



21st Annual Southeast New York Stormwater Conference

Session III - Tuesday, December 7th - 9 AM-12:30 PM

Collaborative Approaches to Green Infrastructure Planning, Implementation and Maintenance

- 9:00 — Welcome and Housekeeping
Mike Jastremski/Lower Hudson Coalition
- 9:05— The 2021 Green Stormwater Infrastructure Designer Survey
Robert J Woodman, P.E./Ferguson Waterworks
- 10:05 — Member District Spotlight: New York City
- 10:10— Infiltration Trenches: Low Cost And Scalable BMP's for Municipalities
Wayne Chouinard, P.E./Town of Arlington, MA
Emily Sullivan, AICP/Town of Hingham, MA
- 11:10— Building Capacity for Sustainable Rain Garden Management
Diana Gruberg/Gowanus Canal Conservancy
Renee Ruhl/HOPE Program
Maggie Greenfield/Bronx River Alliance
Lisa Bloodgood/Newtown Creek Alliance
- 12:10 — Additional questions and discussion

Session III Continuing Education Credit

We anticipate Session III being approved for 3 CECs for Certified Floodplain Managers (Association of State Floodplain Managers) and 2 PDHs for Professional Engineers (Practicing Institute for Engineers). 3 PDHs for Registered Landscape Architects (Landscape Architecture Continuing Education System) have been approved. This information will be updated between now and the Session date. Attendance Certificates for self-certification are available upon request.

Thanks to our 2021 Sponsors!





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The 2021 Green Stormwater Infrastructure Designer Survey

Robert J Woodman, P.E./Ferguson Waterworks

In June 2021, Rob prepared a 30-question simple survey for designers of Green Stormwater Infrastructure – both Civil Engineers and Landscape Architects. The survey included questions about their typical design process, engagement and involvement in installation and the connection between (or lack thereof) between the designer and post installation ongoing maintenance. Are specifications for plant establishment included in the bid package?, are pre-bid meetings mandatory? Is the designer involved in construction oversight? Do the maintenance capabilities of site owners effect BMP selection? Are post project forensics completed prior to starting the next project? And, a general question: What is the biggest challenge in the furtherance of green infrastructure?

Well – the results are in. Designers from states across the country have completed the survey and some interesting feedback has been compiled. This presentation will provide a summary of the results for all 30 questions and draw suggested conclusions on specific common threads and the need for a more collaborative approach to GSI projects from concept through to completion.



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The 2021 Green Stormwater Infrastructure Designer Survey

Meet the Speaker:

Robert J. Woodman, P.E. - National Urban Green Infrastructure Manager/Ferguson Waterworks

Rob graduated in Civil Engineering from the University of Wollongong, Australia. He spent the first 10 years as design and project engineer for a private engineering consulting firm, gaining experience and expanding his knowledge of the industry on a wide variety of civil and stormwater engineering design projects for private and public sector clients throughout New England. In 2014 Rob took an opportunity to leverage his expertise in innovative stormwater and green infrastructure treatment systems and transitioned from consulting to the product, solution and innovation side of the industry. Rob now serves Ferguson Enterprises (who recently acquired ACF Environmental (where Rob has worked since 2015)) as the National Manager of Urban Green Infrastructure and supports engineers, landscape architects and designers on site development and green infrastructure systems overcoming design and permitting challenges with a suite of innovative solutions. He is a Registered Professional Engineer in Maine and Pennsylvania, a Certified Professional in Erosion and Sedimentation Control, Maine DEP Certified Stormwater Inspector, an ASCE member, Master Gardener, and entrepreneur. Rob lives in Gorham, Maine with his wife, Jessi and four children – Elle (13), Sadie (11), Gracie (9) and Judah (6)



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Infiltration Trenches: Low Cost And Scalable BMP's for Municipalities

Wayne Chouinard, PE/Town of Arlington, MA

Emily Sullivan, AICP/Town of Hingham, MA

The Town of Arlington, Massachusetts has developed a simple, cost effective, and easily reproducible approach to improve stormwater runoff quality in high density urban environments. Town staff collaborated with the Mystic River Watershed Association (MyRWA) and the University of New Hampshire Stormwater Center (UNHSC) through a series of interrelated grants to develop and standardize procedures for the siting, design, and installation of a stormwater infiltration trench.

The main goal of the collaboration was to minimize design costs and increase implementation efforts on municipal lands by standardizing a design detail and site selection tool to be used in-house by municipalities. Arlington prioritized reducing construction costs by specifying readily available materials, recommended material management techniques, and utilizing existing stormwater infrastructure.

Join Wayne Chouinard, PE (Town of Arlington Town Engineer) and Emily Sullivan (Town of Hingham Conservation Officer) as they provide an overview of what began as the installation of 11 infiltration trenches and developed into a program growing across the Mystic River Watershed with MyRWA and UNHSC. To date, over 86 infiltration trenches have been installed in two communities, and grant funding is approved for the construction of 180 more trenches in three communities. In addition, a planning grant has been awarded to design and site infiltration trenches in eight additional communities in the Mystic River Watershed, completely changing the implementation approach for municipalities and dramatically reducing costs for pollutant reductions.

