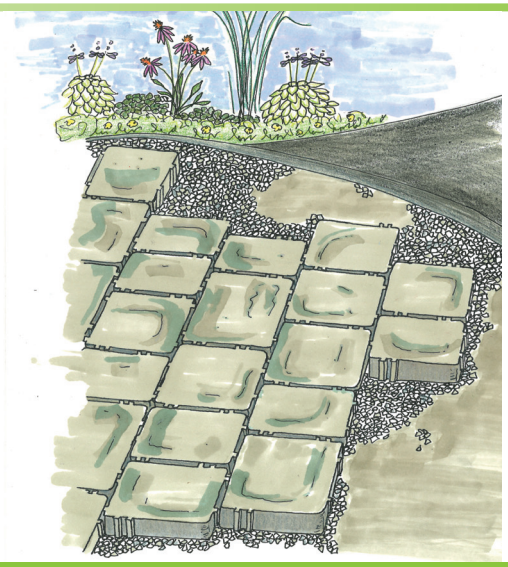
Pervious Walkways & Patios

Pervious pavers look like traditional pavers, but are able to absorb and store rain and snowmelt to reduce runoff from your property.



Sizing and Design

STEP 1. **Identify installation area.** Determine the areas where you will be installing pervious pavers.

Pervious pavers are best for areas with slopes of less than 2%. There should be a minimum of 2' between the bottom of the gravel base and bedrock or the water table.

STEP 2. **Infiltration test.** Perform a simple perc test to determine the ability of the soil to infiltrate water (allow it to soak in and drain through the soil). Pervious pavers should only be installed on soils that will drain within 24 hours. To conduct a simple perc test, use the following steps.

EQUIPMENT & MATERIALS

- Measuring tape
- Shovel
- Rake
- Broom
- $1^1/_2$" crushed stone
- $^3/_8$" pea stone
- Non-woven geotextile fabric
- Tamper or roller
- Pervious pavers
- Level

a. Using a shovel or a post hole digger, dig a 1-foot deep hole.

b. Fill the hole with water and allow it to drain completely (NOTE: if the hole fills with water on its own or if water is still in the hole after 24 hours, choose a new location).

c. Fill the hole with water a second time and place a ruler or yard stick in the hole. Note the water level and time. After 15 minutes, check the water level again and note the new water level. Multiply the change in water level by 4 to get the number of inches of infiltration in an hour. If the hole infiltrates at least 1/2" of water per hour, it is suitable for pervious pavers.

TIP: Pervious pavers come with manufacturer instructions for the type and depth of sub-base material. If the information in this fact sheet differs from the manufacturer's instructions, follow the manufacturer's instructions.

STEP 3. **Determine materials needed.**

a. Calculate the area of the new or existing walkway or patio that you will be installing with pervious pavers by multiplying the length (in feet) and width (in feet) of the area to be paved.

   If the area you are paving is not a simple square or rectangle, sketch the area where the pavers will be installed on a piece of paper, write down the corresponding measurements, and bring it to your local landscape supply yard or store where you will be purchasing the pavers. They will be able to help you determine how many pavers you need.

b. Sub-base materials (Figure 1) are the gravel and pea stone layers that go under the pavers. These materials provides a reservoir for stormwater before it soaks into the ground underneath. You should have a minimum depth of 12" of $1^{1}/_{2}$" diameter crushed stone and 6" of $^{3}/_{8}$" pea stone for your sub-base. Use the following equations to determine the amount of sub-base materials you will need (multiplying by 0.037 converts cubic feet to cubic yards):

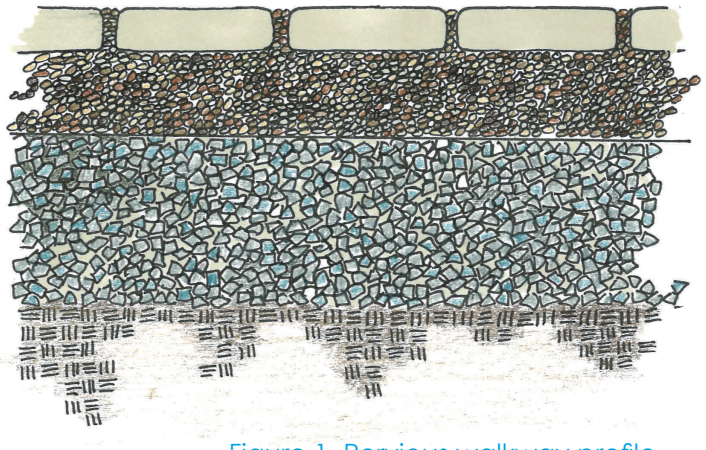


Figure 1. Pervious walkway profile.

CRUSHED STONE: PAVEMENT AREA (ft^2) x 1ft x 0.037 = YARDS

PEA STONE: PAVEMENT AREA (ft^2) x 0.5ft x 0.037 = YARDS

Installation

STEP 1. **Prepare the Installation Site.** Remove any existing walkway or patio material. This may require renting a jackhammer or other equipment such as a backhoe. Mark the location of the walkway or patio with either landscaping paint or a string line on either side.

STEP 2. **Excavate.** Excavate the site approximately 20" deep, depending on the type of paver you're using. Smooth the area you've excavated with a rake.

STEP 3. **Lay the Sub-base Material and Pavers**.

a. Spread the crushed gravel over the excavated dirt. The depth of the gravel should be 12" or per manufacturer's instructions. Compact with a roller or tamper.

b. Check paver manufacturers instructions for use of non-woven geotextile fabric over the crushed gravel.

c. Spread the pea stone over the fabric, if using. The depth of the pea stone should be 6" or per manufacturer's instructions. Compact with a roller or tamper. Level the surface to make the pavers easier to install.

d. Install the pavers on top of the pea stone and use a level to make sure they are installed uniformly. Most pervious pavers have tabs on the edges to create proper spacing between them.

e. Once the pavers are installed, spread more pea stone over the top and use a push broom to work the pea stone into the space between the pavers.

Maintenance

INSPECT: Seasonally and after large storms, look for signs of clogging such as ponding at the surface or accumulated sediment.

CLEAN OUT: If clogging occurs, remove and wash or replace pea stone and fabric. Remove any vegetation growing on the steps if not included in the design. Refer to manufacturers instructions for pressure washing or vacuuming.

Design Reference

Low Impact Development Center. Permeable Paver Specification. 1995.

NH Department of Environmental Services. Permeable Pavement Demonstration Brochure. 2010.