



THE IAFSM CURRENT

Illinois Association for Floodplain and Stormwater Management

Summer 2023 Newsletter

Rising waters: climate change impacts and toxic risks to Lake Michigan's shoreline communities

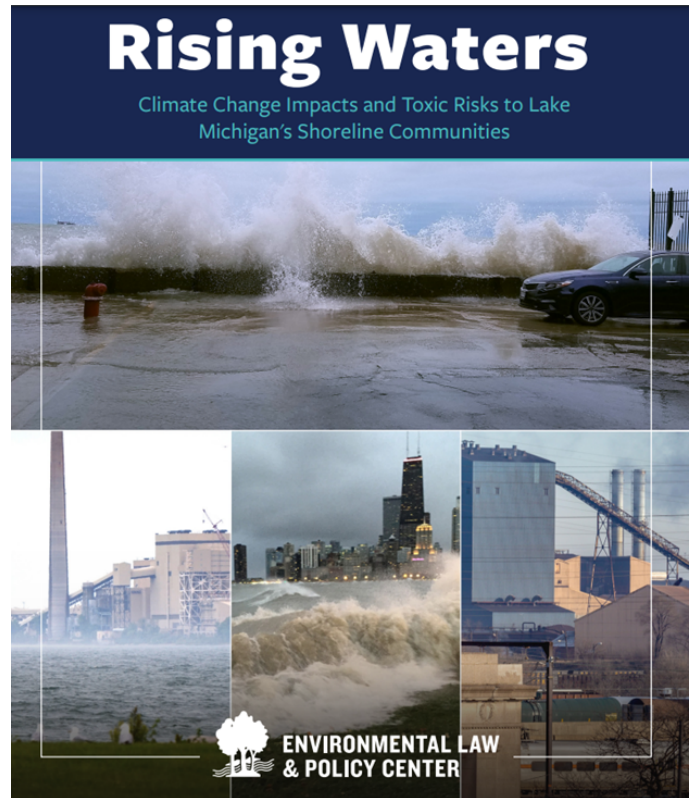
-Excerpt from Environmental Law & Policy Center report, published June 2022 at elpc.org/RisingWatersReport

Climate change is causing more extreme Lake Michigan water levels. High water levels, combined with stronger winds and heavier storms, are causing erosion, beach loss, and damage to residential, commercial, and industrial areas all along the shore. Many sites have toxic materials that pose risks to communities and the lake—risks that need to be understood and viewed in the context of a changing climate.

The Environmental Law & Policy Center (ELPC) identified twelve areas along Lake Michigan that face flooding and erosion risks, including residential communities, industrial facilities with hazardous materials, and a nuclear waste site. Using elevation data prepared by the National Oceanic and Atmospheric Administration (NOAA)'s Office for Coastal Management, we created twelve maps that visualize the possible extent and severity of inundation in these areas due to storm-related flooding events during high lake levels. These maps extend lake level estimates beyond NOAA's upper range of 584.8 feet above sea level to envision more extreme conditions by four half-meter intervals from 584 feet up to 589 feet. We recognize that many more communities around the lake face threats from high lake levels and extreme weather events, but these twelve sites stood out in our analysis. They should be reevaluated to prepare for the new risks caused by climate change.

This report seeks to inform Lake Michigan communities about the risks in their backyards. We also identify federal, state, and local opportunities to alleviate climate change threats and protect against flooding-induced industrial pollution and damage to the built environment.

For the full report, visit elpc.org/RisingWatersReport



Inside This Issue

| | | | |
|--|--------|---|--------|
| Lake Michigan's shoreline communities | Page 1 | From the Chair | Page 5 |
| July 2-3, 2023, storm follow-up | Page 2 | CRS training opportunity | Page 6 |
| E&E news about flood insurance, disaster response..... | Page 3 | PC-SWMM beginner course | Page 6 |
| US engineers contributed to flood and must pay..... | Page 3 | Other CEC education & training opportunities..... | Page 7 |
| Impact of rising groundwater on Vermillion River..... | Page 4 | Important stuff we tell you in every newsletter | Page 8 |
| Save the date! 2024 Annual IAFSM Conference | Page 4 | | |

July 2-3, 2023, storm follow-up

-MWRD Press release issued July 5, 2023

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) works around the clock to provide flood protection for Cook County while protecting our greatest asset, the source of our drinking water, Lake Michigan. We monitor the weather, and prior to major storms, we draw down the waterways to provide maximum capacity in the waterways, tunnels and reservoir system.

