

SECTION 04 01 20 - MAINTENANCE OF UNIT MASONRY

PART I - GENERAL

1.1 SUMMARY

- A. On projects of historic significance, all work shall comply with the guidelines of the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.
- B. All repair and replacement materials shall match remaining material.
- C. As much historic material as possible shall be saved.
- D. All work shall be performed in the gentlest manner possible.
- E. Sound historic and other adjacent materials shall not be put at risk due to the restoration work.

1.2 QUALITY ASSURANCE

- A. Restoration Specialist: On projects of historic significance, masonry contractor shall demonstrate special competency and training in historic restoration.
- B. Job Mock-Ups: Prior to start of general masonry restoration, prepare a 6 foot by 6 foot sample area on the building, where directed by the AE, showing routing and repointing, including mortar, type of joint, and workmanship for each type of masonry surface. Include stone and brick for approval by the AE.
- C. Cleaning: Prior to the start of any cleaning work, demonstrate on a sample area of the building of approximately 25 square feet where directed by the AE or the Owner, materials and methods to be used for cleaning each type of masonry surface, including stone and brick, for approval.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

- A. Face Brick: Provide face brick as replacement for deteriorated or damaged brick, with color, surface texture and size to match existing brick work.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144.
- D. Colored Mortar Pigment: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Color shall be acceptable to the AE and/or Owner.
- E. Water: Drinkable, free of oils, acids, alkalis and organic matter.
- F. Aggregate for Grout: ASTM C404.

2.3 CLEANING MATERIALS AND EQUIPMENT

- A. Final Cleaning of New and Existing Brick Product/Manufacturer:
 - 1. Sure Klean 600/ProSoCo, Inc.
 - 2. Acceptable equivalent.
- B. Cleaning of Existing and New Stone Product/Manufacturer:
 - 1. Sure Klean Limestone Prewash followed by Sure Klean Limestone Afterwash / Pro So Co, Inc.
 - 2. Acceptable equivalent.
- C. Cleaning Equipment
 - 1. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
 - 2. Brushes: Fiber bristle only.
 - 3. Spray Equipment: Provide equipment for controlled spray application of water and/or combination with pressure rates and volume measure at spray tip.

2.4 MORTAR MIXING

- A. Mortar Type: Mortar mix design shall match the original mortar as nearly as possible.
 - 1. For all masonry restoration projects, the initial rate of absorption of the replacement mortar shall be as high as, or higher than, that of the original mortar.
 - 2. For all masonry restoration projects, the compressive strength of the replacement mortar shall be equal to or less than that of the original mortar.
 - 3. For all historic restoration projects, the original mortar shall be tested so that the composition of the new mortar shall match the original in both performance characteristics and appearance. This work shall be performed by a laboratory experienced in working with historical mortars.
 - a. Frequently, Type O Cement Lime mortar mixed according to ASTM C270-97 will be appropriate. ASTM C270-97 specifies that the ratio of cement to lime fall within the following ranges:
 - (1) Cement 1 : Lime 1¼
 - (2) Cement 1 : Lime 2½
 - 4. Contractor shall examine samples of existing mortar to determine the ratio of cement to lime to be produced within the parameters of ASTM C270-97.

PART 3 - EXECUTION

3.1

END OF SECTION 04 01 20

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.