

WATER ENVIRONMENT FEDERATION

# Collection Systems

**Collections on the Coast:  
Investing in a Sustainable Future**

April 8–11, 2018 | Virginia Beach, VA

## CONFERENCE PROGRAM



18

#Collections18



This conference is held by the Water Environment Federation in cooperation with the Virginia Water Environment Association and The Water Research Foundation.



## Local Connections, **Global Ideas**

Our clients face tough decisions with limited resources. That's why we support leading water associations—like WEF—to help make great things possible for our industry.



WEF Specialty Conferences Elite Sponsor

[hdrinc.com](http://hdrinc.com)



## Collection Systems 2018 Conference



Virginia Beach 2018

**Collections on the Coast**  
investing in a sustainable future

**April 8-11, 2018**  
**Virginia Beach Convention Center**  
**Virginia Beach, Virginia**



This conference is held by the Water Environment Federation in cooperation with the Virginia Water Environment Association.



April 8, 2018

Dear Conference Participant,

The Water Environment Federation's Collection System Committee, in cooperation with the Virginia Water Environment Association (VWEA) is pleased to bring you the Collection Systems 2018 Conference: Collections on the Coast – Investing in a Sustainable Future. This comprehensive program was developed to include sessions covering a wide range of collection system issues, including trenchless rehabilitation, SSO/CSO issues, planning, odor control, pump stations, operations/maintenance, asset management, project delivery, regionally important topics, and more.

As hosts of this conference, we want to welcome you to the beautiful and exciting city of Virginia Beach! At Collections Systems 2018 "Collections on the Coast," you will have the chance to experience a tremendous city located on the coast in southeastern Virginia. You will hear unique perspectives on collection systems topics and while enjoying a great environment to network and discuss the latest hot topics with your peers. Spring will finally be in season on April 8-11 as we welcome conference attendees from around the country.

**When you arrive:** We welcome you to please enjoy the many sites of coastal Virginia and Virginia Beach. The City offers beaches along the Atlantic Ocean and tons of fun for families, business professionals, and everyone in between. With a 3-mile boardwalk that stretches along its beach-lined oceanfront and the bayside First Landing State Park that marks the 1607 arrival of the Jamestown colonists from England, the "Beach" will not only offer unique perspectives on collection systems topics, but great tourist hotspots.

There are many venues within walking distance or a short ride from the Conference hotel too. Come early and don't miss the Virginia Aquarium and Marine Science Center, the Old Cape Henry Lighthouse, the Back Bay National Wildlife Refuge, and Colonial Williamsburg.

**Pre-Conference Workshops:** Two Workshops are being offered on Sunday that will enhance your educational experience – *Infiltration and Inflow Modeling for Collection System Utilities*, and

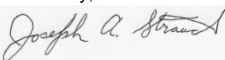
*Findings from the Field – How to Evaluate Your I/I Reduction Program's Performance and Report the Results to Your Board*. Choose the one that will increase your agency's effectiveness when you return to the office.

**Opening General Session and Technical Sessions:** The Opening General Session will highlight the history of the Hampton Roads Sanitation District (HRSD), ensuring clean water in the region since 1940, as well as a presentation on the critical Chesapeake Bay Bridge Tunnel. Join your friends and colleagues and share the OGS experience. Diverse technical sessions will then fill the three-day schedule.

**Tours and Exhibition:** We encourage you to take part in one or both of our local tours. The first goes to the Nansemond Treatment Plant, home of the Sustainable Water Initiative for Tomorrow (SWIFT), which meets clean water challenges for the Chesapeake Bay region. The second goes to the Bridge Street Pump Station and Coliseum Wet Weather Storage Facility. Additionally, we will host a mobile session Monday morning and a second mobile session of Tuesday afternoon covering emerging technologies/topics. Both mobile sessions will be held in the exhibit hall. During the networking breaks, visit with many of the exhibitors who will be joining us this year in Virginia Beach.

We look forward to sharing this experience with you and look forward to meeting you over the next several days. Thank you for attending the conference and enjoy your time in Virginia Beach.

Sincerely,



Joe Strauch  
Specialty Conference Chair



Kyle Logue  
Local Planning Group Chair

## TABLE OF CONTENTS

Conference Steering and Program Committee.....	1
Registration.....	3
Presenter and Moderator Information .....	3
Committee Meeting .....	3
Reception and Meal Functions .....	4
Continuing Education .....	5
Online Proceedings .....	7
Mobile App .....	7
Sponsors .....	8
WEF Policies & Positions .....	9
WEF Social Media Policy .....	9
Conference Safety and Security.....	10
Pre- Conference Workshops.....	11
Facility Tours .....	12
Opening General Session .....	13
Technical Program .....	14
Program-at-a-Glance .....	29
The Exhibition .....	34
Sewer and Water Art Gallery (SWAG) .....	34
Exhibition Floor Plan .....	35
Exhibitor Directory.....	35
Presenter and Moderator Directory .....	52
Upcoming Education and Training Events .....	56
Conference Schedule At A Glance .....	57

## COLLECTION SYSTEMS CONFERENCE COMMITTEE



Joseph Strauch  
Gannett Fleming  
*Specialty Conference Committee  
Chair*



Kyle Logue  
Brown and Caldwell  
*Local Planning Group Chair*

### COLLECTION SYSTEMS SPECIALTY CONFERENCE COMMITTEE & LOCAL PLANNING GROUP

Scott Aurit  
HDR

Tim Back  
Back Municipal  
Consulting

Kyle Ballance  
Hazen and Sawyer

Jon Casarotti  
Sherwood Logan

Carl Chan  
MWH  
Global/Stantec

Ryan Clark  
Kimley Horn

Stacie Crandall  
Hampton Roads  
Sanitation District

Laurissa Cabbage  
HDR

Daniel Doss  
SD1 of Northern  
Kentucky

Ethan Edwards  
Cowan Group  
Engineering

Tracy Fee  
Brown and Caldwell

Rudy Fernandez  
Rudy B. Fernandez,  
P. E., LLC

John Fletcher  
Duke's Root Control,  
Inc

## COLLECTION SYSTEMS CONFERENCE COMMITTEE

Walter Graf  
The Water Research  
Foundation

Jeffrey Griffiths  
Hydromax USA

Pono Hanson  
Brown and Caldwell

Matt Harrison  
Sherwood Logan

Gary Hart  
Hampton Roads  
Sanitation District

Greg Heath  
AECOM

Scott Helfrick  
ADS Environmental  
Services, Inc.

Shawn Heselton  
Hampton Roads  
Sanitation District

Jim Hewitt  
City of Akron

Jessica Hou  
Gannett Fleming

Phil Hubbard  
Hampton Roads  
Sanitation District

Luis Leon  
CDM Smith

Marty Malone  
CDM Smith

Troy McPherson  
Hazen and Sawyer

Kraig Moodie  
FlowWav

Gary Moore  
Washington  
University

Scott Morrow  
Hazen and Sawyer

Steve Motley  
City of Virginia  
Beach

Dan Murray  
US EPA

Aaron Nelson  
Brown and Caldwell

Kate Nixon  
City of Virginia  
Beach

Kathy Rabalais  
Virginia Water  
Environment  
Association

Ryan Radspinner  
Hampton Roads  
Sanitation District

Jeff Scarano  
Hampton Roads  
Sanitation District

Dave Servidio  
Mott MacDonald

Jim Shelton  
Malcolm Pirnie, The  
Water Division of  
ARCADIS

Jimmy Stewart  
Pure Technologies

Dianne Sumego  
Black & Veatch

Carlos Toro  
Brown and Caldwell

Kevin Waldron  
Olsson Associates

Jennifer Welsch  
St Louis MSD

Brent Werlein  
City of Virginia  
Beach

Christy Willson  
Horner & Shifrin, Inc.

Chris Wilson  
Brown and Caldwell

Matthias Wittenberg  
CDM Smith



## REGISTRATION

**All events are held at the Virginia Beach Convention Center.**

The Registration Desk is in the Hall D Foyer and will be open at the following times:

**Hours:**

Sunday, April 8	7:30 AM – 5:00 PM
Monday, April 9	7:30 AM – 5:00 PM
Tuesday, April 10	8:00 AM – 5:00 PM
Wednesday, April 11	8:00 AM – 11:45 AM

## PRESENTER AND MODERATOR INFORMATION

**All presenters, alternates, and moderators should sign in at the conference Registration Desk and attend their assigned briefing.**

Presenters, alternates, and session moderators participating Monday through Wednesday should attend their assigned briefing. Speakers should attend only once unless they are speaking on two different days. The Speaker Briefing and room schedule is as follows:

Monday, April 9 — Room: 2CD *Sessions 1 through 4	7:30 AM – 8:15 AM
Tuesday, April 10 — Room: 2CD *Sessions 5 through 13	7:30 AM – 8:15 AM

## TECHNICAL DISCUSSION & COMMITTEE MEETING

**Collection Systems Technical Discussion & Committee Meeting**

**Room 4ABC**

**Tuesday, April 10**

**3:45 PM – 4:45 PM**

All attendees are invited and encouraged to participate in this meeting, which will provide information about WEF's Collection Systems Committee (CSC) and how to get involved. The meeting is intended to be an overview of how the WEF CSC functions and will also include a discussion of technical issues important to those in our industry.

## RECEPTION AND MEAL FUNCTIONS

### **Networking Reception**

Monday, April 9

4:45 PM – 6:15 PM

The Networking Reception will be held in Hall D. Join us for an opportunity to view the exhibits, renew acquaintances, and make new contacts. Light hors d'oeuvres and refreshments will be served.

*Sponsored by: Woolpert  
Infosense  
Gannett Fleming*

### **Luncheons**

Lunch will be provided for all full conference, daily registrants, students, expo only and exhibitors. Please advise staff as soon as possible if you have any special dietary requirements. The luncheons will be held:

#### **Monday, April 9**

11:45 AM – 1:30 PM

Room: Hall D

*Sponsored by: Arcadis*

#### **Tuesday, April 10**

11:45 AM – 1:30 PM

Room: Hall D

### **Networking Breaks**

The Networking Breaks will be held

Monday, April 9

10:00 – 10:45 AM and 3:00 – 3:45 PM

Hall D

Tuesday April 10

10:00 – 10:45 AM and 3:00 – 3:45 PM

Hall D

*Sponsored by: McKim & Creed, Inc.*

Wednesday, April 11

10:00 – 10:15 AM

Meeting Room Foyer Area

## CONTINUING EDUCATION

**NEW for the Collection Systems Conference™ 2018 - Continuing Education files available online!** <https://ceu.experientevent.com/WEF185>

You will be able to view your participation details and access your Continuing Education Credits for Workshops and Technical Sessions online. Attendees will have immediate access to their certificates and transcripts through an online portal for 1 year after this event. After that time CE files will have to be requested by email through WEF's customer service group. These details will be posted on the CS page of WEF.org and emailed to event participants after the conference.

### **How Do I Receive Credit For this Conference?**

To receive credit for all technical sessions and pre-conference workshops, please scan your badge when entering and exiting that activity.

If you cannot use the scanner, fill out a Continuing Education Request Form available at the registration desk, and be sure to have a room monitor initial at each entry and exit from a session. Attendees that do not use the badge scanning system will have to submit their CE Request Form to the Registration Desk at the end of the conference.

### **Pre-Conference Workshops:**

WEF offers Continuing Education Units (CEUs) for participation in workshops. **One CEU is the equivalent to 10 hours** of training or formal instruction. These are distributed for structured, relevant professional training above and beyond that of initial certification or employment in a particular field.

### **Technical Sessions:**

WEF offers Professional Development Hours (PDHs) for participation in technical sessions. **A PDH is defined as one hour** spent engaged in an activity that contributes to the advancement or enhancement of professional skills or scientific knowledge of a professional engineer or operator.

### **When Will I Receive Credits For this Conference?**

Certificates will be available immediately upon receiving the website link after the conference.

For those who did not participate in the badge scanning, certificates and transcripts will be emailed to participants within 8 weeks after this conference. Please keep in mind that although WEF does provide these files, most states will require the individual licensee to report continuing education credits.

**Note:** *Educational Credits will not be recorded and documentation will not be distributed unless the attendee is a confirmed registrant of this event and the proper steps are completed as indicated in the directions provided.*

## CONTINUING EDUCATION

### Are WEF Continuing Education Credits Approved in My State?

WEF applies for approval in many states and will be happy to work with individuals and Member Associations for additional state or agency approvals upon request. In addition, WEF has been approved as a Training Provider through the following:

The Florida Board of Professional Engineers, the New York State Department of Education, and the Ohio EPA. Many other states accept WEF PDH credits and WEF CEU credits without issue. For example: California (CWEA), Michigan, Nevada, and New Jersey.

