MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**REINSTALL SIDEWALK, BRICK PAVERS ON CONCRETE AND SAND BED**

JAK:TPF 1 of 3 APPR:YGQ:TEB:02-14-23

**a. Description.** This work consists of removing, salvaging, and reinstalling existing brick pavers to match the proposed concrete sidewalk finished grades.  Stockpile the excess salvaged brick pavers in an area agreed upon by Engineer and the municipality. Perform this work by workers with satisfactory record of performance on completed projects of comparable size and quality. Provide references to the Engineer if requested.

**b. Materials.** Furnish materials meeting the standard specifications and this special provision. Store granular materials in a well drained area on a solid surface to prevent mixing with foreign materials. Do not use frozen materials or materials mixed or coated with ice or frost.

1. Salvaged Brick Pavers. Use only brick pavers that are salvaged from removal areas on this project. Salvaged pavers from other sources are not allowed. Salvaged pavers that are broken, chipped, stained, or otherwise damaged are not to be used.

2. Sand Bedding Layer. Use 2NS in accordance with section 902 of the Standard Specifications for Construction or blast furnace slag sand in accordance with the gradation shown in Table 1 (commercially known as 30A Blast Furnace Slag):

**Table 1: Grading Requirements for 30A Blast Furnace Slag**

|  |
| --- |
| Sieve Analysis (*ASTM C136/C136M*) Total Percent Passing |
| U.S. Sieve | 3/8" | #4 | #8 | #16 | #30 | #50 | #100 | #200 |
| % Passing | 100 | 95-100 | 70-95 | 45-75 | 25-55 | 15-35 | 0-20 | - |

3. Paver Joint Filler. Furnish joint filler, which is well graded, clean, non-plastic, and free from deleterious or foreign matter. Furnish sand that is sub-angular in shape from natural or manufactured from crushed rock.

A. Furnish stabilizing polymeric jointing sand.

(1) Blend of native sands with synthetic polymer binders.

(2) Ensure color is gray as approved by the Engineer.

(3) Install in accordance with the manufacturer’s instructions.

B. Furnish gradation for sand samples for the joints to meet gradation of *ASTM C144* as shown in Table 2.

**Table 2: Gradation for Paver Joint Filler Sand**

|  |  |  |
| --- | --- | --- |
| Sieve Size | Natural Sand Percent Passing | Manufactured Sand Percent Passing |
| No. 4 (4.75 mm) | 100 | 100 |
| No. 8 (2.36 mm) | 95 to 100 | 95 to 100 |
| No. 16 (1.18 mm) | 70 to 100 | 70 to 100 |
| No. 30 (0.600 mm) | 40 to 75 | 40 to 100 |
| No. 50 (0.300 mm) | 10 to 75 | 20 to 40 |
| No. 100 (0.150 mm) | 2 to 15 | 10 to 25 |
| No. 200 (0.075 mm) | 0 to 5 | 0 to 10 |

**c. Construction.** Restrict pedestrian and vehicular traffic in the area during installation of pavers. Do not build on frozen, wet, saturated, or muddy sub-grade. Protect partially completed paving against weather damage when work is not in progress. Remove and replace completed work damaged by frost or freezing.

1. Removing and Salvaging Brick Pavers. Do not chip, break, or otherwise damage existing brick pavers during removal. Pavers are to be stacked neatly and stored on palettes in a location specified by the Engineer. Dispose of pavers that are deemed by the Engineer to be damaged during removal upon completion of salvaging.

2. Remove brick pavers and concrete base course to the limits of the concrete sidewalk ramp construction. Remove additional brick pavers to provide a flush transition between the brick pavers and proposed concrete sidewalk.

3. Install the proposed concrete sidewalk to the finished grade adjacent to the existing concrete base course.

4. Sand Bedding Layer. Spread sand bedding layer materials evenly over the entire area to be paved, screed to a level that provides a 1-inch thickness and that allows the pavers to be flush with adjacent sidewalk after compaction. Protect completed sand bedding layer from damage until covered with paver units. Do not pre-compact sand bedding layer.

5. Pavers. Correct any unsatisfactory substrate or installation conditions prior to reinstalling any pavers. Use full pavers wherever possible. Where cutting is required, use the largest size pavers possible. Cut pavers to provide required pattern and to neatly fit adjoining work. Cut pavers with block splitter or other equipment designed to cut masonry with clean, sharp, unchipped edges. Ragged cuts will not be accepted. Cut through the full thickness of the pavers. Do not cut more than 1 inch of the 4-inch dimension of a soldier course.

Lay paver units to match the existing paver pattern on site. Set all pavers flush to existing adjacent concrete curbs and adjoining work. Pavers are to be fit and/or feathered into the existing brickwork pattern so as not to interrupt the existing paver pattern on site. Maintain uniform 1/16-inch to 1/8-inch joints between pavers.

Vibrate pavers to final grade with three or more passes of a vibrating plate compactor. After the first pass, brush joint filler material over the surface and vibrate into the joints with additional passes. Completely fill joints. After final vibrating, ensure the surface is true to grade and not vary by more than 1/4 inch when tested with a 10-foot straightedge at any location on the surface.

Remove and replace pavers that are broken, chipped, stained, or otherwise damaged.

Clean pavers during installation and upon completion of the work. Repair damage to adjacent areas resulting from paver installation operations, as directed by the Engineer.

Remove and properly dispose of all excess material and debris upon completion of paver installation. Stockpile the excess salvaged brick pavers in good condition to be salvaged in an area agreed upon by Engineer and the municipality.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

**Pay Item Pay Unit**

Brick Pavers, Rem Square Foot

Reinstall Sidewalk, Brick Pavers on Conc and Sand Bed Square Foot

1. **Brick Pavers, Rem** will be measured and paid for by the total area, based on nominal dimensions, of brick pavers removed. The contract unit price includes removing the existing pavers and underlying base material, salvaging and storing brick pavers that are determined acceptable for reuse, disposing of base material and removed pavers that are determined to be unacceptable for reuse, and coordination with the municipality for pickup of remaining unused pavers.

2. **Reinstall Sidewalk, Brick Pavers on Conc and Sand Bed** will be measured and paid for by total area of installed pavers. **Reinstall** **Sidewalk, Brick Pavers on Conc and Sand Bed** includes excavation, furnishing and placing concrete and sand bedding layer materials, installing salvaged brick pavers, joint filler, restoration of the site after construction, and disposal of unsuitable materials.