



Tennessee Stormwater Association

AGENDA

2020 ANNUAL CONFERENCE

Going the Distance



Presented by



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Wednesday October 21, 2020

BREAKOUT ROOM 1

9:00–10:00 am: Moving Your Stormwater Program Forward with a Green Infrastructure Roadmap.

Heather Williams & Mary Halley

Wood Environmental & Infrastructure Solutions, Inc.

Across the nation, stormwater Low Impact Development (LID) techniques and Green Infrastructure (GI) practices have rapidly become accepted tools in the world of permanent stormwater management. However, many jurisdictions are experiencing difficulties resulting from the rush to add LID and GI approaches to their design policies, such as failing infiltration SCMs, damaged GI-SCMs, a lack of interdepartmental understanding, and no meaningful consideration of high-value, volume-reducing LID techniques. For some, the resolution to these issues is the development of a LID-GI Roadmap. The roadmap is an examination of the issues and provides strategies and tactics to eliminate them. This presentation will focus on the drivers, purpose, development, and implementation of a LID-GI Roadmap.

BREAKOUT ROOM 2

9:00–9:30 am: Effectively Deploying Proprietary Biofilters Through the Evaluation of Their Maintenance Needs and Expectations.

Jacob Dorman, Contech ES

This presentation will focus on an evaluation of maintenance needs and expectations for proprietary biofilters achieving General Use Level Designations (GULD) for Basic (TSS) treatment via Washington State's Technology Assessment Protocol- Ecology (TAPE) program. Systems in need of more frequent maintenance may bypass stormwater runoff more often and endanger downstream receiving waters. Policy recommendations will be provided which aim to align the capabilities and demands of these systems with local program requirements and property owner's budgets.

9:30–10:00 am: Long-term Performance and Maintenance of Permeable Paver Systems.

Paul Cureton - Oldcastle APG

The presentation will focus on long-term surface infiltration performance of permeable paver systems, including two recently completed research projects by USGS and the University of Toronto demonstrating the ease and restorative properties of system maintenance and provides guidance on which maintenance methods and equipment are most effective.

15 MINUTE BREAK

10:15 – 10:30 am: Welcome, Warren Garrett, TNSA President

10:30 am – 12:00 pm: Visit with Exhibitors & Networking

12:00–12:30 pm: FEMA Floodway/Floodplain Permitting

Amy Miller, TN State NFIP Coordinator

The session will provide NFIP regulations on mapped and unmapped streams and encroachments. The state has a new review process for no-rise and no-impact reviews.

12:30–1:00 pm: Building Resilient Infrastructure: FEMA Grant Funding

Kari Cochran, TN Emergency Management Agency

This presentation will feature Hazard Mitigation funding opportunities including the new FEMA Building Resilient Infrastructure and Communities Program along with an overview of eligible projects.

12:00–12:30 pm: Understanding the Role of Green Infrastructure MTDs within New Jersey Department of Environmental Protection Regulations.

Glen Payton, CONTECH ES

This presentation will review the new green infrastructure amendment to the stormwater management rules in New Jersey and discuss how the introduction of MTDs as GI practices can benefit Tennessee.

12:30–1:00 pm: Revisions to the New Jersey Department of Environmental Protection Laboratory Testing Protocol and Procedures for Hydrodynamic Separators: "The Times They Are A-Changin"

Mark Miller, AquaShield, Inc.

Many stormwater regulatory programs rely on New Jersey Department of Environmental Protection (NJDEP) certifications and/or New Jersey Corporation for Advanced Technology (NJCAT) verifications for the approval of stormwater manufactured treatment devices (MTDs). In 2019 it was determined that changes to the hydrodynamic separator (HDS) protocol would not only strengthen the protocol but also enhance the NJCAT verification and NJDEP certification processes. This presentation identifies essential elements of these changes and explores varied potential outcomes that are anticipated from these changes.



10 MINUTE BREAK



Wednesday October 21, 2020

BREAKOUT ROOM 1

1:10–1:40 pm: SARP10 Stream Stabilization Projects Adrian Ward, Barge Design Solutions

The City of Memphis Sewer Assessment and Rehabilitation Program (SARP10) is a program with the goal of improving the sanitary sewer system across the city. SARP10 identified multiple locations where the sewer was at risk of failing due to erosion and stream instability. Barge was contracted to provide engineering services for the repair of ten of these utility crossings throughout the city.

