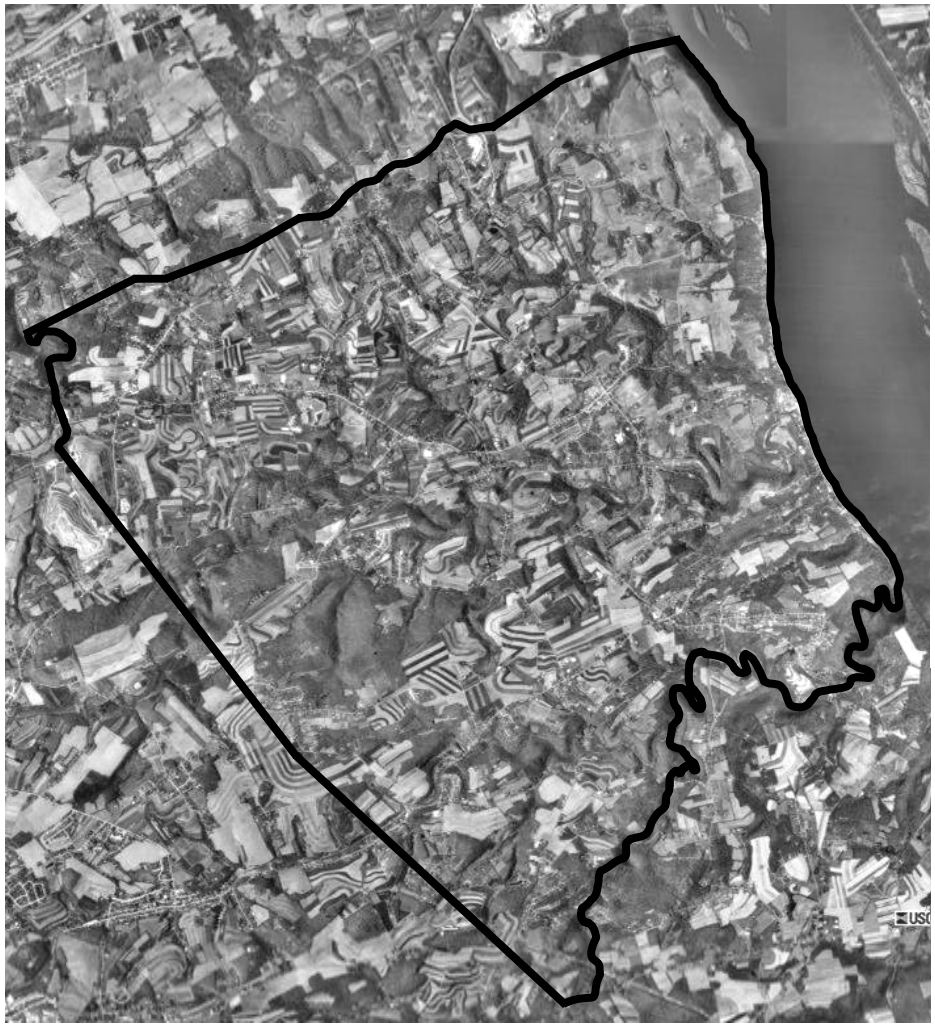
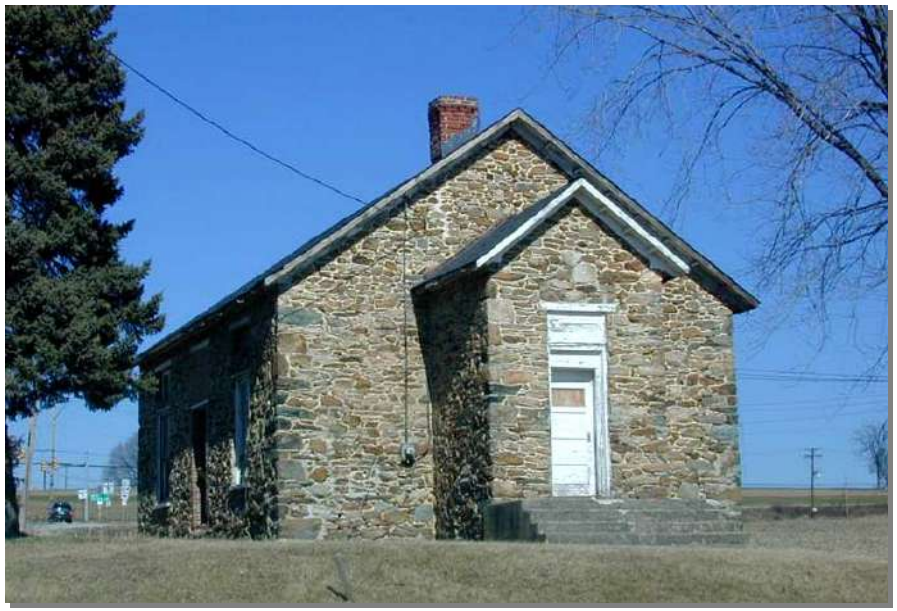
Lower Windsor Township, PA
Comprehensive Plan

Executive Summary, Plan Document & Farmland Preservation Strategy

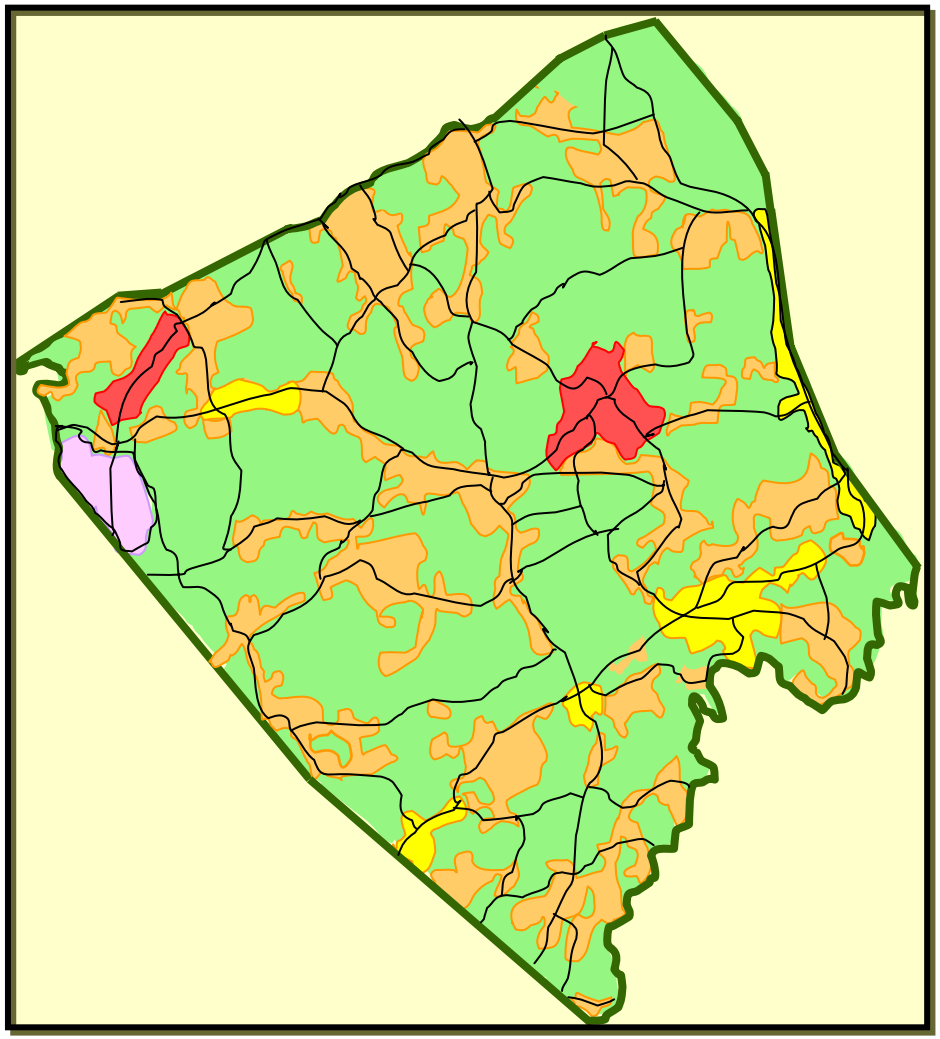




C.S. Davidson, Inc.

July 2002

Lower Windsor Township, PA
Comprehensive Plan



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Lower Windsor Township, PA
Comprehensive Plan

Executive Summary

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EXECUTIVE SUMMARY

Lower Windsor's rich heritage as a safe, family-oriented, small town and farming community shall be our primary guide for directing future growth and development in the Township.

Our citizens and leaders will work together to preserve and enhance the Township's traditional "town and country" character, even as we welcome the new residents and private investment needed to maintain and grow a healthy, viable and prosperous community.

With this statement, Lower Windsor Township has defined the community's vision for the future. Township leaders and citizens are committed to preserving the best of yesterday and today while accepting the promise of positive growth and change. The Township's Comprehensive Plan further defines this vision and presents realistic strategies for achieving community goals through policy and action. The Plan is intended to be a hopeful yet realistic assessment of the Township's current state of affairs and aspirations for the future, and shall serve as the community's primary tool for guiding and

directing new development and providing public services and facilities.

Lower Windsor's Comprehensive Plan was first adopted by the Township in 1989. With the beginning of a new decade and century, the Township has completed a major update of the 1989 Plan. The updated Plan includes a Community Profile, with background information and analysis, and a Community Plan, which presents the Township's policies for the future.

This Executive Summary provides an overview of the updated Plan, with key excerpts from the extensive information and recommendations included in the Plan Document. The Executive Summary reviews information from the Plan's Community Profile section, including Community Vision, Goals and Objectives and Existing Community Character and Land Use, but primarily focuses on policies recommended in the Community Plan section, including:

- Regional Planning
- Future Community Character & Land Use
- Housing
- Public Utilities
- Community Facilities
- Transportation
- Implementation

COMMUNITY VISION, GOALS & OBJECTIVES

A first step in updating the Comprehensive Plan was an assessment of citizen concerns about the community, followed by development of a community vision, goals and objectives to help direct Township policies for land use and public services. To gauge citizen concerns, a community survey was conducted by the Township. The survey identified several critical areas of citizen concern, including:

- Farm and natural land preservation
- Availability of public utilities
- Employment opportunities
- Land use compatibility
- Transportation improvements

The community's vision is intended to address these citizen concerns and guide Township policies for the future preservation, development and enhancement of the community. The Township can achieve this vision through a long-term commitment to a set of complementary goals and objectives that define policies for the anticipated growth of the community. These goals and objectives establish a sound basis for making decisions affecting the Township's orderly development and overall quality of life, and are presented as policies related to both the physical and non-physical development of the Township, as shown in the following table.

Physical Development Policies		
Agricultural Development	• Prime agricultural soils should be reserved and preserved wherever possible for agricultural purposes, thus maintaining the agricultural economy of the area and enhancing its rural character.	• Nonagricultural development should be planned so as not to fragment prime agricultural areas.
Residential Development	*New residential development should provide:* • A variety of housing types in compact neighborhoods in areas where it is feasible to provide public utilities and community facilities. • Development that is designed to complement the physical environment in such a way as to make the best use of available space and take advantage of natural amenities. • Greater community identification through more cohesive neighborhood units.	• Assurances that single family conversions to multi-family or commercial uses will be done only in a manner that has no harmful effects upon the community. • Protection from potentially blighting influences such as junkyards and heavy industry through land use controls and the use of open space buffers and landscape screening. • Preservation of countryside and open space by limiting residential development in environmentally sensitive areas.
Commercial Development	• Commercial establishments within designated development areas are encouraged, provided that they are well located to serve particular residential areas. • Compact commercial areas should exist harmoniously with residential development and should not detract from the quality or aesthetics of the immediate environment.	• Large scale commercial development, such as shopping centers, is encouraged only in areas compatible with and capable of accommodating such uses. • All commercial establishments should be readily accessible from major thoroughfares with adequate off-street parking.
Industrial Development	• The inclusion of industrial sites in the Township will be encouraged only in those specific instances in which industrial activity will not negatively impact upon the environmental and social integrity of the community.	• Potential sites must be suitable in terms of topography, area, accessibility and availability of utilities.
Public Utilities & Community Facilities	• The planning and development of community facilities should be coordinated with expected Township growth to encourage efficient and effective use of such facilities. • Land for community facilities and utilities should be acquired and reserved for such use by the Township as early as possible to avoid rising costs of land acquisition. • The Township should promote sufficient educational, cultural and recreational opportunities for the entire community.	• Development or extension of public facilities or utilities should consider regional partnerships in the interest of greater economics, mutual benefit and service. • The development or extension of public utilities should be predicated upon the need to solve existing problems and the desire to achieve orderly growth through implementation of the future land use plan. • The Township's solid waste management policy should be reviewed based on anticipated growth.

Physical Development Policies (continued)		
Conservation & Open Space Preservation	• Open space should be reserved, preserved and located so as to provide strategic breaks in development, thus ensuring a balanced and harmonious land development pattern. • Open spaces should be used as an effective buffer to separate adjacent incompatible land uses. • Undevelopable or marginal land should remain as open space.	• Open spaces along watercourses, streams and drainageways should be preserved as a means of minimizing future flood damages. • Natural features such as woodlands, streams, hills and scenic vistas should be preserved and protected from haphazard development.
Transportation & Accessibility	• Initiate discussions with state and county regulatory agencies regarding transportation improvements. • In dealing with and planning for the transportation system, the community should recognize the existence of two distinct but complementary subsystems: the internal (local) circulation system; and the external (arterial) circulation system. A plan should be developed to permit each system to perform its primary function adequately, efficiently and harmoniously. • Existing roads should be upgraded to meet minimum functional and design standards. • New roads should be well coordinated with existing streets and should also meet the minimum standards.	• A program of continuous road maintenance should be integrated with a transportation planning program. • Measures such as directional signs, speed limits and traffic control signs should be used to regulate and control the flow of traffic. • Design of new transportation facilities that will enhance public transportation and car pooling should be encouraged. • Location, density and intensity of new development should be appropriate for surrounding roadways.
Non-physical Development Policies		
Pride & Identity	• Lower Windsor Township belongs to the people who reside here, and the condition of the community is the direct responsibility of all its citizens, who must foster pride and identity among themselves through community involvement.	
Historic Preservation	• The cultural resources of the community should be preserved as a living part of our community life in order to create a sense of orientation for the community.	
Environmental Security	• Wherever and whenever development occurs, the quality of the environment of Lower Windsor Township should be maintained or advanced, but certainly not degraded, in order to provide the environmental security which the citizens so rightfully deserve.	
Cooperation	• Cooperation among both private and public interest groups must be advocated in order to insure stability and the effective functioning of the Township as a whole.	

REGIONAL PLANNING

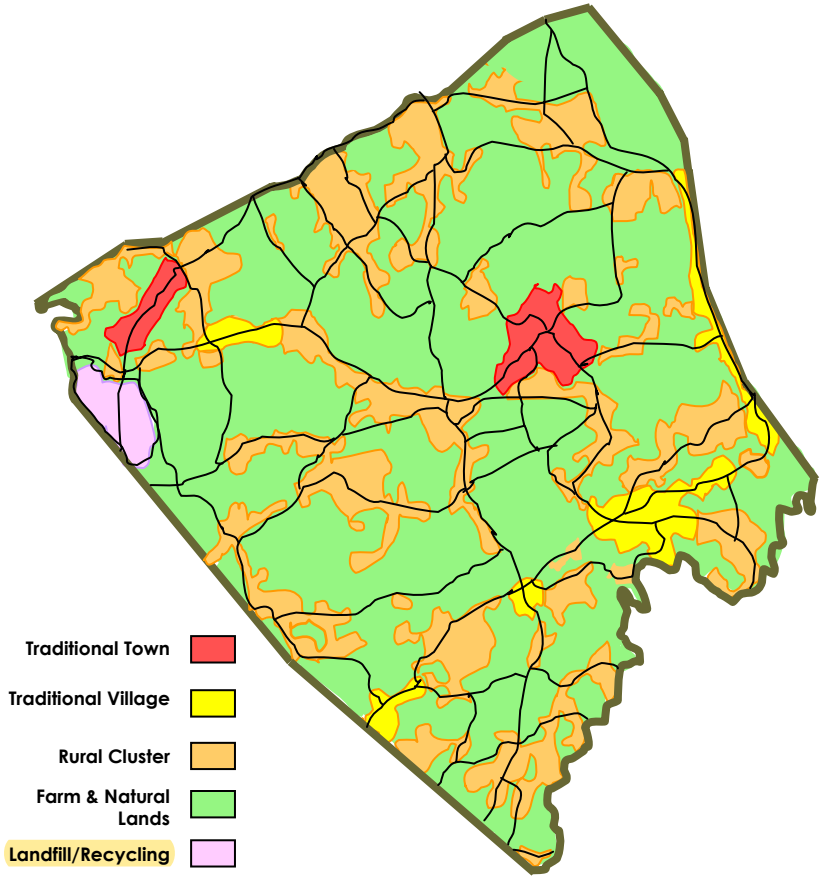
Lower Windsor is part of a growing and developing region and the Comprehensive Plan reviews the Township's physical relationship and future land use consistency with nearby communities. Regional influences identified in the Plan primarily focus on development pressure from the growing urban areas of York and Lancaster, as well as smaller but growing communities such as Red Lion. The Plan concludes that future land uses proposed for the Township are generally consistent with those in the adjacent municipalities of East Prospect and Yorkana Boroughs and Chanceford, Windsor and Hellam Townships.

EXISTING & FUTURE COMMUNITY CHARACTER & LAND USE

The use of land within a community has significant implications for an area's quality of life, particularly the cost and availability of public and private services and facilities. Guiding land use is a primary focus of the Comprehensive Plan, which includes assessments of both existing and future community character and land use patterns and allocations within the Township.

Existing Community Character and Land Use

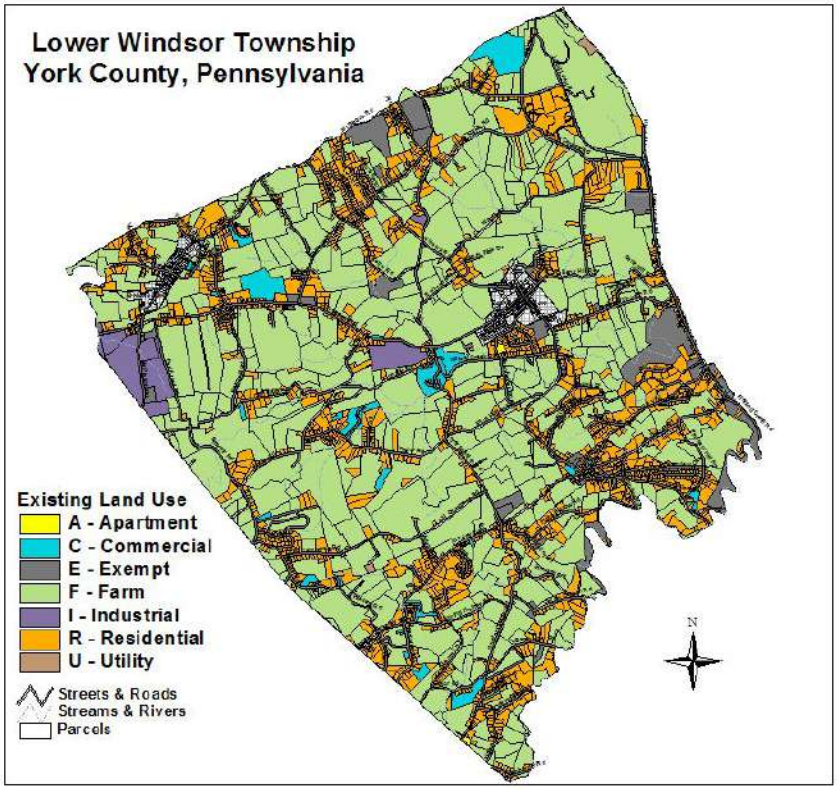
Lower Windsor's existing community character and development patterns present a "town and country" quality throughout most of the Township.



Five basic development patterns are identified in the Township, as illustrated on the map above. These include:

- *Traditional Towns*, such as Yorkana and East Prospect Boroughs.

- *Traditional Villages,* such as Craley, Long Level, Delroy, Bitterville and Martinsville
- *Rural Clusters,* dispersed throughout the Township, such as the areas around Eastern High School
- *Farm and Natural Lands,* still predominant across much of the Township
- *Landfill/Recycling,* including the Modern Landfill and adjacent land



The developed areas of Lower Windsor include a variety of land uses, which have been divided into seven general categories: apartment, commercial, exempt, farm, industrial, residential, and utility.
The Existing Land Use Map at left illustrates the distribution of these land uses across the Township.

The table below provides a detailed breakdown of the land area devoted to each of the existing land uses. As can be seen, the majority of the Township is still used for agricultural purposes, with residential uses occupying the next largest area of land in the Township.

	Acres**	Percentage
Total Land Area	**15632.7**	**100.00**
Residential*	3838.0	24.58
Commercial	567.5	3.64
Industrial	321.6	2.06
Farming	10474.0	66.96
Exempt	391.7	2.51
Utility	39.9	0.25

* Includes apartments ** Not including roadway areas.

Future Community Character & Land Use

The Future Community Character and Land Use Plan designates locations for future development in the Township, as well as areas designated for preservation of farm and natural lands. These future land uses are located to help retain the Township's traditional

community character and land use patterns and direct new growth to preferred development areas.

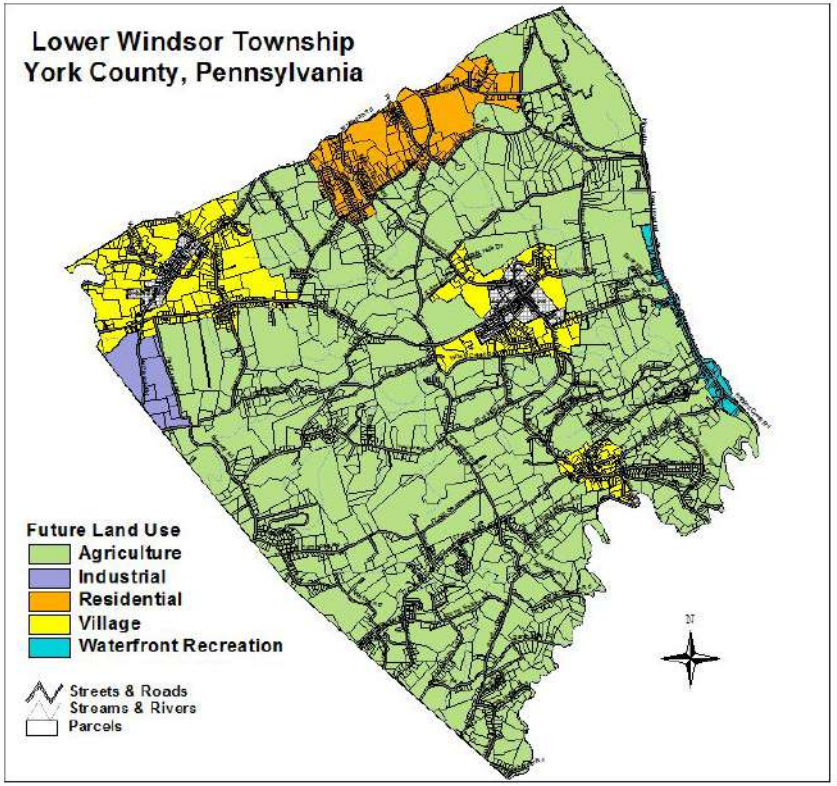
The Plan proposes areas in the northern portion of the Township as the primary development centers for the Township, including land adjacent to the traditional towns of Yorkana and East Prospect and land around Eastern High School. These areas are intended to accommodate the most intensive types of development in the Township, including an array of residential, commercial and, south of Yorkana, industrial uses.

The pattern of existing development in this vicinity, along with the potential for the area to be served by public water and sewer facilities, are the major factors guiding this distribution of uses.

The traditional villages of Craley and the Long Level area are also proposed to accommodate some future development since these areas currently contain mixed uses.

Future development elsewhere in the Township is to be generally limited in scope. These areas, which include the majority of the Township, are designated for agricultural uses.

The specific allocation of future land uses in the Township is illustrated geographically on the Future Land Use Map at right. This map presents the Township's preferred pattern for future land development and preservation.



There are five distinct future land use categories shown on the map, including: Agriculture, Industrial, Residential, Village and Waterfront Recreation. The amount of land allocated for each future land use category is shown in the table below.

Land Use	Approx. Area in Acres	Percent of Total Land Area
Agriculture	13,073	81.5%
Village	1685	10.5%
Residential	880	5.5%
Industrial	248	1.5%
Waterfront Recreation	152	1.0%
Total	16,038	100%

*These allocations are approximate values based on the parcel base GIS coverage provided by York County GIS Department and include roadway areas.

The Plan includes specific policies for each of these land use designations, as well as conservation and historic areas. These policies are summarized below.

Agriculture

Lower Windsor Township has a large amount of prime agricultural soils dispersed throughout the community, with primary concentrations of such soils in the southwestern and northwestern portions of the Township. Farming plays a significant role in the livelihood of many Township residents and farmland is a critical part of the community's "town and country" character. Therefore, the Future Land Use Map designates eight-one and one-half percent (81.5%) of the Township's land area as Agriculture.

To support this designation, the Township has also developed a farmland preservation policy to further define the community's commitment to agriculture and establish specific strategies for the preservation of farmland acreage and rural character.

These strategies are summarized as follows:

Strategy 1: Include the Farmland Preservation Strategy in the Comprehensive Plan's Future Community Character and Land Use Plan to make a strong policy and planning statement about the Township's desire to retain its agricultural heritage and economy.

Strategy 2: In association with other incentive efforts, initiate targeted marketing of ASA and Clean & Green program benefits to non-participating property owners in areas identified as priority locations for farmland preservation.

Strategy 3: Establish partnerships with the York County Agricultural Land Preservation Board and the Farm and Natural Lands Trust of York County to develop a coordinated approach for use of conservation easements as the primary tool for preserving farmland.

Strategy 4: As part of an overall regulatory strategy for the preservation of farmland and community character, revise the Township's Subdivision and Land Development Ordinance to permit use of innovative subdivision design options.

Strategy 5: Initiate consideration of a zoning ordinance for the Township that respects and strengthens the traditional development pattern of the community and includes extensive opportunities for citizen education and participation.

Village

The Future Land Use Map includes three Village land use areas: one adjacent to Yorkana Borough, one adjacent to East Prospect Borough and one including the village of Craley. These areas comprise ten and one-half percent (10.5%) of Township land area.

Presently there is a compatible mix of commercial and residential land uses within these areas, including a variety, but limited number of small commercial businesses, professional services and quasi-public uses, plus multi-family and single family dwellings. In essence these areas are the hubs of community activity in their respective parts of the Township.

The Village land use designation is intended to continue this existing mix of residential and commercial uses, as well as encourage new development of a variety of housing types, service functions and convenience commercial functions to satisfy the needs of local residents.

Residential

The Future Land Use Map includes one major residential area in the north central portion of the Township around Eastern High School. This area encompasses five and one-half percent (5.5%) of Township land area.

Proper development of this area will require adoption of sound land use regulations, most likely through a zoning ordinance, along with strict enforcement of subdivision and land development regulations and provision of public utilities. Land use regulations for this area should not allow for an indiscriminate mix of commercial and other nonresidential uses and should be designed to encourage residential development in this area rather than other areas of the Township.

Industrial

Lower Windsor Township's industrial uses are primarily located in the northwest corner of the Township, including the large Modern Landfill site which encompasses 216 acres. This area, although relatively small with one and one-half percent (1.5%) of Township land area, is suitable for a wide range of industrial activities that contribute to the well being of the Township by diversifying its economy and providing valuable employment opportunities. Land use regulations should allow for small start-up businesses and light industry. Other heavier, potentially more objectionable uses should require Special Exception approval.

Waterfront Recreation

The proposed Waterfront Recreation land use area, situated along the Susquehanna River, accounts for roughly one percent (1%) of total Township area.

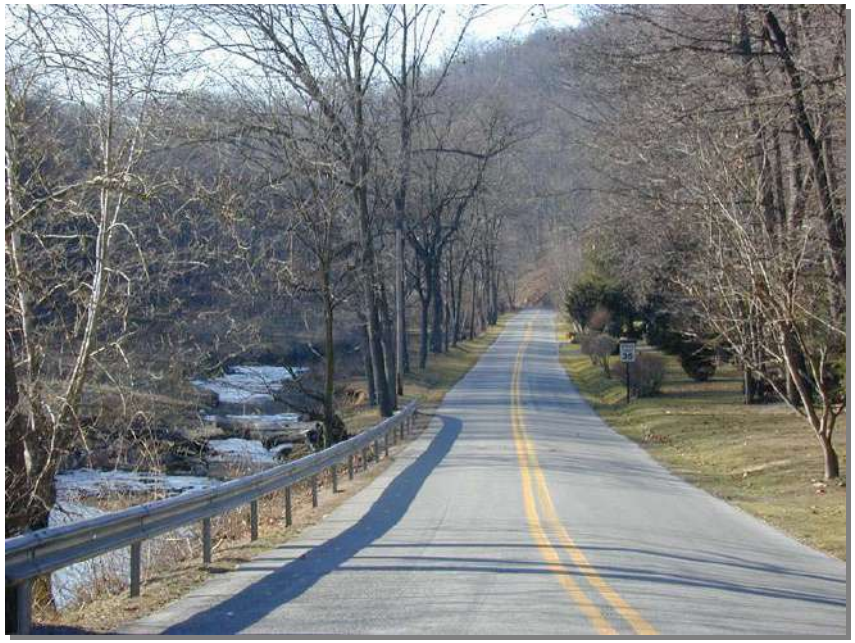
Generally, the Waterfront Recreation area is characterized by riverfront properties occupied by a mixture of seasonal and year-round dwellings, public and semi-public recreational type uses and a variety of commercial establishments, including marinas, boat storage facilities, bait shops, boat rentals and snack bars.

It is expected that these uses, which are primarily oriented toward providing riverfront recreation, will continue to exist in harmony with one another. Considering that this area provides recreation for the surrounding region as well as for residents of Lower Windsor, it is also expected that the demand for additional quasi-public and commercial recreational facilities will increase. The Plan thus encourages the on-going development of this area in a manner consistent with existing uses so that the rural recreational character of the area will be retained.

Conservation

Conservation areas encompass those lands in the Township with natural features identified as essential to the environmental health, economy and rural character of the community. These areas include lands with severe development constraints, such as steep slopes wetlands and floodplains and lands characterized by such sensitive natural features as streams and watersheds. Protection of these natural features is supported with the following policy actions:

- Direct new growth to appropriate development areas, away from environmentally sensitive lands.
- Establish a Restricted Development Overlay Zone for conservation areas.
- Add provisions to the Township Subdivision and Land Development Ordinance to provide for the protection of important conservation features.



Historic Overlay

Lower Windsor is fortunate to possess a rich cultural and historic heritage. It is the intent of this Plan to protect the Township's significant historic resources through application of a Historic Overlay designation to the Township's most significant historic areas, structures and other features worthy of protection. For the present, this designation will be applied to structures of historic or architectural significance. The Historic Overlay designation is intended to:

- Ensure that future development in the Township takes historic resources into account in a manner in keeping with their historic nature.

- Trigger the local review of proposed demolitions of historic structures.

HOUSING

The goal of the Housing Plan is to provide a range of housing types and sizes within the Township to meet diverse housing needs while at the same time supporting the other major goals of the Plan.

Housing in Agriculture Land Use Areas

Residential development in Agriculture areas of the Township should reflect very low densities. Very low densities in these areas are in keeping with the need to encourage continued agricultural production, as well as to protect the Township's historic and rural landscape and preserve environmentally sensitive resources. The most common tool for maintaining very low density residential development in Agriculture areas is land use regulation, such as a zoning ordinance.

Housing in Village & Residential Land Use Areas

Residential development within designated Village and Residential land use areas should occur at significantly higher densities than that permitted in Agriculture areas, providing for a mix of low, medium and medium-high densities. Adoption of a zoning ordinance that supports this concept, along with central water and sewer systems, road improvements, and community facilities, are the principal measures by which the Township can direct most new growth to designated development areas.

Village Land Use Areas: Medium density residential development is an important component of the mixed use character planned for the Village areas of the Township. Existing medium density residential uses in these areas should be reinforced as part of efforts to maintain the economic and social viability of these communities. However, new residential development in and around these areas must be undertaken in a manner that achieves the desired village character with moderate-scale, pedestrian-oriented design.

Medium density residential development should include a wide variety of structural types, including small-lot single-family detached dwellings, single-family semi-detached and townhouse dwellings, multi-family units such as garden apartments, and mobile homes. A diversified housing mix, attractive to various household types and income levels, should be encouraged in these locales.

Residential Land Use Areas: Recommended densities for these low and medium-low density areas are 0.4 to 2.0 dwelling units per acre, which allows conventional, single family detached dwellings on lots ranging from ½ acre to 2½ acres in size.

Affordable Housing

In general, the Plan proposes to increase opportunities for affordable housing principally by providing new settings for housing construction at medium densities within designated development areas. At the same time, housing opportunities may be expanded through more efficient use of the current housing stock. Provisions for residential conversions, accessory apartments, and shared housing should also be considered.

PUBLIC UTILITIES

As the Township continues to grow and develop the demand for public utilities will increase. An important factor in establishing future levels and patterns of demand for public utilities is the Future Land Use Map, along the distribution of population and economic activity. Public utilities planning must also reflect other community needs, such as transportation and recreation, thus contributing to the Township's overall economic, physical and social development. These factors present the basic framework for planning Township water and wastewater facilities, and providing solid waste services.

Sewage Facilities Plan

The following policies are recommended with regard to sewage disposal facilities in the Township:

- Package or temporary sewage treatment facilities to serve intensive development activities should be approved only in those areas where connection to a regional system is feasible within a five year period or the utilization of such a package system is required to alleviate past or current sewage disposal problems for existing development areas.
- For areas beyond proposed public sewage service areas it is recommended that development activities be strictly regulated by the provisions of the Pennsylvania Sewage Facilities Act (Act 537) and the suitability of soils for permanent use of on-site sewage disposal systems. In areas where on-lot systems must be used it is imperative that development regulations require lot sizes that will provide sufficient area for the installation of replacement systems in the event of primary system failure.
- The Township should adopt and implement an On-Lot Management Ordinance.

Local Water System Plan

The following policies are recommended with regard to water supply facilities in the Township:

- The Township should cooperate with other municipalities and utility companies in providing public water supply facilities as permanent and reliable sources of water needed for continued long range development of the community.
- Because geological conditions associated with groundwater yield are characterized as highly variable for development of individual wells in much of the Township, development outside of existing or proposed public water service areas should be scrutinized to ensure safe and adequate water yields for on-site well systems. In general such development should be low density in nature.
- Future large scale, intensive development activities should be provided with public or community water supply systems.

Solid Waste Collection & Disposal

The following policies are recommended with regard to solid waste collection and disposal in the Township:

- Continue to support the York County Solid Waste and Refuse Authority as it implements a regional system of solid waste collection and disposal facilities.
- Prevent indiscriminate dumping of solid waste materials by adopting ordinances, conducting police surveillance and initiating legal enforcement as necessary.
- Encourage proper solid waste collection and disposal, including municipal large item pickup.
- Encourage residents to participate in recycling and reuse options, including curbside pickup.

COMMUNITY FACILITIES

The provision of adequate, high quality community facilities and services, such as schools, recreation areas, police and fire protection, and municipal offices, are essential to achieve orderly and desirable future development. In most instances, community facilities and services in the Township are sufficient for the existing population. Therefore, the main objective of the Community Facilities Plan is to make recommendations needed to meet future needs.

School Facilities

Lower Windsor students attend classes in the Eastern York School District. Based on the unused capacity presently available in existing schools, it appears that the District is comfortably accommodating its current population. However problems could result in the future if uncontrolled growth is allowed to occur outside of designated development areas.

In order to anticipate future school needs, it is recommended that the School District and local planning commissions should meet regularly to coordinate school and land use planning. The planning commissions can coordinate their plans and knowledge of development activities with the District's planning activities. In addition, it is recommended that all proposed school sites in the District be submitted to the planning commissions for review and approval so that the process of site location is based upon reasonable estimates of growth and is related to overall plans for the area.

Parks, Recreation & Open Space

Lower Windsor's population growth has generally been moderate, with 1990-2000 growth of five-percent. Projections for 2010 anticipate growth of 25% over the next ten years. This growth will translate into a need for additional parks and recreation facilities. The following policies are recommended to meet this need:

- Target acquisition and development of parkland to meet current and future needs for expanded facilities.
- Maximize the use of existing parks to respond to

the expanding needs, interests, and desires of citizens and improve the safety, function, convenience, and aesthetics of park sites.

- Develop a comprehensive greenway network that connects park sites, open space, residential neighborhoods, schools, and community destinations.
- Provide facilities for public uses that comply with accessibility and safety regulations and guidelines.
- Develop a Capital Improvement Program to guide Township capital expenditures on parks and recreation facilities.

Police Protection

The provision of adequate police protection is necessary for any community seeking to provide the necessary services to ensure the health, safety and well-being of its residents. The Lower Windsor Township Police Department is currently efficient in providing residents with adequate police protection. As the population increases, it is recommended that the Township ensure its residents are adequately protected with police service by adding additional patrol persons or by increasing the effectiveness of intergovernmental agreements for such services.

Other Township & Community Facilities & Services

In addition to schools, recreation and police protection and fire protection, other public and quasi-public facilities and services are referenced in the Plan. The following information is provided with regard to these services:

Township Building & Offices: At the current time, the Township is in the process of planning a new Township Building. This new facility will house municipal administration, police, and a community center, including a senior center. It is tentatively scheduled for construction in 2003.

Other Community Facilities & Services: The provision of other community services in the Township is considered to be adequate and does not require a statement of objectives for planning purposes at this time. However, the Township should consider that whenever it can cooperate with other local governments and organizations in the provision of such services, a better, more comprehensive level of service will likely result.

TRANSPORTATION

Lower Windsor's transportation system basically consists of State and Township roadways. The Township's plans for transportation improvements therefore focus on this roadway network and include both general and site-specific recommendations.

General Transportation Recommendations

- Evaluate and revise traffic signal timing plans to ensure effective and efficient operation based on current and future traffic volumes.
- Provide routine, periodic maintenance of traffic signals to ensure effective and efficient operation.
- Improve directional and street name signage throughout the Township to make area roadways more user-friendly and easier to identify and to provide alternate choices of routes.
- Improve overall signage and pavement markings along Township roads, including development of a sign inventory documenting when and where signs have been installed and periodic inspection and maintenance and replacement as needed.
- In partnership with PennDOT, provide wider shoulders and smoother road surfaces on Township roadways and increase the super-elevation at existing horizontal curves to increase driving comfort and safety.
- Provide safe stopping sight distances at all intersections and driveways by clearing obstacles that are within or protrude into clear sight lines.

Site Specific Transportation Recommendations

- Reduce negative impacts of landfill generated truck traffic through Yorkana Borough by reducing the speed limit on Main Street to 25 mph, revising access truck routes and evaluating specific intersections for four-way stop control.

- Improve safety at East Prospect Road/Mt. Pisgah Road intersection with a left turn lane on East Prospect Road and a southbound right turn lane on Mount Pisgah Road.
- Improve safety at Turkey Hill convenience store eastern driveway entrance on East Prospect Road by creating a new driveway onto Mt. Pisgah Road and either eliminating the existing driveway or restricting it to a right-out only traffic.
- On Craley Road east of Massa Drive there is a curve which restricts sight distance for drivers approaching from both directions. This situation can be improved by any or all of the following changes: install curve warning signs with advisory speed limit signs on both approaches to the curve; install pavement reflectors along the roadway's centerline and edge line; construct wider shoulders on both sides of the roadway.
- Improve site distance at the intersection of East Prospect Road and Bluestone Road by removing an embankment and relocating a utility pole.
- Improve safety on Cool Creek Road north of Nursery Road by implementing any or all of the following recommendations: construct shoulders along the roadway to provide a safety area and eliminate drop-offs along the roadway edge; install pavement reflectors along the roadway's centerline and edge lines; overlay the roadway with superpave material or with coarse aggregate asphalt.
- Improve site distance at intersection of Long Level Road, Kline's Run Road, and Boat House Road by implementing any or all of the following recommendations: remove vegetation and restrict traffic from Kline's Run Road to right turns only; remove an obstructing building; make Boat House Road one way in, or southbound, starting at the intersection of Long Level Road and Kline's Run Road; widen Boat House Road and remove an obstructing guide-rail at the intersection.
- Reduce speeding on Mt. Pisgah Road between Cool Creek Road and East Prospect Road through increased enforcement or implementation of traffic calming measures.

IMPLEMENTATION

Numerous tools are available to the Township to help implement the Comprehensive Plan, including a Zoning Ordinance, the Subdivision and Land Development Ordinance and other policy and regulatory options.

Zoning Ordinance

The Township should consider the development and adoption of a Zoning Ordinance to direct new

development to the most appropriate locations in the Township. As recommended in the Township's Farmland Preservation Strategy, a Zoning Ordinance for Lower Windsor should be custom-designed to reflect the Township's unique cultural and political character. The ordinance should incorporate innovative techniques in support of the Township's goals for preservation of farmland and community character while maintaining an equitable balance between government regulation and private property rights.

Subdivision and Land Development Ordinance

The Township's current Subdivision and Land Development Ordinance should be updated to reflect the proposals set forth in the Plan. In particular, the Ordinance should be revised to comply with recent amendments to the Pennsylvania Municipalities Planning Code (PA MPC) and recommendations included in the Township's Farmland Preservation Strategy. Ordinance requirements should be updated to require that additional information be provided on or with the plan, design standards should be updated to reflect current development practices, and more detailed and specific provisions should be added to manage stormwater runoff and erosion.

The Township should also consider adding requirements that a Traffic Impact Study and Environmental Impact Study be submitted with all land development and major subdivision plans. Several municipalities in York County presently require developers to submit both of these studies.

Other Tools for Managing Growth & Development

Official Map: The Pennsylvania MPC grants municipal governing bodies the power to show elements of the Comprehensive Plan related to proposed public land and facilities on an Official Map. An Official Map will provide the Township with a one year period in which to acquire a property, or place an easement upon it, from the time a property owner requests a building permit or submits a written notice of intent to build upon, subdivide, or develop the land.

Building and Construction Codes: There are various types of building and construction codes which can support the objectives and goals of the Plan. Generally, such codes are concerned with structural requirements; material performances, including plumbing and electrical; arrangement of buildings; property maintenance; and fire prevention. In order to achieve a quality housing and non-residential building stock, it is recommended that the Township carefully monitor the implementation of the State Building Code.

Sewage Facilities (Act 537) Plan: Any proposed revision to the Sewage Facility Plan should be carefully reviewed to determine consistency with the Comprehensive Plan. Regulations of the Pennsylvania

Department of Environmental Protection governing sewage plans require a finding by the Township, County, and State that the proposed plan or plan revision is consistent with local, County, and State plans. The Township and State have the power to assure that the recommendations of the Comprehensive Plan prevail. Any future updates to the Sewage Facilities Plan shall therefore be consistent with or be predicated upon appropriate revisions to the Comprehensive Plan. Consistency between these documents is necessary in order to achieve the desired land use pattern set forth on the Future Land Use Map.

Capital Improvements Program: A Capital Improvements Program is a multi-year plan for capital improvements and is typically based on the recommendations of the Township's Comprehensive Plan. Capital improvements are major projects requiring the expenditure of public funds over and above annual operating expenses. Expenditures may be for the purchase, construction, or replacement of the physical assets of the community. By looking ahead to determine what, when, where, and how future improvements should be made, capital improvements programming enables Township officials to avoid unplanned capital expenditures.

Summary

The tools reviewed above provide a range of policy and regulatory devices available to assist in Comprehensive Plan implementation. However, Township officials must take the necessary steps to put such tools to work in order for the Plan to be successful. Effective implementation also requires promoting public awareness of the Plan by strongly and openly stressing the goals and objectives of the Plan. Presentations to the public, civic organizations, business groups, and other agencies can also create support for the Plan.

Comprehensive planning is an ongoing process. Township leaders and citizens should work together to ensure regular review and update of the Plan as needed to reflect evolving community conditions and consensus.

Lower Windsor Township, PA
Comprehensive Plan

Executive Summary

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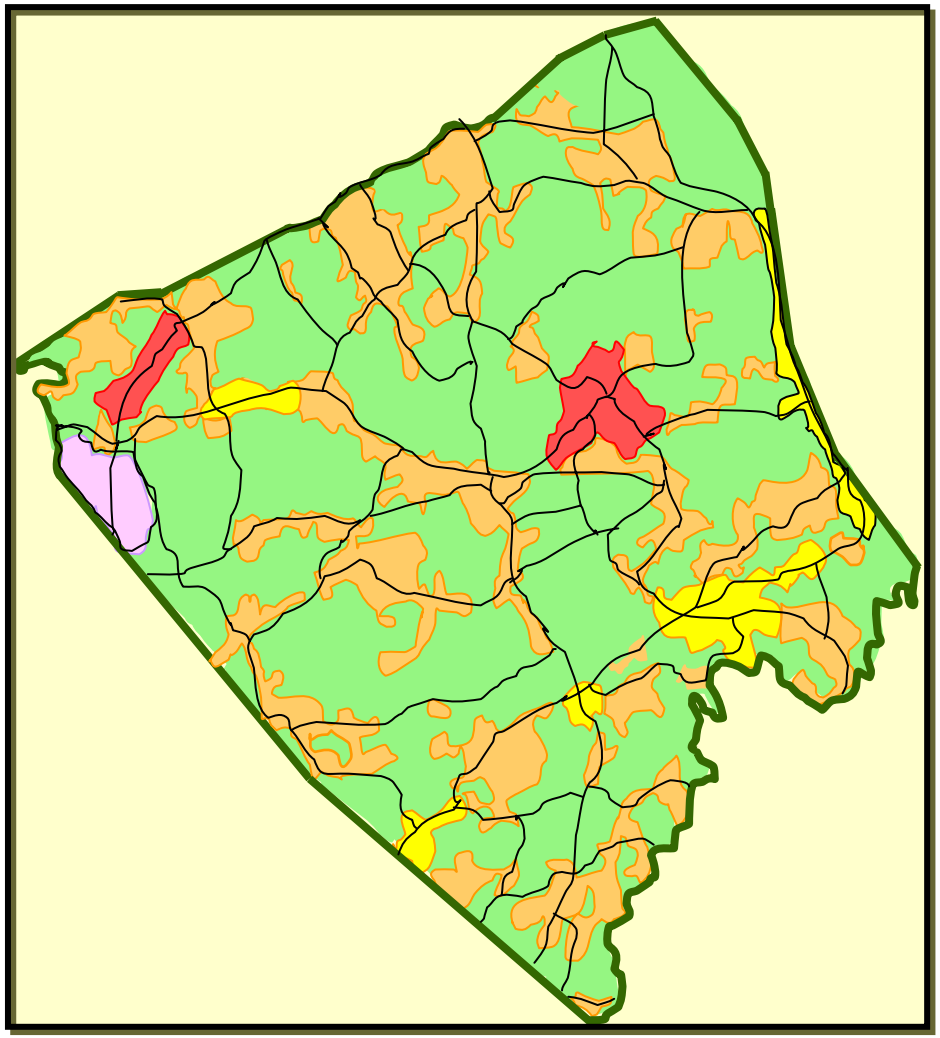
Lower Windsor Township, PA
Comprehensive Plan



C.S. Davidson, Inc.

July 2002

Lower Windsor Township, PA
Comprehensive Plan

Plan Document

July 2002

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Township Engineer
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Police Chief
David Sterner

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EXHIBITS (continued)

PART I: COMMUNITY PROFILE

1. COMMUNITY VISION, GOALS & OBJECTIVES

PURPOSE & INTENT OF THE COMPREHENSIVE PLAN

Comprehensive Plans are intended to be hopeful yet realistic statements of community affairs, ideals and aspirations. Although by definition comprehensive in scope, with much information about both the physical and social aspects of an area, Comprehensive Plans specifically address the development of land and public services in a community.

Like in many states, the Comprehensive Plan in Pennsylvania has evolved into a particularly important tool for guiding land use at the local level. In the State's published handbook for comprehensive planning, the importance of land planning, and the critical role of local government in such planning, is clearly affirmed:

Pennsylvanians know that land is one of our most valuable natural resources and the way it is used or developed creates a significant part of our physical surroundings. Any change in land use becomes a permanent part of our daily lives in the future. Yet all valuable resources must be used reasonably, economically and equitably to benefit both the property owner's interest as well as the general public. An important power of local government is to plan for and guide the way land resources are used.

Source: *The Comprehensive Plan in Pennsylvania, Planning Series #3,* Pennsylvania Department of Community and Economic Development, August 2001.

The Township Board of Supervisors first adopted the Comprehensive Plan for Lower Windsor Township in 1989. Through the 1990's, this Plan served Township officials and citizens as a policy guide for the review of new development and the provision of public services and facilities in the community.

With the beginning of a new decade and a new century, the Township has undertaken a major update of the 1989 Comprehensive Plan. The Plan has been revised to address current issues and trends and create a practical blueprint for future growth and development in the Township. This blueprint is intended to reflect and respect the traditional small town and rural culture and character of the Township as the community plans for the accommodation of new residents and investment.

A critical first step in updating the Plan has been an assessment of current citizen views and concerns about the community, followed by development of a vision, goals and objectives to help direct Township policies for growth, development and public services.

The components of this plan are all interrelated and are not intended to stand alone.

COMMUNITY SURVEY & NEEDS ASSESSMENT

As a first step in developing and updating effective policies for Lower Windsor's orderly growth and development, the Township conducted a community survey in August 2001. The Township mailed out 3,127 surveys and received 562 responses, an excellent response rate of 18%. A copy of the survey and a complete summary of citizen responses are included in Appendix A. The survey results provided an assessment of community needs and helped shape the community vision, goals and objectives.

One of the most significant concerns expressed by residents related to preservation of the community's rural character. Of those citizens responding, 59% feel that farmland preservation needs more attention in the Township, 32% felt the same about conservation of natural features, and 31% said open space preservation needs attention. In addition, 76% of responding citizens said that farmland/open space was one of the things they like most about the Township. Based on this input, needs related to farmland, open space and natural features include:

- Protection of prime agricultural soils, ground water resources, floodplains, and wetlands through measures to minimize use or protect the quality of these resources.
- Conservation of streams and creek valleys, woodlands, scenic areas, and areas containing steep slopes.
- Designation of areas for growth and development separate from agricultural areas. These areas should be in character with the existing development of the Township.
- Preservation of open countryside and scenic views and vistas in the designated agricultural area.

A complete review of the survey results related to preservation of farmland and community character, along with specific action strategies, is included in Appendix C, Farmland Preservation Strategy.

Another area that residents said needed more attention was the provision of public water and sewer. Along with 26% of people citing this concern when presented with it as a choice, an additional 6% of people mentioned it when asked to make free comments at the end of the survey. Based on this input, needs related to public utilities include:

- Public water and sewer should be limited to the areas of the Township designated for growth.
- Public water should be limited where possible to areas suffering from insufficient or contaminated groundwater supplies.

- The Township's solid waste management policy should be reviewed with respect to anticipated growth.

Employment opportunities are limited in Lower Windsor Township. The survey showed that 23% of responding citizens listed this as an area needing more attention. Therefore, new non-residential uses should focus on meeting the community's employment needs.

Fifty-six percent of survey respondents felt that Lower Windsor Township should consider policies for land use and development controls in order to guide, direct, regulate and enforce the use of land in the Township. Based on this input, needs related to land use include:

- Guiding residential and non-residential development to the most appropriate locations in the Township with regard to preserving the Township's rural character.

- Providing a mechanism to implement the Comprehensive Plan's land use goals and objectives.

- Preventing the random location of uses that affect long term public health, safety, and welfare of the community.

- Continuing to modify and amend subdivision and land development and other regulations for consistency with recent changes to the PA Municipalities Planning Code (MPC) and the Township's Comprehensive Plan.

Roadway and transportation improvements were also of concern to residents. Based on this input, the Township should:

- Limit the location, density and intensity of development based on current roadway infrastructure.

- Develop a dialog with both PennDOT and York County to demonstrate needs for specific transportation improvement projects and the impact of these projects on the Township's Comprehensive Plan.

The needs and preferences derived from the survey are further reflected and incorporated in the following community vision, goals and objectives.

COMMUNITY VISION

Based on input received from citizens in the community survey, as well as guidance from Township officials, the following statement is intended to capture Lower Windsor's vision for the future preservation, development and enhancement of the community:

Lower Windsor's rich heritage as a safe, family-oriented, small town and farming community shall be our primary guide for directing future growth and development in the Township. Our citizens and leaders will work together to preserve and enhance the Township's traditional "town and country" character, even as we welcome the new residents and private investment needed to maintain and grow a healthy, viable and prosperous community.

The Township can achieve this vision through a long-term commitment to a set of complementary goals and objectives, as described below.

COMMUNITY GOALS & OBJECTIVES

One of the primary objectives of a comprehensive planning process is to assess the growth that can be expected in a municipality, and then to guide the accommodation of that growth. Lower Windsor Township has experienced a rather moderate growth pattern in the recent past, yet has suffered some of the consequences of uncontrolled growth. With favorable prospects for continued regional growth, it is probable that the Township will be subject to increased growth pressure in the future. As the community does grow and change, this pattern of growth can be either very systematic or completely haphazard. The Comprehensive Plan should provide for growth that is systematic and directed.

As part of a good planning program, a series of goals and objectives must be formulated to clearly state desirable and acceptable policies for the anticipated growth of the community. If comprehensively formulated, these policy statements should establish a sound basis for recommendations and decisions affecting the orderly development of the Township, thereby improving the overall quality of life and the environment.

In developing these policies, a detailed analysis of existing conditions and trends has been completed. The findings of this analysis, along with the survey of residents' wishes, are important considerations in formulating these policies. Once established, these goals and objectives form the basis for the Comprehensive Plan; when put into practice they set the pattern for future growth and change in the Township.

The community development policies provide a basis for plan formulation. They serve as the necessary and logical link between existing conditions and those that are desired. This process is illustrated in the following manner:

Basic Studies	Community Goals & Objectives	Plans	Implementation
What exists?	What do we want?	This is our strategy.	Our plan is official. We will use our legal powers to carry it out.
What changes are anticipated?	How can we guide anticipated change to achieve it?	This is how we will achieve what we want.	

As the chart indicates, plans are the real or practical manifestations of community development policies, and should reflect such policies as much as possible.

However, since the control that a community has over its own development can be fairly limited, and since all things that might be embodied in public policy may not be achieved, it is imperative that the community goals and objectives be realistic and sound.

Although the primary purpose of developing policy statements is to set direction for the Comprehensive Plan, other benefits may be achieved through the use of such policy statements. Included among these benefits are the following:

- Goals and objectives facilitate public understanding and public participation in the planning process and are thus written in general terms to allow for easy interpretation by the public.

- Policy statements help elected officials to guide the planning process by providing a common framework for evaluating specific proposals and making decisions about the Township's future.

- Goals and objectives serve as a coordinating device by which public and private agencies can operate within the same basic framework.

- Goals and objectives can provide an element of stability and consistency in the planning program. This is possible if all development decisions are based upon this single set of established policies as a frame of reference.

- Goals and objectives are useful guides to the governing bodies responsible for the adoption and administration of land use controls. Due to the flexibility of land controls such as zoning and subdivision regulations, there is a need for an established and uniform point of reference to determine whether land control decisions are in harmony with community objectives.

The community goals and objectives which follow have been categorized into two distinct groups: physical development policies concerned with development of the physical environment; and

nonphysical development policies concerned with advancing the Township through less tangible means. Both are important to the orderly development of the Township and must be incorporated into the Comprehensive Plan for Lower Windsor Township.

PHYSICAL DEVELOPMENT POLICIES

Physical development policies are concerned with establishing guidelines for the development of different kinds of land activities or land uses. Such guidelines serve as the frame of reference within which planning decisions, both public and private, can be made. Their existence should produce consistency of decisions, thereby making any growth that occurs orderly and fairly predictable. Major topics of planning concern and policy for each land use category in the Township are presented in the following pages.

Agricultural Development

A significant percentage of the land area of Lower Windsor Township is devoted to agricultural uses, as is the land area of the surrounding townships. As such, agriculture forms a critical segment of the local economy. Thus it is recommended that the following policies guide the continuing development of Lower Windsor Township:

- Prime agricultural soils should be reserved and preserved wherever possible for agricultural purposes, thus maintaining the agricultural economy of the area and enhancing its rural character.

- Nonagricultural development should be planned so as not to fragment prime agricultural areas.

Residential Development

Historically, Lower Windsor Township has developed as both a rural community with single-family homes and a community with slightly higher residential densities in village centers. In order to preserve the pleasant, rural atmosphere in the Township and also provide for continuing residential diversity, a number of policies should be implemented. New residential development should provide:

- A variety of housing types in compact neighborhoods in areas where it is feasible to provide public utilities and community facilities.
- Development that is designed to complement the physical environment in such a way as to make the best use of available space and to take advantage of natural amenities.

- Greater community identification through more cohesive neighborhood units.

- Single-family conversions to either multi-family or commercial uses should be done only in a manner that has no harmful effects upon the community.

- Protection from potentially blighting influences such as junkyards and heavy industry through land use controls and the use of open space buffers and landscape screening.

- Preservation of the countryside and open space in the Township by limiting residential development in environmentally sensitive areas (for example, steeply sloped lands, prime agricultural soils, floodplains, groundwater supply areas, wetlands and areas which are potentially hazardous for on-site sewage disposal).

Commercial Development

Establishing and sustaining a proper level of convenient commercial services for Lower Windsor Township is a prime factor in maintaining an attractive and pleasant living environment. While the Township may approach a status of self-sufficiency through the provision of consumable convenience goods, it is probable that Lower Windsor will continue to be dependent upon the nearby urban centers for goods and services of a more specialized and competitive nature. Commercial activities that would add to the convenience of Township residents and add vitality to the community should be encouraged. Therefore, the following policies are recommended:

- Commercial establishments within designated development areas are encouraged, provided that they are well located to serve particular residential areas.

- Compact commercial areas should exist harmoniously with residential development and should not detract from the quality or aesthetics of the immediate environment.

- Large scale commercial development, such as shopping centers, is encouraged only in areas compatible with and capable of accommodating such uses.

- All commercial establishments should be readily accessible from major thoroughfares and adequate off-street parking should be provided.

Industrial Development

Heavy industries that are poorly located and have nuisance effects such as noise, odor, and increased traffic can adversely affect adjacent properties and general living conditions. Any additional industrial development in the Township should reflect the following issues to minimize possible harmful effects:

- The inclusion of industrial sites in the Township will be encouraged only in those specific instances in which industrial activity will not negatively impact upon the environmental and social integrity of the community.

- Potential sites must be suitable in terms of topography, area, accessibility and availability of utilities.

Public Utilities & Community Facilities

Lower Windsor Township and other public agencies provide specific facilities and services that promote the health, safety and well being of its residents. These facilities and services include a variety of elements: police and fire protection, schools, recreation areas, sewer and water services, municipal buildings and equipment. By providing these facilities and services at an adequate level, the Township can increase its overall attractiveness. In order to maintain the existing level of community facilities and public utilities as well as encourage their improvement as the Township grows, the following policies are recommended:

- The planning and development of community facilities should be coordinated with the expected growth of the Township to encourage efficient and effective use of such facilities.

- Land to be utilized for the construction of community facilities and utilities should be acquired and reserved for such use by the Township as early as possible to avoid rising costs of land acquisition.

- The Township should promote sufficient educational, cultural and recreational opportunities for the entire community.

- Development or extension of public facilities or utilities should consider regional (neighboring municipalities) partnerships in the interest of greater economics, mutual benefit and service.

- The development or extension of public utilities should be predicated upon the need to solve existing problems and the desire to achieve orderly growth through implementation of the future land use plan.

- The Township's solid waste management policy should be reviewed based on anticipated growth.

Conservation & Open Space Preservation

The common theme throughout the Community Goals and Objectives section is that of maintaining the rural character of the Township while providing for the commercial, industrial and residential needs of the Township residents. One of the best ways to

ensure that this will be accomplished is through the adoption of strict conservation policies and programs of open space preservation. The following are policy statements regarding conservation and open space:

- Open space should be reserved and preserved and located so as to provide strategic breaks in development, thus ensuring a balanced and harmonious land development pattern.

- Open spaces should be used as an effective buffer to separate adjacent incompatible land uses.

- Undevelopable or marginal land should remain as open space.

- Open spaces along watercourses, streams and drainageways should be preserved as a means of minimizing future flood damages.

- Natural features such as woodlands, streams, hills and scenic vistas should be preserved and protected from haphazard development.

Transportation & Accessibility

Lower Windsor Township is comprised of various land uses, all of which create interacting patterns requiring movement of both people and materials. Presently the vast majority of such movement does and will continue to take place by means of cars and trucks. Consequently the Township's thoroughfare system is of primary importance in facilitating rapid and convenient movement between land use areas and urban centers. Basic policy guidelines concerning transportation are as follows:

- Initiate discussions with state and county regulatory agencies regarding transportation improvements.

- In dealing with and planning for the transportation system, the community should recognize the existence of two distinct but complementary subsystems: the internal (local) circulation system; and the external (arterial) circulation system. A plan should be developed to permit each system to perform its primary function adequately, efficiently and harmoniously.

- Existing roads should be upgraded to meet minimum functional and design standards.

- New roads should be well coordinated with existing streets and should also meet the minimum standards.

- A program of continuous road maintenance should be integrated with a transportation planning program.

- Measures such as directional signs, speed limits and traffic control signs should be used to regulate and control the flow of traffic.

- Design of new transportation facilities that will enhance public transportation and car-pooling should be encouraged.

- Location, density and intensity of new development should be appropriate for surrounding roadways.

NONPHYSICAL DEVELOPMENT POLICIES

Pride & Identity

All too often the individual residents of a municipality such as Lower Windsor Township become unconcerned about the overall operations of the municipality. This attitude cannot prevail in any community that expects to be progressive. The promotion of the following statement will help to advance the Township by instilling within its residents a sense of community pride and identity:

- Lower Windsor Township belongs to the people who reside here, and the condition of the community is the direct responsibility of all its citizens, who must foster pride and identity among themselves through community involvement.

