

weftec
the water quality event

STORMWATER CONGRESS 2014

CONFERENCE PROGRAM

2nd Annual Stormwater Congress
September 27 – October 1, 2014
New Orleans, Louisiana USA

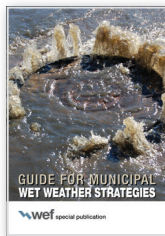
 **Water Environment
Federation**
the water quality people®

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Wet Weather Design and Operations in Water Resource Recovery Facilities

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Member: \$104 | List: \$130



Guide for Municipal Wet Weather Strategies

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Member: \$56 | List: \$70



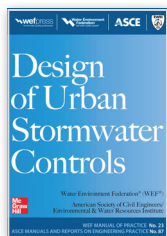
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A complete overview of stormwater fee-programs through implementation
Member: \$56 | List: \$70



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Stormwater Congress

Conference: Sept. 27 – Oct. 1 | Exhibition: Sept. 29 – Oct. 1
New Orleans Morial Convention Center
New Orleans, Louisiana, USA



This conference is held by the Water Environment Federation in cooperation with International Erosion Control Association, EnviroCert International, The Louisiana Urban Stormwater Coalition, The Conservation Foundation, and The International Low Impact Development Symposium.

The Best of Both Worlds!

The Stormwater Congress is not only a stormwater focused event but also a part of WEFTEC, the world's largest annual water quality conference. That means you have access not only to the excellent stormwater programming, but also to content that covers the entire water industry! As an attendee of the Stormwater Congress, you have convenient access to the Stormwater Pavilion. The Pavilion includes a concentrated area of exhibiting companies with products and services related to the stormwater field, and a theater hosting numerous talks and events designed to give attendees added education between visits with exhibitors. You are also free to explore the entire exhibition and connect with some of the over 1,000 companies that are exhibiting at WEFTEC.

Technical Education

WEF's reputation as the leading organization for the water quality industry is based on the long standing tradition of extensive review by technical experts and involvement of world-class leaders in all aspects of our program. Our program is unparalleled in breadth, depth, and technical quality. This year the abstracts selected for the program were reviewed by 38 stormwater specialists, who reviewed hundreds of abstracts and hand-picked only the best for this event. They also invited dozens more topical experts so that the program includes up-to-date information that is relevant to you. Our Stormwater Congress committee worked throughout the summer to include late-breaking information and stayed involved with the speakers to help them target their presentations to your needs. This hands-on involvement leads to better, more cohesive sessions than you will find anywhere else.

The Stormwater Pavilion and Exhibits

The Stormwater Pavilion, initiated at WEFTEC 2012 as the first topic-specific pavilion, continues to be the focal point for exhibitors that have products and services of interest to you. Plus, many more WEFTEC exhibitors outside the pavilion are relevant to you. With over 1,000 exhibiting companies covering almost 7 football fields and every aspect of the water cycle, you are sure to find those that have great information and products just for you.

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STORMWATER CONGRESS COMMITTEE

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Brown and Caldwell
Congress Co-Chair

Juli Beth Hinds
Birchline Planning LLC
Congress Co-Chair

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REGISTRATION

All events are occurring at the New Orleans Morial Convention Center.

The main **Registration Area** for both WEFTEC and the Stormwater Congress is located in **Hall G** and will be open at the following times:

Hours:

Friday, September 26	3:00 pm – 5:00 pm (workshop registrants only)
Saturday, September 27	7:00 am – 5:00 pm
Sunday, September 28	7:00 am – 6:00 pm
Monday, September 29	7:00 am – 5:00 pm
Tuesday, September 30	8:00 am – 5:00 pm
Wednesday, October 1	8:00 am – 3:00 pm

All attendees must have a badge to access workshops, the exhibition, technical sessions, and committee meetings.

PRESENTER AND MODERATOR INFORMATION

All presenters included in the technical program should pick-up their name badges/credentials at the Speaker registration counter in Hall G before presenting and must attend their assigned briefing.

Speaker Briefing Room

La Nouvelle Orleans Ballroom C – Level 2

Saturday - Sunday, September 27-28 | 7:00 am – 5:30 pm
Monday - Tuesday, September 29-30 | 7:00 am – 6:00 pm
Wednesday, October 1 | 7:00 am – 5:00 pm

Phone: 504-670-7535

Everything you need is in this room! The Speaker Briefing Room is available for uploading, previewing, and rehearsing presentations. All Technical Program Speakers must check in at the Briefing Room at least one-half day prior to their presentation. Alternate Speakers and Posters should also check in at this location. It is essential that all speakers review their presentations on the equipment provided to ensure that the presentation loaded correctly. Technicians will be available to help resolve any issues.

PRESENTER AND MODERATOR INFORMATION

Technical Session Speaker Briefings

All Technical Session Speakers should come for their Speaker Briefing at the appointed time to become acquainted with the other presenters in their session, meet the session moderators, receive any last-minute instructions, and review the plans for conducting the session. These essential meetings will be held in *La Nouvelle Orleans Ballroom C*.

DAY	TIME	SESSION #
Mon 9/29	7:45-8:15	101 – 107, 200 – 207
	10:00-10:30	208 – 222
	12:00-12:30	223 – 227, 300 – 311
	3:00-3:30	312 – 328
Tues 9/30	7:30-8:00	400 – 416
	10:00-10:30	417 – 431, 435 – 436
	12:00-12:30	500 – 514
	1:00-1:30	515 – 529, 533
	3:00-3:30	600 – 609
Wed 10/1	10:00-10:30	610 – 618

TECHNICAL DISCUSSION & COMMITTEE MEETING

Stormwater Testing and Evaluation of Practices and Products (STEPP) Meeting

Sunday, September 28 | 1:30 – 5:00 pm
Room 336 – Level 3

Stormwater/Watershed Management Joint Committee Meeting

Wednesday, October 1 | 7:30 – 9:30 am
Room 270 – Level 2

NETWORKING OPPORTUNITIES

Stormwater Congress Luncheon

Monday, September 29 | 12:00 – 1:30 pm

Room 276 – Level 2

Ticket Cost: \$20 (*ticket purchase required for participation*)

Sponsored by ARCADIS

Don't miss the Stormwater Congress Welcome Luncheon and Opening General Session highlighted by Onondaga County Executive **Joanne M. Mahoney**.

Mahoney grew up in Syracuse, New York, and was elected to public office in 2007 as the Onondaga's first woman county executive. In 2008, she led Onondaga County to work toward a greener, more sustainable community culminating in "Save the Rain," a comprehensive stormwater management plan developed to reduce pollution to Onondaga Lake. In 2011, Onondaga County was recognized by the U.S. Environmental Protection Agency as a green infrastructure partner for its work on "Save the Rain." The program also won the U.S. Water Prize, given by the U.S. Water Alliance in April of 2013.

Stormwater Pavilion Networking Receptions

Stormwater Congress attendees are invited to network while enjoying complimentary beverages in the Stormwater Pavilion.

Monday, September 29 | 5:00 – 6:00 pm | Booth #8303 – Hall I

Sponsored by Michael Baker International

Tuesday, September 30 | 5:00 – 6:00 pm | Booth #8303 – Hall I

CONTINUING EDUCATION

EDUCATION CREDITS

At WEFTEC 2014 and the Stormwater Congress, you can earn up to 1.2 Continuing Education Units (CEUs) in workshops, 16.5 Professional Development Hours (PDHs) in technical sessions, and up to eight Contact Hours per day for time spent visiting the exhibition. Actual credits earned are dependent on what you choose to attend. In 2014, WEFTEC was approved for credit in 49 states. Check with your state agency to ensure acceptability of credits.