1:40–2:10 pm: Implementing Stage-Zero Stream Restoration in the Urban Context Ty Smith, Hazen & Sawyer

Design and implementation of historic stream restoration projects require permitting, substantial land clearing, earthwork, and landscaping to stabilize the site. Implementation of these methods has become an industry "default," leading to disregard for historic and geomorphic context when selecting restoration methods. Stage-zero stream restoration can achieve a watershed restoration objectives with minimal, negative site impacts and reduced long term maintenance requirements.

BREAKOUT ROOM 2

1:10–1:40 am: The Cost-Saving Benefits of Underground Storage Scott Hadder & Scott Sertich, Bio Clean

Learn how new development or redevelopment sites can get maximum returns on their investment with stormwater storage and treatment devices; and even allow for higher density development. Compare how flow-based designs versus volume-based designs: meet water quality, hydromodification, and permitting requirements, save space, reduce maintenance, and lower lifetime operation costs. How the right combination of treatment and storage can exponentially improve water quality.

1:40–2:10 pm: Tennessee Tree Day 2021 Jeff Barrie & Cynthia Hernandez, TN Environmental Council

An overview of TN Environmental Council's core programs with an emphasis on TN Tree Day 2021, scheduled for Saturday, March 20, 2021. Data from past Tree Days events and videos on how to "go the distance" this year with the statewide native tree planting effort during the Covid19 outbreak.

10 MINUTE BREAK

2:20–2:50 pm: How do we Educate and encourage Participation in this New Environment While achieving more with less budget and efforts: A 1000 foot view Mary Beth Sutton, WaterWays Don Green, WK Dickson

Presentation will focus on examples on how to satisfy the MS4 education and Public Participation permit requirements with new and innovative practices during the "new normal" while MS4s can get more bang for their buck.

2:50–3:20 pm: How the Clean Water Movement is Shifting the Culture of Wastewater and Leading the Charge in Economic Growth and Workforce Stability Stefanie Farrell, LDA Engineering

Learn how CWP-KT is recruiting Clean Water Partners to change the narrative about wastewater management to improve public perception, boost recruitment and create economic growth opportunities across the entire water sector.

3:20–3:50 pm: Developing Stormwater Projects with Multi-Layer Benefits Marc Horstman, WK Dickson

The best stormwater projects have a unique ability to provide multi-layer benefits to the end user: flood reduction, green infrastructure, environmental education, community connectivity, and strategic funding opportunities. Case studies will be presented from several municipalities that integrated stormwater improvements with other departments and/or priorities to get more bang for their buck (and sometimes more funding).

2:20–2:50 pm: Managing Your Urban Forest to Maximize Stormwater Benefits Eric Kuehler, Metro Water Services (Nashville)

This presentation will show how public-domain software can help a city manage its trees to mitigate stormwater runoff. It will introduce resource manuals to help communities with urban forest management strategies to maximize stormwater benefits.

2:50–3:20 pm: State of TN GIS Data and Resources Paul Dudley, State of TN GIS Analyst

This presentation will cover the State of Tennessee's data available to government entities and the public. Project updates will be provided for statewide LiDAR coverage in addition to new/varied mapping imagery products. This presentation will cover the options and instructions for consuming State data and services.

3:20–3:50 pm: Innovative Stormwater Treatment Practices Developed Through Large-Scale Testing Efforts Blake Whitman, MTSU

This presentation will discuss large-scale research efforts conducted at the Auburn University - Erosion and Sediment Control Testing Facility to improve E&SC practices used within the state Alabama. Practices that will be discussed include 1) inlet protection practices, 2) ditch check practices, 3) sediment barrier practices, and 4) sediment basins.

10 MINUTE BREAK

4:00–4:45 pm: Compelling Compliance through Cartography Warren Garrett, City of Goodlettsville Kevin Blackburn & Steve Casey, CEC, Inc.

The City of Goodlettsville has been proactively developing, updating, and maintaining a stormwater management system map that has enhanced the Stormwater Department's abilities to meet MCM 1 and 5, not just MCM 3.

4:45–5:15 pm: The Living Building Challenge - Considerations for Local Municipalities Alan Sparkman, TN Concrete Association

This session will educate attendees about the Living Building Challenge building certification program with a brief overview of the program and its history.