Historic Preservation

The cultural resources of the community should be preserved as a living part of our community life in order to create a sense of orientation for the community.

Environmental Security

Residents of any locale are interested in having a feeling of environmental security in which they know that everything is being done to control blight and prevent land values from decreasing within their municipality. The Comprehensive Plan helps provide this environmental security through the implementation of proper land use controls. By using the following policy as a basis for developing these land use controls, environmental security should be achieved:

- Wherever and whenever development occurs, the quality of the environment of Lower Windsor Township should be maintained or advanced, but certainly not degraded, in order to provide the environmental security which the citizens so rightfully deserve.

Cooperation

It is common knowledge that people working together can do much more than people working

individually. This is true in almost all aspects of life, including efforts to make a community a better place in which to live. Both public and private interest groups who desire to attain this goal should work together. Whether groups include real estate developers, industrial firms, school districts, or Township government officials, they should cooperate rather than compete. In order to achieve community-wide cooperation, the following policy advancing the cause of cooperation over competition should be urged in the development of Lower Windsor Township:

- Cooperation between both private and public interest groups must be advocated in order to insure stability and the effective functioning of the Township as a whole.

IMPLEMENTATION

The physical development policies can be readily implemented through the elements of the Comprehensive Plan. They can be further implemented through land use and development controls, such as subdivision and zoning regulations, which can be formulated as part of the total community planning process.

The nonphysical development policies, however, cannot be implemented so easily. One cannot touch or see pride and identity, a feeling of environmental security or cooperation; they must be experienced through day-to-day living. Local officials should educate the public through conversation and public meetings as to how the Township is intended to develop. Through education, residents will also become aware of how the Township is intended to develop and hopefully become concerned and interested in helping the Township to carry out its plan of development in both the physical and nonphysical aspects.

The previous stated policies for the growth and development of Lower Windsor Township, however, should not be considered permanent. They should be periodically reviewed as the community develops. As conditions affecting Lower Windsor change, the community goals and objectives may likewise have to be modified or expanded in order to address new issues and problems.

2. REGIONAL RELATIONSHIP

LOCATION

As shown on Exhibit A, Lower Windsor is a rural Township located in eastern York County, bordered by Hellam Township to the north, Windsor Township to the west, Chanceford Township to the south, and the Susquehanna River (Manor Township, Lancaster County) to the east. The Boroughs of East Prospect and Yorkana are located within the borders of the Township, along with the unincorporated villages of Craley, Bittersville, Martinsville, Delroy and Long Level. Nearby communities include the Boroughs of Hallam, Red Lion, Windsor and Wrightsville, along with Springettsbury Township. The Township has a total land area of twenty-five (25) square miles. Based on the 2000 United States Census population of 7,405, the Township has a population density of two hundred eighty-three (283) persons per square mile.

REGIONAL INFLUENCES

Most existing development in Lower Windsor Township is of a low-density residential nature and is scattered throughout the municipality. As a result, Township residents travel to other municipalities for most employment, shopping and cultural functions. Thus, many factors that will influence future development in Lower Windsor Township have their origins in other areas. For this reason, it is necessary to recognize the relationship of the Township to the region of which it is a part.

Lower Windsor Township is situated near U.S. Route 30, which is the main artery between urban developments in York and Lancaster counties, centered around the cities of York and Lancaster. As a result, residents look to both areas for cultural, economic, social and political services not available in the Township. The Greater York Area, which includes the City of York and the developed portions of surrounding municipalities, is the dominant community exerting influence on the Township. At some point in time the Township can expect to feel the urban development pressure from this growing and developing area. The extent to which this growth will extend into Lower Windsor Township will depend, to a large degree, on the development policies of the Township.

Although to a lesser extent, highway accessibility to other communities in the region will also influence the growth and development of Lower Windsor Township. For example, State Route 624, which traverses the southern portion of the Township, provides direct access to the Borough of Red Lion, which is a moderate sized community with growing suburban areas. State Route 624 traverses the eastern section of the Township as well and provides access to the Borough of Wrightsville and State Route 462. Route 462, which parallels U.S. Route 30, is a direct route to the urbanized areas of York and

Lancaster. Wrightsville Borough is also accessible to Township residents via State Route 2011, better known as Cool Creek Road. In addition, State Road 2011 provides a direct link to U.S. Route 30. State Route 124 provides linkages with East Prospect and Yorkana Boroughs, plus serves as a direct route to the York Urbanized Area and Interstate 83. Interstate 83 then provides linkages to the cities of Baltimore and Harrisburg, which offer a larger array of shopping, cultural and social activities and facilities. The frequency of trips to these larger cities is limited though because of the travel distances involved.

Past influences on growth within the Township have primarily been from a westerly direction. This trend is expected to continue, although new growth influences from Lancaster County to the east have developed in recent years. Lower Windsor Township is expected to maintain its rural character for the foreseeable future as it does not have the necessary public facilities to support urban style growth.

3. EXISTING COMMUNITY CHARACTER & LAND USE

A comprehensive analysis of existing community character land use patterns in a municipality provides a variety of information that serves as a basis for future land use planning. The pattern that exists at any point in time represents a composite of the past and present activities of the local citizens. The land uses reflect where people live, work, shop and conduct other activities. Because of this relationship between land use and human activities, land use has become a continually changing and evolving phenomenon. This is reflected in the significant changes and differences in the various types and intensity of land use in the community. The catalysts for these land use shifts are the technological and social changes that occur in society, plus the pressures of natural population growth and expansion. These factors will also play a role in preparing a plan for the future development of Lower Windsor Township.

HISTORICAL DEVELOPMENT

Lower Windsor Township received its first major influx of European settlers in approximately 1736. Previous to that year, all settlement was to be kept east of the Susquehanna, but the Indian Treaty of 1736 extended Lancaster County's boundary westward indefinitely. Families of German descent from Lancaster and Chester counties immediately set out across the river via Wright's Ferry to find a new land. These families tended to settle in the Conojehelia Valley (an old Indian name which is now referred to as the Canadochly) that extends across the entire Township in an east-west direction. This valley offered the settlers excellent lands for farming such crops as wheat, corn, oats, rye, potatoes, and hay.

The area was officially organized as Lower Windsor Township in 1838. It was formerly a part of Windsor Township for a period of eighty years.

The first religious services were held in the log houses of the pioneer settlers. However, in 1763, Lutheran and Reformed residents joined together for the purpose of erecting a log church. In June 1764, the structure was dedicated and stood for thirty-six years. A second church was built in 1799 and a third in 1867. English preaching was introduced in1835. Other churches were gradually constructed throughout the Township.

Tobacco growing was introduced into the Township in 1837. Lower Windsor became the "banner" Township in the County for the production of tobacco, as the quality of the crop was equal in quality to that grown in nearby Lancaster County. Cigar factories became a major industry, with Craley being the center of the cigar making industry. This village developed along the Wrightsville-Chanceford Turnpike and many people

settled in this area. About one-third (1/3) of the Township's population was employed in the manufacturing of cigars until the turn of the century. At one time, the area produced 100,000 cigars daily from locally grown tobacco.

Large iron works were also situated in the Township, mostly in the vicinity of East Prospect. Samuel Slaymaker of Lancaster built the first furnace in 1823 at Margaretta Furnace. It was put into operation in 1825 and soon prospered into a large business.

A good quality of ore found in the immediate vicinity was used to make pig iron. In 1825 a foundry, known as Woodstock Forge, was built about one and one-half (1 ½) miles east on Cabin Creek. An extensive business began producing such items as ten-plate stoves, iron kettles, skillets and various kinds of hollow ware.

This foundry had a charcoal furnace and wood was obtained from the surrounding area. About 8,000 cords of wood were consumed annually, stripping the Township of valuable woodland. The iron works were in operation about nine months per year. Each week thirty tons of iron was made. This amounted to about 1,100 tons per year.

At one time, the furnace property included 1,900 acres of land. However, much of the timber was obtained from land of other property owners. Several smaller iron ore companies also conducted business in the area.

Logging was also an important industry in the mid 1800's. Oak and hickory logs cut from the forests between Craley and the Susquehanna River were sent by boat up the river to Columbia. The logs were then sold to the railroads. Other industries that flourished in the Township were Anstine's Fulling Mill and Beard's Tannery.

CURRENT COMMUNITY CHARACTER & DEVELOPMENT PATTERNS

A detailed assessment of Lower Windsor's current community character and development patterns is included in Appendix C, Farmland Preservation Strategy. This assessment highlights the prevailing "town and country" character of the Township, and identifies five basic development patterns within the community, including:

- *Traditional Towns*, such as Yorkana and East Prospect Boroughs
- *Traditional Villages,* such as Craley, Long Level, Delroy, Bitterville and Martinsville
- *Rural Clusters,* dispersed throughout the Township, such as the areas around Eastern High School
- *Farm and Natural Lands,* still predominant across much of the Township
- *Landfill/Recycling,* including the Modern Landfill and adjacent land

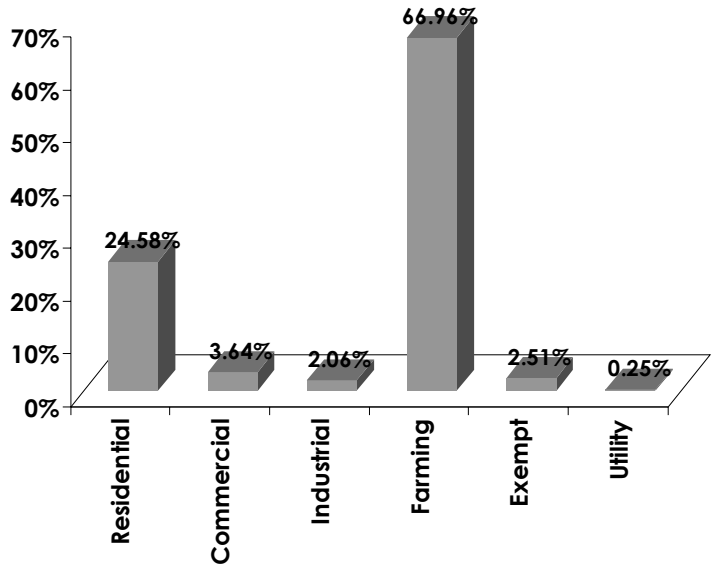
EXISTING ALLOCATION OF LAND USES

To determine the existing allocation of land use in the Township, Geographic Information Systems (GIS) information provided by the York County Planning Commission and the York County Tax Assessment Office was utilized. A partial field survey of the Township was also conducted. Based on this information, existing uses have been divided into seven general categories: apartment, commercial, exempt, farm, industrial, residential, and utility. Exhibit Z, Existing Land Use, illustrates the distribution of these land uses across the Township.

Residential uses include single family, two family and multi-family dwellings. Commercial uses are those that provide income through the exchange of goods and services. Industrial activities are those that add value to an item through changes in the state of refinement, such as chemical manufacturing plants, saw mills, foundries and assembly plants. Terminal and transfer facilities are also included in this category. Exempt uses include those that are under government ownership and control, plus other public uses such as schools, churches, fire stations and parks. Utility uses include all lands used to provide public utilities.

Table 1 provides a detailed breakdown of the land area devoted to each of these uses. As can be seen, the majority of the Township is still used for agricultural purposes.

TABLE 1: EXISTING LAND USE ALLOCATION – 2001



	Acres**	Percentage
Total Land Area	**15632.7**	**100.00**
Residential*	3838.0	24.58
Commercial	567.5	3.64
Industrial	321.6	2.06
Farming	10474.0	66.96
Exempt	391.7	2.51
Utility	39.9	0.25

* Includes apartments

** Not including roadway areas.

Residential Uses

Slightly more than twenty four percent (24%) of the Township's land area is used for residential purposes. The overwhelming residential choice for Lower Windsor Township is the single-family residence and for the most part is represented by the lowest residential densities. Medium density residential areas primarily include the various villages throughout the Township, the mobile home parks and many of the residential subdivisions. A very small area of Lower Windsor Township containing apartments is classified in the high-density residential category. Spatially, the residential uses are dispersed throughout the Township with the higher density residential area, for the most part, forming the core areas of residential growth.

Commercial Uses

Commercial land uses make up over three percent (3%) of the total area of the Township. Activities include professional services and retail businesses including small shops, auto sales and repair, restaurants, snack bars and grocery stores. Other commercial activities include marina facilities, welding shops, and building suppliers. The majority of these uses are scattered along the major thoroughfares. Concentrations of commercial uses occur in the Craley area and in the vicinity of Yorkana.

Industrial Uses

Industrial uses utilize just over two percent (2%) of the Township's land area. Principal activities include Modern Landfill, Curtain Call Costumes, storage of construction materials and the producing of pallets and computer panels. These activities are scattered throughout the Township.

Farming Uses

The largest percent of land area in Lower Windsor Township, approximately seventy-nine percent (79%), is devoted to open space and agricultural uses. Included in this category are vacant lots, tilled land, orchards, pasture and woodlands. The woodlands are mainly associated with the steeper slopes in the Township. Much of the farmland is broken up by development and no area of the Township seems of greater significance than any other area.

Exempt Uses

Exempt uses occupy about two to three percent (2-3%) of the Township land area. Facilities of this nature in Lower Windsor Township include churches, a fire company, schools, the Lake Clarke Rescue Service, the Township building, and recreational areas.

Utility Uses

Utility uses occupy less than one percent of land area in the Township. These uses are mainly land used for public utility facilities.

SUMMARY

In conclusion, the overall development pattern in Lower Windsor Township is one that shows a dispersal of development, with a slightly higher concentration in the northern portion. A variety of land uses are intermingled, especially along East Prospect, Mount Pisgah and Long Level Roads as well as in the Craley area.

Extensive areas of the Township have been retained for open space and agricultural uses. Although some of this land may appear prime for development, the impact of such change on the physical environment and character of the Township must be carefully evaluated.

4. NATURAL FEATURES

The natural characteristics of the landscape in the Township have been an important factor in determining its historical pattern of development. Areas of significant physical constraint - floodplains, wetlands, and steep slopes have generally been less likely to be subject to development. These natural determinants continue to be constraints to development. Other factors, such as the presence of soils especially favorable to agriculture or hydric soils or woodlands, have also been influential in determining activities in Lower Windsor Township.

As part of the examination of existing conditions in the Township, an inventory and analysis of various environmental factors was made. These factors are critical components in any consideration of future alternatives for growth and development. It is also important to note that some of these factors may impose constraints on development while others suggest opportunities for development. It is possible for an environmental factor to represent both an opportunity and a constraint.

Several analysis maps have been prepared that delineate these resources:

- Geology and Structural Geologic Features, Exhibit B.
- Prime Agricultural Soils, Exhibit H.
- Composite Constraints (including floodplains, wetlands, steep slopes, and hydric soils), Exhibits P, O, & L, respectively.
- Suitability for Development, Exhibits M, N, & O.

This series of interrelated, interpretive maps permits the identification of areas requiring preservation, areas requiring conservation, and areas available for development within the Township. Areas requiring preservation include creeks, streams, floodplains, and other lands that are generally undevelopable due to physical characteristics or statutory regulations. Areas in need of conservation include fragile environmental areas such as wetlands, steep slopes, woodlands, and prime agricultural lands. These valuable resources should be protected or conserved due to the environmentally and economically sensitive nature of these areas and to their importance to the community.

For areas not requiring special efforts toward preservation or conservation, there remain other relevant factors that make lands more or less suitable for development. These factors include the availability of water and sewer service (or the prospect of their availability), and road accessibility.

Finally, a composite of these natural features was made and mapped, reflecting the relative suitability of all undeveloped portions of the Township for future development.

Hydrology

In consideration of future development in the Township, drainage patterns are significant in the analysis of stormwater runoff as well as in planning for sanitary and storm sewers. Other hydrologic characteristics contribute strongly to delineating areas that are available for development and those that are constrained for development. Of major concern are flood prone zones adjacent to bodies of water, and wetlands.

Development in floodplains is hazardous to life and property, not only for prospective development sites but in existing developed areas downstream that may be subjected to unexpected changes in stream channel location or in flood heights and velocities. The 100-Year Flood Plain areas shown in Exhibit P have been identified by the Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program.

The most extensive floodplains occur in lowland areas, where stream gradients are lower and the landscape profiles are wider than on hillsides. Floodplains for the streams tend to be relatively narrow. Flood plain soils are generally found adjacent to the stream network. These soils historically have been eroded, transported, and deposited by flood waters and generally indicate and area susceptible to flooding.

Exhibit R, Watersheds, delineates the significant drainage areas of Lower Windsor Township. The Township is bounded on the east by the Susquehanna River and on the south by Fishing Creek.

The Township is located within eight watersheds: Beaver Creek, Bull Run, Cabin Creek, Canadochly Creek, Fishing Creek, Klines Run, Kreutz Creek and the Susquehanna River.

The northwest corner of the Township that is located in the Kreutz Creek watershed is subject to the Act 167 study for that watershed.

Geology

Lower Windsor Township falls within an area of relatively complex geology in the Piedmont Uplands Section of the Piedmont Physiographic Province of Southeastern Pennsylvania, as shown on Exhibit B, Geology and Structural Geologic Features. A variety of bedrock units underlie the Township, which range in age from the late Precambrian Era to the Ordovician Period of the Paleozoic Era (>600 to 450 million years old). These bedrock units were mostly originally sedimentary rocks (shales, sandstones, conglomerates, limestones, and dolomites) which have been metamorphosed to varying degrees. Principal rock types include slate, phyllite, schist, quartzite, conglomerate, meta-limestone, and meta-dolomite, with several

intermediate rock types (e.g. slatey limestone, schistose limestone, schistose quartzite).

The underlying geology has several direct and indirect impacts on land use in the Township, the greatest of which is in matters of groundwater availability and quality. The several bedrock units beneath the Township were originally deposited as sedimentary rocks and later metamorphosed to varying degrees by the forces of the earth. Over geologic time, the several bedrock units have been moved some distance from their point of origin and emplaced as large "thrust sheets" – also referred to as fault "slabs" or "blocks" (tens to hundreds of miles in width) - along low-angle thrust faults which occurred during ancient mountain building periods (hundreds of millions of years ago). These ancient faults are today inactive features, which do not pose the severe risks of active faults, though they may have some importance to ground water occurrence and movement.

The most significant of these ancient faults, known as the *Martic Overthrust* - or more simply as the *Martic Line* where it outcrops - cuts the township from Long Level on the east towards Freysville to the southwest. The next most significant of these faults is the *Stoner Overthrust*, which outcrops roughly parallel to and mostly just to the northwest of the northwestern border of the township, along the southeastern side of the York-Wrightsville Valley. The outcrop of the Stoner Overthrust just "clips" the extreme northern corner of the township, northeast of the intersection of Long Level Road and Hilt Road. The structural geologic features (overthrusts, synclines, anticlines) are shown on Exhibit B.

The bedrock units of Lower Windsor Township are broadly divided into: (1) those units of the Stoner Overthrust block north of the Martic Line; and (2) those units of the Martic Overthrust block south of the Martic Line. One smaller-scale overthrust fault within the Stoner fault block, the outcrop of which passes through Margaretta Furnace, is known as the Ore Valley Overthrust.

Original bedding in the rocks has been folded, and in many portions of the Township obliterated by metamorphic recrystallization. In much of the Township a foliation or cleavage (alignment of flat or elongate mineral grains) in the metamorphosed rock imparts the appearance of layering, not original bedding.

Faults and fold axes within the Township have a general northeast-southwest trend. This faulting and folding of the rock mass along a northeast-southwest structural trend has caused bedrock units across the Township to outcrop in belts with a general northeast-southwest trend. Erosion of these folded and faulted units has in turn caused more resistant bedrock units to rise as ridges and hills and less resistant units to form valleys. This differential erosion of more and less resistant units along their northeast-southwest folded and faulted belts has

given rise to a general northeast-southwest topographic grain across the Township.

The basic bedrock geology of the Township and mining history as discussed herein are derived largely from the mapping and descriptions of Stose and Jonas (1939).

Bedrock units in the Stoner Overthrust block in the northwestern approximate two-thirds of the Township (north of the Martic Line), and in the Martic Overthrust block in the southeastern approximate one-third of the Township (south of the Martic Line) are of a similar range in age, but are dramatically different in character. Included in the bedrock units north of the Martic Line are carbonates (limestones and dolomites metamorphosed to *meta-limestones* or *meta-dolomites*, or collectively *meta-carbonates*). The rocks north of the Martic Line have also been subjected to a low grade of metamorphism. Bedrock units to the south of the Martic line include no carbonates and these rocks have been subjected to a higher "regional" grade of metamorphism. The more highly metamorphosed rocks south of the Martic Line are generally referred to as "crystallines."

The oldest bedrock unit north of the Martic Line, which is exposed in the core of three anticlines, is the Chickies Formation which is predominantly a black slate with quartize interlayers but includes thicker, lighter colored quartzite intervals and a basal conglomerate member, the Hellam Conglomerate. The Chickies Formation, due largely to its resistant quartize and conglomerate members, is a prominent ridge former in the Township.

The most expansive belt of the Chickies Formation in the Township is in the core of the Mount Pisgah Anticline, which follows the northwestern border of the Township and forms a broad ridge between the York-Wrightsville Valley to the northwest and the East Prospect Valley to the southeast. The Chickies Formation also forms smaller ridges in the cores of two smaller anticlines, the Holtz Anticline near the intersection of Manor Road and Smyser Road and an unnamed anticline which falls along Gun Club Road.

The Harpers Formation, which consists of gray-green phyllite and quartzose phyllite, is the next youngest formation above the Chickies Formation north of the Martic Line. The largest belt of Harpers Formation occurs on the southeastern flank of the Mount Pisgah Anticline, from the area of Yorkana on the southwest through Trinity Church on the northeast. Smaller belts of the Harpers Formation outcrop on the flanks of the two anticlines in the west central portion of the Township, in the area of Gun Club Road, Smyser Road and Manor Road. One of these belts of Harpers Formation extends to the east, generally between Furnace Road and Willow Creek Road on the north and Taylor Road and Pine Hollow road on the south. This belt of the Harpers Formation occurs on the south side of the Ore Valley Overthrust Fault, which passes through Margaretta Furnace.

The East Prospect Valley to the southeast of the Mount Pisgah Anticline is coincident with a broad downfold in the rocks known as the East Prospect Syncline. The Antietam Formation, which consists of phyllitic quartzite, occurs above the Harpers Formation in a large irregular belt within the East Prospect Syncline, from the area of Modern Landfill on the southwest, through the northern portion of East Prospect, through the area of Trinity Church Road, to the Susquehanna River. The Antietam Formation also occurs as a belt around the core of another smaller unnamed syncline, generally in the area of Taylor Road and Pine Hollow Road, in the central portion of the Township, just north of the Martic Line.

Some of the lowest terrain in the Township is formed by two meta-carbonate units and a somewhat related shale unit: (a) the Vintage Formation; (b) the Kinzer Shale; and (c) the Conestoga Formation.

The Vintage Formation, which consists largely of impure meta-dolomite with some meta-limestone, occurs on the northern flank of the East Prospect Syncline in an irregular, narrow belt near Water Street and Trinity Church Road. Along the narrow irregular outcrop belt of the Vintage Formation in the same area is a parallel narrow belt of the next younger unit, the dark-gray Kinzer "Shale" of the Kinzer Formation. Based on exposures along Trinity Church Road, the Kinzer "Shale" in this area has been metamorphosed, and is largely a slate with some grading to a phyllite. The Kinzer Shale may contain some calcareous interbeds. A small outcrop area of the Kinzer Shale also occurs just north of the Stoner Overthrust, in the extreme northern corner of the Township.

A small belt of the Vintage Formation also occurs just north of Taylor Road on the northern flank of a small unnamed syncline in this area. Another small area of the Vintage Formation outcrops along the axis of the East Prospect Syncline, just north of the Ore Valley Overthrust Fault, between Farmal Lane and Manor Road.

The most laterally extensive meta-carbonate unit in the Township is the youngest unit north of the Martic Line, the Conestoga Formation. The Conestoga Formation consists of schistose or phyllitic limestone. It occurs in a broad area in the center of the East Prospect Syncline, to the south, southwest, southeast, east and northeast of East Prospect. Four smaller outcrop belts of Conestoga Formation occur: (a) one near the intersection of Farmal Lane and Furnace Road; (b) one which crosses Barcroft Road along the axis of the East Prospect Syncline west of East Prospect; (c) one in the valley bottom near Modern Landfill; and (d) one in the center of a small unnamed syncline along Taylor and Pine Hollow Roads.

The Marburg Schist, a bluish gray to silvery green, fine-grained schist, covers most of the area within the Township south of the Martic Line. The outcrop area of the Marburg Schist comprises approximately

one-third of the Township. Just south of the Martic Line, small belts of slate and quartzite, found in the upper portion of the Marburg Schist, occur within the Yoe Syncline near Old Commons Road.

The outcrop area of the Marburg Schist forms a broad dissected upland to the southeast of the East Prospect Valley.

A small area of schists of the Wissahickon Formation occurs at the extreme southern corner of the Township. This small area of Wissahickon Schist within the Township has been divided into two units (WAS3 & WAS4) based on mineral assemblages and grain size.

Mineral Resources

Although currently there is no active mineral extraction (mining) in the Township, there was historical mineral extraction in the Township from several small pits, and there are bedrock and residual soil deposits in the Township that may have some value for future mineral extraction; given several factors, including trends in the mineral industry, proximity to markets, and quality of deposits, potentially economically extractable mineral resources in the Township are probably quite limited.

During the mid-1800s, a low grade of iron ore known as *limonite* was extracted at numerous small pits in the Township. This low-grade residual or weathering-related ore formed over the Conestoga Formation meta-limestone near its contact with the Antietam Formation (phyllitic quartzite). These small limonite deposits have not been economically viable to mine since the late 1800s. Limonite was mined in a belt of small pits from the area of Margaretta Furnace to the western side of East Prospect, in a belt of small pits along Taylor Road and Pine Hollow Road, and in a single small pit southwest of Delroy.

Historically, slate was mined from the Chickies Formation Slate in the extreme western corner of the Township in small pits along Kreutz Creek. Slate occurs within several units in the Township, including the Chickies Formation, the Kinzer "Shale" and the Marburg Schist; but, like the limonite iron ore mined historically, the slate deposits of the Township are probably not currently economical viable even for manufacture of roofing granules. Current slate production in the region is from larger, generally higher-quality deposits (for example, Penn-Argyl Slate Belt of Lehigh-Northampton Counties; Barnes, 1997).

Building stone of various types (schist, quartzite, meta-limestone) was mined from small pits or banks in many places in the Township, although such localized mining, like iron ore and slate production, effectively stopped years ago.

Meta-limestone was mined from the Conestoga Formation in small pits south of East Prospect either for lime production or for crushed stone.

The two currently active mines in York County closest to the Township, within formations that are also present within the Township, are the Glen-Gery Corporation pit on the southeast side of York, from which residual clay and/or phyllite are extracted from the Harpers Formation for brick manufacture, and the York Silica Sand, Inc. quarry near Wrightsville, just north of the Township, from which quartzite of the Antietam Formation is mined for coarse and fine aggregate and anti-skid (Barnes, 1997).

Based on current mineral production in the region, proximity to markets, and likely future trends, the mineral deposits in the Township that may have some current or future economic value include phyllite and residual clays developed over phyllite or meta-carbonates, or possibly over other units, for brick or other ceramic manufacture (O'Neil et. al., 1965) and the quartzites and possibly the meta-carbonate units which might have some value for production of construction materials (crushed stone – fine and coarse aggregate). Foliation or cleavage within the meta-carbonates would, however, probably limit their suitability for production of construction materials. Some schists or phyllites in the Township might also have value for crushing or grinding to produce fillers. Statewide, clay production for brick and ceramic production has declined since 1960 (Berkheiser & Barnes, 1999), so future extensive extraction of clay or phyllite in the Township for manufacture of bricks or ceramics is not likely.

Based on the above range in potentially extractable types of minerals, the units with the greatest mineral-resource potential in the Township are those north of the Martic Line, including the Harpers Formation, the Chickies Formation, the Antietam Formation, the Conestoga Formation, and the Vintage Formation. Large-scale future mining in the Township is not likely given current trends and the quality of the mineral deposits, though some limited future mining is certainly possible.

Land Use Problems Other Than Ground Water Issues Related To Geology

Excluding groundwater problems and obvious problems that are reflections of the basic topography, hydrology, and geology of the Township, such as steep slopes and floodplains, the geology of the Lower Windsor Township presents few land-use problems. Minor earthquake and sinkhole hazards are the greatest of the possible non-groundwater, geologically related problems.

There is a potential for minor earthquakes within the Township. The southeastern portion of Pennsylvania is the most seismically active portion of the state (Gordon & Dewey, 1999); and the Township falls just on the western side of the known Lancaster Earthquake Zone, where numerous earthquakes of low to moderate intensity (Modified Mercalli IV to VII Intensities) have been recorded between 1724 and 1994. The largest recorded earthquake in or near the Township, with an intensity of VI on the Modified

Mercalli Scale, occurred in 1889 with an epicenter near Mount Pisgah (N40.00^0 W76.55^0). An earthquake with an intensity of V also occurred in 1978 with an epicenter near East Prospect (N39.97^0 W76.51^0). Damage from earthquakes of such intensity would be slight.

Approximately 15% of the land area of the Township, or 23% of that portion north of the Martic Line, is underlain by the solution-prone meta-carbonates of the Conestoga and Vintage Formations, and the Kinzer Shale, which could include some carbonates. These meta-carbonate areas have moderate relief and have not formed an extensive karst terrain, typical of many carbonate outcrop belts in the state. The generally impure nature of these meta-carbonates may be the reason for the general lack of karst features (sinkholes, disappearing streams, caves, etc.). Although no sinkholes are reported by Township employees familiar with the area, some such features probably exist somewhere within the meta-carbonate terrain of the Township, as they have been found in the same meta-carbonate formations in the York-Wrightsville Valley to the northwest.

Development or construction within the meta-carbonates should consider that there is some potential, although probably low, of sinkhole formation. Sinkholes can be both naturally occurring features and features induced by human activity. Land uses or activities that could induce new sinkholes in the Township's meta-carbonate terrain included concentration of storm water and artificial lowering of the water table, particularly in valley bottoms, through large pumping wells or dewatering at quarries (Newton, 1987).

Surface Water

The eastern boundary of the Township is formed by the Susquehanna River, and several generally northeast-flowing streams tributary to the Susquehanna drain the Township. To the south of the Martic Line, the principal streams are Fishing Creek and Beaver Creek. Most of the East Prospect Valley and the northern portion of the area south of the Martic Line are drained by Cabin Creek and its tributaries. Southeast flowing Canadochly Creek drains the northeastern portion of the East Prospect Valley and there are other small unnamed streams at the northeastern corner of the Township which are tributaries to the Susquehanna River. Generally northeast flowing Kreutz Creek, which cuts to the north across the Mount Pisgah Anticline into the York-Wrightsville Valley at the western corner of the Township, drains northwestern portions of the Township. Streams are found on Exhibit S.

Hydrogeology

Water budgets prepared by the US Geological Survey and the Pennsylvania Topographic and Geologic Survey for the nearby Codorus Creek basin (Lloyd and Growitz, 1977), which is underlain by the same bedrock units and covers similar terrain

as Lower Windsor Township, for the period from 1940 to 1970, show average annual rainfall of about 41 inches, average annual stream flow of about 14 inches, and average annual evapo-transpiration (ET) including both ET from the unsaturated zone and ET directly from the groundwater reservoir (ground water ET) of approximately 27 inches.

In another nearby basin in southern York County, the Muddy Creek basin which is almost entirely within the Wissahickon Formation, 70% of stream flow was estimated to be groundwater discharge or groundwater base flow. With 70% of stream flow equal to groundwater discharge, approximately 9.8 inches or 467,000 gallons per day per square mile on average is groundwater discharge. Total recharge includes both this groundwater discharge to stream flow (base flow) and groundwater evapo-transpiration (groundwater ET), which was not differentiated from total ET in these water budgets. Consequently, total average annual groundwater recharge in Lower Windsor Township is at least likely to be 467,000 gpd/mi^2, and probably closer to 600,000 gpd/mi^2 if the groundwater ET component of total recharge were included.

Detailed water budgets for the Little Conestoga Creek basin in nearby Lancaster County and the Muddy Creek Basin in southern York County showed Specific Yields (effective aquifer porosity within the zone of water table fluctuation) of 0.04 and 0.08 (4 to 8% by volume) respectively. The higher number in the Muddy Creek basin, virtually all of which is comprised of the Wissahickon Formation, probably reflects deep weathering in this crystalline-rock terrain. To illustrate the importance of ground water storage to the water resources of the Township, at a specific yield of 0.06 – the average of the two values from these area water budgets - approximately 125 million gallons of ground water would be in storage per square mile in the Township within a 10 ft zone of water table fluctuation. It is this large ground water storage that sustains stream and spring base flow and well yields in dry periods.

Lower Windsor Township is effectively underlain by a patchwork of many localized aquifers with highly variable properties. The most laterally extensive aquifers are probably the meta-carbonate units.

The various bedrock units across the Township form "fractured rock" aquifers, where groundwater occurs and moves along breaks in the rock such as joints, faults, foliation or cleavage partings and bedding-plane partings. Certain zones of the meta-carbonate rock units are likely to have enhanced hydraulic conductivity due to dissolution and enlargement of some of these various partings in the rock mass. In some of the bedrock aquifers, zones of deep weathering are zones where the highest volumes of ground water are stored. The ranking order of bedrock aquifer yields is shown on Exhibit C.

Fractured-rock aquifers tend to have highly variable transmissivity (a measure of the ease of groundwater movement). In a recently completed

study of an area within the Township in the Marburg Schist (PGC, 2001), bedrock was found to vary by 3 to 4 orders of magnitude (highest transmissivity 1,000 to 10,000 times greater than least transmissivity), which is typical of such terrain.

In Piedmont terrain such as that of the Township, a basic relationship between well yield and topographic position has long been recognized (Heath, 1989). Valley wells typically have the highest yield due probably to increased fracturing beneath valley bottoms and greater saturated thickness, while hilltop or upper slope wells often have the least yield due to the occurrence of fewer open fractures beneath hilltops and due to less saturated aquifer thickness. This relationship of well yield to topographic setting was found in a regional study of southern York County (Lloyd and Growitz, 1977), and in the previously mentioned study of some of the Marburg Schist terrain within the Township (PGC, 2001).

Except for some of the meta-carbonate rock areas, bedrock aquifers within the Township are mostly highly localized "valley slope aquifers" (LeGrand, 1989), which extend from ridge lines or hilltops to nearby valleys containing perennial streams. This pattern of numerous localized aquifers, with relatively short distances of ground water flow from recharge areas to discharge areas, is very different from areas where "regional aquifers" or "regional flow systems" are present. In aquifers of more regional extent, ground water typically flows over distances of a few miles to tens of miles from recharge to discharge areas (for example, carbonate aquifers of the Cumberland Valley). Within much of the Township, the more localized valley-slope aquifers probably have groundwater flow distances from recharge to discharge areas of from 1000 feet to 2 miles. Because most of the aquifers across the Township are generally localized "valley-slope aquifers", as opposed to regional aquifers, groundwater-quality problems associated with contaminant sources tend to be localized. A pervasive pattern in the Township, as in much of the region, is for "strike parallel" flow, where ground water tends to move preferentially to the northeast or southwest along the strike of the inclined bedding, cleavage or foliation (Lloyd & Growitz, 1977). This pattern of preferential strike-parallel flow may result in localized valley-slope aquifers which are elongate in extent to the northeast and southwest.

Identifying specific recharge areas within the Township that deserve some degree of special protection is a difficult task, as most areas outside of valley bottoms that contain perennial streams, including valley slopes and hilltops, are recharge areas. Recharge areas therefore probably cover more than 80% of the Township.

In their study of the ground water resources of central and southern York County, Lloyd and Growitz (1977) assessed the well-yield characteristics of the several bedrock units that underlie the

Township. Their ranking of well yield characteristics is summarized below in Table 2. Specific capacity, as used in this summary, is a measure of the yield of a well divided by the drawdown of the water level at the well necessary to support that yield. This parameter is time dependent. The longer the pumping period, the lower the specific capacity.

Based on this data, the poorest yielding bedrock units (lowest median specific capacities and lowest reported maximum yields) in the Township in general are the Marburg Schist south of the Martic Line and the Antietam Formation north of the Martic Line. The units where the highest well yields are likely to be found are the two meta-carbonate units north of the Martic Line, the Conestoga Formation and the Vintage Formation. Carbonate units typically support the highest well yields due to dissolution enlargement of joints, fractures, and other partings in the rock mass.

A recently completed detailed study of an area within the Marburg Schist within the Township, in an area of numerous reported well-yield problems near the Villages of Bittersville and Martinsville (PGC, 2001), confirmed the low-yielding characteristics of the Marburg Schist. In this study, 6 of 17 wells tested for yield during a late-summer low-water-table period had yields of less than 0.25 gpm, too little for adequate residential supplies. These low-yield wells were scattered throughout the study area and, as expected, were located mostly on upper slopes or hilltops.

TABLE 2: WELL YIELD CHARACTERISTICS

UNIT	RANGE IN SPECIFIC CAPACITY (GPM/FT)	MEDIAN SPECIFIC CAPACITY (GPM/FT)	MAXIMUM REPORTED WELL YIELD (GPM)
ANTIETAM FM.	0.037 – 5.3	0.12	40
MARBURG SCHIST	0.035 - 2.15	0.28	70
CHICKIES FM.* (SLATE & HELLAM CONGLOMERATE)	0.04 – 780	0.34	100
HARPERS FM.	0.03 – 3.0	0.39	100
KINZER SHALE (OF KINZER FM)	0.06 – 5.3	0.35	111
VINTAGE FM	0.035 – 18	0.16	300
CONESTOGA FM	0.04 – 45	1.3	250
WISSAHICKON FM	0.03 – 50	0.95	150

* Atypical

The high percentage of shallow yielding zones and the sparseness of deeper yielding zones in certain areas within this bedrock unit were responsible for the reported seasonal well-yield failures. Wells dependent largely on shallow yielding zones tend to dramatically lose yield or, in the extreme, "go dry" during seasonal dry periods or during droughts as these shallow yielding zones dewater with a falling water table. This pattern of numerous shallow yielding zones but few deep yielding zones (predominantly shallow open fractures) in certain areas, and the resultant problem of seasonal well-yield failures, is typical of many Piedmont crystalline-rock units such as the Marburg Schist.

In any of the bedrock units of the Township, the largest well yields could be expected in valley bottoms, along fractured zones (fracture traces), and possibly along faults.

Based on the work of Lloyd and Growitz (1977), the non-carbonate bedrock units within the Township tend to produce somewhat acidic ground water which has low to moderate dissolved solids (Table 3). As is the typical case, the meta-carbonate units, including the Kinzer Shale which might contain some calcareous beds, yield ground water with a more nearly neutral to slightly alkaline pH (Table 4) and higher dissolved solids (though still generally within drinking water limits) than the non-carbonate units.

TABLE 3: NON-CARBONATE UNITS

UNIT	MEDIAN pH	MEDIAN SPECIFIC CONDUCTANCE (micromhos/cm)
Wissahickon Formation	5.9	125
Marburg Schist	6.0	130
Harpers Fm.	6.6	220
Chickies Fm.	5.5	80
Antietam Fm.	6.0	185

TABLE 4: META-CARBONATE UNITS INCLUDING KINZER SHALE

UNIT	MEDIAN Ph	MEDIAN SPECIFIC CONDUCTANCE (micromhos/cm)
Conestoga Formation	7.0	550
Vintage Formation	7.2	410
Kinzer Shale	6.6	330

Dissolved metals such as iron and manganese are a sporadic problem in ground water from the non-carbonate units, probably largely as a result of the natural acidity of the ground water in these units.

In the recent detailed study in the Marburg Schist terrain in the Township near Bittersville and Martinsville (PGC, 2001), 89% of 65 sampled wells and springs had a pH of less than 6.0 and over 1/3rd of these sampled supplies had pH values of less than 5.0, suggesting that ground water in this unit may be

more acidic than the more limited data set of Lloyd and Growitz (1977) would indicate. The largest problem related to this naturally acidic ground water in the Marburg Schist and in the other non-carbonate units in the Township (Chickies, Harpers, Antietam, & Wissahickon Fms.) is the tendency of this ground water to attack metal pipes in distribution systems, including lead soldered joint copper pipes. As a result, some health-endangering metals like lead might occur in these water supplies at levels greater than accepted drinking water limits.

In the recent study of the Marburg Schist terrain within the Township near Bittersville and Martinsville (PGC, 2001), nitrate was found to be the most pervasive health-endangering contaminant introduced by human activity. Nitrate-nitrogen was found to exceed the safe drinking water limit of 10 mg/l in 25% of the sampled water supplies. The high percentage of upland terrain with well drained soils in the Township; and the presence of Piedmont-type crystalline and lower-grade metamorphic-rock aquifers, which tend to have high permeability or hydraulic conductivity in the weathered zone, favor thorough nitrification of nitrogenous organic wastes placed at the surface or in the shallow subsurface, with resultant significantly elevated nitrate in ground water in areas of concentrated application of such waste. In addition to organic waste (sewage effluent, sewage sludge, animal waste such as manure, etc.) other sources of nitrate include residential lawn fertilizers and agricultural crop fertilizers. Based on similar terrain and land uses, this same pattern of numerous "spotty" zones of high nitrate is likely in many other portions of the Township.

High nitrate zones in ground water were found to correlate to both agriculture and to high-density clusters of residences with on-lot sewage drain fields. Ground water in or near barn-yard areas was typically high in nitrate. Those zones where several residences with on-lot sewage drain fields were clustered on relatively small lots (high density) also tended to have some areas of high nitrate in ground water. The numerous scattered zones of high nitrate found in ground water in this study are consistent with the numerous scattered potential sources from both residential development and agriculture the tendency for local valley-slope aquifers of limited extent to occur in this Piedmont terrain.

Many other sources of contamination exist within the Township, although most are highly monitored or regulated under current environmental programs. Included in these are the Modern Landfill near the western corner of the Township and underground storage tanks for petroleum products (for example, gas stations).

In the study near Martinsville and Bittersville, total coliform counts were positive in 43% of the tested water supplies, while fecal coliform (E. Coliform) was found in only 3% of the tested water supplies. Many of the total coliform counts may be attributable to marginal construction of these water supplies, such

as ungrouted well casings. It is not common practice for well drillers to grout or seal well casings in this area.

The meta-carbonate units north of the Martic Line, including the Conestoga Formation, Vintage Formation and the Kinzer Shale, form potentially the most productive aquifers with the best quality (near neutral to slightly alkaline) ground water in the Township. Although this meta-carbonate terrain is not typically karst, there is also some potential, although probably low, for sinkholes and related problems in this terrain. As with all of the bedrock units in the Township, the highest yielding wells in the meta-carbonates are likely in valley bottoms. For instance, in 1967, East Prospect Borough had a well drilled with a reported yield of 100 gpm in the Conestoga Formation meta-limestone in the Cabin Creek Valley near Margaretta Furnace, southwest of the Borough (Lloyd & Growitz,. 1977).

The meta-carbonate outcrop areas within the Township, and in particular valley bottom areas within these outcrop areas, should be carefully considered in planning land use to preserve the quality and accessibility of the meta-carbonate aquifers for potential public water supply demands. In delineating this meta-carbonate zone, the Kinzer Shale outcrop area should be lumped with the outcrop areas of the higher-yielding Conestoga and Vintage Formations. The Kinzer Shale may contain some solution prone carbonate beds, and the Kinzer Shale overlies the Vintage Formation. Some high-yield wells may be possible within the Kinzer Formation therefore and drilling through the Kinzer Shale into the underlying Vintage Formation may develop some high yield wells.

Certain portions of the Township have low-yield bedrock units, which, in certain limited areas, will not support even the low demand of residential wells. Based on regional studies and recent detailed local studies, the zones where there is increased likelihood of finding excessively low yielding wells are hilltops and upper slopes within the Marburg Schist south of the Martic Line and within the Antietam Formation north of the Martic Line. Future residential development of such areas should proceed cautiously to insure adequate water supplies.

In the non-carbonate terrain of the Township (Chickies, Harpers, Antietam, Marburg and Wissahickon Formations which cover approximately 85% of the Township) naturally acidic ground water is the primary groundwater quality problem. This naturally acidic ground water has caused problems of dissolved metals such as lead and copper in residential drinking water systems, as it attacks metal pipes. Treatment (neutralization) or use of plastic pipes in place of solder jointed copper pipes is critical at these residential water supplies that rely on wells and springs which yield acidic ground water, to prevent ingestion of health endangering metals like lead.

The most pervasive ground water contaminant in the Township introduced by human activity is probably nitrate. Excessive nitrate in ground water in the Township has been found related to both intensive agricultural activities and dense clusters of residences with on-lot sewage disposal. Nitrate-contaminated zones within ground water form a "spotty" pattern due probably to the spotty nature of the sources and the occurrence of numerous localized valley-slope aquifers within the bedrock units of the Township. Planning should consider this pattern, particularly when assessing the density of future residential development relying on on-lot sewage disposal. Alternatives to conventional on-lot sewage disposal systems (for example, denitrification systems) should also be considered.

Certain lawful activities, such as mining and agriculture, have the potential to affect water supplies, and such impacts should be considered in the planning process. While there currently is no mining in the Township, there is the potential for some future mining based on the nature of mineral deposits. Agriculture, unlike mining, is currently fairly extensive in the Township, and the largest ground water problem likely to result from agriculture is elevated nitrate.

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SOILS AND TOPOGRAPHY

Soils information is a vital component of any natural resource evaluation because soil characteristics indicate the inherent suitability of an area for development, agriculture, or other land uses. The principal source of soils data for the Township is the Natural Resources Conservation Service. The soils data was updated in August 1995 by Natural Resources Conservation Service by digitizing aerial photographs into a GIS (Geographic Information System). The soil data was then made available to York County's GIS Department to be included with the County's GIS data.

In general, soils are a very complex mixture of various amounts of weathered rock, minerals, organic matter, water, and air. Through the action of climate, plants and animals on these geologic materials, soils are formed over long periods of time.

An important influence on development patterns is the "lay of the land" - its hills and valleys, stream channels and depressions. An area's topography, usually described in terms of elevations and degree of slope, can either permit or prohibit the type and amount of development desired. The location of roadways and buildings, and the planning of public utilities, is clearly affected by the topography.

Elevations in Lower Windsor Township range from less than three hundred (300) feet to more than eight hundred (800) feet above sea level. The higher elevations are along ridges formed by the hard cambrian rock. Mt. Pisgah, whose summit is eight hundred sixty (860) feet above sea level, is the highest point in the Township. After millions of years of carving away the area's limestone, quartzite and schist, rivers and streams now flow through the lowest land. Along the Susquehanna River, the elevation drops to about two hundred forty (240) feet. The topography of Lower Windsor Township is shown on Exhibit D.

Along with elevation, there is a corresponding slope condition. The slope of the ground reflects the rate of change in elevation. It is generally expressed as a percentage, being defined as the amount of change in vertical elevation over a horizontal distance of one hundred (100) feet. The various degrees of slope affect the suitability of land for certain types of development.

If other factors are favorable, land with a zero (0) to fifteen (15) percent slope is generally suitable for all uses. On Exhibit M it can be seen that land in the zero (0) to fifteen (15) percent category is scattered throughout the Township.

Moderate slopes of fifteen (15) to twenty-five (25) percent are usually considered suitable for residential and associated uses only. These areas are also scattered throughout the Township. Such land is too steep for large commercial and industrial buildings and would require expensive grading in order to be utilized for such uses. These slopes are shown on Exhibit N.

The twenty-five (25) percent slope category (referenced in Exhibit O) is generally usable only for very low-density residential development. Steep slopes are difficult and costly to develop. Thus, in many instances, especially when the slopes exceed twenty (20) percent, they are suitable only for woodlands, natural preserves, scenic areas and similar uses.

The steepest slopes, over twenty-five (25) percent (Exhibit O), are mostly located along the major streams and ridges. In these areas construction costs are often prohibitive. Farming is very difficult and causes erosion and stream siltation. The primary value of these slopes is in their use as scenic areas, woodlands and natural preserves. To achieve maximum benefits, development of these scenic slopes should be carefully controlled.

There are twenty-seven (27) different soil series located in Lower Windsor Township (Exhibit E).

Appendix B presents detailed information on the characteristics of these soils.

The Township's soils and slopes are divided into three (3) categories with respect to suitability for on-lot sewage systems. These categories are:

- Soils and slopes generally suitable for conventional in-ground and elevated sand mound sewage systems (Exhibits I & M, respectively)

- Soils and slopes generally suitable for only elevated sand mound sewage systems (Exhibits J & N, respectively)
- Soils and slopes that are unsuitable for on-lot sewage systems (Exhibits K & O, respectively)

This classification system has been directly correlated with the criteria and requirements established by the Pennsylvania Department of Environmental Protection under Title 25 of the Pennsylvania Code. In addition, it should be noted that the above referenced marginal suitability classification indicates that either slopes or soil limiting zones may be unsuitable for on-lot sewage systems, and that further on-site investigation is necessary to make such a determination.

Approximately 30% of the Township may be suitable for conventional in-ground and elevated sand mound disposal systems. In addition, another 30% of the Township has soils and slopes that are generally suitable only for elevated sand mound use and the final 37% of the Township has soils and slopes that are generally unsuitable for any on-lot sewage systems.

Prime Agricultural Soils

Areas in Lower Windsor Township classified as Prime Agricultural Soils by the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS), formerly the Soil Conservation Services (USDA SCS), are shown in Exhibit H. Prime agricultural soils are defined as land best suited for producing food, feed, forage, fiber, and oilseed crops, and also available for these uses. (The land could be cropland, pastureland, rangeland, forestland, or other land, but not built-up land or water). It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods. Prime Agricultural Soils consist primarily of soils of Agricultural Capability Class I and II. Statewide important soils are classified as Capability Class III. The Pennsylvania Municipalities Planning Code considers prime agricultural soils to be those of Class I, II, and III.

There is considerable prime agricultural land in Lower Windsor Township, although the pattern is fragmented. While more prevalent in the southern part of the Township than in the northern part, various sizes of "patches" of prime agricultural soil are widespread throughout, meaning that issues of conservation of prime agricultural soil are relevant to virtually all parts of the community (see Exhibit H).

Agricultural Capability

Although the number of acres in farmland has declined from past years, agriculture is still an important part of the Lower Windsor Township economy. It is estimated that about 10,474 acres, or over sixty-seven percent (67%) of the Township, consists of farmland and other open space. The best agricultural lands are usually also the best suited for development. Therefore, if the Township should decide that farmland should be preserved, as residents indicated in the survey, a conscious effort will be necessary to do so.

The Agricultural Capability Map (Exhibit G) attempts to delineate the best lands for farming based on seven (7) classes of soil defined by the U.S. Soil Conservation Service. The seven (7) classes of farmland were simplified for this map by combining them into three (3) categories: good, fair and poor.

Approximately forty-one percent (41%) of Lower Windsor Township's total land area has been classified as "poor" for rotational farming. These soils

are especially prevalent along the steeper slopes adjacent to the stream valleys and drainage channels. The soils in this "poor" category vary in depth, fertility and moisture capacity, but they tend to be stonier than others in the Township. They are not suited to cultivation because of very severe natural limitations. Instead, they can be best used for pasture, woodland, recreation or scenic areas.

Areas designated as "fair" in agricultural capability consist of the gently to moderately sloping soils scattered throughout the Township. These areas comprise approximately twenty-seven percent (27%) of the Township's land area. The fair soils are deep, moderately deep, shallow, stony and non-stony with a wide range in natural fertility and moisture holding capacity. Although these soils have severe natural limitations produced by soil properties, slopes or erosion, they are rather well adapted to rotational cropland. Their organic matter content can be maintained and the soil structure preserved if a four (4) or five (5) year crop rotation is used, cover crops are grown and residues from row crops are plowed under. Contour strips and diversion terraces should be used to conserve soil and water.

Roughly thirty-two percent (32%) of the Township's soils are classified as "good" for agricultural production. The majority of this category consists of Chester soils (formed from schist or phyllite) found on the gentler slopes of the Township. They generally are deep to moderately deep and well-drained. They also have a wide range in natural fertility and moderate to high moisture-holding capacity. Although there are some natural limitations, "good" soils are generally well-adapted to intensive agricultural use. A three (3) year crop rotation can be used if the organic matter content is maintained, tillage is kept to a minimum and residues from row crops are left. On slopes over two percent (2%), contour strips, cropping or diversion terraces should be utilized. The productivity of moderately well-drained soils can be improved by installing surface and subsurface drains.

Wetlands

Wetlands are among our most valuable resource areas because they control flooding, improve water quality, and support a wide variety of animal and plant species. Wetlands are characterized generally by high water table, poor drainage, and some degree of surface ponding during the year. Most hydric soils qualify as wetlands if they support predominately hydrophytic vegetation. Wetlands are regulated by the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection (PA DEP). Essentially, no development activity may occur in a wetland area without a permit. The permit process requires an investigation of development alternatives. Mitigation may be required if development is to proceed; creation of new wetlands may be required to replace those wetlands disturbed or destroyed by development activity.

Although no comprehensive inventory of wetlands in Lower Windsor Township currently exists, the National Wetlands Inventory (NWI) undertaken in the 1980s by the United States Fish and Wildlife Service and the (then) Pennsylvania Department of Environmental Resources delineates wetlands in the Township. Wetlands are delineated on Exhibit P.

According to the NWI, there are two types of wetlands in Lower Windsor Township: Palustrine (swamps and small ponds) and Riverine (perennial or intermittent creeks or streams). Many of the qualifying palustrine wetlands in the Township are farm ponds, in which surface water is impounded for use in agriculture.

Most hydric soils (Exhibit L) also qualify as wetlands. A hydric soil is one that in its undrained condition is flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

Watersheds

The Township lies mostly within the Middle Susquehanna River watershed. The northeastern part of the Township is drained by Canadochly Creek, Klines Run and their tributaries (Exhibit R), which flow southeastward into the Susquehanna River at Long Level.

Cabin Creek and its tributaries drain the northwestern and central portions of the Township. The two major branches of the creek join just west of East Prospect Borough and from there the stream flows into the Susquehanna River at Long Level, just below Canadochly Creek

The southern part of the Township is part of the Fishing Creek drainage system. Beaver Creek, which flows eastward into Fishing Creek, is also a major stream system. These streams form the boundary line between Lower Windsor and Chanceford Townships. Fishing Creek then drains into the Susquehanna River at the south end of Long Level.

The extreme northwest and northeast corners of the Township are in the Kreutz Creek drainage basin. Kreutz Creek flows northeastward along the Township line forming part of the boundary between Lower Windsor and Windsor Townships. Kreutz Creek drains into the Susquehanna River at Wrightsville.

The major ridgelines separating the drainage areas are shown on Exhibit S. Ridgelines determine the direction of flow of surface water channels.

The location of stream systems and ridge lines is especially significant in planning for water and sewage systems. Water flows downhill from each divide towards the stream below it. To take advantage of gravity, water and sewer lines should follow these natural drainage patterns, and should not pass over drainage divides. Where feasible,

wastewater treatment facilities should be located near the mouth of the drainage area so that wastewater can be collected economically.

The wooded areas of Lower Windsor Township help to absorb rainfall. As more land is developed, however, rapid runoff and flooding become more common. Thus flood prevention should be considered in planning the amount of future growth. One strategy is to preserve stream valleys in their natural state to reduce the possibility of flooding. Undeveloped stream valleys can be useful as park, woodland and greenbelt recreation areas. Rapid runoff also interferes with the replenishing of the groundwater, reducing Township water supplies. Sound conservation practices, watershed planning and flood control measures can help solve existing drainage problems and prevent future problems.

Vegetation and Wildlife

Dense hardwood forests once covered the Township, but land clearing for farming, commercial purposes, and other development has eliminated much of this virgin woodland. Today, the remaining woodlands consist mostly of second and third growth mixed deciduous forest. These areas generally are associated with the wetter, low-lying areas of the Township along creeks, streams and steep slopes.

Many species of plants and animals may be found in the Township's three main types of habitat - open field or pasture, forest, and wetlands (wetlands include streams, springs, ponds, and meadows). Though some species have adapted to more than one habitat, other flora and fauna have adapted to very specific needs and conditions and are critically dependent upon particular habitat types. Generally speaking, man-made features are considered disruptive to natural habitats; but some, such as farm fields, pasture, hedgerows, and tree lines, offer important food and cover sources.

The 1997 Natural Areas Inventory of York County report indicates that the Township is located on the Red Lion and Safe Harbor USGS quadrangle maps. The report also cites the Susquehanna River as an area of statewide importance for conserving the biological diversity of York County. The river is an area of local significance due to its recreational and scenic resources and because it serves as a major pathway for the movement of animal species in Central Pennsylvania. Crystal Pit Cave, Safe Harbor and Cabin Creek are three areas in the Township that support populations of plant and animal species in need of conservation methods to protect them from extinction.

Composite Constraints

The preceding natural and resource information was combined and synthesized to illustrate the relative level of development constraints affecting various areas of Lower Windsor Township. Areas with very severe constraints are generally precluded from

future development due to flooding, while very steep slopes and wetlands pose severe constraints for most development. These areas may be most suitable for farming, recreational use, and wildlife habitat. Areas with hydric soils, woodlands, slopes between 15 and 25 percent, or prime agricultural soils have moderate constraints for development. The balance of the Township has only slight development limitations.

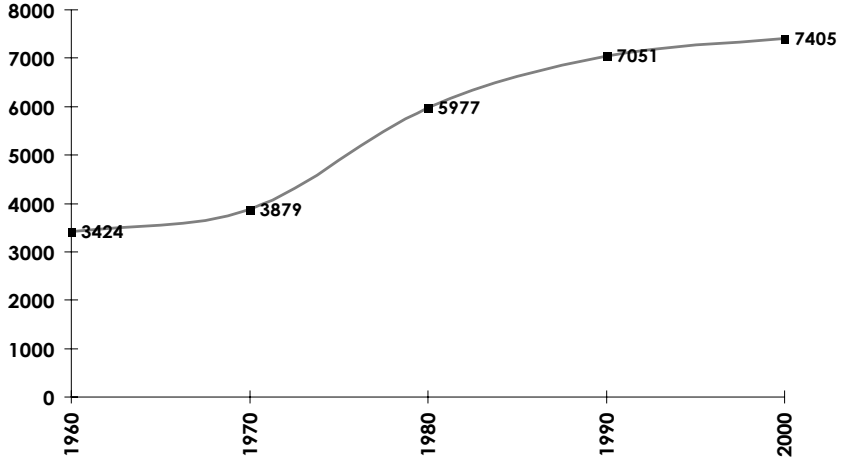
5. POPULATION CHARACTERISTICS & TRENDS

The allocation of municipal resources must consider the population to be served. Obviously, the overall size of a population is related to the amount of services or lands that must be provided. In addition, particular groups within the population have different service needs. This section will review past, current and expected population characteristics and trends.

Historic Population Growth

The historical growth patterns of a municipality can provide insight as to the growth that might be expected in the future. Table 5 illustrates the amount and rate of population growth that has occurred since 1960 in Lower Windsor Township. Population change is attributable to a combination of natural increase (or decrease) and net migration. The largest part of Lower Windsor Township's growth over the last few decades is due to immigration. Lower Windsor Township experienced steady growth through the 1960s as the economy diversified and new residents moved into the area. The 1970s saw an explosion of growth in the Township. The slowdown in growth during the decade of the 1980s can probably be attributed largely to the national recession, the slowdown in the building industry, and the rising cost of housing. The slowdown continued through the 1990s, which saw only a 5% increase in population. The 1989 Comprehensive Plan predicted a slowing in population growth, attributable to the nature of much of the Township's remaining open space and the lack of public water and sewer.

TABLE 5: LOWER WINDSOR TOWNSHIP POPULATION GROWTH 1960 – 2000

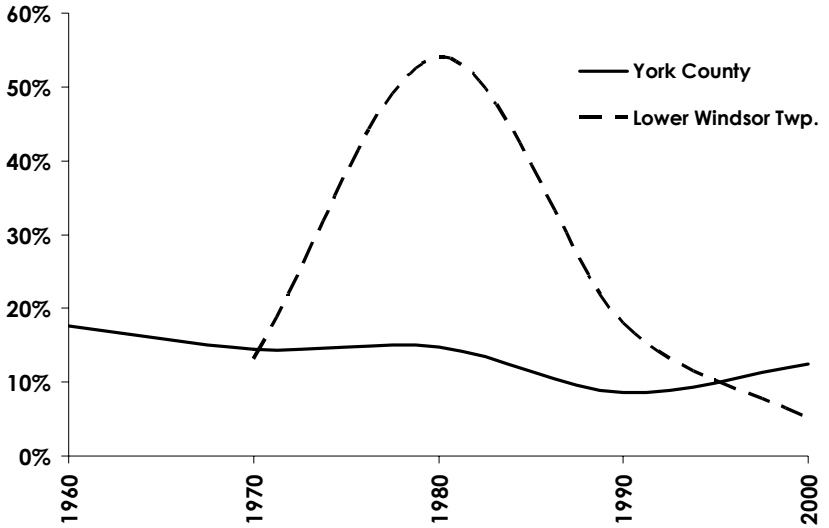


Year	Total Population	Net Change	Percent Change
1960	3,424	-	-
1970	3,879	455	13%
1980	5,977	2,098	54%
1990	7,051	1,074	18%
2000	7,405	354	5%

SOURCE: U.S. CENSUS

A comparison of Township and York County growth rates provides insight into regional factors affecting local growth. Table 6 compares the percent rate of population growth by decade for Lower Windsor Township with that of York County.

TABLE 6: LOWER WINDSOR TOWNSHIP & YORK COUNTY COMPARABLE GROWTH RATES 1960 - 2000



	1960	1970	1980	1990	2000
Lower Windsor Twp.		13.2%	54%	18%	5%
York County	17.6%	14.4%	14.8%	8.54%	12.4%

SOURCE: U.S. CENSUS

Since 1960, York County's general rate of growth has declined, while Lower Windsor Township's rate of growth rose sharply in the 1970s, to drop down again to below the County's rate of growth in 2000.

