



BOLTON & MENK, INC.

By Design

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City of Saint Peter's State-of-the-Art Wastewater Treatment Facility Brings Home Three Top Awards

Bolton & Menk's design of the wastewater treatment facility in Saint Peter has won three major engineering excellence awards. The \$31 million project earned a 2005 Grand Award from the American Council of Engineering Companies (ACEC), the 2005 Seven Wonders of Engineering Award from the Minnesota Society of Professional Engineers (MSPE), and the 2004 Environmental Project of the Year Award from the Minnesota Public Works Association (MPWA).

The 10-year collaborative effort between the City of Saint Peter and Bolton & Menk is a groundbreaking venture that, within a single structure, provides a cost-saving solution to the City's wastewater treatment needs.

"The quality of this project is a direct result of the close collaboration between the City of Saint Peter Staff and Bolton & Menk Staff," says Saint Peter's Director of Public Works Lewis Giesking. "The fact that this project was recognized by consulting and professional engineers as an outstanding facility signifies the impact this project has on the engineering profession as a whole."

Before the project, Saint Peter operated the largest municipal wastewater stabilization pond treatment system in Minnesota, and these stabilization ponds had been inundated with floodwaters on numerous occasions. Expansion of the existing facility was not feasible economically or environmentally, due to its location within the Minnesota River

floodplain. To replace the existing system, a mechanical facility on a site within the City's industrial site was proposed, allowing for the utilization of existing public infrastructure as well as city-owned property. By designing the facility enclosed in a single building on this site the City of Saint Peter saved upwards of \$1.5 million.

As part of the planning process, key project personnel traveled to Europe and toured several facilities there, researching technical innovations that were not being widely used in the U.S. Based on the European experience, planning for the new facility proceeded with several

new key concepts. Facilities in Europe tended to be built with smaller "footprints" than comparable U.S. facilities and with a focus on providing highly efficient operation.

The new facility is equipped with six

Biological Aerated Filters (BAFs), which are submerged filters that require only one-tenth the space usually needed by traditional wastewater treatment systems.

Parallel plate clarifiers were installed, decreasing the footprint required for the clarification process by as much as 90 percent. A lime/heat stabilization process (which treats biosolids to a Class "A" level—the state's highest



standard) was utilized and state-of-the-art odor control units, which meet environmental

requirements for odor control and are compatible with the needs of the neighborhood, were also added. The compact design of all these components allowed the facility to be constructed as one of the first single-structure municipal facilities in the U.S.

Bolton & Menk's application of advanced technologies to treat wastewater under one roof represents a major advancement in environmental engineering practice. It is one of the first to combine U.S. standards with European technology to treat wastewater in a manner that exceeds requirements while meeting public expectations for odor control and aesthetics.

This award-winning facility represents the future of wastewater treatment in America. By treating wastewater to levels below what is currently required in the U.S., and doing it within much smaller space requirements, this technology will meet the needs of municipalities, as well as industrial operations, for many years to come.



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Bolton & Menk Honors 380 Years of Staff Commitment

Twenty-three Bolton & Menk employees were honored at the Bolton & Menk Annual Party for their many years of service. These employees have a combined total of 380 years of service. We thank them for their commitment and dedication to the firm.



15 Years of Service (L to R) Harold Schmidt, Randy Kirchberg, Nancy Thorkelson, Bradley Krause, Timothy Loose, (not pictured: Barbara Anderson, Gregory Mitchell, Sharon Olson, Jon Peterson, Maureen Scholl)



30 Years of Service
Brian Wells (L)



40 Years of Service
Douglas Anderson (R)



10 Years of Service (L to R) Donald Stenzel, Marcus Thomas, Kristine Bode, Jeffrey Domas, Dan Pettis, (not pictured: Anthony Albang)

20 Years of Service (L to R) Daniel Sarff, Ronald Roetzel, Kathleen Coyour, R. Kelly Yahnke, (not pictured: Gregory Sindt)

Yahnke Receives Founder's Award

Kirk Yahnke was named recipient of the 2004 Founder's Award at the Bolton & Menk Annual Party. Kirk is a Senior Technician for the Environmental Division, working out of the Mankato office, and has been with the firm for more than 19 years. He holds a degree in Building Construction from the University of Wisconsin, Madison, as well as numerous inspection certifications. He also holds Class B Wastewater Operator certification from the Minnesota Pollution Control Agency and a Class C Water Operator certification from the Minnesota Department of Health.

