# StormCon® 2017

The Surface Water Quality Conference & Expo

**AUGUST 27–31**

Meydenbauer Convention Center & Hyatt Regency Hotel
**Bellevue, Washington**

- BMP Case Studies
- Green Infrastructure
- Stormwater Program Management
- Advanced Research Topics
- Industrial Stormwater Management
- Water-Quality Monitoring

## **2017** Conference Program

# Welcome

It is my pleasure to welcome you to the 16th annual StormCon conference in Washington State. We are grateful to the Meydenbauer Center and the Hyatt Regency Bellevue for their fantastic venues they have provided as hosts and to the beautiful City of Bellevue, the gateway to the Puget Sound.

I would like to express my appreciation to the conference sponsors and exhibitors for their recurring support. Also to Boeing Environment, Health and Safety Organization (thank you, Lori Blair), who is providing scholarship support to the many local stormwater programs working behind the scenes in the Seattle area and beyond.

From an educational standpoint, our six-track course curriculum will cover an extensive range of material that strongly focuses on BMP case studies, green Infrastructure, stormwater program management, water-quality monitoring, industrial stormwater, and advanced research topics. Our presenters come from diverse geographic regions that will significantly contribute to the depth and breadth of the courses that we are offering you in Bellevue.

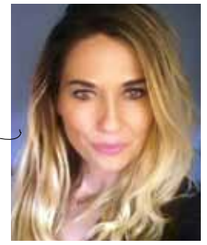
If you prefer to further enhance your stormwater credentials, you may want to arrive early and take one of the many accredited pre-conference workshops or certifications. This year we have eight pre-conference workshops and six certifications offering CEUs on a variety of topics. We cover everything from developing SWPPPs for different projects, to the fundamentals of MS4 management, to industrial stormwater planning, to water modeling techniques and regulatory compliance.

With this program you now have the opportunity to view the educational aspect of our conference as well as what its other components have to offer. Please take time to review this program. Each day brings something special that directly addresses your needs in the workplace, offering insight, common-sense knowledge, creative ideas, and innovation. Thursday features a stormwater tour and sessions that will offer slightly longer formats, presented and attended by the innovators and leaders in the stormwater industry from throughout the country. These sessions are intended to be forward looking and highly interactive. Come prepared. Engage them. Challenge them.

If this is the first time you are considering joining us at StormCon, you'll find that StormCon's schedule will allow you the time to do and see everything you want. The exhibit hall will be the networking hub of the event. Exhibitors will be here to answer your questions, to demonstrate products, and to be of help. Take advantage of this. Spend time with them, and get hands on with their products and learn about their services.

Make the most of your time in Washington, and don't forget, find me and say hello!

Sincerely,



Brigette Burich
*StormCon Director*



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*Space is limited, so register early!*

# **Schedule** at a Glance

*This is a preliminary schedule and is subject to change.*

## Sunday, August 27

| | 8 AM | 9 AM | 10 AM | 11 AM | Noon | 1 PM | 2 PM | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGISTRATION OPEN | 7:30 – 5:00 | | | | | | | | | | | | |
| **PRE-CONFERENCE COURSES** | | | | | | | | | | | | | |
| Fundamentals of an MS4 Stormwater Management Program | 8:30 – 4:00 | | | | | | | | | | | | |
| Developing Effective Storm Water Pollution Management Plans | 8:30 – 4:00 | | | | | | | | | | | | |
| **PRE-CONFERENCE CERTIFICATION COURSES AND EXAMS** | | | | | | | | | | | | | |
| **CESSWI™ Review Course** | 8:00 – 5:00 | | | | | | | | | | | | |
| **CPESC® Review Course** | 8:00 – 5:00 | | | | | | | | | | | | |
| **CPISM™ Review Course** | 8:00 – 5:00 | | | | | | | | | | | | |
| **CPMSM™ Review Course** | 8:00 – 5:00 | | | | | | | | | | | | |
| **CPSWQ® Review Course** | 8:00 – 5:00 | | | | | | | | | | | | |
| **CISEC® Training Modules** | 8:30 – 5:30 | | | | | | | | | | | | |

## Monday, August 28

| | 8 AM | 9 AM | 10 AM | 11 AM | Noon | 1 PM | 2 PM | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGISTRATION OPEN | 7:30 – 5:00 | | | | | | | | | | | | |
| EXHIBIT SETUP | 8:00 – 3:00 | | | | | | | | | | | | |
| **PRE-CONFERENCE COURSES** | | | | | | | | | | | | | |
| BMP Selection to Improve Your Watershed | 8:30 – 4:00 | | | | | | | | | | | | |
| Construction Site SWPPP Compliance: Tools, Tricks, and Tips | 8:30 – 4:00 | | | | | | | | | | | | |
| Fundamentals of Industrial Stormwater Management | 8:30 – 4:00 | | | | | | | | | | | | |
| Repairing Entrenched, Incised, and Degraded (Urbanized) Streams | 8:30 – 4:00 | | | | | | | | | | | | |
| Stormwater Pollution Modeling for LID, TMDL, and Retrofitting Analyses—An Overview of WinSLAMM | 8:30 – 4:00 | | | | | | | | | | | | |
| Biotic Ligand Model—An Overview | 8:30 – 4:00 | | | | | | | | | | | | |
| Developing Effective Storm Water Pollution Management Plans | 8:30 – 4:00 | | | | | | | | | | | | |
| **PRE-CONFERENCE CERTIFICATION COURSES AND EXAMS** | | | | | | | | | | | | | |
| **CESSWI™ Exam** | 8:00 – 1:00 | | | | | | | | | | | | |
| **CPESC® Exam** | 8:00 – 1:00 | | | | | | | | | | | | |
| **CPISM™ Exam** | 8:00 – 1:00 | | | | | | | | | | | | |
| **CPMSM™ Exam** | 8:00 – 1:00 | | | | | | | | | | | | |
| **CPSWQ® Exam** | 8:00 – 1:00 | | | | | | | | | | | | |
| **CISEC® Training Modules** | 8:30 – 11:30 | | | | | | | | | | | | |
| **CISEC® Exam** | 1:00 – 5:30 | | | | | | | | | | | | |
| **EXHIBIT HALL OPENING RECEPTION** | 4:00 – 7:00 | | | | | | | | | | | | |

## Tuesday, August 29

| | 8 AM | 9 AM | 10 AM | 11 AM | Noon | 1 PM | 2 PM | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGISTRATION OPEN | 7:00 – 5:00 | | | | | | | | | | | | |
| OPENING GENERAL SESSION (Hyatt Regency Ballroom) | 8:00 – 8:45 | | | | | | | | | | | | |
| EXHIBIT HALL HOURS | 10:00 – 4:30 | | | | | | | | | | | | |
| COURSE SCHEDULE | 10:00 – 11:30 | | | | | | | | | | | | |
| | 2:00 – 3:30 | | | | | | | | | | | | |
| | 4:00 – 5:30 | | | | | | | | | | | | |
| LUNCHEON | 12:15 – 1:15 | | | | | | | | | | | | |
| AFTERNOON REFRESHMENT BREAK | 3:30 4:00 | | | | | | | | | | | | |
| GALA RECEPTION (HYATT REGENCY BELELVUE) | 5:30 – 8:30 | | | | | | | | | | | | |

## Wednesday, August 30

| | 8 AM | 9 AM | 10 AM | 11 AM | Noon | 1 PM | 2 PM | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Registration Open | 7:00 – 5:00 | | | | | | | | | | | | |
| EXHIBIT HALL HOURS | 9:00 – 4:30 | | | | | | | | | | | | |
| COURSE SCHEDULE | 8:00 – 9:30 | | | | | | | | | | | | |
| | 10:00 – 11:30 | | | | | | | | | | | | |
| | 2:00 – 3:30 | | | | | | | | | | | | |
| | 3:30 – 5:00 | | | | | | | | | | | | |
| | 5:00 – 6:00 | | | | | | | | | | | | |
| LUNCHEON | 12:15 – 1:15 | | | | | | | | | | | | |
| AFTERNOON REFRESHMENT BREAK | 3:00 3:30 | | | | | | | | | | | | |
| EXHIBITS DISMANTLE | 5:00 – 8:00 | | | | | | | | | | | | |

## Thursday, August 31

| | 8 AM | 9 AM | 10 AM | 11 AM | Noon | 1 PM | 2 PM | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGISTRATION OPEN | 7:00 – 11:00 | | | | | | | | | | | | |
| Urban Flooding: Learning to Walk on Water | 8:00 – 12:00 | | | | | | | | | | | | |
| Stormwater Infrastructure Policies —A Management Perspective | 8:00 – 12:00 | | | | | | | | | | | | |
| **Special Session:** EPA—An update on EPA stormwater program | 8:00 – 12:00 | | | | | | | | | | | | |
| **Special Session:** Rethinking Urban Water Management: Integrating Natural and Engineered Systems | 8:00 – 12:00 | | | | | | | | | | | | |
| **Stormwater Bus Tour:** City of Tacoma—Point Defiance Park and Port of Tacoma West Hylebos Pier | 8:00 – 12:00 | | | | | | | | | | | | |

## TOP 5 REASONS TO ATTEND STORMCON 2017

1. **Professional development**
2. **Flexible conference schedule**
3. **Technical and user experience tracks**
4. **Unique networking opportunities**
5. **Exhibits and field trips**

# Amenities & Special Events

## Exhibit Hall Opening Reception

**MONDAY 8/28**
4:00 PM – 7:00 PM

Meydenbauer Convention Center

Join us for the opening of the Exhibit Hall for complimentary food, drink, and to kick off the conference. It's a great way to meet colleagues, network, and visit with vendors in a casual atmosphere. You will have complete access to vendor representatives who will be offering all the services and technologies that you need for your community's stormwater plan.

Hosted by *Suntree Technologies Inc.*

## Opening General Session

**TUESDAY 8/29**
8:00 AM – 8:45 AM

The Hyatt Regency Ballroom

The keynote address graciously sponsored by AbTech Industries will provide an important window into our world, the industry, and beyond. This address will take place Tuesday morning following some important special announcements. All attendees are invited. Bring your comments and questions, and participate! Be part of the national stormwater conversation.

Hosted by *AbTech*

## Luncheons

**TUESDAY 8/29**
12:15 PM – 1:15 PM

**WEDNESDAY 8/30**
12:15 PM – 1:15 PM

Meydenbauer Convention Center

Join your peers at StormCon's fantastic buffet networking lunches on Tuesday and Wednesday. The course sessions are limited during the luncheons so that you may take full advantage of this conference highlight and networking opportunity.

Hosted by *CleanWay Environmental*

## Café Central

**MONDAY 8/28**
4:00 PM - 7:00 PM

**TUESDAY 8/29**
10:00 AM - 4:30 PM

**WEDNESDAY 8/30**
9:00 AM - 4:30 PM

Meydenbauer Convention Center Exhibit Hall

Conveniently located in the exhibit hall and the center of conference activity. Have some coffee, catch up with colleagues, and enjoy the comfort of our spacious café.

## Gala Reception

**TUESDAY 8/29**
5:30 PM. – 8:30 PM

The Hyatt Regency Ballroom

Enjoy a very pleasant evening of relaxed entertainment and terrific food! The night will include an inspired Pacific Northwest buffet, live music, passed hors d'oeuvres, and much more. Complimentary non-alcoholic beverages and cash bars are also provided. Admission is free with your conference badge. Please join us for this favorite StormCon tradition!

Hosted by *CleanWay Environmental*

## Afternoon Refreshments

**TUESDAY 8/29**
3:30 PM – 4:00 PM

**WEDNESDAY 8/30**
3:00 PM – 3:30 PM

Meydenbauer Convention Center Exhibit Hall

Join us Tuesday and Wednesday for a complimentary refreshment and power snack. Use this break from your courses to catch up with colleagues, and explore the latest technologies and services available to address all of your surface and stormwater challenges.

Breaks hosted by *Stormwater magazine*

## Hot Topic Sessions

**THURSDAY 8/31** 9:00 AM – 12 PM

**Panel Discussions**

### Stormwater Infrastructure Policies—A Management Perspective

The topic will include interactive panel discussions focusing on a variety of topics related to stormwater and drainage infrastructure. Focus areas include national and regional perspectives on infrastructure conditions and needs, financial affordability/funding options, potential policy-shaping for the changing regulatory environment, and outreach/public relations strategies to address funding needs.

**Would you like to be one of the key contributors to the discussion and join the panel?** Email us at stormcon@forester.net for consideration.

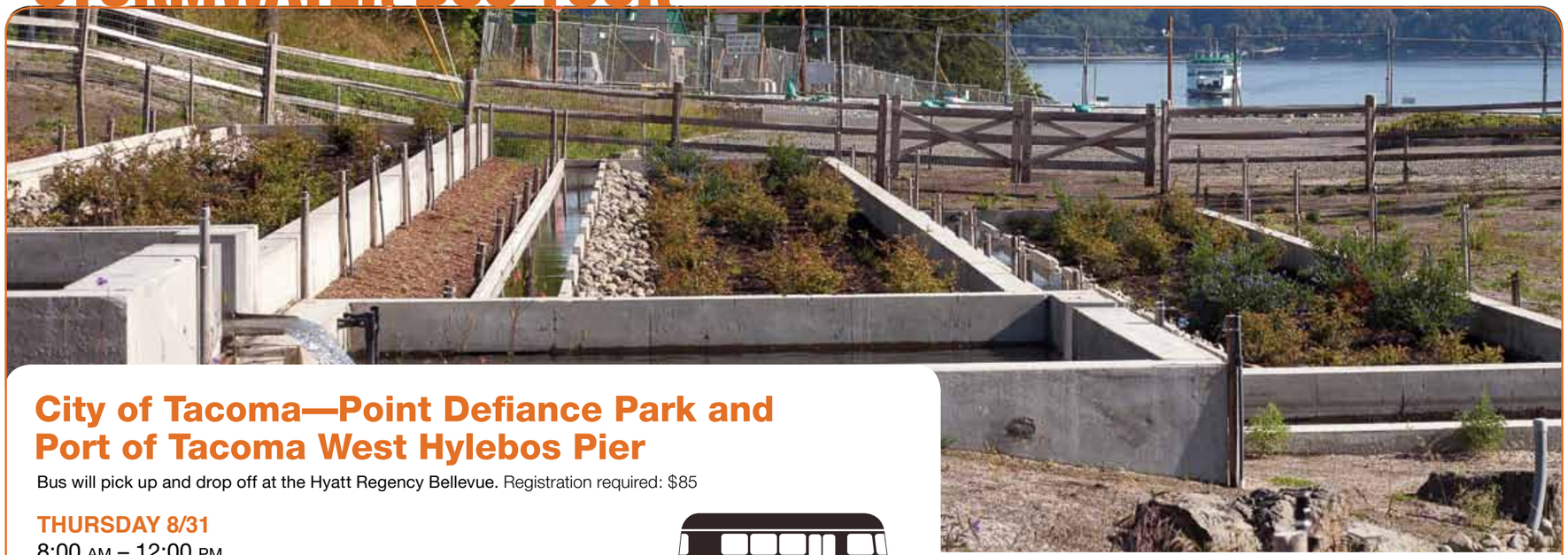
### Urban Flooding: Learning to Walk on Water

**Special Sessions**

### EPA—An update on EPA stormwater program

### Rethinking Urban Water Management: Integrating Natural and Engineered Systems

# STORMWATER BUS TOUR



## City of Tacoma—Point Defiance Park and Port of Tacoma West Hylebos Pier

**Bus will pick up and drop off at the Hyatt Regency Bellevue.** Registration required: $85

**THURSDAY 8/31**
8:00 AM – 12:00 PM

0.25 CONTINUING EDUCATION UNIT

The City of Tacoma and Port of Tacoma, located south of the Hyatt Regency, Bellevue in Washington, believe that sustainability and economic development go hand-in-hand and continually strive to enhance and minimize impacts on the environment. Both the Port and the City have incorporated outside-the-box stormwater management solutions at several of their facilities that are unique in the industry, providing a model for others to follow. The bus tour will showcase how green stormwater infrastructure and concepts have advanced to the next level with very small footprints to treat runoff from large industrial port facilities and vast impacted areas of the City, significantly improving the water quality of stormwater discharge to the Commencement Bay's prime salmon habitat.

