PART I - GENERAL

1.01 DESCRIPTION

A. Scope: Work of this Section shall include all materials and installation necessary to provide Single-Ply Roofing as shown and detailed on the Drawings and specified herein, including:

(**CONSULTANT TO SELECT APPLICABLE ITEMS FROM LIST**)  
1. Felt back PVC single-ply membrane over an existing built-up roof/mineral cap sheet.
2. PVC single-ply membrane over new poly-iso board insulation, over existing built-up roof with granule surface spud off.
3. PVC single-ply membrane over new poly-iso board insulation over existing concrete deck.

B. Related Work: The work includes but is not necessarily limited to the installation of:

1. Fasteners
2. Roof Membrane
3. Roof Membrane Flashings
4. Walkways
5. Metal Flashings
6. Sealants and Adhesives
7. Insulation (at new crickets and at specified roof areas)

1.02 QUALITY ASSURANCE

A. This roofing system shall be applied only by a Contractor authorized by the respective PVC single-ply manufacturer prior to bid.

B. Contractor shall provide as follows: Upon completion of the installation, and the delivery to the PVC single-ply manufacturer by the Contractor of a certification that all work has been done in strict accordance with the contract specifications and manufacturers' requirements, an inspection shall be made by a representative of the manufacturer to observe the roofing system.

C. All work shall be completed by personnel trained and authorized by the PVC single-ply manufacturer.

D. All work must be inspected by UCD Fire Department.
1.03 CODE REQUIREMENTS

A. The roofing Contractor shall submit evidence that the proposed roofing system will meet the identified requirements of the following recognized code approval or testing agencies. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this specification.

1. Factory Mutual Research Laboratories, Norwood, Massachusetts.
   a. F. M. Class I system acceptance.
   b. F. M. I-90 wind uplift resistance.

2. Underwriters Laboratories, Chicago, IL.
   a. U. L. Class A membrane.

3. All work to comply with Title 24.

1.04 SUBMITTALS

A. After the notice to proceed the roofing Contractor shall submit to the University's Representative the following:


2. Samples of each material to be used in the roof system including each component of manufacturer's literature.

3. Specimen copy of warranty – material and labor and Contractor's warranty per Division 1.

4. Dimensional shop drawings which shall include:
   a. Outline of roof and roof size.
   b. Profile details of flashing methods for penetrations and terminations.
   c. Technical acceptance from PVC manufacturer.

5. Written approval from the PVC manufacturer for this application on system specified.

6. Letter from PVC manufacturer stating Contractor is an approved applicator.

7. MSDS sheets for all adhesives are to be submitted to UCD Fire Department for review.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. All products delivered to the job site shall be in the original unopened containers or wrapping
B. Handle all materials to prevent damage. Place all materials on pallets and fully protected from moisture.

C. Membrane roofs shall be stored lying down on pallets, and fully protected from moisture with clean canvas tarpaulins.

D. Bonding adhesives shall be stored at temperatures above 40ºF.

E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on container or supplied by material manufacturer/supplier. The proposed storage site for flammable solvents must be off-site or a minimum of 20’ from the Hospital. The site must be approved by UCD Fire Department prior to delivery.

F. All materials which are determined damaged by the University's Representative are to be removed from the job site and replaced at no cost to the University.

1.06 PROJECT CONDITIONS

A. PVC single-ply materials may be installed under the following weather conditions (extreme temperatures, moisture, humidity), but only after consultation with PVC manufacturer and University's Representative, as performance of PVC single-ply materials, as well as installation costs and production may be affected.

B. Only as much of the new roofing as can be made weather tight each day, including all flashings, and metal work shall be installed.

C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.

D. All surfaces to receive new insulation, membrane or flashings shall be thoroughly dry. Should surface moisture occur, the Contractor shall provide the necessary equipment to dry the surface prior to application.

E. All new temporary construction, including equipment and accessories, shall be secured in such a manner, at all times, as to preclude wind blow-off or damage.

F. Temporary waterstops shall be installed at the end of each day’s work, and shall be removed before proceeding with day's work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.