### What Else Do I Need to Know?

WEF follows the International Association of Continuing Education and Training (IACET) guidelines along with state-specific regulations to achieve strict policies and procedures regarding its Continuing Education Program. WEF calculates education credits following a standardized method that is the most widely accepted by certification and licensing agencies. However, many states differ in the type and/or number of credits they will approve for educational events. Because of this, participants are responsible for exploring their state requirements and for ensuring that WEF conference credits are accepted.

### Service and Support...

In keeping with IACET guidelines, WEF maintains a database of all continuing education files for a minimum of 7 years. You may contact WEF's Customer Service Team between the hours of 8:30am and 5:00pm EST, Monday through Friday to request these files. Please call 1-800-666-0206 or submit an email request to [csc@wef.org](mailto:csc@wef.org).

### State Credit Calculations:

\*Some state licensing boards will accept CEUs for session under 3 hours in length. Some use different acronyms for training credits. In most instances the credits issued by WEF can be converted to meet state specific requirements that vary from the system used by WEF. This is usually managed at the state level using the following conversion method:

**1.0 CEU = 10 Hours** of session time

**1.0 PDH = 1 Hour** of session time

**1.0 Contact Hour = 1 Hour** of session time

For example: **1.2 CEU Credits = 12.0 PDH Credits** or **17.0 PDH Credits** could equate to **1.7 CEU Credits** depending on individual state regulations.

*\*CEU & PDH credits are available for Workshops to Professional Engineers licensed in the state of New York (NYSED). Please visit [www.wef.org/CECs](http://www.wef.org/CECs) for more details related to WEF's Continuing Education Program.*

**For more information regarding WEF's Continuing Education Program, please visit [www.wef.org/CECs](http://www.wef.org/CECs).**

## ONLINE PROCEEDINGS

Conference proceedings, consisting of manuscripts for each presentation, have been made available through an online portal. Advance registrants within Full Conference, Daily, Student, and Exhibiting categories will receive access to the CS 2018 online proceedings on the day prior to the conference. Onsite registrants will receive an access link following the event's conclusion.

Copies of proceedings may be ordered after the conference at the member rate of \$100 USD/nonmember rate of \$150 USD. All orders will be processed after conclusion of the conference. You may call 1-800-666-0206, or visit [www.wef.org/ShopWEF](http://www.wef.org/ShopWEF) and ask for Stock Number – CPCS1803

## MOBILE APP

### Get More Out of Collection Systems



WEF is pleased to offer the **WEF Events Mobile App** which includes Collection Systems. Features include floor plans, enhanced exhibitor directory listings, a global search function, and a schedule that can incorporate both sessions and your own personal agenda items.

Download the **WEF Events Mobile App** now for access to all current and future WEF events. Search "WEF Events" in the Google Play OR Apple App Store. All other web-enabled devices can access the app via the web at [m.core-apps.com/wefevents](http://m.core-apps.com/wefevents).

***We need your feedback! Please provide feedback on individual presentations, sessions, workshops, and more on the mobile app!***

## SPONSORS

We would like to thank the following sponsoring companies for their contributions to the conference and program.



[www.infosense.com](http://www.infosense.com)

Gold  
Booth 510

---



[www.gannettfleming.com](http://www.gannettfleming.com)

Silver

---



[www.hdrinc.com](http://www.hdrinc.com)

Bronze Elite

---



[www.arcadis.com](http://www.arcadis.com)

Monday Luncheon



[www.doetschenv.com](http://www.doetschenv.com)

Tote Bag  
Booth 204



[www.mckimcreed.com](http://www.mckimcreed.com)

Tuesday Networking Break  
Booth 221



[www.chopperpumps.com](http://www.chopperpumps.com)

Conference Program Ad  
Booth 512



[www.woolpert.com](http://www.woolpert.com)  
Networking Reception

## WEF POLICIES & POSITIONS

### **WEF's Vision**

A community of empowered professionals creating a healthy global water environment.

### **Core Values**

Leadership, Passion, Scholarship, and Collaboration, and Service

### **WEF Policies**

WEF respects and takes the broadest view of human diversity and inclusion and is committed to providing a professional, safe, and welcoming environment at its events for all water professionals and their guests. WEF expects all sponsors, speakers, attendees, media, exhibitors and other participants to uphold our commitment to diversity and inclusion by helping us provide a positive conference environment for everyone.

For more information, please see WEF's Diversity and Inclusivity Policy, as well as WEF's Non-Discrimination and Harassment Policy at [www.wef.org/about/about-wef](http://www.wef.org/about/about-wef).

### **Reporting Concerns**

If you have any concerns during this conference, please stop by the conference registration desk in the B Lobby of the Oregon Convention Center or you may email the WEF Executive Director Dr. Eileen O'Neill at [eoneill@wef.org](mailto:eoneill@wef.org).

## WEF SOCIAL MEDIA POLICY

WEF strongly encourages the use of social media to share your experiences at our event. This includes sharing interesting quotes or information, taking pictures with colleagues, and using the event hashtag. However, to protect intellectual property, videotaping, filming, or live-streaming of any workshop or technical session presentation, or exhibit booth is prohibited. Any participant violating this policy must relinquish the media and may be removed from the conference. Also, promotional or commercial use of photographs taken at WEFTEC and other WEF conferences is strictly prohibited. If you are interested in content, materials, or products, please consider talking to the speaker or exhibitor, who may provide the information or grant permission.

## CONFERENCE SAFETY AND SECURITY

WEF works hard to provide a comfortable and safe environment during our meetings and events, including contracting with private security firms and off-duty police officers when required. Your help also is needed to provide a safe and secure environment. WEF recommends that you follow these safety guidelines:

1. **Share your plans.** Advise a family member or friend of your travel plans, including the dates you will be gone, how you will travel to the meeting or event, and where you are staying;
2. **Protect your identity.** Wear your name badge only inside the meeting or event venue; remove and secure your name badge when going to and from the venue; when disposing of your name badge, scratch out or destroy your name and/or the QR code to protect your personal information;
3. **Plan for an emergency.** Be aware of your surroundings. Know where the nearest exits are located. Use the buddy system. Exchange contact information with another event attendee. In case of a venue evacuation, agree where you will meet up. Call for help if your buddy doesn't meet up at the agreed location within a reasonable amount of time.
4. **See something, say something.** If you see something that raises a safety or security concern, please follow the instructions printed on the back of your name badge to alert security personnel.

TO REPORT A MEDICAL EMERGENCY, FIRE SAFETY OR SECURITY CONCERN DIAL at the Virginia Beach Convention Center (VBCC), please contact the VBCC Security Main Office immediately.

- Dial (757) 385-2152 from any phone
- Ask any uniformed VBCC employee to assist you

Virginia Beach Convention Center  
1000 19th Street  
Virginia Beach, VA 23451  
Phone: 757-385-2000

Please see the "Conference Safety and Security" link on the WEF Collection Systems Mobile App for a full list of all Emergency Procedures.

*(Search "WEF Events" in the Google Play/Apple App Store to download the app.)*



## PRE-CONFERENCE WORKSHOPS

(Separate registration fees apply)

### **Pre-Conference Workshops**

**Sunday, April 8**

**8:30 AM - 5:00 PM**

#### **Workshop A**

##### **Infiltration and Inflow Modeling for Collection System Utilities**

This workshop will provide attendees with an understanding of rainfall-derived infiltration and inflow (RDII) modeling and monitoring best practices for establishing effective infiltration and inflow (I/I) reduction and remediation programs. Case studies on how these practices reduced the overall cost of compliance programs will be discussed. Break-out sessions will provide attendees with an opportunity to analyze monitoring data and try different computer tools for determining RDII.

#### **Workshop B**

##### **Findings from the Field – How to Evaluate Your I/I Reduction Program's Performance and Report the Results to Your Board**

This workshop will cover topics including I/I reduction program strategy and key performance indicators, integration of capacity and condition improvements, industry practices for pre- and post-I/I reduction evaluations using monitoring and modeling techniques, public outreach efforts, return-on-investment reporting, and "reporting to the board" on program progress. The focus would be to relate technical data to board members with non-technical backgrounds. It will include lessons learned on reporting unsuccessful results and using feedback to reinvent established programs and give them "fresh legs."

## FACILITY TOURS

(Separate registration fees apply)

### **Facility Tour 1: Nansemond Treatment Plant, Suffolk, Virginia Tuesday, April 10**

**8:30 AM to 12:30 PM**

**SWIFT Research Center**

*Meet at the Registration Desk at 8:15 AM*

The Sustainable Water Initiative for Tomorrow (SWIFT) Program was conceived as an idea to assist with many of these challenges. Rather than discharging more than 120 MGD each day into the Chesapeake Bay, HRSD is proposing to implement an advanced water treatment system on the tail end of the treatment process at several of its plants and then inject the treat water back into the aquifer. There are many technical challenges involving consistency of treatment to drinking water standards, installation of the injection wells, and addressing water chemistry for the wells. HRSD will be completing an innovating demonstration pilot facility and research center in early 2018 at its Nansemond Treatment Plant in Suffolk, Virginia. This tour will provide a complete background on the issues the region is facing and how HRSD is working to help with the SWIFT Program. HRSD staff, operators, and consultants will be on hand to discuss the two facilities and answer questions.

### **Facility Tour 2: Bridge Street Pump Station, Hampton, VA, and Coliseum Storage Facility, Hampton, VA**

**Wednesday, April 11**

**1:00 PM to 5:00 PM**

**Coliseum Wet Weather Storage Facility and Bridge Street Pump  
Station**

*Meet at the Registration Desk at 12:45 PM*

For the past several years, HRSD, the regional wastewater collection and treatment utility in Hampton Roads, has been implementing projects as part of a federal Consent Decree to reduce the occurrence of sanitary sewer overflows. A variety of projects have been already constructed in addition to the recently-developed Integrated Plan/Regional Wet Weather Management Plan with more than \$2 billion in proposed projects. This tour will visit two facilities in Hampton, Virginia, which typify the projects included in the plan. The Coliseum Wet Weather Storage Facility and Pressure Reducing Station includes a 2.4 million gallon above ground storage tank, odor control facility, and pumping station that is responsible for shaving peak wet weather sewer flows off the downstream system and reducing upstream pressures. This is currently the only wet weather storage facility of its kind in the Hampton Roads region. The second stop on this tour will be a newly constructed regional wet well pumping station at Bridge Street near downtown Hampton.

## OPENING GENERAL SESSION

**Monday, April 9**  
**8:30AM – 10:00AM**

**Room: 5ABC**

- 8:30 AM**            **WEF Collection Systems Conference Chair Welcome**  
Joe Strauch, Gannett Fleming, Inc., Specialty Conference  
Committee Chair  
Kyle Logue, Brown and Caldwell, Local Planning Group Chair
- 8:35 AM**            **WEF Welcome**  
Peter Vanrolleghem, model EAU-Université Laval, WEF Board  
of Trustees
- 8:40 AM**            **Virginia Beach Welcome and Introduction of Speakers**  
Phil Hubbard, HRSD, Local Planning Group Co-Chair
- 8:45 AM**            **History of HRSD – 75 Years**  
Ted Henifin, HRSD
- 9:15 AM**            **Chesapeake Bay Bridge Tunnel**  
Jeff Holland, Chesapeake Bay Bridge Tunnel
- 9:55 AM**            **2019 Conference Introduction**  
Bradley Fix, Shelbyville Water Resource Recovery Facility
- 10:00 AM**           **Session Adjourns for Exhibition Hall Opening**

## MOBILE SESSION I

### Mobile Session I

Monday, April 9

10:30 AM-11:50 AM

**Facilitators:** Jim Shelton, Arcadis; Carlos Toro, Brown and Caldwell; Phil Hubbard, HRSD; Dave Hofer, Johnson, Mirmiran & Thompson, Inc.; Karyn Stickel, Hubbell, Roth & Clark, Inc.; Jennifer Steffens, Pure Tech; Jimmy Stewart, Pure Tech; Mark McQuire, Evoqua; Sean Bell, Wade Trim

*The five exhibitors listed below will each be holding the same 20 minute presentation three times in a row. Participants are invited to join a different presentation at each of the times listed below. Choose the top three you would like to attend. Each presentation happens at the exhibitor's booth. Presentations kickoff concurrently at: 10:35 AM, 11:00 AM, and 11:25 AM in each of the five booths.*

10:30 AM	Mobile Session Introduction at entrance to exhibit hall
10:35 AM	5 Simultaneous Presentation A
11:00 AM	5 Simultaneous Presentation B
11:25 AM	5 Simultaneous Presentation C

**Booth: 201**      **Utilizing Focused Electrode Leak Locating (FELL) to Certify CIPP Liner Watertightness**  
Mark Grabowski, *Electro Scan*

