



**SPECIAL PROVISIONS
FOR
LIMESTONE SITE TREATMENTS**

**Johnson County
TAP-U-1557(646)--8I-52**

**Effective Date
August 18, 2020**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

157145.01 DESCRIPTION.

A. Summary

This work includes all labor, materials, tools, equipment, transportation, protection, and supervision necessary to furnish and install the following limestone items:

- Limestone Outcropping
- 6 Inch Limestone Cap for Bridge Columns
- Limestone Veneer for Bridge Columns

B. Quality Assurance.

1. Single Source Responsibility for Stone: Obtain the limestone from a single quarry with resources to provide materials of consistent quality in appearance and mechanical properties, including the capacity to cut and finish materials with delaying the progress of the work.
2. Installer Qualifications: Engage an experienced Contractor who has completed stonework similar in material, design, and extent to that indicated on the contract documents. The Contractor should have successful in-service performance in such services.

C. Submittals.

1. Product Information: Submit manufacturer's technical data for limestone, stonework accessories, and other manufactured products required.
2. Shop Drawings: Submit cutting and setting drawings indicating sizes, dimensions, sections, and profiles of stones. Arrangements and provisions for jointing, supporting, anchoring, and bonding stonework; and details showing relationship with, attachment to, and reception of, related work.

3. Graffiti Control Product: Submit stone provider's technical data for recommended product intended to minimize the effects of graffiti and other environmental factors. Product shall provide long term protection with minimum maintenance required.
4. Stone Adhesive Product and Epoxy: Submit manufacturer's technical data for product intended to adhere limestone to concrete. Submit epoxy to be used for drilled and epoxied stainless steel pin intended to adhere to limestone and concrete.
5. **Product Samples.**
 - a. Provide a sample of limestone to be used for verification of form, color, grade, finish, type, and variety of stone. Include two stones not less than 1 foot 0 inches by 1 foot 0 inches square. This sample applies to the Limestone Outcropping and 6inch Limestone Caps for Bridge Columns
 - b. Provide a sample of limestone veneer to be used for verification of form, color, grade, finish, type, and variety of stone. Include two stones not less than 2 feet 0 inches by 2 feet 0 inches square. This sample applies to the +/- 1 1/2 inch Limestone Veneer for Bridge Columns.

D. Delivery, Storage, and Handling.

1. Limestone products are to be delivered to the project site in an undamaged, clean condition.
2. Store and handle stone and related materials to prevent damage due to moisture, temperature swings, contaminants, corrosion, fracture, chipping, or other causes.
3. Handle stones in a manage to not damage, chip, dent, or otherwise alter their fit and appearance. Do not use pinch or wrecking bars.
4. Store stone on wood skids or pallets, covered with a non-staining, waterproof membrane. Place skids and stones to distribute weight evenly and to prevent breaking or cracking of stones. Consult with stone provider on other methods to safely handle and store.

E. Project Conditions and Care.

1. Cover partially completed structures when work is not in progress with a non-staining waterproof membrane.
2. Prevent staining of stone from mortar, grout, sealants, and other sources. Immediately remove such materials from stone.
3. During cold weather, remove ice or snow formed on stonework beds by carefully applying heat until top surface is dry to touch.

157145.02 MATERIALS.

A. Limestone.

1. Provide matched blocks from a single quarry. Extract blocks, at a minimum, for each work item from a single bed of quarry stratum. Limestone shall be cut and finished per the details in the project plans.
2. Mechanical Properties: Submit limestone properties to Engineer for review.
3. Type: Buff colored, select grade, with finish and size as defined on project plans.

B. Stone Fabrication.

1. General: Fabricate stonework sizes and shapes required to comply with requirements indicated, including details on plans and shop drawings.
2. Cut stone or break stones to produce pieces of thickness, size and shape indicated or required within fabrication tolerances recommended by stone source for faces, edges, beds, and backs.
3. Slope exposed top surfaces of limestone outcropping blocks to the east. Slope top of 6 inch limestone cap so as to drain.
4. Carefully inspect finished stones at fabrication plant for compliance with requirements relative to appearance, material, and fabrication. Replace defective stones with units that comply with these standards and those of the project plans.