However, when there is an extreme weather event such as what happened July 2 and 3, we must reverse the flow of the Chicago River when the river level exceeds the elevation of Lake Michigan. During this past weekend's storm, the elevation of the North Shore Channel topped the elevation of Lake Michigan, and we opened the gates at 2:16 p.m. on July 2. The gates remained open until 9:47 p.m. on July 2. The elevation of the Chicago River downtown exceeded Lake Michigan's elevation so the locks were opened at 4 p.m. on July 2 and the reversal ended at 2:30 a.m. on July 3. Reversing to the lake only happens in extreme situations. Reversals dating back to 1985 are listed at this [link](#).

In other words, when the Chicago area waterway levels are higher than Lake Michigan, only then can the MWRD open control structures to move as much water as possible out of the system. We cannot open the gates and lock before that time. There is NO MAGIC KEY OR BUTTON to use at will. Opening the gates and lock not only provide overbank flooding protection but they allow for more capacity for stormwater. As a result, the MWRD can only reverse the waterway to the lake when the river level is ABOVE Lake Michigan levels. If we were to open the lock and gates too early, Lake Michigan would have a tsunami effect, overtaking the river and flooding everything in its path in downtown Chicago and along the waterways, totally decimating the riverwalk and municipalities downstream, on the South side and on the North side. The destruction that would be caused by opening the gates and lock too early is unimaginable.

According to the National Weather Service, "rainfall totals in and in the immediate vicinity of Chicago ranged from roughly 3 to 7 inches, though a few localized areas received over 8 inches of rainfall. The worst of the flooding occurred on the west and southwest sides of Chicago and in the near west and southwest suburbs." This includes Cicero and Berwyn. There is no system able to handle that much water in just a few hours. [NWS report here](#).

Consistent with the MWRD's mission of protecting Lake Michigan from pollution, every effort is made to minimize the amount of floodwater discharged to the lake during extreme storms. In a combined sewer system like we have here, sanitary sewage and stormwater drain into the same pipes. Homes, businesses and street drains are connected to the local sewers, which are owned and maintained by municipalities. Local sewers flow by gravity into the MWRD intercepting sewers, which then convey the flow to MWRD water reclamation plants for treatment.

To combat this, we have partnerships with municipalities and other organizations throughout the county to fully or partially fund green infrastructure and other stormwater projects to improve resilience within that community. The 34 Space to Grow® green infrastructure projects that convert asphalt into permeable surfaces at local schools is just one example of a partnership improving communities one neighborhood at a time.

Here are some links that provide additional information and explanations about how the MWRD's infrastructure and waterway system operate.

- [Tunnel and Reservoir Plan \(TARP\)](#)
- [Chicago Area Waterway System](#),
- [How to prepare for stormwater](#),
- [Understanding how sewers work](#),
- [Virtual tours of MWRD facilities](#).

For more info contact forea@mwrdd.org.



JOIN OUR TEAM

IMMEDIATE OPENINGS FOR: ENGINEERS, ECOLOGISTS, SCIENTISTS, SURVEYORS, LANDSCAPE ARCHITECTS, PROJECT MANAGERS

V3CO.COM/CAREERS/JOBS

E&E news articles about flood insurance, disaster response

Thomas Frank is a journalist with E&E News, who covers the federal response to climate change, focusing on disasters, disaster recovery, and equity in federal programs. Three recent articles may be of interest to IAFSM members:

'Staffing gaps' threaten FEMA disaster response, GAO warns, published May 4th, 2023, [link here](#)

Rural areas to gain eligibility for federal disaster loans, published May 5th, 2023, [link here](#)

Flood insurance rates will soar in some areas, FEMA says, published May 10th, 2023, [link here](#)

US engineers contributed to Missouri River flood damage and must pay landowners, court rules

-Excerpt from Margery A. Beck, Associated Press, as published in The Hill, 6/22/23

The U.S. government may have to pay tens of millions of dollars — or more — to landowners along the Missouri River after a court ruled it worsened flooding there since 2007 that killed crops and wrecked homes and businesses. Courts have found the U.S. Army Corps of Engineers responsible for recurrent flooding since 2007, three years after it changed how it manages the Missouri River's flow to better protect the habitat of endangered fish and birds. It did so by notching dikes to increase water flow, keeping more water in reservoirs and reopening historic chutes, allowing the river to meander and erode banks.

For the full article, visit [The Hill](#).



