

SECTION 02655
INTERLOCKING PAVERS

02655.01 GENERAL

A. Description

Interlocking Pavers shall include, but not be necessarily limited to, furnishing and installing interlocking concrete pavers of the size, type, and pattern shown on the Plans, installed on a firm sand bed with sand joint filler true to line and grade in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Subgrade Preparation; Section 02610.
2. Aggregate Bases and Subbase Courses; Section 02621.

C. Quality Assurance

1. The Engineer will inspect all materials before and after installation to ensure compliance with the Contract Documents.
2. Pavers shall be delivered and unloaded at the job site in metal strapped cubes in such a manner that no damage occurs to the product during hauling, handling, or unloading at the job site.
3. Bedding sand shall be protected against rain when stockpiled on site.

D. Submittals

1. Submit under provisions of "General Provisions".
2. Product Data: Provide characteristics of paver unit, dimensions, and special shapes.
3. Samples: Submit two samples of each paver size, illustrating style, size, color range and surface texture of units being provided.
4. Manufacturer's Installation Instructions: Indicate substrate requirements and installation methods.
5. Certificates of Compliance: Indicate that item supplied is in accordance with requirements specified herein:
 - a. Interlocking Concrete Pavers

- b. Sand

E. References

ASTM C936 - Solid Concrete Interlocking Paving Units.

02655.02 MATERIALS

A. Materials Furnished by the County

The County will not furnish any materials for Interlocking Pavers.

B. Contractor's Options

Not Applicable.

C. Detailed Material Requirements

- 1. Pavers: Conforming to the following:

- Type: ASTM C-936, with 28 day compressive strength of 8000 psi minimum.
- Cement: ASTM C-150, White Portland Cement Type II
- Aggregates: ASTM C-33, washed, graded sand and limestone, with no expanded shale or lightweight aggregates.
- Absorption: ASTM C-140, 5 percent maximum
- Air Entrained: 5 to 7 percent
- Moisture Content: 7 percent
- Style: As indicated.
- Color: Selected from manufacturer's standard range unless otherwise specified.

- 2. Sand for Setting Bed:

- a. Clean washed river or bank sand fitting the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	100
No. 4	90-96
No. 100	10-30

- b. Sand shall be free of deleterious soluble salts or other contaminants.
 - c. Sand shall have moisture content between 6% to 7%. Sand shall be of uniform moisture content when spread.
3. Sand for Joints:
- Clean washed fine sand.

02655.03 EXECUTION

A. General

In traffic bearing areas an approved concrete base slab shall be provided as detailed on Standard Detail Plate P-20.

B. Use of Pavers on County Roadways

1. Unless an entire roadway is to be paved with pavers, use of pavers shall be restricted to intersections and may only be used to create a crossing path at an intersection. The path shall be 10 to 15 feet in width and centered on handicap ramps. Pavers shall not protrude beyond the curb line of the parallel roadway. This may require the installation of two ramps on each corner.
2. A solid paver-crossing path does not meet the requirements for a "marked crosswalk" as specified in Section 21-101 (H-1) of the Maryland Motor Vehicle Law Transportation Article. If a marked crosswalk is required, the crosswalk shall be marked with appropriate materials in accordance with Section 21-101 (H-1) of the Transportation Article. The Chief of the Traffic Engineering Division has the exclusive authority to designate marked crosswalks on County Roadways.
3. If the entire intersection is to be paved with pavers, crossing paths as specified above shall be provided in a contrasting color. As an alternative, marked crosswalks may be provided with the approval of the Chief of the Traffic Engineering Division. The intent of this provision is to prevent pedestrians from crossing diagonally through an intersection. Exceptions may be considered only at intersections of very low volume local roads (less than 200 vehicles per day per intersection).
4. Pavers shall not be used between intersections unless the entire road is paved with pavers or at mid-block crosswalks that are marked in accordance with Section 21-101 (H-1) of the Transportation Article.
5. Pavers shall not be used at any signalized intersection or at any intersection, which the Department of Public Works identified as potentially being signalized.

6. Pavers shall not be used on any major collector or higher classification roadway or any roadway, which is, or is to be, posted with a speed limit greater than 35 miles per hour.
7. Pavers placed in the vicinity of valve boxes, meters, manholes, or other utility structures shall be placed in accordance with details shown on Standard Plates P22 and P23.
8. When utility trench repair is necessary, the repair shall be done in accordance with County standards. Pavers shall be replaced in kind and installed as specified herein.

C. Base Course

1. Base course shall be level, smooth, capable of supporting pavers and imposed loads, and ready to receive work of this Section.
2. Base course shall nowhere be of lesser thickness than the depth specified.
3. The upper layer of the base course shall be sufficiently well graded and compacted to prevent migration of the bedding sand into its surface both during construction and throughout the life of the pavement.
4. Base course shall be a minimum 4" depth of CR-6 or approved equal.

D. Bedding Course

1. Spread sand evenly over prepared base course surface in a uniform layer to a thickness between 1" and 1½".
2. Care must be taken to ensure that the bedding sand is loose and is not disturbed. Any screeded sand which is pre-compacted prior to laying of pavers shall be removed and replaced to the required thickness of loose sand.

E. Interlocking Pavers

1. Pavers shall be clean and free of foreign materials before installation.
2. Paver installation shall start from a corner or straight edge and proceed forward over the undisturbed sand bedding course using the approved pattern.
3. Paving work shall be plumb, "level" and true to line and grade and shall be installed to properly coincide and align with adjacent work and elevations. All edges shall be restrained to secure the perimeter pavers and the sand-bedding course.
4. Pavers shall be installed hand tight and "level" on the undisturbed sand bedding course. String lines shall be used to hold pattern lines true.

5. Closure units shall be cut and fitted as necessary. Cutting of pavers shall be done with either a double bladed splitter or a masonry saw.

F. Compaction

1. A plate vibrator or roller vibrator shall be used to compact the pavers and to vibrate the sand into the joints between the pavers.
2. Compaction shall proceed as closely as possible following laying and prior to acceptance of any traffic. Compaction shall not be permitted within 3 feet of line of pavers then being laid.

G. Filling Joints

1. As soon as practical after compaction, and in any case prior to termination of work on that day and prior to acceptance of traffic, fine sand shall be spread over the installed paver stones and vibrated into the joints between the pavers.
2. Any remaining sand shall be swept into the joints until joints are filled flush with the top of the pavers. Excess sand shall be swept clear from the surface.
3. Sand shall be sprinkled over surface and swept into joints. Joints shall be moistened and recovered with additional sand until firm joints are achieved. Excess sand shall be removed.
4. Paver units shall be tamped and leveled with mechanical vibrator until units are firmly bedded, level, and to correct elevation and gradients. Unrestrained edges shall not be tamped.

H. Cleanup

The completed paver installation shall be cleaned and washed down.

02655.04 METHOD OF MEASUREMENT

Measurement for furnishing and installing Interlocking Pavers will be made of the area in square yards of pavers installed completed and accepted.

02655.05 BASIS OF PAYMENT

Payment will be made at the unit prices bid. The prices shall include and cover furnishing all labor, materials, tools, equipment, and materials necessary to complete the work as shown and specified, in strict accordance with the Contract Documents and, accepted by the Engineer.