

## NH Department of Environmental Services Pervious Pavement Demonstration Site

A cooperative project of the NH Department of Environmental Services and the NH Rivers Council, this demonstration provides an example of three different types of pervious pavements in walkways and parking spots at the entrance to NHDES at 29 Hazen Drive in Concord, NH.

### For more information contact:

- NHDES  
[www.des.nh.gov](http://www.des.nh.gov)
- NH Rivers Council  
[www.nhrivers.org](http://www.nhrivers.org)
- UNH -Stormwater Center  
[www.unh.edu/erg/cstev](http://www.unh.edu/erg/cstev)

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- The McIninch Foundation
- Funds from the sale of the Conservation License Plate (Moose Plate) through the NH State Conservation Committee grant Program.
- Nicolock Hardscape Products  
[www.nicolock.com](http://www.nicolock.com)
- Northern New England Concrete Promotion Association  
[www.nnecpa.org](http://www.nnecpa.org)
- Pike Industries  
[www.pikeindustries.com](http://www.pikeindustries.com)
- Bernard Concrete Finishing, Inc.  
603-330-0076
- Redimix Companies, Inc.  
[www.redimixcompanies.com](http://www.redimixcompanies.com)
- The Dirt Doctors  
[www.dirtdoctorsnh.com/home](http://www.dirtdoctorsnh.com/home)
- Concord Sand and Gravel  
603-224-2146
- New Hampshire Department of Transportation  
[www.nh.gov/dot](http://www.nh.gov/dot)

# Pervious Pavement

## An Innovative Technology to Control Stormwater

### Stormwater is the greatest source of water pollution in the nation.

Stormwater runoff from impervious surfaces such as parking lots, roads and buildings, carries pollutants into storm drains and then to the streams, rivers and lakes that we use for drinking, swimming, and boating.

### Pervious pavement is one technique that can help control stormwater.

It can reduce flooding and stream erosion during rain events, replenish groundwater, and reduces the flow of pollutants into surface waters.



### How Pervious Pavement Works

- Open spaces in the pavement allow rain and snowmelt to flow through the material.
- Layers of crushed stone, sand, and native soils provide storage and treatment of stormwater before it replenishes groundwater supplies.



### The Benefits of Pervious Pavement

#### Water Quality and Temperature

Pollutants entering surface waters (e.g. phosphorous, zinc, suspended solids and petroleum hydrocarbons) are dramatically reduced. Stormwater can reach 120 degrees. Temperature is decreased as water passes through layers.

#### Water Quantity

Reducing stormwater flow by infiltrating helps control flooding. Infiltration of water maintains river and stream levels.

#### Life Span

Porous pavement works in northeast winters. Reduced freeze/thaw improves the life span and reduces repairs.

#### Application

Pervious pavement may not work well in all situations. Consult with certified installers and/or engineers to determine its applicability to your situation.



### Frequently Asked Questions

**Q:** Does pervious pavement cost a lot more than traditional pavement?

**A:** Cost comparisons vary depending on the type of pavement and the size of the project. Comparison studies show that the reduced need for drainage infrastructure can offset the cost of pervious materials.

**Q:** Is pervious pavement more slippery than traditional pavement?

**A:** No, pervious pavement is developed to have higher friction than traditional pavement.

**Q:** Can pervious pavement be plowed and salted?

**A:** Yes, however salt brine solutions are recommended over road salt application and in some cases salt use can be safely reduced or eliminated.

**Q:** Does pervious pavement heave and shift more than traditional pavements?

**A:** No, heaving and shifting is reduced compared to traditional pavement.

**Q:** Does pervious pavement have a lower life span than traditional pavement?

**A:** No, life span is increased due to reduced freeze-thaw.

Advances and new information in pervious pavement technologies are constantly being developed. Please be sure to visit the UNH Stormwater Center website [www.unh.edu/erg/cstev](http://www.unh.edu/erg/cstev) for the latest information.

