

Pennridge Water Resources Plan

Executive Summary

This comprehensive water resources plan (the Plan), for eight municipalities in Bucks County known as the Pennridge Area, addresses the impacts on and threats to water in an area where there is a steady conversion of the natural environment to the built environment. A watershed assessment will provide a basis of information upon which to establish a long-range plan for restoring and protecting the water resources of the study area. Implementation of the Plan will be coordinated with municipal land use planning documents (i.e., comprehensive plans, zoning ordinances, subdivision/land development ordinances, and sewage facilities plans), with the goal being to provide for the Pennridge Area's fair share of development while at the same time providing for the long-term availability of water resources upon which the population depends.

Several tasks make this plan innovative and unique. First, the coordination and cooperation amongst the eight municipalities of the Pennridge Area Coordinating Committee (PACC) is truly an incentive for other municipalities in Pennsylvania. In addition, the project will involve a cooperative effort among various governmental agencies, citizen organizations, and stakeholders that have developed sources of information and data relevant to the Plan. Public access to information on the progress of the study was available throughout the project on Hilltown Township's web page (<http://hilltown.org/pacc/>).

The project will be coordinated with current and future Act 167 stormwater management planning in the four major watersheds of the Pennridge Area. In addition, it is anticipated that during the implementation phase (following completion of the Plan and adoption by the PACC) a water budget interface will be developed using the Geographic Information System (GIS). The GIS will be used to convert the mapped products of the Plan into a modeling and analysis system to create an integrated protection program for water resources.

The Study Area

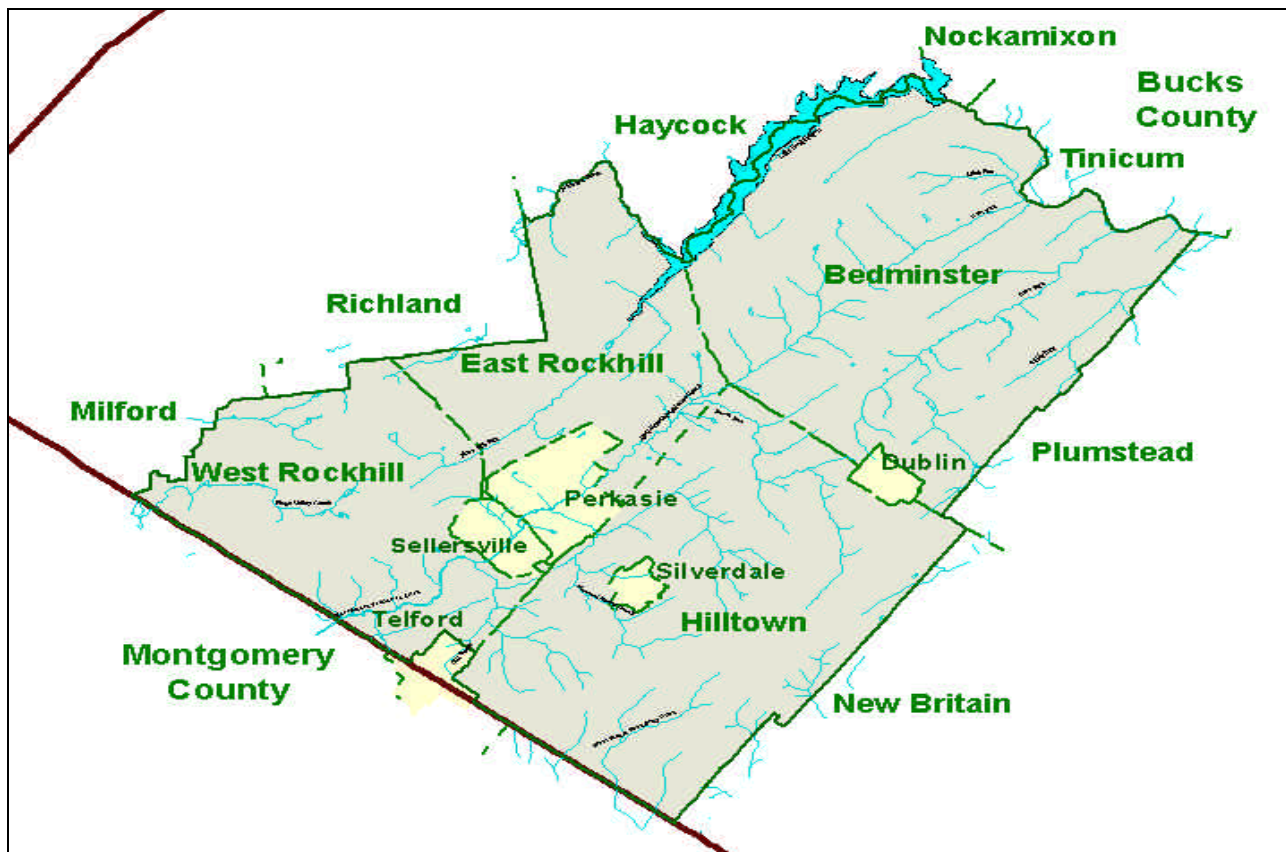
The Pennridge Area is a 93-square-mile study area composed of the eight municipalities that make up the Pennridge School District and is located in what is locally known as "upper" Bucks County, Pennsylvania. The Pennridge Area Coordinating Committee (PACC) is an intermunicipal partnership among eight municipalities, the Pennridge School District, the Pennridge Chamber of Commerce, and the Bucks County Community College. Representatives on the committee meet monthly to discuss issues of mutual concern. Staff members of the Bucks County Planning Commission advise the PACC. The following communities are represented on the PACC:

