - General Requirements
C. Section 061000 – Rough Carpentry.
D. Section 077100 – Aluminum Copings and Trim.

1.02 ROOF SYSTEM DESCRIPTION

A. Only roof systems meeting the following will be accepted:
   1. Roof system shall consist of:
      c. Mechanically Fastened Cover Board over Existing Roofing System
      d. Fully Adhered 0.050” thickness Thermoplastic Membrane System
      e. Coated Metal Flashing Materials and associated trim

1.03 CONFORMANCE STANDARDS

A. Underwriters Laboratories (U.L.):
   1. Fire Classification Rating: U.L. 790 Standard "Class A"

B. Factory Mutual:
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<th>Section Number</th>
<th>Title</th>
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<tr>
<td>1</td>
<td>F.M. Standard 4470: Windstorm Classification Rating: 1-90</td>
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</table>
C. Building Code:
   1. Meet applicable provisions of the 2009 IBC, and local and state building codes. This also applies to agencies regulating safety, environmental, transportation etc.

1.04 WARRANTY

   A. The Manufacturer shall provide a 20-year NDL Warranty based on these specifications.

   C. All roof system components; Cover board, Fasteners, Membrane, Adhesives, Flashings and Accessories shall be supplied by the same manufacturer (single source).

   D. Warranty shall include 1-1/2” hail warranty and shall not include exclusions for ponding water.

   E. Installer Warranty: Installer shall provide 2-year warranty meeting State of Arizona requirements.

1.05 SUBMITTALS

   A. Shop Drawings: Include plans, sections, details and attachments to other work. Include base flashing and membrane terminations.

   B. Product Data: Provide data indicating membrane and adhesive materials, base flashing materials, insulation.

   C. Installer's Certificate: Signed by Roofing manufacturer certifying that Installer is approved, authorized, or licensed by the Manufacturer to install the specified roofing system.

   D. Submit technical literature of all system components and maintenance manuals.

   E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

   I. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

   J. Warranties: Provide a copy of the Warranty.

   K. Qualification Data: For Installer and Manufacturer.
1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of contract.

B. Delivery products in manufacturer's original containers, dry, undamaged, with seals and labels intact.

C. Store products in weather protective environment, clear of ground and moisture.

1.07 QUALITY ASSURANCE

A. Contractor:
   1. The Contractor shall be a qualified firm with a minimum of five (5) years documented experience installing the specified roof system. The Project Supervisor or Forman shall have a minimum experience of completing five (5) similar projects in scope, size and roof system. Project references are required.
   2. The Contractor shall provide a five-year labor and performance agreement.
   3. The Contractor shall be a licensed contractor doing business under that license for a minimum of five years without interruption.
   4. The financial stability of the Contractor shall include no filing of bankruptcy during the last five years.
   5. The Contractor shall provide proof of insurance as required by the Owner.

B. Manufacturer
   1. The Manufacturer shall provide a Technical Representative to make periodic job inspections as required by the Associate. The Manufacturer must have a Technical Representative present at the Pre-construction meeting.
   2. The Manufacturer shall manufacture products that have been on the U.S. market for a minimum of twenty years. Provide reference of at least ten (10) projects with similar size, scope and roof system.
   3. The Manufacturer's financial stability shall include no filing of bankruptcy during the last ten years.
   4. The Manufacturer shall provide only materials that meet the requirements of this specification. Installation shall be in accordance with the drawings and specifications provided, even if they are more stringent the manufacturer's specifications.
   5. The Manufacturer shall provide a 20-year Warranty based on these specifications.

C. Preconstruction Meeting: The manufacturer’s Technical Representative and the roofer shall conduct a pre-roofing meeting to discuss the work. Architect, Owner, and Owner’s facility representative shall be present.

Include:
Schedule of the work.
Review of submittals.
Review of material handling procedures, including site utilization and coordination, and roof loading constraints.
Coordination with building HVAC system.
Review of roof safety protocols.
Review of flashing and edge conditions.
Other issues of importance.

PART 2 - PRODUCTS

2.01 COVER BOARD

D. Approved Manufacturers: In Compliance with Specifications.

E. Cover Board: Gypsum Board based.
   1. Fire Barrier Cover Board: ASTM C 1177, glass mat, water resistant gypsum substrate
   2. Thickness: 1/2 inch

2.02 ROOFING MEMBRANE SYSTEM

A. Manufacturers: Subject to compliance with requirements, substitution request must be seven (7) days prior to bid date. Provide products by the manufacturers specified that meet or exceed stated manufacturer qualifications, performance requirements and warranty requirements.

B. Fire Test Characteristics: Provide membrane roofing materials with fire-test response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing agency having jurisdiction.

   1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.
F. Membrane Properties: Thermoplastic KEE Membrane.

