

# **Collection Systems Conference 2015**

Collection Systems Taking Center  
Stage – Seize the Opportunity

Cincinnati, Ohio, USA  
19 - 22 April 2015

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## TECHNICAL PROGRAM

### Session 1: Trenchless New Construction

Monday, April 20, 2015  
10:45 AM - 11:45 AM

Room: Junior Ballroom D  
PHDs: 1.0

**Moderator:** David Servidio, Hatch Mott MacDonald

**Assistant Moderator:** Justin Waples, Central Costa Sanitary District

- 01A 10:45 AM Port of Miami Micro-Tunneling in Preparation for Deep Dredge.....1**  
Marta P. Alonso, Patricia A. Carney, Hazen and Sawyer; Victor Fernandez-Cuervo, Lin Li, Eduardo A. Vega, Miami-Dade Water and Sewer Department; Daniel Mancini, Ric-Man Construction
- 01B 11:15 AM Navigating the Diverse and Evolving Service Lateral Line Market .....12**  
Jonathan E. Kunay, CDM Smith; Brendan O'Regan, Town of Saugus
- 11:45 AM Session Adjourns**
- Alternate Cincinnati Streetcar Project--Design Innovations of the Sanitary and Storm Sewer System .....26**  
Mariann Meyer, PB America Inc; John Brazina, City of Cincinnati; Stephanie Roberts, HDR Engineering, Inc.
- Alternate Lateral Rehab Cincy Style .....37**  
Jerry Weimer, MSD Cincinnati; Tim Back, Back Municipal Consulting

## TECHNICAL PROGRAM

### MOBILE SESSION ON THE EXHIBIT FLOOR

Monday, April 20

10:30 AM – 12:00 PM

This year we are offering a session that allows attendees to get out of their chairs and learn while interacting on the exhibit floor. Monday morning between 10:30AM - Noon you can either attend Session 1 or you can join others on the exhibit floor for learning and networking.

**Moderator:** Jim Shelton, ARCADIS

**Assistant Moderators:** Jennifer Welsch, Jimmy Stewart, John Fletcher,  
Dave Hofer, Ted Deboda

This mobile session takes place on the exhibition floor in each presenter's booth and provides engineers, operators, and managers with hands-on experience and explanation on a variety of technologies. Presentations will be given every half hour by each company's technical sales staff and will focus on a variety of collection system technologies listed below. Participants will have the opportunity to visit three different booths during these 90 minutes.

<b>10:30 AM</b>	<b>Presentation 1</b>
<b>11:00 AM</b>	<b>Presentation 2</b>
<b>11:30 AM</b>	<b>Presentation 3</b>
<b>12:00 PM</b>	<b>Session Adjourns</b>

#### Presentation Topics Include:

- ❖ **Test & Seal**  
Avanti (Booth 303)  
Logiball (Booth 305)
- ❖ **Cured-in-Place Lateral Liners**  
LMK (Booth 203)
- ❖ **Centrifugally Cast Cement Lining**  
AP/M-Permaform (Booth 417)
- ❖ **Maintaining Air/Vacuum Release Valves**  
A.R.I. USA (Booth 607)

## TECHNICAL PROGRAM

### Session 2: Local Issues

Monday, April 20, 2015  
1:30 PM - 4:45 PM

Room: Junior Ballroom B  
PDHs: 2.5

**Moderator:** Dianne Sumego, Black & Veatch  
**Assistant Moderator:** Geoff Grant, AECOM

- |     |         |   |
|-----|---------|---|
| 02A | 1:30 PM | <b>Integrated Planning in Cincinnati - MSDGC's Lick Run Project .....40</b><br><u>Mary Lynn Loder</u> , Metropolitan Sewer District of Greater Cincinnati |
| 02B | 2:00 PM | <b>Blazing the Trail, SD1's Integrated Watershed Plan .....43</b><br><u>Mark Wurschmidt</u> , Sanitation District No. 1                                   |
| 02C | 2:30 PM | <b>Integrated Planning Strategy - City of Akron, Ohio .....N/A</b><br><u>Patrick D. Gsellman</u> , James Hewitt, City of Akron, Engineering Bureau        |
|     | 3:00 PM | <b>Networking Break</b>   |
| 02D | 3:45 PM | <b>Blueprint Columbus: Columbus, Ohio's Approach To Integrated Planning .....N/A</b><br><u>Dax Blake</u> , City of Columbus                               |
| 02E | 4:15 PM | <b>Affordability Tenants Define LTCP Implementation in Lima.....58</b><br><u>Gary Sheely</u> , City of Lima, OH   |
|     | 4:45 PM | <b>Session Adjourns</b>   |