Kirk's duties with Bolton & Menk include construction inspection and startup of municipal water and wastewater facilities, conducting water pilot plant testing studies, and inspection of industrial pretreatment facilities. Kirk also works with clients on trouble-shooting operational problems with existing facilities. Kirk is known for effectively meeting clients' needs and exceeding their service expectations. He is one of those individuals who is not necessarily recognized for his day-to-day achievements because he is generally in the field, dealing with clients and contractors on a daily basis. These clients and contractors are the ones who recognize his experience and his expertise.

Even though Kirk puts in 50 to 60 hours per week, he still has time to serve as a volunteer for his local fire department. He's a member of the school board, serves as a trustee for his church, and is active with the Boy Scouts and Ducks Unlimited. He seems to have an endless supply of energy that he shares with Bolton & Menk, his community, and, most importantly, his family.



Kirk Yahnke
Senior Technician

The annual Founder's Award honors the firm's founders, John Bolton and Martin Menk. It recognizes outstanding contributions to the company, as well as community and professional leadership. John and Martin believed that a business is truly successful when people are committed to its goals, represent the firm well to their community and are dedicated to meeting client needs. This award is given to an individual who exemplifies these qualities, but is not normally the recipient of public attention.

Congratulations, Kirk, and thank you for your dedication and hard work.

National Engineers Week, February 20-26

Preparing the Bridge Builders of Tomorrow

More than 50 years after it began, the goal remains both simple and immense: to set aside a week to recognize the vital role engineering plays in America's quality of life and its future.

Celebrated this year from February 20-26, National Engineers Week seeks to get parents, teachers and students on the same page in regard to understanding the importance of a technical education. Through an array of media efforts and volunteer work with schools, the National Engineers Week Foundation aims to spread the word that high levels of math, science and technology studies motivate young people to pursue careers in engineering, thus bringing the nation toward a diverse and energetic engineering workforce.

Closer to Home

► Several Bolton & Menk employees will help promote National Engineers Week by speaking at various high schools around southern Minnesota. Owen Todd will be speaking in St. James, David Palm will visit Sleepy Eye, Emily Javens will be present in Mankato and Fred Brooks will be visiting Randolph. The purpose of these visits is to encourage students to pursue a career in civil engineering.

► On February 24, Fred Brooks, from the Burnsville office, will participate in a panel discussion with a member of Minnesota State University, Mankato's engineering staff on KTOE radio (1420 AM). The focus of this discussion will be to encourage high school students to pursue a career in engineering.

This national week of recognition was founded by the National Society of Professional Engineers, a formal coalition of more than 70 engineering and education groups, as well as 50 corporations and government agencies. This year's Engineers Week, co-chaired by the American Society of Mechanical Engineers, includes programs such as a **Future City Competition**, **DiscoverE**, **Engineers Without Borders**, **Connecting the World** and **Introduce a Girl to Engineering Day**.

One of the more popular programs is the Future City Competition. Now entering its 13th year, the competition is one in which middle school students in 40 regions throughout the country work with teachers and volunteer engineers to build computer and three-dimensional scale models of futuristic cities. First-place winners from January's regional competitions will compete in Washington, DC, for three days during National Engineers Week.

In the DiscoverE program, started in 1990, more than 45,000 engineers interact with 5.5 million students and teachers in elementary, middle and secondary schools each year. Another program, **ZOOM Into Engineering** (a recent spin-off of DiscoverE), regularly provides content for the popular public television show ZOOM.

In acknowledging engineering's role in developing a solid future for the country, former U.S. Secretary of Education Richard Riley, author of the volunteer program "America Goes Back to School," praised National Engineers Week as a model of getting community engineers involved with local education.

Minnesota State University, Mankato's Civil Engineering Program Takes A Giant Step Forward

A young program received a big honor this fall when Minnesota State University, Mankato's Civil Engineering program received accreditation from the Accreditation Board for Engineering and Technology, Inc.

Only three years old, MSU's Civil Engineering program is one of only two in Minnesota sanctioned by the nationally recognized board. The University of Minnesota's program was accredited in 1936.

MSU President Richard Davenport lauded the efforts of those instrumental in this rare achievement, including the advisory board that was led by Jon Rippke, president of Bolton & Menk.

