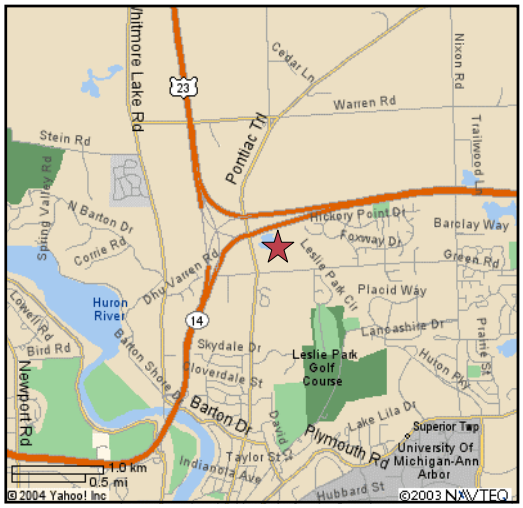
Porous Pavement

Porous pavement, an alternative to conventional impervious pavement, has many water quality benefits such as storm water infiltration and ground water recharge. Porous asphalt and pervious concrete are two types of porous pavement which have been installed locally.



★ Olson Park

Considerations:

- Suitable in areas with high soil permeability of 3"/hr. or more, a slope of 3% or less and 3' or more above high water table.
- Ideal for areas with low volume or overflow parking.
- The additional cost of porous pavement installation can be offset by a reduction in storm water piping, structures, and detention basin required for conventional pavement.
- Maintenance costs for porous pavement can be 30% less expensive than conventional pavement.
- Detailed specifications on soil erosion, sediment control and system installation, as well as thorough construction oversight are necessary for proper performance and reduced risk of failure.

Olson Park

Location: Pontiac Trail and Dhu Varren Rd. Ann Arbor

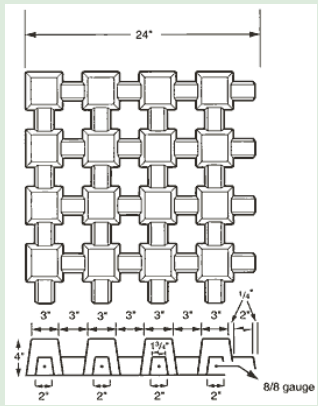
Engineer: Ayers, Lewis Norris & May, Inc.