Tour attendees will board buses at the Hyatt Regency for a ride to Tacoma, hosted by members of the Port and the City that managed design and construction of two biofiltration systems to address very difficult pollutant removal challenges. We'll begin at Point Defiance Park overlooking the South Puget Sound to see the unique multi-stage, cascading system that treats runoff from more than 750 acres of residential and commercial land, draining to an area of Commencement Bay, 303(d) listed for arsenic, copper, lead, and zinc.

From there, we'll take a short ride to the West Hylebos Pier Log Yard, located in the heavily industrialized heart of the Port of Tacoma. We'll tour a four-stage treatment system utilizing two stages of media filtration, followed by two more stages of biofiltration to treat runoff from a 25-acre log yard containing pollutants very difficult to remove. This project was the first of its kind and has been functioning near flawlessly for over three years with minimal required maintenance.

The Ports' and City's innovative efforts strive to balance sustainable industrial activity and retrofit our urban environment with responsible waterway stewardship. Sign up for the bus tour to see some unique examples firsthand—you won't be disappointed.

Sponsored by *Kennedy/Jenks Consultants*
Hosted by *the Port of Tacoma & City of Tacoma, WA*

# SELFIE CHALLENGE Photo Contest

During exhibit hours in the Exhibit Hall

## AWARDS

First Place: **$500**
Second Place: **$250**
Third Place: **$100**

All attendees are welcome to participate in the photo contest, where the idea is to take selfies with exhibitors and fellow attendees all around the trade show floor. Exhibitors: It's up to you to engage attendees at your booths so they'll take photos with you.

**How it all works:** Each attendee receives a registration bag that contains the location of sponsoring exhibitor booths you must visit and other happenings that will take place in the Exhibit Hall. Use the list to find exhibitors and then use your registration badge to snap your selfie. All selfies must be posted on Twitter using the hashtag #STORMCON.

**There are different ways to win:** Take the most photos with exhibitors/displays, take the most creative photos with exhibitor booths, or use props/objects from exhibitor booths in the most creative way. Remember to grab selfies with each of the sponsoring exhibitors. Winners will be announced between 3:00 PM and 3:30 PM on Wednesday.

**There are only three rules:**

1. Your exhibitor badge must be in every photo showing your name.
2. Photos must be emailed to selfie@forester.net.
3. Photos must include a representative or item from the booth, so be creative!

**Bonus Points:** We are inclined to give BONUS points to photos posted to Twitter using the hashtag #STORMCON.

## Fundamentals of an MS4 Stormwater Management Program

0.5 Continuing Education Unit

**SUNDAY 8/27**
8:30 AM – 4:00 PM

### COURSE DESCRIPTION

Breaking down the fundamental components of a Municipal Stormwater or MS4 General Permit

This course identifies the components and fundamental considerations that go into developing a stormwater management program for a permitted municipality. This workshop breaks down each core element of a program and identifies areas of consideration necessary to meet regulatory requirements.

### CONTENT INCLUDES:

- Permit requirements and paradigm shifts in municipal stormwater management
- Identify necessary program elements for a complete MS4 program
- Fundamental program considerations for IDDE, private, and public infrastructure inspections
- Small works erosion and sediment controls
- Discussion on maintenance programs including LID infrastructure
- Considerations for sampling programs
- Group discussions on elements of a program and lessons learned

The content is designed to help municipalities develop a comprehensive stormwater management program and how to plan for meeting today's permit requirements while looking towards the future.

### INSTRUCTOR

***Nathan Hardebeck**, CWT, LLC, Principal*

Nathan Hardebeck has more than 16 years of experience in the environmental consulting field with an emphasis on best management practices (BMPs) and program management related to stormwater services. His professional experience and responsibilities include providing training and technical expertise for stormwater management for public agencies as well as working on behalf of private industries on their management and BMP and sampling programs. A gifted educator, Nathan has the ability to communicate complex information using real-life examples that holds the audiences' attention while they learn the intricacies of topics including stormwater management, BMPs, and erosion control. He is a published author and photographer.

## Developing Effective Storm Water Pollution Management Plans

0.5 Continuing Education Unit

**TWO-DAYS: SUNDAY 8/27 AND MONDAY 8/28**
8:30 AM – 4:00 PM

### COURSE DESCRIPTION

This intermediate level course for designers and reviewers will be a "hands-on" presentation about developing effective and practical pollution management plans for different projects (e.g., subdivision, linear, commercial, etc.). Participants will learn about optimizing the use of temporary structures to minimize pollutant discharges due to runoff and wind. Erosion control methods will be presented and shown how their continued use can reduce construction costs during project development. Emphasis on identifying limitations of sediment and erosion control methods will be continually stressed throughout the two-day class. While working in small groups, participants will develop pollution managements narratives and sediment and erosion control drawings by assessing site conditions, deciding how project development will occur, identifying BMPs to use, generating specifications, creating inspection requirements, and so forth. The class will culminate with each group presenting their narrative and the accompanying sediment and erosion control drawings.

### INSTRUCTORS

***Dr. Jerald Fifield***

Since 1982 when Dr. Fifield started HydroDynamics Incorporated, he has been actively involved with drainage, sediment and erosion control, water rights, and nonpoint pollution control. Through his company, he develops sediment and erosion control plans, completes drainage analysis, provides inspection services, and teaches about controlling sediment and erosion on construction sites. Jerry has authored numerous professional papers, researched sediment and erosion control products, and written sediment and erosion control manual for designers and a field manual for inspectors and contractors.

***Tina Evans***

Since earning her degrees in Civil and Mechanical Engineering from the Colorado School of Mines in 1999, Tina Evans has been working as a consultant at HydroDynamics Incorporated. She is involved with research for expert testimony, works on SWPPP development, and completes construction site inspections. Tina also assists with drainage assessments, develops sediment and erosion control plans for contractors, coordinates activities associated with sediment and erosion control, analyzes drainage issues for homeowners, and teaches about controlling sediment and erosion on construction sites.

Manual plus supplemental material will be provided for participants.

## BMP Selection to Improve Your Watershed

0.5 Continuing Education Unit

**MONDAY 8/28**
8:30 AM – 4:00 PM

### COURSE DESCRIPTION

Selecting the right Best Management Practices (BMPs) is crucial for protecting and improving watersheds, but understanding the array of choices and the conditions in which different BMPs are most effective can seem overwhelming.

This comprehensive workshop guides program managers and engineers through the criteria necessary for selection of the most effective BMPs for a project. It begins with a discussion of pollutant types and their sources, moving into an overview of pollutant removal unit processes, followed by a discussion on regulations for impaired waters, NPDES, TMDLs, and numeric nutrient criteria. The next part of the course addresses the difference between new development BMP design and retrofitting existing development for TMDL compliance.

A detailed description of 33 BMPs is given—from ponds, alum injection systems, and constructed wetlands, to various types of media filters, inlet devices, sand filters, hydrodynamic devices, and more. Low-impact development rainwater harvesting methods and applications will be demonstrated. A section on selection criteria gives participants a list of factors for making the best choices, including not only pollutant removal effectiveness, but also types of pollutants, available space, groundwater level, soil type, and maintenance costs. The workshop also includes discussions of first flush, monitoring of BMPs, and BMP removal efficiency databases. Several computer models and case studies of pollutant loading calculations for TMDL compliance and pollutant removal calculations for BMPs and treatment trains are demonstrated. An in-depth look at BMP inspections and maintenance will also be given along with a method to track sediment removals from street sweeping and maintenance activities to achieve reductions in TMDL allocations.

### INSTRUCTOR

***Stuart Stein**, P.E., DWRE, and president of GKY and Associates*

Stuart Stein has more than 33 years of experience in stormwater management and water resources engineering, including watershed management plans, stormwater and drainage studies, MS4 compliance, BMP design and analysis, TMDLs, and flood studies. He has coauthored several publications, including the Federal Highway Administration's popular *Evaluation and Management of Highway Runoff Water Quality*, and its *Urban Drainage Design Manual, Hydraulic Engineering Circular No. 22*. He assisted EPA's Office of Policy in evaluating the impacts of land development alternatives (e.g., traditional sprawl, smart growth) on water quality. Stuart serves on the faculty of Virginia Tech's civil engineering department, where he teaches urban hydrology and environmental systems modeling. He was also chair of the ASCE's National Urban Water Infrastructure Management Committee and chair of the ASCE TMDL Evaluation Task Committee.

## Construction Site SWPPP Compliance: Tools, Tricks, and Tips

0.5 Continuing Education Unit

**MONDAY 8/28**
8:30 AM – 4:00 PM

### COURSE DESCRIPTION

This fresh approach to stormwater compliance for construction sites will focus on strategies that are not necessarily highly technical; rather, they demand high levels of common sense. If you or your construction site exposes more than an acre of disturbed soil, you already understand the confusing, comprehensive regulations surrounding stormwater compliance.

What the industry or the regulatory professionals have not yet provided, is a simplified approach to satisfying these regulations. What can one construction site do to manage the runoff and still remain profitable? This course will be the first step in demystifying the intense, broad regulations that affect construction projects all throughout the United States. This will be done by placing focus on determining with a risk assessment mindset, what strategies are the most important in maintaining an environmentally compliant project.

In addition to onsite examples, participants will look into the design issues that often set projects up for failure, learning important lessons and mistakes to avoid when correctly assessing a site for environmental compliance and determining what practices will best manage compliance. Finally, the participant will learn what to do when unforeseen circumstances occur, how to plan for extreme situations, and what types of language to include for rapid response procedures.

Although not intended for academic purposes, this course will speak to strategies and processes of compliance, focusing on techniques not specific practice installation or performance standards. In addition, the goal of this course is to share common misconceptions, techniques that expose sites to the highest level of risk, and the common sense strategies for compliance that many sites do not take full advantage of.

Participants can expect to walk away with specific

techniques for each phase of construction. This will aid the site manager in making sure their project is not fined. In addition to case history examples, interviews with project managers, and site environmental penalty examples, this course provides real data to consider when making site management decisions.

The key concept remains: **plain, construction-focused language that will allow the participant to make informed decisions for environmental compliance.**

### INSTRUCTOR

***Jennifer Hildebrand**, CPESC, CPSWQ, CESSWI, CISEC Environmental Compliance manager, WSB and Associates Inc.*

Jennifer Hildebrand has been involved in the erosion and sediment industry for more than 23 years. She has an M.A. in business administration from Augsburg College and specializes in compliance strategies within the stormwater market. Currently with WSB and Associates, Jennifer's experience and industry involvement allow WSB to deliver excellence in environmental compliance to their clients. Her specialties include stormwater compliance issues, training and awareness programs, site inspection programs, compliance program design, and site plan reviews. She has developed and delivered education and compliance programs in both the construction and post construction stormwater market.

Her involvement in the construction industry has provided her with valuable experience in a wide variety of stormwater compliance products and services. As a result, Jennifer has developed a selection of technologies that involve several methods of hydraulic application techniques and biotechnical stabilization practices throughout the United States and Canada. This private industry experience and public representation experience provides opportunities for facilitation of appropriate stormwater, erosion, sediment, control programs, and techniques. In addition, this experience illuminates the challenges and opportunities that exist in post construction phases of stormwater compliance. Her presentations and classes have been conducted in many states throughout the United States and Canada. She has also spoken and presented materials at multiple government agencies and Departments of Transportation. She has been a part of specifications and standards development for Wisconsin; Iowa; Minnesota; North and South Dakota; and Manitoba, Canada.

## Fundamentals of Industrial Stormwater Management

0.5 Continuing Education Unit

**MONDAY 8/28**

8:30 AM – 4:00 PM

### COURSE DESCRIPTION

An analysis of the fundamental components of an Industrial Stormwater or Multi-Sector General Permit

This course identifies the components and the fundamental considerations that go into developing a stormwater management program for an industrial operation. This workshop communicates practical steps to consider in implementing a cost-effective and compliant program at your facility. The workshop breaks down each element of a program and what decision processes are needed to meet regulatory requirements.

### CONTENT INCLUDES:

- Permit requirements and the policy drivers of industrial stormwater management
- How to develop a Stormwater Pollution Prevention Plan
- Fundamentals of a Sampling Plan, Monitoring and Reporting
- Considerations for a Spill Prevention and Emergency Cleanup Plan
- The world of Best Management Practices (BMPs) from operational to treatment, and more.

The content is designed to help permittees understand the fundamentals of a comprehensive stormwater management program, but also goes in depth into sampling and monitoring. The information will assist even the most seasoned engineers and consultants.

### INSTRUCTOR

***Nathan Hardebeck**, CWT, LLC, Principal*

Nathan Hardebeck has more than 16 years of experience in the environmental consulting field with an emphasis on best management practices (BMPs) and program management related to stormwater services. His professional experience and responsibilities include providing training and technical expertise for stormwater management for public agencies, as well as working on behalf of private clients and industries on their management and BMP and sampling programs. A gifted educator, Nathan is a much sought after presenter at conferences, seminars, and symposiums. He has the ability to communicate complex information using real-life examples that hold the audiences' attention while they learn the intricacies of topics, including stormwater management, BMPs, and erosion control. He is a published author and photographer.

## Repairing Entrenched, Incised, and Degraded (Urbanized) Streams —Techniques and Case Studies

0.5 Continuing Education Unit

**MONDAY 8/28**

8:30 AM – 4:00 PM

### COURSE DESCRIPTION

Urban stream entrenchment, incision, and degradation are a high-priority, national issue leading to poor water quality, loss of riparian function, loss of aquatic habitat, and costly threats to infrastructure. Roads, highways, and bridges are especially subject to these impacts; the repairs and remediations are often costly and commonly rely on riprap, concrete, or other "hard engineering" techniques that do not address the underlying problems—excess stream energy. Acquiring environmental permits for riverine projects in areas of sensitive species is also problematic—Resource Agencies often want designs with less rock, include bioengineering, and utilize natural design methods.

This course will deal with some of the tools needed to design and build naturally functioning stream, river, and creek reaches. The material will be presented with the extensive use of case studies. John McCullah will present projects utilizing bioengineering and environmentally-sensitive techniques from the US and Canada, to New Zealand, some spanning over 15 years. Case studies will be enhanced with the use of *Dirt Time* video clips.

In 2005, the Transportation Research Board and the National Cooperative Highway Research Program (NCHRP) published *NCHRP Report 544–Environmentally Sensitive Channel and Bank Protection Methods*. Often referred to as "Alternatives to Riprap," this report, authored by J. McCullah, D. Gray, and D. F. Shields, was published on CD and includes over 50 techniques, from redirective Rock Vanes and Bendway Weirs, to Vegetated Rip Rap and Longitudinal Stone Toe with Live Siltation. It incorporates design considerations, construction specifications, and detailed drawings (in AutoCad format). A CD/DVD version of the ESenSS design guidance manual will be provided free to all class attendees.

This class is a must for engineers, hydrologists, planners, and ecologists who are challenged with urban stream "greening," highway repair, and channel restoration. Join these experienced project designers and builders to see what has worked and what has not. The training will be fast and fluid, using case studies, *Dirt Time* movie clips, and an extensive use of case studies. Guidance documents, including *NCHRP Report 544–Environmentally Sensitive Channel and Bank Protection Methods* on CD, will be provided for free.