**Booth: 310**      **Flow Monitoring Fundamentals -- an Overview of Technologies and Their Applications**  
Kevin Enfinger, *ADS*

**Booth 405**      **Trenchless, Mechanical Point Repair for Cost-Effective Rehabilitation**  
Nick Sebastian, *Pipeline Renewal Technologies at EnviroSight*

**Booth 410**      **O&M Considerations for Pressure Sewer Systems**  
Keith McHale, *Environment One*

**Booth 110**      **Geospray Geopolymer Mortar System for Structural Rehabilitation of Storm and Sewer Pipe Infrastructure**  
Scott Naiva, *Milliken*

**11:50 PM**      **Session Adjourns for Luncheon in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 01: Odor Control**

**Room: 5ABC**

**Monday, April 9**

**10:45 AM – 11:45 AM**

**Moderators:** Katherine Nixon, City of Virginia Beach; Jessica Hou, Gannett Fleming

**10:45 AM**

**Town of Cary, NC. Preventing A Collection System Odor Issue—From Concept Through Final Performance Test and Beyond**

Philip Wolstenholme, Brown and Caldwell; Jarrod Buchanan, Town of Cary; Ryan Sprowl, Brown and Caldwell

**11:15 AM**

**Performance of Combined Two-Stage Biotower and Carbon System: When Great is not quite good enough.**

Chris Easter, HDR; Mark Feltner, Christopher Wilson, Andrew Keisel, HRSD

**11:45 AM**

**Session Adjourns for Luncheon in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 02: Trenchless**  
**Monday, April 9**  
**1:30 PM – 4:45 PM**

**Room: 5ABC**

**Moderators:** Dianne Sumego, Black & Veatch; Dave Servidio, Mott MacDonald

- 1:30 PM**            **Groundwater Impacts on Sewer Relocation using Trenchless Technologies Near and Under I-405 in Renton, Washington**  
Erik Waligorski, Carollo Engineers; Dave Christensen, Michael Benoit, City of Renton
- 2:00 PM**            **Alternate Sewer Rehabilitation Methods: EXpanding the Toolbox**  
Joe Nagy, Citizens Energy Group; Kate Hughes, Wessler Engineering
- 2:30 PM**            **Pulled in All Directions: A Case Study in Maximizing Value with Risk Mitigation for An Urban Sewer Interceptor and Tunnels**  
Joshua Farmer, Kyle Drumheller, Hazen and Sawyer; Brian Stone, Loudoun Water
- 3:00 PM**            **Networking Break**
- 3:45 PM**            **Rehabilitating a Critical Large Diameter Sewer Under a Levee and a Historic Park**  
Prabhushankar Chandrasekeran, Mathew Roder, Greeley and Hansen; Glen Diaz, Aaron Hughes, WSSC Water
- 4:15 PM**            **Use The Force Luke! Rehabilitation Design, Bidding And Construction Of A 106-Year Old Parabolic Sanitary Sewer With Centrifugally Cast Cementitious Pipe Liner (CCCPL)**  
Marc Lehmann, John Schroeder, CDM Smith; Jeffrey Bowra, Capital Region Water
- 4:45 PM**            **Session Adjourns for Networking Reception in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 03: System Analysis**

**Room: 4ABC**

**Monday, April 9**

**1:30 PM – 4:45 PM**

**Moderators:** Gary Moore, Washington University in St Louis; Scott Helfrick, IDEX Corp

- 1:30 PM**      **Inspecting 100 Year Old Sewers- Which One Should We Inspect First To Understand Condition Assessment?**  
Scott Belz, AECOM; Cecilia Mazzei, City of Cleveland Division of Water Pollution Control; Costas Kontos, AECOM; Eric Dunn, Brown and Caldwell
- 2:00 PM**      **Sewer System Data Analytics Substituting for Flow Monitoring**  
Frank Qiao, Michael Wang Hazen and Sawyer
- 2:30 PM**      **Challenges Met and Lessons Learned, Managing a Consent Decree**  
Carla Muscarella, Woolpert, Inc.; Darren Eastall DeKalb County Dept. of Watershed Management
- 3:00 PM**      **Networking Break**
- 3:45 PM**      **Predicting and Preventing SSOs in a Wastewater Collection System**  
Ahmad Habibian, CDM Smith; Jennifer Williams, Robert Judy, City of Columbia, SC Wastewater Division; William Adams, CDM Smith
- 4:15 PM**      **Risking It All: A Comprehensive Collection System Risk-Based Assessment in InfoMaster**  
Doug Ashworth, Cullen Carlson, Freese & Nichols Inc; Corrie Bondar, City of Durham; A. Rahman Kafray, City of Garland
- Alternate**      **Comparing Two Different Ways to Approach Pipeline Renewal Models**  
David Baranowski, Carollo Engineers, Inc.
- 4:45 PM**      **Session Adjourns for Networking Reception in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 04: Local I**  
**Monday, April 9**  
**1:30 PM – 4:45 PM**

**Room: 3ABC**

**Moderators:** Scott Morrow, Hazen and Sawyer; Gary Hart, HRSD

- 1:30 PM**            **Clearing The Fog: Fats, Oils, and Grease Management and SSOs**  
Brent Werlein, City of Virginia Beach
- 2:00 PM**            **Rehabilitation of a 67.0 MGD Treatment Plant Influent using Trenchless Technologies**  
Paul Longo, Dewberry; Shwan Fatah, Fairfax County; Bob Quackenbush, SAK Construction
- 2:30 PM**            **Tracking, Quantifying, And Mitigating Saltwater Inflow And Infiltration**  
Robert Radspinner, Kimberly Peterson, Robert Bohon, HRSD
- 3:00 PM**            **Networking Break**
- 3:45 PM**            **Location, Assessment, and Repair of Wire Breaks on a 30- and 42-inch PCCP Force Main**  
Natasha Schmidt, Fairfax County Government; Carolyn Weber, Fairfax County WDCD
- 4:15 PM**            **HRSD's Vision for Advanced Water Treatment and Managed Aquifer Recharge in Eastern Virginia, USA: Sustainable Water Initiative for Tomorrow (SWIFT)**  
Charles Bott, John Dano, Germano Salazar-Benites, Christopher Wilson, Lauren Zuravnsky, Jamie Mitchell, HRSD; Tyler Nading, Larry Schimmoller, Daniel Holloway, CH2M; Edward Henifin, HRSD
- Alternate**            **Who Are You Telling What and How?**  
Drew Lankford, Chris Wojtowicz, Virginia Beach Public Works
- 4:45 PM**            **Session Adjourns for Networking Reception in Exhibit Hall**



## TECHNICAL PROGRAM

**Session 05: Planning**  
**Tuesday, April 10**  
**8:30 AM – 11:45 AM**

**Room: 5ABC**

**Moderators:** Greg Heath, AECOM; Dianne Sumego, Black & Veatch

- 8:30 AM**      **Next Generation Planning in the City of Los Angeles: Flow Projections for Long-Term Urban Metropolitan Growth**  
Adel Hagekhalil, Ali Poosti, Fernando Gonzalez, Javier Dennis, Manik Mohandas, LA Sanitation, Los Angeles, CA; Chris Ranck, Arcadis; Venkat Radhakrishnan, Arcadis, Los Angeles, CA; Karen Johnson, Water Resources Planning, Santa Ana, CA
- 9:00 AM**      **Evaluating Alternative Binder Materials for Sewer Collection System Concrete Structures to Reduce Fat, Oil, and Grease Related Sanitary Sewer Overflows**  
Samrin Ahmed Kusum, Mohammad Pour-Ghaz, Joel Ducoste, North Carolina State University
- 9:30 AM**      **City of Airdrie Utility Master Planning: Integrating Overarching Inter-municipal Government Policies, Network Modelling and Asset Management to Ensure Sustainable and Sound Infrastructure for Short- and Long-Term Planning Needs**  
Sarah Barbosa, Geoffrey Schulmeister; ISL Engineering & Land Services LTD
- 10:00 AM**      **Networking Break**
- 10:45 AM**      **Taking the Labels Off - Collaborative Approach to Regional Project Planning Yields District-Wide Benefits**  
Jim Mallorely, Metro Wastewater Reclamation District; John Rehring, Erica Corbett, Carollo Engineers
- 11:15 AM**      **Challenges and Successful Strategies in Developing & Implementing a Capacity Assurance Program**  
Joe Herman, Stantec; Craig Prater, Lexington-Fayette Urban County Government
- 11:45 AM**      **Session Adjourns for Luncheon in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 06: SSO/CSO**  
**Tuesday, April 10**  
**8:30 AM – 11:45 AM**

**Room: 4ABC**

**Moderators:** Dave Servidio, Mott MacDonald; Carl Chan, Stantec

- 8:30 AM**            **A Case Study for Updating Design Storm Rainfall Hyetographs For Houston Public Works**  
Fazle Rabbi, Houston Texas Government; Baxter Vieux, Vieux & Associates Inc; Pratistha Pradhan, Houston Public Works
- 9:00 AM**            **Basic Hydraulics Alleviates a Thirty-Year-Old Overflow**  
Taylor Turner, Arcadis; Matthew Easterbrook, Chesterfield County
- 9:30 AM**            **Developing Solutions to Meet Regulatory Constraints and Long-Term Goals**  
Ted Bluver, Greeley and Hansen, LLC; Tim Leach, GPSD
- 10:00 AM**           **Networking Break**
- 10:45 AM**           **Innovative Business Case Evaluation Guides Portland, Maine Through Tough Choices Among CSO Alternatives**  
Kate Mignone, AECOM; Nancy Gallinaro, City of Portland; Owens McCullough, Sebago Technics; Greg Heath, Jason Weiss, AECOM
- 11:15 AM**           **The Wastewater Tsunami Is Coming - How Do We Stop It?**  
Tarlton Smith, Freese & Nichols; Jennifer Baldwin, CH2M HILL
- 11:45 AM**           **Session Adjourns for Luncheon in Exhibit Hall**

## TECHNICAL PROGRAM

**Session 07: Potpourri**  
**Tuesday, April 10**  
**8:30 AM – 11:45 AM**

**Room: 3ABC**

**Moderators:** Christina Willson, Horner & Shifrin; Kraig Moodie, FloWav, Inc

- 8:30 AM**      **Pilot Flow Monitoring Program Tests Meter Capabilities**  
Kelly Loyd, Black & Veatch; Jim Mallore, Amy Atwater, Metro Wastewater Reclamation District; Derek Wurst, Black & Veatch
- 9:00 AM**      **Using Remote Sensors in the Collection System to Protect Treatment Processes**  
Paul Bixel, Heather Phillips, Anthony Kurkowski, Joseph Foster, Floyd Koder, Tonya Roberts, Ira Speer, Dewayne McAllister, City of Olathe KS
- 9:30 AM**      **The City Beautiful H2O Program Plan: An Integrated Wet Weather Plan for Pennsylvania's Capital City**  
Claire Maulhardt, Capital Region Water; John Aldrich, CDM Smith
- 10:00 AM**      **Networking Break**
- 10:45 AM**      **Ground Truthing Oakland Wastewater Treatment Plant and Pump Station Flow Meters for Improved Peak Wet Weather Flow Management and Process Control, City of Topeka, Kansas**  
Michael Lorenzo, Andrew Wright, Gregory Meyer, Ethan Meyer, Bartlett & West Engineers Inc; Sylvia Davis, Michelle Neiswender, Zachary Stueve, Eric Carman, James Dodds, Kyle Salmon, Deedric Hagans, City of Topeka Kansas
- 11:15 AM**      **Using a Flow Dynamics 2D Model to Develop Street Flooding Solutions in a Highly Transited Urban Area**  
Yovanni Catano, Stantec; David Bedoya
- Alternate**      **Managing Sewer Rehabilitation Design with the Push of a Button**  
Kai Iaukea, Stantec
- Alternate**      **Integrated Plan Combining House-Level I/I Mitigation Program and GI Technology to Avoid Street Flooding – Case Study: Newton-Bedford Blueprint Columbus**  
Hazem Gheith, Qiuli Lu, Arcadis
- 11:45 AM**      **Session Adjourns for Luncheon in Exhibit Hall**

## MOBILE SESSION II

### Mobile Session II: Emerging Topics and Technologies

Tuesday, April 10

12:45 PM – 1:45 PM

**Facilitators:** Jim Shelton, Arcadis; Carlos Toro, Brown and Caldwell; Phil Hubbard, HRSD; Dave Hofer, Johnson, Mirmiran & Thompson, Inc.; Raj Vaidya, CDM Smith; Karyn Stickel, Hubbell, Roth & Clark, Inc.; Jennifer Steffens, Pure Tech; Jimmy Stewart, Pure Tech; Mark McQuire, Evoqua; Ashley Smart, FloWav

