

State Engineering Association and the 2008 floods – a pair of articles

1. SOMETIMES, GOVERNMENT IS THE SOLUTION

By Tom Mugan, past president, State Engineering Association

Many state workers including highway and water-quality engineers pitched in alongside local government workers and the National Guard when June's vicious storms washed out entire neighborhoods and blocked roads across Wisconsin. Engineers and technical specialists put in long days and nights, missing Father's Day with their families to assess trouble and take prompt action.

These public servants checked the safety of state dams, bridges and highways. They waded into fast-moving waters even a boat couldn't negotiate. They helped communities get drowned corridors moving again, blocking dangerous routes and mapping detours. And they continue to assist with damage assessments, so the state can receive badly needed federal aid.

That's the good news. The bad news is that for nearly a year, the state's 1,100 engineering professionals -- all state employees represented by a bargaining unit -- have been working without a contract or a pay raise. That means their pocketbooks have continued to lose ground to inflation even while the need for their services has increased.

The state has allowed this to occur even though there's a national shortage of engineers who now command premium salaries. The state does nothing to retain its veterans, has understandable trouble attracting new talent at low-ball pay, then illogically proclaims that it has no choice but to hire expensive private engineering firms. This contracting has gotten so far out of hand that at times private consultants have been put in charge of overseeing each other's work.

To be sure, Governor Doyle and other public officials did applaud the response of state employees to the June disasters. Yet in contract renewal negotiations the Doyle administration has taken its multi-agency staff of engineers for granted. The administration's representatives have refused to bargain fairly with these dedicated workers, presenting a "take it or leave it" ultimatum on every economic issue.

Taxpayers in general and beleaguered communities in particular have every reason to ask Governor Doyle, his cabinet officers and legislators why the State of Wisconsin refuses to bargain in good faith with these public servants who have done their jobs and then some.

No one can predict what will happen when the next crisis arises and state engineers are again called upon to perform above and beyond the call of duty. Will the indignities we are enduring at the bargaining table continue to affect morale, making us less able to respond with selfless determination? I have no doubt that we'll continue to respond with professionalism and dedication. Nevertheless, continued budget cuts will diminish our ability to do what's needed.

Among those applauding state workers for their efforts, Sen. Scott Fitzgerald (R-Juneau) recently said he would request that a joint legislative committee be formed to examine the state's response to the disaster and the ensuing cleanup. "It would be instructive for the Legislature to hear what worked well, where we fell short, and suggestions for changes moving forward," he wrote. Yes, it would be instructive. State workers should be among the first invited to tell legislators what we achieved and what could be done better, if we only had the staff and resources.

2. SEA MEMBERS REPORT FROM THE FRONT

In June 2008, massive rain, wind storms and tornadoes rolled through Wisconsin, creating flood disaster areas across much of the state and shutting down local, state and federal highways. Here are some accounts from the hard-working, SEA-represented state employees who worked long hours and in some cases faced real danger serving the public. The edited accounts here are just some of the many submitted to SEA, and reflect the selflessness of our engineers and specialists, and the considerable passion and value they bring to their work.

Twelve Straight Days

Ronald Becker, Wisconsin Department of Transportation:

I worked about 35 hours of overtime on a weekend and nights on flooding-related issues while continuing to work my normal 5 day/40 hour schedule.

As result of being scheduled by management on traffic-related flooding issues on the weekend of 6/14 and 6/15, I worked 12 straight days, including several of normal weekly days on flooding issues. Due to the backlog of my normal work and the need to fill-in for others scheduled to work flooding during the week of 6/16, it was not possible to take any days off.

Several other SEA members were also scheduled to provide round-the-clock, in-the-field monitoring and responding to conditions. We all, sacrificed the beautiful 6/14 & 6/15 weekend with our families and friends, to protect the public's safety and to keep traffic flowing and commerce moving.