4:00–5:15 pm: Funding MS4 and related projects with State Revolving Fund Loans Emily Kelly & Stefanie Farrell, LDA Engineering

Tennessee State Revolving Fund (SRF) provides funds for MS4 projects—green infrastructure and gray infrastructure. Tennessee provides funds for non-point source, flood management, water efficiency, energy efficiency, innovative, and a variety of projects. Tennessee SRF is initiating Pilot Projects throughout the state. SRF-eligible types of green and gray infrastructure projects, project ranking, interest rates/terms, principal forgiveness, monetary savings, steps after a community/project is eligible for funding, and funding sources for the repayment of the loan

Thursday, October 22, 2020

BREAKOUT ROOM 1

9:10–9:55 am: Modeling 101: Urban Stormwater in Memphis

Aaron Rogge, CDM Smith
This presentation will take learners from the ground up on model development: what is H&H modeling, what is required to develop a model, and how to make sense of the results.

10:00–10:30 am: Risk Assessment, Permit Compliance & More Using a Science-Based Stream Buffer

Mary Halley & Maria Neeland
Wood Environmental & Infrastructure Solutions, Inc.
Attendees will learn about science-based stream buffers and their potential value and uses.

BREAKOUT ROOM 2

9:10–9:55 am: Wetlands/HD Process

Shelia Huffmire, Rutherford County
Tim Nehus, CEC, Inc.

This presentation will go over some simple steps a MS4s can take to review a site for potential wetland soils, tools in the toolkit everyone should know about, and what to do once a Wetland or Hydrologic Determination is needed. Overview of the HD/JD process.

10:00–10:30 am: Johnson City Stream Mitigation Bank

Matt Clabaugh, Barge Design Solutions
City of Johnson City is proposing a stream mitigation bank at the decommissioned Buffalo Valley Golf Course site. To our knowledge this would be the first MS4 in the state of Tennessee to own and operate a mitigation bank.

10:30 am – 12:00 pm: Visit with Exhibitors & Networking

12:00–12:30 pm: New Ways to Address Old Problems: Public-Private Partnerships for Water & Education

Will Caplenor & Catherine Price
Cumberland River Compact

This presentation will address best management practices discovered through the Compacts multiple federal 319 grants, in-stream restoration projects, WQIP partnerships with city's and other one-off projects completed by the organization.

12:30–1:00 pm: Stream Restoration in Urban Watersheds: Approaches for Successful Projects

Patrick McMahon & Ken Barry, S&ME, Inc.

This presentation will review the state of knowledge related to stream restoration effectiveness in urban settings and present potential approaches to addressing urban stream degradation in an effective manner.

12:00–12:30 pm: Stabilization Techniques for West Tennessee Streams.

Trevor Cropp, Barge Design Solutions

There is no "one size fits all" solution to stream stabilization since the cause of stream erosion can vary. This presentation will discuss various stream stabilization projects designed to prevent soil erosion in channel beds and banks depending on various design factors.

12:30–1:00 pm: Visualizing Insight: Next Generation Stormwater Reporting

Matthew Jones & Ryan O'Banion, Hazen & Sawyer

Stormwater challenges are becoming more complex and dynamic; however, new tools can effectively address and communicate solutions. Through the use of dashboards, interactive visualizations, and live maps, increasingly complex issues can be distilled in a manner that is easier for stakeholders to understand and can adapt as assumptions and priorities change.

10 MINUTE BREAK

1:10–1:55 pm: Urban Waters Report Card: Development and Update

Karina Bynum, TDEC & John Schwartz, University of Tennessee

An Urban Waters Report Card (UWRC) is under development, which will provide the MS4s communities to grade the quality of their 303(d) listed streams through common assessment protocols. The basic goal of the UWRC is to develop a list of metrics that can be scored, collectively reflecting stream quality and effectively quantifying incremental improvement in quality over time from implementation of stormwater control measures and stream restoration. The current status of the project will be presented.

BREAKOUT ROOM 1

2:00–2:45 pm: Ace Your Audit

Ann Morbitt, TDEC & Paul Davis

BREAKOUT ROOM 1

How Tennessee MS4s can have confidence that they're prepared for a stormwater program audit.

15 MINUTE BREAK

3:00–3:45 pm: TN Audit Feedback

Brown Patton, TDEC

BREAKOUT ROOM 1

Discussion and observations from 2019/2020 audits & inspections

15 MINUTE BREAK

4:00–5:00 pm: Membership Meeting, TNSA Awards and Closing Address

EXHIBITORS



Civil & Environmental
Consultants, Inc.



Speaker Bios

Jeff Barrie

Jeff Barrie has been a staunch advocate of sustainability for his entire professional career, which he launched in 1993 after graduating from UCLA with a B.A. in Environmental Studies. Ever since, Jeff has applied his love of filmmaking towards the cause of environmental solutions and derives great pleasure in making a difference in this field. Jeff has produced award-winning feature documentaries on the value of Environmental Education (Generation Earth — 1995), the importance of preserving the Arctic National Wildlife Refuge (Arctic Quest — 1999), and the benefits of energy efficiency, conservation and renewable power (Kilowatt Ours — 2008), in addition to producing 10 short documentaries on various topics of related to sustainability. He has leveraged the power of effective documentary storytelling combined with grassroots organizing and public strategies to lead to positive changes in the world. Jeff has worked for TEC since 2014 and served as CEO since 2019.