Homes sit in floodwaters on Hoge Island north of Bismarck, N.D., along the Missouri River flood plain, on June 15, 2011. FILE photo, from the article in The Hill.



ENGINEERING
RESOURCE ASSOCIATES

OUR SERVICES


Water Resources • Site Development
Environmental • Recreation • Infrastructure
Transportation • Construction • Structural
Surveying and Mapping
Geographic Information Systems



630.393.3060
www.eraconsultants.com
Warrenville | Chicago | Champaign | Milwaukee | Denver

Hey and Associates, Inc.

Engineering, Ecology and Landscape Architecture



heyassoc.com



**PROVIDING
FLOODPLAIN &
STORMWATER
MANAGEMENT
SERVICES**

CMT
Engineers and Consultants



@cmtengrs | cmtengr.com

Impact of rising groundwater on Vermillion River in Illinois

-Excerpt below from *Grist*, by Julia Kane, Lina Tran, & Diana Kruzman, published 3/29/23

Inland, far from America's coastlines, climate change is driving a rise in groundwater levels through an increase in rainfall. Heavy precipitation — particularly when it comes over a short period of time — can cause lakes and rivers to flood and saturate the ground directly. That excess water then percolates down through the soil, raising the groundwater below, explained Mark Hutson, a geologist who previously worked for the Illinois Environmental Protection Agency.

Along the Vermillion River in Illinois, [rising groundwater] is seeping into unlined pits containing coal ash — a hazardous waste — and carrying heavy metals into drinking-water aquifers.

To read the full article, which describes the impact of rising groundwater on the Vermillion River in Illinois, [click here for the article on Grist](#).

Save the Date! 2024 Annual IAFSM Conference

The 2024 IAFSM conference will be held at the Peoria Civic Center on Tuesday March 12 and Wednesday March 13. Registration information will be sent in January. Save the date!

Civiltech is Proud to Support IAFSM

civiltechinc.com/waterresources

Follow us on social media.

Farnsworth GROUP
www.f-w.com

WHEN THE STORM COMES, YOU CAN TURN TO FARNSWORTH GROUP

ARCHITECTS | ENGINEERS | SURVEYORS | SCIENTISTS

SITE DESIGN • TRANSPORTATION • MUNICIPAL • CONSTRUCTION SURVEY • DATA COLLECTION • WATER RESOURCES • SUSTAINABLE DESIGN

GILLSON BEACH HOUSE AND PARKING LOT IMPROVEMENTS
Wilmette Park District

KNOLLWOOD SUBDIVISION FLOOD MITIGATION
Village of Fox Lake

GHA GEWALT HAMILTON ASSOCIATES, INC.

Guiding Clients' Stormwater and Floodplain Projects with Experience and Insight to Exemplary Outcomes.

847.478.9700 GHA-Engineers.com

INTRODUCING StormSettler
HYDRODYNAMIC SEPARATOR

Designed using computational fluid dynamics and extensive laboratory testing, StormSettler provides extended surface area settling benefits in a compact, round structure.

STORMTRAP.com
1-877-867-6872

From the Chair

-Dallas Alley, CFM, City of Fairview Heights

It's an honor to serve as IAFSM's 20th Chair, and to follow in the footsteps of so many worthy predecessors. Steve Altman has done a great job of leading this organization and I thank him for his dedicated service and vow to harass him with questions and ask him for guidance as he occupies the distinguished position of past-chair. When looking forward to where our organization is heading, we must not forget where we have been. Dwight D Eisenhower once said, "In preparing for battle I have always found that plans are useless, but planning is indispensable". Since its inception in 1986 when Lou Sidell, Jr. was the first chair, IAFSM has been a leader in stormwater and floodplain management. We as an association believe that we must always be planning for the future of floodplain and stormwater management. We must also keep in mind that our founding members established that the objectives of IAFSM are to:



- Promote the common interest in floodplain and stormwater management
- Enhance cooperation among various local, state, and federal agencies
- Encourage effective and innovative approaches to managing the State's floodplain and stormwater management systems.

I feel we have done a great job advancing these objectives, but we should not rest on our previous successes. There is always work to be done. Stormwater and floodplain issues are still significant challenges in many of our communities.

