



STORMWATER SYMPOSIUM | 2024

Emerging Issues in Stormwater Management

PRESENTATION GUIDE

WEDNESDAY, OCTOBER 16

1 - Villanova Welcome - Villanova Room

Robert Traver, Ph.D., P.E., Professor of Civil and Environmental Engineering and Villanova Urban Stormwater Partnership Director (VUSP)

2 – KEYNOTE: EPA’s 2035 Green Infrastructure Strategic Agenda

Robyn DeYoung, MA, Lead of Green Infrastructure Program at US Environmental Protection Agency

3 – KEYNOTE: Tracking the ever-expanding stormwater cocktail

Allen P. Davis, Ph.D., P.E., Charles A. Irish Sr. Chair in Civil Engineering, University of Maryland

4 - Keynote Q&A

Moderator: Bridget Wadzuk, Ph.D. - Villanova

5 – Stormwater at the Watershed Scale

Moderator: Jeffrey MacKay, MS, PE, CPESC – NTM Engineering, Inc.

Creating a Stormwater Park over an Interstate: Restoring Community Connections with a Highway Cap and Green Infrastructure T.M. Batrone HDR Engineering, Pittsburgh, PA

Stormwater Management Design for Linear Development Projects: Challenges and Lessons Learned

Carvajal Sanchez (P.E.), B. E. Kelly (P.E.) Greenman-Pedersen, Inc. Philadelphia, PA

Greenways – An Opportunity for Resiliency in a Broader Community Michael Connor - NV5

6 – The Cutting Edge at PWD

Moderator: William Nichols, PE – PWD

Case Study of Repairs to Failed Bioretention Systems Alan Fody Philadelphia Water Department

What’s the Hold Up? Assessing Inlet Conveyance Issues in Philadelphia’s Green Stormwater Infrastructure (GSI) J. Batterton, Philadelphia Water Department B. Cruice AKRF, Inc

Cracking the Code: Developing GSI Analysis Tools with No Formal Training - T. Heffernan
Philadelphia Water Department

Fill it up! Construction-Phase Testing of Fully Lined GSI Systems, M. Avener, W. Nichols
Philadelphia Water Department

7 Post Construction Stormwater Management Manual Update - Villanova Room

Moderator: Kristin Sample-Lord, Ph.D., P.E. Villanova

Panelists:

Sean Furjanic, P.E., Environmental Program Manager, NPDES Permitting Division, PA DEP
Robert Traver, Ph.D., P.E., Professor and VUSP Director, Villanova University
Amanda Hess, Ph.D., P.E., Research Professor, Villanova University
Mark Bowen, P.E., Senior Project Manager, NTM

8 – Community Impact

Moderator: Edwina Lam – AECOM

Growing Resilience: Advancing Green Stormwater Infrastructure in Environmental Justice Neighborhoods
Lyndon DeSalvo The Nature Conservancy, James Baney, Carolyn Paone AKRF

Building an Equitable Stormwater Program for an Environmental Justice Community Aadita (Adi) Pise
HDR, Inc.

Comparing Community Approaches to Flood Mitigation in Pennsylvania M.J. Vanaskie, A. Wilusz HRG

Little Creek, DE: A Case Study in Coastal Community Resilience E.P. Pleczynski, G.L. Tonn Verdantas

Exploring Determinants of Residents' Behavior in Green Stormwater Infrastructure Adoption: An Extension of the Theory of Planned Behavior M. Adib, H. Wu Department of Landscape Architecture, Penn State University

9 - Emerging Issues: Advancing Engineering Innovation to Address Climate Adaptation

Moderator: Kelly Good, P.E., Ph.D - Villanova

Panelists:

Shirley Clark Ph.D., P.E., EWRI President, Professor of Environmental Engineering at Penn State Harrisburg
Rajesh Rajan, Senior Water Resource Engineer at CDM-Smith, Consultant to the Philadelphia Water Department

WEDNESDAY, OCTOBER 16

1 - Caffeine Jolt Emerging Issues: Advancing Engineering Innovation to Address Climate Adaptation

