

The background of the cover is a photograph of a large bridge spanning a river. The bridge has a steel truss structure on the left and a concrete girder structure on the right. The water is calm, reflecting the bridge and the sky. The sky is clear and blue. The overall scene is a bright, sunny day.

NDWPCC

OFFICIAL BULLETIN

CONFERENCE ISSUE

July - September 2008 • VOLUME 94 • NUMBERS 7-9

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North Dakota Water and
Pollution Control Conference**

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Members of the Conference are indebted to those members and others who have contributed articles and other materials for this publication.

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North Dakota Water and Pollution Control Conference*

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On the Cover: A view of the old Liberty Memorial Bridge (left) and the new bridge (right) being built to replace it. Photo by Mel Bullinger.

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The objectives of this Conference shall be: the advancement of the knowledge of design, construction, operation and management of water and wastewater systems; the promotion and encouragement, through annual meetings or otherwise, of an exchange of information and experience among its membership; the promotion and encouragement of the protection of public health and improved environment through the construction and efficient operation of water supply and wastewater treatment facilities; and the promotion of water and wastewater system operator education and certification programs.

*Article II of the Constitution of the
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Liberty Memorial Bridge, Connecting Bismarck and Mandan

*North Dakota Department of Transportation
Mel Bullinger, P.E., City Engineer, City of Bismarck*

The Early Years

Travelers roaring across the northern plains states during the “Roaring Twenties” would have come to a screeching halt at the Missouri River, if it were not for the progressive thinking of the American Automobile Association and the U.S. Government Office of the Good Roads. A massive road-building effort in the United States created the first sketchy network of the federal highway system that decades later became the interstate highway system.



An aerial view of both bridges in July 2008 (Department of Transportation photo).

About 1912, a rough system of highways was laid out, including what was called the Red Trail which ran across North Dakota. Later, it would become known as Highway 10 and eventually replaced by Interstate 94.

In the early part of the 20th century, traveling across North Dakota was difficult, if not impossible. Rivers created a natural barrier at places such as Valley City with the Sheyenne River and the Badlands with the Little Missouri River.

One of the most difficult barriers to cross because of its unpredictable variance in depth and breadth was the Missouri River. In the dead of winter, vehicles could cross on the ice, but it wasn't so easy in the spring or fall when ice floes prevented safe crossing. In the summer, when the river was clear, ferries would haul vehicles across the water, but that could mean a three or four hour wait for drivers. It is reported that as many as 10,000 vehicles a year tried one way or another to successfully cross the Missouri River.

If travelers didn't want to put up with the unpredictable river crossing at Bismarck, they would

have to drive to the nearest bridge at either Great Falls, Montana or Sioux City, Iowa — more than 500 miles either direction.

A Bridge is Built - 1919

In 1919, the State of North Dakota, Burleigh and Morton County and the federal government set out to build a bridge at Bismarck. A three-span Warren-Turner through-truss design was proposed, and in 1920 contracts for the bridge and approaches were awarded.

A site was selected a few hundred yards downstream from the Northern Pacific Railroad Bridge. The solid piers of the railroad bridge were eyed as protectors for the vehicular bridge. If the narrow-spanned railroad bridge could break up ice floes, the chunks would then pass more easily through the wide-spanned vehicular bridge.

According to the Liberty Memorial Bridge Historic American Engineering Record submitted to the Department of the Interior:

- The structure required a year and a half to construct and was opened for traffic in August 1922.
- Total cost of this bridge, the longest in North Dakota, was approximately \$1,375,000.
- On September 18, 1922, the 50th anniversary of the founding of Bismarck, the bridge was formally dedicated with more than 12,000 people in attendance.



The two bridges, side by side (Mel Bullinger photo).

- The bridge was christened the Liberty Memorial Bridge in honor of North Dakota World War I soldiers.
- In honor of the opening of the Liberty Memorial Bridge, a three-day gala was held in Bismarck and Mandan with parades, dances and pageants produced by the Thurston Management Company of Minneapolis.
- The Bismarck Association of Commerce observed that, in addition to allowing faster and greater convenience of travel, the bridge opened a new avenue to livestock and agriculture commerce in the western part of the state.
- The bridge encouraged travel across North Dakota on the National Parks Highway.
- For the first time, it was possible to travel from coast to coast without having to cross a river by ferry.

A New Bridge is Built Public Involvement

The Liberty Memorial Bridge has long been part of Bismarck-Mandan's social, recreational and transportation history. The new bridge will be required to fulfill the same role for future generations by being affordable, safe, functional, and beautiful.



Construction on the new Liberty Memorial Bridge (Mel Bullinger photo).

The North Dakota Department of Transportation (NDDOT) held public meetings and public hearings, and collected comments and questions in many different ways from the public before determining which alternative to build.



Construction is nearly complete on the new bridge, July 2008. This is a view from the east end of the bridge (Mel Bullinger photo).

Before the design phase began, NDDOT formed a Citizens Advisory Committee of about 20 selected representatives from state and city agencies, the Chamber of Commerce and veterans' organizations, as well as any interested members of the public at large. The Citizens Advisory Committee met several times and recommended design options for the new bridge.

A technical committee — comprised of engineers and architects from NDDOT, the Federal Highway Administration, the cities of Bismarck and Mandan, and the consulting engineering firms of HDR and Ulteig Engineers, Inc. — used the Citizens Advisory Committee recommendations to create a final design decision document and presented it to NDDOT and the cities of Bismarck and Mandan. Approval was unanimous.

Constructing a "Bridge for the Ages"

The location of the proposed new bridge south of the original bridge was selected because that alignment had the fewest right-of-way impacts and provided better opportunities to improve the intersection at the east end of the bridge on Fraine Barracks Road.

Bids for the new bridge were received on April 28, 2006. The low bid of \$47.3 million was submitted by Lunda Construction Company from Black River Falls, Wisconsin. The Notice to Proceed was issued by the NDDOT on May 26, 2006, and the first working day occurred on June 13, 2006.



Left to right: Bismarck Mayor John Warford; former Mandan Mayor Ken LaMont; Francis Zeigler, NDDOT; Governor John Hoeven; Marty Boeckel, from Senator Kent Conrad's office; and Mandan Mayor Tim Helbling; at the dedication of the new bridge, July 31, 2008 (Mel Bullinger photo).

Construction workers from Lunda Construction Company have continued working on the bridge during the past two winters, missing only a single working day during that period due to extremely cold weather. Construction observation and monitoring services were provided by the staff of the Bismarck District Office of the NDDOT, who endured the same conditions.

Due to a partial overlap of the old bridge alignment with the new bridge alignment on the west approach, it was necessary to demolish the west approach to the old Liberty Memorial Bridge before the west approach for the new bridge could be finished. For that reason, the old bridge was permanently closed to all traffic on the morning of July 31, 2008. At a press conference held on the new bridge that morning, Governor John Hoeven remarked "When the bridge was opened in 1922, it was the first permanent crossing of the Missouri River in North Dakota and was christened Liberty Memorial in honor of World War I soldiers from our state. The old Liberty Memorial Bridge has served our state well, and the new one will continue to honor our veterans." Later that day, one lane of traffic in each direction was temporarily provided on the new bridge until the west bridge approach is completed later this fall. A formal dedication ceremony will be held later this fall. Four lanes of traffic will then be allowed to flow unrestricted across the new bridge.

The closing of the old two-lane Liberty Memorial Bridge marked the end of nearly 86 years of service by

the bridge to the traveling public from throughout the communities of Bismarck and Mandan, the state, and the nation. The old bridge was listed on the National Register of Historic Places in 1997. Small remnants of the old bridge superstructure will be saved and placed on permanent display on replica piers within the two parks scheduled to be created on the footprint of the old bridge on each side of the Missouri River. The parks will also feature interpretive panels depicting the old bridge and describing its rich and storied history.

The demolition and removal of the old bridge will be completed incrementally as individual spans will be removed during the upcoming fall and winter. The east plaza is to be completed in the spring of 2009. The construction of the parks will begin in mid-summer 2009 with completion in 2010. Then the numerous hours of planning, design and construction effort associated with the new Liberty Memorial Bridge will come to an end. More than 47 million dollars will have been spent on the construction, design, right-of-way acquisition, and engineering associated with the bridge.



Clint Fleckenstein, the last person to drive over the old Liberty Memorial Bridge, July 31, 2008, being interviewed for KFYR-TV news (Mel Bullinger photo).

Future generations may very well travel across the bridge without giving a second thought to the effort expended by the current generation to provide them with a safe and reliable means to cross the Missouri River. Ultimately time will tell whether our joint efforts have resulted in a "bridge for the ages."

For more information about this project, go to: <http://www.memorialbridge.info/index.html>.

Liberty Memorial Bridge Information Sheet



1922 Liberty Memorial Bridge

The existing Liberty Memorial Bridge was completed in 1922 as a final link in the transcontinental highway called the Red Trail, later called the National Parks Highway and then Highway 10. It was the first permanent crossing of the Missouri River in North Dakota. The nearest bridges across the Missouri River at the time were in Sioux City, Iowa, and Great Falls, Montana.

It was christened the Liberty Memorial Bridge in honor of the World War I soldiers from North Dakota.

1922 Bridge Facts

Work began June 1920

Completed September 1922

Construction cost \$1.375 million

Length 2,550 feet

Two four-foot sidewalks

Deck width (including sidewalk) = 38 feet

Traffic count = Estimated 2,570 vehicles/day

Materials include:
2,800 tons of steel
467 tons of concrete
80,000 rivets

Construction crew members = 200+



2008 Liberty Memorial Bridge

The new Liberty Memorial Bridge is 2,369 feet long with a main span of 1,658 feet across the water. Work began in June of 2006 and the final two lanes (Phase II) are to be completed by late fall 2008. Project completion, which includes dismantling of the existing bridge, removal of all salvage material and completion of the riverside parks, is set for summer or fall of 2009.

The new bridge will continue to honor veterans by recognizing all branches of the military and those who serve our country. Its design incorporates two plazas and five overlooks as a tribute to military veterans.

2008 Bridge Facts

Work began June 2006

Completed late fall 2008

Construction cost: (the project is not yet complete) estimated \$49.4 million without utilities, right of way and engineering

Length 2,369 feet

One 10-foot sidewalk

Deck width (including sidewalk) = 84 feet 8 inches

Traffic count = Approx. 15,000 vehicle/day

Materials include:
5,471 tons of steel (reinforcement & structural)
38,946 tons of concrete
21,000 bolts

Construction crew members = core crew numbers ranged from 14-40 per day, plus many subcontractors.



MEMBRANE TECHNOLOGY WORKSHOP APRIL 28 & 29, 2009 KELLY INN, BISMARCK, ND

We invite you to join us for the Membrane Technology Workshop presented by the North Dakota Section of the American Water Works Association (NDAWWA). This day-and-a-half workshop will provide information to assist decision makers, as well as train and inform current and future operators through presentations by experts in the field and discussion forums on the hottest topics in the membrane industry.

Operators, managers, commissioners, technology developers, researchers and consultants interested in the unique characteristics of membrane applications in the Midwest (including small systems) are strongly encouraged to attend.

DESIGN TRACK: WEDNESDAY AFTERNOON - APRIL 28 (Tentative Schedule)

- 1:00 PM Welcome
- 1:15 PM Introduction to Membranes in Water Treatment Plants & Overview of Membranes in North Dakota
- 2:00 PM Regulatory Design Considerations & Approval
- 2:45 PM State of the Art & Future of Membranes
- 3:30 PM Break
- 3:45 PM Cost Considerations for Design and Operation of Membrane Systems
- 5:00 PM Social

OPERATIONS TRACK: THURSDAY - APRIL 29 (Tentative Schedule)

- 7:00 AM Breakfast Provided
- 8:00 AM Startup Considerations
- 8:45 AM Concentrate Disposal - Where and How
- 9:30 AM Membrane Maintenance
- 10:15 AM Break
- 10:30 AM O&M Case Study - Grand Forks-Traill Rural Water District
- 11:15 AM Panel Discussion with Key Water Treatment Plant Operators
- 12:00 PM Lunch Provided
- 1:00 PM Transitioning Staff to Membrane Treatment
- 1:45 PM Design Pros and Cons
- 2:30 PM Break
- 2:45 PM Panel Discussion with Key Membrane Vendors
- 3:45 PM Summary of Membrane Experience in ND/Troubleshooting Tips
- 4:15 PM Adjourn



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Infrastructure Improvements Needed to Keep Pace with Mandan Growth

Ellen Huber, Mandan Business Development Director

Mandan is one of the state's fastest growing communities. The U.S. Census Bureau recently released population estimates for North Dakota cities as of July 1, 2007. The new population estimate for the city of Mandan is 17,736, an increase of 407 or 2.3 percent from the same time the previous year.



The new Mandan Middle School, July 2008

Since the year 2000, the U.S. Census Bureau has bumped Mandan's population by 1,018 people in total. We're proud of this growth, but it doesn't yet seem to account for all the building permits issued for new residences.

Permits were issued for 1,453 new residential units (single family homes, condominiums and apartments) between the years 2000 and 2007, including a record 259 new units in 2007 alone. More than one person is occupying a goodly share of these new residences – sometimes families of three, four or more. So, even if average occupancy were two people per new residence, it's not unreasonable to guess that our population might actually be closer to 19,624. That would amount to growth of 17 percent since the year 2000!

Keeping pace with Mandan development and the need to update aging infrastructure is challenging all community entities — city, park district and school district — and all departments within the city including public works, engineering and planning, assessing and building inspection, police and fire protection, and business development.

