

SECTION 32 12 43
POROUS FLEXIBLE PAVING

PART 1 GENERAL

1.1 SCOPE

- A. This specification shall govern the implementation, performance, material and fabrication pertaining to the GroundPro GRV porous paving system, as specified in this Section.
- B. All work is to be completed per the design requirements of the Engineer of Record and/or Architect, to meet or exceed the Manufacturer's Design and Installation Requirements.

1.2 RELATED SECTIONS

- A. Section 31 20 00 - Earth Moving.
- B. Section 33 46 00 - Sub-drainage.
- C. Section 32 10 00 - Bases, Ballasts, and Paving.
- D. Section 32 30 00 - Site Improvements.

1.3 REFERENCES

- A. ASTM: Specifications of the American Society for Testing and Materials.
- B. AASHTO: American Association of State Highway and Transportation Officials.

1.4 SYSTEM DESCRIPTION

- A. GroundPro is a porous flexible paving system, using polymeric structures filled with soil, sand or aggregate for to prevent damage to vegetation in trafficked areas.
- B. Major Components of the Complete System
 - 1. Base material
 - 2. GroundPro GRV units
 - 3. A fill material of sand or aggregate.
- 4. The base material and GroundPro GRV units function together to provide support of live loads.
- 5. The GroundPro GRV units and fill material function together to provide support and stability.

1.5 SUBMITTALS

- A. Under provisions of Section 01 30 00, a submittal of shop drawings, product data, warranty, general layout and anchoring shall be provided for review.
- B. Certificates
 - 1. Manufacturer is currently registered to ISO 9001 quality standards
 - 2. Product is manufactured of recycled polyethylene material
- C. Flexible porous paver samples for review:
 - 1. Provide a unit of the product for review.
 - 2. Sample may be retained by Owner

3. Manufacturers named as acceptable herein are not required to submit samples

1.6 QUALITY ASSURANCE

A. Materials

1. All materials, methods of construction, and workmanship shall conform to applicable requirements of ASTM and AASHTO Standards, unless otherwise specified.
2. All material shall be supplied from a single manufacturer for the entire project.
3. The quality of material and the finished components shall be subject to inspection by the Engineer. Such inspection may be made on-site upon delivery or at any point thereafter. The components shall be subject to rejection at any time if material fails to meet any of the specification requirements, even though sample components may have been accepted as satisfactory. Components rejected after delivery to the site shall be marked for identification and shall be removed from the site at once.

B. Inspection

1. All components shall be inspected for general appearance, dimensions, soundness, etc.
2. Upon completion of the placement of the flexible porous paver system (as specified), the installation shall be inspected by specifying entity or authorized representative and signed off on as acceptable and meeting project specifications.

C. Defects

1. Products with structural defects shall be immediately removed and replaced with acceptable parts. The Specifying Engineer, before final acceptance, shall carefully inspect repairs/replacements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Components shall be unloaded, handled and stored in an area protected from traffic and in a manner to prevent damage.
- B. If stored for an extended period, additional measures should be taken to prevent UV and weathering damage.
- C. Stored components should be checked at least once a week. A check of the stored area should be done to make any minor repairs to the cover or to restack any components that could have fallen.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. The product shall be manufactured by Brentwood Industries, Inc. 500 Spring Ridge Drive, Reading, PA 19610 (610-374-5109), Email: info@stormtank.com, Website: www.stormtank.com

2.2 GROUNDPRO GRV FLEXIBLE POROUS PAVER UNITS

- A. The polymeric flexible porous paver units indicated on the construction plans, capable of withstanding, at a minimum, a live load consisting of the design truck (HS-20).
- B. Injection molded panels of 100% recycled polyethylene with a UV stabilizer.
 1. Manufactured in rows of support structure that are molded together to form a singular molded panel.
 2. These rows are bypassing (no continual straight line can be drawn between rows) to ensure continuous

contact between any traffic and the paver surface.

