



SOUTHERN YORK COUNTY REGION COMPREHENSIVE PLAN

2010



**GLEN ROCK BOROUGH
RAILROAD BOROUGH
SHREWSBURY BOROUGH
SHREWSBURY TOWNSHIP**



SOUTHERN YORK COUNTY REGION COMPREHENSIVE PLAN 2010

Glen Rock Borough Council

Adopted 02/17/2010

Resolution No. 2010-2

Members:

Richard Stiles, President

Lucy Cadwallader, Vice-President

Kathleen Wells

Jane Glatfelter

Kenneth Krebs

John Peters

Mayor: Ronald McCullough, Jr.

Railroad Borough Council

Adopted 02/16/2010

Resolution No. 2010-01

Members:

Robert Shaub, President

Randall Kahl, Vice-President

Douglas Carmichael

Tom Nitsch

Matthew Strott

Mayor: James Spearman

Shrewsbury Borough Council

Adopted 01/04/2010

Resolution No. 2010-1

Members:

Michael Ridgely, President

Richard Buchanan, Vice-President

Thomas Metz

Christopher Skoglund

Eric Stoley

Carl Munch

Michael Sharkey

Mayor: Peter Schnabel

Shrewsbury Township Board of Supervisors

Adopted 01/04/2010

Resolution No. 2010-6

Members:

Paul Solomon, Chairman

Ed Hughes, Vice-Chairman

Gene Montanarelli

Susan Fox

Cynthia Taylor

Southern York County Regional Planning Commission

Todd Grove, Chair (Shrewsbury B.); Adam Rettig, Vice-Chair (Glen Rock B.); Erek Gass, Secretary/Treasurer (Shrewsbury T.); other participants included Michael Wright (former Railroad B. representative) and Patrick Fero (Shrewsbury T.)

Acknowledgement: This Southern York County Region Comprehensive Plan represents an update to the Fall 2000 Plan, *Official Comprehensive Plan Southern York County Region*, prepared by Harry Roth of RothPlan (formerly Gehring-Roth Associates). As a result, portions of this document continue to reflect the original 2000 document and the work of Harry Roth. However, all revisions and additions of information that constitute this 2010 Plan were prepared by the staff of the York County Planning Commission in conjunction with the Southern York County Regional Planning Commission and the governing bodies of the participating municipalities. *This Plan was financed in part by a grant from the Intergovernmental Cooperation Grant Program of the York County Commissioners.*

GLEN ROCK BOROUGH
YORK COUNTY, PENNSYLVANIA

RESOLUTION NO. 2010- 2

A RESOLUTION ADOPTING THE SOUTHERN YORK COUNTY REGIONAL COMPREHENSIVE
PLAN UPDATE, FINAL DRAFT 2009, TOGETHER WITH THE ADDENDUM/ERRATA SHEET
DATED DECEMBER, 2009

WHEREAS, the Pennsylvania Municipalities Planning Code Act of 1968 P.L. 805, No. 247, as reenacted and amended, [the "MPC"] permits local governments to perform joint municipal comprehensive planning for growth management; and

WHEREAS, Glen Rock Borough, Railroad Borough, Shrewsbury Borough, and Shrewsbury Township have joined together to manage growth in the Southern York County Region, and have formed the Southern York County Regional Planning Commission ["SYCRPC"] for that purpose; and

WHEREAS, the SYCRPC in consultation with the York County Planning Commission has prepared a Comprehensive Plan for the Southern York County Region [the "Plan"]; and

WHEREAS, the SYCRPC held a public meeting on the Plan on March 5, 2009; and

WHEREAS, the Plan was distributed to York County adjacent municipalities, and the school district for the 45-day review and comment period; and

WHEREAS, the governing bodies held a joint public hearing on the Plan on December 1, 2009; and

WHEREAS, as a result of the public hearing, several non-substantive revisions were made to the Plan, which are incorporated in the Addendum/Errata Sheet.

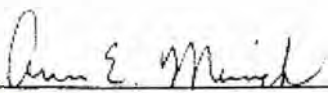
NOW, THEREFORE, BE IT RESOLVED, and it is hereby resolved by the Borough Council of Glen Rock Borough as follows:

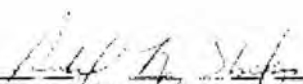
RESOLVED, that the Southern York County Regional Comprehensive Plan Update, Final Draft, November, 2009, and the Addendum/Errata Sheet dated December, 2009, together with all maps, charts, textual matter and other matters intended to form the whole of the Plan, are hereby adopted by the Borough Council for Glen Rock Borough. A copy of the Plan and the Addendum/Errata Sheet, together with all maps and charts, shall be deemed to be incorporated by reference in this Resolution.

This Resolution has been adopted by a majority of the Borough Council in lawful assembly this 17 day of February 2010.

ATTEST.

GLEN ROCK BOROUGH


Ann E. Merrick, Secretary

By 
President, Borough Council

SHREWSBURY BOROUGH
YORK COUNTY, PENNSYLVANIA

RESOLUTION NO. 2010-1

A RESOLUTION ADOPTING THE SOUTHERN YORK COUNTY REGIONAL COMPREHENSIVE
PLAN UPDATE, FINAL DRAFT 2009, TOGETHER WITH THE ADDENDUM/ERRATA SHEET
DATED DECEMBER, 2009

WHEREAS, the Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, [the "MPC"] permits local governments to perform joint municipal comprehensive planning for growth management; and

WHEREAS, Shrewsbury Borough, Railroad Borough, Glen Rock Borough, and Shrewsbury Township have joined together to manage growth in the Southern York County Region, and have formed the Southern York County Regional Planning Commission ["SYCRPC"] for that purpose; and

WHEREAS, the SYCRPC in consultation with the York County Planning Commission has prepared a Comprehensive Plan for the Southern York County Region [the "Plan"]; and

WHEREAS, the SYCRPC held a public meeting on the Plan on March 5, 2009; and

WHEREAS, the Plan was distributed to York County, adjacent municipalities, and the school district for the 45-day review and comment period; and

WHEREAS, the governing bodies held a joint public hearing on the Plan on December 1, 2009; and

WHEREAS, as a result of the public hearing several non-substantive revisions were made to the Plan, which are incorporated in the Addendum/Errata Sheet.

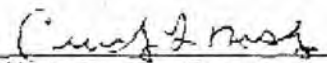
NOW, THEREFORE, BE IT RESOLVED, and it is hereby resolved by the Borough Council of Shrewsbury Borough as follows:

RESOLVED, that the Southern York County Regional Comprehensive Plan Update, Final Draft, November, 2009, and the Addendum/Errata Sheet dated December, 2009, together with all maps, charts, textual matter and other matters intended to form the whole of the Plan, are hereby adopted by the Borough Council for Shrewsbury Borough. A copy of the Plan and the Addendum/Errata Sheet, together with all maps and charts, shall be deemed to be incorporated by reference in this Resolution.

This Resolution has been adopted by a majority of the Borough Council in lawful assembly this 4th day of January, 2010.

ATTEST:

SHREWSBURY BOROUGH


Cindy Bosley, Secretary

By: 
President, Borough Council

**RAILROAD BOROUGH
YORK COUNTY, PENNSYLVANIA**

RESOLUTION 2010-01

**A RESOLUTION ADOPTING THE SOUTHERN YORK COUNTY
REGIONAL COMPREHENSIVE PLAN UPDATE, FINAL DRAFT,
NOVEMBER 2009, TOGETHER WITH THE ADDENDUM/ERRATA
SHEET DATED DECEMBER 2009**

WHEREAS, The Pennsylvania Municipalities Planning code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, [the "MPC"] permits local governments to perform joint municipal comprehensive planning for growth management; and,

WHEREAS, Shrewsbury Township, Shrewsbury Borough, Railroad Borough and Glen Rock Borough have joined together to manage growth in the southern York County Regional Planning Commission ["SYCRPC"] for that purpose; and,

WHEREAS, the SYCRPC in consultation with the York County Planning Commission has prepared a Comprehensive Plan for the Southern York County Region [the "Plan"]; and,

WHEREAS, the SYCRPC held a public meeting on the Plan on March 5, 2009; and,

WHEREAS, the Plan was distributed to York County, adjacent municipalities, and the school district for the 45-day review and comment period; and,

WHEREAS, the governing bodies held a public hearing on the Plan on December 1, 2009; and,

WHEREAS, as a result of the public hearing several non-substantive revisions were made to the Plan, which are incorporated in the Addendum/Errata Sheet.

NOW, THEREFORE, BE IT RESOLVED, by the Council of Railroad Borough as follows:

RESOLVED, that the Southern York County Regional Comprehensive Plan Update, Final Draft, November 2009, and the Addendum/Errata Sheet dated December 2009, together with all maps, charts, textual matter and other matters intended to form the whole of the Plan, are hereby adopted by the Council for Railroad Borough. A copy of the Plan and the Addendum/Errata Sheet, together with all maps and charts, shall be deemed to be incorporated by reference in this Resolution.

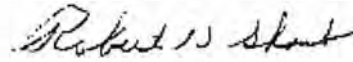
This Resolution has been adopted by a majority of the Borough Council in lawful assembly this 16th of February 2010.

ATTEST:

RAILROAD BOROUGH



Jean M. Greene
Secretary/Treasurer



Robert H. Shaub
Council President

**SHREWSBURY TOWNSHIP
YORK COUNTY, PENNSYLVANIA**

RESOLUTION NO. 2010-6

**A RESOLUTION ADOPTING THE SOUTHERN YORK COUNTY REGIONAL
COMPREHENSIVE PLAN UPDATE, FINAL DRAFT, NOVEMBER, 2009,
TOGETHER WITH THE ADDENDUM/ERRATA SHEET DATED
DECEMBER, 2009**

WHEREAS, The Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, [the "MPC"] permits local governments to perform joint municipal comprehensive planning for growth management; and,

WHEREAS, Shrewsbury Township, Shrewsbury Borough, Railroad Borough and Glen Rock Borough have joined together to manage growth in the Southern York County Regional, and have formed the Southern York County Regional Planning Commission ["SYCRPC"] for that purpose; and,

WHEREAS, The SYCRPC in consultation with the York County Planning Commission has prepared a Comprehensive Plan for the Southern York County Regional [the "Plan"]; and,

WHEREAS, The SYCRPC held a public meeting on the Plan on March 5, 2009; and,

WHEREAS, The Plan was distributed to York County, adjacent municipalities, and the school district for the 45-day review and comment period; and,

WHEREAS, The governing bodies held a public hearing on the Plan on December 1, 2009; and,

WHEREAS, As a result of the public hearing several non-substantive revisions were made to the Plan, which are incorporated in the Addendum/Errata Sheet.

NOW, THEREFORE, Be it resolved and it is hereby resolved by the Board of Supervisors of Shrewsbury Township as follows:

RESOLVED, That the Southern York County Regional Comprehensive Plan Update, Final Draft, November, 2009, and the Addendum/Errata Sheet dated December, 2009, together with all maps, charts, textual matter and other matters intended to form the whole of the Plan, are hereby adopted by the Board of Supervisors for Shrewsbury Township. A copy of the Plan and the Addendum/Errata Sheet, together with all maps and charts, shall be deemed to be incorporated by reference in this Resolution.

This Resolution has been adopted by a majority of the Board of Supervisors in lawful assembly this 4th day of January, 2010.

ATTEST:

SHREWSBURY TOWNSHIP

A handwritten signature in cursive script, appearing to read "Jean Greene", written over a horizontal line.

Jean Greene, Secretary

By: 

A handwritten signature in cursive script, appearing to read "Paul Solomon", written over a horizontal line.

Paul Solomon, Chairman

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I. INTRODUCTION

A. PURPOSE OF THE PLAN

Healthy, attractive and economically sound communities do not “just happen.” They are created through vision and foresight and grow and change successfully with the same. Today, local governments are responsible for guiding growth and development, for setting aside open spaces, and for delivering public services. Like any business, local governments need to chart future plans so that they can assure the efficient use of resources. The preparation of a comprehensive plan provides a deliberate framework of information that can be used to make future decisions regarding local government functions. The Comprehensive Plan further provides a sound legal basis for specific implementing measures, such as zoning and subdivision/land development regulations, designed to carry out the intent of the Comprehensive Plan. One definition of comprehensive planning is “the allocation of municipal resources towards municipal goals and objectives”; this definition describes the essence of this work.

The original Southern York County Region Comprehensive Plan, dated Fall 2000, was truly a regional effort. It included Shrewsbury Township and Glen Rock, Railroad, New Freedom and Shrewsbury Boroughs, as well as the Southern York County School District, as participants and each municipality subsequently adopted the Plan. New Freedom Borough, however, has opted to not participate in the Update to the Plan. As a result, all references to New Freedom Borough are deleted in the Update, except in cases where the Borough provides a service to the remaining participants. Also, the Southern York County School District was not a direct participant, but was consulted to update the Community Facilities and Services Chapter.

Thus, to update the Plan, Shrewsbury Township, and Glen Rock, Railroad, and Shrewsbury Boroughs have come together to re-evaluate goals, objectives and implementation strategies in an effort to maintain a sound and viable plan for the future growth and development of, as well as the protection of critical environmental resources in, the Southern York County Region (no longer includes New Freedom). In addition, the participating municipalities each adopted an ordinance approving an Intergovernmental Cooperative Agreement for Multi-Municipal Planning. This regional cooperation has been enhanced by the involvement of the Southern York County Regional Planning Commission throughout the planning process.

This Comprehensive Plan first sets forth a set of Community Planning Goals. These goals can include broad objectives, such as the provision of adequate housing and employment opportunities, the protection of the environment, and the provision of a balance of public services, or they can seek to correct existing or foreseeable deficiencies or problems, such as improving the design of a particular road intersection or reducing localized flooding through improved storm water management.

Next, this Plan inventories, maps and describes the Region's resources over several chapters. These resources include many things, such as land, streams, roads, utilities, parks, housing, schools, police and fire service, businesses, and so on. Analyses are performed within each Plan chapter to determine the capabilities of these resources to serve projected future population growth. Each Plan chapter makes recommendations to improve the capabilities of these resources to meet future needs.

Next, the analyses of resources and recommendations are used together with the Community Planning Goals to develop a future land use scenario and a plan for the future delivery of public and other services. The time frame for this Comprehensive Plan is to the year 2020; all recommendations made within this Plan are structured around a 12 year time frame.

Finally, implementation strategies are set forth that will enable the Region's municipalities to set in motion the goals, objectives and recommendations identified in the Plan. In the end, any planning process is meaningless unless its recommendations find application as part of the Region's business—the protection of public welfare and the delivery of public services.

B. MPC REQUIREMENTS

Pennsylvania's Constitution gives the General Assembly the power to enact laws that protect the public health, safety and general welfare of its citizens. The General Assembly has, in turn, given local municipalities' primary responsibility for community comprehensive planning. Municipalities in Pennsylvania are empowered by the Pennsylvania Municipalities Planning Code (MPC), Act 247 of 1968, to prepare and adopt comprehensive plans according to specified requirements and procedures. Revisions to the MPC made by Act 170 of 1988 expanded the subject matter and goals of comprehensive planning to enable municipalities to manage growth more effectively, and to provide greater protection for environmentally sensitive lands and important historic and cultural sites. Furthermore, Act 170 also requires that all counties in Pennsylvania prepare and adopt comprehensive plans and that municipal plans be generally consistent with the adopted county plans. Municipalities are also empowered by this Act to carry out joint planning with one another.

Revisions subsequently made to the MPC by Act 67 of 2000 enable and facilitate the use of Intergovernmental Cooperative Agreements among local governments to develop and implement multi-municipal comprehensive plans in order for the local governments to realize land use related benefits that they may not fully realize individually. Some of these benefits include not having to provide for every use in each participating municipality and the ability to prepare and adopt a "specific" plan, voluntarily share tax revenues and fees, and adopt a multi-municipal transfer of development rights (TDR) program.

The MPC standards are the foundation upon which the Comprehensive Plan for the Southern York County Region is built. This Plan, therefore, is born not only out of a belief that sound planning is the key to a healthy, attractive and economically viable community, but also out of a respect and regard for the laws of the Commonwealth of Pennsylvania.

C. HOW TO USE THIS PLAN

This Comprehensive Plan is designed to serve several important purposes. Principally, the Plan is intended to share with Southern York County residents a vision for the Region's future. Secondly, it is designed to guide the Region in the administration of land use planning programs. A detailed table of contents appears at the beginning of the text that provides quick reference to the appropriate sections of the Plan. Action-oriented recommendations at the end of each Plan chapter are blocked and printed in dialogue boxes with ***bold, italicized*** letters so that the decision-maker's attention is immediately drawn to them. Many of these recommendations tie in to specific implementation strategies discussed in the final Plan chapter.

