



STORMWATER SYMPOSIUM | 2022

Infrastructure. Resilience. Equity.

ABSTRACT TITLE GUIDE

THURSDAY, OCTOBER 13

8:30 AM – Changing Climate

The Villanova Room

Rainfall Analysis and Climate Change Projections for Municipal Infrastructure Planning

E. Rakestraw¹ & A. Potts¹ (Presenter)

T. Jantzen¹ & S. Campbell²

Jacobs Engineering Group¹, City of Lancaster²

Future Climate Impact on Raingarden Effectiveness in a Suburban Watershed

R. J. Ryan¹

Department of Civil and Environmental Engineering, Temple University¹

Design of Stormwater Control Measures for Extreme Rainfall

M. D. Bowen^{1,2}

NTM Engineering¹, Delaware Basin Regional Water Resource Committee, State Water Plan Update²

8:30 AM – I-95 Girard Avenue Interchange Stormwater Project—Lessons Learned From Collaborative Research

The Cinema

Villanova and Temple University are working collaboratively with PennDOT through AECOM to conduct research “that supports a resilient PennDOT Stormwater Strategy that reduces overall costs through reduction of risk, enhanced performance, extended lifecycle, and reduced targeted maintenance costs of SMPs.” The panelist will first present an overview of the project, and then will discuss what has been learned, and the benefits gained from this collaboration.

E. Lam¹

C. Lynn¹, L. Toran², & R. Traver³

AECOM¹, Temple University², Villanova Urban Stormwater Partnership, Villanova University³

10:40 AM – Philadelphia Water Department Operations and Performance of Green Stormwater Infrastructure

The Villanova Room

An Overview of PWD's Green Stormwater Operations Unit (GSO)

A. Kirkland¹

Green Stormwater Operations Unit, Philadelphia Water Department¹

Expecting the Unexpected; Anticipation, Preparation, Response and Oversight of GSI in an Urban Environment

J. Bluebaugh¹

Green Stormwater Operations Unit, Philadelphia Water Department¹

Building Operational Resilience for a Stormwater Maintenance Grounds Program

M. Rozanski¹

Green Stormwater Operations Unit, Philadelphia Water Department¹

Construction Phase Performance Testing of Lined GSI

W. Nichols¹

Office of Watersheds, Philadelphia Water Department¹

10:40 AM – Focus on the Floodplain

The Cinema

Partnership for Wissahickon Floodplain Reconnection

B. Long¹

Biohabitats Inc.¹

French Creek West: Remediation and Redevelopment along a FEMA AE Floodplain

Z. H. Ranstead¹

T&M Associates¹

Aquatic Resource Mitigation at Bensalem Township High School – PennDOT District 6-0

A. W. Donaldson¹

A. M. Birmingham¹, T. Charles¹, & D. Fischer²

Johnson, Mirmiran & Thompspon, Inc.¹, PennDOT District 6-0, Environmental Unit²

Watershed-wide Flooding and Wet Weather Assessment and Mitigation Study in Fishing Creek Watershed, Columbia County, PA

M.J. Vanaskie¹

HRG¹

1:15 PM VUSP—Research Findings from an Integrated Approach to GSI Analysis

The Villanova Room

Villanova researchers will be presenting findings and recommendations from the water resources, geotechnical, and robotics perspectives on the monitoring and analysis of several PennDOT SMP's constructed as part of the I-95 GIR Project

G. Clayton¹, A. Hess¹, K. Sample-Lord¹, V. Smith¹, R. Traver¹, B. Wadzuk¹, & G. Zaremba¹



Villanova Urban Stormwater Partnership, Villanova University¹

1:15 PM – Permeable Pavement
The Radnor-St. David Room

Permeability Restoration of Permeable Interlocking Concrete Pavements

B. Horr (Presenter)¹, R. Smith¹

J. Drake²

Interlocking Concrete Pavement Institute Foundation for Education & Research¹, College of Civil & Mineral Eng., University of Toronto²

Permeable Pavement Case Study at Ursinus College

K. Earley¹

S. Gehringer²

Oldcastle¹, Facilities Department, Ursinus College²

Comparison of Winter Deicing Operations for Permeable Interlocking Concrete Pavements (PICP) Compared to Asphalt

B. Horr (Presenter)¹, R. Smith¹

J. Drake²

Interlocking Concrete Pavement Institute Foundation for Education & Research¹, College of Civil & Mineral Eng., University of Toronto²

1:15 PM – SCM Master Planning II
The Cinema

Next Generation Stormwater Master Planning to Address Evolving Needs

A. Anderson¹

M. Jones¹, R. O'Banion¹, & T. Smith¹

Hazen and Sawyer¹

Stormwater Management and Engineering Solutions in Refugee Camps at the US/Mexico Border

S. Merrill¹

Solidarity Engineering¹

Finding Green and Gray Infrastructure Opportunities in Chicago, IL

R. Connolly¹

B. Callahan¹, M. DuPont¹, L. Gillespie¹, T. Novotny¹, & B. Wawczak²

Stantec Consulting Services Inc.¹, Metropolitan Water Reclamation District of Greater Chicago²

2:35 PM – Equity and Triple Bottom Line
The Villanova Room

Stormwater Stories: Communicating Triple Bottom Line Benefits of Green Infrastructure

M. M. Schmidt¹

Engineering & Land Planning Associates¹

GSI: A Tool for Equitable Economic Recovery and Growth in Pennsylvania

A. Shipp¹ & A. Cupo¹



R. Overmoyer², J. Peytas², & C. Worley²
Sustainable Business Network of Greater Philadelphia¹, Fourth Economy²

Reshaping the Regulatory Framework: An Avant Garde Classic Equitable Fully Distributed Integrated Approach for Optimal Green Infrastructure Selection

J. Seersma¹

S. Saksena², S. Sharvelle¹, & V. Merwade³

Dept. of Civil and Env. Eng., Colorado State University¹, Dept. of Civil and Env. Eng., Virginia Tech ², Lyles School of Civil Eng., Purdue University³

2:35 PM – Addressing Water Quality

The Radnor-St. David Room

Digging into the Biogeochemistry of Internal Water Storage: Implications for Greenhouse Gas Emissions and Nitrogen Treatment

L. E. McPhillips^{1,2}

T. Tarannum¹ & B. Adhikari¹

Dept. of Civil and Env. Eng., Penn State University¹, Dept. of Agri. and Biological Eng., Penn State University²

Tredyffrin Township Pollutant Reduction Plan (PRP) Strategy

S. Burgo¹

M.Chase² & C. Finneran²

Tredyffrin Township Engineering Department¹, Jacobs Engineering Group²

Hydrologic Evaluation of a Vegetated Compost Blanket (VCB) Amending a Vegetated Filter Strip (VFS) on a Highway Median

E. R. Forgione¹

A. P. Davis¹, A. Aydilek¹, & G. Felton¹

Dept. Civil and Env. Eng., University of Maryland¹

2:35 PM – Resilience

The Cinema

Increasing Stormwater Resiliency Through Innovative Codes & Ordinances

C. Paone¹

K. Flynn¹

AKRF Inc.¹

Touring America's NPDES Construction Stormwater Regulations by Rail

A. Wawiernia¹

J. Fine¹

Michael Baker International, Inc.¹

I Don't Remember it Raining like this Before; Stormwater Design and Regulatory Context

C. Emerson¹

Princeton Hydro¹