G. The Contractor is cautioned that certain PVC single-ply membranes are incompatible with asphalt, coal tar and oil based materials and cements. Creosote and penta-based materials are also incompatible. Such materials should not come in contact with PVC membranes at any time. If such contacts occur, the material shall be cut out and discarded. The Contractor should consult PVC manufacturer with respect to material compatibility, precautions, and recommendations.

H. Arrange work sequence to avoid use of newly-constructed roofing for storage, walking surface, and equipment movement. Where such access is absolutely required, the Contractor shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Both polywood and polyester felt protection shall be provided for all new and existing roof areas which receive traffic during construction.
I. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.

J. All roofing, insulation, flashings and metal work removed for construction shall be immediately taken off the site to a legal dumping area authorized to receive such materials.

K. The Contractor shall follow all safety regulations as recommended by OSHA.

L. The Contractor should take care during application and storage that overloading of deck and structure does not occur.

M. Liquid materials such as solvents and adhesives shall be stored and used away from open flames, sparks and excessive heat.

N. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the PVC single-ply roofing membrane except as noted and at specified area and only as delineated within the contract documents. Any other such contact shall be reported to the University's Representative.

O. Contractor shall verify that all roof drain lines are unblocked before starting work. Report any such blockages to the University's Representative in writing.

P. If any unusual or concealed condition is discovered, stop work and notify University's Representative immediately in writing.

Q. Site clean-up, including both interior and exterior building areas which have been affected by construction, shall be completed to the University's satisfaction.

R. All landscaped areas affected by construction activities shall be returned to their pre-construction state.

S. The degree to which the roof deck allows air infiltration into the roof assembly may add to the uplift forces on the roof system:
   1. If any wall openings greater that 10% of the wall surface, contact PVC manufacturer for recommendations.
   2. The effects of positive pressure inside the building must be considered. For conditions of positive pressure greater than .5” of water inside the building, contact PVC manufacturer for recommendations.

T. No work is to proceed until a formal Interim Life Safety Measure, approved by UCD Fire Department is in place.

U. No fumes from the adhesives are to be drawn into the Hospital HVAC system.

1.07 WARRANTY

A. Furnish to University a written guarantee for the single-ply roofing system from the single-ply manufacturer against all defects in materials and workmanship, for 10 years from date of acceptance.
B. Furnish to University a written guarantee for the single-ply roofing system from the Contractor against all defects in workmanship, including without limitation to roofing, flashings, or metal work, for 3 years from date of acceptance.

PART II - PRODUCTS

2.01 GENERAL

A. Components of the PVC single-ply fully adhered roof system are to be products on one PVC single-ply manufacturer.

2.02 APPROVED MEMBRANE SYSTEMS

A. Sarnafil G410L/Felt, manufactured by Sarnafil Inc., 48 mils nominal (0.048") thickness, polyester reinforced membrane with an acrylic coating to repel dirt, and with a polyester 18 oz. felt laminated to the back. Exposed color of PVC membrane shall be gray.

B. Sarnafil G410L, manufactured by Sarnafil Inc., 48 mils nominal (0.048") thickness, polyester reinforced membrane with an acrylic coating to repel dirt. Exposed color of PVC membrane shall be gray.

C. Trocal SR-60/Felt, manufactured by Trocal Inc., 50 mils nominal (0.050") thickness, polyester reinforced membrane with an acrylic coating to repel dirt, and with a polyester 18 oz. felt laminated to the back. Exposed color of PVC membrane shall be gray.

D. Trocal SR-60, manufactured by Trocal Inc., 50 mils nominal (0.050") thickness, polyester reinforced membrane with an acrylic coating to repel dirt. Exposed color of PVC membrane shall be gray.

E. Or equal, See Section 01630 Product Options and Substitutions for procedures to request substitution.

2.03 MEMBRANE

A. Membrane shall conform to ASTM D4434 (LATEST REVISION) Standard for poly (vinyl chloride) sheet roofing. Classification: Type II, Grade I, Color shall be gray.

B. Contractor must provide evidence that Manufacturer has comparable successful systems in place equal to that specified for a minimum of 5 years.

