

2010

BEST OF STATE

WINNER

## NEW BERLIN LAKE MICHIGAN WATER DIVERSION

### Ruekert/Mielke Inc.

- **Client:** City of New Berlin
- **Category:** Studies, Research  
& Consulting Engineering Services

The city of New Berlin had problems with naturally occurring radium in its municipal water system for many years. As a solution, the city sought a diversion of Lake Michigan water. For years the request to divert 2.14 million gallons of water daily from Lake Michigan was highly scrutinized by governmental and environmental groups.

New Berlin's location created an issue because water could return to the Great Lakes Basin from the eastern portion of the city (a critical component of obtaining Lake Michigan water), but not through the western portion of the city, which lies in the Mississippi River Basin, without adoption of the newly revised Great Lakes Compact and approval by various entities.

Ruekert/Mielke performed a desktop pilot study to explore the use of premixed hydrous manganese oxide to removed radium. The firm also completed engineering work to retrofit

the city's water system should Lake Michigan water become available and worked with political leaders to navigate the complex international, national, regional and local issues that were roadblocks to cooperation. For years, Ruekert/Mielke worked to investigate,

propose solutions and advocate for New Berlin's Water Utility.

The study, analysis and application process was comprehensive and evaluated all the available options for providing water to New Berlin. These studies and evaluations were the basis for the firm's negotiations with the city of Milwaukee and Department of Natural Resources during the approval process. The strength of these documents and the compelling case they made were key to achieving approval.



New Berlin could not meet the maximum contaminant levels for radium in the city's drinking water. New, lower limits combined with tough enforcement actions forced the city to either install expensive treatment plants at wells or pursue access to Lake Michigan water.



Four pump stations were retrofitted to accept Lake Michigan water. As part of the agreement with the City of Milwaukee, pumping capacity was limited. The retrofit assures that, through the use of existing storage facilities, substantial penalties for exceeding these limits will never occur.

Ruekert/Mielke's work played a key role in the city's water purchase. A diversion was approved on May 21, 2009, making New Berlin the first community in the nation to gain Lake Michigan water under the newly approved Great Lakes Compact. The result of this project not only benefits the city of New Berlin, but also lays the groundwork for the evaluation of future diversion requests.

"The long-term precedent of this work will have national and international implications and the success was due to the dedication of this team," said judge Josh Johnson, AIA.

This project is a perfect example of how consulting engineers serve the public good through patience, persistence and technical expertise.



New Berlin became the first community in the nation approved for the diversion of 2.14 million gallons of Lake Michigan water daily. New Berlin's request was highly scrutinized by governmental and environmental groups. The fact that an environmental improvement was shown weighed heavily in the approval decision.