As an example, city planner Sarah BaeHurst reports that since the year 2000, Mandan has added 42 miles

of streets (a 43 percent increase), 32 miles of water mains (a 34 percent increase), and 223 fire hydrants (a 28 percent increase). Daily average consumption of water has increased by more than three-quarters of a million gallons, a 38 percent increase in just eight years. She says Mandan appears to be continuing its growth at the same pace. She predicts that Mandan's population in 2010 will be near 21,000.

Here are some highlights of additional projects underway in Mandan:

- A new housing development is in the works in south Mandan resulting in property annexation at the request of the owner, a new sanitary lift station, and sewer and water mains. The city will be paving the western half of 19th Street, which connects existing housing developments and the new development to Highways 1806 and 6. The 19th Street project will add approximately 1 mile of street and services to the city, plus an unknown quantity at this point from the new housing development.
- A new middle school will open in August, necessitating some street and sidewalk improvements to ensure public safety and smooth traffic flow.
- A new fire station is being built in the southeast area of the community to serve Memorial Highway and housing developments on the banks of the Missouri River and the surrounding waterfront.



Mandan Avenue Construction

- Plans are underway for a new 4-million-gallon compartmental water reservoir to be constructed on the south side of Mandan. It will replace a 70-year-old 1-million-gallon steel ground reservoir that has experienced several leaks and required repairs in recent years. The new reservoir and the transmission line will provide a second source of water for Memorial Highway and growing residential areas south of Main Street.
- An optimization project is also underway for the water treatment plant to assure compliance with safe drinking water standards now and in the future.
- To dispose of solid waste sludge from the waste water treatment plant, a new liquid land application process is being implemented, requiring the purchase of additional equipment.
- The Liberty Memorial Bridge crossing the Missouri River is under construction and slated to open by the end of 2008.
- The North Dakota Department of Transportation is also replacing the Heart River Bridge connecting west Main Street to Business I-94/old Highway 10.



The new park/public plaza area on the south side of Mandan's Main Street

- Mandan Avenue, a north-south arterial connecting I-94 with East Main Street, is being reconstructed. Coinciding with this project is the construction of Division Street E. This new street, which includes a quiet rail crossing, connects to Missouri Drive and provides a much needed second access for a residential and commercial development bordering the interstate. Both street projects include new water mains, curb, gutter and multi-use paths. The Mandan Avenue project also includes a new storm sewer.



Old Red Trail, multi-use path

- Mandan currently has 14 miles of multi-use paths. This trail system will be continued as street improvement projects and expansion of the city occurs for the benefit of walkers and bicyclists.
- Downtown Mandan is undergoing a revitalization project to coincide with remediation of an underground diesel fuel spill. Green space has been expanded for public events, and streetscape elements have been implemented to make the central business district more pedestrian-friendly. The Renaissance Zone program and a Storefront Improvement Program are helping to retain and attract businesses.
- Downtown revitalization projects are attracting investment in dense residential, mixed-use projects and new businesses that will increase off-street parking needs and traffic during evening hours.

City leaders and staff look forward to addressing the issues associated with community progress and growth.

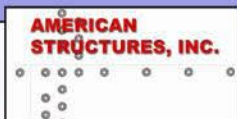
The city commission bears the responsibility of finding funding for improvements while trying to hold the line on property taxes. City leaders are proud that they've been able to reduce the city's share of the mill levy from 130 mills in 1993 to 107 in 2007 to help keep taxes steady.



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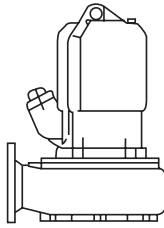
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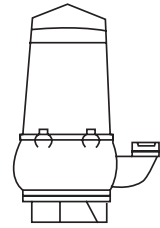
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President's Letter

Dear Conference Members and Friends:

I would like to invite you to attend the 80th Annual Joint Meeting of the North Dakota Water and Pollution Control Conference, the North Dakota Water Environment Association, the North Dakota Section of the American Water Works Association and the North Dakota Chapter of the American Public Works Association. The Conference this year will be held October 8, 9 and 10 at the Best Western Ramkota Inn in Bismarck.

Public works issues have become more complex with new regulation and technology. This year's Conference offers you a great opportunity to access information and contacts that will benefit your city or organization. It will feature a variety of informative and interesting presentations from which to choose. It also gives us an opportunity to acknowledge our peers for outstanding service and dedication and to interact with our friends and colleagues.

These professional organizations are dedicated to helping you be more responsive and effective in your job to enhance the lives of our citizens. I encourage you to take advantage of this opportunity.

Plan to attend. I'll see you in Bismarck!

Sincerely,
Terry Rust, President
North Dakota Water and Pollution Control Conference



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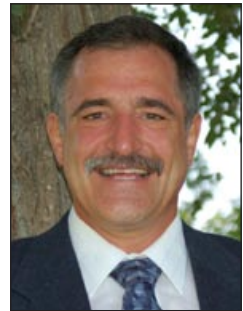
MIRANDA KLEVEN
Grand Forks
VICE PRESIDENT



CHUCK ABEL
Bismarck
DIRECTOR



KARLA OLSON
Fargo
DIRECTOR



BILL GEFROH
Bismarck
DIRECTOR



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Bismarck
DIRECTOR



KEVIN MARTIN
Bismarck
ASSOCIATE DIRECTOR



MIKE BRISBEN
Bismarck
SECRETARY-TREASURER

JOINT MEETINGS OF THE

NORTH DAKOTA WATER AND POLLUTION CONTROL CONFERENCE 80TH ANNUAL CONFERENCE

NORTH DAKOTA CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION 53RD ANNUAL CONFERENCE

NORTH DAKOTA WATER ENVIRONMENT ASSOCIATION 49TH ANNUAL CONFERENCE

NORTH DAKOTA SECTION OF THE AMERICAN WATER WORKS ASSOCIATION 18TH ANNUAL CONFERENCE

OCTOBER 8, 9 AND 10, 2008
BISMARCK, NORTH DAKOTA
BEST WESTERN RAMKOTA HOTEL
800 S 3RD STREET
701-258-7700

OFFICERS

NORTH DAKOTA WATER AND POLLUTION CONTROL CONFERENCE

Terry Rust, President West Fargo
Lisa Ansley, President-Elect Bismarck
Miranda Kleven, Vice President Grand Forks
Mike Brisben, Secretary-Treasurer Bismarck
Bill Gefroh, Director Bismarck
Chuck Abel, Director Bismarck
Karla Olson, Director Fargo
Gary Bracht, Director Bismarck
Kevin Martin, Associate Director Bismarck

NORTH DAKOTA CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION

Kevin Bucholz, President West Fargo
Rusten Roteliuk, Vice President Minot
Chuck Abel, Executive Secretary Bismarck
Sarah BaeHurst, Delegate Mandan
Dale Heinert, Alternate Delegate Bismarck
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Rick Gillund, Director Enderlin
Shawn Soehren, Director Dickinson
Deon Stockert, Director Bismarck
Don Jonasson, Director Minot
Chuck Abel, Past President Bismarck

NORTH DAKOTA WATER ENVIRONMENT ASSOCIATION

Seth Lynne, President West Fargo
Eric Dodds, President-Elect Moorhead
Roger "Skip" Rapp, Vice President Dickinson
Bill Gefroh, Secretary-Treasurer Bismarck
Tom Welle, Director Moorhead
Terry Rust, PWOD Representative West Fargo
Richard Wanner, Past President Bismarck

NORTH DAKOTA SECTION OF THE AMERICAN WATER WORKS ASSOCIATION

Brett Jochim, Chair Bismarck
Joe Ferguson, Chair-Elect Grand Forks
Jack Long, Director Bismarck
Dean Sletten, Trustee Moorhead
Tim Paustian, Trustee Fargo
Duane Friesz, Trustee Mandan
Eric Volk, Trustee Anamoose
David Bruschwein, Secretary-Treasurer Bismarck
David Johnson, Past Chair Carrington

REGISTRATION FORM

JOINT MEETING OF THE
NORTH DAKOTA WATER & POLLUTION CONTROL CONFERENCE
NORTH DAKOTA CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION
NORTH DAKOTA WATER ENVIRONMENT ASSOCIATION
NORTH DAKOTA SECTION OF THE AMERICAN WATER WORKS ASSOCIATION
October 8, 9 and 10, 2008, Best Western Ramkota Hotel, Bismarck, North Dakota 701.258.7700

COMPLETE AND RETURN TO:

NDWPCC
918 E. Divide Ave. 3rd Fl.
BISMARCK ND 58501-1947
PHONE: (701) 328-6622

Write in Costs

- A. PACKAGE REGISTRATION (\$130.00)
Includes all fees for registration,
banquet, buffet and noon luncheons. _____

**PACKAGE REGISTRATION AFTER SEPTEMBER 20, 2008
(\$150.00)** _____

- B. INDIVIDUAL COSTS IF PACKAGE FEE IS NOT SELECTED

Registration (\$50.00) _____
Student Registration (\$10.00) _____
Wed. Luncheon AWWA (\$10.00) _____
Wed. Evening Buffet (\$23.00) _____
Thurs. Buffet Breakfast (Sponsored by Tabletop Exhibitors) FREE
Thurs. Luncheon WEA (\$11.00) _____
Thurs. Evening Banquet (\$33.00) _____
Fri. Luncheon NDWPCC & APWA (\$11.00) _____

- C. REGISTRATION FOR SPOUSE/GUEST

Name _____
Wed. Evening Buffet (\$23.00) _____
☐ Please check if your spouse/guest is planning to attend the
free breakfast buffet.
Thurs. Evening Banquet (\$33.00) _____
List any luncheons your spouse/
guest may wish to attend: _____

- D. TOTAL REGISTRATION FEES _____
TOTAL MEMBERSHIP FEES (from section F) _____

TOTAL PAYMENT DUE

MAKE CHECK PAYABLE TO:

NDWPCC or ND Water & Pollution Control Conference

- | | | |
|---------------------------------|--------------------------------|---|
| Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Do you qualify as a water treatment or water distribution operator for a system serving 3,300 or less? This will determine eligibility for reimbursement. |
| Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Do you plan to participate in the golf tournament starting at 1:00 p.m. on Wednesday at the Hawktree Golf Club?
Your average score or handicap _____.
The golf course will be charging a green and golf cart fee. |
| Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Do you plan to participate in the field trips to Bismarck and Mandan's municipal facilities on Thursday morning? City officials will be available for directions, and maps are available at the registration desk. |
| Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Do you plan to participate in the Trivia Night activities on Wednesday? |
| Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Do you plan to participate in the Casino Excursion on Wednesday? Transportation provided. |

- E. USE ONLY ONE NAME PER APPLICATION
(Make copies if more are needed.)
(PLEASE PRINT)

Name _____

Address _____

City, State & Zip Code _____

Your Name/Position/Job Title
To Be Used on Name Badge

Employer _____

Work Phone No. _____

Fax Phone No. _____

Email Address _____

- F. **MEMBERSHIPS**

(for new members or members wishing to pay
during Conference registration)

WATER ENVIRONMENT FEDERATION

Active - (\$83.00) _____

NDWEA Operators
Division - (\$47.00) _____

NDWEA Student - (\$10.00) _____

Corporate - (\$260.00) _____

Retired - (\$35.00) _____

**ND CHAPTER AMERICAN PUBLIC WORKS
ASSOCIATION**

Individual - (\$133.00) _____

AMERICAN WATER WORKS ASSOCIATION

Active - (\$150.00) _____

Operations - (\$62.00) _____

Student - (\$25.00) _____

TOTAL MEMBERSHIP FEES

- G. **FOR CONFERENCE USE ONLY:**

PAID BY: Check _____ Cash _____ Charge _____

Check No. _____

2008 ANNUAL CONFERENCE ACTIVITIES

REGISTRATION

Wednesday	8:30 a.m. - 8:30 p.m.
Thursday	8:00 a.m. - 4:00 p.m.
Friday	8:00 a.m. - 10:00 a.m.
Courtyard	

WATER AND WASTEWATER

OPERATOR CERTIFICATION EXAMINATIONS

Wednesday	7:30 a.m. - 11:30 a.m.
Room 2130	

MEALS

Wednesday Lunch	11:30 a.m.
Missouri Ballroom	
Wednesday Buffet Dinner	5:00 p.m. - 7:00 p.m.
Courtyard	
Thursday Free Buffet Breakfast	8:00 a.m. - 10:00 a.m.
Sponsored by Vendors and Suppliers Patterson and Lamborn Rooms of the Dakota Ballroom	
Thursday Lunch	11:45 a.m.
Grand Pacific Room of the Dakota Ballroom	
Thursday Social	5:30 p.m.
Courtyard	
Thursday Banquet	6:30 p.m.
The Dakota Ballroom	
Friday Lunch	12:00 p.m.
Missouri Room	

TABLETOP DISPLAY PROGRAM

PATTERSON AND LAMBORN ROOMS OF THE DAKOTA BALLROOM

Wednesday	8:30 a.m. - 8:30 p.m.
Check in at the Registration Desk	
Wednesday	7:00 p.m. - 9:00 p.m.
Setup Time	
Thursday	7:00 a.m. - 7:30 a.m.
Last Chance Setup Time	
Thursday	7:30 a.m. - 11:30 a.m.
Display Hours	
Thursday	11:30 a.m. - 1:30 p.m.
Takedown Time	

GOLF TOURNAMENT

Wednesday	1:00 p.m.
Hawktree Golf Club, 3400 Burnt Creek Loop	

CASINO EXCURSION

Wednesday	7:00 p.m. - 11:00 p.m.
There will be a \$15.00 transportation fee, which will be refunded by \$15.00 in Casino tokens. Meet at the Dakota Ballroom Entrance Door 4 - bus departs at 7:00 p.m. Bus departs from Casino at 11:00 p.m. to return to Bismarck.	