During a recent trip to Maine with my family we discovered several quaint New England homes that were built completely over a fast-flowing creek. The sight of these well-intentioned homes stirred a conversation with my daughter who asked "why would anyone want to live over a creek, won't they flood?". There it was in black and white, a thirteen-year-old has the sense to not build in a hazardous location, but those who should know better do not. We should all strive to think like our inner thirteen-year-old. I am sure that there was an economic reason for building these homes over a creek in the middle of the floodplain, but at what ultimate cost? Sure, these structures were built before floodplain management was regulated by the Local, State, and Federal governments, but where was the planning?

As I begin my tenure as Chair of IAFSM I encourage us all of continue to expand upon the legacy of those before us and to continue to pursue our objectives. I look forward to continued success as an association and on behalf of the IAFSM board I want to thank the membership for your participation. In closing I leave you all with a now famous quote from the late Gilbert White: "Floods are 'acts of God, but flood losses are largely acts of man".

**TRUSTED PARTNERS.
PROVEN RESULTS.**

Hanson is your trusted advisor for innovative engineering solutions.

Offices serving Illinois: Springfield, Peoria, Lisle, McHenry, Frankfort, Murphysboro, Indianapolis and St. Louis

 **HANSON** | HANSON-INC.COM

PINNACLE
ENGINEERING GROUP

Civil Engineering | Surveying | Landscape Architecture | Land Planning

Chicago: 847.551.5300
Milwaukee: 262.754.8888
www.pinnacle-engr.com



CHICAGO // **MILWAUKEE** // **NATIONWIDE**

CRS training opportunity

The L0278: National Flood Insurance / Community Rating System Field deployed class is scheduled for Monday, September 18 - Thursday, September 21 at the Village of Downers Grove Public Works. This is a free course provided by FEMA through the Emergency Management Institute. To register, contact Julie Lomax at jlomax@downers.us. She will provide you with more information regarding registration.

PC-SWMM beginner course

A three-day PC-SWMM beginner course will be hosted by IAFSM/CSWEA on July 26-28. The course will be in-person and at Chandler's Chophouse, Grille & Banquets, located at 401 N. Roselle Road, Schaumburg, Illinois. Attendees need to bring a laptop. A trial license of PC-SWMM will be provided to all attendees. Lunch will be provided and PDH's will be offered. There are currently 60 available spots. The registration deadline is July 15, or sooner if the spots are filled sooner. To register and to view additional information, [click here](#).

This seminar will provide attendees a comprehensive overview of the capabilities of PCSWMM, covering software basics as well as advanced topics. Attendees will gain an understanding of data requirements, model development, computational methods of the software, and interpreting results for a variety of applications. Training topics will include modeling of stormwater systems, low impact development (LID), water quality, combined sewer systems, and wastewater collection systems. It will also cover 1D-2D integration, pump station applications, calibration, pre- and post-processing tools, and troubleshooting. Each participant will get hands-on experience working through examples with the help of experienced instructors.

Other training and CEC opportunities can be found on ASFPM's calendar: <http://www.floods.org/n-calendar/calendar.asp?>

LET'S BUILD
BETTER
COMMUNITIES
TOGETHER

- ▶ Roadway
- ▶ Structures
- ▶ Construction
- ▶ Water Resources
- ▶ Municipal & Civil
- ▶ Electrical & Lighting
- ▶ Forensic

CiorbaGroup
CONSULTING ENGINEERS

www.ciorba.com

EEI

Engineering Enterprises, Inc.
Sugar Grove | Rockford | Itasca
www.eeiweb.com
(630) 466-6700

PROUD SPONSOR OF IAFSM

Outstanding Service - Every Client - Every Day

EVEREADY
FLOOD CONTROL LTD.
PROUDLY AMERICAN MADE!

Quality Work Since 1955

**LET IT RAIN, LET IT POUR
AN EVEREADY BASEMENT
WILL FLOOD NO MORE**

773-533-4800

EVEREADYFLOODCONTROL@YAHOO.COM

CBBEL PROUDLY SUPPORTS IAFSM

CBBEL

Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Rd., | Ste. 600
Rosemont, IL 60018
847.823.0500 | cbbel.com
Follow us on Twitter @burkengineering

Other CEC education & training opportunities

Looking for training opportunities? The following opportunities are coming up in the next few months. If you are looking for credits, be sure to review the material and confirm they meet the appropriate requirements.

Webinars


- ASFPM – <https://www.floods.org/training-education/online-training/asfpm-webinars/>
- Also...ASFPM is offering additional at home training. For information: <https://floods.redvector.com/>

Additional Training Opportunities:


EMI provides a wide range of training opportunities and upcoming training. Check back at their website after July 14, 2023. Their site is currently down for re-design.