## TECHNICAL PROGRAM

### Session 3: Odors

Monday, April 20, 2015  
1:30 PM - 4:45 PM

Room: Junior Ballroom C  
PDHs: 2.5

**Moderator:** Paul Costa, RGJ Group  
**Assistant Moderator:** Chip Smith, Woolpert

- 03A 1:30 PM Prescribing the Right Strategy: Collection System Knowledge Allows for Tailored H<sub>2</sub>S Mitigation .....61**  
Tim S. Healy, Joseph Teusch, Chris Wilson, Greeley and Hansen
- 03B 2:00 PM Comprehensive Corrosion Control Planning for a Large Interceptor System .....69**  
David W. McEwen, Brown and Caldwell; Diana Lee, Vince De Lange, East Bay Municipal Utility District;, Charlie Joyce, Evan Geer, Brown and Caldwell
- 03C 2:30 PM El Paso Water Utilities Frontera Lift Station SuperOxygenation Approach .....87**  
Nathan Ebbs, CH2M; Scott Cowden, Michael Ancell, CH2M HILL; Aide Zamarron, Gilbert Trejo, David Ornelas, El Paso Water Utilities; Inken Mello, ECO Oxygen Technologies, LLC
- 3:00 PM Networking Break**
- 03D 3:45 PM A Practical Asset Management Approach to Prediction of Sulfide Emission in a Gravity Sewer using Combined Hydraulic and Mass Transfer Models .....103**  
Neepa Shah, Greeley and Hansen; Chris Wilson, Dimitrios Katehis, Yuan Fang, Ed Cronin, Greeley and Hansen
- 03E 4:15 PM Using Hydraulics and Surge Modeling to Solve an Odor Problem in a 28.5-Mile Long Force Main .....116**  
Kristen L. Smeby, David Ehrhardt, Brian Duane, Hazen and Sawyer
- 4:45 PM Session Adjourns**
- Alternate Manhole within a Manhole Built for SeaWorld in 13 Days .....142**  
Wayne Turner, Turner Lining Company, Peter N. Keefe, Predl Systems; Bill Tone, Tone Marketing, LLC

## TECHNICAL PROGRAM

### Session 4: Combined Sewer Overflows (CSOs)

Monday, April 20, 2015  
1:30 PM - 4:45 PM

Room: Junior Ballroom D  
PDHs: 2.5

**Moderator:** Greg Heath, AECOM

**Assistant Moderator:** Scott Helfrick, Idex Corp.

- 04A 1:30 PM Mining the Flow Data for System Optimization .....150**  
Dingfang Liu, Vinta Varghese, Eric Muir, CH2M HILL;  
Tom Sgroi, Bruce Kirkland, Greater New Haven  
Water Pollution Control Authority
- 04B 2:00 PM EPA Mandated SSO Reduction in Small Town  
America... It Can Happen to You .....162**  
Barney G. Fullington, Barge, Waggoner, Sumner &  
Cannon; Billy Mayes, City of Dothan, Alabama;  
Hatem El-Sayegh, Barge, Waggoner, Sumner &  
Cannon
- 04C 2:30 PM Ottawa River CSO and SSO Storage Facility .....169**  
James J. Broz, Black & Veatch; James Brescol, Tetra  
Tech; Julie Cousino, City of Toledo, Ohio
- 3:00 PM Networking Break**
- 04D 3:45 PM Simple Device Yields Cost Effective CSO  
Reduction .....195**  
Kristin L. Comer, Greeley & Hansen
- 04E 4:15 PM Boston's Pilot Project to Measure CSO Flows  
Relies on New Technology and Scattergraphs to  
Detect Overflows .....202**  
Paul Keohan, Boston Water and Sewer Commission;  
Mike Armes, Patrick Stevens, ADS Environmental  
Services
- 4:45 PM Session Adjourns**