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|------------------------|------------------------|
| Bedminster Township | Perkasie Borough |
| Dublin Borough | Sellersville Borough |
| East Rockhill Township | Silverdale Borough |
| Hilltown Township | West Rockhill Township |

Telford Borough, although not a member of the PACC, is participating in the water resources planning effort. The Pennridge Area Chamber of Commerce, the Pennridge School District, and

Executive Summary (continued)

The Bucks County Community College also has representatives on the PACC. The Delaware River Basin Commission (DRBC) and the local water/wastewater utilities are also supporting and participating in the study and will be asked to serve on an “Implementation Subcommittee.”



The Pennridge Area is predominantly rural. Growth and development have been steady, primarily in the form of single-family detached dwellings and commercial developments. Due to public water and sewer availability and a strong presence of commercial and industrial uses, the growth trend is expected to increase at a slightly higher rate. The area’s natural features—watersheds and streams, floodplains and wetlands, topography and steep slopes, geology and soils, woodlands and significant natural areas—make it attractive to homebuilders and homebuyers.

Purpose

To address concerns about future growth and development in a proactive manner, the PACC decided to pursue a study of and generate the Pennridge Water Resources Plan (Plan). The Plan is to be part of an overall effort for growth management for the Pennridge municipalities. The Plan will address both quantity and quality issues with the intent to assure an adequate amount of high quality water supply for all types of water users, including agriculture, existing and future residential, commercial, and industrial development, and natural ecosystems.

A multimunicipal water resources plan for the Pennridge Area will foster communication and cooperation among the various water resources entities in the area. Implementation of the Plan will generate benefits related to public health and pollution prevention by fostering improvements in the operational, managerial, structural, and economic aspects of providing public water supply. Environmentally sound use of water resources, coupled with judicious land use controls and growth management techniques, will ensure an adequate and safe water supply for the Pennridge Area for many years to come and thus provide for sustainable development.

Growing Greener Planning Approach

The PACC was awarded a Growing Greener grant from the Pennsylvania Department of Environmental Protection (DEP) and a grant from the Pennsylvania Governor's Center for Local Government Assistance to conduct a watershed assessment and prepare a water resources plan. Matching contributions from the participating municipalities and the Bucks County Planning Commission also helped to fund the first two phases of the project. The project is divided into three phases.

- Phase I: Organization of PACC Study Area Planning Team — Completed
- Phase II: Watershed Assessment and Water Resources Plan
 - Public Review Draft made available on December 21, 2001
 - Final Plan submitted to PaDEP on July 31, 2002
- Phase III: Plan Implementation — July 1, 2002 through June 30, 2004

Approach

Water resource management for the Pennridge Area requires a wide-ranging effort including activities such as identifying and protecting wellhead areas, minimizing discharges, and managing stormwater. Zoning and land use regulations are effective mechanisms for directing development to areas that can best support proposed land uses. Using a watershed-based approach further ensures that down gradient areas are not adversely impacted.