TEAM TRIVIA NIGHT

Wednesday	7:00 p.m. - 9:00 p.m.
Courtyard	

FIELD TRIPS

Bismarck and Mandan Municipal Facilities	
Thursday	9:45 a.m.
Department of Emergency Services	
Thursday	10:00 a.m.
Transportation is on your own; maps will be provided.	

LOCAL ARRANGEMENTS COMMITTEE

Lisa Ansley	Steve Himmelspach
Sarah BaeHurst	Charlie Jaskowiak
Mel Bullinger	Brett Jochim
Keith Demke	Kevin Martin
Duane Friesz	Gale Nicholson
Bill Gefroh	Richard Wanner
Dale Heinert	

2008 MEETING SCHEDULE

TUESDAY

7:30 p.m. **Preconference Meeting**
North Dakota Section of the American Water Works Association (NDAWWA)
Governor's Room

WEDNESDAY

7:30 - 11:30 a.m. **Water and Wastewater Operator Certification Examinations**
North Dakota Department of Health
Room 2130

7:30 a.m. **Officers Meeting**
NDAWWA
Governor's Room

8:00 a.m. **Officers Meeting**
North Dakota Chapter of the American Public Works Association (NDCAPWA)
Room 2160

8:00 a.m. **Officers Meeting**
North Dakota Water Environment Association (NDWEA)
Room 3160

9:30 a.m. **Business Meeting**
Joint Board of Directors of the North Dakota Water and Pollution Control Conference (NDWPCC),
the NDCAPWA, the NDWEA and the NDAWWA
Governor's Room

10:30 a.m. **AWWA Committee Meetings**
NDAWWA
Governor's Room

11:30 a.m. **Business Meeting**
NDAWWA
Missouri Ballroom

1:00 p.m. **Hawktree Golf Club**
3400 Burnt Creek Loop

1:15 - 5:00 p.m. **Concurrent Sessions**
Dakota Ballroom

THURSDAY

9:00 a.m. **North Dakota Operator Certification Advisory Committee Meeting**
Room 3160

11:45 a.m. **Business Meeting**
NDWEA
Grand Pacific Room

1:15 - 5:00 p.m. **Concurrent Sessions**
Missouri Ballroom

FRIDAY

7:30 a.m. **Annual Public Works Directors and City Engineers Meeting**
Room 3160

8:00 - 11:45 a.m. **Concurrent Sessions**
Dakota Ballroom

11:30 a.m. **Business Meetings**
NDCAPWA and NDWPCC
Missouri Ballroom

FUTURE CONFERENCES

2009 - Minot; October 20, 21 and 22; Grand International Inn

2010 - Fargo, October 12, 13 and 14; Holiday Inn

2011 - Bismarck, October 11, 12 and 13, Ramkota Hotel

WEDNESDAY, OCTOBER 8, 2008

11:30 a.m. Luncheon and Business Meeting, NDAWWA
Missouri Ballroom
Chair: Brett Jochim Presiding
Guest Speaker: Craig Woolard, President-Elect, AWWA, Anchorage, AK

Welcome: Bismarck Mayor John Warford
NDAWWA Chair Brett Jochim

AFTERNOON CONCURRENT SESSIONS

SESSION A			SESSION B			SESSION C		
Grand Pacific Room of the Dakota Ballroom Moderator: Lisa Ansley, President-Elect, NDWPCC			Patterson Room of the Dakota Ballroom Moderator: Skip Rapp, Vice President, NDWEA			Lamborn Room of the Dakota Ballroom Moderator: Deon Stockert, Director, NDCAPWA		
1:15 p.m.	TITLE: "Recent Infrastructure Improvements in Bismarck"		1:15 p.m.	TITLE: "Vermont Avenue Stormwater Pumping Station"		1:15 p.m.	TITLE: "Mandan Downtown Diesel Fuel Remediation Project"	
SPEAKERS: Mel Bullinger, City Engineer, City of Bismarck, Keith Demke, Director of Utility Operations, City of Bismarck			SPEAKERS: Mike Berg, Water & Wastewater Services, Ulteig Engineers Scott Schneider, Water Resources, Ulteig Engineers			SPEAKER: Tim Kenyon, Vice President, Leggette, Brashears, & Graham, Inc.		
2:15 p.m.	TITLE: "AWWA Town Hall Meeting"		2:15 p.m.	TITLE: "Small System Sewer Rehabilitation and Funding Strategies"		2:15 p.m.	TITLE: "Challenges of Tribal Rural Water Systems"	
SPEAKER: Craig Woolard, President-Elect, AWWA, Treatment Director, Anchorage Water and Wastewater Utility			SPEAKER: Richard Wagner, Water & Waste Water Project Engineer, AE ₂ S			SPEAKERS: Tom Thompson, Civil Engineer, Bureau of Reclamation Ryan Waters, General Engineer, Bureau of Reclamation		
2:45 p.m.	Break		2:45 p.m.	Break		2:45 p.m.	Break	
3:00 p.m.	TITLE: "Angle Wells, Ozone, and Membranes: A Great Combination"		3:00 p.m.	TITLE: "ND WARN - Operations: How it Works" Round Table Discussion		3:00 p.m.	TITLE: "Why Invest in GIS?"	
SPEAKER: Jim Lennington, Project Manager, Bartlett & West			SPEAKERS: ND WARN Committee ND Department of Emergency Services			SPEAKER: Mike Schnetzer, GIS Project Manager, Ulteig Engineers		
4:00 p.m.	Adjourn All Sessions		4:00p.m.	Adjourn All Sessions		4:00 p.m.	Adjourn All Sessions	
5:00 - 7:00 p.m.	Buffet Dinner, Courtyard							
7:00 - 9:00 p.m.	Team Trivia, Courtyard							

SolarBee/Pump Systems, Inc.
Wastewater Ponds Freshwater Lakes
Potable Water Resources

530 25th Ave E. PO Box 1940
Dickinson, ND 58601
701-225-4494 or 800-437-8076
www.solarbee.com

THURSDAY, OCTOBER 9, 2008

7:30 a.m. - 11:30 a.m.	Tabletop Display Program Patterson and Lamborn Rooms of the Dakota Ballroom	11:45 p.m.	Luncheon and Business Meeting, NDWEA Grand Pacific Room of the Dakota Ballroom President: Seth Lynne Presiding Guest Speaker: Jeanette Brown, WEF Board of Trustees, Stamford, CT
8:00 a.m. - 10:00 a.m.	Free Breakfast Buffet - Sponsored by the vendors and suppliers Patterson and Lamborn Rooms of the Dakota Ballroom		

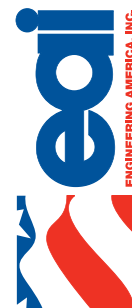
AFTERNOON CONCURRENT SESSIONS

SESSION A		SESSION B		SESSION C	
Heart Room of the Missouri Ballroom Moderator: Joe Ferguson, Chair-Elect, NDAWWA		Sheyenne Room of the Missouri Ballroom Moderator: Tom Welle, Director, NDWEA		Cannonball Room of the Missouri Ballroom Moderator: Darin Schaeffer, Secretary-Treasurer, NDCAPWA	
1:15 p.m.	TITLE: "Infrastructure Reconstruction - Experience in Iraq" SPEAKER: Sherwin Wannier, Project Manager/Project Engineer, Houston, Engineering, Inc.	1:15 p.m.	TITLE: "Emerging Contaminants" SPEAKER: Michael Meyer, Research Hydrologist, U.S. Geological Survey	1:15 p.m.	TITLE: "Mandan Water Treatment Plant and Distribution System Master Plan" SPEAKER: Brett Jochim, Chief Operating Officer, AE ₂ S
2:15 p.m.	TITLE: "Chlorination Fundamentals" SPEAKER: Delvin DeBoer, Director of Water and Environmental Engineering Research Center, SDSU	2:15 p.m.	TITLE: "Fundamentals of pH and Dissolved Oxygen" SPEAKER: Eric Lehmann, Regional Sales Manager, Hach Company	2:15 p.m.	TITLE: "Ground Water Rule" SPEAKER: Gary Stefanovsky, Environmental Scientist, ND Department of Health
2:45 p.m.	Break	2:45 p.m.	Break	2:45 p.m.	Break
3:00 p.m.	TITLE: "Filtration Fundamentals" SPEAKER: Delvin DeBoer, Director of Water and Environmental Engineering Research Center, SDSU	3:00 p.m.	TITLE: "Wastewater Sample Collection" SPEAKER: Bill Gefroh, Lab Manager/Industrial Pretreatment Coordinator, City of Bismarck	3:00 p.m.	TITLE: "Pump Hydraulics" SPEAKER: Mike Berg, Water and Wastewater Services, Ulteig Engineers
3:30 p.m.	TITLE: "Bismarck Horizontal Collector Well" SPEAKER: Deon Stockert, Drinking Water Manager, AE ₂ S	3:30 p.m.	TITLE: "Geosynthetic Geomembranes" SPEAKER: Jeff Pankonie, Senior Sales Engineer, Firestone Specialty Products	3:30 p.m.	TITLE: "If You're Level, Then Why Settle? Don't Excavate/We Can Rehabilitate" SPEAKER: Jeff Janiksela, Sales/Project Manager, Infratech
4:30 p.m.	Adjourn	4:30 p.m.	Adjourn	4:30 p.m.	Adjourn
5:30 p.m.	Social Hour, Courtyard				
6:30 p.m.	Banquet, Dakota Ballroom				

FRIDAY, OCTOBER 10, 2008

MORNING CONCURRENT SESSIONS

SESSION A		SESSION B		SESSION C	
Grand Pacific Room of the Dakota Ballroom Moderator: Duane Friesz, Trustee, NDAWWA		Patterson Room of the Dakota Ballroom Moderator: Karla Olson, Director, NDWPCC		Lamborn Room of the Dakota Ballroom Moderator: Sarah BaeHurst, Delegate, NDCAPWA	
8:30 a.m.	TITLE: "2008 Water Distribution - Panel Discussion" SPEAKER: Deon Stockert, Moderator NDAWWA	8:30 a.m.	TITLE: "How a Variable Frequency Drive Works" SPEAKER: Brian Peterson, Product Specialist, Danfoss	8:30 a.m.	TITLE: "Proprietary Manufactured Stormwater Treatment Systems" SPEAKER: Philip Taylor, Regional Sales Manager - Great Lakes East, Hydro International
9:30 a.m.	TITLE: "Fundamentals of Softening" SPEAKER: Harvey Gullicks, Associate Professor of Civil Engineering, UND	9:30 a.m.	TITLE: "Mandan Biosolids Improvement Project" SPEAKERS: Steve Himmelsbach, Waste Water Treatment Plant Superintendent, City of Mandan Seth Lynne, Project Engineer, Ulteig Engineers	9:30 a.m.	TITLE: "Bismarck Water Treatment Sludge Plant Case Study" SPEAKER: Russell Sorenson, Operations Manager, AE ₂ S
10:00 a.m.	Break	10:00 a.m.	Break	10:00 a.m.	Break
10:15 a.m.	TITLE: "Update Stage 2 DBP - Requirements for all PWSs" SPEAKERS: Larry Thelen, Drinking Water Program Administrator, ND Department of Health Lydia Fewless, Environmental Scientist, ND Department of Health	10:15 a.m.	TITLE: "PCCP Foremain Inspections: A Grand Forks Case Study" SPEAKER: Judel Buls, Project Manager, AE ₂ S	10:15 a.m.	TITLE: "Industrial Pretreatment" - Panel Discussion SPEAKERS: Gray Bracht, Environmental Engineer, ND Department of Health Terry Rust, Lab/Industrial Pretreatment Coordinator, City of West Fargo Bill Gefroh, Lab Manager/Industrial Pretreatment Coordinator, City of Bismarck
11:15 a.m.	Adjourn All Sessions	11:15 a.m.	Adjourn All Sessions	11:15 a.m.	Adjourn All Sessions
11:30 p.m.	Joint Luncheon and Business Meetings, NDCAPWA (President Kevin Bucholz presiding) and NDWPCC (President Terry Rust presiding) Missouri Ballroom				



Engineering America, Inc.
647 Hale Ave N
Oakdale, MN 55128
Ph: 651-777-4041
Fax: 651-777-5312
www.engamerica.com

Anthony (Tony) J. Belden

Cell: 612-868-1097
tbelden@engamerica.com

Matthew Fritze

Cell: 952-239-2264
mfritze@engamerica.com

Desk Reference Guide to Exhibitors in the Tabletop Display Program

October 9, 2008 7:30 a.m. - 11:30 a.m.

Patterson and Lamborn Rooms of the Dakota Ballroom

Table #1

North Dakota Section of the American Water Works Association Water Taste Test Contest

Table #2

North Dakota Section of the American Water Works Association Water for People

Table #3

North Dakota Water Environment Association

Table #4

North Dakota Chapter of the American Public Works Association

Table #5

North Dakota LTAP Center Dave Levi
UGPTI 701-328-9855
515 ½ Broadway Ave. E., Ste.101
Bismarck, ND 58501 FAX 701-328-9866
denise.brown.1@ndsu.edu

North Dakota Local Technical Assistance Program's (NDLTAP) mission is to foster safe, efficient, environmentally sound and cost-effective highway, road and street systems by exchanging technology with North Dakota's local units of government and transportation community through training, technical assistance and information services.

Table #6

Widseth Smith Nolting Dan Johnson
2715 Washington St. S. 701-795-1975
Grand Forks, ND 58208 FAX 701-795-1978
dan.johnson@wsn-mn.com

Widseth Smith Nolting (WSN) is a multi-disciplined firm that has been providing professional services since 1975. Our team of registered engineers, architects, environmental scientists, and land surveyors works together to provide comprehensive, coordinated services. WSN specializes in municipal engineering and serves more than 70 communities. We focus on municipal and industrial wastewater collection and treatment; water storage, treatment, and distribution, including rural water systems; streets and highways; drainage; and site evaluation and engineering. Offices are located in Grand Forks, ND, and Alexandria, Bemidji, Brainerd/Baxter, and Crookston, MN and Sioux Falls, SD.

