Modeling Mississippi River Dredging Strategies After the Lock Closure at Upper St. Anthony Falls

Alex Nelson, PE, USACE-St Paul Senior Hydraulic Engineer

Speaker Bio:
Alex Nelson is a Senior Hydraulic Engineer for the Corps of Engineers where he has worked since 2009, specializing in hydraulic modeling and design of dam, levee, diversion, and river restoration projects. He holds a M.S. degree in Civil Engineering from the University of Minnesota, a B.S. degree in Civil Engineering from North Dakota State University, and is a Professional Engineer in Minnesota.

Presentation Synopsis:
With the closure of the Upper St. Anthony Falls (USAF) lock in 2015, new opportunities have arisen to investigate eliminating channel maintenance in the upper navigation pools of the Mississippi River near Minneapolis and St. Paul, Minnesota. Since lockages through USAF have halted, the current dredging activities that are in place to ensure a nine-foot navigation draft in the pool may no longer be required. Additionally, due to reduced commercial boat traffic traveling to USAF through Lock & Dam No. 1 (LD1), elimination of channel dredging through this reach may also be warranted. The results of this sediment transport modeling study, using HEC-RAS hydraulic modeling software, show the relative differences in dredging quantities between the current channel maintenance practices and proposed alternatives. Modeled impacts for two alternatives, eliminating dredging above USAF and eliminating dredging above LD1, are quantified for the Mississippi River system through Lake Pepin in order to assess the viability of each strategy. In addition, future studies may utilize this model to analyze sediment trends through Lake Pepin and to investigate the feasibility of major operational changes (e.g. water level drawdowns) or physical changes (e.g. dam modification) at the structures in the navigation system.

Meeting Location:
LOCATION: Grumpy’s Bar and Grill, 2801 Snelling Avenue, Roseville, MN 55113
Free parking is available adjacent to the restaurant.

Agenda:
Social time and lunch (if you so desire) will be available from 11:30 AM to 12:30 PM with presentation from 12:30 PM to 1:30 PM. A lunch at a cost of $20 will be available. Lunch will consist of a burger buffet and includes chips, coleslaw, and a beverage. Please RSVP no later than Friday, April 20th, 2018, with your intent to either partake in the lunch or to come for the presentation only. Please click the RSVP button in the left-hand column of page 1 or use the following Eventbrite link to RSVP: https://www.eventbrite.com/e/april-professional-development-meeting-tickets-44841606452

Have an idea for future meeting topics or tours?
Please contact Matt Redington with your ideas at matthew.redington@hdrinc.com or 763-591-5487!
Highlights of the March Meeting

Bernie Arseneau, HDR’s Highways Market Sector Director, gave a presentation on revolutionary changes that are shaping the transportation industry. Technology is changing long established paradigms regarding how people and goods are moved from point A to point B. Technologies that will be particularly beneficial to our society will include managed lanes, intelligent transportation systems and autonomous and connected vehicles. There are challenges to be resolved such as security and implementation processes as technology is adopted for wide scale use. Many of the computer-assisted or autonomous driving technologies are already being proven effective and feasible for use. The benefits of incorporating new technologies are too great to ignore. Just last year in the United States, approximately 37,000 people were killed in automotive accidents. Conservative estimates are that this number of fatalities could be reduced by 80% through adoption of computer-assisted or autonomous driving technologies. Bernie believes that we are on the steep part of the technology adoption curve, and that we will see many disruptive, yet exciting changes in the next decade.

Habitat for Humanity 2018 Event

On March 10th, 2018, several SAME-MSP members volunteered for the Habitat for Humanity in St. Paul. The team included Wayne Wambold, Dave Odden, Peter Allen, Jane Flewellen, Trevor Romanko, Ben Larson, and Rebekah Hudson. Led by H4H site leader Jimi Way, SAME-MSP members were able to help install laminate flooring and painting of the basement and second level. See below photos of all the hard work being put in place!

Small Business Corner

Mark your calendar for the SADBOC small business conference on April 26th at the Earle Brown Heritage Center from 9 am to 3 pm. Vendor booths and lectures continue to give many small businesses, government, and large businesses the chance to discuss upcoming opportunities and ways to better connect to do business.
Sustaining Member Presentations at Future SAME-MSP Post Meetings

The SAME MSP Post is looking for our sustaining members to give a brief 5 minute presentation about your company prior to the monthly presentations. This is a great networking opportunity to tell others about your company’s services, small business information, etc. We currently have openings, see schedule below. Please email Sherry Van Duyn at svanduyn@landmarkenv.com or Dave Ausdemore at dave@hsciences.com with which month you would like to present.

