

Appendix D
Source/ Cause of
Impaired Streams

Section 303(d) Listed Impaired Streams

STREAMS	SOURCE/ CAUSE OF IMPAIRMENT
"Dead Woman Hollow"	Atmospheric Deposition - pH
Beaver Creek	Flow Regulation/Modification - Water/Flow Variability
Beaver Creek	Flow Regulation/Modification - Siltation ; Flow Regulation/Modification - Water/Flow Variability
Beaver Creek	Crop Related Agric - Siltation
Trib of Beaver Creek	Flow Regulation/Modification - Siltation ; Flow Regulation/Modification - Water/Flow Variability
Beaverdam Creek	Agriculture - Siltation
Trib of Beaverdam Creek	Agriculture - Siltation
Bermudian Creek	Industrial Point Source - Organic Enrichment/Low D.O.
Trib of Bermudian Creek	Agriculture - Siltation
Brush Run	Agriculture - Organic Enrichment/Low D.O. ; Agriculture - Water/Flow Variability
Trib of Brush Run	Agriculture - Organic Enrichment/Low D.O. ; Agriculture - Water/Flow Variability
Conewago Creek	Agriculture - Siltation
Trib of Conewago Creek	Flow Regulation/Modification - Water/Flow Variability
Trib of Conewago Creek	Agriculture - Siltation
Trib of Conewago Creek	Agriculture - Water/Flow Variability
Trib of Latimore Creek	Grazing Related Agric - Nutrients ; Grazing Related Agric - Siltation
Trib of Little Marsh Creek	Industrial Point Source - Unknown Toxicity ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Nutrients ; Small Residential Runoff - Water/Flow
Trib of Marsh Creek	Land Development - Cause Unknown
Trib of Marsh Creek	Grazing Related Agric - Siltation ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Nutrients ; Small Residential Runoff - Water/Flow Variability
Trib of Marsh Creek	Land Development - Cause Unknown
Trib of Marsh Creek	Small Residential Runoff - Water/Flow Variability ; Road Runoff - Water/Flow Variability
Mountain Creek	Atmospheric Deposition - pH
Trib of Mountain Creek	Atmospheric Deposition - pH
Mud Run	Hydromodification - Excessive Algal Growth
Mud Run	Municipal Point Source - Excessive Algal Growth
Mud Run	Hydromodification - Excessive Algal Growth
Mummasburg Run	Crop Related Agric - Unknown Toxicity ; Crop Related Agric - Nutrients
Mummasburg Run	Agriculture - Nutrients ; Agriculture - Siltation
Mummasburg Run	Agriculture - Nutrients
Trib of Mummasburg Run	Agriculture - Nutrients ; Agriculture - Siltation
Trib of Mummasburg Run	Crop Related Agric - Unknown Toxicity ; Crop Related Agric - Nutrients
Trib of Mummasburg Run	Agriculture - Nutrients
Opossum Creek	Agriculture - Siltation
Trib of Opossum Creek	Agriculture - Siltation

Plum Creek	Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation
Trib of Plum Creek	Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation
Plum Run	Agriculture - Siltation
Plum Run	Small Residential Runoff - Nutrients ; Upstream Impoundment - Flow Alterations
Trib of Plum Run	Agriculture - Siltation
Quaker Run	Agriculture - Siltation
Trib of Quaker Run	Agriculture - Siltation
Trib of Quaker Run	Channelization - Other Habitat Alterations
Rock Creek	Grazing Related Agric - Nutrients ; Grazing Related Agric - Siltation ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Nutrients ; Small Residential
Rock Creek	Grazing Related Agric - Nutrients ; Grazing Related Agric - Water/Flow Variability ; Grazing Related Agric - Siltation ; Grazing Related Agric - Thermal Modifications
Trib of Rock Creek	Grazing Related Agric - Siltation ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Nutrients ; Small Residential Runoff - Water/Flow Variability
Trib of Rock Creek	Grazing Related Agric - Siltation ; Small Residential Runoff - Water/Flow Variability
South Branch Conewago Creek	Agriculture - Siltation
South Branch Conewago Creek	Surface Mining - Siltation
South Branch Conewago Creek	Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation
Trib of South Branch Conewago Creek	Agriculture - Siltation
Trib of South Branch Conewago Creek	Surface Mining - Flow Alterations
Trib of South Branch Conewago Creek	Surface Mining - Other Habitat Alterations ; Channelization - Other Habitat Alterations
Trib of South Branch Conewago Creek	Surface Mining - Water/Flow Variability
Stevens Run	Industrial Point Source - Unknown Toxicity ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Nutrients ; Small Residential Runoff - Water/Flow
Swift Run	Agriculture - Organic Enrichment/Low D.O. ; Agriculture - Water/Flow Variability
Trib of Swift Run	Agriculture - Organic Enrichment/Low D.O. ; Agriculture - Water/Flow Variability
White Run	Small Residential Runoff - Nutrients ; Small Residential Runoff - Siltation ; Upstream Impoundment - Flow Alterations
Willoughby Run	Agriculture - Siltation ; Agriculture - Organic Enrichment/Low D.O. ; Agriculture - Other Habitat Alterations

Appendix E
Municipal Survey Results

**Adams County Act 167 - Phase 1
Municipal Survey**

Watershed _____

Municipality _____

Person(s) _____
 Completing Survey
 (include title) _____

Date _____

1. a) Does the municipality have a stormwater management ordinance? Yes _____ No _____

If Yes, are the regulations incorporated in . . .

- the municipal Subdivision and Land Development Ordinance _____, or

- a stand-alone ordinance _____?

b) Does the ordinance contain water quality regulations? Yes _____ No _____

c) Does the ordinance contain water quantity regulations? Yes _____ No _____

d) Does the ordinance contain rate controls? Yes _____ No _____

2. Do you have concerns with the stormwater management ordinance? Yes _____ No _____

What are your specific concerns with the ordinance?

3. Can a copy of the ordinance be obtained on line? Yes _____ No _____

If no, please send a copy of the ordinance or appropriate section of the Subdivision and Land Development Ordinance to the Adams County Planning Department

4. If your residents have frequent stormwater complaints, please list the problem(s) and identify the location.

Complaint (List and Map)	Location

5. Does the municipality have records of flooding throughout the municipality (i.e., dates, height of floodwater)?

9. a) Have there been any studies/reports completed related to your watershed? Yes _____ No _____
 b) If Yes, please list the study below and provide a copy to the Adams County Office Planning & Development.

Location(s) (List and Map)	Stream Name(s)

- c) Has there been hydraulic modeling completed in your water shed? Yes _____ No _____
 1. Can a copy of the report(s) be made available? Yes _____ No _____
 2. Can a copy of the model/computer program be made available? Yes _____ No _____
 3. Who was the consultant that prepared the model? _____

10. a) Are there stream gauges within the municipality? Yes _____ No _____
 b) If Yes, who maintains them? _____
 c) If Yes, is data available? Yes _____ No _____
 For what time periods? _____

Location(s) (List and Map)	Stream Name(s)

11. a) Is your municipality involved in any inter-municipal agreements? Yes _____ No _____
 b) If Yes, with what municipality(s), and what does the agreements involve (roadways, land use, etc.)?

12. a) What are the municipality's stormwater review procedures for a land development/subdivision plan (driveways, garage, etc)

b) What are the review policies/procedures when a development/subdivision is not required?

13. a) Does your municipality perform inspections of private or public stormwater improvements during construction? Yes _____ No _____

b) Does your municipality routinely inspect stormwater management facilities once they are constructed? Yes _____ No _____

14. a) Does your municipality have any other regulations/procedures/ordinances/agreements/planning related to stormwater management in the municipality that you are considering implementing?

Yes _____ No _____

b) If Yes, list such requirements, agreement, plans, etc.