## TECHNICAL PROGRAM

### Session 5: Operation & Maintenance (O&M)

Tuesday, April 21, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom B  
PDHs: 2.5

**Moderator:** Roger Cooley, Wade Trim

**Assistant Moderator:** Dianne Sumego, Black & Veatch

- 05A 8:30 AM Techniques Used By the City of Tuscaloosa Water and Sewer Department to Implement a Successful CMOM Program and Reduce Dry Weather SSOs .....214**  
Jarrold Milligan, City of Tuscaloosa
- 05B 9:00 AM Large and Small Municipal Utilities Benefit as Optimized Decision Support Identifies Least-Cost .....222**  
Jeffery Frey, Optimatics LLC; Tom Hickmann, City of Bend Public Works; Fernando Gonzalez, Los Angeles Bureau of Sanitation; Andy Cronberg, City of Fort Worth; Steven Eubanks, Wendy Reust, City of Fort Wayne
- 05C 9:30 AM Large Diameter Sewer Cleaning in City of Baltimore's Outfall Sewershed: It's Not As Simple As It Appears .....232**  
Gui DeReamer, Brown and Caldwell; Akshay S. Kumar, Brown and Caldwell; Wazir Qadri, George Mwangi, City of Baltimore; Paresh Sanghavi, Brown and Caldwell; Thomas Dallapalu, Dewberry
- 10:00 AM Networking Break**
- 05D 10:45 AM Is Your Utility Ready When Disaster Strikes? An Approach for Effective Risk Management and Response .....253**  
Paul C. Wilson, Brown and Caldwell; Phil Hubbard, Hampton Roads Sanitation District, Catherine Eichel, Brown and Caldwell
- 05E 11:15 AM CMOM: Getting Wet to Dry It Out And A Self-Inflicted Audit .....268**  
Kevin D. Colvett, CH2M Hill; Pat Spangler, First Utility District of Knox County, TN
- 11:45 AM Session Adjourns**



## TECHNICAL PROGRAM

*Session 5 continued from previous page*

**Alternate**      **High Water/Dry Weather Protection Managing Our Aging**  
**CSO**            **Structures .....270**  
Keith A. Bair, Shannon Killion, Shrewsbury and Associates;  
Jeff Kaestner, RJN; Matt Smith, Todd Trabert, Metropolitan  
Sewer District of Greater Cincinnati

## TECHNICAL PROGRAM

### Session 6: Integrated Planning

Tuesday, April 21, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom C  
PDHs: 2.5

**Moderator:** Gary Moore, MSDGC  
**Assistant Moderator:** Greg Heath, AECOM

- 06A 8:30 AM New York City's Pilot Project to Evaluate Real-Time Flow Measurement in Complex Tidally-Affected CSO Regulators .....279**  
James G. Mueller, New York City Department of Environmental Protection; Patrick Stevens, ADS Environmental Services
- 06B 9:00 AM Big Pipes Plus Low Flows Equals Cost Savings .....288**  
Timothy Ruggaber, Emnet LLC; O.J. McFoy, Buffalo Sewer Authority
- 06C 9:30 AM Key Findings from EPA's Experts forum on the Public Health Impacts of Blending .....300**  
Kevin J. Weiss, US Environmental Protection Agency
- 10:00 AM Networking Break**
- 06D 10:45 AM A Glass Box Approach to Real Time Decision Support Systems .....315**  
Fang Cheng, City of Columbus, OH; Luis Montestruque, Timothy Ruggaber, Emnet LLC
- 06E 11:15 AM An Integrated Watershed Wet Weather Approach That Visualizes and Quantifies the Benefits of Green Infrastructure.....334**  
James C. Schlaman, Nick Sutko, Black & Veatch
- 11:45 AM Session Adjourns**
- Alternate Du Adaptive Management: Continual Course Corrections ring Overflow Abatement Implementation .....352**  
Stephanie Laughlin, Louisville & Jefferson County MSD

## TECHNICAL PROGRAM

### Session 7: Regional Issues

Tuesday, April 21, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom D  
PDHs: 2.5

**Moderator:** Dan Murray, U.S. Environmental Protection Agency  
**Assistant Moderator:** Christie Wilson, Civil Design Inc.