The numerous maps within the Plan have been carefully prepared so that the information can be easily visualized. The many analyses utilized throughout the study are intended to maximize the utility of the findings. Step-by-step descriptions of these methodologies are furnished to enable the reader to gain a better understanding of the issues and their planning implications. All of these features will aid local decision-makers in their evaluation of future planning proposals.

An additional important function of this Plan is its collection of important information. The term *Comprehensive Plan* accurately describes the composition of this report; its contents are quite comprehensive. Accordingly, the Plan provides convenient access to a wealth of up-to-date factual information concerning the Region's resources. This information will not only serve local officials, but also service agencies, property owners, residents, business leaders, and prospective developers. The inventories of existing conditions will also provide the groundwork upon which future Plan updates can be more easily accomplished.

Finally, the Plan provides a future land use scenario that can be useful to many landowners. For example, residents can get an idea of the land uses that are projected around their homes. Prospective developers can use the Plan to package development proposals that conform to the regional and municipal goals, thereby ensuring a smooth development review process. Business leaders can glean a sense of secure investment climate from the Region's future land use scenario. In all, the Plan considers many competing interests and devises a strategy to assure their relative harmonious coexistence. It is hoped that the Plan will become a powerful and practical tool in local decision-making.

➤ ***It is important for all persons involved and/or interested in the future of the Southern York County Region to read and understand this Plan. Local decision-makers should keep the Plan handy when evaluating future development proposals, rezoning requests, service area adjustments or public investments.***

D. REGIONAL SETTING

As mentioned previously and for purposes of this Plan, the Southern York County Region is now comprised only of Shrewsbury Township and Glen Rock, Railroad, and Shrewsbury Boroughs. The Region is situated in the southcentral portion of York County in southcentral Pennsylvania. It is approximately 10 miles south of the City of York, which serves as the

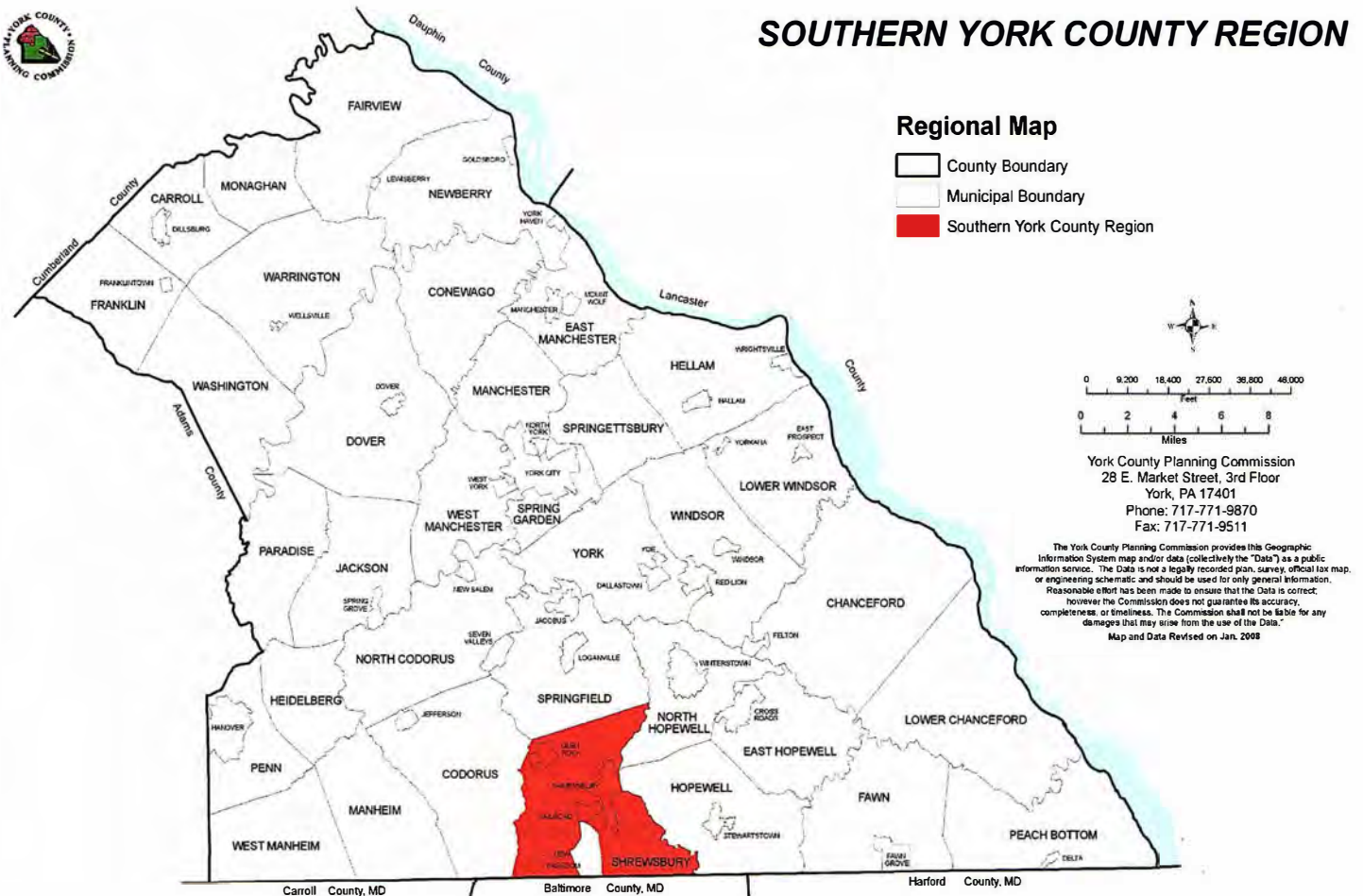
County seat of government and is part of the County's major urban area. The Southern York County Region contains a total of 32.6 square miles.

The Region's boundaries have been determined by a combination of natural and man-made lines. The southern boundary of the Region is the Mason-Dixon line, separating Pennsylvania from Maryland to the south. The western boundary of the Region is formed primarily by Centerville Creek, a tributary of the South Branch of Codorus Creek, with Codorus Township to the west. To the north is Springfield Township, separated from the Region by a man-made line. The eastern boundary of the Region is defined primarily by the presence of the East Branch of Codorus Creek and Deer Creek, separating the Region from North Hopewell and Hopewell Townships, respectively.

The Region's primary transportation corridor is I-83, which links it physically and economically to the City of York, as well as to the Baltimore metropolitan area to the south. This corridor also provides the Region with excellent access to other major cities along the eastern seaboard. Major routes connecting the Region with other parts of York County include SR 851, SR 616 and SR 3001 (Susquehanna Trail).

REGIONAL LOCATION MAP

SOUTHERN YORK COUNTY REGION



II. COMMUNITY GOALS AND OBJECTIVES



The goals and objectives of the Comprehensive Plan serve as guidelines for directing future growth, development and other activities in the community, as well as for the protection of natural and cultural resources. These guidelines are broad enough to include all major planning considerations, yet are specific enough to guide and evaluate the progress of the Plan. Together, the goals and objectives form the community's planning policies upon which planning decisions can be based. Goals and objectives can be defined as follows:

Goals establish the general, long-term desired conditions that will preserve the positive aspects of the community and improve those aspects that are less than desirable.

Objectives are the more specific and measurable targets that will aid in achieving long-term goals.

In developing the goals and objectives for the Region, as well as the implementation tasks, the **Smart Growth** concept promoted by the American Planning Association and the **Keystone Principles for Growth, Investment and Resource Conservation** adopted by the Commonwealth of Pennsylvania were given consideration. The Smart Growth concept encourages a more efficient use of land by directing a larger share of development to urbanized areas that are served by public infrastructure in an effort to reduce growth pressures on farmland, open space and environmentally sensitive areas. The Keystone Principles layout general goals and objectives for economic development and resource conservation and include redevelop first, provide efficient infrastructure, concentrate development, increase job opportunities, foster sustainable businesses, restore and enhance the environment, enhance recreational and heritage resources, expand housing opportunities, plan regionally/implement locally, and be fair.

Below are the established goals for the Southern York County Region and the objectives set forth to assist with achieving the goals. The "Region" column refers to the Southern York County Regional Planning Commission (SYCRPC). Thus, when an objective to meet a particular goal can be carried out by the SYCRPC, an asterisk (*) will appear in the "Region" column. The remaining columns relate to the participating municipalities.

NATURAL AND CULTURAL RESOURCES

Goal: To conserve and protect important natural resources from degradation.



Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Promote the retention of large, contiguous areas of agricultural land for farm use.	*	*		*	
2. Discourage non-agricultural development within agricultural areas in order to preserve farmland, particularly prime agricultural soils, but also including, by association, soils of a lesser quality.	*	*		*	
3. Promote methods of increasing the profitability of farming and providing for supplementary farm income.		*		*	

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
4. Enlist the assistance of the York County Agricultural Land Preservation Board, the York County Farm and Natural Lands Trust and others to join in advocating that County reassessments for farm properties planned for continued farm use and subject to effective agricultural zoning properly reflect reduced development values.		*		*	
5. Protect sensitive, scenic and important natural features (e.g., floodplains, wetlands, steep slopes, woodlands, wildlife habitats, scenic vistas, etc.) from indiscriminate development.	*	*	*	*	*
6. Update storm water management provisions to promote PA DEP Best Management Practices.		*		*	*
7. Promote the protection and adaptive reuse of historic structures as alternatives to major alteration or demolition.	*	*	*	*	*
8. Promote the protection of historic buildings, landmarks, and districts through the creation of Historic District Committees/Commissions or HARBS.	*	*		*	*
9. Protect the four (4) watersheds that serve as a public water supply for York County communities and the Baltimore Metro Region.	*	*	*	*	*

HOUSING



Goal: To provide for the diverse housing needs of the Region's residents.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Permit limited infill areas suitable for residential growth to develop at similar densities and designs as adjacent development.		*	*	*	*
2. Continue to provide for a range of housing types and densities to meet the diverse housing needs of the community.	*	*	*	*	*
3. Concentrate residential development adjacent to Boroughs, using compact growth forms that "fit" with nearby residential densities and styles with the idea of protecting town edges where appropriate.		*			
4. Promote mixed residential/commercial development, such as apartments above a commercial establishment or live/work units.	*	*		*	*
5. Encourage maintenance of the housing stock to prevent deterioration of residential neighborhoods	*	*	*	*	*

THE LOCAL ECONOMY



Goal: To enhance the economy of the Region.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Encourage the recent trend toward the rehabilitation and improvement of private properties and the growing sense of community.		*	*	*	*
2. Promote livable community concepts, such as the inclusion of neighborhood-oriented businesses that are within walking distance of residences and the provision of sidewalks or trails in new developments to encourage walkability and connectivity.	*	*	*	*	*

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
3. Encourage the development of lodging establishments and restaurants.	*	*	*	*	*
4. Discourage the creation of new areas of strip commercial development and offer viable alternatives.		*	*	*	*
5. Balance the stabilization of existing commercial uses and the infill of vacant storefronts with the provision for new commercial uses.		*	*	*	*
6. Encourage commercial development that provides entertainment opportunities for residents.	*	*	*	*	*
7. Promote economic revitalization through the rehabilitation and adaptive reuse of older unutilized industrial structures.				*	*
8. Promote non-industrial development possibilities by addressing access and parking constraints that limit potential.					*
9. Encourage light industrial development as infill where appropriate.	*	*	*	*	*
10. Promote economic development linked with the York County Heritage Rail Trail County Park.				*	*
11. Promote economic development as a means of generating tax base for the School District and jobs.	*	*	*	*	*

ADJACENT AND REGIONAL PLANNING



Goal: To coordinate with others in future planning efforts that could impact the Region.

Community Planning Objective	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Coordinate with York County and neighboring municipalities on planning issues of mutual interest and concern.	*	*	*	*	*

COMMUNITY FACILITIES AND SERVICES



Goal: To adequately provide for public facilities and services.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Encourage increased cooperation between municipalities and the School District regarding planning activities and use of school facilities.	*	*	*	*	*
2. Continue to support local volunteer fire and ambulance companies.	*	*	*	*	*
3. Support regionalized and contracted police services.			*	*	
4. Municipalities should continue existing and explore additional intermunicipal cooperation efforts in order to plan and provide services in the most efficient and cost-effective manner.	*	*	*	*	*

PARKS AND RECREATION



Goal: To provide for the recreation and open space needs of the community.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Seek improved cooperation with the School District to increase public access to recreational facilities.	*	*	*	*	*
2. Evaluate the need for additional parkland for ball fields at existing or potential new recreation facilities.	*	*	*	*	*
3. Explore the use of shared park and recreation lands with other municipalities.	*	*	*	*	*
4. Explore the potential for linking the Region's Heritage Rail Trail County Park to parks, lodging and dining facilities, bicycle shops, or other possible sites.	*	*		*	*
5. Explore the potential for developing a park as an anchor at some point along the Heritage Rail Trail County Park.	*			*	
6. Promote increased recreational opportunities for older residents.	*	*	*	*	*
7. Explore methods of preserving some remaining open space within Boroughs for passive and active recreation.				*	*

PUBLIC UTILITIES AND SERVICES



Goal: To adequately provide for sewer, water, solid waste disposal, and related needs.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Discourage the extension of public water and sewer facilities outside the designated growth areas, unless necessary to address a health and safety issue.		*		*	
2. Continue to rely upon on-lot utilities outside the growth areas and implement measures to ensure the proper maintenance of these facilities.		*		*	
3. Continue to provide adequate trash removal and recycling services.	*	*	*	*	*

TRANSPORTATION



Goal: To provide for the safe, efficient and convenient movement of people and goods.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Support the creation of a bypass through Shrewsbury Township to alleviate traffic congestion in Shrewsbury Borough.		*			
2. Improve road and/or rail access to Glen Rock Borough.					*
3. Ensure that new development, conversions and the adaptive reuse of existing development minimize impacts on the existing road network and parking availability.		*	*	*	*
4. Continue to work with the York County Planning Commission and PennDOT on needed road improvements.	*	*	*	*	*

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
5. Promote bicycling by providing and requiring bicycle paths and lanes, where suitable, that link recreational, commercial and other facilities.		*		*	
6. Continue to work with appropriate entities to clean-up unsightly materials along the Heritage Rail Trail County Park.		*		*	
7. Promote restoration and reuse of the Northern Central Railroad for commerce and tourism.				*	
8. Iterate and support the enhancement and improvement of Interstate 83 Exit 4.		*	*		



FUTURE LAND USE

Goal: To plan for appropriate new land uses and the continuation or modification of existing land uses.

Community Planning Objectives	Region	Shrewsbury Township	Shrewsbury Borough	Railroad Borough	Glen Rock Borough
1. Plan for future land uses to the year 2020 based on factual base information and analyses of future needs, goals, objectives, and recommendations found in the Plan.	*	*	*	*	*
2. Allocate future land use designations to specifically guide and be implemented by corresponding zoning.	*	*	*	*	*
3. Address future land use with due regard for water and air quality and climate change mitigation.	*	*	*	*	*
4. Take measures to reduce littering, property defamation, and other activities that degrade the community in an effort to maintain a high quality of life throughout the Region.	*	*	*	*	*

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III. NATURAL AND CULTURAL RESOURCES



This chapter will describe and map the Southern York County Region's natural and cultural resources. The natural resources component will focus on topography, geology, soils, surface waters, and important plant and wildlife habitats. Cultural resources, on the other hand, will include a discussion of historical and archaeological sites. This information will be extremely useful in allocating future land uses within the Region, as well as in formulating policies and implementing measures that protect these natural and cultural resources.

A. TOPOGRAPHY

The Southern York County Region is situated within the Pigeon Province and is characterized by gently to moderately rolling terrain with hills and valleys. As a result of prolonged erosion, much of its former plateau-like appearance has been modified to slopes and gently rounded hills. As shown on the *Topography Map*, elevations range from approximately 560 feet in the Region's stream valleys to 1,036 feet above sea level, and slopes range from 0% to over 25%. Most of the Region's steep sloped areas can be found in and around Glen Rock and Railroad Boroughs and in the west-central part of Shrewsbury Township.

B. GEOLOGY

The geology of an area plays an important role in determining the surfacial shape of the environment. Throughout the ages, underlying rock is subjected to natural weathering forces that chemically and physically erode its original shape. The physical properties of underlying rock determine its strength and suitability to support development, including the ease of excavation, and ability to support the foundations of various structural types.

GEOLOGIC FORMATIONS

The *Geology Map* illustrates the geologic conditions within the Region. All of the geologic formations within the Region were formed during the Lower Paleozoic Era, which occurred 430 to 570 million years ago. Within the Southern York County Region, the primary types of bedrock underlying the surface are schists, which were metamorphosed from shale. The entire Region is underlain by the *Wissahickon Formation*. This geologic formation is composed primarily of schists with thin diagonal southwest to northeast layers of metavolcanics.¹ In the west-central part of Shrewsbury Township, a single *Diabase* dike dissects the underlying geology, cutting through the schist and metavolcanic rocks that it traverses.

