



The Basics of a Permeable Pavement

Think that concrete and pavement can't be compatible with nature and a healthy environment? Think again! Developers and individuals around the globe are beginning to use permeable pavers and pervious pavement as a more eco-friendly alternative to cement.

One of the major problems with cement is that stormwater runoff and rain is unable to filter back into the ground. As a result, the water runs over paved surfaces, picks up pollutants such as oil, trash and sediment, then flows into the ocean. Permeable pavers can create a functional parking area while leaving spaces where rain and runoff can filter back into the ground. As water filters

through the gravel and sand underneath the surface, pollutants are filtered out, and water is cleaned before emptying into groundwater aquifers or the ocean.

There are many varieties of permeable pavement—one can purchase pre-fabricated pavers, or use CPU blocks to create a slightly-cheaper permeable lot. Also available are numerous types of pervious pavement, a surface without holes for vegetation or gravel that still allows water to infiltrate through.

Retrofitting existing areas of concrete pavement, and installing only permeable parking area on new developments can help to greatly improve water quality in our near-shore water of the CNMI.



Photo 1: Permeable parking area at the Grotto, Saipan.

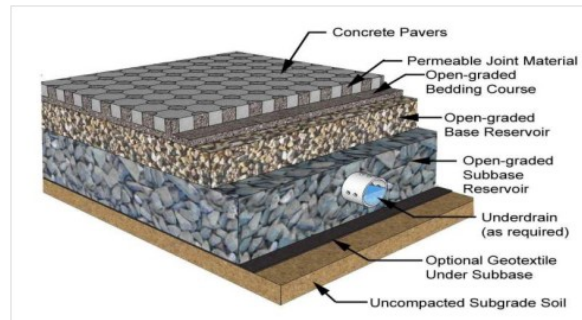


Figure 1: Typical cross-section of a permeable pavement lot

What Can Permeable Pavers Do for Saipan?

- Reduce stormwater volume and prevent localized flooding
- Keep contaminants such as sediment, oil and nutrients from reaching near-shore marine waters
- Ensure sufficient ground-water recharge into our aquifers

Simple Maintenance Instructions

Properly maintaining a permeable parking lot can be quite simple. Though maintenance requirements vary depending on the type of paver used and whether spaces between

pavers contain gravel or vegetation, there are a few simple things one can do to ensure that runoff continues to infiltrate through the parking lot.

For more detailed information on permeable pavement, check contact Coastal Resources Management at 664-8300.

Table 1. Maintenance Inspection Guidelines for Permeable Pavement Systems	
Regular Maintenance Activity	
Mow grass paver periodically to prevent overgrowth of vegetation	
Annual Inspection Activity	Action
Inspect surface for signs of surface clogging.	Schedule a vacuum sweeper (no brooms or water spray) to remove deposited material.
Inspect the structural integrity of the pavement.	Replace or repair affected areas, as necessary.
Check inlets, pretreatment and flow diversion for sediment buildup and structural damage.	Remove sediment or repair affected areas.
Inspect contributing drainage area (CDA) for any controllable sources of sediment or erosion.	Stabilize CDA.
Measure drawdown rate in observation well after storms > 0.5 in.	Standing water after 3 days = clogging problem. Replace or repair affected areas

Table 1 courtesy of Island Stormwater Practice Design Specifications: A Supplement to the 2006 CNMI and Guam Stormwater Design Manual, Center for Watershed Protection and Horsley Witten Group, 2010.