- 07A 8:30 AM Asset Management Made Easy - Applying Best Business Practices to Develop Practical Asset Management .....360**  
Brandon C. Vatter, Hatch Mott MacDonald; Rich McGillis, Sanitation District No. 1 of Northern Kentucky;
- 07B 9:00 AM Microbial Source Tracking: An Effective Tool to Help Utilities Treat the Cause, Not the Symptoms .....395**  
Ting Lu, Black & Veatch; Biju George, Melissa Gatterdam, Metropolitan Sewer District of Greater Cincinnati
- 07C 9:30 AM Achieving Operational Optimization to Reduce Overflows by Integrating Automation Technology and Hydraulic Modeling .....404**  
Melissa Gatterdam, Metropolitan Sewer District of Greater Cincinnati; Carl C. Chan, Edward Heyob, Edward H. Burgess, Daniel Lexsa, CDM Smith
- 10:00 AM Networking Break**
- 07D 10:45 AM Integrated Planning: What Are the Right Economic Questions to Ask, And How Do We Get the Answers? .....413**  
Jeff Rexhausen, Economics Center - University of Cincinnati
- 07E 11:15 AM Decatur's Final Step in CSO Compliance – River Water Intrusion Elimination! .....424**  
Tiffany Maag, URS Corporation
- 11:45 AM Session Adjourns**

## TECHNICAL PROGRAM

### Session 8: Inflow and Infiltration (I&I)

Tuesday, April 21, 2015  
1:30 PM - 3:00 PM

Room: Junior Ballroom B  
PDHs: 1.5

**Moderator:** Tim Ruggaber, EMNET

**Assistant Moderator:** Gary Moore, Civil Design Inc.

- 08A 1:30 PM City of Lansing - Basement Backup Protection Program .....438**  
James Smalligan, Fishbeck, Thompson, Carr & Huber, Inc.; Chad Gamble, City of Lansing; David Christian, DC Engineering
- 08B 2:00 PM Evolution of the Private Inflow Reduction Process In St. Louis, MO .....456**  
Jeffrey King, Civil Design, Inc.; Brad Nevois, Metropolitan St. Louis Sewer District
- 08C 2:30 PM Successful I/I Removal and the Data to Prove It .....482**  
Alton J. Whittle, Jeffrey G. Wendle, GHD Inc.; William R. Weaver, Lower Paxton Township
- 3:00 PM Session Adjourns**
- Alternate What Unique Factors Allowed Pierce County to Prevent So Much RDII? .....496**  
Peter N. Keefe, Robin Ordonez, Rimon Estawro, Predl Systems

## TECHNICAL PROGRAM

### Session 9: Pump Stations

**Tuesday, April 21, 2015**  
**1:30 PM - 3:00 PM**

**Room: Junior Ballroom C**  
**PDHs: 1.5**

**Moderator:** Hatem El-Sayegh, Barge, Waggoner, Sumner & Cannon  
**Assistant Moderator:** Fernando Gonzalez, City of Los Angeles Bureau of Sanitation

- 09A 1:30 PM Using Modern Pigging Technology To Keep Your Force Main Clean - The South Omaha Industrial Area Project .....)\***  
David A. White, Wade Trim; Ned Tramp, City of Omaha Public Works Department
- 09B 2:00 PM Repurposing a Dry Pit Reduces Construction Costs and Increases Operational Flexibility at Topeka's Ash Street Pump Station .....525**  
Greg Meyer, Art Dilione, Bartlett & West; Michelle Neiswender, City of Topeka Utilities Department
- 09C 2:30 PM SCADA Improvement Project for Clermont County Water Resources Department .....542**  
Dwight Culbertson, Clermont County Water Resources Department
- 3:00 PM Session Adjourns**

