

Implementing Stormwater Management Integration of Planning, Regulation, Design, and Operations



Proceedings of the
2003 Pennsylvania Stormwater Management
Symposium
Held at Villanova University
October 16-17, 2003

Mission Statement - *The purpose of the symposium is to advance the knowledge and understanding of comprehensive stormwater management for those dealing in all aspects of planning, design, implementation and regulatory compliance. A half day workshop entitled "Removing Obstacles to Better Stormwater Management" - a workshop for Non-Engineers was held preceding the conference.*

Steering Committee:

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Bureau of Watershed Management
Pennsylvania Environmental Council
Borton-Lawson Engineering
Chester County Conservation District
Chester County Water Resources Authority
Philadelphia Water Department
Villanova University
Department of Civil and Environmental Engineering
Villanova Urban Stormwater Partnership

Conference Chair: Robert G. Traver, PhD., PE

Editor: Clay Emerson

The Department of Civil and Environmental Engineering- has a complete evening graduate school conferring the Master of Civil Engineering, Master of Water Resources and Environmental Engineering, and the Master of Transportation degrees. Classes are held both on-campus and through Distance Learning. Call 610 519 4960 for further information, or visit the University Web site at;

<http://engineering.villanova.edu/ce/>

PREFACE

The 2003 Pennsylvania Stormwater Management Symposium follows the Commonwealth 1998 and 2001 Symposiums all held at Villanova. In 1998 the Symposium focused on the successes, failures, and future prospects of stormwater management, while in 2001 the symposium the focus was on re-thinking comprehensive stormwater management, integrating quality, volume and peak controls. This year with NPDES Phase II in force for the first time, the focus turned to the integration of planning, regulation, design, and operations.

The Symposium started a day early with a workshop entitled - *Removing Obstacles to Stormwater Management* that was broadcast live over the Internet. Developed by the Steering Committee, the half-day workshop was directed toward elected and appointed municipal officials and other individuals involved in aspects of the land development process outside of the engineering design elements. The workshop focused on the perspectives of different parties in the development process with regard to stormwater management. The goal was to focus on the perceived obstacles and to generate discussion on how to overcome them.

We started off the Symposium with several welcomes to include Joe Piotrowski of EPA Region III, and Ann Smith of the Pennsylvania Environmental Council. To lead off the conference, Robert Traver, Director of the Villanova Urban Stormwater Partnership, spoke on his view of the challenges that we are to face over the next several years. Next Durla Lathia, Chief of Stormwater Planning and Management, PaDEP, updated the symposium on the Commonwealths efforts under the Comprehensive Stormwater Management Plan.

The remainder of the first day consisted of multiple breakout sessions and several tours, focusing on many stormwater issues, approaches, case studies, and technologies. Over forty papers were presented over the two days, and the tours included Villanova's BMP Research and Demonstration Park, an Urban Stormwater Retrofit Site, a River Restoration Site, and the Philadelphia Water Department's Fairmount Park Water Works Interpretive Center.

The second day started and ended with panels, sandwiching more paper sessions. The first panel focused on the relationship of stormwater and TMDL's, titled *Wissahickon Creek Watershed TMDL for Nutrients and Sediment, Beyond The Model Stormwater Ordinance*. This panel was organized and led by Joe Piotrowski of EPA Region III. The closing panel was entitled *Sustaining Effective Stormwater Management - Legal, Financial, Utility and Changes*. The panel included Doug Brennan of PaDEP, John Wilmer Esq., Fronfield Crawford, Crawford, Wilson, Ryan & Agulnick., and Maya Brennan of the Delaware Riverkeepers. Finally Robert Traver closed the symposium, with a few final comments.

I want to specifically thank the members of the steering committee. Durla Lathia, Dominic Rocco and Steve Burgo of PaDEP, Jan Bowers of CCWRA, Dan Greig of

CCCD, Ann Smith of PEC, and Paul DeBarry of Borton-Lawson. Also I wish to thank the tour organizers - Howard Neukreg of the Philadelphia Water Department, Robert Lambert of Site Engineers, and Courtney Marm of TH Cahill and Associates. All the authors who prepared and presented papers for this Symposium are acknowledged for their commitment to the success of the sessions and the implementation of stormwater management.

The Villanova community also contributed greatly. Linda DeAngelis was instrumental in preparing and completing the correspondence required for the Symposium. I appreciate Pam Porters direction skills, and finally the tremendous contribution of the editor, Clay Emerson - the force behind the scenes. Finally I appreciate the work of the VUSP Graduate Students, Tyler Ladd, Mike Kwiatkowski, Matt Rea, Erica Dean and Jordan Ermilio.

Robert G. Traver, Symposium Chairman Villanova, Pennsylvania October 6th 2003



VILLANOVA URBAN STORMWATER PARTNERSHIP
Department of Civil and Environmental Engineering
Director Robert G. Traver, Ph.D., PE

The mission of the Villanova Urban Stormwater Partnership is to advance the evolving comprehensive stormwater management field and to foster the development of public and private Partnerships through research on innovative Stormwater Best Management Practices, Directed Studies, Technology Transfer and Education.

- Research and directed studies will emphasize comprehensive watershed stormwater management planning, implementation, and evaluation.
- Technology transfer will provide tools, guidance and education for the professional.
- Partnership Goal is to promote cooperation amongst the private, public and academic sectors.

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