Table #7

Thein Well Co. Dan Crannick
11355 Hwy 71 NE 320-796-2111
Spicer, MN 56288 FAX 320-796-2114
dan@theinwell.com

In business since 1893, Thein Well Co. is a full service well contractor specializing in municipal, residential, irrigation and geo-thermal drilling and service covering a six-state region of the Upper Midwest.

Table #8

Electric Pump, Inc. Tim Miller
200 W 88th St., Ste. 1 952-884-5394
Bloomington, MN 55420 FAX 952-884-3239
angieh@electricpump.com

Distributor of pumps, controls and water and wastewater treatment products.

Table #9

Hach Company Eric Lehmann
4119 Hall St. 800-227-4224 Ext. 2110
Rapid City, SD 57702 elehmann@hach.com

Hach Company manufactures and distributes analytical instruments and reagents used to test the quality of water and other aqueous solutions. Our systems are designed to simplify analysis and offer complete, easy-to-follow methods; high-quality prepared reagents; accurate portable, laboratory, and on-line instrumentation; and life-time technical support. Our goal is to offer quality and competent, friendly support.

Table #10

Mishler Sales Inc. Rex Mishler
222 N. Frontage Rd. 406-633-2316
Park City, MT 59063 FAX 406-633-2650
mishler@wtp.net

Mishler Sales Inc. represents manufacturers of quality products for the water, wastewater, storm drainage and irrigation markets. We assist designers, owners, distributors and contractors in selecting products for use in those markets. Our industry experience is in restrained joint PVC pipe, pipe joint restraints, storm drainage pipe, repair clamps, couplings, casing spacers, service saddles, tapping sleeves, hydraulic control valves, blowoff hydrants, water sampling stations, air valves, combination air valves, plug valves, butterfly valves, sewer service branch connections, PVC fittings, HDPE manhole adjusting rings, dechlorination equipment and other related items.

Table #11

Houston Engineering, Inc. Kevin Martin, PE
 3712 Lockport St. 701-323-0200
 Bismarck, ND 58503 FAX 701-323-0300
 kmartin@houstonengineeringinc.com

Serving clients in the Upper Midwest, Houston Engineering, Inc. was established in Fargo in 1968, and has grown to include offices in Minneapolis, Minn., Bismarck, N.D., Thief River Falls, Minn. and Minot, N.D. Services are also provided from Billings, Mont. and Barnesville, Minn. Services include: engineering, surveying and environmental consulting services; water resources management (water supply, wastewater, waste, watershed, urban stormwater and lake); hydraulic, hydrodynamic and hydrologic modeling; water supply and drought planning; flood control; flood insurance studies and wetland delineation. Client services also include municipal engineering; transportation engineering; surveying and GIS services; web mapping and database applications and web page development.

Table #12

Sweeney Controls Company Mike Phillips
 234 28th St. S 701-232-3644
 Fargo, ND 58103 FAX 701-232-3635
 mphilips@sweeneycontrols.com

Sweeney Controls provides control systems and integration services for water and wastewater systems ranging in size from relay-based panels for lift stations to completely integrated control systems for large treatment facilities and SCADA systems. With a staff that includes panel builders, field technicians, control engineers and project engineers, we offer services including consulting, project development, project management, PLC programming, HMI programming, software programming, control panel construction and on-site system commissioning. Sweeney Controls Company is committed to understanding its customers' needs to develop a solution that meets and exceeds their expectations. Our manufacturing facility is UL 508A and 698A certified.

Table #13

Flexible Pipe Tool Co. Nate Petron
 30577 Pearl Dr. 320-363-7552
 St. Joseph, MN 56374 FAX 320-363-7882
 flexiblepipe@qwestoffice.net

Distributor of sewer cleaning and inspection equipment. Our product lines include Aquatech, Aries and Screco Flexible, but we service all brands including water pump rebuilds.

Table #14

24-7 Paul Twite
 13700 Water Tower Circle 763-231-4950
 Plymouth, MN 55441 FAX 763-231-4951
 paultc24-7@power.com

Supplier of Predictive Maintenance Tools, Trainer of Predictive Maintenance Technologies, Provider of Predictive Maintenance Services.

Table #15

Odorox Midwest Brandon Leingang
 1415 Airport Road Ste. B 701-751-3331
 Bismarck, ND 58504 FAX 701-223-8752
 brandon@odoroxmidwest.com

The Odorox Hydroxyl Generator uses a technology that processes mold, viruses, bacteria and odors. The Hydroxyl Generator actually neutralizes odor molecules and gasses by breaking down their chemical bonds. This can be done even with some of the most difficult molecules, such as Hydrogen Sulfide (H₂S) and Ammonia (NH₃). The Odorox Hydroxyl Generator optics creates synthetic ultraviolet rays. The Hydroxyl Generator is ideal for odor abatement, Volatile Organic Compound (VOC) breakdown, indoor air purification, air decontamination and eradication of mold and mildew.

Table #16

Kadrmars, Lee & Jackson, Inc. Brian Eiseman
 PO Box 1157 701-355-8400
 Bismarck, ND 58502 FAX 701-355-8781
 brian.eiseman@kljeng.com

Kadrmars, Lee & Jackson, Inc. is a multi-disciplined consulting engineering firm providing expertise in several areas including: municipal engineering, transportation engineering, airports, surveying, telecommunications, environmental, land-use planning, GIS and alternative energy development.

Table #17

North Dakota Sewage Pump Co. Jim Hughes
 1740 Main Ave. E., #3 701-282-6760
 West Fargo, ND 58078 FAX 701-282-3579
 ndstinker@ideaone.net

We sell and service all makes of wastewater pumps, controls and all lift station related items. We have been in business since 1973, and are the area distributors for ABS and Goulds wastewater equipment. We specialize in annual service contracts to municipal, state and industrial lift stations. We have fully equipped pump service rigs available around the clock, and currently sell and service equipment in North Dakota, South Dakota, Minnesota and Montana.

Table #18

Firestone Specialty Products Terry L. Anderson
 PO Box 7 507-238-4608
 Fairmont, MN 56031 FAX 507-238-4608
 odysseymkt@charter.net

Firestone Specialty Products manufactures high quality, durable geomembrane systems used for critical containment applications. Our products include EPDM and fPP-R geomembranes, plus a full line of accessories. Firestone EPDM Geomembrane is a highly flexible membrane that conforms to nearly any substrate. Panels are easily seamed together using Firestone's Quick Seam Tape system, requiring no special tools or utilities for installation, thus making it easy to install even in remote areas. Firestone fPP-R Geomembrane is a scrim reinforced polypropylene-based membrane with extremely high breaking/tearing strength and puncture resistance. Heat-welded seams and long-term durability make it ideal for both subsurface and exposed geomembrane applications.

Table #19

INFRATECH Jeff Janiksela
 21040 Commerce Blvd. 763-428-6488
 Rogers, MN 55374-9341 FAX 763-428-6489
 john@infratechonline.com

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Table #20

Bartlett & West, Inc. Joe Bichler
 3456 E. Century Ave. 701-258-1110
 Bismarck, ND 58503 FAX 701-258-1111
 joe.bichler@bartwest.com

Formed in 1951, Bartlett and West is an employee-owned, multi-discipline professional engineering firm that consistently ranks as one of ENR's Top 500 Design Firms. The firm employs 300 personnel in offices in Bismarck, South Dakota, Iowa, Kansas, Missouri and Texas. The Bismarck office has grown to 44 staff members, comprised of North and South Dakota natives. Along with growth in employees, the office has expanded the services offered and

broadened the type of clients served. The office currently provides clients with professional services for municipal projects, land development projects, rural and regional water projects and irrigation projects in North and South Dakota. In addition to professional engineering services, Bartlett and West's specialties include global positioning system surveys, geographical information systems, large water transmission pipeline design and construction inspection, water main design, hydraulic modeling, construction inspection and administration, environmental assessments, water source investigations, water storage tank design and water pump station design.

Table 21

Northern Water Works Supply Jud Hamby
 1917 1st Ave. N 701-293-5511
 Fargo, ND 58102 FAX 701-232-8129
 jhamby@nwws.biz

We provide water and sewer distribution products; irrigation systems; E-One sewer pumps; geotextiles; polyethylene pipe; fusion equipment; locators; safety equipment; and water meter systems, installation and repair services. We have branch offices in Fargo and Bismarck, N.D.; Blaine and Sartell, Minn.; DeKalb, Ill.; and Madison, Wis. We supply products and services to both of the Dakotas, Minnesota, western Wisconsin, Iowa and northern Illinois.

Table #22

Cretex Concrete Products Dale C. Heglund, P.E.
 925 Basin Ave. 701-223-7178
 Bismarck, ND 58504 FAX 701-223-5620
 dheglund@cretexwest.com

Cretex has proudly supplied quality precast concrete products for North Dakota since 1926. Focus on innovative designs and products that complement the long-lasting properties of concrete allows Cretex to meet and exceed the demands of rural and urban North Dakota infrastructure developments. North Dakota Quality - Built to Last

Table #23

Construction Specialties Rocky Waldin
 7100 Utica Lane 612-860-0803
 Chanhausen, MN 55317 FAX 952-470-0342
 rockyw@minn.net

Manufacturers representative for Royal Erosion Control Systems (licensed precaster is Cretex West), supplies the cable concrete erosion control products, Cretex Specialty Products and a full line of manhole and pipe sealing products. Also works with APM/Permaform, offering manhole spraylining and cast-in-place structural rebuilding.

Table #24 & 25

Ulteig Engineers
3350 38th Ave. S
Fargo, ND 58104

Tom Welle
701-237-3211
FAX 701-280-8739
tom.welle@ulteig.com

Ulteig Engineers, Inc. was founded in 1944 and is an employee-owned, multi-discipline professional engineering firm, with offices located in Fargo and Bismarck, N. D.; Detroit Lakes and Minneapolis, Minn.; and Sioux Falls, S.D. Ulteig Engineers currently employs more than 325 personnel and continues to be recognized as one of ENR's Top 500 Design Firms. Our core engineering services include civil, structural, electrical and mechanical engineering. We specialize in all aspects of water, wastewater and water resource planning, design and construction engineering.

Table #26

MVTL Laboratories
1411 12th St. S.
Bismarck, ND 58504

Steve Lagro
701-258-9720
FAX 701-258-9724
slagro@MVTL.com

Minnesota Valley Testing Laboratory (MVTL) was established in 1951 in New Ulm, Minnesota. Branch laboratories are located in Bismarck, N.D., Nevada and Iowa. MVTL provides a broad range of analytical services to industry and federal, state and local governments. The Bismarck laboratory provides analytical chemistry and microbiology support in environmental and energy activities. MVTL also provides full service sampling and field service activities. Each facility is well equipped and staffed with highly qualified technical personnel.

Table # 27

Schwab Vollhaber Lubratt
4600 Churchill St.
Shoreview, MN 55126

Brian Peterson
651-415-2548
FAX 651-255-1939
brianp@svl.com

Suppliers of Danfoss variable frequency motor speed controls.

Table #28

ABM Equipment and Supply
333 2nd St. NE
Hopkins, MN 55343

Steve Bergeron
952-938-5451
FAX 952-938-0159
steveb@abm-highway.com

ABM Equipment and Supply offers a complete line of truck equipment to the utility, municipal, refuse, recycling and construction industries. Products are aerial lifts, fiberglass and steel service bodies, hydraulic tools, pressure diggers, snow blowers, asphalt patchers, combination sewer cleaners, sewer jetters, sewer televising equipment, street sweepers, knuckle boom cranes, stick boom cranes, rear loaders, roll-offs refuse carts, recycling bins, recycling bodies,

trailers and on-board scales. ABM offers sales, rental, service and field service for these industries. Call 1-800-229-5451.

Table #29

AE₂S
2016 Washington St. S
Grand Forks, ND 58201

Charles Vein
701-746-8087
FAX 701-746-0370
Charlie.Vein@ae2s.com

Advanced Engineering and Environmental Services, Inc. (AE₂S) is a specialized civil/environmental consulting engineering firm that provides professional services and its unique brand of extreme client service to municipal, rural and industrial clients in the Upper Midwest. AE₂S has seven office locations including Grand Forks, Bismarck, Fargo, and Williston, N.D.; Moorhead and Minneapolis, Minn. and Great Falls, Mont. Among the offices, AE₂S has a staff of approximately 70 engineers, instrumentation and controls technicians, civil technicians, surveyors, financial analysts, computer programmers and administrative personnel. Our primary service is water - meaning water, wastewater, and storm water system consulting, which represents approximately 90 percent of our annual revenues. Surveying, mapping, geographic information systems (GIS), general civil engineering and site development are also provided as stand-alone services or in support of our primary services. In addition to the more traditional consulting services listed above, we also provide value-added services such as financial analysis and utility rate planning, funding development, vulnerability assessments, modeling, instrumentation and controls, information technology and asset management.

Table #30

Sanitation Products, Inc.
1402 41st St. NW
Fargo, ND 58102

Chris Haugrud
701-282-0296
FAX 701-277-1149
weimlovr@aol.com

Vactor Manufacturing and Sewer Equipment of America

Table #31

Interstate Engineering
PO Box 2035
Jamestown, ND 58402

Randy Pope, P.E.
701-252-0234
FAX 701-252-0203
rpope@interstateeng.com

Since 1976, Interstate Engineering has offered consulting engineering, land surveying and planning services to municipal, county, state and tribal governments and to private individuals and corporations. A regional corporation, Interstate is owned under an Employee Stock Ownership Plan (ESOP) which instills a sense of ownership and pride in our staff and reflects in the quality of the services we provide. Jamestown, North Dakota is home to

Interstate's corporate office. Additional offices are located in Wahpeton, Beulah, and Mandan, N.D.; Fergus Falls, Minn.; Billings and Sidney, Mont.; and Pierre, S.D.. Interstate Engineering - professionals you need, people you trust.