John will present information exceptionally relevant to the Pacific Northwest where endangered salmonid species and the associated life stage habitats are of concern. As a watershed restorationist and design/build contractor, John will show how special construction techniques, combined with these "self-mitigating habitat enhancing methods," can build projects: 1) Without requiring costly river diversions/isolation techniques, 2) Without excessive destruction of the streambanks and channel bottoms, 3) Using designs that include appropriate bioengineering methods to ensure maximum geotechnical and habitat enhancements, and 4) With little to no downstream increases in turbidity!

Attendees will learn about "thalweg management", an approach to natural river design that looks at the *vectors* of high velocity during large flows, not just the average channel velocities or shear. And you will learn about the environmentally–sensitive redirective techniques, such as Rock Vanes and Bendway Weirs, which can be employed to "manage the thalweg." Redirective methods using well graded stone and a wide array of bioengineering have been used successfully for decades throughout the US. Similarly, John has designed and built projects in ecologically sensitive streams throughout California, Canada, and New Zealand. John will present relevant project case studies to show "the proof's in the pudding."

### COURSE HIGHLIGHTS

- Basic fluvial geomorphology
- Stream form and process
- Lane's equation, Channel Evolution Model
- Cause and effects of entrenchment
- Proper function—how a stream "naturally dissipates excess energy" is a design clue.
- Techniques for channel and bank stabilization
- The *NCHRP Report 544—Environmentally Sensitive Channel and Bank Protection Methods*
- Biotechnical—use of engineered materials with vegetation
- Large wood debris, living walls

- Engineered rock riffles as grade control
- Redirective versus resistive bank protection
- Other solutions
- Flood terraces, inset floodplains

**INSTRUCTOR**

***John McCullah**, President, Salix Applied Earthcare, northern California*

John McCullah is a fluvial geomorphologist and Certified Professional Erosion and Sediment Control Specialist (CPESC) with more than 20 years of experience implementing erosion control, stream/river restoration, and bioengineering projects. John's trainings are filled with first hand, practical experiences. He will show you not only what applications work, but why some practices are not so good! This course will focus on low-cost and environmentally sensitive methods to control riverbank erosion.

John has a B.S. from Humboldt University in Watershed Geology, an A.A. in Biology from Shasta College, and is a CA Landscape Contractor. He has been an adjunct instructor at Shasta College for 16 years. As past Project Manager for Trinity and Western Shasta RCDs and as current Executive Director for Sacramento Watersheds Action Group, he has had extensive experience designing, building, and monitoring projects.

## Stormwater Pollution Modeling for LID, TMDL, and Retrofitting Analyses —An Overview of WinSLAMM

0.5 Continuing Education Unit

**MONDAY 8/28**

8:30 AM – 4:00 PM

This course requires all attendees to have a laptop computer with them for use during the course. If you plan on attending with someone from your organization, you may also share a computer.

Attendees with their own laptop may use a temporary license of the model during the course. WinSLAMM can be run on a PC with Windows XP, Vista, or Windows 7 and will need a CD drive and/or a USB port to load the program. You will need administrative privileges for the computer if the program is not pre-loaded.

**COURSE DESCRIPTION**

This hands-on, computer-based course will demonstrate how to use WinSLAMM to utilize source area stormwater controls to maintain or create a hydrologically functional landscape that mimics natural watersheds' hydrologic functions (volume, frequency, recharge, and discharge). By integrating source area controls into site design, you can approach the predevelopment site stability to retain water and pollutants.

You will learn to:

- Quantify pollutant sources in complex urban watersheds
- Predict the performance and impact of many interacting development and control options
- Calculate pollutant loads and runoff volumes from various structural and non-structural management scenarios
- Estimate and compare the costs of stormwater control practices

**About WinSLAMM**

WinSLAMM is a Windows-based, continuous simulation computer program, that helps water resources professionals make effective decisions by modeling the stormwater impacts of new or existing developments and evaluating the benefits of various control measures. The WinSLAMM model has been used for more than 15 years to calculate urban stormwater runoff volume, pollution loads, and assess a wide range of management measures. The model enables accurate planning-level and design-level analyses. Wisconsin's Department of Natural Resources has adopted the model for regulatory compliance purposes. The WinSLAMM batch processor provides data for decision makers to select the most cost-effective alternative stormwater control practices. WinSLAMM is typically used in continuous simulations of at least one year of local rain events to examine these issues over a wide range of actual site conditions.

The one-day course will cover:

- Modeling terminology and preparing to model WinSLAMM theory and practice
- WinSLAMM model features and navigation
- Base file setup
- Grass swale & filter strip modeling/design
- Biofilter modeling/design
- Analyzing an example LID subdivision development for stormwater volume and TSS loads

**INSTRUCTORS**

***John Voorhees**, P.E., PH, Water Resources Engineer, AECOM*

***Dr. Robert Pitt**, Ph.D., P.E., Emeritus Cudworth Professor of Urban Water Systems, University of Alabama*

***James Bachhuber**, PH, Brown and Caldwell*

James Bachhuber is a nationally respected hydrologist with extensive experience in urban stormwater management planning, pollution modeling, stormwater permitting, ordinance development, and the analysis of urban stormwater BMPs. At the Wisconsin DNR, he helped develop applications for rural and urban nonpoint source pollution load models. As a consulting engineer, he manages water resource projects dealing with urban stormwater runoff, environmental impacts, and TMDLs.

***Caroline Burger**, P.E., Water Resource Engineer, Brown and Caldwell*

Caroline Burger has 10 years of experience in stormwater management planning, pollution modeling and monitoring, hydrologic and hydraulic modeling, stormwater permitting, ordinance development, and analysis of BMPs. She has extensive experience using WinSLAMM and has been a key part of the team involved with the calibration and development of the WinSLAMM model itself.

## Biotic Ligand Model—An Overview

0.5 Continuing Education Unit

**MONDAY 8/28**

8:30 AM – 4:00 PM

**COURSE DESCRIPTION**

At the Biotic Ligand Model (BLM) workshop, attendees will learn the fundamentals of metals toxicology and bioavailability in the environment, and how the BLM can address a wide range of water-quality scenarios. Software use and options will be demonstrated for generating the EPA-recommended ambient water-quality criteria (AWQC) for copper, as well as evaluating the aquatic life toxicity of various metals based on simple water-quality measurement. Basic options will be covered for estimating missing parameters and using simplified inputs, as well as more advanced options for developing benchmarks for time-variable scenarios, evaluating multiple metals, and evaluating more complicated toxicological effects such as fish olfactory and behavior responses. Attendees will learn about best practices for gathering BLM input datasets and hear a summary of national and international status of BLM use and adoptions by States for AWQC and site-specific WQC. Case studies including NPDES scenarios will be provided. Attendees will receive software and course materials to take home for future reference.

This introductory presentation provides an overview of the BLM and addresses commonly asked questions, such as:

- What is the BLM?
- Why is the BLM an improvement over EPA's old hardness-based copper criteria?
- How do the BLM-derived criteria compare to the hardness-based criteria?
- What input parameters are needed to run the BLM?
- How has the BLM approach been applied in practice?

**INSTRUCTOR**

***Bob Santore**, MS, Partner, Windward Environmental*

Bob Santore is an environmental scientist with more than 20 years of experience in environmental and aquatic chemistry, EPA regulatory issues, site-specific criteria, water quality modeling, and chemical modeling. Bob has led efforts in developing BLM versions for a variety of metals and environmental media, for both freshwater and marine environments. These efforts have resulted in a number of software packages that provide easy-to-use approaches to assess metal bioavailability when setting site-specific water-quality criteria and assessing ecological risk associated with metals in the environment.

# **Pre-Conference** Certification Courses 8/27–8/28

## Certified Inspector of Sediment and Erosion Control (CISEC®)

**Review Course** ($275):

**SUNDAY 8/27**
8:30 AM – 5:30 PM

**MONDAY 8/28**
8:30 AM – 5:30 PM

**Certification Exam**
(approval required):
1:00 PM – 5:30 PM

### WHY ATTEND THIS COURSE?

CISEC, Inc. provides a nationwide inspector certification program (see www.cisecinc.org) for individuals that:

- Demonstrate comprehensive knowledge in the principles and practices of sediment and erosion control and their applicability to development of discharge permit documents,
- Demonstrate the necessary skills to observe onsite and offsite conditions that impact the quality of stormwater discharges from active construction sites,
- Demonstrate the ability to inspect installed best management practices and their ongoing maintenance to determine if the mitigation measures will minimize the discharge of sediment and other pollutants from active construction sites, and
- Demonstrate the ability to communicate and report on their inspection of active construction sites as to whether compliance issues may exist with federal, state, and/or local discharge permit regulations.

This two-day intermediate level course will provide training modules to those:

- Seeking to become construction site sediment and erosion control inspectors,
- Seeking a comprehensive education program that meets sediment and inspection requirements as found in EPA's Construction General Permit, and
- Provide an opportunity for inspectors, designers, and regulatory personnel to improve upon their educational background before sitting for the CISEC certification examination.

### COURSE OUTLINE

**SUNDAY**
8:30 AM – 5:30 PM

**Module 1: EPA Rules & Regulations**
- Clean Water Act
- NPDES 2017 General Permit
- Evaluating the CGP
- Understanding a SWPPP and the S&EC drawings

**Module 2: Background of an Inspector**
- Definitions
- Erosion, sediment and sedimentation
- Polymers and sedimentation
- A primer on hydrology
- Hydrographs and sedimentation
- Watersheds and discharge points
- Critical inspector requirements
- SWPPPs and BMPs
- Communication
- Recognizing limitations
- CISEC Code of Ethics

**Module 3: Inspecting BMPs**
- Understanding the phases of construction
- Inspecting
- Barriers
- Check structures
- Drains and inlets
- Sediment containment systems
- Polymers
- Wind/dust control methods
- Erosion control practices
- Hazardous waste material sites
- Writing and assessing inspection reports

**MONDAY**
8:30 AM – 11:30 AM

**Module 4: Conducting Construction Site Inspections**
- Inspection requirements
- Role of designers, inspectors, and contractors
- Inspector responsibilities during construction activities
- Inspection reports
- Reporting on BMP maintenance
- Documentation and communication
- Working with contractors and clients
- Inspecting construction sites
- During grading
- During construction

**MONDAY**
1:00 PM – 5:30 PM

### CISEC Certification Examination

Register for the one-and-a-half day Certified Inspector of Sediment and Erosion Control training modules on Sunday and Monday, August 27 and 28, and apply through CISEC, Inc. (at www.cisecinc.org) to determine whether you are eligible to take the examination on Monday, August 28. You may register to attend the training modules only, without having to take the examination. Also, there is no requirement to take the training modules before sitting for the certifying examination.

**Please Note:** To take the CISEC certification examination, you must have received a letter of approval from CISEC, Inc. See details under "How to Apply for the Examination." Additional information and the required forms are available at www.cisecinc.org.

### HOW TO GET CERTIFIED

A CISEC is one who has demonstrated his or her proficiency in observing, inspecting, and reporting on the implementation of stormwater pollution prevention plans by passing the 3.5–4.0 hours certification examination with a score of 75% or better.

**Minimum Qualifications**
An applicant becoming a CISEC must demonstrate the following background and expertise:

- A complete understanding about sediment and erosion processes, and how the discharge of pollutants associated with construction activities may impact the environment;
- The ability to meet EPA's requirements for a qualified inspector and an understanding of federal regulations associated with the NPDES discharge permit;
- Ability to read and understand construction site stormwater pollution prevention plans (SWPPPs), and able to fully comprehend accompanying sediment and erosion control drawings;
- Construction site experience on inspecting the installation and maintenance of BMPs, identifying waste management problems, and addressing impacts by non-stormwater discharges; and
- The ability to communicate and write accurate inspection reports. Applicants are expected to have inspection skills in one or more of the following types of construction projects: large land development, linear (e.g., roadway, pipeline), vertical (e.g., town homes, single-family residence), or big box (e.g., commercial buildings).

An applicant's skills will be determined through testing and training provided by the CISEC program, which is designed for achieving proficiency in the process of inspecting and reporting on construction site sediment and erosion control practices.

### HOW TO REGISTER FOR THE TRAINING MODULES—TWO-STEP REGISTRATION PROCESS

Anyone is eligible to attend the training modules on Sunday and Monday, August 27 and 28. However, you must complete the StormCon registration form and mail or fax it to us, or register online at www.StormCon.com to reserve your space.

Your registration fee for the training modules includes a manual with essential information and material for inspectors. Whether you're taking the examination or are considering becoming certified in the future, this is a great opportunity to review the principles of site inspection and erosion and sediment control.

**Please Note:** CISEC Inc. will NOT process any StormCon registration fees for the training modules. You must register and pay to StormCon ($275), and all eligibility fees are paid to CISEC for the exam.

### HOW TO APPLY FOR THE EXAMINATION

To be eligible to sit for the CISEC examination on Monday, August 28, you must receive approval from CISEC, Inc. This requires submittal of an application and paying the $150 (if you are registered for the training modules) or $350 (if you are not taking the training modules) processing fee to CISEC, Inc. StormCon will *NOT* process any processing fees for the certification examination.

For a CISEC examination application form and fee information, please visit www.cisecinc.org. To download an application PDF form, visit www.cisecinc.org/id1.html, or the "Training and Exam Date" tab as found on the website. You are not eligible to take the certification test unless you have received a confirmation letter from the CISEC, Inc. prior to the examination date.

**CISEC Examination Application Deadline**
The CISEC review committee needs at least 30 days to evaluate your information and to determine your eligibility to sit for the examination. Your materials must be received by CISEC, Inc. no later than July 19, 2017.

**CISEC Contact Information**
**Phone:** 720-235-2783
**Fax:** 303-841-6386
**Email:** cisec_inc@yahoo.com
**Web:** www.cisecinc.org
**Mailing Address:** P.O. Box 188, Parker, CO 80134

## Certified Erosion, Sediment, and Stormwater Inspector (CESSWI™)

**Review Course:**
**SUNDAY 8/27**
8:00 AM – 5:00 PM

**Certification Exam:**
**MONDAY 8/28**
8:00 AM. – 1:00 PM

### WHAT IS CESSWI?

The Certified Erosion, Sediment, and Stormwater Inspector (CESSWI) program is intended to ensure certificants meet the Federal requirements including the EPA's National Pollutant Discharge Elimination System (NPDES) definition of "Qualified Personnel." CESSWI training and certification addresses all aspects of providing complete inspections for erosion and sediment control and stormwater compliance. These professionals have been tested and have demonstrated their knowledge and understanding of: documentation, communication, safety, the rules and methods of erosion and sediment control, and stormwater control and management.

### CESSWI CERTIFICATION BENEFITS YOU BY

- Demonstrating proficiency in the erosion, sediment, and stormwater inspection field
- Enhancing your technical and professional credibility
- Satisfying the qualified-person requirement in some local and state programs
- Increasing personal value, recognition, and marketability
- Encouraging greater commitment and personal career growth

Register for the full-day Certified Erosion, Sediment, and Storm Water Inspector (CESSWI) Exam Review Session on Sunday, August 27, and apply to take the exam on Monday, August 28, or participate in the review session and take the exam at a later date. You may register to attend the review session only, without having to take the exam.

### HOW TO GET CERTIFIED

Applicants must successfully pass a proctored one-day exam covering safety, communication, documentation ethics, plan management, inspector duties, BMPs, and federal and state laws and regulations.
A full-day exam review session is offered on Sunday, August 27, from 8:00 AM to 5:00 PM. The exam is offered the following day, Monday, August 28, from 8:00 AM to 1:00 PM. You must have prior approval to take the exam on Monday, August 28.

### HOW TO REGISTER AND APPLY FOR THE EXAM

Anyone is eligible to attend the full-day review session on Sunday, August 27. Please visit www.envirocert.org Certification Portal to begin the application process. You are not eligible to take the exam unless your application has been approved.