15. Do you perform routine inspections/enforcement actions for stormwater management facilities constructed in your municipality? Yes _____ No _____

16. Are there any large scale development projects (20+ units) that are imminent within the next 5 years?

17. Do you have any other concerns or issues related to stormwater management?

Summary of Municipal Stormwater Ordinances

Stormwater Ordinance Summary						
Municipality	Watershed	Stormwater Ordinance	Location	Water Quality	Water Quantity	Rate Control
Abbotstown Borough	Susquehanna	X	Stand Alone	X	X	X
Arendtsville Borough	Susquehanna		N/A			
Berwick Township	Susquehanna	X	Stand Alone	X	X	X
Biglerville Borough	Susquehanna	X	Stand Alone	X	X	X
Butler Township	Divided	X	Stand Alone	X	X	X
Carroll Valley Borough	Potomac	X	Stand Alone	X	X	X
Conewago Township	Susquehanna	X	Both	X	X	X
Cumberland Township	Potomac	X	Stand Alone	X	X	X
East Berlin Borough	Susquehanna	X	SALDO			
Franklin Township	Divided	X	Stand Alone	X	X	X
Germany Township	Potomac	X	Stand Alone	X	X	X
Hamilton Township	Susquehanna	X	SALDO			
Hamiltonban Township	Potomac	X	Stand Alone	X	X	X
Highland Township	Potomac	X	Stand Alone	X	X	X
Huntington Township	Susquehanna	X	Stand Alone	X	X	X
Latimore Township	Susquehanna	X	S&LDO			X
Littlestown Borough	Potomac	X	Stand Alone	X	X	X
McSherrystown Borough	Susquehanna	X	Both	X	X	X
Menallen Township	Susquehanna	X	SALDO			
Mount Joy Township	Potomac	X	Stand Alone	X	X	X
Mount Pleasant Township	Divided	X	Stand Alone	X	X	X

Municipality	Watershed	Stormwater Ordinance	Location	Water Quality	Water Quantity	Rate Control
New Oxford Borough	Susquehanna		N/A			
Oxford Township	Susquehanna	X	Stand Alone	X	X	X
Reading Township	Susquehanna	X	SALDO	X	X	X
Straban Township	Divided	X	Both	X	X	X
Tyrone Township	Susquehanna	X	SALDO			X
Union Township	Divided	X	Stand Alone	X	X	X

As listed in Table above, the municipalities in the Potomac River Basin also lie within the Monocacy River Watershed. These municipalities have adopted a model ordinance that enacts the standards set forth by the Monocacy River Watershed Stormwater Management Plan (MRWSMP).

Twenty-two of the municipalities that responded to the survey perform inspection on the stormwater management facilities, as listed below.

Inspection Procedures			
Municipality	Construction Inspections	Post-Construction Inspections	Routine Inspections
Berwick Township	X		X
Biglerville Borough	X		
Butler Township	X		
Carroll Valley Borough	X	X	X
Conewago Township	X	X	X
Cumberland Township	X	X	X
Franklin Township	X		
Germany Township			X
Hamilton Township	X	X	X
Highland Township	X	X	
Huntington Township	X		
Latimore Township	X		
Littlestown Borough	X		
McSherrystown Borough	X	X	
Menallen Township	X	X	X
Mount Joy Township	X	X	X
Mount Pleasant Township	X	X	X
New Oxford Borough	X		
Oxford Township	X		
Reading Township	X	X	
Straban Township	X	X	X
Tyrone Township	X		

Act 167 Phase I Municipal Survey Responses

Question #2

What are your specific concerns with the stormwater management ordinance?

Gail Sweezey, Butler Township

- Butler Township adopted the Monocacy Stormwater Management Plan. It is a complicated document that focuses on large development. It provides cost prohibitive stormwater requirements for property additions and other small development projects. Engineered plans are too expensive for the average citizen. There should be cost effective solutions available.

Flo Ford, Cumberland Township

- Regulations were not written to address our soil types

Robert Strausbaugh, Conewago Township

- Adequacy

Joseph Brennan, Highland Township

- I am concerned with the potential cost of implementation, the need for appropriate enforcement without undue restriction upon the citizens, and a general lack of knowledge by the public at large about the need for and advantages of appropriate stormwater management.

Tim Topper, Littlestown Borough

- Planning board with regulation required by the MPC

Kelly Duty, Reading Township

- That it can only be enforced when someone is subdividing or doing land development. Occasionally, when you have a small lot with a large building proposed it would be nice to be able to require seepage beds. This change could be incorporated into zoning ordinance for all structures over a certain size.

David Richards, East Berlin Borough

- Not specific as to construction, size of culverts or pipes, disposition of collected water

Erik Vranich, Straban Township

- The specific concerns with the stormwater ordinance deal with the ordinance having different requirements than that of the NPDES permit, which leads to confusion and difficulty for designers and landowners. A second concern is for landowners owning large tracts of land (>5 acres) and proposing little impervious area (in proportion to lot size), they immediately fall out of the exemption criteria based upon lot size, resulting in additional design and construction costs. A comprehensive stormwater ordinance, both water quality/peak rate control requirements as well as technical design requirements/standards would streamline the review and design process.

Glenn Zepp, Straban Township

- My concern is that an inequitable distribution of costs and benefits, caused by the separation between those who benefit from the ordinance and those who incur the costs, causes municipalities to enact overly rigid and inflexible regulations. Everyone shares more or less equally in the benefits but only those few persons who want to develop land bear the costs. Not only does this separation create an unfair distribution of cost, but it likely results in greater expenditure on control measures than the value of benefits associated with those measures.

Act 167 Phase I Municipal Survey Responses

Question #2

What are your specific concerns with the stormwater management ordinance?

- A more equitable ordinance would treat stormwater management as a utility, taxing both old and new development for its contribution to stormwater runoff and water quality deterioration, giving credits to those who have installed stormwater controls, and cost sharing or partially reimbursing the costs for further measures.

Act 167 Phase I Municipal Survey Responses

Question #12 a)

What are the municipality's stormwater review procedures for a subdivision/ land development plan (driveways, garage, etc)

#12 b)

What are the review policies/ procedures when a subdivision/ land development plan is not required?

Gail Sweezey, Butler Township

12 a) We comply with the Monocacy River Stormwater Management Plan. Engineered plans are required for most projects. Residents can ask for plan waivers on appropriate projects.

Flo Ford, Cumberland Township

12 a) Listed in SALDO; completed by township engineer

12 b) Grading plans reviewed by township engineer

Dean Shultz, Union Township

12 a) Review to verify the plans meet the requirements of Monocacy River Stormwater Management Ordinance

12 b) Must meet requirements of Monocacy Ordinance if additional impervious area is created

Brenda Constable/ Jerry Altoff, Mt. Joy Township

12 a) Require a plot plan showing stormwater management as required per ordinance

12 b) Require a plot plan (sketch) showing stormwater management and must accompany the land use permit application

Robert Strausbaugh, Conewago Township

12 a) Adams County Soil Conservation and Township Engineer

12 b) Individual lot grading plan review for creation of impervious surfaces

Barry Stone/ Cory Vos, Mt. Pleasant Township

12 a) See ordinance for requirements of plan submission.

Over 3 lots – stormwater management plan is submitted with review by township engineer and possibly other agencies, then reviewed by township planning commission, supervisors, and planning staff: approval or revisions. Stormwater maintenance agreement with township, security (financial) received.

12 b) Site is evaluated based on ordinance Tables 1 & 1A (peak rate controls). Detailed maps are submitted by landowner. If applicable research is completed, based on history of property, Township staff and occasional township engineer input with recommendations: approval

Joseph Brennan, Highland Township

12 a) Planning Commission and Township Engineer review applications

Act 167 Phase I Municipal Survey Responses

Question #12 a)

What are the municipality's stormwater review procedures for a subdivision/ land development plan (driveways, garage, etc)

#12 b)

What are the review policies/ procedures when a subdivision/ land development plan is not required?

12 b) same as above

William McMaster, Oxford Township

12 a) Plans for buildings of 5,000 sqft or less are done by the permit applicant. Development review by Township engineer

12 b) The township has a procedure in place for buildings

Richard Mountfort/ Sandi Vasquez, Biglerville Borough

12 a) Stormwater management ordinance – Article IV stormwater management plan requirement: borough engineer review and adms county conservation district, subdivision plan reviewed by the AC Planning Office

12 b) Ordinance applies to any activity that creates additional impervious surface greater than 1,000 sqft. Smaller projects are not subject to ordinance and not reviewed by borough agents or officials

John Shambaugh/ Gus Fridenvalds, Huntington Township

12 a) Plan must be drawn by a registered professional and reviewed by the Township Engineer

12 b) Any structure over 1,000 sqft requires a stormwater plan unless it is covered by the original subdivision or is agricultural

Robert Gordon, Hamiltonban Township

12 a) stormwater review is concurrent with subdivision/ land development plan review

12 b) stormwater plan is submitted to the township and reviewed by township engineer

Dave Hazlett, Carroll Valley

12 a) See ordinance

12 b) See ordinance

Kelly Duty, Reading Township

12 a) Stormwater review is based on the township stormwater article of the SALDO. It looks at pre and post-development. Post runoff conditions cannot be greater than that of the pre-development condition. The Zoning Ordinance limits the amount of impervious surface

12 b) We regulate the amount of impervious surface permitted per the Zoning Ordinance

David Richards, East Berlin Borough

12 a) Would be presented to Zoning and Planning, referenced to SALDO

Act 167 Phase I Municipal Survey Responses

Question #12 a)

What are the municipality's stormwater review procedures for a subdivision/land development plan (driveways, garage, etc)

#12 b)

What are the review policies/ procedures when a subdivision/ land development plan is not required?