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<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>MINIMUM REQUIREMENT</th>
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<td>Thickness</td>
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<td>Tear Strength</td>
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<tr>
<td>Seam Strength</td>
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D. Roof Adhesives: Liquid type materials shall meet VOC limits of local authorities


2.03 FLASHING SYSTEMS

A. Flashing Membrane: Thermoplastic Flashing as required by Membrane Manufacturer. Manufacturer’s standard sheet flashing of same material, type, reinforcement, thickness, and color as Thermoplastic sheet membrane.
2.04 ACCESSORIES

A. Sheet Metal:
      a. Laminated Pre-Finished Coated Metal: Provide pre-finished weldable coated metal as provided by the roofing system manufacturer.
      d. Gauge: 24-gauge galvanized steel laminated with polymeric coating
      e. Color: White

B. Anchor/Termination Bar
   1. Flat Stock: Aluminum 1/8" x 1"

C. Fasteners
   1. Nails: Nonferrous or galvanized steel.
   2. Roofing membrane and flashing fasteners: Unless otherwise indicated, types as required by the roofing membrane manufacturer.
   3. Sheet metal fasteners: For galvanized, fastener material should be galvanized or cadmium-plated steel.
   4. Fasteners shall meet the provisions of FMG 4470

D. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.

E. Miscellaneous Products

   1. Lumber (All wood nailers, sleepers, or other wood blocking):
      a. No.2 Douglas Fir or Yellow Pine, pressure-treated in accordance with the current American Wood Preservers Institute (AWPI) Standard LP-2. Retentions, penetrations, and treating procedures as specified in AWPI Standard LP-2 shall be followed.
      b. Each piece of treated lumber shall bear the stamp of the AWPI Quality Mark, indicating compliance with the requirements of the AWPI Quality Control Program.
      c. Sealant: Equal of Tremco Mono 555, high-solids, one-part, solvent-based acrylic sealant that offers excellent UV resistance and flexible workability, color compatible with sheet metal; or equal.
DIVISION 7 - THERMAL AND MOISTURE PROTECTION

Section Title
Number

2.05 ROOF DRAINS
A. All drains shall receive new cast iron strainers.

2.06 PIPE/CONDUIT SUPPORT BLOCKS
A. 100% recycled rubber, UV resistant, 4” height X 6” width X 9.6” length X 4.56 lb per block. Equal Mifab CXP Rubber Support Series. Provide suitable pipe clamps for reattachment of pipes.

PART 3 EXECUTION

3.01 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, and suitable for installation of roof system.

3.02 REMOVAL AND PREPARATION PROCEDURES
A. Remove Existing Roof System Accessories:
   1. Remove and dispose of all flashings and strip-ins, indicated equipment and penetrations, and indicated sheet metal work and accessories. Exercise caution to avoid damage to all other building components indicated to remain in place.
   2. Remove all equipment and apparatus designated by the Owner to be no longer in use.
   3. Remove and store all lightning protection system elements for reinstallation in same configuration at completion of roofing.
   4. Remove and store all heat trace system elements for reinstallation at same locations and arrangement at completion of roofing.
   5. Temporarily support conduit and pipes across roof as needed for the work.
B. Preparation of Surfaces:
   1. Remove dust, dirt, debris, loose roof coatings, and roofing material residue from all roofing surfaces, using power
washing as necessary. Assure that all roofing surfaces are dry, clean (except for residual stains) and suitable to receive new roofing system components.

2. The Contractor shall provide the necessary protection to keep the interior of the facility free of all dust and debris, as well as any water infiltration during roof preparations.

3.03 INSTALLATION OF NEW ROOF SYSTEM

A. INSULATION APPLICATION

1. Cover Board:

a. Over existing prepared roof surface, install one layer of one-half (1/2) inch gypsum cover board.

b. The cover board shall be secured to the roof deck with mechanical fasteners that meet uplift requirements.

c. The cover board joints shall be butted and aligned in both directions with the end joints staggered by maximum dimensions possible in relation to joints on the roof deck. Assure that the board ends and sides touch all along their length. Minor gaps in boards shall be filled with roof adhesive.

d. The edges of the cover boards shall be square, flush and have moderate contact with the edges of the adjacent insulation boards. End joints between boards shall be staggered.

e. No more cover board shall be laid at any one time than can be protected by roofing in case of sudden weather changes.

g. The roof cover board must be kept dry at all times. No cover board, once wet, shall be allowed to be used in the roofing system.

h. If cover boards, cant strips or tapered edge strips can be lifted or moved with hands without board breakage, they are not attached well enough.

B. MEMBRANE APPLICATION

1. Thermoplastic Membrane:
b. Position the membrane over the cover board without stretching the material. Allow membrane to relax for a minimum of 30 minutes prior to application.

c. Fold the sheet back so that one-half of the underside of the membrane is exposed.

d. Apply the membrane manufacturer’s approved bonding adhesive in accordance with the manufacturer’s requirements. The Bonding Adhesive should be applied at 100% coverage rate and evenly applied without puddles or globs. Note: Do not apply adhesive to splice area.

e. Allow adhesive to dry tacky to the touch.

f. Set the adhesive coated membrane over the cover board and roll or broom in place. Avoid wrinkles. Wrinkles in excess of 1” in height shall be cut out and repaired.

g. Repeat the procedure for the unbonded section of the membrane and all adjoining sheets. Membrane shall overlap at seams a minimum of 2-1/2”.

h. Clean off membrane seam area – minimum of 4” – with a clean rag removing all contaminants.

i. Using an approved heat welder or heat gun – weld a minimum 1-1/2” seam without voids.

j. Apply manufacturers ‘Night Seal’ at all tie-in areas.

j. Peel Stops: To attain the specified wind uplift rating provide two “peel-stops” at the perimeter of the roof. These shall consist of anchor/termination bar or deck plates fastened at 12” o.c. through to the structural deck (either concrete or steel deck). Provide a ply of the thermoplastic membrane welded continuous over the termination bar or over each plate, or as otherwise required by manufacturer’s details.