### CESSWI EXAM APPLICATION DEADLINE

The CESSWI review committee needs 35 days to evaluate your information and confirm your eligibility to sit for the exam.

### ENVIROCERT INTERNATIONAL, INC. CONTACT INFORMATION

Melissa McKinney
Operations Manager
EnviroCert International, Inc.
6 E. Medical Court Drive,
Marion, NC 28752
**Email:** mmckinney@envirocert.org
**Phone:** 828-655-1600 Ext. 133
**Fax:** 828-655-1622
**Web:** www.envirocert.org

## Certified Professional in Erosion and Sediment Control (CPESC®)

**Review Course:**
**SUNDAY 8/27**
8:00 AM – 5:00 PM

**Certification Exam:**
**MONDAY 8/28**
8:00 AM. – 1:00 PM

### WHAT IS CPESC?

Certified Professional in Erosion and Sediment Control (CPESC) is a designation that provides evidence of qualifications in erosion and sediment control principles and applications. The CPESC® certification represents many disciplines and specialties that work to produce site-specific plans and designs that comprehensively address current and potential erosion and sedimentation issues with practices and measures that are cost effective, understandable, and that meet environmental and regulatory requirements.

### CPESC CERTIFICATION BENEFITS YOU BY

- Enhancing your professional credibility
- Promoting public awareness of the erosion and sediment control profession
- Allowing you greater influence on policy decisions affecting technical and professional issues
- Providing access to educational opportunities and sources of information
- Leveraging your career opportunities through professional contacts

Register for the full-day Certified Professional in Erosion and Sediment Control Exam Review Session on Sunday, August 27, and apply to take the exam on Monday, August 28, or participate in the review session and take the exam at a later date. You may register to attend the review session only, without having to take the exam.

### HOW TO GET CERTIFIED

Applicants must successfully pass a proctored one-day exam covering hydrology, environmental indicators, impacts of urbanization, and federal and state laws and regulations.
A full-day exam review session is offered on Sunday, August 27, from 8:00 AM to 5:00 PM. The exam is offered the following day, Monday, August 28, from 8:00 AM to 1:00 PM.

### HOW TO REGISTER AND APPLY FOR THE EXAM

Anyone is eligible to attend the full-day review session on Sunday, August 27. Please visit www.envirocert.org Certification Portal to begin the application process. You are not eligible to take the exam unless your application has been approved.

### CPESC EXAM APPLICATION DEADLINE

The CPESC review committee needs 35 days to evaluate your information and confirm your eligibility to sit for the exam.

### ENVIROCERT INTERNATIONAL, INC. CONTACT INFORMATION

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## Certified Professional in Stormwater Quality (CPSWQ®)

**Review Course:**
**SUNDAY 8/27**
8:00 AM – 5:00 PM

**Certification Exam:**
**MONDAY 8/28**
8:00 AM. – 1:00 PM

### WHAT IS CPSWQ?

The Certified Professional in Storm Water Quality (CPSWQ) is a designation that provides evidence of qualifications in stormwater management principles and methods. The CPSWQ program was created to provide professional credentials to individuals working with stormwater-quality issues. Individuals holding the CPSWQ Certification have the knowledge and abilities to help projects meet federal stormwater requirements, including EPA's NPDES definition of "Qualified Personnel," and also know how to ensure that the projects they oversee meet the requirements of state and local regulations.

### CPSWQ CERTIFICATION BENEFITS YOU BY

- Enhancing your professional credibility
- Promoting public awareness of the stormwater profession
- Allowing you greater influence on policy decisions affecting technical and professional issues
- Providing access to educational opportunities and sources of information
- Leveraging your career opportunities through professional contacts

Register for the full-day Certified Professional in Storm Water Quality (CPSWQ) Exam Review Session on Sunday, August 27, and apply to take the exam on Monday, August 28, or participate in the review session and take the exam at a later date. You may register to attend the review session only, without having to take the exam.

### HOW TO REGISTER AND APPLY FOR THE EXAM

Anyone is eligible to attend the full-day review session on Sunday, August 27. Please visit www.envirocert.org Certification Portal to begin the application process. You are not eligible to take the exam unless your application has been approved.

**CPSWQ EXAM APPLICATION DEADLINE**
The CPSWQ review committee needs 35 days to evaluate your information and confirm your eligibility to sit for the exam.

**ENVIROCERT INTERNATIONAL, INC. CONTACT INFORMATION**
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## Certified Professional in Municipal Stormwater Management (CPMSM™)

**Review Course:**
**SUNDAY 8/27**
8:00 AM – 5:00 PM

**Certification Exam:**
**MONDAY 8/28**
8:00 AM – 1:00 PM

**WHAT IS CPMSM?**
The purpose of the Certified Professional in Municipal Stormwater Management (CPMSM) program is to certify individuals who are technically and ethically qualified to manage or coordinate nationally consistent EPA NPDES MS4 programs which are in compliance with applicable (local, state, provincial, and federal) laws and regulations. CPMSM certification is available to those who have the educational training, as well as the demonstrated expertise and experience in MS4 programs. The primary target audience for this certification is Phase II MS4 staff. However, others such as Phase I MS4 staff, contractors, regulators, etc. could also benefit by obtaining the certification.

**TYPICAL WORK-RELATED EXPERIENCE THAT SOMEONE SEEKING THE CERTIFICATION MAY HAVE INCLUDES**
- MS4 Program Coordinators typically serve as an overall program manager.
- Coordinators manage all six minimum control measures (public education and outreach, public participation, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control, and good housekeeping and pollution prevention).
- Coordinators must work well with various inter-agency departments since the MS4 permit affects many activities within a regulated MS4 area.
- Coordinators may control or assist with their overall program budget and funds.
- Coordinators give input and are responsible for ordinance language, as well as implementing those ordinances for illicit discharge, construction runoff, and post-construction runoff control.
- Coordinators manage database information pertaining to their NPDES MS4 permit.
- Coordinators are responsible for compiling and submitting compliance reporting to their state permitting authorities.

**CPMSM CERTIFICATION BENEFITS YOU BY**
- Enhancing your professional credibility
- Promoting public awareness of the EPA NPDES MS4 program
- Allowing you greater influence on policy decisions affecting technical and professional issues
- Providing access to educational opportunities and sources of information
- Leveraging your career opportunities through professional contacts

Register for the full-day CPMSM Exam Review Session on Sunday, August 27, and apply to take the exam on Monday, August 28, or participate in the review session and take the exam at a later date. You may register to attend the review session only, without having to take the exam and obtaining pre-approval.

**HOW TO GET CERTIFIED**
Applicants must successfully pass a proctored one-day exam covering the six minimum control measures, environmental indicators, overall MS4 program management, as well as federal and state laws and regulations. A full-day exam review session is offered on Sunday, August 27, from 8:00 AM to 5:00 PM. The exam is offered the following day, Monday, August 28, from 8:00 AM to 1:00 PM. You must have prior approval to take the exam on Monday, August 28.

**HOW TO REGISTER AND APPLY FOR THE EXAM**
Anyone is eligible to attend the full-day review session on Sunday, August 27. Please visit www.envirocert.org Certification Portal to begin the application process. You are not eligible to take the exam unless you application has been approved.

**CPMSM EXAM APPLICATION DEADLINE**
The CPMSM review committee needs 35 days to evaluate your information and confirm your eligibility to sit for the exam.

**ENVIROCERT INTERNATIONAL, INC. CONTACT INFORMATION**
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## Certified Professional in Industrial Stormwater Management (CPISM™)

**Review Course:**
**SUNDAY 8/27**
8:00 AM – 5:00 PM

**Certification Exam:**
**MONDAY 8/28**
8:00 AM. – 1:00 PM

**WHAT IS CPISM?**
Envirocert International, Inc. (ECI) provides a Professional Certification in Industrial Stormwater Management (CPISM) to verify that Certified Professionals have demonstrated a comprehensive and in-depth knowledge and understanding of the overall industrial practices from a Federal perspective. The Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP) is a federally mandated permit which encompasses stormwater discharges for industrial facilities. The ECI industrial certification (CPISM) ensures that the professional has met the federal requirements outlined by EPA's MSGP.

**CPISM CERTIFICATION BENEFITS YOU BY**
- Permit coverage guidelines and requirements
- Eligibility under the permit
- Compliance, violations, and corrective action measures
- Effluent and pollutant control measures and limitations
- Discharge sources, outfall locations, and monitoring
- Appropriate sampling and testing procedures
- Maintenance and good housekeeping
- Mitigation design elements
- Development of BMP measures to reduce and prevent industrial stormwater discharges
- Preparing SWPPP and monitoring programs
- Post-construction BMPs and LID Methods

Register for the full-day Certified Erosion, Sediment, and Storm Water Inspector (CESSWI) Exam Review Session on Sunday, August 27, and apply to take the exam on Monday, August 28, or participate in the review session and take the exam at a later date. You may register to attend the review session only, without having to take the exam.

**HOW TO GET CERTIFIED**
Applicants must successfully pass a proctored one-day exam covering safety, communication, documentation ethics, plan management, inspector duties, BMPs, and federal and state laws and regulations.
A full-day exam review session is offered on Sunday, August 27, from 8:00 AM to 5:00 PM. The exam is offered the following day, Monday, August 28, from 8:00 AM to 1:00 PM. You must have prior approval to take the exam on Monday, August 28.

**HOW TO REGISTER AND APPLY FOR THE EXAM**
Anyone is eligible to attend the full-day review session on Sunday, August 27. Please visit www.envirocert.org Certification Portal to begin the application process. You are not eligible to take the exam unless your application has been approved.

**CPISM EXAM APPLICATION DEADLINE**
The CPISM review committee needs 35 days to evaluate your information and confirm your eligibility to sit for the exam.

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# **Conference** Course Schedule

*This is a preliminary program and is subject to change.*

## Conference Program Tracks

**B** **BMP Case Studies**

Examples of structural and non-structural best management practices to achieve water-quality goals

**G** **Green Infrastructure**

Low-impact development (LID) techniques, as well as smart growth and other green infrastructure practices

**P** **Stormwater Program Management**

Funding, public education and outreach, staffing, regulatory compliance, and other elements of managing a successful program

**R** **Advanced Research Topics**

Comparing BMP performance, evaluating testing protocols, and trends in stormwater research

**Q** **Water-Quality Monitoring**

Water-quality assessment, monitoring and sampling techniques, and modeling practices

**D** **Industrial Stormwater Management**

Industrial stormwater management and permitting, focusing on publicly and privately owned facilities covered by industrial stormwater permits or EPA's stormwater multi-sector general permit

## Tuesday, August 29

**10:00 AM – 11:30 AM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Water-Quality Monitoring | 409 |

**2:00 PM – 3:30 PM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Industrial Stormwater Management | 409 |

**4:00 PM – 5:30 PM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Water-Quality Monitoring | 409 |

## Wednesday, August 30

**8:00 AM – 9:30 AM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Industrial Stormwater Management | 409 |

**10:00 AM – 11:30 AM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Water-Quality Monitoring | 409 |

**2:00 PM – 3:00 PM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Industrial Stormwater Management | 409 |

**3:30 PM – 5:00 PM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Industrial Stormwater Management | 409 |

**5:00 PM – 6:00 PM**

| | Room |
|---|---|
| BMP Case Studies | 406 |
| Green Infrastructure | 405 |
| Stormwater Program Management I | 404 |
| Stormwater Program Management II | 402-403 |
| Advanced Research Topics | 407-408 |
| Water-Quality Monitoring | 409 |

## Thursday, August 31

**8:00 AM – 12:00 PM**

Thursday sessions are open to all attendees and will be held in the event hotel (Hyatt Regency Bellevue). Start times and room numbers will be made available as we get closer to the event.

### HOT TOPIC SESSIONS

**Panel Discussions**

Urban Flooding: Learning to Walk on Water

Stormwater Infrastructure Policies —A Management Perspective

**Special Sessions**

EPA—An update on EPA stormwater program

Rethinking Urban Water Management: Integrating Natural and Engineered Systems

**Tour**

City of Tacoma—Point Defiance Park and Port of Tacoma West Hylebos Pier Stormwater Bus Tour

## Tuesday, August 29
### 10:00 AM – 11:30 AM

**BMP CASE STUDIES**
Room 406

**B11** ..... 10:00 AM – 10:30 AM
**Reducing Soluble Phosphorus Loads in an Agricultural Watershed**
*Rebecca Carlson, Wenck, Golden Valley, MN*
*Cole Loewen, Clearwater River Watershed District, Annandale, MN*

**B12** ..... 10:30 AM – 11:00 AM
**Iron-Enhanced Sand Filter Performance for Reducing Phosphorus From a Regional Stormwater Pond**
*Maddie Vargo, Capitol Region Watershed District, St. Paul, MN*
*Bob Fossum, Capitol Region Watershed District, St. Paul, MN*
*Britta Suppes, Capitol Region Watershed District, St. Paul, MN*

**B13** ..... 11:00 AM – 11:30 AM
**Stormwater Management at Facilities Draining to Sediment Superfund Sites**
*Philip Spadaro, The Intelligence Group, Seattle, WA*

**GREEN INFRASTRUCTURE**
Room 405

**G11** ..... 10:00 AM – 10:30 AM
**Developing a Monitoring Program to Assess Large-Scale Implementation of Green Infrastructure in Washington, DC**
*Nikolaos Apsilidis, Greeley and Hansen, Alexandria, VA*
*Bethany Bezak, District of Columbia Water and Sewer Authority, Washington DC*

**G12** ..... 10:30 AM – 11:00 AM
**Lifecycle of Green Infrastructure: Evaluations Five Years After NYC Pilot Implementation**
*Matthew Jones, Hazen and Sawyer, Raleigh, NC*

**G13** ..... 11:00 AM – 11:30 AM
**Low Impact Development Monitoring, Open Data Strategy, Tracking, and Assessment: California LID Evaluation and Analysis Network**
*Daniel Apt, Olaunu, San Clemente, CA*

**STORMWATER PROGRAM MANAGEMENT I**
Room 404

**P11** ..... 10:00 AM – 10:30 AM
**How Do You Know Your Stormwater Program Is Working? Developing Measuring Sticks to Demonstrate Effectiveness**
*Art Jenkins, City of Spokane Valley, WA*
*Aimee Navickis-Brasch, HDR, Spokane, WA*

**P12** ..... 10:30 AM – 11:00 AM
**Streamlining Onsite Stormwater Management: Helping Municipalities and Developers Implement New Stormwater Requirements in Washington State**
*Rebecca Dugopolski, Herrera Environmental Consultants, Seattle, WA*
*Bill Blake, City of Arlington, WA*
*Jonathan Boehme, City of Port Angeles, WA*

**P13** ..... 11:00 AM – 11:30 AM
**Improving Your MS4 Program Through Use of a Simulated Audit**
*Mark Van Auken, Arcadis, Raleigh, NC*

**STORMWATER PROGRAM MANAGEMENT II**
Room 402-403

**P14** ..... 10:00 AM – 10:30 AM
**Tacoma's Regional Facilities Payment In-Lieu-of Construction Program for NPDES Stormwater Treatment and Flow Control Requirements**
*Dana de Leon, City of Tacoma, WA*

**P15** ..... 10:30 AM – 11:00 AM
**Empowering Community Partners to Build Green Infrastructure in the Bluegrass**
*Christopher Dent, Lexington-Fayette Urban County Government, Lexington, KY*

**P16** ..... 11:00 AM – 11:30 AM
**Multi-Source Funding: Keeping the MS4 Stormwater Program at the University of Virginia Ahead of the Curve**
Jeffrey Sitler, University of Virginia, Charlottesville, VA
*Kristin Carter, University of Virginia, Charlottesville, VA*