Ken Barry

Ken Barry, PE, D.WRE is a Technical Principal for S&ME, Inc. His practice there is focused on water resources. He is a Past President of the Knoxville Branch and Tennessee Section of ASCE, and currently serves as chair of the Section's History and Heritage Committee. Ken has a BSCE from Tennessee Tech and an MS in Environmental Systems Engineering from Clemson.

Kevin Blackburn

Kevin Blackburn is a professional engineer and certified GISP with Civil & Environmental Consultants, Inc. in Nashville, TN. Kevin has 17 years of experience in asset inventory/management, transportation / ITS / signal design, safety studies, and planning. His background includes managing multiple projects in Tennessee and Virginia, ranging from small- to large-scale transportation safety and GIS-related projects. His areas of expertise include GIS database management, specialized data collection, and field data collection tasks; highway, railroad, pedestrian, and bicycle safety in both urban and rural settings; traffic signal design; roadway design; intelligent transportation systems (ITS) design; traffic modeling and operations; access management; interchange justification studies; long-range transportation planning; and traffic impact analyses. Kevin has extensive experience working on projects with TDOT and the Virginia DOT (VDOT), including asset inventory, transportation design, database management, interface development, and safety studies.

Karina Bynum

Karina Bynum works for the Division of Water Resources at TDEC (Tennessee Department of Environment and Conservation). Under TDEC's watershed approach, her work includes developing performance criteria for stormwater, optimizing wastewater operations for nutrient removal, developing TMDL monitoring plans, and consulting on stream and wetland restoration projects. Karina holds Bachelor's and Master's degree in civil and environmental engineering from Tennessee Technological University and a Ph.D. from the Czech Technical University in Prague on adaptive watershed restoration. Karina is a registered engineer in the state of Tennessee.

Will Caplenor

Steve Casey

Steve Casey is a professional engineer with Civil & Environmental Consultants, Inc. in Nashville, TN. He has over 20 years of civil engineering consulting experience. His focus has been within the water resources field. His experience includes hydrologic and hydraulic modeling, complex drainage basin analysis and design, stream restoration design, floodplain management, and erosion prevention and sediment control design. Steve assisted with the development of the fourth edition of the Tennessee Erosion and Sediment Control Handbook. He also provides NPDES compliance services and specializes in small MS4 permit compliance. He is an instructor for the Design Principles for Erosion Prevention and Sediment Control for Construction Sites course (TDEC Level 2) and has presented at various venues on the topics of stormwater management and erosion prevention and sediment control.

Matt Clabaugh

Matt Clabaugh PE, CPESC, TN-QHP manages the Natural Resources group for Barge Design Solutions. He works in the Tri-Cities office and has nearly 20 years of experience with stream and wetland restoration and mitigation, stream determinations, wetland delineations, and stream and wetland permitting. He's also been involved with the Tennessee Stream Quantification Tool (SQT) since it's beginning. He's a graduate of Virginia Tech.

Kari Cochran

Speaker Bios

Trevor Cropp

Trevor Cropp, PE, CFM, serves as Office Lead and Project Manager in Barge Design Solutions' Memphis, Tennessee location. During his 14 years of experience in the engineering industry, he has worked on water resource projects involving watershed assessments, master planning, design of storm drainage systems, design and grading of detention/retention basins and their outlet structures, and delineation of flood plain limits for major and minor floodways. He is currently the project manager for efforts related to multiple grants given to Shelby County and the State of Tennessee for flood resilience programs. Trevor is a University of Kansas graduate with a Bachelor of Science in Civil Engineering.

Paul Cureton

Paul Cureton is a graduate of the University of Tennessee and a licensed Professional Engineer in Illinois. Prior to coming to work for Oldcastle he was a consulting civil engineer for 17 years focusing on stormwater management and sustainability. Paul has extensive experience designing permeable pavements with over 1 million square feet of projects installed.

Paul Davis

As of 2012, Paul Davis consults on Clean Water Act issues and teaches federal and state water programs through National Stormwater Center. He volunteers with environmental and conservation groups and serves on the board of directors of Cumberland River Compact. He is a frequent presenter to professional and citizen groups on water topics.

