SECTION 070130 - MAINTENANCE FOR STEEP SLOPE ROOFING

1. GENERAL
	* + 1. RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.Omit below on small scope jobs.

* + - 1. PREINSTALLATION MEETING
				1. Before starting repair Work, conduct conference at **[Project Site]**.

Meet with Director’s Representatives, slate roofing installer, and installers whose work interfaces with or affects sloped slate roofing repairs, including roof accessories and roof mounted equipment.

Review methods and procedures related to the repair work, including but not limited to the following:

Repair preparations, including slate roofing manufacturer’s instructions.

Temporary protection requirements for existing roofing system components that are to remain.

Existing roof drains and roof drainage during each stage of repair work, and roof-drain plugging and plug removal.

Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.

Condition and acceptance of existing roof deck and base flashing substrate for reuse.

Structural loading limitations of roof deck during repair work.

Base flashings, special roofing details, drainage, penetrations, and condition of other construction that affect repair work.

Governing regulations and requirements for insurance and certificates if applicable.

Existing conditions that may require Director’s Representatives notification before proceeding.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: Submit catalog sheets, specifications, and installation instructions for the following:

Slate.

Sealant.

Felts.

Delete the next subparagraph if material is not specified in Part 2.

Underlayment Flashing.

* + - * 1. Samples:

Slate: One piece, full size.

Wire: One 12” piece.

Sheet Copper: One 6” square piece.

Delete the next subparagraph if material is not specified in Part 2.

Underlayment Flashing: Two 6-inch sq pieces.

* + - * 1. Quality Control Submittals:

Installer’s Certification:

Submit a letter certifying that the person supervising the Work of this Section has at least 5 years’ experience of repairing and restoration of slate roofing.

Submit a letter certifying that the workers installing the slate roofing has had at least 3 years’ experience in repairing and restoration of slate roofing.

* + - 1. QUALITY ASSURANCE
				1. Installer’s Qualifications:

The person supervising the Work of this Section shall have at least five years of experience in repairing and restoration of slate roofing.

The workers installing the slate roofing shall have at least three years of experience in repairing and restoration of slate roofing.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Deliver roofing materials in manufacturer’s unbroken containers or packages. Retain manufacturer’s printed labels on containers and packages.
				2. Storage and Handling:

Store materials in a dry, well ventilated place protected from sun and weather. Store roll goods on end.

Do not stockpile materials on roof.

1. PRODUCTS
	* + 1. MATERIALS
				1. Slate: to ASTM C 406, Grade S1; clear roofing slate of uniformly hard, fine grained clear stock, free of veins, ribbons, and pyrite inclusions, and punched for two nails. Nail holes shall be no more than 1-1/2-inch form the side edges of the slate.

Color and Thickness: Match existing slate.

Re-use of Existing Slate: Existing slate, removed under the Work of this Section, may be re-used, provided the pieces are sound and undamaged. Nail holes

Omit the next paragraph below if Section 079200 is used.

* + - * 1. Type 2 Sealant: One-part acrylic polymer sealant;

Acceptable Materials:

AVW-920 by Pecora

All Weather Pro Sealant by GE Sealants

Duo-Sil by Bostik

Approved equivalent.

Color: Dark grey or slate color.

* + - * 1. Felt: Asphalt saturated and coated organic felt, minimum weight 30 lbs./square; ASTM D 226, Type II, No. 30, unperforated.
				2. Nails: Hard copper slating nails, No. 10 stubbs gauge, length as required to penetrate 7/8” into the wood deck.
				3. Wire: No. 8 hard copper wire.
				4. Sheet Copper: 16 oz. Zinc/tin alloy hot-dipped coated, cold rolled copper.
				5. Underlayment Flashing: Self adhering, self-sealing, rubberized asphalt sheet membrane with slip resistant surface and manufacturer’s primer for masonry surfaces (if any).

Physical Properties:

Thickness: 40 mils minimum ASTM D 3767 Method A.

Tensil strength: 250 psi ASTM D 412.

Elongation (ultimate failure of the rubberized asphalt) 250 percent, ASTM D 412 Die C Modified.

Permeance: 0.05 Perms max., ASTM E 96.

Acceptable Materials:

Grace Ice And Water Shield by GCP Applied Technologies

WinterGuard Roofing Underlayment by CertainTeed Corporation

AC Granular Ice and StormSeal by NEI Advanced Composite Technology

Approved equivalent.

1. EXECUTION
	* + 1. PREPARATION
				1. Clean and dry substrates before installing the Work of this Section.
				2. Secure loose or warped wood boards with nails. Set all protruding nails flush with boards.
				3. Cover exposed wood decking with underlayment flashing. Shingle the felt in with the existing underlayment. Secure to prevent slippage.
			2. Protection
				1. Workers shall not damage slates by walking on them.
				2. Stage roof to allow safe work surfaces, such as scaffold-grade planks, that prevent unnecessary foot traffic on the slates.
				3. Roof ladders, hook ladders, chicken ladders, lifts, or other such devices, shall be used to protect the roof surfaces from foot traffic.
			3. REPLACEMENT SLATES
				1. Inspect slate roof for cracked, broken, missing, perforated, face-nailed, screwed, caulked, or otherwise leaking slates.
				2. Remove defective slates using appropriate tools such as a slate ripper. When using a slate ripper, the handle of the tool must be held down parallel to the roof surface when hammered on to pull slating nails. If the handle of the ripper is lifted off the roof during use, it can break the overlying slates.
				3. Defective slates must be replaced with slates that match the existing slates in type, length, width, thickness, shape, color and, if necessary, for a good match, age.
			4. INSTALLATION

Use paragraph below beneath flashings, in valleys and at eaves on heated buildings. Delete subparagraphs below if not required.

* + - * 1. Installing Underlayment Flashings:

Apply the flashing manufacturer’s primer over masonry wall surfaces (if any), before installing flashing. Lap edges and ends a minimum of 6 inches. Press flashing into place. Cut out and patch blisters. Roll edges and ends to insure complete adhesion.

Eaves: Unless shown otherwise on the drawings extend the flashing from the roof edge to a line a minimum of 2 ft beyond the interior face of the building wall.

Valleys: Install the flashing centered on the valley so that the flashing sheet extends a minimum of 18 inches on each side of the valley center line.

Chimneys, Intersecting Walls, and Curbs: Install 18 inch wide concealed flashing. Extend the flashing one foot onto the roof surface and 6 inches up the vertical surface.

* + - * 1. Except for final coursing or single piece replacement, fasten slates with two nails. Match the courses and joint pattern of the existing adjacent slate Work.
				2. Cut single pieces of slate as required to fit between existing slates or against abutting Work.
				3. Where standard (concealed) nailing is not possible (such as setting of final course between new and existing Work or setting of single replacement slates), set all pieces in beads of Type 2 sealant. Apply at least three continuous beads parallel with the slope of the roof under each slate. In addition to the Type 2 sealant, fasten each piece by using one of the following methods:

Form hard copper wire into square U-shape. Turn ends up fitting into punched nailholes underneath slate. Slide slate up under course above and retract until wire catches behind top edge of slate course below.

Punch slate for two nails, located in joint between course of slates above. After nailing, cover the exposed nail heads in the joint with a two-inch-wide zinc/tin coated copper strip. Bend one end of the strip down to form a hook edge. Center the strip over nails and slide up under slates in course above until hook edge engages top edge of replacement piece. Press down to obtain firm bond.

* + - 1. CLEANING
				1. Clean debris from roofs, gutters, downspouts, and drainage systems. Test drainage system to verify proper operation.

END OF SECTION 070130