WEF calculates educational credits following a standardized method that is widely accepted by many certification and licensing agencies. It is important to note that most states differ in the types and/or numbers of credits they will approve for educational events. Because of this, **participants are responsible for exploring their state requirements and for ensuring that WEFTEC credits are accepted.** WEF applies for approval in many states, so please visit www.WEFTEC.org for an updated listing of state approvals. Please remember that WEF provides documentation to attendees; however, most states require the individual licensee to report their continuing education credits.

PROCEEDINGS

Attendees who were eligible for proceedings were asked to select the format in which they wanted to receive their proceedings at the time of registration:

- A- CD and online
- B- Online only

Approximately 8 weeks after WEFTEC, the CDs will be processed and shipped directly to the attendees who requested them during registration.

Online Access: Attendees who are eligible to receive the proceedings will receive an email from support@conferenceproceedings.com with information on how to access the online system, including creating a username and password. This will be sent on Wednesday, October 8.

Questions about the proceedings? Email speakers@wef.org or stop in the Speaker Briefing Room (La Nouvelle Orleans Ballroom C) during WEFTEC!

STORMWATER CONGRESS SPONSORS

WEF would like to thank these sponsors for their support:



FACILITY TOURS

Facility Tours are an opportunity to observe active projects, construction, and/or operations at sites within the local host community, as well as an opportunity to earn Contact Hours. Participation is limited by the size of each facility. **Tickets are required for participation.** Transportation between the convention center and the tour site is included with purchase. Food and beverage are not provided.

Registrants are advised to wear proper attire, including long pants and closed-toe shoes with rubber soles. Skirts, shorts, tank tops, and high heels are not appropriate. The facilities will provide hard hats, safety glasses, and safety vests, if necessary.

Tour buses will load curbside at the Hall H entrance of the convention center 15 minutes prior to the departure times noted below.

SOLD OUT! T2 Collection Systems Tour: Sewerage and Water Board of New Orleans Pumping Stations

Monday, September 29 | 1:00 – 3:30 pm

Due to advance security screening requirements, no substitutions or replacements are permitted.

SOLD OUT! T7 Collection Systems Tour: Sewerage and Water Board of New Orleans Pumping Stations

Wednesday, October 1 | 9:00 – 11:30 am

Due to advance security screening requirements, no substitutions or replacements are permitted.

T8 Sustainable Design Tour: Make It Right's Lower 9th Ward Neighborhood

Wednesday, October 1 | 1:00 – 3:30 pm

Ticket Cost: \$50 (*includes a \$10 donation to Make It Right New Orleans*)

WORKSHOPS

W11: Green Infrastructure Implementation

Saturday, September 27, 2014

8:30am - 5:00pm

Room 254 – Level 2

Workshop Fee: \$199

This workshop will provide the participants with a synopsis of the publication Green Infrastructure Implementation – a WEF publication with anticipated release date of fall 2014. The publication is focused on programmatic activities that move green infrastructure into common practice – primarily in governmental structures. Similarly, the workshop will focus on those aspects of green infrastructure programs that present the greatest challenges to municipalities and agencies. The morning session will consider institutional and programmatic issues, while the afternoon will focus on implementation scales. The concepts will be reinforced through two interactive exercises that reinforce the myriad of issues that green infrastructure leaders and program participants must consider.

WORKSHOPS

W26: Green Infrastructure Performance

Sunday, September 28, 2014

8:30am - 5:00pm

Room 339 – Level 3

Workshop Fee: \$199

The workshop will focus on sharing green infrastructure program approaches (“green infrastructure” specifically as it relates to sanitary and stormwater management) and providing a platform for discussion of various topics including, but not limited to: sustainable design best practices (life cycle analysis, triple bottom line, etc.), guidance manuals (from WEF, AWWA, EPA, etc.), rating systems (LEED®, SITES, Envision™, etc.), advantages and disadvantages of green infrastructure, metrics, performance data, lessons learned in design and construction, and site-specific issues. The workshop will also provide a synopsis of overall system management on a community-wide scale, including success stories and challenges. As municipalities, utilities and their consultants will, most likely, be implementing green infrastructure projects or investigating their potential, scheduling this topic for a national conference will promote discussion among utilities representing unique issues, a variety of approaches, and varying levels of success and progress. The workshop will alternate between short case study presentations by infrastructure owners and small group discussions. The small groups will evaluate the case studies in terms of the triple bottom line by defining the impact and assigning a value based on social, environmental, and economic factors. They will evaluate the ease-of-use, lessons learned from implementation, and documented performance for the techniques. They will discuss the appropriateness of the approach for addressing the need, the integration of the infrastructure in the surroundings, and the impact in terms of scale (localized, neighborhood, watershed, etc.). The Workshop will evaluate the effectiveness of differing types and scales of Green Infrastructure, including the topics discussed above: sustainable design best practices, guidance manuals, rating systems, advantages and disadvantages of green infrastructure, metrics, performance data, lessons learned in design and construction, and site-specific issues.

TECHNICAL PROGRAM

Technical Session 105: Stormwater Asset Management

Monday, September 29, 2014

10:30 AM - 12:00 PM

Exhibit Hall Booth 3301

This joint session with the Utility Management Symposium will explore the application of utility management approaches and techniques to stormwater collection and conveyance systems. Case studies from the US and Canada, and a risk-based approach to managing stormwater assets in watershed management plans, will be presented.

Moderator: A. Pilobello

Assistant Moderator: T. Spano

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| 10:30 AM | Lifecycle Management of Stormwater Facilities in Barrie, Ontario
R. Lutchman, A. Singh, B. Parkin |
| 11:00 AM | Integrating Asset Management Principles to Watershed
Management: A Risk-Based Approach to Management of
Stormwater Assets
M. R. VanAuken, C. Hyer |
| 11:30 AM | Looking at Linear Infrastructure Through the Risk Management
Lens
R. Lutchman, I. Motala, A. Singh |

TECHNICAL PROGRAM

Technical Session 106: Manufactured Stormwater Treatment Devices I

Monday, September 29, 2014

10:30 AM - 12:00 PM

Exhibit Hall Booth 5301

Understanding the design, applications and performance of manufactured treatment devices is crucial to stormwater management planning and design. These sessions will provide a forum for presentations of the latest design and performance data for a variety of commonly used treatment devices, including engineered media, along with presentations on field verification and sampling methods. The sessions will be followed by presentation and discussion of WEF's Stormwater Testing and Evaluation for Products and Practices (STEPP).

Moderator: J. H. Lenhart

Assistant Moderator: A. Sohn; J. Fernandez

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|----------|---|
| 10:30 AM | The Evaluation of a Media Filtration System Downstream of Detention in Treating Stormwater Runoff With Respect to the Removal of Solid and Nutrient Pollutants
J. Pedrick, J. H. Lenhart |
| 11:00 AM | Performance and Capacity of Compost Biofilters in Urban Runoff and Green Infrastructure Applications
B. Faucette |
| 11:30 AM | Advanced Bioretention Filter Media Enhanced with Metal-Osorb Composites: An Innovative Solution for Remediation of Stormwater Runoff
H. Yang, P. L. Edmiston |

TECHNICAL PROGRAM

Technical Session 215: Stormwater in Transportation Corridors

Monday, September 29, 2014

1:30 PM - 5:00 PM

Room 243

Many innovations in stormwater management are being developed in conjunction with transportation projects, whether to treat runoff or as components of the right-of-way. This session looks at multiple applications of stormwater management design and performance in transportation corridors, including LID retrofits, drainage systems options analysis, and stormwater re-use opportunities.

