



Storm Water Management Issues in Bucks County, PA

**Testimony before PA House Environmental
Resources & Energy Committee on
topic of Storm Water Management
July 16, 1996**

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Appreciation and Thanks to

- **Representative Dave Stiel**
 - for initiating these hearings
 - for making our testimony possible
 - for advocating in his testimony that
"a review of municipalities' planning code as it enables local government to protect flood sensitive and wetlands areas should be undertaken."
- **Others**



LOWER MAKEFIELD TOWNSHIP
ENVIRONMENTAL ADVISORY COUNCIL
ENVIRONMENTAL ASSESSMENT MAPPING - 1995

Soils Types



- Prime and Statewide Importance Farmland Soils
- Hyric Soils
- Watercourses

Source: Soil Survey of Bucks County, PA





Introduction

- Clearly, Yardley Borough & Lower Makefield and other municipalities have a storm water management problem.
- It is not clear what factors caused the June 12, 1996 disaster.
- Until those factors are identified, a solution is not possible.
- PA State Act 1978-167 provides an excellent framework for identifying the factors & implementing the remedies.



Message

We encourage our legislators to aggressively implement Act 167 to:

- Identify the causes and remedies,
- Educate and enlist the public, local governments, and developers, and
- Take appropriate steps to improve storm water management, including
 - retrofitting basins where land is available,
 - using "FEMA buy-outs" of homes to discourage repair and reoccupation of homes that chronically flood,
 - etc.



PA Act 1978-167

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LAWS OF PENNSYLVANIA

No. 1978-167

AN ACT

SB 744

Providing for the regulation of land and water use for flood control and storm water management purposes, imposing duties and conferring powers on the Department of Environmental Resources, municipalities and counties, providing for enforcement, and making appropriations.

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The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Short title.

This act shall be known and may be cited as the "Storm Water Management Act."

Section 2. Statement of legislative findings.

The General Assembly finds that:

(1) Inadequate management of accelerated runoff of storm water resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the

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cost of public facilities to carry and control storm water, undermines flood plain management and flood control efforts in downstream communities, reduces ground-water recharge, and threatens public health and safety.

(2) A comprehensive program of storm water management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety and welfare and the protection of the people of the Commonwealth, their resources and the environment.

Section 3. Purpose and policy.

The policy and purpose of this act is to:

(1) Encourage planning and management of storm water runoff in each watershed which is consistent with sound water and land use practices.

(2) Authorize a comprehensive program of storm water management designated to preserve and restore the flood carrying capacity of Commonwealth streams; to preserve to the maximum extent practicable natural storm water runoff regimes and natural course, current and cross-section of water of the Commonwealth; and to protect and conserve ground waters and ground-water recharge areas.

(3) Encourage local administration and management of storm water consistent with the Commonwealth's duties trustee of natural resources and the people's constitutional right to the preservation of natural, economic, scenic, aesthetic, recreational and historic values of the environment.

Section 4. Definitions.

The following words and phrases when used in this act shall have, unless the context clearly indicates otherwise, the meanings given to them in this section:

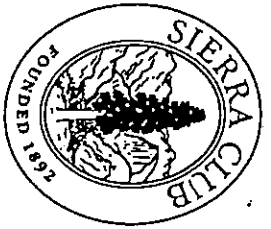
"Department." The Department of Environmental Resources of the Commonwealth of Pennsylvania.

"Municipality." A city, borough, town or township, or any county or other governmental unit when acting as an agent thereof, or any combination thereof acting jointly.

"Pennsylvania Municipalities Planning Code." The act of July 31, 1968 (P.L. 805, No. 247), as amended.

"Person." An individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any section prescribing or imposing a penalty, the term "person" shall include the members of a partnership, the officers, members, servants and agents of an association, officers, agents and servants of a corporation, and the officers of a municipality or county, but shall exclude any department, board, bureau or agency of the Commonwealth.

