Keene State College

KSC Procurement Services
229 Main Street
Keene, NH 03435-1603
Phone: 603/358-2493
Fax: 603/358-2495
Web Site: www.keene.edu/purchasing

Today's Date: May 25, 2017

RFX: 11459-0001

Due Date & Time: 6/19/2017 at 12:00 PM

Thorne-Sagendorph Art Gallery Re-Roof

Request for Bid. This is not an order. Keene State College (hereafter referred to as KSC or Owner) reserves the right to reject any or all bids and to waive any formalities in the bid process. By responding to this solicitation, the respondent (or responding firm) acknowledges that, subject to the provisions of the New Hampshire RSA 91-A, also called "NH's Right to Know Law", all documents submitted as part of the response are public records after the issuance of an award, unless otherwise stated herein.

Responses must be transmitted through US Mail or other carrier service. The transmission must be received by the due date and time. Other delivery methods (Fax, mail, email, etc.) are not acceptable. All bids must be sealed.

Bids will be opened in the Keene State College Purchasing Office at the time and date indicated above. Late bids will not be accepted.

Holiday Closing:

Refer to RFX Timeline below for a listing of any holiday closings.

KSC Inclement Weather Policy: It is the Colleges policy to declare curtailed operations when the most severe weather conditions are expected or experienced. Any events scheduled for a day when curtailed operations have been declared will be postponed until the next business day at the same time as originally scheduled.

Contact: The contact for this request for bid is Renee Harlow, Purchasing Director. Any communication regarding this bid between firms and College personnel and/or evaluation committee members is prohibited, unless previously authorized by the aforementioned agent or his/her designee.

Questions: All questions concerning this request for bid must be submitted in writing to Renee Harlow at rharlow@keene.edu or through mail or carrier service. Questions will be answered via written addenda posted in the KSC Purchasing Website. It is the responsibility of the Bidder to verify that s/he has reviewed all addenda and other required documentation.

All questions must be received by the Questions due date. Questions received after this date will not be answered.

RFX Timeline (actual dates may vary slightly based upon individual circumstances)

RFX Release	05/25/2017
Mandatory Site Inspection	06/06/2017; 10:00 a.m., Thorne Art Gallery
Deadline for Written Questions	06/09/2017 by 12:00 p.m. (noon)
Response to Questions	06/13/2017
RFX Due	06/19/2017 at 12:00 p.m.
Delivery & Installation	Work to begin 7/1/17; completed by 7/21/17

Scope of work:

1. Shingle Roofing

   A. Removal and disposal of existing roofing to the wood deck and complete re-roofing using Tamko Heritage series Thirty (30) year architectural asphalt shingles (Approximately 14,000 Sq. Ft.) Color: Weathered Wood. See additional specification below.

B. The use of scaffolding erected to the eave edge shall be required. All work shall be performed in a manner consistent with current OSHA guidelines.

1. Anchor points will be in mortar joints and not brick face.

2. Anchor holes will be repaired when scaffolding is removed.

C. The first six (6) feet of all eave edges will be covered with ice and water barrier membrane unless otherwise noted. See additional specification below.

D. The remainder of the deck will be covered with synthetic roof underlayment. See additional specification below.

E. The rake and eave edges will be trimmed with new 0.032 white aluminum drip edge. See additional specification below.

F. The valleys lines will be covered with new 0.040" aluminum sheet metal. Color: Bronze. See additional specification below.

G. The ridge will be fitted with a new continuous vent and covered by Tamko color matched hip & ridge shingles. See additional specification below.

H. All existing roof penetrations will receive new flashings.

I. 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 risk.

J. Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.