Moderator: C. W. Tabor

Assistant Moderator: D. P. Christian

- 1:30 PM Target Field Station (the Interchange): Multi-Modal Transportation and Industrial Stormwater Reuse? How Did That Happen?!?
J. Koehler, S. Miller, J. Gese
- 2:00 PM Delridge/Highland Park Natural Drainage Systems Options Analysis Process
D. Atchison, A. Mills
- 2:30 PM Green Infrastructure in the Public Right-of-Way of Washington, D.C.
C. Franks, M. Upchurch
- 3:00 PM Networking Break
- 3:30 PM Birnamwood Drive Extension: Low Impact Development Delivers Cost-Effective, Eco-Friendly Benchmark for Stormwater Management on Public Roadways
N. Russo, D. Balmos
- 4:00 PM TTI Sediment and Erosion Control Lab (SEC Lab): 25 Year Overview
J. A. McFalls
- 4:30 PM Retrofitting Urban Streets to Green Streets: Lessons Learned Using Tree Well Filters and Stormwater Planter Systems in Public Right-of-Ways
W. Harris

TECHNICAL PROGRAM

Technical Session 216: Large Scale Stormwater Planning

Monday, September 29, 2014

1:30 PM - 3:00 PM

Room 244

Planning to meet multiple regulatory, utility management, and water quality objectives at a large metropolitan scale presents a special set of challenges and opportunities. Case studies of large-scale planning underway in Omaha, Seattle, and the Chesapeake Bay watershed highlight modeling, management and planning issues related to nutrient, CSO and water quality goals.

Moderator: M. Lopez

Assistant Moderator: D. Pyzoha

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|---------|---|
| 1:30 PM | Implementing Cost Effective Green Infrastructure for CSO Control in Omaha
C. L. Hufnagel, J. Theiler, S. D. Struck |
| 2:00 PM | Seattle Public Utilities Integrated Plan
K. Buckley, M. Milne, R. Annear, E. Strecker, J. Twenter |
| 2:30 PM | Watershed Restoration as a Driver for TMDL Action
R. Winer-Skonovd, T. Brown |

TECHNICAL PROGRAM

Technical Session 217: Private Partnerships and Public Engagement

Monday, September 29, 2014

3:30 PM - 5:00 PM

Room 244

Effective stormwater management, particularly for MS4s, requires new partnerships for utility managers and engineers. Developing ways to engage private landowners and public land managers such as parks agencies are particularly important in many regions. Case studies of a private property incentive program in Chicago, Houston's partnership with parks, and unique approaches to public engagement in stormwater planning and design will be presented.

Moderator: M. Lopez

Assistant Moderator: J. Fernandez

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|-----------|---|
| 3:30 PM | Leveraging Parks
J. Powis |
| 4:00 PM | Creating an Efficient Process for Community Input on
Stormwater Design Projects: A "Short-and-Sweet" Community
Panel Format
K. L. Streeter, E. A. Barg, J. M. Read |
| 4:30 PM | Will This Rain Barrel Fix My Flooding? Designing Effective
Programs to Incentivize Private Property Stormwater
Interventions
A. Crisostomo, J. Ellis, C. Rendon |
| Alternate | Just BLUE® It! Preventing Stormwater Runoff Through a Free-
Market Property Certification Program
R. Saxton |

TECHNICAL PROGRAM

Technical Session 218: Manufactured Stormwater Treatment Devices II

Monday, September 29, 2014

1:30 PM - 3:00 PM

Exhibit Hall Booth 5301

Understanding the design, applications and performance of manufactured treatment devices is crucial to stormwater management planning and design. These sessions will provide a forum for presentations of the latest design and performance data for a variety of commonly used treatment devices, including engineered media, along with presentations on field verification and sampling methods. The sessions will be followed by another session on WEF's Stormwater Testing and Evaluation for Products and Practices (STEPP).

Moderator: B. Koltz

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|---------|--|
| 1:30 PM | Performance Monitoring of a High Flow Bioretention System in Washington State for Basic and Phosphorus Treatment Under the Technology Assessment Protocol - Ecology
M. Hills, R. Dugopolski |
| 2:00 PM | Field Verification of Performance of an Engineered Phosphorus Removal Media Deployed in a Flow Based Stormwater Filter
V. Allen, G. Tellessen |
| 2:30 PM | Evaluation of Sampling Methods Required by Oil Grit Separator Testing Protocols
G. Williams, J. Costa, D. Zhang |

TECHNICAL PROGRAM

Technical Session 219: WEF's Stormwater Testing and Evaluation for Products and Practices (STEPP) Program

Monday, September 29, 2014

3:30 PM - 5:00 PM

Exhibit Hall Booth 5301

This panel discussion will provide an overview of the WEF Stormwater Testing and Evaluation for Products and Practices (STEPP) Program from various perspectives. After hearing from a range of experts including EPA, Canada, US and manufacturers, attendees will have an opportunity to ask questions and discuss with the panelists.

Moderators: R. Adair, S. Brown

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|---------|---|
| 3:30 PM | The U.S. Environmental Protection Agency Perspective
J. Lape |
| 3:40 PM | Sustainable Technology Evaluation Program
G. MacMillan |
| 3:50 PM | The Regulated Manufacturers Perspective
C. French |
| 4:00 PM | The State Perspective (Washington)
J. Lenth |
| 4:10 PM | Panel Discussion
All Speakers |

TECHNICAL PROGRAM

Technical Session 227: Urban Flooding: Extreme and Flashy Events Across the United States

Monday, September 29, 2014

1:30 PM - 5:00 PM

Room 245

Whether we blame "global warming", "global cooling" or just "climate change" the whole world seems to be experiencing a greater number of extreme and freak weather events. One of the best things we can do as water professionals and utilities is listen to and learn from others who have been through such events and survived to tell the tale. This session canvases a number of USA cities and the extreme events they experienced over the last two years.

Moderator: J. Brown

Assistant Moderator: G.J. Macdonald

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|-----------|--|
| 1:30 PM | Climatological Disasters and Their Impact on Wastewater Treatment Infrastructure: A Comparison of Japan's Tsunami and Superstorm Sandy STP Damage, Response, and Mitigation
M. Takamatsu, T. Nakazato, R. Fischer, H. Satoh, F. Bonaccorso, G. Grey |
| 2:00 PM | Weathering Superstorm Sandy
R. Neal, R. Fischer |
| 2:30 PM | Superstorm Sandy Recovery and Hazard Mitigation Planning
C.M. Tuozzoli, D. DiSalvo, E. Andersen |
| 3:00 PM | Networking Break |
| 3:30 PM | "ESCo? No, I Said I Needed a Rescue!" Coping With the Colorado 1,000-Year Storm of 2013
D. Robinson, G. Bergard, M. Maxwell, V. Simonsen |
| 4:00 PM | Lessons Learned: 2013 Colorado Flooding
J.N. Santini, J. Michalski, J. Kaufman |
| 4:30 PM | Austin Water Utility Wastewater Treatment Plants Flood Preparedness, Management, and Response
T. Rizk, R. Bhattarai, C. Celauro, P. George |
| Alternate | Flood Recovery Efforts at a Major Wastewater Treatment Facility
R.R. Roll, R.P. Lannon |

TECHNICAL PROGRAM

Technical Session 315: Stream and Watershed Restoration Techniques and Case Studies

Tuesday, September 30, 2014

8:30 AM - 12:00 PM

Room 239

While the benefits of stream and watershed restoration for water quality and stormwater management are widely recognized, integrating restoration as a water quality and compliance strategy has proved challenging. The first half of this session will explore how stream and watershed assessment techniques can support better watershed management planning, and methods of ensuring that restoration design supports compliance and water quality goals. The second half presents case studies of stream restoration, wetland restoration and stream daylighting in a watershed context.