A comparison of growth in Lower Windsor Township with that in adjacent municipalities can also provide insight into more localized development influences. York County includes 35 townships, with Lower Windsor Township located at its central southeastern edge. Two of the County's boroughs, Yorkana and East Prospect, are surrounded by Lower Windsor Township.

Table 7 on the following page displays population data for Lower Windsor Township and adjacent municipalities for recent decades. Exhibit A, Regional Setting, shows the locations of these municipalities in relation to Lower Windsor Township.

Table 7 shows that the region's growth has actually slowed both in rate and numbers of new residents over the last three decades. In the 1960s, the region gained 7,508 new residents, growing at a 27% rate, while in the 1970s the gain was 7,775 new residents, a 22% rate of growth. The 1980s showed the lowest level of growth, with a gain of just 4,352 new residents and a growth rate of 10%. The region grew significantly in the 1990s by 8,301 new residents, which represents a 17% rate of growth.

TABLE 7: POPULATION GROWTH IN ADJACENT MUNICIPALITIES

Municipality	1960	1970	1980	1990	2000
Yorkana Borough	251	262	296	285	239
Hellam Township	2,550	3,158	4,507	5,123	5,930
Lower Windsor Township	***3,424***	***3,879***	***5,977***	***7,051***	***7,405***
Springettsbury Township	14,232	19,399	19,687	21,564	23,883
Windsor Township	4,751	6,672	8,807	9,424	12,807
East Prospect Borough	623	547	529	558	678
Total for Region	28,084	35,592	43,367	47,719	56,020
Total for York County	238,336	272,603	312,963	339,574	381,751

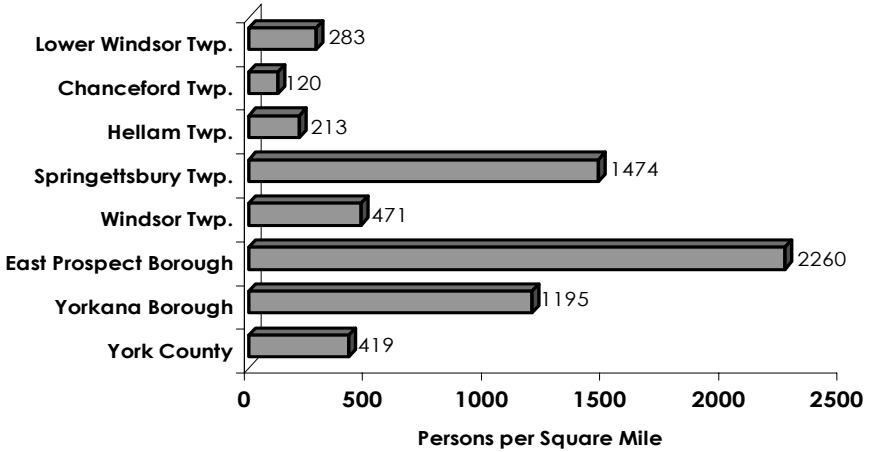
The above figures were also used to calculate the net change in population and rate of growth from 1960 to 2000 for each of the region's municipalities and the County, as shown in Table 8. While this table shows that from 1960 to 2000 Lower Windsor Township grew at the fourth-fastest rate among neighboring townships, the Township experienced the third lowest increase in actual numbers of new residents. Conversely, Springettsbury and Windsor Townships experienced much higher increases in the numbers of new residents, indicating that those townships are developing more rapidly. This trend corresponds to the urbanization and suburban sprawl of the greater York City area during the past several decades. These townships are located to the east of York City within the suburbanizing area, and reflect the directionality of growth pressure being exerted upon Lower Windsor Township from the west.

TABLE 8: PROPORTION OF GROWTH IN ADJACENT MUNICIPALITIES

Municipality	Net Change (Persons) 1960-2000	Percentage Change 1960-2000
Yorkana Borough	-12	-4%
Hellam Township	3,380	133%
Lower Windsor Township	***3,981***	***116%***
Springettsbury Township	9,651	68%
Windsor Township	8,056	169%
East Prospect Borough	55	8%
Total for Region	27,936	99%
York County	143,415	60%

As population increases, so does density. Table 9 on the following page depicts relative densities for adjoining municipalities and York County. Not surprisingly, the area's boroughs exhibit greater densities than do the townships and County. Lower Windsor Township has the fourth-lowest density of all the townships in the region, and about half the density of the County, reflecting its still largely rural character.

TABLE 9: LOWER WINDSOR TOWNSHIP & ADJOINING MUNICIPALITES 2000 COMPARABLE DENSITIES



Population Projections

Population projections are important to the future allocation of land use and the delivery of public services. The projections become building blocks for forecasting future land and service needs. Consequently, great care must be exercised to assure that these figures represent the "best guess" as to how the Township will grow.

It is important to understand that no population projection can accurately forecast all of the factors that might cause a particular rate of growth. Instead, historical trends are analyzed and compared with perceived current trends to see how accurately they predict recent data; then, the most accurate method is used to predict future conditions.

Population projections for Lower Windsor Township may be inaccurate, since the 2000 census population for the Township appears to be incorrect when compared to past growth levels and housing unit growth. For example, according to the 2000 Census information, between 1990 and 2000 Lower Windsor Township gained 589 housing units, but only 354 new residents.

The most accurate method chosen to generate population projections for Lower Windsor Township relies upon arithmetic extrapolation and shift-share projection techniques.

Specifically, Lower Windsor Township and its neighboring municipalities' historic growth (1960-2000) were totaled for each decade, and the numeric growth computed and arithmetically extrapolated (6.984 new residents per decade). Then the Township's proportional share of the 2000 total population (13.2%) was applied to the year 2012 and 2022 projections for the region.

This method assumes that the same growth and development influences that have been affecting those municipalities that adjoin the Township will continue to exist, and that the Township's share of

the region's growth will remain constant.

This projection is shown in Table 10 below. This method was judged to be the most appropriate because it yielded the lowest projection. The Township's large increase in growth from 1970 to1990 and apparent very small increase from 1990 to 2000 make it difficult to obtain a highly accurate projection.

TABLE 10: LOWER WINDSOR TOWNSHIP POPULATION PROJECTION 2000-2022

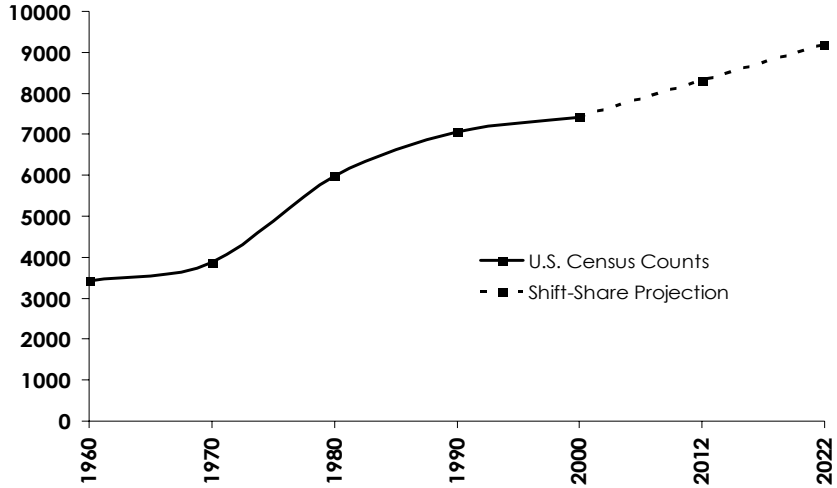
2000	2012	2022
7,405	8,301	9,197

The results of the Shift-Share method have been plotted, along with the Township's recent historical growth pattern. From Table 11 below, one can visualize a growth curve for the Township.

The arithmetic extrapolation and Shift-Share projection techniques yield a projection consistent with the Township's stated goal to preserve the rural character of Lower Windsor Township.

This population projection will be used to assure adequate allocation of land needed to meet the desired growth of the Township, and to determine municipal resources, community facilities, and public utility capacity to serve that growth.

TABLE 11: LOWER WINDSOR TOWNSHIP HISTORIC & PROJECTED GROWTH



	1960	1970	1980	1990	2000	2012	2022
Counts	3,424	3,879	5,977	7,051	7,405		
Shift-Share Method					7,405	8,301	9,197

Population Data

Different age groups have varying public service needs that need to be addressed. Age composition data supplies important input for school and recreation planning analyses, which are used to determine long-range facility needs and land requirements for school and recreation sites. Age

data is also important in defining life cycle stages that are used in studies of activity patterns, household moving behavior, housing, and various kinds of community facilities and services.

For example, the number of children between birth and 4 years of age helps predict future elementary school classroom space needs and recreation programs geared for preschool-aged children. Those aged 5-19 comprise the school-aged population, which poses planning implications regarding school and recreation facilities and programs. The 20-24 age group represents young adults who are just entering the labor force and who may rely heavily on the rental housing supply. Those aged 25-44 comprise the young labor force and tend to produce the most children. This group, like those aged 20-24, is also highly mobile. The mature labor force, those aged 45-64, tends to be more settled and at the height of its earning power. Those 65 years and older comprise the senior sector, which is generally characterized by limited purchasing power, increased demand for health and public transit services, and special recreation services.

Table 12 shows the age breakdown of the Township's residents by percent for the years 1980 to 2000.

TABLE 12: POPULATION BY AGE GROUPS

	Population 1980	Percent of Population	Population 1990	Percent of Population	Population 2000	Percent of Population
0-4	495	8.3	524	8.3	437	5.9
5-9	533	8.9	591	8.9	527	7.1
10-19	1,070	17.9	1,048	17.9	1,118	15.1
20-24	569	9.5	457	9.5	349	4.7
25-34	1,174	19.6	1,359	19.6	970	12.7
35-44	701	11.7	1,233	11.7	1,475	19.9
45-54	496	8.3	737	8.3	1,123	15.2
55-64	475	8.0	486	8.0	699	9.4
65-74	327	5.5	401	5.5	432	5.8
75+	137	2.3	215	2.3	305	4.1
TOTAL	**5,977**	**100.0**	**7,051**	**100.0**	**7,435**	**100.0**

Source: US Census

Preschool-age children through age 4 make up 6% of the Township's population, while school-age children aged 5-19 comprise an additional 22% of the population. Young adults aged 20-24 make up 5% of the population, while child-bearing adults aged 25-44 account for 33% of the population. Mature adults aged 45- 64 comprise 25% of the population, while seniors 65 and over make up the remaining 10%.

It is also important to review other population data to help understand the demographic makeup of the Township. This data includes race and gender, household statistics, education level, and income, and is shown in Tables 13, 14, 15, 16 and 17.

TABLE 13: 2000 POPULATION BY RACE

Area	Total Persons	White	Black	American Indian, Eskimo & Aleutian	Asian & Pacific Islander	Other	Hispanic Origin (of any race)
Lower Windsor Township	7,405	7,300	11	8	9	29	84
York County	381,751	354,103	14,095	679	3,389	5,297	11,296

TABLE 14: 2000 POPULATION BY GENDER

Area	Total Persons	Total Females	(%)	Total Males	(%)
Lower Windsor Township	7,405	3,697	49.9	3,708	50.1
York County	381,751	194,084	50.8	187,667	49.2

TABLE 15: 2000 HOUSEHOLD STATISTICS

Area	Total Households	Married Couple	% of Total	Female Head	% of Total	One Person	% of Total	Non Family Households	% of Total
Lower Windsor Township	2,791	1,776	63.6	190	6.8	519	18.6	151	5.4
York County	148,219	86,355	58.3	13,410	9	34,572	23.3	8,161	5.5

TABLE 16: 1990 EDUCATION DATA

Area	Percent of Persons 25+ with High School Diploma	Percent of Persons 25+ with 4+ Years of College
Lower Windsor Township	45.2%	8.3%
York County	73%	14%

TABLE 17: 1990 INCOME DATA

Area	Per Capita	Median Household	Median Family	Individuals Below Poverty Level
Lower Windsor Township	$12,838	$32,279	$34,737	385
York County	$14,544	$32,605	$37,890	21,203

Note:A household includes 1 or more persons occupying a housing unit.
A family consists of a householder and 1 or more persons related by birth, marriage or adoption.

Source for all tables: U.S. Census

Township population characteristics present few surprises when compared with York County. The Township has a slightly higher percentage of males than females than does the County as a whole. Racially, the Township is extremely homogeneous, with only 0.7% of the population represented by minorities, a lower rate than the 6.1% for the County, but consistent with other rural areas, according to U.S. Census data. The Township tends slightly more toward a married couple household orientation than does the County as a whole, with 63% of all households reported as married couples, as compared with 58% for the County. Again, census data indicates that this is a typical finding in rural areas. There is a lower percentage of 1-person households within the Township as well as within the County. This again, according to the Census, would be a typical finding in rural areas. The percentage that is represented can probably be attributed to widowed elderly residents of the Township. Township residents are less likely to have graduated from high school and to have a 4-year college degree than are those within the County as a whole. Median family income for the Township is just slightly lower than that for the County, suggesting lower spousal work force participation rates and/or lower wages. The proportion of the Township's population living in poverty is 5.2%, just under the County's rate of 5.6%, and well under the statewide average of 10.8%.

6. HOUSING CHARACTERISTICS & TRENDS

Housing Stock

The composition of a community's housing stock indicates the extent to which it is providing for a range of housing options. Table 18 below shows the number of existing housing units by type within Lower Windsor Township according to the 1990 US Census (at the time of this update, 2000 census data on housing was not available). These figures may be compared to those for York County as a whole to gain a regional perspective of the range of available housing types.

TABLE 18: 1990 HOUSING TYPES

Area	Total Units	SFDs %	SFAs %	MFDs %	MHs %
Lower Windsor Township	2,624	1,804 69%	59 2%	92 3.5%	669 25.5%
York County	134,761	82,306 61%	17,226 13%	23,268 17%	11,961 9%

Source: U.S. Census
SFD = single family detached dwellings
SFA = single family attached dwellings
MFD = multi-family dwellings
MH = mobile homes

The single-family detached (SFD) dwelling is the most common housing type in Lower Windsor Township, accounting for 69% of the Township's total housing stock in 1990, compared with 61% for the County as a whole. Single-family attached (SFA) dwellings include row houses, double houses or houses attached to nonresidential structures. In Lower Windsor Township, there are 59 such units, which account for just two percent of the total housing stock. A much higher percentage (13%) was found for the County as a whole. Residential development at higher densities includes multi-family dwellings (MFDs), such as apartment complexes, townhouses and conversion apartments. Only 3.5% of the Township's housing stock consists of MFDs, a significant contrast to the much higher proportion provided by the County's share of this housing type (17%). The Township's housing mix is typical for a rural area.

While mobile homes (MHs) are normally defined as single-family detached dwellings, for the purpose of this analysis they are separated to gain further insight into the composition of the Township's housing stock, as they provide particularly affordable housing opportunities. Over a quarter (25.5%) of the Township's housing units are mobile homes, nearly twice the proportion that exists for the County as a whole. This is a high figure, even for a rural area.

Residential growth in Lower Windsor Township has been largely in response to economic growth in the York and Lancaster County urban areas. This outside development pressure for housing within the Township is transforming the Township from a primarily agricultural/rural community into a

"bedroom community", from which workers commute daily to employment outside the Township.

Housing Condition

All residents of a community should be entitled to safe housing. Safe housing is deduced from estimates of substandard housing. The U.S. Census defines substandard housing as the number of units lacking some or all plumbing facilities, plus an estimate of other dilapidated units. In 1990, only 1.8% of Lower Windsor Township's housing units lacked adequate plumbing facilities, and 1.4% of units lacked complete kitchen facilities.

Additional factors such as the age of the housing unit, number of persons per room, and the estimated value of the unit, may be considered by a municipality in estimating the extent of substandard housing. Twenty-two percent of the housing stock in Lower Windsor Township was built before 1940. The number of persons per room in a housing unit is used as an index of crowding: a unit with more than 1.0 persons per room is considered overcrowded. In 1990, 1.8% of Lower Windsor Township's owner-occupied units housed 1.01 or more persons per room. The mean value of the owner-occupied housing units was $73,600, as compared with $59,200 for the County. The Township does not utilize a building code. In 1988, York County and York City completed a Housing Assistance Plan which identified deteriorated housing, substandard housing needs, and areas planned for rehabilitation throughout the County. Lower Windsor Township was not identified as an area in need of rehabilitation.

Lower Windsor Township does not, then, appear to have a widespread problem with deteriorated or dilapidated housing units, largely because of the recent origin of much of its housing stock. This does not, of course, preclude the possibility of isolated blighted areas within the Township.

Housing Occupancy

The characteristics of those persons who occupy the Township's housing stock influence both the demand for and cost of housing units in various ways. First, average household size has been on the decline nationally, as well as in York County and Lower Windsor Township, over the last several decades. As fewer people live together, average household size has dropped from 3.1 persons per household in 1970 to 2.4 persons per household in 1990, and may decline further still. Smaller households are necessitating additional housing units to be built.

Vacancy rates are one indicator of the existence of a housing surplus or shortage. An owner vacancy rate reflects the percent of vacant units for sale of the total homeowner inventory, while renter

vacancy rate reflects the percent of vacant units for rent of the total rental inventory. Vacancy rates for 2000 for Lower Windsor Township and York County are indicated in Table 19.

TABLE 19: 2000 VACANCY RATES

Area	Owner Vacancy Rate	Renter Vacancy Rate
Lower Windsor Township	0.8%	8.0%
York County	1.5%	7.4%

Source: U.S. Census

Vacancy rates in the vicinity of 2% are generally considered adequate to provide sufficient choice in the housing market for the purchase of homes. Vacancy rates in the vicinity of 5% are considered adequate to provide sufficient choice in the housing market for renters. The low owner vacancy rates of 0.8% for the Township and 1.5% for the County somewhat constrain choice in the ownership market. The rental vacancy rate of 8.0% in the Township does not limit choice in the rental market.

Housing Affordability

Every municipality in Pennsylvania has a responsibility to provide for the diverse housing needs of current and future residents of all income levels by planning for a wide mixture of housing types and densities. This responsibility is specified in the Pennsylvania Municipalities Planning Code (MPC) and reflects the "fair share" principles embodied in a history of Pennsylvania exclusionary zoning court decisions.

Access to affordable housing is an issue of increasing significance in most communities as incomes continue to fail to keep up with the cost of housing. The term "affordable housing" no longer refers just to low-income, subsidized housing projects or mobile home parks. A community's young adults, newly married couples, young families, and elderly are some examples of those often in need of affordable housing opportunities.

"Affordable housing" was defined in a State-level study titled *Pennsylvania Housing* (1988) as housing requiring less than 30% of gross monthly income for rent, or less than 28% for a mortgage and other related housing costs. According to York County's 1992 Comprehensive Plan, while the County's poor residents spent approximately 30% of income for rent in the 1970s, by the late 1980s they were spending as much as 60%. In 1993, the York County Planning Commission published a study entitled "Comprehensive Housing Affordability Strategy for York County, Pennsylvania." The study shows that the cost of buying an average house in York County rose from $73,622 in 1988 to $104,057 in 1993, or 41% in five years. During this same period, the median income in the County rose only 27%, from $32,300 to $41,000. The study concluded that both low and moderate income families are finding it increasingly

difficult to afford housing in York County since housing costs are increasing faster than family income.

Within Lower Windsor Township, there is evidence of a similar disparity between income and housing affordability; however, this gap has not widened since 1980. In 1980, the median monthly rent within the Township was affordable to some, but not all low-income households, while median monthly homeownership costs for homes with mortgages were not affordable to any low-income households or to some moderate- income households. Since 1980, income within the Township has kept pace with rising housing costs.

Another way to measure housing affordability is to compare Lower Windsor Township's median housing value with those of adjacent municipalities. Tables 20 and 21 show 1990 median values for owner-occupied housing and median monthly rents for renter-occupied units for Lower Windsor Township and adjacent municipalities.

TABLE 20: 1990 MEDIAN HOUSING VALUES OWNER OCCUPIED HOUSING

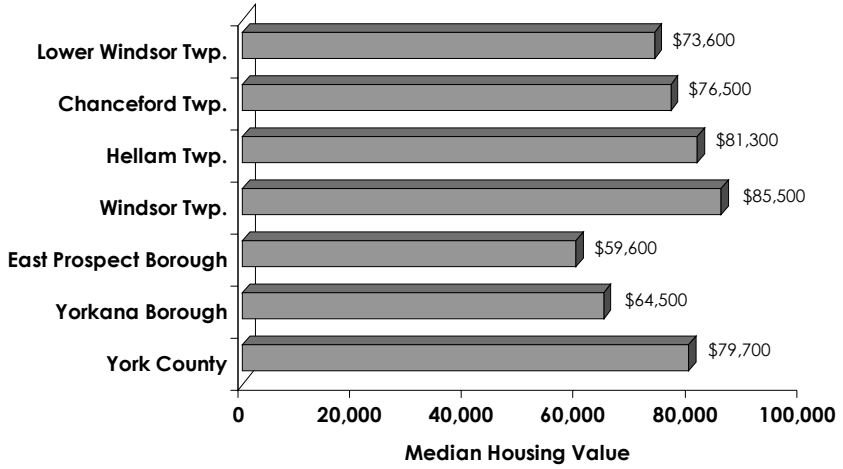
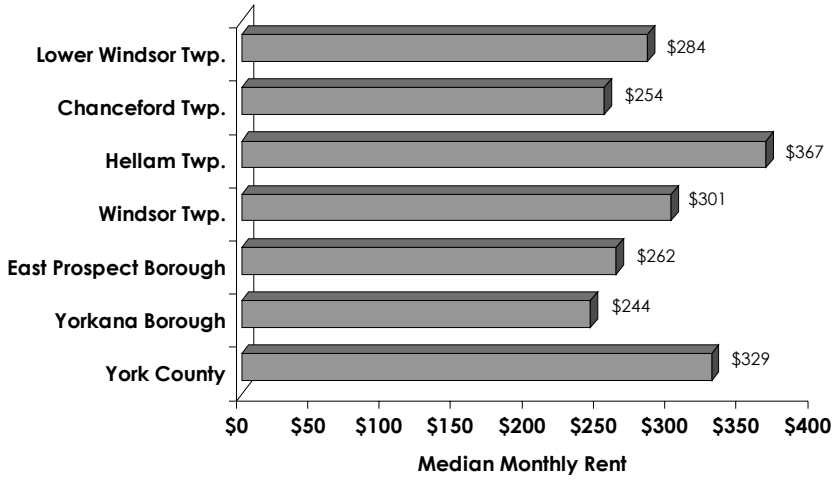


TABLE 21: 1990 MEDIAN MONTHLY RENTS RENTER OCCUPIED HOUSING



Source: U.S. Census

Median values for owner-occupied housing in the region range from a low of $59,600 in East Prospect Borough, to a high of $85,500 in Windsor Township. Lower Windsor Township ranks lower than the average for both the region and the County as a whole, with a median value for owner-occupied housing of $73,600. This means that owner-occupied housing in Lower Windsor Township is more affordable than such housing elsewhere in the region or the County.

The proportion and cost of rental housing in a community is another measure of the provision of affordable housing. As can be seen in Table 21, the median monthly rent within Lower Windsor Township of $284 is about even with the median rents in most adjacent municipalities, and lower than that for the County as a whole. The proportion of occupied rental housing as a percentage of total occupied housing is also lower for Lower Windsor Township at 12.8%, than it is for York County as a whole at 24%.

Legal Requirements

Every municipality in Pennsylvania has a responsibility to provide for the diverse housing needs of their current and future residents by planning for a wide mixture of housing types and densities. This responsibility is specified in the Pennsylvania Municipalities Planning Code (MPC), especially in the amendments to Act 170 adopted in 1988 [see Sections 301(a) and 604(4)]. These amendments are designed to prevent families who are seeking housing from being effectively zoned out of a particular municipality because of a lack of planning and zoning for housing that is affordable to all income levels.

Land Use Planning and Affordable Housing

According to many sources, residential development, and particularly low-density residential development, requires greater expenditures for public facilities, services and utilities than is raised in taxes from these sources. A 1997 Pennsylvania State University study found that in eleven Pennsylvania townships, for every tax dollar that residential development generated, the townships spent between $1.03 and $2.11 in services.

Land use planning measures designed to prevent costly urban sprawl and environmental damage can also, if properly implemented, provide for the diverse housing needs of current and future residents of Lower Windsor Township. The challenge is to balance housing needs with the Township's growth management plan in a way that increases housing affordability without sacrificing the qualities that make the community an attractive place in which to live.

Reducing the Regulatory Barriers to Affordable Housing

While the high cost of housing is largely attributable to higher land, construction and other costs beyond the control of municipalities, there are a number of other barriers to affordable housing over which municipalities can exercise some control. According to the County's 1992 Comprehensive Plan, there is evidence that an increase of 20-35% in housing prices attributable to excessive regulation is not uncommon in some areas of the country. Some of the common barriers to more affordable housing include:

- excessively large minimum lot sizes;
- insufficient buildable and fully-serviced land zoned for medium and high-density dwelling units;
- excessive infrastructure requirements, such as wide streets, sidewalks and curbing in rural areas;
- rezoning or protracted conditional use review for innovative development scenarios;
- inflexibility, vagueness or unpredictability in review procedures; and
- no provision for conversion apartments, accessory apartments, farm worker housing or elder housing.

Local land use regulations need not unnecessarily increase the cost of new housing. A review of existing subdivision/land development regulations can pinpoint those regulations that could be modified to help achieve the Township's goal of providing increased opportunities for affordable housing:

- The Township should encourage innovative mixed use developments to allow a combination of uses within a site with lower infrastructure costs and greater flexibility in providing a wide variety of moderate priced housing, and other amenities necessary for a community to function effectively.
- Clustering of residential development to protect lands in the agricultural and conservation areas should be required wherever on-site water and sewage facilities are capable of supporting such development.

Housing Projections

The need for future housing units can be based on a review of past growth in the Township's housing supply. This method is preferable to computing future units based on population projections divided by average household size, as average household size continues to decline. Using the arithmetic method discussed in the Population Characteristics and Trends section, housing growth has been projected based on 1980–2000 housing increases. Between 1980 and 2000, the Township gained 935 new housing units.

Lower Windsor Township gained 354 new residents between 1990 and 2000, and is projected to gain 896 residents between 2002 and 2012 and 896 residents between 2012 and 2022, for a total of 1,792 new residents. During the same period, there would be a need for 331 new dwelling units for the first planning period to accommodate 8,301 residents, based on 2.45 of persons per household, and 700 new dwelling units for the second planning period to accommodate 9,197 residents, based on 2.25 persons per household, for a total of 1,244 new dwelling units. This information is summarized in Table 22.

TABLE 22: POPULATION & HOUSING PROJECTIONS LOWER WINDSOR TOWNSHIP

	1970	1980	1990	2000	*2012*	*2022*
Population	3,879	*5,977*	*7,051*	*7,405*	*8,301*	*9,197*
Housing	1,191	2,122	2,624	3,057	*3,388*	*4,088*
Persons/House	3.26	2.95	2.85	2.65	*2.45*	*2.25*

This housing unit projection will be used to allocate needed lands, municipal resources, community facilities, and public utility capacity to meet the future growth of the Township's housing stock. This housing unit projection may be inaccurate because the 2000 census population data appears to be incorrect. The Township's population growth of 5% seems to be too low in comparison with past Township growth levels and the 18% increase of housing units.

While the population of Lower Windsor Township and the surrounding areas has been growing at an average rate of 14.5% per decade since 1970, the region's housing has been growing at a rate double this, at 29.8% per decade, because of declining average household sizes. For this reason, part of the need for new housing units in Lower Windsor Township will be to accommodate not just new, but also existing Township residents in smaller households.

Future Housing Needs

The analysis of housing issues indicates that the Township has historically provided for mainly single-family dwellings. While, traditionally, much of the need for affordable housing in the Township has been met by mobile homes, current high rental costs and high renter vacancy rates, together with recent housing trends within the Township and data on housing mix for adjacent townships and the County as a whole, now suggest the need for a slight increase in the proportion of multi-family and single-family attached dwelling units permitted. The projected mix shown in Tables 23 and 24 is therefore recommended for new housing units to overcome this shortage:

TABLE 23: 2002-2012 HOUSING MIX (NEW UNITS)

SFD	SFA	MFD	MH	Total
442 (71%)	31 (5%)	87 (14%)	62 (10%)	622 (100%)

TABLE 24: 2012-2022 HOUSING MIX (NEW UNITS)

SFD	SFA	MFD	MH	Total
442 (71%)	31 (5%)	87 (14%)	62 (10%)	622 (100%)

SFD = single family detached dwellings
SFA = single family attached dwellings
MFD = multi-family dwellings
MH = mobile homes

These percentages were obtained by averaging the housing growth (1970, 1980, and 1990) by housing type for Lower Windsor Township and each of the surrounding municipalities. These numbers were then averaged together to obtain the percentages used to determine Lower Windsor Township's future housing breakdown.

The proposed housing mix for new units will bring the Township more in line with adjacent townships and ensure that it continues to meet its regional fair share requirements. These projections will be used to determine needed acreages to accommodate future housing in the Future Community Character and Land Use Plan.

7. PUBLIC UTILITIES

The rate, type and pattern of development within a community is highly dependent upon the availability and adequacy of public utility systems. These systems, therefore, become an integral part of the community's planning process. The provision of utilities such as water supply, sewage disposal, gas, electric, telephone, cable and refuse disposal services are basic needs associated with most types of land use activities. The manner in which these services are provided, though, can vary depending upon the type, density and location of the development activity. Some services such as telephone, electric, cable and gas are provided almost exclusively by utility companies. Some services are available at almost any location in the Township, while others are limited.

Services such as water supply, sewage disposal and refuse disposal may be provided in a number of ways. In the more rural areas where development activities are scattered and limited in scope, these services are generally provided on an individual basis. However, in the densely developed urban areas and the rapidly expanding suburban areas, these services cannot be provided on an individual basis in sufficient amounts or in an adequate manner to satisfy development activity needs. In these instances public or private organizations must be formed to furnish the necessary utility services to meet the needs of the general populace and accompanying development.

SEWAGE DISPOSAL

Wastewater from residences, commercial establishments and industries is referred to as sewage. Adequate disposal of sewage is a necessity for the proper development of any municipality and is regulated by the Pennsylvania Department of Environmental Protection under the Clean Streams Law. There are two basic ways in which sewage disposal is accomplished: individual on-site systems; and community or public sewerage systems. Typically in urban and suburban areas, sewage disposal is by means of a community sewerage system, while individual on-site systems are most common throughout the low-density rural areas.

Community Sewerage System

A community sewerage system can either be publicly or privately owned. It generally consists of a network of mains and interceptors for the collection and transmission of the sewage to a central treatment facility, where the effluent is treated prior to discharge to a waterway or an absorption field.

On-Site Disposal Systems

Currently most of the residents of the Township rely on individual on-site disposal systems. This is defined by the Pennsylvania Sewage Facilities Act (Act 537) as a single system of piping, tanks or other facilities serving one lot and collecting or disposing of sewage in whole or in part into the soil of the property or into any waters of the Commonwealth. The most common type of on-site system is the septic tank and tile drain field. In this process, the sewage is held in a watertight receptacle (septic tank) for a period from a few hours to a few days where biological action takes place delivering a liquid effluent. This is piped to a disposal field or seepage pit where it seeps or leaches into the soil. The filtration and absorption through the soil is a natural purifying process that, under proper conditions, can effectively dispose of most types of sewage. A detailed study of the factors affecting the on-site disposal is necessary, since this method is the most widely used means of sewage disposal available to Lower Windsor Township residents and because even with the future

development of a municipal system, on-site disposal will still be utilized in the Township. Pennsylvania's Natural Resources Conservation Service has developed three soil capability categories that indicate the degree of soils limitations for on-site sewage disposal systems. Exhibit Q, Soils Limitations, delineates the areas of the Township in these categories. The categories were derived on the basis of six limiting factors, including permeability, depth to bedrock, seasonal high water table, slope, stoniness and flooding, as used by the Pennsylvania Department of Environmental Protection and shown in Table 25. Limitation categories are described on the following page.

TABLE 25: SOIL LIMITATIONS FOR ON-SITE SEWAGE DISPOSAL SYSTEMS

	Degree of Limitation		
Limiting Factors	None to Slight	Moderate	Severe
Soil Permeability Rate	More than 1"/hr.[1]	.63 to 1"/hr.	Less than .63"/hr.
Depth to Bedrock[2]	More than 5 ft.	3 ft. to 5 ft.	Less than 3 ft.
Seasonal High Water Table	More than 4 ft. below surface	1 1/2 ft. to 4 ft. below surface	Less than 1 1/2 ft. below surface
Slope	0-8 percent	8-15 percent	15+ percent[3]
Stoniness	Stony to very stony		Extremely stony to stony
Flooding	None to seldom		Occasional to frequent

[1] Possible Pollution hazard to surface water and groundwater supplies where permeability rates are rapid.
[2] Creviced, shattered or dissolved passageways in limestone bedrock may not adequately filter effluent and present a pollution problem.
[3] Slopes greater than fifteen percent (15%) have severe limitations because unfiltered effluent may surface on the downhill slope.

None to Slight - Percolation rates are satisfactory and filtration adequate. The soils of this group are deep, well drained and medium to moderately coarse textured. They normally have sufficient depth to permit the installation of subsurface sewage disposal systems. The texture, structure and other physical properties of the soils allow for satisfactory percolation rates and act as an adequate filter medium.

Moderate - Percolation rates and filtration are variable because of variations within the soil profile and map units. The soils of this group are normally deep to shallow, medium and moderately course textured and well drained. The depth, texture, structure and other physical properties vary within soil profiles and map units. Where depth of soil is adequate and percolation rates satisfactory, the soils may be suitable for subsurface sewage disposal systems.

Severe - Percolation rates are unsatisfactory, the seasonal water table is high, and/or soils are subject to flooding. The soils of this group are deep to shallow, well-drained or poorly drained, medium textured and moderately coarse textured. They also either have seasonally high water tables, are subject to flooding or have textural, structural or other

physical properties which make them unsuitable for subsurface sewage disposal systems. Percolation rates may be high or low.

Hazardous - Percolation may be satisfactory but lack of adequate filtration may cause pollution of the groundwater. The soils of this group are normally deep, well drained, medium textured and are developed over cavernous or fissured limestones or other material. The degree of structural development or other physical properties that contribute to inadequate filtration may allow liquid wastes to pollute the groundwater.

Exhibit Q graphically depicts the extent of soil suitability for on-site sewage disposal through Lower Windsor Township. The areas classified as having none to slight limitation comprise approximately thirty-one percent (31%) of the Township. Generally these soils are suitable for conventional subsurface sewage disposal systems. However, the proper use of the on-site system in these areas is also dependent upon the size of the lot and the density and proximity at which additional development occurs.

The areas of moderate limitation comprise about twenty-two percent (22%) of the Township land area and reflect those instances in which caution should be exercised in the utilization of on-site systems since some limiting factors preclude ideal conditions for septic tank operations. The use of on-site systems in these soils is highly dependent upon a specific evaluation of the individual soil conditions of the site.

Over thirty-five percent (35%) of the Township has severe limitations for on-site sewage disposal. This is a rather significant factor since in these areas the proper usage of septic tank systems is highly unlikely due to severe limiting factors which include shallow soil, presence of a high or seasonal high water table, excessive slopes, flooding hazards or other similar factors. The severe areas are located principally along and adjacent to the drainage channels and waterways throughout the Township.

Approximately twelve percent (12%) of the Township is designated as hazardous for on-lot sewage disposal. The soils in this grouping are generally unsuitable because of a high risk of groundwater contamination. This is primarily the result of very rapid percolation of the sewage effluent through the soil, which thus reaches the groundwater supply before it has been adequately filtered.

The primary value of Exhibit Q is to identify those areas that are favorable for development activity with the use of on-site sewage disposal. Because on-site septic systems are dependent upon a number of factors, some of which are changeable or not precisely predictable, it should not be considered as the ideal disposal method but rather as an alternative method of disposal when a community collection and treatment system is not

available. On-site systems, even when located on large lots, may not function properly if the soils and related conditions are not suitable. Only if public sewage facilities are not available and only if soil conditions are favorable, building lots are large and development of the area is sparse, should on-site systems be considered as a method of sewage disposal. Public health officials have stated that permanent reliance on individual on-site systems is possible only for the isolated home site or rural farm. In general, public sewage is considered economically feasible in areas where the population density is 2,500 persons per square mile, with a building density of just over one dwelling unit per acre of ground. The population density in Lower Windsor Township is 283 persons per square mile.

The Lower Windsor Township Official Act 537 Sewage Facilities Plan, adopted in January 1994, addresses on-lot system malfunctions in the Township. There were fourteen identified malfunctions. Three of these were in the northern portion of the Township, one was in the vicinity of Canadochly Church, one was in the Craley area, one was in Martinsville, one was in Bittersville, and four were in the southwestern corner of the Township. The Act 537 plan recommended that the Township adopt an on-lot management ordinance for portions of the Township. The Township expanded on-lot management to include the entire Township and prepared an ordinance that goes into effect in 2002.

WATER SUPPLY

Water is one of our most vital natural resources. An adequate and potable supply is essential to human activities, and the assurance of such a supply is a key element in the development of any community. Basically there are two methods of providing a water supply: individual on-site wells; and a community water system supplied by wells, reservoirs or other surface water sources. Out of economic necessity, water supplies in low density rural areas are generally provided by individual on-site systems. With the intensification or clustering of development activity in an area, the reliability of individual wells decreases and the need for a community water system becomes more critical. Through a sound planning program a community can anticipate this need and plan for the orderly establishment and future extension of water supply services.

A community water supply system is an essential ingredient to the proper growth and expansion of any concentrated development area. A typical small water supply system consists of deep wells and/or springs, chlorination and metering equipment; storage facilities; transmission mains; and a distribution system. The benefits of a community water system are the elimination of those problems which are common to the individual on-site well supply, including insufficient capacity, inadequate pressure, contaminated supply and poor water quality.

Presently there are six community water supply systems located within Lower Windsor Township. These are primarily operated by mobile home parks. The current community systems are located at Craley Mobile Home Park, Deerfield Village Mobile Home Park, Margaretta Mobile Home Park, Restless Oaks Village Mobile Home Park, Shalako Mobile Home Park, and Ziegler's Mobile Home Park. The system at Craley Mobile Home Park consists of two on-site wells and has an average usage of 2,095 gallons per day (GPD). The Deerfield Village Mobile Home Park system has five private wells and an average usage of 5,600 GPD. The Margaretta Mobile Home Park has an average daily water consumption of 9,000 gallons. The park has two wells and an 8,000-gallon steel storage tank. There are six wells at the Restless Oaks Mobile Home Park, with an average daily usage of 2,400 gallons. The Shalako Mobile Home Park has two on-site wells and has a usage of 8,750 GPD. Ziegler's Mobile Home Park has one private well. The average daily usage was unavailable.

Public water service by the York Water Company runs along East Prospect Road into East Prospect Borough and services residents along that road, with an extension along Canadochly Road. In addition, York Water Company has a tank located adjacent to the Yorkana Mobile Home Park along the Township's northern border. Water service from this tank extends down Mt. Pisgah and Bluestone Roads to East Prospect Road where it joins the main water line. Residents in the vicinity of the Modern Landfill are served by this water line. The Wrightsville Borough Municipal Authority services Eastern York High School and Middle School. Public water service is shown on Exhibit W.

The remaining Township residents use on-site wells for their water supply. The source for these systems is the groundwater supply that is related to geological formations. The geological characteristics of the rock formations underlying the Lower Windsor Township area are of prime importance insofar as the development of adequate groundwater supplies is concerned. According to the County Water Study, yields of five gallons per minute are considered quite adequate for residential use and the higher yields can generally accommodate a range of commercial and industrial land uses. However an average yield of one hundred gallons per minute is considered necessary for use as a municipal water supply source to cover the associated instrumentation. Although it appears that Lower Windsor Township should have an ample water supply for individual wells, some existing residential properties are currently experiencing water quantity problems. The particular problem areas are along Manor and Old Commons Roads in the vicinity of the Windsor Township line and along Massa Drive west of Martinsville.

SOLID WASTE DISPOSAL

Solid waste or refuse collection and disposal generally refer to the useless, unwanted or discarded solid materials resulting from normal community activities. The manner in which this material is disposed of is of importance not only to the health and well-being of the residents of a community but also to its orderly growth and development. At the present time refuse disposal in Lower Windsor Township is handled on an individual basis without Township involvement. Each private hauler, however, must be licensed by the Township.

There are two sanitary landfills located in York County, with one currently in operation. Modern Landfill is operated by a private company and is located in both Lower Windsor and Windsor Townships. The other landfill was operated by the County of York and is located in Hopewell Township on a site of approximately three hundred acres. Lower Windsor Township requires that all refuse collected in the Township by licensed private haulers be taken to the York County incinerator, in accordance with the York County Solid Waste Management Plan. Modern Landfill receives waste from outside the County and has a rated capacity of 5,000 tons per day. The landfill is expected to reach capacity in 15 years, if it does not undergo expansion.

In addition to the present system of providing refuse collection service, refuse could also be collected by municipal workers. Another possibility is that the service can be provided on a contract basis for the entire municipality. The municipality would then collect the fee from the residents and contract with the collector or collectors to provide the service.

To evaluate the impact of the refuse problem, some figures will be noted from the 1985 York County Municipalities Solid Waste Management Plan Update. The amount of solid waste generated is becoming increasingly more significant as evidenced by some references to today's society as "the disposable society." Currently it is estimated that all types of solid waste generated in York County average 4.5 pounds per capita per day, which amounts to approximately 275,576 tons per year. In Lower Windsor Township, the annual solid waste generation for 1985 was 2,391 tons; however this figure has decreased to 1,978 tons in the year 2000. The annual amount of solid waste generated by the County as a whole was 272,500 tons in the year 2000.

OTHER UTILITIES

General Public Utilities (GPU) and Pennsylvania Power & Light (PPL) provide electricity to the Township. Exhibit W shows the location of GPU's high voltage lines within the Township. Generally, the

service area of GPU and PPL covers the entire Township.

Gas service, provided by the Columbia Gas Company, is generally limited to the area of the Township between Yorkana and East Prospect Boroughs. As indicated on Exhibit W, the primary transmission line, which runs along State Route 124, extends from the western Township line to just below East Prospect Borough and services adjoining customers.

Telephone service is available to all Township residents, with this service provided by Verizon. The entire Township is included in Verizon's service area.

Cable television service is also provided in areas of the Township. This service is provided by Susquehanna Communications, and is available to some residents. Exhibit W shows the areas of the Township that have cable television.

8. COMMUNITY FACILITIES

Community facilities and public services serve as an indicator of the community's livability. Properly maintained community facilities and quality public services serve residents by protecting their welfare and also by promoting their social, cultural and physical well being. Community facilities and public services are a key factor in achieving appealing and organized future development.

Generally, community facilities and public services are considered to include public schools, police and fire protection and recreational facilities. While the quality and quantity of services provided are of prime concern to the existing residents of the community, they are of equal importance to prospective residents and businesses that may be considering locating within the Township.

The purpose of this section is to inventory and analyze the existing community facilities in Lower Windsor Township with regard to their adequacy, which can directly influence development. This data will then be used as the basis for the Township's Community Facilities Plan.

The provision of community facilities and services can often prove to be quite expensive. Therefore it should be recognized that through coordination among agencies and with adjacent municipalities the cooperative provision of community facilities can often be arranged with mutual benefits to all. This form of coordination is already in existence in the form of the school district and the ambulance association.

Exhibit U, Community Facilities, depicts the location of the recreation facilities, game and fishing clubs, boat launching facilities open for public use, area churches and schools, the Township municipal building, the Craley Post Office and also the location of several Township cemeteries.

SCHOOLS

Lower Windsor Township lies totally within the area served by the Eastern York School District. Also included in this district are Hellam Township and the Boroughs of East Prospect, Hallam, Wrightsville and Yorkana. Eastern York School District serves Lower Windsor Township residents with one high school, one middle school, and three elementary schools. Of these facilities, the high school, middle school and one elementary school are located in the Township. The elementary schools serve grades kindergarten through five; while the middle school serves grades six through eight and the high school serves grades nine through twelve. The total number of children enrolled for the 2000-2001 school year was 2,735 students. Exhibit T, Eastern York School District, displays the location of each school within the district.

Existing School Facilities

The following is an overview of each of the existing public school facilities serving Lower Windsor Township. A summary of these facilities is shown in Table 26.

Canadochly Elementary School is located on Craley Road south of East Prospect Borough. The school was constructed in 1955 on a thirty-two acre site. An addition to the facility was constructed in 1977. The Canadochly building has classrooms, a cafeteria, a library, a combination gymnasium-auditorium, office space and two portable classrooms. A total of 554 students in grades kindergarten through five presently attend the school. The normal rated capacity of this facility is 650 students.

Kreutz Creek Elementary School is located on the corner of Lee and Meadowbrook Streets in Hellam Township, north of Hallam Borough on a 17-acre site. The facility was constructed in 1977 and contains classrooms, office space, library, multi-purpose room and two portable classrooms. Students in grades kindergarten through five attend this school. The present enrollment is 519, compared to a normal rated capacity of 550 students.

Wrightsville Elementary School, originally established in 1936, was relocated in the 1950's to its current location on Chestnut Street in Wrightsville Borough. The school contains a multi-purpose room, library, office space as well as classroom space. This facility conducts classes for grades kindergarten through five and has a current enrollment of 269 students. The normal rated capacity of the school is 350 students.

Eastern York Middle School is located on Cool Creek Road in Lower Windsor Township. It was constructed in 1995. The middle school has a gymnasium, combination auditorium/cafeteria, library and three portable classrooms. The current enrollment in grades six through eight is 669 students, with a normal capacity of 752 students.

Eastern York High School is located on Cool Creek Road in Lower Windsor Township. The high school was constructed in 1959 on a 40-acre site. Additional classrooms, a shop and music room were added in 1978. The high school also has a gymnasium, auditorium, cafeteria and library. The current enrollment in grades nine through twelve is 782 students. Normal rated capacity of this facility is 860 students.

Evaluation of Facilities

Table 26 provides a comparative analysis of Eastern York School District facilities. The optimum capacity serves as a school planning and design standard and provides a framework within which to evaluate the existing facilities. More importantly, this standard should be used as a guideline in planning for the

proper location and construction of additional facilities as needed.

TABLE 26: SCHOOL FACILITIES IN THE EASTERN YORK SCHOOL DISTRICT

School	Enrollment 1986-87	Enrollment 2000-01	Optimum Capacity
Canadochly Elementary(1)	524	554	650
Kreutz Creek Elementary(1)	380	475	550
Wrightsville Elementary(2)	316	255	350
Eastern York Middle School(1)	0	669	752
Eastern York High	1,089	782	860

(1) Currently utilizing modular classroom units
(2) Slated for replacement in 2002

Overall, the Eastern York School District appears to have adequate facilities and currently the schools in the District are functioning below their optimum capacities. There is current concern by the District about the need for smaller classroom sizes, hence the usage of portable classrooms. It was expressed by school faculty that renovations and expansions of the current schools within the school district are inevitable given the desire for continued small class sizes and increases in population throughout the Township. In terms of locational criteria, all of the facilities are adequately located in relation to the population concentrations which they presently serve.

With regard to future enrollment, capacity and desirable student body size, Eastern York School District appears to lack adequate facilities for both the middle school and the high school for the projected year of 2020. Based on existing student age population percentages, the middle school will increase by 142 students and the high school will gain 129 students by 2020. Using the optimum capacity for each facility, the middle school will need to expand to accommodate 59 additional students and the high school will need to expand to accommodate 51 additional students.

PARKS, RECREATION & OPEN SPACE

In the 21st century, people no longer need to locate near highways and waterways - our culture is now "plug-in" thanks to new technology and the World Wide Web. Because people and businesses can locate anywhere they want, quality of life is the essential factor in attracting and retaining citizens and businesses. Parks and recreation opportunities help to define a community's quality of life.

Lower Windsor Township has traditionally looked to Wrightsville and other surrounding communities to augment the recreation facilities provided at the Township's Rexroth Park. The Township has not generally addressed passive recreation in the past. Looking to the future, Lower Windsor Township wants to maintain the rural characteristics and open space that attract people to the community while

providing amenities such as parks and open space that will retain residents and add to the quality of life for all citizens

Park System Classification

The National Recreation and Park Association (NRPA) *Park, Recreation, Greenway and Open Space Guidelines* (1995) classifies park and recreation facilities into eight categories as summarized below:

Mini Park

Definition: Smallest park classification; addresses limited or isolated recreation need.
Size: Typical size between 2,500 sq. ft. to one-acre. May be up to five acres
Service Area: Less than a 1/4-mile service radius in a residential neighborhood, accessible by way of interconnecting trails, sidewalks, and low volume residential streets.
Facilities: Based upon public input, facilities can include playgrounds, scenic areas and lunchtime seating areas.

Neighborhood Park

Definition: Basic unit of the park system in meeting the active and/or passive needs of the neighborhood. Creates a sense of place for a wide variety of ages living in the service radius.
Size: 5 to 10 acres *minimum*
Service Area: 1/4 mile to 1/2-mile service radius uninterrupted by non-residential roads and other physical barriers accessible from throughout its service radius by way of interconnecting trails, sidewalks or low volume residential streets.
Facilities: Neighborhood parks can be for active or passive recreation or a combination of both. Facilities can include ball fields and game courts, picnic and sitting areas, play equipment, trails and passive areas with natural features.

Community Park

Definition: Meets the broader recreational needs of several neighborhoods. Provides for both active recreation and preservation of unique landscapes. Allows for group activities not desirable or feasible in neighborhood parks.
Size: 30 to 50 acres
Service Area: .5 to 3.0-mile service radius; served by arterial and collector roads and accessible from throughout its service area by way of interconnecting trails.

Facilities: Designed for both active and passive uses, facilities can include: large play structures, game courts, ball fields, ice skating, swimming pools, picnic areas, open space, unique landscape features, nature study and ornamental gardens, parking lots and lighting as appropriate.

School/Community Park

Definition: Combines the resources of two public entities to allow for expanded recreational, educational, and social opportunities in a cost-effective manner.

Size: Depends upon intended use. Size criteria for recreation nodes, neighborhood or community parks. School buildings are not considered in the acreage calculation.

Service Area: Based upon distribution of the schools. The location can guide how it fits into the park system classification. Service Areas for the site depend upon the type of use of the site.

Facilities: Development should be based upon the criteria of other park classifications. If athletic fields are developed, they should be oriented towards youth rather than adults.

Athletic Complex

Definition: Consolidates heavily programmed athletic fields and associated facilities in fewer sites to allow for economy of scale, improved management, greater control over impacts to neighborhood and community parks such as over-use, traffic congestion, parking and domination of facilities by those outside the neighborhood.

Size: Depends upon intended use. Consideration should be given to acquiring an additional 25 percent to hedge against unforeseen circumstances.

Service Area: Strategically located community-wide facilities within reasonable driving times; near non-residential uses if possible.

Facilities: Development should be based upon the specific types of fields and courts.

Special Purpose Facility

Definition: Parks and recreation facilities that are oriented toward a single purpose use such as historic landscapes, social sites, cultural features, indoor recreation facilities, environmental center, sports facilities such as a golf

course or any other single purpose facility.

Size: Facility requirements determine the size required e.g. a golf course or a community center needs particular acreage.

Service Area: Strategically located facilities versus serving well-defined neighborhoods or areas of the community.

Facilities: Unique to the special purpose or program.

Natural Resource Area/ Preserve

Definition: Parks and recreation facilities that are oriented towards the preservation of significant natural features, open space, special landscapes, buffering and visual aesthetics.

Size: Dependent upon quality and extent of the resources and opportunity for preservation.

Service Area: Areas that when preserved can enhance the livability and character of the community by preserving as much of its natural features as possible.

Facilities: Resource rather than user based natural resource areas can provide limited passive recreational opportunities such as trails and nature study areas. They can also function as greenways.

Greenways

Definition: Linear trail corridors that tie park system components together to form a continuous park environment, allow for safe uninterrupted pedestrian movement between the parks and around the community, and provide people with a desired outdoor recreation opportunity. Greenways emphasize use to a greater extent than do wildlife preserves.

Size: 25' minimum in a sub-division; 50' optimum; and 200'+ desirable.

Service Area: Most desirable location is in conjunction with trail system planning.

Facilities: Developed for particular transportation mode most commonly for biking, hiking and in-line skating. Greenways can also be developed for canoes and cars.

Table 27 reviews Lower Windsor Township's parks, recreation, open space, and school facilities according to the NRPA classification system.

TABLE 27: PARKS/RECREATION FACILITIES INVENTORY

Park	Acreage	Park Type/ Planning District	Characteristics/ Facilities	Comments
Jesse S. Rexroth Memorial Recreation Park	25.45	Community/ Craley	2 baseball fields (1-60', 1-90'), 2 soccer fields on baseball outfields, 2 picnic pavilions, 1 sand volleyball court, playground, 2 basketball courts, storage building, portable toilet, parking	One full size soccer field and 2 baseball fields partially developed but not available for play.
Willow Creek Farms Park	5.8	Neighborhood/ East Prospect	Playground equipment, open field	Located within a residential subdivision
Total	**31.25**			
Schools	**Rec. Acreage**	**School Type**	**Characteristics/ Facilities**	**Planning District**
Canadochly Elementary School		Elementary	3 basketball backboards, playground, 1 small ball field	East Prospect
Eastern York Middle School		Intermediate	Gymnasium, softball field	East Prospect
Eastern York High School		High	4 tennis courts, football stadium, gymnasium, 2 soccer/football practice fields	East Prospect

Other Public, Quasi-Public, Protected Lands/Parks	Acreage	Ownership	Characteristics/ Facilities	Planning District
Samuel S. Lewis State Park	85.75	State of Pennsylvania	Picnic areas with pavilions, trails, kite flying area, informal ball fields, playground equipment, restrooms, parking	East Prospect
Craley Playground	2	Craley United Methodist Church	1 small basketball court, playground equipment, 1 baseball field (60'), 1 T-ball field, storage sheds	Playground equipment does not meet CPSC standards; parking is on lawn, cell tower on site.
Kline Run Park	55	Safe Harbor Water & Power Co.	Picnic areas, 1 picnic pavilion, play equipment, parking	East Prospect
Cabin Branch Fields and open space	137	Safe Harbor Water & Power Co.	3 baseball fields (2-60', 1-90'), storage/concession shed, open area, grass parking	East Prospect
Safe Harbor Public Launch	23.13	Safe Harbor Water & Power Co.		Craley
Yorkana Ball field	7.03	Yorkana Vol. Fire Co.	2 baseball fields (1-T-ball, 1-60'), concession stand	Yorkana
May Ball Field	2.55	Private	1 baseball field (60')	Yorkana
Total	**312.46**			

Park System Classification Findings

Just as the amount of park acreage is important, so is the type of parks available for public use. Different types of parks provide different recreation opportunities for people who live, work, and visit Lower Windsor Township.

Table 28 on the following page presents the Lower Windsor Township Park Classification System. This table shows the range of park types in the Township, their benefits, appropriate facilities, and the maintenance levels appropriate for the type of park and resources available.

The 1995 NRPA classification categories were the point of departure for determining a classification system for Lower Windsor Township. Mini parks, which are part of the NRPA system, have been eliminated from the Lower Windsor system. Their small size provides limited recreation opportunities with high maintenance demands, and they are not compatible with the rural and suburban character of the Township. The following conclusions can be drawn from analysis of the Lower Windsor Township Park Classification System:

- Rexroth Park is the Township's only community park based on the facilities offered and its use by the entire community. At 25 acres this park is smaller than the typical 30-50 acre community park size.
- Willow Creek Farms Park is classified as a neighborhood park. At 5.8-acres in size it meets the recommendation of 5-15 acres.
- Other protected lands such as Kline Run Park and other Safe Harbor Water & Power Co. recreation facilities provide passive recreation opportunities and access to the river to residents of Lower Windsor Township
- Natural resources and man-made features exist which could be utilized in the development of greenways. Resources include the Susquehanna River, Canadochly Creek, Cabin Creek, Beaver Creek, Fishing Creek, Klines Run and utility easements.
- The Mason Dixon Trail, a hiking trail, traverses the Township along the Susquehanna River.
- There are currently no School/Community, Sports Complex, Special Use Facility, or designated and protected Greenways in the Township.

Parkland Acreage

For the past 30 years the NRPA has promoted a community parkland acreage standard of 10.5 acres per 1,000 persons. This standard is for analysis of active recreation land only. Passive recreation and greenway and trail land is typically based on the configuration of the resources and the area needed to preserve, protect, or use the land.

TABLE 28: LOWER WINDSOR TOWNSHIP PARK CLASSIFICATION SYSTEM

Park Type/Existing Size	Definition	Benefits	Appropriate Facilities	Lower Windsor Township Parks	Maintenance Level
Neighborhood Park 5-15 acres minimum	Focus of neighborhood; in walking/biking distance of visitors	▪ Provides access to basic recreation opportunities ▪ Contributes to neighborhood identity ▪ Establishes sense of community	▪ Play areas ▪ Ball fields ▪ Game Courts ▪ Picnic/Seating ▪ Pathways ▪ Community gardens	▪ Willow Creek Farms Park	High level of maintenance associated with well-developed park and reasonably high visitation.
Community Park 30-50 acres	Large park for active & passive recreation; serves residents city-wide. Accommodates large groups.	▪ Variety of recreation opportunities for all ages and interests ▪ Space for organized, large scale, high participation events ▪ Family destination ▪ Fitness and wellness opportunities	▪ Play areas ▪ Organized sports facilities ▪ Pavilions ▪ Permanent restrooms ▪ Lighting ▪ Amphitheaters ▪ Pools, Rinks ▪ Parking	▪ Rexroth Park	Moderate level of maintenance associated with moderate level of development, budget restrictions, inability to perform higher levels of maintenance. Try to get park friends or establish adopt-a-park.
School/ Community Park Varies	Parkland adjoining a school used for both recreation and education.	▪ Combines two public entities for expanded year round recreation. ▪ Maximizes public resources ▪ Expands recreation opportunities	▪ Youth-oriented game ▪ courts and ball fields ▪ Play areas ▪ Seating ▪ Pathways ▪ Lighting		Moderate level of maintenance associated with moderate level of development, budget restrictions, Try to get cooperative agreement with school.
Sports Complex 30+acres; preferably 50-80 acres	Consolidates sports fields and related facilities in a centralized location.	▪ Economy of scale ▪ Improved management ▪ City showcase ▪ Attracts visitors who stimulate local economy	▪ Ball fields ▪ Lighting ▪ Spectator Areas ▪ Restrooms, Concessions ▪ Landscaping ▪ Parking		State of the art maintenance applied to high quality facilities. Associated with high visitation; revenue generating facilities, tourism.
Special Use Facility Varies	Facility for a single purpose use.	▪ Provides special focus recreation opportunities ▪ Contributes to community identity	▪ Depends on purpose		High level of maintenance associated with well-developed park and reasonably high visitation.

Park Type/Existing Size	Definition	Benefits	Appropriate Facilities	Lower Windsor Township Parks	Maintenance Level
Greenways and Trails Varies	Tie park areas together to form a contiguous park environment.	▪ Connects community ▪ Reduces auto dependency ▪ Improves air quality ▪ Contributes most desired recreation facility for people throughout their lifetime ▪ Attracts visitors	▪ Pathways – multipurpose ▪ Trailheads ▪ Support facilities ▪ Signage		Lowest level of maintenance. Focus on trailheads and trail safety.
Natural Resource Areas/ Preserve	Natural areas for the protect and management of natural environment	▪ Protect resources ▪ Provide wildlife habitat ▪ Offer opportunities for environmental education	▪ Trails ▪ Signage ▪ Support facilities		Lower level of maintenance.

After consideration of the acreage standard, Lower Windsor Township has set 10 acres per 1,000 persons as the standard for comparing parkland acreage in the Township. Table 29 compares the parkland acreage for the two major park types, based on 2000 census population figures and forecast populations from the York County Planning Commission for 2010, to the actual parkland acreage of Lower Windsor Township. The 10-acre standard has been calculated in Table 29 using eight acres for community park acreage analysis and two acres for neighborhood park acreage analysis.

TABLE 29: PARKLAND ACREAGE / NRPA STANDARDS ANALYSIS

Park Type	Existing Park Acreage	Required Acres/ 2000 Population (7,405)	2000 Deficit (-) Excess (+)	Required Acres/ 2012 Forecast Population (8,301)	2012 Deficit (-) Excess (+)	Required Acres/ 2022 Forecast Population (9,197)	2022 Deficit (-) Excess (+)
Community Parks @ 8 Acres/1,000 Population	25.45	59.24	-33.79	66.4	-40.95	73.58	-48.13
Neighborhood Parks @ 2 Acres/1,000 Population	5.8	14.81	-9.01	16.6	-10.8	18.39	-12.59
Totals	31.25	74.05	-42.8	83.0	-51.75	91.97	-60.72

The parkland acreage in surrounding municipalities is shown in Table 30.

TABLE 30: SURROUNDING MUNICIPALITIES PARKLAND ACREAGE

Municipality	Parkland	2000 Population	Parkland/1,000 Pop.
Lower Windsor Township	31.25 acres	7,405	4.22
Springettsbury Township	140 acres	23,883	5.86
Spring Garden Township	7 acres	11,974	0.58
York Township	104 acres	23,637	4.40
Windsor Township	25 acres	12,807	1.95
Springfield Township	10 acres	3,889	2.57
Manchester Township	120 acres	12,700	9.45
West Manchester Township	104 acres	17,035	6.11
Upper Dublin Township, Montgomery County	374 acres	25,878	14.45

Parkland Acreage Findings

When the parkland acreages are compared to the 10-acres/1,000 persons standards the following conclusions can be drawn:

Lower Windsor Township is not meeting the overall acreage requirement with the existing parkland holdings of the Township. By the standards, approximately 74 acres of parkland should have been available in the municipality in the year 2000; this grows to approximately 83 acres in 2012 and 92 acres in 2022 based on the forecast population for the Township.

- Lower Windsor Township currently has 31.25 acres of parkland distributed in two parks.
- There is 4.22 acres of municipal parkland available per 1,000 residents, below the 10 acres per 1,000 persons standard.
- Some of the Other Public Lands, Quasi-Public, and Protected Lands in Lower Windsor Township (Cabin Branch Fields, Craley Playground, and Yorkana Ball field) provide active recreation opportunities that offset the acreage shortfall.

