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## Seattle Center tests new porous pavers

- *The maker of Xeripave says the pavers are similar to permeable concrete and asphalt, but allow much more water to flow through them.*

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SEATTLE CENTER Skatepark is testing a new permeable paver that allows stormwater to flow through it and be naturally treated by the underlying soil. If successful, the product could become a standard material at Seattle Center.

The product, called Xeripave, has been manufactured for about a year in Vancouver by Xeripave Permeable Pavers. Deen Gill, chief estimator for Xeripave, said his product works in the same way as permeable concrete and asphalt — water flows through and is treated by soils, rather than running along pavement where it picks up pollutants before ending up in water bodies.



Photo by Katie Zemtseff [\[enlarge\]](#)

**This path leading to the Seattle Center Skatepark was made of Xeripave pavers.**

What makes his product stand out, he said, is that up to 1.5 gallons of water per second can flow through each square foot of the paver. That's an average infiltration rate of about 50 gallons per minute. Permeable asphalt and concrete, he said, have an infiltration rate of between 3 and 8 gallons per minute.

The paver, more expensive than other options, costs \$8 per square foot. But Gill said the cost can be offset by the fact that only 12 to 15 percent of an area needs to be covered with the paver for it to treat water in the entire space because of its high infiltration rate.

At the skatepark, the paver covers all of a 320-square-foot path that leads to the skating area.

Lesley Bain, principal at skatepark architect Weinstein A|U, said her team wanted to create surfaces around the skateboarding area that were not easily skateable. The team originally considered using a pathway with a metal grate raised above a surrounding garden. But after discovering the grating would be a problem for surrounding tree roots, it began to look at permeable pavers.

While Weinstein A|U was working on the skatepark, it was also working on Seattle Center's Theatre Commons project. It is the architect for Theatre Commons and Gustafson Guthrie Nichol is the prime designer. The commons, a new north entry for Seattle Center, is going to be a 1.5-acre landscaped space between Seattle Repertory and Intiman theaters, on what is known today as August Wilson Way. The commons will be between Mercer and Republican streets and will house a plaza and gardens.

Bain said the team wanted to find products and materials that could be used throughout the campus.

“We looked for a paver that we thought would work in both situations... We are hoping it can be something that helps unify the campus,” she said. “It was a pretty good looking and flexible product.”

At Theatre Commons, the paver will cover a 1,800-square-foot area, Gill said. Water will move through the pavers and feed local tree roots. The trees, Bain said, were an important consideration at both the skatepark and Theatre Commons.

Theatre Commons will have a mix of new and old trees that need to be protected, while some of the trees surrounding the skatepark date from the 1962 Seattle World's Fair.

“We could have just used typical concrete pavers but ... those trees are a signature of the campus and we wanted to make sure that we keep them healthy,” Bain said. “We wanted to make sure that we got water to the roots.”

Bonnie Pendergrass, chief project manager for Seattle Center, said the product was also chosen because it enforces Seattle Center's commitment to sustainability. She said it's working fine. “Long-term, we wonder if it will tend to clog and whether we'll have problems cleaning it but ... so far, so good.”

If the product is successful, the center will use it in other projects.

Bain said that also holds true with her company. “We're always looking for materials that work well from a sustainable standpoint.”

The big question is how it will perform when heavy rains hit. The product is made of aggregate and a polymer binder. Gill said there is such a strong bond between the two materials that the product has a 35 percent void space in it. Porous asphalt and concrete pavers have more holes in them so there is a greater opportunity for them to clog, he said.

The binder in the product was recently re-engineered to take out materials that were less environmentally friendly. This prevents water from picking up contaminants that might have existed in the binder as it moves through the paver. Gill said the paver keeps out any contaminant you can see with your eyes, though micro-contaminants such as nitrogen and lead will still pass through it in the water. The subgrade beneath the pavers can be engineered to remove those contaminants, he said.

Just like porous concrete or asphalt, the space beneath the paver must be properly engineered to treat and hold water. A clean, crushed subgrade is recommended.

“It's almost like a reservoir. You've got a little swimming pool underneath that paver,” Gill said.

Then water slowly seeps into the ground, depending on the infiltration rate of the soil.

To visit the Xeripave Web site, go to [www.xeripave.com](http://www.xeripave.com). To see a video of how the product works, visit [www.youtube.com/watch?v=u0lp8-zxcVw](http://www.youtube.com/watch?v=u0lp8-zxcVw).



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