¹Thomas M. Berg and Christine Dodge, *Atlas of Preliminary Geologic Quadrangle Maps of Pennsylvania* (Harrisburg, PA: Pennsylvania Geological Survey, 1981).

Schist is a metamorphic rock of either igneous or sedimentary origin, with a mineral structure arrangement that is highly foliated and platy in appearance. In the Southern Region, the schists are coarse to fine grained; sparkling, gray, greenish-gray, or bluish-green in color, and the dominant minerals are albite, chlorite, muscovite, and quartz.

The term “schistosity” refers to the splitting property of schist rocks in which thin layers readily flake from the foliated rock. Characteristically, the schist formations are moderately resistant to erosive forces and produce a topography that is typified by an undulating landscape with parallel ridges and valleys that, in turn, control and influence the drainage system. Hilltops are rounded and side slopes are steep. Because of its general mixture of agriculture and forest growth, a schist landscape offers varied scenery among many viewsheds. The metavolcanics, which are less resistant to erosion than the schists, are found chiefly in the west-central part of the Region, which is characterized by the highest elevations.

Following is a brief discussion of the components of the Wissahickon formation found in the Southern Region, as well as the Diabase dike. These features are depicted on the *Geology Map*.

Wissahickon Formation - albite-chlorite schists

Albite schist (was1) - This schist is a coarse grained gray to greenish-gray albite schist spangled with muscovite and containing chlorite, garnet and quartz. Garnet is found in much of the schist and has rims of chlorite that resulted from a change in the conditions of metamorphism during which the garnet was replaced by chlorite. Was1 is located in the southeastern corner of the Region.

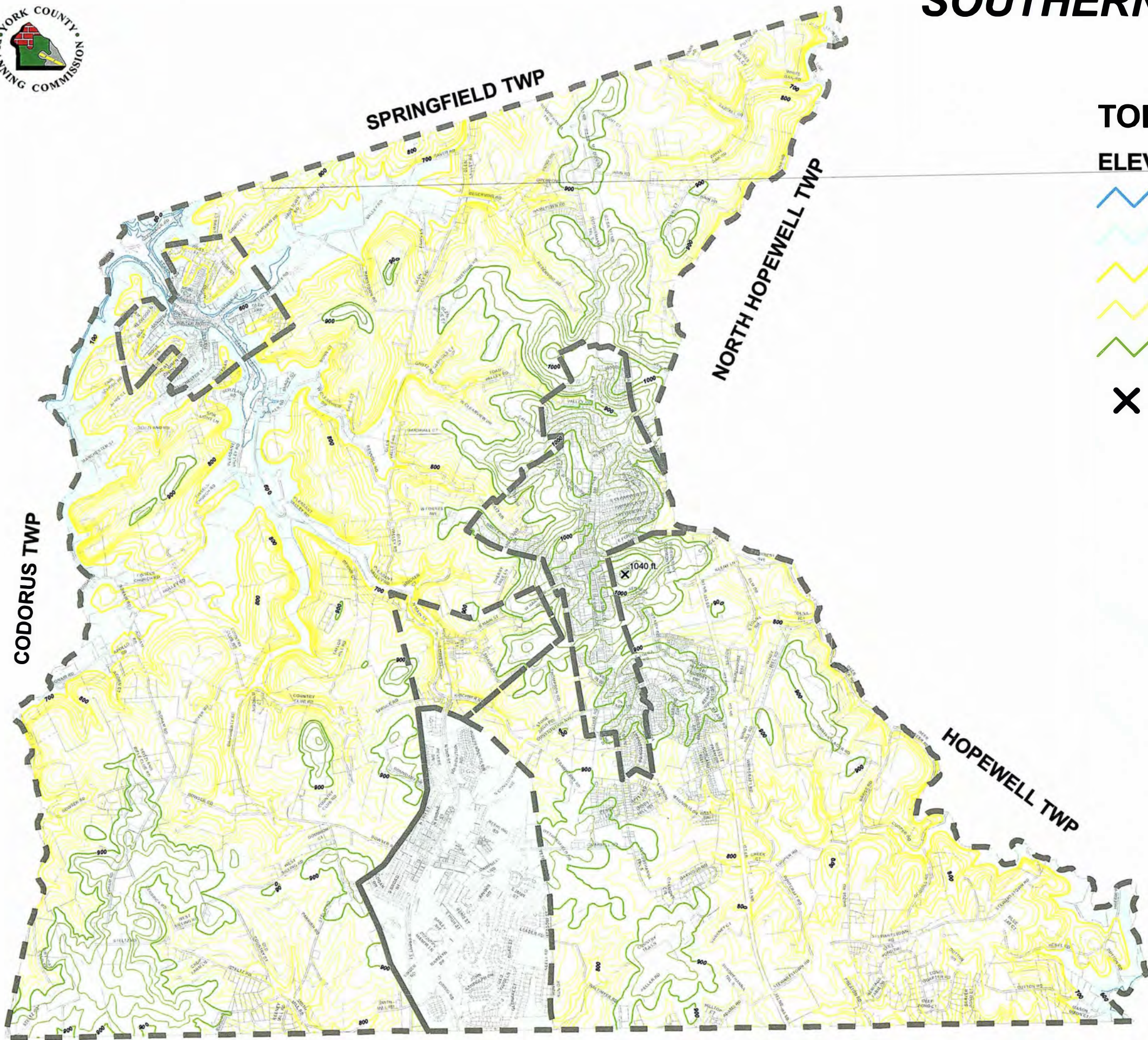
Albite-chlorite schist (was3) - This is a bluish-green schist containing muscovite and quartz. Although the grain size varies, it tends to be coarse-grained in the Southern Region. This type of schist covers most of the Region.

Chlorite-muscovite schist (was4) - This is a bluish-green schist containing quartz. It is fine grained and has a shiny appearance. It is located in several diagonal bands, extending southwest to northeast, throughout the Region. Although was4 is infolded with the was3 albite-chlorite schist, the map shows a generalized separation of the two (2) rocks.

Quartzite (wq) – Quartzite is fine grained and white in color. It does, however, contain some blue or milky quartz grains and muscovite. Quartzite is infolded with albite-chlorite schist and chlorite-muscovite schist and also comes in contact with metabasalt. The map shows a generalized separation of the rocks, with the quartzite shown in three (3) narrow bands in the Region, extending southwest to northeast.



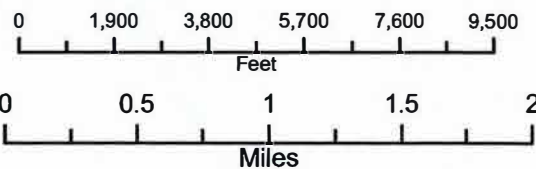
SOUTHERN YORK COUNTY REGION



TOPOGRAPHY

ELEVATION

- 500 - 599ft Contour
- 600 - 699ft Contour
- 700 - 799ft Contour
- 800 - 899ft Contour
- 900 - 1040ft Contour
- Highest Elevation in Region



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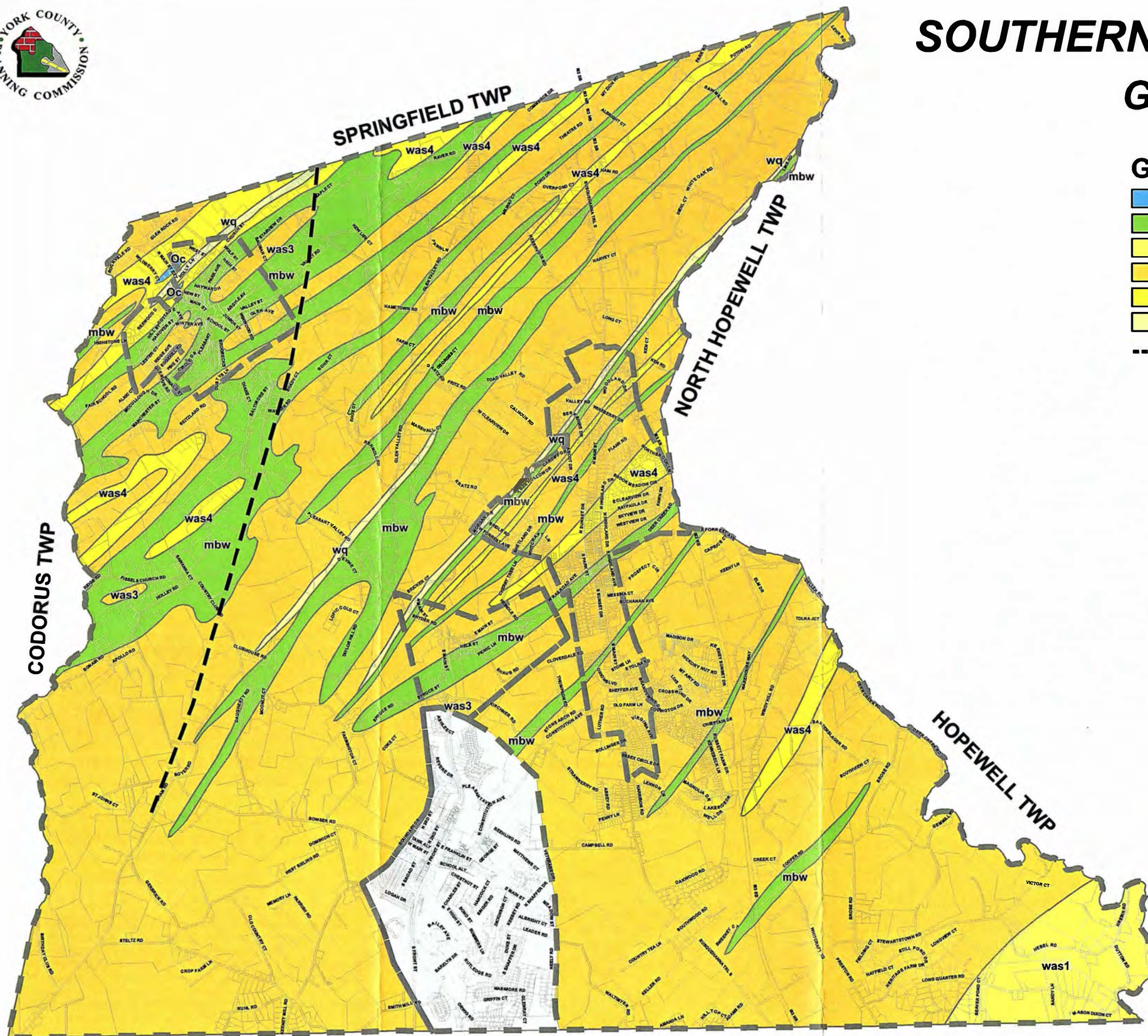
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BALTIMORE COUNTY

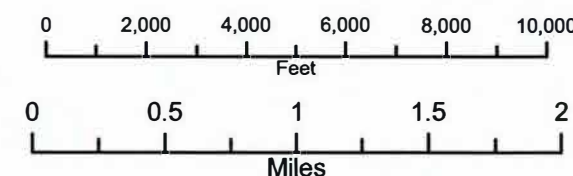


SOUTHERN YORK COUNTY REGION GEOLOGY MAP



Geology

Oc	Conestoga Limestone
mbw	Metabasalt
was1	Albite Schist
was3	Albite-Chlorite Schist
was4	Chlorite-Muscovite Schist
wq	Quartzite
-----	Diabase Dike



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Wissahickon Formation - metavolcanics

Metabasalt - Metabasalt is a green schistose rock composed of albite, uraltic hornblende, and epidote. It also contains veins of quartz and epidote. It occupies areas of the albite-chlorite schist facies and is usually in a valley. The Metabasalt weathers readily to rusty porous blocks that are often used by farmers to make stone walls.

Conestoga Limestone - The Conestoga Limestone in this area of the County has largely weathered to a deep soil full of small residual quartz fragments. The exposed rock is a dark blue impure limestone with some thin black slate and limestone conglomerate. Only two (2) very small areas of the Region (in the northern part of Glen Rock) are underlain with Conestoga Limestone.

Diabase Dike

The diabase of the dike, which traverses the west-central part of Shrewsbury Township, is a fine to medium grained dark gray to black rock. However, as a result of weathering, rounded buff-colored granular sand boulders are formed and these eventually weather to a red clay. Dikes may appear as rocky outcrops of boulders or small ridges. The main components are grayish-green plagioclase, andesine, or labradorite, and green augite. Other minerals that may be present in small amounts include magnetite, apatite, and quartz.

Table 1, on the following page, shows the relationship between the geology of the Region and four (4) important land use planning considerations. Porosity and permeability, ease of excavation, foundation stability, and groundwater availability are integral to the planning of land use activities. This table is intended for reference use only and can be utilized to determine general characteristics of formation types.

The *porosity* and *permeability* of a geologic formation refer to how quickly and easily water, air, and other substances pass through the rock. A classification of low means the rock is essentially impermeable. A classification of moderate refers to a permeability of less than 14 feet per day, while high permeability means that substances may pass through the rock at a rate between 14 and 847 feet per day. The *ease of excavation* refers to how pliable the rock is when moving or drilling it. The classifications range from easy to difficult. *Foundation stability* can be classified as good, fair, or poor. Good foundation stability means that the bearing capacity of the rock is sufficient for the heaviest classes of construction, except where located on intensely fractured zones or solution openings. Fair foundation stability is determined by the location of the water table, type of rock composition, and weathering depth. Poor foundation stability means that foundations must be artificially stabilized to allow sufficient bearing capacity for construction.

<p style="text-align: center;">TABLE 1</p> <p style="text-align: center;">GEOLOGIC FORMATION CHARACTERISTICS</p>					
Formation Name (Composition)	Map Symbol(s)	Porosity & Permeability	Ease of Excavation	Foundation Stability	Groundwater
DIABASE FORMATION (Occurs in PA primarily as dikes & sheets; the dikes are generally 5-100 feet thick & the sheets much thicker; in most places, the rock is dark grey to black, dense & very fine grained; consists of 90-95% labradorite & augite.)	dashed line (- - - -)	Joint openings provide a very low secondary porosity; low permeability.	Difficult; large boulders are a special problem; slow drilling rate.	Good; should be excavated to sound material.	Median yield is 5 gpm; yields are usually obtained from the fractured, weathered zone at the top of bedrock; water levels show strong seasonal influence.
WISSAHICKON FORMATION <u>albite-chlorite schist</u> (Typically a phyllite, composed chiefly of quartz, feldspar, muscovite, & chlorite; estimated thickness is 8,000 to 10,000 feet.)	was1 was3 was4 wq	Joint & cleavage openings provide low secondary porosity; low permeability.	Moderately easy; difficult in un-weathered rock; moderate drilling rate.	Good; should be excavated to sound material.	Median yield is 20 gpm; highest yield can be obtained from fractured, weathered zone at the top of bedrock; water levels show strong seasonal influence; water is usually soft & of good quality; iron can sometimes be a problem.
WISSAHICKON FORMATION <u>metavolcanics</u> (Altered basaltic flows, green, schistose; estimated thickness is 8,000 to 10,000 feet.)	oc mbw	Joint & cleavage openings provide low secondary porosity; low permeability.	Moderately easy; difficult in un-weathered rock; moderate drilling rate.	Good; should be excavated to sound material.	Median yield is 20 gpm; highest yield can be obtained from fractured, weathered zone at the top of bedrock; water levels show strong seasonal influence; water is usually soft & of good quality; iron & sometimes be a problem.

Source: Alan R. Geyer and J. Peter Wilshusen, *Engineering Characteristics of the Rocks of Pennsylvania* (Harrisburg, PA: Pennsylvania Geologic Survey, 1982).

GROUNDWATER

Geology is also a primary determinant of *groundwater quality and quantity*, as shown in the foregoing table. Groundwater is surface water that has seeped into and is contained by underground geological formations called aquifers. Water stored in aquifers is sometimes released to the surface through springs or can be pumped to the surface through wells. Groundwater aquifers are part of an interconnected network that includes surface waters, such as streams, ponds, wetlands, and lakes. Aquifers regulate the levels and flow rates of these surface waters by collecting and retaining water reaching the ground and gradually releasing it during dry periods.

Some of the primary geological determinants of groundwater quality and quantity are the type, structure, permeability, porosity, and chemical composition of the bedrock formations present in the area. An understanding of local groundwater conditions is necessary to (1) plan for future public sewer and water needs, (2) allocate future land uses so as to protect important groundwater recharge areas, and (3) protect existing and potential future groundwater sources from contamination. Certain rock types and structures convey water better and yield more abundant water than others. A typical household with three (3) family members requires an average flow of 0.2 to 0.4 gallons per minute (gpm) with a peak rate of

use ranging between 3 and 5 gpm. In general, the Southern York County Region produces good groundwater yields for on-lot water wells at a median rate of 20 gpm, but fair to poor yields for public water systems.