Moderator: J. Watson

Assistant Moderator: L. Hawks

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| 8:30 AM | Design Techniques of Stream Restoration
K. S. Mattfield |
| 9:15 AM | Design Techniques for Stream Restoration: Working in Arid and Semi-Arid Climates with Hydromodification Concerns
T. R. Walker |
| 10:00 AM | Networking Break |
| 10:30 AM | Stormwater BMP and Stream Restoration in a City Park
J. Stachura, P. Wright, J. L. Herr |
| 11:00 AM | Stream Daylighting as a Strategy for CSO Mitigation: Saving Money, Reducing Overflows, and Restoring Habitat by Bringing Streams Back to the Surface
R. J. Hawley |
| 11:30 AM | Completion of the Alewife Stormwater Wetland Brings Many Benefits to Residents and Stakeholders in Cambridge, MA
D. Bedoya, O. O'Riordan, W. C. Pisano, C. E. Olander, A. Kovacina, J. J. Struzzieri, D. Bitsko |

TECHNICAL PROGRAM

Technical Session 316: Measuring the Benefits of Green Infrastructure

Tuesday, September 30, 2014

8:30 AM - 12:00 PM

Room 243

As the practice and understanding of Green Infrastructure evolves quickly, this two-part session will provide a look at the basic economics of Green Infrastructure, and an in-depth look at urban systems models used to measure Green Infrastructure benefits. Results from EPA's Partner Community Summit and New York City's monitoring program will round out this featured session.

Moderator: W. Tam

Assistant Moderator: H. Dekermenjian

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|----------|--|
| 8:30 AM | The TREES Project Model: A Tool for Facilitating Multi-Agency Proportional Investments for Funding Green Infrastructure
A. Lipkis |
| 9:00 AM | Applying an Urban Systems Model to Evaluate Green Infrastructure for the City of Los Angeles
D. Rodrigo |
| 9:30 AM | Integrated Systems Approaches and Tools for Sustainable Water Resources Management
D. Jones |
| 10:00 AM | Networking Break |
| 10:30 AM | City of Los Angeles: The Green Blue City One Water Program
R. A. Haimann, W. Tam, S. Kharaghani, A. Hagekhalil, K. Susilo |
| 11:00 AM | Insights on the Economics of Green Infrastructure: A Case Study Approach
J. L. Pratt, J. Clements |
| 11:30 AM | Performance Evaluation of Green Infrastructure Stormwater BMPs in Cincinnati, OH
L. Alfaqih, M. Lodor, S. Jean-Baptiste |

TECHNICAL PROGRAM

Technical Session 317: Stormwater Research

Tuesday, September 30, 2014

10:30 AM - 12:00 PM

Room 244

Current laboratory and field research results on critical stormwater management practices, including the use of trees as a stormwater control measure, engineered media performance, and collection systems with enhanced storage and exfiltration. Topics include BMP performance, sampling methods, and research design.

Moderator: J. A. Bachhuber

Assistant Moderator: J. H. Lenhart

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| 10:30 AM | The State of the Science and Practice of Using Urban Trees as a Stormwater Control Measure
P. L. Macdonagh |
| 11:00 AM | Evaluation of an Urban Stormwater Collection System With Enhanced Storage and Exfiltration
R. R. Dupont, T. N. Reuben, M. Rycewicz-Borecki, J. E. McLean |
| 11:30 AM | Con-Current Versus Counter-Current Inclined Cell Sedimentation and How it Improves Surface Overflow Rates in a Hydrodynamic Separator
H. De Bruijn, S. E. Clark |
| Poster | Column Tests for Predicting Changes in Flows and Particulate Retention Through Various Biofilter Mixtures
R. K. Sileshi, R. Pitt, S. Clark |

TECHNICAL PROGRAM

Technical Session 318: Innovative Stormwater Financing

Tuesday, September 30, 2014

8:30 AM - 10:00 AM

Room 245

This panel session will present details on two innovative stormwater financing programs as well as a general overview of the topic.

Moderator: J. Rexhausen

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|---------|---|
| 8:30 AM | Innovations and Trends in Stormwater Finance
D. Nees |
| 8:40 AM | Prince George's County's Experience With P3 Funding
G. Cannito |
| 8:50 AM | Stimulating Investment in Private Stormwater Infrastructure: A
Look Into Philadelphia's Incentives Programs
E. Williams |
| 9:00 AM | Top Ten Trending Funding Ideas in Ten Minutes
A. Reese |
| 9:10 AM | Andrew Sawyers, PhD, U.S. EPA (<i>Invited</i>) |
| 9:20 AM | Panel Discussion
All Speakers |

TECHNICAL PROGRAM

Technical Session 319: Stormwater Policy Updates and Discussion

Tuesday, September 30, 2014

10:30 AM - 12:00 PM

Room 245

This session will explore legal rulings on stormwater utilities, retention standards, water quality trading, eWOTUS, Gulf of Mexico funds for restoration, WQT, SCOTUS (LA County), RDA, etc.

Moderators: L. Blankenship, J. Ridgway

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|----------|--|
| 10:30 AM | Developments in the Regulation and Control of Urban Wet Weather Discharges
J. Anastasio |
| 10:40 AM | Trends from the Industry
J. Longworth |
| 10:50 AM | The Gulf Region Perspective
M. Davis |
| 11:00 AM | Storm Clouds on the Horizon: An MS4 Perspective
N. Gardner-Andrews |
| 11:10 AM | Panel Discussion
All Speakers |

TECHNICAL PROGRAM

Technical Session 418: National Stormwater Rulemaking Cost/Benefit Analysis Report-Out

Tuesday, September 30, 2014

1:30 PM - 5:00 PM

Room 245

This will be a panel-format session that will include a report out from EPA on data collected and analyzed through the stormwater rulemaking effort. Although the rule was not promulgated, the information available on the cost/benefit analysis is useful and valuable.

Moderator: J. Hinds

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|---------|---|
| 1:30 PM | Background and Status on E.P.A. National Stormwater Rulemaking
C. Kloss |
| 2:00 PM | Analysis of Costs and Performance of National Stormwater Policy Options for New Development and Redevelopment Projects
J. Pritts |
| 2:30 PM | Analysis of Economic Costs and Performance of National Stormwater Policy Options for New Development and Redevelopment Projects
T. Doley |
| 3:00 PM | Networking Break |
| 3:30 PM | Panel Discussion
All Speakers: C. Kloss, J. Goodwin, J. Pritts, T. Doley, J. Rexhausen |

TECHNICAL PROGRAM

Technical Session 420: Stormwater Financing

Tuesday, September 30, 2014

1:30 PM - 5:00 PM

Room 239

Financing stormwater management presents different challenges from conventional utility financing, such as legal constraints on fees and rates and public skepticism about the need for additional funding. This session provides lessons from communities across the US on effective strategies for stormwater financing, and for increasing stakeholder support.

Moderator: F. Pasquel

Assistant Moderator: T. Dean

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| 1:30 PM | Getting Stakeholder Support for Stormwater Utility Fees While Avoiding Pitfalls
J. Berthiaume, E. Quiroz, J. Ivey |
| 2:00 PM | Don't Wait on the Rain: Options for Fully Funding a Sustainable Stormwater Utility
P. Yakimowich |
| 2:30 PM | Sustainable Wet Weather Funding: It Can Be Achieved by Designing and Managing Integrated Stormwater Utility Programs
P. Kumar, E. Williams |
| 3:00 PM | Networking Break |
| 3:30 PM | A Business Case Approach for Green Infrastructure Investments: Maximizing Public and Private Investments To Create Progress
M. Marko, M. Millea, A. Potts, B. Marengo |
| 4:00 PM | Paying for Green: San Francisco's Approach for Funding Green Infrastructure and Stormwater Programs
R. Grantham, C. Hollings, J. Keene, P. McGovern |
| 4:30 PM | Constraints and Solutions in Funding CA Storm Water Permits
A. E. Shaygan |

TECHNICAL PROGRAM

Technical Session 421: Stormwater Modeling

Tuesday, September 30, 2014

1:30 PM - 3:00 PM

Room 243

Model development and calibration is a continuing challenge for stormwater managers, particularly when more recent innovations in Green Infrastructure are involved. This session highlights recent innovations in Green Infrastructure modeling, 2-d collection system modeling, and model validation.