C. FLAShING APPLICATION

1. INTERIOR WALL FLASHING:

a. Install flashing materials similar to the dimensions necessary to accommodate the flashing ply configurations shown on the related drawings.
b. Install one (1) ply of Thermoplastic Flashing to the maximum height of twelve (12) inches and down and out onto the roof approximately six (6) inches beyond the base of the wall in an even application of the approved adhesive.

a. Fasten the top of the flashing with a termination bar and the appropriate fasteners every eight (8) inches on center.

d. Apply new counter flashing in a cut out reglet and fasten with the appropriate fasteners every eight (8) inches on center.

2. VENT/TUBULAR PENETRATIONS:

b. Install flashing materials similar to dimensions necessary to accommodate the flashing ply configurations shown on the related drawings.

c. Install the vent flange over the completed membrane surface in an application of adhesive.

c. Apply manufacturers pre-molded pipe boots.

3. ROOF DRAINS:

a. Install materials similar to the dimensions necessary to accommodate the configurations shown on the related drawings.

b. Prior to installation, flood all drains to determine if they are in working condition. Provide a cost to unplug 30 feet of drains, if and when it is needed.

c. Taper roof insulation around roof drains evenly over an area 4' x 4' to aid drainage. Add tapered edge strip to create a smooth transition.

d. Flashing and membrane shall be secured under the clamping ring of the roof drain. Do not apply seams through roof drain or sumps.

e. Apply manufacturers approved Waterstop at drain area.

f. Install new drain strainers.

3.04 CLEANING
A. Remove all roofing markings from finished surfaces.

B. Repair or replace defaced or disfigured finishes caused by work of this section.

3.05 PROTECTION OF FINISHED WORK

A. Where traffic must continue over finished roof membrane, protect surfaces according to the manufacturer’s recommendations.

3.06 WARRANTY INSPECTION: At completion of all work, the manufacturer’s representative shall make a full and thorough inspection of the roofing system, and associated work, including all flashing. Provide direction for the remediation of any work that will impede granting of full specified warranty.

A. At time of satisfactory completion of all work, manufacturer shall provide executed warranty to the Owner.

END OF SECTION
07 92 00  Sealants and Caulking

Part 1 – General
Due to the Freeze/Thaw cycles in Northern Arizona, DP is highly encouraged to minimize the use of caulk joints in design.

Sealants and Caulking shall not be more than ¾” in width.

Describe all requirements for installation of sealants required to prohibit the penetration of moisture and dust, and required to seal joints between dissimilar materials, in this Section.

Specify certain specialized sealants which are ordinarily part of a "complete in place" installation by a particular trade (e.g. glazing sealants and painting) in the appropriate sections.

Reliance on caulking which might (or might not) be provided by a painter as part of that finish operation, as the moisture- or dust-seal, is unacceptable.

Pay particular attention in sealant system design to expected joint movement, joint dimensions, sealant position (horizontal, vertical, or overhanging), and potential for physical abuse of the sealed joint.

Specifically describe and detail on the drawings all joints requiring installation of sealants. Generic notes such as "sealant as required" are not acceptable.

This is a section where the Consultant should use a "performance specification". Do not specify proprietary manufacturer's names or materials, and do not restrict vendors to a limited list.

Require that all materials manufacturer(s) and installer(s) demonstrate 5 years of successful installations of similar materials.

Require submittal of the following:
  • Manufacturer’s literature documenting compliance with specification requirements
  • Actual sealant samples for color selection
  • Sample joints, where unique conditions require

Maximum allowable exterior joint width, for caulking/sealant, shall not exceed 1”.

Part 2 – Products
Specify each particular type of sealant and sealant system required, including:
<table>
<thead>
<tr>
<th>Section Number</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td>• Primers</td>
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<tr>
<td></td>
<td>• Backers</td>
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<tr>
<td></td>
<td>• Fillers</td>
</tr>
<tr>
<td></td>
<td>• Colors</td>
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</tbody>
</table>

Expressly prohibit the use of latex and butyl sealants.

Specify only non-staining materials.

**Part 3 – Execution**
Provide a sealant schedule identifying location and type of sealant.

Specifically require sealants to be installed in accordance with the manufacturer's recommendations.

Specifically require all joints to be observed by the Owner prior to installation of sealants.

**07 95 00 Expansion Control**

**Part 1 – General**
Remove existing roof expansion joint. Clean and prep surface for new expansion joint.

**Part 2 – Products**
Use Johns Manville Expand-o-Flash or approved equal

**Part 3 – Execution**
Install per manufacturers requirements.

**END OF SECTION**
END OF ADDENDUM #2