12 b) Observance of specific zoning and building codes. All are reviewed on an ad hoc basis. Adherence to construction codes are performed by outside inspector

Donna Dixon, Tyrone Township

12 a) Submitted in conjunction with land development plans to the Adams County Office of Planning & Development and Tyrone Township; the stormwater management plan is reviewed by the Township Engineer and then approved by the Township Board of Supervisors once all ordinance requirements have been met.

12 b) If disturbance is more than one acre, plans must be reviewed by the AC Conservation District

Robert Lauriello, New Oxford Borough

12 a) New impervious must be reviewed and controlled (non-residential)

12 b) Technical review by engineer

Erik Vranich/ Glenn Zepp, Straban Township

12 a) Stormwater review would commence upon submission of the subdivision/land development plan and would be conducted by the Township Engineer. Review would be in conjunction with the land development plan review and all ordinance requirements must be met prior to approval of the land development or subdivision plan. The plans must meet the requirements set forth in Chapter 109 and SALDO 117-43.

12 b) For smaller grading plans or stormwater management plans, the plan is first submitted to Straban Township, then passed on to the Township Engineer for review and approval. All comments are worked out between the Township Engineer and the design engineer. Once all stormwater ordinance requirements are met, a recommendation to issue a land use permit is passed on to the Township. The plans must meet the requirements set forth in Chapter 109 and SALDO 117-43.

John Shambaugh, Latimore Township

12 a) Reviewed by Township Engineer

12 b) None

Lori Killinger/ Sandra Spence, Franklin Township

12 a) The township engineer reviews and advises

12 b) The township engineer still reviews the stormwater management plans

Scott Cook, McSherrystown Borough

12 a) See Chapter 184-2, review and approval

Act 167 Phase I Municipal Survey Responses

Question #12 a)

What are the municipality's stormwater review procedures for a subdivision/ land development plan (driveways, garage, etc)

#12 b)

What are the review policies/ procedures when a subdivision/ land development plan is not required?

12 b) Zoning – maximum lot coverage, buildings and other impervious surfaces

Tim Beard, Hamilton Township

12 a) Planning commission reviews requests/ plans. Township engineer reviews plans and makes suggestions to meet 120-32. When met, supervisors approve. Disapprove plans

12 b) Same as above

Jerry Lillich, Abbottstown Borough

12 a) See Ordinance Article IV, paragraphs 180-20 – 180-25 and Article V paragraphs 180-26 & 27.

12 b) Building permits above a certain size or kind would activate the above mentioned requirements.

Leah Heine, Berwick Township

12 a) Applicant submits plans, Township Engineer reviews and comments, Planning Commission reviews and makes recommendations, Board of Supervisors approves, and Township Engineer issues permit and inspects installation.

12 b) Grading and Stormwater Management Plans (when required by ordinance) must be approved prior to building permit issuance.

Gail Sweezey, Butler Township

- We are supportive of this county-wide initiative. We are interested in creating a reasonable Stormwater Management plan that is financially feasible for the average citizen. An ordinance that is succinct, easy to implement and shows examples of reasonably priced and constructed stormwater management plans by project type would be useful to township residents. There should be different standards for different situations.

Flo Ford, Cumberland Township

- Make sure soil types are considered during preparation of new plan
- Cost to homeowner with smaller projects
- Administration is a burden to the township

Barry Stone/ Cory Vos, Mt. Pleasant Twp

- Mt. Pleasant Twp soil are poorly draining soil types. Therefore, some of the BMP facilities cannot be utilized. Our current ordinance was revised in order to have some common sense approaches on various sites. Considering that the township is split between two watersheds, we are trying to make sure the ordinance language and the intent of the ordinance is carried through without being too burdensome for the homeowner placing an outbuilding or the farmer placing a farm implement shed.

Joseph Brennan, Highland Township

- There is a great deal of uncertainty about the most cost effective way to proceed on individual projects and a very major gap in public understanding of the need for stormwater management programs.

Craig Rocky, Highland Township

- State prescribed standards/ procedures regarding homeowner monitoring of stormwater systems/ facilities and the recordation/ verification of same have not been promulgated.

Gus Fridenvaldes, Huntington Township

- I would like to see infiltration pits on downspouts of existing properties.

David Richards, East Berlin Borough

- Development in neighboring townships will impact water flow through the borough in some cases. Most runoff will flow to creek partially surrounding borough.

Erik Vranich, Straban Township

- Concerns have been raised within the Township to create a stormwater management ordinance that has provisions for individual, small lot construction (houses, garage, barns, etc.) that is reduced in scope and more reasonable for homeowners and landowners. At this time, the cost of a stormwater management plan and implementation of the plan (construction costs) can be significant and overwhelming for potential homeowners. It should also be made very clear within the ordinance how existing impervious area within a site are to be addressed from a 'pre-development' condition

Rusty Ryan, AC Conservation District (3/23/09)

- Keep in mind what BMPs are best for the soils in Adams County
- Give homeowners more non-structural options for minor projects

Glenn Zepp, Straban Township (3/23/09)

- Inequality in current program. Who pays versus who benefits, older homes don't have to pay. Look at a method of financing – tie cost to beneficiary.

Dean Shultz, Union Township (3/23/09)

- Stormwater is like the sewage systems in the '60s, there will be resistance at first until issues are worked out and people are used to it.
- Not every lot may be able to be developed.
- Look at the BMPs that can be used in poorly drained and rocky soils

Craig Rockey, Highland Township (3/23/09)

- Give as much direction to the municipality as possible

Bob Gordon, Hamiltonban Township (3/23/09)

- Identify floodplain locations and potential areas for stream restoration projects

Kevin Kozain, PennDOT (3/23/09)

- PennDOT would like to see standards specifically for transportation projects

Stan Wannop, New Oxford Borough (3/29/09)

- The borough has problems because most of the amount of impervious surfaces. Most of the runoff goes to the floodplain, but the ordinance should specifically address boroughs.

Emma Seibert, Tyrone Township (3/24/09)

- Need an ordinance with teeth
- Concerned with administration and the cost of enforcement

Jerry Lillich, Abbottstown Borough (3/24/09)

- Municipalities are adopting an ordinance that the state has written

Scott Cook, McSherrystown (3/24/09)

- Boroughs are developed, SWM ordinance is rarely used
- Surrounding township activity affects the Boroughs

William McMaster, Oxford Township (3/24/09)

- Has gotten rid of the requirement of an engineered drawing for homeowners and pays the engineer to do inspections

Gail Sweezy, Butler Township (3/24/09)

- Unsure of how much to waive for individuals
- Would like a strong training component

Erik Vranich, Straban Township (3/24/09)

- Explain the intent of the ordinance with training and what the design standards should be

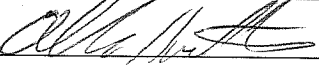
Leah Heine, Berwick Township (5/5/09)

- The Township has known sinkholes and problems occasionally. Infiltration should only be used where it is justified and in a vicinity where geology permits.