Moderator: A. K. Tangirala

Assistant Moderator: C. Burger

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| 1:30 PM | New York City's Green Infrastructure Modeling and Scaling Up of Neighborhood-Scale Monitored Benefits to Watershed-Scale
S. Rangarajan, N. Katiyar, W. M. Leo, C. Wilson |
| 2:00 PM | Utilizing an Integrated 2-D Collection System Model Helps Save Millions of Dollars and Supports Multifaceted Benefits to the City of Omaha for Their CSO Program
J. C. Schlaman, N. Sutko, J. Theiler |
| 2:30 PM | Stormwater Flooding in the UK: Institutional, Planning, and Technical Responses
E. J. Gill, J. Hunter, K. Thorburn |
| Alternate | Is Your Model Really Calibrated and Validated? Multi-Million Dollar Decisions Depend on Antecedent Moisture
B. Moore, T. Batrone, B. Vatter |

TECHNICAL PROGRAM

Technical Session 422: Anticipating Storm-Related Risk to Facilities

Tuesday, September 30, 2014

3:30 PM - 5:00 PM

Room 243

As awareness increases of the risks major storms and flooding pose to different types of public facilities and infrastructure, new planning, modeling and engineering approaches are being developed in response. This session presents three case studies of how storm-related risk can be anticipated and reduced through modeling, management, communication and engineering.

Moderator: G. Forbes

Assistant Moderator: K. Dour

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| 3:30 PM | Preparing for the Next Big One: Flood Mitigation at Blue Plains
J. L. Walsh, E. Locke, B. Bodniewicz, J. Marx, G. Rucker, J. Carr, J. P. Reeves |
| 4:00 PM | Planning and Executing a Comprehensive and Flexible Response to Severe Weather
D. Dedian |
| 4:30 PM | Applying Integrated Modeling Tools To Provide Resiliency and Sea-Level Rise Protection for Bellevue Hospital
A. Jain Figueroa, J. Kleyman |

TECHNICAL PROGRAM

Technical Session 423: Arid and Semi-Arid Practices

Tuesday, September 30, 2014

1:30 PM - 3:00 PM

Room 244

Low impact development and green infrastructure are often envisioned as practices featuring dense vegetative cover integrated into a water-rich landscape, but in many areas this doesn't reflect the reality of stormwater management. Limited precipitation and terrain dominated by rock and scarce vegetation creates challenges to managing stormwater runoff, but innovative approaches have arisen to meet this need. This session will highlight approaches to stormwater management unique to arid and semi-arid climates.

Moderator: S. Reeves

Assistant Moderator: D. Perry

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| 1:30 PM | Stormwater 2095: The Los Angeles Basin Stormwater Conservation Study
L. Alexanderson |
| 2:00 PM | LID Strategies for Landscape and Native Revegetation Design in Arid Environments
B. Santner |
| 2:30 PM | Brown is the New Green : Low Impact Development (LID) in Semi-Arid Environments
H. Lenhart |

TECHNICAL PROGRAM

Technical Session 425: The Other Side of Stormwater

Tuesday, September 30, 2014

1:30 PM - 3:00 PM

Exhibit Hall Booth 5301

Professionals from The International Erosion Control Association will address two critical areas in their educational approach to stormwater management. Steve Trinkaus will address the pre construction and construction issues related to stormwater and Lori Gates will address how municipalities effectively manage their construction and post-construction stormwater programs.

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| 1:30 PM | Construction Site Stormwater: The Ignored Problem
S. Trinkaus |
| 2:15 PM | Key Elements for Effective MS4 Construction and Post-
Construction Programs
L. Gates |

TECHNICAL PROGRAM

Technical Session 447: Innovative Mobile and Cloud Technology in the Stormwater Industry

Tuesday, September 30, 2014

3:30 PM - 5:00 PM

Exhibit Hall Booth 5301

Innovative mobile and cloud technologies from phone apps to online platforms are rapidly changing the way we approach and manage stormwater. Learn more about how these innovative technologies can be leveraged to increase efficiency, manage assets, and expand knowledge in the stormwater industry by attending this session.

Moderator: R. Janoch

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| 3:30 PM | The Future of Technology in Stormwater: From Drones to Augmented Reality
R. Janoch |
| 4:00 PM | Using Mobile Technology to Increase Efficiency and Compliance
J. Locklin |
| 4:30 PM | Leveraging Learning Technologies to Document Behavior Change and Knowledge Transfer
A. Demers |

TECHNICAL PROGRAM

Technical Session 515: Stormwater Pond Retrofits

Wednesday, October 1, 2014

8:30 AM - 10:00 AM

Room 243

Retrofitting existing stormwater infrastructure to improve volume management and water quality - particularly the ponds and basins - is an essential tool in the stormwater toolbox, but with many unknowns regarding optimal design strategies, costs, and effectiveness. This session features studies of retrofit designs, buoyant flow control devices, and the cost implications of retrofitting ponds in the Chesapeake Bay watershed for improved nutrient removal.

Moderator: K. S. Mattfield

Assistant Moderator: J. Garcia

- 8:30 AM Changing the Game With Green Infrastructure: Retrofitting Existing Detention Basins May Be Orders of Magnitude More Cost-Effective Than Construction of New BMPs
J. A. Goodrich, R. J. Hawley, M. S. Wooten, C. Frye, M. Jacobs, J. J. Beaulieu
- 9:00 AM An Analysis of the Use of Buoyant Flow Control Devices To Mitigate the Effects of Urban Runoff
W. Lucas
- 9:30 AM The New BMP Challenge: Local Stormwater Requirements To Meet the Chesapeake Bay TMDL
M. C. Morgan

TECHNICAL PROGRAM

Technical Session 516: Green Infrastructure and Best Management Practices: Impacts on Buried Assets

Wednesday, October 1, 2014

8:30 AM - 12:00 PM

Room 239

Mandates for Environmental Site Design (ESD) including Green Infrastructure (GI) and Best Management Practice (BMP) have been proposed nationwide. GI/BMP storm water facilities have been designed and constructed to contain and treat storm water runoff from impervious areas created from highway and land development projects. Oftentimes the GI/BMP facilities are constructed overtop existing buried water and sewer utility assets. The GI/BMP facilities create localized hydrologic conditions on the buried utility assets that weren't considered when the utilities were designed. This fact has drawn the attention of utility agencies and companies. Therefore, utility agencies and companies have great interest in possible impacts of these BMPs on existing infrastructure and buried assets. Increased Infiltration and Inflow (I/I), sink holes, flooding, and other issues are unintended consequences of some green infrastructure practices. This session will present projects and plans that have identified and addressed these conflicts.

