



STORMWATER SYMPOSIUM | 2024

Emerging Issues in Stormwater Management

ABSTRACT TITLE GUIDE

WEDNESDAY, OCTOBER 16

10:00 AM – Stormwater at the Watershed Scale

The Villanova Room

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. Batrone¹

HDR Engineering, 301 Grant St. Suite 1700 Pittsburgh, PA¹

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

S. Carvajal Sanchez (P.E.), B. E. Kelly (P.E.)¹

Greenman-Pedersen, Inc. (GPI), 1650 Arch Street, Suite 2140, Philadelphia, PA¹

Greenways – An Opportunity for Resiliency in a Broader Community

Michael Connor¹

NV5¹

Watershed-Scale Planning for Urban Water Quality Improvement: Navigating Nuance and Creating Balance with a Diversified Portfolio

Thom Epps¹

Craftwater Engineering¹

10:00 AM – Communities and Policy

The Cinema

Moderator: Monique Epitropou, PE– Jacobs

Resident perspectives of top-down, municipal-scale, streetside bioretention in China, Sweden, and USA

J. Smith¹, L. Lundy², J. Brooks¹, G. Blecken², P. Chen¹, Z. Guo³, C. Lundmark², Y.T. Tang⁴, X. Zhang³, & R. Winston¹

The Ohio State University, Columbus, Ohio, United States of America¹

Luleå University of Technology, Luleå, Sweden²
Wuhan University, Wuhan, Hubei, People's Republic of China³
The University of Nottingham Ningbo China, Ningbo, Zhej⁴

Trendspotting: Assessing the First 10 Years of GSI Infiltration Performance in Philadelphia

B. Cruice¹, F. Ebrahimi², T. Heffernan², W. Nichols²

AKRF, Inc., 530 Walnut Street Suite 998, Philadelphia, PA¹

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA²

Clean Water Act Compliance During Wet Weather: Lessons and Recommendations

L. Liang¹, & S. C. Paulsen²

Stantec Consulting Services Inc. 1500 Spring Garden Suite 1100, Philadelphia, PA¹

Exponent, Inc. 1055 East Colorado Boulevard, Suite 500, Pasadena, CA²

11:15 AM – The Cutting Edge at PWD

The Villanova Room

Moderator: William Nichols, PE – PWD

Case Study of Repairs to Failed Bioretention Systems

Alan Fody¹

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA¹

What's the Hold Up? Assessing Inlet Conveyance Issues in Philadelphia's Green Stormwater Infrastructure (GSI)

J. Batterton¹, B. Cruice²

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA¹

AKRF, Inc., 530 Walnut Street Suite 998, Philadelphia, PA²

Cracking the Code: Developing GSI Analysis Tools with No Formal Training

T. Heffernan¹

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA¹

Fill it up! Construction-Phase Testing of Fully Lined GSI Systems

M. Avener¹, W. Nichols²

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA¹

Philadelphia Water Department, 1101 Market St. 4th Floor, Philadelphia, PA²

11:15 AM – Soils and Bioinfiltration

The Cinema

Moderator: Domenic Rocco – PA DEP

Soils and Stormwater Management - Practical considerations from the field

Russell Losco¹

West Chester University & Lanchester Soil Consultants, Inc.¹

Circular Soils: Waste-Based Materials for Green Infrastructure

Edward Confair¹, Pia von Barby²

AKRF, Inc. 530 Walnut Street, Suite 998, Philadelphia, PA¹

OLIN, 1617JFK Blvd, Suite 1900, Philadelphia, PA²



Stormwater Management and Soils - Are we doing any better?

Steve Dadio¹

Rooted Environmental Solutions¹

Impacts of de-icing salt loading on nutrient and metal processing in stormwater bioretention

A.H. Brown¹, L.E. McPhillips^{1,2}

Department of Civil and Environmental Engineering, Penn State University- University Park, PA¹

Department of Agricultural and Biological Engineering, Penn State University- University Park, PA²

2:40 PM – Community Impact

The Villanova Room

Moderator: Edwina Lam – AECOM

Growing Resilience: Advancing Green Stormwater Infrastructure in Environmental Justice Neighborhoods

Lyndon DeSalvo¹, James Baney², Carolyn Paone²

The Nature Conservancy¹, AKRF²

Building an Equitable Stormwater Program for an Environmental Justice Community

Aadita (Adi) Pise¹

HDR, Inc.¹

Comparing Community Approaches to Flood Mitigation in Pennsylvania

M.J. Vanaskie¹, A. Wilusz¹

HRG, 776 Bull Run Crossing Suite 200, Lewisburg, PA¹

Little Creek, DE: A Case Study in Coastal Community Resilience

E.P. Pleczynski¹, G.L. Tonn¹

Verdantas, 211 N. 13th Street, Suite 503, Philadelphia, Pennsylvania¹

Exploring Determinants of Residents' Behavior in Green Stormwater Infrastructure Adoption: An Extension of the Theory of Planned Behavior

M. Adib¹, H. Wu²

Department of Landscape Architecture, Penn State University, University Park, State College, Pennsylvania^{1,2}

2:40 PM – Water Quality

The Cinema

Moderator: Michael Connor – NV5

The Wetlands at Long's Park: The City of Lancaster's Park Enhancement and Water Treatment Project

S. Beck¹, A. Brackbill², A. Lewis¹, L. Rominger¹, D. Wible¹

Jacobs, 2001 Market Street, Suite 900, Philadelphia, PA¹

City of Lancaster, 120 N Duke Street, Lancaster, PA²



East Branch Chagrin River Restoration for Water Quality and Habitat Improvement

B. Long¹, K. Brewster-Shefelton²
Biohabitats Inc., Clipper Park Rd, Baltimore, MD¹
Chagrin River Watershed Partners, Willoughby, Ohio²

Delaware River Bacteria Study

Kohler¹, S. Hegde², K. Russek², T. Mittman³, V. Thulsiraj³, J. Fine³
Water Center at Penn, 3600 Market Street, Ste 560, University of Pennsylvania, Philadelphia, PA¹
Water Center at Penn, 3600 Market Street, Ste 560, University of Pennsylvania, Philadelphia, PA²
Michael Baker International, 1818 Market Street, Ste 3110, Philadelphia, PA³

Stormwater Quality Treatment: More than Just TSS, TP, and TN

Scott A. Brown, PE, D.WRE¹
NTM Engineering, Inc, State College, PA¹

Environmental Sampling and Analysis of Microplastics – Focus on Stormwater Management Sites

Erica Forgione, PhD¹, Bridget Neumann¹, Kelly Good, PhD¹
Villanova University, 800 Lancaster Ave, Villanova, PA¹



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