Appendix F
SPAC Attendance

STORMWATER PLANNING ADVISORY COMMITTEE (SPAC) MEETING

July 29, 2010

NAME	ORGANIZATION	EMAIL
Anna Seibert	Tyone Twp Planning Comm.	
Bill Slury	Tyone Twp.	
Galen Smith	Tyone Twp	
ERIC MAINS	KPI TECH.	
Sarah Weigle	ACOPD	
Bicky Redman	Franklin Township	
Joe Benna	Highland Township	
Alicia Birchhead	Highland Township	
John L. Shambaugh	Lockmore, Huntington Twp.	
Colleen Reamer	Hamiltonban Twp	
Doreen Tremo	" "	
Barry D. Stone	Mt Pleasant Twp	
BOB CZYZEWSKI	BOWMANVILLE BURGHI COUNCIL	
BOB SHARRAH	M. SHERRISTOWN BORO	
Erik Vronich	Tyone + Strasban Twp.	
Charles Eisenhant	East Berlin. Boro	
Chad Clabaugh	C.S. Davidson Inc.	
Larry Mertick	Adams CD	
Bell M. Mox-Tor	Oxford Twp	
David Waybright	Cumberland Twp	
Glenn Zepp	Strasban Twp	ZEPPGA@Embergmail.com
	Freddie's	
Pete Martin	C.S. Davidson.	
ADAM ANDERSON	GORDON L. BROWN & ASSOCIATES	aanderson@glba-engineering.com

MAR 31, 2011

SPAC MTE.

Sign-up

<u>Name</u>	<u>Organization</u>
J	
Ken Sundberg	Carroll Valley
John Z. Stangl	FPE Consulting
Pat Ryan	FPE Consulting
Jennifer Kehler	PADEF
Deb Musselman	ACCID
Glenn Zepp	Straban Twp
Doreen Premo	Hamiltonban Twp.
Dean A. Shultz	Union Twp
Carl Cokerly	Germany Twp
FRANCIS COOL	Fairfield Borough
Barry D. Stone	Mt. Pleasant Twp
Erik Vranich	Wm. F. Hill & Assoc.
Sarah Weigle	ACOPD
BRANDON GUTHER	KPI TECHNOLOGY
Craig Rockey	Highland Township
STANLEY WANNOP, JR.	New Oxford Boro
Terrie Cunn	New Oxford - Mayor
Gus Fridenwalds	Huntington
Charles Eisenhart	East Berlin Boro
Leah Heine	KPI Technology
Larry Martick	Adams CD
Bill Martick	Oxford Twp

5-31-11

SPAC

Sign in

	Name	Organization
1)	Mark Weigle	ACOPD
	Jennifer Kehler	PADEP
	Francis Cool	FAIRFIELD
	Glenn Zepp	Straban Twp
	Dean A. Shultz	Union
	Barry D. Stone	Mt Pleasant Twp
	Emma Seibert	Tyrone Twp
	Don Perva	FRE Consulting
	Charles Eisenhart	East Berlin Boro.
	Adam Anderson	Crosson Brown
	Erik Vranich	Wm. Hill Assoc.
	BRANDON GUIHER	KPI
	STAN WANNOP	new oxford BORO.
	Larry Martick	AccD
	Coleen Reamer	Hamiltonban Twp
	ERIL MAINS	CONEWAGO / READING TWP.

Appendix G
Impact of Conflicting Codes on
Stormwater Management

The Impact of Conflicting Codes on Stormwater Management

By Janie French, PA Environmental Council

Pennsylvania's Uniform Building Code, known as the Uniform Construction Code (UCC) is administered by the PA Department of Labor and Industry and was enacted into law in 1999. The basic premise of the Act is to provide for the protection of life, health, property and the environment and for the safety and welfare of the consumer, general public and the owners and occupants of buildings and structures. Findings by the General Assembly indicated that "in some regions of this Commonwealth a multiplicity of construction codes currently exist and some of these codes may contain cumulatively needless requirements which limit the use of certain materials, techniques or products and lack benefits to the public." The Department of Labor and Industry adopts the International Code Council's family of codes as approved by the Independent Regulatory Review Commission (IRRC) which performs a triennial review to revise the codes.

Of interest to those of us working on green stormwater solutions, the UCC can present an interesting dilemma. Section 1101.2 of the State plumbing code specifically reads "**Where required.** - All roofs, paved areas, yards, courts and courtyards shall drain into a separate storm *sewer* system, or a combined *sewer* system, or to an *approved* place of disposal. For one- and two-family dwellings, and where *approved*, storm water is permitted to discharge onto flat areas, such as streets or lawns, provided that the storm water flows away from the building."

Problems occur with the interpretation of phrases like "where required" and "approved place" and "where approved." Also, whose approval is needed? In certain areas of Pennsylvania, this interpretation has caused problems. For example, in Allegheny County, 19 municipalities in the Pine Creek Watershed have adopted an ordinance for their Act 167 Stormwater Management Plan that includes Best Management Practices for directing downspouts to rain gardens, dry wells and porous paved areas. Ordinances were modified to read, "Existing roof drain, underdrain and sump pump discharge should be directed to lawn area or other pervious areas. If required by the Township, the discharge shall be directed to a stone sump or infiltration BMP. If approved by the Township the discharge may also be directly connected to the storm sewer system." Until Allegheny County, which adopted the UCC, modified their plumbing code to include provisions for meeting the intent of Act 167, the County plumbing code was in direct competition with the intent of the municipal stormwater management ordinance.

According to the PA Department of Labor and Industry, more than 90% of Pennsylvania's municipalities follow the UCC regulations. Language in the code needs to be clarified or modified to eliminate confusion and coincide with the intent of ACT 167. The impacts of stormwater have been identified as one of the top three causes of water quality impairment through the 303(d) Clean Water Act process (PA DEP Comprehensive Stormwater Management Policy; 392-0300-002). Ongoing education about the value of disconnecting downspouts needs to continue at all levels of municipal government so that residents can explore the opportunity of implementing green infrastructure without the worry of violating codes.

Appendix H
Comment - Response Documents

ADAMS COUNTY



STORMWATER MANAGEMENT PLAN

October 31, 2011

Pre-Hearing Response Document

The following responses were prepared to address concerns and observations received during the comment period for the draft Adams County Stormwater Management Plan. Responses to received comments are categorized into five (5) sections: General, Draft Stormwater Management Plan, Draft Model Stormwater Management Ordinance, Simplified Approach/ Municipal Stormwater Management Worksheets, and Stormwater Plan Review and Municipal Approval Process. Italicized text relates to specific questions raised. The name or municipality in parentheses at the end of bulleted text indicates who asked the question or made the observation related to the response. All comments were appreciated.

The draft Plan will not be revised to reflect applicable comments until after the public hearing, which will be held November 2, 2011 at 2:00 p.m. at the Agricultural and Natural Resources Center. This document will be available at the hearing.

I. General

- Spelling, punctuation, grammatical mistakes and other clarifications will be corrected, inserted, and/ or deleted in the final Plan document.
- Additional flood-prone locations will be added to the Flood Prone Locations Map. (Fairfield Borough)
- There are no plans to set up a GIS database until the County has a standard process to accept Subdivision/ Land Development plans electronically. (B.Redman)
- The current state model ordinance does not address stormwater management of existing impervious areas, whether or not facilities had been designed to handle flows from those existing areas. The Plan will more clearly state that the Ordinance only addresses proposed impervious areas. Some municipal ordinances may address percentage of impervious area when new development is proposed on lots with existing impervious areas through lot coverage requirements. The Plan also allows

the municipality the ability to deny the use of the Simplified Approach if there are existing stormwater problems on a proposed site. (Shultz)

- The date of adoption of the Adams County Stormwater Management Plan is the starting point from which future development and the respective exemption criteria shall be cumulatively considered and regulated (Ordinance Section 302). The Municipal Stormwater Management Worksheets are recommended to assist the Municipality in tracking impervious areas developed after the Plan has been adopted. (D. Shultz, W. Davis)
- Adams County had all intentions of evaluating BMPs to determine which ones work efficiently within the County and was part of the Scope of Study for the Adams County Stormwater Management Plan. However, due to funding cuts, the Scope of the Stormwater Management Plan was scaled back and an Engineer was not used. The County still feels that this is a valid aspect and would like to pursue if funds become available. (D. Shultz, Mount Pleasant Township) NOTE: The Pennsylvania Stormwater Technical Group (PaSTW) was formed to integrate state of the art science and sound engineering practices into Pennsylvania's stormwater management designs. www.stormwaterpa.org
- The definition of impervious surface (impervious area) has been clarified to include decks and pools and also to state "Any areas designed to be covered by loose surfacing materials such as gravel, stone and/or crushed stone, and intended for storage of and/or travel by vehicles, or pedestrians shall be considered impervious. Surfaces or areas designed, constructed and maintained to permit infiltration may be considered pervious.". Both terms will be used in the document. (E. Vranich, W. Davis, D. Shultz, L. Heine, S. Smith)
- Regulated Activit(ies)y will both be used and capitalized throughout the document. (S. Smith, W. Davis)
- A chart or sliding scale establishing criteria for exemptions based on the size of a lot is not part of this Plan. The current approach deals with the creation of new impervious area on an individual lot basis. Each lot using the Simplified Approach, will have to demonstrate that that they can manage the stormwater created, based on the amount of new impervious area. Exemptions are not necessarily automatic in all situations. (D. Shultz, B. Stone)
- *We are aware that future studies will most likely be completed for the Susquehanna River Basin and a proposed Plan will again be on the table for review. Our comment here would be to consider the proposed Model Ordinance as being utilized and be common for both watershed applications. Our township is split among the two watersheds. Would the proposed Plan mingle with a future Plan?* (B. Stone)
 - Act 167 requires that stormwater management plans are reviewed and revised at least every 5 years. The draft Plan and model Ordinance will

cover all of Adams County, including both the Susquehanna and Potomac River Basins. So while this is the 5 year review of the Monocacy, it is being revised to include, and provide consistency throughout, all watersheds within Adams County.