From 1974 through 2012, he was employed at the Tennessee Department of Environment & Conservation, Division of Water Pollution Control where he was the division director and technical secretary to the Tennessee Water Quality Control Board from 1988 through 2012. He had special assignments in the areas of interstate water quality and quantity, Mississippi River conservation, drought and flood response, TVA Kingston ash spill. Paul has degrees from the University of Tennessee and is licensed to practice engineering in Tennessee. He swims with a US Masters group and has won several freestyle events in masters meets and Tennessee's Senior Olympics.

Jacob Dorman

Jacob Dorman, AICP, is a Regulatory Manager for Contech Engineered Solutions. In this role, Jacob helps facilitate the development of stormwater management policy across the Mid-Atlantic and Southeast by providing technical assistance to localities, design engineers, and consultants as well as manage regulatory approvals. He previously spent over 12 years in various municipal stormwater program management and long-range, comprehensive planning roles. Jacob has a BS in Environmental Science from Lynchburg College (now known as the University of Lynchburg) in Lynchburg, VA and is a member of the American Institute of Certified Planners (AICP).

Paul Dudley

Paul Dudley is a GIS Analyst working with the State of Tennessee's Strategic Technology Solutions GIS Services Group. Paul is a 2007 graduate of the University of Tennessee Geography Department. With the state his primary focuses are on imagery, LiDAR and cadastral data.

Stefanie Farrell

Ms. Farrell is a Client Service Manager at LDA Engineering. In her role as Engineering Manager for Hallsdale Powell Utility District, she gained an understanding of the complex roles that utility managers play balancing water quality and providing customer service. Subsequently, as an employee for the Tennessee Department of Environment and Conservation (TDEC) in the Watershed Management Division, Ms. Farrell focused on broadening her perspectives to include multiple watersheds with a wide variety of pollutants. Ms. Farrell performed environmental assessments aimed at evaluating load and waste load allocations from pollution sources. She provided technical guidance regarding nonpoint source impacts and mitigation efforts such as streamside buffers, vegetative and structural best management practices, planning techniques and ordinances in the study area. Her expertise coupled with associated modeling efforts, resulted in TMDL's and associated NPDES permits requirements to protect water quality.

Most recently, Ms. Farrell has joined the engineering consulting field and is aggressive about applying her knowledge and skills to benefit LDA clientele. Her daily duties involve assisting municipalities with the technicalities of program management and permit compliance. Farrell holds a Bachelors of Science Degree in Civil Engineering from the University of Tennessee.

Warren Garrett

Warren Garrett has spent his career in Public Service including Roads, Landfills, Sanitation and Stormwater. He has over 30 years in Public Works and over 20 years of water quality field working with TDOT, San Diego County CA., City of White House TN., Snohomish County WA. and City of Goodlettsville TN. Warren is currently Stormwater Coordinator for the City of Goodlettsville and current President of TNSA.

Speaker Bios

Don Green

Don has worked in the environmental field for over 37 years working with TDOT, TDEC and TDA's 319 Nonpoint Source Program. He developed the Phase II MS4 Stormwater Program at Franklin, TN. In his spare time, he is past board member of Keep Williamson County Beautiful and Southeast Stormwater Association and past president and regional chair for the Tennessee Stormwater Association. He just retired from the City of Chattanooga, Phase I MS4 Water Quality Program and now works with WK Dickson water waste/water consulting firm out of Brentwood, Tennessee.

Scott Hadder

Scott Hadder BIO: Scott has been serving the construction and infrastructure industry for over 35 years serving as project manager, estimator, superintendent, business development and regional sales manager. Working the first 30 years within the structural precast industry, Scott served in many capacities within PCI (Precast Concrete Institute). Joining Bio Clean from their parent company Forterra in 2018 - where he built an additional wealth of knowledge and experience in the industry. Scott is a golf enthusiast and has coached High School golf for over a decade.

Mary Halley

Mary Halley is an Associate Consultant working in Wood Environment and Infrastructure Solution's Knoxville office. She has 20 years of experience as a stormwater consultant to local governments. Her work focuses primarily on NPDES Phase I and II permit compliance, water quality program management, local stormwater regulations, policies, and processes and stormwater user fee business planning. She has experience working with numerous local governments in five different EPA regions, with both cities and counties, and with single jurisdiction and multi-jurisdictional stormwater management initiatives.