Parkland Distribution

Parks should be easily accessible to residents throughout the community. Existing transportation networks and waterways often are barriers to convenient access in a community. It is important to consider the location of parkland in relationship to these and other barriers and how they serve neighborhood areas.

Exhibit DD, Parks and Recreation, divides Lower Windsor Township into three planning districts, which are based on the generalized neighborhood areas of the Township. Route 124 is the most heavily traveled road in the Township and would limit access to neighborhood parks but not community parks. As the map illustrates, parkland is not evenly distributed between the planning districts or across the Township as a whole.

Parkland Distribution Findings

Preliminary findings and conclusions based on the parkland distribution analysis include:

- One community park located in the Craley Planning District serves the entire Township. This location is not centrally located in the Township and is not convenient to Yorkana Planning District residents.
- The Willow Creek Farms Park, a small neighborhood park with limited facilities, serves the East Prospect Planning District.
- Eastern School District recreation facilities are located in the East Prospect Planning District.
- The Yorkana Planning District is not served by municipal parks, although the Yorkana Ball Field and the May Ball Field are located in this area.
- Samuel S. Lewis State Park is located in the East Prospect Planning District.

Recreation Facilities

Recreation facilities should be provided within a community to meet the use demand of individuals, community groups, and organized leagues. The appropriate number of park facilities in a community should be based on need as defined by current facility usage and local trends in recreation and leisure activities. Table 31 presents the current recreation facilities in Lower Windsor Township parks.

TABLE 31: LOWER WINDSOR TOWNSHIP RECREATION FACILITY INVENTORY

Activity/ Facility	Existing Facilities
Basketball	2
Tennis	0
Volleyball	2 (1 sand, 1 grass)
Baseball	2 + 2*
Softball	0
Soccer	2 + 1*
Field Hockey	0
Lacrosse	0
Football	0
Swimming Pools	0
Golf Courses	0

*Facilities currently being developed.

Recreation Facilities Findings

An analysis of facilities must consider the context of the municipality and the trends and popularity of the sport that the facility serves. Recreation trends and observations in Lower Windsor Township further illustrate the need for additional recreation facilities. Consider the following findings from the public participation process and generalized recreation trends:

- Residents and user groups indicate that Rexroth Park is developed with the fields and game courts that the residents desire. The majority of the active recreation needs are being met in this park and the use of the soccer field and two baseball fields currently under development will further meet the needs of the community.
- The need for indoor recreation space with a gymnasium was expressed. Seniors, teens, youth, and adults would use an indoor recreation facility. Activities that currently need indoor recreation facilities include the basketball program and off-season soccer practice.
- Facilities such as tennis courts, volleyball courts, and swimming pools are important in a community because they serve the broad population and provide for lifetime recreation pursuits.
- Girls softball has grown in popularity.
- Seniors are more active and are requesting facilities for recreation and fitness and wellness activities.
- Non-traditional sports such as in-line hockey and skateboarding require specialty facilities. These sports are widely enjoyed by youth and teens.
- The fact that there is no swimming pool in the area was expressed as a concern and a need in the community. It was noted that the YMCA has planned a facility to be located between Hellam and Wrightsville Boroughs, which may offset the need for a swimming pool as an immediate need.

- Support facilities such as restrooms, parking, and landscaping are important features and add to the function and quality of facilities.
- Lacrosse is growing in popularity in the York County area although no specific reference was made to lacrosse in the interview process. The York County Lacrosse League was formed from the previous lacrosse program because there are enough children for League play and the League is continuing to grow.

Park Conditions

Each municipal park site as well as the other parks used by the public have been assessed for this study. Generally the parks are in good condition from a maintenance perspective. The findings of the facility inventory for each site have similarities that relate to accessibility and the regulations of the Americans with Disabilities Act (ADA), the safety guidelines of the Consumer Product Safety Commission (CPSC), and recommendations to enhance the user experience through the addition of convenience facilities such as benches and grills and comfort facilities such as shade trees. Specific findings of site observations and recreation opportunities are reviewed below.

Rexroth Park

Park Description:	A developed community park with active recreation and support facilities. This is the main recreation destination in the community serving sport leagues, families, and youth. Two baseball fields and one football/soccer field are under construction.
Active Recreation Facilities:	Two basketball courts, soccer fields (overlapping baseball field outfields), two baseball fields (one- 60-foot baseline, one - 90-foot baseline), one sand volleyball court, one grass volleyball court, and youth playground, tot lot.
Passive Recreation Facilities:	Two picnic pavilions
Support Facilities:	Park sign, parking area, concession stand/storage area, storage building, dusk to dawn light, portable toilets, picnic tables, grills, and benches. There is a heliport on the site.

General Site Observations: The site is maximized with recreation facilities with consideration of the facilities under development. The park is not ADA accessible. The sand volleyball court and one basketball court are in need of maintenance. Several pieces of playground equipment are older models that do not meet the Consumer Product Safety Commission (CPSC) Guidelines for Playground Safety.

Opportunities: Continue to develop Rexroth Park as the primary location for recreation in the municipality. Undertake improvements to make the park accessible, improve function and convenience of use, and further maximize recreation use as a community park to include the following:

- Acquire additional contiguous acreage as possible.
- Re-configure the parking area to provide a sense of arrival, a drop-off at the concession building, and paved handicap parking spaces
- Utilize the additional acreage to develop multi-purpose soccer fields that do not overlap baseball fields.
- Develop a picnic pavilion near the athletic fields under construction to provide shade for team meetings and family gatherings.
- Develop a centralized restroom building.
- Develop two sand volleyball courts.
- Develop trails throughout the park to connect and provide accessible routes to facilities as well as walking and jogging opportunities. The trail system should encircle the park, connect to the future municipal building, and park facilities, and provide loops of various distances.
- Replace playground equipment that does not meet CPSC guidelines. The slides, seesaws, and mechanical swings, should be removed immediately. The existing tot swings seats should be replaced with approved tot seats. The safety surfacing mulch should be extended to the limits required by the play equipment. Specifically, the mulch should be expanded in the area of the swings.

Willow Creek Farms Park

Park Description:	This park is a small parcel located within a residential subdivision. The park site is moderately sloping and the only improvements are two pieces of playground equipment and a sand box. The remainder of the site is open lawn.
Active Recreation Facilities:	A swing, sandbox, and slide.
Passive Recreation Facilities:	None.
Support Facilities:	Park policy sign.
General Site Observations:	The site has only a few pieces of play equipment and the proper limits of playground safety surfacing are not provided. Residential lots surround the site. There are no trees on the site. An unimproved drive provides access to the lot for maintenance. The park is not ADA accessible. The playground safety mulch does not cover the equipment safety limits as recommended by the CPSC.
Opportunities:	Develop Willow Creek Farms Park as a neighborhood park with facilities that are popular in the community. Undertake improvements to make the park accessible and provide additional recreation opportunities to include the following: ▪ Pave the driveway and provide handicap parking spaces. It is envisioned that park users would primarily walk to the site and the drive would provide access for maintenance vehicles and park visitors with disabilities. ▪ Develop a trail that encircles the site and provides access to the handicap parking spaces and proposed facilities. ▪ Expand the playground equipment to provide an age segregated modular structure and provide the proper limits of safety surfacing mulch to meet CPSC guidelines. ▪ Develop a basketball court on the site. ▪ Provide a sign near the drive entrance to announce the park. ▪ Provide shade trees throughout the site and along the trail. ▪ Add amenities such as benches and bike racks

Greenways & Trails

Greenways are corridors of protected public and private land established along rivers, stream valleys, ridges, abandoned rail corridors, utility rights-of-way, canals, scenic roads, or other linear features. They link recreational, cultural, and natural features; provide pathways for people and wildlife; protect forests, wetlands, and grasslands; and improve the quality of life for everyone.

Creating a network of green corridors throughout Lower Windsor Township is one means of protecting the character and landscape of the Township. Greenways provide an array of direct and indirect benefits that add to the quality of life of a region. Protection of green corridors and open spaces provides numerous economic, social, transportation, recreation, and ecological benefits. Understanding the benefits of greenway creation and protection will promote and sustain the initiative to develop a comprehensive network of greenways throughout Lower Windsor Township. The benefits of greenways include:

Economic Benefits

- Increase nearby property values
- Precipitate new and expanded businesses related to greenway and trail use. New businesses will provide employment opportunities and revenues.
- Create tourist destinations which will generate expenditures on food, services, and lodging
- Reduce damage and financial loss from flooding by providing buffer areas along stream and river corridors

Social Benefits

- Provide access to historically and culturally significant features in our communities
- Provide opportunities to reconnect with the natural environment and urban fabric of our communities
- Help to preserve the character and aesthetic appeal of a place or landscape
- Provide significant new public places which can help to connect people and communities
- Increase quality of life
- Improve health and wellness of greenway and trail recreation users
- Heighten sensitivity to the natural environment by providing for interaction between people and nature

Transportation Benefits

- Promote non-motorized transportation
- Provide safe alternative transportation routes for pedestrians and bicyclists which will lessen our dependency on automobiles
- Provide emergency access via trails to undeveloped areas
- Reduce roadway congestion through

redistribution of users to alternative transportation routes

Ecological Benefits

- Promote plant and animal species diversity
- Serve as a filtering zone; wetlands absorb pollutants and nutrients and slow surface run-off
- Provide corridors for wildlife migration and movement
- Preserve and protect vital wildlife, plant, and aquatic habitats
- Improve air quality and reduce noise
- Reduce stormwater damage and promote flood mitigation within protected floodplains
- Protect natural areas
- Connect fragmented landscapes
- Store and convey floodwaters
- Clean up abandoned corridors

Recreation Benefits

- Provide areas to jog, walk, bike, ride horses, and canoe
- Serve as sites for passive pursuits such as picnicking, fishing, and enjoying nature
- Connect existing and planned trails
- Encourage ecotourism
- Provide landscapes for environmental education
- Provide connections between parks and other protected lands

Mandatory Dedication

One mechanism that many municipalities use to ensure that future residents have adequate park and recreation opportunities is to require developers to dedicate public open space within proposed developments. Lower Windsor Township currently has a mandatory dedication ordinance that requires developers to dedicate land or pay fee-in-lieu to the Township at $225 per proposed lot or dwelling unit to be constructed.

In 1989, the Pennsylvania Municipalities Planning Code (MPC), Act. No. 170 of 1988 went into effect. This legislation provides municipalities with the authority to require the dedication of public land for recreation purposes. To comply with this legislation, the Township must meet the following requirements:

1. Adopt a recreation plan that establishes open space standards and park service areas, identifies areas in need of open space, and includes a capital improvement program.

2. Develop a mandatory dedication ordinance that contains definite standards for determining the portion of a development to be dedicated and the amount of any fee to be paid in lieu of land.

3. Create a separate interest bearing account for the placement of any collected fees.

Calculating Land Requirements: One popular method to determine how much open space should be required in a subdivision is through a per dwelling unit calculation. The Township has established a goal of providing 10 acres of parkland per 1,000 residents. To derive a per unit calculation, the 1,000 population figure is divided by the Township's 2000 U.S. Census average household size of 2.68. The following calculation results:

1,000/2.68 persons per dwelling unit = 373 dwellings

Dividing this number by the desired 10 acres per 1,000 residents goal yields this amount of land:

10 acres/373 dwellings = .027 acres/dwelling (rounded from 0.26809)

Therefore, on a subdivision of 50 homes, this .027-acre requirement would net 1.35 acres of parkland.

Fee Calculation: As an alternative to land dedication, the developer may pay a fee to the Township. This approach can only be used in those instances where the developer agrees to this alternative. The Township cannot deny a subdivision plan if the developer refuses an alternative to open space dedication. To convert the open space requirement to a fee, the Township should require the fair market value of the land to be dedicated. Using the above example, for a 50-unit subdivision, the developer should provide the Board of Supervisors with an appraisal of the required 1.35-acre parcel. Therefore, if the land were appraised at $25,000 per acre, then the Township would accept a $33,750 fee in lieu of the land dedication.

In contrast, a 50-unit development under the current Lower Windsor Township mandatory dedication ordinance would require a fee-in-lieu contribution of $225 per dwelling unit, or $11,250. By tying the mandatory dedication fee-in-lieu to the fair market value of an acre of land and the average household size the municipality may increase contributions to the Township.

Ordinance Provisions: Lower Windsor Township should amend the mandatory dedication ordinance to align with the recommendations of this plan. Specific language should follow the Township's general ordinance format. The ordinance should contain the following provisions.

- The subdivision should comply with the Lower Windsor Township Comprehensive Plan and updates with regard to size and distribution of recreation areas.
- The specific size of the residential subdivision for which the ordinance will apply should be noted. Some municipalities require mandatory dedication for every subdivision, regardless of whether it creates two units or 100, while other municipalities require mandatory dedication for subdivisions over a certain size, such as five new dwelling units. Lower Windsor's ordinance requires mandatory dedication of parkland for every new building lot.

- The type of land the Township will accept. This is especially critical to ensure that the Township receives open space that is conducive to its established park and open space standards and that the land dedicated can be used for its intended purpose as parkland. The following criteria is recommended for land proposed for open space dedication:

  - The land is a minimum of five acres in size, contiguous in shape, and has suitable topography and soil conditions for developing recreational facilities. The five acres relates to the size of a neighborhood park as defined by the Lower Windsor Township Park Classification System. The Township should require a fee-in-lieu for land areas less than five acres.

  - The land is configured to include natural features worthy of preservation.

  - The land is easily and safely accessible from all areas of the subdivision with direct access to, and the minimum required lot width along a public street. No roadways should traverse the site.

  - A maximum of 15% can consist of floodplain, wetlands, steep slopes, utility easements, or right-of-ways, or other features that render the lot un-developable.

  - The land should be accessible to utilities such as sewer, water, and power. The Township should require that the developer extend utilities to the tract.

  - The land should not contain any stormwater facilities designed to detain or retain stormwater.

  - The land should, where possible, be adjacent to undeveloped tracts, or other dedicated recreation lands to create a single, larger tract.

POLICE PROTECTION

The Township police force presently consists of a chief and six full-time and two part-time officers. The police force is equipped with six vehicles. Additional police protection is provided by the police forces of neighboring municipalities through a mutual aid agreement and by the Pennsylvania State Police. York County Control will dispatch neighboring police forces to assist in Lower Windsor Township when they foresee the need for protection beyond what the Township police can provide.

The national average of police employees for communities under 10,000 population is 1.4 policemen per 1,000 population. A rate of 1.2 policemen per 1,000 is considered to be the minimum service requirement for any village or

municipality. Based on 2000 Census data, Lower Windsor Township, with a population of 7,405, should have at least seven full-time officers with a more desirable number of eight full-time officers and one part-time officer. Thus, according to national standards, the present force is understaffed in terms of number of officers.

Although these national standards are desirable levels of service to obtain, the Township must consider its financial capabilities when deciding on the level of service to provide. In some cases cooperation among municipalities can help to obtain at least a minimum level of service in areas where individual municipalities alone cannot meet the needs.

FIRE PROTECTION

Three municipal fire companies provide fire protection in the Township: the Craley Fire Company, the East Prospect Fire Company and the Yorkana Community Volunteer Fire Company. Each fire company is an active and well-equipped volunteer organization and each provides service to about one-third of the Township. The fire fighting equipment of each Company is listed in Table 32.

TABLE 32: FIREFIGHTING EQUIPMENT SERVING LOWER WINDSOR TOWNSHIP

Craley Fire Company	East Prospect Fire Company	Yorkana Volunteer Fire Company
2 750 gal/min Pumpers	1 1000 gal/min Pumper	1 1000 gal/min Pumper
1 300 gal/min Tanker	1 750 gal/min Pumper	1 500 gal/min Pumper
1 Service Truck	1 500 gal Brush Truck	1 1000 gal/min Tanker
1 Brush Truck	1 Rescue Truck	1 Rescue Truck

Financial support for these companies includes membership dues, social fund raising activities and municipal contributions. Each fire company is connected to the County Communications (911) System, which provides a centralized communications system for County residents to utilize in obtaining fire protection service. York County Control has an automatic setup for dispatching fire companies. Based on the type of fire, when County Control foresees equipment and/or firefighting assistance being needed in addition to what a local fire company can provide other neighboring fire companies are also dispatched to assist in extinguishing the fires and providing auxiliary emergency assistance.

In order to set minimum insurance prices, fire underwriters have made a science of calculating fire risks and rating areas in accordance with the effectiveness of their total protection system. Adequacy of fire protection facilities is determined by a number of factors. Among the most important are

the locations of fire stations and the type of firefighting equipment available. Proper location and suitable equipment are essential to the primary purpose of fire companies, the protection of public and private property. The standards set by the National Board of Fire Underwriters regarding fire service areas serves as an indication of the degree of fire protection offered by fire companies. Table 33 shows the standard recommended maximum distances in travel miles between types of development districts and the nearest fire stations.

TABLE 33: FIRE DISTRICT STANDARDS

District	Recommended Distance in Miles From Pumper, Hose or Pumper-Ladder Company
Commercial	3/4
Industrial	3/4
Residential	1 ½
Scattered Development	3

Exhibit V, Fire and Emergency Support Facilities, depicts these distance zones from the Craley, East Prospect and Yorkana Fire Companies. By these standards, Lower Windsor Township appears to be adequately protected.

AMBULANCE SERVICE

The Canadochly Valley Ambulance Club provides service to Lower Windsor Township, East Prospect Borough, Yorkana Borough and a portion of Windsor Township. The ambulance unit is located on Main Street in the Borough of East Prospect, which is the center of the service territory. All crewmembers are volunteers. Each volunteer member is certified under State and Federal regulations to provide emergency care. For financial support, the Canadochly Valley Ambulance Club relies on membership dues, municipal contributions, fees for service and fundraisers such as weekly bingo. The Canadochly Valley Ambulance Club is connected to the County Communications (911) System and also the MED System that enables crewmembers to talk directly with York Hospital for assistance.

At present, adequate service is provided by the Canadochly Valley Ambulance Club to meet the needs of the population within its service area. To improve ambulance service and emergency care, York County, through the County Emergency Health Services Council has initiated Advance Life Support (ALS) services. The medical criteria to determine when an ALS paramedic unit should be dispatched has been developed by a regional team, with members representing eight counties, known as the Emergency Health Services Federation of South Central Pennsylvania.

As with other emergency services, access to the Advanced Life Support services is provided through the 911 County Communications System. An ALS paramedic unit located at Memorial Hospital covers the eastern portion of York County, including Lower Windsor Township. However, if this unit is unavailable, a back-up paramedic unit is available at York Hospital.

LAKE CLARKE RESCUE SERVICE

Lake Clarke Rescue was originally established as a boat club in 1955 and gradually broadened into water rescue. It is estimated that there are ninety members, which includes about forty-five members in the active water rescue unit.
The water rescue unit has an organized dive team that has assisted in various drowning and salvage dive work. The Lake Clarke Rescue Team (Rescue 60) is connected to 911 County Control via a siren at the clubhouse which is located on Long Level Road (State Route 624).

In addition to providing a water rescue service, the Lake Clarke Rescue Association coordinates water safety events, acts as a water safety patrol unit and performs community service jobs. Members also do all necessary maintenance of the navigation way and markers on the lake for the Pennsylvania Fish Commission and U.S. Coast Guard. In conducting marker work, members work closely with the Safe Harbor Water Power Corporation.

Financial support for Lake Clarke Rescue is obtained through membership dues and donations. In addition, social fund raising activities by the Ladies Auxiliary contribute significantly to the support of this service.

OTHER COMMUNITY FACILITIES

The Susquehanna Senior Center offers its facility to Lower Windsor Township residents. Meetings are at the Craley Fire Hall located on State Route 425, New Bridgeville Road.

The Craley Post Office, located on State Route 425, New Bridgeville Road, provides some service to Lower Windsor Township residents. In addition, East Prospect, East York, Windsor and Wrightsville Post Offices provide service to portions of Lower Windsor Township and Red Lion, however none of these facilities are located within the Township.

At present, the Township Municipal Building, located on Hakes Hollow Road southwest of Craley, serves as the center of Township activity. In addition to the administrative functions of the Township, the police and highway maintenance operations are operated from this building. A public meeting room for Board of Supervisors, Planning Commission, and Police meetings is also available in the Township building. In discussion stages is a new municipal facility planned for 2003.

There are several religious facilities within the Township. Although Township officials need not be concerned with the provision of religious facilities, they should be aware of their location and capacity as such facilities are often available for use as shelter or evacuation centers during emergency situations. The following is a list of churches within the Township:

1. Bittersville United Methodist Church
2. Calvary Bible Church
3. Canadochly Lutheran Church
4. Canadochly United Church of Christ
5. Craley United Methodist Church
6. East Side Bible Church
7. Ebenezer United Methodist Church
8. Mt. Pisgah United Methodist Church
9. New Salem United Methodist Church
10. Prayer Mission Church
11. Springvale Free Gospel Church
12. Trinity United Methodist Church

9. TRANSPORTATION FACILITIES

The vast network of transportation facilities that serves York County has been instrumental in creating a complex society and economy of both freight and passenger services. The transportation planner must assure that such levels can be sustained and that adequate capacity will be provided to accommodate the growth and changes to come.

Recent trends do not assure an easy task. Pollution of the land, air, and water by transportation introduces difficult policy decisions with respect to standards, regulations, energy sources, and transportation alternatives. Financial burdens are mounting as congestion and the need for modernization hoist the transportation bill beyond the levels that can be supported by established financial methods. Competition for resources to meet other urgent needs is at the same time reducing the prospects for transportation improvements.

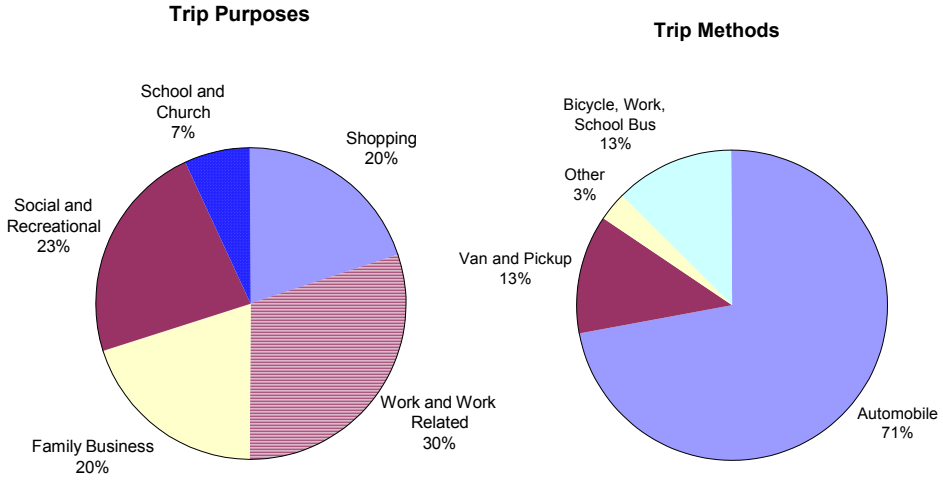
Transportation has become the second most important item, after housing, in the average family budget. More is being spent for travel than for food.

The overriding factor in today's mobility is the automobile. Motorists move in a land of drive-in restaurants, banks, motels, and shopping centers where business comes on wheels. Millions work in suburban offices, stores, and factories where holding a job means having a car. The contribution of transportation to daily life is nowhere more evident than in the pendulum movement of 100 million workers traveling between home and job during rush hours. The ability of the system to accommodate such volumes is critical to modern society because it allows workers the wide choice of how and where they will earn a living, without being limited to jobs available in the immediate neighborhood. Employers, too, are benefited by the wider area from which to tap the experience and abilities needed to staff their operations.

Personal mobility has completely altered the activity patterns of the average household. Dominating daily travels are trips to schools, supermarkets, shopping centers, banks, and restaurants. People have a wide choice of where to shop; what to buy; and which doctors, dentists, and places of worship to select. They also spend considerable time and energy chauffeuring younger members of the family. The automobile remains the primary means of transportation for these purposes. A national summary of these trends is shown in Table 34.

The impact of transportation on consumers is also visible in the suburbanization of homes, services, and jobs. Transportation has made it possible to extend the radius of urban living far beyond the short distances of a few decades ago, and the longer radials have meant an enormous increase in the areas open for development.

TABLE 34: NATIONAL TRENDS IN TRANSPORTAION



The accomplishments of transportation are notable, but there is growing concern over congestion, physical deterioration, accidents, high costs, resource constraints, and deteriorating services. In view of the growth of demand to come, will a transportation-dependent society be able to cope with the growing backlog of needs and to meet the still higher demand for quality services that seems inevitable? Current trends raise serious issues for transportation planners.

In a completely transportation-dependent society, the over-riding role of transportation in the area's economic and social development is to assure a continuation of the levels of service that have been an integral part of economic progress to date. A parallel charge is to assure that transportation programs and policies are responsive to the current climate of economic uncertainty and budgetary constraints. Moreover, transportation policies and purposes, as a means to other ends, need to be aimed directly at supporting community goals.

TRANSPORTATION NETWORK

Urban form is largely a function of the underlying transportation network. Development occurs adjacent to the transportation network where it can most easily be served. Transportation networks are influenced by many of the same factors that shaped our urban areas. Topography and natural features are major criteria for network locations as well as historic factors. Likewise, earlier precedents often dictate what happens. In most cases transportation networks evolve over many years and are therefore built incrementally. The first part of a network may dictate what the rest of the network will look like for many years to come.

Lower Windsor Township is unique in that there are no major traffic routes that traverse the Township that carry heavy traffic volumes. The highest volume roadway in the Township is East Prospect Road with an average daily traffic (ADT) volume of only 4,000 to 5,000 vehicles per day. In contrast Route 124, just east of Route 24 in Windsor Township, has an ADT of 7,600 vehicles per day while Route 24, in the area of Route 124, has an ADT of 20,000 vehicles per day. Lower Windsor Township and the municipalities south of Lower Windsor Township are rural in character with few major traffic generators. Because of the

rural nature of this area and the undulating nature of all of the key roadways, travel on these roadways is limited mostly to local residents, except during the summer months when people are attracted to the Long Level recreation area.

Through traffic in the Township is minimal, which is a result of the Susquehanna River, located east of the Township, with no crossings between Route 462 in Wrightsville Borough and Route 372 in Lower Chanceford Township, which are miles apart. Most through traffic and much of the local traffic will migrate either west to Route 83 or north to Route 462 and Route 30 instead of traveling the winding, hilly roadways through Lower Windsor Township.

Several other secondary roads also provide access to various places within the Township, including Mount Pisgah Road to the Modern Landfill and Yorkana Borough and Long Level Road along the Susquehanna River, which is a seasonal attraction.

Lower Windsor Township has only one traffic signal, which is located at the intersection of East Prospect Road (SR 0124) and Main Street/Mount Pisgah Road (SR 2009). It is owned and operated by Modern Landfill. There is also a four-way stop controlled intersection at Abels Road (SR 0124)/New Bridgeville Road (SR 0425) and Craley Road (SR 0624) with a flashing intersection control beacon. There are no other intersections within the Township that currently warrant the installation of traffic signals.

As mentioned above, the Susquehanna River borders the Township on the east. There are no bridges within the Township. The nearest bridges are the Route 462 (Columbia-Wrightsville) bridge in Wrightsville Borough to the north and the Route 372 (Norman Wood) Bridge to the south. Both of these bridges are many miles from the Township and do not provide convenient access to the Township. This is a major reason why through traffic is limited within the Township.

Roadway Classification and Design Standards

Functional classification of roadways refers to a system by which roads are described in terms of their utility. Theoretically, roads provide for two separate functions. First, roads provide for mobility or the ability to go from one place to another. Second, roads provide a measure of access to adjoining properties. Transportation experts assert that these two roadway characteristics determine a road's functional classification. Roads that provide for greater mobility, accordingly, also yield reduced land access, and vice-versa. This important relationship should always be considered when allocating future land uses along existing or planned roads.

There are three different road types: arterials, collectors, and local. These can be further subdivided into any number of different degrees, depending upon the complexity of the roadway network. However, for the purpose of this report, the

Township's roadway network can be adequately described by the following three categories (see Exhibit Y):

Arterials: Arterials are intended to provide for a greater degree of mobility than land access. Therefore, individual driveway intersections with arterials should occur infrequently. Arterials generally carry between 10,000 and 25,000 daily trips for distances greater than one mile. These roads often connect urban centers with outlying communities and employment or shopping centers. Consequently arterials are often primary mass transit routes that connect with central business districts of nearby cities and towns. Table 35 lists design standards associated with arterial roads.

TABLE 35: ARTERIAL ROAD DESIGN STANDARDS

Design Standards	Number of Lanes and Width	Right-of-way Width	Design Speed (MPH)
	Per PADOT Design Standards	80-120 Feet	Per PADOT Design Standards

According to the York County Roadway Classification Map, there are no Arterial Roadways within Lower Windsor Township.

Collectors: Major collectors provide for medium length travel distances (less than one mile) and carry between 1,500 and 10,000 vehicles per day. Major collectors also provide land access to major land uses such as regional shopping centers, large industrial parks, major subdivisions, and community-wide recreation facilities. Some sparsely developed rural uses also have direct access to major collectors. Major collectors primarily serve motorists between local streets and community-wide activity centers or arterial roads.

Minor collectors also provide for medium length travel distances, serve to bring traffic from local roads to major collectors and arterials. Minor collectors provide service to smaller communities and link important traffic generators with their rural hinterland.

Table 36 lists design standards associated with collector roads.

TABLE 36: COLLECTOR ROAD DESIGN STANDARDS

Design Standards	Roadway Width	Right-of-way Width	Design Speed (MPH)
	40 Feet	60 ft.	35

Collector roadways in Lower Windsor Township include:

Major Collectors:

- Cool Creek Road (SR 2011)
- Nursery Road (SR 2025)
- Calvary Church Road (T 736)
- East Prospect Road (SR 0124)

- Abel's Road (SR 0124)
- New Bridgeville Road (SR 0425)
- Craley Road (SR 0624)
- New River Road (SR 0624)
- Long Level Road (SR 0624)
- Mount Pisgah Road (SR 2009)
- Prospect Road (SR 2009)
- Yorkana Road (SR 2019)

Minor Collectors:

- Bluestone Road (SR 2019)
- Manor Road (SR 2029)

Local Roads: Local roads are intended to provide immediate access to adjoining land uses. These roads serve up to 25 dwellings and will be quite short within a suburban type development. In outlying rural areas, local roads may run for greater distances and serve more individual properties; however, the sparsely developed character of these areas prevents congestion problems. Finally local roads are intended to only provide for transportation within a particular neighborhood, or to one of the other road types already described. All of the roads not previously classified as arterials or collectors are considered local roads.

Levels of Service

Capacity analysis, as defined by the *Highway Capacity Manual*, is a set of procedures used to estimate the traffic carrying ability of a facility over a range of defined operational conditions. The capacity analysis uses levels of service (LOS) to describe the operational conditions. A brief description of the various levels of service is presented below and in Table 37.

Levels of service are assigned letter designations "A" to "F", with "A" being the most desirable operating conditions. A level of service "D" is generally acceptable according to the Institute of Transportation Engineers standards.

Level of Service A: A condition of free flow with low traffic density and high maneuverability within the traffic stream. No vehicle waits longer than one signal indication.

Level of Service B: Stable flow of traffic with negligible impact from other vehicles in the traffic stream. On a rare occasion drivers wait through more than one signal indication.

Level of Service C: Still in the zone of stable flow but ability to select operating speed and maneuverability is restricted. Intermittently drivers must wait through more than one signal indication and backups may develop behind left turning vehicles.

Level of Service D: Approaching instability; drivers are restricted in their freedom to change lanes. Delay of approaching vehicles may be substantial during peak hours.

Level of Service E: Traffic volumes are near or at capacity on the arterial. Long queues of vehicles may create lengthy delays, especially for left turning vehicles.

Level of Service F: Congested conditions of forced traffic flow where travel is slowed by stop and go conditions. Queued backups from locations downstream restrict or prevent movement of vehicles out of the approach, creating a storage area during part or all of the peak hour.

TABLE 37: LEVEL OF SERVICE CHARACTERISTICS

Service (LOS)	Unsignalized Intersection		Signalized Intersection	
	Average Total Delay, sec/veh	**Expected Delay to Minor Street Traffic**	**Stopped Delay, sec/veh**	**Expected Problems to Intersection**
A	≤ 10	little or no delay	≤ 10	very low delay
B	> 5 and ≤ 15	short traffic delays	> 10 and ≤ 20	stable flow of traffic with minimal delay
C	> 15 and ≤ 25	average traffic delays	> 20 and ≤ 35	number of vehicles stopping is significant
D	> 25 and ≤ 35	long traffic delays	> 35 and ≤ 55	Influence of congestion becomes more noticeable
E	> 35 and ≤ 50	very long traffic delays	> 55 and ≤ 80	limit of acceptable delay
F	> 50	extreme delays - usually warrants improvement to the intersection	**>** 80	over-saturated and unacceptable

Highway Capacity Manual, NCM2000, Transportation Research Board, National Research Council, Washington, D.C., 2000.
LOS – Level of Service
PCPH – Passenger Cars per Hour

PART II: COMMUNITY PLAN

10. REGIONAL PLANNING

The purpose of this section is to briefly describe the proposed development plans of adjacent municipalities in order to facilitate proper coordination of future development proposals of Lower Windsor Township with those of neighboring municipalities.

A total of five municipalities border Lower Windsor Township, including the Boroughs of East Prospect and Yorkana, Hellam Township to the north, Windsor Township to the west and Chanceford Township to the south. Lower Windsor Township is bordered on its eastern side by the Susquehanna River. Since the Susquehanna River presents a significant physical barrier and buffer to Manor Township, Lancaster County, there is no significant involvement or influence related to that area, so it has not been addressed. Lower Windsor Township and its other surrounding municipalities are all located in York County.

The Boroughs of East Prospect and Yorkana are highly developed with virtually no room for additional growth. Development in these boroughs mainly consists of residential and commercial uses, which are compatible with the Township's proposed future land use designation of Village in the areas adjacent to the boroughs.

Chanceford Township does not currently have a Comprehensive Plan, but according to the Chanceford Township Zoning Ordinance the land that abuts Lower Windsor Township is zoned Conservation near the Susquehanna River and Agricultural further inland. Lower Windsor's primary future land use designation of Agriculture in this area will create a harmonious relationship with these two land uses in Chanceford Township.

Windsor Township's Comprehensive Plan shows land uses adjoining Lower Windsor Township to be Residential and Agricultural. Residential uses are generally compatible with agricultural uses; thus, for the most part, Windsor's Plan is generally compatible with Lower Windsor's primary future land use designation of Agriculture in this area. A portion of the land in Windsor Township, as well as the adjoining land in Lower Windsor Township, is utilized by Modern Landfill as a solid waste disposal facility. The future land use of this area is designated as Industrial in Lower Windsor.

Hellam Township, north of Lower Windsor Township, is currently updating its Comprehensive Plan. Hellam Township's proposed land use map shows Rural/Agriculture land uses adjacent to Lower Windsor Township. The Rural/Agriculture area in Hellam Township adjoins Residential future land designations in Lower Windsor Township. Also, the proposed Village area around Yorkana Borough in Lower Windsor Township adjoins Rural/Agriculture in

Hellam Township. Since residential uses are generally compatible with agricultural uses, these land use plans are, for the most part, consistent.

In general, the uses proposed adjacent to Lower Windsor Township are either identical to or compatible with land use designations in Lower Windsor Township's Future Community Character and Land Use Plan. This situation maximizes land values and minimizes the likelihood of battles between residents or the municipalities themselves.

In working with the York County Planning Commission, it is recommended that Lower Windsor Township be considered an Established Rural Area as defined in the York County Growth Management Plan. This allows this Plan to be generally consistent with the York County Comprehensive Plan.

11. FUTURE COMMUNITY CHARACTER & LAND USE PLAN

The Future Community Character and Land Use Plan designate locations in the Township for the future development of residential, commercial, office, industrial, park and recreation uses, as well as the preservation of farm and natural lands. These future land uses are located to ensure a pleasant, safe, and attractive environment, and to help retain community character and traditional land use patterns. The future land use designations are based on good planning principles and have been prepared in response to meetings with Township staff, officials and residents, as well as the Township's community survey.

The Plan is intended to generally retain and maintain the traditional community character and development patterns reviewed in Appendix C, Farmland Preservation Strategy, and direct new growth to recommended development areas. The Plan should be viewed as a flexible guide for future growth and development in the Township, and should be reviewed periodically by the Township and revised, if necessary, to keep pace with changing development patterns, trends and community preferences.

GENERAL DISTRIBUTION OF FUTURE LAND USES

The Future Community Character and Land Use Plan proposes areas in the northern portion of the Township as the primary development centers for the Township, including land adjacent to the traditional towns of Yorkana and East Prospect and land around Eastern High School. These areas are intended to accommodate the most intensive types of development in the Township, including an array of residential, commercial and, south of Yorkana, industrial uses. The pattern of existing development in this vicinity, along with the potential for the area to be served by public water and sewer facilities, are the major factors guiding this distribution of uses.

The traditional village of Craley and the Long Level area along the Susquehanna riverfront are also proposed to accommodate some future development since these areas currently contain mixed uses.

Future development elsewhere in the Township is to be generally limited in scope. These areas, which include the majority of the Township, are designated for agricultural uses and should thus enhance the community's rural aesthetic qualities.

In delineating the extent of future land use types in the identified development centers, the Future Land Use Map includes more land for future development activities than that which is needed to

accommodate projected population growth in the Township. In doing so, the Plan provides for some flexibility in the choice of development sites and also permits new growth to exceed current projections without adversely affecting the basic framework of the Plan.

The proposals of this Plan, as well as other elements of the Comprehensive Plan, are only a beginning. Minor revisions and updating are frequently necessary to accommodate changing local conditions and the development of new planning techniques. The future land use policies reviewed below will require annual monitoring, as well as major review and update every ten years. Thus, it is anticipated that sufficient land will be always be made available for development activities required to meet the future needs of the Township.

FUTURE LAND USE ALLOCATION

The specific allocation of future land uses in the Township is illustrated geographically on Exhibit FF, Future Land Use Map. This map is not a zoning map and should not be construed for this purpose. It simply presents the Township's preferred pattern for future land development and preservation. If the Township wishes to legally direct and enforce its future land use policies, a Township zoning ordinance and zoning map will most likely be necessary.

As shown on Exhibit FF, there are five distinct future land use categories, plus a Conservation Overlay designation. They include: Agriculture, Industrial, Residential, Village and Waterfront Recreation. The amount of land allocated for each land use category is listed in Table 38.

TABLE 38: FUTURE LAND USE ALLOCATIONS*

Land Use	Approx. Area in Acres	Percent of Total Land Area
Agriculture	13,073	81.5%
Village	1685	10.5%
Residential	880	5.5%
Industrial	248	1.5%
Waterfront Recreation	152	1.0%
Total	16,038	100%
Conservation Overlay	4,559	28.4%

*These allocations are approximate values based on the parcel base GIS coverage provided by York County GIS Department and include roadway areas.

Appendix C, Farmland Preservation Strategy, identifies both primary and secondary development areas in the Township where most new development should be directed. These development areas play a key role in accommodating future growth. The primary development areas are intended to absorb most of the Township's future development and are

included in the Village and Residential land use designations.

By directing growth to concentrated Village and Residential areas, the Township will conserve rural and agricultural lands, making Lower Windsor a prime area for designation as a York County Established Rural Area.

Housing Land Use Allocation

As part of the overall allocation of future land uses, municipalities have a responsibility to ensure that adequate land is available for a variety of housing styles, and in amounts that are adequate to provide for the community's "fair share" of regional growth. This concept is known as the "fair share" doctrine and applies to all municipalities in Pennsylvania.

The projections for population growth in the Population Characteristics and Trends section of this Plan present a reasonable representation of Lower Windsor Township's anticipated share of regional population growth over the next twenty years. As reviewed in the Plan's Housing Characteristics and Trends section, these population projections have been converted into housing projections so that the total number of housing units necessary to shelter future Township residents can be determined.

These housing projections have been used to determine the amount of land acreage needed to accommodate future residential development in the Township. This housing growth will be accommodated primarily in the Village and Residential land use areas, with some limited new housing in the Agriculture land use area. The specific allocation of projected housing units and acreage by land use area is shown in Table 39.

TABLE 39: LOWER WINDSOR TOWNSHIP – YEAR 2022 HOUSING ALLOCATIONS BY LAND USE

Land Use	Density (acres per dwelling unit)*	Number of New Dwelling Units Needed	Number of Acres Needed**	Number of Acres Allocated
Rural/ Agriculture	1.0	124 (10%)	124	13,073
Residential	0.5(1)/1.0(2)	498 (40%)	336/672	880
Village	0.5(1)/1.0(2)	622 (50%)	420/839	1685

* Densities based on regulations included in Lower Windsor Township Subdivision and Land Development Ordinance.
(1) with public water and sewer
(2) without public water and sewer
** Needed residential acreages are increased by 35% to account for non-buildable site features (roads, easements, parks, floodplains, wetlands).

FUTURE LAND USE DESIGNATIONS & POLICIES

Agriculture

Lower Windsor has a large amount of prime agricultural soils dispersed throughout the community, with primary concentrations of such soils in the southwestern and northwestern portions of the

Township. Farming plays a significant role in the livelihood of many Township residents and farmland is a critical part of the community's "town and country" character. Therefore, the Future Land Use Map designates eight-one and one-half percent (81.5%) of the Township's land area as Agriculture, and farmland preservation is a major component of the Plan's Agriculture land use policies.

Existing Farmland Preservation Initiatives

Landowners across the Township have demonstrated their commitment to agriculture by participating in established farmland preservation initiatives:

- A number of Township landowners have permanently preserved their farmland through donation of conservation easements to the Farm and Natural Lands Trust of York County or the sale of conservation easements to the York County Agricultural Land Preservation Board. These easements prevent development or improvement of designated land for any purpose other than agricultural production. Township lands preserved with such easements are shown in Exhibit BB.

- Many landowners in the Township have shown their commitment to agriculture by including their properties in Agricultural Security Areas (ASAs) and the Clean and Green Program. These parcels are shown on Exhibit CC. ASAs are authorized by the State of Pennsylvania and established by the Township to promote more permanent and viable farming operations and protect farmers from nuisance ordinances, land condemnation and other public restrictions and actions. Currently, 2510 acres of Township farmland are included in ASAs, divided among 671 landowners. Properties in the State's Clean and Green Program are taxed at farm value rather than full market value to help reduce the cost of continued farming operations. Currently, 6003 Township acres are designated as Clean and Green properties.

Participation in these programs by Township landowners shows that agricultural preservation is exceptionally important to the Lower Windsor community. To reflect the area's strong farm culture and character, and to support and retain agricultural land uses, the Future Land Use Map (Exhibit FF) designates eight-one and one-half percent (81.5%) of Township land area as Agriculture.

To effectively protect the Township's existing agricultural operations and ensure a supply of land for future agricultural production, it is critical that Agriculture lands remain primarily as open farmland and relatively undeveloped scenic countryside. However, since creating areas exclusively for agricultural use may not be legally, politically or culturally realistic, it is recommended that the

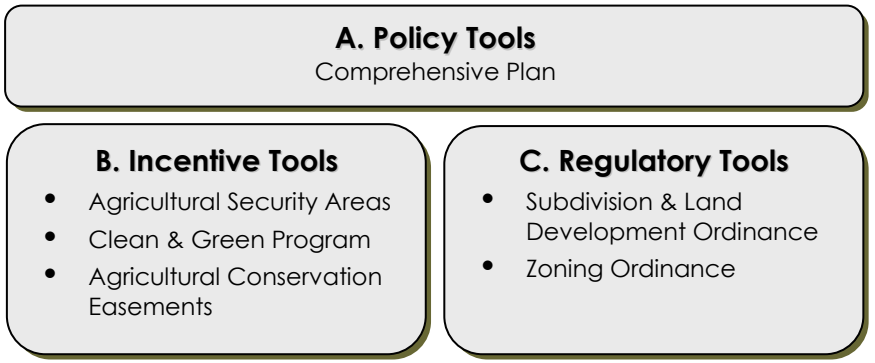
Township allow limited growth in these areas in the form of very low-density, rural residences, preferably located near existing traditional villages and rural residential clusters.

A Farmland Preservation Strategy for Lower Windsor

In support of the designation of Agriculture areas on the Future Land Use Map, Lower Windsor Township has also developed a comprehensive farmland preservation policy to further define the community's commitment to agriculture and establish specific strategies for the preservation of farmland acreage and rural character. This policy is incorporated into the Comprehensive Plan as Appendix C, Farmland Preservation Strategy. The following information summarizes key recommendations included in this strategy. For detailed information see Appendix C.

Lower Windsor's Farmland Preservation Toolkit: The Farmland Preservation Strategy for Lower Windsor Township provides a toolkit that includes policy, incentive, and regulatory options, as shown in Table 40. Township leaders can choose which tools are most practical and effective based on the political and budgetary environment guiding their decision-making process. Some tools are currently being used in the Township, although they may need to be modified or marketed better to be more effective; others have proven successful elsewhere in Pennsylvania and York County, but will require new action and initiative by Township officials for implementation in Lower Windsor.

TABLE 40: FARMLAND PRESERVATION TOOLKIT



Lower Windsor's Farmland Preservation Strategies: The Township's overall approach to farmland preservation focuses on five key strategies. Implementation of these strategies will progressively move the Township towards preservation of its agricultural heritage and character.

Strategy 1: Include the Farmland Preservation Strategy in the Comprehensive Plan's Future Community Character and Land Use Plan to make a strong policy and planning statement about the Township's desire to retain its agricultural heritage and economy.

Strategy 2: In association with other incentive efforts, initiate targeted marketing of ASA and Clean & Green program benefits to non-participating property owners in areas identified as priority locations for farmland preservation.

***Strategy 3*:** Establish partnerships with Preservation Board and Trust to develop a coordinated approach for use of conservation easements as the primary tool for preserving farmland:

- Identify priority farmland preservation areas
- Develop targeted marketing & educational campaign
- Provide township funding for easement purchases

Strategy 4: As part of an overall regulatory strategy for the preservation of farmland and community character, revise the Township's Subdivision and Land Development Ordinance to permit use of innovative subdivision design options, including:

- Traditional Neighborhood Development
- Clustering & Flexible Lot Design
- Conservation Subdivision Design (Growing Greener)

Strategy 5: Initiate consideration of a zoning ordinance for the Township that respects and strengthens the traditional development pattern of the community and includes extensive opportunities for citizen education and participation. Key principles guiding the zoning process should include:

- Limit regulation in agricultural districts primarily to use and density issues.
- Provide flexibility in agricultural districts for farming activities and farm-based businesses.
- Provide options for Traditional Neighborhood Development (TND) in Village land use areas to allow for the natural growth of traditional communities.
- Provide options for Planned Residential Development (PRD) in Residential land use areas to allow for clustering of development and preservation of open space.
- Provide for Transferable Development Rights (TDR), with Agriculture land use areas designated as sending areas and Village and Residential land use areas designated as receiving areas.
- Investigate the feasibility of requiring acre-for-acre agricultural mitigation by applicants for zoning changes that will change the use of agricultural land to any non-agricultural zone or use.

Village

The Future Land Use Map (Exhibit FF) designates three Village land use areas in the Township: one adjacent to Yorkana Borough, one adjacent to East Prospect Borough and one encompassing the village of Craley. These areas comprise ten and one-half percent (10.5%) of Township land area.

Presently there is a compatible intermixing of commercial and residential land uses within these areas, including a variety, but limited number of small commercial businesses, professional services and quasi-public uses, plus multi-family and single

family dwellings. In essence these areas are the hubs of community activity in their respective parts of the Township. The Village concept is consistent with present development in the designated areas and is designed to limit strip commercial development in the Township.

In keeping with the Village concept, the proposed Village land use areas are intended to be mixed use districts that provide for the continuation of existing residential and commercial uses as well as encourage the development of a variety of housing types, service functions and complementary convenience commercial functions to satisfy the needs of local residents. Such activities may be developed either through new construction or through the conversion of existing buildings. Commercial uses that are not compatible with residential uses are not considered appropriate for Village areas, and the Township should establish performance criteria for non-residential uses.

Options for Traditional Neighborhood Development, as provided for in the Pennsylvania Municipalities Planning Code (MPC), should be included in land use and subdivision regulations to allow for new development in Village areas that is compatible in density, scale and character to existing traditional development.

Residential

This plan proposes one major residential area in the north central portion of the Township. This area encompasses five and one-half percent (5.5%) of Township land area.

Proper development of the residential area will be heavily dependent upon three principal factors: development and adoption of sound land use regulations through a zoning ordinance; strict enforcement of subdivision and land development regulations; and provision of public utility systems.

Land use regulations for the residential area should not allow for an indiscriminate mix of commercial and other nonresidential uses, and should be designed so as to encourage residential development in this area rather than other areas of the Township. Options for Planned Residential Development (PRD), as provided for in the Pennsylvania MPC, should be included to allow for limited mixed uses, clustering of development and preservation of open space.

Subdivision and land development regulations should ensure that all residents of this area will have an adequate level of improvements such as streets, sidewalks, curbs and utilities. However, the regulations should not set improvements specifications at such high levels that builders will not be able to provide homes at varying price levels. In addition, the provision of public utility systems will be necessary in order to achieve varying types and densities of development. Also, the

subdivision and land development regulations should permit the use of innovative subdivision design options, such as clustering, flexible lot design and conservation subdivision design ("Growing Greener").

Industrial

Lower Windsor Township's industrial uses are located in the northwest corner of the Township, including the large Modern Landfill site that encompasses 216 acres. This area, although relatively small with one and one-half percent (1.5%) of Township land area, is suitable for a wide range of industrial activities that contribute to the well being of the Township by diversifying its economy and providing valuable employment opportunities. Land use regulations should allow for small start-up businesses and light industry as permitted uses. Other heavier, potentially more objectionable uses should require Special Exception approval.

Waterfront Recreation

The proposed Waterfront Recreation land use area, situated along the Susquehanna River, accounts for roughly one percent (1%) of total Township area.

Generally, Waterfront Recreation area is characterized by riverfront properties occupied by a mixture of seasonal and year-round dwellings, public and semi-public recreational type uses and a variety of commercial establishments, including marinas, boat storage facilities, bait shops, boat rentals and snack bars. It is expected that these uses, which are primarily oriented toward providing riverfront recreation, will continue to exist in harmony with one another. Considering that this area provides recreation for the surrounding region as well as for residents of Lower Windsor Township, it is also expected that the demand for additional quasi-public and commercial recreational facilities will increase. The Plan thus encourages the on-going development of this area in a manner consistent with existing development so that the rural recreational character of the area will be retained.

Although development is encouraged in the Waterfront Recreation land use area, each development proposal should be carefully scrutinized as to its impact on the area. Much of the land in this category is located in the one hundred (100) year floodplain; therefore conservation measures, especially floodplain management and erosion and sediment control regulations, should be strictly enforced.

Conservation

The Conservation land use designation encompasses those areas throughout the Township with natural features that have been identified as essential to the environmental health, economy and rural character of the community. These areas

include lands with severe development constraints, such as steep slopes (Exhibit O), wetlands and floodplains (Exhibit P), and lands characterized by such sensitive natural features as streams and watersheds (Exhibit R).

A Restricted Development Overlay Zone applied to these Conservation land use areas, as shown on Exhibit EE, will provide benefits such as soil erosion control, improved soil quality, enhanced water quality by means of filtering out harmful substances from runoff, enriched habitat and biodiversity, flood control, and the protection of buildings, roads and other property.

From the Township's perspective, protection of sensitive natural features represents sound public policy, and shall be supported with the following policies:

- *Directing Growth* - The Township will encourage and promote the preservation of its natural resource base and rural character by directing, wherever possible, future land development to appropriate areas, and away from environmentally sensitive areas, such as areas containing steep slopes, wetlands, and floodplains.

- *Restricted Development Overlay* - It is recommended that a Restricted Development Overlay Zone be used to implement the Conservation Plan designation. The Restricted Development Overlay should be established on performance-based densities and standards. Accordingly, all development should be located or clustered on that portion of the land where such development would have the least impact on important natural, scenic and cultural features. Land design standards will be flexible so that land use plans will preserve the continuity of woodland and other natural habitat areas located within and between adjoining properties. Stream corridors and/or linear trails will also connect open space areas where possible. Density bonuses may be awarded for added amenities sought by the Township, such as linear trails, parkland or historic site rehabilitation.

- *Protection of Major Conservation Features* - In addition to the provisions of the Restricted Development Overlay Zone, other provisions should be added to the Township Subdivision and Land Development Ordinance to provide for the protection of important conservation features, such as steep slopes, wetlands, and the 100-hear floodplain.

- *Site Plan Review* - To minimize disturbance of sensitive environmental and cultural areas, subdivision and land development applications should include an inventory of all conservation features in these areas and written verification that all of these features have been identified.

Applications should include a statement that describes measures for the protection of these conservation features. The applicant will also present the conservation features inventory and protection information either as an overlay to site plan drawings or as a separate map at the same scale. Sketch plans for larger developments will be required prior to formal preliminary plan submittal.

Historic Overlay

Lower Windsor Township, like much of York County, is fortunate to possess a rich cultural and historic heritage. Today, this heritage is apparent by the many older buildings, structures and related settlements that are scattered throughout the Township. Local officials and residents alike recognize the value in conservation and rehabilitation, plus restoration or adaptive reuse, of these historic features as a means of providing a glimpse into the area's important past. Additionally, historic preservation can provide educational opportunities regarding historic lifestyles and architectural styles. Well-maintained historic areas can create a sense of place and a unique identity that stimulates civic pride and economic vitality.
It is the intent of this Plan to protect the Township's significant historic resources through the application of a Historic Overlay designation to the Township's most significant historic areas, structures and other features worthy of protection. For the present, this designation will be applied to structures of historic or architectural significance.

There are many ways to identify these features. The Township should consider conducting an historic features inventory using criteria similar to those used by the National Register of Historic Places, including identification of structures of historical significance beyond a certain age.

An historic features overlay will be developed which is intended to:

- Ensure that future development in the Township takes historic resources into account in a manner in keeping with their historic nature.

- Trigger the local review of proposed demolitions of historic structures.

12. HOUSING PLAN

The goal of the Housing Plan is to provide the opportunity for a range of housing types and sizes within the Township to meet diverse housing needs while at the same time supporting the other major goals of the Plan.

HOUSING IN AGRICULTURE LAND USE AREAS

Residential development for much of the Township should reflect very low densities. These very low-density areas correspond to the designated Agriculture land use areas included in the Future Community Character and Land Use Plan. Very low densities in these areas are in keeping with the need to encourage continued agricultural production, as well as the protection of the Township's historic and rural landscape and the preservation of environmentally sensitive resources.

The most effective tool for achieving very low-density residential development outside designated development areas is land use regulation, most likely in the form of a zoning ordinance. The Township and local farmers should work together to develop suitable regulations that will permit some degree of residential development in the Agriculture portions of the community, but not at the expense of the primary agricultural functions indicated for these areas in the Plan. Regulatory flexibility is recommended, giving property owners a variety of choices if they choose to develop their land and containing various economic inducements to build compactly and to support the long-term goals and objectives of the Plan for the designated Agriculture portions of the Township.

HOUSING IN VILLAGE & RESIDENTIAL LAND USE AREAS

Residential development within designated Village and Residential land use areas should occur at significantly higher densities than that permitted in the Township's Agriculture areas, providing for a mix of low, medium and medium-high densities. The enactment of zoning ordinance provisions that support this concept, along with central water and sewer system extensions and capacity increases, road improvements, and community facilities, are the principal measures by which the Township can direct most new growth to designated development areas.

Village Land Use Areas

Most new housing development in the Township is recommended for the Village land use areas surrounding the Boroughs of East Prospect and Yorkana. The Village designation allows medium and medium-high density residential uses, along with other, compatible, non-residential uses.

Some existing medium and medium-high density residential development is already located in and

around the traditional towns of East Prospect and Yorkana, as well as in the traditional village of Craley. There is also some medium density development in the north central portion of the Township, as well as along the Susquehanna River. These developments typically have lot sizes of ½ acre or less.

Medium density residential development is an important component of the mixed-use character projected for the Village areas of the Township. Existing medium density residential uses in these areas should be reinforced as part of efforts to maintain the economic and social viability of these communities. However, new residential development in and around these areas must be undertaken in a manner that achieves the desired village character with moderate-scale, pedestrian-oriented design.

Medium density residential development should include a wide variety of structural types, including small-lot single-family detached dwellings, single-family semi-detached and townhouse dwellings, multi-family units such as garden apartments, and mobile-home units. A diversified housing mix, attractive to various household types and income levels, should be encouraged in these locales.

Residential Land Use Areas

Residential land use areas for low and medium-low density residential development are designated on the Future Land Use Map in the north central area of the Township around Eastern High School, as well as in a small area south of East Prospect Borough.

Recommended densities for these low and medium-low density areas are 0.4 to 2.0 dwelling units per acre, which allows conventional, single family detached dwellings on lots ranging from ½ acre to 2½ acres in size.

AFFORDABLE HOUSING

Housing affordability in the region is formally assisted through publicly administered programs for low- and moderate-income families and individuals. However, these programs still represent only a small percentage of housing units. For most Township residents, housing affordability questions must be addressed without the assistance of formal subsidies.

Housing affordability in the Township has been assisted by the stock of mobile homes scattered throughout the Township. The continued viability of this housing is a goal of this Plan. In addition, the Township, with the assistance of York County, should continue to monitor available sources of federal and state funding for housing rehabilitation, low- and moderate-income housing construction, and

infrastructure improvements, and should participate in these programs as appropriate.

In general, the Plan proposes to increase opportunities for affordable housing principally by providing new settings for housing construction at medium densities within designated development areas. At the same time, housing opportunities may be expanded through more efficient use of the current housing stock. Provisions for residential conversions, accessory apartments, and shared housing should also be considered*.

* "Accessory apartment" refers to a separate dwelling unit contained within and subordinate to a single-family dwelling unit. "Shared housing" refers to individuals not related by blood or marriage sharing the same dwelling unit.

13. PUBLIC UTILITIES PLAN

For many communities, the availability of a central water supply and wastewater disposal is a major determinant for growth - both the amount of growth and where it takes place. Where wastewater facilities exist and have sufficient capacity to allow new development, there is incentive for growth to occur; likewise, where they are not available growth will be generally discouraged.

Where the population distribution is scattered and natural conditions are favorable, each household may be able to provide its own water supply and sewage disposal system. But as development intensifies, the responsibility for disposing of sewage or solid waste or providing an adequate supply of water passes from the individual to a public or quasi-public agency. Increased population densities inevitably result in water supply contamination and sewage disposal malfunctions, thus creating public health problems that can only be resolved through the provision of public utility systems.

One major objective of the Comprehensive Plan is to guide development activity so that it will be compact but not congested and spacious but not excessively scattered. The proper balance between spacious and compact development will ensure the most economical provision of public utilities. Additionally, it should be emphasized that the planned and properly executed extension of utilities in itself can be a strong force in achieving desired land use pattern objectives.

As Lower Windsor Township continues to grow and develop the demand for public utilities will increase. A determining factor in establishing the future level and patterns of demand to service new developments with public utilities is the Future Community Character and Land Use Plan, along with the distribution of population and other economic activity. In addition, public utility systems planning must be related to other community development needs such as transportation and recreation, thus contributing to the total economic, physical and social development of a particular area. These factors thus present the framework for planning of water and wastewater facilities and the periodic review and modification of such planning to meet changing conditions.

SEWAGE DISPOSAL

One of the basic elements vital to the proper and orderly development of a growing community is the need to establish sewage disposal methods that meet the needs of the general populace of the community. The following three methods can be utilized for sewage disposal within a community:

1. **On-lot Treatment System**: This type of facility most commonly consists of a septic tank and drainage field. According to public health officials, permanent reliance on on-lot treatment facilities is recommended only for isolated home sites or rural farms. Currently, this type of treatment facility is the method most commonly used within Lower Windsor Township.

2. **Package Treatment System**: Package treatment systems usually serve a small area or isolated land use activity on an interim basis. They may be publicly or privately owned. These types of systems may also be used to provide relief to small developed areas which are experiencing chronic sewage disposal problems but cannot afford a centralized system. Package treatment facilities may be used for mobile home parks, schools, new subdivisions or other development activities, which, because of density or poor soil conditions, necessitate some form of interim sewage disposal until a centralized treatment system can serve the development activity.

3. **Centralized Treatment System**: A centralized treatment system is most desirable because of its relatively low maintenance and operation costs as well as its ability to serve wider areas of a given community. Like the package treatment system, centralized systems generally consist of a wastewater treatment plant with accompanying interceptor and collector lines to bring the sewage to a plant for treatment and discharge into a stream or other established watercourse.

Table 41 shows that public sewage service is normally justified if the density of the area to be served is at least 2,500 persons per square mile. The overall density of Lower Windsor Township is 283 persons per square mile.

TABEL 41: POPULATION DENSITY & ECONOMIC JUSTIFICATION FOR PUBLIC SEWAGE SERVICE

Population Density	Equivalent Lot Size	Service Economic Justification
Over 5,000 persons/square mile	Less than ½ acre	Public sewage is justified
2,500 to 5,000 persons/square mile	½ acre to 1 acre	Public sewage is normally justified
1,000 to 2,500 persons/square mile	1 acre to 2 acres	Public sewage is not normally justified
Less than 1,000 persons/square mile	Over 2 acres	Public sewage is rarely justified

Source: Public Health Service, Environmental Health Planning Guide, (Washington: U.S. Government Printing Office, 1962).

Because of the potential problems associated with on-lot systems, intensive development activities must be undertaken only with the availability of public sewer systems. Unlike public water supply systems operated under pressure, an economical sewer system depends primarily on gravity flow and natural drainage patterns.

Sewage Facilities Plan

Although public sewage facilities are available in portions of neighboring municipalities, and actually serve some Township properties around Eastern High School and East Prospect Borough, there are no plans in the foreseeable future to extend such facilities into significant areas of Lower Windsor Township. Most of the existing development in the Township is rural in nature with no large population concentrations to financially support the extension or development of a public sewer system. Although sewers may appear to be necessary in some portions of Township due to on-lot sewage system malfunctions, there does not appear to be an economically feasible way to provide public sewers to serve such areas at this time.

