

UNIONVILLE AREA REGIONAL COMPREHENSIVE PLAN

JANUARY 2011



East Marlborough Township
West Marlborough Township
Newlin Township
CHESTER COUNTY, PA

GlackinThomasPanzak, Inc.

ACKNOWLEDGEMENTS

EAST MARLBOROUGH TOWNSHIP

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*This plan was funded in part through a grant from the **Vision Partnership Program** sponsored by the Chester County Board of Commissioners. The Plan has been prepared in conjunction with the principles of the County's policy plan entitled **Landscapes** as a means of achieving greater consistency between local and county planning programs.*

**EAST MARLBOROUGH TOWNSHIP
BOARD OF SUPERVISORS**

RESOLUTION NO. 2011-13

**ADOPTION OF THE UNIONVILLE AREA REGIONAL COMPREHENSIVE PLAN
(A MULTI-MUNICIPAL PLAN) AS THE OFFICIAL COMPREHENSIVE PLAN FOR
EAST MARLBOROUGH TOWNSHIP**

WHEREAS, East Marlborough Township is a municipality organized and existing under the Second Class Township Code of the Commonwealth of Pennsylvania and is located in Chester County, contiguous to Newlin Township and West Marlborough Township; and

WHEREAS, pursuant to Article III of the Pennsylvania Municipalities Planning Code, East Marlborough Township, Newlin Township and West Marlborough Township have jointly prepared the Unionville Area Regional Comprehensive Plan of 2011, as prepared by the Unionville Area Regional Planning Task Force, with assistance from the Chester County Planning Commission, Glackin Thomas Panzak, Inc. as the planning consultant, and Traffic Planning & Design, Inc. as the transportation consultant; and

WHEREAS, the Regional Planning Task Force, together with the Boards of Supervisors and Planning Commissions of each of the three participating municipalities have complied with the procedural requirements as set forth in §302 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10302, including:

a. the Planning Commission for each Township has held at least one public meeting prior to forwarding the proposed Comprehensive Plan to each of the respective Boards of Supervisors;

b. the proposed multi-municipal Comprehensive Plan has been forwarded to the Chester County Planning Commission, to contiguous municipalities, and to the school districts contiguous to and serving within the three municipalities;

c. the Boards of Supervisors of each of the three Townships have held a joint and several public hearing, pursuant to public notice, as required by §302(b) of the Municipalities Planning Code, and have considered the comments of the Chester County Planning Commission, and other municipal agencies to which the draft Comprehensive Plan has been forwarded;

d. pursuant to the public hearing, the draft Unionville Area Regional Comprehensive Plan has not been substantially revised and, hence, all of the procedural requirements for adoption of the Comprehensive Plan have been met; and

WHEREAS, the Board of Supervisors of East Marlborough Township finds that the proposed Unionville Area Regional Comprehensive Plan complies with the requirements for adoption by the Supervisors of East Marlborough Township, having comprehensively

set forth all of the text and graphic materials as required by §301 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10301.

NOW, THEREFORE, it is hereby RESOLVED by the East Marlborough Township Board of Supervisors that the Unionville Area Regional Comprehensive Plan of January, 2011 (last revised 4-6-11) shall be, and the same is hereby, adopted as the Official Comprehensive Plan for East Marlborough Township, pursuant to Article III of the Pennsylvania Municipalities Planning Code, thereby replacing and superseding the Township's Comprehensive Plan of 1994;

AND IT IS HEREBY FURTHER RESOLVED that the Comprehensive Plan includes all of the textual material as set forth in the fourteen chapters, the Table of Contents for which is appended hereto as Exhibit "A" and further includes all of the maps and charts as listed in the list of same appended hereto as Exhibit "B;"

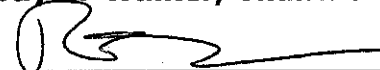
AND IT IS HEREBY FURTHER RESOLVED that a copy of this Resolution shall be recorded on the adopted Plan by inclusion of a true and correct copy of this Resolution as the first facing page of the Comprehensive Plan.

This Resolution is hereby adopted by the East Marlborough Township Board of Supervisors this 4th day of April, 2011.

**EAST MARLBOROUGH TOWNSHIP
BOARD OF SUPERVISORS**



Cuyler Walker, Chairman



Richard E. Hicks, Vice Chairman



Robert F. Weer



Eddie G. Caudill

Attest:



Secretary



Richard P.S. Hannum, Jr.