Table #32

Table #33

Interstate Power Systems	Darrell Binek
3801 Commerce Dr.	701-258-2303
Bismarck, ND 58501	FAX 701-224-0322
	dbinek@istate.com

Interstate Power Systems is a complete sales, parts and service company specializing in MTU Detroit Diesel, Allison transmission and Terex equipment. Sales and rentals include generators, light towers, water pumps and many product lines. The service department includes both in-shop and field technicians with support equipment to provide 24-hour service.

Table #34

Quality Flow Systems, Inc.	Patrick Malay
800 6 th St. NW	952-758-9445
New Prague, MN 56071	FAX 952-758-9661
	pat@QFSI.net

Quality Flow Systems, Inc. is a manufacturer representative for KSB, Siemens, Usemco, Sensaphone, Pioneer Pump, Goulds, MWI, Powerflo and GPM Pumps. We provide 24-hr service assistance and have five fully equipped trucks operating throughout our territory of Minnesota, South Dakota, and North Dakota. We have stock pumps and parts to service our customers.

Table #35

Vessco, Inc.	Terry M. Schiro
8217 Upland Circle	952-314-0636
Chanhassen, MN 55317	FAX 952-314-0637
	tschiro@Vessco.com

Vessco, Inc. has been serving upper midwest industrial and municipal customers for more than 20 years. During that time, we have built a reputation for representing the best equipment in today's water treatment world. We have also become known as the best source for a total solution that includes initial consultation, design partnering, installation assistance, field service and parts delivery. At a time when a strong demand for environmental preservation is putting pressure on municipalities and industries to uphold high quality standards for water, waste water, and process water, Vessco is the proven partner that offers much more than just components. We provide turn-key solutions from inception to ongoing support, well into the future.

Table #36 - #41

Table #42

Infrastructure Products, Inc.	Bob Nicol
10110 28 th Ave N	763-544-9182
Plymouth, MN 55441	FAX 763-540-0036
	bob@infrastructureproductsinc.com

Infrastructure Products, Inc. is a manufacturer's rep firm specializing in the water and wastewater market, and offer speciality valves, pipe and fittings and related products for use in our industry.

Table #43- #46

Table #47

American Flow Control	Rick Wanner
21695 Highview Ave.	612-803-1668
Lakeville, MN 55044	FAX 205-488-7570
	rwanner@acipco.com

American Flow Control manufactures the American Darling and Waterous fire hydrants, AFC resilient wedge gate valves, check valves, fittings, and Trench Adapters. Known as one of the highest quality manufacturers in the industry.

Table #48

American Ductile Iron Pipe	Brad Forester
21695 Highview Ave.	952-469-1100
Lakeville, MN 55044	FAX 952-469-3311
	bforester@acipco.com

American Cast Iron Pipe Company manufactures ductile iron and steel pipe, fittings and fabrications for the water and wastewater industry. American provides high quality products, services and technical sales and engineering support to owners, consulting engineers and contractors. www.acipco.com

Table #49

Concrete, Inc.	Richard Edgar
5000 Demers Ave.	701-772-6687
Grand Forks, ND 58201	FAX 701-772-4315
	redgar@coninc.net

Concrete, Inc. manufactures and erects precast/prestressed concrete building products.

Table #50

Short - Elliott - Hendrickson, Inc.	John Fisher
1502 19 th Ave. SW	507-437-8962
Austin, MN 55912	FAX 507-437-8965
	jfisher@sehinc.com

Full-service professional consulting firm specializing in service to municipalities. Capabilities include civil, structural, electrical, mechanical, traffic, transportation, environmental and water resources engineering, architecture and landscape architecture, GIS, community planning and construction administration. Projects include municipal building, water, wastewater, highway, airport, flood control and industrial/educational/institutional sector projects.

Table #51

Tonka Equipment Company
13305 Watertower Circle
Plymouth, MN 55441

Todd Butz
763-559-2837
FAX 763-559-1979
Czehrer@tonkawater.com

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PO Box 1467
Detroit Lakes, MN 56501

Terry Maier
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FAX 218-846-9491
terry@teamlab.net

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Bill Reiter
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701-258-1110

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PO Box 1157
Bismarck, ND 58502-1157
701-355-8400

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Bismarck, ND 58504
701-223-2600

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Washburn, ND 58577
701-462-8588

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3350 38th Ave. S
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Park City, MT 59063
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Chanhassen, MN 55317
952-314-0636

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701-899-0992

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CONFERENCE HISTORY

<u>Conference</u>	<u>Host City</u>	<u>President</u>	<u>President's Residence</u>	<u>Conference</u>	<u>Host City</u>	<u>President</u>	<u>President's Residence</u>
2008	Bismarck	Terry Rust	West Fargo	1967	Grand Forks	A.E. Forsman	Grand Forks
2007	Fargo	Mark Blonigen	Fargo	1966	Mandan	Alvin Mickelson	Casselton
2006	Minot	Tom Welle	Moorhead	1965	Fargo	Ken Ruby	Fargo
2005	Bismarck	Jack Long	Bismarck	1964	Minot	Al Swanson	Jamestown
2004	Fargo	Rick Gillund	Enderlin	1963	Valley City	Carl Torkelson	Grafton
2003	Minot	Mike Schneider	Bismarck	1962	Williston	Glenn Berg	Minot
2002	Bismarck	Pat Denne	West Fargo	1961	Jamestown	Richard Fuller	West Fargo
2001	Fargo	Charles Jaskowiak	Bismarck	1960	Bismarck	Frank Orthmeyer	Grand Forks
2000	Dickinson	Randal Loeslie	Thompson	1959	Grand Forks	Herbert Arnold	Williston
1999	Minot	Paul Lacina	Valley City	1958	Dickinson	L.W. Veigel	Dickinson
1998	Bismarck	Mel Bullinger	Bismarck	1957	Fargo	Erik Peterson	Jamestown
1997	Fargo	Wayne Tunseth	Mayville	1956	Mandan	Edwin Ostlie	Grand Forks
1996	Minot	Don Olafson	Valley City	1955	Williston	Paul Hays	Minot
1995	Bismarck	Waide Kritsky	Jamestown	1954	Grand Forks	C.M. Hagen	Oakes
1994	Fargo	Byron Thronson	Minot	1953	Minot	C.T. Stephenson	Jamestown
1993	Minot	Joe Manning	Mandan	1952	Jamestown	Ed Booth	Bismarck
1992	Bismarck	Tom Little	Fargo	1951	Fargo	H.H. Behlmer	Fargo
1991	Fargo	Richard Wanner	Bismarck	1950	Bismarck	A.F. Hulteng	Grand Forks
1990	Williston	Richard Resell	Williston	1949	Dickinson	George Toman	Mandan
1989	Minot	Dwight Wurzbacher	Grand Forks	1948	Minot	R.J. Lockner	Cooperstown
1988	Grand Forks	Phil Furaus	Harvey	1947	Grand Forks	John Kleven	Grand Forks
1987	Dickinson	Dale Hanson	Valley City	1946	Mandan	S.K. Svenkeson	Minot
1986	Bismarck	Dan Boyce	Grand Forks	1945	Fargo	F.W. Pinney	Fargo
1985	Fargo	Lyle Weeks	Minot	1944	Bismarck	Dave MacDonald	Bismarck
1984	Williston	Kenneth Reynolds	Bismarck	1943	Grand Forks	Joe Morrissey	Jamestown
1983	Minot	Dale Townsend	Carrington	1942	Williston	Elmer Pearson	Minot
1982	Mandan	Peter Bilstad	Fargo	1941	Jamestown	R.M. Jensen	Grand Forks
1981	Jamestown	Don Cuskelly	Dickinson	1940	Wahpeton	William Nordley	Edgeley
1980	Grand Forks	Don Erikson	Watford City	1939	Dickinson	William Yegen	Bismarck
1979	Bismarck	Ken Skuza	Fargo	1938	Minot	S.S. Calvelage	Jamestown
1978	Dickinson	Gerald Zander	Mandan	1937	Mandan	Ora Ayliffe	Fargo
1977	Fargo	Keith Cornell	Grand Forks	1936	Fargo	S.P. Ravnos	Mandan
1976	Minot	Peter Mellmer	Bismarck	1935	Grand Forks	H.T. Hintgen	Wahpeton
1975	Mandan	Lyle Mitzel	Wahpeton	1934	Bismarck	W.H. Robinson	Williston
1974	Grand Forks	Daniel Reiter	Minot	1933	Jamestown	O.N. Bergman	Valley City
1973	Jamestown	Russell Kain	Neché	1932	Minot	E.L. Lium	Grand Forks
1972	Williston	John Muus	Grand Forks	1931	Fargo	W.P. Tarbell	Fargo
1971	Fargo	Donald Wenaas	Jamestown	1930	Grand Forks	E.J. Thomas	Minot
1970	Minot	Harry Hanson	Bismarck	1929	Bismarck	A.L. Bavone	Bismarck
1969	Bismarck	Clarence Johnson	Garrison				
1968	Dickinson	Bevan Shaw	Williston				

Jeanette A. Brown, P.E.

2007-2008 Board of Trustees, Water Environment Federation



Jeanette A. Brown, P.E.

Authority (Stamford, Conn.) and Adjunct Professor of Environmental Engineering at Manhattan College in Riverdale, N.Y.

Jeanette has been a WEF member since 1976 and has served on WEF's House of Delegates since 2004. She has also been a member of or chaired several WEF committees including Operations Challenge, WISE Committee-Developing Guidelines and Training for Wastewater Security, Municipal Wastewater Treatment Design and Technical Practice as well as WEF's Community of Practice for Microconstituents and as the facilitator for WEF's HOD Strategic Planning Sessions and Governance. In addition, she has co-chaired and authored several of WEF's publications including Manuals of Practice and training courses. She has also published numerous papers, made several presentations at WEFTEC and other industry-related events, and is on the editorial board of the Journal of the U.S. SJWP.

Jeanette Brown is a member of the 2007-2008 Board of Trustees for the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Va.

She is currently the Executive Director of the Stamford Water Pollution Control

She has been an active member of the New England Water Environment Association (NEWEA), the American Academy of Environmental Engineers (AAEE), the American Society of Civil Engineers (ASCE) and the International Water Association (IWA), serving in a number of positions including a term as AAEE's President.

Jeanette has received WEF's Hatfield (1986) and Public Educators Awards (2003); NEWEA's NEWPCA Operator of the Year (1988), Alfred E. Peloquin (2000) and Public Educators Awards (2002); as well as the Governor's Environment 2000 Award for contributions to improving the water quality of Long Island Sound (1993) and an EPA Region 1 Merit Award (2007).

She is a licensed professional engineer in Connecticut; board-certified environmental engineer (AAEE); Class 4 wastewater treatment plant operator; and Class 4 collection system operator. Jeanette received a B.S. degree from the University of Maryland in College Park and an M.S. degree in Environmental Engineering from Manhattan College.

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Craig R. Woolard, Ph.D., P.E.

President-Elect (2008-2009) American Water Works Association



Craig R. Woolard, Ph.D., P.E.

Craig Woolard, Treatment Division Director of the Anchorage (Alaska) Water and Wastewater Utility, joined AWWA in 1995. He has served at the national level as President-Elect, Vice-President, and serves on the Board of Directors and Executive Committee. He has served on the Credentialing, Camp Scholarship,

Publications Award, Young Professionals, and Strategic Planning committees and has recently been chosen to co-chair the new Ad Hoc Committee on Water Sector Workforce Development Initiatives.

At the section level, Craig has served as section chair, and chair of the Annual Conference and Research and Development Committees. In 1997 he was named the AWWA Alaska Section Volunteer of the Year. He received the AWWA George Warren Fuller Award in 2003.

Before joining the Anchorage utility, Craig served as a university civil engineering professor, department chair, and associate dean of research and graduate studies at the University of Alaska-Anchorage engineering program for 12 years. While at the

university, Craig was the principal investigator on more than \$1.5 million in research and training grants. He has authored or co-authored articles for numerous peer-reviewed publications and conference proceedings.

Craig earned a B.S. degree and a Ph.D. degree in civil engineering from Montana State University and the University of Notre Dame, respectively. He did postdoctoral research at the Institute for Water Quality and Waste Management at the Technical University of Munich, Germany. He has also completed the University of North Carolina's Water and Wastewater Leadership Center program.

Craig lives in Anchorage, Alaska with his wife Lisa who is also an engineer and an active AWWA member.

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North Dakota Chapter American Public Works Association

Executive Committee Meeting Minutes

May 21, 2008

The Executive Committee meeting of the North Dakota Chapter of the American Public Works Association (APWA) was called to order by Kevin Bucholz at 11:30 a.m. at the Seven Seas in Mandan, North Dakota. Members present at the meeting included Chuck Abel, Dale Heinert, Sarah BaeHurst, Rusten Roteliuk, Dan Jonasson, Darin Schaeffer, Shawn Soehren and Deon Stockert.

Minutes of the February 6, 2008 Executive Committee meeting were previously emailed to all Executive Committee members. Roteliuk moved to approve the minutes; Heinert seconded. The minutes were approved.

The Treasurer's Report was presented by Schaeffer. Jonasson moved to approve the report as read with a second by BaeHurst. The motion was approved.