II. Draft Stormwater Management Plan

- Section I – Introduction: Reference to the Conococheague Creek Watershed Stormwater Management Plan will be added. (C. Reamer)
- Section III – County Characteristics: “Two quarries...” will be revised to “Three mineral extraction operations...”. (C. Reamer)
- Section VI – Problem Areas & Impairments: Reference to the map and Table in the Stream Obstructions section has been clarified to indicate that they are both taken directly from the Monocacy SWM Plan. Since the map is the Measured Stream Obstructions from the Monocacy Plan, it will not have a title or legend consistent with other Plan maps. (A. Lowas, E. Mains)
- Section X – References: The model stormwater management ordinance is part of the Plan as an Appendix; it is not a reference. (B. Redman)

III. Draft Stormwater Management Ordinance (Appendix A)

- Definitions that are not used in the Ordinance will be removed.
- Municipalities should ensure that definitions are consistent with other Ordinances.
- Technical or design criteria may be added to the municipal ordinance as long as it is not in conflict with the model. We recommend that the municipality have DEP review the municipal stormwater management ordinance before adoption. Many municipalities may already have technical criteria in their SALDOs, which may remain. (L. Heine, D. Shultz)
- Section 105.B will be reworded and the last sentence of this section will become 105.C (S. Smith, J. Fox, D. Shultz). This section will read:
 - B. Any submission that does not require a stormwater management plan at the time of subdivision or land development will still be required to address stormwater management at the time the individual lots are developed or construction commences, unless said subdivision proposes infrastructure features, such as a cul-de-sac street, for which stormwater management controls are ordinarily required.

- C. Development of the individual lots is subject to stormwater management as defined within the ordinance.
- Section 106 – *I suggest that the repealer of other ordinances inconsistent with the model ordinance be stated to be applicable to “Regulated Activities” from on and after the date of the model ordinance.* (W. Davis)
 - The repealer is for ordinance standards only. We are unsure how “Regulated Activities” fit into this section?
 - Section 108 Compatibility – *I suggest that there also be a statement that in the event of a conflict between the model ordinance (“this ordinance”) and any other ordinance, the more restrictive ordinance shall apply.* (W. Davis)
 - We do not object to the addition of a statement of this type in Section 108. Municipalities should consult with their solicitors for appropriate language.
 - Section 110 – *The first sentence may not be lawful as it provides no opportunity to be heard as to whether or not the grounds for revocation are valid* (S. Smith)
 - Section 706 provides steps to appeal any action associated with the administration of the Ordinance.
 - Section 110 – *I advise against adopting the model ordinance with the last sentence of this section being in it. There can be errors in permits that wind up being non-consequential or easily correctable without forcing the applicant to go through the entire process again.* (W. Davis)
 - The Ordinance is a model. Municipalities may make adjustments to this section once it is determined how they would like to handle mistakes.
 - Upon consultation with the municipal solicitor, Ordinances could include Section **112. Municipal Liability Disclaimer** with the suggested wording (as recommended by J. Fox):
 - A. Neither the granting of any approval under this Ordinance, nor the compliance with the provisions of this Ordinance, or with any condition imposed by a municipal official hereunder, shall relieve any person from any responsibility or damage to persons or property resulting there from, or as otherwise imposed by law nor impose any liability upon the Municipality for damages to persons or property.
 - B. The granting of a permit which includes any stormwater management facilities shall not constitute a representation, guarantee, or warranty of any kind by the Municipality, or by an official or employee thereof, of the practicability or safety of any structure, use or other plan proposed, and

shall create no liability upon or cause of action against such public body, official or employee for any damage that may result pursuant thereto.

- Definition of “Applicant” - *Definition does not conform to MPC definition of “applicant”* (S. Smith)
 - We acknowledge that the definition reads somewhat differently from the MPC, but feel that the definition is compatible enough. The municipality should consult with their solicitor.

- Definition of “Land Development”, Subsection C – *Courts has opined that certain uses that arguably fall within the MPC definition of “land development” are not land development, ex. Billboards. Where an individual municipality has in its SALDO established exclusions under this enabling authority, such terms should be stated here for consistency between Ordinances.* (S. Smith) *Sub-paragraph C is not appropriate. Section 503(1.1) of the MPC provides the ability of local government to exclude certain developments (such as amusement parks) from the definition of “land development” It should not be in this ordinance.* (W. Davis)
 - This definition is from DEP’s model ordinance. Municipalities, upon consultation with their solicitor, should confirm consistency between definitions.

- Section 301. F – *This subsection addresses plan requirements for Special Management Areas. It does not require any information on why the area being planned is a Special Management Area. Should Characteristics of why it is a Special Management Area be required to be put on the plan?* (W. Davis)
 - The types of Special Management Areas are listed in the Definitions and further described in the BMP Manual.

- *Section 301.K - Provide a list of consultants in an addendum.* (D. Shultz)
 - Section 301.K is referring to consultations with DEP and maintaining a record of those consultations, not consultants.

- Section 302.B.3-5 – *All of the items described in these sections appear to be exempt in the first place since the ordinance seems to only address new impervious areas and not existing impervious areas.* (W. Davis)
 - The ordinance only addresses new impervious areas. These sections will be removed from the model.

- Section 302.C.2 – This section suggests a procedure to request Exemptions. The individual Municipality will need to decide how they would like to formally handle requests for Exemptions.

- Sections 304.A.2.b & 305.A – *This section establishes that 20% of existing impervious area, when present, shall be considered meadow in existing conditions. In accordance with Section 303.A.3, can it be clarified that this only applies to existing impervious areas 'proposed to be altered by the regulated activity'?* (E. Vranich)
 - We will consult with DEP on the requested clarification.
- Section 304.B.2 – *This section states that the first inch of runoff must be permanently removed through infiltration or reuse if possible. There is no mention as to what should be done with the remaining 1" of runoff leftover from the two inches captured as established in §304.B.1. Is the remaining 1" to be treated for water quality?* (E. Vranich)
 - As this is the State's criteria, we will request clarification from DEP. At a minimum, we believe the "remaining 1" will be subject to the peak flow requirements of the Ordinance and controlled accordingly (see Section 305).
- Section 307. B – *The words "qualified person" ought to be replaced with "a delegate appointed by the (Name of the Municipality)" for the inspection of BMPs.* (W. Davis)
 - Qualified person is defined in the Ordinance as someone licensed or otherwise qualified by law, which should make them qualified to inspect BMPs during construction. We also note that DEP staff have indicated that "qualified person" is the term they wish to see utilized in the Ordinance in this and related sections.
- Section 307.B.7 – *Shows the minimum infiltration rate of 0.05 inches per hour. This doesn't seem right. This is 1/20 inch per hour and is not even measurable.* (D. Shultz)
 - This requirement is from DEP. We will request clarification.
- Section 402 - §403 indicates the municipality must approve or deny the SWM Plan. *If this is the required, then there should be approval blocks on the Plan for the Municipality to sign.* (D. Shultz)
 - Section 402.A.29 requires a signature block certifying that the plan has been reviewed and meets the criteria of the Ordinance.
- Section 402 – *Last sentence beginning with "Where the submission..." may not be lawful as written; law requires subdivision/ land development applicant to comply only with standards as found in the SALDO.* (S. Smith)
 - We acknowledge the concern, municipalities should consult their solicitor. We recommend that municipal Stormwater Management Ordinances be

adopted as stand-alone ordinances and cross referenced in the municipal SALDO. If SWM Ordinances are referenced in SALDOs, it should make it easier in the future to amend SWM Ordinances. Technical criteria could still be located within SALDOs.