Based on Lower Windsor Township's current Sewage Facility Plan (Act 537), most areas of the Township must continue to rely on on-lot sewage disposal systems. The plan also proposes enacting an On-Lot Management Ordinance to go into effect in 2002. This ordinance will have somewhat of a controlling effect on development as much of the land in the Township has been identified as having severe limitations for the use of on-lot systems. In addition, it is generally assumed that the use of septic tanks and other on-lot systems should be considered only as a temporary means of disposal in subdivisions or other developments that will eventually become part of a primary development area. Since a public sanitary sewer system will eventually have to be provided to serve such areas, intensive development activities should only be located in areas where the extension of an existing or proposed system would be considered most feasible and where the development would be compatible with the Future Community Character and Land Use Plan for the Township.

Even if large lots are provided and percolation tests are satisfactory, there is no assurance that on-lot systems will function properly for an indefinite period of time. Malfunctioning systems have produced serious financial and health problems in other locations; consequently, the Township should try to avoid such situations in Lower Windsor. Although technology may eventually produce a satisfactory on-lot system, it is strongly recommended that the Township strongly discourage the development of major residential subdivisions with on-lot septic systems unless soil conditions are favorable, adequate lot sizes are provided to accommodate a replacement

system, and the subdivision is located where the future provision of public sewage facilities is feasible.

The following specific policies are recommended with regard to sewage disposal facilities within Lower Windsor Township:

- Package or temporary sewage treatment facilities to serve intensive development activities should be considered for approval only in those areas of the Township where connection to a proposed regional system is feasible within a five year period or the utilization of such a package system is necessary to alleviate past or current sewage disposal problems for an existing development area.

- For those portions of the Township beyond proposed public sewage service areas it is recommended that development activities be strictly regulated by the provisions of the Pennsylvania Sewage Facilities Act (Act 537) and the suitability of the soils for permanent use of on-site sewage disposal systems. In areas where on-lot systems must be used it is imperative that development regulations provide for lot sizes that will at a minimum provide sufficient area for the installation of replacement systems in the event of primary system failure..

- The Township should adopt and implement an On-Lot Management Ordinance.

WATER SUPPLY

The provision of an adequate water supply system is a basic health requirement that must be achieved for all residents within a community. Water supplies are generally provided by one of three methods:

1. **Individual On-lot Supply**: This type of facility, in most instances, consists of an individually drilled well for each lot. However, in many rural areas springs are also used as a source of individual water supply. If the well or spring has acceptable yields, the density of development is low and no on-lot sewage problems exist, then the on-lot system can be an adequate means of providing water supply.

2. **Community System**: This type of facility usually consists of a single well with accompanying storage facilities and necessary piping to distribute the water to the users. These systems are generally used for small residential developments removed from public systems that require a single water supply source. This may be due to the density of development or the use of on-lot sewage disposal systems that might create problems with individual well contamination.

3. **Centralized Water Supply System**: This system usually consists of a centralized water supply of several wells or reservoirs. In some instances the water supply is obtained directly from a large

watercourse such as a river. Like the community system, the water is provided to the user through a pressurized system whereby the supply is usually pumped to the highest service elevation and distributed from there by pressure to the users.

Because of its rural pattern of development Lower Windsor Township has in the past had to rely on groundwater sources for individual water supply systems. As more intensive development activity occurs this dependence upon private wells will suffer a loss of reliability. This is particularly true since the groundwater yield characteristics of the local geology are generally classified as highly variable. In addition, increased development will heighten the danger of pollution to the individual water supply systems as well as possible adverse affects on the level of the underground water table.

Sound planning will dictate the provision of public water supply systems in the areas contemplated for future development activity. Table 42 shows that public water supply systems are normally justified when the population density is at least 1,000 persons per square mile. The overall density of Lower Windsor Township is 283 persons per square mile.

A water feasibility study is currently being performed for Lower Windsor Township by C. S. Davidson, Inc. This study is being conducted to investigate water problems in the Massa Drive/Old Commons Road area (near the villages of Bittersville and Martinsville). Residents in this area have experienced chronic water quantity and quality problems. The preliminary report recommends the provision of some sort of reliable water system. Two options currently being investigated are connections to through the York Water Company and the Red Lion Municipal Authority. Other options include: the construction of a new treatment plant and collection system; purchasing individual treatment systems for the affected areas; and purchasing water wholesale along with individual 1,000 gallon tanks. Cost estimates are currently underway to determine if any of these options are feasible.

TABLE 42: POPULATION DENSITY & ECONOMIC JUSTIFICATION FOR PUBLIC WATER SUPPLY SYSTEMS

Population Density	Equivalent Lot Size	Service Economic Justification
Over 2,500 persons/square mile	Less than 1 acre	Public water supply is justified
1,000 to 2,500 persons/square mile	1 to 2 acres	Public water supply is normally justified
500 to 1,000 persons/square mile	2 to 4 acres	Public water supply is not normally justified
Less than 500 persons/square mile	Over 4 acres	Public water supply is rarely justified

Source: Public Health Service, Environmental Health Planning Guide, (Washington: U.S. Government Printing Office, 1962).

Local Water System Plan

As indicated in the Public Utilities section of the Plan's Community Overview, other than six private water supply systems serving mobile home parks, the majority of the Township is dependent upon on-site wells for water supply. Public water is provided along East Prospect Road, portions of Mt. Pisgah Road, Bluestone Road, Canadochly Road, and to Eastern High School and Middle school in the northern portion of the Township.

Although previous growth in the Township has generally occurred in a scattered pattern along the main transportation routes, the Future Community Character and Land Use Plan attempts to guide future development activities, especially intense development, into suitable and more compact areas. By proposing compact development areas the Plan hopes to establish areas where public utilities can be economically provided in the future.

The following recommendations are made with regard to providing adequate water supplies for the residents of Lower Windsor Township:

- The Township should seek to cooperate with other municipalities and utility companies in the provision of public water supply facilities as permanent and reliable sources of water needed for continued long range development of the community.
- Because the geological conditions associated with groundwater yield are characterized as highly variable for the development of individual wells in much of the Township, development activities taking place outside of existing or proposed public water service areas should be scrutinized to ensure safe and adequate water yields for on-site well systems. In general such development should be low density in nature.
- Future large scale, intensive development activities should be provided with public or community water supply systems.

SOLID WASTE DISPOSAL

Solid waste or refuse disposal is becoming more and more of a critical problem to government officials. Along with the increasing amount of refuse being generated, there is an accompanying increase in the amount of indiscriminate dumping. As noted in the Public Utilities section of the Plan's Community Overview, private haulers licensed by the Township provide collection of solid waste in Lower Windsor.

The method of collection is not a major focus of the Plan, except to note that it should be collected. Disposal of solid waste, however, is a more critical aspect since suitable land areas are needed for this purpose.

As a result of the passage of the Pennsylvania Solid Waste Management Act, a Comprehensive Solid Waste Management Plan was prepared by York County and updated in 1991. The Plan was adopted by Lower Windsor Township, and has been implemented by the York County Solid Waste and Refuse Authority.

The Township should implement the following actions in order to adequately provide for solid waste collection and disposal:

- Continue to support the activities of the York County Solid Waste and Refuse Authority as it implements a system of regional solid waste collection and disposal facilities as contained in the York County Solid Waste Plan.

- Take steps such as adopting ordinances, conducting police surveillance and initiating legal enforcement as necessary to curb and prevent indiscriminate dumping of solid waste materials in the Township.

- Encourage proper solid waste collection and disposal, including municipal large item pickup.

- Continue to encourage residents to participate in recycling and reuse options, including curbside pickup, due to the ecological and energy conservation benefits such systems provide.

OTHER UTILITIES

Electric, telephone, gas and cable TV will continue to be provided as indicated in the Public Utilities section of the Plan's Community Overview. Although the Township has no direct role in providing these services, Township officials should make sure that such services are provided in the most efficient manner possible before approving future development plans within the Township.

14. COMMUNITY FACILITIES PLAN

The provision of adequate community facilities and services is essential if a community expects to achieve orderly and desirable future development. Facilities and services such as schools, recreation areas, police and fire protection, municipal offices and other selected activities should generally be provided in proportion to the number of residents needing such facilities. A small rural community, for example, does not require a police force of the size and organizational structure that is necessary for a developing suburban or urban community. For this reason many community services may be minimal in scope or non-existent in rural areas due to lack of an adequate population base and the limited financial resources to provide such services.

The actual amount of population growth that is expected to occur within Lower Windsor Township is very dependent on the availability of public utilities, housing market activity, land use controls and other factors. In most instances, the Township already provides adequate community facilities and services for the existing population. Therefore, the main objective of the Community Facilities Plan is to make recommendations necessary to meet future needs in all areas. Standards provided in this section can be used by Township officials to judge the need and proposed location of new facilities in the future.

CRITERIA FOR FACILITY PLANNING

The evaluation of existing public facilities and the determination of needs for future facilities involve several related criteria. While not absolute, these criteria provide for a logical framework of community facility planning. Even though these criteria are more typically applied to buildings, they are equally applicable to both land and buildings. Whether a community facility or service is to be improved, replaced or initiated, the following criteria should be given consideration:

1. **Efficient Location**: Other elements of the Comprehensive Plan must be considered when determining the location of any community facility. This includes existing and future population distribution, major thoroughfares and topography.

2. **Accessibility**: Community facilities should be accessible by major thoroughfares providing the best possible access to the largest number of citizens who will use the facility.

3. **Co-Location**: Enhanced public convenience, operational economics, and minimal usage of land for joint parking lots and other shared accessory facilities are some of the advantages of co-locating services within one complex or area. Examples of grouping related central services are recreation and school complexes or recreation and Township building complexes.

4. **Condition & Obsolescence**: The present state of repair of existing facilities should be determined. Operational efficiency and the facility's adaptation to change must be reviewed to determine relative obsolescence. Poor condition and high obsolescence may indicate a need for replacement.

5. **Capacity**: The current level of performance of any particular service or function must be related to present and future utilization. Increased demands for service will normally require increased staff or equipment resources.

6. **Adequate Land Area**: Each community facility site should make provisions for the space needs of the function and any possible future additions, along with parking and landscaping enhancements.

7. **Appearance & Quality**: For those man-made facilities that are visible to the public, a measure of usefulness is contained in the facility's ability, by its appearance and arrangement, to inspire civic achievement in those who see it and use it. An attractive public structure or place is a reflection of cultural attainment and a credit to its owners, the citizens.

SCHOOL FACILITIES

The educational process provides our most valuable and important resource: an informed and educated citizenry that is equipped to cope with the complexities of modern society. As such, the provision of adequate school facilities is extremely important to the proper overall growth and development of a community. The objective of this section of the Plan is to provide for an effective arrangement of physical facilities for the proper development of this valued human resource.

Since the public investment for adequate school facilities and educational programs is substantial, it is extremely important that sound planning precede the construction of new facilities or the sale or abandonment of older physical plants. As an example, schools and certain recreation facilities should be considered together. The combination of a neighborhood park and an elementary school can serve as a community center. This combination provides a logical year-round gathering place or recreation center for a residential neighborhood. Combined sites can eliminate duplication of facilities and allow efficient utilization and maintenance of space, resulting in substantial cost savings, which is particularly important to a community with a limited tax base.

Adherence to adequate size standards for school sites is as important as ensuring proper location. While long range planning may deal with general locations for school sites, specific sites should be acquired well in advance of development in order to assure reasonable cost and the availability of proper location.

Lower Windsor Township students attend classes in the Eastern York School District. Enrollments in Eastern York indicate a gradual increase in the fourteen-year period from 1987 - 2001. The three elementary schools serving the School District presently have a total unused capacity of approximately 266 students. Limited unused capacity however exists at the high school, which serves grades nine through twelve, and also at the middle school, built in 1995, which serves grades six through eight which. The unused capacity amounts to space for only approximately 78 students at the high school and 83 students at the middle school.

Based on the unused capacity presently available in the elementary schools, it appears that Eastern York School District is comfortably accommodating its current population. However problems could result in the future if the Township allows uncontrolled growth to occur outside of designated development areas or if a community sewage system is implemented.

Since school facility planning is heavily dependent upon population data, it is essential that the population trends continue to be closely monitored in order to keep abreast of changes which could dictate a need for additional facilities in a given area. Population forecasting, especially for a small area, is a challenging task and it is only through the continual monitoring of development activities that any degree of short-term accuracy can be achieved.

The standards provided in the Community Facilities section of the Community Profile should be utilized when evaluating specific school proposals. In order to facilitate coordinated future school facility planning and the necessary population forecasting, the following recommendation is made:

- Representatives from the School District and municipal planning commissions in the District should meet to coordinate school planning and land use planning in order to anticipate future school needs. While it is recognized that local planning commissions are primarily concerned with long-range physical location of schools, the school board must consider location along with other factors. It is hoped that the municipal planning commissions can act as service agencies and coordinate their plans and knowledge of development activities with the School District's planning activities. In addition, it is recommended that all proposed school sites in the District be submitted to the planning commissions for review and approval. In this manner, an atmosphere will be created whereby the process of site location will be based upon reasonable estimates of growth and be related to the overall plans of the area.

PARKS, RECREATION & OPEN SPACE

Lower Windsor Township has a park system that relies primarily on one park, Rexroth Park in the village of Martinsville, to meet the active recreation

needs of the community. Needs not met at Rexroth Park are being accommodated at other public and protected lands such as the Cabin Branch Fields. Passive facilities are being provided at Sam S. Lewis State Park and Safe Harbor Water & Power Co. park sites.

Lower Windsor's population growth has generally been moderate, with five-percent growth from 1990 to 2000. Projections for 2012 anticipate growth of 10% over the next ten years. This growth will translate into the need for additional parks and recreation facilities.

The following are findings of an analysis of park and recreation facilities for the Township:

- Citizens want convenient access to parks.
- The community values Rexroth Park. Facilities currently under development are needed to meet the recreation needs of the community.
- Small improvements to Rexroth Park such as the addition of trails and shade trees will enhance the user experience.
- Indoor recreation is needed to meet the growing needs for recreation for seniors, teens, and other segments of the community. Users of basketball programs also need indoor gymnasium space.
- Teens and seniors are two groups that are underserved with recreation facilities and activity areas. Facilities for teens and senior adults should be provided in new parks and through renovation to Rexroth Park.
- Resources exist in the community to begin the process of creating a livable, connected community. Emphasize pedestrian and bicycle facilities in planning efforts and explore opportunities for trails and greenways.
- Open space should be preserved in the Township.

Following are recommendations for Township parks and recreation facilities:

1. **Target acquisition and development of parkland to meet current and future needs for expanded facilities.**
   - There is a sense of expanding pressure on open space in the Township. As the population projections indicate, the municipality anticipates growth and this growth will limit the available parcels for development of parks. The Township should prioritize acquisition of parkland as follows:
     - The Township, through this Plan has committed to a standard for parkland of 10 acres per 1,000 citizens. To achieve this standard and meet the needs of the community based on population growth forecast, the Township should acquire an additional 52 acres of parkland by 2012.
   - Acquire additional community parkland through purchase, donation, or grants to

meet the current and future recreation needs of the municipality. The parkland analysis indicates that 52 additional acres of parkland will be required by 2012 to meet the needs of the municipality, with 41-acres of this land needed for community parks. Based on the Township's parkland classification system this equates to one community park of 30 to 50 acres in size. The community park envisioned for the Township is described as follows:

- One park should be located in the Yorkana Planning District, convenient to the Rout 124 corridor and easily accessible to most areas of the Township, to respond to the desire for centralized facilities. The addition of a community park in this area of the Township will result in a triangulation of facilities with one major facility in each Planning District:
  - ~ Craley Planning District: Rexroth Park
  - ~ East Prospect Planning District: Eastern School District facilities
  - ~ Yorkana Planning District: new community park
- This community park should provide a balance of both active and passive recreation activities, providing sports facilities as well as trails and picnic areas for passive recreation pursuits.

- Maximize the recreation potential of Rexroth Park through the acquisition of contiguous acreage.
- Amend the Lower Windsor Township mandatory dedication provisions to align with the fair market value of property in Lower Windsor Township and to further define the criteria of land that the Township will accept as recreational land.

2. Maximize the use of existing parks to respond to the expanding needs, interests, and desires of citizens and improve the safety, function, convenience, and aesthetics of park sites through the following initiatives.

- Complete master plans for Rexroth Park, Willow Creek Farms Park, and the proposed community park, incorporating public participation as part of the planning process. The master plans should evaluate the functional relationships within existing parks, determining if facilities should be removed, added, renovated or moved to maximize the use of each park site. Master planning is an important means to address management issues through park design and aligning facilities with recreation trends and current and projected community needs. Design park sites to provide order to facilities and activity areas. The master plans should include the plan for the park sites as well as a phased cost estimate that outlines the anticipated development costs.
- Provide walking trails in parks and to access park facilities. Trails are enjoyed by all

segments of the population and are highly desired recreation facilities. The Americans with Disabilities Act (ADA) requires access to recreation facilities and activity areas via an accessible route.

- Connect park sites to designated greenways and trails as possible.
- Enhance the park sites to be comfortable and convenient to use by adding benches, trash receptacles, drinking fountains, grills, bike racks, restrooms, and other convenient facilities as appropriate. Provide benches near playgrounds, in shaded locations, and at other activity areas for caregivers to sit and watch park activities.
- Include signs in each park to identify the park. Utilize a standard vocabulary of sign materials and design to unify and promote the park opportunities within the municipality while noting ownership of each site.
- Provide facilities for teens such as trails for in-line skating and bicycling, sand volleyball courts, and basketball courts.
- Provide facilities for lifetime recreation/leisure pursuits such as trails, volleyball courts, tennis courts, in-line hockey rinks, and picnic pavilions.
- Consider the needs of the senior adult population. Make facilities pedestrian friendly, convenient to use, and provide sitting areas in the shade, conveniently spaced along trails and near activity areas. Provide pavilions near parking areas.
- Design with nature.
  - Protect and enhance natural resources of the park sites.
  - Provide buffer areas around sensitive natural resources that should have limited or no public access.
  - Locate facilities with consideration of prevailing wind and solar orientation.
  - Use native plant material to enhance wildlife habitats and minimize maintenance.
  - Consider the site soil and underlying geology during the planning and development phase. Soil and geology directly affect facility constructability, drainage, and long-term maintenance.
  - Incorporate wetlands, rock outcrops, and hedgerows sensitively into park designs.
  - Develop park sites using Best Management Practices for erosion control and stormwater management.
- Strive to undertake improvements to the parks that are holistic and not piecemeal in order to provide a sense of presence and accomplishment in the public view.

3. **Develop a comprehensive greenway network that connects park sites, open space, residential neighborhoods, schools, and community destinations.**

   Greenways should be developed to provide safe convenient travel between points of interest while providing for hiking, bicycling, and walking.

   - Create a Township-wide greenway network composed of hubs (important destinations and originations for people) and linkage corridors, creating "green infrastructure" for the Township and providing trail opportunities for recreation, transportation and movement of wildlife.
   - Link greenways and trails to the Mason-Dixon Trail.
   - Evaluate local roads in terms of bicycle and pedestrian compatibility.
   - Work with PennDOT and the Township Public Works Department to provide bicycle and pedestrian friendly facilities when upgrades are undertaken for public roads.
   - Evaluate the trail opportunities of existing rights-of-way in the Township.
   - Communicate with adjacent municipalities regarding regional greenway opportunities and initiatives.
   - Explore creation of greenways and trails through land acquisition, easements, and use of stream corridors.

4. **Provide facilities for public uses that comply with accessibility and safety regulations and guidelines.**

   - Evaluate existing park sites and recreation facilities to determine if ADA regulations are being met. Walkways must be developed to provide an accessible route from handicap parking spaces to recreation facilities and between recreation facilities. Playgrounds must offer play equipment that provides play options for the physically challenged. Trails and walkways must be developed so that they do not exceed specific slopes. Athletic fields and courts should be accessible and provided with accessible viewing areas. Fences surrounding game courts should have gates with clear opening widths that meet or exceed ADA requirements. Picnic areas should offer accessible picnic table.
   - Provide play equipment that meets the safety criteria and age-segregation criteria of the Consumer Product Safety Commission (CPSC) Guidelines for Public Playground Safety. Remove all equipment that does not meet the CPSC Guidelines. Conduct ongoing safety inspections of playgrounds. Provide adequate safety zones around each piece of play equipment with safety surfacing material that meets CPSC test requirements

and the latest American Society of Testing and materials criteria.

- Identify and prioritize improvements needed to bring existing facilities into compliance with the ADA and CPSC. A phased implementation schedule should be developed and improvements should be included in the capital improvement program budget.

5. Develop a Capital Improvement Program to guide Township capital expenditures on parks and recreation facilities.

The recommendations of this plan will require the Township to make capital expenditures. Determining capital costs can be somewhat nebulous. Many communities use their own work forces and are able to save considerable costs. Others are very resourceful and able to secure alternative sources of funding through business contributions, grants, individual donations, or other means. Table 43 below provides cost estimates for proposed parks and recreation capital improvements identified in this plan. These are estimates based on the best available information and broad assumption and are subject to change when each project is further evaluated and master planned. In addition, the projected cost is for contracted labor, and does not consider any particular source of revenue. Design, survey, engineering, and contingency fees have been included at specific percentages indicated, but should be considered after a project approach and scope are determined.

TABLE 43: PARKS & RECREATION CAPITAL IMPROVEMENT PROGRAM

Park Improvement	Quantity	Cost Opinion	2002-2003	2004-2011	2012+
Rexroth Park					
Land Acquisition (contiguous acreage)	-	Based on land quantity and cost	√		
Master Plan	-	$15-25,000		√	
Earthwork	LS	$100,000			
Erosion control	LS	$ 25,000			
Bituminous trails	LS	$ 85,000			
Soccer field	2	$ 30,000			
Basketball court – repair	1	$ 5,000			
Volleyball courts – sand	2	$ 35,000			
In-line hockey rink	LS	$115,000			
Concrete walk/plazas	LS	$ 30,000			
Drives/HC parking	LS	$125,000			
Benches	10	$ 6,000			
Shade trees	25	$ 9,000			
Landscaping	LS	$ 5,000			
Picnic pavilion	1	$ 25,000			
Stormwater mgmt.	LS	$ 50,000			
Community/memorial area	LS	$ 25,000			
Bond, mobilization, layout (10%)	LS	$ 67,000			
Contingency (10%)	LS	$ 67,000			
Survey, design, and engineering (15%)	LS	$120,000			
Sub-total		$924,000			
TOTAL		*$949,000*		√	⇒
Willow Creek Farms Park					
Master Plan	-	$5-8,000		√	
Grading	LS	$ 18,000			
Erosion control	LS	$ 8,000			
Stormwater	LS	$ 15,000			
Bituminous trail	LS	$ 28,000			
Modular play equip.	LS	$ 50,000			
Additional. safety surfacing at ex. play equip.	LS	$ 2,300			
Basketball court	LS	$ 25,000			
Drive/HC parking	LS	$ 10,000			

Park Improvement	Quantity	Cost Opinion	2002-2003	2004-2011	2012+
Shade trees	15	$ 5,250			
Sign	LS	$ 1,000			
Benches	4	$ 2,400			
Bike racks	2	$ 800			
Bond, mobilization, layout (10%)	LS	$ 16,575			
Contingency (10%)	LS	$ 16,575			
Survey, design, and engineering (15%)	LS	$ 30,000			
Sub-total		$228,900			
TOTAL		*$236,900*		√	⇒
New Community Park – Yorkana Planning District					
Land Acquisition	30+ acres	Based on land quantity and cost		√	
Master Plan	-	$15-25,000		√	
Clearing/demolition	LS	$ 75,000			
Grading	LS	$ 195,000			
Erosion control	LS	$ 45,000			
Basketball courts	2	$ 50,000			
Baseball field	2	$ 50,000			
Soccer field	2	$ 30,000			
Bituminous trail	LS	$115,000			
Concrete walk/plaza	LS	$ 80,000			
Parking/drop-off	LS	$200,000			
Pavilion	LS	$125,000			
Tot lot/playground	LS	$ 75,000			
Site amenities	LS	$ 10,000			
Sign	LS	$ 1,000			
Stormwater management	LS	$ 85,000			
Bond, mobilization, layout (10%)	LS	$113,600			
Contingency (10%)	LS	$113,600			
Survey, design, and engineering (15%)	LS	$204,500			
Sub-total		$1,567,700			
TOTAL		*$1,592,700*			√ ⇒

√ = Start project
⇒ **=** Continue implementation

POLICE PROTECTION

The provision of adequate police protection is necessary for any community that is seeking to provide the necessary services to ensure the health, safety and well-being of its residents.

For local police protection a general guide of 1.4 policemen per 1,000 persons is considered to be an adequate level of police protection service. Because of limited financial as well as population needs, it is worthwhile for communities to consider the provision of a service such as this on an intergovernmental basis. Creating governmental ties with neighboring municipalities increases the overall effectiveness of a police force while achieving economies of scale.

The Lower Windsor Township Police Department is currently efficient in providing Township residents with adequate police protection. As the population increases, it is recommended Lower Windsor Township ensure its residents are adequately protected with police service by adding additional patrol persons or by increasing the effectiveness of intergovernmental ties.

OTHER TOWNSHIP & COMMUNITY FACILITIES & SERVICES

In addition to schools, recreation and open space areas, police protection and fire protection, there are other public and quasi-public facilities and services that should referenced in the Plan. These other community services include governmental offices, libraries and health care facilities. The following recommendations are made in regard to these services.

Township Building & Offices

At the current time, Lower Windsor Township is in the process of planning a new Township Building. This new facility will house municipal administration, police, and a community center, including a senior center. It is tentatively scheduled for construction in 2003.

Other Community Facilities & Services

A myriad of other community facilities and services are available to Township residents. These community services include such services as emergency support services, health care facilities, postal services and religious facilities. The provision of these existing services is considered to be adequate and does not require a statement of objectives for planning purposes at this time. However, concerning the provision of future services and facilities, the Township should consider that whenever it can cooperate with other local governments and organizations in the provision of such services, a better, more comprehensive level of service will likely result.

15. TRANSPORTATION PLAN

Although most roadways in Lower Windsor are under Township jurisdiction, the State of Pennsylvania's Department of Transportation (PennDOT) also maintains several major routes through the community. Road jurisdiction is shown on Exhibit X.

In the past, the State had played a primary role in the resolution of regional transportation problems. Today, however, the State only provides assistance to a relatively few number of locales with serious problems, and does not have the resources to deal with all regional road projects that are needed. Therefore, Lower Windsor Township should not take a passive approach and wait for their regional road problems to become serious enough to be eligible for the State's attention. Instead, the Township, with the cooperation of adjacent municipalities and developers where applicable, must begin to plan and program for regional road improvements so that public welfare and convenience is maintained in an uninterrupted fashion.

This does not mean that the Township should abandon efforts to receive assistance from PennDOT for improvements on State owned and maintained roadways. The Township should take an advocacy position to obtain State or Federal funding assistance for roadway improvement projects within the Township. The following list of projects provides a preliminary assessment of the roadway improvement projects the Township should pursue. This list should be used as a tool for requesting PADOT consideration of these projects for either maintenance funding or placement on the State's Transportation Improvement Program (TIP) and then on the 12-year Transportation Plan. The more support documentation that is provided the better the chances of receiving assistance.

GENERAL & NON-SITE SPECIFIC TRANSPORTATION RECOMMENDATIONS

1. Many traffic signal timing plans are outdated and based on traffic volumes that do not reflect current traffic patterns. In addition, new and revised methods of determining timing plans for traffic signals have been developed. Existing and future traffic signals should be analyzed and re-timed on a six-to-ten year schedule.

   For purposes of evaluating current traffic performance at the Township's only fully signalized intersection, an analysis of the AM and PM peak hour conditions was performed at the signalized intersection of East Prospect Road and Mount Pisgah Road. The analysis was based on traffic volume data collected by ELA Group during the month of July 2001. The results of this analysis conclude that the intersection currently operates at acceptable levels of service. Projecting the traffic volumes ten years ahead to 2011, assuming no major developments occur within close proximity and utilizing a 2.2% annual traffic growth rate, the intersection will continue

to operate at acceptable levels of service. However, for safety reasons, consideration should be given to constructing a left turn lane on East Prospect Road for both directions and a southbound right turn lane on Mount Pisgah Road.

2. Traffic signals routinely require either additional maintenance or the reporting of deficiencies that occur between annual maintenance inspections. Periodically traffic signals malfunction, mostly related to vehicle detection, and do not operate effectively or efficiently. A traffic signal with one failed vehicle loop detector can cause significant congestion and make the difference between the intersection operating at acceptable and unacceptable levels of service.

   The Township should have in place a maintenance agreement with a certified traffic signal maintenance contractor. The contractor should be required to service each traffic signal on a routine schedule to ensure proper operation of the signal. All Township personnel should report any malfunction of any traffic control device within the Township including signals, signs, pavement markings, etc.

3. Lower Windsor Township, with Susquehanna River frontage at Long Level, attracts many people that are unfamiliar with the area and its transportation network. Additional actions are needed to make Township roads more user-friendly and easier to identify, and also to provide alternate choices of routes to get from place to place. It is apparent from driving the corridor within the Township that directional signing is lacking. Street name signs must be installed at all intersections, and since the Township is a rural area, the signs should be larger than those currently being utilized to provide increased visibility. At signalized intersections street name signs should be mounted on mast arm poles and at unsignalized intersections two sets of signs should be installed on diagonally opposite corners.

   It is also apparent that more directional signing is required including destination and distance signs and route markers. These types of signs should be posted at all major intersections to assist drivers that are unfamiliar with the area. More and better directional signage provides the information that an unfamiliar driver requires in order to make quicker and safer decisions. In addition, it provides alternate routes that a driver might not other wise have known about.

4. Overall signage and pavement markings along Township roads need to be improved. Many signs are old, faded, improperly installed, and in some cases additional signage is required. The Township should maintain a sign inventory that tells when, where and what signs have been installed. Periodically the signs should be inspected and maintained or replaced. Obsolete signs should be replaced with up-to-date information. In addition, many pavement markings are worn and in some cases non-existent. Signs and pavement markings play an important roll in providing information to drivers. When signage and pavement markings are deficient it affects the way people drive.

5. Provide wider shoulders and smoother road surfaces. The width of shoulders is considered to be an important factor in the safety of a roadway, with wider shoulders being able to provide a safety buffer. In addition, where it is possible to increase the super-elevation at existing horizontal curves, this should be done to increase the degree of driving comfort and safety. These conditions generally occur along PennDOT maintained roadways rather than Township roadways. PennDOT should be encouraged to improve State roadways within the Township to provide additional paved shoulders and to overlay the roads to provide smoother travel-ways.

6. Provide ample safe stopping sight distances at all intersections and driveways. Clear all obstacles that are within or that protrude into the clear sight line. This includes vegetation, trees, fences, mail boxes, etc. This type of improvement will reduce a driver's hesitation to make an entrance into the travel-way and reduce the delay that would otherwise exist. A reduction in accidents can also be achieved by providing a clear view at all intersections.

SITE SPECIFIC TRANSPORTATION RECOMMENDATIONS

The following recommendations for specific transportation improvements have been developed with the assistance of the Lower Windsor Township Chief of Police:

1. Yorkana Borough is directly in the path of a large percentage of the truck traffic that is going to and from the Modern Landfill. Efforts must continue to control the speeds of these vehicles through the Borough and the truck curfew must also be strictly enforced. Consideration should be given to reducing the speed limit on Main Street (Mount Pisgah Road) in Yorkana to 25 mph based on new urban residential criteria. Other options for truck access to the landfill should also be evaluated, such as using the Hellam interchange of Route 30, Freysville Road, and either Witmer Road or East Prospect Road. Also, the intersections of Mount Pisgah Road and Valley View Road, and Mount Pisgah Road,

Bluestone Road, and Yorkana Road should be evaluated for four-way stop control. It appears there maybe sight distance problems at each of these intersections.

2. The intersection of East Prospect Road (Route 124) and Mount Pisgah Road has been the scene of numerous accidents. Many of the accidents have been either angle type accidents or rear-end type accidents. The angle accidents may be a result of road conditions, geometric conditions, and limited safe stopping sight distance. Analysis of this intersection points to several improvements needed to mitigate some of these conditions, including a left turn lane on East Prospect Road and a southbound right turn lane on Mount Pisgah Road.

   One of the main causes contributing to the rear end type accidents is the location of the eastern driveway to the Turkey Hill convenience store from East Prospect Road. The driveway is located precariously close to the intersection and westbound drivers do not anticipate a vehicle stopping immediately after the intersection. Also, an eastbound driver may conclude that the westbound vehicle turning left into the Turkey Hill store, with a left turn signal flashing, is actually going to turn onto Pisgah Road creating an angle accident situation at the intersection.

   One solution to this dangerous situation is to create a driveway from the Turkey Hill property onto Pisgah Road and either eliminate the eastern driveway from East Prospect Road or restrict it to a right-out only driveway.

3. On Craley Road (Route 624) east of Massa Drive there is a combination over vertical curve (hill) and horizontal curve (bend) in the roadway, which restricts the sight distance of drivers approaching the curve from both directions. This situation could be improved by implementing any or all of the following recommendations: install curve warning signs with advisory speed limit signs on both approaches to the curve; install pavement reflectors along both the centerline (double yellow line) of the roadway and the edge line (white line) of the roadway; and construct wider shoulders along both sides of the roadway to provide a safety area.

4. At the intersection of East Prospect Road (Route 124) and Bluestone Road there is a sight distance problem for southbound vehicles on Bluestone Road. The sight distance is restricted by an embankment on the northwest corner and a utility pole and vegetation growing around the pole on the northeast corner. To improve the current sight distance problems will require the removal of the embankment and the relocation of the utility pole.

5. On Cool Creek Road, approximately ¼ mile north of Nursery Road, there are several S-curves on a vertical grade. In addition, there are either

narrow shoulders or no shoulders along either side of the roadway. Also, there are areas with significant drop-offs along the edge of the roadway. The road surface in this area is also very rough, which could cause a vehicle to lose traction while maneuvering through the curves. These conditions could be improved by implementing any or all of the following recommendations: constructing shoulders along both sides of the roadway to provide a safety area and eliminate the drop-offs along the roadway edge; install pavement reflectors along both the centerline and edge lines of the roadway; overlay the entire roadway section with superpave material or with a coarse aggregate asphalt overlay. The reconditioning and realignment of Cool Creek Road is scheduled in the PennDOT Twelve Year Transportation Improvement program for 2001-2012.

6. At the intersection of Long Level Road (Route 624), Kline's Run Road/Trinity Church Road, and Boat House Road there is a severe sight distance problem on both Kline's Run Road and Boat House Road. The problem on Kline's Run Road is in both directions with a building located close to the roadway to the south (right) and a guide-rail and vegetation to the north (left). The vegetation should be removed in any event; however, the building cannot easily be removed. Due to the severe restriction of sight distance to the south due to the building, it would be prudent to restrict traffic on Kline's Run Road to right turns only until the building can be removed.

   The problem on Boat House Road is caused by the steep uphill grade approaching Long Level Road and the placement of guide-rail on both sides of Boat House Road. Boat House Road is also very narrow and is impassable by two vehicles at the same time. One solution is to make Boat House Road one-way, assuming that there is another acceptable driveway to the south that could be utilized. Boat House Road could be one way in, or southbound, starting at the intersection of Long Level Road and Kline's Run Road. If this is not possible then Boat House Road should be widened and the guide-rail pulled away from the intersection.

7. There is a speeding problem on Mount Pisgah Road between Cool Creek Road and East Prospect Road. The current speed limit on Mount Pisgah Road is 40 mph and it is doubtful that the speed limit can be lowered any further on this State-maintained route. Other measures to restrain vehicle speeds on this road segment could include increased enforcement or implementation of some type of visual traffic calming measures.

16. IMPLEMENTATION

The Comprehensive Plan outlines the desired pattern of growth and development for the Township. However, the Plan is a policy guide; it is not a legal document. The State of Pennsylvania authorizes local governments to use various policy and regulatory tools to implement the Plan. Thus, in order for the Plan's goals and objectives to become a reality, an implementation strategy must be devised and acted upon.

IMPLEMENTATION STRATEGY

The primary tools that can be used to manage growth and implement the Comprehensive Plan are a Zoning Ordinance and the Township's Subdivision and Land Development Ordinance. However, these ordinances should be combined with other growth management tools in order to effectively implement the Plan.

The following information provides a general overview of tools that the Township can use to control growth and achieve its goals for growth, development and preservation of community character, as set forth throughout the Comprehensive Plan. Specific recommendations for incorporating such tools into the Township's Farmland Preservation Strategy are also reviewed in Appendix C.

Zoning Ordinance and Map

The connection between the designation of future land use and a zoning map and ordinance is direct; however the Future Land Use Map is not the Township Zoning Map. The Future Land Use Map forms the basis for the Zoning Map, which generally is a further breakdown of planning principles into specific areas. The emphasis of the Lower Windsor Township Ordinance would be to guide the direction of development to the most appropriate locations in the Township and to protect valuable agriculture and natural resources. These measures will help to protect the value of properties, maximize public investments and resources and allow a wide variety of land use to locate in appropriate areas of the community.

Article VI of Pennsylvania's Municipalities Planning Code (MPC) describes the process for developing a Zoning Ordinance and Zoning Map. The Community Goals and Objectives of the Comprehensive Plan generally become the goals and objectives of the Zoning Ordinance.

Elements of a Zoning Ordinance usually include:

- General Provisions
- Definitions
- District Designations and Boundaries
- District Regulations
- General Regulations
- Supplementary Regulations

- Special Exceptions and Conditional Use Regulations
- Off-Street parking and Loading
- Signs
- Nonconformities
- Zoning Hearing Board
- Administration and Enforcement

As recommended in the Farmland Preservation Strategy, zoning regulations for Lower Windsor should be custom-designed to reflect the Township's unique cultural and political character. The ordinance should incorporate innovative techniques in support of the Township's goals for preservation of farmland and community character while maintaining an equitable balance between government regulation and private property rights.

Subdivision and Land Development Ordinance

The primary purpose of a Subdivision and Land Development Ordinance is to protect municipalities against unwise, poorly planned development. It is therefore recommended that the Township's current Subdivision and Land Development Ordinance be updated to reflect the proposals set forth in the Plan.

In particular, the Ordinance should be revised to comply with recent amendments to the Pennsylvania Municipalities Planning Code (PA MPC), plan requirements should be updated to require that additional information be provided on or with the plan, design standards should be updated to reflect current development practices, and more detailed and specific provisions should be added to manage stormwater runoff and erosion.

The Township should also consider adding provisions that would require that a Traffic Impact Study be submitted in conjunction with all land development plans and major subdivision plans, or a trip generation report to determine whether the full traffic impact study requirement should be waived. A traffic impact study can provide vital information regarding the impact of a proposed development on the Township's transportation system. In addition, the Township may wish to require the submission of an Environmental Impact Statement which would address the possible affects that a proposed development might have on unique or fragile land features such as wetlands, floodplains, steep slopes, ground water recharge areas, habitats of endangered wildlife, and historical structures. The primary purpose of such provisions is to protect the environment, as well as the public welfare. Several municipalities in York County presently require developers to submit both a Traffic Impact Study and an Environmental Impact Statement.

As addressed in the Transportation section, Section 603 of the Subdivision and Land Development Ordinance, dealing with street signs, should be changed to include advanced warning signs with street name plaques for higher classification roads or roads with speed limits 35 mph or over.

The recommendations included in Appendix C, Farmland Preservation Strategy, should also be incorporated into an updated Subdivision and Land Development Ordinance.

By adopting appropriate standards for subdivision and land development, the Township can avert many potential problems relating to such issues as traffic circulation, access, utilities, and storm water. As more items are addressed at the planning stage, the likelihood that a proposed development will be acceptable to Township residents significantly increases.

Official Map

Another tool that can be used to implement the Comprehensive Plan is the Official Map. Article IV of the Pennsylvania MPC grants municipal governing bodies the power to show elements of the Comprehensive Plan related to proposed public land and facilities on an Official Map. The specific elements that may be incorporated into the Map include: existing and proposed public streets; existing and proposed public parks, playgrounds, and open space reservations; pedestrian ways and easements; railroad and transit rights-of-way and easements; flood control basins, floodways, and floodplains; drainage easements; and stormwater management areas.

For regulatory purposes, it is advisable for the Township to develop surveys and maps to clearly identify the specific location of property, trafficway alignments, and easements. The identification of public lands and facilities can be accomplished through the use of property records, aerial photography, or other methods sufficient for identification, description, and publication of the Map components. However, for purposes of acquisition of lands or easements, a metes and bounds description of the property must be made by a licensed land surveyor.

If the Township would opt to develop an Official Map in cooperation with the York County Planning Commission, it must be adopted as an Ordinance and recorded at the County Recorder of Deeds Office. An Official Map will provide the Township with a one year period in which to acquire a property, or place an easement upon it, from the time a property owner requests a building permit or submits a written notice of intent to build upon, subdivide, or develop the land.

Building and Construction Codes

There are various types of building and construction codes that can support the objectives and goals of this Comprehensive Plan. Generally, such codes are concerned with structural requirements; material performances, including plumbing and electrical; arrangement of buildings; property maintenance; and fire prevention. In order to achieve a quality

housing and non-residential building stock, it is recommended that the Township carefully monitor the implementation of the State Building Code.

When properly adopted, administered, and enforced, building, and construction codes can not only increase the quality of construction, but can also increase the safety of housing and other structures. They can also promote the improvement or rehabilitation of existing buildings throughout the Township, thereby creating more desirable neighborhoods.

Sewage Facilities (Act 537) Plan

Since the Township's current Official Sewage Plan was given utmost consideration in the drafting of this Plan, it is recommended that any proposed revision to the Sewage Facility Plan likewise be carefully scrutinized to determine whether it would be consistent with the Comprehensive Plan. Regulations of the Pennsylvania Department of Environmental Protection (PA DEP) governing sewage plans, as well as plan revisions, require a finding by the Township, County, and PA DEP that the proposed plan or plan revision is consistent with local, County, and State planning. As such the Township and PA DEP have the power to assure that the recommendations of the Comprehensive Plan prevail. The approval of revisions to the Act 537 Plan that are inconsistent with the Comprehensive Plan is a major contributor to unplanned growth in many communities.

It is further recommended that any future updates to the Sewage Facilities Plan be consistent with, or be predicated upon appropriate revisions to this Comprehensive Plan. Consistency between these documents is necessary in order to achieve the desired land use pattern set forth in the Future Community Character and Land Use Plan element of the Plan.

Capital Improvements Program

A Capital Improvements Program is a multi-year plan for capital improvements and is typically based on the recommendations of the municipality's Comprehensive Plan. Capital improvements are major projects requiring the expenditure of public funds over and above annual operating expenses. Expenditures may be for the purchase, construction, or replacement of the physical assets of the community. By looking ahead to determine what, when, where, and how future improvements should be made, capital improvements programming enables municipal officials to avoid unplanned capital expenditures.

In a Capital Improvements Program, all anticipated projects, usually over a five to six year period, are listed in order of construction priority, with cost estimates and the anticipated means of financing each project. Once established, however, an annual reevaluation is necessary. In the reevaluation process, municipal officials reevaluate community needs to determine whether the existing program is

acceptable or whether changes need to be made. Through this process, the focus and intent of the program remain viable.

SUMMARY

The above mentioned ordinances, codes, plans and programs provide a valuable listing of policy and regulatory devices that are available to Lower Windsor Township to assist in accomplishing the goals and objectives of the Comprehensive Plan. However, Township officials must take the necessary steps to put such tools to work in order for the Plan to be successfully implemented.

Township officials should also be aware that there are many other innovative strategies and implementation tools available to protect the resources of the Township and to manage growth. Some of these tools, such as farmland preservation techniques and historic preservation approaches have been addressed in other sections of the Plan.

Furthermore, it is important to note that effective implementation requires promoting public awareness of the Plan. Township officials should strongly and openly stress the goals and objectives of the Plan in their decision-making processes. Periodic presentations to the public, civic organizations, business groups, and other agencies can also create support for the Plan, as well as provide a means to obtain assistance in accomplishing the Plan's goals and objectives.

APPENDIX A: COMMUNITY SURVEY

LOWER WINDSOR TOWNSHIP COMPREHENSIVE PLAN UPDATE
COMMUNITY SURVEY - 2001

1. Please check the following topics that you believe need more attention within Lower Windsor Township:

_____ 1. Active Park Facilities (ballfields, etc.)
_____ 2. Ambulance Service
_____ 3. Conservation of Natural Features
_____ 4. Farmland Preservation
_____ 5. Fire Protection
_____ 6. Housing Affordability
_____ 7. Housing Availability
_____ 8. Historic Preservation
_____ 9. Job Creation/Employment
_____ 10. Land Use Compatibility
_____ 11. Limited Retail Opportunities
_____ 12. Open Space Preservation
_____ 13. Passive Park Facilities (picnic areas, etc.)
_____ 14. Police Protection
_____ 15. Pollution Control
_____ 16. Public Sewer
_____ 17. Public Transit
_____ 18. Public Water
_____ 19. Recreation Programs
_____ 20. Senior Center/programs
_____ 21. Sidewalks and Curbing
_____ 22. Solid Waste Collection
_____ 23. Storm Water/Flooding Solutions
_____ 24. Roadway & Transportation Improvements
_____ 25. Other (please specify)
_____

2. Growth and development within Lower Windsor Township has been adequately managed:

_____ True _____ False

Comments:

3. I think that the rate of growth should be:

_____ Encouraged _____ Maintained _____ Reduced

4. The things I like most about Lower Windsor Township are:

_____1. Great Place to Raise Family
_____2. Aesthetic Character
_____3. Caring Community (friendly)
_____4. Cleanliness/Tidiness
_____5. Convenient Location
_____6. Farmland/Open Space
_____7. Good Business Climate
_____8. Good Public/Private Schools
_____ 9. Community Leadership
_____ 10. Opportunity to Volunteer
_____ 11. Parks/Recreation Area
_____ 12. Sense of Community
_____ 13. Historic Character/Heritage
_____ 14. Small Town Atmosphere
_____ 15. Safe Environment
_____ 16. Other (please specify)
_____

5. Please identify the municipality where you work: _____

6. Which of these should be encouraged in Lower Windsor Township?

_____1. Heavy Industry
_____2. Light Industry
_____3. Business Offices
_____4. Retail Stores
_____ 5. Service Businesses (pharmacy, laundromat, restaurant, etc.)
_____ 6. Other (please specify) _____
_____ 7. None of the above

7. Should Lower Windsor Township consider policies for preservation of agricultural land?

_____ Yes _____ No _____ Undecided

8. Should Lower Windsor Township consider policies for land use?

_____ Yes _____ No _____ Undecided

9. If you have subdivided your property or developed your land, how satisfactory have you found Lower Windsor Township to be to work with?

_____ Easy to work with _____ Difficult to work with _____ Not applicable

10. What is your opinion of the Lower Windsor Township Planning Commission?

_____ Good _____ Poor _____ No opinion

11. What is your opinion of the Lower Windsor Township Board of Supervisors?

_____ Good _____ Poor _____ No opinion

12. Please tell us anything else about the future of Lower Windsor Township that you think we should address in the Comprehensive Plan:

APPENDIX B: SOIL CHARACTERISTICS

Soil Types	Soil	Depth to Seasonal Water Table (feet)	Depth to Bedrock (inches)	Permeability
Cd	Chagrin Silt Loam			
CeB CeC	Chester Silt Loam	Greater than 6	60	Moderate
CkB	Clarksburg Silt Loam	1 ½ - 3	60-99	Moderate
Cm	Codorus Silt Loam	1 - 2	60	Moderate to Rapid
CnB CnC	Conestoga Silt Loam	Greater than 6	60	Moderate
EeD	Edgemont Channery Loam	Greater than 6	40-84	Moderate to Rapid
GbB GbC GbD	Glenelg Channery Silt Loam	Greater than 6	60	Moderate
GdA GdB	Glenville Silt Loam	5 - 3	60-99	Moderate to Slow
Lw	Lindside Silt Loam	1 ½ - 3	60	Moderate to Slow
MOB MOC MOD MOE MPD MRF	Mt. Airy & Manor Channery Loam	Greater than 6	60	Moderate to Rapid
PsB PsC PsD	Pequea Silt Loam	Greater than 6	40-60	Moderate to Rapid
UdB	Urban Land-Chester Complex	Greater than 6	60	Moderate
UeB	Urban Land-Conestoga Complex	Greater than 6	60	Moderate
UfC	Urban Land-Mt. Airy Complex	Greater than 6	20-40	Moderate to Rapid

APPENDIX C: FARMLAND PRESERVATION STRATEGY

Lower Windsor Township, PA

Farmland Preservation Strategy

Project Summary Report

Platts/Simons • C.S. Davidson, Inc.

February 2002

Lower Windsor Township, PA

Farmland Preservation Strategy

Project Summary Report

Lower Windsor Township

Board of Supervisors

Robert A. Bair, Chairman
William Buser, Vice Chairman
Kenneth J. Eshelman

Planning Commission

Marlin J. Mellinger, Chairman
Mary Ellen Caldwell
Gary Eaton
Kelly Skiptunas
William Spangle

Township Manager

Donald L. Keener

Township Secretary-Treasurer

Linda J. Zimmerman

Township Solicitor

David C. Keiter

Township Engineer

John A. Klinedinst

Police Chief

David Sterner



Contents



Purpose & Scope of the Project

The Farmland Preservation Strategy for Lower Windsor Township was initiated by the Board of Supervisors to supplement and complement the Township's 2001-2002 Comprehensive Plan update. The purpose of the project was to conduct research regarding successful farmland preservation practices & identify options for implementation of a practical farmland preservation strategy in the Township. The project's recommendations are incorporated into the Comprehensive Plan as integral components of the Plan's vision, goals, objectives and policies.

The scope of the project included:

- **Consultation Meetings**
- **Field Visits**
- **Research**
- **Project Summary Report & Presentation**



Key Questions

- What do Township citizens & community leaders say about farmland preservation?
- Why is farmland preservation important to Township character?
- Why is farmland preservation important to Township fiscal health?
- What farmland preservation tools are available to the Township?
- What farmland preservation strategy is best for Lower Windsor?



What Citizens & Community Leaders Say

The support of Township citizens & community leaders is critical to the implementation of a meaningful farmland preservation strategy. Lower Windsor stakeholders have expressed strong political and policy consensus for more assertive farmland preservation action in the Township. This support has been measured through both a community-wide survey and consultation meetings with key Township leaders:

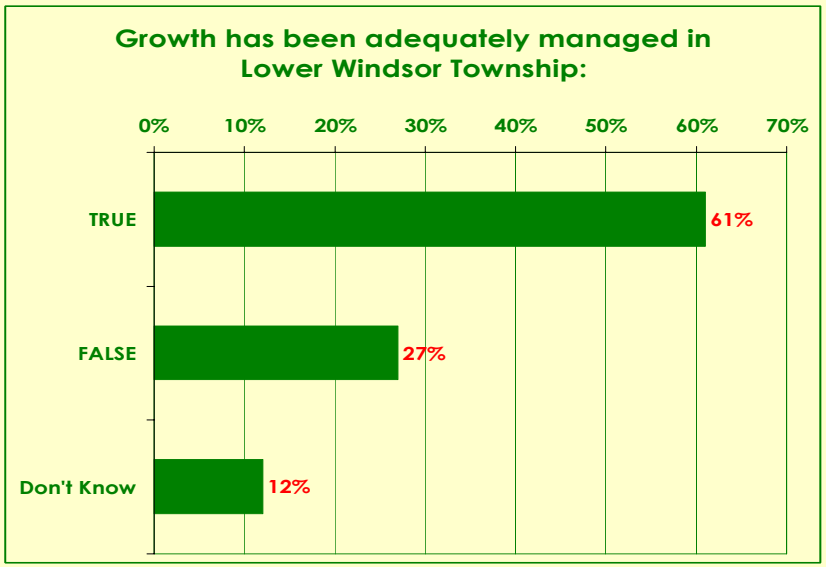
- ***Community Survey:*** mailed by Township to 3127 households in August 2001 with 562 responses, an 18% response rate

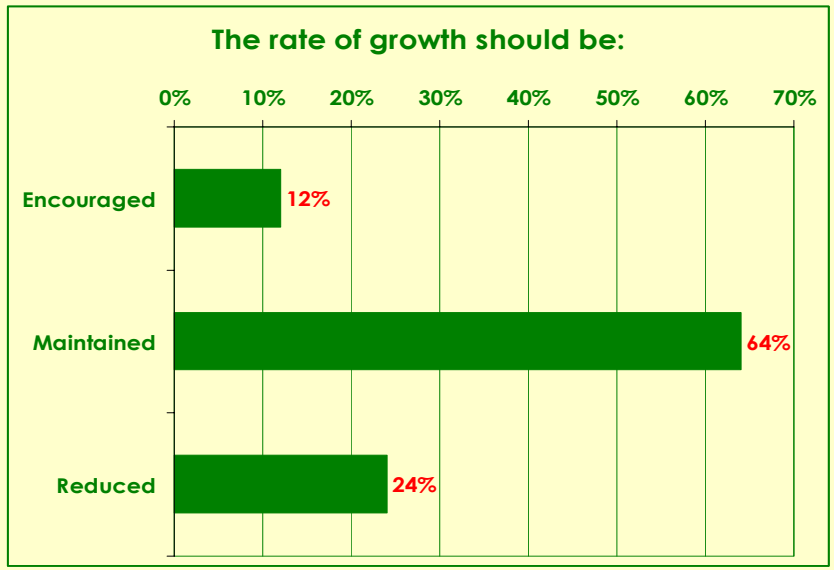
- ***Consultation Meetings:*** conducted by project team in January & February 2002
  - Township Board of Supervisors
  - Township Planning Commission Members
  - Township Manager, Engineer & Solicitor



What Citizens & Community Leaders Say

Community Survey Summary

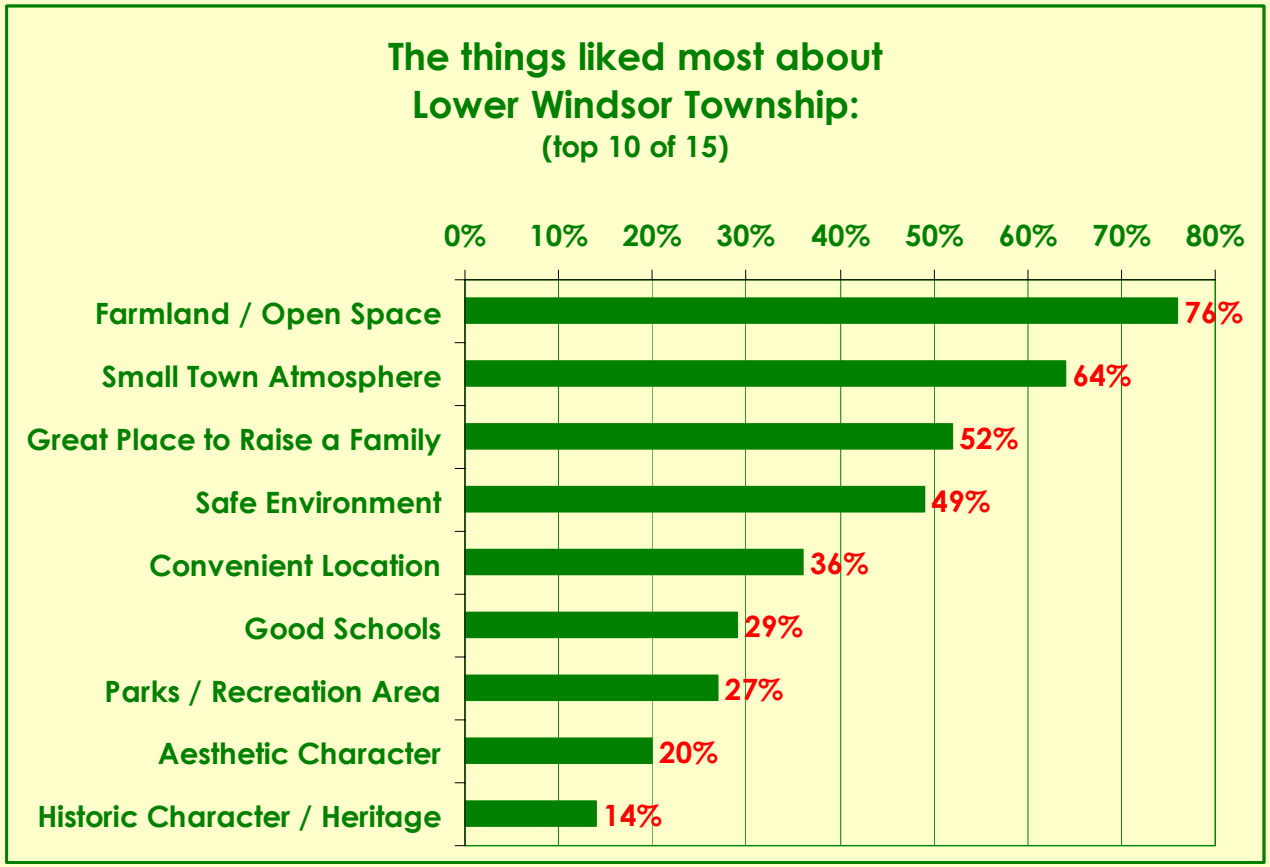






What Citizens & Community Leaders Say

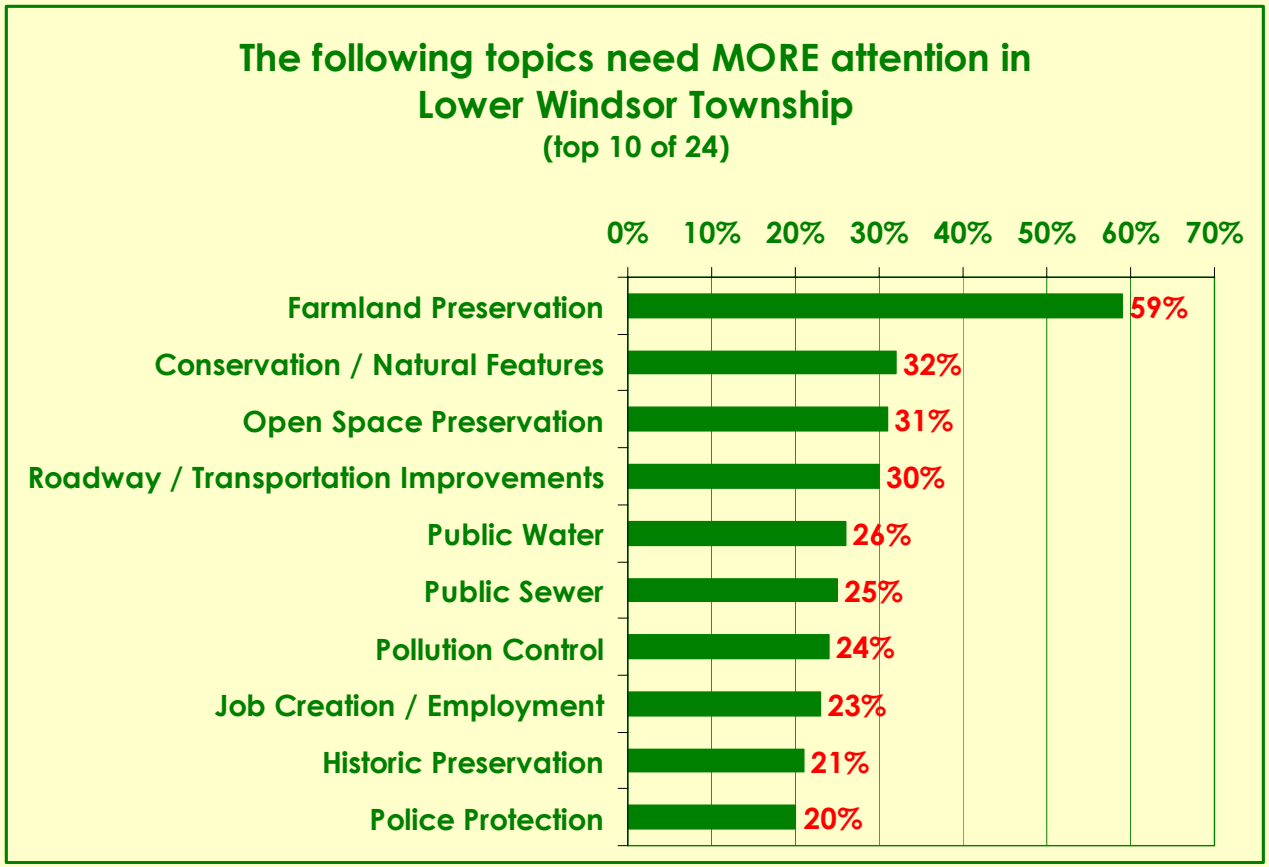
Community Survey Summary





What Citizens & Community Leaders Say

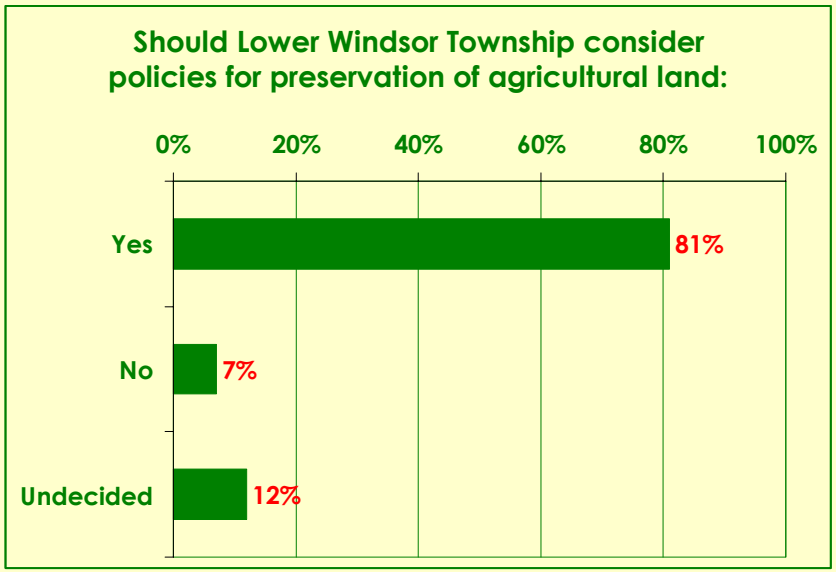
Community Survey Summary

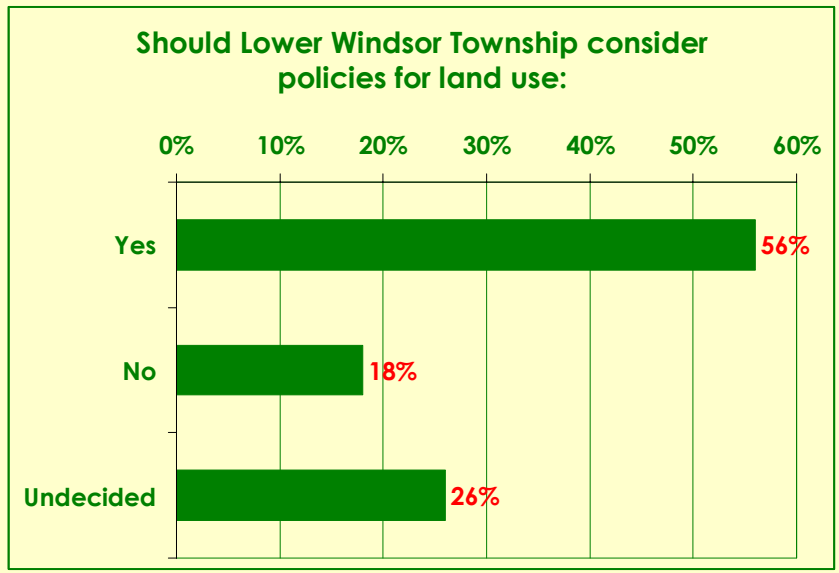




What Citizens & Community Leaders Say

Community Survey Summary







What Citizens & Community Leaders Say

Consultation Meetings Summary

Discussions with Township Supervisors and Planning Commission members highlighted a strong political and policy consensus for a more assertive farmland preservation strategy in the township.