Delegate Report

BaeHurst presented the Delegate Report. The delegate meeting held May 9-10 in Kansas City, focused on the 2050 perspective and the use of intermodal transportation. Many cities are maxing out their transportation systems. What can the APWA do about it? Suggestions regarding best management practices for common problems were discussed. For more information, contact Sarah BaeHurst.

Committee Reports

BaeHurst lead the Diversity Committee Report. As of March 31, APWA membership marked a record number at 29,462. Half price membership was offered to new members, and 444 new members have been signed up during this membership drive.

Old Business

Abel invested \$15,000 in APWA Global Allocation Fund as directed per our February meeting.

Topics for the North Dakota Water Pollution and Control Conference (NDWPCC) sessions were discussed. Some topics discussed for APWA's current session were:

- "Hydro Dynamic Storm Water Separator" presented by Phil Taylor of Hydro International. Dale Heglund endorses Hydro International, and he is working on a possible tour to see the product

that they are promoting, the "Down Stream Defender," in action. The group discussion would also count for an APWA concurrent session.

- A superintendent round table discussion for smaller committees regarding public works problems associated with small communities. Gillund will be solicited to head this up; Heinert may also be involved.

"WARN" – Water & Waste Water Agency Resource Network is a group of committees that can network facilities and work for mutual agreement to help each other out. Gillund was nominated to be our "WARN" representative.

Technical committees can access committee info at APWA.net.

Send conference sessions to Buchholz for review and we will submit them as a group.

New Business

The Project of the Year Awards were chosen. The project of the year for the small community category was Bartlett & West, Inc. for its Fort Berthold Rural Water, Emergency Intake Supply Project. Moore Engineering was also chosen in the large community category for its Eagle Run Water Tower and Southeast Well and Water Project.

Drinking Water week is to again be sponsored jointly with ND Chapter of APWA and other NDWPCC organizations. Drinking Water Week was the first week in May. A \$500 contribution was given for publishing an ad for Drinking Water Week.

National Public Works Week is May 18-24, 2008. APWA will do a press release for small town papers and then it becomes Associated Press material for those that wish to pick it up.

The national APWA is still offering to pay for half of a student membership. NDSU had 20 students come to Bismarck to tour its Water & Wastewater plant and the Tesoro Refinery. APWA may want to sponsor an activity to encourage students to attend the NDWPCC. Suggestions included sponsoring a meal for the students wishing to attend the NDWPCC. We also may

want to look at the possibility of offering a scholarship with excess money for student members. Stockert will lead a committee to explore scholarships.

Kadrmaz, Lee & Jackson will be featured in the July issue of APWA Reporter for the Four Bears Bridge Project. This project, an NDAPWA Project of the Year, has now won a national award.

Volunteers for the 2008 Congress in New Orleans "Helping Rebuild" are needed to work 4-hour shifts and/or moderate sessions.

There being no additional new business, Jonasson made the motion to adjourn; BaeHurst seconded.

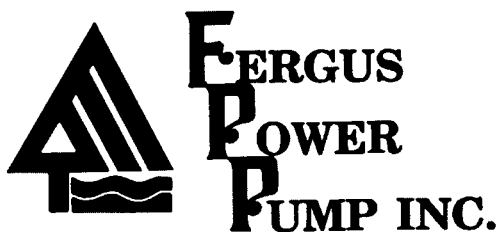
The meeting was adjourned.

Respectfully submitted,
Darin A. Schaeffer
Secretary/Treasurer

Charles Vein is George Warren Fuller Award Recipient

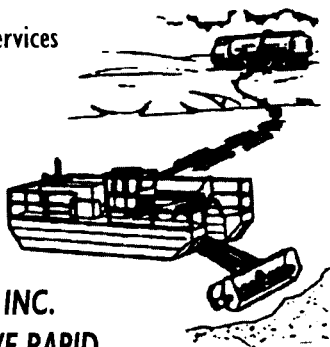


Charles Vein is awarded the George Warren Fuller Award by Nilaksh Kothari, President of AWWA, at the AWWA annual convention in Atlanta, Georgia, June 2008.



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Chloramination, Chlorination and the Breakpoint Curve

Robert Markhouse, Environmental Scientist, Division of Municipal Facilities,
North Dakota Department of Health

Properly managing the disinfectant level in a water system is critical to providing safe drinking water to the public. In order to maintain the proper disinfectant level in the distribution system, an operator should be familiar with the terms “chlorination,” “chloramination” and “chlorine breakpoint curve.”

Chlorination is simply the process of adding chlorine, either in a gas or liquid form (e.g., sodium hypochlorite), to water. The chlorine will chemically react with the water to form hypochlorous acid and the hypochlorite ion. The exact amount of each chemical will depend on pH and temperature. Waters that have pH values of 6 to 7.5 standard pH units will see more hypochlorous acid. If the water has a pH of over 7.5, hypochlorite ion is the more common form of free chlorine. The amount of hypochlorous acid and hypochlorite ion is important because it will determine how quickly the chlorine residual will disinfect the water. Hypochlorous acid is about 100 times faster at disinfecting water when compared to hypochlorite ion. For example, a water system that has a pH of 9 would require higher chlorine residuals in the distribution system than another water system where the pH is only 7.5.

In chloramination, chlorine and ammonia are mixed to form chloramines. An operator will typically add ammonia to water that has already been treated with chlorine. Three different types of chloramine chemicals can be formed in the chloramination process depending on pH, temperature and ratio of chlorine to ammonia. Ideally, the operator will add just enough ammonia to form monochloramine, the preferred form of chloramine. The other two types of chloramine, dichloramine and trichloramine, should be avoided as they can produce taste and odor problems.

The term “breakpoint chlorination” has traditionally been used to describe a water system with sufficient chlorine in the water to provide adequate disinfection and reduce taste and odor problems. A water system practicing breakpoint chlorination might see a free chlorine residual of 0.5 to 1.0 milligrams per liter (mg/L), for example. The total chlorine measured would be about 10 to 15 percent higher than the free chlorine for the same water system. Figure 1 is a typical breakpoint curve. Systems practicing breakpoint chlorination would be to the right of the breakpoint or

the point of minimum chlorine residual. Water operators practicing chloramination would be to the left of the breakpoint near the peak.

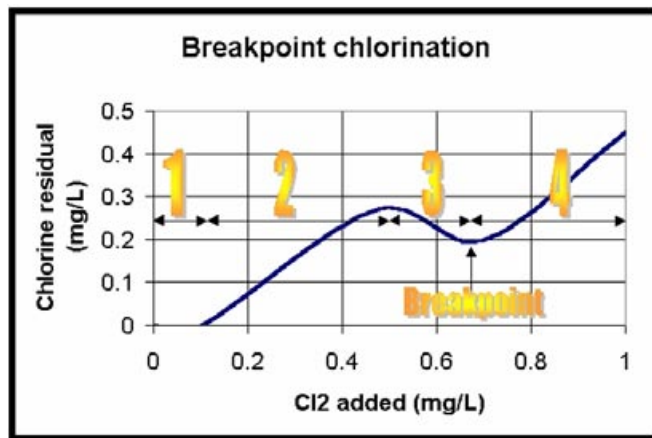


Figure 1. A typical breakpoint curve (darwin.nmsu.edu/molb_resources/tutorials/env-engr/disinfection/image318)

When discussing chloramination, chlorine disinfection or the breakpoint curve, three, four or even five zones or areas are often mentioned in the literature. Figure 2 shows several examples of chlorine breakpoint curves.

Traditionally, a system that added chlorine, but did not add ammonia, was considered a breakpoint or free chlorine system. A system that added both chlorine and ammonia was considered to be practicing chloramination. Over the last few years, that distinction between breakpoint and chloramination has become somewhat muddled as more and more water systems are finding they have natural ammonia in their water in sufficient amounts making it difficult to practice breakpoint chlorination. Some systems with natural ammonia in their water may be practicing chloramination without even knowing it. To help understand what is going on, it is useful to divide our breakpoint curve into six zones instead of five or less.

Six-Zone System:

1. Demand or Oxidation Zone: This is the area where chlorine will combine with hydrogen sulfide, ferrous iron, manganese and thiosulfates that can be present in both ground water and surface water. The chemicals that are created from oxidation by chlorine will not provide disinfection. All water operators will need to add sufficient chlorine to go beyond this area. Systems with large amounts

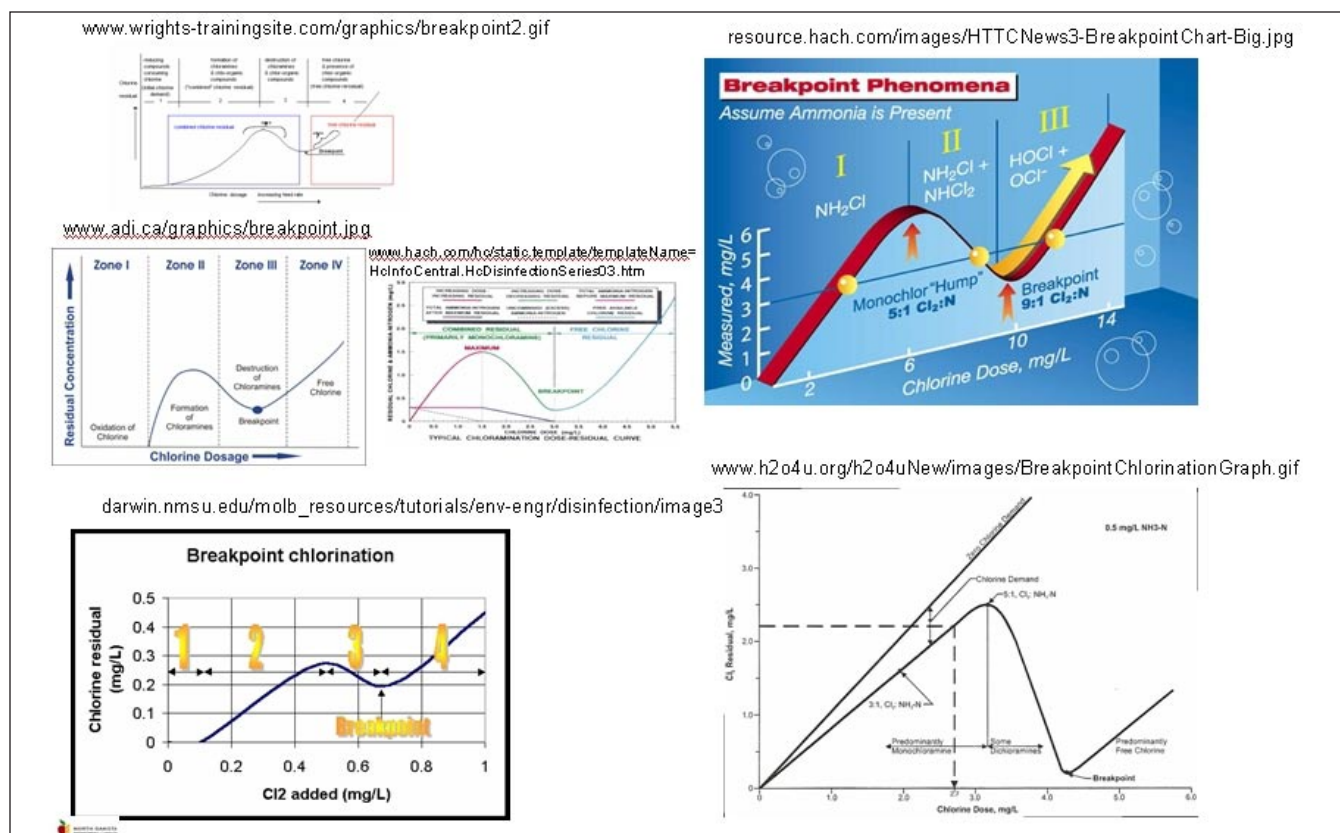


Figure 2. Example breakpoint curves from various web sites

of iron and/or manganese will need to reduce the iron or manganese through treatment before adding chlorine for disinfection.

2. **Incomplete Chloramination Zone:** As chlorine is added to waters with ammonia or ammonia is added to chlorinated water, the chlorine and ammonia combine to form monochloramine. Research has shown that, at chlorine-to-ammonia ratios lower than 3:1 by weight, the monochloramine is not as stable as when the ratio is above 3:1. The monochloramine will decay at a greater rate in the distribution system resulting in poor disinfection.
3. **Ideal Monochloramine Zone:** At chlorine to ammonia ratios of 3:1 to 5:1 by weight, monochloramine forms a more stable product. Some water systems have found that the ideal ratio is 4.5:1 or slightly higher. Systems that wish to practice chloramination should aim for about 4.5:1 chlorine to ammonia ratio by weight and adjust accordingly.

4. **Change or Destruction Zone:** The fourth zone occurs when the chlorine-to-ammonia ratio rises over 5:1 and proceeds until breakpoint is reached. Some authors have described this zone as where the destruction of chloramines and chloro-organic compounds occurs. Another way to describe this area is an area of change. Both dichloramine and trichloramine can form in this area depending on pH. Since both dichloramine and trichloramine have been implicated in creating taste and odor problems, most water systems would likely want to avoid this area. Sometimes systems that wish to practice breakpoint end up in this zone if they do not add enough chlorine to go beyond the breakpoint.