- Section 402.18 – Will be clarified to require both existing and final grading contours. (D. Shultz)
- Section 403.B.1 – *I strongly object to voluntarily putting any of my clients under a “deemed approval” procedure. It is bad enough that the Legislature did it in the MPC; we need not do it to our selves. If anything, I suggest a deemed denial if there is no action within a specified time, giving the developer/ landowner the right of appeal pursuant to law.* (W. Davis)
 - This logic could work the other way as well. The municipality is required to enforce Ordinances fairly.
- Section 401.B.3 – *Does the ACCD want SWM Site Plans for all SW Plans, even those not covered under NPDES? Does the ACCD want all revised copies of the SWM Site Plans or just the final approved versions for those sites not falling under NPDES requirements? Will the ACCD comment on any SWM Site Plans not requiring NPDES approval?* (E. Vranich)
 - The Conservation District does not need to receive SWM Site Plans for those projects not requiring an NPDES permit. The municipality however, may choose to require that the applicant provide the Conservation District with a courtesy copy.
- Section 403.B.3 (NPDES permit Coordination) – *It appears that this section states that if a site is an NPDES permitted site, the ACCD will not conduct the administrative review until after the municipality notifies the district of technical compliance. This seems like it will lead to longer overall review period since now the NPDES permit review can not be done concurrently with the SWM Site Plan review.* (E. Vranich)
 - The District is in communication with Central Office of DEP. The logistics must be worked out to make this work. The last sentence could be changed to read: “Upon receipt of this notification, the Adams County Conservation District will acknowledge a General NPDES permit. In the case of an Individual NPDES permit, the District will coordinate municipal reviews with the DEP Regional office for eventual permit issuance by DEP.”
- Section 403.C.3 - *This subsection references §301.K with regard to final decisions to deny exemption requests. But 301.K involves consultation with DEP. I don’t think we want to pull in DEP every time a municipality feels an exemption denial is appropriate, so I suggest this section be deleted entirely.* (W. Davis)

- Sections 403.C.3 & 301 K deal with waivers and consultation with DEP to approve measures for meeting state water quality requirements other than those in the Ordinance, not exemptions.
- Section 406.A – *Without more guidance, this section raises concern with unlawful exercise of discretion.* (S. Smith)
 - We acknowledge the concern, this section will remain in the model ordinance as written, as it was derived from DEP’s model. We assume that DEP’s model was reviewed for legal completeness. As previously stated, Municipalities should consult with their solicitor.
- Section 406.B – *If a SWM Plan is part of a land development and/ or subdivision plan, let the MPC control its validity. I suggest this subsection be deleted in its entirety and let existing statutory law control the situation.* (W. Davis)
 - This section is subject to the term of validity as established by the municipal SALDO. Section 403.B will be abridged in the final version, but will still be included to provide guidance and an appropriate ordinance cross-reference for those SWM Site Plans submitted as a component of a subdivision or land development plan.
- Section 407 – *I fully understand that this section deals with a SWM system that has been completed. I worry, however, that many landowners will take this to mean that only one inspection is required, and that no inspections will be requested until after the bulk of any underground facilities are buried. While I have no specific recommendations, I think the committee should consider some way of referencing the need for inspections throughout the construction process so systems don’t have to be dug up. (See §307.B.3)* (W. Davis)
 - NPDES permitted sites require inspections during construction. The municipality may also wish to consider including language regarding inspection during construction of non-infiltration BMPs on those sites that do not require an NPDES permit.
- Section 501.A – *This section ought to include a statement that the municipality may require that the SWM Plan and/or the subdivision/ land development plan NOT contain a dedication. (W. Davis) This provision is not lawful if actions of municipality demonstrate prior expressed intent to accept the dedication.* (S. Smith)
 - “The *(Name of Municipal Elected Body)* may...” will be changed to “The *(Name of Municipal Elected Body)* shall...”.
 - This section does not require acceptance of facilities.

- The language in this section does not contribute to potential problems which may arise in the instance that a municipality changes its mind, in regard to accepting dedications.
- Section 501.D – *The terms deed restrictions, protective covenants, and conservation easements have discrete legal meanings, authority and process under common and statutory law. (S. Smith) How do we expect municipalities to enforce the requirement that new deeds be prepared and recorded when a property has a SWM Plan approved and constructed? Would the recording of the SWM Agreement be sufficient to accomplish what this subsection desires to accomplish? (W. Davis)*
 - The reference to deed restrictions/ protective covenants or conservation easements in this subsection will be removed. It will be revised to state that the SWM Agreement and the O&M Plan shall be recorded in the Adams County Recorder of Deeds Office.
- Section 502.A.2 – Suggested revision *The property owner shall provide to (Name of Municipality) such licenses and/ or easements to ensure access for periodic inspection and any necessary but unperformed maintenance. (W. Davis)*
 - The section requires the property owner provide easements to the municipality to ensure access in the event that municipal inspection is necessary. Since this requirement deals solely with potential municipal inspections, there is no need for the property owner to provide licenses.
- Section 502.A.4 – Will be revised to read “The Operation and Maintenance (O&M) Plan shall be recorded with the Adams County Recorder of Deeds” per Mr. Davis’ comments.
- Section 502.B, last sentence – Will be revised to read “Nonpayment of fees, costs and other expenses incurred in the performance of services required may result in a municipal lien against the property”. (W. Davis)
- Section 601.B – Will be revised to read “The applicant shall be responsible for the payment of all fees, costs, and other expenses incurred in the submission, review, and decision on plans and other submissions pursuant to this ordinance”. (W. Davis)
- Section 702.A.3 – *I think it is unrealistic for us to assume that any property owner will know when a 10 year storm has occurred. I don’t see how this could possibly be enforced. (W. Davis)*
 - We agree that most property owners will not know when a 10-year storm has occurred, or how one would possibly know that this frequency storm is occurring (“During...the cessation of a ten (10)-year or greater storm...”).

However, this language is from DEP. We would support use of a more intuitively measured standard with DEP concurrence.

- Section 702.B – *What would the municipality do with all of that paper if anyone actually adhered to the requirement to file a report after each inspection?* (W. Davis)
 - We would like to revise this section to require the land owner to keep records of all inspections. The municipality should determine how, when, and in what form, they would like inspection records. We believe that some form of record-keeping is necessary to ensure that the owner inspection requirements of this section are followed.
- Section 703.A.2 *What does “any other applicable law...” refer to? §703.A.3 As drafted, the “creation of any condition...which constitutes or creates a ... nuisance” would include any and all possible sources of nuisance (noise, smoke, dust, etc.) regardless of relationship to stormwater management.* (S. Smith)
 - The language used in this section is taken directly from DEP’s model.
- Section 705 – *Should the fine for a violation be uniform throughout the County. It seems unreasonable for the penalty to accumulate daily when it takes time to design and construct a corrective action.* (A. Lowas) *Delete subsection B in its entirety as it is unrelated to “penalties”.* (S. Smith)
 - The Ordinance states “Municipalities should confer with their solicitors to provide appropriate wording and a judgment amount for this section”. Because this is a municipal ordinance, the amount will most likely not be uniform throughout the County. The County cannot determine the amount of the fine.
- Article VIII Enactment – *Not appropriate. As an ordinance, the document needs to be reframed to begin with a proper title, opening statement and appropriate whereas clauses, and to end with repealer and other standard provisions, a final statement and signatory lines appropriate to the type of municipality.* (S. Smith)
 - This article will be left blank in the final version of the model. The Municipality will need to include the appropriate language and signature format when preparing its ordinance for adoption.
- O & M Agreement – Paragraph 1. will be supplemented with “Landowner shall construct or **cause the construction of...**” to ensure that the agreement will remain in place if a development is flipped after approvals are received. (W. Davis)
- O & M Agreement – Paragraph 8. *This paragraph should be deleted.* (W. Davis)

- The language is from DEP's model ordinance. If there is a concern with this paragraph, the municipality should consult with DEP.
- Ordinance Appendices (S. Smith, D. Shultz, A. Lowas)
 - Appendix B, Disconnected Impervious Area - Will be removed. It is already located in the Plan.
 - Appendix C, Noxious and Invasive Plant Control - Will become Appendix B and only include the Noxious Weed Control List and reference to DCNR's Invasive Plants.
 - Appendix D, Technical Review Checklist (Optional) – Will become Appendix C.
 - Appendix E, Erosion and Sediment Pollution Control Guidelines – Will be removed; it doesn't relate to stormwater management.