Moderator: C. Chang

Assistant Moderators: D. L. Morin, L. Hawks

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|----------|---|
| 8:30 AM | Integrating Sustainable Stormwater Environmental Site Design and Best Management Practices With Water and Sewer Mains
M. Harmer, R. Chicca, T. Dean, C. Glass, Ph.D., R. Gaylord, P. Tanedo, D. L. Morin |
| 9:00 AM | Gwinnett County Department of Water Resources Green Infrastructure Master Plan and Demonstration Project
L. Hawks, S. Leo |
| 9:30 AM | Site Selection and Cost Considerations for Green Street Stormwater Retrofits
J. Keeley, B. Owen |
| 10:00 AM | Networking Break |
| 10:30 AM | Managing Stormwater To Achieve Holistic Stream Integrity: A Why and How
M. S. Wooten, R. J. Hawley, K. R. MacMannis, E. V. Fet |
| 11:00 AM | Panel Discussion
All Speakers |

TECHNICAL PROGRAM

Technical Session 517: Military and Federal Facilities

Wednesday, October 1, 2014

8:30 AM - 10:00 AM

Room 244

Stormwater management on military installations and federal facilities involves a unique set of regulatory, operational and compliance issues, even when these facilities are embedded in regulated MS4s. This unique session looks at the issues faced and lessons learned from stormwater planning and management at US Air Force and Army facilities, and the US Military Academy at West Point, New York.

Moderator: J. Hare

Assistant Moderator: B. Spearman

- 8:30 AM Designing Low-Impact Development for Challenging Campus Landscapes: The Stormwater Management Plan for the U.S. Army Garrison at West Point
J. A. Stein, H. Howard, S. Wolters, K. Ogut, D. Carr, R. Young
- 9:00 AM Air Force Base ERISA Modeling
B. Recker
- 9:30 AM Stormwater Calculator and USACE Guidance
P. N. Deliman

TECHNICAL PROGRAM

Technical Session 518: Stormwater Operation and Maintenance

Wednesday, October 1, 2014

10:30 AM - 12:00 PM

Room 244

The operation and maintenance of stormwater facilities involves a host of issues and concerns, including data management and record keeping, performance monitoring, and optimization. This session presents an in-depth look at three cases with wide relevance: the experience operating and monitoring the NYC "Bluebelt" stormwater system on Staten Island; Wal-Mart's approach to managing stormwater O&M data for its vast network of properties; and updated street sweeping effectiveness and efficiency data.

Moderator: K. Zaman

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|----------|---|
| 10:30 AM | Private Stormwater Maintenance on a Grand Scale
R. K. Miller, T. P. McCrory, R. J. Hicks |
| 11:00 AM | Improved Stormwater Through Street Cleaning
S. J. Calvillo, E. S. Williams, B. W. Brooks |
| 11:30 AM | Utilizing Traditional and Low-Impact Stormwater Controls to Mitigate Flooding at a Historic University in New Orleans
M. G. Scally, A. Michel-Diaz, E. Boerr |

TECHNICAL PROGRAM

Technical Session 519: MS4 Stormwater Program Topics

Wednesday, October 1, 2014

8:30 AM - 12:00 PM

Room 245

This session will provide a high-level overview as well as on-the-ground programmatic challenges in MS4 programs.

Moderator: J. Ridgway

Assistant Moderator: S. Strong

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| 8:30 AM | Current Status of MS4 Programs
H. Gallavotti |
| 9:00 AM | Current Research Updates on MS4 Permits in Virginia
M. Aguilar, R. Dymond |
| 9:30 AM | MS4 Stormwater Permitting from Two Perspectives: Minnesota
and National
R. Neprash |
| 10:00 AM | Networking Break |
| 10:30 AM | Panel Discussion
S. Taylor; K. Dorman, J. Watson, V. Roach |

TECHNICAL PROGRAM

Technical Session 609: Modeling and Stormwater Policy

Wednesday, October 1, 2014

1:30 PM - 3:00 PM

Room 244

The interaction of stormwater modeling with associated regulatory policy is one of the most important dynamics in water quality management. This important session features current work on the Minnesota volume control standard, a comparison of models for evaluating load generation and stormwater control measures, and continuous monitoring for TMDL compliance.

Moderator: H. Gheith

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|---------|--|
| 1:30 PM | Is Simple Good Enough? Complex Continuous Modeling To Support Simple Volume Control Standards in Minnesota
J. M. Kieffer, N. D. Campeau, J. P. Hanson |
| 2:00 PM | Comparison of Common Urban Stormwater Quality Models for Pollution Load Generation and Evaluation of SCMs
C. J. Burger, J. A. Bachhuber, N. Foged |
| 2:30 PM | Continuous Water Quality Monitoring: An Approach To Verify and Address NPDES MS4 Requirements Associated With TMDLs
T. Gauron, T. Mitchell, M. Long |

STORMWATER PAVILION THEATER

Exhibit Hall I, Booth 8303

The Stormwater Pavilion is the focal point of the Water Environment Federation's Stormwater Congress on the exhibit floor. In addition to industry leading companies, WEF's Stormwater Pavilion contains a theater with short sessions and videos. The program covers a wide-range of topics impacting the Stormwater Professional. Come by to learn about WEF's stormwater program and publications as well.

Monday, September 29

Session 242

Overview of WERF's Stormwater Research Challenge Area

Monday, September 29 | 1:30 PM – 1:45 PM

Speaker: T. Connor

WERF's Stormwater Research Challenge Area has been very successful in delivering useful products to the storm water industry for improving water quality. The Urban BMP Database is growing every year and is now used as part of watershed planning model such as SELECT 2.0 to help watershed managers develop cost effective management plans that address the receiving water needs. An overview of these products, the Ag BMP database and Framework 2.0, a connector for watershed and receiving water models will be provided.

Session 243

StormTV Project

Monday, September 29 | 2:00 PM - 2:15 PM

The StormTV Project is an effort to share through video, creative ways of managing stormwater, improving water quality, and informing the public. The top four videos, selected by WEF's Stormwater and Watershed Committees, will be announced and shown in the Stormwater Pavilion. Winners in two categories will be shown Monday and the other two shown on Tuesday.

STORMWATER PAVILION THEATER

Session 232

Stormwater Pavilion Case Studies

Monday, September 29 | 2:30 PM - 4:45 PM

- 2:30 PM The Squeeze is On for Solving Multiple Regulatory Issues
M. Boner
- 3:00 PM Integrated 1D and 2D Hydraulic Modeling for Urban Flood
Mapping on the Elbow River in Calgary, Alberta
P. G. Delaney
- 3:30 PM Prairie Creek Treatment Train
B. Catanzaro, J. Pfeiffer Jr.
- 4:00 PM Sub-Surface Stormwater Storage Modules
J. Bailey
- 4:30 PM Wapro AB
K. Olsson

Reception

Sponsored by Michael Baker International

Monday, September 29 | 5:00-6:00 pm

Stormwater Congress attendees are invited to network while enjoying appetizers and beverages in the Stormwater Pavilion.

STORMWATER PAVILION THEATER

Tuesday, September 30

Session 332

Stormwater Pavilion Lightning Round

Tuesday, September 30 | 9:00 AM – 9:42 AM

Come hear about the latest product innovations from stormwater exhibitors in lightning round format.

- 9:00 AM StormTrap Presentation
B. Holmes
- 9:07 AM CrystalStream Hybrid Polisher
J. Moll
- 9:14 AM Watertronics, A Lindsay Company
M. Warren
- 9:21 AM Regenerative Air Street Sweepers
B. Young
- 9:28 AM EarthLite™ Biochar Filter Media
R. Cook
- 9:35 AM DBi Services
A. Griggs

STORMWATER PAVILION THEATER

Session 333

(STORM)Water Innovation Clusters From Milwaukee to NOLA

Tuesday, September 30 | 10:00 AM – 10:30 AM

Speakers will discuss how innovation clusters are moving the stormwater sector forward. Steve Picou, with NOLA Vibe Consulting, will discuss the formation of the New Orleans Water Innovation Cluster. The cluster seeks to unite Louisiana institutions and organizations in further developing the state's research, education, engineering and related restoration assets into a globally competitive set of industries with exportable expertise and products that help the state capitalize on its water challenges. Elizabeth Thelen, with the Water Council, and Mike Jozwik of Hanging Gardens will discuss how water innovation clusters are helping companies innovate and commercialize stormwater technology, while stimulating economic development and job creation. They will share the story of the Water Council's Business, Research, Entrepreneurship, and Water (BREW) business accelerator and illustrate how this collaborative approach has benefited startup green roof and stormwater companies Vegetal i.D. and Hanging Gardens.