For my flooding related work, I field reviewed and evaluated possible detour routes for I-39. Once traffic was diverted from the various highways, I evaluated the detour signing and traffic control on the alternate routes; field monitoring traffic flow/congestion and determining what routes were open. I monitored water levels at culverts and bridge and recommended locations for inspection by bridge engineer, resulting in one bridge being closed due to high water.

On Friday, 6/20, I monitored all the road closures and detour signing in three counties; Green Lake, Marquette and Dodge. I ordered additional road closure barricades to correct a potentially dangerous traffic situation in Princeton on Friday night.

Pride and Helplessness

Steve Katzner, P.E., Bridge Engineer, SW – Madison, WisDOT:

After looking back on the events that occurred following the June 8 flooding, I guess I was filled with very mixed emotions. Pride, helplessness, remorse, frustration, disbelief, and so forth. I worked for 15 days straight and still thought not enough was done. But at times, nothing could be done. Watch the water rise and pray.

We helped fill sand bags at times and helped place them in front of a veterinary clinic as carp swam down the highway. I'm a bridge engineer, but found myself doing traffic and roadway maintenance duties. Whatever I could do to help. I never felt so helpless watching and recording the Baraboo River getting closer and closer to I-90/94 in Columbia County, knowing nothing could be done but to wait it out and see what happens.

In the past, I've usually known how to help motorists get from Point A to Point B. Not this time, as I wasn't even sure how I was going to get around. And it didn't end there. Friends and family were also hit with flooded homes and garages. So, off I went to help them in Reedsburg and Baraboo.

All in all, the images of the floods and damage will forever be with me, professionally and personally. Not only am I proud of what I do, but for who I work for and work with. Many more people put in many more hours than I did. And I bet they also didn't think they could do enough.

We're very fortunate to have some hard working, caring people in the DOT. And for that, I am grateful.

Serious Upgrades Will Be Needed

Charlie Cameron, Environmental Engineer, Wisconsin Department of Natural Resources:

It's been a pleasure serving fellow citizens in the Vernon county area during these trying floods.

As a licensed Drinking Water and Wastewater Engineer of 16 years, I arrived at several of these flooded communities two days following the event. It was a nerve-racking, time-consuming experience trying to determine which roads were safe enough to travel on. In some cases, alternate routes had to be taken during the last minute to get to the affected communities.

While some of these communities had already received the brunt of the storms, some were at their peak flood stage. Downtowns were under water, bridges and roads were wiped out, mud slides covered roads, and sewage was being dumped everywhere.

The municipally certified operators were exhausted when I arrived and had already implemented some of the flood protection measures I had called them about the day before. They raised chlorine levels for maximizing disinfection, they began collecting bacteriological samples, and they warned boaters not to hit their fire hydrants just below the water surface.

On Tuesday, I arrived to test chlorine residuals in the distribution system and advised the operators on disinfection procedures and objectives. I also assisted system operators with collecting bacteriological samples. In one case, it took 20 minutes to travel from one side of town to the other to collect a sample at the local high school. This would normally have taken a couple minutes but the river that cut the town in half was now a lake. The operator was exhausted and readily accepted the advise on sampling locations. The extra set of eyes was also helpful in ensure the best possible sample being collected.

While providing drinking water guidance, I was also able to provide guidance on sewage overflows and treatment. Millions of gallons of sewage was being dumped into the floodwaters in an unsanitary manner. I advised communities to bypass downstream of the town and, if possible, to keep a negative head on the collection lines to prevent sewage from backing up into town. Advise on getting the treatment plants back up after the flood was also provided.

While the flood is now probably forgotten by most Wisconsinites, the real work for these communities and state engineers has just begun. Serious upgrades to drinking water and sewerage infrastructure will be needed to protect public health and the environment. System assessments will need to be made. All it takes is virus in one well to make hundreds of people sink. Those with compromised immune systems (sick, elderly, and young) would be devastated by even a small contamination event.