"Public utility service." The rendering of the following services for the public:



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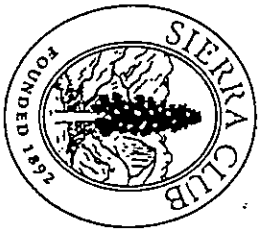
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- (1) gas, electricity or steam production, generation, transmission or distribution;
 - (2) water diversion, pumping, impoundment, or distribution;
 - (3) railroad transportation of passengers or property;
 - (4) operation of a canal, turbine, tunnel, bridge, wharf or similar structure;
 - (5) transportation of natural or artificial gas, crude oil, gasoline or petroleum products, materials for refrigeration or other fluid substances by pipeline or conduit;
 - (6) telephone or telegraph communications; and
 - (7) sewage collection, treatment or disposal.
- "Storm water." Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.
- "Watershed." The entire region or area drained by a river or other body of water, whether natural or artificial.
- "Watershed storm water plan." A plan for storm water management adopted by a county in accordance with section 5.
- Section 5. Watershed storm water plans and contents.
- (a) Within two years following the promulgation of guidelines by the department pursuant to section 14, each county shall prepare and adopt a watershed storm water management plan for each watershed located in the county, as designated by the department, in consultation with the municipalities located within each watershed, and shall periodically review and revise such plan at least every five years. The department may, for good cause shown, grant an extension of time to any county for the preparation and adoption of a watershed storm water management plan.
 - (b) Each watershed storm water plan shall include, but is not limited to:
 - (1) a survey of existing runoff characteristics in small as well as large storms, including the impact of soils, slopes, vegetation and existing development;
 - (2) a survey of existing significant obstructions and their capacities;
 - (3) an assessment of projected and alternative land development patterns in the watershed, and the potential impact of runoff quantity, velocity and quality;
 - (4) an analysis of present and projected development in flood hazard areas, and its sensitivity to damages from future flooding or increased runoff;
 - (5) a survey of existing drainage problems and proposed solutions;
 - (6) a review of existing and proposed storm water collection systems and their impacts;
 - (7) an assessment of alternative runoff control techniques and their efficiency in the particular watershed;
 - (8) an identification of existing and proposed State, Federal and local flood control projects located in the watershed and their design capacities;
- (9) a designation of those areas to be served by storm water collection and control facilities within a ten-year period, an estimate of the design capacity and costs of such facilities, a schedule and proposed methods of financing the development, construction and operation of such facilities, and an identification of the existing or proposed institutional arrangements to implement and operate the facilities;
- (10) an identification of flood plains within the watershed;
 - (11) criteria and standards for the control of storm water runoff from existing and new development which are necessary to minimize dangers to property and life and carry out the purposes of this act;
 - (12) priorities for implementation of action within each plan; and
 - (13) provisions for periodically reviewing, revising and updating the plan.
- (c) Each watershed storm water plan shall:
- (1) contain such provisions as are reasonably necessary to manage storm water such that development or activities in each municipality within the watershed do not adversely affect health, safety and property in other municipalities within the watershed and in basins to which the watershed is tributary; and
 - (2) consider and be consistent with other existing municipal, county, regional and State environmental and land use plans.
- Section 6. Municipal and public participation in watershed planning.
- (a) The county shall establish, in conjunction with each watershed storm water planning program, a watershed plan advisory committee composed of at least one representative from each municipality within the watershed, the county soil and water conservation district and such other agencies or groups as are necessary and proper to carry out the purposes of the committee.
 - (b) Each committee shall be responsible for advising the county throughout the planning process, evaluating policy and project alternatives, coordinating the watershed storm water plans with other municipal plans and programs, and reviewing the plan prior to adoption.
 - (c) Prior to adoption, each plan shall be reviewed by the official planning agency and governing body of each municipality, the county planning commission and regional planning agencies for consistency with other plans and programs affecting the watershed. All such reviews shall be submitted to the department with the proposed plan.
- Section 7. Joint plans and coordination of planning.
- Where a watershed includes land in more than one county, the department may require the affected counties to prepare, adopt and submit a joint plan for the entire watershed.
- Section 8. Adoption and amendment.
- (a) Prior to adoption or amendment of a watershed storm water plan, the county shall hold a public hearing pursuant to public notice of not less than two weeks. The notice shall contain a brief summary of the principal provisions of the plan, and a reference to the places within each affected



Issues

- PA Act 1978-167 is well-thought out and comprehensive, addressing water issues across county lines and past, present, and future storm water management issues.
- So.....
 - why did it not save Yardley from disaster?
 - why has Bucks County submitted a partial one at that?
 - has the effectiveness of the storm water management components along critical creeks been evaluated against their planned performance and what was found?
 - the damage seemed to exceed that anticipated for a 100 year storm, but was it?



So...

Issues (Cont'd)

- what's the impact of topsoil removal on the ability of the ground to soak up and hold water?
- who is assessing what type of storm this was?
- who is rerunning computer models of storm water management in the Yardley and Lower Makefield watersheds?
- Is the DER driving these studies?
- If not, why not?
- Who is looking at cumulative (past and present) storm water management and setting guidelines for future management?
- Why were new homes (<3 years old) flooded and basement foundations damaged?
- Is it wise to allow additional development in regions of hydric soils, when that will likely increase the volume of runoff water?