2.04 ACCESSORY PRODUCTS

A. Contractor shall obtain from the PVC single-ply manufacturer the following products:

B. Flashing Membrane: Flashing Membrane shall be as supplied by PVC single-ply manufacturer. Flashing membranes shall be the same material as provided for the roofing membrane without the felt back.

C. Flashing Membrane Adhesive: Adhesive for bonding the flashing membrane to substrates shall be a contact adhesive supplied by the PVC single-ply manufacturer.

D. Walkpads: Polyester reinforced PVC membrane, .096" thick for traffic areas.

E. Clad Metal: .020" thick membrane laminated to 25 gauge galvanized sheet metal.
F. Felt: Non-asphaltic polyester felt used as an asphalt barrier, leveling layer and slip sheet.

G. Welder: Automatic hot air welding apparatus for seaming of sheets.

H. Prefabricated details: Inside/outside corners or vent stacks (2 - 5” diameters).

I. Solvent Cleaner: Solvent Cleaner for removal of contaminates (adhesives) from the single-ply membrane.

J. Flatbar/turnbar: 14 gauge galvanized steel bar, channel shaped, punched 1” on center.

2.05 RELATED MATERIALS

A. Insulation: where specified or required, insulation shall be installed to form crickets.

1. Insulation for use in a fully adhered PVC membrane system shall be a Factory Mutual Class I fire rated, I-90 uplift approved board.

2. Insulation shall meet all identified code requirements.

3. Insulation shall be approved in writing by insulation manufacturer for intended use, and for use with PVC membrane materials.

4. Insulation shall be compatible with PVC membrane.

B. The following list of insulation boards are acceptable or equal:

1. Isocyanurate Insulations:
   a. SarnaTherm II isocyanurate insulation as supplied by Sarnafil, Inc.
   b. SaraTherm I isocyanurate insulation as supplied by Sarnafil, Inc.
   c. Energy I isocyanurate as manufactured by NRG Barriers, Inc.
   d. Isodeck GF isocyanurate as manufactured by Carpenter.
   e. Multi-max isocyanurate as manufactured by R-Max, Inc.
   f. Apache Pyrox isocyanurate as manufactured by Apache Building Products.

2. Insulation thickness shall be 1" or as required to form crickets identified in the specifications and construction documents.

C. Wood Nailers: Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on the project drawings. Height of the nailers shall be matched to that of the insulation thickness being used.

1. Wood nailers shall be treated for fire and rot resistance (wolmanized or osmose treated), #2 or better lumber. Creosote or asphaltic-treated lumber is not acceptable.
2. Wood nailers shall conform to Factory Mutual's Loss Prevention Data 1-49.

3. All wood shall have a maximum moisture content of 19% by weight on a dry weight basis.

2.06 ACCEPTED FASTENERS FOR ATTACHMENT OF INSULATION

A. The following fastener is approved for steel deck construction:

1. SFS Isofast IF2 Fasteners with 3" round galvanized plates.

B. Fastener Manufacturer's Warranty:

1. Fasteners and plates shall be Factory Mutual approved and meet F. M. Standard 4470 for corrosion resistance.

2. Fastener manufacturer shall warranty the performance of the fastener and plates for the duration of the warranty.

3. Fastener and plates shall be approved in writing by fastener manufacturer for intended use, and for use with manufacturer's products.

2.07 WALKWAYS

A. Walkways shall consist of the following:

1. Polyester reinforced PVC membrane .096" thick fully adhered to membrane. Only manufacturers walkways are permitted; i.e. SarnaTread or equal.

2.08 SEALANTS

A. The following caulking/sealants are accepted based on chemical compatibility with PVC single-ply membranes: TREMCO, Monolastomeric, one-part acrylic, Dow Corning/General Electric Co., Silpruf, one-part silicone sealant, Gates Engineering Co., GACO AS-3 one-part acrylic, or equal.