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Register Now for the 2nd Annual MSP Post Industry Day & 33rd Annual Golf Tournament

**When:** Friday, July 20, 2018

**Where:** Oak Marsh Golf Course in Oakdale, MN

**Schedule:** Industry Day in the morning, followed by lunch, golfing in the afternoon, and awards/dinner after golf

**Why:** Earn PDHs, Network, and Have Fun! More info provided on the attached event flyer.

SAME-MSP Newsletter Needs Your Help!

We are looking for an interim newsletter editor for September 2018 through December 2018. If you are interested in helping compile information and put together the newsletter, please contact Rebekah Hudson at Rebekah.hudson@jedunn.com. We use Microsoft Publisher to publish our newsletter, and Rebekah can easily train you via Skype if you are not familiar with the software. We hope to have the position filled by June 2018.

Call for Officers and Board of Directors Nominations

Interested in getting more involved or want to nominate a deserving candidate?

The Minneapolis-St. Paul SAME Post’s new year starts in July and we are looking for nominations for positions on our Board of Directors. If you have suggestions for nominations or are interested and would like more information please contact Paul Dierking, Minneapolis-St. Paul Post Vice President (paul.dierking@hdrinc.com or 763-591-5473). Thanks for helping identify our Post’s next round of leaders!
Register Now for the SAME Industry Day & Golf Tournament!
Friday, July 20, 2018 at Oak Marsh Golf Course in Oakdale, MN

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<th>33^{rd} Annual Golf Tournament</th>
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<td>8 AM to 11:30 AM</td>
<td>Shotgun Start at 1 PM</td>
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**PDHs Available**

Speakers wanted for the following topics:
- Climate Change & Impacts
- Infrastructure
- Innovation & Technology
- Leadership, Team Building & Communication
- Legislative Updates
- Resilience
- Water Resources

Interested in Presenting? Please Contact:
Nathan Meisgeier (651-290-5656) or
Sherry VanDuyn (952-666-2420)

**Sponsorship Opportunities Available**

Contact for Additional Event Info:
Chris Afdahl at 651-290-5712 or
by email at Christine.a.afdahl@usace.army.mil

33^{rd} Annual Golf Tournament
Supports the M-SP Post’s Education & Mentoring Fund (Scholarships)

**Several Sponsorship Opportunities**

- Scramble Format
- Prizes for 1^{st} & 2^{nd} Place Teams
- Individual Awards for Longest Drive, Longest Putt & Closest to the Pin!
- Additional Fun Activities on Every Hole and Great Prizes!
- $10,000 Prize for Hole-In-One!

Individuals, twosomes, threesomes, and foursomes are welcome!

Italian Buffet Dinner & Awards Following Golf

Contact for Additional Info:
Rachel Pichelmann at 651-724-8245 or
by email at rpichelmann@sehinc.com

Registration Information and Additional Details Provided on Next Page
Register Online before the July 13 Deadline!
http://www.wpgolf.com/oakmarsh/same_fundraiser.aspx
Early registration by June 30 will qualify you for a special drawing!

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<th>Sponsorship Opportunities</th>
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| **Industry Day Sponsor** - $500 Donation | **Industry Day** - $40*/$30†  
Company recognized during event  
Includes morning refreshments, technical presentations (3 PDHs), and box lunch |
| **Golf Tournament Hole Sponsor**  
$200 Donation for Small Business;  
$400 Donation for Others | **Golf Tournament** - $120*/$90†  
Company name/logo displayed at tee box, indicating sponsorship of hole.  
Includes golf, ½ cart, box lunch, dinner, and one drink ticket |
| **Golf Tournament Hole-In-One Event Sponsor** - $750 Donation | **All Day** - $140*/$110†  
Company name/logo displayed at tee box, indicating sponsorship of one of the hole-in-one contests  
Includes Industry Day & Golf Tournament |

*Price listed applies to SAME sustaining members and employees of private firms.
†Price applies to employees of public agencies, SAME young members, and fully retired SAME members.

Sign up to sponsor this event using the registration link above.

For all sponsorship options, your company will be listed as one of the tournament sponsors and will receive special acknowledgement at the awards presentation.

SAME Student Members contact Rachel Pichelmann (651-724-8245) if you are interested in participating.

Door prize donations are appreciated!

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**Oak Marsh Golf Course**  
526 Inwood Avenue N.  
Oakdale, MN 55128

**Check Out the M-SP Post of SAME at same-msp.org**