

FISH LAKE REGIONAL PARK PARKING SOLUTION IS FRIENDLY FOR FISH & PEOPLE

When the Three Rivers Park District needed to rehabilitate parking and roads at Fish Lake Regional Park in Maple Grove, MN, the desire to reduce runoff, complicated by less-than-optimum soil conditions, resulted in an innovative design using permeable pavers.

Water and woods are the main attractions at Fish Lake Regional Park, an all-season recreation area in the Elm Creek Watershed District. Founded in 1957, Three Rivers Park District includes 27,000 acres in 10 regional parks, seven park reserves and 10 regional trails.

With stewardship integral to the district's mission, park staff are committed to minimizing stormwater runoff into the lake to strengthen stewardship of the watershed district.

"Being under government jurisdiction, we have certain sustainable guidelines we have to follow," says Mike Horn, a district project manager. "We work with a team to determine which improvement project will be most cost effective and will give us the biggest payback — both budgetary and environmentally."

The challenge was a clay subgrade with a slow rate of infiltration. Engineers selected permeable pavers to be used with an innovative filtration and sloping system, so water that didn't infiltrate naturally would have other chances to percolate before reaching the retention basin.

"We tried to supplement what the park district was already using for stormwater control, which is a filtration basin at the base of the lake where the stormwater would outlet before overflowing into the lake," says Toby Muse, project manager for SEH, the project's design/engineering firm. "We left the parking grades as they were, and although the subsoil was clay, we determined we could provide a greater level of infiltration by installing permeable paving stones in the parking pads."

A drain system with perforated pipe was installed under the permeable pavement. The parking lot already sloped toward the lake, and asphalt driving aisles and curbs with integral gutters were located between each parking pad.

"Infiltration to some degree will occur at each level of parking pad, which provides even more filtration before the stormwater reaches the basin, and ultimately, the lake," Muse said.

With this system, no additional catch basins or stormwater pipe installation was required. "It is working well during heavy rains," said Josh Bowe, a project manager for Three Rivers Park District. "Water is not ponding anywhere."

Unused parking bays also were eliminated to help meet watershed and city stormwater requirements, Bowe said.

"Permeable paving stones are ideal for retrofits and maintenance," Bowe said. "We used the area under the parking pads for stormwater storage and treatment, while minimizing the disturbance of existing space by not adding basins and piping. Not only do permeable pavers look great, but they also give you the multiple uses of parking and stormwater management."



Location:
14900 Bass Lake Road,
Maple Grove, MN

Owner:
Three Rivers Regional Park District

Designer:
SEH Inc., St. Paul, MN

Contractor:
Glacial Ridge Inc., Willmar, MN

Manufacturer:
Willow Creek Concrete Products,
Oakdale, MN

Solution:
19,000 square feet of
Brickstone Permeable,
machine installed

Product Color:
Sedona and Slate



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