In past years, water resource management was viewed only on a municipal-specific basis. Recently, local perspectives and policies have changed, with the realization that proper water resource management can only be accomplished by evaluating the comprehensive picture. Water resources are increasingly being addressed at the watershed level instead of the municipal level. Because watersheds cross municipal boundaries, land use regulations need to be consistent to ensure that upstream land and water uses in one municipality do not adversely impact water quality and quantity in downstream municipalities. Multimunicipal cooperation is encouraged by the Pennsylvania Municipalities Planning Code (Act 247), which gives cooperating municipalities the authority to make land use decisions based on current and future water supply resources. Such a multimunicipal effort is being demonstrated by the Pennridge Area Coordinating Committee, contributing to the more accurate assessment and management of regional water resources.

Effective water resource management requires cooperation between state, county, and local officials and involves proper planning, engineering, construction, operation, and maintenance. This entails educating the public and local officials and requires program development,

Executive Summary (continued)

financing, revising policy, and development of workable criteria and adoption of ordinances. The Pennridge Water Resources Plan will enable responsible, sustainable development to occur within the Pennridge Area by using state-of-the-art procedures to protect and preserve water resources for long-term sustainability.

Results

Water resources data regarding problem areas, water supply, and wastewater discharge were collected from the participating municipalities through the use of a data collection survey and on-site visits. The data was categorized and recorded into a Geographic Information System (GIS). Data on existing land use, zoning, geology, soils, subwatersheds, stream discharge and recharge areas, wells, wellhead protection areas, and several other pertinent layers were all compiled in the GIS for analysis. The GIS maps can be viewed on PACC's web page at <http://hilltown.org/pacc/>.

The GIS database and data manipulation capabilities, along with a water budget balancing approach were used to develop standards and criteria to guide new growth for sustainable water resources. These tools will enable engineers and planners to evaluate the capacity of the various aquifers in the Pennridge Area. The capabilities of each aquifer relative to each zoning district, and for the composite of the municipal zoning districts in the study area, can then be determined.

Conclusion

What is envisioned for protection of the water resources of the Pennridge Area is to incorporate development of a standardized "water resources protection plan" for each new or proposed land development or water withdrawal. Such a plan would incorporate all the existing water-related requirements such as stormwater management and floodplain management items, and it would include additional computations to balance land use with water budget. These plans would comprehensively describe specific performance requirements that, when implemented, would ensure that the land development proposal does not adversely affect water resources.

Summary

Ensuring sustainable water resources for the future needs of the Pennridge Area requires comprehensive water resources management of the many facets of water including water supply (i.e., groundwater and surface water), stormwater management, flood control, nonpoint pollution control, and wastewater treatment and reuse.

By necessity, all policies, standards, and recommendations included in the Pennridge Water Resources Plan are consistent with sound environmental planning and engineering practices and applicable laws, regulations, policies, and procedures in effect at the federal, regional, state, and municipal levels. Examples include best management practices (BMPs) for stormwater management, stream water quality standards, riparian protection areas, and wetland buffer standards.









There have been numerous regulations, studies, reports, and guidelines addressing the various components of comprehensive water resources management. Because reiterating such voluminous data would not be efficient, the Plan provides a very brief narrative of the issue

addressed in a specific document, and then provides a hyperlink to the reference, whether it is attached as an appendix to the Plan or to its location on the web.

The Plan is comprehensive with the intent to present all information that may be required in order to implement the Plan. The plan covers legal, engineering, and municipal government topics, which combined, form the basis for development of model ordinance language that will be considered for adoption by each municipality. Sample stormwater management and wellhead protection ordinances are also referenced.

Plan implementation will require working within existing regulatory programs and applying available regulatory, planning, and management tools to implement the Plan at the municipal level. The intent of the Plan is not to limit growth but to provide a scientific approach for analysis of the water resources and to apply sound planning principles to implement the recommendations of the Plan for the benefit of future generations.

Recommendations of the Pennridge Water Resources Plan

-  ***A. Form an Intermunicipal Water Resources Committee.***
-  ***B. Develop a Public Education and Awareness Program.***
-  ***C. Develop a Model Water Resources Management Ordinance.***
-  ***D. Update Municipal Act 537 Sewage Facilities Plans.***
-  ***E. Establish the Pennridge Area Watershed Monitoring Program.***
-  ***F. Conduct a Nonpoint Source Pollution Assessment.***
-  ***G. Develop a Source Water Protection Program.***
-  ***H. Prepare an Integrated Water Resource Plan (IRP).***