Codes of Honor

Randy Dahmen, PE, Commercial Building Inspector, Code Consultant & Plan Reviewer, Wisconsin Dept. of Commerce, Safety & Buildings Division:

Due to the massive amount of flooding, many homes and businesses have been either damaged, or been completely removed off their foundations. Department of Commerce Building Code Engineering Consultants have been on the phones with a multitude of discussions on what is required to be done to correct the damage.

Questions concerning who can perform the work, what should the work consist of, what type of permitting is required if any at all, are building plans required and if so are they given priority (yes), who can they contact in their local area for inspections involving buildings, HVAC, plumbing, electricity, elevators, erosion control, boilers, refrigeration units, and so forth. What state code must be applied? Does one rebuild to the current code or to the code at the time of the original construction? What happens if there are changes to the building; what code applies in that circumstance? And more.

As of yet there has been no push for additional commercial building plan reviews, however, most of the land affected is not dry enough to construct on, and in many places the water has yet to back off. The need for additional plan review will likely not come to a head for another month or two when action can finally take place and full evaluations of the damage can be completed.

Responding In Force

Tim Hanley, WisDOT:

Our region responded in force to the flooding. Emergency teams were all SEA members from DOT North Central Region -- engineers and engineering specialists. The Green Lake team came from the Rhinelander and Wisconsin Rapids offices. The Dodge County team actually stayed out for a week in the field. That was in our own region. North Central also was helping our sister region in the southwest -- Dodge is normally their county, but they were overwhelmed with stuff to do.

Teams worked at least a 10-hour day; many had longer days. Essentially we evaluated traffic operations; bridge safety; identified action items; estimated damage caused and responded to public concerns; identified detours and worked hand in hand with the County Highway staff and county commissioners.

Dangerously Short Staffed

Larry Legro, DHFS:

While the flooding did not directly affect DHFS engineers and specialists, it affected us indirectly, since we were having a required exercise for the Prairie Island nuclear Power Plant on the Mississippi River, owned by Northern States Power Company. State of Wisconsin nuclear engineers and engineering specialists have to respond to these federally mandated exercise drills as a condition of the utility's license to operate.

During that week with the flooding, all other state emergency support personnel were tied up with the flooding at Emergency Government offices. They could not participate in both emergencies, one real, and ours which was staged. Due to this lack of staff, the state's emergency operations center and managers failed the exercise, although our field teams passed their tests and tasks. Partly this was due to lack of staff and the two simultaneous events.

This experience could have major ramifications as to the status of Prairie Island's license to produce a safe power supply or be fined. This situation affects the public of both Minnesota and Wisconsin.

Crossovers

Brian Perz, SE Region PDS Engineer, WisDOT:

Re flooding in Jefferson County, which caused the closing of the westbound lanes on I-94, SEA members put aside their current projects to design, provide construction oversight, and contract administration for this emergency project. SEA members worked around the clock for more than two days on the median crossover project to allow traffic to flow in both East and West directions. The crossovers were constructed in 48 hours and saved commuters hours.

Stepping Up To Meet The Challenge

Sharon Bremser, Joanna Bush, Bob Fasick, Matt Rauch, Dave Simon, Bob Spoerl, Mile Sproul, Rebecca Yao - Bureau of Highway Operations, WisDOT

The eight of us are basically WisDOT's liaisons at the Emergency Operations Center (EOC) in Madison with other state agencies, National Guard, FEMA and others. If there is a statewide emergency alert and the EOC is activated, one of us who is on call, must report to the EOC. If the emergency materializes, shifts are scheduled and we all become involved. Seven of us were new. Management had wanted to add more people to spread the responsibility around before this all transpired and we were recruited.