In this zone, ammonia and organics in the water can result in taste and odor problems. People will often complain about chlorine smells. Do they really smell free chlorine? They may be smelling dichloramine or trichloramine. In response to odor complaints, an operator might be tempted to lower the chlorine dose. This can actually

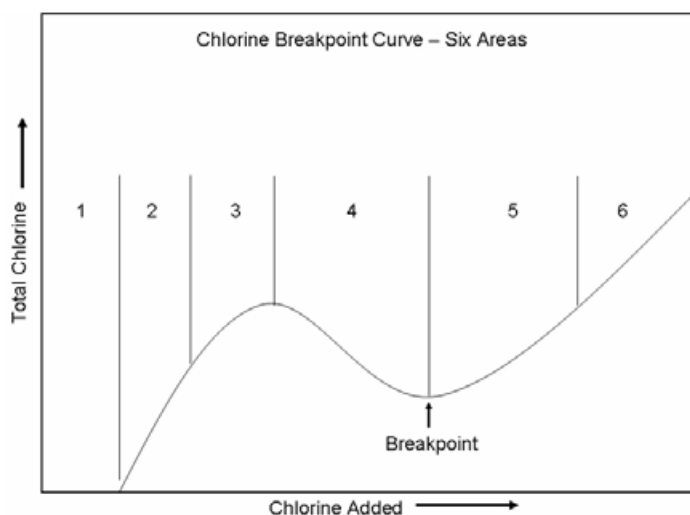


Figure 3. A breakpoint curve divided into six zones

increase the odors and may severely compromise the disinfection power of the residual chlorine. A better solution may be to add enough chlorine to reach zone 6.

5. **Initial Breakpoint Zone:** This zone is reached when the chlorine-to-ammonia ratio reaches about 9:1. From this point on, as the operator adds more chlorine to the water, he or she should see the free chlorine residual increase. The exact breakpoint will depend on the concentration of ammonia. The breakpoint can vary from about 7.5:1 to 11:1. Taste and odor problems may also occur in this area depending on the quantity and type of organic material present in the water. If possible, the operator should try adding more chlorine to reach the next zone.
6. **Ideal Breakpoint Zone:** Research and experience suggest that most systems practicing breakpoint will be best served if the free chlorine is 85 percent of the total chlorine level. Taste and odor problems should be minimized, and disinfection should be adequate if this general rule of thumb is followed. It is also possible to add too much chlorine. Additional chlorine can result in higher total Trihalomethanes (THM) and Haloacetic Acids (HAA5) in the distribution system.

While understanding breakpoint chlorination and chloramination can be difficult, careful monitoring of free and total chlorine in the water system will allow operators to fine tune the chlorine residuals in the

distribution system. Operators should be monitoring both free and total chlorine. The total chlorine value minus the free chlorine value will provide the combined chlorine residual which is usually monochloramine.

References

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- Water Chlorination/Chloramination Practices and Principles* (M20), 2006, AWWA, ISBN: 1-58321-408-9
- Water Quality in the Distribution System*, 2005, AWWA, isbn: 1-58321-323-6
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- Wastewater Microbiology*, Third Edition, G. Bitton, 2005, Page188, ISBN: 0-471-65071-4

Example graphs in Figure 2 came from the following web sites:

- www.wrights-trainingsite.com/graphics/breakpoint2.gif
- resource.hach.com/images/HTTCNews3-BreakpointChart-Big.jpg
- www.adi.ca/graphics/breakpoint.jpg
- www.hach.com/hc/static/template/templateName=HcInfoCentral.HcDisinfectionSeries03.htm
- darwin.nmsu.edu/molb_resources/tutorials/env-engr/disinfection/image318.gif
- www.h2o4u.org/h2o4uNew/images/BreakpointChlorinationGraph.gif

State of North Dakota Capacity Development Program Report on the Ongoing Implementation of the New and Existing Water System Capacity Strategies

Chad Miller, Environmental Scientist, North Dakota Department of Health

Introduction

This is North Dakota's annual Capacity Development Program Report for state fiscal year 2008 (FY08). The following verifies that ongoing implementation of both new and existing water system capacity strategies continue and program goals are being met.

The North Dakota Department of Health (department) meets all FY08 reporting requirements as they pertain to the Safe Drinking Water Act (SDWA), section 1420 (c), and the withholding of Drinking Water State Revolving Loan Fund (DWSRF) allotments.

The Capacity Development Program Report documenting ongoing implementation of new and existing capacity strategies in FY07 was completed and submitted to the U.S. Environmental Protection Agency (EPA) Region VIII on August 27, 2007. The FY07 report received EPA approval on September 5, 2007 resulting in no FY08 DWSRF funds being withheld.

Authorization

No statutory and/or regulatory changes requiring a new Attorney General's opinion were made to North Dakota's New and Existing Capacity Program Strategies in FY08.

New Systems Program

The department requires all new community water systems (CWSs) and new nontransient, noncommunity water systems (NTNCWSs) to demonstrate financial, managerial, and technical capability (capacity) prior to commencing operations. *The New Water System Capacity Assessment Manual* outlines the regulations and legal authority the department has to administer a capacity assurance program.

The department continues to require that plans and specifications be submitted to the Division of Municipal Facilities (DMF) for review and that a letter of approval be issued by the DMF before operations commence.

Plans and specifications and the letter of approval represent the primary control points in the new water system capacity assurance process. No modifications have been made to North Dakota's control points in FY08.

No new water system applications were received in FY08. Five New Water System Capacity Assessment Manuals were requested in FY08.

Existing Systems Program

The North Dakota Existing Water System Capacity Strategy details steps to implement and maintain a capacity program aimed at helping North Dakota public water systems (PWSs) acquire and maintain capacity. Factors encouraging and impairing capacity remain the same. Enhancements include federal funding, DMF administration, department primacy and stakeholder involvement. Impairments continue to be small systems, declining rural populations, limited funding, lack of technical ability, operator turn over,

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reluctance of system owners/managers and complexity of SDWA requirements.

North Dakota continues to use pertinent existing DMF programs to identify PWSs that lack capacity and are in danger of becoming a compliance problem. The point system developed for the existing system strategy utilizes SDWA compliance data, operator certification deficiencies, inspection reports and laboratory past-due accounts to evaluate system capacity. PWSs accumulating 10 points or more and having the greatest impact on public health are prioritized beginning with the highest number of points. PWSs with a history of significant noncompliance (SNC) automatically receive 10 points making them candidates for immediate assistance.

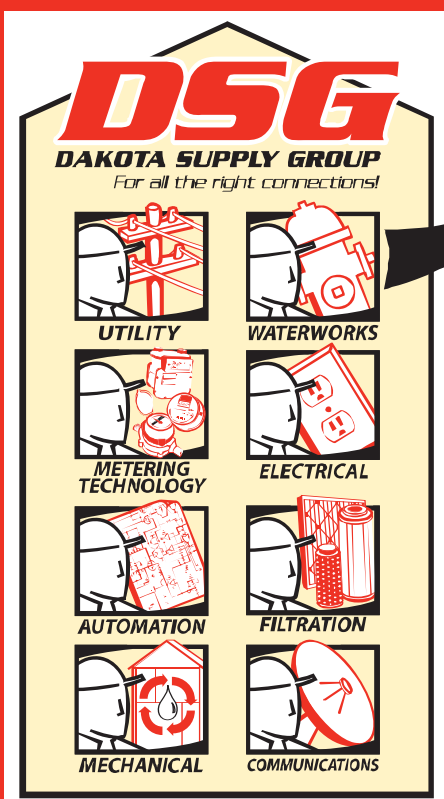
North Dakota's predominant compliance problems continue to be monitoring violations under the Total Coliform Rule (TCR) and TCR maximum contaminant level (MCL) exceedances. Fifty-one PWSs had failure to monitor violations, and 17 exceeded the TCR MCL; however no systems received both violations. Currently, there are 51 systems without properly certified operators in either water treatment and/or water distribution. Other SDWA rule

violations that affect capacity are addressed through the DMF's Drinking Water program.

Forty-one CWSs, nine NTNCWSs and 65 transient noncommunity water systems (TNCWSs) have received assistance and returned to compliance. Eleven of these systems had received assistance in FY08 with seven already returning to compliance. Three of the remaining systems are scheduled to return to compliance in October 2008 and the other in January 2009, if no further violations occur.

As of June 30, 2008, 106 (92%) of the previously assisted systems are in compliance. Two of the 41 CWSs and eight of the 65 TNCWSs needed additional assistance because of repeat violations.

DWSRF 2 percent set-aside funds were again used to contract with the Midwest Assistance Program (MAP) for technical assistance. MAP continues to provide the department completed self-evaluation questionnaires and capacity attribute evaluations. Five CWSs and six TNCWSs have received assistance in FY08. The current contract runs through December 31, 2008 and allows for assistance to 15 systems.



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The department will continue to work with MAP to assist systems with capacity improvements. It is anticipated that a new contract will be developed to aide in these efforts. This contract will be used for a capacity assessment follow-up project and a financial/rate assessment development project, which will extend MAP services through 2009.

Future Follow Up

The department will continue to measure capacity improvements by using the state Quarterly Violations and SNC Summary, the operator certification compliance report and PWS inspection reports and by monitoring new systems activity. The department encourages a collaborative effort which promotes safe drinking water, public health and quality of life.

Stakeholder involvement continues to be a key element in program success. Professional organizations, technical assistance providers, DMF staff and other governmental agencies continue to provide expertise and timely assistance. To further promote stakeholder involvement, a copy of this report and the triennial report to Governor John Hoeven were published in the *Official Bulletin*, official publication of the North Dakota Water and Pollution Control Conference. A news release notifying the public of the availability of the FY05 Governor's Report was also provided. The Governor's Report along with the *New Water System Capacity Assessment Manual* and the *North Dakota Existing Water System Capacity Strategy* are available on the department web site at: <http://www.health.state.nd.us/MF/>.

Summary

North Dakota's new and existing water system capacity strategies continue to meet program goals. All FY08 reporting requirements have been met. There were no new water system applications received. The department has provided new water system capacity information to five additional systems. A contract for additional capacity assistance was executed in FY08 and follow-up assistance in FY09 is anticipated.

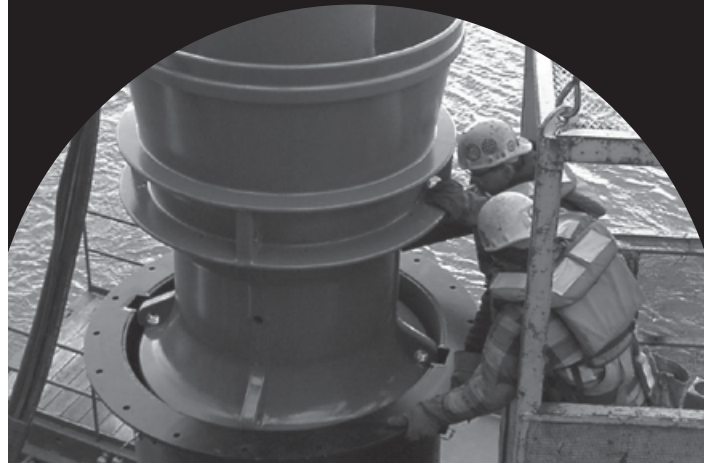
North Dakota's ongoing strategy has identified 115 of 515 PWSs requiring capacity assistance, with 106 currently in compliance. Sixty-eight systems received state TCR SNC violations (28 CWSs, two NTNCWSs, and 38 TNCWSs) in FY08 with 38 returning to compliance prior to becoming a capacity problem. Eleven noncompliant PWSs

(five CWSs and six TNCWSs) had been targeted for capacity assistance in FY08. Two of the five CWSs have returned to compliance, and the three remaining should return to compliance in October 2008 and January 2009, respectively. Also, five of the six TNCWSs returned to compliance after receiving assistance.

The majority of the PWSs with recent repeat violations are TNCWSs. The majority of PWSs targeted through FY08 have been TNCWSs where drinking water is a minor part of their overall operation. The common problems with these systems are: (1) they are very small, (2) they only operate for a fraction of the year and (3) operations are poorly funded. The department believes this will continue to be an ongoing problem that cannot be fully addressed.

The department will continue to monitor existing PWSs, while providing consultation, training and financial recommendations, prior to systems developing enforcement problems. Implementation of new SDWA regulations that effect existing system capacity will be evaluated. Any modifications resulting from these regulations will be detailed in future reports.

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ND WARN to Hold ICS and NIMS Training

North Dakota WARN will hold a one-day Incident Command System (ICS) and National Incident Management Systems (NIMS) training program that is specific to the water sector. The training will be conducted by the Horsley Witten Group. The Horsley Witten Group holds a prime contract with U.S. EPA's Headquarters Office of Groundwater and Drinking Water, entitled, "Technical Support for the Underground Injection Control (UIC), Drinking Water and Source Water Protection Programs."

ICS is the incident management system that is the national standard for responding to any incident anywhere in the U.S. Understanding NIMS is an important step for establishing utility mutual aid networks.

This training will be held in Bismarck at the Environmental Training Center on Tuesday, October 7, 2008. Training will begin at 8:30 a.m. and run until 4:00 p.m. This date was chosen so that the ICS and



NIMS training would coincide with this year's North Dakota Water and Pollution Control Conference that is to be held in Bismarck October 8-10, 2008. For small systems (those serving less than 3,300), the Operator Expense Reimbursement program will cover the extra night's stay in Bismarck for this training. We will also offer four operator credit hours for this training. There is room for 50 people at this training, so please register early. The hope is to have as many small, medium and large water and wastewater utilities, water sector trainers, state drinking water primacy agency and state wastewater permitting agency personnel at this training as possible.

For additional information, contact Greg Wavra, North Dakota Department of Health, Division of Municipal Facilities 701-328-5224. To view a detailed agenda and to register for the workshop, please log on to <http://www.horsleywitten.com/ICSstraining>.

AWWA Management Institute Scheduled for September 2008 Advanced Management Institute Planned for October

The five-day Basic American Water Works Association (AWWA) Water Utility Management Institute will be presented in Salt Lake City, Utah, September 15-19, 2008. All sessions will be held at the Comfort Suites Hotel (near the airport) for AWWA members and water department personnel nationwide. This class brings together water company personnel from every region of the country (and Canada as well) in an atmosphere of learning and sharing important leadership principles. This affordable, top-notch training teaches practical, "real world" supervisory and management skills needed to be effective in today's workplace.