**NEWLIN TOWNSHIP
BOARD OF SUPERVISORS**

RESOLUTION NO. 2011-07

**ADOPTION OF THE UNIONVILLE AREA REGIONAL COMPREHENSIVE PLAN
(A MULTI-MUNICIPAL PLAN) AS THE OFFICIAL COMPREHENSIVE PLAN FOR
NEWLIN TOWNSHIP**

WHEREAS, Newlin Township is a municipality organized and existing under the Second Class Township Code of the Commonwealth of Pennsylvania and is located in Chester County, contiguous to East Marlborough Township and West Marlborough Township; and

WHEREAS, pursuant to Article III of the Pennsylvania Municipalities Planning Code, East Marlborough Township, Newlin Township and West Marlborough Township have jointly prepared the Unionville Area Regional Comprehensive Plan of 2011, as prepared by the Unionville Area Regional Planning Task Force, with assistance from the Chester County Planning Commission, Glackin Thomas Panzak, Inc. as the planning consultant, and Traffic Planning & Design, Inc. as the transportation consultant; and

WHEREAS, the Regional Planning Task Force, together with the Boards of Supervisors and Planning Commissions of each of the three participating municipalities have complied with the procedural requirements as set forth in §302 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10302, including:

a. the Planning Commission for each Township has held at least one public meeting prior to forwarding the proposed Comprehensive Plan to each of the respective Boards of Supervisors;

b. the proposed multi-municipal Comprehensive Plan has been forwarded to the Chester County Planning Commission, to contiguous municipalities, and to the school districts contiguous to and serving within the three municipalities;

c. the Boards of Supervisors of each of the three Townships have held a joint and several public hearing, pursuant to public notice, as required by §302(b) of the Municipalities Planning Code, and have considered the comments of the Chester County Planning Commission, and other municipal agencies to which the draft Comprehensive Plan has been forwarded;

d. pursuant to the public hearing, the draft Unionville Area Regional Comprehensive Plan has not been substantially revised and, hence, all of the procedural requirements for adoption of the Comprehensive Plan have been met; and

WHEREAS, the Board of Supervisors of Newlin Township finds that the proposed Unionville Area Regional Comprehensive Plan complies with the requirements for adoption by the Supervisors of Newlin Township, having comprehensively set forth all of the text and graphic materials as required by §301 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10301.

NOW, THEREFORE, it is hereby RESOLVED by the Newlin Township Board of Supervisors that the Unionville Area Regional Comprehensive Plan of January, 2011 (last revised 4-6-11) shall be, and the same is hereby, adopted as the Official Comprehensive Plan for Newlin Township, pursuant to Article III of the Pennsylvania Municipalities Planning Code, thereby replacing and superseding the Township's Comprehensive Plan of 1994;

AND IT IS HEREBY FURTHER RESOLVED that the Comprehensive Plan includes all of the textual material as set forth in the fourteen chapters, the Table of Context for which is appended hereto as Exhibit "A" and further includes all of the maps and charts as listed in the list of same appended hereto as Exhibit "B;"

AND IT IS HEREBY FURTHER RESOLVED that a copy of this Resolution shall be recorded on the adopted Plan by inclusion of a true and correct copy of this Resolution as the first facing page of the Comprehensive Plan.

This Resolution is hereby adopted by the Newlin Township Board of Supervisors this 6th day of April, 2011.

**NEWLIN TOWNSHIP
BOARD OF SUPERVISORS**


Janie H. Baird, Chairman


Robert R. Pearson, Vice Chairman


William Kelsall

Attest:


Gail A. Abel, Secretary

**WEST MARLBOROUGH TOWNSHIP
BOARD OF SUPERVISORS**

RESOLUTION NO. 3-2011

**ADOPTION OF THE UNIONVILLE AREA REGIONAL COMPREHENSIVE PLAN
(A MULTI-MUNICIPAL PLAN) AS A SUPPLEMENT TO
THE OFFICIAL COMPREHENSIVE PLAN FOR
WEST MARLBOROUGH TOWNSHIP**

WHEREAS, West Marlborough Township is a municipality organized and existing under the Second Class Township Code of the Commonwealth of Pennsylvania and is located in Chester County, contiguous to Newlin Township and East Marlborough Township; and

WHEREAS, pursuant to Article III of the Pennsylvania Municipalities Planning Code, West Marlborough Township, Newlin Township and East Marlborough Township have jointly prepared the Unionville Area Regional Comprehensive Plan of 2011, as prepared by the Unionville Area Regional Planning Task Force, with assistance from the Chester County Planning Commission, Glackin Thomas Panzak, Inc. as the planning consultant, and Traffic Planning & Design, Inc. as the transportation consultant; and

