

SECTION 040123

MASONRY CLEANING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. The Work of this Section includes cleaning brick by a chemical cleaning method using pressure spray equipment.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Water Source: Section 015000.
- B. Masonry Restoration: Section 040121.
- C. Joint Sealers: Section 079200.

1.03 REFERENCES

- A. The Brick Industry Association Technical Note 20, June 2006, Cleaning Brickwork, gobrick.com, 703-620-0010.

1.04 SUBMITTALS

- A. Product Data: Cleaning materials manufacturers' catalog sheets, specifications, and application instructions.
- B. Quality Control Submittals:
 - 1. Cleaning Contractor's Qualifications Data:
 - a. Firm name, address, and telephone number.
 - b. Period of time firm has performed masonry cleaning work, and names and addresses of the required number of similar projects completed by the firm.
 - 2. Cleaner's Qualifications Data:
 - a. Name of each person who will be performing the Work of this Section.
 - b. Employer's name, address, and telephone number.
 - c. Names and addresses of the required number of similar projects that each person has worked on which meet the experience criteria.
 - 3. Cleaning Procedure: Proposed cleaning procedure for cleaning masonry including each step in the cleaning process, type of scaffolding, and type, size and location of equipment.

1.05 QUALITY ASSURANCE

- A. Cleaning Contractor's Qualifications: The firm performing the Work of this Section shall have been regularly engaged in masonry cleaning work for a

minimum of five years, and shall have completed 5 similar projects using the cleaning method specified.

- B. Cleaners' Qualifications: The persons cleaning the masonry and their supervisors shall be personally experienced in the required method of masonry cleaning, and shall have worked on 5 similar projects within the last 3 years.
- C. Pressure Spray Cleaning Equipment:
 - 1. Presoak pressure: 30 psi to 50 psi, with 25 deg to 50 deg fan shaped nozzle.
 - 2. Cleaning solution application pressure: 30 psi to 50 psi, with 50 deg fan shaped nozzle.
 - 3. Cleaning pressure: 200 psi to 300 psi, with a 25 deg to 50 deg fan shaped nozzle.
- D. Field Examples:
 - 1. Before the building cleaning operations are started, clean a sample panel of approximately 100 square feet of each type of masonry required to be cleaned at a location on the building directed by the Director's Representative. If the sample panel is not satisfactory, as determined by the Director's Representative, modify the cleaning procedure and clean another sample panel. Continue cleaning sample panels until satisfactory results are obtained and approved by the Director's Representative.
 - a. For cleaning procedures other than specified, but which generally follow the method(s) specified, submit proposed procedure for approval and clean additional sample panels adjacent to the above sample panels for comparison of results.
 - 2. Approved panels and procedures will become the cleaning standard for the Work of this Section.
 - 3. Cover the approved sample panels with six mil polyethylene plastic mounted on wood frames of adequate size and strength to protect the panels until the completion of the Work. The covers shall be easily removable for comparison with completed Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cleaning materials in manufacturer's packaging, with instructions for use.
- B. Store, protect, and handle cleaning materials in accordance with manufacturer's instructions.

1.07 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. Make necessary provisions for the diversion and disposal of cleaning water and solutions, including the furnishing of pumps if required. Take precautions as required to prevent damage and contamination resulting from run off of cleaning solution.
 - 2. Do not wet or wash down masonry surfaces when the temperature is below 40 degrees F or may drop below 40 degrees F within 24 hours.

- B. Existing Conditions:
 - 1. Take necessary precautions and protective measures to prevent injury to people and damage to property in areas adjacent to the Site, including damage due to wind drift of cleaning materials.
 - 2. Pumping equipment will not be allowed in or on the building.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cleaning Materials: Solutions of chemical cleaning agents and additives that will remove the dirt, grime, carbon, surface residues, stains, graffiti, and other foreign material from the masonry surfaces, but will not damage the masonry.
 - 1. Cleaning agents shall be formulated and manufactured specifically for cleaning the particular kind of masonry required to be cleaned.
- B. Water: Clean and potable.

2.02 EQUIPMENT

- A. Pressure Washer:
 - 1. Maximum allowable pressure: 300psi.
- B. Miscellaneous Equipment:
 - 1. Stiff natural bristle brush.
 - 2. Hand operated pump sprayers.
 - 3. Clean rags.
 - 4. Latex gloves.
 - 5. Rubber gloves.
 - 5. Eye protection.
 - 6. Garden hose connected to potable water source.
 - 7. Soft bristle scrub brush.
 - 8. Putty knives or paint scrapers, metal and plastic.
 - 9. Wire bush for cleaning rust bloom only.

PART 3 EXECUTION

3.01 PREPARATION

- A. Protection:
 - 1. Protect windows, doors, fixtures, air conditioners, roofing, flashings, and other adjacent surfaces not required to be cleaned from damage.
 - 2. Provide a method for containment and disposal of contaminated runoff from the cleaning operation.
 - 3. Protect landscaping, paving, and other improvements near the building from damage.
 - 4. Construct temporary sidewalk sheds at building entrances to divert cleaning materials and debris away from entrance ways and to provide sheltered access to the building.

- B. Surface Preparation:
 - 1. Remove vines, bird nests, stalactite deposits, and heavy accumulations of dirt, bird droppings and other foreign material from surfaces required to be cleaned.
 - 2. Perform this preliminary cleaning by brushing, sweeping, wiping, scraping, vacuuming, and other approved methods as required by existing conditions. Use tools that will not damage the masonry.

3.02 CLEANING MASONRY

- A. Bucket and Brush Cleaning:
 - 1. Saturate the area to be cleaned and brickwork below with water prior to applying the cleaning solution and keep wet until final rinse.
 - 2. Mix and apply cleaning solution according to manufacturer's instructions.
 - 3. Do not allow cleaning solution to dry on brickwork.
 - 4. After cleaning, thoroughly rinse the area being cleaned and the area below with water.
 - 5. Clean masonry equal in appearance to the approved sample panels.
- B. Pressure Water Cleaning:
 - 1. Determine appropriate water pressure, nozzle type and distance between wall and nozzle by trial cleaning; maintain consistently throughout clean.
 - 2. Saturate the area to be cleaned and the brickwork below with water prior to applying cleaning solution, and keep wet until final rinse.
 - 3. Apply cleaning solution according to manufacturer's instructions with low pressure sprayer, 30 to 50 psi using a 50 deg fan shaped nozzle, or by brush.
 - 4. Do not allow cleaning solution to dry on brickwork.
 - 5. Thoroughly rinse using maximum water pressure of 200 to 300 psi with a 25 deg to 50 deg fan shaped nozzle.
 - 6. Clean masonry equal in appearance to the approved sample panels.
- C. Clean masonry free of dirt, grime, soot, carbon, efflorescence, moss, stains, graffiti, tendrils, paint, masonry coatings, tar and other foreign material. Leave masonry uniformly clean and undamaged.
- D. Clean all features and appurtenances of the masonry such as sills, arches, lintels, returns, reveals, projecting courses, coping, entablature work, back of parapets and balustrades, balconies, friezes, fascias, cornices, chimneys and other features.
- E. Thoroughly rinse off the masonry surfaces with water.

3.03 CLEAN-UP

- A. Clean and restore sidewalks, paving, and lawns soiled or damaged as a result of the cleaning operations. Remove all protective materials.

END OF SECTION