With a simple and scalable plan, the communities within the watershed are working together across municipal boundaries to improve the Mystic River at the watershed level, less expensively, with greater effectiveness and with more sustainable/maintainable implementation approaches.



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Infiltration Trenches: Low Cost And Scalable BMP's for Municipalities

Meet the Speakers:

Wayne Chouinard, P.E. - Town Engineer/Town of Arlington, MA

Mr. Chouinard has served Arlington as the Town Engineer since 2011. His responsibilities include providing specialized and technical engineering services for municipal infrastructure improvement and capital programs. Mr. Chouinard is also part of the team responsible for administering the Town's MS4 Program and has initiated many projects with the goal of improving stormwater runoff quality. These projects included porous pavement, rain gardens, and infiltration trenches. The Town is currently working on modifying a standard infiltration trench design to adapt to different site conditions.

Emily Sullivan, AICP - Conservation Officer/Town of Hingham, MA

Emily Sullivan is the Conservation Officer for the Town of Hingham. Prior to her role in Hingham, she was the Environmental Planner for the Town of Arlington. While working for Arlington, she was the co-chair for the Resilient Mystic Collaborative Upper Mystic Stormwater Working Group. In her role with Hingham she is a member of the South Shore Climate Network, facilitated by the Metropolitan Area Planning Council.



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Building Capacity for Sustainable Rain Garden Management

Diana Gruberg/Gowanus Canal Conservancy

Renee Ruhl/HOPE Program

Maggie Greenfield/Bronx River Alliance

Lisa Bloodgood/Newtown Creek Alliance

This session dives into a new collaborative effort among four New York City community-based organizations aimed at improving rain garden performance, increasing co-benefits such as community beautification and urban heat island mitigation, providing local jobs and workforce development, and engaging local communities in the stewardship of their green spaces. The session will explore watershed-specific approaches that can be replicated more broadly to address sustainable green infrastructure maintenance and workforce development.



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Building Capacity for Sustainable Rain Garden Management

Meet the Speakers:

Diana Gruberg - Landscape Director/Gowanus Canal Conservancy

Diana oversees landscape design, advocacy, and landscape management towards the creation of a dynamic, engaging, biodiverse public realm in Gowanus through the Gowanus Lowlands Master Plan and on-the-ground site maintenance and nursery operations. Her 10 years of experience includes work at planning and design firms Interface Studio and Future Green Studio, as well as work as a public park gardener and environmental educator. Diana holds a Master of Landscape Architecture from the University of Pennsylvania.

Renee Ruhl - Project Manager Intervine/HOPE Program

Renee has strong project management and design experience from the private sector and in nonprofit management. Currently as a project manager for HOPE's green infrastructure transitional employment program Intervine, she leads environmental literacy classes and engages with community organizations for meaningful hands-on participant training to build practical skills grounded in ecological best-practices. She leads Intervine's social enterprise projects, which entails designing, installing and maintaining green spaces in the Bronx providing transitional employment opportunities for program graduates. Prior to HOPE, Renee worked as a landscape designer for an ecological landscape design company in New York and led the operations of a nutrition education program at the Food Bank for New York City, focused on inequitable healthy food access. She holds an MS in Ecological Design, a Horticulture Certificate in Sustainable Landscape Design and BS in Textile Science.



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Meet the Speakers:

Maggie Scott Greenfield/Bronx River Alliance

Maggie serves as the Executive Director of the nonprofit Bronx River Alliance and as the Bronx River Administrator for NYC Parks. Maggie guides investments of more than \$250 million in greenway and restoration projects that improve the ecological health of the river and open up community access to it. Ms. Greenfield is committed to ensuring that the Alliance's educational and stewardship programs serve as a bridge between youth and young adults from environmental justice communities along the river to myriad opportunities in the environmental sector. Maggie holds a Bachelors of Science degree in Public Health/Environmental Science from the University of North Carolina at Chapel Hill and a Masters in City Planning from the Massachusetts Institute of Technology.

Lisa Bloodgood/Newtown Creek Alliance

Lisa is the Director of Advocacy and Education for Newtown Creek Alliance, an environmental nonprofit in North Brooklyn and Western Queens dedicated to revealing, restoring, and revitalizing Newtown Creek. In this role she is focused on urban ecology, restoration of land and water-based ecosystems, environmental and community health, environmental policy, the climate crisis, and innovative resilient design as a tool. Lisa continues to work to bring together coalitions spanning geographic and issue areas in NYC and across the NY/NJ Harbor estuary. Prior to working for NCA, she spent a number of years working for the New York City Council as a legislative aide. Currently, Lisa serves as a NY Co-Chair for the NY/NJ Harbor Estuary Program's Community Advisory Council and is a Stakeholder Advisory Board member of both Mt. Sinai's Transdisciplinary Center on Early Environmental Exposures, and NYU's Center for the Investigation of Environmental Hazards Community Engagement Cores. She volunteers with the New York City Pollinators Working Group through the Education and Outreach Committee and serves as Co-Chair of North Brooklyn Neighbors Board of Directors, a North Brooklyn-based environmental and social justice nonprofit. Lisa has a degree in Earth and Environmental Science from Brooklyn College.