



# Eco-Rain TURF PAVERS

## Technical Specification – Eco-Rain Turf Pavers Porous Paving

Reinforced, Stabilized and Porous Turf Surfaces

### **PART 1 – GENERAL**

#### **1.01 General Provisions**

A. The Conditions of the Contract and all sections of related drawings are hereby made a part of this Section.

#### **1.02 Description of Work**

A. Work Included:

1. Provide and install sandy gravel road base as per Geotechnical Engineer's recommendations and/or as shown on drawings, to provide adequate support for project designs loads. See 2.02 Materials.
2. Provide Eco-Rain Turf Pavers paving products including Eco-Rain Turf Pavers units, anchors and installation per the manufacturer's instructions furnished under this section.
3. Provide and install fine clean, sharp sand to fill the Eco-Rain Turf Pavers units.
4. Provide and install grass by either using hydro seed method or sod.

B. Related Work:

1. Sub-grade preparation
2. Subsurface drainage materials

#### **1.03 Quality Assurance**

A. Installation: Performed only by skilled work people with satisfactory record of performance on landscaping or paving projects of comparable size and quality.

#### **1.04 Submittals**

- A. Submit manufacturer's product data and installation instructions.
- B. Submit a 12" X 19.6" section of Eco-Rain Turf Pavers product for review. Reviewed and accepted samples will be returned to the Contractor.
- C. Submit material certificates for base course and sand fill materials.

#### **1.05 Delivery, Storage, and Handling**

A. Protect Eco-Rain Turf Pavers material units from damage during delivery and store under tarp when time from delivery to installation exceeds one week.



**1.06 Project Conditions**

- A. Review installation procedures and coordinate Eco-Rain Turf Pavers work with other work affected.
- B. All hard surface paving adjacent to Eco-Rain Turf Pavers areas, including concrete walks and asphalt paving, must be completed prior to installation of Eco-Rain Turf Pavers.
- C. Cold weather:
  - 1. Do not use frozen materials or materials mixed or coated with ice or frost.
  - 2. Do not build on frozen work or wet, saturated or muddy sub-grade.
- D. Protect partially completed paving against damage from other construction traffic when work is in progress.
- E. Protect adjacent work from damage during Eco-Rain Turf Pavers installation.

**PART 2 - PRODUCTS**

**2.01 Manufacturer:**

Eco-Rain Tank Systems of America, Inc.  
 12400 Ventura Blvd # 167  
 Studio City, CA 91604  
 Phone: + 1.818.501.0424  
 Email: [contact@ecoraintank.com](mailto:contact@ecoraintank.com)  
 Web: [www.ecoraintank.com](http://www.ecoraintank.com)

**2.02 Materials**

**A.** Base Course: Sandy gravel material from local sources commonly used for road-base construction, passing the following sieve analysis:

<u>% Passing</u>	<u>Sieve Size</u>
100	3/4"
85	3/8"
60	# 4
30	# 40
<3	#200

- 1. Sources of the material can include either "pit run" or "crusher run". Crusher run material will generally require sharp sand to be added to mixture (25 to 35% by volume) to ensure long-term porosity.
- 2. Alternative materials such as crushed shell, lime rock, and/or crushed lava may be considered for base course use, provided they are mixed with sharp sand (25 - 35%) to ensure long-term porosity, and are brought to proper compaction.  
*(Crushed shell and lime rock alone can set up like concrete unless sand is added.)*

**B.** Eco-Rain Turf Pavers: Interlocking, lightweight injection molded plastic units 2" x 12" x 19.6" (50x300x500mm) with hollow open spaces and square pattern, rising from a strong open grid. Pavers are supplied in 48" x 45" panels (eight pieces). Loading capability is equal to 7,395 psi (5,201 t/m<sup>2</sup>) when filled with



sand, over appropriate depth of road base. Standard color is black, unit weight = 13.48 lbs/yd<sup>2</sup>, volume = 5% solid.

C. Eco-Rain 1" Drainage Cells: Interlocking, lightweight injection molded plastic units 1" x 19.7" x 23.6" (25x500x600mm) with hollow open spaces and square pattern, rising from a strong open grid used as the under-drain. Cells are supplied in 47" x 39" panels (four pieces). Compressive Strength/Ultimate Load is 306.80 psi (205.56 t/m<sup>2</sup>).