The schedule is as follows:

- Day 1 - Foundations of Leadership
- Day 2 - The Leader's Role in Performance Management
- Day 3 - Managing Conflict
- Day 4 - Employee Selection
- Day 5 - The Leadership of Change

The Institute registration fee is \$499.00.

An Advanced AWWA Water Utility Management Institute is scheduled at the same location the week of October 20-24, 2008. That schedule is as follows:

- Day 1 - Assessment Of Leadership Vision, Values and Strategy
- Day 2 - Teambuilding
- Day 3 - Employment Law for Managers
- Day 4 - Transformational Leadership and Vision Alignment
- Day 5 - Critical Thinking Skills for Problem Resolution and Innovation

The Advanced Institute registration fee is \$499.00.

Optional certification from Utah State University will be available for \$50.00 extra to members needing to meet training requirements for professional affiliations. To obtain the Basic Institute and/or Advanced Institute schedule and registration information, call Chuck Christensen at (801) 333-3779, or email him at chuckets@msn.com.

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GROUP MEMBERSHIPS

Groups will receive one consolidated renewal notice with a member roster attached. Members may be added or dropped from the roster throughout the year, if necessary.

Public Agency Group Membership

Available to any federal, provincial, state, local or other public agency concerned with public works. The number of individual memberships and the annual fee for an agency are based on the population served by the agency. When joining as an agency, each member saves \$23 US / CN on annual membership dues.

- **State or Provincial Agencies**—Number of rostered members and annual dues for the group would be determined using the "Population Served" row representing 10% of total state population. (Please also mark applicable category and provide names and contact information for all those who should be included on the group roster.)
- **County Agencies**—Number of rostered members and annual dues for the group would be determined using the "Population Served" row representing 50% of total county population. (Please also mark applicable category and provide names and contact information for all those who should be included on the group roster.)
- **Special Districts**—Number of rostered members and annual dues for the Group would be determined using the "Population Served" row representing 20% of total district population. (Please also mark applicable category and provide names and contact information for all those who should be included on the group roster.)
- **All others**—Refer to row representing total population served by the agency. (Mark the category representing total population served by the agency and provide names and contact information for all those who should be included on the group roster.)

Population Served	Number of Rostered Members Covered*	Annual Dues (\$US)	Annual Dues (\$CN)
<input type="checkbox"/> 0 – 10,000	2	\$ 220	\$ 222
<input type="checkbox"/> 10,001 – 25,000	4	\$ 440	\$ 444
<input type="checkbox"/> 25,001 – 50,000	6	\$ 660	\$666
<input type="checkbox"/> 50,001 – 100,000	10	\$1100	\$1776
<input type="checkbox"/> 100,001 – 300,000	16	\$1760	\$2220
<input type="checkbox"/> 300,001 – 500,000	20	\$2200	\$2400
<input type="checkbox"/> 500,001 – 1,000,000	26	\$2860	\$2886
<input type="checkbox"/> More than 1,000,000	30	\$3300	\$3330
<input type="checkbox"/> Federal Agency	50	\$5500	\$5550

Corporate Group Membership

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Corporate Membership Level	Number of Rostered Members Covered*	Annual Dues (\$US)	Annual Dues (\$CN)
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<input type="checkbox"/> Prestige	10	\$1362	\$1371
<input type="checkbox"/> Crown	40	\$6567	\$6613

*You may designate additional members for \$110 US (\$111 CN) each.

Fee schedule effective through December 31, 2008

Step 2 Dues, Member Information, and Payment

Membership is for one year and will begin upon receipt of dues payment. Purchase orders are acceptable, but members will not receive benefits until receipt of payment. MasterCard, Visa and American Express are accepted – please provide credit card number, expiration date, and cardholder name. If billing address is outside North Dakota, please contact APWA for information regarding chapter dues.

APWA membership dues are not deductible as a charitable contribution but may be deductible as an ordinary business expense, subject to IRS limits. APWA does not designate the use of membership dues for lobbying or advocacy efforts, however seven percent (7%) of our total operating budget is allocated towards advocacy-related programs, including staff salaries. Please consult your tax professional with regards to eligible ordinary business expenses.

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(Credit card payments may be faxed to: 816-472-1905 or 816-472-1610)

Include the full name, job title, company/agency, mailing address, phone, fax, and e-mail (if available) for each person membership is to cover.

Questions? Contact a membership specialist at 800-848-APWA or membership@apwa.net.

APWA Headquarters: 2345 Grand Blvd, Suite 700, Kansas City, MO 64108-2625

Temporary Traffic Control for Utility Operations Workshop

A workshop on Temporary Traffic Control for Utility Operations has been scheduled by the American Traffic Safety Services Association for October 7 at the Ramkota Hotel, 800 S 3rd St. in Bismarck, N.D. Course participants will earn professional development hours. A description of the course can be found at:

http://www.atssa.com/cs/traffic_control_for_utilities

The cost of the course is:

Federal Employees: free

Public Officials: \$25

Other: \$50

For additional information contact:

Dave Levi

Program Manager ND LTAP

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Lisa Ansley Nominated for Section Director of the North Dakota Section of AWWA

As prescribed by the Section Bylaws of the North Dakota Section of the American Water Works Association (AWWA), the nomination committee for section director for 2009-2012 has selected Lisa Ansley as its nominee and is providing the following biographical information on its nomination.

Previously employed by the city of Bismarck as a project engineer, Lisa is now working as a project engineer with Advanced Engineering and Environmental Services in Bismarck, North Dakota. In addition to a very active professional career, Lisa has served on numerous boards including the North Dakota Water and Pollution Control Conference Board and the North Dakota AWWA Board of Directors. She was also a recipient of the 2005 George Warren Fuller Award. When she is not working, she enjoys spending time on the Missouri River, gardening, and relaxing with her husband, Rob, along with their friends and family.



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Minutes of the Joint Board Meeting

May 21, 2008

A meeting of the Joint Board of Directors of the North Dakota Water and Pollution Control Conference (NDWPCC); North Dakota Water Environment Association (NDWEA); North Dakota Chapter of the American Public Works Association (NDCAPWA); and North Dakota Section of the American Water Works Association (NDAWWA) was held on May 21, 2008, in the Cutty Sark Room of the Seven Seas Inn. The meeting was called to order at 10:31 a.m. by NDWPCC President Terry Rust. Copies of the agenda and NDWPCC 2008 Financial Report were provided to those in attendance. The following board members and guests were present: Chuck Abel, Lisa Ansley, Sarah BaeHurst, Gary Bracht, Mike Brisben, David Bruschwein, Kevin Bucholz, Joe Ferguson, Duane Friesz, Bill Gefroh, Dale Heinert, Steve Himmelspach, Brett Jochim, Jack Long, Seth Lynne, Karla Olson, Tim Paustian, Skip Rapp, Terry Rust, Darin Schaeffer, Hazel Sletten, Gregg Stewart, Deon Stockert, Larry Thelen, Eric Volk, Richard Wanner, and Greg Wavra.

President Rust called for a motion to dispense with the reading of the amended minutes noting the correction on page 3, second paragraph, of the electronic copy sent to all board members. Chuck Abel so moved, and Skip Rapp seconded. There was no further discussion, and the motion carried.

President Rust next called for the Treasurer's Report. Mike Brisben reported that the Conference's total equity as of April 30, 2008 equaled \$50,091.58. Mr. Brisben also noted that \$21,777.98 was deposited on May 20, 2008, resulting in a net worth of \$60,917.40. Bill Gefroh moved to approve the Treasurer's Report; Kevin Bucholz seconded. There was no further discussion, and the motion carried.

President Rust called for the first item of old business. Mr. Brisben updated the members on the change in advertising rates for the *Official Bulletin*, thanking Katie Luther, *Official Bulletin* editor, for her hard work. Mr. Brisben noted that costs for the January 2007-June 2007 issue equaled \$3,519.44 and that 24 ads for \$3,750 have been requested for the upcoming

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issue. President Rust commented on the professional look of the *Official Bulletin* and asked for any other input.

Continuing with old business, Mr. Brisben reported on the Spring 2008 water and wastewater operator training sessions. There were six sessions offered in March and April with a total of 276 operators attending. Sixteen operators attended both water and wastewater sessions bringing the total attendance to 292. Two-hundred and nine operators attended the water sessions and 83 attended wastewater sessions. The North Dakota Department of Health (NDDH) administered 174 exams, with 80 percent of the operators receiving passing scores.

President Rust next asked for topics and presenters for the 2008 Fall Conference. Mr. Brisben indicated that he had received a list of 29 topics from eight different groups. Mr. Brisben noted that the NDWEA had provided a list of 12 possible topics and that several presentations about Bismarck/Mandan projects have been offered by AE₂S, Bartlett and West, and Ulteig Engineers. Mr. Brisben also listed several topics from a Northern Water Works training session that may be of interest. David Bruschwein and Chuck Abel indicated that they would be providing a list of topics from NDAWWA and NDCAPWA, respectively. President Rust recommended a presentation similar to "Handling Press-Related Issues" presented at the Industrial Pretreatment Conference in Durango, Colo. Deon Stockert noted the SDAWWA had done a similar presentation at their Conference that was well received. Mr. Abel volunteered to contact a potential speaker who has presented on the topic. Brett Jochim stated that the NDAWWA would continue to offer topics on both water treatment and water distribution. Mr. Jochim also recommended a presentation on the EPA 319 rules. Skip Rapp and Greg Wavra offered a presentation on the ND WARN program. Mr. Stockert suggested possible topics on drought concerns and President Rust added that the fire danger due to the drought may be of interest. President Rust tabled further discussion.

Next, Mr. Brisben reviewed the discussion on changes to the by-laws that were tabled during the February 6, 2008 meeting. After further discussion, it was agreed that the outgoing NDWPCC president would be included on the mailing list for upcoming joint board meetings and

was welcome to attend and participate. Mr. Brisben commented on the notification requirement for amending the by-laws. Mr. Rapp recommended an email option be made available. Mr. Brisben noted he did not have email addresses for the approximately 800 members. Bill Gefroh asked if the by-laws notification could be included in the Conference registration package. Larry Thelen commented that the lists do not necessarily overlap and that the notification could be overlooked. Mr. Thelen recommended that a separate mailing, as written in the by-laws, continue to be used. President Rust asked for any other old business. Hearing none, President Rust moved to new business.

Mr. Brisben reported that 14 people attended the local arrangement committee meeting on May 13, 2008. Topics that were discussed included a trivia night following the Wednesday buffet dinner and a Casino night for those not interested in trivia. It was also recommended that the spouse/guest activities portion of the Conference be discontinued due to poor turnout.

President Rust called for a report on the convention center. Mr. Brisben stated that a \$72.00 + tax room rate had been guaranteed and that a block of rooms would be held until September 17, 2008. Mr. Brisben also noted that if rooms were still available after the September deadline, conference pricing would still be honored. Mr. Brisben further noted that 53 booths would be available for the Tabletop Exhibitor Program.

Mr. Brisben shared that the satellite receiver, purchased by the joint boards for the Environmental Training Center, needs to be replaced. Mr. Brisben indicated that the NDDH and NDAWWA currently were using webcasts and that the only group requesting satellite conferencing at the ETC was the Department of Public Instruction (DPI). Lisa Ansley recommended that the receiver not be replaced and that DPI make other arrangements. President Rust asked for any further discussion; hearing none, President Rust called for the next item of new business.

Mr. Brisben said sponsor, tabletop and presenter packages, would go out the week of June 2. Mr.

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Brisben asked that presenter information be returned by July 14, 2008, and reminded board members who also exhibit that the tabletop display program is first come, first served. Sponsor donations will be accepted up to and throughout the conference. Mr. Brisben said the registration package and conference agenda would go out the week of August 11, and would be included in the conference issue of the *Official Bulletin* which should go out before Labor Day.

Next, President Rust called for any other new business. Mr. Brisben noted that the Ramkota Hotel had expressed interest in hosting the joint board meetings. There was considerable discussion with Steve Himmelsbach and Sarah BaeHurst recommending the Mandan location. Mr. Abel recommended that the Seven Seas Inn be given the first option and that the joint board give Mr. Brisben the authority to choose a different site, if scheduling at the Seven Seas becomes a problem. President Rust called for any other new business. Hearing none, President Rust called for a motion to close. Kevin Bucholz so moved and Seth Lynne seconded. There was no further discussion and the motion carried.

The meeting adjourned at 11:12 a.m.

The NDCAPWA can be thanked for the refreshments and noon luncheon.

Respectfully submitted,
Mike Brisben
Secretary/Treasurer

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Disinfectant/Disinfection Byproducts Rule (TTHM, HAA5) Stage 1 and Stage 2 Rule	Lydia Fewless	701-328-5221
Filter and Backwash Recycle Rule	Gary Stefanovsky	701-328-5287
Fluoride Addition	Katie Luther	701-328-5258
Groundwater Rule	Gary Stefanovsky	701-328-5287
Inspections: Northeast	Gregg Stewart	701-328-6621
Inspections: Northwest	Bob Markhouse	701-328-6623
Inspections: Southeast		
Inspections: Southwest	Darin Billing	701-328-6624
Lead and Copper Rule	Katie Luther	701-328-5258
Surface Water Treatment Rule: Interim Enhanced, Long Term 1 Enhanced, Long Term 2 Enhanced	Greg Wavra	701-328-5224
Microscopic Particulate Analysis (MPA)	Gary Stefanovsky	701-328-5287
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Public Notice Rule	LeeAnn Tillotson	701-328-5293
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Radionuclide Rule: Gross Alpha, Total Radium, Uranium	Lydia Fewless	701-328-5221
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