K. All landscape areas damaged by construction activities shall be repaired at no cost to the Owner.

Specifications:

PART I GENERAL

1.01 SECTION INCLUDES

A. Shingles - Granule surfaced asphalt shingle roofing
B. Sheet membrane/Eave membrane - for eaves, valleys and ridges
C. Shingle underlayment's
D. Roofing cements
E. Attic ventilation
F. Nails
G. Metal flashing associated with shingle roofing

1.02 RELATED SECTIONS

A. Section 061000 - Rough Carpentry: Framing, wood decking, and roof sheathing
B. Section 061500 – Wood Decking
C. Section 071354 – Sheet Waterproofing
D. Section 072600 – Vapor Retarders
E. Section 076000 – Flashing and Sheet Metal: Sheet metal flashing not associated with shingle roofing; gutters and downspouts
F. Section 077200 – Roof Accessories for Ridge Vents
G. Section 086200 – Unit Skylights

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM) - Annual Book of ASTM Standards
   1. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

2. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
3. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
4. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction.
5. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials used as Steep Roofing Underlayment for Ice Dam Protection.
6. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan Induced Method).
7. ASTM D 3462 – Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules.
8. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
9. ASTM D 4869 - Standard Specification for Asphalt –Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
10. ASTM D 7158 - Standard Test Method for Wind-Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method).
11. ASTM E 108 - Standard Test Method for Fire Test of Roof Coverings.

B. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide
   1. UL 790 – Standard Test Methods for Fire Tests of Roof Coverings.
C. Asphalt Roofing Manufacturers Association (ARMA)
D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
E. National Roofing Contractors Association (NRCA)

1.04 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.05 SUBMITTALS

A. Product Data: Provide copies of manufacturer's product data information and samples for each type of roofing product.
B. Manufacturers Application Instructions: Provide manufacturer's application instructions that indicate preparation required, installation procedures, and detail drawings.
C. Shop Drawings: Provide drawings to indicate specially configured metal flashing, jointing methods and locations and installation details as required by project conditions indicated.

1.06 MANUFACTURER & CONTRACTOR QUALIFICATIONS

A. Manufacturer Qualifications: Provide all primary roofing products, including shingles, underlayment, sheet membrane-eaves membrane, and ridge ventilation.
B. Installer Qualifications: Installer must be licensed or otherwise authorized by all federal, state and local authorities for installation of all roofing products to be installed under this section.
C. Installer Qualifications: Installer must be an experienced reputable professional, has been tested in roofing system product knowledge, and has been verified by customer satisfaction surveys.

1.07 REGULATORY REQUIREMENTS

A. Provide a roofing system listed by Underwriters Laboratories (UL) for Class A fire classification.
B. Install all roofing products in accordance with all applicable federal, state and local building codes.
C. All work shall be performed in a manner consistent with current OSHA guidelines.
D. Keene State College requires the use of scaffolding erected to eave edge of all sections being worked (full length). Erect scaffolding in accordance with guidelines set forth by OSHA. All entry points to the building will remain open at all times and be protected from overhead hazards.

1.08 PREINSTALLATION MEETING

A. General: Roofing Contractor to conduct a pre-installation meeting at the site prior to commencing work of this section: Require attendance of entities directly concerned with roof installation.
B. Agenda: Installation procedures; safety procedures; coordination with installation and other work; availability of roofing materials; regulatory requirements; preparation and approval of substrate and penetrations through roof; and other items related to successful execution of work.
C. Maintain one copy of manufacturer's application instructions on the project site.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver shingles and other materials to site in manufacturer's unopened labeled packaging. Promptly verify quantities and conditions. Immediately remove damaged products from site.
B. Store all products in manufacturer's unopened, labeled packaging until they are ready for installation.

C. Store bundles on a flat surface. Maximum stacking height shall not exceed TAMKO's recommendations. Store all rolls on end.
D. Store and dispose of solvent-based materials in accordance with all applicable federal, state and local regulations.

1.10 WEATHER CONDITIONS

A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with TAMKO®'s application instructions.
B. Take special care when applying shingles in temperatures below 40 degrees F (4.4 degrees C) to avoid damage to the edges and corners of the shingles.
C. Apply Ice and Water barrier, and synthetic roof underlayment in fair weather and when air, substrate, and membrane temperatures are within manufacturers specifications.