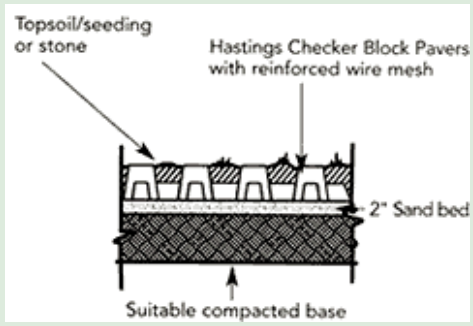
Size: 6400 SF

Installation Date: 2003-04

Material: Hastings Checker Block Pavers

Installation Cost: $9.00/SF including materials and installation



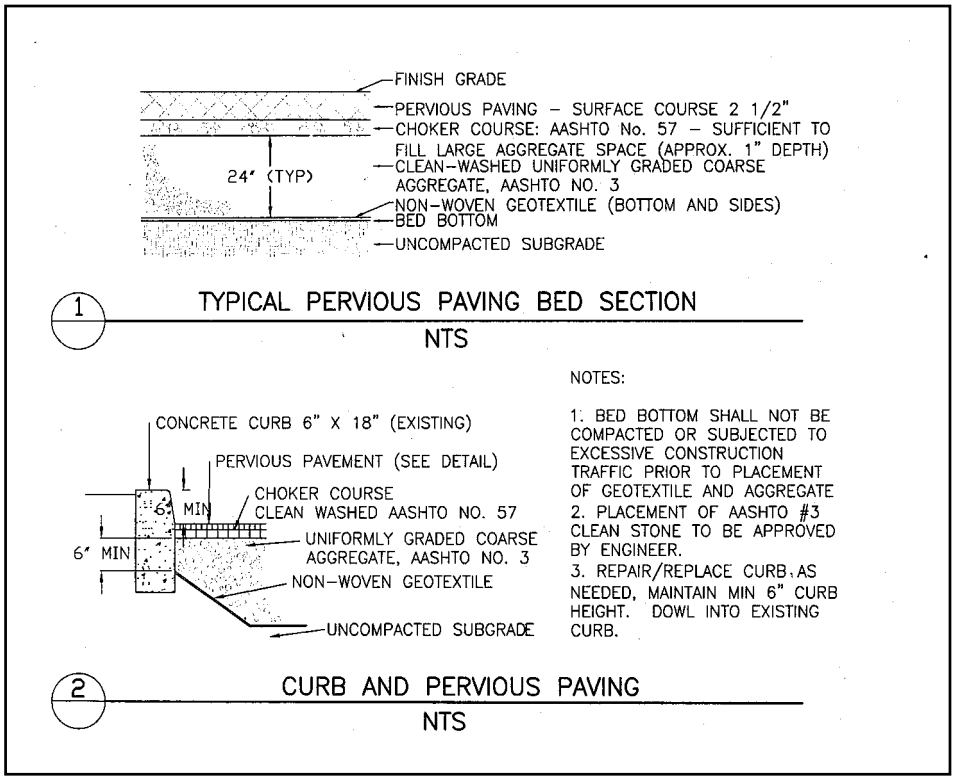


Michigan's Nonpoint Source Program

Office of the Washtenaw County Drain Commissioner, Janis Bobrin. Funded by the United States Environmental Protection Agency; administered by the Michigan Department of Environmental Quality.

For more information, contact Harry Sheehan at (734)222-6851
www.ewashtenaw.org/government/drain_commissioner/dc_lid html

★ University of Michigan W-16 Parking Lot



University of Michigan W-16 Parking Lot

Location: Thompson St., Madison St. & Packard St. Ann Arbor

Credit: University of Michigan Plant Services Division

Size: 1,533 SY

Installation Date: 2002

Material: Porous Asphalt

Installation Cost: $80,000 including construction fence/traffic control, removing existing inlet, 2x2 concrete inlet with frame and covers, removing existing asphalt, excavating and removing soil/subgrade preparation, furnishing and installing geotextile fabric, inlet protection, 8" dia. Perforated HDPE, AASHTO No. 3 course aggregate, 1" choker course, furnishing and installing porous asphalt, curb removal and replacement, bituminous waterstop, 6" sleeves, parking lot striping

Porous asphalt consists of a 2.5" asphalt top course with a lower concentration of fine aggregates in the mix than conventional pavement. This allows water to percolate through the voids down through the choker course, and then through a 24" stone drainage bed that also provides a structural base for the pavement. The storm water then infiltrates evenly over the bed bottom area into the soil.

With minimum maintenance, porous asphalt can function efficiently for well over 20 years. The primary goal of porous pavement maintenance is to prevent clogging of the pavement surface with sediment. This can be ensured by adhering to the following:

- Vacuum sweep the surface twice per year
- Perform initial and annual inspections
- Do not seal coat surface
- Do not apply sand or cinders on or adjacent to pavement
- Snow plow with the blade set slightly higher than usual

Resources

For more information about porous pavement:

Low Impact Development Center
www.lowimpactdevelopment.org/

USEPA Storm Water Fact Sheets
www.epa.gov/owm/mtb/porouspa.pdf

Michigan Department Of Environmental Quality
www.deq.state.mi.us/documents/deq-swq-nps-pap.pdf

Sustainable Building Sourcebook
www.greenbuilder.com/sourcebook/PerviousMaterials.html

US Department Of Transportation
www.fhwa.dot.gov/environment/ultraurb/3fs15.htm

International Stormwater Best Management Practices Database
www.bmpdatabase.org

Pollutant Removal*

Phosphorus	60-71%
Total Suspended Solids	82-95%

* USEPA Storm Water Technology Fact Sheet: Porous Pavement