**ADVANCED RESEARCH TOPICS**
Room 407-408

**R11** ..... 10:00 AM – 10:30 AM
**Microbial Source Tracking, Pathogen Measurements, and Illness Risk During Wet Weather: The Nation's First QMRA Case Study at a Marine Beach**
*Kenneth Schiff, Southern California Coastal Water Research Project, Costa Mesa, CA*

**R12** ..... 10:30 AM – 11:00 AM
**What Happens When Stormwater Discharges Are the Cause But Not the Source of Bacteria Violations?**
*Daniel Ahern, National Stormwater Center, Beaufort, SC*

**R13** ..... 11:00 AM – 11:30 AM
**Investigation of Toxic Chemicals in Roof Runoff**
*Taylor Haskins, Washington State University, Puyallup, WA*
*Lisa Rozmyn, Washington State University, Puyallup, WA*

**WATER-QUALITY MONITORING**
Room 409

**Q11** ..... 10:00 AM – 10:30 AM
**Advances in Microbial Source Tracking for Bacteria TMDLs**
*Tony Hancock, Brown and Caldwell, San Diego, CA*
*Lisa Skutecki, Brown and Caldwell, San Diego, CA*

**Q12** ..... 10:30 AM – 11:00 AM
**Sediment Trap Pilot Project**
*James Packman, Aspect Consulting, Seattle, WA*
*Beth Schmoyer, Seattle Public Utilities, Seattle, WA*

**Q13** ..... 11:00 AM – 11:30 AM
**Using Multiple Lines of Evidence to Prove Contamination of a Water Supply Lake by Septic Systems**
Rob Zisette, Herrera Environmental Consultants, Seattle, WA

## TUES 2:00 PM – 3:30 PM

**BMP CASE STUDIES**
Room 406

**B21** ..... 2:00 PM – 2:30 PM
**Bioretention Hydrologic Performance Modeling**
*Douglas Beyerlein, Clear Creek Solutions, Mill Creek, WA*

**B22** ..... 2:30 PM – 3:00 PM
**Combined Sewer Overflow Reduction Facilities: It All Flows Downhill**
*Jason Ziemer, Clear Creek Systems, Pacific, WA*

**B23** ..... 3:00 PM – 3:30 PM
**Stormwater Nutrient Reduction Using Riparian Buffers and Upland Urban Forest Systems**
*Eric Kuehler, USDA Forest Service, Athens, GA*
*Jennifer Miller, Arcadis US, Atlanta, GA*

**GREEN INFRASTRUCTURE**
Room 405

**G21** ..... 2:00 PM – 2:30 PM
**Are Parks the CSO Solution? Lessons Learned from Omaha Parks Designed to Reduce CSOs**
*Ryan Bentley, Big Muddy Workshop, Omaha, NE*
*Thomas Bentley, Vireo, Omaha, NE*

**G22** ..... 2:30 PM – 3:00 PM
**Evolution of Integrating Green Infrastructure in Spokane, WA**
*Marcia Davis, City of Spokane, WA*
*Mark Papich, City of Spokane, WA*

**G23** ..... 3:00 PM – 3:30 PM
**Fleet Avenue Green Street Uses Vacant Lot for CSO Reduction**
*Thomas Evans, AECOM, Cleveland, OH*

**STORMWATER PROGRAM MANAGEMENT I**
Room 404

**P21** ..... 2:00 PM – 2:30 PM
**Stormwater Credit Trading Program Architecture: Practical Advice for Increasing Program Flexibility and Reducing TMDL Compliance Cost While Avoiding Unintended Consequences**
*Vaikko Allen, Contech Engineered Solutions, Ojai, CA*
*Derek Berg, Contech Engineered Solutions, Scarborough, ME*

**P22** ..... 2:30 PM – 3:00 PM
**Can Trading and Incentives Drive Stormwater Infrastructure Investment? Feedback on a National Dialogue on Market-Based Approaches to Stormwater**
*Seth Brown, Storm and Stream Solutions, Alexandria, VA*
*Carrie Sanneman, Willamette Partnership, Portland, OR*
*Chad Praul, Environmental Incentives, South Lake Tahoe, CA*
*Chris French, Water Environment Federation, Alexandria, VA*

**P23** ..... 3:00 PM – 3:30 PM
**Closing the Gap: Leveraging Impact Capital to Deliver Green Infrastructure Programs**
*Rowan Roderick-Jones, NatureVest at the Nature Conservancy, San Francisco, CA*
*Carrie Sanneman, Willamette Partnership, Portland, OR*

**STORMWATER PROGRAM MANAGEMENT II**
Room 402-403

**P24** ..... 2:00 PM – 2:30 PM
**Risky Business? Development and Implementation of a Risk Management Program for Green Infrastructure in the Nation's Capital**
*Bethany Bezak, DC Water, Washington DC*

**P25** ..... 2:30 PM – 3:00 PM
**Seeking Partners for Green Stormwater Infrastructure in Seattle**
*Dustin Atchison, CH2M, Bellevue, WA*
*Shanti Colwell, Seattle Public Utilities, Seattle, WA*

**P26** ..... 3:00 PM – 3:30 PM
**Street-Scale, Strategic Green Infrastructure Planning in the City of Los Angeles**
*Dawn Petschauer, City of Los Angeles Watershed Protection Division, Los Angeles, CA*
*Brad Wardynski, Tetra Tech, San Diego, CA*

**ADVANCED RESEARCH TOPICS**
Room 407-408

**R21** ..... 2:00 PM – 2:30 PM
**Bioretention Hydrologic Performance of 10 Facilities Located Throughout the Puget Sound Basin**
*William (Bill) Taylor, Taylor Aquatic Science, Seattle, WA*

**R22** ..... 2:30 PM – 3:00 PM
**Evaluating the Effectiveness of Permeable Asphalt for Treatment of Stormwater Runoff**
*Clara Olson, Parametrix, Puyallup, WA*
*Garrett Benson, Redmond, WA*
*Sarah Penso, Curitiba, Brazil*
*Emily Zikmund, State College, PA*

**R23** ..... 3:00 PM – 3:30 PM
**Plant Growth Characteristics in New High-Performance Bioretention Media**
*Curtis Hinman, Herrera Environmental Consultants, Seattle, WA*
*Chris May, Kitsap County Public Works, Port Orchard, WA*

**INDUSTRIAL STORMWATER MANAGEMENT**
Room 409

**D21** ..... 2:00 PM – 2:30 PM
**Recent Developments and Emerging Trends in State and Federal Industrial Stormwater Regulation: The Potential Future Implications for Stormwater Management and Compliance for Dischargers at Industrial Facilities**
*Jonathan Meronek, SCS Engineers, Santa Rosa, CA*

**D22** ..... 2:30 PM – 3:00 PM
**Container Terminal Stormwater Treatment on a Superfund Site**
*Stephen Bentsen, Floyd/Snider, Seattle, WA*

**D23** ..... 3:00 PM – 3:30 PM
**A Solution to Water-Quality Challenges at Petroleum Facilities**
*Tom Atkins, Aspect Consulting, Seattle, WA*

## TUES 4:00 PM – 5:30 PM

### BMP CASE STUDIES
Room 406

**B31** ..... 4:00 PM – 4:30 PM
**Optimizing Pollutant Removal in Stormwater Ponds**
*Todd Shoemaker, Wenck Associates, Woodbury, MN*
*Brian Beck, Wenck Associates, Golden Valley, MN*

**B32** ..... 4:30 PM – 5:00 PM
**Effectiveness of Stormwater Retrofits for Treating Highway Runoff to Echo Lake**
*Carly Greyell, King County, WA*

**B33** ..... 5:00 PM – 5:30 PM
**Improved Durability and Structural Performance of Pervious Pavements Reinforced With Recycled Carbon Fiber Composites**
*Karl Englund, Washington State University, Pullman, WA*
*Kenneth Fischer, The Boeing Company, Kent, WA*

### GREEN INFRASTRUCTURE
Room 405

**G31** ..... 4:00 PM – 4:30 PM
**Minnehaha Creek Greenway: Bridging Land Use and Water Resource Planning**
*Renae Clark, Minnehaha Creek Watershed District, Minnetonka, MN*
*Chris Meehan, Wenck Associates, Golden Valley, MN*

**G32** ..... 4:30 PM – 5:00 PM
**Making Green Infrastructure Mainstream in Vancouver, BC**
*Melina Scholefield, City of Vancouver, BC*

**G33** ..... 5:00 PM – 5:30 PM
**It's Not Easy Being Green: Planning and Design for GI**
*Jesse Williams, CH2M, Bellevue, WA*
*April Mills, Seattle Public Utilities, Seattle, WA*

### STORMWATER PROGRAM MANAGEMENT I
Room 404

**P31** ..... 4:00 PM – 4:30 PM
**Reaching the Construction Industry: Clean Water Contractors**
*Melissa Fetter, Erie Soil and Water Conservation District, Sandusky, OH*
*Emily Kuzmick, Old Woman Creek National Estuarine Research Reserve, Huron, OH*

**P32** ..... 4:30 PM – 5:00 PM
**Protecting Shellfish One Rain Garden at a Time**
*Brian Stahl, Kitsap Conservation District, Poulsbo, WA*

**P33** ..... 5:00 PM – 5:30 PM
**Collaborating to Reach MS4 Public Education and Outreach Goals: A Regional Approach**
*Jessica Wenger, University of Virginia, Charlottesville, VA*
*Jeff Sitler, University of Virginia, Charlottesville, VA*

### STORMWATER PROGRAM MANAGEMENT II
Room 402-403

**P34** ..... 4:00 PM – 4:30 PM
**Tracking MS4 Jurisdictional Outfalls in a Linear ROW: Experience From NMDOT**
*Kelly Collins, CDM Smith, Albuquerque, NM*

**P35** ..... 4:30 PM – 5:00 PM
**A Standardized Approach to Stormwater Mapping**
*Colleen Diessner, King County, Seattle, WA*

**P36** ..... 5:00 PM – 5:30 PM
**Automated Stormwater Drainage Delineation for MS4 Permit Compliance**
*Becca Stoner, Arcadis, Richmond, VA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R31** ..... 4:00 PM – 4:30 PM
**An Evaluation of the Treatment Performance of a Bioretention Soil Media Mix Located in a Semi-Arid Region**
*Kyler Higgins, Spokane County, Bremerton, WA*
*Garrett Goudy, Medina, WA*
*Lacey Mehlert, Seattle, WA*
*Russel Groves, Seattle, WA*
*Satya Dhital, Spokane, WA*

**R32** ..... 4:30 PM – 5:00 PM
**Swale on Yale: Innovative Regional Green Stormwater Infrastructure in an Urban Neighborhood**
*Dylan Ahearn, Herrera Environmental Consultants, Seattle, WA*
*Doug Hutchinson, Seattle Public Utilities, Seattle, WA*

**R33** ..... 5:00 PM – 5:30 PM
**Urban Stormwater Management Starts on the Roof: Computer Performance Modeling to Reveal Best Green Roof Design Requirements**
*Jure Šumi, Knauf Insulation, Shelbyville, IN*

### WATER-QUALITY MONITORING
Room 409

**Q31** ..... 4:00 PM – 4:30 PM
**Regional Approaches to Permit-Required Monitoring**
*Karen Dinicola, Washington State Department of Ecology, Olympia, WA*

**Q32** ..... 4:30 PM – 5:00 PM
**A Regional Stormwater Monitoring Program in Washington**
*Brandi Lubliner, Washington State Department of Ecology, Olympia, WA*

**Q33** ..... 5:00 PM – 5:30 PM
**How Toxic Is Your Stormwater?**
*Kenneth Schiff, Southern California Coastal Water Research Project, Costa Mesa, CA*

# Wednesday, August 30

## 8:00 AM – 9:30 AM

### BMP CASE STUDIES
Room 406

**B41** ..... 8:00 AM – 8:30 AM
**Catalyzing Urban Watershed Retrofitting Through Targeted Planning to Effective Implementation**
Rick Schaefer, Tetra Tech, Seattle, WA
*Robert Edwards, City of Edmonds, WA*

**B42** ..... 8:30 AM – 9:00 AM
**Integrating Surface Water Quality Improvements Into Coastal Restoration: An Urban Retrofit BMP Case Study**
*Steve Gruber, Burns and McDonnell Engineering, La Jolla, CA*
*Brian Weiss, Burns and McDonnell Engineering, Kansas City, MS*
*Bob Stein, City of Newport Beach, CA*

**B43** ..... 9:00 AM – 9:30 AM
**Urban School Retrofits: Sending Stormwater to Detention**
*Nate Zwonitzer, Capitol Region Watershed District, St. Paul, MN*

### GREEN INFRASTRUCTURE
Room 405

**G41** ..... 8:00 AM – 8:30 AM
**Where the Wild Things Are: RiverSmart Schools Integrating Design for Outdoor Education and Stormwater Management**
*P. Trinh Doan, District Department of Energy and Environment, Washington DC*

**G42** ..... 8:30 AM – 9:00 AM
**BikeShare Partnership: Using Bike Tours to Showcase Green Infrastructure**
*Heather Williams, Amec Foster Wheeler, Indianapolis, IN*
*Nancy Cho, Amec Foster Wheeler, Indianapolis, IN*

**G43** ..... 9:00 AM – 9:30 AM
**Decatur WAY Creates a Green Opportunity in Lowell**
*James Drake, CDM Smith, Manchester, NH*

### STORMWATER PROGRAM MANAGEMENT I
Room 404

**P41** ..... 8:00 AM – 8:30 AM
**Bellevue's Approach to Stormwater Management**
*Don McQuilliams, City of Bellevue, WA*

**P42** ..... 8:30 AM – 9:00 AM
**Innovative Program Management for Restoration and Retrofit**
*Sheri Lott, Anne Arundel County Watershed Protection and Restoration Program, Annapolis, MD*

**P43** ..... 9:00 AM – 9:30 AM
**Transforming Springfield's Mill Race Into a Community Asset**
*Dan Schall, Amec Foster Wheeler, Portland, OR*

### STORMWATER PROGRAM MANAGEMENT II
Room 402-403

**P44** ..... 8:00 AM – 8:30 AM
**Approaches for Determining and Complying With TMDL Requirements Related to Stormwater Runoff**
*Anna Lantin, Michael Baker International, Irvine, CA*

**P45** ..... 8:30 AM – 9:00 AM
**Watershed-Based Stormwater Permit Compliance: Opportunities and Lessons Learned**
*Heather Merenda, City of Santa Clarita, CA*

**P46** ..... 9:00 AM – 9:30 AM
**Going Mobile: Bellevue's Approach to Developing a Mobile Workforce**
*Don McQuilliams, City of Bellevue, WA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R41** ..... 8:00 AM – 8:30 AM
**Evaluating Urban Air Deposition on an Industrial Facility in Seattle**
*Stephen Bentsen, Floyd/Snider, Seattle, WA*

**R42** ..... 8:30 AM – 9:00 AM
**Zooming In on Particle Size: Understanding Metals in Industrial Stormwater**
*Alan Flemming, Kennedy/Jenks Consultants, Portland, OR*

**R43** ..... 9:00 AM – 9:30 AM
**Particle Size Matters: How to Use PSD Analysis and Metal Solubility Curves to Make Better Treatment Decisions**
*TJ Mothersbaugh, WaterTectonics, Everett, WA*

### INDUSTRIAL STORMWATER MANAGEMENT
Room 409

**D41** ..... 8:00 AM – 8:30 AM
**Port of Port Angeles: Evaluation of Stormwater Treatment and Conveyance Options at an Industrial Facility With Cultural Resources**
*Laura Weiden, Kennedy/Jenks Consultants, Federal Way, WA*

**D42** ..... 8:30 AM – 9:00 AM
**Industrial Stormwater Treatment Along the Lower Duwamish Waterway**
*Nathan Holloway, Clear Water Services, Everett, WA*

**D43** ..... 9:00 AM – 9:30 AM
**Removing Copper From Stormwater at a Small Foundry**
*Paul Eger, Global Minerals Engineering, Hibbing, MN*