1.11 PROJECT CONDITIONS

1. **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 risk.**
2. Install products only under environmental conditions within manufacturer's recommended limits.
3. Only as much of the new roofing as can be made weather tight each day, including all flashing and detail work, shall be installed.
4. The roofing contractor shall take precautions that storage and application of materials and equipment does not overload the roof deck or building structure.
5. Roofing contractor shall stop work if any unusual or concealed conditions is discovered and shall immediately notify Owner of such condition in writing for correction at the Owner's expense.
6. Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.
7. All landscape areas damaged by construction activities shall be repaired at no cost to the Owner.

1.12 LIMITED WARRANTY

A. **Manufacturer's Limited Warranty:** Provide to the owner a TAMKO Fiberglass/Asphalt Shingles Limited Warranty for the product listed below which includes a binding arbitration provision.
   1. TAMKO Heritage® Shingle: Fiberglass/Asphalt Shingle Limited Warranty, 30 year term, 15 Year Full Start. Available at TAMKO.com

      The TAMKO Fiberglass Shingle Limited Warranty provides the manufacturer's remedy to cover materials (and labor during the Full Start period) in the event of a material defect directly resulting in a leak after the completion of application of shingles:

   1. Term: The period of time this Limited Warranty lasts is Thirty (30) years for Heritage.
   2. Full Start: First Fifteen (15) years for Heritage.
   3. Limited Warranty Applies: to Single or Multi-family dwellings, buildings for religious services, condominiums, schools, office buildings, or multi-use structures.
   4. Ten (10) year Algae Relief: Algae Relief - Algae Cleaning Limited Warranty to provide for cleaning of discoloration caused by certain algae growth.
   5. Fifteen (15) year Limited Wind Warranty Coverage:
      a. Standard Application Coverage for winds up to 110 mph
      b. High Wind Application Coverage for winds up to 130 mph – shingles installed with six (6) fasteners in the locations specified for high wind and using TAMKO starter shingles at eaves and rakes.
   6. Exclusions: **See TAMKO Fiberglass Shingles Limited Warranty for exclusions and other important details.** Contact TAMKO for a copy of the Limited Warranty.

PART II PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: TAMKO® Building Products, Inc., 220 West 4th Street, Joplin, MO 64801. Toll Free: 1-800-641-4691.
B. Requests for substitutions will not be considered.

C. Substitutions: Not permitted

2.02 SHINGLES

A. **Heritage® Shingles:** Self-sealing, granule surfaced, laminated asphalt shingle made with fiberglass mat, unique blends of granules, Shadowtone® blended natural looking shadow line, and Algae Relief – Algae Cleaning limited warranty coverage. Architectural laminate styling provides a wood shake appearance with a 5 5/8 inch exposure. UL Listed for Class A Fire Resistance (UL 790/E 108); UL Classified for Wind Resistance: ASTM D 3161, Class F and ASTM D 7158, Class H; UL Classified in accordance with ASTM D 3462 and ICC-ES Acceptance Criteria AC438; UL Evaluation Reports ER-2919-01 and ER-2919-02. Heritage® Laminated Fiberglass Asphalt Shingles, by TAMKO®.
   1. Color: Weathered Wood

2.03 HIP & RIDGE SHINGLES

A. **Heritage® Vintage® 12" x 12" Hip & Ridge:** Self-sealing hip and ridge shingles complementing the color of Heritage Vintage roof shingles. UL Listed for Class A Fire Resistance (UL 790/E 108); UL Classified for Wind Resistance: ASTM D 3161, Class F; UL Classified in accordance with ASTM D 3462 and ICC-ES Acceptance Criteria AC438;Florida Building Code Approved FL 18355; UL Evaluation Reports; ER-2919-01 and ER-2919-02. Each bundle covers approx. 25 lineal feet (7.62m) with a 5 inch (127 mm) exposure. Heritage® Vintage® 12" x 12" Hip & Ridge Shingles by TAMKO®.

2.04 STARTER STRIP

A. **TAMKO® Shingle Starter:** Self-sealing 7" x 36" starter shingle designed for all roof shingles. Each bundle covers approx. 102 lineal feet (31.1 m). TAMKO® Shingle Starter.