- EMI courses are free for local and state government employees. Learn more at the EMI website: <http://training.fema.gov/emicourses/>
 - » E0213 Hazard Mitigation Assistance: Application Review and Evaluation – July 24-25, 2023
 - » E0214 Hazard Mitigation Assistance: Implementation through Closeout – July 26-27, 2023
 - » E0273 Managing Floodplain Development through the NFIP- Aug 28-31, 2023

Other training and CEC opportunities can be found on ASFPM's calendar: <http://www.floods.org/n-calendar/calendar.asp?>



Sustainable management of water resources is an important key to your success. We are here to help you achieve your goals.



▶ AURORA | McHENRY
NEW LENOX | PEORIA

▶ HRGREEN.COM



Innovative Solutions that Maximize Flood Control and Enhance Water Quality

Protecting water resources for future generations

BAXTER & WOODMAN
Consulting Engineers

baxterwoodman.com

Important stuff we tell you in every newsletter...

Save the Date! 2024 IAFSM Conference

The 2024 Annual Conference is being planned for March 12 and 13 in Peoria. Save the date!

Wanted: Newsletter Ideas and Articles

IAFSM members, this is YOUR newsletter! Email Jennifer Maercklein, editor, at jmaercklein@v3co.com if there are topics that you'd like us to cover. You don't need to write the article - we just want your ideas! If you're gifted with a pen and would like to provide content, we welcome your written contributions as well.

Get Involved with IAFSM!

IAFSM Committee Chairs welcome your help and involvement. See the list of chairs on the last page of this newsletter, or visit the committee webpage to learn more about volunteer opportunities. <http://www.illinoisfloods.org/committees.html>

Borrow our Water Table

IAFSM has five Watershed Tabletop Models available for all members to check out (free of charge) and bring to Public Works Open Houses, Scout meetings, 4-H meetings, school classrooms, etc. This offers a great opportunity to educate about the dangers and impact of unplanned development and human activity in the floodplain. IAFSM currently keeps tables in Springfield, Champaign, Bartlett, Woodridge, and Swansea. Contact Sarah Harbaugh at IAFSM@illinoisfloods.org to make arrangements.

Next Board Meeting

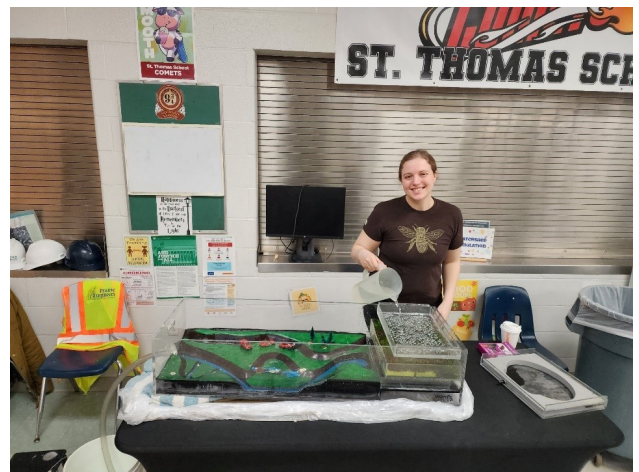
The next IAFSM Board Meeting will be held on Wednesday, July 12 via Zoom. Contact Sarah Harbaugh for the access link. All members are welcome and encouraged to attend.

Jobmart

Visit our Jobmart at <http://www.illinoisfloods.org/jobmart.html>. [Jobmart](http://www.illinoisfloods.org/jobmart.html) is a free service to members of IAFSM. To post an open position, please sign into our website and complete the job listing form. If you have any questions please contact Sarah at IAFSM@illinoisfloods.org.

CFM Exams

Beginning in 2023, exams are only offered online. Online exams can be taken in your home (monitored by an online proctor) or at a testing center; there are many testing centers throughout Illinois. For information, visit www.illinoisfloods.org/certification.html.



Sarah Wenzel brought the IAFSM water table to St. Thomas Middle School's Science Palooza event in Peoria Heights and demonstrated to students and parents how different surfaces can affect water runoff in an interactive exhibit.



Tribally-owned experts in civil engineering, planning, and environmental resources.



- Water Resources
- Transportation
- Structures
- Municipal Services
- Environmental Resources
- Planning and Development
- Construction

Dedicated to providing customer centered professional engineering services to clients nationwide.