The purity of groundwater depends on the ability of the soil and rock to filter contaminants from the water, and on the degree to which minerals in the soil and rocks dissolve in water. A wide variety of existing and potential land uses and activities can adversely affect groundwater quality. Higher yielding aquifers tend to be more vulnerable to contamination because of greater geologic porosity and permeability. While the inherent quality of the Region's groundwater is generally good, there is some incidence of groundwater contamination in on-lot wells at scattered locations throughout the Township (see *Chapter XI. Public Utilities*). This contamination is most likely due to malfunctioning on-lot sewage disposal systems, and manure, fertilizer and sludge application to soils.

Groundwater recharge can be promoted through sound storm water management practices, including the preservation of woodlands and natural cover and the minimization of impervious cover. The Region's low area water yields have implications for the ability of public water systems to serve future growth and development. *Chapter XI, Public Utilities*, includes a discussion of alternative water sources for the Region.

Although wellhead protection for individual water supplies is a sound goal, the safeguarding of public groundwater sources is particularly important. This requires the delineation or identification of protected zones around public wells, within which certain existing and potential future land uses and activities should be modified, whether through regulatory or voluntary measures, or a combination of both. One type of protective action could be the adoption of a municipal wellhead protection overlay zone. Shrewsbury Borough has a Wellhead Protection Plan Program that includes wellhead protection zones to protect the wells that supply the Borough's public water supply system. Some of the Borough's wells are located in Shrewsbury Township and the Township has likewise adopted a wellhead protection overlay zone. It is important that these provisions be enforced.

➤ ***Groundwater quantity and quality should be protected through appropriate planning and the modification of land uses and activities that could adversely affect this resource. Established wellhead protection overlay zones in Shrewsbury Borough and Shrewsbury Township should be enforced.***

UNIQUE GEOLOGIC FEATURES

The geology of an area is largely responsible for its natural landscape. Unique geologic formations can produce scenic vistas and places of special interest that provide recreational, scientific and educational opportunities. As such, these areas deserve special consideration and protection. Only one such feature, a cave, has been located within the Region. This is the ***Railroad Rockhouse Cave***, in Shrewsbury Township, which is described in the inset below and depicted on the *Natural Features Map*.

Railroad Rock House

Railroad Rock House appears to occur at the contact of schist and metabasalt. The cavity extends along a small fold in wavy discontinuous layers of rock. Garnets rimmed with chlorite are common in much of this formation. This rock house or cliff shelter is located 1.5 miles south of Glen Rock and an equal distance northeast of Railroad. The entrance, 22 feet wide and 11 feet high, is a conspicuously arched opening in a cliff about 75 yards east of the highway along the South Branch of Codorus Creek. From the entrance a passage eight to 11 feet high and 12 to 20 feet wide extends northeast for 15 feet. Here there is a small alcove on the left and the passage turns east-west for 20 feet. The passage is narrowest at the far end. At this point a tiny crevice at floor level and a shelf high on the wall extend perhaps five feet farther.*

*J. R. Reich, Jr. and Commonwealth of Pennsylvania, Department of Environmental Protection, Bureau of Topographic and Geologic Survey, *Caves of Southeastern Pennsylvania* (Harrisburg, PA: 1974), p. 104.

The Southern York County Region does not possess any known mineral resources. However, the Region's geology has produced abundant pastoral and even rugged settings that are of high scenic value. Fortunately, these scenic settings often coincide with other important natural features (e.g., natural habitats, steep slopes, farmlands and open spaces). The regulatory mechanisms used to protect these specific natural resources can also be used to protect the Region's scenic landscapes.

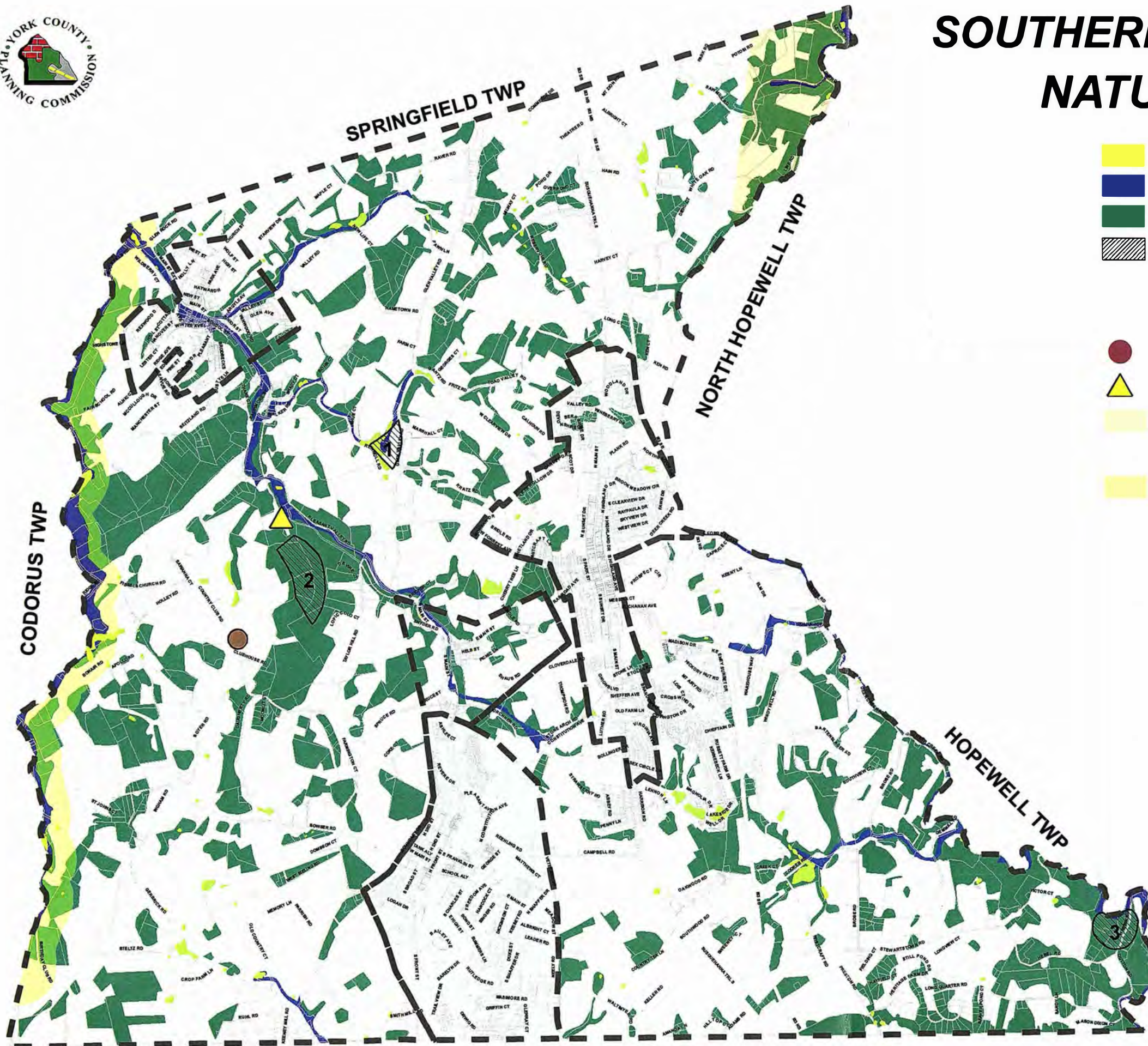
C. SOILS

The constant weathering of geologic formations produces various soil types. The capabilities and constraints exhibited by these soils are related to the geologic characteristics of the underlying rock and the local climatic conditions. A soils analysis is essential to planning for future land uses, which are best located on soils that are suitable and have complementary characteristics for specific land uses. For example, agricultural land uses are usually found where soils are level, well-drained and fertile. Residential land uses are suitably located where soils are fairly level and sufficiently above bedrock and the water table. The appropriate siting of development significantly reduces the costs associated with excavating a foundation, as well as locating and designing an on-lot sewage disposal system. Finally, industrial uses favor soils that are relatively flat and sturdy so as to withstand the heavy weights associated with the operation of large plants.

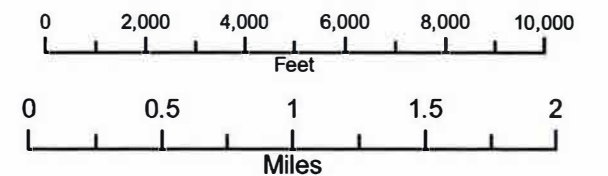
Because of York County's leading position as an agriculturally productive region, the United States Department of Agriculture (USDA), Natural Resources Conservation Service, completed its second soil survey of the County in 1995 and issued an update in 2002. The survey utilizes the best soil classifying and mapping technologies available at that time. Consequently, some soil names and their locations differ from those described in the County's former soil survey, which was issued in 1959. The Southern York County Region is dominated by the ***Manor-Chester-Glenelg*** soil group. This soil group is typically characterized by nearly level to very steep, well-drained soils located on broad ridgetops and side slopes. The illustration below depicts the typical pattern of soils and underlying geologic material in this soil group.



SOUTHERN YORK COUNTY REGION NATURAL FEATURES MAP



- Wetlands (Hydric Soils)
- 100-Year Floodplain
- Woodlands
- Natural Habitat
 1. Seitzland Marsh
 2. Shaffers Hollow
 3. Deer Creek Woods
- Big Tree of Pennsylvania (1 of these)
- Cave Site
- Central County/East Branch Codorus and Reservoir Parks Focus Area
- Codorus Creek South Branch- Southern Greenway Area



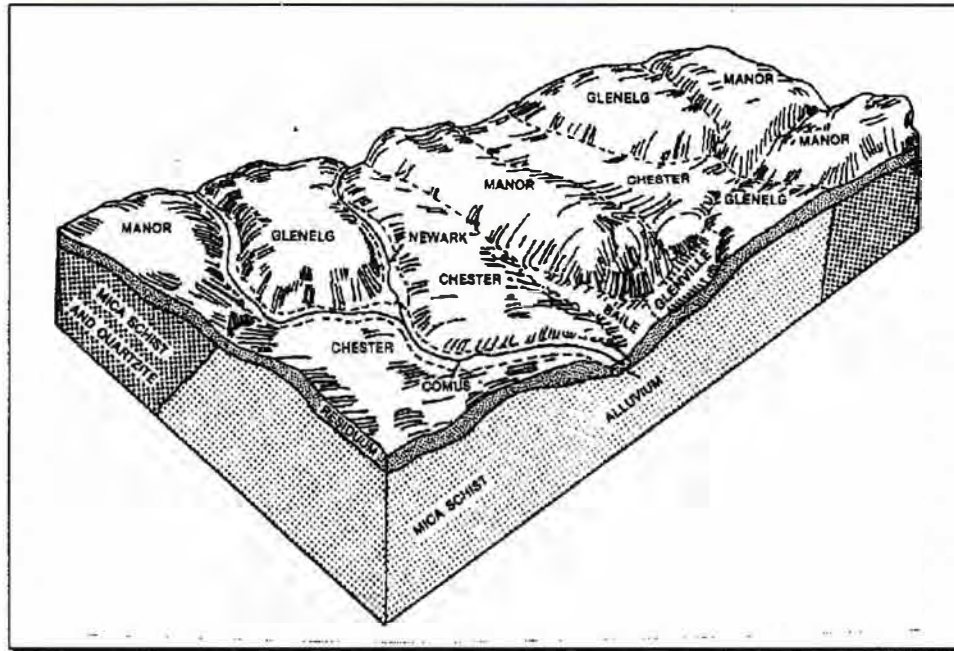
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Map and Data Revised on Jan. 2009

BALTIMORE COUNTY

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The following table lists the soil types found within the Southern York County Region, together with their slopes and agricultural ratings. The location of each soil type is shown on the *Soil Types Map*.

TABLE 2 SOUTHERN YORK COUNTY REGION SOILS			
Soil Symbol	Soil Name	% Slope	Land Capability Classification
Ba	Baile Silt Loam	0-3%	5W
CeB	Chester Silt Loam	3-8%	2E
CeC	Chester Silt Loam	8-15%	3E
Cm	Codorus Silt Loam	-	2W
GbB	Glenelg Channery Silt Loam	3-8%	2E
GbC	Glenelg Channery Silt Loam	8-15%	3E
GbD	Glenelg Channery Silt Loam	15-25%	4E
GdA	Glenville Silt Loam	0-3%	2W
GdB	Glenville Silt Loam	3-8%	2E
Hc	Hatboro Silt Loam	-	3W
MOB	Mt. Airy & Manor Soils	3-8%	3E & 2E
MOC	Mt. Airy & Manor Soils	8-15%	4E & 3E
MOD	Mt. Airy & Manor Soils	15-25%	6E & 4E
MOE	Mt. Airy & Manor Soils	25-35%	7E & 6E
MPD	Mt. Airy & Manor Soils	8-25%	6S
MRF	Mt. Airy & Manor Soils	25-60%	7S
UdB	Urban Land & Chester Complex	0-8%	8S & 2E
UfC	Urban Land & Mt. Airy Complex	8-15%	8S & 4E

Source: Soil Survey of York County, Pennsylvania, 2002

The relatively limited number of soil types within the Region reflects the single geologic formation that underlies the area.

PRIME AGRICULTURAL LAND

The most prevalent land use activity within the Region is agriculture. A major consideration of any soils analysis is the identification of *prime agricultural land*. According to the Pennsylvania Municipalities Planning Code (MPC), Act 247 as amended, prime agricultural land is “*land used for agricultural purposes that contains soils of the first, second or third class as defined by the United States Department of Agriculture (USDA) natural resource and conservation services county soil survey.*” USDA describes prime agricultural land as “*the land that is best suited for producing food, feed, forage, fiber and oilseed crops.*” It possesses the soil quality, growing season and water supply needed to economically produce a sustained high yield of crops when it is treated and managed using acceptable farming methods. Prime farmlands are rich in chemical nutrients, have good permeability to air and water with few rocks, are well-drained but resistant to erosion, and have relatively flat topography. Prime farmlands produce the highest yields with minimal inputs of energy and economic resources, and farming them results in the least damage to the environment. The USDA encourages all levels of government and private individuals to effectively use these valuable resources to meet the nation's food and fiber needs.



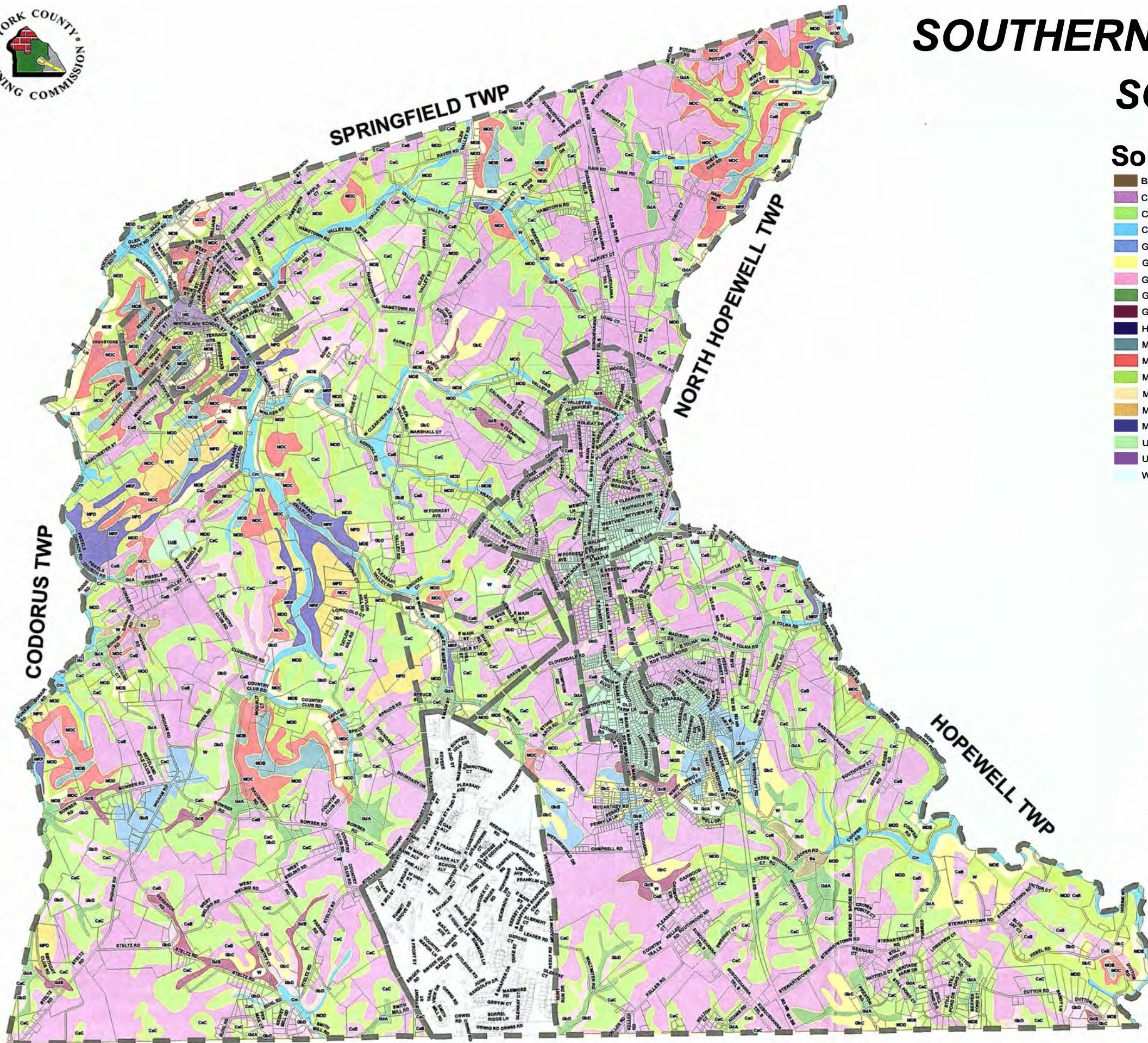
As the *Prime Agricultural Land Map* shows, approximately half of the Region's land area is comprised of Class 2 soils and about another quarter is made up of Class 3 soils. These soils are located primarily in the southern and eastern parts of the Township. The 2002 Soil Survey update resulted in several small areas of previously Class 4 soils being reclassified as Class 3 soils, slightly increasing the proportion of prime agricultural soils in the Region.