Moderator: Kelly Good, P.E., Ph.D - Villanova

Panelists:

Shirley Clark Ph.D., P.E., EWRI President, Professor of Environmental Engineering at Penn State Harrisburg
Rajesh Rajan, Senior Water Resource Engineer at CDM-Smith, Consultant to the Philadelphia Water Department

2 – KEYNOTE: Murky Waters, Infrastructure, and Environmental Risks: Stormwater Planning and Engineering Towards Environmental Justice

Marccus D. Hendricks, Ph.D., MPH, Associate Professor of Urban Studies and (Environmental) Planning at University of Maryland

- Moderated by Bridget Wadzuk, Ph.D.



3- Innovative Solutions

Moderator: Derek Berg – Contech Engineered Solutions

Step-tiered bioretention bed design: monitoring performance for stormwater quality enhancement

Abdullah Al-Amin, Erica R. McKenzie

Temple University, Department of Civil and Environmental Engineering

Providing Access for the Future of SCMs

Kevin R. Kozain, P.E. NTM Engineering, Inc

Pump It Up- Designing SEPTA's resilient transit infrastructure

Shiny Mathew, PE, ENV SP JMT

Introducing the iNode: An Intelligent IoT Node for Low-Cost Remote Data Acquisition, Sensing and Actuation

James Peyton- Jones, Ph.D. Villanova University, Department of Electrical and Computer Engineering

Stop the Leaks! Exploring Repair Techniques to Seal GSI Outlet Structures

J. Olsson Verdantas, W. Nichols, B. Conway Philadelphia Water Department

4 - Consultants and the Response to the Federal Infrastructure Bill

Moderator: Virginia Smith, P.E., Ph.D - Villanova

Panelists:

April Barkasi, P.E. – President/CEO - CEDARVILLE Engineering Group, LLC

Shiny Mathew, P.E., ENV SP – Associate Vice President – Water Resources at Johnson, Mirmiran & Thompson

Stephen Burgo, P.E. – Township Engineer, Tredyffrin Township

5 – Real World Lessons

Moderator: Amy Leib – Verdantas

Comparing Conventional and Water Sensitive Urban Designs for a South African Greenfield township development

A. A. Boadu Anie, A. A. Ilemobade School of Civil and Environmental Engineering, University of the Witwatersrand, Johannesburg, South Africa

Plants in a pickle? Plant responses to deicing salt in highway-adjacent bioinfiltration basins

J.S. Caplan¹, J. Baumgarten^{1,2}, A.B. Salisbury^{1,3}, E.R. McKenzie⁴, S.W. Eisenman¹

Department of Architecture and Environmental Design, Temple University, Ambler, PA¹

Department of Biology, Bryn Mawr College, Bryn Mawr, PA²

Department of Ecology, Evolution, and Natural Resources, Rutgers University, New Brunswick, NJ³

Department of Civil and Environmental Engineering, Temple University, Philadelphia, PA⁴

Still working after 22 years: Monitoring an Early Modular Stormwater Infiltration System at the Washington National Cathedral

M. Henderson, PE, R. Farella, PE, M. Adams, Meliora Design



Radnor Township Municipal Projects for Climate Resiliency
M. Busch, M. Henderson, M. Adams, Meliora Design

Resilient Green Infrastructure
Z. H. Ranstead, P.E., LEED-AP, CFM, T&M Associates 19103¹

6 - VUSP Panel - Implications for Design Based on Research

Moderator: Robert Traver, P.E., BC.WRE., Ph.D Villanova

Panelists:

Bridget Wadzuk, Ph.D., Professor and Daylor Chair, Villanova University
John Komlos, Ph.D., Teaching Professor, Villanova University
Kristin Sample-Lord, P.E., Ph.D., Associate Professor, Villanova University
Virginia Smith, P.E., Ph.D., Associate Professor, Villanova University
Kelly Good, P.E., Ph.D., Assistant Professor, Villanova University
Jon Hubler, Ph.D., Assistant Professor, Villanova University