General agreement:

- The next ten years will be a critical time for the future of the township.
- Significant steps must be taken now to protect the community's unique small town and rural character from the coming pressures of new development.
- The focus must be on preservation of both farm acreage and community character – they are inherently linked together.

"I don't want to drive back from York and be in the city all the way home."

Ken Eshelman, Lower Windsor Twp. Supervisor



What Citizens & Community Leaders Say

Consultation Meetings Summary

Supervisors tempered their support with concerns about:

- The impact of easement purchase programs on the price of farmland.
- The degree of land regulation that is acceptable in support of farmland preservation goals.

Planning Commissioners' comments included:

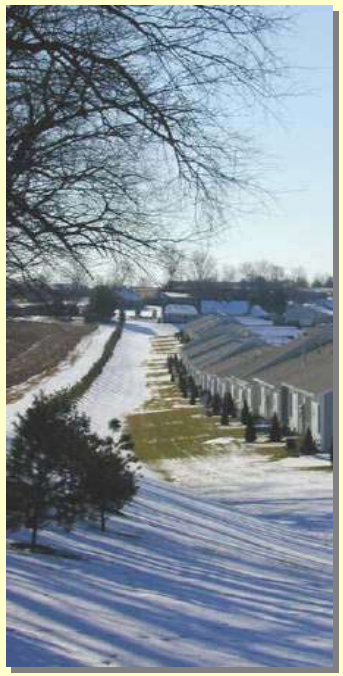
- Support for regulatory options to preserve farmland and direct other development in the township, with some caution about being overly restrictive.
- Concern about preserving lands that are not feasible for continued farming.
- Concern about the impact of easement purchases on family heirs.
- Support for more immediate action to limit development until final approval of updated Comprehensive Plan and potential land development regulations.



Township Character & Development Patterns

Many areas near Lower Windsor, such as Windsor Township to the west, are experiencing significant growth pressures, with sprawling developments quickly taking the place of farms and open space. The resulting loss of traditional character and sense of place has forever changed these communities, and their once-productive farmlands can never be replaced.

Windsor Township developments





Township Character & Development Patterns

Lower Windsor Township retains much of its historic "town & country" character, with significant expanses of farms and natural areas interspersed with traditional towns and villages and scattered clusters of other development. Studying the Township's existing land use, character and development patterns highlights the critical value of farm and natural lands and can help guide the location and design of future development in the Township.

Existing Land Use in Lower Windsor Township - 2001:

	Acres	Percentage
Total Land Area	**15632.7**	**100.00 %**
Residential	3838.0	24.58 %
Commercial	567.5	3.64 %
Industrial	321.6	2.06 %
Farming	**10474.0**	**66.96 %**
Exempt	391.7	2.51 %
Utility	39.9	0.25 %

Identified development patterns in Lower Windsor Township:

- ***Traditional Towns***
- ***Traditional Villages***
- ***Rural Clusters***
- ***Farmsteads***
- ***Natural Areas***



Township Character & Development Patterns

Traditional Towns

The traditional towns of East Prospect and Yorkana maintain a significant physical presence in Lower Windsor Township and have traditionally been active centers of daily life.

Common characteristics of traditional towns include:

- Incorporated borough
- Location at key crossroads
- Definite sense of arrival/departure upon entering/leaving the town
- Relatively dense development pattern
- Mix of residential and commercial uses, usually with an identifiable commercial center
- Civic and spiritual buildings and open spaces which provide places for public gatherings and encounters
- Building styles and materials which reflect the age and history of the community
- Higher level of public services, usually including public sidewalks and public water or sewer or both



Township Character & Development Patterns

Traditional Towns

East Prospect





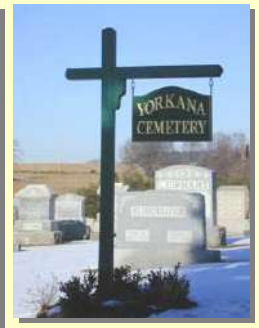


Township Character & Development Patterns

Traditional Towns

Yorkana







Township Character & Development Patterns

Traditional Villages

Traditional villages are settlements which are a step down in size and intensity from the traditional town. Traditional villages in Lower Windsor include: Craley, Long Level, Delroy, Bittersville and Martinsville. These communities, although less dense and defined than a traditional town, still have a discernable and identifiable presence in the Township.

Common characteristics of traditional villages include:

- Unincorporated areas
- Location at key crossroads
- Sense of arrival/departure upon entering/leaving the village
- Less dense development pattern than that of the traditional town, with the feeling that adjacent open space is more present and accessible
- Mix of residential and commercial uses
- Civic and spiritual buildings
- Building styles and materials which reflect the age and history of the community



Township Character & Development Patterns

Traditional Villages


Craley


Long Level

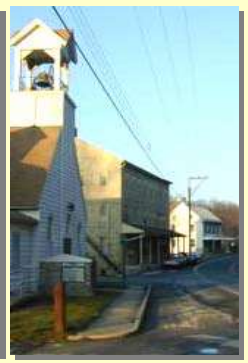


Township Character & Development Patterns

Traditional Villages



Delroy


Bittersville



Martinsville



Township Character & Development Patterns

Rural Clusters

Rural Clusters are generally newer developed areas which are significantly less intense than the traditional town and village, yet are still comprised of a grouping of homes and, sometimes, businesses. Rural clusters are located throughout Lower Windsor Township. Examples include the areas around Mt. Pisgah/Eastern High School and Edith Drive/Old Commons & Winters Roads.

Common characteristics of rural clusters include:

- Less defined edges, with little sense of arrival or departure
- Usually exhibit a suburban development pattern, and can include subdivisions and developments with a string of individual lots along rural roadways
- Newer, suburban-style homes comprise the majority of the rural clusters



Township Character & Development Patterns

Rural Clusters

Edith Drive/Old Commons & Winters Roads

Mt. Pisgah/Eastern H.S.



Township Character & Development Patterns

Farmsteads

Farmland and farmsteads encompass much of Lower Windsor Township. The views from rural roads of the many farms throughout the Township are striking and beautiful. There is a quiet elegance to the historic farm buildings and productive farm fields located in the Township. They convey a sense of the land's bounty and substance as well as the historical importance of agriculture to Township residents.



Township Character & Development Patterns

Farmsteads

Winters Road



Township Character & Development Patterns

Farmsteads

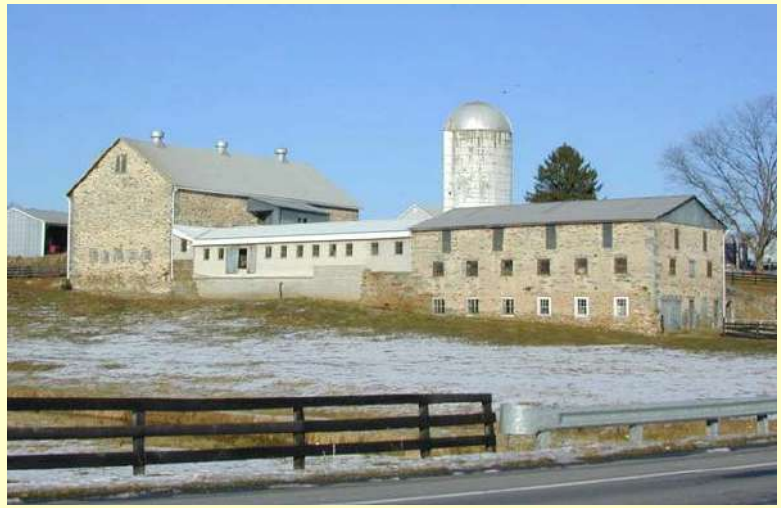
Old Commons Road



Township Character & Development Patterns

Farmsteads

East Prospect & Cabin Creek Roads





Township Character & Development Patterns

Farmsteads





Schmuck & Canadochly Roads



Township Character & Development Patterns

Natural Areas

Lower Windsor Township is blessed with a great number of natural areas, both publicly and privately owned. With some of the most beautiful vistas in York County at Sam Lewis State Park, easy public access to the Susquehanna River at Long Level, numerous creeks for fishing and plentiful woodlands, the Township attracts visitors from far beyond its borders. These natural areas help define the area's "town and country" character and they should be targeted for protection along with the community's farmland.

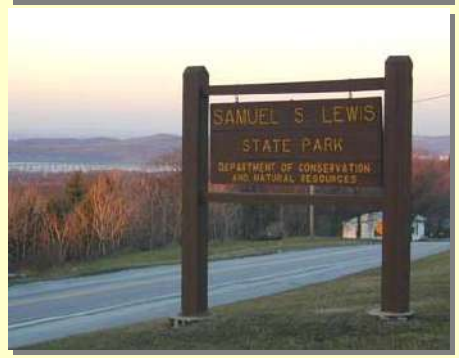


Township Character & Development Patterns

Natural Areas



Susquehanna River

Sam Lewis State Park



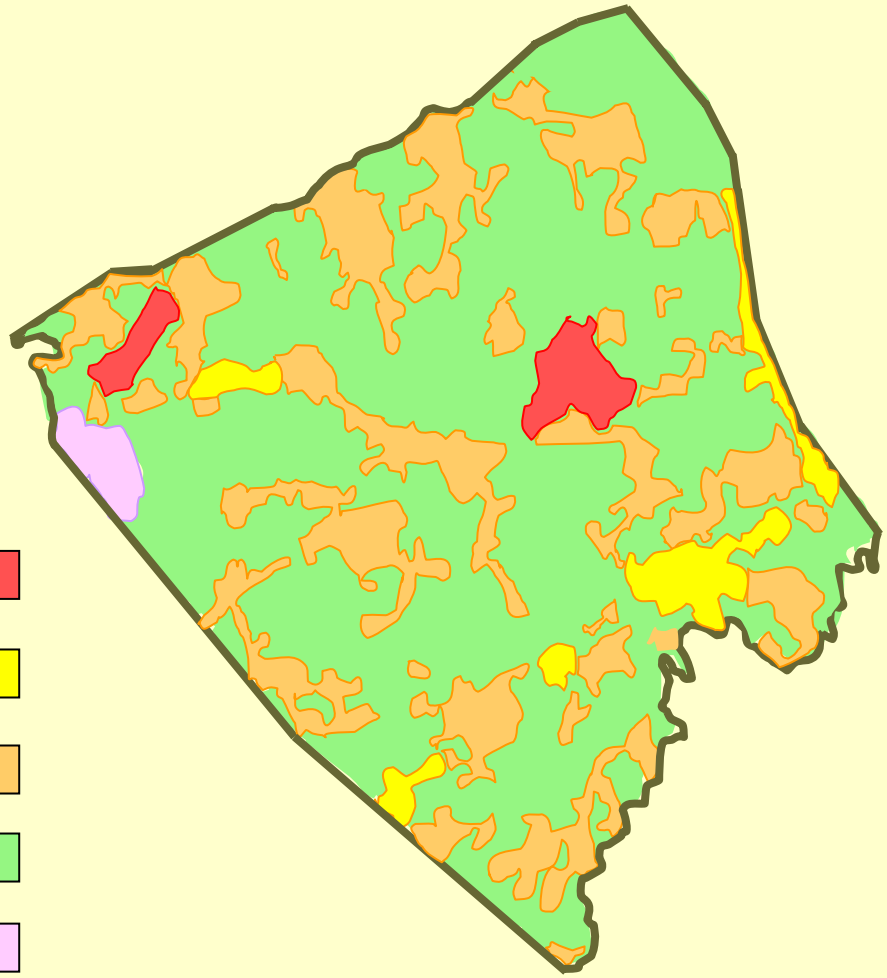
Fishing Creek



Township Character & Development Patterns

Existing Development Pattern

Mapping the identified development patterns clearly illustrates the community's prevailing "town and country" character, but also highlights the spread of rural clusters throughout the Township.

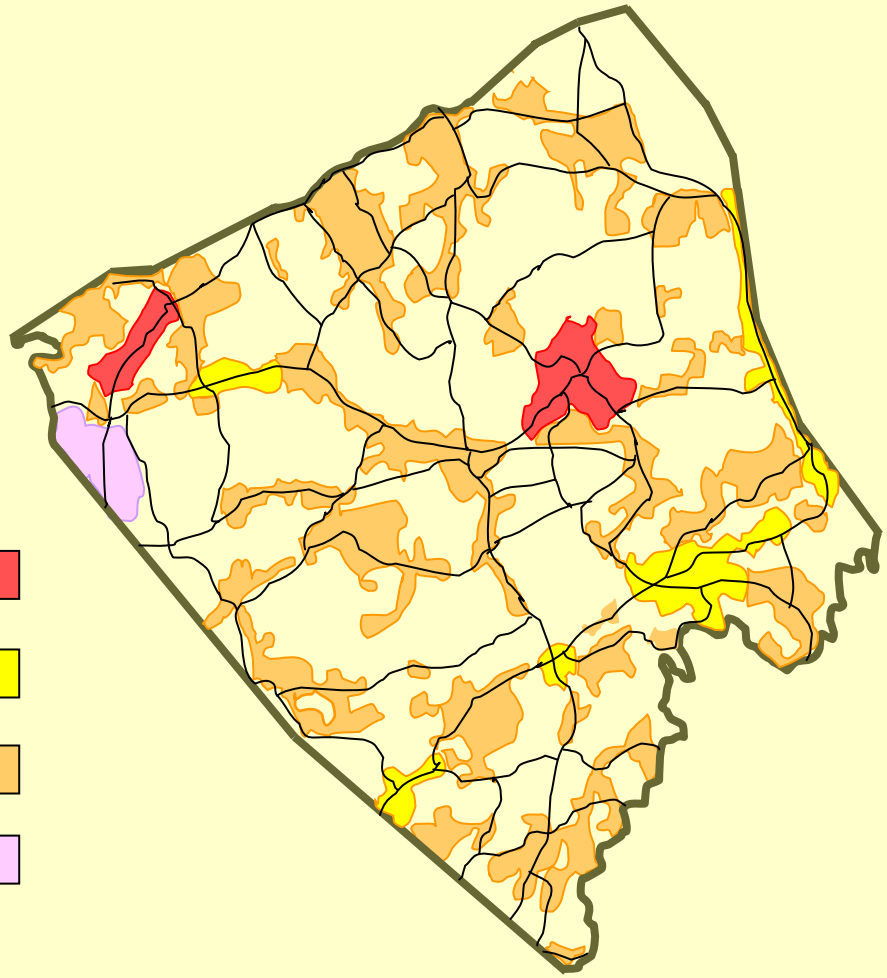




Township Character & Development Patterns

Existing Developed Areas with Roadway Network

Rural cluster development has closely followed the Township's roadway system. If this pattern continues, the community will eventually lose much of its rural flavor.

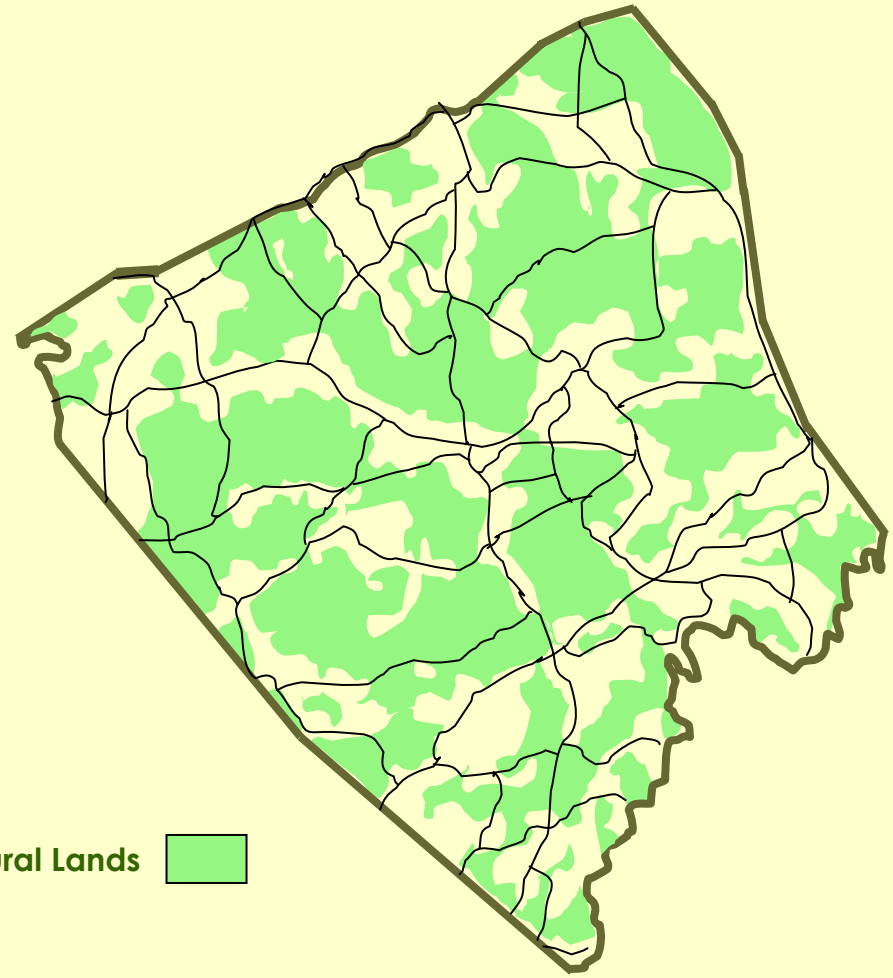




Township Character & Development Patterns

Existing Farm & Natural Lands with Roadway Network

The area's farm and natural lands still cross the roadway system at many locations in the Township, helping to maintain the "country" as a critical part of the community's identity. Preservation of these crossings and their view sheds should be a priority of the Township's farmland preservation strategy.



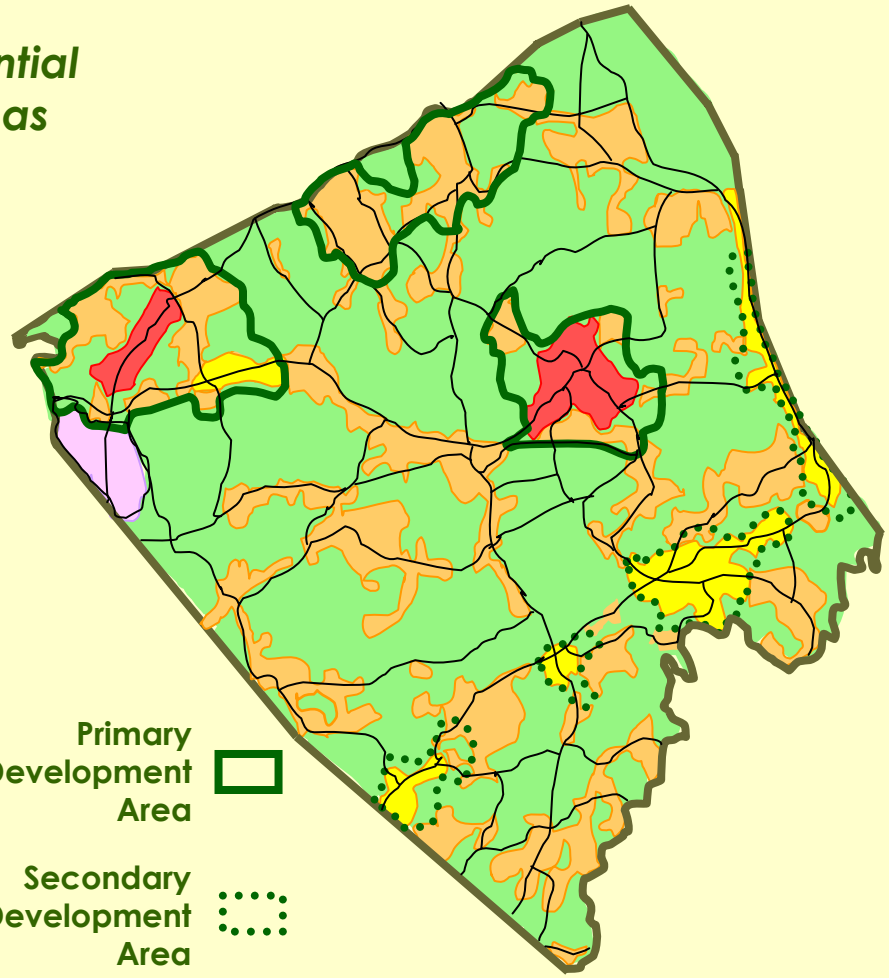


Township Character & Development Patterns

Existing Development Pattern with Potential Primary & Secondary Development Areas

To help preserve priority farmland preservation areas and retain the community's rural character, new growth and development in the Township should be directed towards existing towns, villages and rural clusters with existing or potential community services, such as schools and public utilities.

This approach is consistent with the policies of the York County Planning Commission for Established Rural Areas like Lower Windsor.





Fiscal Impacts of Farmland Preservation

Farmland preservation and the community's overall development pattern have direct implications for the Township's fiscal health. A 1997 study by Penn State Cooperative Extension provided a detailed assessment of the fiscal impacts of land use in Pennsylvania. This study can help Township citizens and leaders make the right choices regarding farmland preservation and land use policy.

"The way land is used in your community affects your taxes and the quality of life. Land uses influence the size of your local government, the types of services it offers, the types of equipment it must purchase, and the taxes and tax rates it must levy…

Identifying the impacts of different land uses will help you recognize what types of land development and uses should be encouraged in your municipality, and what types should be treated cautiously."

Fiscal Impacts of Different Land Uses: The Pennsylvania Experience
Penn State Cooperative Extension, 1997



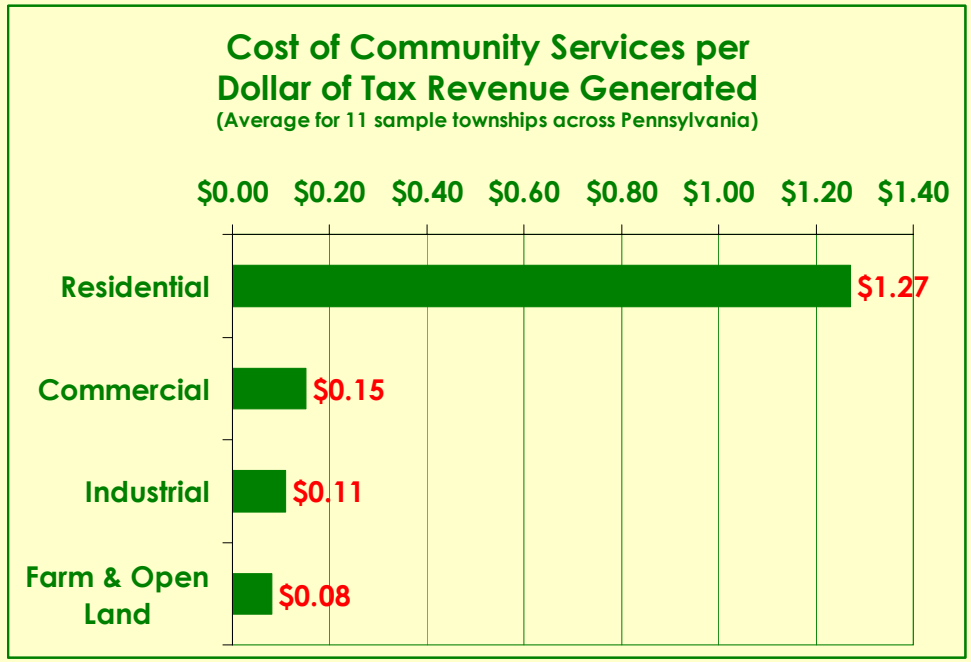
Fiscal Impacts of Farmland Preservation

"Residential land on average contributed less to the local municipality and school district than it required back in expenditures…

By contrast, commercial, industrial and farm- and open land provided more than they required back in expenditures…thus helping to subsidize the needs of residential land.

All residents benefit from farm- and open land…When farmland is converted for residential purposes, these benefits are lost."

***PSCE**, 1997*



***PSCE**, 1997*



Tools for Farmland Preservation

In recent years, as the development pressures and fiscal impacts of urban sprawl have touched more communities, a variety of public and private tools have evolved to help preserve prime farmlands and retain rural character. The most effective of these tools have achieved farmland preservation goals while accommodating reasonable growth and development and protecting the rights of private property owners. Some of the key public and private sources consulted for information about farmland preservation tools include:

- *American Farmland Trust/Farmland Information Center,* Washington, DC
- *Bluegrass Tomorrow,* Lexington, KY
- *Heritage Conservancy,* Doylestown, PA
- *Natural Lands Trust,* Media, PA
- *10,000 Friends of Pennsylvania,* Philadelphia, PA
- *Penn State Cooperative Extension,* State College, PA
- *Pennsylvania Department of Agriculture/Farmland Preservation Bureau,* Harrisburg, PA
- *U.S. Environmental Protection Agency/National Center for Environmental*
- *U.S. Department of Agriculture/Economic Research Service,* Washington, DC
- *North Carolina Farm Bureau,* Raleigh, NC
- *Montgomery County/Farm Preservation Board,* Norristown, PA
- *Baltimore County/Department of Environmental Protection & Resource Management,* Towson, MD
- *King County/Water & Land Resources Division,* Seattle, WA
- *City of Davis/Parks & Community Services Department,* Davis, CA
- *Buckingham Township Land Preservation,* Buckingham Township, PA
- *Shrewsbury Township Comprehensive Plan/Zoning Ordinance,* Shrewsbury, PA



Tools for Farmland Preservation

Incentive Tools

Differential Property Tax Assessment

- Farmland assessed at agricultural value rather than fair market value
- Existing state program:
  - PA Clean & Green Program established in 1974 to preserve farmland, forest land and open space by taxing land according to its use rather than the prevailing market value
    - Voluntary program
    - Requires 10-acre minimum parcel of land; parcels less than 10 acres must be capable of producing $2000 annually from the sale of agricultural products
    - Land taken out of permitted use subject to rollback tax, imposed for up to 7 years, with interest penalty

Pros

- Voluntary program
- Sanctions for removing land from program
- Tax benefits for landowner

Cons

- Does not permanently preserve farmland

Circuit Breaker Tax Programs

- Allows farmers to claim state income tax credits to offset local property taxes (PA does not allow)



Tools for Farmland Preservation

Incentive Tools

Agricultural Security Areas (ASA)

- Allow farmers to form special areas where commercial agriculture is encouraged and protected
- Participants receive special consideration regarding local ordinances affecting farming activities; nuisance complaints; review of farmland condemnation by state and local government agencies
- Voluntary program for farmers
- Petitions for creating ASA submitted by farmers to township supervisors
- A minimum of 250 acres from among all participating farmers is required
- An ASA may include non-adjacent farmland parcels of at least ten acres or be able to produce $2000 annually from the sale of agricultural products
- An ASA qualifies land for consideration under the State of PA's Easement Purchase Program (at landowner's request) if the ASA has at least 500 acres enrolled

Pros

- ASAs have a low public cost
- Participants receive special consideration regarding local ordinances affecting farming activities, nuisance complaints and review of farmland condemnation by state and local government agencies.
- An ASA qualifies land for consideration for the Easement Purchase Program if the ASA has at least 500 acres enrolled.
- Enrollment is voluntary
- There are some limitations on the use of eminent domain in an ASA

Cons

- ASAs are not permanent
- The State of Pennsylvania does not have strong sanctions on withdrawal from an ASA



Tools for Farmland Preservation

Incentive Tools

Donation of Agricultural Conservation Easements

- Landowners donate conservation easements to government agency or private conservation group
- Existing York County program:
  - Farm and Natural Land Trust:
    - Accepts donation of easements
    - Landowner secures charitable deduction for difference in value of the land before granting the easement and value after granting the easement

Pros

- Permanent protection for farmland
- Keeps land in private ownership and on local tax rolls
- Easements can provide landowners with several tax benefits
- By reducing estate taxes, easements help farmers transfer their operations to the next generation
- Easements are flexible and can be tailored to the needs of individual farmers and unique properties

Cons

- Easements do not ensure that the land will continue to be farmed
- Donating an easement is not always financially feasible for the landowner
- Conservation easements must be monitored and enforced
- Conservation easements do not offer protection from eminent domain



Tools for Farmland Preservation

Incentive Tools

Purchase of Agricultural Conservation Easements

- Landowners sell agricultural conservation easements to government agency or private conservation organization
- According to the American Farmland Trust, funding options can include
  - Installment Purchase Agreements:
    - Landowners receive semi-annual tax-exempt interest over a term of years
    - Principal due at end of contract term
  - Bonds
  - Taxes
  - Federal Funds: Farmland Protection Program, Hazard Mitigation Grant Program, ISTEA/TEA-21
  - Mitigation Ordinances
- Existing York County program:
  - York County Agricultural Land Preservation Board
    - Authorized by PA Act 149 and PA Agricultural Conservation Easement Purchase Program
    - Farms must be located in an Agricultural Security Area
    - Land Preservation Board accepts applications from farm owners
    - Applications are ranked according to a point system
    - Purchase price is difference between appraised market value and appraised farm value
    - Participants may receive proceeds from easement sales in a lump sum payment, installments up to five years or on a long-term installment basis



Tools for Farmland Preservation

Incentive Tools

Purchase of Agricultural Conservation Easements (continued)

Pros

- Permanent protection for farmland
- Keeps land in private ownership and on local tax rolls
- Easements can provide landowners with several tax benefits
- By reducing estate taxes, easements help farmers transfer their operations to the next generation
- Easements are flexible and can be tailored to the needs of individual farmers and unique properties

Cons

- Limited by funding availability
- Easements do not ensure that the land will continue to be farmed
- Conservation easements must be monitored and enforced
- Conservation easements do not offer protection from eminent domain

Fee Simple Acquisition:

- Outright purchase of farmland
- Highest level of protection
- Most expensive option for preserving farmland

Pros

- Highest level of protection

Cons

- Most expensive method



Tools for Farmland Preservation

Regulatory Tools

Agricultural Preservation Zones (APZ)

- Zoning ordinances that designate areas where farming is desired land use; limits other uses
- Include procedures for delineating agricultural zones and defining the areas to which regulations apply
- Limit residential development in agricultural zones by area based allowances: fixed area, sliding scale density (determines number of allowable units based on size of farm) or percent of total property acreage
- Can specify allowable residential density, permitted uses, minimum/maximum lot size, and site design and review and authorize right-to-farm and commercial agricultural activities
- Can require that residential development be located on the least productive soils
- Can allow incentives for cluster development
- According to the American Farmland trust, an effective APZ ordinance will support agricultural land uses by allowing no more than one house for every 20 acres and significantly restricting non-farm uses

Pros

- Protects farms from development until funds are available for purchase of development easements
- Helps municipalities reserve their most productive soils for agriculture
- Helps prevent suburban sprawl and reduces infrastructure costs
- Can be implemented relatively quickly
- Is flexible and can be changed if economic conditions change

Cons

- Not permanent
- Can reduce land values, thereby decreasing land equity
- Must be monitored and enforced
- Do not protect agricultural land against annexation by municipalities



Tools for Farmland Preservation

Regulatory Tools

Transfer of Development Rights

- Allows landowners to transfer development rights from one parcel of land to a different parcel of land; rights transferred from "sending" parcel to "receiving" parcel
- Generally established through local zoning ordinances
- Buying development rights generally allows developers to build at a higher density on "receiving" parcel than ordinarily allowed by zoning
- Can be used in combination with the sliding scale method of zoning
- Provides method to develop parcels targeted for development while preserving farmland
- Local government may buy and sell development rights through a TDR bank
- Must determine which agricultural areas should be protected and where development should be transferred and at what densities

Pros

- Permanent protection of farmland
- Voluntary
- Promotes appropriate growth in targeted development areas
- Allows farmers to retain equity without developing land
- Are market-driven - more land is protected when development pressure is high

Cons

- Can be complicated and require much time and resources to implement
- Is a new concept to many - a public education campaign is generally necessary
- The pace of transactions depends on private market for development rights; if real estate market is depressed, few rights will be sold and little land protected



Tools for Farmland Preservation

Regulatory Tools

Subdivision Ordinance

- Regulate development, but do not regulate land use

Pros

- Less "regulatory" than zoning ordinance

Cons

- Does not protect against inappropriate use
- A passive method of farmland preservation in that properties are not affected until development is planned

Mitigation Ordinance

- Can be used to make developers pay for farmland protection
- Relatively new farmland protection technique
- Davis, CA ordinance is designed to require developers to permanently protect one acre of farmland for every acre of agricultural land they rezone for other uses; may also be satisfied by paying a fee

Pros

- Permanent protection

Cons

- Difficult to draft defensible legal ordinance
- A passive protection tool - does not protect farmland until developer seeks rezoning
- Does not direct development to targeted development areas; could result in spotty farmland preservation



A Farmland Preservation Strategy for Lower Windsor

The Time is Now

With development pressures steadily increasing adjacent to and within its borders, yet with much of its traditional "town and country" character still intact and strong community support for preserving this farm and small town atmosphere, Lower Windsor Township stands at an important crossroads in its history. The Township can make choices now that will shape the culture and development pattern of the community for years to come.

- Township leaders are in agreement with their constituents that maintaining and enhancing the community's current character is the path they wish to follow.
- The current update of the Township Comprehensive Plan provides a unique opportunity for leadership to confirm this commitment in policy and set the stage for additional Township actions in support of this goal. Given the importance of farms and open space to the Township's sense of place and lifestyle, a strategy for farmland preservation must be a critical part of this planning effort.
- As illustrated by the variety of farmland preservation tools being used across the nation, an effective farmland preservation strategy should not rely on any single tool for its implementation. Rather, a package of complementary tools should be developed to address different aspects of the overall preservation goal.



A Farmland Preservation Strategy for Lower Windsor

Lower Windsor's Farmland Preservation Toolkit

The farmland preservation strategy for Lower Windsor Township proposes a toolkit that includes policy, incentive and regulatory options. Township leaders can choose which tools are most practical and effective based on the political and budgetary environment guiding their decision-making process. Some tools are currently being used in the Township, although they may need to be modified or marketed better to be more effective; others have proven successful elsewhere in Pennsylvania and York County, but will require new action and initiative by Township officials for implementation in Lower Windsor.

A. Policy Tools

Comprehensive Plan

B. Incentive Tools

- Agricultural Security Areas
- Clean & Green Program
- Agricultural Conservation Easements

C. Regulatory Tools

- Subdivision & Land Development Ordinance
- Zoning Ordinance



A Farmland Preservation Strategy for Lower Windsor

A. Policy Tools: Comprehensive Plan

- The Lower Windsor Township Comprehensive Plan is an adopted policy document for guiding community growth, development and services.
- First adopted in January,1989 and currently undergoing its first update, the Plan is prepared in accordance with the Pennsylvania Municipalities Code, Act 247, and includes background studies concerning existing conditions and services, along with specific elements addressing the community's future needs and goals.
- Comprehensive Plan elements include include plans for future land use, housing, community facilities, public utilities and transportation.
- Farmland preservation is addressed in the Future Land Use element of the Plan, which designates locations for future development of different land uses and establishes policies for achieving the preferred development pattern and character for the Township,

Strategy 1: *Include the Farmland Preservation Strategy in the Comprehensive Plan's Future Land Use element to make a strong policy and planning statement about the Township's desire to retain its agricultural heritage and economy.*

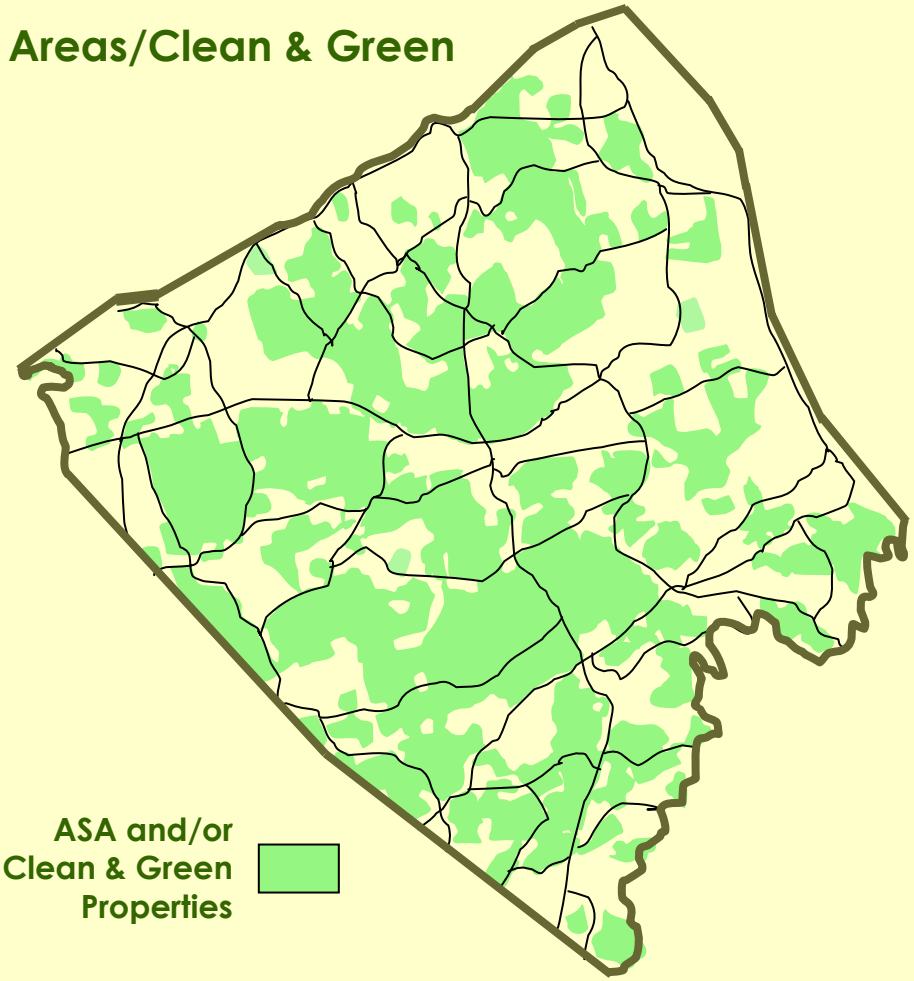


A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Security Areas/Clean & Green

- Pennsylvania's Agricultural Security Areas (ASA) and Clean & Green Program provide legal protections and tax benefits for agricultural property owners.
- Participation in these voluntary programs is high in Lower Windsor, with designated parcels located throughout most areas of the Township.

Strategy 2: *In association with other incentive efforts, initiate targeted marketing of ASA and Clean & Green program benefits to non-participating property owners in areas identified as priority locations for farmland preservation.*





A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

- Other than outright fee simple purchase of land, the purchase or donation of agricultural conservation easements is the most permanent method for preserving farmland.
- Fortunately for the Township, two local groups have established track records with promoting and expanding the use of agricultural conservation easements for the preservation of farmland in York County:

  York County Agricultural Land Preservation Board, a State and County funded agency that purchases easements through an application and ranking system.

  Farm & Natural Lands Trust of York County, a not-for-profit organization that currently solicits and accepts donation of easements.

- Rather than develop its own easement program, the Township can work with these programs to significantly expand the use of such easements in Lower Windsor, thereby ensuring permanent preservation of much of the community's farm acreage and rural character for generations to come.



A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

York County Agricultural Land Preservation Board

Program annually receives and ranks applications from landowners whose farms are located in an ASA and meet the following criteria:

Property Size: 50 acres or more in size or 10 acres or more if located adjacent to another conservation easement

Attributes: 50% of the farm in Class I-IV soils and which are available for agricultural production and crop production. A soil conservation plan must be in place.

Compensation: In exchange for the relinquishment of development rights the landowner receives a fee per acre reflecting the farm's appraised development value.

Easement Cost per Acre: $1300 - $1900

Farm & Natural Lands Trust of York County

Property Size: Preferably 10 acres or more; tracts of less than 10 acres will be considered if they adjoin a property with a conservation easement.

Attributes: Farm or natural lands including woodlands, pastures, meadows, flood plains, wetlands and streams.

Compensation: Landowners donate their conservation easement value to the Trust and may experience tax savings in the form of income tax charitable deductions or reduced estate taxes.

Source: York County Farm & Natural Lands Trust

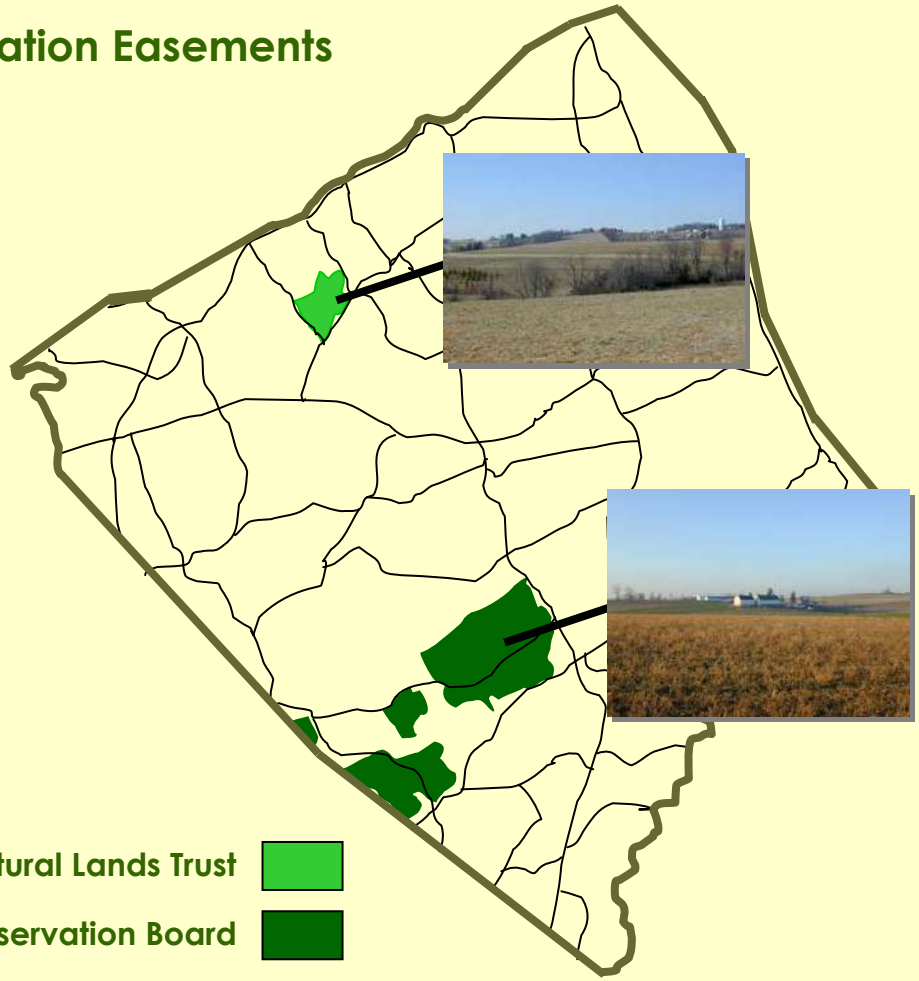


A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

Over 200 landowners have placed conservation easements on more than 24,000 acres of York County farm and natural lands, including significant areas of Lower Windsor Township:

- The Agricultural Land Preservation Board holds easements on a cluster of farmsteads along Old Commons and Winters Roads in the southwest area of the Township.
- The Farm & Natural Lands Trust holds easements on a small grouping of farmsteads along Canadochly Road in the north central area of the Township.





A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

Strategy 3: *Establish partnerships with Preservation Board and Trust to develop a coordinated approach for use of conservation easements as the primary tool for preserving farmland:*

1 *Identify Priority Farmland Preservation Areas*

- *Work with Board & Trust to identify Township locations for designation as priority areas for permanent preservation of farmland; these areas should be determined based on soil quality, farm productivity, development pressure, historical integrity & importance to rural character & view sheds.*

2 *Develop Targeted Marketing & Educational Campaign:*

- *Develop joint marketing materials & educational programs, tailored to Lower Windsor, to explain easement options and programs, as well as ASAs & the Clean & Green program.*
- *Identify & directly solicit landowners in priority preservation areas for participation in easement programs.*

3 *Provide Township Funding for Easement Purchases*

- *Provide matching funds for acquisition of Preservation Board easements in the Township.*
- *Provide full or partial funding for acquisition of Trust easements in the Township; "bargain sale" easements combine reduced purchase price with donation of a portion of the development value.*
- *Preservation Board & Trust assume responsibility for easement legal fees & long-term monitoring, freeing the Township from burdensome administrative costs.*



A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

***Setting a Goal*: Over the next 10 years, Lower Windsor Township will permanently preserve 1/3 of the community's current farmland acreage through conservation easement programs.**

- Establishing an ambitious but realistic farmland preservation goal now will provide direction for allocating resources and a yardstick for measuring progress.
- A ten year timeframe corresponds to the Comprehensive Plan's update cycle and ensures action during a period in which increased development pressures can be expected.
- The goal for preserving 1/3 of existing farmland is based upon a primary focus on priority preservation areas, and assumes that some landowners may not wish to participate in the program and some properties may not be appropriate for continued farming.
- Given the Preservation Board's current easement costs of $1300-$1900 per acre, an average of $1600 per acre is used to estimate the cost of such a goal.
- The Township's total cost could be partially offset with matching funds for Preservation Board easements. It is also anticipated that at least 10% of easement acreage would be donated to the Trust by landowners seeking tax benefits instead of cash payments.



A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

***Setting a Goal*: Over the next 10 years, Lower Windsor Township will permanently preserve 1/3 of the community's current farmland acreage through conservation easement programs.**

Estimated Budget for Conservation Easement Purchases over 10 Years:

- +/-10,500 ac x 1/3 = +/-3465 ac x 90% = +/-3130 ac x $1600/ac = **$5,008,000 total cost**
- **$750,000/year for first 3 years** = +/-470 ac/year, a total of +/-1410 ac, or 45% of total goal
- **$392,000/year for last 7 years** = +/-245 ac/year, a total of +/-1715 ac, or 55% of total goal



A Farmland Preservation Strategy for Lower Windsor

B. Incentive Tools: Agricultural Conservation Easements

Township Funding for Purchase of Farmland Easements

- Through voter referendums, Pennsylvania townships have approved dedicated tax increases for the purchase of conservation easements.
- Lower Windsor enjoys the unique position of having an existing source to fund easement purchases – the Host Tipping Fee/Municipal Service Funds generated from waste deposited in the Modern Landfill. This facility, located on the Township's far western edge, receives waste from New Jersey and other out-of-state locations, and pays the Township a fee for each ton of waste deposited in the Township portion of the landfill.
- The landfill fund balances currently total over $9 million.
- A portion of these funds could be annually targeted towards purchase of conservation easements in partnership with the Preservation Board and Trust minimal impact on Township fiscal health. In fact, preserving farmland will actually reduce overall community services costs.
- This funding approach will pay for local farmland preservation with trash from New Jersey - an attractive scenario for Township leaders and taxpayers.



A Farmland Preservation Strategy for Lower Windsor

C. Regulatory Tools: Subdivision & Land Development Ordinance

- Lower Windsor's Subdivision and Land Development Ordinance was adopted in December 1991 and, absent a zoning ordinance, has served as the Township's primary means for guiding development in the community. The ordinance generally requires new subdivisions in the Township to meet suburban-style lot, setback and roadway design standards.
- While providing for safe street design and adequate lot size, these standards prohibit use of more innovative subdivision approaches that could help maintain the Township's traditional "town and country" character as new development occurs. The historic town of East Prospect, for instance, would be illegal to build today under the existing ordinance.
- For these regulations to serve as a good tool for preservation of farmland and community character, innovative subdivision design options should be included and promoted.

Strategy 4: *As part of an overall regulatory strategy for the preservation of farmland and community character, revise the Township's Subdivision and Land Development Ordinance to permit use of innovative subdivision design options, including:*

- *Traditional Neighborhood Development*
- *Clustering & Flexible Lot Design*
- *Conservation Subdivision Design (Growing Greener)*



A Farmland Preservation Strategy for Lower Windsor

C. Regulatory Tools: Zoning Ordinance

- Although not voluntary and not as permanent as conservation easements, a well designed zoning ordinance can be a valuable regulatory tool for preserving farmland and community character. Zoning regulates the use of land and the location and intensity of development. A zoning ordinance can thus be used to direct new development to preferred growth areas and help ensure land uses and building and site designs that are compatible with community goals, preferences and traditions.
- In recent years many new, innovative approaches to land use regulation have been developed and proven successful across the nation. Pennsylvania's Municipalities Planning Code now allows local governments to use many of these techniques. However, many communities and developers are so vested in existing regulations and practices that amending zoning ordinances to permit new approaches can be politically challenging.
- Lower Windsor Township has never adopted a zoning ordinance, and past efforts to enact one proved unsuccessful. This lack of zoning presents a unique opportunity for the Township and its citizens. Rather than amend an existing, outdated ordinance to accommodate new approaches, the Township can develop a custom-designed zoning ordinance that incorporates innovative techniques in support of its goals for preservation of farmland and community character while preserving an equitable balance between government regulation and private property rights.



A Farmland Preservation Strategy for Lower Windsor

C. Regulatory Tools: Zoning Ordinance

Although a thorough review of the full range of zoning options is beyond the specific scope of this report, a basic strategy for consideration of a zoning ordinance in Lower Windsor is proposed below.

Strategy 5: *Initiate consideration of a zoning ordinance for the Township that respects and strengthens the traditional development pattern of the community and includes extensive opportunities for citizen education and participation. Key principles should include:*

- *Limit regulation in agricultural districts primarily to use and density issues.*
- *Provide flexibility in agricultural districts for farming activities and farm-based businesses.*
- *Provide options for Traditional Neighborhood Development (TND) in proposed town and village growth areas to allow for the natural growth of traditional communities.*
- *Provide options for Planned Residential Development (PRD) in proposed rural cluster growth areas to allow for clustering development and preserving open space.*
- *Provide for Transferable Development Rights (TDR), with agricultural districts designated as sending areas and proposed growth areas designated as receiving areas.*
- *Investigate the feasibility of requiring acre-for-acre agricultural mitigation by applicants requesting the rezoning of property in an agricultural zone to a non-agricultural zone.*



A Farmland Preservation Strategy for Lower Windsor

Summary of Farmland Preservation Strategies

Strategy 1: *Include the farmland preservation strategy in the Comprehensive Plan's Future Land Use element to make a strong policy and planning statement about the Township's desire to retain its agricultural heritage and economy.*

Strategy 2: *In association with other incentive efforts, initiate targeted marketing of ASA and Clean & Green program benefits to non-participating property owners in areas identified as priority locations for farmland preservation.*

Strategy 3: *Establish partnerships with Preservation Board and Trust to develop a coordinated approach for use of conservation easements as the primary tool for preserving farmland:*

- *Identify priority farmland preservation areas*
- *Develop targeted marketing & educational campaign*
- *Provide township funding for easement purchases*

Strategy 4: *As part of an overall regulatory strategy for the preservation of farmland and community character, revise the Township's Subdivision and Land Development Ordinance to permit use of innovative subdivision design options, including:*

- *Traditional Neighborhood Development*
- *Clustering & Flexible Lot Design*
- *Conservation Subdivision Design (Growing Greener)*

Strategy 5: *Initiate consideration of a zoning ordinance for the Township that respects and strengthens the traditional development pattern of the community and includes extensive opportunities for citizen education and participation. Key principles guiding the zoning process should include:*

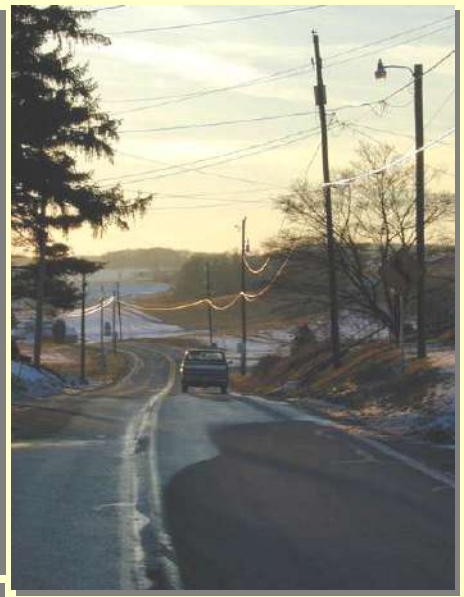
- *Limit regulation in agricultural districts primarily to use and density issues.*
- *Provide flexibility in agricultural districts for farming activities and farm-based businesses.*
- *Provide options for Traditional Neighborhood Development (TND) in proposed town and village growth areas to allow for the natural growth of traditional communities.*
- *Provide options for Planned Residential Development (PRD) in proposed rural cluster growth areas to allow for clustering development and preserving open space.*
- *Provide for Transferable Development Rights (TDR), with agricultural districts designated as sending areas and proposed growth areas designated as receiving areas.*
- *Investigate the feasibility of requiring acre-for-acre agricultural mitigation by applicants for zoning changes which will change the use of agricultural land to any non-agricultural zone or use.*



Township Vision

Lower Windsor in 2012 . . . pretty much like Lower Windsor today.








