Open-grade asphalt mix is the top layer, typically 5” thick. This consists of relatively large stones bound together with a bituminous binder and fewer small particles such as sand or fines which allows water to infiltrate into the sub-layers.

A recharge bed contains larger stones of a single size to provide support for vehicles while also containing up to 40% void space that can fill with stormwater during rainfall events.

An uncompacted subgrade layer has a higher rate of infiltration over a compacted soil layer. During a rainfall event, stormwater will slowly filter down through this soil layer, recharging the groundwater.

Typical pavement has little to no pore space (2–3%) which causes almost all the water to run off the surface quickly.

Porous asphalt contains space between particles (15–18%). This opens space allows water to infiltrate freely down to the sublayers for storage, reducing stormwater runoff.

Did You Know?
Studies have shown that porous asphalt parking spaces can typically infiltrate up to 80% of stormwater runoff. These paving systems can also remove about 60%–85% of undissolved nutrients and up to 95% of sediment.

Contributing Departments
Infrastructure Planning and Facilities
Institute of Water Research
Department of Horticulture

For more information and other tours, visit: bespartangreen.msu.edu or www.msu-water.msu.edu