IV. Simplified Approach/ Municipal Stormwater Management Worksheets (Appendix C)

- The Simplified Approach was designed so that the average homeowner and/ or Municipality could understand and prepare needed documentation for smaller projects. It is recommended that all municipalities use the same format to provide consistency throughout the County; however it is not required. (D. Shultz, Mount Pleasant Township)
- There was some concern whether a property owner would be able to draw a minor stormwater management plan to scale. The Simplified Approach states that the Adams County GIS Office may assist property owners by providing them with a map of existing features. Drawings, to scale, accompany many building or zoning permit applications. We do not think that this will be a major issue. (W. Davis, D. Shultz)
- *Percolation test data should not be used from septic system testing unless it is near the approved septic area. Often septic systems are installed on the higher portion of the lot where there are better soils and stormwater facilities on the downhill, low portion of the lot which have failed soil testing sites.* (D. Shultz)
 - The use of perc tests was suggested to provide additional soil data and more accurate soil types for minor stormwater management plans. Perc tests resulting in an on-lot septic system or replacement area should be avoided.
- The 1,000 – 10,000 sqft exemption for new development is not automatically allowed in all situations. The simplified approach is recommended for projects of

this size that cannot manage stormwater through disconnection. It was observed that *many lots are 20,000 sqft or less. If you allow an additional 10,000 sqft of impervious area, over 50% of the lot will be impervious.* (D. Shultz)

- In this case, the property would need at least a 75 foot flow path (and meet other disconnection requirements). For a lot of this size, it doesn't seem possible that there would be enough area within the lot for the 75' flow path. Most municipal ordinances also regulate the amount of impervious area/ lot coverage and in many instances; many residential districts do not allow this much coverage.
- *Most new subdivisions now have Stormwater Management Plans, which includes in their stormwater calculations for SWM, a square footage of impervious area for each new lot. If the impervious area of the lots exceed this square footage, then they need to do SWM for the additional square footage of impervious area. Will this Ordinance now allow them to be exempt from this requirement? How will new subdivisions be addressed?* (D. Shultz)
 - Like previous Ordinances, new developments will be subject to the requirement of preparing a SWM Plan at the time of subdivision/ land development plan submission, where stormwater management is calculated and managed for the entire site. After the dwelling is constructed, if a property owner wanted to add a deck, then they would (in most cases) be allowed to use the Simplified Approach to determine if the deck could be considered exempt.
- *As an example, if you now own 50 acres, under this ordinance you could seek a 10,000 sq ft exemption for construction of new impervious area on this 50 acre tract. If you subdivided this 50 acre tract into 40 lots, as now written, each lot could seek a 10,000 sqft exemption.* (D. Shultz)
 - Yes, a land owner of 50 acres could seek an exemption for the construction of a new impervious area of 10,000 sqft., if they can demonstrate that the associated stormwater can be disconnected and managed onsite. However, if the lot were subdivided into 40 lots, unless all 40 lots were located along an existing road (no new infrastructure), each lot had the area to manage the stormwater runoff created by each new impervious area of 10,000 sqft, and municipal ordinances did not require submission of a SWM Plan at the time of subdivision, could this scenario be possible.
- *The Partial Rooftop Disconnection chart on page 8 and page 2 of the application does not appear to match the chart provided within Appendix B of the Model SWM Ordinance.* (E. Vranich)
 - The Partial Rooftop Disconnection in the Simplified Approach includes a separate column for Length of Pervious Flow Path for lots under 10,000 square feet (upon DEPs suggestion). It is only used for those projects

qualified to use the Simplified Approach. Appendix B will be removed from the Ordinance.

- *Where the length of impervious area only meets the credit factor for only a portion of the rooftop disconnection calculation, how the remaining portion of the stormwater discharge is to be handled needs to be addressed.* (D. Shultz)
 - The applicant will have to choose BMPs to address the remaining portion of stormwater discharge.
- The area of the Worksheets discussing the tree planting credit will be clarified to include spacing. (D. Shultz)
- Stormwater Management/ BMP Facilities & Maintenance Agreement – Paragraph 4. was supplemented with the text “...to enter upon the property *without prior notification* at reasonable times...” to insure inspections that may need to be done quickly would have the property owner’s permission in advance. (W. Davis)
- A space for the Tax Parcel ID Number will be added to the Municipal Stormwater Management Worksheets. (E. Vranich)
- Stormwater Management/ BMP Facilities & Maintenance Agreement – Paragraph 6. was supplemented with the phrase “The municipality has the right to file a municipal lien for unpaid costs and expenses that have not been reimbursed thirty (30) days after receipt of invoice.” to make it easier for the municipality to recover costs incurred while performing work on BMPs. (W. Davis)
- Municipal Stormwater Management Worksheets will be reviewed and any clarification necessary to make them as easy to use as possible will be added.
- The Stormwater Design Assistance Manual consists of sheets from several sources describing different BMPs that are typically used. Many of these sheets do list specifications (i.e. for stone, geo-textile, pipe, etc) that have been provided for information purposes. A municipality can require specific technical requirements if they would like. (D. Shultz)

V. Stormwater Plan Review and Municipal Approval Processes

- The Conservation District intends to provide at least 2 training sessions in regard to the use of the Simplified Approach and the Municipal Stormwater Management Worksheets, which will provide real world examples and the County’s suggested method of applying the Simplified Approach. Additional outreach/training may be provided upon request by the municipality. (Franklin Township, Reading Township, Mount Pleasant Township, B. Stone, D. Shultz)

- Municipalities may modify exemption criteria to be more stringent than the suggested criteria in the Plan. (L. Heine)
- The specific process of submitting and reviewing stormwater management plans is at the discretion of the municipality. Section VII – Model Ordinance Provisions includes “Recommended Municipal SWM Plan Review and Approval Process”, which municipalities may use as a guide or adjust based on their preferred method of receiving and reviewing formal stormwater management plans.

Adams County Conservation District
Adams County Office of Planning & Development

Public Hearing, Wednesday, November 2, 2011 – Adams County Stormwater Management Plan

The Public Hearing was called to order at 2:00 p.m. by Board Chairman George A. Weikert. The following were in attendance: Commissioners R. Glenn Snyder and Lisa Moreno-Woodward; Solicitor John M. Hartzell; Albert Penksa, County Manager; Barry Newman, Department of Environmental Protection (DEP); Larry Martick, Conservation District Manager; Rusty Ryan, Resource Conservationist/Supervisor; Sarah Weigle, Senior Planner; Nick Colonna, Director of Planning & Development; Robert Thaeler, Principal Planner; Bicky Redman, Director Environmental Services; Barry D. Stone, Mt. Pleasant Township; Jim Palmer, ICPRB, Dean Shultz; Gettysburg Engineering; Jim Martin, Menallen Township; Chad Clabaugh, C.S. Davidson, Inc.; Jonathan Reisinger, Mt. Pleasant Township; Brandon Guiher and Leah Heine, KPI Technology; Jess Haines, *The Gettysburg Times* and Chief Clerk Paula V. Neiman. Chairman Weikert noted, per the requirements, that this is the date, place and time duly advertised to hold the Act 167 Stormwater Management Plan Public Hearing. Chairman Weikert introduced Barry Newman who provided the following comments:

Barry Newman, DEP – Mr. Newman provided an overview of the Act 167 requirements and the importance of having such plans. He has been involved with Adams County since 2004 and about a year and a half ago the County began the updating process. Unfortunately all funding was cut off by the State for Act 167 reimbursements and therefore the County had to work and prepare the Plan internally. He thanked the County and everyone involved for moving forward with this project.

Public Comments:

Chairman Weikert at this time asked for Public Comment/Questions. The following were received:

- Jim Palmer, Interstate Commission on the Potomac River Basin – They downloaded the Plan for review from the website and apologized that they did not submit comments during the comment period. There is some overlap between this Plan and the stormwater recommendations of Marsh/Rock Creek Critical Area Resource Plan (CARP), and even though it is not complete, it will be done in a year or so.