Cynthia Hernandez

Cynthia has a passion for sustainability and is dedicated to improving Tennessee's environment. Cynthia graduated from Volunteer State Community College in 2015 with a focus on Environmental Science. She created the Paris Powers Memorial Arboretum with over 60 species of trees identified and labeled. Cynthia has been coordinating TECs Tennessee Tree Day events since 2016. During this time nearly 500,000 native trees have been planted statewide. In 2019, Cynthia spearheaded the Tennessee Chestnut Grove Project, planting 5 demonstration Chestnut groves in Tennessee State Parks. She currently serves on the Metro Tree Advisory Committee and enjoys educating the public on the value of trees and engaging partners to improve communities and quality of life in Tennessee.

Marc Horstman

Marc is a project manager in WK Dickson's stormwater group with an emphasis on municipal stormwater infrastructure, including planning and design, hydraulic and hydrologic modeling, innovative and sustainable site design, and stormwater SCM design. In addition to his proficiency in modeling, Marc's expertise includes managing a wide variety of projects that include planning and designing innovative water quality devices for Capital Improvement Projects (CIPs), Low Impact Development (LID), and infrastructure upgrades. Marc has both an undergraduate and Master of Science degree in Biological engineering from North Carolina State University. He is a registered Professional Engineer in North Carolina, Georgia, Tennessee and South Carolina; a certified Professional Hydrologist; and a Certified Floodplain Manager.

Shelia Huffmire

Mrs. Huffmire is the current TNSA President Elect and has served on the TNSA Board for many years. She has worked in the Engineering field for 17 years and currently is employed by Rutherford County as the Assistant County Engineer. She enjoys spending time with her family, camping/glamping and enjoying the outdoors.

Matthew Jones

Dr. Matthew Jones leads Hazen and Sawyer's stormwater practice group and offers national expertise in all aspects of stormwater program development, including the full lifecycle of stormwater control design, implementation and operation. Matthew has provided stormwater services for a wide array of communities, from large ultra-urban green infrastructure initiatives to small communities building an initial stormwater program.

Emily Kelly

Emily is a Professional Engineer with LDA Engineering. She assists and supports communities statewide in evaluating and obtaining low cost funding for water, wastewater, and stormwater projects with particular expertise in State Revolving Fund loans management, document controls management, and permit coordination. For 11 years she worked for Tennessee's State Revolving Fund (SRF) Loan Program, serving for six years as Technical Section Manager. While there, she reviewed and approved planning, design, construction documents, developed new rules for the State Priority Ranking System, composed downloadable guidance documents for the American Recovery and Reinvestment Act funding that were used as a model for EPA Region IV, and created the SRF Technical Section Procedures Training Manual.

Speaker Bios

Eric Kuehler

Patrick McMahon

Patrick McMahon, PhD, PE, is a Senior Engineer with S&ME, Inc. His work at S&ME is focuses on water resources related projects including stream restoration, floodplain management, and hydrologic and hydraulic modeling.

Amy Miller

As the State NFIP Coordinator, Amy manages Tennessee's efforts to provide technical assistance and coordination of activities for sound floodplain management throughout the state. In this role, she assists citizens and professionals with questions regarding the National Flood Insurance Program and aids local elected officials and staff to implement effective floodplain management strategies in their communities ensuring compliance with the NFIP requirements. She has a bachelor's degree in Agricultural Education and a master's degree in City and Regional Planning from The Ohio State University.

Mark Miller

Since 2005, Mark Miller has served as Research Scientist for AquaShield™, Inc., a manufacturer of stormwater treatment systems headquartered in Chattanooga, Tennessee. He is responsible for product development, domestic and international regulatory affairs, as well as directing lab and field-testing programs. Mark is a member of the City of Chattanooga Stormwater Regulations Board and is a former Technical Committee Chairman for the Stormwater Equipment Manufacturers Association. He holds an M.S. in Geology from Centenary College in Shreveport, Louisiana and a B.A. in Geology from the University of Tennessee, Knoxville. He is a Registered Professional Geologist in six states.

Ann Morbitt

Ann Morbitt is currently an Integrated Water Resources Consultant for TDEC's Division of Water Resources. She started with the division in 1992 and worked in various programs including statewide Pretreatment, field operations over Aquatic Resources and Stormwater, and management out of the Nashville Environmental Field Office. Ann also worked approximately two years for an MS4. Ms. Morbitt has a Bachelor of Science degree in Wildlife Fisheries Science from Tennessee Technological University in Cookeville Tennessee and enjoys feeding her potbellied pigs.