# Typical Pervious Pavement Sidewalk & Parking Lot Installation

## 1. Excavation

The ground under the new pavement area should be dug deep enough to accommodate the sub-base material and the depth of the pavement. For example, a sidewalk with 12 inches of sub-base and 4 inch thick pavers should dig down 16 inches or a parking lot that has a 24 inch sub-base and 4 inches of asphalt should dig down 28 inches.

### Typical Sidewalk Excavation



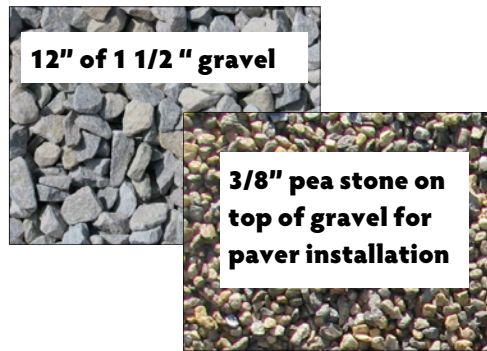
### Typical Parking Lot Excavation



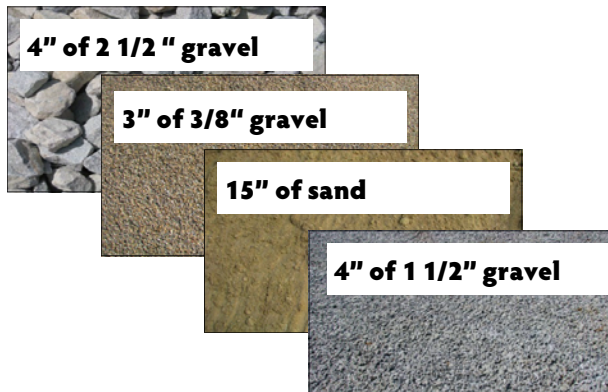
## 2. Sub-base

Sub-base is the layer of material under the pavement surface. Pervious pavement needs a sub-base to allow water to flow into the ground. The depth and type of sub-base depends on the project size and the pavement material being used and any regulatory requirements that apply to your project.

### Typical Sidewalk Sub-base



### Typical Parking Lot Sub-base



## 3. Pavement



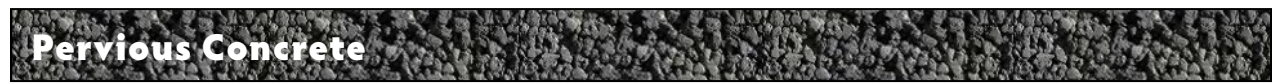
Pavers are installed by hand in small projects; mechanical installation is possible in large projects.



**Typical Use:** Sidewalks, driveways, patios, parking lots.

**Considerations:**

- Installation in small projects is done by hand, affecting the cost.
- Colors and designs are possible.
- Installation and repairs can be done by homeowners.
- Pavers have a very long life span.



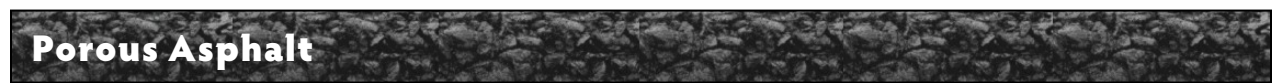
Concrete is applied in small quantities at a time as it is not as fluid as regular concrete.



**Typical Use:** Driveways, sidewalks, parking lots, residential streets.

**Considerations:**

- Installer must have experience with pervious concrete and its specifications.
- Concrete must set for a week before it can accept traffic.
- Concrete can be colored.
- Its life span may be affected by salting.



Asphalt is applied with a paving machine and crew.



**Typical Use:** Driveways, sidewalks, parking lots, residential streets.

**Considerations:**

- Installer must have experience with porous asphalt and its specifications.
- It may be difficult to find an installer for small projects.
- Initial costs may be more than standard asphalt, but maintenance should be less.
- Its lifespan is longer than standard asphalt.