2.05 SHEET MEMBRANES – EAVES MEMBRANE

A. Self-Adhering, Polyethylene-Faced Sheet: ASTM-D-1970, 40 mils (1.0 mm) thick minimum, hightemp nonabrasive, consisting of slip-resisting polyethylene-film reinforcing and top surface laminated to SBS-modified asphalt adhesive, with release-paper backing; cold applied.
   1. Products (as approved by manufacturer):
      a. Certainteed WinterGuard HT

2.06 SHINGLE UNDERLAYMENTS

A. SECTION INCLUDES

Mechanically fastened roofing underlayment.
Synthetic Roofing Underlayment.
Install underlayment according to manufacturer's specified installation requirements.

B. REFERENCES

1. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
2. ASTM D 570 – Standard Test Methods for Water Absorption of Plastics.
3. ASTM D 1938 - Standard Test Methods for Tear-Propagation Resistance (Trouser Tear) of Plastic Film and Thin Sheeting by a Single-Tear Method.
4. ASTM D 2523 - Standard Practice for Testing Load-Strain Properties of Roofing Membranes.
5. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
6. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
7. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
8. National Roofing Contractors Association (NRCA): Steep Slope Roofing and Waterproofing Manual.
9. International Code Council (ICC): AC 48 - Acceptance Criteria For Roof Underlayment For Use In Severe Climate Areas.
10. TAS 104 – Test Procedure for Nail-On Underlayment for Use in Discontinuous Roof System.

C. SUBMITTALS – must comply with Division 1

1. Submit under provisions of Section 01 30 00.
   a. Product Data: Manufacturer's data sheets for each product indicated, including, certified product test results, preparation/Installation instructions and recommendations, and Storage and handling requirements and

recommendations.

2. Shop Drawings: Provide manufacturer's standard details indicating installation methods and flashing conditions applicable to the project.
3. Verification Samples: For each product specified, two samples, minimum 6-by-6- inch representing actual product, color, and patterns.

D. QUALITY ASSURANCE

1. Manufacturer Qualifications: Primary products specified in this section will be provided by a single manufacturer with a minimum of ten (10) years experience.
2. Installer Qualifications: Products listed in this section are to be installed by a single installer that has demonstrated experience in installing products of the same type and scope as specified.

E. DELIVERY, STORAGE, AND HANDLING

1. Store products in manufacturer's unopened containers, with identification labels intact until ready for installation.
2. All damaged materials are to be removed from the site and replaced.

F. WARRANTY

1. Upon completion, provide an executed copy of the manufacturer's Limited Warranty to the owner or owner's representative.

    a. RoofTopGuard II Warranty Duration: Thirty (30) Years.

2.07 MANUFACTURERS

1. Manufacturer: Rosenlew RKW Finland
   Manufacturing Address: Ulasoorintie 185 Pori, 28601
   US Distributor: RKW US, Inc.
   US Address: 3 Central Plaza #347, Rome, GA 30161
   Phone: (706) 232 – 3027
   Fax: (706) 232 – 3084

2.08 ROOF UNDERLAYMENT

A. Synthetic Roofing Underlayment – ROOFTOPGUARD II: 5-layer polypropylene/polyethylene synthetic roof underlayment mechanically attached to sloped roof decks beneath shingles, shakes, slate, tile, metal, and composite roofing to prevent leaks caused by wind driven rain and primary roofing breach.