3. Paver color: Black
4. Weight per paver, approximately 4.6 lbs. [2.09 kg]
5. Spunbound fabric backing:
 - a. Weight: 3.0 oz/yd²
 - b. Color: Grey
 - c. Material: Polyester
- C. Connectors:
 1. 16 male and 16 female snap fit connections per panel, with two sides being male connectors and two sides being female connectors.
 2. Connectors are offset between rows and not molded in a singular straight row.
 3. Rolls are constructed by snapping panels together end to end, while rolls are connected to one another by snapping rolls together side by side.
- D. Rolls:
 1. Rolls are manufactured in single unit widths
 2. Rolls are manufactured in ten-unit lengths.

2.3 AGGREGATE OR SAND FILL MATEIRAL

- A. Aggregate: Fill shall be 1" (25 mm) to fill the GravelPro GRV unit and extend not more than 1/4" (6 mm) above the unit. Aggregate shall be angular and sized from 3/16" to 3/8" (5 mm to 10 mm).
- B. Sand: Fill shall be 1" (25 mm) to fill the GravelPro GRV unit and extend not more than 1/4" (6 mm) above the unit. Aggregate shall be course and angular.

PART 3 EXECUTION

3.1 GENERAL CONDITIONS

- A. Review manufacturer's installation procedures and coordinate installation with other work affected, such as grading, excavation, utilities, construction access, erosion control, etc. The following is a basic understanding of the execution process and does not constitute all the necessary minimum requirements.
- B. Cold weather installation or assembly should not be undertaken when temperatures are below 40° F [4.44° C]. Frozen, wet or muddy areas should be avoided and allowed to dry before installation.

3.2 INSPECTION

- A. Examine subgrade and base course installed conditions. If found unsatisfactory, contact the Engineer and/or Architect. Do not start porous paving installation until unsatisfactory conditions are corrected.
- B. For fire lane installations: prior to installing base course for turf paving, obtain approval of local fire authorities of sub-base.

3.3 PREPARATION

- A. Subgrade Preparation:
 - 1. Excavate area allowing for the specified base material and an additional 1.25 inch [31.75 mm].
 - 2. Prepare subgrade for proper support of flexible paver surface, preventing issues like settling or material migration. Clear the base of objects such as rocks, wood, etc.
- B. Base Material:
 - 1. Install material in accordance with prepared plans and manufacturer's installation guidelines.
 - a. If required, place a separation layer of geotextile before placing the base material.
 - b. In low permeability soils, provide adequate drainage to prevent pooling of water in the base material or flexible paver units.
 - c. Place base materials in lifts not to exceed 6.00" [152.40 mm], compacting each lift separately to 95 percent Modified Proctor.
 - 2. Leave 1.25" [31.75 mm] of depth below final grade for unit and fill.

3.4 FLEXIBLE PAVER INSTALLATION

- A. Refer to the Manufacturer's requirements and information as shown on the engineer's plans.
- B. Begin by placing the pavers face up and connecting pavers via the male/female connectors between units.
 - 1. Be sure to leave a minimum 1.00" [25.4 mm] perimeter gap between the pavers and any objects or finished surfaces.
 - 2. Be sure to anchor units as necessary to prevent slip or curling during materials placement
- C. Anchor GravelPro GRV units to the base material. Typical anchors shall be 8" long nail with washer, u-shaped landscape staples, or other products capable of securing the material. All products shall be capable of resisting corrosion or rust.
- D. Place fill into flexible pervious pavers in sections, ensuring no access on unfilled sections.
 - 1. Slightly overfill pavers with an aggregate mixture, to allow material to settle into the paver.
 - a. Aggregate mixture shall be either a 3/16" (4.763 mm) to 3/8" (9.525 mm) aggregate, a course sand or a mixture of the two materials.
 - b. Pavers should not be directly drive on without material filling the paver.
 - 2. Utilizing a vibratory plate tamper, settle the material within the product.
 - 3. Place a secondary layer of the aggregate mixture to fill the paver units and provide a maximum 1/4" (6.35 mm) of material over the paver product.

3.5 MAINTENANCE

- A. Inspection of the fill material should occur at regular intervals. Occasionally, additional fill may be required because of slight fill loss or transportation. In these situations, onsite material may require being respreads or additional material placed.
- B. Snow removal is possible, though the blade should be kept a minimum of 1" [25.40 mm] off the units by using skids on the corners of the blade or by raising the blade. A flexible rubber blade edge is another alternative.

END OF SECTION