## WED 10:00 AM – 11:30 AM

### BMP CASE STUDIES
Room 406

**B51** ..... 10:00 AM – 10:30 AM
**PennDOT Collaborates With Universities Along I-95 in Philadelphia to Understand SMP Maintenance**
*Edwina Lam, AECOM, Conshohocken, PA*
*Eric Henery, AECOM, Conshohocken, PA*

**B52** ..... 10:30 AM – 11:00 AM
**Diagnosing and Repairing a Stormwater Management System: The Good, the Bad, and the Ugly**
*Steve Thibaudeau, US Army Corps of Engineers, Louisville, KY*
*Tara O'Leary, US Army Corps of Engineers, Louisville, KY*

**B53** ..... 11:00 AM – 11:30 AM
**Targeted Watershed IDDE Investigations**
*Brian Behrens, Woolpert, Greenville, SC*

### GREEN INFRASTRUCTURE
Room 405

**G51** ..... 10:00 AM – 10:30 AM
**Story of Stormwater Restoration: Green Infrastructure in the 63-Acre Breewood Tributary**
*Christy Ciarametaro, Montgomery County Department of Environmental Protection, Rockville, MD*
*Lisa Feldt, Montgomery County Department of Environmental Protection, Rockville, MD*

**G52** ..... 10:30 AM – 11:00 AM
**Sustainable Stormwater Analysis for the Ford Site Redevelopment, St. Paul, MN**
*Bob Fossum, Capitol Region Watershed District, St. Paul, MN*
*Wes Saunders-Pearce, City of St. Paul, MN*

**G53** ..... 11:00 AM – 11:30 AM
**Manchester Stormwater Park**
*Christopher May, Kitsap County Public Works, Port Orchard, WA*

### STORMWATER PROGRAM MANAGEMENT I
Room 404

**P51** ..... 10:00 AM – 10:30 AM
**Where Drinking Water Meets Stormwater**
*Kim Swan, Clackamas River Water Providers, Oregon City, OR*

**P52** ..... 10:30 AM – 11:00 AM
**Flow Restoration Planning in the Stormwater Impaired Potash Brook Watershed, South Burlington, VT**
*Andres Torizzo, Watershed Consulting Associates, Burlington, VT*
*Kerrie Garvey, Watershed Consulting Associates, Burlington, VT*

**P53** ..... 11:00 AM – 11:30 AM
**Watershed-Scale Stormwater Modeling and Planning in a Watershed Dominated by Groundwater**
*Tom Kantz, Pierce County Public Works, Tacoma, WA*

### STORMWATER PROGRAM MANAGEMENT II
Room 402-403

**P54** ..... 10:00 AM – 10:30 AM
**Watershed Approach to Recovering Urban Streams: Developing the Plan**
*Andy Rheaume, City of Redmond, WA*

**P55** ..... 10:30 AM – 11:00 AM
**Watershed Approach to Recovering Urban Streams: Tosh Creek Case Study**
*Steve Hitch, City of Redmond, WA*
*Beth Peterson, HDR, Bellevue, WA*

**P56** ..... 11:00 AM – 11:30 AM
**Watershed Approach to Recovering Urban Streams: Monticello Creek Case Study Using SUSTAIN**
*Eric LaFrance, City of Redmond, WA*
*Tarelle Osborn, Osborn Consulting, Bellevue, WA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R51** ..... 10:00 AM – 10:30 AM
**The Case for Performing Historical Research to Understand Stormwater Conveyance System Evolution**
*Emily Jones, Floyd/Snider, Seattle, WA*
*Lisa Meoli, Floyd/Snider, Seattle, WA*

**R52** ..... 10:30 AM – 11:00 AM
**Stormwater Technology Testing Center: A State-of-the-Art Facility for Evaluating the Maintenance Requirements and Performance of Emerging Stormwater Treatment Technologies**
*John Lenth, Herrera Environmental Consultants, Seattle, WA*
*Paul Wirfs, Oregon Department of Transportation, Salem, OR*

**R53** ..... 11:00 AM – 11:30 AM
**Overcoming Design Waste With Clear Visualization of Green Infrastructure Design**
*Zach Sample, XP Solutions, Portland, OR*
*Ashley Francis, Magnusson Klemencic Associates (MKA), Seattle, WA*

### WATER-QUALITY MONITORING
Room 409

**Q51** ..... 10:00 AM – 10:30 AM
**Locating Sewage Discharges Into Surface Waters Using Autonomous Dataloggers, or Why It Is Not Appropriate to Just Grab**
*Jonathan D. Frodge, Seattle Public Utilities, Seattle, WA*

**Q52** ..... 10:30 AM – 11:00 AM
**Low-Cost, Open-Source Wireless Sensing and Control for Smart Stormwater Management**
*Anthony Aufdenkampe, LimnoTech, Oakdale, MN*

**Q53** ..... 11:00 AM – 11:30 AM
**Lessons Learned in Stormwater Monitoring**
*Mick Bartlett, San Antonio River Authority, San Antonio, TX*

## WED 2:00 PM – 3:00 PM

### BMP CASE STUDIES
Room 406

**B61** ..... 2:00 PM – 2:30 PM
**Safe Conveyance of Rare Storm Events**
*Brian Wagner, KCI Technologies, Sparks, MD*

**B62** ..... 2:30 PM – 3:00 PM
**Effectiveness of Low Impact Development Design in Poorly Draining Soils in British Columbia's Lower Mainland**
*Sara Pour, Kerr Wood Leidal, Burnaby, BC*

### GREEN INFRASTRUCTURE
Room 405

**G61** ..... 2:00 PM – 2:30 PM
**Kickstarting a GI Program: Choosing the Locations and Types of GI for Your Initial Projects**
*Caitlin Feehan, DC Water, Washington DC*

**G62** ..... 2:30 PM – 3:00 PM
**Collaborative Approach for Development of the City of Rochester/Monroe County (NY) Green Infrastructure Retrofit Design Manual**
*David Hanny, Barton and Loguidice, Rochester, NY*
*Thomas Robinson, Barton and Loguidice, Rochester, NY*

### STORMWATER PROGRAM MANAGEMENT I
Room 404

**P61** ..... 2:00 PM – 2:30 PM
**Stormwater BMP Tracking Database**
*Alan Barrows, Waukesha County, WI*

**P62** ..... 2:30 PM – 3:00 PM
**Asset Management: Telling a Comprehensive Story for Stormwater Management**
*Uki Dele, City of Shoreline, WA*

### STORMWATER PROGRAM MANAGEMENT II
Room 402-403

**P63** ..... 2:00 PM – 2:30 PM
**The RainReady Approach: Linking Municipalities and Residents to Manage Combined Sewer Basement Backup**
*Marcella Bondie Keenan, Center for Neighborhood Technology, Chicago, IL*
*Deanna Doohaluk, The Conservation Foundation, Naperville, IL*
*Anna Wolf, Center for Neighborhood Technology, Chicago, IL*

**P64** ..... 2:30 PM – 3:00 PM
**Rain Check: Residential Stormwater Management in Philadelphia**
*Zachary Popkin, Pennsylvania Horticultural Society, Philadelphia, PA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R61** ..... 2:00 PM – 2:30 PM
**The Green Planning Committee: Taking Onondaga County Save the Rain to the Next Level**
*Zachary Monge, CH2M Hill, Syracuse, NY*

**R62** ..... 2:30 PM – 3:00 PM
**Two Tales of Stormwater Education and Outreach Effectiveness Studies: The Study and the QAPP**
*Aimee Navickis-Brasch, HDR, Spokane, WA*
*Jessica Shaw, City of Wenatchee, WA*

### INDUSTRIAL STORMWATER MANAGEMENT
Room 409

**D61** ..... 2:00 PM – 2:30 PM
**Redeveloping a Shipping Terminal With Stormwater in Mind**
*Ross Dunning, Kennedy/Jenks Consultants, Federal Way, WA*

**D62** ..... 2:30 PM – 3:00 PM
**Implementation of an Innovative Stormwater treatment System at Port of Olympia Marine Terminal: Overcoming Obstacles in Pursuit of Success**
*John Mandelin, Clear Water Services, Everett, WA*

## WED 3:30 PM – 5:00 PM

### BMP CASE STUDIES
Room 406

**B71** ..... 3:30 PM – 4:00 PM
**Neighborhood Revitalization Through Collaborative Stormwater Management: Rodney Cook Sr. Park**
*Cory Rayburn, City of Atlanta, GA*

**B72** ..... 4:00 PM – 4:30 PM
**Los Angeles County Public Works Project at Marina Del Rey Parking Lot 9: Creating Open Public Spaces While Treating Storm Flows**
*Nicole Mi, Los Angeles County Department of Public Works, Alhambra, CA*
*Charles Chen, Los Angeles County Department of Public Works, Alhambra, CA*

**B73** ..... 4:30 PM – 5:00 PM
**Verification of Project Sustainability in the Staten Island Bluebelt Using Envision**
*Ifetayo Venner, Arcadis, Tampa, FL*
*Sofia Zuberbuhler-Yafar, New York City Department of Design and Construction, New York, NY*

### GREEN INFRASTRUCTURE
Room 405

**G71** ..... 3:30 PM – 4:00 PM
**California Low Impact Development Technical Assistance and Barriers Removal**
*Daniel Apt, Olaunu, San Clemente, CA*
*Darla Inglis, Central Coast LID Initiative, San Luis Obispo, CA*
*Wayne Carlson, AHBL, Seattle, WA*

**G72** ..... 4:00 PM – 4:30 PM
**Lake Whatcom Homeowner Incentive Program: Retrofits on a Watershed Scale**
*Eli Mackiewicz, City of Bellingham, WA*
*Anitra Accetturo, City of Bellingham, WA*

**G73** ..... 4:30 PM – 5:00 PM
**Watershed-Scaled Stormwater Treatment for Industrial Neighborhoods**
*Kate Snider, Floyd\Snider, Seattle, WA*

### STORMWATER PROGRAM MANAGEMENT I
Room 404

**P71** ..... 3:30 PM – 4:00 PM
**Unicorns and Effective Sweeping Programs: Do They Really Exist? Considerations to Improve a Street Cleaning Program**
*Art Jenkins, City of Spokane Valley, WA*

**P72** ..... 4:00 PM – 4:30 PM
**A Case Study in Cured-in-Place Pipe for Stormwater Pipe Repair**
*John Featherstone, City of Shoreline, WA*

**P73** ..... 4:30 PM – 5:00 PM
**Why Stormwater BMPs Are Rarely Maintained**
*Pasquale Napolitano, Hydro International, Portland, ME*

### STORMWATER PROGRAM MANAGEMENT II
Room 402-403

**P74** ..... 3:30 PM – 4:00 PM
**IDDE Analysis: A Five-Year Study of Phase I Data**
*Dan Smith, Pierce County, Tacoma, WA*

**P75** ..... 4:00 PM – 4:30 PM
**Stormwater Source Control Effectiveness in Western Washington**
*James Packman, Aspect Consulting, Seattle, WA*
*Greg Vigoren, City of Lakewood, WA*

**P76** ..... 4:30 PM – 5:00 PM
**From Cr*p to Clean: King County's Approaches to Wastewater Discharges to the MS4 and Receiving Waters**
*Jeanne Dorn, King County, Seattle, WA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R71** ..... 3:30 PM – 4:00 PM
**Biofiltration and Downspout Filter Media Evaluation for BMP Decision-Making at the Port of Vancouver, WA**
*Sheila Sahu, Kennedy/Jenks Consultants, Portland, OR*
*Matt Graves, Port of Vancouver, WA*

**R72** ..... 4:00 PM – 4:30 PM
**South Park Water-Quality Treatment: Testing the Waters**
*Vicki Sironen, HDR, Bellevue, WA*

**R73** ..... 4:30 PM – 5:00 PM
**Toward Rapidly Cleaned Out Permeable Interlocking Concrete Pavers: Initial Field Tests**
*Harald von Langsdorff, Uni-Group U.S.A., Caledon, ON*

### INDUSTRIAL STORMWATER MANAGEMENT
Room 409

**D71** ..... 3:30 PM – 4:00 PM
**The California Industrial General Permit and the Solid Waste Industry**
*Laura Carpenter, Brown and Caldwell, San Diego, CA*
*Sean Porter, Brown and Caldwell, San Diego, CA*

**D72** ..... 4:00 PM – 4:30 PM
**Stormwater Management for Superfund Dump Closure in Typhoon Alley**
*Aaron Sutton, GHD, Tamuning, Guam*
*Jake Russell, Geo-Logic Associates, Grass Valley, CA*

**D73** ..... 4:30 PM – 5:00 PM
**An Empirical Model for an Industrial Stormwater Media Filter**
*Jeremy Fink, Hydro International, Portland, ME*

## WED 5:00 PM – 6:00 PM

### BMP CASE STUDIES
Room 406

**B81** ..... 5:00 PM – 5:30 PM
**Biotic Soil Technology for Sustainable Erosion Control, Revegetation, and Stormwater Management: Successful Case Studies**
*Marc Theisen, Profile Products, Signal Mountain, TN*

**B82** ..... 5:30 PM – 6:00 PM
**Use of Skimmers to Enhance Detention Basins**
*James McCutchen, CCAD Engineering, Greenville, SC*

### GREEN INFRASTRUCTURE
Room 405

**G81** ..... 5:00 PM – 5:30 PM
**Floating Treatment Wetlands for Improved Stormwater Pond Functioning in Cold-Climate Regions**
*Rebecca Tharp, Lake Champlain Sea Grant/University of Vermont/ Vermont Department of Environmental Conservation, South Burlington, VT*

**G82** ..... 5:30 PM – 6:00 PM
**Venema GSI: Using UICs in the Right of Way**
*Robert Parish, Osborn Consulting, Bellevue, WA*

### STORMWATER PROGRAM MANAGEMENT
Room 404

**P81** ..... 5:00 PM – 5:30 PM
**Stormwater Retrofit in King County**
*Claire Jonson, King County Water and Land Resources Division, Seattle, WA*

**P82** ..... 5:30 PM – 6:00 PM
**Bayou Vermillion District River Remediation Projects: Dissolved Oxygen Remediation Feasibility Study**
*Emile Ancelet, Bayou Vermilion District, Lafayette, LA*
*Chris Holland, Bayou Vermilion District, Lafayette, LA*
*Lauren Carter, Bayou Vermilion District, Lafayette, LA*

### ADVANCED RESEARCH TOPICS
Room 407-408

**R81** ..... 5:00 PM – 5:30 PM
**Improved Methods for Stormwater Infiltration Testing**
*J. Scott Kindred, Kindred Hydro Inc., Mercer Island, WA*

**R82** ..... 5:30 PM – 6:00 PM
**Full-Scale Burial Testing of Pipes and Storm Chambers**
*James Sprague, TRI Environmental, Anderson, SC*

### WATER-QUALITY MONITORING
Room 409

**Q81** ..... 5:00 PM – 5:30 PM
**Effective Sediment Basins Require More Than Simply Containing 250 Cubic Meters Per Hectare of Runoff**
*Jerald Fifield, HydroDynamics Inc., Parker, CO*

**Q82** ..... 5:30 PM – 6:00 PM
**Monitoring Methods for Green Infrastructure and Stormwater BMPs**
*Nitin Katiyar, HDR, Mahwah, NJ*
*Julie Stein, HDR, Mahwah, NJ*

## Thursday, August 31
### 8:00 AM – 12:00 PM

Thursday sessions are open to all attendees and will be held in the event hotel (Hyatt Regency Bellevue). Start times and room numbers will be made available as we get closer to the event.

All sessions end by 12:00 PM.