1. ICC-ES Evaluated as alternate to ASTM D 226 Type I (#15) or Type II (#30) felt. (ES ER-2928).
2. Fire Rating - ASTM E 108: Class A.
3. Color: Gray.
4. Roll Size: 60 inches by 200 feet (1524mm x 60960mm)
5. Permeability - ASTM E 96 Method A: 0.15 perms.
6. Water Absorption ASTM D 570: 2.4%.
7. Tear Resistance - ASTM D 1938: MD 16.14 lbs (7.32 kg) / CD 3.18 lbs (5.98 kg).
8. Breaking Strength ASTM D 2523: MD 96.79 lbs (43.90 kg) / CD 86.82 lbs (39.38 kg).
9. Breaking Strength after UV ASTM D 2523: MD 88% of new / CD 85% of new.
10. Breaking Strength after Heat Aging ASTM D 2523: MD 98% of new / CD 91% of new
11. Elongation Strength ASTM D 2523: MD 29% / CD 27%.
12. Elongation Strength after UV ASTM D 2523: MD 86% of new / CD 87% of new.
13. Elongation Strength after Heat Aging ASTM D 2523: MD 87% of new / CD 91% of new.
14. Puncture Resistance TAS 104: No Puncture.
15. Slippage Resistance TAS 104: No tears, slippage, or pulling way from fasteners.
16. Water Penetration ASTM E331: No leakage around fasteners when secured per manufacturer instructions.
17. For use under all types of sloped roofing.

2.09 RELATED MATERIALS

A. Sealant: High quality, asbestos free plastic roofing cement meeting or exceeding the requirements of ASTM D 4586 Type I, Spec SS-153 Type 1 (Asbestos Free).
B. Fasteners: plastic or steel cap roofing nails with minimum 1" caps.

2.10 EXAMINATION

A. Verify that a roof slope of 2:12 or greater exists for proper water shedding.
B. Begin installation only after substrates have been properly prepared.
C. Resolve conflicts resulting from inspection prior to underlayment installation.

2.11 PREPARATION

A. Clean surfaces thoroughly prior to installation.
B. Prepare surfaces using the manufacturer recommended methods for substrates under the project conditions

2.12 INSTALLATION

A. Follow manufacturer's current installation guidelines, procedures found in the current version of the National Roofing Contractors Association's (NRCA) "Steep Slope Roofing and Waterproofing Manual", and requirements of all code bodies having jurisdiction. In the event of a conflict in installation requirements, the more stringent method of installation will prevail.
   1. RoofTopGuard II must be installed above properly ventilated spaces, as it is considered a vapor barrier.
   2. For roof slopes less than 4:12, Rosenlew RKW Finland recommends sealing of all seams with butyl rubber, urethane, or EPDM based caulk or tape sealant.
B. Install RoofTopGuard II horizontally (parallel) to the eave with the printed side up, and with 4" horizontal laps and 6" vertical laps (The use of a slip sheet is not required underneath metal roofing). RoofTopGuard II must be attached to the structural Roof Deck Material using Plastic or Steel Cap roofing nails, having a minimum of 1" diameter cap, spaced at 12" on vertical and 15" on horizontal.
   1. For batten secured applications, the use of plastic cap roofing nails required only to secure the underlayment and prevent blow off until the batten system is installed.
   2. Where seams or joints require sealant or adhesive, use only a high quality, low solvent asbestos free plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos Free), Spec SS-153 Type 1 (Asbestos Free).
C. For areas under the jurisdiction of the International Building Code or International Residential Code follow ICC-ES report ESR-2928 installation guidelines
D. For areas under the jurisdiction of the Florida Building Code, follow the installation guidelines set forth in the evaluation report under FBC file FL12145.

2.13 PROTECTION

A. Protect installed products until completion of project.
B. Correct deficiencies in or remove products that do not comply with requirements, repair substrates, and repair or reinstall products to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
C. Final roof cover shall be installed within 7 days after installation of RoofTopGuard II.

2.14 ROOFING CEMENTS

A. **TAM-PRO® SBS Flashing Cements** have been tested by an independent laboratory for compliance with ASTM D 4586, Type I.
B. **TAMKO® Tam-Seal® Adhesive** has been tested by an independent laboratory for compliance with ASTM D 4586, Type I.
C. **TAM-PRO® Plastic Roof Cements** have been tested by an independent laboratory for compliance with ASTM D 4586, Type I.
D. **TAMKO® Plastic Roof Cements** have been tested by an independent laboratory for compliance with ASTM D 4586, Type I.
E. **Or approved equivalent.**

2.15 ATTIC VENTILATION

A. MANUFACTURERS
   1. Manufacturer: Air Vent, Inc.

Manufacturing Address: 4117 Pinnacle Point Drive, Suite 400
Phone: 800.247.8368

2.16

A. RIDGE VENTS
Product: ShingleVent II-9A
Model: CLASH9CC, 9" wide
Color: Charcoal
Size: 4'
Net Free Area: 16 sq. in. per ft.