2.09 MISCELLANEOUS FASTENERS AND ANCHORS

A. All fasteners shall be of the same type as metal being secured. In general, all fasteners, anchors, nails, straps, shall be of zinc or cadmium plated steel, galvanized, or stainless steel. All fasteners and anchors shall have a minimum embedment of 1-¼" and shall be approved for such use by the fastener manufacturer. Fasteners for attachment of metal to wood blocking shall be annular ring nails. Fasteners for attachment of metal to masonry shall be expansion type fasteners. All fasteners shall meet Factory Mutual Standard 4470 for corrosion resistance.

PART III - EXECUTION

3.01 GENERAL

A. The Contractor shall coordinate the installation so that each area is made watertight at the end of each work period.
3.02 DECK PREPARATION

A. Preparation of Existing Roof shall be as follows:

1. On smooth surfaced roofs, the surface shall be clean and dry. All blisters shall be cut, laid back and sealed with an approved sealant.

2. On granule roof surfaces, gravel shall be spud off, sweep clean, all blisters shall be cut, laid back and sealed with approved sealant.

3. On foam roofs, remove all roofing, clean down to concrete deck and prepare substrate for insulation board installation.

3.03 SUBSTRATE PREPARATION

A. A proper substrate shall be provided to receive the PVC single-ply fully adhered membrane system.

B. The roofing Contractor shall inspect the roofing surface for defects such as excessive surface roughness, contaminated surfaces, structurally unsound substrates, etc., that will adversely affect the quality of work and prep areas as required to receive membrane/felt back system.

C. The substrate shall be clean, smooth, dry, free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.

D. All roof surfaces shall be free of water, ice and snow.

3.04 INSTALLATION OF PVC SINGLE-PLY MEMBRANE

A. General

1. Over the properly prepared substrate surface, manufacturer approved contact adhesive shall be applied using recommended solvent resistant ¾” nap paint rollers, the adhesive shall be applied at a rate of approximately ¾ to 1-⅞ gallons per 100 square feet depending on the substrate being adhered to. The Contractor shall use the rate specified by the manufacturer. The adhesive shall be applied in a smooth, even coating with no holidays, globs, puddles, or similar irregularities. Only an area which can be completely covered in the same day's operations shall be coated with adhesive. The adhesive shall be allowed to dry completely prior to installing the membrane.

2. When the adhesive on the substrate is dry, a second coat of adhesive will be applied, the 18 oz. felt back or membrane will be rolled into the fresh adhesive. Immediately after placing the membrane, the entire surface area must me rolled with a foam covered water-filled lawn roller.

3. No bonding adhesive shall be applied in lap areas. All sheets shall be applied in the same manner, lapping all sheets as required by hot air welding techniques.

B. FM-90 System Perimeter and Corners
1. Over the properly installed and prepared substrate surface, PVC single-ply membrane half sheets are to be installed around the entire perimeter edge, per manufacturers' recommendations.

3.05 HOT AIR WELDING OF LAP AREAS

A. General:

1. Adjacent sheets shall be welded in accordance with PVC single-ply manufacturers' written instruction. All side and end lap joints shall be hot-air welded. Lap areas shall be a minimum of 3” wide when machine welding, and a minimum of 4” wide when hand welding.

2. Welding equipment shall be obtained from or approved by PVC manufacturer. All mechanics intending to use the equipment shall have successfully completed a course of instruction provided by PVC manufacturer's representative prior to welding.

3. All surfaces to be welded shall be clean according to PVC manufacturer recommendations, and dry. No adhesive shall be present within the lap areas.

B. Hand Welding: Hand welded seams shall be completed in three stages. Equipment shall be allowed to warm up for at least one minute prior to start of welding.

1. The lap shall be tack welded every 3 feet to hold the seam in place.

2. The back edge of the lap shall be welded with a thin, continuous weld to prevent loss of hot air during the final welding.

3. The hot air nozzle, shall be inserted into the lap at a 45º angle. Once the proper welding temperature has been reached and the material starts to flow, the hand roller shall be applied at a right angle to the welding gun and pressed lightly. For straight laps, the 1-½” wide nozzle shall be used. For corners and compound connections, the ¾” wide nozzle shall be used.