Unfortunately, the soils most suitable for agricultural purposes are also those most suitable for development, creating competition between these uses for the prime soils, and resulting in the loss and fragmentation of the most productive farmlands. In an effort to prevent this



SOUTHERN YORK COUNTY REGION

SOILS TYPE MAP



Soil Index

- Ba- BAILE SILT LOAM
- CeB- CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES
- CeC- CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES
- Cm- CODORUS SILT LOAM
- GbB- GLENELG CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES
- GbC- GLENELG CHANNERY SILT LOAM, 8 TO 15 PERCENT SLOPES
- GbD- GLENELG CHANNERY SILT LOAM, 15 TO 25 PERCENT SLOPES
- GdA- GLENVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES
- GdB- GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES
- Hc- HATBORO SILT LOAM
- MOB- MT. AIRY AND MANOR SOILS, 3 TO 8 PERCENT SLOPES
- MOC- MT. AIRY AND MANOR SOILS, 8 TO 15 PERCENT SLOPES
- MOD- MT. AIRY AND MANOR SOILS, 15 TO 25 PERCENT SLOPES
- MOE- MT. AIRY AND MANOR SOILS, 25 TO 35 PERCENT SLOPES
- MPD- MT. AIRY AND MANOR SOILS, 8 TO 25 PERCENT SLOPES, VERY STONY
- MRF- MT. AIRY AND MANOR SOILS, 25 TO 60 PERCENT SLOPES, EXTREMELY STONY
- UdB- URBAN LAND-CHESTER COMPLEX, 0 TO 8 PERCENT SLOPES
- UfC- URBAN LAND - MT. AIRY COMPLEX, 8 TO 15 PERCENT SLOPES
- W- WATER



0 2,100 4,200 6,300 8,400 10,500
Feet

0 0.5 1 1.5 2
Miles

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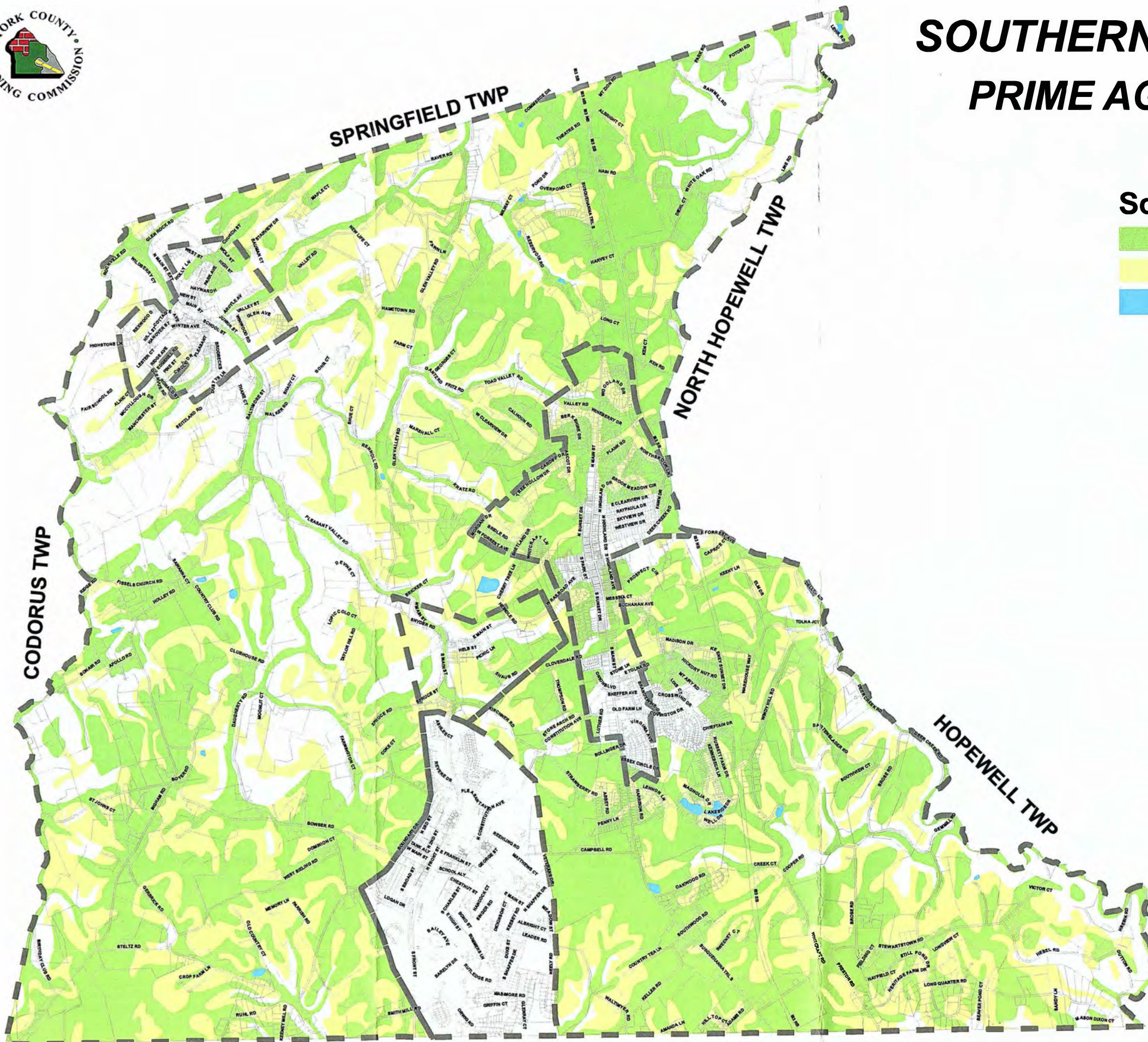
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Map and Data Revised on Jan. 2009

BALTIMORE COUNTY



SOUTHERN YORK COUNTY REGION PRIME AGRICULTURAL LAND MAP



Soils

- Prime Soils (Class 2)
- Prime Soils (Class 3)
- Water



0 2,000 4,000 6,000 8,000 10,000
Feet

0 0.5 1 1.5 2
Miles

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BALTIMORE COUNTY

from occurring in the agricultural areas of Shrewsbury Township, the Board of Supervisors enacted effective agricultural protection zoning, which prohibits development lots in the Agricultural District from being located on prime agricultural land, unless the area was wooded on January 1, 2002, and borders on a public road or the parent parcel consists entirely of prime agricultural land. If a parcel does consist entirely of prime agricultural land, a maximum of three dwelling lots is permitted depending on the size of the parcel. Although Railroad Borough has also implemented agricultural protection zoning, its provisions do not restrict development from locating on prime agricultural land.

➤ *Prime agricultural land in areas designated as Rural should be protected from conversion to other uses through appropriate planning and zoning.*

SOILS WITH DEVELOPMENT CONSTRAINTS

Another important soils consideration relates to those soils that produce constraints for building development and the operation of on-lot utilities. ***Building development constraints*** can include a wide range of soil characteristics, including steep slopes, wetness, depth to bedrock, frost action, shrink-swell, low strength and cohesiveness, and flooding. Other soil-related constraints become important if ***on-site sewage disposal systems*** are contemplated. Constraints associated with the installation and operation of these systems include steep slopes, wetness, flooding, slow percolation rates, poor filtration characteristics, and high secondary porosity due to the presence of fractures and solution channels. It is important to identify and map those soils that possess building development and on-site sewage disposal constraints so that future land uses can be kept away from these environmentally sensitive areas.

The following table lists those soils that, according to the USDA, possess severe development constraints for dwellings (with or without basements), as well as severe constraints for on-lot sewage disposal systems:

TABLE 3			
SOILS WITH SEVERE DEVELOPMENT CONSTRAINTS			
Soil Symbol	Soil Name	Severe Building Development Constraints	Severe On-Lot Sewage Disposal Constraints
Ba	Baile Silt Loam	wetness	wetness; percs slowly
Cm	Codorus Silt Loam	flooding; wetness	flooding; wetness; poor filter
GbD	Glenelg Channery Silt Loam	slope	slope
GdA	Glenville Silt Loam	wetness	wetness; percs slowly
GdB	Glenville Silt Loam	wetness	wetness; percs slowly
Hc	Hatboro Silt Loam	flooding; wetness	flooding; wetness
MOB	Mt. Airy & Manor Soils	Slope (commercial buildings)	depth to rock (Mt. Airy only)
MOC	Mt. Airy & Manor Soils	Slope (commercial buildings)	depth to rock (Mt. Airy only)
MOD	Mt. Airy & Manor Soils	slope	depth to rock; slope (Mt. Airy) slope (Manor)
MOE	Mt. Airy & Manor Soils	slope	depth to rock; slope (Mt. Airy)

TABLE 3 SOILS WITH SEVERE DEVELOPMENT CONSTRAINTS			
Soil Symbol	Soil Name	Severe Building Development Constraints	Severe On-Lot Sewage Disposal Constraints
			slope (Manor)
MPD	Mt. Airy & Manor Soils	slope	depth to rock; slope (Mt. Airy) slope (Manor)
MRF	Mt. Airy & Manor Soils	slope	depth to rock; slope (Mt. Airy) slope (Manor)
UfC	Urban Land-Mt. Airy Complex	Slope (Mt. Airy only) (commercial buildings)	depth to rock (Mt. Airy only)

Source: Soil Survey of York County, Pennsylvania, 2002

The *Soils with Severe Constraints Map* shows areas with severe building constraints and areas with severe on-lot sewer constraints. These areas, for the most part, are concentrated in the Region's steep-sloped and flood-prone areas. Very often, soils that are unsuitable for development are also unsuitable for on-lot sewage disposal systems. Severe soil constraints can sometimes be overcome with a major increase in construction effort, special design or intensive maintenance. However, as a general rule, future development should avoid soils with severe constraints to minimize environmental degradation and the threat to public health, safety and welfare.

➤ *Future planning should avoid development in areas with severe soil constraints or be accompanied by strict site standards in local implementing ordinances.*

D. SURFACE WATERS

The way in which water moves through our environment has implications for land use planning. First, rivers, streams, creeks, runs, and their floodplains present hazards to development. Second, land areas adjacent to surface waters offer high quality habitat, conservation and recreational opportunities. Finally, the drainage basin within which surface waters flow is a basic geographic unit used to plan and design sanitary and storm sewers; systems that can make use of gravity-fed lines can reduce the costs of these types of utilities.

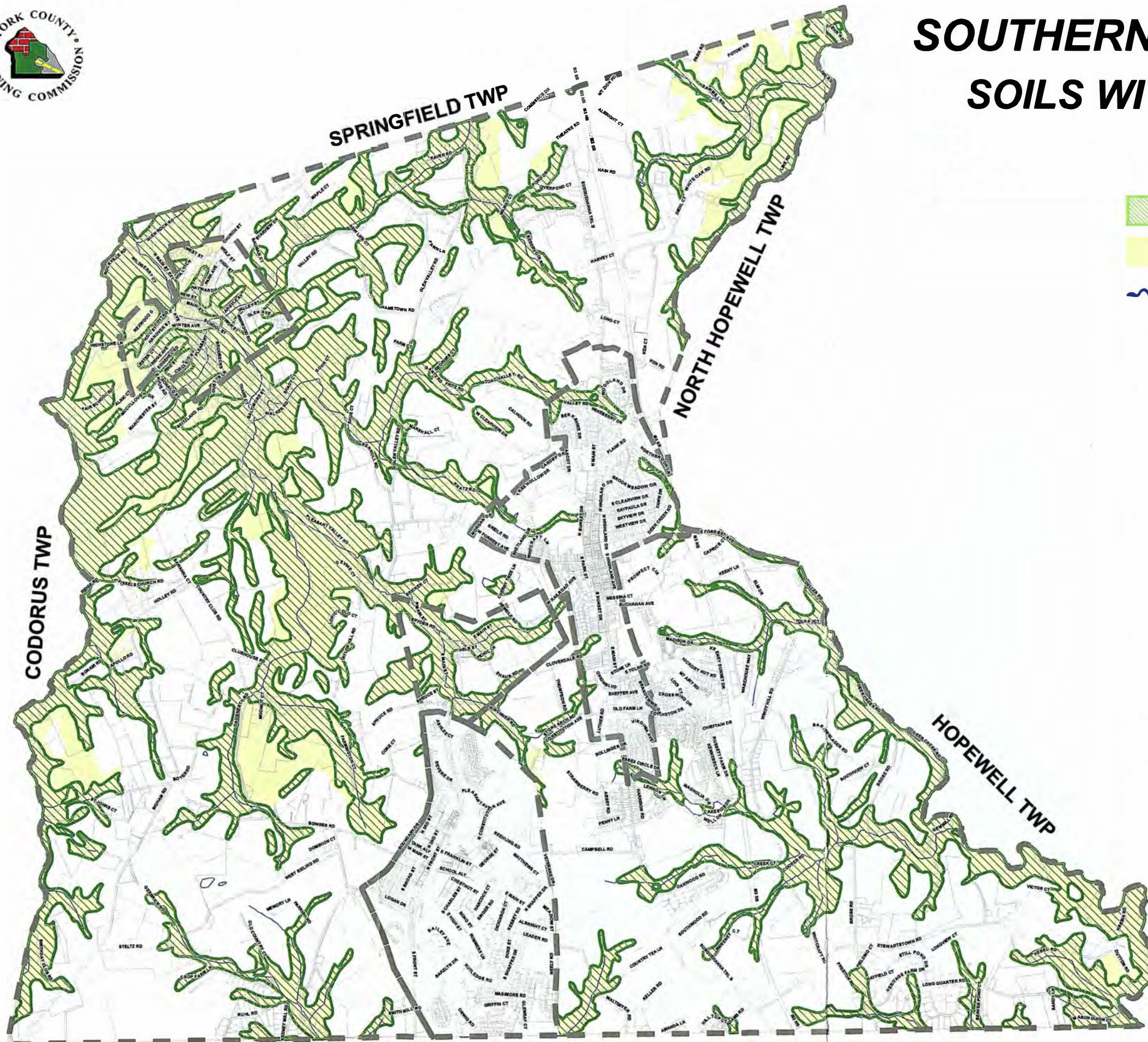
DRAINAGE BASINS

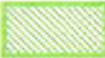
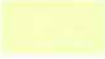

A drainage basin consists of the streams and associated floodplains that dispose of surface water from that area. Drainage basins are separated by ridge lines. Most of the water draining from the Southern York County Region eventually flows into the Susquehanna River, while a small amount eventually flows into the Gunpowder River. Both of these larger watersheds flow into the Chesapeake Bay. The Region's major and minor drainage basins are identified on the *Watershed Map*. It is important to note that the watersheds serve as a public water supply source, thus effective management of these areas, through conservation and protection measures, is critical. Further, the PA Fish and Boat Commission classifies the streams listed on page 29 as streams that support naturally reproducing populations of trout, often referred to as native trout streams. To sustain the native trout populations, the streams must be protected.