WHEREAS, the Regional Planning Task Force, together with the Boards of Supervisors and Planning Commissions of each of the three participating municipalities have complied with the procedural requirements as set forth in §302 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10302, including:

a. the Planning Commission for each Township has held at least one public meeting prior to forwarding the proposed Comprehensive Plan to each of the respective Boards of Supervisors;

b. the proposed multi-municipal Comprehensive Plan has been forwarded to the Chester County Planning Commission, to contiguous municipalities, and to the school districts contiguous to and serving within the three municipalities;

c. the Boards of Supervisors of each of the three Townships have held a joint and several public hearing, pursuant to public notice, as required by §302(b) of the Municipalities Planning Code, and have considered the comments of the Chester County Planning Commission, and other municipal agencies to which the draft Comprehensive Plan has been forwarded;

d. pursuant to the public hearing, the draft Unionville Area Regional Comprehensive Plan has not been substantially revised and, hence, all of the procedural requirements for adoption of the Comprehensive Plan have been met; and

WHEREAS, the Board of Supervisors of West Marlborough Township finds that the proposed Unionville Area Regional Comprehensive Plan ("Regional Comprehensive Plan") complies with the requirements for adoption by the Supervisors of West Marlborough Township, having comprehensively set forth all of the text and graphic

materials as required by §301 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10301; and

WHEREAS, on January 24, 2006, the West Marlborough Township Board of Supervisors enacted the current Official Comprehensive Plan for West Marlborough Township ("Township Comprehensive Plan"), which has been kept current through subsequent amendments and remains an important guide for land use planning within West Marlborough Township; and

WHEREAS, the West Marlborough Township Board of Supervisors desires to retain the current Township Comprehensive Plan while adopting the Unionville Area Regional Comprehensive Plan as a supplement thereto; and

WHEREAS, the West Marlborough Township Board of Supervisors is not aware of any conflicts between the Township Comprehensive Plan and the Regional Comprehensive Plan, but to the extent any conflict or ambiguity exists between the two plans, the Board of Supervisors has decided that the Regional Comprehensive Plan will govern.

NOW, THEREFORE, it is hereby RESOLVED by the West Marlborough Township Board of Supervisors that the Unionville Area Regional Comprehensive Plan of January, 2011 (last revised 4-6-11) shall be, and the same is hereby, adopted as a supplement to the West Marlborough Township Comprehensive Plan;

AND IT IS HEREBY FURTHER RESOLVED that the Regional Comprehensive Plan includes all of the textual material as set forth in the fourteen chapters, the Table of Contents for which is appended hereto as Exhibit "A" and further includes all of the maps and charts as listed in the list of same appended hereto as Exhibit "B;"

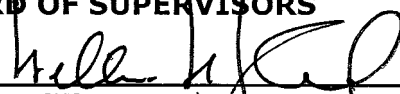
AND IT IS HEREBY FURTHER RESOLVED that the Township Comprehensive Plan as supplemented by the Regional Comprehensive Plan together shall be the Official Comprehensive Plan for West Marlborough Township;

AND IT IS HEREBY FURTHER RESOLVED that should there be a conflict between the Township Comprehensive Plan and the Regional Comprehensive Plan or an ambiguity that cannot be reconciled between the two plans, that the Regional Comprehensive Plan shall govern and supersede any contrary provision in the Township Comprehensive Plan;

AND IT IS HEREBY FURTHER RESOLVED that a copy of this Resolution shall be recorded on the adopted Plan by inclusion of a true and correct copy of this Resolution as the first facing page of the Regional Comprehensive Plan and the first facing page of the Township Comprehensive Plan.

This Resolution is hereby adopted by the West Marlborough Township Board of Supervisors this 6th day of April, 2011.

**WEST MARLBOROUGH TOWNSHIP
BOARD OF SUPERVISORS**



William W. Wylie, Chairman



Michael M. Ledyard, Vice Chairman

Hugh J. Lofting

Attest:

Secretary

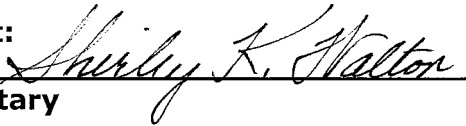


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Appendix A: Public Survey Results

Appendix B: Historic Resources Inventory

Chapter 1 - Introduction

Purpose

The Chester County, Pennsylvania Townships of East Marlborough, West Marlborough, and Newlin are engaging in a joint planning effort to coordinate the preservation of agricultural uses and businesses, protect open space, and manage growth and development in the region. By establishing community goals and objectives and conducting technical planning analyses on a shared basis, the three contiguous townships could begin to establish zoning ordinances and other management tools to effectuate policies that achieve regional planning priorities. This continues a trend within Pennsylvania: in 2005, there were 760 municipalities in the Commonwealth that were part of 207 multi-municipal comprehensive plans. The three Townships are working closely with Chester County to ensure that this document and resulting action items are aligned with the overarching intent of the County's regional comprehensive plan, entitled *Landscapes2*.