*The five exhibitors listed below will each be holding the same 20 minute presentation three times in a row. Participants are invited to join a different presentation at each of the times listed below. Choose the top three you would like to attend. Each presentation happens at the exhibitor's booth. As these sessions are about emerging topics and technologies, the presentations may have a sales focus. Presentations kickoff concurrently at **12:45 PM, 1:05 PM, and 1:25 PM** in each of the five booths.*

12:40 PM	Mobile Session Introduction at entrance to exhibit hall
12:45 PM	5 Simultaneous Presentation A
1:05 PM	5 Simultaneous Presentation B
1:25 PM	5 Simultaneous Presentation C

- |                  |   |
|------------------|---|
| <b>Booth 502</b> | <b>FloWav Solutions Let You Monitor Top To Bottom - Learn How RADAR and The Raven Eye Can Help</b><br>Kraig Moodie, <i>FloWav</i> |
| <b>Booth 200</b> | <b>Transient Technology for Non-Invasive Pipe Condition Assessment</b><br>Jeffrey Griffiths, <i>Hydromax</i>                      |
| <b>Booth 510</b> | <b>Utilizing Acoustic Inspection to Prioritize Sewer Cleaning</b><br>Alex Churchill, <i>Infosense</i>                             |
| <b>Booth 405</b> | <b>The Value of Manhole Inspection as Part of Regular Sewer Inspection</b><br>Andrew Wicker, <i>Envirosight</i>                   |
| <b>Booth 520</b> | <b>Advanced Liquid Phase Odor Control and Monitoring</b><br>Calvin Horst, <i>Evoqua</i>   |

## TECHNICAL PROGRAM

**Session 08: Pump Stations**  
**Tuesday, April 10**  
**1:30 PM – 3:00 PM**

**Room: 5ABC**

**Moderators:** Jessica Hou, Gannett Fleming; Christopher Wilson, Brown and Caldwell

- 1:30 PM**            **Preparing for the Unexpected During Design and Construction**  
Sierra McCreary, Black & Veatch; Timothy Weaver, Juli Springer, City of Springfield, OH
- 2:00 PM**            **Difficult Run – It’s More than Just a Name: Best Practices from Restoring a 36” Wastewater Force Main and Pump Station**  
Xavier Buser, Hazen and Sawyer; Matt Van Horn, Hazen and Sawyer; John Royse, Fairfax County, VA
- 2:30 PM**            **Cost-Effectively Upgrading an Old, Combined Sewer Pump Station**  
Jennie Celik, Alison Schreiber, Northeast Ohio Regional Sewer District; Rich Atoulikian, Douglas Mohn, HDR
- Alternate**            **No One Wants It, but Everyone Needs it: Building an 8.5 MGD Wastewater System for the 5-Billion Dollar Mile**  
Clayton Barnard, Mazen Kawasmi, Jacob Pannell, Freese and Nichols, Inc.; Arthur Hartle, Frisco, Texas
- 3:00 PM**            **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

**Session 09: Lessons Learned**  
**Tuesday, April 10**  
**1:30 PM – 3:00 PM**

**Room: 4ABC**

**Moderators:** Kyle Logue, Brown and Caldwell; Greg Heath, AECOM

- 1:30 PM**            **Unexpected History Lesson and Contractual Deal Making: Lessons Learned from a Large-Diameter Force Main Replacement Project in Downtown Norfolk; Home to Historical Landmarks, High-Rise Buildings, Critical Stakeholders and Innovative Contractors**  
William Gibson, AECOM; Timothy Marsh, HRSD
- 2:00 PM**            **Application of a Chemically Enhanced Retention Treatment Basin in Reducing CSO and Pollutant Loading into the Detroit River**  
Jian Li, Stantec Consulting Ltd.; Paul Drca, City of Windsor
- 2:30 PM**            **\$450 Million Asset Management Grant Program in Michigan: What Have We Learned?**  
Gregory Kacvinsky, Kyle Curie, OHM Advisors
- Alternate**           **Little Cuyahoga Interceptor Slip Line Replacement**  
James Shelton, Arcadis
- 3:00 PM**            **Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

**Session 10: Operations & Maintenance**

**Room: 3ABC**

**Tuesday, April 10**

**1:30 PM – 3:00 PM**

**Moderators:** Dan Murray, Cincinnati OH; Luis Leon, HDR

**1:30 PM**

**Wastewater Collection System Evaluations and Recommendations for Improvements**

Rusty Nezat, Nezat Training and Consulting, Inc.; Rod Thornhill  
White Rock Consultants

**2:00 PM**

**Use of Data Analytics Platform to Track and Predict the Location of Spills in the City of Atlanta**

Robert Bocarro, City of Atlanta Department of Watershed Management

**2:30 PM**

**Dynamic Prioritized System-wide Cleaning Schedule**

Alexander Palmatier, HDR Inc; Kim Duncan, City/County Utilities

**Alternate**

**Electronic Motor Protection Saves Plant from Spills & Equipment Damage**

Regina Higgins, Brendan Watson, Grundfos

**3:00 PM**

**Session Adjourns for Networking Break**

## TECHNICAL PROGRAM

**Session 11: Asset Management**  
**Wednesday, April 11**  
**8:30 AM – 11:45 AM**

**Room: 5ABC**

**Moderators:** Carl Chan, Stantec; Jeffrey Griffiths, Hydromax USA

**8:30 AM**            **CDM Smith Water Analytics: Empowering Decision Making Through Big Data Analysis and Living Models in Hartford, CT**

Scott Craig, CDM Smith; Matthew Gamache, CDM Smith;  
Jason Waterbury, Hartford MDC; Ajay Prasad, CDM Smith

**9:00 AM**            **The Importance of Design Criteria Standards for the Construction and Operation of a Centralized Wastewater Collection System in the Florida Keys**

David Mullen, Daniel Burden, Wade Trim

**9:30 AM**            **Establishing Pipe-by-Pipe Rehabilitation and Re-inspection Schedules using Years Remaining Service Life**

Andrew Filippi, James Shelton, Arcadis; Greg Gress, Town of Sullivans Island Water Works Department

**10:00 AM**           **Networking Break**

**10:15 AM**           **Condition & Criticality – How Fort Wayne Built Their Asset Management Risk Model**

Ben Groeneweg, City Utilities - City of Fort Wayne

**10:45 AM**           **Integration of Sewer Tunnel System into Enterprise Asset Management – benefits & challenges**

Prasad Manthana, Greeley and Hansen LLC; Monica Outland, DC Water

**11:15 AM**           **Failure Analysis Helps SD1 Improve Its Continuous Sewer Assessment Program**

Bo Copeland, Hazen and Sawyer; Matthew Van Doren, Sanitation District No 1

**11:45 AM**           **Conference Adjourns**



## TECHNICAL PROGRAM

**Session 12: Project Delivery**

**Room: 4ABC**

**Wednesday, April 11**

**8:30 AM – 11:45 AM**

**Moderators:** Carlos Toro-Escobar, Brown and Caldwell; Christina Willson, Horner & Shifrin

- 8:30 AM**            **Taming the Multi-Stakeholder Hydra: A Case Study In Planning, Permitting, Design And Construction Of A Gravity Sewer Meeting Federal, State, And Private Stakeholder Constraints**  
Chris Belk, Aaron Duke, Joshua Farmer, Felicia Glapion, Hazen and Sawyer; Brian Stone, Loudoun Water
- 9:00 AM**            **Case Study: Designing a 11MG CSO Control Tunnel with Operations in Mind**  
Stephane D'Aoust, Stantec; Scott Laberge, City of Ottawa; Erika McEachran, Stantec; Nancy Schultz, CH2M
- 9:30 AM**            **Greenfield Road Force Main Failure. Responding To A High Profile Catastrophic Forcemain Failure In The Town Of Gilbert, Arizona.**  
Ken Snow, Mark Horn, Town of Gilbert
- 10:00 AM**           **Networking Break**
- 10:15 AM**           **Charlottesville Utilizes System-Wide Find-and-Fix Program to Address Consent Order and Streamline Comprehensive Rehabilitation of their Collection System**  
Jason McIlwee, Lauren Hildebrand, City of Charlottesville Department of Utilities
- 10:45 AM**           **Don't Wait Until It Becomes an Emergency Repair: Sewers in Streams**  
Brendan Schillo, Colleen Block, Fairfax County
- 11:15 AM**           **Life as a Watershed Consultant Delivering on a Consent Decree Program**  
Stuart Haw, Sarita Melendez, Amec Foster Wheeler
- 11:45 AM**           **Conference Adjourns**

## TECHNICAL PROGRAM

**Session 13: Local II**  
**Wednesday, April 11**  
**8:30 AM – 11:45 AM**

**Room: 3ABC**

**Moderators:** Gary Hart, HRSD; Scott Morrow, Hazen and Sawyer

- 8:30 AM**            **Guaranteed Outcome Project Delivery for Sewer Rehabilitation - The HRSD Collaborative Design/Build Sewer Rehabilitation Pilot Project**  
James Shelton, Arcadis
- 9:00 AM**            **Managing a Million Data Points: A How-To-Guide**  
Kimberly Peterson, HRSD
- 9:30 AM**            **Work Order Planning for Wastewater Force Main Condition Assessment**  
Paul Wilson, Brown and Caldwell; Robert Radspinner, HRSD;  
Carlos Toro-Escobar, Brown and Caldwell
- 10:00 AM**           **Networking Break**
- 10:15 AM**           **A Balancing Act; Replacing A 40 Year Old Sanitary Sewer FM Through One Of The Original Colonial Settlements In America And Impact Of CNET's Founder On The Project.**  
Eddie Abisaab, Jeremiah Burford, HRSD; Alan Edwards, AECOM
- 10:45 AM**           **The Neighbor on Norchester - A Complex Project Becomes A Showcase for Integrating Stakeholders**  
Jessica Hou, Gannett Fleming; Karen Russo, HRSD
- 11:15 AM**           **Integrated Planning Meets Adaptive Management**  
Phillip Hubbard, HRSD; Richard Stahr, Brown and Caldwell
- Alternate**           **Save Your Pipes – Respect Cathodic Protection**  
Christene Mitchell, HRSD
- Alternate**           **The Invisible Modernization of Aging Infrastructure**  
Jason Kerns, Chris Painter, HDR; Lauren Zuravnsky, HRSD
- 11:45 AM**           **Conference Adjourns**

## PRESENTATIONS AT-A-GLANCE

**Monday, April 9, 8:30 AM - 4:45 PM**

Room	5ABC	Exhibit Hall	
Session	Session 01: Odor Control	Mobile Session I	
10:45 AM	Town of Cary, NC. Preventing a collection system odor issue—from concept through final performance test and beyond	Presentations kickoff concurrently at: 10:35 AM, 11:00 AM, and 11:25 AM in each of the five booths: 201, 310, 405, 410, 110. Please turn to Mobile Session Section for more information.	
11:15 AM	Performance of Combined Two-Stage Biotower and Carbon System: When Great Is Not Quite Good Enough		
Room	5ABC	4ABC	3ABC
Session	Session 02: Trenchless	Session 03: System Analysis	Session 04: Local I
1:30 PM	Groundwater Impacts on Sewer Relocation using Trenchless Technologies Near and Under I-405 in Renton, Washington	Inspecting 100 Year Old Sewers- Which One Should We Inspect First To Understand Condition Assessment?	Clearing The Fog: Fats, Oils, and Grease Management and SSOs
2:00 PM	Alternate Sewer Rehabilitation Methods: Expanding the Toolbox	Sewer System Data Analytics Substituting for Flow Monitoring	Rehabilitation of a 67.0 MGD Treatment Plant Influent using Trenchless Technologies
2:30 PM	Pulled in All Directions: A Case Study in Maximizing Value with Risk Mitigation for An Urban Sewer Interceptor and Tunnels	Challenges Met and Lessons Learned, Managing a Consent Decree	Tracking, Quantifying, And Mitigating Saltwater Inflow And Infiltration
3:45 PM	Rehabilitating a Critical Large Diameter Sewer Under a Levee and a Historic Park	Predicting and Preventing SSOs in a Wastewater Collection System	Location, Assessment, and Repair of Wire Breaks on a 30- and 42-inch PCCP Force Main
4:15 PM	Use the Force Luke! Rehabilitation design, bidding and construction of a 106-year old parabolic sanitary sewer with Centrifugally Cast Cementitious Pipe Liner (CCCPL)	Risking It All: A Comprehensive Collection System Risk-Based Assessment in InfoMaster	HRSD's Vision for Advanced Water Treatment and Managed Aquifer Recharge in Eastern Virginia, USA: Sustainable Water Initiative for Tomorrow (SWIFT)
Alt		Comparing Two Different Ways to Approach Pipeline Renewal Models	Who Are You Telling What and How?