C. Machine Welding: Machine welded seams may be achieved by the use of PVC manufacturers' various automatic welding equipment. When using this equipment, the manufacturer's instructions shall be followed and local codes for electric supply, grounding and over current protection observed. The automatic welding machines require 218 to 230 volts at 3040 amps. The use of a portable generator is recommended.

D. Quality Control of Welded Seams: all completed welded seams shall be checked by the Contractor after cooling for continuity using a rounded screwdriver or other suitable blunt object. Visible evidence that welding is proceeding acceptably is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of black material from the edge of completed joints. On-site evaluation of welded seams shall be made daily by the Contractor to locations as directed by the University's Representative or Manufacturer's Representative. Two-inch wide cross-section samples shall be taken three times a day minimum through completed seams. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each testy cut shall be patched by the Contractor at no extra charge to the University.
3.06 INSULATION INSTALLATION

A. General Criteria:

1. Install Insulation in accordance with manufacturer's instructions.

2. Insulation shall be neatly cut to fit around penetrations and projections.

3. Fully adhere insulation to form crickets where stipulated with contact adhesive. PVC single-ply membrane to be fully adhered to insulation.

4. Install Tapered Insulation around drains creating a drain sump.

5. Do not install more Insulation than can be covered with membrane by the end of the day, or onset of inclement weather.

6. Mechanical Attachment.

   a. FM I-90 Approved Perimeter Fastening Pattern-Insulation panels which fall in the perimeter and corner areas of the building shall be fastened at a minimum rate of six fasteners for every 4’ x 8’ insulation panel, or according to the insulation manufacturer’s requirements, whichever is more stringent. The perimeter area shall be defined as the strip of the roof around the outside perimeter of the building having a width defined by the least of the following parameters: 1) 10% of the building length; 2) 10% of the building width; 3) 40% of the building height. In any case, the perimeter width shall not be less than 4’.

   b. Fasteners are to be installed in accordance with fastener manufacturer's recommendations. Fasteners are to have minimum penetration into structural deck recommended by fastener manufacturer and PVC manufacturer.

   c. Use fastener tools with a depth location as recommended or supplied by fastener manufacturer to ensure proper installation.

   d. Provide pullout tests to verify deck condition and actual pullout values. Provide data to Architect and University's Representative.

B. Re-Roofing with Removal of Existing Roofing

1. Normal Humidity - Single Layer of Insulation without Vapor Retarder: one layer of insulation shall be mechanically fastened to the deck with accepted fasteners and plates. The insulation shall be laid in parallel courses with end joints staggered.

C. Fully adhere insulation to form crickets where stipulated with contact adhesive. PVC single-ply membrane to be fully adhered to insulation. Contractor may form crickets with treated plywood as an alternative and then fully adhere membrane over.

3.07 WOOD NAILERS INSTALLATION

A. Install continuous treated wood nailers at the perimeter of the entire roof and around roof projections and penetrations as specified on the project drawings.
B. Nailers shall be anchored to resist a minimum force of 175 pounds per linear foot in any direction. A ½” space shall be provided between nailer lengths. Individual nailer lengths shall not be less than 3’ long. Fasteners spacing shall be a maximum of 3’ on center. Fasteners shall be installed within 6” of each end. Spacing and fastener embedment shall conform to Factory Mutual Loss Prevention Data 1-49.

C. Thickness shall be as required to match substrate or insulation height/

D. Any existing woodwork which is to be reused shall be firmly anchored in place (shall resist a minimum force of 175 pounds per linear foot in any direction) and free of rot. Only woodwork designated to be reused in detail drawings shall be left in place and all other woodwork shall be removed.

3.08 WALKWAY INSTALLATION

A. Walkways shall be provided for regular maintenance of rooftop equipment and for roof areas subject to foot traffic.

1. Roofing membrane to receive walk pads shall be clean and dry.

2. Chalk lines on deck sheet to indicate location of walk pads.

3. Walk pad shall be unrolled and positioned within chalk lines.

4. Hot-air weld the perimeter of the walk pad to the PVC membrane deck sheet. Check all welds with a rounded screwdriver. Reweld any inconsistencies.