2.17 NAILS

A. Standard round wire, zinc-coated steel or aluminum; min 12 gauge, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) to 7/16 inch (11mm) in diameter. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through roof deck by at least 1/8 inch (3.18mm).

2.18 METAL FLASHING

A. 0.40-inch aluminum sheet metal at valley lines. Color: Bronze
B. 0.032-inch aluminum sheet, at rake and eave edges, shop-formed, prefinished drip-edge. Color: White, match existing profile on new North roof section.

PART III EXECUTION

3

3.01 EXAMINATION

A. Examine substrates, areas and conditions for compliance with requirements for installation tolerances and other conditions affecting performance.
    1. Examine roof sheathing to verify the sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
    2. Verify that the substrate is dry, sound, clean, smooth, sloped for drainage, and completely anchored, and that provision has been made for flashings and penetrations through asphalt shingles.
B. Proceed with installation only after unsatisfactory conditions have been corrected and roof deck has been properly prepared.

3.02 PREPARATION

A. Remove all existing roofing down to the roof deck.
B. Verify that the deck is dry, sound, clean and smooth. It shall be free of any depressions, waves, and projections. Cover with sheet metal, all holes over 1 inch (25mm) in diameter, cracks over 1/2 inch (12mm) in width, loose knots and excessively resinous areas.
C. Replace damaged deck with new materials.
D. Clean deck surfaces thoroughly prior to installation of eaves membrane and shingle underlayment.

3.03 INSTALLATION OF UNDERLAYMENTS

A. General:
    1. Install using methods recommended by the manufacturer in accordance with local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
B. Eaves:
    1. Install eaves edge metal flashing tight with fascia boards; lap joints 2 inches (51mm) and seal with plastic cement or high quality urethane sealant; nail at the top of the flange.
    2. Install Certainteed, WinterGuard HT up the slope from eaves edge a full 72 inches (6’-0”). At Western Side by low roof install Certainteed, WinterGuard HT up the slope a full 108 inches (9’-0”). Lap ends 6 inches and bond.
C. Valleys:
    1. Install eaves membrane at least 36 (914mm) inches wide and centered on the valley. Lap ends 6 inches (152mm) and seal.
    Where valleys are indicated to be "open valleys", install metal flashing over Certainteed, WinterGuard HT before Rosenlew RKW Finland, RoofTopGuard II underlayment is installed.
D. Roof Deck:
    1. Install one layer of Rosenlew RKW Finland, RoofTopGuard II underlayment over the entire area not covered by Certainteed, WinterGuard HT at the eaves or valley. Install sheets horizontally so water sheds and nail in place.

3.04 INSTALLATION OF TAMKO STARTER SHINGLES

A. General:
   1. Install in accordance with TAMKO®'s application instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
   2. Refer to application instructions for the selected starter strip shingles.

B. Placement and Nailing:
   1. For maximum wind resistance along rakes & eaves, install any TAMKO® starter strip containing sealant or cement shingles to underlayment and each other in a 4" (102mm) width of TAM-PRO® SBS Flashing Cement, TAMKO Tam-Seal® Adhesive, or TAMKO® or TAM-PRO® Plastic Roof Cement.
   2. Place starter strip shingles 1/4" – 3/4" (6 – 19mm) over eave and rake edges to provide drip edge.
   3. Nail approximately 1-1/2" – 3" (38 – 76mm) above the butt edge of the shingle.
   4. Rake starter course should overlap eave edge starter strip at least 3" (76mm).