## PRESENTATIONS AT-A-GLANCE

**Tuesday, April 10, 8:30 AM - 4:45 PM**

Room	5ABC	4ABC	3ABC
<b>Session</b>	<b>Session 05: Planning</b>	<b>Session 06: SSO/CSO</b>	<b>Session 07: Potpourri</b>
<b>8:30 AM</b>	Next Generation Planning in the City of Los Angeles: Flow Projections for Long-Term Urban Metropolitan Growth	A Case Study for Updating Design Storm Rainfall Hyetographs For Houston Public Works	Pilot Flow Monitoring Program Tests Meter Capabilities
<b>9:00 AM</b>	Evaluating Alternative Binder Materials for Sewer Collection System Concrete Structures to Reduce Fat, Oil, and Grease Related Sanitary Sewer Overflows	Basic Hydraulics Alleviates a Thirty-Year-Old Overflow	Using Remote Sensors in the Collection System to Protect Treatment Processes
<b>9:30 AM</b>	City of Airdrie Utility Master Planning: Integrating Overarching Inter-municipal Government Policies, Network Modelling and Asset Management to Ensure Sustainable and Sound Infrastructure for Short- and Long-Term Planning Needs	Developing Solutions to Meet Regulatory Constraints and Long-Term Goals	The City Beautiful H2O Program Plan: An Integrated Wet Weather Plan for Pennsylvania's Capital City
<b>10:45 AM</b>	Taking the Labels Off - Collaborative Approach to Regional Project Planning Yields District-Wide Benefits	Innovative Business Case Evaluation Guides Portland, Maine Through Tough Choices Among CSO Alternatives	Ground Truthing Oakland Wastewater Treatment Plant and Pump Station Flow Meters for Improved Peak Wet Weather Flow Management and Process Control, City of Topeka, Kansas
<b>11:15 AM</b>	Challenges and Successful Strategies in Developing & Implementing a Capacity Assurance Program	The Wastewater Tsunami Is Coming - How Do We Stop It?	Using a Flow Dynamics 2D Model to Develop Street Flooding Solutions in a Highly Transited Urban Area
<b>Alt 1</b>	Evaluating Alternative Binder Materials for Sewer Collection System Concrete Structures to Reduce Fat, Oil, and Grease Related Sanitary Sewer Overflows		Managing Sewer Rehabilitation Design with the Push of a Button
<b>Alt 2</b>			Integrated Plan Combining House-Level I/I Mitigation Program and GI Technology to Avoid Street Flooding – Case Study: Newton-Bedford Blueprint Columbus

## PRESENTATIONS AT-A-GLANCE

Room	Exhibit Hall		
<b>Session</b>	<b>Mobile Session II: Emerging Technologies and Topics</b>		
	Presentations kickoff concurrently at 12:45 PM, 1:05 PM, and 1:25 PM in each of the five booths 502, 200, 510, 405, 520. Please turn to Mobile Session Section for more information.		
Room	5ABC	4ABC	3ABC
<b>Session</b>	<b>Session 08: Pump Stations</b>	<b>Session 09: Lessons Learned</b>	<b>Session 10: O&amp;M</b>
<b>1:30 PM</b>	Preparing for the Unexpected During Design and Construction	Unexpected History Lesson and Contractual Deal Making: Lessons Learned from a Large-Diameter Force Main Replacement Project in Downtown Norfolk; Home to Historical Landmarks, High-Rise Buildings, Critical Stakeholders and Innovative Contractors	Wastewater Collection System Evaluations and Recommendations for Improvements
<b>2:00 PM</b>	Difficult Run – It's More than Just a Name: Best Practices from Restoring a 36" Wastewater Force Main and Pump Station	Application of a Chemically Enhanced Retention Treatment Basin in Reducing CSO and Pollutant Loading into the Detroit River	Use of Data Analytics Platform to Track and Predict the Location of Spills in the City of Atlanta
<b>2:30 PM</b>	Cost-Effectively Upgrading an Old, Combined Sewer Pump Station	\$450 Million Asset Management Grant Program in Michigan: What Have We Learned?	Dynamic Prioritized System-wide Cleaning Schedule
<b>Alt</b>	No One Wants It, but Everyone Needs it: Building an 8.5 MGD Wastewater System for the 5-Billion Dollar Mile	Little Cuyahoga Interceptor Slip Line Replacement	Electronic Motor Protection Saves Plant from Spills & Equipment Damage

## PRESENTATIONS AT-A-GLANCE

Wednesday, April 11, 8:30 AM - 11:15 AM			
Room	5ABC	4ABC	3ABC
Session	Session 11: Asset Management	Session 12: Project Delivery	Session 13: Local II
<b>8:30 AM</b>	CDM Smith Water Analytics: Empowering Decision Making Through Big Data Analysis and Living Models in Hartford, CT	Taming the Multi-Stakeholder Hydra: A Case Study In Planning, Permitting, Design And Construction Of A Gravity Sewer Meeting Federal, State, And Private Stakeholder Constraints	Guaranteed Outcome Project Delivery for Sewer Rehabilitation - The HRSD Collaborative Design/Build Sewer Rehabilitation Pilot Project
<b>9:00 AM</b>	The Importance of Design Criteria Standards for the Construction and Operation of a Centralized Wastewater Collection System in the Florida Keys	Case Study: Designing a 11MG CSO Control Tunnel with Operations in Mind	Managing a Million Data Points: A How-To-Guide
<b>9:30 AM</b>	Establishing Pipe-by-Pipe Rehabilitation and Re-inspection Schedules using Years Remaining Service Life	Greenfield Road Force Main Failure. Responding To A High Profile Catastrophic Forcemain Failure In The Town Of Gilbert, Arizona	Work Order Planning for Wastewater Force Main Condition Assessment
<b>10:15 AM</b>	Condition & Criticality – How Fort Wayne Built Their Asset Management Risk Model	Charlottesville Utilizes System-Wide Find-and-Fix Program to Address Consent Order and Streamline Comprehensive Rehabilitation of their Collection System	A Balancing Act; Replacing A 40 Year Old Sanitary Sewer FM Through One Of The Original Colonial Settlements In America And Impact Of CNET's Founder On The Project.
<b>10:45 AM</b>	Integration of Sewer Tunnel System into Enterprise Asset Management – benefits & challenges	Don't Wait Until It Becomes an Emergency Repair: Sewers in Streams	The Neighbor on Norchester - A Complex Project Becomes A Showcase for Integrating Stakeholders
<b>11:15 AM</b>	Failure Analysis Helps SD1 Improve Its Continuous Sewer Assessment Program	Life as a Watershed Consultant Delivering on a Consent Decree Program	Integrated Planning Meets Adaptive Management
<b>Alt 1</b>			Save Your Pipes – Respect Cathodic Protection
<b>Alt 2</b>			The Invisible Modernization of Aging Infrastructure

## SESSIONS AT-A-GLANCE

Session Number	Session Title	Time	CE Credit Total/Type	Room
<b>Sunday, April 8<sup>th</sup></b>				
<b>Workshop A</b>	Infiltration and Inflow Modeling for Collection System Utilities	8:30am-5:00pm	<b>0.6 CEUs</b>	<b>1D</b>
<b>Workshop B</b>	Findings from the Field – How to Evaluate Your I/I Reduction Program's Performance and Report the Results to Your Board	8:30am-5:00pm	<b>0.6 CEUs</b>	<b>2AB</b>
<b>Monday, April 9<sup>th</sup></b>				
<b>OGS</b>	Opening General Session	8:30am-10:00pm	<b>1.5 GCHs</b>	<b>5ABC</b>
<b>Mobile Session</b>	Mobile Session I	10:45am-11:50am	<b>1.0GCHs</b>	<b>Hall D</b>
<b>Session 1</b>	Odor Control	10:45am-11:45am	<b>1.0 PDHs</b>	<b>5ABC</b>
<b>Session 2</b>	Trenchless	1:30pm-4:45pm	<b>2.5 PDHs</b>	<b>5ABC</b>
<b>Session 3</b>	System Analysis	1:30pm-4:45pm	<b>2.5 PDHs</b>	<b>4ABC</b>
<b>Session 4</b>	Local I	1:30pm-4:45pm	<b>2.5 PDHs</b>	<b>3ABC</b>
<b>Tuesday, April 10<sup>th</sup></b>				
<b>Session 5</b>	Planning	8:30am-11:45am	<b>2.5 PDHs</b>	<b>5ABC</b>
<b>Session 6</b>	SSO/CSO	8:30am-11:45am	<b>2.5 PDHs</b>	<b>4ABC</b>
<b>Session 7</b>	Potpourri	8:30am-11:45am	<b>2.5 PDHs</b>	<b>3ABC</b>
<b>Mobile Session</b>	Mobile Session II	12:45pm-1:45pm	<b>1.0GCHs</b>	<b>Hall D</b>
<b>Session 8</b>	Pump Stations	1:30pm-3:00pm	<b>1.5 PDHs</b>	<b>5ABC</b>
<b>Session 9</b>	Lessons Learned	1:30pm-3:00pm	<b>1.5 PDHs</b>	<b>4ABC</b>
<b>Session 10</b>	O&M	1:30pm-3:00pm	<b>1.5 PDHs</b>	<b>3ABC</b>
<b>Tour A</b>	Pump Stations and CSO Treatment	8:30am-12:00pm	<b>3.5 GCHs</b>	<b>Off Site</b>
<b>Wednesday, April 11<sup>th</sup></b>				
<b>Session 11</b>	Asset Management	8:30am-11:45am	<b>3.0 PDHs</b>	<b>5ABC</b>
<b>Session 12</b>	Project Delivery	8:30am-11:45am	<b>3.0 PDHs</b>	<b>4ABC</b>
<b>Session 13</b>	Local II	8:30am-11:45am	<b>3.0 PDHs</b>	<b>3ABC</b>
<b>Tour B</b>	Stormwater and Green Infrastructure	12:00pm-4:30pm	<b>4.5 GCHs</b>	<b>Off Site</b>

## THE EXHIBITION

### Exhibition Schedule

**Monday, April 9**      **10:00 am – 6:15 pm** ..... **Exhibit Hall Open**  
10:00 am – 10:45 am ..... Networking Break  
10:30 am – 11:50 am ..... Mobile Session I  
11:45 am – 1:30 pm ..... Luncheon  
3:00 pm – 3:45 pm ..... Networking Break  
4:45 pm – 6:15 pm ..... Networking Reception

**Tuesday, April 10**      **10:00 am – 3:45 pm** ..... **Exhibit Hall Open**  
10:00 am – 10:45 am ..... Networking Break  
12:45 pm – 1:45 pm ..... Mobile Session II  
11:45 am – 1:30 pm ..... Luncheon  
3:00 pm – 3:45 pm ..... Networking Break

*Children under 18 entering the Exhibition must be accompanied by a parent or guardian at all times. The parent or guardian must obtain a child badge at registration, and assumes all risk and responsibility for the child's safety.*

*Due to the proprietary nature of the displays, photography of displays and materials is forbidden without exhibitors' express permission.*

## SEWER AND WATER ART GALLERY (SWAG)

### Booth 325

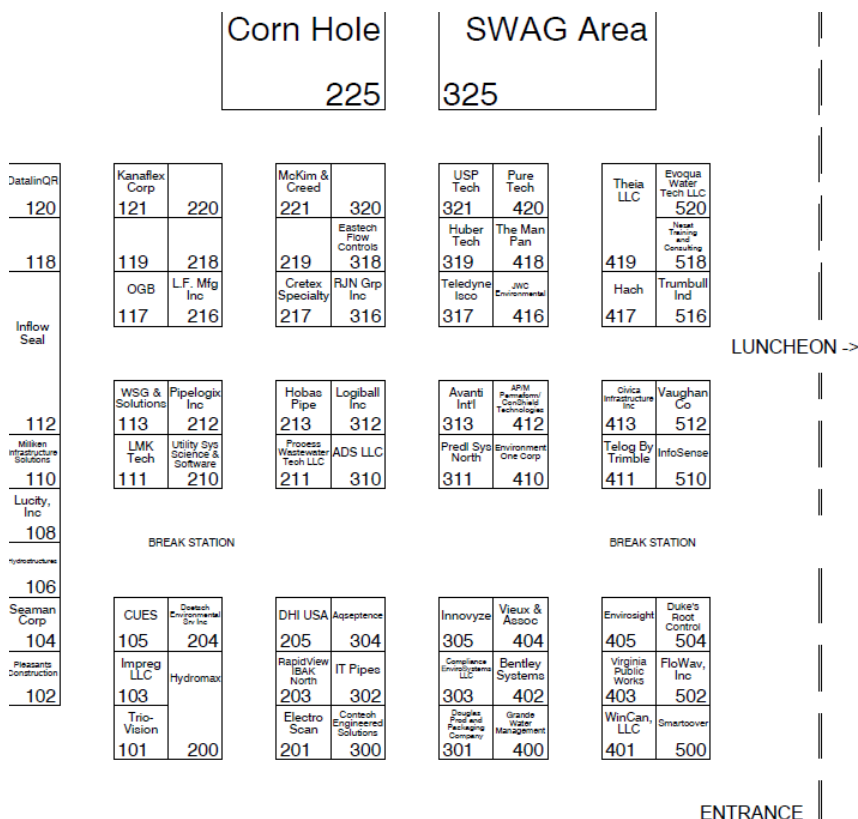
A special offering for the WEF Collection Systems 2018 conference, this year's exhibit floor will host the Sewer and Water Art Gallery (SWAG), familiar already to those who have participated in VWEA's annual conference in years' past.