Building Louisiana's Water Cluster

Speaker: S. Picou

The rapid growth of Louisiana's stormwater, flood management, and coastal restoration science and technology assets is paralleled by the growth of business resources to fulfill myriad project needs. Many institutions and organizations in Louisiana seek to further develop the state's research, education, engineering and related restoration assets into a globally competitive set of industries with exportable expertise and products that help the state capitalize on its water challenges. This presentation gives an overview of the development of the New Orleans Water Innovation Cluster.

What's BREWing in Milwaukee's Stormwater?

Speaker: E. Thelen

Water innovation clusters are helping companies innovate and commercialize stormwater technology, while stimulating economic development and job creation. The story of The Business, Research, Entrepreneurship, and Water (BREW) business accelerator at the Water Council, illustrates how this collaborative approach benefits startup green roof and stormwater companies.

Blue-Green Roofs: Green Infrastructure 3.0

Speaker: M. Jozwik

This presentation will cover a precedent setting project that was recently awarded grant funding in New Orleans. This design's genesis came from another precedent setting design that we received grant funding for in Milwaukee.

STORMWATER PAVILION THEATER

Session 335

Construction Minded BMP Design

Tuesday, September 30 | 10:45 AM – 11:00 AM

Speaker: D. Batts

What happens when the intent of your green infrastructure design is lost in translation when put into the hands of contractors? This session looks at common green infrastructure construction mistakes, how to prevent them through good design, and how to make certain that when the contractor leaves the site, your best management practices are functioning as intended.

Session 334

Wet Weather Design and Operation in Water Resource Recovery Facilities

Tuesday, September 30 | 12:00 PM – 12:15 PM

Speakers: J. Sandino, C. W. Tabor

Several authors from the recently released WEF publication *Wet Weather Design and Operation in Water Resource Recovery Facilities* will provide attendees with an overview of current design and operational practices for managing wet weather flows at wastewater facilities. The session will include a discussion of timely topics, including the recent U.S. Court of Appeals for the 8th Circuit decision on blending and mixing at water resource recovery facilities.

Session 443

Successfully Charting Green Infrastructure Implementation

Tuesday, September 30 | 1:00 PM – 1:30 PM

Speakers: C. L. Hufnagel, J. Hinds

Several authors from the recently released WEF publication *Green Infrastructure Implementation* will provide practitioners with tools and strategies for developing successful green infrastructure programs. They will identify critical issues and approaches for a broad range of green infrastructure topics and potential implementation barriers.

Session 444

StormTV Project

Tuesday, September 30 | 2:00 PM - 2:15 PM

The StormTV Project is an effort to share through video, creative ways of managing stormwater, improving water quality, and informing the public. The top four videos, selected by WEF's Stormwater and Watershed Committees, will be announced and shown in the Stormwater Pavilion. Winners in two categories will be shown Monday and the other two shown on Tuesday.

STORMWATER PAVILION THEATER

Session 450

The Pontilly Project

Tuesday, September 30 | 2:30 PM - 2:45 PM

The Efficacy of Stormwater BMPs in Mitigating Flood Hazard and Providing Ecological Services: The Pontilly Project

Speaker: D. Brown

Session 446

My Love Affair with Stormwater

Tuesday, September 30 | 3:15 PM – 3:30 PM

Speaker: C. Mcilroy

Throughout his working life Craig Mcilroy has found passion through water. Initially this passion was directed towards Drinking Water and Wastewater but over recent years Stormwater has emerged as his new love. Craig will speak of his experience in supporting the introduction of an innovative new stormwater product into the Auckland, New Zealand, market.

Wednesday, October 1

Session 532

A Tool in the Toolbox: Manufactured Treatment Devices for Stormwater Management Mobile Session

Wednesday, October 1 | 9:00 AM – 10:30 AM

Moderator: C. Hufnagel

This mobile session will highlight how various products or practices fit within a community's Stormwater management plan. This session will focus on how manufactured treatment devices be paired with both green and grey infrastructure as well as nonstructural controls, such as litter prevention programs, to create a holistic stormwater programs. This session will meet in the Stormwater Pavilion Theater for a brief overview of the topic before embarking on a tour of various exhibits.

Technical Presentations by the following exhibitors:

Bio-Microbics, Inc.

Filtrexx International

Hydro International

WesTech Engineering, Inc.

STORMWATER PAVILION THEATER

Session 535

Stormwater Calculator Demonstration

Wednesday, October 1 | 9:45 AM – 10:15 AM

Speaker: J. Berner

Come check out a demonstration of the U.S. EPA's National Stormwater Calculator, now with a future climate change scenario assessment tool. The calculator is a desktop application designed to help city planners, landscape architects, developers, and property owners assess the runoff-reduction benefits of green infrastructure on specific sites. Taking into account local soil conditions, land cover, and historical rainfall records, the calculator will determine the annual amount and frequency of stormwater runoff from locations anywhere in the U.S. The tool can examine how stormwater runoff changes under different development and green infrastructure scenarios. Also, with the climate component added this year, users can assess future climate vulnerability scenarios. The calculator now includes changes in seasonal precipitation levels, the effects of more frequent high-intensity storms, and changes in evaporation rates based on validated climate change scenarios by the Intergovernmental Panel on Climate Change. Finally, Jason will also mention future updates to the calculator, including a costing function for stormwater controls. Want to try the tool before the session? Download it at <http://1.usa.gov/1aVZAxm>.

Session 537

Improving and Greening of Water Infrastructure: The EPA Water Technology Innovation Blueprint Series

Wednesday, October 1 | 10:30 AM - 11:00 AM

Moderator: J. Hinds

EPA and WEF are convening working sessions throughout WEFTEC to address key questions about how WEF and its members can foster water sustainability and influence and support the EPA's Water Technology Innovation Blueprint. This is an opportunity for WEFTEC attendees to have early input in stormwater policy.

Session 536

Stormwater BMP Maintenance: A Critical Component

Wednesday, October 1 | 11:15 AM - 11:30 AM

Speaker: L. Honnigford

The efficiency of any stormwater BMP is impaired without regular and proper maintenance. Design performance is based upon periodic measure to clean, repair and restore BMPs to their original condition. This talk will give attendees tools to help them implement and monitor an efficient maintenance program.

EXHIBITION GENERAL INFORMATION

Located in **Hall I**, the Stormwater Pavilion exhibits offer networking opportunities with companies displaying the latest product and service solutions directly related to the Congress' technical program. Attendees are also encouraged to visit the rest of WEFTEC's technical exhibition, as there are many companies outside the Stormwater Pavilion that also provide stormwater related products and services.

Download the WEFTEC Mobile App by pointing your mobile browser to app.core-apps.com/weftec2014 to access the complete exhibitor directory, including product categories, expanded directory listings, PDF downloads, and more. Use the product search function to find exhibitors by product type, keyword, or company name.

Exhibition Hours

Monday – Wednesday, September 29 – October 1 | 8:30 am – 5:00 pm

Private Demo Hours

Monday & Tuesday, September 29 & 30 | 5:00 pm – 6:00 pm

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

Photographing or video recording in the Exhibition is only allowed with exhibitor's permission.