St. Charles Office
116 W. Main Street, Suite 201
St. Charles, Illinois 60174
(630) 443-7755

Battle Creek Office
68 E. Michigan Avenue
Battle Creek, Michigan 49017
(269) 224-3182


"At WBK we work closely with our clients and with permitting agencies so that our creative and innovative design solutions are ready for construction. We strive to meet project objectives and budgets, and exceed client expectations, while enhancing both built and natural environments."

- Greg Charnak, PE, President

wbkenvironment.com



PROVIDING TIMELY, COST-EFFECTIVE AND VALUE ADDED WATER RESOURCES SOLUTIONS TO RESTORE AND ENHANCE OUR NATION'S INFRASTRUCTURE



Michael Baker
INTERNATIONAL

PROVIDING TIMELY, COST-EFFECTIVE AND VALUE ADDED WATER RESOURCES SOLUTIONS TO RESTORE AND ENHANCE OUR NATION'S INFRASTRUCTURE

MBAKERINTL.COM



THE IAFSM CURRENT

Illinois Association for Floodplain and Stormwater Management

Summer 2023 Newsletter

The IAFSM Newsletter is published quarterly for members of the Illinois Association for Floodplain and Stormwater Management. Information and opinions contained herein do not necessarily reflect the views of all members. Items for publication and other editorial matters should be directed to the editor at jmaercklein@v3co.com.

IAFSM OFFICERS & COMMITTEE CHAIRS

CHAIR

Dallas Alley, CFM
City of Fairview Heights
Alley@cofh.org

VICE CHAIR

Sharon Østerby, CFM
Lake Co Stormwater Mgmt Comm.
SOsterby@lakecountyil.gov

TREASURER

Mary J Richardson, CFM
Illinois State Water Survey
mjr@illinois.edu

SECRETARY

Jenny Lowenstein, P.E., CFM
Contigo Engineering
Jenny.lowenstein@contigoengineering.com

PAST CHAIR

Stephen Altman, P.E., CFM
IDNR - OWR
Steve.Altman@illinois.gov

EXECUTIVE SECRETARY

Sarah Harbaugh
IAFSM@illinoisfloods.org

CONFERENCE

Sharon Østerby, CFM
Lake Co Stormwater Mgmt Comm.
SOsterby@lakecountyil.gov

BOARD NOMINATIONS

Mark Hoskins, P.E., CFM
IDNR-OWR
Mark.Hoskins@illinois.gov

AWARDS

Sarah Hunn, P.E.
DuPage County
Stormwater Management
Sarah.Hunn@dupageco.org

CERTIFICATION

Gregory Thorpe, CFM
Rock Island County
Gthorpe@co.rock-island.il.us

COMMUNITY RATING SYSTEM

Julie Lomax, CFM, P.E.
Village of Downers Grove
JLomax@downers.us

EDUCATION OUTREACH

Diane Bouckaert, P.E., CFM
Manhard Consulting Ltd
dbouckaert@manhard.com

FLOODPLAIN MANAGEMENT

Dawn Cosentino, P.E., CFM, CPESC
Illinois State Water Survey
dawncos@illinois.edu

INTER-ORGANIZATIONAL

Ajay Jain, P.E., CFM
HR Green
ajain@hrgreen.com

LEGISLATIVE

Kay Whitlock, P.E., D.WRE
Christopher B. Burke Eng., Ltd.
kwhitlock@cbbel.com

MITIGATION

Ron Davis
IDNR-OWR
Ron.Davis@illinois.gov

NEWSLETTER

Jennifer Maercklein, P.E., CFM
V3 Companies
jmaercklein@v3co.com

STORMWATER MANAGEMENT

Steve Bicking, P.E., D. WRE, CFM
HR Green
sbicking@hrgreen.com

WETLANDS

Tom Kehoe
Christopher B. Burke Eng., Ltd.
tkehoe@cbbel.com

YOUNG PROFESSIONALS

Sarah Wenzel, P.E., CFM
Prairie Engineers
swenzel@prairieengineers.com

YOUTH OUTREACH

Brian Chaille, P.E., CFM
Illinois State Water Survey
bchaille@illinois.edu

ILLINOIS ASSOCIATION FOR FLOODPLAIN & STORMWATER MANAGEMENT

35W749 Bluff Drive, St. Charles, Illinois 60175

IAFSM@IllinoisFloods.org Phone: 630.443.8145 Fax: 630.443.8198

For current Job Postings and CEC Training Opportunities, visit our website at illinoisfloods.org