SOUTHERN YORK COUNTY REGION

SOILS WITH SEVERE CONSTRAINTS



-  Severe Building Constraints
-  Severe On-Lot Sewer Constraints
-  Streams



0 2,000 4,000 6,000 8,000 10,000
Feet

0 0.5 1 1.5 2
Miles

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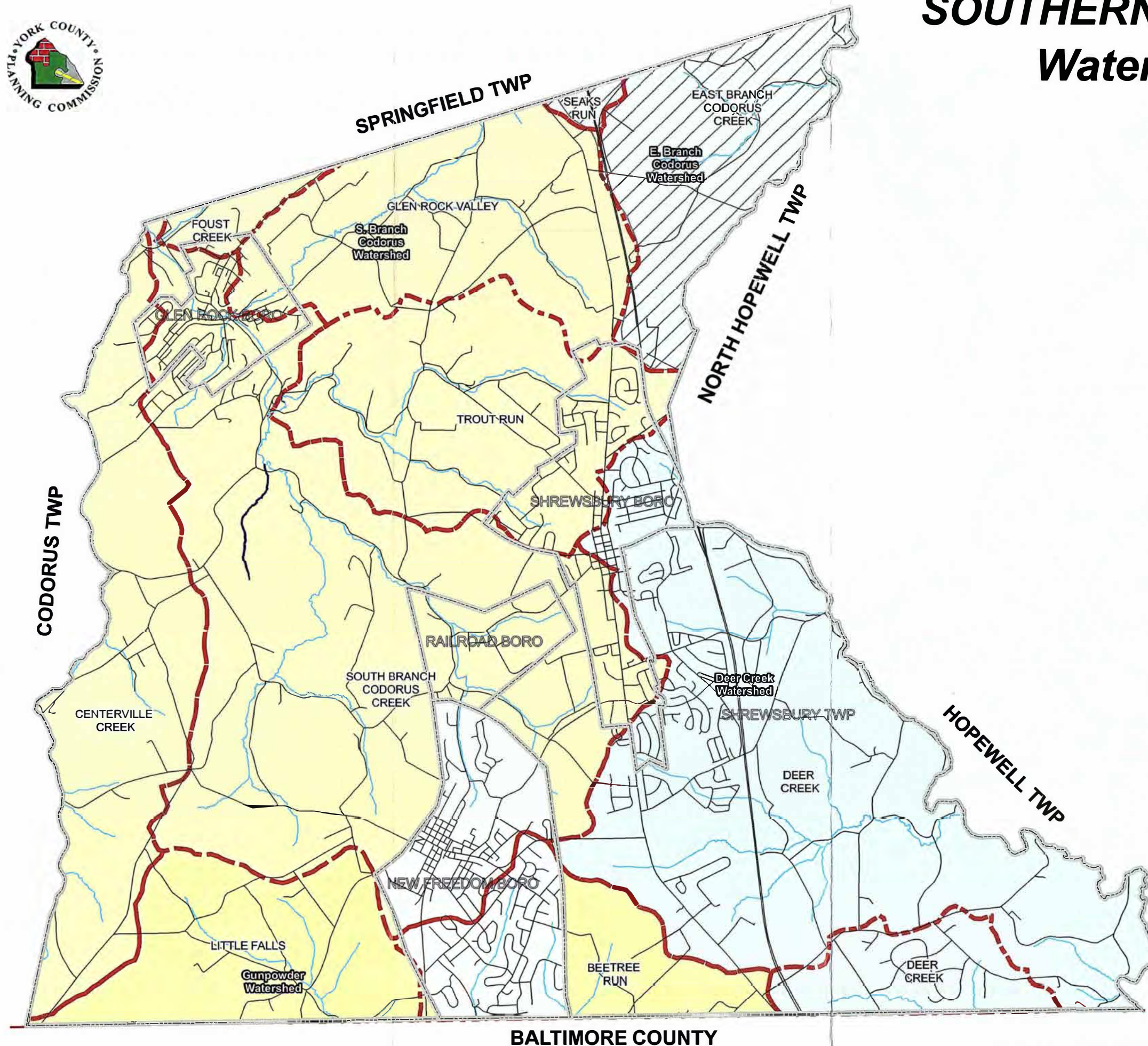
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BALTIMORE COUNTY



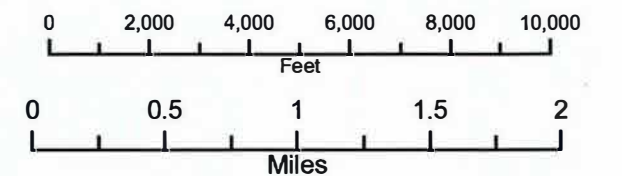
SOUTHERN YORK COUNTY REGION

Watershed Map



Legend

- Municipality Boundary
- Road
- Exceptional Value Stream
- Stream
- Large Watersheds
 - Deer Creek
 - Gunpowder
 - S. Branch Codorus
 - E. Branch Codorus
- High Quality Watershed
- Sub-Watersheds



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Native Trout Streams:

- Deer Creek Watershed: Deer Creek
- East Branch Codorus Watershed: East Branch Codorus Creek
- South Branch Codorus Watershed: Centerville Creek, South Branch Codorus Creek, Trout Run, and an Unnamed Tributary to South Branch Codorus Creek (Shaffer Hollows)

South Branch Codorus Creek is the largest drainage basin in the Region. This creek and its tributaries drain all of Glen Rock and Railroad Boroughs, the western half of Shrewsbury Borough and about two-thirds of Shrewsbury Township to the northwest. The majority of the water flows directly into the South Branch; however, some waters flow into Centerville Creek, Trout Run, and Glen Rock Valley Creek. Water from the South Branch Codorus Creek drainage basin flows north and east to the Susquehanna River.

East Branch Codorus Creek drains the far northeastern corner of the Region. Water from this drainage basin also flows north and east to the Susquehanna River.

Deer Creek and its tributaries drain the eastern half of Shrewsbury Borough and the southeastern portion of the Township. Water from this drainage basin flows southeast to the Susquehanna River.

Gunpowder River and its tributaries drain the southernmost portion of Shrewsbury Township. Water from this drainage basin flows south into Maryland and the Chesapeake Bay.



SPECIAL PROTECTION WATERS

The Federal Water Pollution Control Act of 1972 was passed to “restore and maintain the chemical, physical and biological integrity of the Nation's waters.”² To implement this

²Pennsylvania Department of Environmental Protection, *Local Protection of High Quality Streams* (Harrisburg, PA: June, 1981), p. 1.

Federal mandate, the Pennsylvania Department of Environmental Protection (PA DEP) passed the Pennsylvania Clean Streams Law and designated some 12,500 miles of rivers and streams as “special protection water,” including **Exceptional Value (EV) Waters** and **High Quality (HQ) Waters**. These areas include streams or watersheds that have excellent waters and environmental or other features that require special water quality protection. Classifications can vary within the same stream, depending on the stream reach, and are occasionally reevaluated and changed by the Pennsylvania Environmental Quality Board.

Both EV and HQ Waters exist within Southern York County Region. The PA DEP has identified an **Unnamed Tributary South Branch Codorus Creek** in the central part of the Region, locally referred to as Shaffers Hollow, as EV Waters and the **East Branch Codorus Creek** and its associated watershed in the northeastern corner of the Region as HQ Waters. (See *Watershed Map*)

Benefits of Special Protection Waters

1. Recreational values
2. Fisheries protection
3. Aesthetic/visual
4. Health and welfare

The **Unnamed Tributary South Branch Codorus Creek** is one (1) of two (2) areas in the County designated as EV Waters, the highest level of protection afforded in the State. This designation is only accorded to those bodies of water that meet the most stringent chemical and biological criteria set forth by PA DEP. Within EV Waters, only discharges of equal or better ambient water quality are permitted.

The **East Branch of Codorus Creek** is one (1) of nine (9) areas in the County identified as HQ Waters. These waters are to be protected in the condition as they existed when designated; water quality can only be lowered if a discharge is a result of necessary social and economic development and all existing uses of the stream are protected. The East Branch of Codorus Creek is more specifically classified as a **HQ - Cold Water Fishery (CWF)**. The CWF designation applies to streams that provide for the sustenance of fish, flora and fauna that are indigenous to cold water habitats. In addition, a section of the East Branch Codorus Creek, between the confluence of Rehmyer Hollow Run north to just past the Township line, has been identified by the PA Fish and Boat Commission as a stream with *naturally reproducing trout*.

It is also noted that Shrewsbury Township filed petitions with the PA DEP Environmental Quality Board, notice of which appeared in the November 2004 PA Bulletin, for the upgrade of Deer Creek and Little Falls to either HQ or EV Waters. The petitions are currently being reviewed.

The PA DEP provides a measure of protection to Exceptional Value and High Quality Waters by regulating the discharge of wastewater, and other point sources of pollution. However, non-point source pollution, such as agricultural and other types of runoff, is only partially regulated. Under Pennsylvania law, the regulation of land uses and activities that generate non-point source pollution is largely a municipal function. To avoid degradation of the Unnamed Tributary South Branch Codorus Creek and the East Branch Codorus Creek, as well as to avoid further degradation of the Region's other streams, existing and potential future land uses and activities must be carefully scrutinized.

A local measure that could be adopted to provide water quality protection for the Region's streams is the adoption of a riparian protection partnership program involving the Region's municipalities, the County Conservation District, Penn State Cooperative Extension, Trout Unlimited, private landowners, and others. This program might consist of a mix of educational, assistance and regulatory measures to promote surface water quality protection as identified in the adjacent inset. As a means to implement the 2001 Southern York

Water Quality Protection Measures

1. Riparian buffers
2. Streambank stabilization
3. Streamside fencing
4. Filter strips
5. Conservation plans
6. Development setbacks
7. Limitations on land uses

County Region Comprehensive Plan, Shrewsbury Township incorporated "**Critical Environmental Areas**" provisions into its Zoning Ordinance to protect sensitive or fragile environmental areas from man-related disturbance or alteration. This includes the protection of all watercourses in the Township.

- *Local officials should develop a public/private partnership to protect stream water quality using a combination of educational, assistance and regulatory measures.*
- *Glen Rock and Railroad Boroughs should adopt "Critical Environmental Areas" provisions, such as stream buffers and steep slope provisions that afford protection to watercourses and other natural features.*

WETLANDS

Wetlands are areas that are regularly inundated or saturated long enough to produce the particular types of vegetation associated with *swamps, bogs and marshes*. While there are several definitions of wetlands used by regulatory agencies, all definitions require the presence of hydrophytic plants (plants that grow in wet soils), hydric (wet and anaerobic) soils, and the presence of water at or near the surface at some part of the growing season.

Recently, much attention has been focused upon the importance of wetlands. All wetlands have value, although their value is highly variable. Wetlands support an abundance and diversity of life unrivaled by most types of environments. The many benefits wetlands provide are summarized in the adjacent inset.

Benefits of Wetlands

1. Provide food and habitats for an abundance of animal life.
2. Are breeding, spawning, feeding, cover, and nursery areas for fish.
3. Are important nesting, migrating and wintering areas for waterfowl.
4. Act as natural storage areas during floods and storms.
5. Act as groundwater recharge areas, particularly during droughts.
6. Purify ground and surface waters by filtering and assimilating pollutants.

Wetlands within the Region have been identified using the U.S. Department of the Interior's National Wetlands Inventory, derived from high altitude aerial photograph interpretation of surfacial features commonly associated with wetlands. This inventory tends to identify the larger wetland areas only. These include a combination of scattered palestrine and riverine wetlands. Palestrine wetlands are ponds and small lakes, while riverine wetlands are associated with rivers, streams, runs, creeks, and brooks. The *Natural Features Map* identifies these wetland areas.

The 2002 Soil Survey completed for the County by the USDA Natural Resources Conservation Service identifies hydric soils that can also indicate the presence of wetland areas. Baile Silt Loam (Ba) and Hatboro Silt Loam (Hc) are two (2) such hydric soils within the Region. These soils have been identified on the Natural Features Map as wetland areas.

A variety of laws have been passed to protect wetlands. Infill and development in larger wetlands are now regulated by the U.S. Environmental Protection Agency (EPA) and subject to both State and Federal permitting processes. Careful local planning, education, and the incorporation of protective standards into local subdivision and land development

Wetland Protection Measures

1. Modifications to road maintenance (e.g., salt and de-icing chemicals).
2. Homeowner education (e.g., application of yard chemicals).
3. Development setbacks.
4. Limitations on land uses.
5. Filter strips.
6. Environmental Impact Assessment.

ordinances could extend further protection to the Region's smaller wetlands, as well as to land areas immediately surrounding wetlands. A requirement for an Environmental Impact Assessment (EIA) prior to any subdivision approval could identify potential adverse impacts as well as opportunities and mitigating measures intended to protect the resource. Such additional protection would further enhance the many benefits wetlands provide to the Region. Examples of such efforts could include any of those measures noted in the adjacent inset. Shrewsbury Township has designated wetlands as one of its "*critical environmental areas*" and enacted provisions within its Zoning Ordinance to protect this resource.

➤ *Municipal officials should consider the adoption of various measures to protect the Region's wetlands, including modified road maintenance standards, an EIA requirement, land use and development limitations, and a homeowner educational program.*

FLOODPLAIN PROTECTION

A floodplain is an area of land adjoining a water source, such as a river or stream, which is subject periodically to partial or complete inundation by the water source. The floodplain consists of the *floodway* and the *floodway fringe*. The floodway is the stream channel plus an additional area that must be kept free of encroachments to avoid an increase in flood heights. The floodway fringe is the remaining portion of the floodplain within which encroachments must be limited.

Flooding can result in the loss of life and property, health and safety hazards and significant public expenditures for flood protection and relief. Floodplains also often contain valuable prime farmlands and wildlife habitats. Floodplain protection safeguards the public health, safety and welfare, while protecting natural resource values.

Benefits of Floodplain Protection

1. Protection of life, health and safety.
2. Protection of property.
3. Protection against surface water pollution.
4. Protection against soil, crop and wildlife habitat loss.
5. Reduces/eliminates need for public expenditures.

The Federal Emergency Management Agency (FEMA) has identified flood hazard areas

within the Region. Local governments that regulate development and fill within flood hazard areas qualify to participate in the Federal Flood Insurance Program. **Shrewsbury Borough** has no identified areas of special flood hazard; however, flood hazard areas have been identified for the Region's other three (3) municipalities, all of which are participants in the Federal Program.

Federal floodplain mapping denotes estimated 100-year floodplain boundaries, areas within which there is the probability that flooding will occur once in 100 years. These areas are identified on the *Natural Features Map*. The presence of alluvial soils may also be used to identify additional areas subject to periodic inundation. The 2002 Soil Survey for the County identifies two (2) alluvial soil types for the Region—Codus Silt Loam (Cm) and Hatboro Silt Loam (Hc). The delineation of alluvial soils generally provides wider floodplains than those identified by FEMA; this is an option for increased protection against flooding for the Region's municipalities. The Region's alluvial soils have been depicted on the *Natural Features Map* as wetlands.

Railroad Borough also entered the Program in 1979. According to the Flood Insurance Rate Map prepared for the Borough, lands along the South Branch of Codorus Creek and one of its tributaries are minimally flood-prone. The Borough has adopted a Floodplain Management Ordinance that applies to the areas designated on the Flood Insurance Rate Map.

Glen Rock Borough, which entered the Program in 1981, has also adopted a Floodplain Management Ordinance that applies to its special flood hazard areas identified on its Flood Insurance Rate Map. These areas include lands along the South Branch of Codorus Creek, Glen Rock Valley Run, and another tributary of Codorus Creek.

Shrewsbury Township also entered the Program in 1981. It has adopted floodplain regulations as part of its Zoning Ordinance that are applicable to special flood hazard areas as identified on its Flood Insurance Rate Map. These areas include lands along the South and East Branches of Codorus Creek and tributaries, lands along Deer Creek and its tributaries, and lands along tributaries to the Gunpowder River.

- *Glen Rock Borough, Railroad Borough, and Shrewsbury Township should consider the use of alluvial soils to augment their flood hazard boundaries.*
- *Glen Rock Borough, Railroad Borough, and Shrewsbury Township should continue to apply their flood hazard map and regulations to any proposed development or fill within its identified flood hazard areas.*

STORMWATER MANAGEMENT

One of the most frequently described planning problems is the impact from stormwater runoff. As an area develops, the patterns, volume and velocities of stormwater runoff are likely to change. These changes can create severe impacts on downstream properties that were not anticipated by area inhabitants. Stormwater runoff can and should be managed. The benefits of stormwater management are summarized in the adjacent inset.

Benefits of Stormwater Management

1. Reduces off-site and downstream flooding.
2. Reduces soil erosion and loss.
3. Protects surface water quality.

Pennsylvania Stormwater Management Act 167, which is administered by PA DEP, requires all Pennsylvania counties to prepare and adopt stormwater management plans for each drainage basin within the County. The plans are to provide for uniform standards and criteria throughout a drainage basin for the management of stormwater.