3.05 INSTALLATION OF TAMKO SHINGLES

A. General:
   1. Install in accordance with TAMKO®'s application instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
   2. Minimize breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4.44 degrees C).
   3. Handle carefully in hot weather to avoid scuffing the surfacing, or damaging the shingle edges.

B. Placement and Nailing:

   1. Secure with nails per shingle per TAMKO®'s application instructions or local codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
   2. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
   3. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
   4. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.

C. Valleys

   1. Install valleys using the "open valley" method:
      a. Snap chalk lines on the metal flashing, starting at 3 inches (76mm) each side of top of valley to the eaves.
      b. Run shingles to chalk line.
      c. Trim last shingle in each course to match the chalk line; do not trim shingles to less than 12 inches (305mm) wide.
      d. Apply a 2 inch (51mm) wide strip of plastic cement under ends of shingles, sealing them to the metal flashing.

3.06 INSTALLATION OF ATTIC VENTILATION

A. General
   1. Ventilation must meet or exceed current F.H.A., H.U.D. and local code requirements.

B. Ridge Ventilation
   1. Install ridge vent along the entire length of ridges:
   2. Cut continuous vent slots through the sheathing, stopping 6 inches (152mm) from each end.
   3. Install ridge vent material along the full length of the ridge, including uncut areas.
   4. Butt ends of ridge vent material and join using roofing cement.

3.07 PROTECTION

A. Protect installed products from foot traffic until completion of the project.
B. Any roof areas that are not completed by the end of the workday are to be protected from moisture and contaminants and building to remain watertight at all times.

END OF SECTION

Delivery: Work must begin by July 1, 2017 and be completed by July 21, 2017.

Award: Award may be in full, or by item, whichever is in the best interest of the Owner.

Delivery Terms: FOB Destination – Freight Prepaid & Allowed.

Payment Terms: Net 30 days

Pricing: Unit prices shall be net and include all costs to supply, deliver and warranty items. In the case of a discrepancy between the unit price and the extended price, the unit price shall prevail. **Pricing shall be submitted in the eSource RFX Sections tab. Suppliers must provide a unit price before trade-in. An itemized quote (to include trade in allowance) shall be submitted as an attachment in the eSource RFX tool.**

Evaluation Criteria: Evaluation criteria will be based on, but not necessarily limited to the following factors:

- Price
- Compliance with specifications
- Delivery timeline
- Serviceability
- Warranty

Insurance Requirements: Within ten (10) business days after the Owner mails, sends a fax transmission or delivers a Notice of Acceptance, Agreement or Purchase Order, or prior to beginning work on campus, whichever is sooner, the successful Firm shall deliver to the Owner the Certificate of Insurance specified on the document entitled "Insurance Requirements." The document can be accessed by going to http://www.unh.edu/purchasing/Insurance%20Requirements.pdf .

USNH Terms and Conditions: Terms and conditions are available on the UNH Procurement Services web site at www.unh.edu/purchasing/forms.html. By responding to this solicitation, the Firm acknowledges that s/he has read, understands and accepts the USNH's terms and conditions

Public Records: Applicability of the New Hampshire Right to Know Law, RSA 91-A

- Subject to the provisions of the New Hampshire Right to Know Law, RSA 91-A, prior to the issuance of an award the USNH shall treat all bids received as confidential. After the issuance of an award all bids shall be public records. If no award is issued and the solicitation is cancelled without intention of reissuance, all bids shall be public at the time of cancellation. If no award is issued and USNH intends to reissue the solicitation, all bids shall be confidential until the award is issued or the subsequent solicitation is cancelled without intention of reissuance.

- Also subject to the provisions of the New Hampshire Right to Know Law, RSA 91-A, the working papers and any other records of the discussions or deliberations of the evaluation committee or any of its members shall be treated as confidential and entitled to either or both of the specific exemptions from public access provided for in RSA 91-A:5, VIII and IX.

- Applying labels to documents such as "confidential" will not keep them from becoming public records as described in the preceding sections or otherwise affect the application and operation of the New Hampshire Right to Know Law, RSA 91-A."