The Most Cost-Effective Remedy

... *proper land usage* ...

- Limit development in wetlands & areas of hydric soils
- no more developments (Ashley Estates) placed in a wetlands listed on the National Wetlands Inventory





The Most Cost-Effective Remedy

... *proper land usage* ...

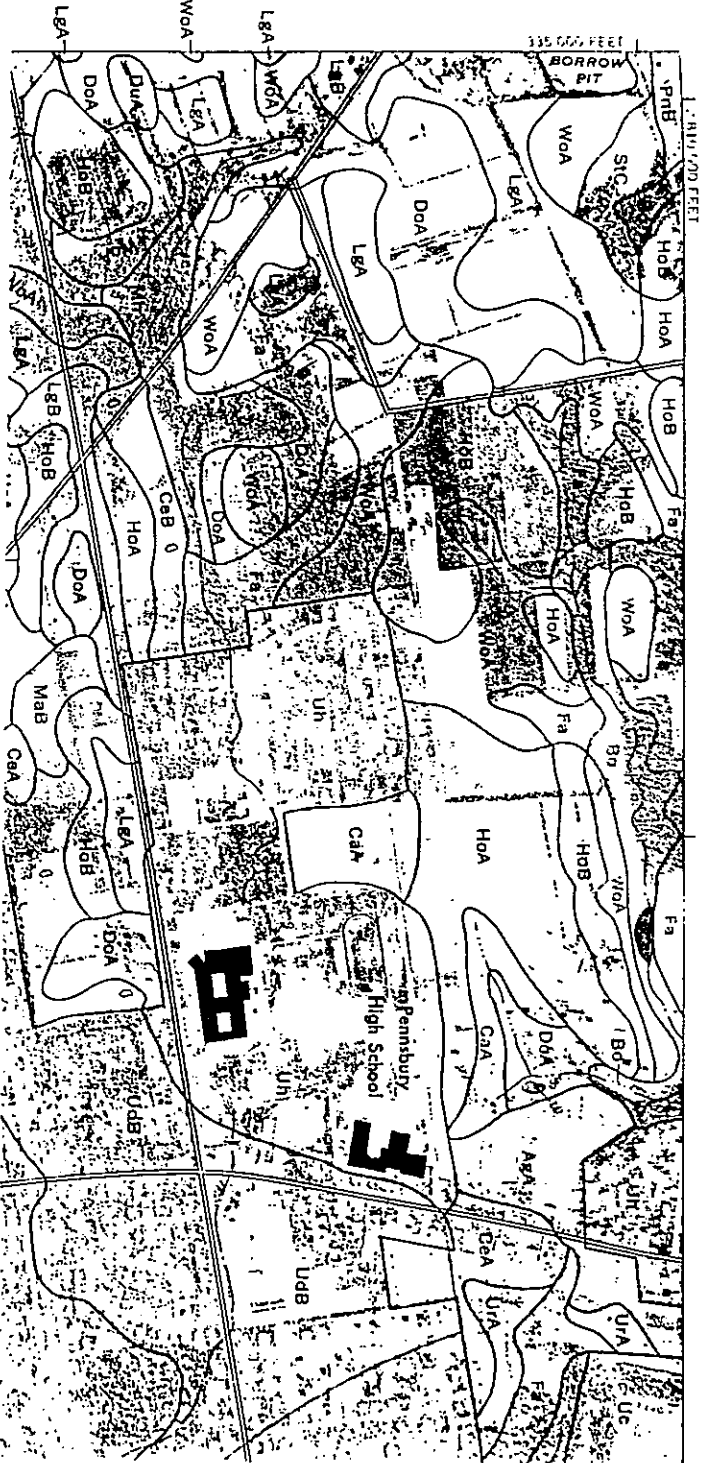
- Limit development in wetlands & areas of hydric soils

- no more schools (Charles Boehm) built over a stream

BUCKS AND PHILADELPHIA COUNTIES

he Pennsylvania State University, College of Agriculture.

nia coordinate system, south zone.