## HOT TOPIC SESSIONS

### Panel Discussions

**Urban Flooding: Learning to Walk on Water**
Learning to "Walk on Water" means taking actions that are innovative, that transcend normal stormwater management considerations. After each session presentation, the audience will vote on whether that manager is "walking on water" or "sinking." Each presentation will summarize with "Small steps at first," that will set a foundation for future steps, ultimately to reduce urban flooding for many properties.

Walking on water topics include:
1. Understanding rainfall from available NOAA sites
2. Mapping and modeling technologies
3. Infrastructure innovations: observing real-time runoff
4. Long-term funding for stormwater

**Stormwater Infrastructure Policies—A Management Perspective**
The topic, Stormwater Infrastructure Policies—A Management Perspective, will include interactive panel discussions focusing on a variety of topics related to stormwater and drainage infrastructure. Focus areas include national and regional perspectives on infrastructure conditions and needs, financial affordability/funding options, potential policy-shaping for the changing regulatory environment, and outreach/public relations strategies to address funding needs.

### Special Sessions

**EPA—An Update on EPA Stormwater Program**
Additional information will be made available as we get closer to the event and once permissions are approved.

**Rethinking Urban Water Management: Integrating Natural and Engineered Systems**
Paradigm shift and new thinking will be essential to cope with the existing and emerging urban water problems. An integrated engineered and natural system approach aims to link urban water infrastructure and natural systems for sustainable urban water management. It envisions a holistic water and energy management system within built urban environments. This presentation will facilitate discussion and sharing of ideas and experiences that illustrate innovative solutions, particularly in the arena of low-impact stormwater management technologies and decentralized green infrastructure.

### Tour

**City of Tacoma—Point Defiance Park and Port of Tacoma West Hylebos Pier Stormwater Bus Tour**
(Bus leaving hotel lobby at 8 AM)
Tour attendees will board buses at the Hyatt Regency for a ride to Tacoma, hosted by members of the Port and the City. **See page 8 for more information.**

# Exhibitors

If you've exhibited at regional and national events that target the general water, engineering, pollution, government, or construction fields, you'll be amazed at the difference that comes from exhibiting at a highly focused event designed specifically for the surface water-quality professionals you target, many of whom attend with the intention of shopping for products and technology.

**Attendees include:**

Aquatic biologists

Civil and environmental engineers

Consultants

Ecologists and scientists

Instructors and researchers at universities and research institutes

Landscape engineers and architects

Policy makers

Professionals from municipal and government engineering

Public works personnel

Stormwater managers

Urban planners

## StormCon Exhibitors Include:

**Associations**
**CSO systems**
**Consultants**
**Contractors**
**Designers**
**Distributors**
**Engineers**
**Federal, state, and local agencies**
**Filtration and drainage equipment manufacturers**
**Flood-control systems**
**Green Infrastructure**
**Liners**
**Low Impact Development**
**Monitoring/sampling/ sensor equipment**
**Oil/water separator**
**Permeable pavements**
**Pipes/valves**
**Sealants**
**Skimmers**
**Software**
**Storage/detention systems**
**Sweepers**
**Vacuum equipment systems**

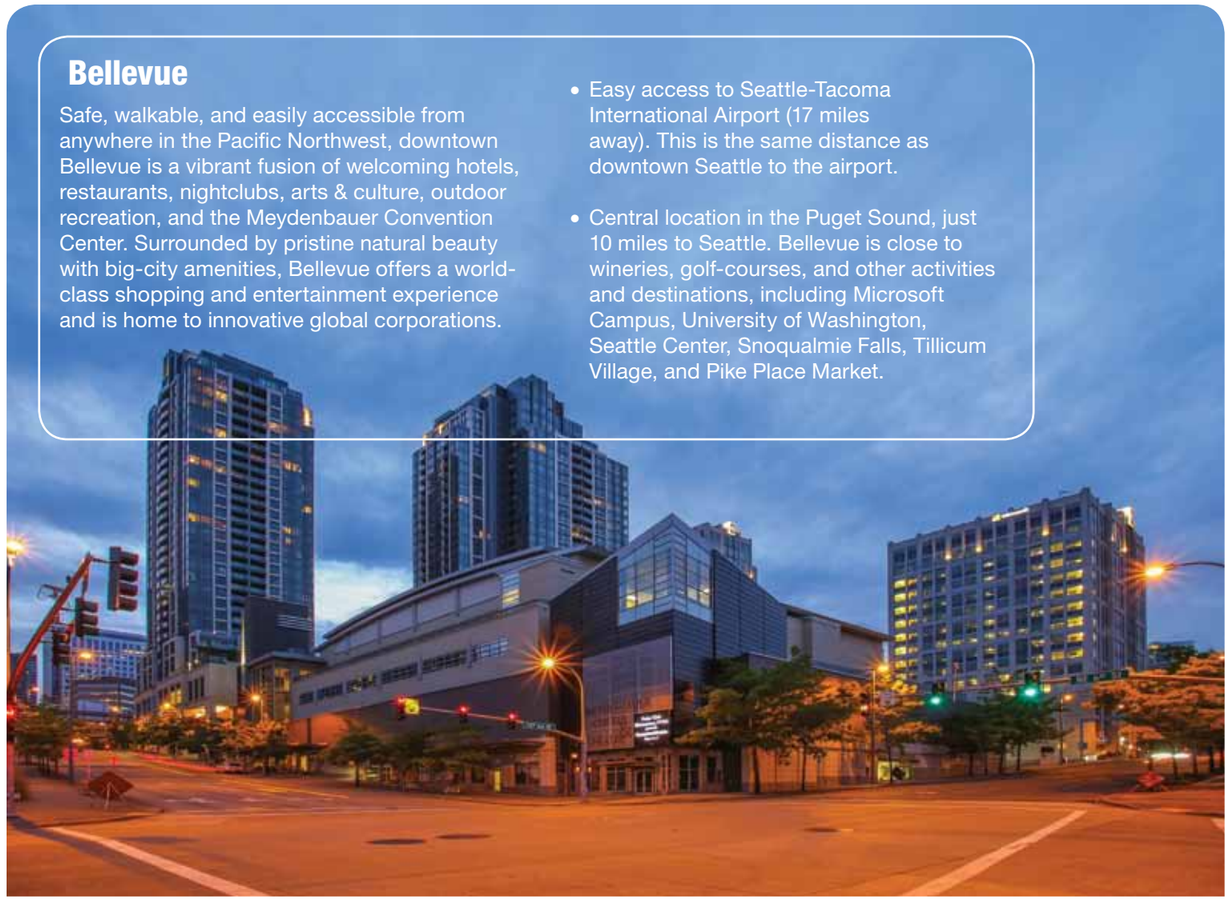
**Exhibit Hall**
All StormCon attendees have access to the exhibit hall to discover the latest technologies and solutions, up close and personal, from the market-leading companies.

- Easily accessible
- More than 425 representatives
- The most innovative stormwater equipment, services, and technology
- Break time snacks and beverages
- Selfie Photo Contest and exhibitor giveaways

And, don't miss the Welcome Reception on Monday, August 28, at 4:00 PM. If you've arrived by Monday evening, take full advantage of this very casual networking opportunity and enjoy fine food and drink, all while getting a first look into the shared exhibit space.

**Contact Brigette Burich, program director, at 805-679-7631 or email stormcon@forester.net for additional information.**

# **Venue** and Hotel Accommodations



## Bellevue

Safe, walkable, and easily accessible from anywhere in the Pacific Northwest, downtown Bellevue is a vibrant fusion of welcoming hotels, restaurants, nightclubs, arts & culture, outdoor recreation, and the Meydenbauer Convention Center. Surrounded by pristine natural beauty with big-city amenities, Bellevue offers a world-class shopping and entertainment experience and is home to innovative global corporations.

- Easy access to Seattle-Tacoma International Airport (17 miles away). This is the same distance as downtown Seattle to the airport.
- Central location in the Puget Sound, just 10 miles to Seattle. Bellevue is close to wineries, golf-courses, and other activities and destinations, including Microsoft Campus, University of Washington, Seattle Center, Snoqualmie Falls, Tillicum Village, and Pike Place Market.

### About the Meydenbauer Convention Center ▲

Meydenbauer Center opened in 1993 as the Greater Seattle area's second-largest convention facility. Meydenbauer Center was built to grow and sustain Bellevue's economic vitality. The Center includes 54,000 square feet of event space, including a 36,000-square-foot Center Hall and nine meeting rooms totaling 12,000 square feet. Also included is a 2,500-square-foot Executive Conference Suite as well as a 410-seat performing arts theatre.

Meydenbauer Center is owned and operated by the Bellevue Convention Center Authority (BCCA), a public development authority.

The Center hosts a wide variety of corporate meetings, banquets, consumer shows, conventions, and community events. Over 300 conventions and events are held at Meydenbauer Center annually, attended by nearly 200,000 guests each year.

### About the Hyatt Regency Bellevue ▼

Hyatt Regency Bellevue is a AAA four-diamond hotel situated on Seattle's Eastside, in the heart of downtown Bellevue, Washington. Nestled between Lake Washington and the Cascade Mountain Range, the hotel is part of The Bellevue Collection, the Northwest's leading shopping, dining, and entertainment destination, and offers premier services and amenities to both business and leisure travelers. From a state-of-the-art StayFit™ Gym, to high-tech business services, we've got you covered.

The Hyatt Regency Bellevue is within easy walking distance to the Meydenbauer Convention Center. Additional bus transportation will be available to StormCon attendees at specific intervals throughout the length of the event.

**Hyatt Regency Bellevue on Seattle's Eastside**
900 Bellevue Way NE
Bellevue, Washington, 98004-4272

**HYATT HOTEL RESERVATIONS & STORMCON GROUP BLOCK**
Attendees can now make and manage their hotel reservations. The online reservation system is an innovative online booking system that lets you make and manage your hotel reservations online in the contracted StormCon group block.

Room rates as low as $189 (plus tax)

**Passkey** is the only official housing partner associated with StormCon. While other companies may contact you offering housing, they are not endorsed by or affiliated with StormCon.

To enter the Passkey Online Reservation System, use this URL: **https://aws.passkey.com/go/Stormcon2017**

**Hyatt Regency Bellevue on Seattle's Eastside Reservation Assistance**
Tel: +1 425 462 1234 (Be sure to mention StormCon room block)

Hertz has been appointed the official car rental company for StormCon 2017. To reserve your rental, please include your CV# 03AN0012 when making reservations.

1-800-654-2240
1-405-749-4434
www.hertz.com

Reservations and ticketing are available via www.delta.com/meeting. Select Book Your Flight and this will bring you to the "Book A Flight" page. Enter the meeting event code NMPVZ in the box provided.

Reservations may also be made by calling our Delta Meeting reservations at 800-328-1111 (Mon–Fri, 7 AM to 7 PM CDT).


Bellevue Parks & Community Services Colin Walker

Bellevue Zip Tour

# Bellevue
Washington

Bellevue is French for "beautiful view," and as you stroll through the thriving downtown and a wealth of outdoor spaces, you realize that Bellevue is perfectly named. It is located just 10 miles to the east of Seattle (situated between Lake Washington and Lake Sammamish). Bellevue is often simply referred to as the Eastside. This eastside city has easy access to lakeside shorelines with abundant recreational opportunities. Dedicated shoppers will enjoy the high-end retail options.

Here are some recommendations for fun things to do during your visit to Bellevue, Washington:

## OUTDOOR ACTIVITIES

Located between two huge lakes—Lake Washington and Lake Sammamish—Bellevue is home to many parks and outdoor spaces where you can hang out and enjoy the views, stroll along the waterfront, participate in water sports, or hike through nature.

### Bellevue Downtown Park

In the center of the city, this tranquil, 20-acre oasis attracts everyone from professionals and teenagers to families and senior citizens, all of whom want a dose of the outdoors on a nice day. This elegant centerpiece of the Bellevue Parks System features a one-half-mile promenade, bordered by a double row of shade trees and a stepped canal, as well as a 240-foot-wide waterfall that cascades into a reflecting pond. The 10-acre lawn area proves the perfect space and invites one to pause for a picnic with Bellevue's skyline and Mount Rainier in the background. The park's delightful play area and formal gardens add to family enjoyment and serve as a backdrop for community events.


Visit Bellevue Washington

Crystal Mountain Hiking

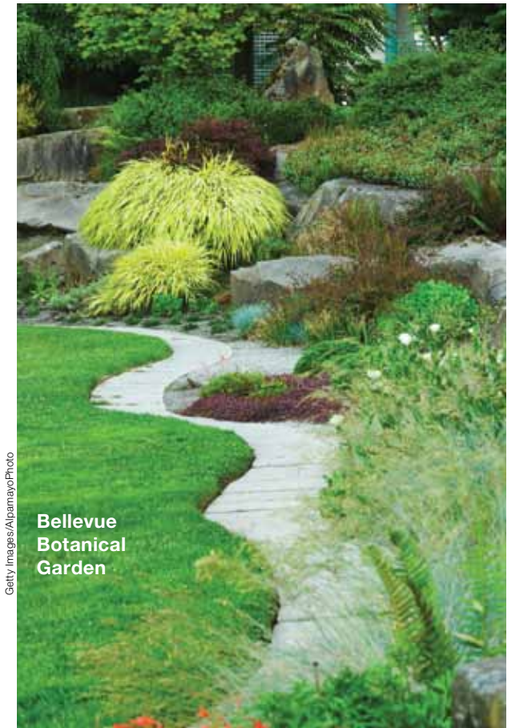

Getty Images/Reel_Hawks_Studio

Kayakers at Lake Sammamish State Park

### Lake Washington and Lake Sammamish

Take a hike on the Lake to Lake Trail and Greenway. The trail runs about 10 miles and connects Lake Washington and Lake Sammamish with an easy, paved walkway. The trail is marked and is accessible from several area parks and the Bellevue Botanical Garden.

Stand-up paddle boarding, canoeing, and kayaking are all available from Bellevue. Enatai Beach Park provides access to both Lake Washington and the Mercer Slough Nature Park. You can rent a watercraft from a local outfitter or take a guided trip or lesson.


Getty Images/AlpamayoPhoto

Bellevue Botanical Garden

- GUIDED CANOE TRIPS
  Three-hour tours through Mercer Slough Nature Park, led by Bellevue park rangers (call 425-452-6885 to register)
- CASCADE CANOE & KAYAK CENTER
  Located at Enatai Beach House, these local paddling experts provide rentals, lessons, and tours.
- LAKE WASHINGTON ACCESS
  Paddlers can access the waters of Lake Washington from several Bellevue city parks.
- LAKE SAMMAMISH ACCESS
  Paddlers can put into Lake Sammamish from Marymoor Park or Idylwood Beach Park, both in Redmond, or at Lake Sammamish State Park in Issaquah.

### Bellevue Botanical Garden

With 36 acres of beautiful grounds and a vivid display of blooming perennials, this green space is one of Washington state's most beloved gardens. The city of Bellevue maintains the facility, keeping it in impeccable shape year-round. Explore unspoiled woodlands, Japanese gardens, and the conservation area. Don't forget to browse the garden lovers' gift shop or the botanical library, which has hundreds of books in stock. Guided tours are available.

### Bellevue Zip Tour

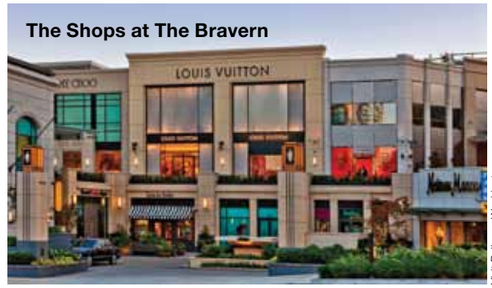
A family-friendly activity that all ages can enjoy. Thanks to Bellevue Zip Tour, groups can soar high together as they explore a maze of suspended zip lines and bridges. This adventurous attraction features a series of seven zip lines and two bridges that hang amid a canopy of trees. Tours last approximately 2.5 hours. The zip lines reach as long as 600 feet and as high as 80 feet above the ground. The view from above proves stunning: a second growth forest of Douglas fir and broadleaf maple trees, plus sensational views of the downtown Bellevue skyline and the North Cascades, including Mt. Baker and Glacier Peak.