For purposes of Act 167, there are four (4) watersheds in the Region: South Branch Codorus Creek, East Branch Codorus Creek, Deer Creek, and Gunpowder River. To date, only the South Branch Codorus Creek watershed has a completed Act 167 Plan; an update to this Plan are underway. Phase I of a Stormwater Management Plan for the East Branch Codorus Creek watershed, which only includes the northeastern corner of Shrewsbury Township, has been completed by the York County Planning Commission (YCPC). Phase II was initiated in early 2008. At present, there is no scheduled date to initiate Act 167 planning for the Deer Creek and Gunpowder River Watersheds, as the portion of these watersheds that falls within York County is relatively small.

Each municipality has adopted a Stormwater Management Ordinance to implement the current South Branch Codorus Stormwater Management Plan. Revisions to these Ordinances may be needed upon completion of updated the Plan. In addition, when Plans for the remaining watersheds in the Region are completed, all municipalities will need to review and adjust their stormwater management provisions based on the recommendations of the applicable Act 167 Stormwater Management Plan(s).

With regard to the South Branch Codorus Creek watershed, which encompasses all or part of all of the municipalities in the Region, the Plan recommends different post-development peak flows in various subbasins of the watershed. While the Plan allows much of the agricultural landscape of the Region to have post-development peak flows of 100% that of pre-development conditions, areas around Glen Rock are limited to an 80% release rate. The most limited post-development release rates within the Region occur between "downtown" Shrewsbury and Railroad Boroughs, and an area of northeast Shrewsbury Township extending from Hametown to Glen Rock Borough; here, post-development flow rates cannot exceed 70% pre-development peak flows. The Plan's Best Management Practices (BMP's) maintain surface and groundwater quality, as well as control storm water flows. Such practices, summarized in the following table, emphasize natural over structural solutions wherever possible, and are based on the ability of the soil and vegetation to filter pollutants and promote groundwater recharge.

Storm Water Management BMP Measures

1. Minimize impervious surface areas.
2. Utilize pervious surfaces, such as porous pavement and gravel.
3. Minimize directly connected impervious areas and direct impervious area runoff to pervious areas, such as:
 - roof downspouts to lawns
 - driveways to lawns
 - parking areas to lawns or grassed swales
4. Preserve natural wooded cover, riparian vegetation and drainageways on-site.
5. Minimize the potential for concentrating pollutants in storm water runoff by:
 - utilizing grass swales and filter strips
 - utilizing infiltration trenches where applicable
6. Eliminate the opportunity for pollutants to mix with storm water runoff by:
 - street sweeping
 - covering and diking chemical storage areas
 - regularly removing sediment from drainage systems
7. Direct outfall locations of detention basins through an effective riparian buffer that will dissipate flow and remove harmful pollutants.

Source: South Branch Codorus Creek Stormwater Management Plan

- *To maintain surface and groundwater quality, all of the Region's municipalities should consider the incorporation of Best Management Practices into their stormwater management regulations, emphasizing natural over structural solutions wherever possible.*
- *All municipalities should review and adjust their stormwater management provisions based on the recommendations of the applicable Act 167 Stormwater Management Plan(s), as they are completed.*

E. IMPORTANT PLANT AND WILDLIFE HABITATS

As an area is converted from its natural to man-made state, the delicate balance of the local ecosystem is often disrupted. This imbalance degrades or strains the environment's ability to support varied forms of plant and animal species. Consequently, species become *threatened* or *endangered*.

State and Federal agencies have become increasingly concerned over the protection of local natural habitats as a means of protecting wildlife diversity. The protection of these habitats can also provide other

Benefits of Habitat Protection

1. Protection of plant and wildlife diversity.
2. Protection of threatened and endangered species.
3. Protection of woodlands and linear corridors.
4. Provision of passive recreation opportunities.

benefits, as summarized in the adjacent inset. For these reasons, all levels of government and other conservation-oriented groups have become involved in the protection of these habitats.

NATURAL AREAS

Information for this section was obtained from the *Natural Areas Inventory* component of the *York County Comprehensive Plan*, a document compiled and written by the Pennsylvania Science Office of the Nature Conservancy in 1996 and updated in 2004. In turn, this document draws heavily from the Pennsylvania Natural Diversity Inventory (PNDI) data base. This agency conducts an ongoing process that cumulatively updates and refines data regarding rare, threatened and endangered species and natural features/areas of the highest quality. This inventory uses some 800 sources of information to map, describe and disseminate facts about important natural features.



It is the policy of the PNDI not to release detailed site specific information about significant natural features for general exposure to the public. This protects the feature from persons who become curious and attempt to locate and collect such features. Instead, PNDI provides generalized locations of known or historic natural features occurrences.

Using PNDI's criteria, the Natural Areas Inventory identified one (1) site within Shrewsbury Township (Deer Creek Woods) as a ***Statewide significant natural habitat***. In addition, two (2) other areas in the Township (Seitzland Marsh and Shaffers Hollow) were identified as ***locally significant sites***. (See *Natural Features Map*). Sites of Statewide importance support species of special concern or exemplary natural communities; while sites of local importance provide locally significant habitat and may be suitable for environmental education, parks or nature preserves.

Natural Areas

Deer Creek Woods, is a Statewide significant site, located in the southeast corner of the Township near Deer Creek. It consists of a successional hardwood forest with a canopy dominated by big-tooth aspen and lesser amounts of hickory and red maple. The forest supports a low quality occurrence of umbrella magnolia, a PA-Threatened plant species. Although there are no immediate threats to this occurrence, the maintenance of forest cover will help the plant population persist at this site.

Seitzland Marsh is a highly significant local site along Trout Run in the north central portion of Shrewsbury Township. Consisting of neglected marsh on a gradually sloping seepy floodplain, it is dominated by tussock sedge. In addition to being a good habitat for reptiles and amphibians, this site represents the largest sedge (grassy) marsh in all of York County.

Natural Areas

Shaffers Hollow is a medium ranking locally significant site of rich mesic forest. Located in a stream ravine along a tributary of the South Branch of Codorus Creek in the central portion of Shrewsbury Township, the site supports a high diversity of plant and animal species. The canopy is dominated by tulip poplar, with lesser amounts of white ash, red oak, and flowering dogwood, while the shrub layer is dominated by spicebush and witch hazel. The exceptionally rich herb layer consists of dozens of species, several of which are found at only one or two other sites in the County. Further, this site is an excellent habitat for both migrating and nesting bird species. Preventing further disturbance to the forested condition of this site will help maintain the rich diversity found here.

Rare and endangered plant and animal species must be preserved and protected from indiscriminate development by using development review procedures intended to conserve habitats in which these species occur. A requirement for an Environmental Impact Assessment (EIA) prior to any subdivision or land development approval could identify potential adverse impacts as well as opportunities and mitigating measures intended to protect these areas. Shrewsbury Township currently requires an EIA to be submitted in conjunction with all subdivision and land development plans.

Natural Areas Protection Measures

1. Create buffer zones to protect significant habitats.
2. Modifications to road maintenance (e.g. snow and ice removal; salt and de-icing chemicals).
3. Limitations on land use.
4. Homeowner education (e.g. application of yard chemicals/removing plants).
5. Environmental Impact Assessment (EIA).

➤ ***Township officials should consider the adoption of various measures to protect the Region's natural areas, including buffer zones, modified road maintenance standards, an EIA requirement, land use and development limitations, and a homeowner educational program.***

WOODLANDS

Woodlands comprise approximately 20% of the land area within the Southern York County Region. While most of the Region's woodlands are scattered across the Township, there is a concentration in the steeper-sloped areas of the Township's west-central portion, and along the major stream corridors. Areas of significant woodland cover are identified on the *Natural Features Map*.

Recent amendments to the Pennsylvania Municipalities Planning Code (PA MPC) specifically enable local governments to protect significant woodland areas by preventing extensive development in those areas and/or engaging development review procedures that conserve these important natural features. Two (2) municipalities in the Region, Shrewsbury Borough and Shrewsbury Township, have adopted regulations to protect woodlands to varying degrees.

Benefits of Woodlands Protection

1. Slows erosion by stabilizing steep slopes and stream banks through extensive root systems.
2. Aids in storm water management and replenishment of aquifers by promoting groundwater recharge.
3. Aids in purifying groundwater by filtering runoff and reducing sediment wash caused by erosion.
4. Provides important wildlife habitat areas, particularly when large, unbroken areas of forest cover or linkages to other blocks of woodland can be maintained.
5. Offers excellent passive recreation opportunities, such as hiking, horseback riding, photography, hunting, and camping.
6. Helps reduce the level of air pollution by absorbing airborne pollutants and producing beneficial carbon dioxide.

Shrewsbury Borough requires that at least 15% of existing trees in proposed subdivisions or land developments be maintained or replaced. **Shrewsbury Township**, on the other hand, requires the preservation of trees, which includes partially or completely wooded areas; isolated clusters of native, overstory trees, and individual, isolated, native, overstory trees of a designated size, in all proposed subdivisions and land developments. In the case of large parcels, where land is proposed to be subdivided or developed for structures on “wooded” lots 20,000 square feet or larger, a building envelope not exceeding 14,000 contiguous square feet must be designated. All woodlands located outside the building envelope shall be classified as a “Tree Preservation Area” and maintained as a woodland at all times. On “wooded” lots of less than 20,000 square feet, a minimum of 20% of a residential lot must be retained as woodland and a minimum of 15% of commercial, institutional and industrial lots must be retained as woodland. Furthermore, Shrewsbury Township’s Zoning Ordinance requires that lands located within a *Critical Environmental Area* (lakes, ponds, watercourses, springs, seeps, 100 year floodplains, wetlands, buffer areas and steep slopes) be maintained in forest or other vegetation at all times.

The Glen Rock and Railroad Boroughs should consider the adoption of protective measures for woodlands, while Shrewsbury Borough should consider improving its existing provisions. Provisions such as limiting the removal

Woodland Protection Measures

1. Tree removal setbacks adjacent to streams.
2. Tree removal limitations in steep-sloped areas and in and near Natural Areas.
3. Maintenance of wildlife corridors.

of trees adjacent to streams, in steep sloped areas, and in or adjacent to identified Natural Areas, should be given consideration. In addition, developers, as well as woodlot managers, should be encouraged to maintain established wildlife corridors in the form of linkages to other wooded areas.

The PA MPC amendments also added provisions whereby municipalities must permit forestry activities, including but not limited to timber harvesting, as a use by right in all zoning districts for the purpose of encouraging maintenance and management of forested or wooded land as a sound and economically viable use of land. Although forestry activities must be permitted by right, municipalities can enact regulations to promote good forest stewardship, protect the rights of adjoining property owners, and minimize the potential for

adverse environmental impacts. The Penn State School of Forest Resources has developed “*Pennsylvania Model Forestry Regulations*,” which are intended to address the needs and concerns of local residents, as well as the forestry landowners and the forest industry. Shrewsbury Township is the only municipality in the Region that sets forth provisions to regulate forestry activities in its Zoning Ordinance.

- *Municipal officials, as applicable, should consider the adoption of zoning and subdivision and land development standards limiting the removal of trees in sensitive areas and encouraging the preservation of wildlife corridors.*
- *Where applicable, municipal officials should review the Pennsylvania Model Forestry Regulations and consult with professional foresters in the development of, or revision to, any provisions regulating forestry activities.*

BIG TREES OF PENNSYLVANIA

When assessing the natural features of an area, trees warrant special consideration. Apart from their obvious aesthetic appeal, trees offer such practical benefits as shade from solar radiation, wind reduction, noise abatement, air pollution mitigation, and an environment for wildlife. However, the trees discussed in this section transcend a simple summation of attributes. They are natural phenomena and should be protected as such.

Big Trees of Pennsylvania, compiled by a Pennsylvania Bureau of Forestry-sponsored committee, is a registry reserved for the largest member of every species of tree found in Pennsylvania. When assessing the size of a tree, *Big Trees of Pennsylvania* measures the circumference of the trunk, the height of the tree, and the average crown spread.³ Using this criteria, one (1) tree in the Southern York County Region was judged to be the largest of their species. (See *Natural Features Map*).

A *Yellow buckeye* (*Aesculus octandra*), located on the east side of Country Club Road in Shrewsbury Township, approximately one-half (1/2) mile south of Susquehannock High School, was officially recognized in 1988. This specimen is a towering 80 feet tall, with a circumference of 17 3/4 feet.

Although this tree is located on private property, the Township should take special care to ensure that future development does not threaten the visual characteristics of the tree or its underground root system. Champion trees such as this, the elite of their species, often have endured through several centuries. Such an accomplishment should not be jeopardized by insensitive road development or other improvements.

F. FOCUS AREAS AND GREENWAYS

The Open Space and Greenways Plan component of the York County Comprehensive Plan identifies focus areas and greenways that highlight large, connected, and contiguous areas where open space conservation would have the highest value. Features that were considered

³Maurice Hobaugh, Ed., *Big Trees of Pennsylvania*, (Mechanicsburg, PA: 1993), p. 7.

in the focus area delineations include unique features/scenic geology, natural areas, named streams, lakes, reservoirs, prime agricultural soils, 100-year floodplains, steep slopes (>25%), wetlands, forested areas, important birding areas, wellhead protection areas, and hydric soils. Greenways, on the other hand, predominantly follow streams and creeks, and are areas rich in natural resources and deemed important in terms of conservation.

With regard to the Southern York County Region, a small portion of *Central County/East Branch Codorus and Reservoir Parks Focus Area* extends into Shrewsbury Township. The East Branch Codorus, which is a high quality cold water fishery, forms the spine of the focus area. Other features of importance include woodlands, wetlands, 100-year floodplains, prime agricultural soils, and protected lands within Spring Valley County Park. (See *Natural Features Map*).

Additionally, the *Codorus Creek South Branch – Southern Greenway*, which begins in the vicinity of Glen Rock Borough near the Heritage Rail Trail County Park and extends southward almost to the Maryland line, is located partially in Shrewsbury Township. It runs along the Codorus Creek South Branch, which is a trout stocked stream, and includes the adjacent floodplains and wetlands. (See *Natural Features Map*).

➤ *Township officials should continue to enforce the critical environmental area provisions in its Zoning Ordinance and consider requiring the protection of the focus area and greenway to be addressed as part of any Environmental Impact Assessment (EIA), when applicable.*

G. HISTORICAL SKETCH

The Southern York County Region possesses a rich historical heritage. Within the Region, each municipality has its own unique history, which has contributed to the historic evolution of the Region as a whole, as well as that of York County. The following is a brief description of the historic development of each municipality within the Region.

Shrewsbury Township was one of the first townships established west of the Susquehanna River. Created by the General Assembly in 1739, it originally included all of the area that is now Shrewsbury, Hopewell and Springfield Townships. The earliest settlers were English and Scots-Irish, who were attracted to the area because of the excellence of the soil. A further attraction was the Potocas Trail, running north to south, providing access for the movement of goods and crops in and out of the area. Many of the early inhabitants of the southern part of the Township settled there on Maryland land grants and there were many boundary disputes prior to the establishment of the Mason-Dixon line in 1767. The English and Scots-Irish began to leave the area in the early 1740s and were replaced by an influx of German settlers. The great majority of the Township's residents until recently have been farmers. The Township's population, relatively stable until the 1970s, has surged since the completion of I-83, and the continuing migration of Baltimore County, Maryland, residents to the area.

Shrewsbury Borough developed as a center of activity at its location along the old Baltimore and York Turnpike, earlier known as the Joppa Road and Potocas Trail. Originally laid out in 1794, the community during its early development was known as Strasburg, which is the

German name for “a village by the road.” In 1834, the village was incorporated as Shrewsbury Borough. By this date, the community had evolved into the commercial center of southern York County. The Borough’s population remained fairly stable for many decades until the completion of I-83 brought an influx of new residents to the area, which continues. Today, Shrewsbury Borough has a wide variety of commercial enterprises but may be considered primarily a bedroom community.

Glen Rock Borough traces its roots to the construction of the Northern Central Railroad, which soon attracted industry to the growing community. Located along the south branch of Codorus Creek, the Borough supported a wide variety of early industry, including woolen, flour and planing mills; an iron foundry; and cigar, carriage, harness, and rope factories. Industry and commerce located in the center of town, while residential development clustered around it up into the surrounding hills. The Borough was officially incorporated in 1859. The loss of rail service in the 1970s and lack of good access to major roads adversely impacted the Borough’s economy. Today, Glen Rock’s population remains stable.

Railroad Borough, nestled in the hills that surround it along the South Branch of Codorus Creek, was since 1792 the site of various mills, including grist mills, a bark mill, a flax mill, and a brick mill, as well as a successful tannery, furniture company and other early businesses. From the completion of the Northern Central Railway through the community in 1838, Railroad was also for many years an important freight depot. The Borough was officially incorporated in 1871. Today, Railroad is a small stable community of residents and a few small businesses.