We had an orientation meeting on June 3. Before we could have further training, the real emergency occurred and we were literally thrust into the mix on June 9. We were organized into shifts and covered the EOC 24/7. The responsibilities included providing information, assistance and answering questions, inquiries and requests by phone and in person. Basically, it helped knowing what routes are open or closed, the details and knowing who to call for answers. At first it was incredibly hectic and stressful but it leveled off over time.

One of our members came up with a Google map showing highway closures due to flooding. The interactive online format allowed quick turnaround for revisions to be made to inform the public as soon as closures or reopenings became known. This map received over 1.5 million hits over the course of the flooding event.

Assessing SW Bridges

Jason Lahm, NE Region Maintenance Engineer, and Jim McDowell, NE Region Bridge Engineering Specialist, WisDOT:

We were assigned to Jefferson County. We needed to assess the condition of every state bridge that crossed a body of water in the entire county. We reported our findings twice a day to central office bridge section so they had up to date information.

Flooding Work in NE Region

Chris Blazek, NE Region Bridge/Maintenance Engineer, and Jason Lahm, NE Region Maintenance Engineer, WisDOT:

We were called to work on Thursday evening, June 12 because of the flooding in Fond du Lac and Winnebago Counties. Jason was assigned to represent the DOT at the Fond du Lac EOC (Emergency Operation Center) and Chris was assigned to represent the DOT at the Winnebago County EOC. We worked at the EOC until 7:00 am on Friday. We worked with local law enforcement, fire departments, state patrol, and county forces to coordinate detour route and road closings. We also relayed this information back to WisDOT Management for their 3:30 am conference call so they would have up to the minute information on the flooding situation and road conditions.

Sheboygan Rising

Randy Asman, NE Region Traffic Engineer, and Dale Weber, NE Region Bridge/Maintenance Engineer, WisDOT:

We were called to respond to the rising Sheboygan River beneath the STH 32 / STH 57 bridge on Friday afternoon, June 13. The river was within a couple inches of the bottom of the bridge girder. We assessed the on-site conditions and began to prepare for a long-term detour route with local law enforcement and county forces, should the river continue to rise. We also coordinated the opening of a dam downstream to lower to the water levels near the bridge with local officials. We continued to monitor the water levels for the next 24 hours with the Kiel Police Department and relayed this information back to WisDOT management for their scheduled conference calls so they would have up to the minute information on the flooding situation and road conditions.

KUDOS

The contributions of state employees particularly including SEA members did not go unnoticed. Governor Doyle thanks state workers for their considerable effort, and so did a number of managers and cabinet officials.

Excerpt of Memo from Matt Frank, DNR Secretary

Sent: Tuesday, June 24, 2008 3:53 PM
Subject: Thank You for your outstanding efforts!

To all my DNR Colleagues:

The last couple of weeks have been difficult ones for families and communities across 30 counties in Wisconsin. Massive and widespread flooding has taken its toll. Families were driven from their homes, farmers sustained significant crop damage, and our state infrastructure of roads, bridges, dams and parks were affected.

Working closely with Wisconsin Emergency Management, the National Guard, and numerous state agencies, Wisconsin DNR has played an important role in responding to the flooding. DNR staff from all divisions, regions and across numerous program areas have risen to the occasion, providing help and support to citizens, businesses, and local governments impacted by the flooding.

I want to pass on to all of you the numerous comments I have received from people across the state who have been incredibly appreciative of the effort DNR has made to be helpful in a time of crisis. Your hard work, dedication, expertise and willingness to go the extra mile has been noticed and appreciated among the citizens we serve. We provided 24/7 staffing to the state Emergency Operations Center. Our wardens helped rescue and evacuate people from their homes. Our dam engineers worked with local officials to monitor dams around the clock. Our staff in both our public and private drinking water programs put in extra time to ensure that drinking water supplies remained safe. Forest protection staff helped staff ICS (Instant Command System) Centers. DNR staff worked side by side with local emergency responders and with personnel from other state agencies and the National Guard. Overall, DNR staff responded in many different capacities in ways too numerous to mention.