

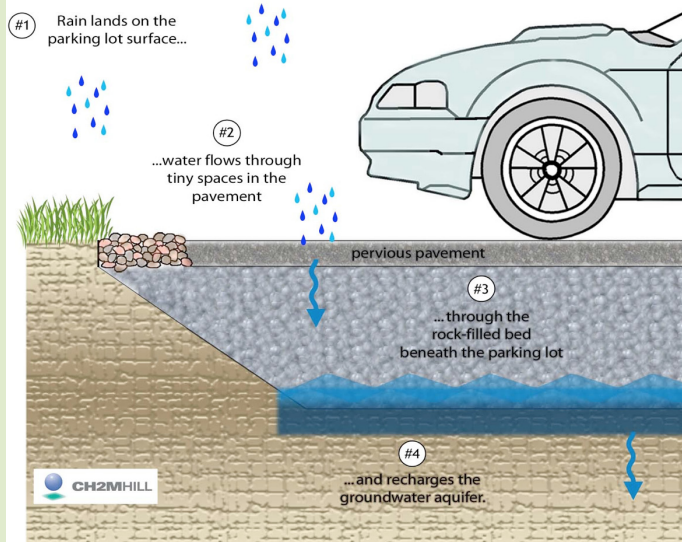
FACT SHEET

Pervious Pavement with Infiltration

DESCRIPTION

Pervious pavement is a Green Infrastructure (GI) technique that combines stormwater infiltration, storage, and structural pavement consisting of a permeable surface underlain by a storage/infiltration bed. Pervious pavement is well suited for parking lots, walking paths, sidewalks, playgrounds, plazas, tennis courts, and other similar uses.

A pervious pavement system consists of a pervious surface course underlain by a storage bed placed on uncompacted subgrade to facilitate stormwater infiltration. The storage reservoir may consist of a stone bed of uniformly graded, clean and washed coarse aggregate with a void space of approximately 40% or other pre-manufactured structural storage units. The pervious pavement may consist of asphalt, concrete, permeable paver blocks, reinforced turf/gravel, or other emerging types of pavement.



Conceptual diagram showing how porous pavement functions

BENEFITS

- Volume control & GW recharge, moderate peak rate control
- Versatile with broad applicability
- Dual use for pavement structure and stormwater management



Alley connected to Plum Street parking lot
City of Lancaster, PA



Alley 148 pervious pavers
City of Lancaster, PA

Potential Limitations

- Careful design & construction required
- Pervious pavement not suitable for all uses
- Higher maintenance needs than standard pavement
- Steep slopes

Potential Applications

Residential	Yes
Commercial	Yes
Ultra Urban	Yes
Industrial	Yes
Retrofit	Yes
Highway	Limited
Recreational	Yes
Public	Yes

Stormwater Quality Functions		Stormwater Quality Functions		Additional Considerations	
Volume	High	Total Suspended Solids	High	Capital Cost	Medium
Groundwater Recharge	High	Total Phosphorus	Medium	Maintenance	Medium
Peak Rate	Medium / High	Total Nitrogen	High	Winter Performance	Medium / High
Erosion Reduction	Medium / High	Temperature	High	Fast Track Potential	Low / Medium
Flood Protection	Medium / High	-	-	Aesthetics	Low / Medium

KEY DESIGN FEATURES

- Infiltration testing required
- Do not infiltrate on compacted soil
- Level storage bed bottoms
- Provide positive storm water overflow from bed
- Surface permeability >20"/hr
- Secondary inflow mechanism recommended
- Pretreatment for sediment-laden runoff

SITE FACTORS

- Water Table/Bedrock Separation: 2-foot minimum
- Soils: HSG A and B preferred; HSG C & D may require underdrains
- Feasibility on steeper slopes: Low
- Potential Hotspots: Not without design of pretreatment system/impervious liner



Porous asphalt path at Gray Towers National Historic Site, PA



Standard asphalt on left, porous asphalt on right F&M College, Lancaster, PA

MAINTENANCE

- Clean inlets
- Vacuum annually
- Maintain adjacent landscaping/planting beds
- Periodic replacement of paver blocks
- Maintenance cost: approximately \$400-500 per year for vacuum sweeping of a half acre parking lot

COST

- Varies by porous pavement type
- Local quarry needed for stone filled infiltration bed
- \$7-\$15 per square foot, including underground infiltration bed
- Generally more than standard pavement, but saves on cost of other BMPs and traditional drainage infrastructure



For more information about the Green Infrastructure program please contact:

Fritz Schroeder
 Fritz@livegreenlanaster.org
 (717) 392-7891 ext. 207



the city of **Lancaster**
a city authentic