Maria Neeland, PE

Maria Neeland is a water resources engineer for Wood Environment & Infrastructure Solutions Inc. in the Topeka, Kansas office. She has 9 years of professional experience. Her work focuses on hydrologic and hydraulic engineering, stormwater drainage analysis, flood inundation mapping, flood reduction studies, and water quality analyses. She has experience with community management planning, stormwater mitigation and alternatives analysis, and technical review of stormwater management plans and engineering analyses. She works with local municipalities and the state agency of Kansas to develop science-based solutions to stormwater related issues.

Tim Nehus

Mr. Nehus has more than 30 years experience as an ecologist on a multitude of environmental projects. He has extensive experience as a team member, contract manager and contract administrator on numerous departments of transportation contracts. Mr. Nehus has managed multiple continuing contracts awarded by TDOT, ARDOT, and NCDOT. His technical experience includes regulatory compliance and permitting requirements of Section 404/401 of the Clean Water Act. Mr. Nehus has coordinated with state and federal regulatory agencies on a multitude of linear transportation projects and real estate developments. Senior scientist on a number of projects for NPDES permit compliance monitoring including municipal sewage treatment plants, pulp paper mills, and military ordnance facilities. His areas of expertise include ecological field surveys (benthic macroinvertebrates, freshwater mussels, and fish), wetlands delineation and critical habitat surveys for state and federally listed species. He has extensive experience in the taxonomy and systematics of aquatic invertebrates, freshwater mussels and fish used in training and supervising other biologists and lab technicians.

Ryan O'Banion

Ryan O'Banion is experienced project manager at Hazen and Sawyer who uses GIS, statistics, and field assessments to help clients make informed stormwater management decisions. He has worked throughout the United States and led projects including watershed studies, stream restoration, green infrastructure design, and BMP maintenance inspections.

Speaker Bios

Brown Patton

Brown Patton received his Bachelor's degree in Environmental Health from East Tennessee State University, and after a brief time in the TN Division of Air Pollution Control, he was hired into the Division of Water Resources. For the next 9 years he was fully engaged in compliance monitoring for Industrial and Construction stormwater, as well as conducting hydrologic determinations. He also coordinated for both the Municipal stormwater program and the emergency environmental response for TEMA for the Johnson City Environmental Field Office. In 2017 he was promoted to the Statewide Stormwater Team, focused on innovating strategies to stormwater management and dedicated to conserving and enhancing the quality of Tennessee's water resources.

Glen Payton

Stormwater Consultant for Contech, Glen came to Contech with the acquisition of Filterra in 2014, where he served Filterra in the capacity of Sales Manager and General Manager over a 10-year period. He currently is a member of the ASCE-GA Chapter and the Chattahoochee Basin Advisory Council. His educational background includes a Bachelor of Science degree in Chemical Engineering from Washington University-St. Louis and Master's-Business Administration from Lehigh University. Glen is a Professional Engineer (Environmental) registered in the Commonwealth of Virginia and resides in Roswell, GA.

Catherine Price

Catherine Price is the Education and Outreach Manager for the Cumberland River Compact in Nashville, TN. She manages the Compact's Youth Education Programs including school programs, teacher trainings, curriculum development, and a community summer science festival. Catherine also manages Community Education including the popular River Talks series featuring speakers from across the Cumberland River Basin. Catherine has a B.S. in Zoology from Miami University and a M.S. in Zoology from the University of British Columbia.

Aaron Rogge

Aaron Rogge, PE, is a Water Resources Engineer with seven years of experience in surface water modeling, collection systems modeling, and ecosystem restoration. With CDM Smith, he has helped develop various capital improvement programs in the Southeast and has been involved in many instances of design, permitting, and hydraulic and hydrologic (H&H) modeling. He holds a Master's Degree in Environmental Engineering from the University of South Florida.

Dr. John Schwartz

Dr. John Schwartz joined the faculty of the Department of Civil and Environmental Engineering at the University of Tennessee in August 2003. He has a PhD in Environmental Engineering from the University of Illinois at Urbana-Champaign (2002), a MS in Fisheries Science with a minor in Water Resources from Oregon State University (1991), and a BS in Civil Engineering from the University of Missouri at Columbia (1982). Professional experience includes work as a design engineer for the US Peace Corps for the Kenya Ministry of Water Development, an environmental engineer for the US Environmental Protection Agency in the NPDES compliance section, and a project engineer/manager with two private consulting firms in Oregon working on municipal water, wastewater, and stormwater projects. At the University of Tennessee, Dr. Schwartz's research areas include studies associated with watershed modeling and planning water quality impacts from excessive suspended sediment in streams from uplands and bank erosion, performance of stormwater control structures, fluvial geomorphic processes, and development of ecohydraulic methods for stream rehabilitation.