Lower Windsor Township, PA

Farmland Preservation Strategy

Project Summary Report

Prepared by

Platts/Simons
Community Planning
4621 42nd St. NW
Washington, DC 20016
202/243-1092

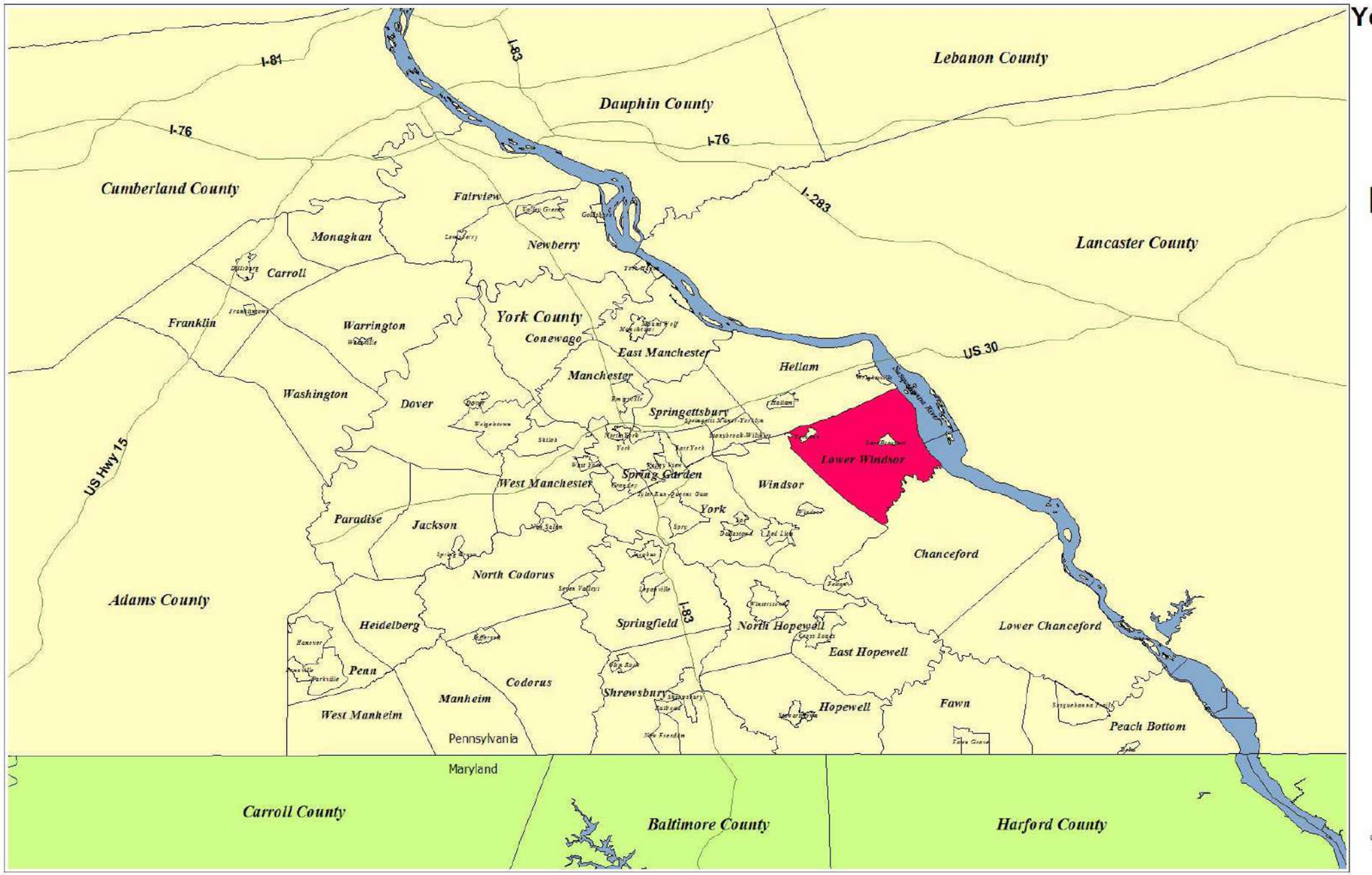
In association with

C.S. Davidson, Inc.
Excellence in Civil Engineering
38 N. Duke St.
York, PA 17401
717/846-4805

EXHIBITS

Lower Windsor Township
York County, Pennsylvania

Exhibit A
Regional Setting



N

0 3 6 9 12 15 Miles

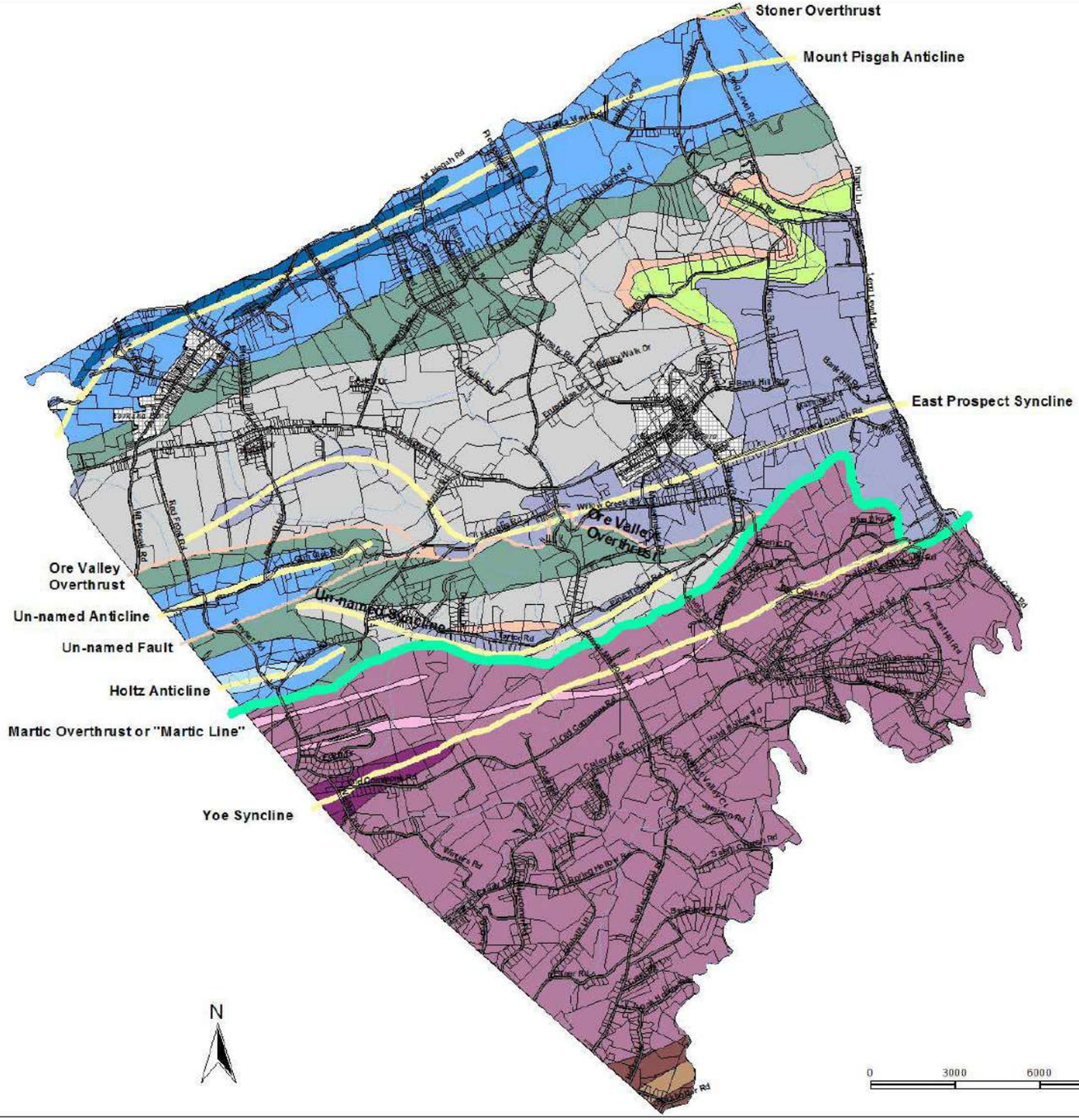
Mapping by D.S. Davidson, Inc.
Base Map - Census Bureau TIGER 2000

Lower Windsor Township

York County, Pennsylvania

Exhibit B

Geology and Structural Geologic Features



Geology

- Conestoga Formation — Oc
- Kinzers Formation — Cks
- Vintage Formation — Cv
- Antietam Formation — Ca
- Harpers Formation — Chp
- Chickies Formation — Ccs, Ccq, Ch
- Marburg Schist — Qt, Sl, Mg
- Wissahickon Formation — Was3, Was4

Structural Features

- Overthrust or Fault Line
- Anticline, Sincline or Fold Line
- Martic Overthrust or "Martic Line"

- Streets & Roads
- Streams & Rivers

0 3000 6000 9000 12000 15000 Feet

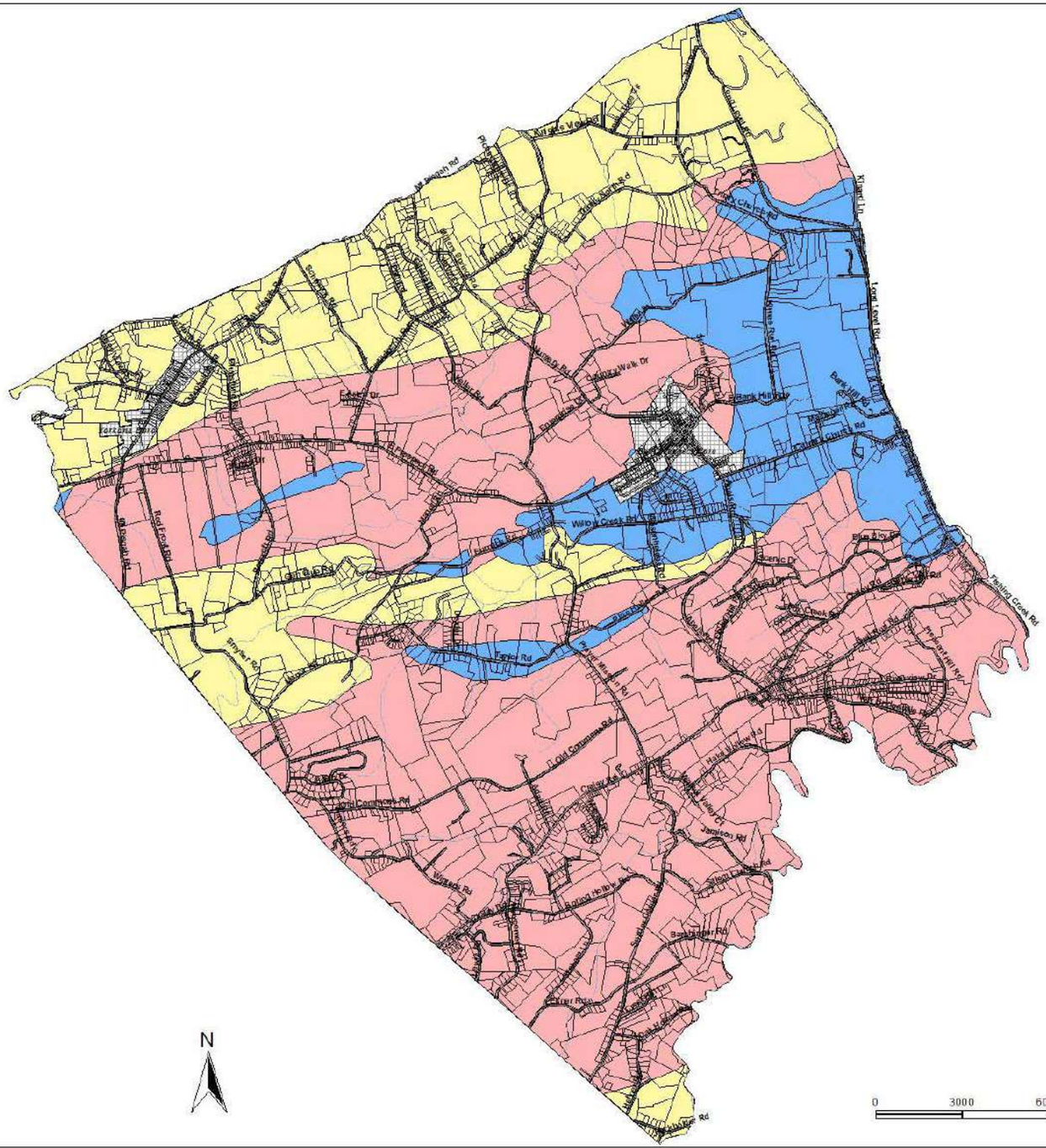
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit C

Ranking of Bedrock Aquifers



- Potentially Best or Highest Yielding Aquifers; Meta-Carbonates in Conestoga Formation and Vintage Formation, Including Area Where Vintage Formation is Likely to Occur at Reasonable Depth Below Kinzer Shale
- Potentially Intermediate Aquifer
- Potentially Poorest or Lowest Yielding Aquifers; Marburg Schist & Antietam Formation

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

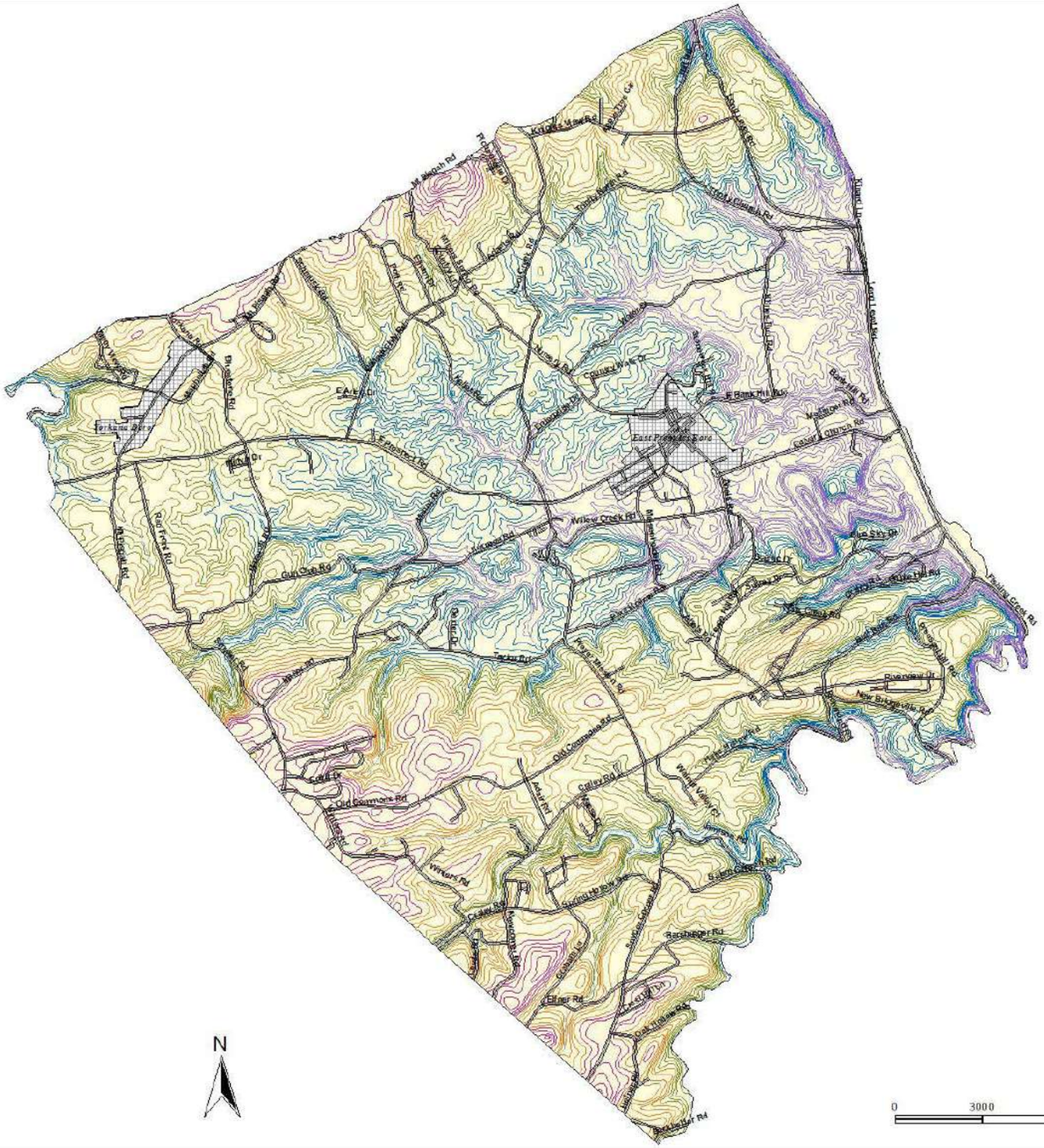
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission
Bedrock Aquifer Breakdown - Geotechnical Corp.

Lower Windsor Township

York County, Pennsylvania

Exhibit D

Topography



Contours

- 0 - 400 ft
- 401 - 500 ft
- 501 - 600 ft
- 601 - 700 ft
- 701 - 900 ft

- Streets & Roads
- Streams & Rivers

*** *Contours are 20 ft intervals*

N

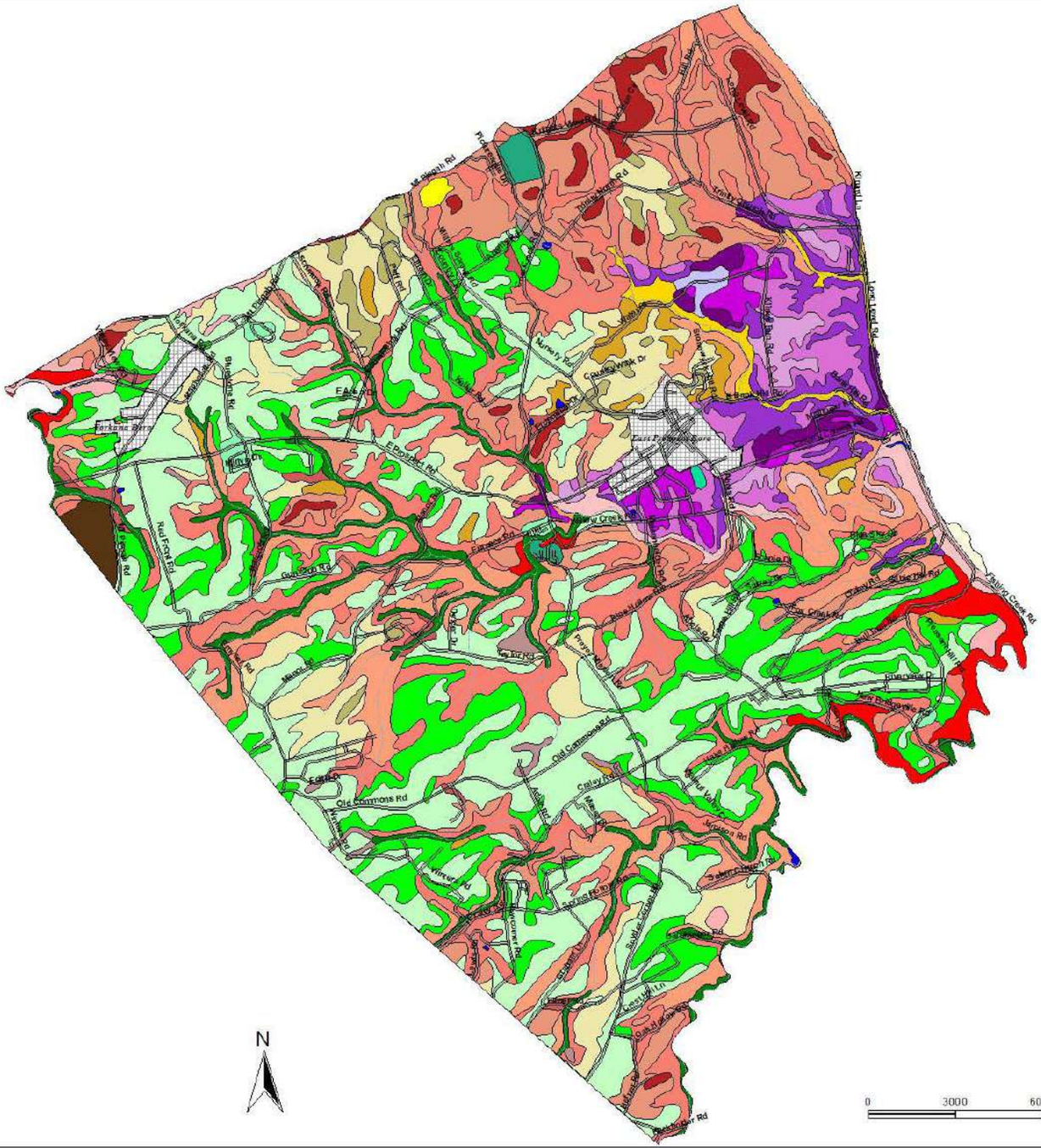
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit E
Soil Classification



Soils

- Chagrin Silt Loam: Cd
- Chester Silt Loam: CeB, CeC
- Clarksburg Silt Loam: CkB
- Codorus Silt Loam: Cm
- Conestoga Silt Loam: CnB, CnC
- Dumps, Refuse: Dx
- Edgemont Channery Loam: EeD
- Glenelg Channery Silt Loam: GbB, GbC, GbD
- Glenville Silt Loam: GdA, GdB
- Lindside Silt Loam: Lw
- Mt. Airy & Manor Channery Loams: MOB, MOC, MOD, MOE, MPD, MRF
- Pequea Silt Loam: PsB, PsC, PsD
- Urban Land - Chester Complex: UdB
- Urban Land - Conestoga Complex: UeB
- Urban Land - Mt. Airy Complex: UfC
- Water: W

Streets & Roads
Streams & Rivers

N

0 3000 6000 9000 12000 15000 Feet

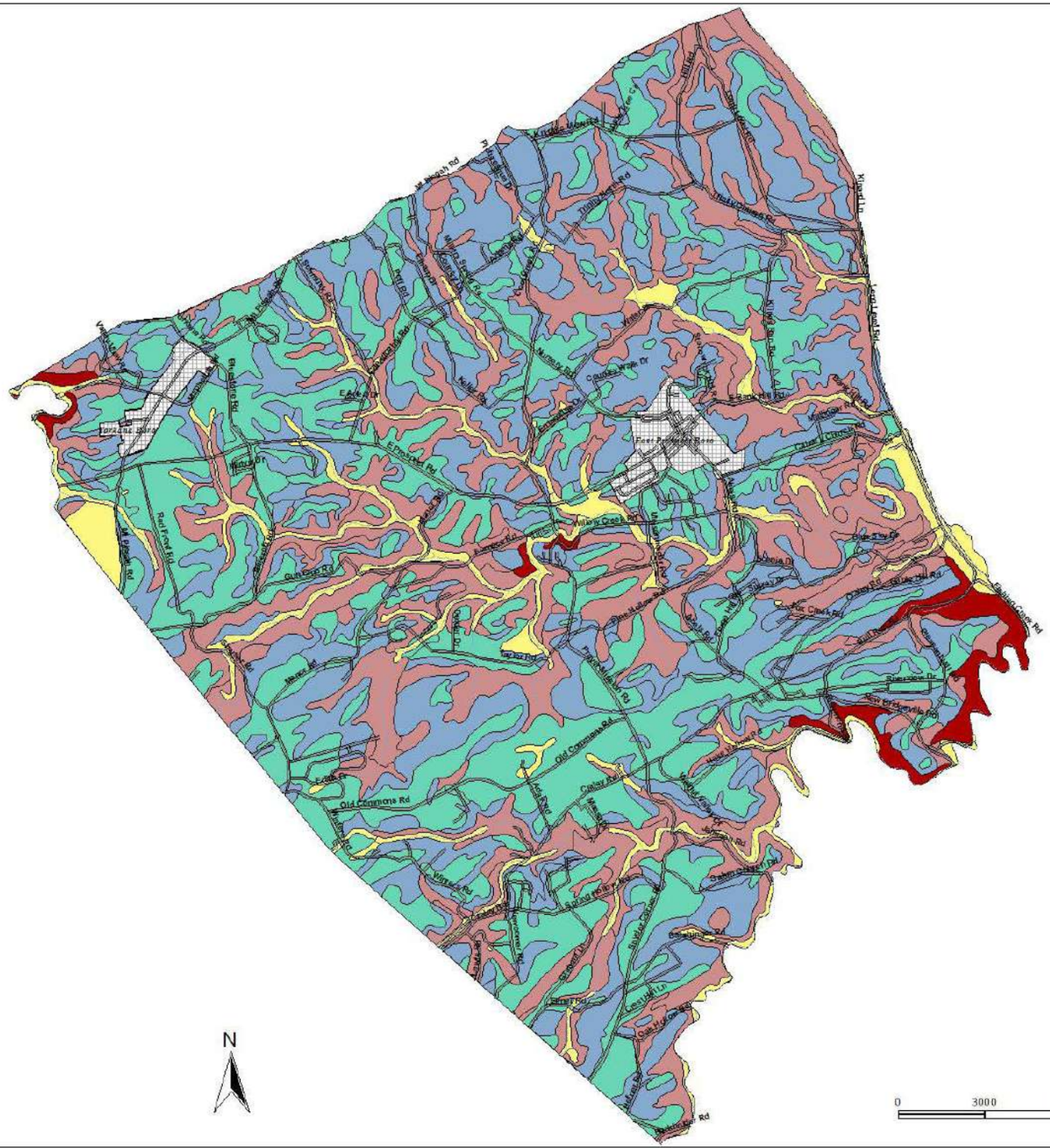
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit F

Slope



Slope

- 0 - 3 %
- 4 - 8 %
- 9 - 15 %
- 16 - 35 %
- 36 - 60 %

Streets & Roads
Streams & Rivers

N

0 3000 6000 9000 12000 15000 Feet

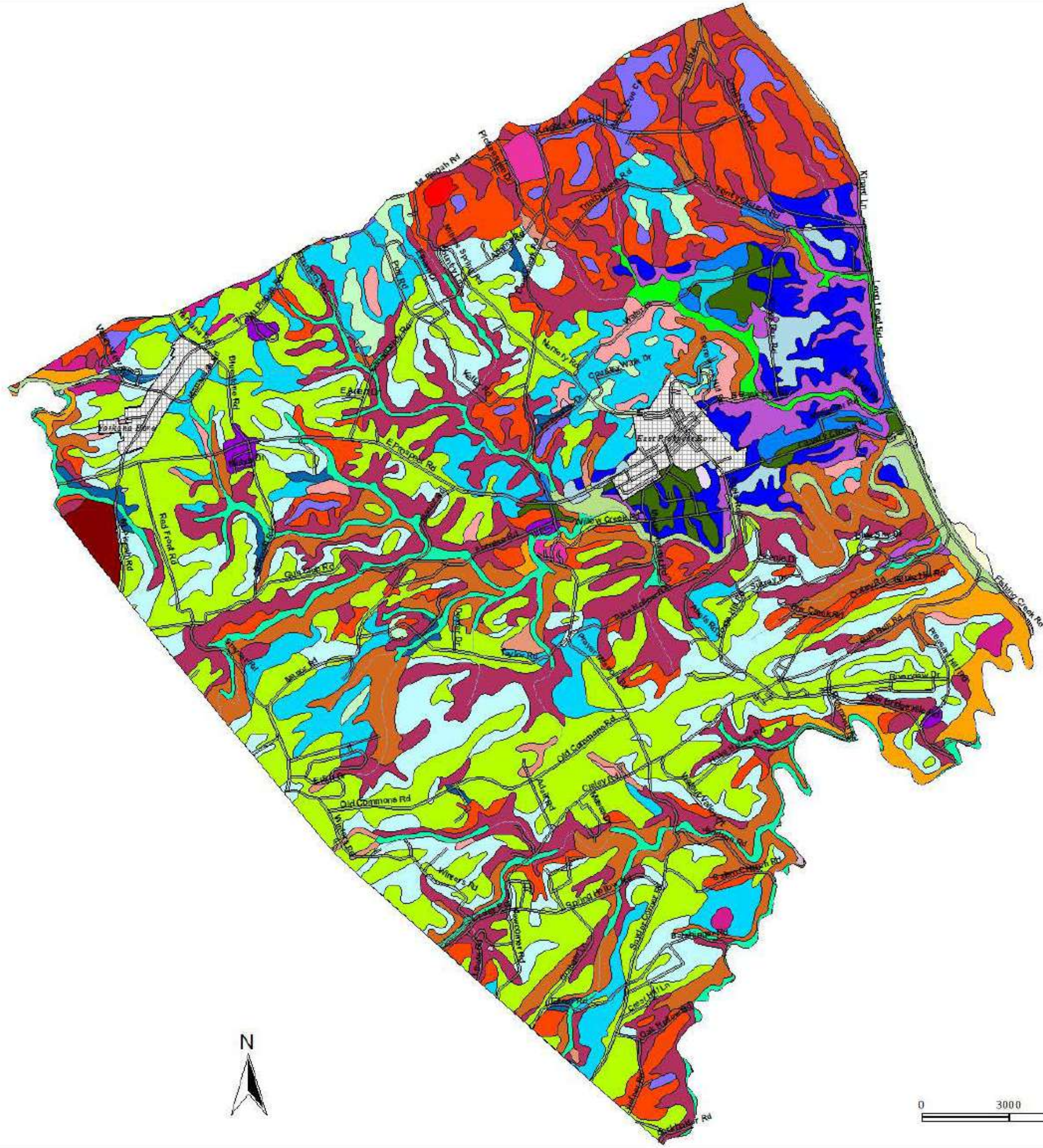
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit G

Agricultural Capacity



Soils

Poor

- Dumps, Refuse — Dx
- Edgemont Channery Loam — EeD
- Glenelg Channery Silt Loam — GbD
- Glenville Silt Loam — GdA
- Mt. Airy and Manor Channery Loams — MOC, MOD, MOE, MPD, MRF
- Pequea Silt Loam — PsD
- Urban Land - Chester Complex — UdB
- Urban Land - Conestoga Complex — UeB
- Urban Land - Mt. Airy Complex — UfC
- Water — W

Good

- Chargrin Silt Loam — Cd
- Chester Silt Loam — CeB
- Codorous Silt Loam — Cm
- Conestoga Silt Loam — CnB
- Glenelg Channery Silt Loam — GbB
- Lindside Silt Loam — Lw

Fair

- Chester Silt Loam — CeC
- Clarksburg Silt Loam — CkB
- Conestoga Silt Loam — CnC
- Glenelg Channery Silt Loam — GbC
- Glenville Silt Loam — GdB
- Mt. Airy and Manor Channery Loams — MOB
- Pequea Silt Loam — PsB, PsC

Streets & Roads
Streams & Rivers

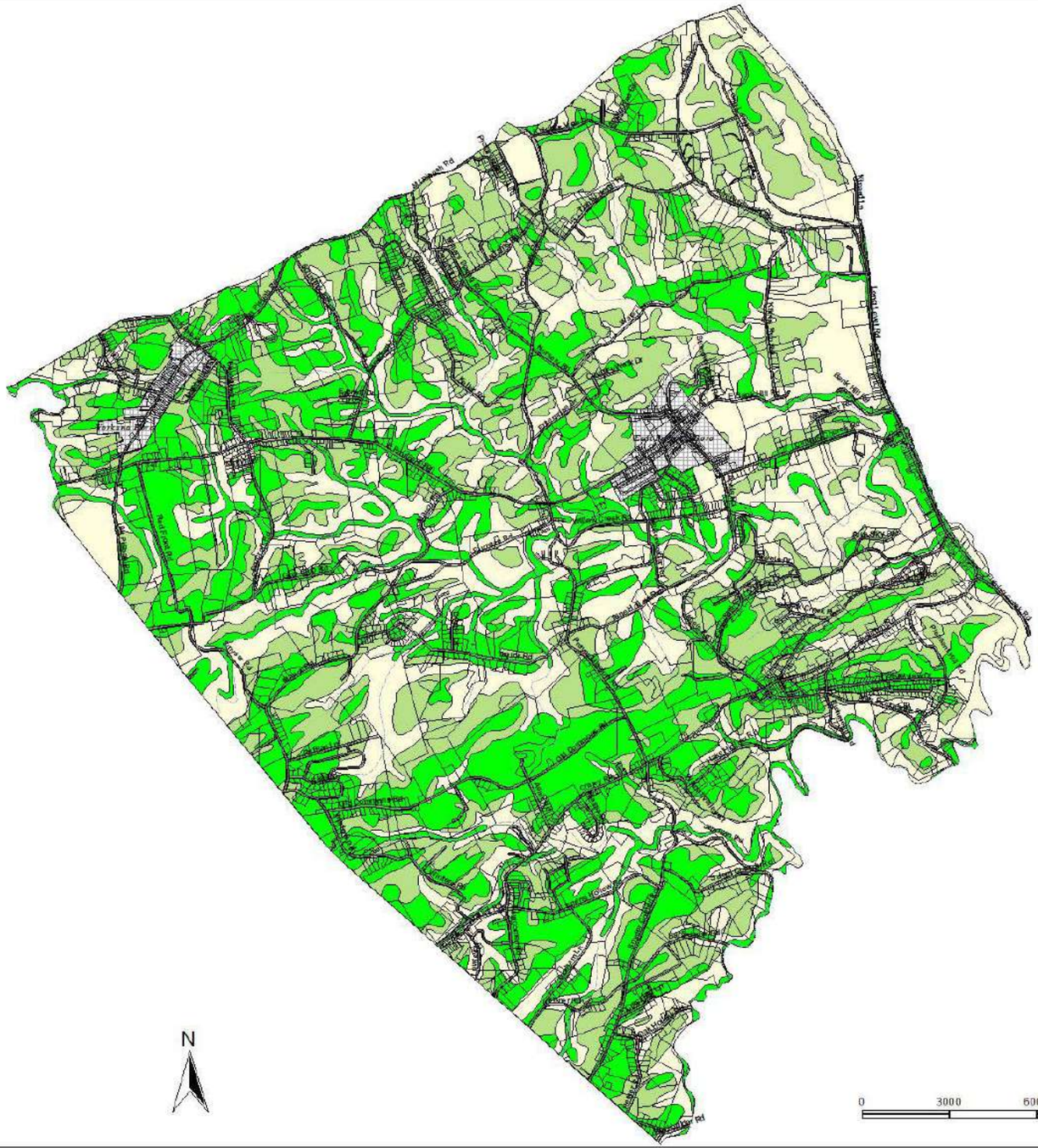
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit H
Prime Agricultural Soils



Class I & II

Cd
CeB
CkB
Cm
CnB
GbB
GdA
GdB
Lw
MOB

Class III

CeC
CnC
GbC
MOC
PsB

Non-Prime Agricultural Soils
Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

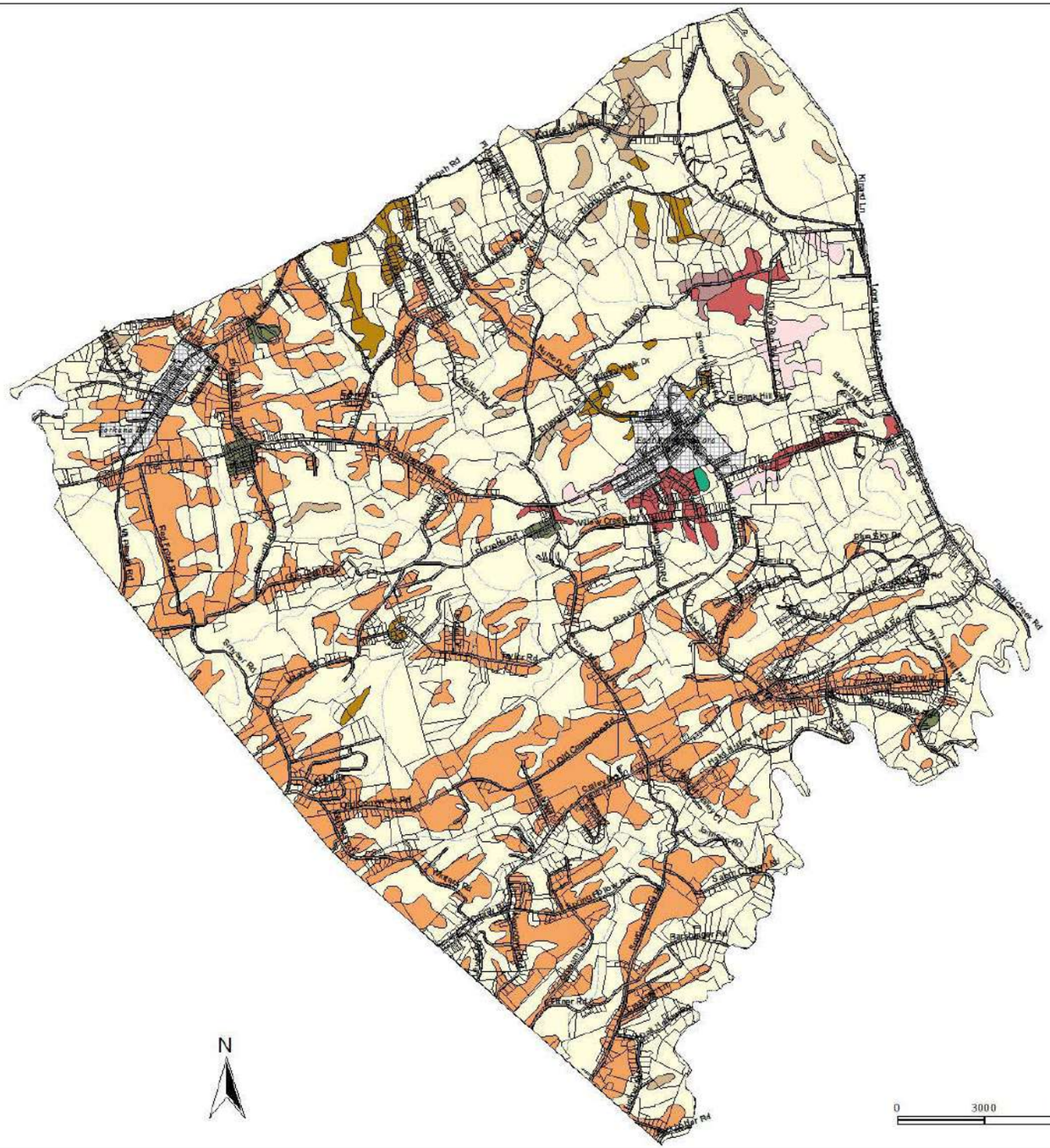
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission
Prime Agricultural Soils Determination by NRCS

Lower Windsor Township

York County, Pennsylvania

Exhibit I

Soils Suitable for Conventional In-Ground Systems and Elevated Sand Mounds



Soils

- Chester Silt Loam — CeB
- Clarksburg Silt Loam — CkB
- Conestoga Silt Loam — CnB
- Glenelg Channery Silt Loam — GbB
- Mt. Airy & Manor Channery Loams — MOB
- Pequea Silt Laom — PsB
- Urban Land - Chester Complex — UdB
- Urban Land - Conestoga Complex — UeB

Unsuitable Soils

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit J

Soils Suitable for Elevated Sand Mounds

Soils

- Chester Silt Loam — CeC
- Conestoga Silt Loam — CnC
- Glenelg Channery Silt Loam — GbC
- Mt. Airy and Manor Channery Loams — MOC
- Pequea Slt Loam — PsC
- Urban Land - Mt. Airy Complex — UfC
- Unsuitable Soils
- Streets & Roads
- Streams & Rivers
- Parcels

N

0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

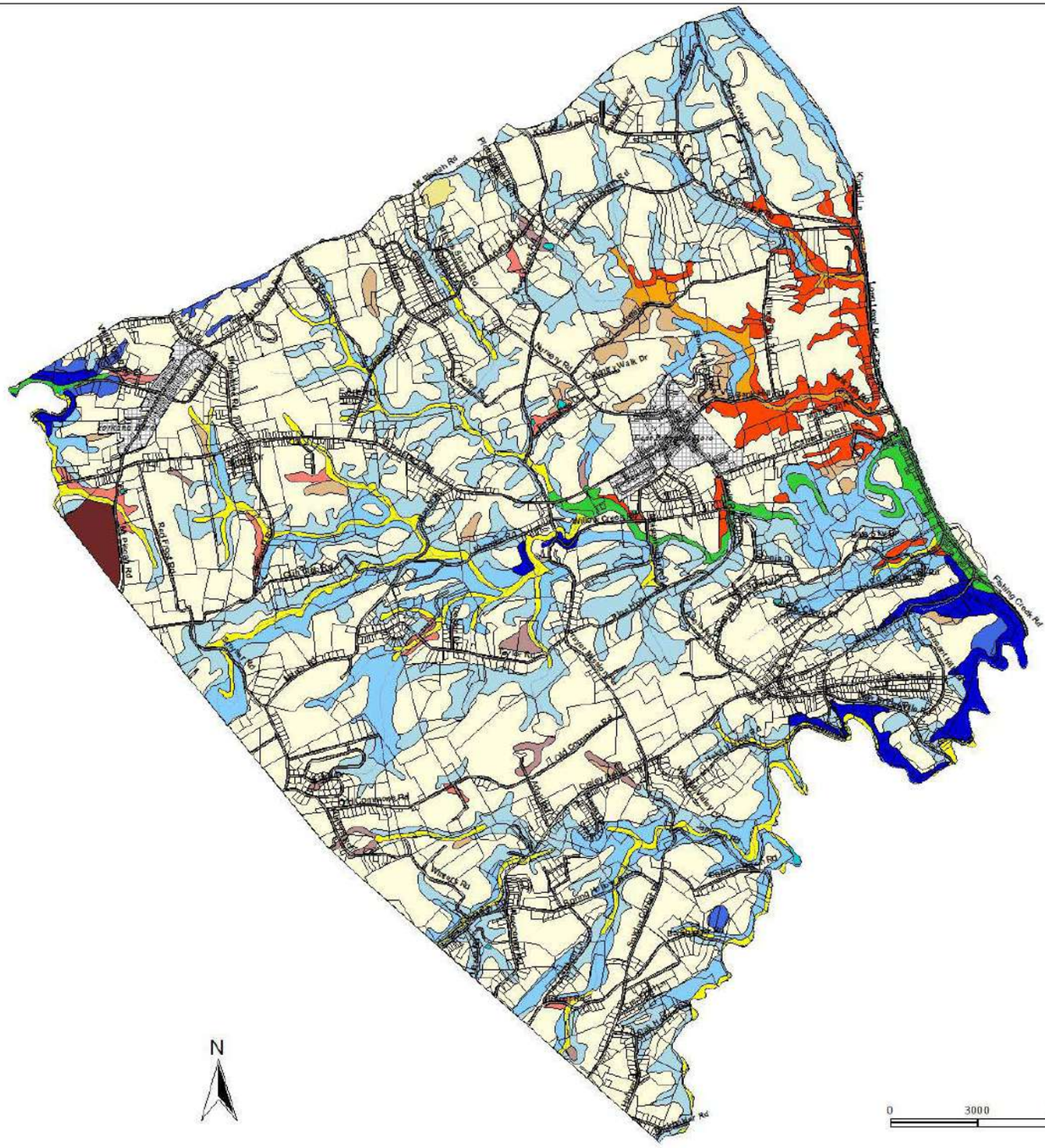


Exhibit K

Soils Unsuitable for On-Lot Sewage Systems

Soils

- Chagrin Silt Loam
  - Cd
- Codorus Silt Loam
  - Cm
- Dumps, Refuse
  - Dx
- Chagrin Silt Loam
  - EeD
- Glenelg Channery Silt Loam
  - GbD
- Glenville Silt Loam
  - GdA
  - GdB
- Lindside Silt Loam
  - Lw
- Mt. Airy and Manor Channery Loams
  - MOD
  - MOE
  - MPD
  - MRF
- Pequea Silt Loam
  - PsD
- Suitable Soils
- Streets & Roads
- Streams & Rivers
- Parcels

***All mentioned soils have slopes 15% or Higher.

N

0 3000 6000 9000 12000 15000 Feet

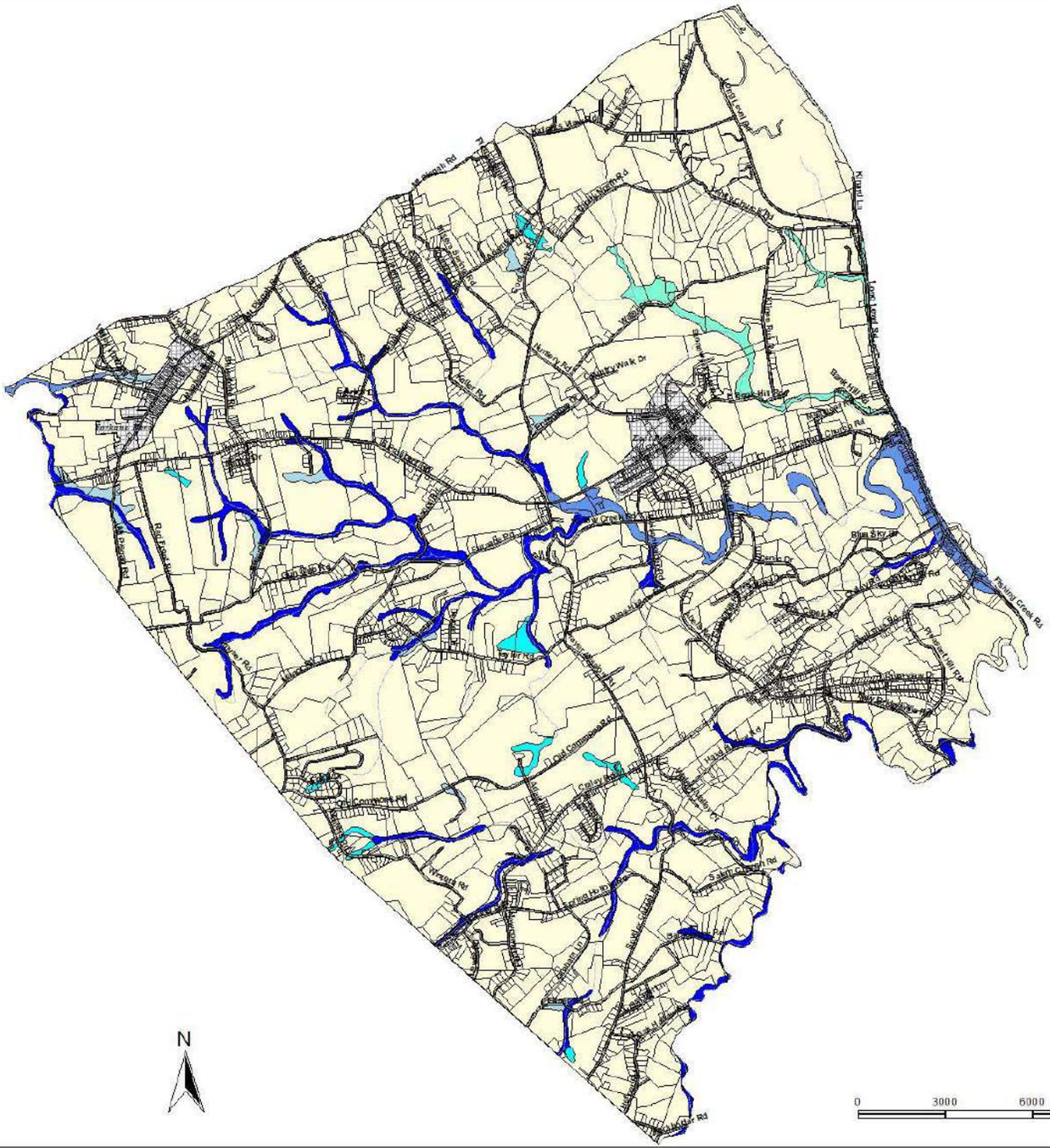
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit L

Hydric Soils



Soils

Chagrin Silt Loam
Cd

Codorous Silt Loam
Cm

Glenville Silt Loam
GdA
GdB

Lindside SIlt Loam
Lw

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

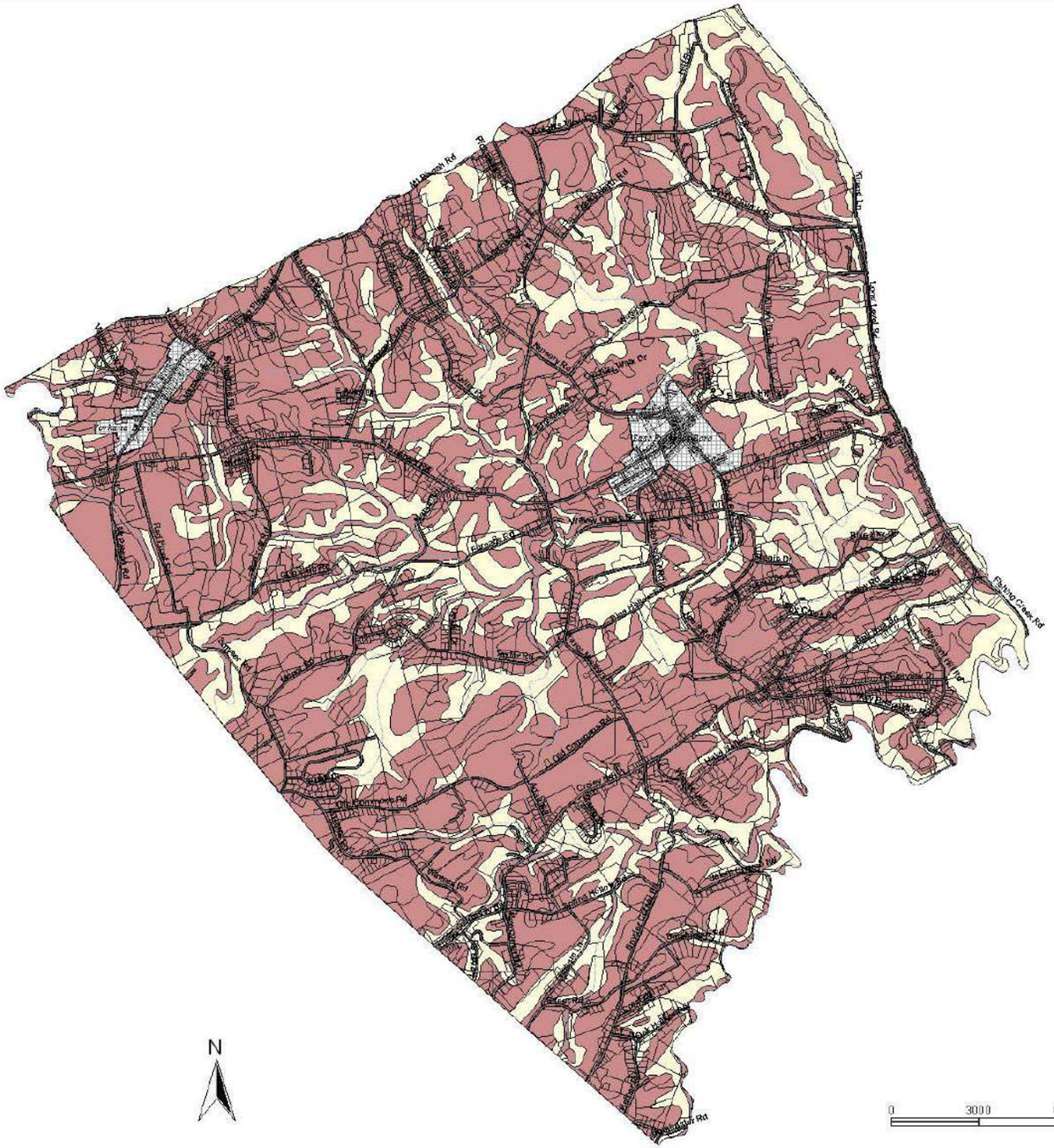
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit M

Slopes 0% to 15%



Slopes 0% to 15%

Slopes Higher than 15%

Streets & Roads

Streams & Rivers

Parcels

N

0 3000 6000 9000 12000 15000 Feet

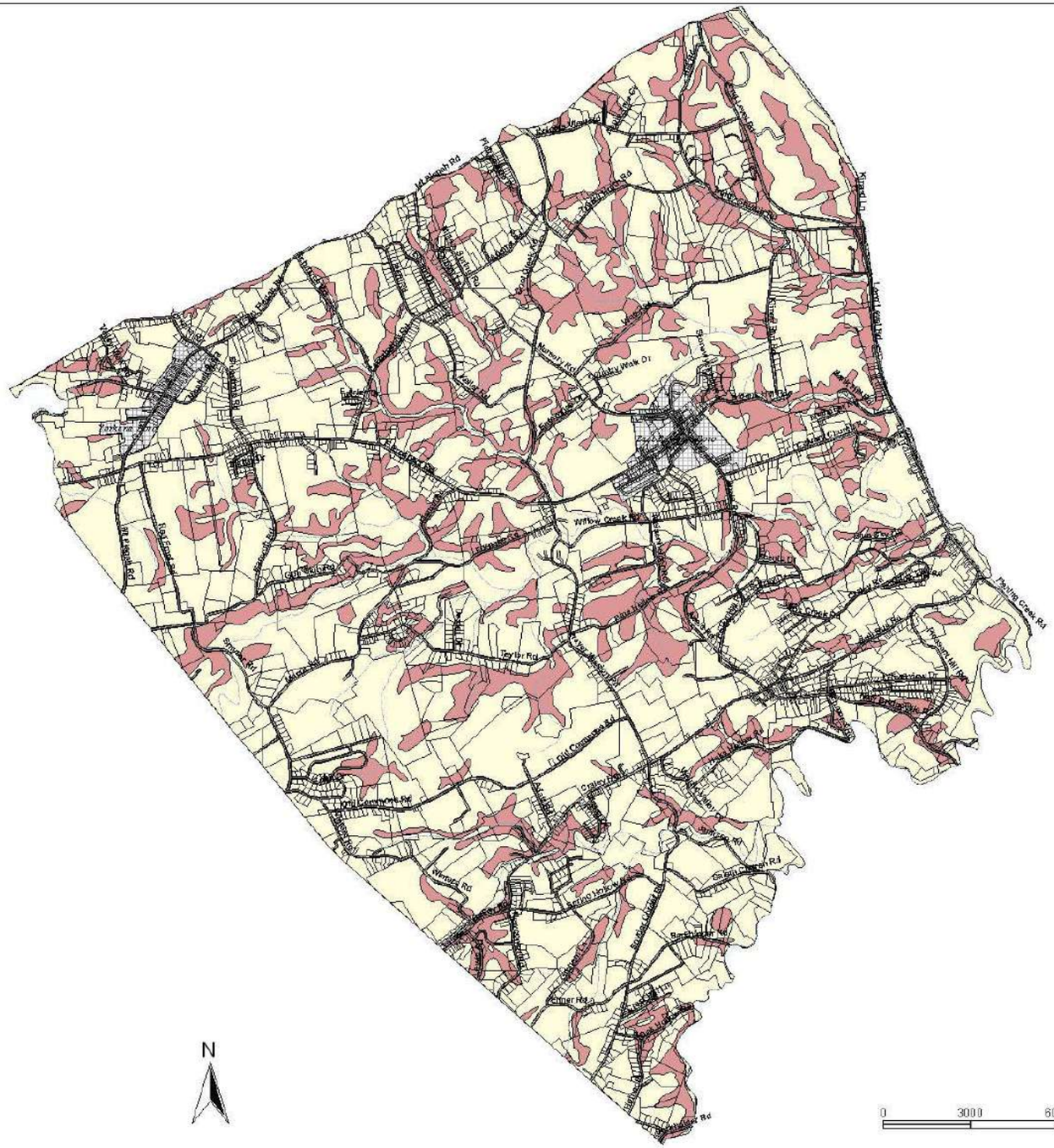
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit N

Slopes 15% to 25%



Slopes 15% - 25%

Slopes 0% to 15%
and
Slopes Higher than 25%

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

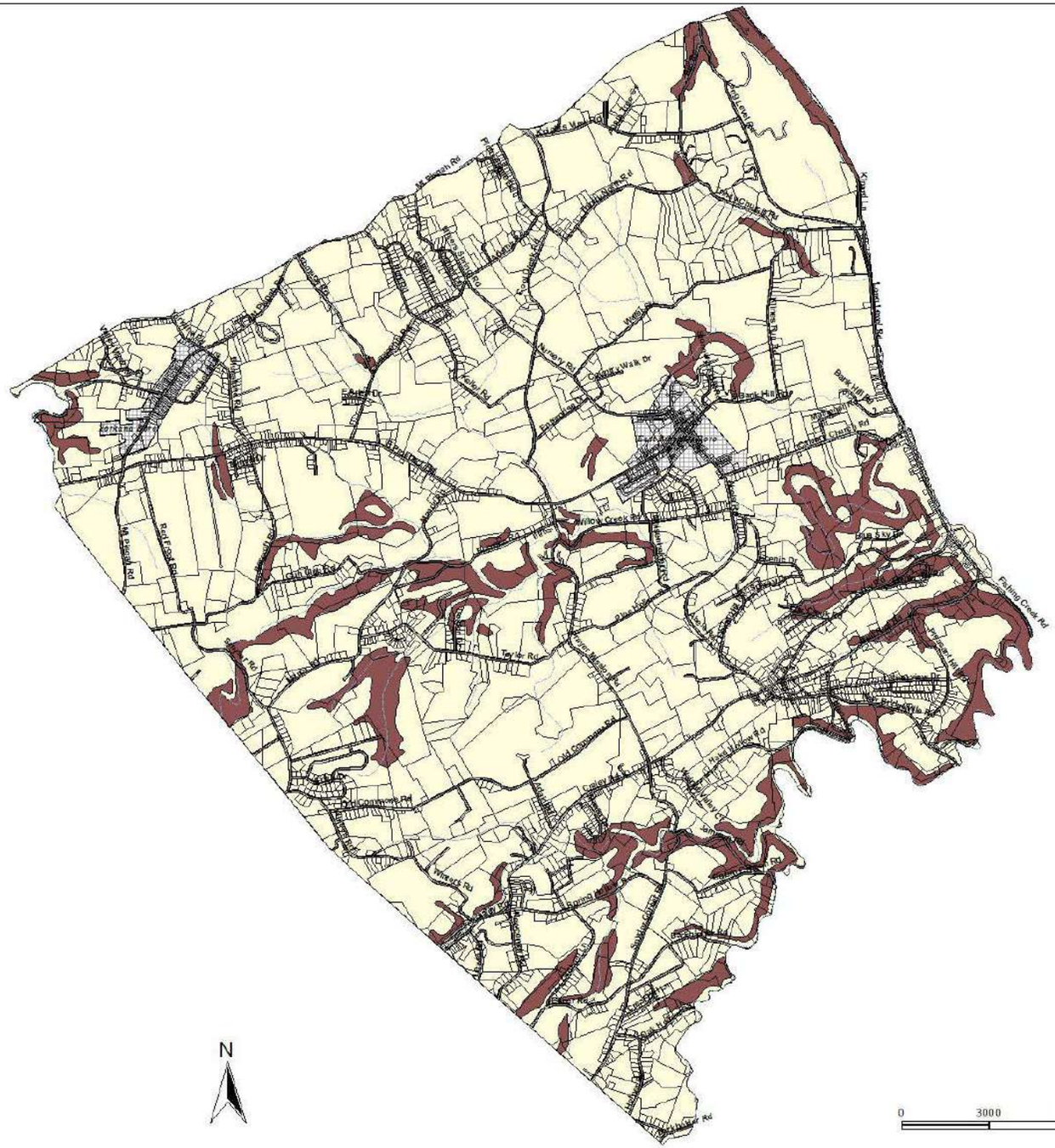
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit O

Slopes 25% and Higher



Slopes 25% and Higher

Slopes 0% to 25%

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

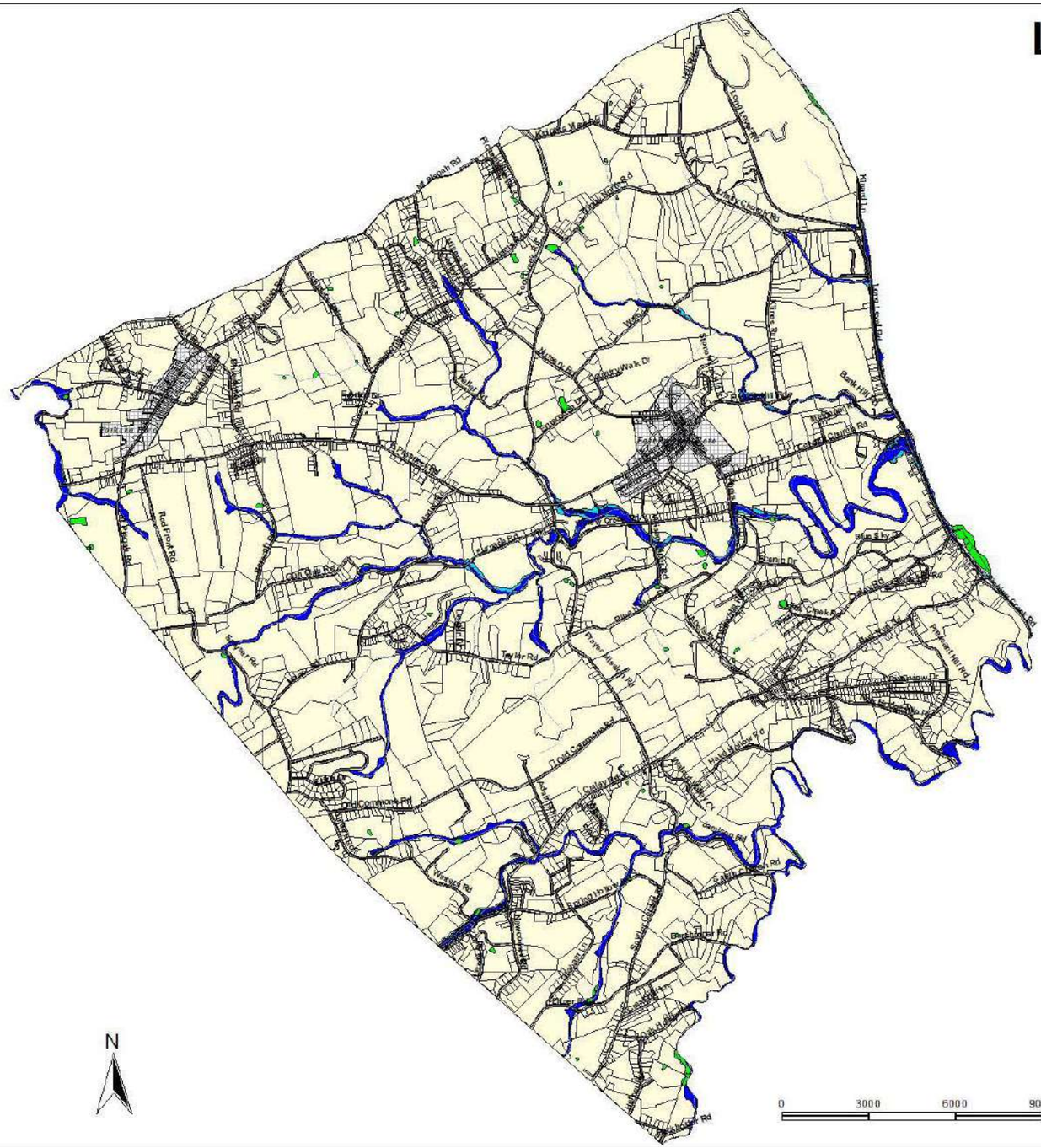
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit P

Floodplains and Wetlands



Floodplain
- 100 Year
- 500 Year

Wetlands

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

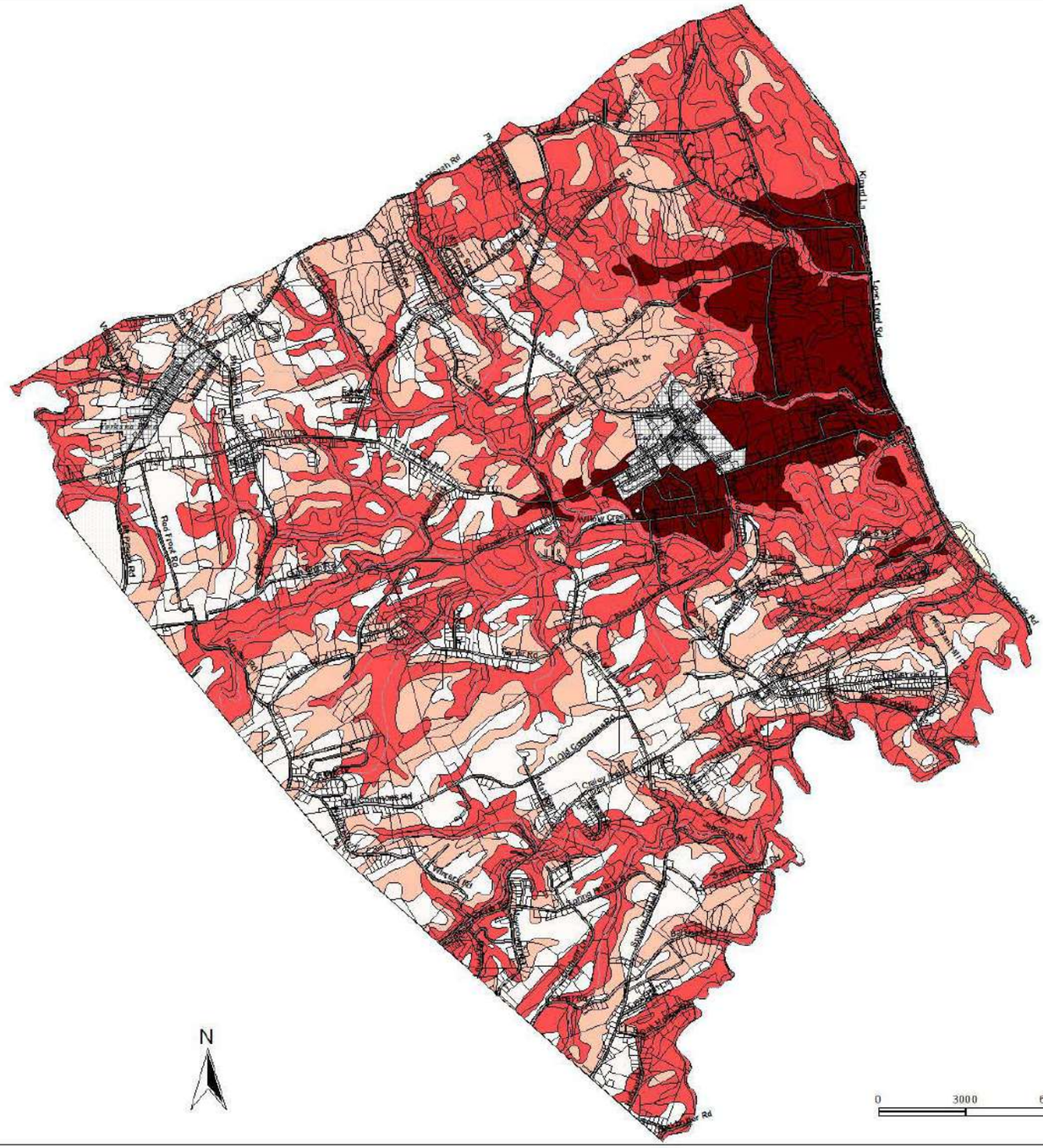
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit Q

Soil Limitations



Soil Limitations

- Hazardous
- Severe
- Moderate
- None to Slight
- Not Listed
  (Dx - Dumps/Refuse and W - Water)

- Streets & Roads
- Streams & Rivers
- Parcels

N

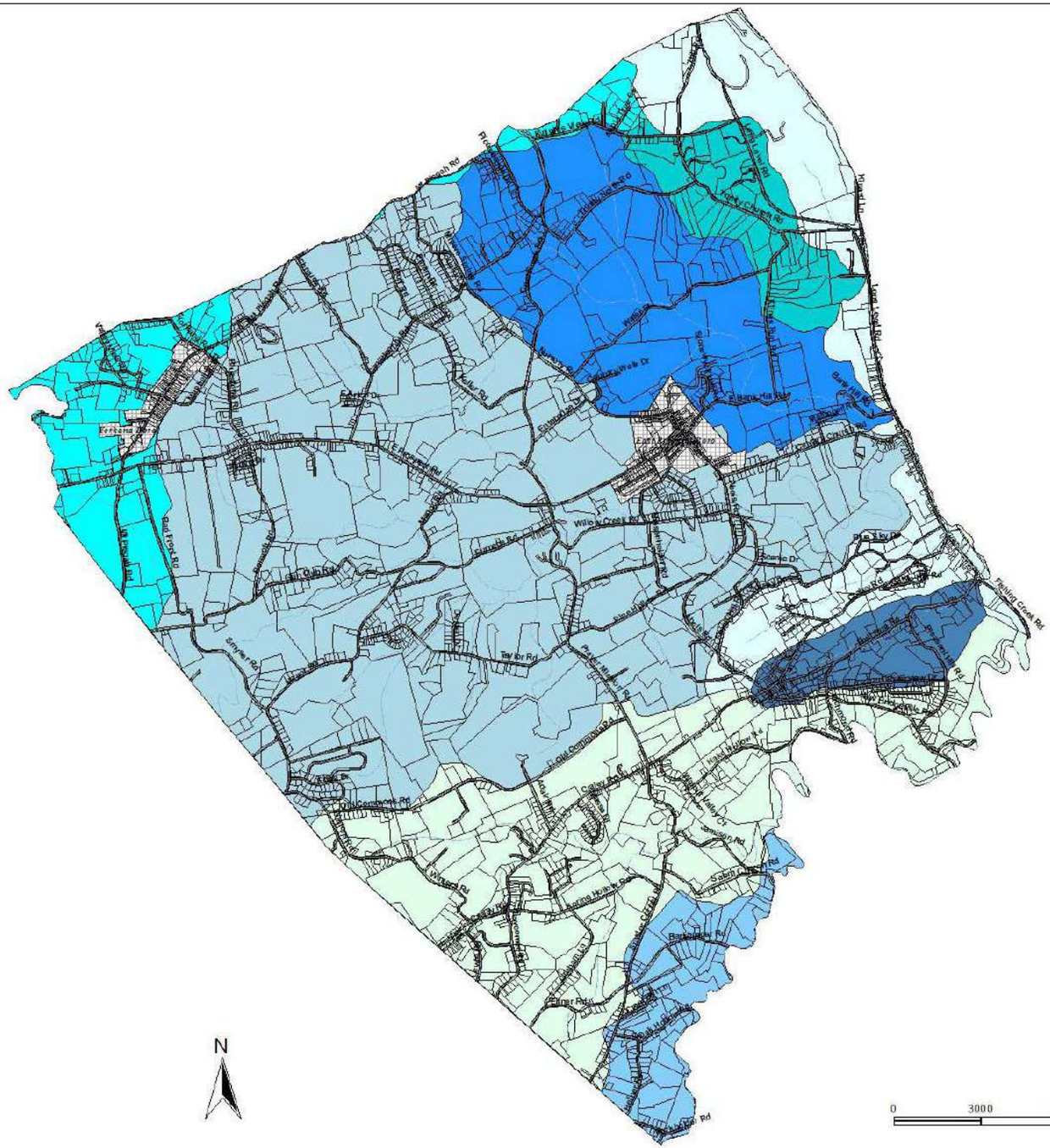
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit R
Watersheds