C. Other Products.

1. Graffiti Control: Provide clear, solvent based product specifically formulated to weatherproof limestone and other masonry elements and protect treated surfaces without altering natural color.
2. Stone Adhesive: Provide adhesive to permanently adhere limestone veneer to concrete column as well as 11 inch deep blocks to other limestone on the Limestone Outcropping. Product provided shall be specifically noted to adhere to concrete and natural rock surfaces.
3. Connection Pins: Vertical block elements as noted in the project plans for the Limestone Outcropping shall be connected with a minimum four 1/2 inch stainless steel threaded rods drilled and epoxied into the connecting elements. The 6 inch limestone cap shall additionally be connected using this method. Stainless steel rod shall be ASTM A276 Grade 304 or approved equal. Submit epoxy to engineer for review.

157145.03 CONSTRUCTION.

A. General.

1. Execute stonework by skilled workers and employ skilled stone fitters at the site to do necessary field cutting as stones are placed.
2. Verify that support and surrounding work and site conditions are ready to receive work under this section. Verify dimensions and locations of constructed elements to receive limestone treatments.
3. Establish a layout of limestone stonework in the field. Clean stone surfaces which have become dirty or stained prior to setting to remove soil, stains, and other foreign materials. Use only mild cleaning compounds that contain no caustic or harsh filler or abrasives. Do not use wire brushes or implements which can mark or damage exposed surfaces.

B. Installation.

1. Erect stone in accordance with stone supplier's instructions and according to the project plans.
2. Place limestone using methods as to not damage or alter the stones in any way. Verify the fit of stones before finalizing location.
3. **Graffiti Control.**

- a. Contractor shall provide all materials, labor, and equipment necessary to provide the recommended graffiti control to all stonework.
- b. Surfaces shall be prepped in accordance with graffiti control recommendations.
- c. Application shall be by brush, roller, or airless spray. The surfaces should be flooded to the point of maximum absorption.
- d. Care shall be taken when applying graffiti control product. Immediately remove from other surfaces including, but not limited to, concrete, steel, other stonework.

157145.04 METHOD OF MEASUREMENT.

The work involved in construction of Limestone Site Treatments will be measured as follows:

A. Limestone Outcropping.

The Engineer will measure the area of limestone outcropping in Square Feet, from measurements of the front face of wall in place. The height will be measured from the top of the leveling pad to the top of the wall.

B. 6 Inch Limestone Cap for Bridge Columns.

The quantity of 6 inch Limestone Caps will be shown in the contract documents and measured on an Each basis

C. Limestone Veneer for Bridge Columns.

The quantity of bridge columns to receive the limestone veneer is shown in the contract documents and measured on an Each basis.

157145.05 BASIS OF PAYMENT.

Payment of construction of Limestone Site Treatments, satisfactorily placed, will be as follows:

A. Limestone Outcropping.

For the number of square feet of Limestone Outcropping constructed, the Contractor will be paid the contract price per square foot. This payment is full compensation for furnishing and erecting the Limestone Outcropping including, foundation preparation, leveling pad, granular backfill material, excavation, porous backfill material, and subdrain. Additionally, includes vertical limestone elements, 11inch blocks, stone adhesive, stainless steel connection pins, and graffiti protection and all materials, tools, and labor to satisfactorily construct these elements.

B. 6 Inch Limestone Cap for Bridge Columns.

Payment for 6 inch Limestone Cap for Bridge Columns completed and in place will at the contract unit price. Payment includes the stainless-steel connection pins work and materials required to drill and fill the pin holes with approved epoxy and graffiti protection and all materials, tools, and labor to apply graffiti protection.

C. Limestone Veneer for Bridge Columns.

Payment for Limestone Veneer for Bridge Columns completed and in place will be at the contract unit price. Payment includes the stone adhesive and graffiti protection and all materials, tools, and labor to apply these elements.