### Mount Rainier National Park

Ascending to 14,410 feet above sea level, Mount Rainier stands as an icon in the Washington landscape. This active volcano is the second-tallest mountain in the continental United States after California's Mt. Whitney. Mount Rainier is the most glaciated peak in the contiguous US, spawning six major rivers. Subalpine wildflower meadows ring the icy volcano, while ancient forest cloaks Mount Rainier's lower slopes. Wildlife abounds in the park's ecosystems. Hundreds of miles of hiking trails wind past placid lakes and frothing waterfalls. The scenic Wonderland Trail encircles the entire park.

## SHOPPING IN BELLEVUE

Bellevue offers some of the best shopping experiences in the entire Northwest. Most of the shops are within Bellevue's downtown core, but if you wander out into the neighborhoods you'll find interesting local retail stores and eateries, many that represent the city's diverse immigrant population.


Visit Bellevue Washington

The Shops at The Bravern

### The 15 Best Places With a Happy Hour in Bellevue

1. **John Howie Steak:** *Steakhouse*
   www.johnhowiesteak.com
2. **El Gaucho:** *Steakhouse*
   www.elgaucho.com
3. **Ruth's Chris Steak House:** *Steakhouse*
   www.ruthschris.com/restaurant-locations/bellevue
4. **Daniel's Broiler:** *Steakhouse*
   www.schwartzbros.com/daniels-broiler
5. **Wild Ginger:** *Asian/Thai Restaurant*
   www.wildginger.net
6. **Monsoon East:** *Vietnamese Restaurant*
   www.monsoonrestaurants.com


Visit Bellevue Washington

Lot No. 3

7. **Lot No. 3:** *Cocktail Bar*
   www.lotno3.com
8. **McCormick & Schmick's:** *Seafood Restaurant*
   www.mccormickandschmicks.com
9. **Seastar Restaurant & Raw Bar:** *Seafood Restaurant*
   www.seastarrestaurant.com
10. **Tavern Hall:** *Bar*
    www.tavern-hall.com/#tavern-hall
11. **Cypress Lounge:** *Cocktail Bar*
    At: The Westin Bellevue
12. **Paddy Coyne's:** *Irish Pub*
    www.paddycoynes.net
13. **The Melting Pot:** *Restaurant*
    www.meltingpot.com
14. **Black Bottle Postern:** *Gastropub*
    www.blackbottlebellevue.com
15. **Lunchbox Laboratory:** *Burger Joint*
    www.lunchboxlaboratory.com/bellevue

# Registration Packages

PRE-CONFERENCE

## PRE-CONFERENCE COURSES

### PRE-CONFERENCE COURSES

**Registration Type** ..... **Fees**
Attendee, Speaker, Sponsor, Exhibitor .....$275
Student .....$75

**Fundamentals of an MS4 Stormwater Management Program**
Sunday, August 27, 8:30 AM – 4:00 PM

**BMP Selection to Improve Your Watershed**
Monday, August 28, 8:30 AM – 4:00 PM

**Construction Site SWPPP Compliance: Tools, Tips, and Tricks**
Monday, August 28, 8:30 AM – 4:00 PM

**Fundamentals of Industrial Stormwater Management**
Monday, August 28, 8:30 AM – 4:00 PM

**Stormwater Pollution Modeling for LID, TMDL, and Retrofitting Analyses—WinSLAMM**
Monday, August 28, 8:30 AM – 4:00 PM

**Biotic Ligand Model (BLM)**
Monday, August 28, 8:30 AM – 4:00 PM

**Repairing Entrenched, Incised, and Degraded (Urbanized) Streams —Technologies and Case Studies**
Monday, August 28, 8:30 AM – 4:00 PM

**Developing Effective and Practical Storm Water Pollution Prevention Plans**
Sunday, August 27 and Monday, August 28
8:30 AM – 4:00 PM

### PRE-CONFERENCE CERTIFICATION COURSE: CISEC

**Certified Inspector of Sediment and Erosion Control (CISEC®)**

**Training Modules:**
Sunday, August 27, 8:30 AM – 5:30 PM
Monday, August 28, 8:30 AM – 11:30 AM

**Certification Exam:**
Monday, August 28, 1:00 PM – 5:30 PM

**REGISTRATION:** Pre-approval is required to participate. Please contact CISEC for details at 720-235-2783, or email contactus@cisecinc.org.

### PRE-CONFERENCE CERTIFICATION COURSES: EnviroCert

**Certified Professional in Stormwater Quality (CPSWQ®) Review Course**
Sunday, August 27, 8:00 AM – 5:00 PM

**Certified Professional in Erosion and Sediment Control (CPESC®) Review Course**
Sunday, August 27, 8:00 AM – 5:00 PM

**Certified Erosion, Sediment, and Stormwater Inspector (CESSWI™) Review Course**
Sunday, August 27, 8:00 AM – 5:00 PM

**Certified Professional in Industrial Stormwater Management (CPISM™) Review Course**
Sunday, August 27, 8:00 AM – 5:00 PM

**Certified Professional in Municipal Stormwater Management (CPMSM™) Review Course**
Sunday, August 27, 8:00 AM – 5:00 PM

**EnviroCert Certification Exams:**
Monday, August 28, 8:00 AM – 1:00 PM

**REGISTRATION:** Pre-approval is required to participate. Please contact EnviroCert for details at 828-656-1600 ext. 133, or by email at mmckinney@enirocert.org.

## CONFERENCE COURSES

**EARLY BIRD REGISTRATION:** Please note that Early Bird discounted fees for the following packages are applicable to all registrations received prior to May 1, 2017. Pre-conference, certification courses, and offsite tours are not included in package options and are not subject to Early Bird discounts.

### FULL CONFERENCE PACKAGE
Tuesday, August 29, Wednesday, August 30, and Thursday, August 31 (2.5 days)

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee ..... $535
Speaker/Sponsor/Exhibitor ..... $465
Student .....$100

**Registration Type** ..... **Fee May 1 to August 1***
Attendee .....$575
Speaker/Sponsor/Exhibitor ..... $500
Student .....$125

### ONE-DAY PACKAGE
Tuesday, August 29

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee .....$375
Speaker/Sponsor/Exhibitor ..... $345
Student .....$75

**Registration Type** .... **Fee May 1 to August 1****
Attendee .....$475
Speaker/Sponsor/Exhibitor ..... $395
Student .....$75

### TWO-DAY PACKAGE
Tuesday, August 29, and Wednesday, August 30

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee ..... $535
Speaker/Sponsor/Exhibitor ..... $465
Student .....$100

**Registration Type** ..... **Fee May 1 to August 1***
Attendee .....$575
Speaker/Sponsor/Exhibitor ..... $500
Student .....$100

### ONE-DAY PACKAGE
Wednesday, August 30

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee .....$375
Speaker/Sponsor/Exhibitor ..... $345
Student .....$75

**Registration Type** .... **Fee May 1 to August 1****
Attendee .....$475
Speaker/Sponsor/Exhibitor ..... $395
Student .....$75

### TWO-DAY PACKAGE
Wednesday, August 30 and Thursday, August 31

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee .....$520
Speaker/Sponsor/Attendee..... $465
Student .....$100

**Registration Type** ..... **Fee May 1 to August 1***
Attendee .....$575
Speaker/Sponsor/Exhibitor ..... $500
Student .....$100

### ONE-DAY PACKAGE
Thursday, August 31

EARLY BIRD Registration
**Type** ..... **Fee prior to May 1**
Attendee ..... $295
Speaker/Sponsor/Exhibitor .....$270
Student ..... $50

**Registration Type** .... **Fee May 1 to August 1****
Attendee ..... $300
Speaker/Sponsor/Exhibitor ..... $285
Student ..... $50

*Late Registration ..... Fee August 1 to August 31
2.5 days ..... $600

**Late Registration..... Fee August 1 to August 31
1 day ..... $485

CONFERENCE

# StormCon® The North American Surface Water Quality Conference & Exposition

August 27 – 31, 2017 Meydenbauer Convention Center & Hyatt Regency Hotel - Bellevue, Washington

Send in this registration form, or register online at: **www.StormCon.com**

## Registrant Information

First Name:_____ Last Name:_____
Company/Agency/Affiliation:_____
Address:_____
City:_____ State/Province:_____ Zip/Postal Code:_____ Country:_____
Phone:_____ Fax:_____
E-mail:_____ Web Site Address:_____

**1. Primary Business (Check only one)**

☐ 1. Municipal Government (City, Township)
☐ 2. County Government
☐ 3. Special District/Authority
☐ 4. State Government
☐ 5. Federal Government
☐ 6. Other Government Agency dealing with surface water quality
☐ 7. Engineering/Design/Consulting Firm dealing with surface water quality
☐ 8. Contracting/Construction Firm dealing with surface water quality
☐ 9. Dealer/Representative/Distributor/Sales
☐ 10. Association/Society/Library/Educational Institution

**Free Subscription Offer!**

☐ Yes! I wish to receive *Stormwater* magazine **FREE**
☐ No

**What is Your Job Title?**

☐ 1. Owner/President/Vice President/Elected Official
☐ 2. Manager/Director/Foreman/Supervisor/Inspector
☐ 3. Director/Chief/Superintendent
☐ 4. Engineer/Technician/Specialist/Designer
☐ 5. Program Manager/Coordinator/Project Manager/Planner
☐ 6. Other (Specify)

**2. Pre-Conference Two Day Workshops**

**Developing Effective and Practical Storm Water Pollution Prevention Plans**
Sunday, Monday, August 27 and 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**CERTIFICATION**
**Certified Inspector of Sediment and Erosion Control (CISEC®)**
Sunday, August 27, Training Modules, 8:30 a.m. – 5:00 p.m.
Monday, August 28, Training Modules, 8:30 a.m. – 11:30 a.m.
Monday, August 28, Exam, 1:00 p.m. – 5:00 p.m.
☐ $275.00
Must be pre- approved to sit for the exam. See www.cisecinc.org for approval process

**3. Pre-Conference One Day Workshops**

**BMP Selection to Improve Your Watershed**
Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Construction Site SWPPP Compliance: Tools, Tips and Tricks**
Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Repairing Entrenched, Incised, and Degraded (Urbanized) Streams – Techniques and Case Studies**
Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Fundamentals of Industrial Stormwater Management**
Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Fundamentals of an MS4 Stormwater Management program**
*Sunday, August 27, 8:30 a.m. – 4:00 p.m.*
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Stormwater Pollution Modeling for LID, TMDL, and Retrofitting Analyses- WinSLAMM**
Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**Biotic Ligand Model (BLM)** Monday, August 28, 8:30 a.m. – 4:00 p.m.
☐ $275.00 Attendee, Speaker, Sponsor, Exhibitor ☐ $75.00 Student

**5. EARLY BIRD Registration Package Fees Prior to May 1, 2017**

**Full Conference Package (2.5 days):** Tuesday, August 29, Wednesday, August 30, and Thursday, August 31, 2016
☐ $535.00 Attendee ☐ $465.00 Speaker, Sponsor, Exhibitor ☐ $100.00 Student
**2-Day Conference Package:** Tuesday, August 29, and Wednesday, August 30
☐ $535.00 Attendee ☐ $465.00 Speaker, Sponsor, Exhibitor ☐ $100.00 Student
**2-Day Conference Package:** Wednesday, August30, and Thursday, August 31
☐ $520.00 Attendee ☐ $465.00 Speaker, Sponsor, Exhibitor ☐ $100.00 Student
**1-Day Conference Package:** Tuesday, August 29
☐ $375.00 Attendee ☐ $345.00 Speaker, Sponsor, Exhibitor ☐ $75.00 Student
**1-Day Conference Package:** Wednesday, August 30
☐ $375.00 Attendee ☐ $345.00 Speaker, Sponsor, Exhibitor ☐ $75.00 Student
**1-Day Conference Package:** Thursday, August 31
☐ $295.00 Attendee ☐ $270.00 Speaker, Sponsor, Exhibitor ☐ $50.00 Student

**6. Registration Package Fees May 1 to August 1, 2017**

**Full Conference Package (2.5 days):** Tuesday, August 29, Wednesday, August 30, and Thursday, August 31, 2017
☐ $575.00 Attendee ☐ $500.00 Speaker, Sponsor, Exhibitor ☐ $125.00 Student
**2-Day Conference Package:** Tuesday, August 29, and Wednesday, August 30
☐ $575.00 Attendee ☐ $500.00 Speaker, Sponsor, Exhibitor ☐ $100.00 Student
**2-Day Conference Package:** Wednesday, August 30, and Thursday, August 31
☐ $575.00 Attendee ☐ $500.00 Speaker, Sponsor, Exhibitor ☐ $100.00 Student
**1-Day Conference Package:** Tuesday, August 29
☐ $475.00 Attendee ☐ $395.00 Speaker, Sponsor, Exhibitor ☐ $75.00 Student
**1-Day Conference Package:** Wednesday, August 30
☐ $475.00 Attendee ☐ $395.00 Speaker, Sponsor, Exhibitor ☐ $75.00 Student
**1-Day Conference Package:** Thursday, August 31
☐ $300.00 Attendee ☐ $285.00 Speaker, Sponsor, Exhibitor ☐ $50.00 Student

**7. Tour Registration: $85.00 each**

**Stormwater Bus Tour**
☐ $85.00

**Networking Lunch: $45.00 each**
☐ Tuesday, August 29 ☐ Wednesday, August 30
NOTE: Tuesday and Wednesday Lunch is included with Conference Registration

**8. Exhibit Hall Only: $50.00 each**
☐ Tuesday, August 29 ☐ Wednesday, August 30

**9. Please Indicate Method of Payment:**

☐ Check (Please make checks payable to **StormCon**)
Checks must be payable in US dollars and drawn on a US bank.
**Any processing fees will be billed to the registrant.**

Purchase Order Number:_____
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**Please Note:** To avoid delays in registration, please submit one completed registration form per person. If you are paying by check or purchase order, please mail the registration form with your payment.

**Cancellation Policy:** Cancellations prior to July 2, 2017, will be subject to a processing fee of 35%. After July 2, 2017, registration fees will not be refunded, but may be applied to another individual's registration fees. **StormCon must be notified in writing prior to July 2, 2017 of any transferred registration. A completed form with the new attendee's information must accompany the notification.**

**Submit this completed registration form by mail to:**
Forester Media Inc., c/o StormCon Registration
P.O. Box 3100, Santa Barbara, CA 93130
or by e-mail to stormcon@forester.net
or by fax to: 805-682-0200, attention: **StormCon Registration**

**Questions?** Contact us at 805-679-7631. This form may be reproduced without the written permission of StormCon.

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Boeing is the world's largest aerospace company and leading manufacturer of commercial jetliners and defense, space, and security systems. As America's biggest manufacturing exporter, the company supports airlines and US and allied government customers in more than 150 countries.

Boeing supports protecting and improving water quality for the benefit of the community and environment, and shares knowledge about stormwater management, source control, and restoration for the betterment of the communities where our employees live and work.

Various types of stormwater treatment, ranging from advanced technologies like chitosan enhanced treatment to sustainable green infrastructure such as biofilters, are in use to help Boeing manage and improve the quality of stormwater runoff from its facilities.

Boeing's leadership in stormwater management includes collaborating with numerous research and nonprofit groups such as the Nature Conservancy, the Washington Stormwater Center (WSC), Los Angeles Conservation Corps, Washington State University (WSU), the University of Alabama, and the University of California, Los Angeles, on technology and green infrastructure solutions that can mitigate stormwater pollution.

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