Watersheds
- Beaver Creek
- Bull Run
- Cabin Creek
- Canadochly Creek
- Fishing Creek
- Klines Run
- Kreutz Creek
- Susquehanna River

- Streets & Roads
- Streams & Rivers
- Parcels

N

0 3000 6000 9000 12000 15000 Feet

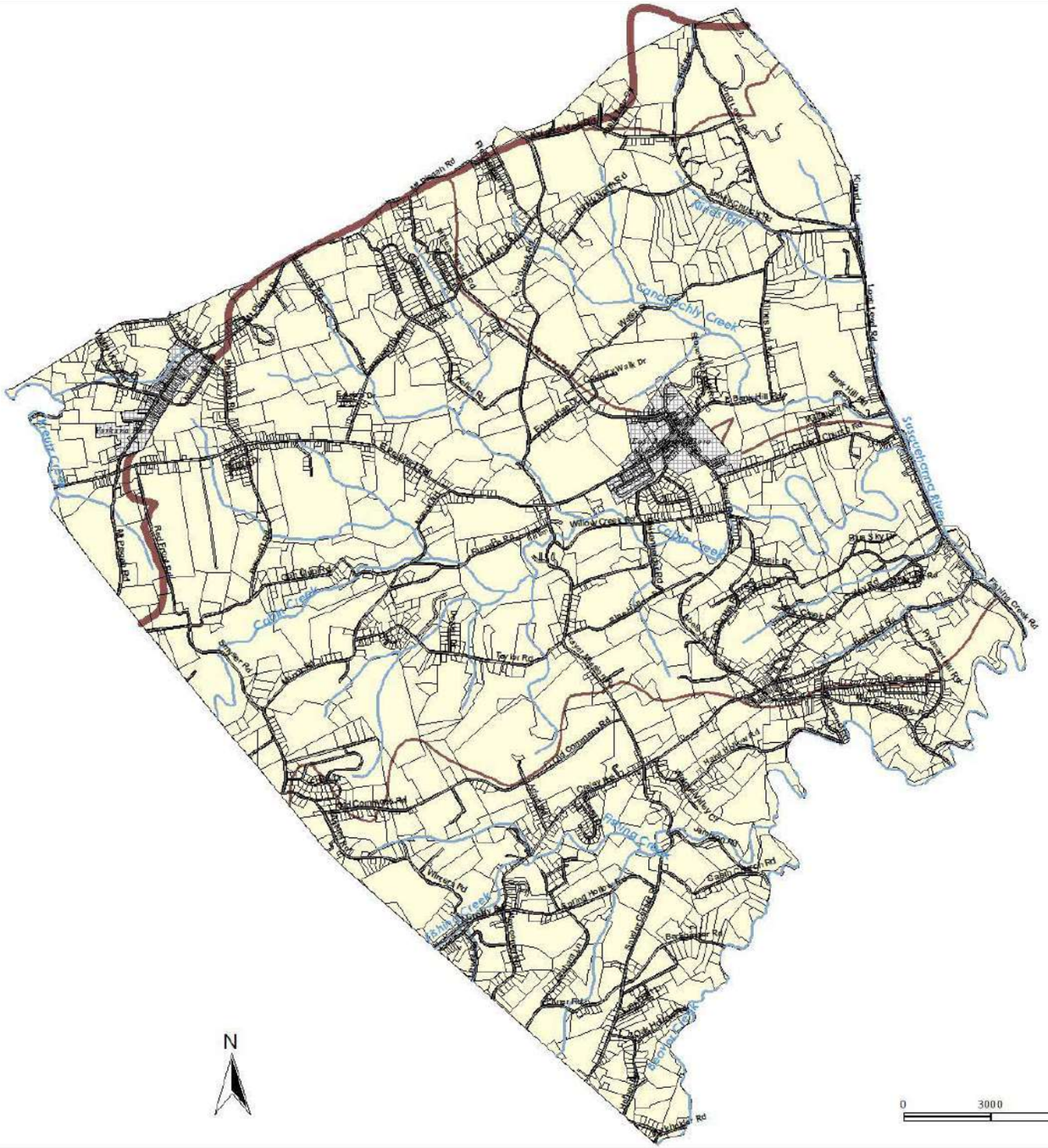
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit S

Stream and Ridge Lines



Ridge lines

- Major Ridge Lines
- Minor Ridge Lines
- Streams
- Streets & Roads
- Parcels

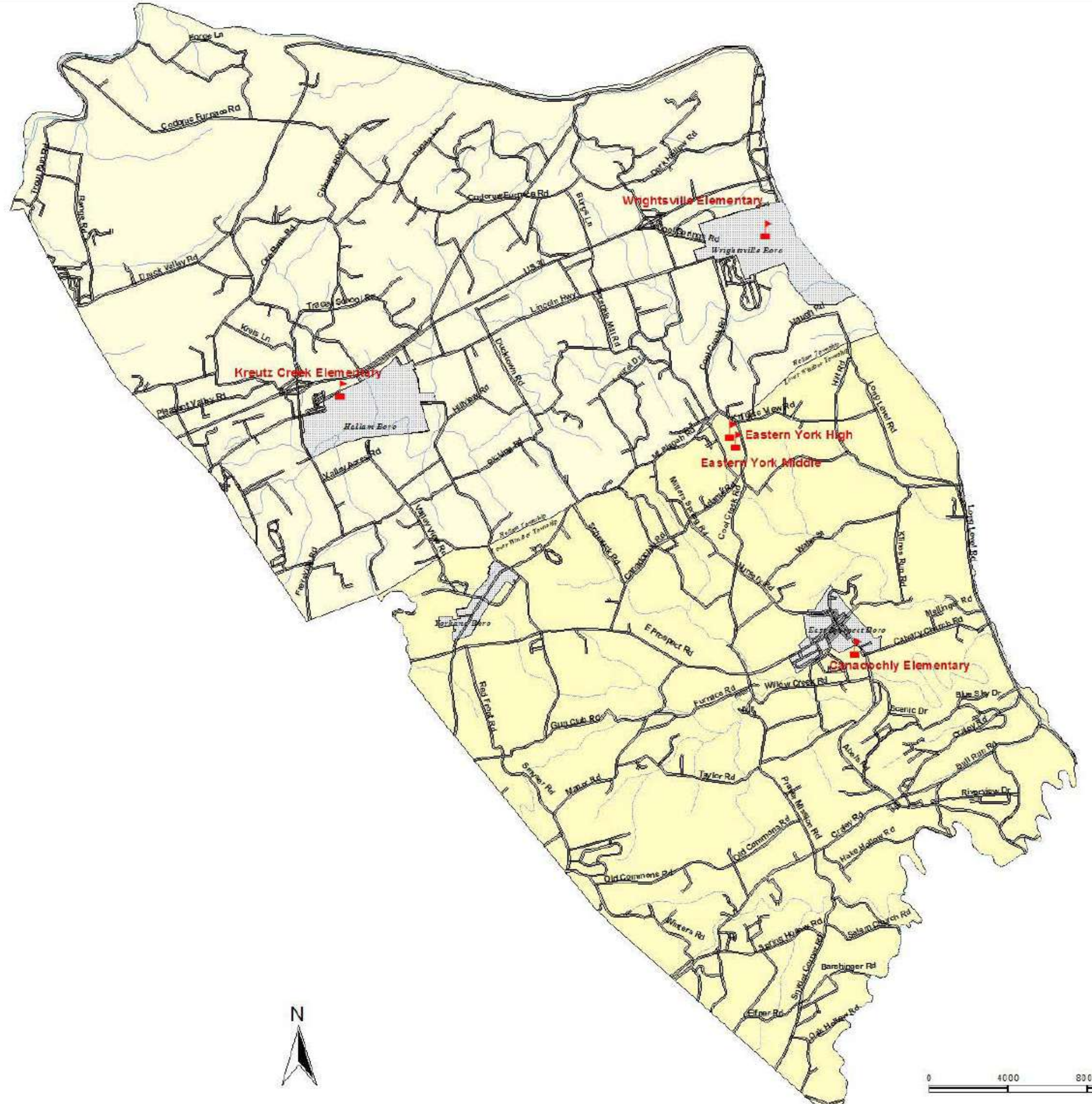
0 3000 6000 9000 12000 15000 Feet

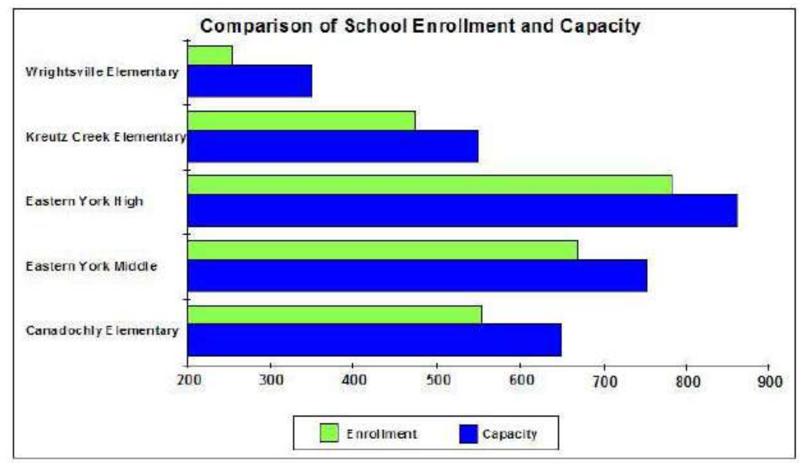
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit T
Eastern York School District





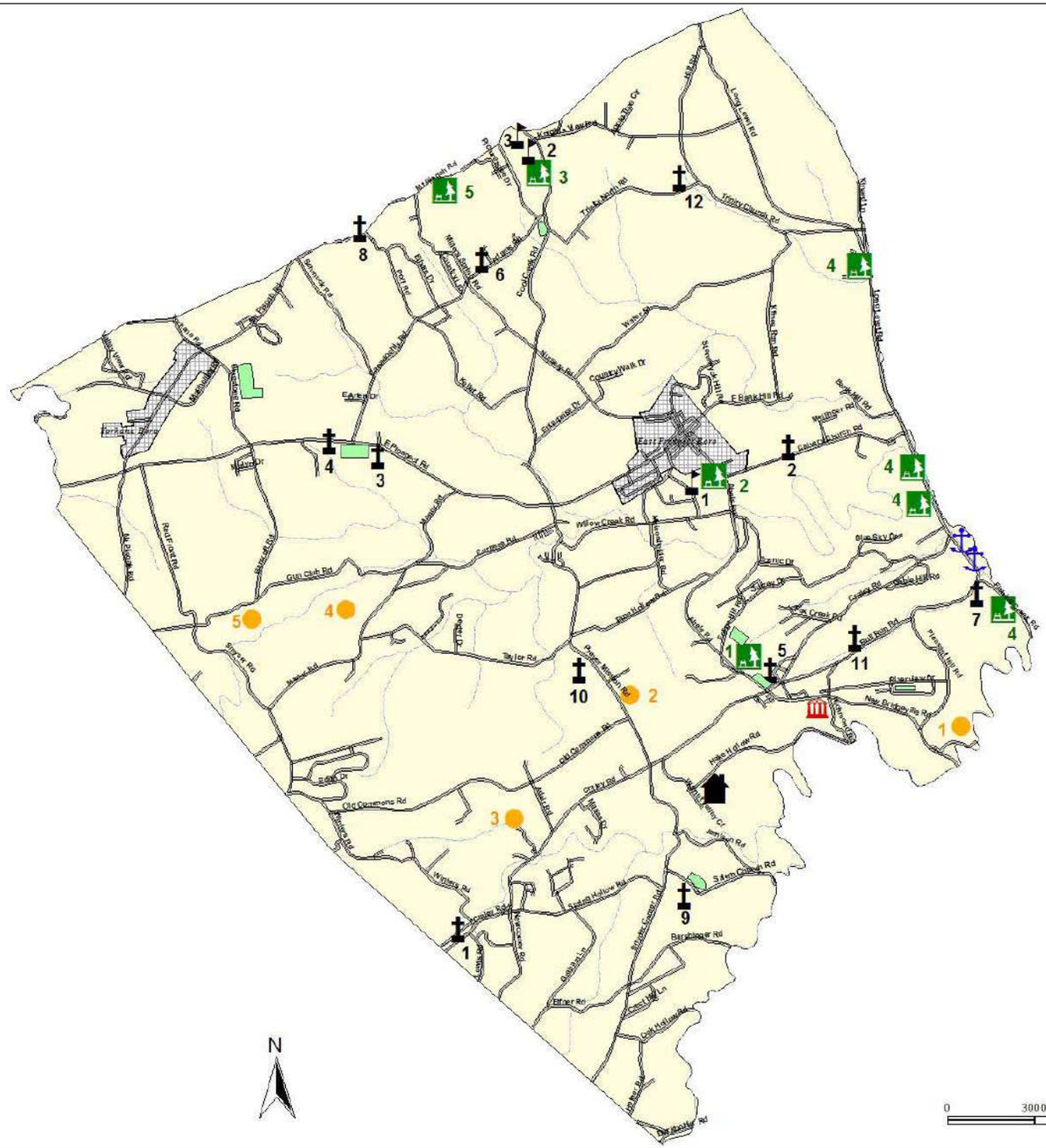
Mapping by C. S. Davidson, Inc.
Base Map - York County Planning Commission
Enrollment and Capacity - Eastern York School District
12-01)

Lower Windsor Township

York County, Pennsylvania

Exhibit U

Community Facilities



Community Facilities

Recreation
1 Craley Playground
2 Canadochly School Play Area
3 Eastern High School Tennis Courts
4 Safe Harbor Recreation Areas
5 Sam Lewis State Park

Boat Launching Facility (Public)

Game Clubs
1 Craley Fish & Game Assoc.
2 East Prospect Fish & Game Assoc.
3 Windsor Fish & Game Assoc.
4 York County Archers Assoc.
5 Yorkana Game & Fish Club

Township Municipal Building

Craley Post Office

Churches
1 Bittersville United Methodist
2 Calvary Bible
3 Canadochly Luthern
4 Canadochly United Church of Christ
5 Craley United Methodist
6 East Side Bible
7 Ebenezer United Methodist
8 Mt Pisgah United Methodist
9 New Salem United Methodist
10 Prayer Mission
11 Springvale Free Gospal
12 Trinity United Methodist

Schools
1 Canadochly Elem. School
2 Eastern York Middle School
3 Eastern York High School

Cemetery

Streets & Roads
Streams & Rivers

0 3000 6000 9000 12000 15000 Feet

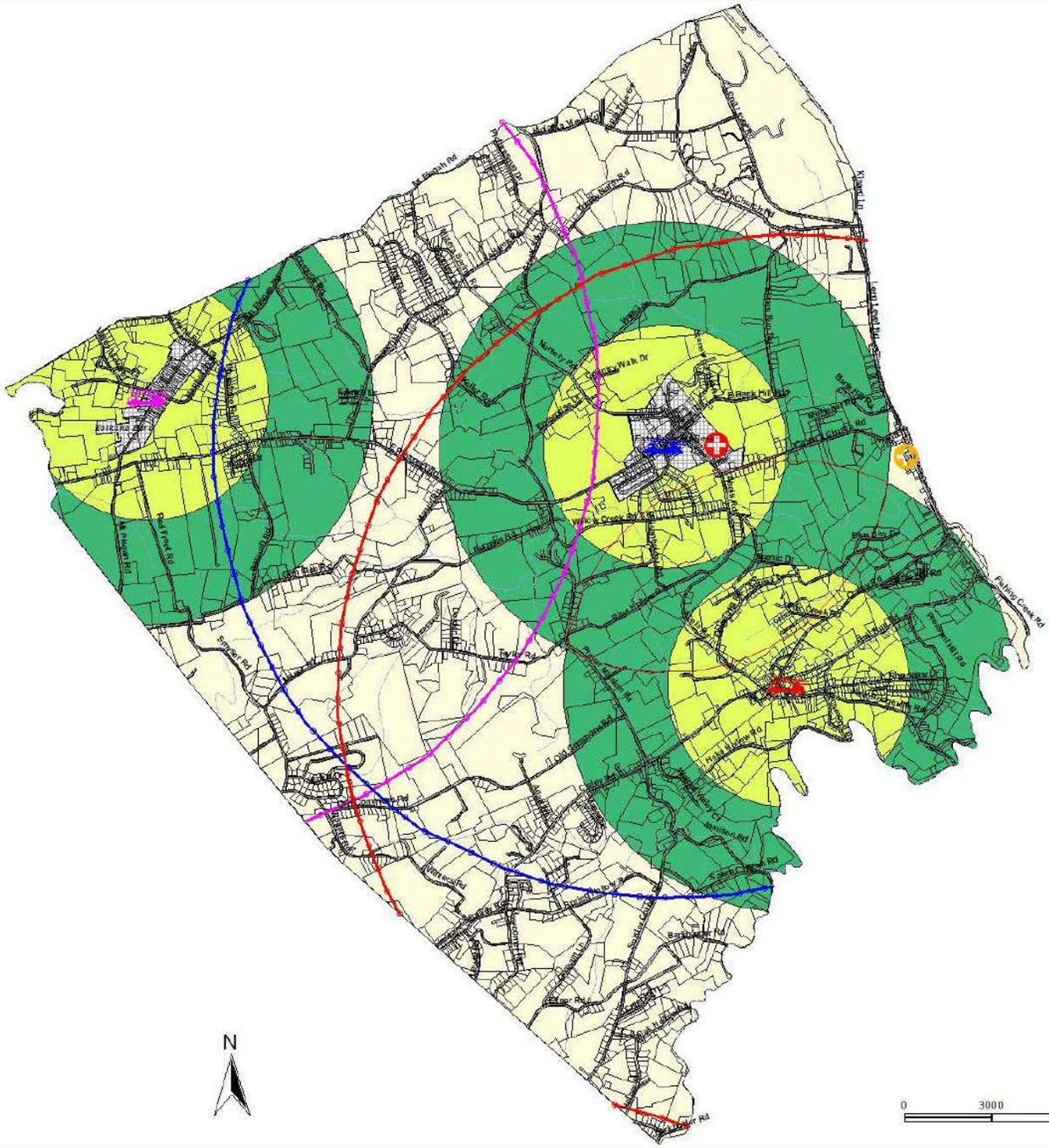
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit V

Fire Emergency and Support Facilities



Fire Companies

- Craley Fire Company
- East Prospect Borough Fire Company
- Yorkana Community Volunteer Fire Company

Emergency Services

- Canadochly Valley Ambulance Club
- Lake Clarke Rescue Service

Recommended Distance Zones for Fire Protection

- 3/4 Mile Radius for Commercial & Industrial Uses
- 1 1/2 Mile Radius For Residential Uses

3 Mile Radius for Scattered Development

- Yorkana Community Volunteer Fire CO
- East Prospect Borough Fire CO
- Craley Fire CO

- Streets & Roads
- Streams & Rivers
- Parcels

N

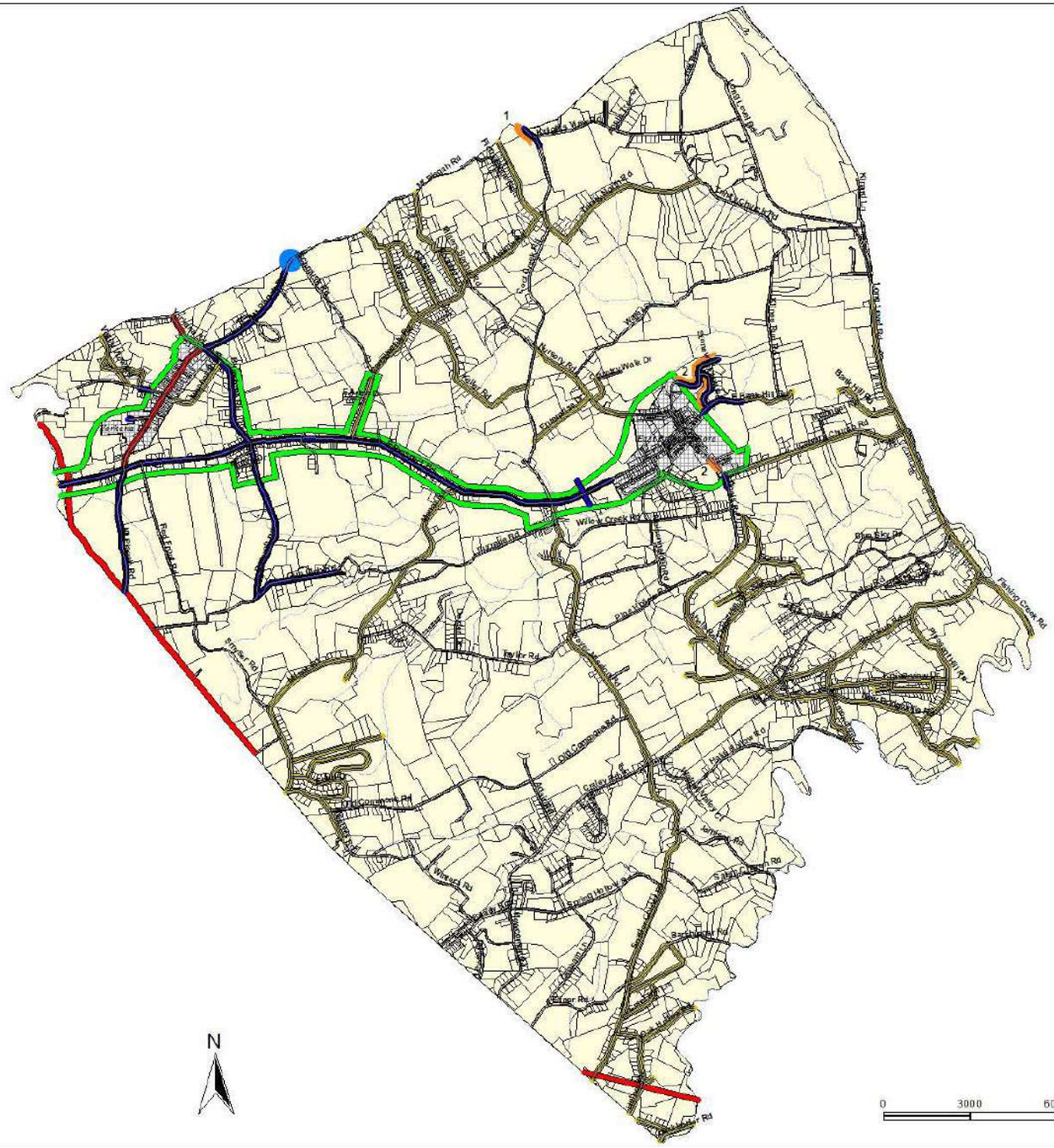
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit W
Public Utilities



- Water Tank
- York Water Company
- Columbia Gas Service
- GPU Electric Service
- Susquehanna Communications
- Other Public Utilties
  - 1 - Wrightsville Sewer and Water Authority
  - 2 - East Prospect Authority
- Streets & Roads
- Streams & Rivers
- Parcels

N

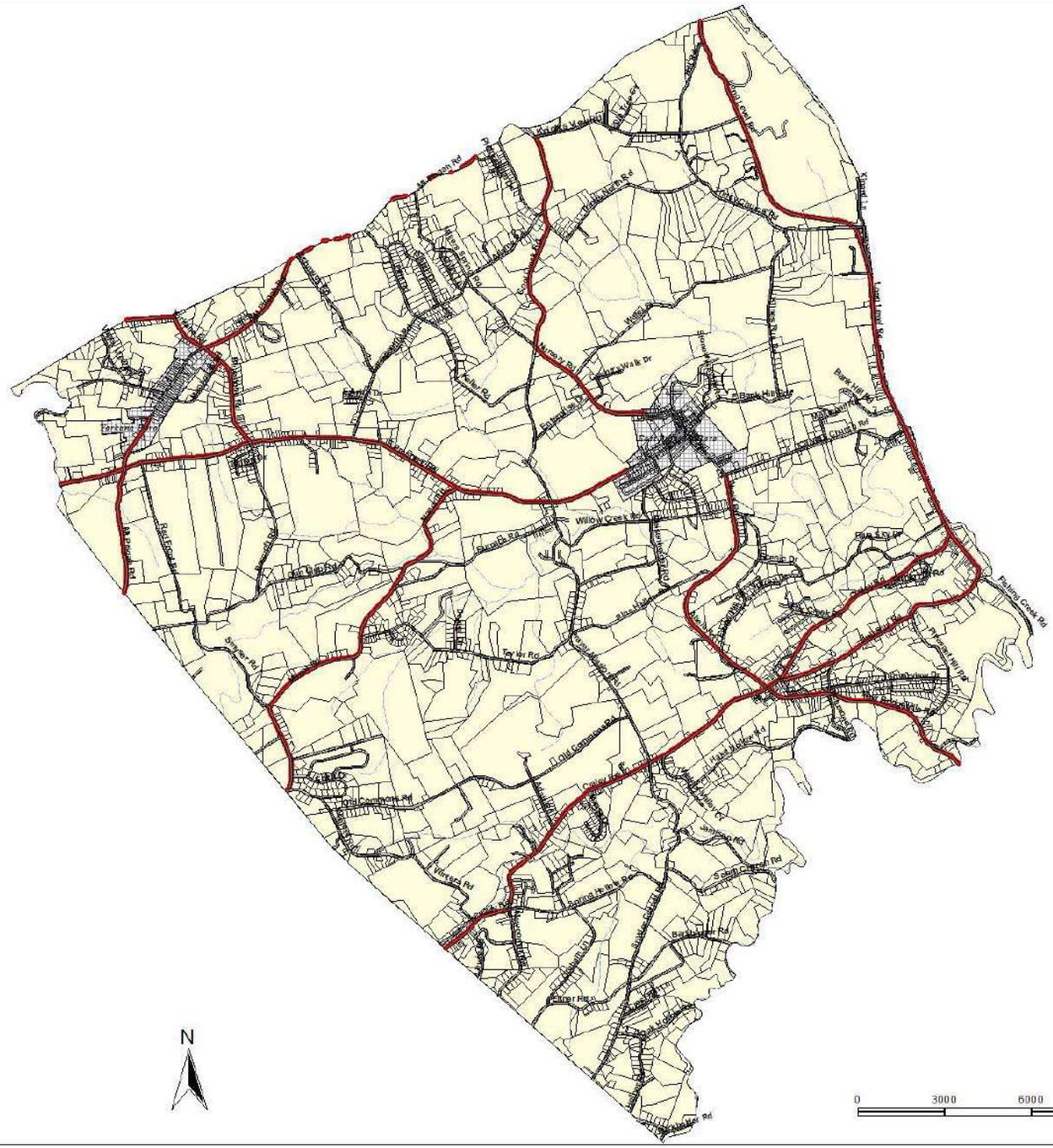
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit X
Roadway Jurisdiction



State Roads
Township or Private Roads

Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

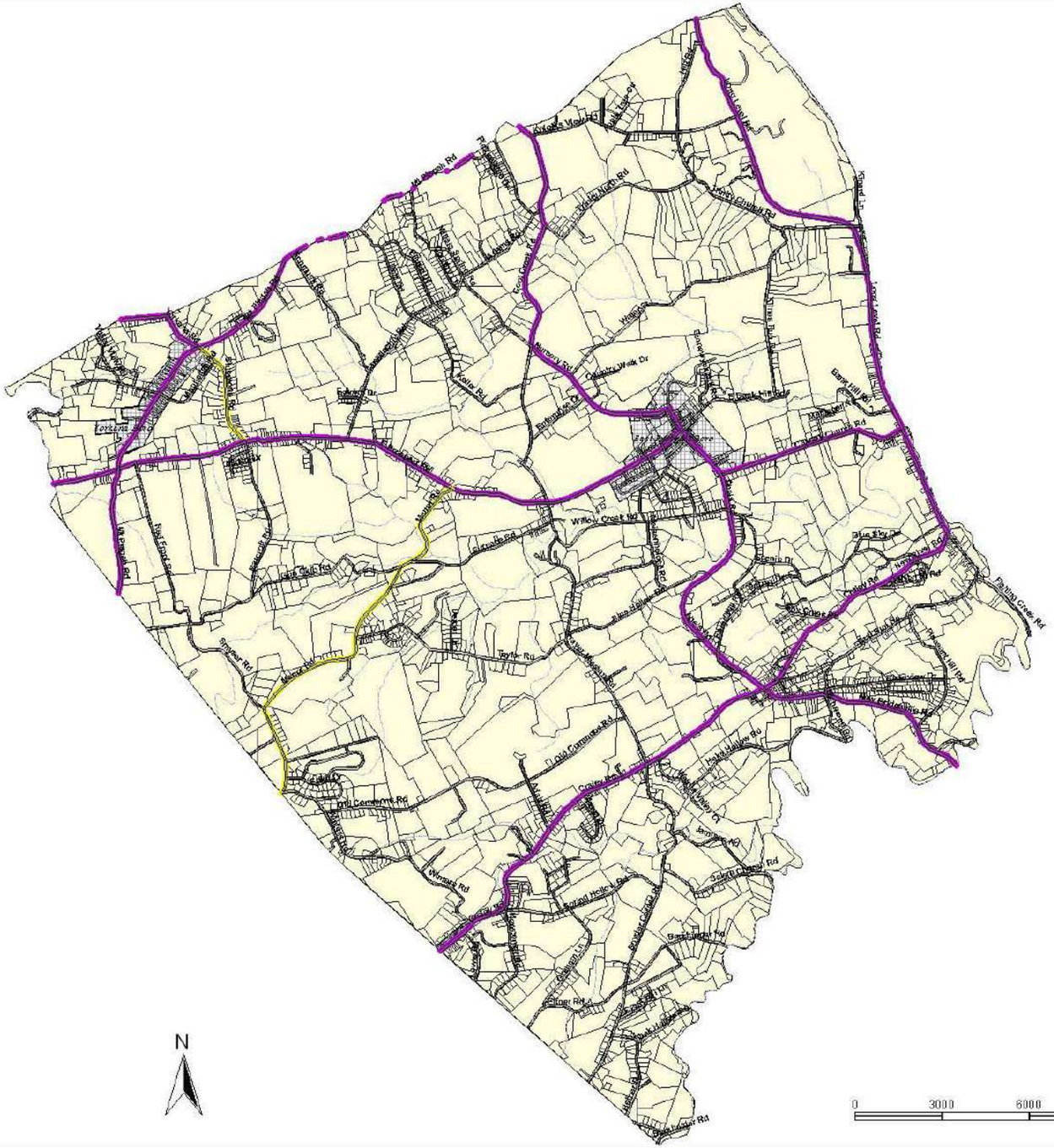
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit Y

Functional Roadway Classification



Functional Roadway Classification

- Rural Minor Collector
- Urban Collector or Rural Major Collector

All other roads are local roads

- Streets & Roads
- Streams & Rivers
- Parcels

N

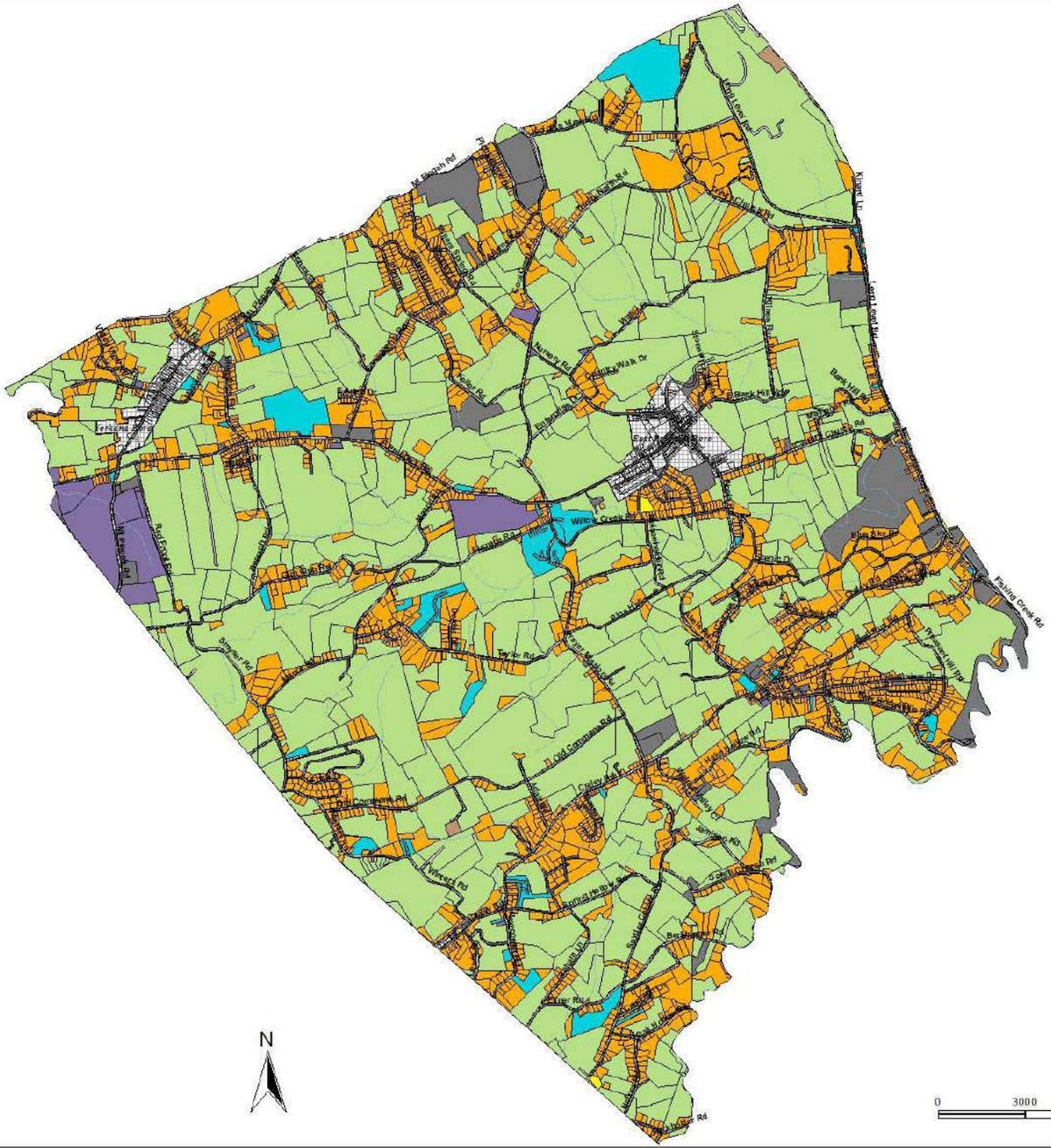
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission
Functional Roadway Classification Data - Penn DOT

Lower Windsor Township

York County, Pennsylvania

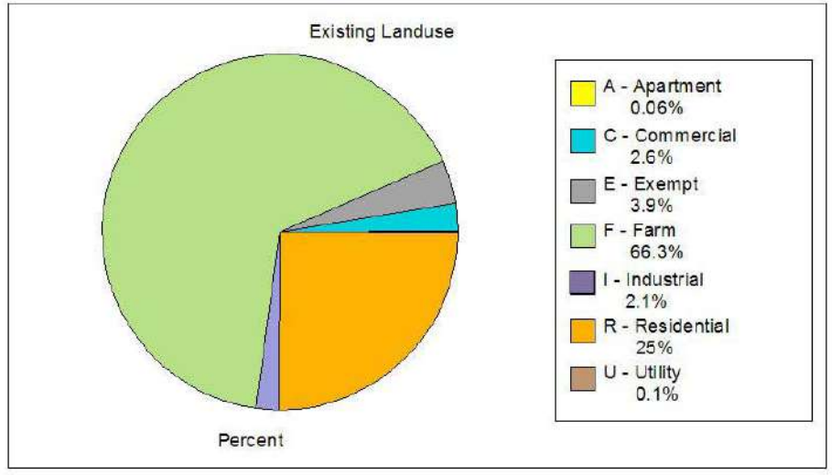
Exhibit Z
Existing Land Use



Landuse

- A - Apartment
- C - Commercial
- E - Exempt
- F - Farm
- I - Industrial
- R - Residential
- U - Utility

- Streets & Roads
- Streams & Rivers
- Parcels



N

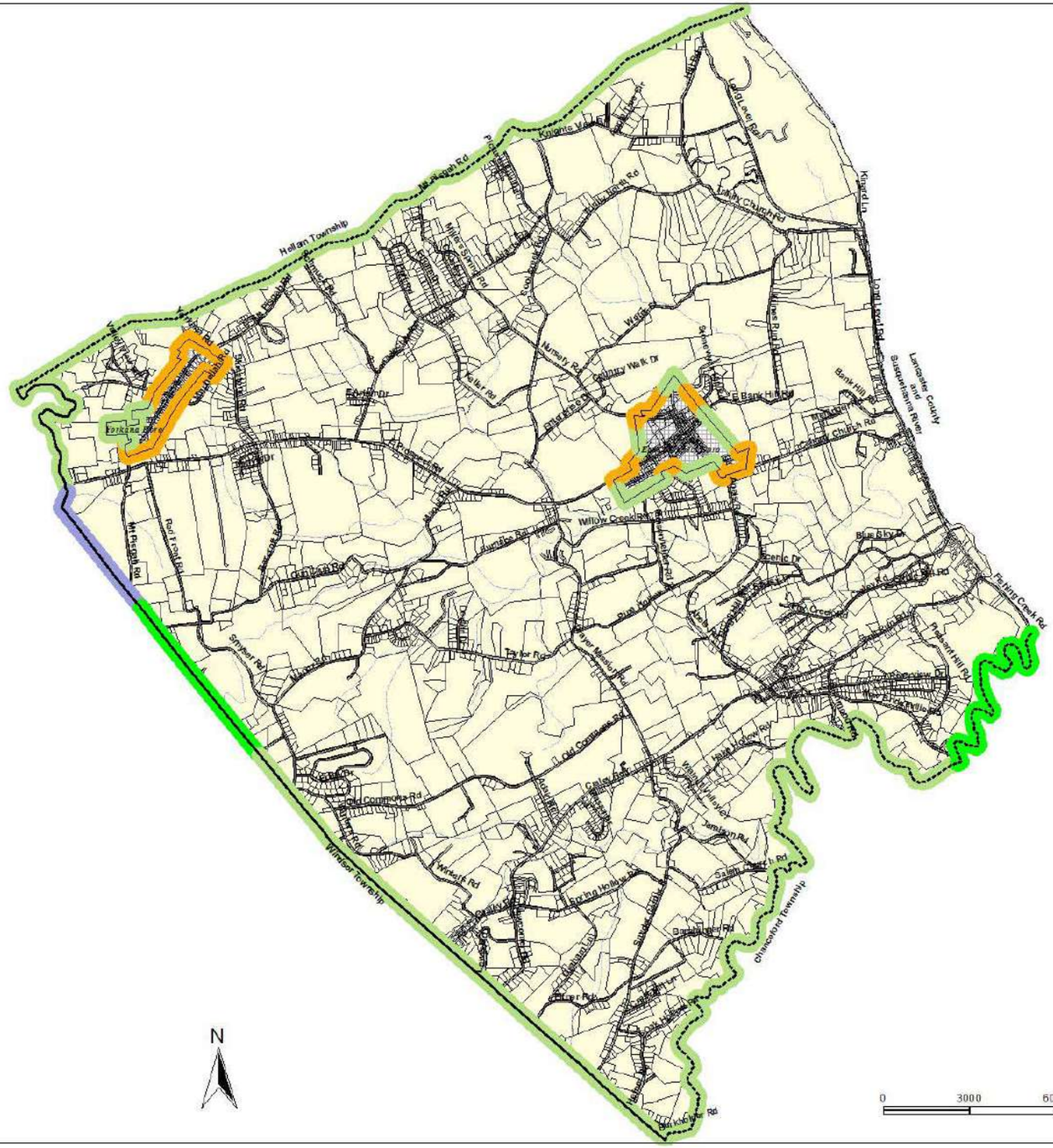
0 3000 6000 9000 12000 15000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit AA
Adjacent Planning



Adjacent Planning

- Agricultural
- Conservation
- Industrial
- Residential

- Streets & Roads
- Streams & Rivers
- Parcels

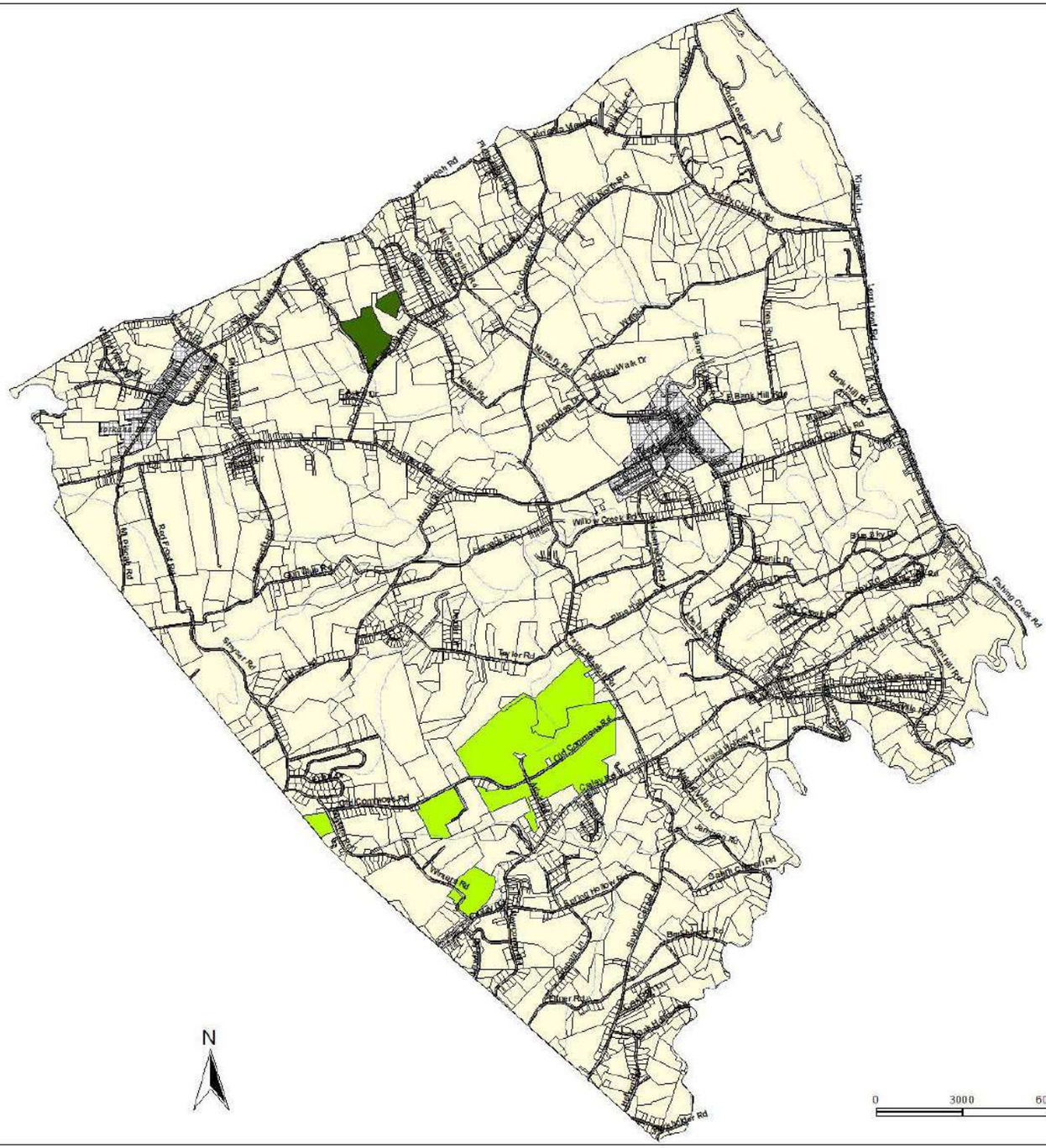
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit BB

Farm and Natural Lands Trust Easements and York County Agricultural Land Preservation Board Easements



Farm and Natural Lands Trust Easements

York County Agricultural Land Preservation Board Easements

Streets & Roads
Streams & Rivers

Parcels

N

0 3000 6000 9000 12000 15000 Feet

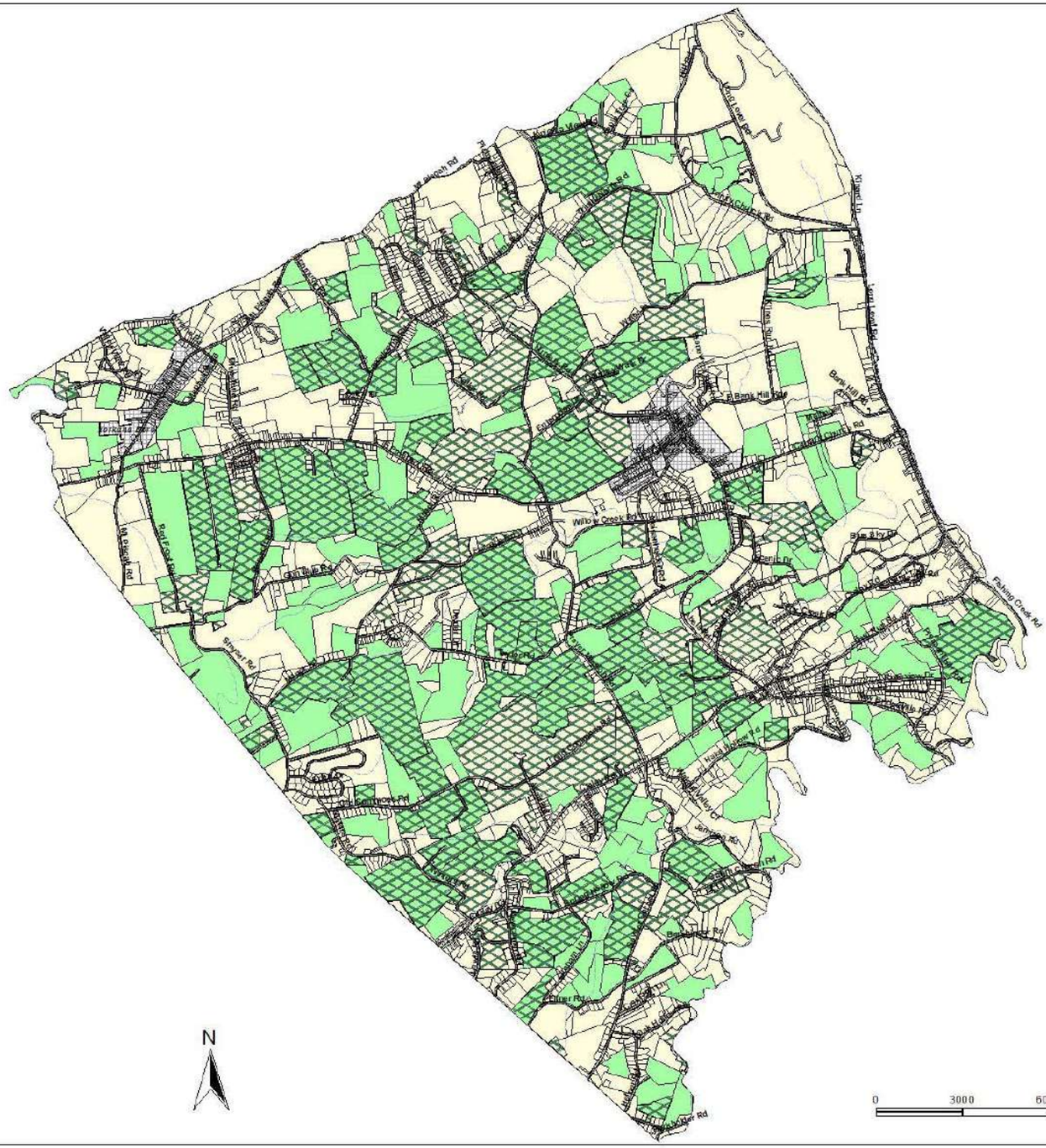
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission
Farm & Natural Lands Trust Data - Farm & Natural Lands Trust of York County
York County Agricultural Land Preservation Board Easements Data - York County Agricultural Land Preservation Board

Lower Windsor Township

York County, Pennsylvania

Exhibit CC

Agricultural Security Areas and Clean and Green Properties



Agricultural Security Areas

Clean and Green Properties

Streets & Roads
Streams & Rivers

Parcels

N

0 3000 6000 9000 12000 15000 Feet

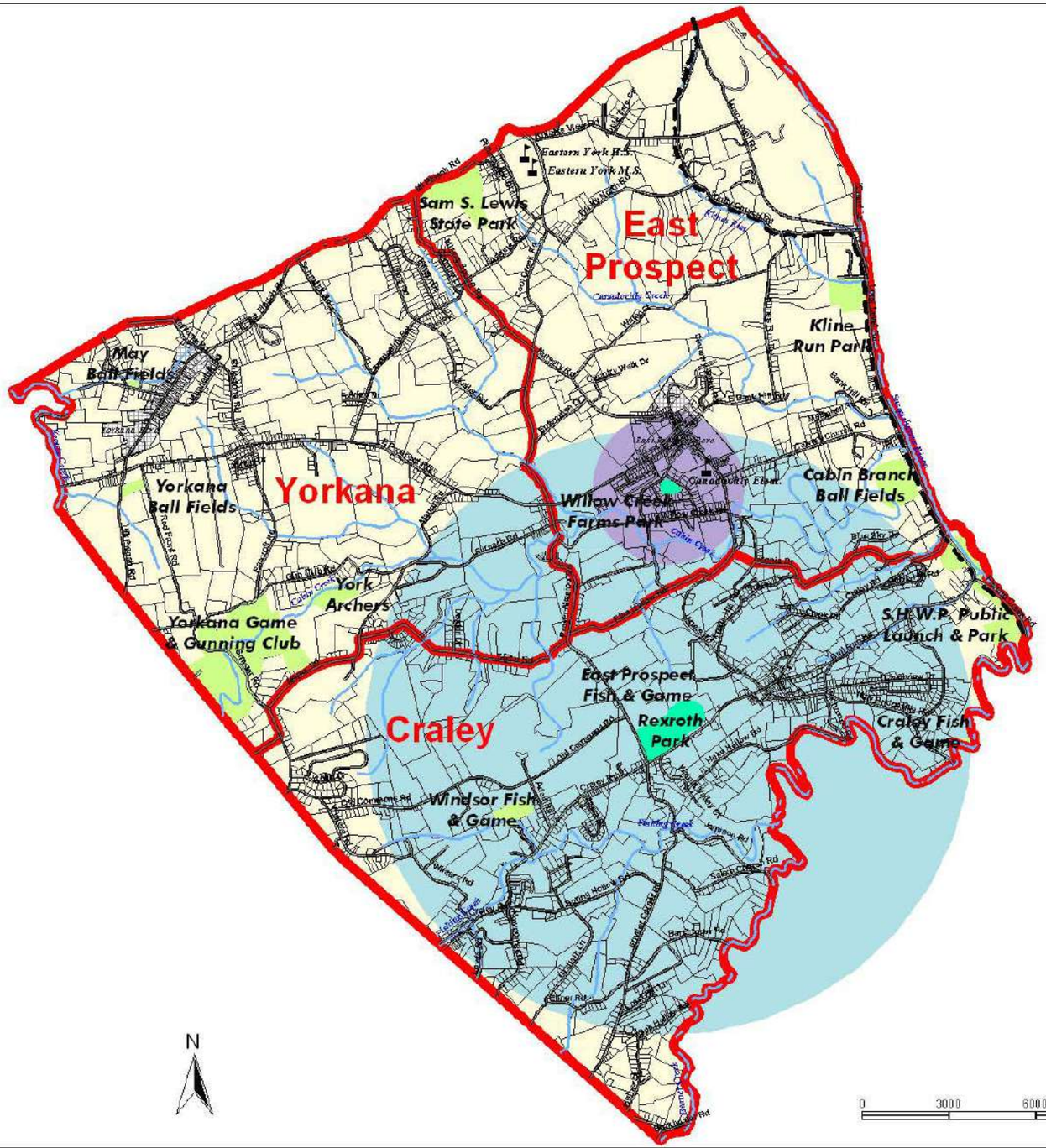
Mapping by: C. S. Davidson, Inc.
Base Map - York County Planning Commission
Clean & Green Data - York County Tax Assessment
Agricultural Security Areas Data - York County Land Preservation Board

Lower Windsor Township

York County, Pennsylvania

Exhibit DD

Parks & Recreation



- Municipal Parks
- Public/Quasi-Public Parks
- 1/2 Mile Service Radius
- 2 Mile Service Radius
- Schools in Lower Windsor Twp
- Planning Districts
- Mason Dixon Trail
- Streets & Roads
- Streams & Rivers
- Parcels

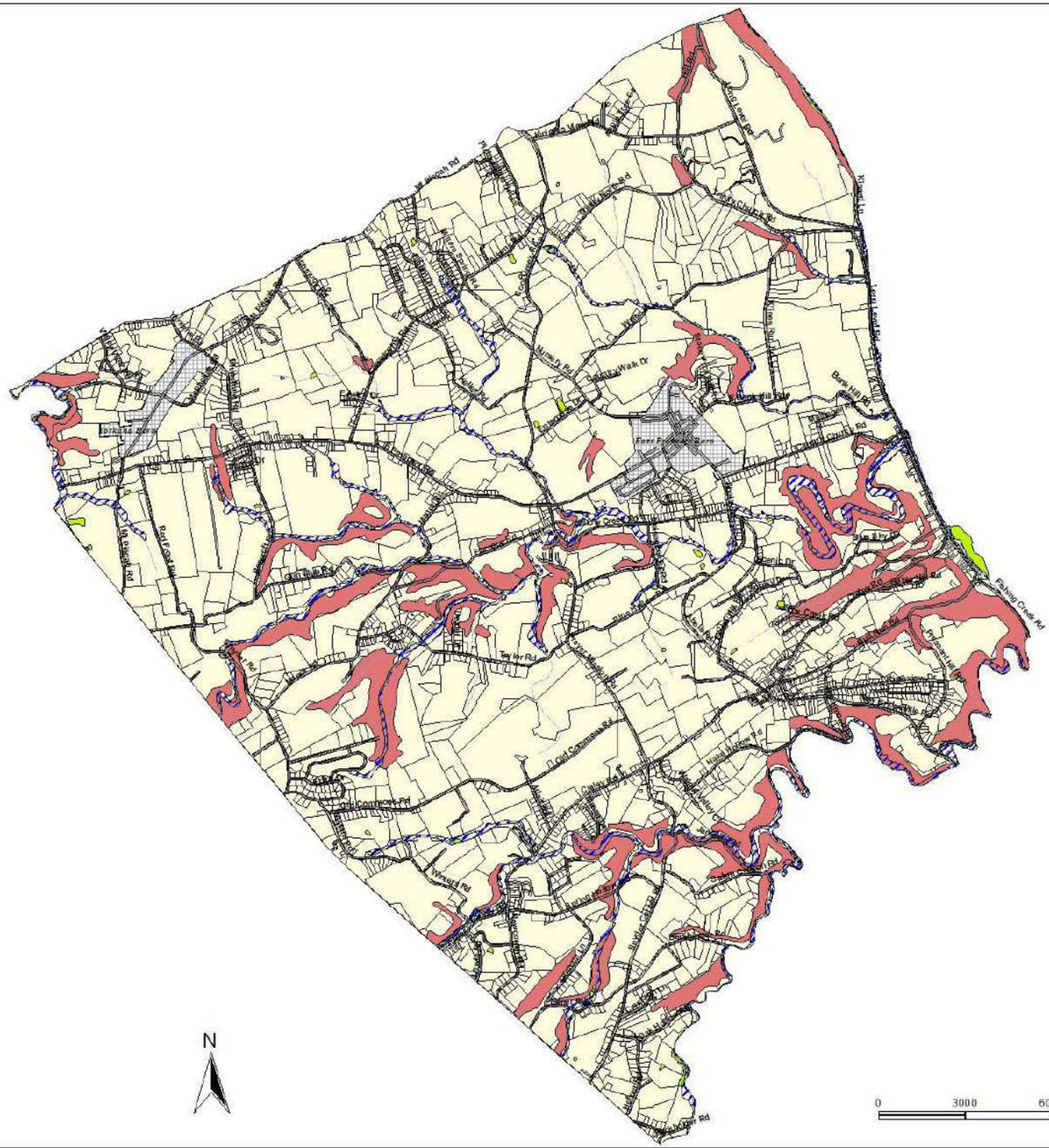
Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission
Parks & Greenway - YCPC

Lower Windsor Township

York County, Pennsylvania

Exhibit EE

Proposed Restricted Development Overlay



Wetlands
100-Year Floodplain
Slopes 25% and Greater

Streets & Roads
Streams & Rivers
Parcels

N

0 3000 6000 9000 12000 15000 Feet

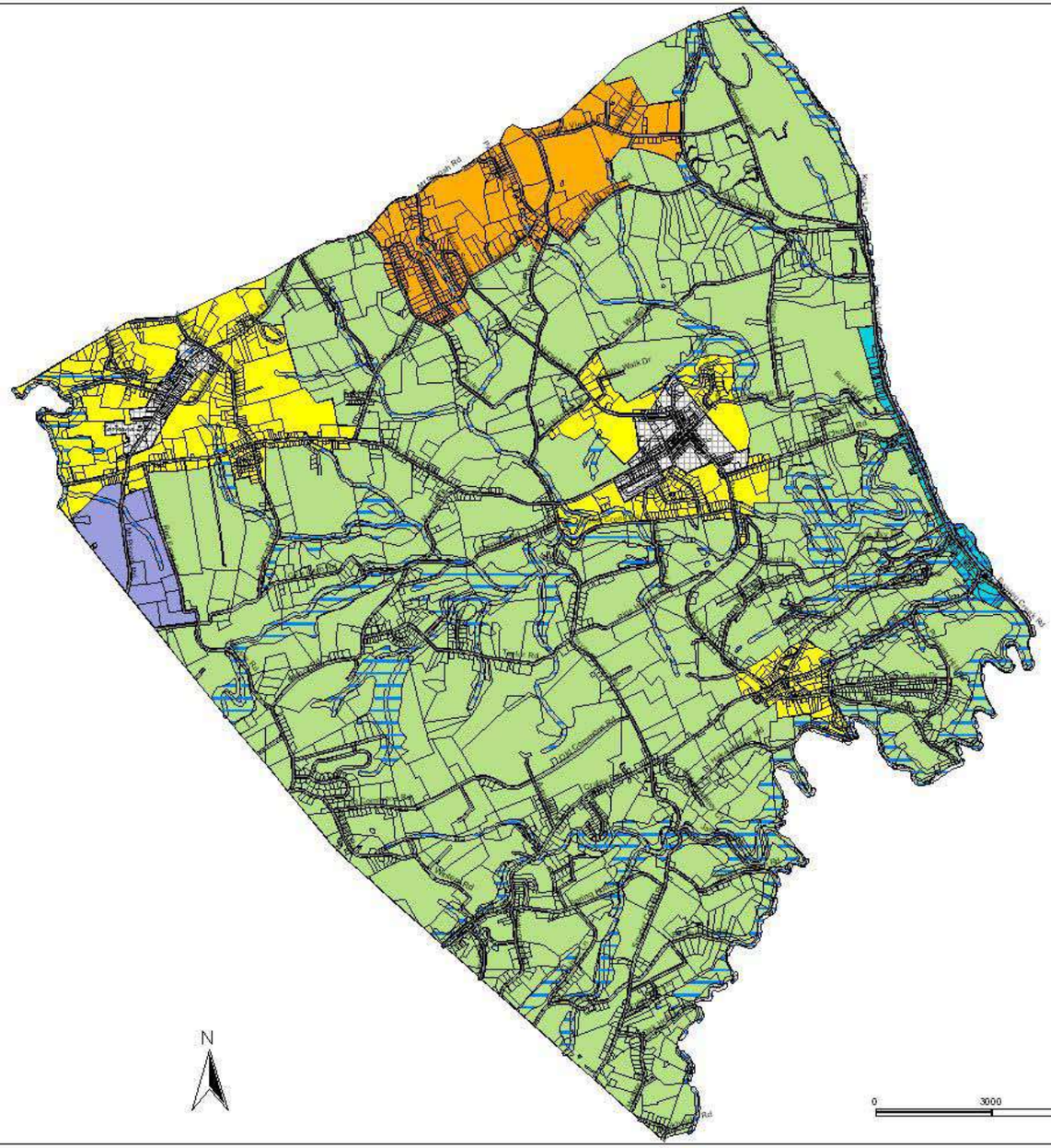
Mapping by C. S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township

York County, Pennsylvania

Exhibit FF

Proposed Future Land Use



Land Use

- Industrial
- Residential
- Rural/Agriculture
- Village
- Waterfront Recreation
- Conservation

- Streets & Roads
- Streams & Rivers
- Parcels

N

0 3000 6000 9000 Feet

Mapping by C.S. Davidson, Inc.
Base Map - York County Planning Commission

Lower Windsor Township, PA
Comprehensive Plan

Plan Document

Prepared by

C.S. Davidson, Inc.
Excellence in Civil Engineering
38 N. Duke St.
York, PA 17401
717/846-4805

In association with

YSM
27 E. Philadelphia St.
York, PA 17401
717/812-9959

and

Platts/Simons
Community Planning
4621 42nd St. NW
Washington, DC 20016
202/243-1092