STORMWATER PAVILION EXHIBITOR DIRECTORY

As of 8/14/2014

ABSMaterials, Inc **Booth 8505**

www.absmaterials.com

1909 Old Mansfield Rd.

Wooster, OH 44691

AbTech Industries, Inc **Booth 8309**

www.abtechindustries.com

Phone: (800) 625-ABTECH

4110 N. Scottsdale Rd., Ste. 235

Scottsdale, AZ 85251-3999

STORMWATER PAVILION EXHIBITOR DIRECTORY

ACO Polymer Products, Inc..... Booth 8411

www.acousa.com

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ACO commercial trench drain is used in a variety of applications from plazas to airports, plus many prestigious locations, such as Olympic Stadiums and Formula 1 tracks, since 1972.

Advanced Drainage Systems, Inc. Booth 8203

www.ads-pipe.com

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4640 Trueman Blvd.

Hilliard, OH 43026

Advanced Drainage Systems, Inc., the largest manufacturer of HDPE drainage pipe, provides solutions for residential projects to highway drainage. Our focus is on issues critical to the customer including cost-efficiency, installation ease, and performance.

Brentwood Industries..... Booth 8410

www.brentwoodindustries.com

Phone: (610) 374-5109

500 Spring Ridge Dr.

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Brentwood's StormTank® products are engineered to meet the most stringent industry performance standards and offer application flexibility. Utilized for storage and pretreatment purposes, these products provide an affordable and sustainable solution for stormwater management.

Channeline International Ltd. Booth 8509

www.channelineinternational.com

Phone: (971) 4884-8383

P.O. Box 8091

Dubai

United Arab Emirates

CLEARWATER SOLUTIONS INC..... Booth 8407

www.clearwaterbmp.com

P.O. Box 2078

Vista, CA 92085-2078

STORMWATER PAVILION EXHIBITOR DIRECTORY

Concrete Sealants, Inc. Booth 8510

www.conseal.com

Phone: (800) 332-7325

9325 State Rte. 201

Tipp City, OH 45371

Contech Engineered Solutions Booth 8513

www.conteches.com

Phone: (513) 645-7000

9025 Centre Pointe Dr., Ste. 400

West Chester, OH 45069-9700

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.

Convergent Water Technologies Inc.. Booth 8415

www.convergentwater.com

Phone: (832) 456-1000

1930 Aldine Western Rd.

Houston, TX 77038

Founded in 2010, Convergent is delivering 'next generation' LID technologies that raise the bar on performance, cost effectiveness, maintainability, and vendor commitment to the full product life cycle, while driving down costs.

CrystalStream Technologies Booth 8210

www.crystalstream.com

Phone: (800) 748-6945

2090 Sugarloaf Pkwy., Ste. 245

Lawrenceville, GA 30045

CrystalStream Technologies is an innovator in the field of structural best management practices (or BMPs). Using sound engineering principles and common sense, practical approaches to problem-solving, CrystalStream has created a cost-effective BMP that scales to any project.

dat Mobile Solutions Booth 8312

www.datmobilesolutions.com

4744 Baltimore Ave.

Hyattsville, MD 20781

STORMWATER PAVILION EXHIBITOR DIRECTORY

DBi Services Booth 8308

www.dbiservices.com

Phone: (336) 984-8742

748 Briar Creek Dr.

North Wilkesboro, NC 28659-8176

EnviroCert International Inc. Booth 8208

www.envirocertintl.org

Phone: (828) 655-1600

49 State St.

Marion, NC 28752

FPI Pumps, Inc..... Booth 8503

www.fpipumps.com

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FPI Pumps, Inc. is a custom US manufacturer of axial flow pumps since 1937. Pumps with sizes ranging from 8" to 72" and flows from 2,000 to 120,000 gpm. Pumps are available in multiple configurations including hydraulic, portable and column types.

Fresh Creek Technologies, Inc. Booth 8204

www.freshcreek.com

Phone: (973) 237-9099

1384 Pompton Ave., Ste. 2

Cedar Grove, NJ 07009-1078

Global Splash Inc Booth 8315

www.globalsplashinc.com

Phone: (855) 255-2221

318 Jones St.

Pineville, LA 71360-7097

Global Splash develops and manufactures water and wastewater filtration products that are ultra-energy efficient, chemical free and low cost.

STORMWATER PAVILION EXHIBITOR DIRECTORY

Hamilton Kent Booth 8414

www.hamiltonkent.com

Phone: (416) 675-9873 Ext. 296

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Toronto, ON M9W 5E6

Canada

International manufacturer of rubber gaskets for manholes and pipe, flexible pipe-to-manhole connectors and The Lifespan System, a watertight, corrosion-proof, lightweight, non-conductive, locking manhole frame and cover system designed to eliminate water inflow into manholes.

Harco Fittings Booth 8412

www.harcofittings.com

Phone: (434) 845-7094

3721 Cohen Pl.

Lynchburg, VA 24501

Modular Wetland Systems, Inc..... Booth 8403

www.modularwetlands.com

Phone: (760) 433-7640

2972 San Luis Rey Rd.

Oceanside, CA 92058-1241

Modular Wetland System's MWS Linear, represents a pioneering breakthrough in stormwater technology as the only biofiltration system to utilize patented horizontal flow – allowing for a smaller footprint with higher flows. Plant a wetland and revitalize your city.

Oldcastle Stormwater Solutions/Filtrerra Booth 8213

www.oldcastlestormwater.com

Phone: (770) 889-4338

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Santa Rosa, CA 95407-8121

Oldcastle Precast and Filterra Bioretention Systems have formed an alliance. Their products include catch basin inserts, hydrodynamic separators, media filtration systems, bioretention systems, retention/detention storage systems, water harvesting and reuse, and filtration technologies.

STORMWATER PAVILION EXHIBITOR DIRECTORY

Oregon BEST Booth 8511

www.oregonbest.org

P.O. Box 212

Portland, OR 97207

Oregon BEST is harnessing the power of new ideas, cutting-edge research and collaboration to create prosperity for Oregon and the region. Our investments put us at the nexus of clean technology innovation that is changing our state and the world.

StormTrap Booth 8202

www.stormtrap.com

Phone: (815) 341-9890

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Morris, IL 60450

Whether you need to slow or reduce volume from your project site, protect waterways and maintain water quality, or hold water for harvesting or reuse, StormTrap's systems can address all these needs with one customized system.

Stormwater Equipment Manufacturers Association Booth 8310

www.stormwaterassociation.com

Phone: (651) 554-1895

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PMB# 154

Roxborough, CO 80125

The mission of the Stormwater Equipment Manufacturers Association is to be the leader in advocating sustainable and effective solutions for stormwater quality through educational outreach to stakeholders in clean water initiatives.

Stormwater Magazine..... Booth 8506

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StormwaterONE.com..... Booth 8209

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Meriden, CT 06450-8601

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Thirsty Duck, LP Booth 8212

www.thirsty-duck.com

Phone: (727) 376-2400

2154 Duck Slough Blvd., Ste. 103

Trinity, FL 34655-5073

Thirsty Duck, LP, headquartered in Trinity, Florida, designs, manufactures, and markets two lines of self-skimming, patented floating outlets, a relatively new technology that has been permitted on various types of projects across the USA.

TYMCO, Inc. Booth 8211

www.tymco.com

Phone: (254) 799-5546

225 E. Industrial Blvd.

Waco, TX 76705

WaterSilos..... Booth 8314

www.watersilos.info

Phone: (424) 250-9309

3203 Carolwood Ln.

Torrance, CA 90505-7113

Watertronics. Booth 8405

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525 E. Industrial Dr.

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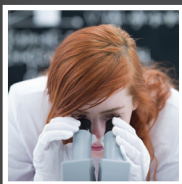
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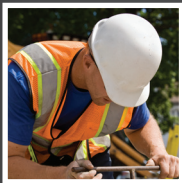
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