Ty Smith

Ty Smith is a water resources engineer and project manager at Hazen and Sawyer, specializing in ecosystem restoration, flood mitigation, and strategic watershed management. Ty has worked with public, private, and nonprofit clients on a variety of stream and wetland related projects throughout the United States and Canada, ranging from planning/studies to detailed design/modeling and long-term monitoring/management.

Alan Sparkman

Alan has served as the Executive Director of the Tennessee Concrete Association since 1998. He regularly teaches concrete industry professional courses across the US and served as an Assistant Professor at Middle Tennessee State University for the Concrete Industry Management program for the 2010-2011 academic year. He developed and teaches a class on Concrete Construction Sustainability for the "Concrete" MBA program at MTSU.

Alan holds the NRMCA Pervious Concrete Craftsman certification and is a co-author on several research publications relating to pervious concrete, as well as other concrete topics.

He completed his Masters of Business Administration degree in May of 2004 from Jones International University. In November of 2006, Alan became a LEED Accredited Professional through the U.S Green Building Council and in January of 2007 Alan earned his Certified Association Executive (CAE) designation.

Speaker Bios

Scott Sertich, PE, ASCE, CFM, CPSWQ

Director of Engineering - Bio Clean. Key Job Experiences: Managing the Bio Clean team of highly skilled engineers and drafters. Designing stormwater separators, filters, and storage systems throughout the US. Managed more than 700 successful project installations in 2019. Education/Certifications: University of Colorado - Bachelor's Civil Engineering. Colorado PE #43357. Member of American Society of Civil Engineers (ASCE). Certified by Association of State Floodplain Managers (CFM). Certified Professional in Stormwater Quality (CPSWQ).

Mary Beth Sutton

Mary Beth Sutton earned her BS with Highest Honors in Environmental Science from UTC and continued her education at UNC Chapel Hill where she earned her MSPH in Environmental Science and Engineering as well as a MAT in Science Education. She taught at several schools in the Chapel Hill, NC and Chattanooga area and got her immersion in Nonprofits while Exec Direct of the Chattanooga Nature Center. She founded Caribbean SEA (Student Environmental Alliance) in 2004 as a grassroots organization to help communities in the Caribbean protect their water. After working in the Tennessee River basin for 10 years, Caribbean SEA was rebranded to WaterWays in 2019 to better reflect their mission. WaterWays works closely with local MS4's focused on grassroots community education and action for our streams and rivers. WaterWays is a proud recipient of the Tennessee River Basin Network Communication and Outreach Award for 2020!

Adrian Ward

Adrian Ward is a registered engineer and certified floodplain manager. He serves as the Business Development Director in the Water Business Unit for Barge Design Solutions in Nashville, Tennessee. He has a Bachelor's in Civil Engineering from Tennessee Technological University and a Master's in Civil Engineering from the University of Tennessee. He has eighteen years of experience in hydrologic and hydraulic analysis and design and specializes in the design of storm sewer and flood mitigation systems.

Blake Whitman

Dr. Whitman is an Assistant Professor in the School of Concrete and Construction Management at Middle Tennessee State University. He specializes in construction site erosion and sediment control design and implementation, heavy civil project management, and MS4 analysis. He earned his Ph.D. (2018), M.S. (2014), and B.S. (2012) in civil engineering from Auburn University. He has experience as a project manager within the private construction industry, as well as with the U.S. Army Corps of Engineers. He developed and implemented a methodology for surveying and analyzing the MS4 infrastructure at Fort Benning, GA, and has conducted research focusing on small- and large-scale testing techniques for improving the performance of sediment barrier practices. His current research efforts focus on evaluating and improving erosion and sediment control practices installed on DOT construction sites, evaluating the hydraulic performance of wattle ditch checks, using RTK GNSS and LIDAR to analyze sediment transport, and improving educational outreach within the construction industry.

Heather Williams

Ms. Williams has over 17 years of project management experience and has served as Project Manager for the majority of Wood project experiences described in this proposal. Her experience was gained locally in Indiana, and nationally on managing and developing Green Infrastructure Stormwater Programs. Ms. Williams is an expert in aligning stormwater requirements and policy with local codes, plans, and initiatives. She enjoys the creativity this allows to eliminate code conflicts, find innovative techniques to resolve stormwater problems, encourage LID and GI, and forge new partnerships with stakeholders. Her key skills include: project management; stormwater and GI planning; GI alignment; design manual development; GI-BMP feasibility and design; BMP maintenance guidance, and NPDES Phase I/II permitting



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