The SWAG is a museum of things that sewer collections industry professionals have encountered in the field that were found to be interesting, confusing, or downright crazy!

Attendees are encouraged to walk through the SWAG exhibit during networking and luncheon breaks on Monday and Tuesday.



# EXHIBIT HALL FLOOR PLAN



# EXHIBITOR DIRECTORY

As of 3/20/2018

**ADS Environmental Services..... Booth 310**

www.adsenv.com

Phone: 203-257-3224

340 The Bridge St, Ste 204

Huntsville, AL 35806

When municipal owners need to know about collection system flows and sewer levels, they choose ADS for robust, accurate and affordable measurement, the kind of hydraulic analysis necessary to support project and financial objectives.

## EXHIBITOR DIRECTORY

**AP/M Permaform/ConShield Technologies ..... Booth 412**

[www.permaform.net](http://www.permaform.net)

Phone: 800-662-6465

*PO Box 555*

*Johnston, IA 50131*

AP/M Permaform® CentriPipe® and Permacast® systems enable trenchless repair of failing manholes and pipes. CONmicSHIELD® liquid additive prevents MIC in concrete sanitary sewers, while Crystal-X® liquid additive provides waterproofing for concrete.

**Aqseptence Group, Inc. .... Booth 304**

[www.aqseptence.com](http://www.aqseptence.com)

Phone: 336-601-0449

*4217 N Old US Hwy 31*

*Rochester, IN 46975*

Airvac, a brand of Aqseptence Group, is a world-leading manufacturer of specialty components used in vacuum sewage collection systems. These components include vacuum valves, valve pits and vacuum station equipment.

**Avanti International..... Booth 313**

[www.avantigrout.com](http://www.avantigrout.com)

Phone: 800-877-2570

*1100 Hercules Ave, Ste 320*

*Houston, TX 77058*

Avanti International – full-service producer and supplier of high-quality chemical and cement grouts. From gels with controllable gel times to flexible or rigid expansive foams, Avanti provides tools for the trenchless industry to maintain and preserve the life of our underground infrastructure.

**Bentley Systems ..... Booth 402**

[www.bentley.com](http://www.bentley.com)

Phone: 610-458-2814

*685 Stockton Dr*

*Exton, PA 19341*

Bentley is a global leader dedicated to providing engineers, architects, geospatial professionals, constructors, and owner-operators with comprehensive software solutions for advancing infrastructure.

## EXHIBITOR DIRECTORY

**Civica Infrastructure Inc. .... Booth 413**

[www.civi.ca](http://www.civi.ca)

Phone: 905-417-9792

*330 Rodinea Rd*

*Vaughan, ON L6A 4P5*

*Canada*

Civica Infrastructure specializes in expanding and verifying residual sewer capacity. DataCurrent is a comprehensive, SaaS based application designed to help identify, quantify and address the challenges of Inflow & Infiltration (I-I).

**Compliance EnviroSystems LLC..... Booth 303**

[www.ces-sses.com](http://www.ces-sses.com)

Phone: 225-939-3019

*1401 Seabord Dr*

*Baton Rouge, LA 70810*

Since 1995 CES has exceeded industry standards, setting the bar for sanitary sewer and storm drain evaluations, specializing in large and hard-to-clean or access pipes, and alternative cleaning methods.

**Contech Engineered Solutions..... Booth 300**

[www.ContechES.com](http://www.ContechES.com)

Phone: 800-338-1122

*9025 Centre Pointe Dr, Ste 400*

*West Chester, OH 45069*

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, erosion control, retaining wall, sanitary, stormwater and wastewater treatment products.

**Cretex Specialty Products..... Booth 217**

[www.cretexseals.com](http://www.cretexseals.com)

Phone: 262-542-8153

*N16 W23390 Stoneridge Dr, Ste A*

*Waukesha, WI 53188*

Manufacturer of mechanical internal and external manhole frame-chimney seals and other products used to prevent Inflow & Infiltration, including PRO-RING™, a lightweight grade adjustment system used for manholes and underground utility structures.

## EXHIBITOR DIRECTORY

**CUES ..... Booth 105**

[www.cuesinc.com](http://www.cuesinc.com)

Phone: 800-327-7791

*3600 Rio Vista Ave*

*Orlando, FL 32805*

CUES is the world's leading manufacturer of closed circuit television video (CCTV) inspection, rehabilitation, pipe profiling equipment and pipeline inspection/asset management software for sanitary and storm sewers, industrial process lines, and water lines.

**DatalinQR ..... Booth 120**

[www.datalinqr.com](http://www.datalinqr.com)

Phone: 800-836-1011

*2528 Thrush Rd*

*Charlottesville, VA 22901*

**DHI Water & Environment, Inc. .... Booth 205**

[www.dhigroup.com](http://www.dhigroup.com)

Phone: 323-828-2030

*141 Union Blvd, Ste 250*

*Lakewood, CO 80228*

DHI is a software development and engineering consulting firm specializing in hydrological modeling software and represents 20 years of expertise from a multitude of urban, coastal, marine, mining, and water resources projects around the world.

**Doetsch**  
ENVIRONMENTAL SERVICES

**Doetsch Environmental Services, Inc. .... Booth 204**

[www.doetschenv.com](http://www.doetschenv.com)

Phone: 810-499-9233

*21221 Mullin Ave*

*Warren, MI 48089*

With over a century of sewer cleaning experience, Doetsch offers solutions for large diameter, long-reach, difficult-access and impossible cleaning tasks.

## EXHIBITOR DIRECTORY

**Duke's Root Control, Inc. .... Booth 504**

[www.dukes.com](http://www.dukes.com)

Phone: 800-447-6687

*1020 Hiawatha Blvd W*

*Syracuse, NY 13204*

Duke's Root Control does it all, providing the best chemical root control product available, applied by the most professional crews in the industry.

**Eastech Flow Controls Inc ..... Booth 318**

[www.smartwastewater.com](http://www.smartwastewater.com)

Phone: 800-664-1212

*4250 S 76th E Ave*

*Tulsa, OK 74145*

Inflow and infiltration detection and locating systems.

**Electro Scan Inc. .... Booth 201**

[www.electroscan.com](http://www.electroscan.com)

Phone: 916-779-0660

*1745 Markston Rd*

*Sacramento, CA 95825*

Electro Scan finds leaks missed by CCTV (visual) and acoustic sensors (audio) in water and sewer mains and distribution systems. Proprietary technology assesses water tightness in pre- and post-rehabilitated pipe segments.

**Environment One Corporation..... Booth 410**

[www.eone.com](http://www.eone.com)

Phone: 518-344-8397

*2773 Balltown Rd*

*Niskayuna, NY 12309*

Are you dealing with failing septic tanks? Is I&I from your existing sewer system eating up budgets? ALL-TERRAIN SEWER low pressure systems from E/One are significantly more affordable than conventional gravity sewers and safer than septic systems.

## EXHIBITOR DIRECTORY

**Envirosight..... Booth 405**

[www.envirosight.com](http://www.envirosight.com)

Phone: 412-216-8701

*111-B3 Canfield Ave*

*Randolph, NJ 07869*

Specializing in underground pipe and confined space inspection, Envirosight is a full-service manufacturer of manhole cameras, zoom survey cameras, robotic crawlers, push cameras, video nozzles, asset management software, and inspection vehicles.

**Evoqua Water Technologies LLC ..... Booth 520**

[www.evoqua.com](http://www.evoqua.com)

Phone: 302-521-3934

*210 Sixth Ave*

*Pittsburgh, PA 15222*

Evoqua Water Technologies, LLC. is a recognized leader in water and wastewater treatment products, systems and services. Evoqua offers a broad range of odor and corrosion control solutions for collection systems and treatment plants.

**FloWav, Inc ..... Booth 502**

[www.flowav.com](http://www.flowav.com)

Phone: 423-394-3735

*1152 Mae St*

*Hummelstown, PA 17036*

FloWav: offering the highest quality flow monitoring and measurement products available to provide our customers with the most accurate data possible. We offer adaptable velocity sensors that have been lab and field tested for reliability and accuracy.

**FlowWorks ..... Booth 218**

[www.flowav.com](http://www.flowav.com)

Phone: 206-512-0045

*111 SE Everett Mall Way, Ste E102*

*Everett, WA 98208*

FlowWorks is a powerful web-based suite of online collection, monitoring, analysis, and reporting tools that support data from virtually all flowmeters and data loggers. We bring machine learning to our customers' data to solve their challenges in new and powerful ways.

## EXHIBITOR DIRECTORY

### **Grande Water Management Systems..... Booth 400**

www.grandeinc.com  
Phone: 855-315-1115  
3950 Montee Masson  
Laval, QC H7B 1C4  
Canada

Grande Water Management Systems specializes in stormwater management, wastewater management and CSO abatement. We provide engineered systems for tank and sewer flushing, overflow control, overflow screening and regulation.

### **Hach..... Booth 417**

www.hach.com  
Phone: 704-280-3000  
5600 Lindbergh Dr  
Loveland, CO 80538

Hach: providing solutions for better management and testing of water quality by offering high-quality products that are simple to use and accurate. Our analytical instruments and reagents are used to test the quality of water in a variety of industries and markets around the globe.

### **Hobas Pipe USA ..... Booth 213**

www.hobaspip.com  
Phone: 281-821-2200  
1413 E Richey Rd  
Houston, TX 77073

Centrifugally cast, fiberglass-reinforced, polymer mortar HOBAS pipe is suitable for new construction and rehab of critical installations including storm and sanitary sewers, potable water and corrosive environments.

### **Huber Technology Inc ..... Booth 319**

www.huber-technology.com  
Phone: 704-990-2053  
9735 Northcross Center Ct, Ste A  
Huntersville, NC 28078

HUBER Technology is a leading expert in liquid/solid separation technologies, offering a comprehensive line of screening, grit and sludge handling processes. HUBER serves the municipal and industrial wastewater treatment market with precision fabricated stainless steel equipment.

## EXHIBITOR DIRECTORY

**Hydromax USA ..... Booth 200**

[www.hydromaxusa.com](http://www.hydromaxusa.com)

Phone: 757-353-1521

*11492 Bluegrass Pkwy, Ste 106*

*Louisville, KY 40299*

Hydromax USA is a professional services firm specializing in data collection in support of locating and assessing the condition of the country's aging water, wastewater and natural gas conveyance systems.

**Hydrostructures ..... Booth 106**

[www.hydrostructures.com](http://www.hydrostructures.com)

Phone: 919-542-5002

*5269 Cleveland St, Ste 101*

*Virginia Beach, VA 23462*

**iMPREG International GmbH ..... Booth 103**

[www.impreg.com](http://www.impreg.com)

Phone: 844-611-5321

*8000 Whitepine Rd*

*North Chesterfield, VA 23237*

**Inflow Seal..... Booth 112**

[www.inflowseal.com](http://www.inflowseal.com)

Phone: 800-490-5325

*PO Box 835*

*Marion, OH 43301*



**InfoSense, Inc**  
Innovating Acoustic Inspection Technology™

**InfoSense, Inc. .... Booth 510**

[www.infosense.com](http://www.infosense.com)

Phone: 877-747-3245 x3

*8116 S Tryon St, Ste B3-203*

*Charlotte, NC 28273*

InfoSense manufactures the Sewer Line Rapid Assessment Tool, or SL-RAT®, an award-winning acoustic inspection technology that screens for blockages in small diameter gravity sewers. Stop cleaning clean pipe and deploy cleaning resources effectively.



## EXHIBITOR DIRECTORY

**Innovyze ..... Booth 305**

www.innovyze.com

Phone: 888-554-5022

6720 SW Macadam Ave

Portland, OR 97219

World leader in hydraulic and water quality water, sewer, stormwater, wet infrastructure rehabilitation prioritization, SCADA integration, and real-time analyses.