Section 6 – Marsh and Rock Creek are not problem areas (as related to Section 6 of the SWM Plan); however we need to become more

efficient and increase sufficiency of stormwater management to help alleviate water shortage problems in the future. There is the option of including mention of the CARP in Section 5 of the Plan.

- Bicky Redman– agreed with Mr. Palmer and that this would apply to the entire county, through integrated water resources management, and not just the CARP.
- Dean Shultz – Mr. Shultz provides engineering services to several municipalities. He has received the Stormwater Management Plan Pre-Hearing Response Document but did not have a chance to review the contents. His concerns are: a) are we going to allow the exemptions to be used for development. The response he received was No. He has a concern that this ordinance does allow new developments to use these exemptions (provided an example). It should be spelled out that this is not for new subdivisions; b) this Plan does not specify peak discharge. He applauds the fact there are some means for volume control. There is provided a calculation that allows for 2.3 inches of stormwater back into the ground during a 2 year period; c) the homeowner can come up with their own designs. An average homeowner is not knowledgeable enough to do this. They should still be reviewed; and d) he distributed a report that contained other comments.
- Barry Newman – provided the process for developing these plans. The County works with a plan advisory committee consisting of representatives from municipalities, Conservation District and Planning Office and anyone else the Commissioners chooses. The draft is distributed to all members and planning organizations that are associated with the county plan for review. A public hearing is then held, which is where we are today. A question for today is should the county adopt the Plan and submit it to DEP for approval? DEP will review and approve the Plan, which will then go into effect. At this time everyone (municipalities) will need to comply by adopting or amending ordinances consistent with the Plan. Barring any momentous event, the Commissioners need to know if they should adopt and submit for approval. If the Commissioners do not adopt the Plan he is not sure what would happen next.

Mr. Shultz asked Mr. Newman if he had a chance to look through the ordinance as presented today. Response - yes I did and I am satisfied with the plan. I did not find any fatal flaws in the ordinance. I may have done some things differently but he feels this is what the county would like to see. The plan, including the ordinance, as

presented today would be approved. Mr. Shultz asked him to justify the new subdivisions. Mr. Newman responded that municipalities have the option to disallow, deny or require additional steps to the proposed developer. Rusty Ryan asked Mr. Shultz to review the comments provided by Sarah Weigle. They will address his concerns.

- Chad Clabaugh – will you be announcing when you plan to adopt the Plan. Response - Yes. His concerns: a) Section 304 Volume Control - impervious coverage is not the right word to be used. Suggested disturbance; b) the Response Document from the county has a statement “The draft Plan will not be revised to reflect applicable comments until after the public hearing, which will be held November 2, 2011 at 2:00 p.m. at the Agricultural and Natural Resources Center”. The parties will not have time to review the answers to the comments that were received. Chairman Weikert noted we will address these at the meeting.

Summary of the Hearing: a) training will be provided to municipalities; b) plan is a guideline, ordinance is a model, municipalities can make their Ordinance more stringent; c) lessen the burden and expense on homeowners; d) address inconsistencies with the Monocacy stormwater plan; e) protect water resources and f) look at uniformity throughout the County

Chairman Weikert noted it is the county’s responsibility to have this Plan in place. Our Conservation District and Planning Office worked together on this and kept everyone involved well informed of the process. We all appreciated the comments that were received and they will be reviewed.

Questions & Answer Period:

Chairman Weikert asked if there were any additional questions, comments, concerns to be addressed.

- Chad Clabaugh – with the comments received, will there be a new revised ordinance. Will the Commissioners wait to approve the ordinance until all the parties have a chance to see the revised document? He would like to see all the comments that are addressed.

Solicitor Hartzell noted the statute requires public input but does not require additional back and forth reviews. This public hearing that we are holding today meets the statutory requirements.

- Bicky Redman – with this plan we will be able to achieve the looming problem of recharging our groundwater supplies.

Final Adoption:

Chairman Weikert announced the comments will be reviewed and the ones with merit will be implemented in the plan. The Commissioners are looking to adopt this plan during their Wednesday, November 23, 2011 Commissioners Meeting. Commissioner Snyder added that he is concerned when you have to pay more for the stormwater management plan than what it costs to build on your property. This gets way to costly for the homeowner and we should be consumer friendly.

Chad Clabaugh asked about the timeline for the plan after it is submitted to DEP. Mr. Newman noted it should be reviewed within a day or two, and when it is sent to DCED it takes about a week or so. Total – from the time he receives the plan 2-3 weeks to approve. DEP has 180 days to approve. Municipalities then have six, (6) months from the date of DEP approval to adopt or amend ordinances consistent with the Plan, as stipulated by the statute (Act 167).

Chairman Weikert asked if a municipality has an ordinance that is more restrictive than this plan, do they have to adopt our model. If they are comfortable with their ordinance and it works in their township, not asking them to adopt this one. They should however, justify their additional restrictions or why it offers more protection, so that they are on record. A municipality should keep a record of this to defend themselves if challenged. Chairman Weikert asked if the Monocacy Ordinance was consistent. Mr. Newman stated that those standards are not consistent with the proposed model ordinance.

Adjournment:

Commissioner Snyder moved, seconded by Commissioner Moreno-Woodward to adjourn the public hearing at 3:28 p.m. this date.

Motion carried.

Respectfully submitted,

Paula V. Neiman
Chief Clerk

ADAMS COUNTY



STORMWATER MANAGEMENT PLAN

November 16, 2011

Post-Hearing Response Document

The following responses were prepared to address concerns and observations received during the public hearing for the draft Adams County Stormwater Management Plan, which was held November 2, 2011 at 2:00 p.m. at the Agricultural and Natural Resources Center. Responses to several comments given at the Hearing were already provided in the Pre-Hearing Response Document.

- Dean Shultz, Municipal Engineer – Felt that Exemptions should not be given to new development. He gave an example of the subdivision of a 50 acre farm, which he provided in writing during the comment period.
 - The intent of the Ordinance is not to allow new, multiple-lot subdivisions the option of using the Simplified Approach. If infrastructure is proposed, a formal stormwater management plan will have to be prepared. If a stormwater management plan is not prepared at the time of subdivision, in those instances that the subdivision plan states that stormwater management will be addressed during the issuance of building permits (depending on the municipal process), the individual property owner would still have to demonstrate that the stormwater runoff could be managed within the property. The 10,000 square foot exemption is not an automatic exemption for all new development. Impervious areas of 5,000 – 10,000 sqft are only exempted if the size of the property allows for the entire volume of stormwater runoff created to be directed to pervious areas (disconnected) without using BMPs.
 - Please see the Pre-Hearing Response Document for our reply to the specific examples.
- Jim Palmer, ICPRB – Requested that the Rock-Marsh Creek Critical Areas Resource Plan, which is currently underway, is mentioned in Section V – Existing

Plans & Regulations, because more effective management of stormwater runoff could help alleviate some of projected water shortages in the study area.

- o A reference to the Marsh/ Rock Creek Critical Areas Resource Plan will be added to Section V. The text states:

Marsh/ Rock Creek Critical Areas Resource Plan (CARP) (In Progress)

A Critical Areas Resource Plan is underway for the Rock Creek and Marsh Creek Watersheds. Pennsylvania deemed this area as having the potential for water demand to exceed supply. This plan is taking a closer look into this issue, as well as water quality, which is also a concern within the watersheds. Recommendations related stormwater management could be implemented, if applicable to the involved municipalities.

- Chad Clabaugh, C.S. Davidson, Inc. – Suggested replacing the words “impervious coverage” in Ordinance Section 304. Volume Controls with “disturbance”.
 - o Replacing “impervious coverage” with “disturbance” reduces the threshold for which volume control method can be used. The 1 acre of impervious coverage standard is established as the threshold point at which an applicant can no longer consider using CG-2. It changes the meaning of a consistently used state standard that is referenced and described in the BMP Manual. The Plan bases this standard of controlling the stormwater from impervious surfaces.

This change could also add the possibility of an applicant having to do stormwater management permitting for a disturbance associated with a quote “Regulated Activity” that does not really result in a stormwater impact. The definition of “Regulated Activity” is so broad that you could have a disturbance with no new impervious area that would still have to go through a stormwater management review for a project with “disturbance” but results in essentially no stormwater runoff.

We feel that this could also result in a fair amount of applicants being forced out of the ability to use the Simplified Method (CG-2) and being forced to use the more expensive and detailed CG-1 approach. One of the goals of the Plan was to keep costs down for applicants proposing lower impact projects.