D. Fill: Obtain clean, sharp, washed sand to fill the 2" (50 mm) high open spaces of the Eco-Rain Turf Pavers. Allow top .5" (13mm) for sod if not using hydro seed.

E. Turf: Use plant species resistant to wear by traffic as specified by designer. If using hydro seed, use mulch as specified by designer.

### **PART 3 - EXECUTION**

#### **3.01 Inspection**

- A. Examine sub-grade and base course installed conditions. Do not start Eco-Rain Turf Pavers installation until unsatisfactory conditions are corrected. Check for poor drainage, improperly compacted trenches, debris, and improper gradients.
- B. It is recommended that the fire department is notified and that their inspector is present for inspection during the installation.
- C. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance. If existing conditions are found unsatisfactory, contact Project Manager for resolution.

#### **3.02 Preparation**

A. Ensure that sub-base materials are structurally adequate to receive designed base course, wearing course, and designed loads. Generally, excavation into undisturbed normal strength soils will not require additional modification. Fill soils and otherwise structurally weak soils may require modifications, such as geotextile, geogrid, and/or compaction (not to exceed 90%). Ensure that grading and soil porosity of the sub-base will provide adequate subsurface drainage. Create sub-base fall to drain or cistern. A 12" to 18" depth of excavation is recommended, designer specifications prevail.

B. Lay specified geotextile in the excavation, place the Eco-Rain 1" (25mm) Drainage Cell over the geotextile. Lay and secure specified geotextile blanket over the top of the Eco-Rain 1" Drainage Cells.

C. Place base course material over prepared Eco-Rain 1" Drainage Cells to grades shown on plans, in lifts not to exceed 6" (150 mm), compacting each lift separately to 95% Modified Proctor. Spread 6" (150mm) soil mixture of 60% sand/40% loam or designer's soil mixture and compact with water. Leave 2" (50 mm) for Eco-Rain Turf Pavers to final grade.



### 3.03 Installation of Eco-Rain Turf Pavers Units:

A. Install the Eco-Rain Turf Pavers units by placing units with small male/female connectors provided along each edge to maintain proper spacing and interlock the units. Cutting can be performed with pruning shears, knife, or portable power saw. *The clipping system must be solid to create a grid like uniform structure for proper long-term structural performance; peg like clipping is not acceptable for long-term structural integrity.* The plastic shall be 100% post-consumer recycled plastic resins, predominately polypropylene, with minimum 3% carbon black concentrate added for UV protection.

B. Install 60% sand/40% loam or designer's soil mixture into open spaces of the Turf Pavers octagon patterns after the units are laid and clipped, by "back-dumping" directly from a dump truck, or from buckets mounted on tractors. Avoid driving and sharp turning of vehicles on bare open spaces of the Eco-Rain Turf Pavers.

Spread soil mixture laterally from the pile using power brooms, blades, flat bottomed shovels and/or wide "asphalt rakes" to fill the open spaces of the cell. A stiff bristled broom should be used for final "finishing". Compact soil mixture by using water from a hose; finish grade no more than the top of the open spaces of the Eco-Rain Turf Paver.

C. Either:

1. Apply grass seed and mulch via hydro seeding method.  
or
2. Install sod directly over top of the Eco-Rain Turf Pavers.

D. Fertilize and water per designer's specifications.

E. Protect from any traffic, other than emergency vehicles, for 4 to 6 weeks, or until the turf root system has penetrated below the Eco-Rain Turf Pavers units.

### 3.04 Cleaning

A. Perform cleaning during the installation of work and upon completion of the work. Remove all excess materials, debris, and equipment from site. Repair any damage to adjacent materials and surfaces resulting from installation of this work.

### END OF SECTION

If you have any questions regarding this specification, please call:

**Manufacturer:** Eco-Rain Tank Systems of America Inc.  
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Studio City, CA 91604  
Phone: + 1.818.501.0424  
Email: [contact@ecoraintank.com](mailto:contact@ecoraintank.com)  
Web: [www.ecoraintank.com](http://www.ecoraintank.com)