**Alternate In-System Overflow Treatment Technologies Offer Cost-Effective Opportunities to Protect Water Quality .....549**  
Jim Fitzpatrick, Black & Veatch; Stephanie Eisner, City of Salem, Oregon; Biju George, Metropolitan Sewer District of Greater Cincinnati; Sean ,Goris, Jared Hutchins, Bob O'Bryan, Black & Veatch; Tim Weaver, City of Springfield, Ohio

## TECHNICAL PROGRAM

### Session 10: Dealing with Wipes in Pipes

Tuesday, April 21, 2015  
1:30 PM - 3:00 PM

Room: Junior Ballroom D  
PDHs: 1.5

**Moderator:** Rob Vilee, Plainfield Area Regional Sewerage Authority  
**Assistant Moderator:** Scott Helfrick, IDEX Corp.

- |     |               |   |
|-----|---------------|---|
| 10A | 1:30 PM       | <b>Strategic, Scalable Outreach for Non-Dispersible Products .....565</b><br><u>Justin Waples</u> , Central Contra Costa Sanitary District  |
| 10B | 2:00 PM<br>Sy | <b>Assessing the Impacts of Pulp Loading from Non-Dispersible Materials on Downstream Sewer stems .....N/A</b><br><u>Walter Graf</u> , WERF |
| 10C | 2:30 PM<br>In | <b>Evaluating Compatibility with Wastewater Infrastructure: New Approaches .....N/A</b><br><u>Michael Paschka</u> , Procter & Gamble        |
|     | 3:00 PM       | <b>Session Adjourns</b>   |

## TECHNICAL PROGRAM

### Session 11: Modeling

Wednesday, April 22, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom B  
PDHs: 2.5

**Moderator:** Sean Fitzgerald, Hazen and Sawyer

**Assistant Moderator:** Justin Waples, Central Contra Costa Sanitary District

- 11A 8:30 AM Comprehensive Monitoring and Modeling Program Reveals True Impact of CSO Discharges and Allows River Community to Focus Funds on Original System .....572**  
Timothy F. Sumner, Crawford Murphy & Tilly Inc.; Timothy Towey, Limno Tech, Inc.
- 11B 9:00 AM Improved Performance Assessment of Green Infrastructure Practices using 2-D Overland Flow Modeling .....587**  
Nitin Katiyar, HDR, Inc.; Ryan C. Fleming, Denil Saju, NYC Department of Environmental Protection; Sri Rangarajan, Boomi Environmental, LLC
- 11C 9:30 AM What your Modeler Never Told You: Exposing Secrets of Collection System Modeling .....592**  
Gary Silcott, Jr., Stantec Consulting Service Inc.; Rich McGillis, Sanitation District No.1, Northern KY.; Joseph Kamalesh, Stantec Consulting Service Inc.
- 10:00 AM Networking Break**
- 11D 10:15 AM Diagnostic Tunnel Hydraulic Behavior in San Francisco .....607**  
Dominique Brocard, Larry Soucie, AECOM; Bessie Tam, San Francisco Public Utilities Commission
- 11E 10:45 AM Hitting the Peak Flow Recurrence Target: A Hydrologic Approach for the Hampton Roads Regional Hydraulic Model .....619**  
Michael Morgan, CDM Smith; Phillip L. Robert J. Martz, Hampton Roads Sanitation District; Charles I. Moore, Matthias Wittenberg, CDM Smith
- 11F 11:15 AM A Particle Settling Velocity-based Integrated Model for Dry and Wet Weather Wastewater Quality Modelling .....631**  
Peter A. Vanrolleghem, Thibaud Maruejols, Paul Lessard, Université Laval, modelEAU

## TECHNICAL PROGRAM

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**Alternate**      **Sewer Flow Estimating Model (SFEM) Redevelopment: A Case Study on Public Private Partnerships (PPP) .....641**  
Fernando F. Gonzalez, Kwasi Berko, Ali Poosti, Adel H. Hagekhalil, City of Los Angeles; Erick Heath, Innovyze, Inc.



