

Simulated pavers
on Kissing Alley
in San Marcos, TX

Permeable Pavement

When It Rains It Drains



Permeable Pavers



Existing Structure

Permeable pavement must be isolated from building foundations by using impermeable liners or concrete ribbon on the sides.



Media Layer

Permeable interlocking concrete pavers consist of a paver layer with small stone fill between the joints, an underlying stone aggregate reservoir layer and an underdrain system if over clay soils. In general, the open graded sub-base is designed to have a 35-40% void space and depth of at least 6 inches.



Underdrain System

Below the media (aggregate stone) layers, an underdrain system routes infiltrated stormwater to either storage for irrigation and reuse, or to the storm drain system, surface conveyance or another storm water treatment practice. Infiltration is preferred with no underdrain.



Soil Type

Minimize compaction during construction. Determine site-specific permeability; it is ideal to have well-drained soils. Clay soils usually require underdrain piping.

Background

Permeable pavement is a type of outdoor hard surfacing that allows rain and runoff to seep into the ground and to be treated naturally rather than flow untreated to our creeks and rivers.

A wide variety of permeable pavement types are available that offer a range of utility, strength, and permeability and can be used on street parking, sidewalks, parking lots, and driveways.

Permeable pavement is an alternative to conventional concrete and asphalt paving and can help enhance design aesthetics, reduce heat, promote tree growth, clean stormwater, and reduce run-off.

Site Assessment

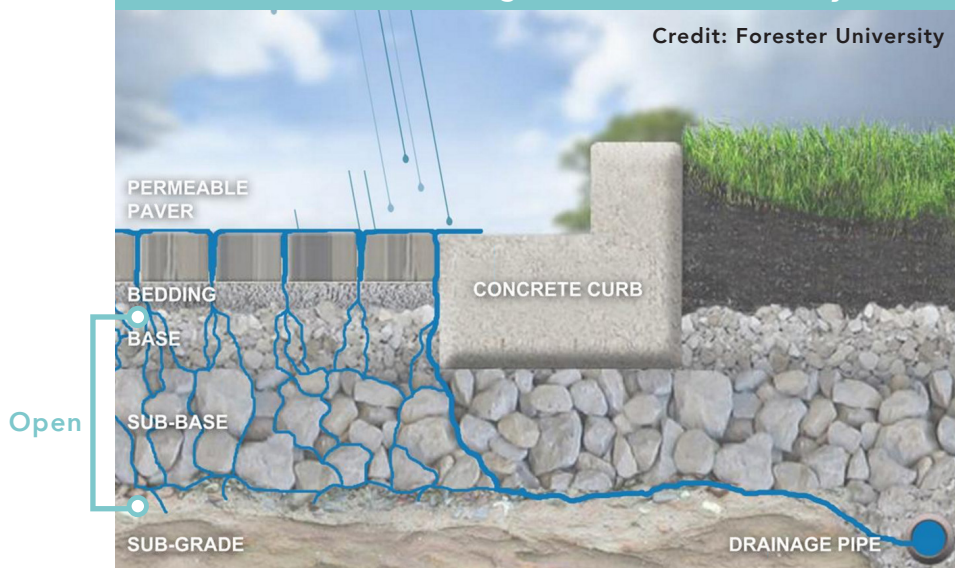
The use of permeable pavement is encouraged for sites such as parking lots, on-street parking, driveways, rights-of-way, and sidewalks.

Permeable pavement must be designed to support the maximum anticipated traffic load and capture the design storm. By varying the thickness of the open base and open sub-base, both goals can be easily accomplished. The Interlocking Concrete Paving Institute (ICPI) has models to design for both criteria.

For designs that encourage infiltration, sub-grade soils should infiltrate water at a minimum 1/2 inch per hour.

Rain Water Drains Through Permeable Paver Systems

Credit: Forester University



Permeable Pavement is Effective for Removing:

- Sediment (80% TSS Removal)
- Trash
- Oil and Grease
- Metals
- Bacteria

Asphalt

vs.

Pavers

Crack repair, sink areas rebuild, pothole repair, mill and overlay (repave.) Biannual coating with asphalt sealer.



Once a year sweeping with a regenerative air sweeper, replacement of rock filler media between pavers grass and weed removal (non-chemical methods.)

Installation requires a compact base material topped by asphalt containing oil and carcinogenic compounds.



ICPI Certified Installer Preferred. Several in Central Texas. Quality Assurance inspections throughout construction.

30 years.
Rain water infiltration and moisture causes sinking and potholes and reduces lifespan.



30 years.
Rain water infiltration encouraged. Bricks reusable, reduced storm drain pipe infrastructure needed.

Install \$3.00/ft² Annual maintenance—unknown, many costs to consider (see above.)



\$13.00/ft² for hand laid (small jobs) \$7.00/ft² for machine laid (larger jobs) Annual maintenance \$500/yr sweeper.

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