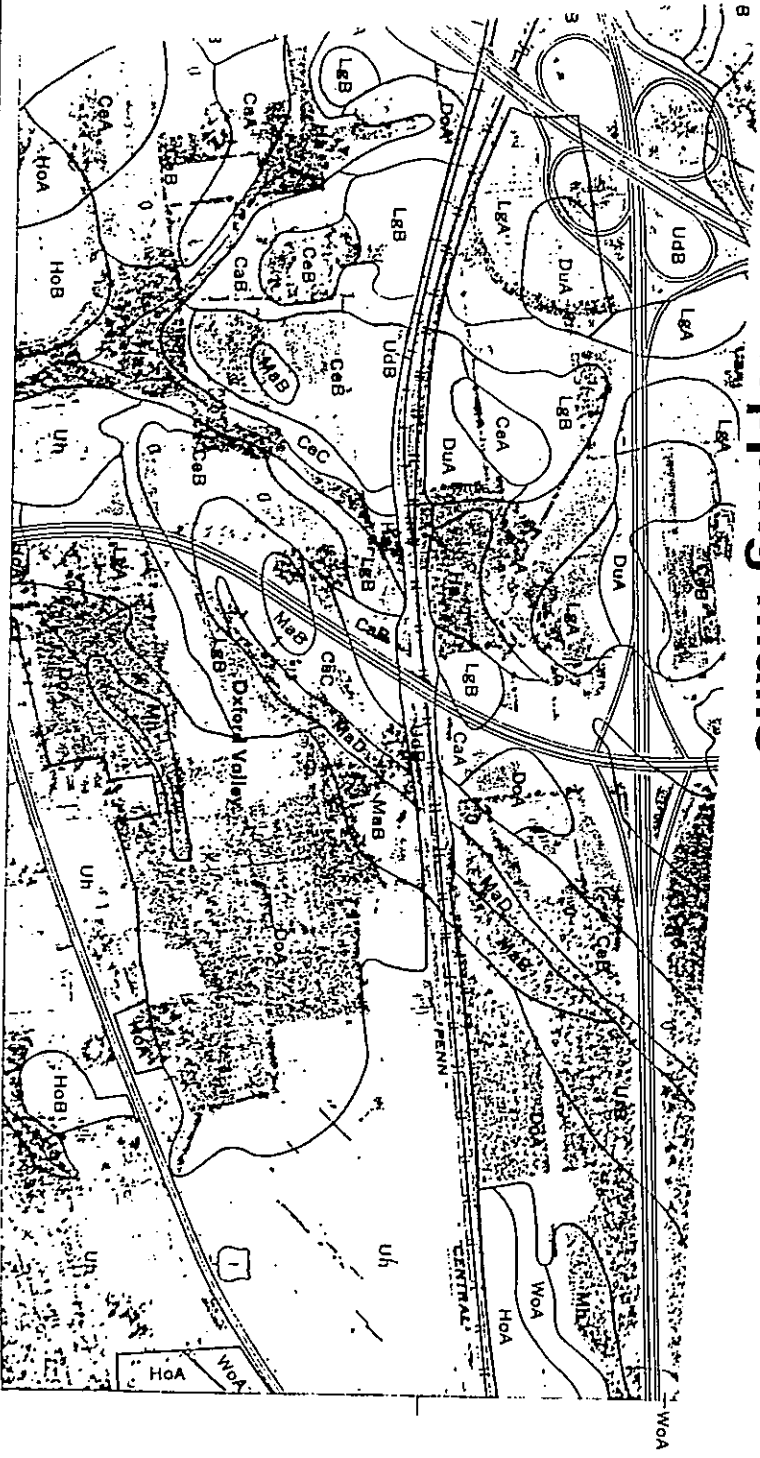




The Most Cost-Effective Remedy

... proper land usage ...

- Limit development in wetlands & areas of hydric soils
- no more impervious service over hydric soils and wetlands at shopping malls