**ITpipes ..... Booth 302**

www.itpipes.com

Phone: 505-341-0109

4921 Alexander Blvd NE

Albuquerque, NM 87107

ITpipes manages your pipeline inspections for sewer, storm, and more! Easy data collection, automated project organization, and smooth inspection sharing allows you to do more with less!

**JWC Environmental ..... Booth 416**

www.jwce.com

Phone: 800-331-2277 x2

2850 S Red Hill Ave, #125

Santa Ana, CA 92705

JWC Environmental designs, builds and services the world's most dependable waste shredders and screening systems to help solve challenging waste reduction and recycling applications. We assist customers in the energy, wastewater, recycling, marine and facility management sectors.

**Kanaflex Corporation ..... Booth 121**

www.kanaflexcorp.com

Phone: 224-545-2012

800 Woodlands Pkwy

Vernon Hills, IL 60061

Kanaflex manufactures steel reinforced polyethylene storm and sanitary sewer pipe (SRPE) 12"-72" diameter. Applications include storm, CSO, Slip lining, detention/retention, culverts, ,sanitary trunk lines, low head irrigation, gravity force mains.

## EXHIBITOR DIRECTORY

**L.F. Manufacturing Inc..... Booth 216**

[www.lfm-frp.com](http://www.lfm-frp.com)

Phone: 800-237-5791

*PO Box 578*

*Giddings, TX 78942*

LFM is a leading manufacturer of fiberglass-reinforced manholes, wetwells, chemical storage tanks, process vessels and duct piping. For over 30-years, LFM has provided quality FRP structures for water, wastewater, chemical, OEM and oilfield applications.

**LMK Technologies ..... Booth 111**

[www.lmktechnologies.com](http://www.lmktechnologies.com)

Phone: 815-640-9306

*1779 Chessie Ln*

*Ottawa, IL 61350*

LMK Technologies has been a leader in trenchless Cured-In-Place-Pipe (CIPP) lining since 1993. LMK is recognized by many municipalities and engineering firms as the innovative leader for the trenchless renewal of sewer laterals.

**Logiball Inc. .... Booth 312**

[www.logiball.com](http://www.logiball.com)

Phone: 800-246-5988

*440 Papin St*

*Quebec, QC G1P 3T9*

*Canada*

Infiltration control using injection grouting packers, sewer inflatable plugs, carriers for sectional liners, lateral cleaning launchers, custom made equipment.

**Lucity, Inc..... Booth 108**

[www.lucity.com](http://www.lucity.com)

Phone: 800-492-2468

*10561 Barkley St, Ste 100*

*Overland Park, KS 66212*

Lucity is software for public works. We provide our clients clarity, through connections the software makes and connections we develop personally. Lucity offers a clear path.

## EXHIBITOR DIRECTORY



**McKim & Creed, Inc. .... Booth 221**

[www.mckimcreed.com](http://www.mckimcreed.com)

Phone: 757-965-2848 x2100

2400 Colley Ave

Norfolk, VA 23517

McKim & Creed is an employee-owned engineering, surveying and planning firm with offices throughout the United States. Services include water/wastewater system design and engineering, master planning, I&C/SCADA and hydraulic modeling.

**Milliken Infrastructure Solutions ..... Booth 110**

<http://infrastructure.milliken.com>

Phone: 855-655-6750

920 Milliken Rd

Spartanburg, SC 29303

**Nezat Training and Consulting, Inc. .... Booth 518**

[www.nezat.com](http://www.nezat.com)

Phone: 281-788-5221

PO Box 1419

Splendora, TX 77372

Nezat Training and Consulting specializes in providing sewer cleaning to municipalities and cities across the country. Our goal is to assist organizations in reducing equipment downtime, reduce equipment repair costs and improve production rates.

**O'Brien & Gere ..... Booth 117**

[www.obg.com](http://www.obg.com)

Phone: 804-822-4217

4435 Waterfront Dr, Ste 205

Glen Allen, VA 23060

Advanced Manufacturing. Energy. Environment. Water. For more than 70 years, OBG has specialized in engineering and problem solving, but the Company's real strength is creating comprehensive, integrated solutions for its clients. OBG -There's a way.

## EXHIBITOR DIRECTORY

**Pipelogix Inc. .... Booth 212**

[www.pipelogix.com](http://www.pipelogix.com)

Phone: 866-299-3150 x3

*36945 Cook St, Ste 102*

*Palm Desert, CA 92211*

Survey software for pipe, lateral, grout or manhole inspections, compatible with all CCTV systems, PACP certified. ESRI business partner. Backed by outstanding support and service.

**Pleasants Construction ..... Booth 102**

[www.pleasantsconstruction.com](http://www.pleasantsconstruction.com)

Phone: 800-842-1180

*24024 Frederick Rd*

*Clarksburg, MD 20871*

**Predl Systems North America, Inc. .... Booth 311**

[www.predlsystems.com](http://www.predlsystems.com)

Phone: 855-773-3562

*7520 Conrad St*

*Burnaby, BC V5A 2H7*

*Canada*

**Process Wastewater Technologies, Inc. .... Booth 211**

[www.pwtech.us](http://www.pwtech.us)

Phone: 410-238-7977

*9004 Yellow Brick Rd, Ste D*

*Rosedale, MD 21237*

Provider of the world's leading range of screening technologies for CSO/SSO treatment, unique biological wastewater treatment processes, and the Volute Dewatering Press sludge dewatering system.

**Pure Technologies ..... Booth 420**

[www.puretechltd.com](http://www.puretechltd.com)

Phone: 407-408-7631

*8920 State Rt 108*

*Columbia, MD 21045*

Pure Technologies is a world leader in the development and application of innovative technologies for inspection, monitoring and management of water and wastewater networks.

## EXHIBITOR DIRECTORY

**RapidView IBAK North America ..... Booth 203**

www.rapidview.com

Phone: 800-656-4225

1828 W Olson Rd

Rochester, IN 46975

Provides high quality pipeline inspection and rehabilitation equipment including the revolutionary new PANORAMO 360° pipeline and manhole scanning systems.

**RJN Group, Inc. .... Booth 316**

www.rjn.com

Phone: 954-415-3742

200 W Front St

Wheaton, IL 60187

RJN Group is a professional engineering consulting firm focused on improving underground municipal sewer, stormwater, and water infrastructure through engineering evaluations, design, field inspections, construction management, and design-build programs.

**Seaman Corporation ..... Booth 104**

www.seamancorp.com

Phone: 800-927-8578

1000 Venture Blvd

Wooster, OH 44691

**Smartcover Systems ..... Booth 500**

www.smartcoversystems.com

Phone: 760-291-1980

2067 Wineridge Pl, Ste E

Escondido, CA 92029

SmartCover Systems provides a real-time solution - seamlessly connecting field to headquarters - to monitor sewer system flows to detect and alert agency staff to potential damaging overflows and provide real-time condition assessment of pipelines.

## EXHIBITOR DIRECTORY

**Teledyne Isco..... Booth 317**

www.teledyneisco.com

Phone: 402-770-6017

4700 Superior St

Lincoln, NE 68504

Teledyne ISCO is a leading manufacturer and supplier of rugged, reliable instruments for water and wastewater sampling and monitoring. Teledyne ISCO's flow meters and samplers are the first choice for use in demanding applications.

**The Man Pan ..... Booth 418**

www.themanpan.com

Phone: 724-942-9500

309 Buffalo Ridge Rd

Mc Murray, PA 15317

**Theia, LLC..... Booth 419**

www.theiallc.com

Phone: 888-330-2260

815 Lincoln Ave

West Chester, PA 19380

Theia eliminates odors and corrosion in your wastewater collection system using nothing but air. The Oxgenator System is the most efficient and effective means of eliminating H<sub>2</sub>S and preventing it from forming.

**Trimble Water ..... Booth 411**

www.trimblewater.com

Phone: 585-742-3000

830 Canning Pkwy

Victor, NY 14564

Trimble Water makes utility management easier with their field and office solutions for high accuracy GIS mapping and work management, leak detection, wireless remote monitoring, field data collection, design and inspection, and network management.

## EXHIBITOR DIRECTORY

**Trio-Vision..... Booth 101**

www.trio-vision.com

Phone: 678-332-6380

4806 Wright Dr, Bldg C

Smyrna, GA 30082

We manufacture CCTV pipe inspection equipment and developed our own PACP/LACP/MACP inspection software that is certified by NASSCO. This software is easy-to-use, touchscreen enabled for pipeline survey data collection, reporting and analysis.

**Trumbull Industries..... Booth 516**

www.trumbull-mfg.com

Phone: 724-699-8776

3850 Hendricks Rd

Youngstown, OH 44515

Trumbull Manufacturing is located in Youngstown, OH. We are a manufacturer of many products for the water and wastewater industries: tools, treatment plant valves, polymer composite meters and manhole lids which are Traffic Load Rated H-20, H-25.

**USP Technologies..... Booth 321**

www.usptechnologies.com

Phone: 404-352-6070 x109

900 Circle 75 Pkwy, Ste 1330

Atlanta, GA 30339

US Peroxide is a leading provider of hydrogen peroxide-based, full-service treatment programs. We specialize in odor control with turn-key solutions for municipal and industrial wastewater, refinery applications, air quality treatment, and remediation.

**Utility Systems, Science & Software, Inc..... Booth 210**

www.uscubed.com

Phone: 714-724-4454

601 N Parkcenter Dr, Ste 209

Santa Ana, CA 92705

Utility Systems Science & Software (US3) provides nationwide, cost-effective IoT web enabled wastewater flow monitoring services, including SSO/CSO alert monitoring using our exclusive StreetSmart™ technology.

## EXHIBITOR DIRECTORY

**Vaporoooter ..... Booth 301**

[www.vaporoooter.com](http://www.vaporoooter.com)

Phone: 816-506-2848

*1550 E Old State Rt 210*

*Liberty, MO 64068*

VAPOROOTER pioneered chemical root control for the sanitary sewer industry in 1968. 40+ years later chemical root control is still the most effective way to solve your root problems.



**Vaughan Company, Inc. .... Booth 512**

[www.chopperpumps.com](http://www.chopperpumps.com)

Phone: 360-249-4042

*364 Monte-Elma Rd*

*Montesano, WA 98563*

Vaughan chopper pumps and Triton screw centrifugal pumps are available in several configurations and sizes to suit most needs for agricultural, municipal and industrial processing applications. Durability and performance are critical in any application.

**Vieux & Associates, Inc. .... Booth 404**

[www.vieuxinc.com](http://www.vieuxinc.com)

Phone: 405-325-1818

*301 David L Boren Blvd, Ste 2500*

*Norman, OK 73072*

**Virginia Public Works Equipment..... Booth 403**

[www.vpwe.com](http://www.vpwe.com)

Phone: 800-868-8485

*8383 Old Richfood Rd*

*Mechanicsville, VA 23116*

**WinCan, LLC ..... Booth 401**

[www.wincan.com](http://www.wincan.com)

Phone: 877-626-8366

*PO Box 15513*

*Pittsburgh, PA 15244*



## EXHIBITOR DIRECTORY

**WSG & Solutions, Inc. .... Booth 113**

[www.wsgandsolutions.com](http://www.wsgandsolutions.com)

Phone: 267-638-3014

*160 Commerce Dr, Ste 100*

*Montgomeryville, PA 18936*

WSG & Solutions, Inc. is your source for screens and grit systems that utilize Link-Belt and Rex Technologies and designs as well as CSO Products.

