

# Permeable Interlocking Concrete Pavers

## Maintenance Guide



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# Introduction

- Permeable interlocking concrete pavers (PICP) are a proven method for reducing stormwater runoff while supporting pedestrian and vehicular traffic. Many research projects by universities, and government stormwater agencies have demonstrated significant runoff, and pollutant reductions along with cost-saving benefit.
- Like all stormwater control measures PICP require maintenance. Similar to an air conditioning filter, sediment is trapped on the surface of the PICP. The jointing stone initially traps the large and small particles while allowing infiltration of the water. As time goes on the particles begin to increase in the jointing stone causing decreased infiltration, which results in surface ponding following rain. Fig. 1 Just as you complete regular maintenance on your vehicle to extend the life, and curtail expensive repairs it is important to do the same for your PICP.
- The required remedial maintenance frequency will vary by PICP site. Infiltration declines depend on traffic, PICP area vs. runoff area, adjacent vegetation, and soil erosion.



Figure 1 Surface ponding due to sediment build up.

# Inspection Assessment/ Intervals

Inspection intervals will be different for each site and should be reviewed individually. However, an annual inspection is recommended for all PICP surfaces. A visual inspection is typically sufficient to determine condition of the PICP site. The visual inspection can be conducted by you, or Hickory Hardscapes can perform the visual inspection at your request. In some cases a surface infiltration test may need to be performed to determine the flow rate of the PICP.

Visual inspections can identify most issues with PICP surfaces. Inspections should be conducted prior to and just after a rainfall. Things to look for during inspection prior to a rainfall. Sediment crusted joints, weed growth within joints, soil erosion run off, and insufficient jointing stone. Fig. 2

-**Sediment crusted joints** indicate insufficient removal of loose debris (e.g. leaves, mulch, grass clippings etc.). This can sometimes be removed with a bristle broom, but may require vacuuming.

-**Growing weeds** indicate the sediment has infiltrated the jointing stone from loose debris, and/or soil erosion which require remedial maintenance the removal of existing joint stone/sediment and replacing with clean joint stone.

-**Soil erosion run off** indicates an area surrounding the PICP site that allows soil to be deposited during rainfall. This will in most cases require the removal of the joint stone in the affected area and replacing with clean stone to regain proper infiltration.

-**Insufficient Jointing Stone** can create multiple issues with your PICP site. This includes shifting pavers, damaged pavers, surface depressions, sediment infiltrating/clogging secondary drainage. These issues can result in expensive repair cost to the PICP site.

-**Surface Settlement, depressions, ruts**

During and immediately after a rainfall conduct a visual inspection to identify water ponding on your PICP. Ponding indicates a reduction of water infiltration.

Remedial maintenance is suggested if any of the issues listed above exist.

# Inspection Assessment/ Intervals

Fig. 2



Sediment Crusted Joints



Weed Growth within joints



Soil erosion



Insufficient joint stone



Depression, Rut

# Maintenance for Supporting Surface Infiltration.

Use a broom or leaf blower to remove loose debris from the top of the PICP. Be careful not to point leaf blower directly at PICP as this will result in removing the joint stone along with debris.

Use tarps on PICP surface when stockpiling mulch, topsoil, or any other landscaping material.

Be aware of deposits on areas of the PICP due to soil erosion. Any surrounding areas where soil erosion is occurring should be addressed, as the deposits from this erosion will require removal, and replacement of all jointing stone affected. Soil erosion is a major source of PICP clogging.

Standard snow removal equipment for impervious pavers can be used on PICP. Use of plastic or rubber tipped blades are not required. However, metal blades can potentially scratch or abrade the pavers. Plowed snow should not be piled on pavers because winter sediment deposits can accelerate clogging.

If deicing is necessary use sodium chloride (rock salt) without sand. If temperatures fall below 14 degrees fahrenheit, calcium chloride may be used in moderation. Never use magnesium chloride or materials containing ammonia nitrate and ammonia sulfate.

# Maintenance for Supporting Surface Infiltration.

Maintain PICP joints with stone. Joint stone should be maintained at minimum ½ inch below top of paver. Filled joints facilitate the removal of sediment from the paving system, and prevents potential shifting of pavers. This will also prolong the time between remedial cleaning and/or paver replacement resulting in cost savings. Fig. 3

Unlike other pavers PICP does not use sand to fill joints, but uses jointing stone. Sand and other joint fillers allow very little water infiltration.



Figure 3 PICP joints properly filled

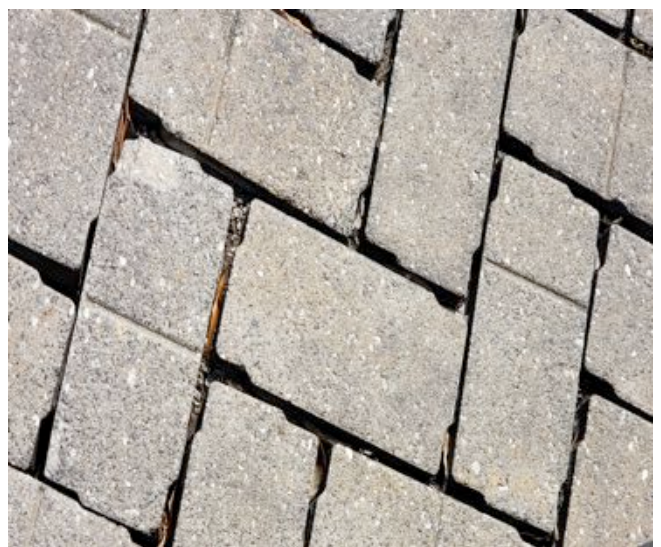


Figure 3 Shifting pavers, and sediment filled joints due to insufficient jointing stone.



Hickory Hardscapes offers all your PICP maintenance needs.

- Site Inspections
- Flow Rate Testing
- Removal of Loose Debris from Pavers and Jointing Stone
- Remedial Maintenance (Clearing of Clogged Joints)
- Replenish Joint Stone
- Repair Depressions, Replace Broken Pavers
- Traffic Control





Hickory Hardscapes is the leader in PICP maintenance. We have the right equipment and professionals to do a complete and thorough job.

Estimates upon request.

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