H. HISTORIC SITES

The cultural heritage of the Southern York County Region is evident in the many older individual buildings, structures, and sites throughout the Region. Local officials and residents recognize the value of conservation, rehabilitation, restoration, and adaptive reuse of these historic features as a means of providing a glimpse into the Region’s important past. Additionally, historic preservation can provide educational opportunities regarding historic life and architectural styles. Well-maintained historic sites and areas can create a sense of unique identity and stimulate civic pride, and economic vitality and tourism opportunities.

To identify the locations and significance of historic resources within the Region, comprehensive surveys undertaken by Historic York, Inc., were utilized. The surveys provide information on all historic sites 50 years of age or older and include descriptive data such as significance, level of historic integrity, and condition. Glen Rock, Railroad and Shrewsbury Boroughs were originally surveyed in the early 1980s, followed by a resurvey in 1998. Shrewsbury Township was surveyed in 1987 and this is the most recent data available. With regard to the resurveys, it was noted that each of the Boroughs had retained their historic integrity and 19th century streetscape. The Historic York, Inc. survey data is included as Appendix A.

Since the completion of the original surveys by Historic York, Inc., seven (7) individual sites have been listed on the National Register and one (1) site has been determined to be eligible for the National Register. These sites are described in the table below.

TABLE 4 NATIONAL REGISTER LISTED/ELIGIBLE SITES				
Municipality	Site	General Location	Listed / Eligible	Date
Glen Rock Borough	Liberty Manufacturing Co.	47 Baltimore Street	Eligible	12/07/1990
Shrewsbury Borough	Shrewsbury Railroad Station	Stewartstown Railroad (Main Street)	Listed	05/04/1995
Shrewsbury Township	Bridge 182 & 42, Northern Central Railway	SR 616, .6 mile s of Seitzland	Listed	05/04/1995
Shrewsbury Township	Bridge 634, Northern Central Railway	400' sw of SR 616, nw of Taylor Hill Road	Listed	05/04/1995
Shrewsbury Township	Deer Creek Bridge, Stewartstown Railroad	S of SR 851, near Deer Creek Road	Listed	05/04/1995
Shrewsbury Township	Stone Arch Road Bridge, Stewartstown Railroad	Stewartstown Railroad tracks over Stone Arch Road	Listed	05/04/1995
Shrewsbury Township	Fissels School	Fissels Road @ Susquehannock High School	Listed	10/24/1997

Source: PA Historical Museum Commission

In addition, there are **three (3) National Register Historic Districts within the Region**. These include the **Glen Rock Borough Historic District** (listed 1997), **Railroad Borough Historic District** (listed 1984), and **Shrewsbury Borough Historic District** (listed 1984).; all of which are depicted on the *Cultural Facilities Map*. The Historic York, Inc., survey data, included as Appendix A, denotes sites within the historic districts and sites outside the districts. Listing on the National Register, which is the nation's inventory of historic resources, confers tax advantages for income-producing properties, and other benefits, but does not, by itself, restrict property owners. Listing is dependent upon majority approval of landowners within a proposed area.



The PA MPC requires that municipal zoning ordinances contain provisions to protect historic resources. However, none of the Region's municipalities has any specific historic preservation measures in place. Shrewsbury Township's Subdivision and Land Development Ordinance (2005) simply states that the owner/developer shall be responsible for contacting PHMC to verify any historical features of historical significance existing on the site. If historical significance is documented, the Township may require the subdivision or land development plan to be reviewed by PHMC. Glen Rock and Railroad Boroughs both have a general provision in their Subdivision and Land Development Ordinance to the effect that all historic features shall be maintained/preserved on the basis of Borough determination.

Act 167, the Historic District Act (1961), enables local governments to regulate the alteration, restoration, demolition or erection of structures within designated local historic districts. Such districts should consist of an area with a significant concentration of historic structures as identified by an inventory and might overlap or entirely include National Register Districts. Proposed local historic districts must be approved by the PHMC and a Historic Architectural Review Board (HARB) must be established to provide guidance to governing body decisions on proposed actions within these areas.

Municipalities following this path should then adopt local historic preservation ordinances that contain suitable historical review standards addressing proposed demolitions, alterations and removals of structures, as well as assuring the architectural and historic compatibility of new development with the existing character of the District.

In municipalities where an Act 167 historic district is not feasible, an historic overlay zoning district should be considered. The overlay could include individual sites, as well as clusters of sites, provided that the historic resources were documented and identified on a map or in a report such as the inventory included in this Plan.. Common historic overlay district provisions include requirements that new buildings be similar in type and scale to existing buildings and that setbacks replicate the existing building line, plus incentives to discourage demolition. Consideration should be given to establishing an historic district commission or committee to advise the governing body on these matters. Other opportunities for the protection of historic structures include the adoption of incentives in both the zoning and subdivision and land development ordinances for the adaptive reuse of buildings rather than their demolition.

- *In an effort to address the requirements of the PA MPC and the Region's goal of promoting the protection and adaptive reuse of historic structures as alternatives to major alteration that eliminates historic features or demolition, interested municipalities could pursue the creation of a local historic protection district. This could involve the establishment of a HARB or a Historic District Commission/Committee and the adoption of local historic preservation ordinances with suitable historic review standards.*
- *Communities interested in promoting the protection of historic structures should also consider the adoption of zoning and subdivision and land development standards that create incentives for the adaptive reuse of historic buildings, rather than their demolition.*

I. ARCHAEOLOGICAL RESOURCES

Like historic sites, archaeological resources provide a glimpse into an area's distant past. Prehistoric archaeology refers to times before local historic records were kept, or prehistoric times. Archaeological resources can provide valuable artifacts and remains, or simply information that can assist in the identification, dating and understanding of cultures. Many times archaeological sites are surveyed merely to verify the presence of a culture at that location, rather than to protect an area or gather artifacts. Such sites might then provide interesting themes for local conservation areas. To identify important archaeological resources, information was obtained from the PHMC, Division of Archaeology and Protection.

CULTURAL PERIODS

There are numerous recorded prehistoric and historic American Indian sites in York County. Thus, it ranks among the richest archaeological areas in the eastern United States. These numerous sites represent all cultural periods. A site is defined as any place of aboriginal use. A site may be a village, a camp, a quarry for obtaining stone for tools, a rock shelter, a burial site, butchering, or kill sites, etc.

Paleo-indian sites are the rarest type known in Pennsylvania, numbering only around 230 for the entire State. Many of these sites consist of isolated surface finds of distinctive fluted projectile points that characterize paleo-indian populations. These sites represent the evidence of the first human inhabitants and date before 8000 B.C.

The Archaic period, lasting in this area from about 8000 B.C. to 1000 B.C., is a period of population increase and diversification in response to changing environmental conditions. The knowledge of the distribution and form of Archaic sites in this heavily populated area is very important to an understanding of changing adaptations. Many varieties of chipped-stone tools, axes, grinding stones, millers, pestles and steatite bowls characterize this period. Archaic sites are common throughout York County.

Sites from the Woodland period (1000 B.C.—A.D. 1550) are likely to occur within York County. These sites, which represent settled village life, are often confined to settings that provide more open ground, such as floodplains and some hilltops. Several phases of socio-political development can be documented at various sites in York County. Village sites contain a wide variety of archaeological remains and are the most useful for examining prehistoric social organization. For this reason, they are usually determined eligible for the National Register of Historic Places. Historic archaeological sites from the period of European-Indian contact, including village sites, are also likely to exist in the County.

The determination of areas of high probability for the presence of prehistoric archaeological sites is based on a comparison of the topographic setting of the recorded archaeological sites to the general topography. Extensive research has shown that the location of prehistoric sites is closely related to a number of environmental variables. Relatively flat ground, abundance of wildlife, converging streams, springheads, saddles, floodplains, swamps, and water in general (including streams that are extinct today) are the most important factors.

There are no recorded prehistoric or historic American Indian sites within the Southern York County Region. This is probably due in part to the largely upland topography of the Region, and also the lack of archaeological investigations in the area. However, the PHMC has identified areas of suspected archaeological significance that may someday yield artifacts. These areas are depicted on the *Cultural Features Map*.

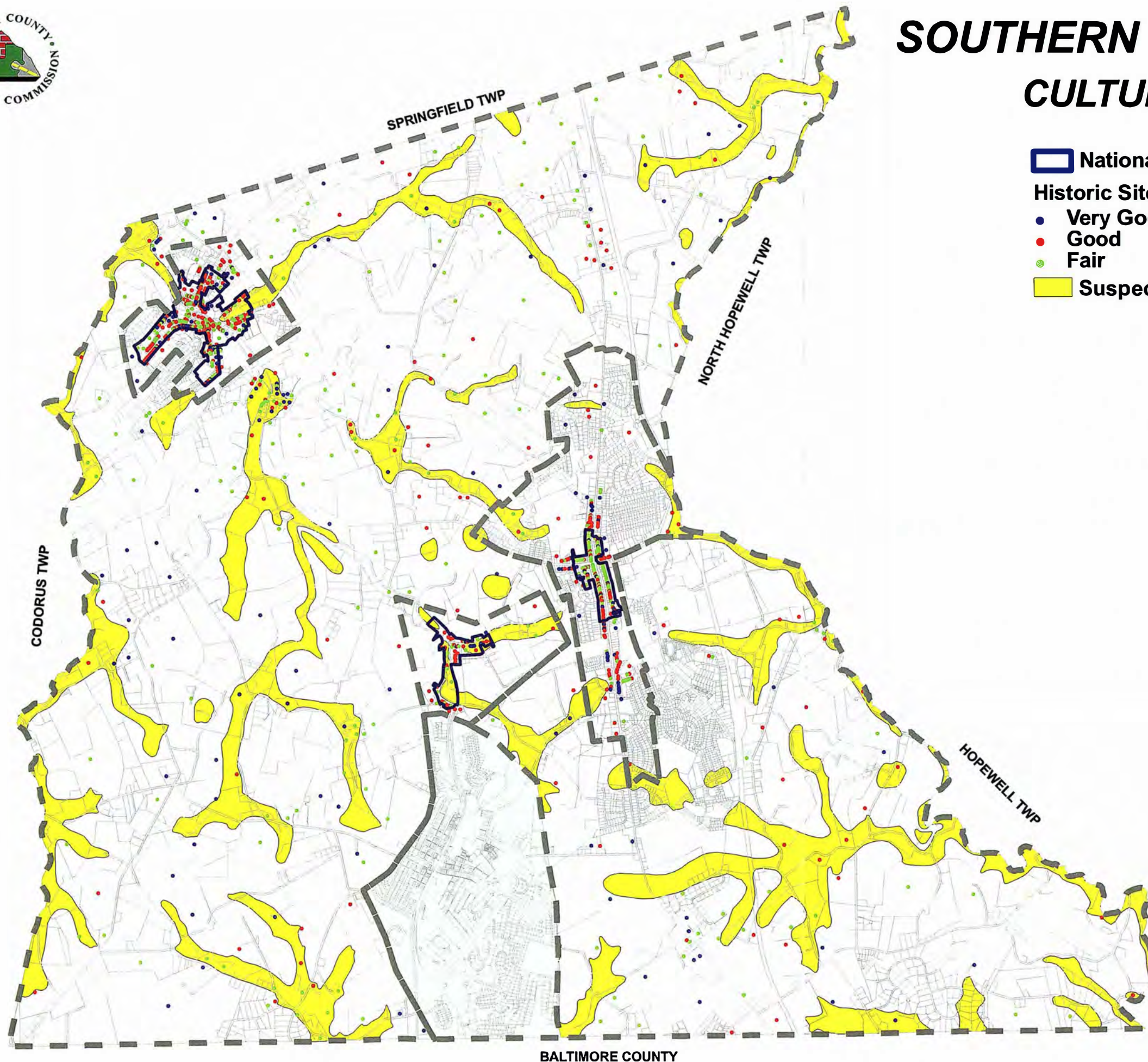
The Region's municipalities currently have no provisions requiring a Phase I archaeological survey to be undertaken for proposed subdivisions and land developments in areas of suspected archaeological significance. Such a requirement would help assure that any area artifacts that may exist are not inadvertently destroyed, damaged or removed from the site in an unauthorized manner during the development process. Pennsylvania Law authorizes municipalities to require such a survey.

- *Local officials could consider the adoption of revisions to their subdivision and land development ordinances that would require Phase I archaeological surveys of proposed development sites in areas of suspected archaeological significance.*



SOUTHERN YORK COUNTY REGION

CULTURAL FEATURES MAP



0 2,100 4,200 6,300 8,400 10,500
Feet

0 0.5 1 1.5 2
Miles

York County Planning Commission
28 E. Market Street, 3rd Floor
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The York County Planning Commission provides this Geographic Information System map and/or data (collectively the "Data") as a public information service. The Data is not a legally recorded plan, survey, official tax map, or engineering schematic and should be used for only general information. Reasonable effort has been made to ensure that the Data is correct; however the Commission does not guarantee its accuracy, completeness, or timeliness. The Commission shall not be liable for any damages that may arise from the use of the Data."

Map and Data Revised on Jan. 2009

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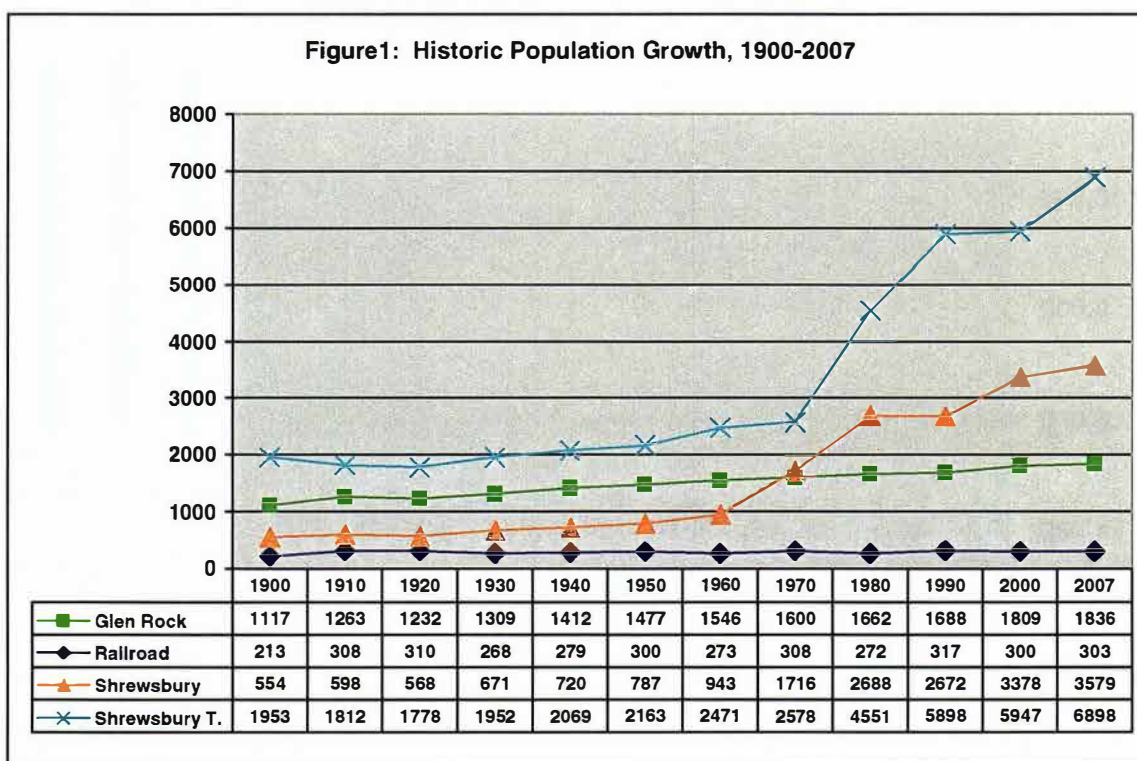
IV. POPULATION STUDIES



Future population projections are a primary building block of any comprehensive plan. The expected future size of a population is the basis for calculating the extent of public services and lands that are likely to be needed. In addition, particular groups within the population have different service needs. This chapter will present past, current and expected population statistics, beginning with historic population growth and continuing with demographic data and concluding with population projections.

A. HISTORIC POPULATION GROWTH AND CHANGE

Population change is the result of two (2) factors: the gain and loss of residents through birth and death and through in-migration and out-migration. The Southern York County Region has experienced rapid population growth over the last few decades, primarily reflecting the expansion of development northward from Maryland. The following graph illustrates the historic population growth of the Southern York County Region since 1900.



Source: US Census Bureau

The combination of an attractive rural environment, lower taxes and building costs and convenient access to Interstate 83 has fueled recent development within the Region. As shown above on Figure 1, Shrewsbury Township (in turquoise blue) has experienced marked increases in population, beginning in the 1970s. Glen Rock Borough's trend, as shown with the green markers above, indicates a slow growth over the last 107 years.