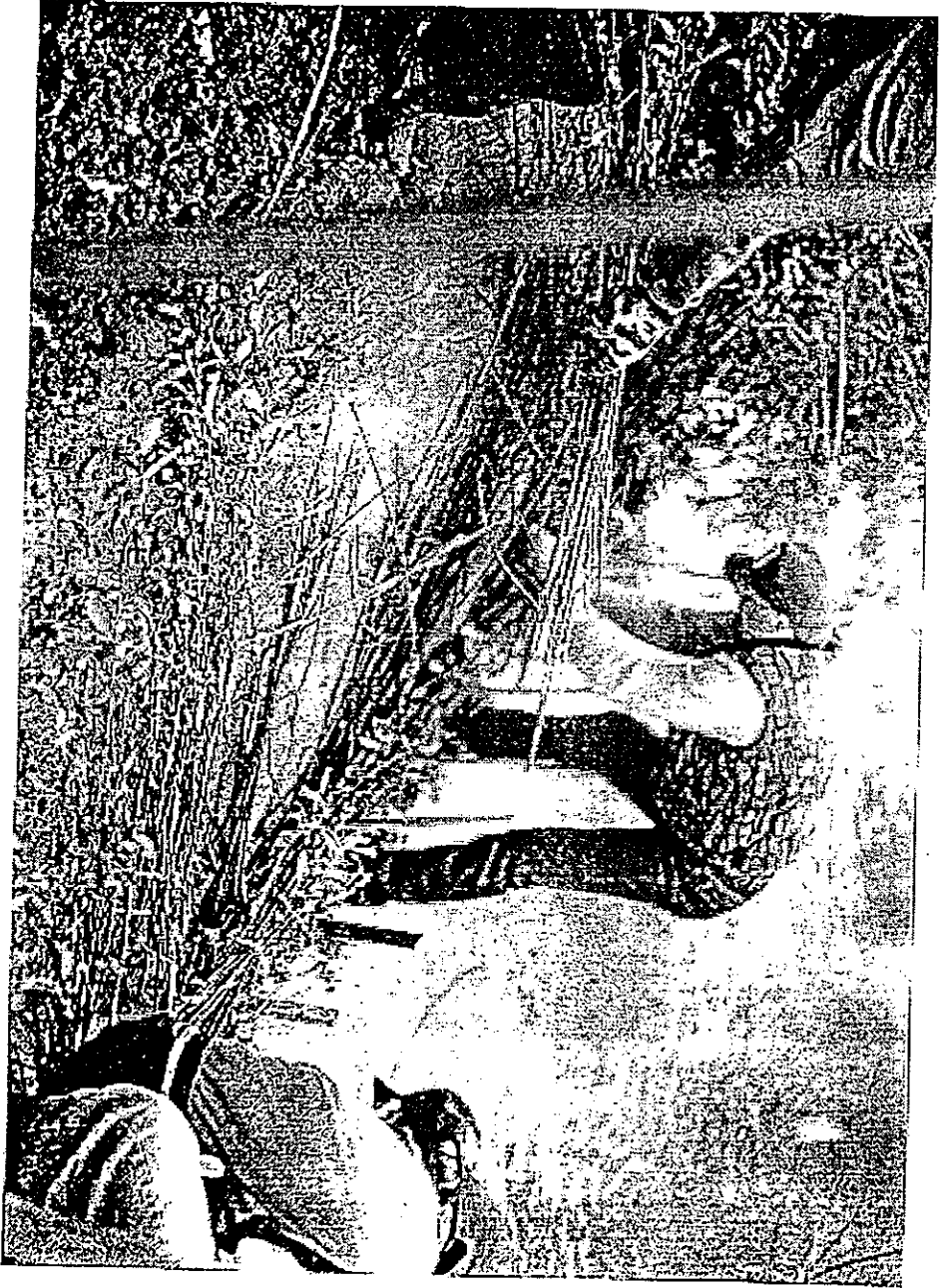
Public Information & Participation

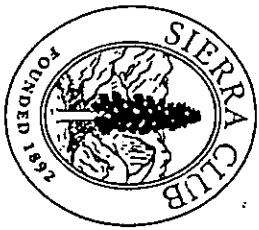
... keys to success ...

- An explanation of what happened, of how our upstream and downstream neighbors impact us and of how we can make a constructive difference.
- Credits for stewardship of natural storm water management resources on private property.
- Credits for implementing storm water management controls on private property.
- Dissemination of knowledge through
 - township meetings and publications,
 - local newspapers
 - signs marking out critical resources



Proper Stream Bank Restoration





Two for One

... the problems of flood prevention and non-point-source runoff pollution can be addressed by a single good storm water management plan ...

Why should we be concerned?

- Drinking water quality is hurt by runoff pollution.
- Ground water recharge and well-owners also suffer.
- Solving the problems separately is not cost-effective.

Solve them both now!



Closing Remarks

- Wetlands and areas with hydric soils must be protected: they are critical to storm water management.
- Seriously consider Rep. Greg Vitale's motion to block the half-acre exemption in GP-15 for residential construction in wetlands.

As written, GP-15 will greatly increase flooding by enabling developers to subdivide.

- **Enforce Act 1978-167 to determine the causes of the June 12, 1996 disaster and implement remedies before spending valuable resources trying to enact new legislation for the 5th or 6th time.**