



Trail connects Grand Rapids to the lakeshore

North Bank Trail promotes human, environmental, and economic health in West Michigan



Why drive when you can walk, bike, or roller blade on a beautiful trail? More people seem to be asking this question, especially when the days are long and the weather is pleasant. Non-motorized trails help connect residents to natural surroundings, their neighbors, and even commercial destinations. All of which add up to a healthier lifestyle and a boost to local economies. The residents of Spring Lake and Crockery townships, who are now enjoying the North Bank Trail, certainly agree.

Building Our Community

When updating its recreation plan, public surveys relayed that extending their non-motorized trail system was a priority for Spring Lake Township citizens. When they voted to renew their non-motorized millage, officials began planning for a cross-country trail through Crockery Township that would provide regional connections.

In 2006, residents from multiple townships interested in a trail to connect Lake Michigan's

shoreline with the Musketawa Trail, formed a group called the "Friends of the North Bank Trail." Their goal was to create a non-motorized trail that would connect Grand Rapids to Lake Michigan.

Having a similar goal in mind, Spring Lake and Crockery townships partnered with the Friends of the North Bank Trail to complete the trail's first phase, a 3.3 mile trail connecting Crockery Township to an extensive network of non-motorized trails in Spring Lake.

Creative Funding

Spring Lake Township jump-started the project by paying for the first 1.5 mile section, and used millage funds as a match when applying for a \$231,500 Michigan Natural Resources Trust Fund grant. Later they matched their Trust Fund grant with a Transportation Enhancement grant of \$391,000. Then within just six weeks, private donors provided another \$100,000. With this creative funding strategy, the first phase of North Bank Trail was designed and constructed in just one year.

Investing Wisely in Design

Prein&Newhof worked with Consumers Energy to obtain an easement for the trail to travel along its powerline corridor. This route saved \$40,000 in residential easements and avoided displacing residents of a trailer park. P&N further reduced expenses by relocating a section of the trail designated for a wetlands area to an upland area, eliminating the need for a costly boardwalk.

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"P&N was there for us when we needed them. They had 'staff depth' with extensive experience to solve complex issues, and they were able to build positive relationships with all of the public agencies involved in the project.

Lukas Hill, AICP, Community Development Director, Spring Lake Township



Manton Millpond Dam Removal Wins Project of the Year

Manton's Millpond Dam was built on Manton Creek in 1919 to generate energy for a northern-Michigan grist mill. Ninety-three years later, Manton Creek once again flows freely where the dam once stood.

Conservation Resource Alliance, a Traverse City-based non-profit, hired Prein&Newhof to study the feasibility of various strategies to provide fish passage on the creek and to address safety issues related to the dam.

Prein&Newhof's design strategy included removing the dam, restoring Manton Creek and maintaining a portion of the old millpond.

"By removing the dam," explains P&N Project Manager Jim Hegarty, P.E., "we eliminated safety concerns and provided the opportunity for a timber bridge, which adds a great scenic element to Manton's recreational trail system."

Eliminating the dam returned Manton Creek to its original, pre-dam channel elevation. It also dramatically improved fish habitat by reducing summer water temperatures for cold-water species below the dam. Removing the dam also allowed for fish passage and for free movement



of nutrients, sediment, and woody debris through the system.

With these improvements, the Manton Millpond Dam Removal project won *Public Works Project of the Year* from the Michigan Chapter of the American Public Works Association.

Conservation Resource Alliance Biologist Mark Johnson applauds Prein&Newhof, saying, "In working on small dam-related projects, I have had the opportunity to interact with several engineering and consulting firms from around the state. I can recommend Prein&Newhof among the best I've dealt with."

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Fruit and vegetable farm raises expectations

Arbre Farms in Oceana County uses organic processes to prepare its fruit and vegetable crop for supermarkets nationwide. But, even organic processes can create problems for the natural ecosystem. Prein&Newhof and Production Solutions helped Arbre Farms continue reusing its washwater for irrigation, while keeping the ecosystem in balance.

Arbre Farms re-uses the water used for washing its fruits and vegetables to irrigate its crops. As a result, this water contains remnants of the organic processing that require higher levels of oxygen. Untreated, this water leaches important metals out of the soil and into the groundwater, which in-turn flows into surface waters.

The Michigan Department of Environmental Quality (MDEQ) instituted new standards, limiting daily output of high biochemical oxygen demand (BOD) washwater to 50 pounds per acre.

Prein named Association Director

The Michigan Water Environment Association (MWEA) named Prein&Newhof Team Leader

Mark Prein, P.E. as an Association Director for its Board. Established in 1925, MWEA provides a forum for more than 2,000 water quality professionals who are dedicated to restoring and enhancing Michigan's water resources.



Arbre Farms' BOD level exceeded MDEQ's new limit.

P&N and Production Solutions helped Arbre Farms design a facility to store the washwater and reduce its BOD to MDEQ standards.

The most striking feature of the design is the lagoon, a large earthen basin lined with double-walled polyethylene to prevent water from leaking into the soil. This lagoon is the first of its kind approved by the MDEQ to comply with its new irrigation discharge regulations. It even has instruments that monitor the area between its two liner walls to warn operators of leakage.

The system's design is efficient and reuses existing equipment and piping. By relying on gravity flow, the system uses less electricity. The new screening unit that filters the solids is much finer than the previous unit. Lagoon water is used for its self-cleaning process, and the screened solids become animal feed.

If you have a process-water challenge, contact **Mark Lee, P.E.** at (231) 789-0101 or mlee@preinnewhof.com.

TRAIL -- continued from front

P&N designed two beautiful overlooks along a land-bridge with views of Lloyd's Bayou Watershed. Residents of nearby Lloyd's Bayou Senior Center now enjoy the natural splendor within a short walk of home.

Economic Benefit

The trail connects a large mobile home park, a senior housing center, and a large residential development with the nearby M-104 commercial area. The residential development adjacent to the new trail is already starting its next phase.

On the east side of the Village of Spring Lake a trail spur extends 300 feet from the main trail, providing a safe pedestrian alternative to M-104 for those frequenting the nearby gas station, local grocery store, or restaurant.

Future phases of the North Bank Trail will provide these communities additional economic opportunities — people from as far as Grand Rapids can follow the trail to the lakeshore.

Are you interested in adding or extending a trail in your community, or connecting your trail-system with a neighboring community? Contact **Kevin Kieft** at (231) 789-0101 or kkieft@preinnewhof.com.

Prein&Newhof specializes in civil and environmental engineering, environmental consulting, surveying, GIS, and laboratory testing.

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