## PRESENTER AND MODERATOR DIRECTORY

**Eddie Abisaab**, HRSD, **Speaker**,  
**Session 13**

**John Aldrich**, CDM Smith,  
**Speaker**, **Session 07**

**Doug Ashworth**, Freese and  
Nichols, Inc., **Speaker**, **Session 03**

**David Baranowski**, Carollo  
Engineers, Inc., **Speaker**, **Session**  
**03**

**Clayton Barnard**, Freese and  
Nichols Inc, **Speaker**, **Session 08**

**Chris Belk**, Hazen and Sawyer,  
**Speaker**, **Session 12**

**Scott Belz**, AECOM, **Speaker**,  
**Session 03**

**Paul Bixel**, City of Olathe KS,  
**Speaker**, **Session 07**

**Ted Bluver**, Greeley and Hansen,  
LLC, **Speaker**, **Session 06**

**Robert Bocarro**, City of Atlanta  
Department of Watershed  
Management, **Speaker**, **Session**  
**10**

**Charles Bott**, HRSD, **Speaker**,  
**Session 04**

**Xavier Buser**, Hazen and Sawyer,  
**Speaker**, **Session 08**

**Yovanni Catano**, Stantec,  
**Speaker**, **Session 07**

**Jennie Celik**, HDR, **Speaker**,  
**Session 08**

**Carl Chan**, Stantec, **Moderator**,  
**Session 11, 06**

**Prabhushankar Chandrasekeran**,  
Greeley and Hansen LLC,  
**Speaker**, **Session 02**

**Bo Copeland**, Hazen and Sawyer,  
**Speaker**, **Session 11**

**Scott Craig**, CDM Smith, **Speaker**,  
**Session 11**

**Stephane D'Aoust**, Stantec  
Consulting Ltd., **Speaker**, **Session**  
**12**

**Javier Dennis**, City of Los Angeles,  
Bureau of Sanitation, **Speaker**,  
**Session 05**

**Chris Easter**, HDR, **Speaker**,  
**Session 01**

**Joshua Farmer**, Hazen and  
Sawyer, **Speaker**, **Session 02**

**Andrew Filippi**, Arcadis, **Speaker**,  
**Session 11**

**Hazem Gheith**, Arcadis, **Speaker**,  
**Session 07**

**William Gibson**, AECOM,  
**Speaker**, **Session 09**

**Jeffrey Griffiths**, Hydromax USA,  
**Moderator**, **Session 11**

**Ben Groeneweg**, City Utilities -  
City of Fort Wayne, **Speaker**,  
**Session 11**

**Ahmad Habibian**, CDM Smith,  
**Speaker**, **Session 03**

## PRESENTER AND MODERATOR DIRECTORY

**Gary Hart**, HRSD, **Moderator**,  
**Session 13, 04**

**Stuart Haw**, Amec Foster Wheeler,  
**Speaker, Session 12**

**Greg Heath**, AECOM, **Moderator**,  
**Session 05, 09**

**Scott Helfrick**, IDEX Corp,  
**Moderator, Session 03**

**Joe Herman**, Stantec, **Speaker**,  
**Session 05**

**Regina Higgins**, Grundfos Water  
Utility, **Speaker, Session 10**

**Jessica Hou**, Gannett Fleming,  
**Moderator, Session 01, 08**,  
**Speaker, Session 13**

**Kai Iaukea**, Stantec, **Speaker**,  
**Session 07**

**Gregory Kacvinsky**, OHM  
Advisors, **Speaker, Session 09**

**Jason Kerns**, HDR, **Speaker**,  
**Session 13**

**Samrin Ahmed Kusum**, North  
Carolina State University, **Speaker**,  
**Session 05**

**Drew Lankford**, Virginia Beach  
Public Works, **Speaker, Session**  
**04**

**Marc Lehmann**, CDM Smith,  
**Speaker, Session 02**

**Luis Leon**, HDR, **Moderator**,  
**Session 10**

**Jian Li**, Stantec Consulting Ltd.,  
**Speaker, Session 09**

**Kyle Logue**, Brown and Caldwell,  
**Moderator, Session 09**

**Paul Longo**, Dewberry, **Speaker**,  
**Session 04**

**Michael Lorenzo**, Bartlett & West,  
**Speaker, Session 07**

**Kelly Loyd**, Black & Veatch,  
**Speaker, Session 07**

**Jim Mallore**, Metro Wastewater  
Reclamation District, **Speaker**,  
**Session 05**

**Prasad Manthana**, Greeley and  
Hansen LLC, **Speaker, Session 11**

**Sierra McCreary**, Black & Veatch,  
**Speaker, Session 08**

**Jason McIlwee**, City of  
Charlottesville Department of  
Utilities, **Speaker, Session 12**

**Kate Mignone**, AECOM, **Speaker**,  
**Session 06**

**Christene Mitchell**, HRSD,  
**Speaker, Session 13**

**Kraig Moodie**, FloWav, Inc,  
**Moderator, Session 07**

**Gary Moore**, Washington  
University in St Louis, **Moderator**,  
**Session 03**

## PRESENTER AND MODERATOR DIRECTORY

**Scott Morrow**, Hazen and Sawyer,  
**Moderator, Session 13, 04**

**David Mullen**, Wade Trim,  
**Speaker, Session 11**

**Dan Murray**, Cincinnati OH,  
**Moderator, Session 10**

**Carla Muscarella**, Woolpert, Inc.,  
**Speaker, Session 03**

**Joe Nagy**, Citizens Energy Group,  
**Speaker, Session 02**

**Rusty Nezat**, Nezat Training and  
Consulting, Inc., **Speaker, Session**  
**10**

**Katherine Nixon**, City of Virginia  
Beach, **Moderator, Session 01**

**Alexander Palmatier**, HDR Inc,  
**Speaker, Session 10**

**Kimberly Peterson**, HRSD,  
**Speaker, Session 13**

**Frank Qiao**, Hazen and Sawyer,  
**Speaker, Session 03**

**Robert Radspinner**, HRSD,  
**Speaker, Session 04**

**Mathew Roder**, Greeley and  
Hansen, **Speaker, Session 02**

**John Royse**, Fairfax County, VA,  
**Speaker, Session 08**

**Brendan Schillo**, Fairfax County,  
VA, **Speaker, Session 12**

**Natasha Schmidt**, Fairfax County,  
VA,, **Speaker, Session 04**

**Geoffrey Schulmeister**, ISL  
Engineering & Land Services LTD,  
**Speaker, Session 05**

**Dave Servidio**, Mott MacDonald,  
**Moderator, Session 06, 02**

**James Shelton**, Arcadis, **Speaker,**  
**Session 09, 13**

**Tarlton Smith**, Freese & Nichols,  
**Speaker, Session 06**

**Ken Snow**, Town of Gilbert,  
**Speaker, Session 12**

**Richard Stahr**, Brown and  
Caldwell, **Speaker, Session 13**

**Dianne Sumego**, Black & Veatch,  
**Moderator, Session 02, 05**

**Carlos Toro-Escobar**, Brown and  
Caldwell, **Moderator, Session 12**

**Taylor Turner**, Arcadis, **Speaker,**  
**Session 06**

**Baxter Vieux**, Vieux & Associates  
Inc, **Speaker, Session 06**

**Erik Waligorski**, Carollo  
Engineers, **Speaker, Session 02**

**Carolyn Weber**, Fairfax County  
WDCD, **Speaker, Session 04**

**Brent Werlein**, City of Virginia  
Beach, **Speaker, Session 04**

**Christina Willson**, Horner &  
Shifrin, **Moderator, Session 12, 07**

**Christopher Wilson**, Brown and  
Caldwell, **Moderator, Session 08**

## PRESENTER AND MODERATOR DIRECTORY

**Paul Wilson**, Brown and Caldwell,  
**Speaker, Session 13**

**Philip Wolstenholme**, Brown and  
Caldwell, **Speaker, Session 01**

## UPCOMING WEF EDUCATION & TRAINING EVENTS

### **Residuals and Biosolids Conference 2018**

May 15 – 18, 2018

Phoenix, Arizona

[www.wef.org/residualsbiosolids](http://www.wef.org/residualsbiosolids)

### **Nutrient Removal and Recovery Conference 2018**

June 18 - 21, 2018

Raleigh, North Carolina

[www.wef.org/nutrients](http://www.wef.org/nutrients)

### **Disinfection and Reuse Symposium 2018**

July 29 - 31, 2018

Portland, Oregon

[www.wef.org/disinfectionreuse](http://www.wef.org/disinfectionreuse)

### **WEFTEC 2018**

September 29 - October 3, 2018

New Orleans, Louisiana

[www.weftec.org](http://www.weftec.org)

## CONFERENCE SCHEDULE AT-A-GLANCE

### SUNDAY, APRIL 8

---

7:30 AM – 5:00 PM	Registration
8:30 AM – 5:00 PM	Workshop A
8:30 AM – 5:00 PM	Workshop B

### MONDAY, APRIL 9

---

7:30 AM – 5:00 PM	Registration
8:30 AM – 10:00 AM	Opening General Session
10:00 AM – 10:45 AM	Networking Break
10:00 AM – 6:15 PM	Exhibit Hall Open
10:45 AM – 11:50 AM	Mobile Session 1
10:45 AM – 11:45 AM	Technical Sessions 1
11:45 AM – 1:30 PM	Luncheon in Exhibit Hall
1:30 PM – 4:45 PM	Technical Sessions 2, 3, 4
3:00 PM – 3:45 PM	Networking Break
4:45 PM – 6:15 PM	Networking Reception

### TUESDAY, APRIL 10

---

8:00 AM – 5:00 PM	Registration
8:30 AM – 11:45 AM	Technical Sessions 5, 6, 7
8:30 AM – 12:00 PM	Tour A
10:00 AM – 10:45 AM	Networking Break
10:00 AM – 3:45 PM	Exhibit Hall Open
11:45 AM – 1:30 PM	Luncheon in Exhibit Hall
12:45 PM – 1:45 PM	Mobile Session 2
1:30 PM – 3:00 PM	Technical Session 8, 9, 10
3:00 PM – 3:45 PM	Networking Break

### WEDNESDAY, APRIL 11

---

8:00 AM – 11:45 AM	Registration
8:30 AM – 11:45 AM	Technical Sessions 11, 12, 13
12:00 PM – 4:30 PM	Tour B







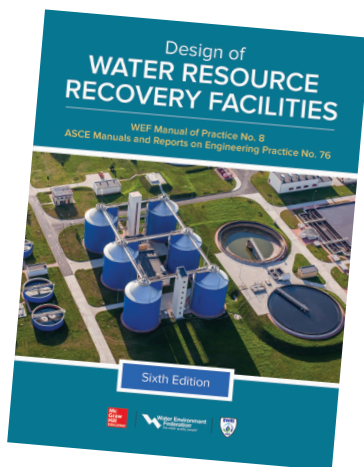
# FACILITATE TRANSFORMATION

REVITALIZE. REBUILD. REGREEN.  
RETHINK. RESTORE. REIMAGINE.

## Get your new *Design of Water Resource Recovery Facilities, MOP 8* today!

MOP 8 is the definitive resource to effectively designing or upgrading a recovery facility and transforming a community.

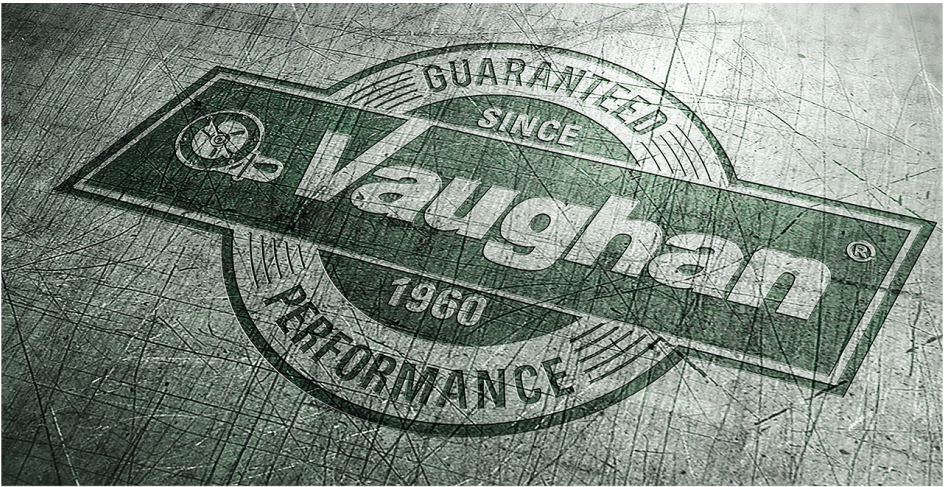
- Written by more than 175 wastewater engineering experts
- Increasing goals toward energy neutrality and driving net zero
- Further advances with membrane bioreactors applications
- Increasing use of modeling for design
- Advances in:
  - IFAS systems
  - MBBRs
  - Sidestream nutrient removal
  - Biosolids handling



Order your new edition today  
[www.WEF.org/MOP8](http://www.WEF.org/MOP8)

Buy directly from WEF and get a complimentary copy of *Sustainability and Energy Management for Water Resource Recovery Facilities, MOP 38*.

 **Water Environment  
Federation**  
the water quality people®



**BEFORE**



**AFTER**



## ADD A CONDITIONING PUMP TO THE MIX

The Vaughan Conditioning Pump is a Vaughan Submersible Chopper Pump mounted on a portable stand and fitted with a high-velocity mixing nozzle. The Conditioning Pump recirculates wet wells, chopping and mixing to produce a homogeneous slurry that is more easily pumped out. Floating mats are removed and solids that have accumulated on the floor are re-suspended. Being portable, it can be used in multiple applications at a single job-site, facility or municipality. In one recent project, the Vaughan Chopper Pump paid for itself in 2.5 months.



### APPLICATIONS

- Lift Station Conditioning
- Basin Conditioning
- Influent Station/Channel Conditioning
- Holding Tank Conditioning
- Digester Cleanout/Homogenization



Experience ease of maintenance with Vaughan Chopper Pumps.

**ChopperPumps.com | 360.249.4042 | info@chopperpumps.com**