## TECHNICAL PROGRAM

### Session 12: Asset Management

Wednesday, April 22, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom C  
PDHs: 2.5

**Moderator:** Jim Courchaine, Tata & Howard  
**Assistant Moderator:** Greg Heath, AECOM

- 12A 8:30 AM Looking at Pipe Failure History Is Not So Straight Forward .....650**  
Parag Kalaria; MWH; Eric Leung, Robert Verceles, Long Beach Water Department; Ajit Bhamrah, Nathan Griffin, MWH
- 12B 9:00 AM Sustainable Infiltration and Inflow Reduction Program Implementation through .....661**  
**Prioritized Sewer Rehabilitation in Oak Lawn, IL**  
Doug J. Youngblood, CDM Smith; Jack Gallagher, Bill Meyer, Village of Oak Lawn, Mandeera Wagle, Jared Wendorf, CDM Smith
- 12C 9:30 AM How Much to Spend on Sewer Inspection, Renewal and Replacement? A Risk-Based Assessment for DC Water .....669**  
Seth R. Anderson, Seth A. Finnicum, Jennifer M. Howells, ARCADIS; Daniel Frechette, Ella Garcia, DC Water
- 10:00 AM Networking Break**
- 12D 10:15 AM Why is Asset Management so Popular in Michigan? .....696**  
Keith D. McCormack, Hubbell Roth & Clark Inc.; Sonya Butler, Phil Argiroff, Michigan Department of Environmental Quality
- 12E 10:45 AM Stepping Up Force Main Prioritization for Condition Assessment .....704**  
Reggie L. Rowe, Jadranka Simicevic, CH2M Hill
- 12F 11:15 AM Denton Wastewater Collection System Asset Management Program Provides Cost Savings and Prioritized Approach for O&M And System .....722**  
**Rehabilitation**  
Pushpendra Arora, City of Denton
- 11:45 AM Conference Adjourns**

<b>TECHNICAL PROGRAM</b>
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*Session 12 continued from previous page*

**Alternate**      **Lessons Learned from the Implementation of a Large Scale Sewer Rehabilitation Consent Decree Program - It's Never Too Late to Improve .....N/A**  
Jeremy T. Hise, Eric Dymond, Chris Peake, Cece Nguyen, Hazen and Sawyer; George Mwangi, Wazir Qadri, City of Baltimore

## TECHNICAL PROGRAM

### Session 13: Sewer Assessment and Rehabilitation

Wednesday, April 22, 2015  
8:30 AM - 11:45 AM

Room: Junior Ballroom D  
PDHs: 2.5

**Moderator:** Luis Leon, CDM Smith

**Assistant Moderator:** David Servidio, Hatch, Mott & MacDonald

- 13A 8:30 AM Design-Build.zip: Compressing Interceptor Emergency Design, Permitting and Replacement into 6 months .....745**  
Amy L. Ward, Metro Wastewater Reclamation District; Adam Parmenter, HDR Engineering Inc.
- 13B 9:00 AM Successive Public and Private Sewer Rehabilitation to Minimize Supplemental Sanitary Sewer Discharge Control Infrastructure .....767**  
Srini Vallabhaneni, CDM Smith; Nathan Baggett, City of Fort Wayne; Carl Chan, CDM Smith
- 13C 9:30 AM iSSES: An Intelligent Way to Prioritize and Implement Sanitary Sewer Evaluation Studies .....778**  
Stephen T. Motley, Steven J. Poe, City of Virginia Beach
- 10:00 AM Networking Break**
- 13D 10:15 AM Same Problem, Many Options - How to Make a Decision on Manhole Rehabilitation .....789**  
Firat Sever, American Structurepoint
- 13E 10:45 AM Building a Database for Life Cycle Performance Assessment of Water and Wastewater Rehabilitation Technologies .....798**  
Wendy Condit, Battelle Memorial Institute; Shaurav Alam, Erez Allouche, Ray Sterling, TTC, Louisiana Tech University; John Matthews, Battelle Memorial Institute; Ariamalar Selvakumar, US EPA
- 13F 11:15 AM The Cost-Effectiveness of Inspecting Sewer Laterals .....N/A**  
Stuart Bowns, Jeff Graham, Hydromax USA
- 11:45 AM Conference Adjourns**
- Alternate Accounting for Every Drop-1 Lateral at a Time .....810**  
Elaine A. Flinn, ENV SP