"This is a truly significant accomplishment," said Davenport. "It is very rare for an academic program to be accredited after only three years. It is extremely rare for an engineering program. This is a credit to all of the faculty and administration of the College of Science & Engineering, and particularly to those who teach and advise our Civil Engineering majors."

ABET accreditation is required in at least 12 states, and is important for any civil engineer who wants to become a Registered Professional Engineer.

Minnesota Legislators Receptive to Education Concerns

Dr. John Frey, Dean of the College of Science, Engineering and Technology at Minnesota State University, Mankato, says there is a real possibility of a shortage of engineers in the foreseeable future. A combination of growth in demand for engineering services and the number of baby boomers soon to begin retiring from the field makes it an imminent concern.

This was one of the issues on the table last October when Bolton & Menk's president, Jon Rippke, addressed the Minnesota Senate Higher Education Committee during a listening session on the MSU,M campus. Rippke pointed out that universities, as well

as engineering firms, are concerned about the rate of students who enter college with a desire to pursue an engineering career but hit the wall when they prove unable to meet requirements for relevant classes, such as beginning calculus. Remedial math is one option, but all too often students simply opt out instead and select a different major.

Rippke spoke to the panel about the need to improve math and science education at the elementary level and maintain this focus on through high school. Frey introduced the panel to a program called "Project Lead The Way," which has gained traction around the country and is expanding rapidly in Minnesota.

Project Lead The Way is a curriculum that is being put into selected high schools as an elective course. It gives students an opportunity to apply their math and science skills to different types of engineering projects. The program originated at the Rochester Institute of Technology about seven years ago.

According to Frey, it has been demonstrated that students who participate in Project Lead The Way produce higher math and science scores nationally. Rippke and Frey found the Senate Committee to be very receptive to the concerns of the engineering community, and that, they say, is encouraging.

Bolton & Menk to host MS4 Seminar

Bolton & Menk will conduct a Water Resources Seminar on Wednesday, March 30, 2005, from 8:30 a.m. to noon at the Country Inn and Suites hotel in Mankato. This seminar is open to municipal, county or other public agency staff and representatives at no cost. The six minimum measures all cities must consider when submitting their Municipally Separate Storm Sewer System (MS4) permit will be addressed. Bill Douglass, head of Bolton & Menk's Water Resources Department, will be sharing his experience with preparing what is, in his opinion, the most important part of the MS4, the Storm Water Pollution Prevention Plan (SWPPP).

Douglass says, "This plan is essentially a list of promises that cities must make to come into compliance. In the five-year period after submitting the MS4 permit, cities will need to act on the issues described in the SWPPP.

Each city will need to submit an annual report on how well it is following the SWPPP. Hence, cities need careful planning of their methods to meet the six minimum measures, as well as the associated timing of each measure."

Six Minimum Measures:

1. Public education and outreach on storm water impacts.
2. Public participation and involvement.
3. Illicit Discharge Elimination.
4. Construction Site Storm Water Runoff Control.
5. Post-construction storm water management in new development and redevelopment.
6. Pollution control and good housekeeping for municipal operations.

For more information, please contact Bill Douglass at (507) 625-4171 or email billdo@bolton-menk.com.

Seminar Schedule

8:30 – 9:00 a.m.

Registration & Welcome

9:00 a.m.

Timeline for MS4 Discretionary Cities
History, Phase I, Mandatory Cities, Discretionary Cities, Deadlines

9:15 a.m.

SWPPP Content

Six Minimum Measures, BMP sheets, Promises, Strategies, Required Ordinances

10:00 – 10:15 a.m.

BREAK

10:15 a.m.

MPCA Comments—Dale Thompson (MPCA)
SWPPPs that were good, SWPPPs that have room for improvement, What MPCA looks for in acceptable SWPPPs, Sample Ordinances, MPCA Sample SWPPP, Questions

11:00 a.m.

SWPPP Preparation

11:30 a.m.

City Comments—Steve Albrecht, P.E., City Engineer for the City of Prior Lake

12:00 p.m.

Questions / Adjourn

REGISTRATION

Name: _____
 Company: _____
 Address: _____
 City/State/Zip: _____
 Phone: _____
 Fax: _____
 Email: _____

- YES, I will be attending**
- No, I will not be able to attend, but please send me more information.

**Please return this registration to:
Bolton & Menk, Inc.
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on or before March 20, 2005.**



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