3.09 MEMBRANE FLASHINGS

A. All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the University’s Representative. Approval shall only be for specific locations on specific dates. Flashings shall be adhered to compatible, dry smooth, and solvent-resistant surfaces.

B. Contact Adhesive for Flashings

1. Over the properly installed and prepared substrate surface, contact adhesive shall be applied using approved solvent-resistant ¾” nap paint rollers. The adhesive shall be applied in smooth, even coatings with no holidays, globs, puddles or similar irregularities. Only an area which can be completely covered in the same day's operations shall be coated with adhesive. The surface with adhesive coating shall be allowed to dry completely prior to installing the membrane.

   Note: Drying time increases with cooler temperature. Also, the Contractor is cautioned against work on days of high humidity because of extremely slow evaporation of the solvent. The contractor shall check with the PVC manufacturer’s technical representative prior to roof operations on such days.

2. When the surface is dry, the PVC flashing membrane is cut to a workable length and the underside shall be evenly coated with contact adhesive at a rate of ½ gallon per 100 sq. ft. When the adhesive had dried sufficiently to produce strings when touched with a dry finer, the coated membrane shall be rolled onto the previously-coated substrate being careful avoid wrinkles. Do not allow adhesive
on the underside of the membrane to completely dry. The amount of membrane that can be coated with adhesive before applying to substrate will be determined by ambient temperature, humidity, and manpower. Adjacent sheets shall be overlapped a minimum of 4”. Flashings shall extend 5” onto the roofing membrane. The bonded sheet shall be pressed firmly in place with a hand roller.

3. No bonding adhesives shall be applied in lap areas that are to be welded to flashing or adjacent sheets. All sheets shall be applied in the same manner, lapping all sheets as required by welding techniques.

C. All flashings shall extend a minimum of 8” above roofing level unless previously accepted by University's Representative.

D. All flashing membranes shall be fully adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded at their joints and at their connections with the roof membrane.

E. All flashings shall be hot-air welded at their joints and at their connections with the roof membrane.

F. All flashing membranes shall be mechanically fastened along the tip edge through tin discs spaced a maximum of 1’ on center, or pre-drilled metal strips where so specified in the specifications. Expansion pins with nylon sheaths set in pre-drilled holes shall be used to secure flashings to masonry and concrete surfaces.

3.10 METAL FLASHINGS

A. Metal details, fabrication practices and installation methods shall conform to the applicable requirement of the following:

1. Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).

2. Sheet Metal and Air Conditioning Contractors National Association (SMACCA), (latest issue).

B. Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily

C. Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.

D. Metal joints shall be watertight.

E. Metal flashings shall have a 4” minimum nailing flange and shall be fastened into solid wood blocking with fasteners of the same type with two rows of annular ring nails, 4” on center, staggered. Fasteners shall penetrate the wood nailer a minimum if 1-¼”.

F. Continuous metal hook strips are required if clad metal fascia exceeds 5” in width. Hook strip is to be fastened 12” on center into wood nailer or masonry wall.
3.11 TEMPORARY CUT-OFF

A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. When a break in the day’s work occurs in the central area of a roof, a temporary waterstop shall be constructed to provide a 100% watertight seal. The new membrane shall be carried into the waterstop. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of roof cement of 6” girth. When work resumes, the contaminated PVC membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc., shall be removed from the work area and disposed of off site. None of these materials shall be used in the new work.

B. If inclement weather occurs while a temporary waterstop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.

C. If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Contractor’s expense.

3.12 COMPLETION

A. Prior to demobilization from the site, the work shall be reviewed by the University's Representative and Contractor. All defects noted, non-compliance with the specifications or the recommendation of University's Representative shall be itemized in a punch list. These items must be corrected immediately by the Contractor prior to demobilization to the satisfaction of the University's Representative.

B. All warranties, as required in Division 1 "Closeout Submittals" of this specification shall be submitted for approval prior to final payment.

C. Contractor shall perform a flood test at the completion of the work to demonstrate the watertight integrity of the finished product to the satisfaction of the University's Representative.

D. Inspections by UCD Fire Department must be completed and the job finalized as a condition of completion.

END OF SECTION 07530