Municipalities Planning Code Requirements

The Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No.247 (MPC) as reenacted and amended sets forth the parameters for the preparation and enactment of Comprehensive Plans. Article III of the MPC lists the maps, charts and textual materials that, at a minimum, must be included in the plan. This includes the following elements:

- A statement of objectives
- A plan for land use
- A plan to meet housing needs
- A plan for the movement of people and goods
- A plan for community facilities and utilities
- A statement of the interrelationship among plan components
- A discussion of short and long range plan implementation strategies
- A statement indicating that existing and proposed development is compatible with that of neighboring municipalities
- A plan for the protection of natural and historic resources

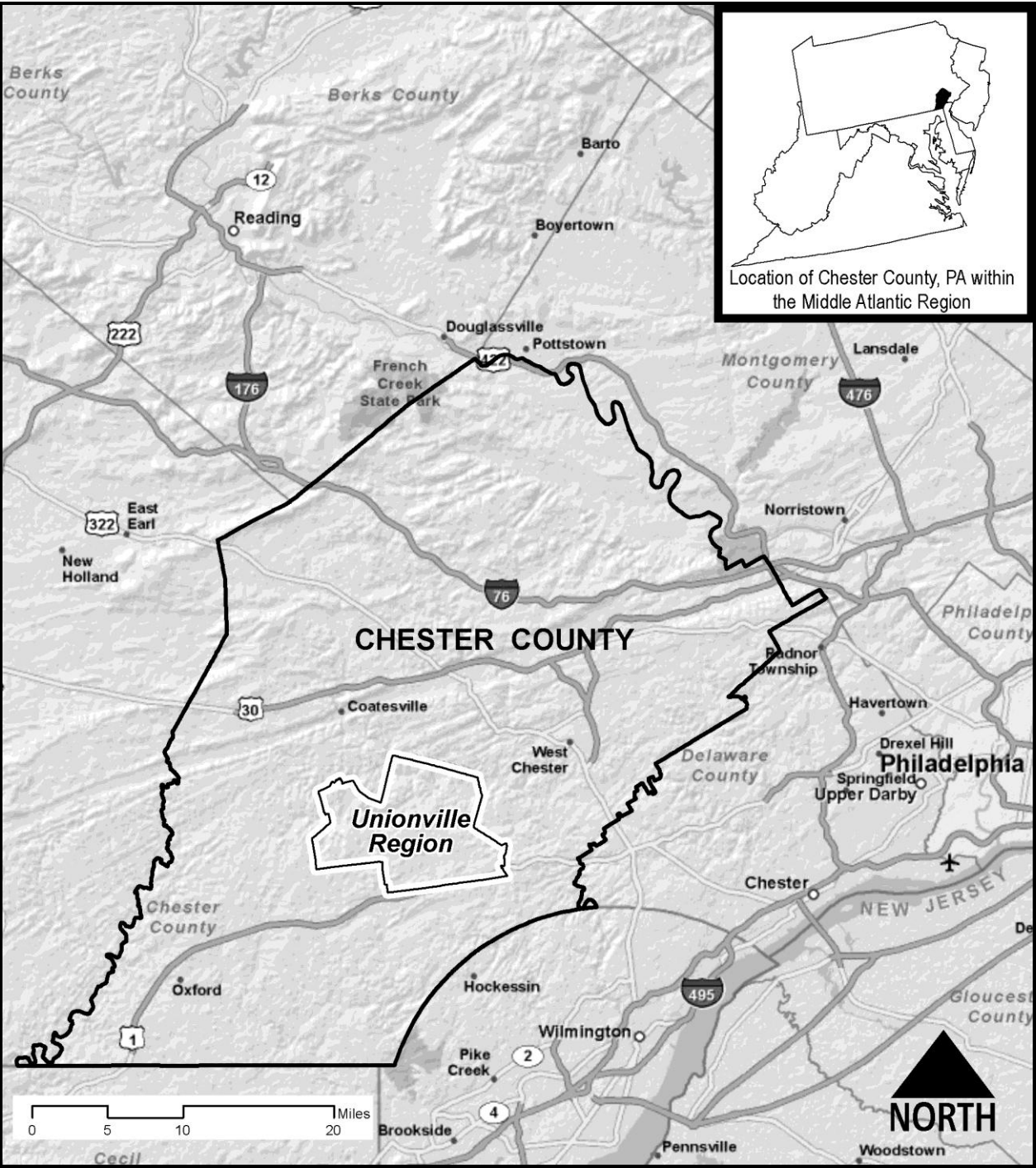
In addition, the Act allows, but does not mandate, discussions of future growth areas so local infrastructure can be planned for accommodating such growth, and for energy conservation. The MPC also states that comprehensive plans should be consulted for such actions as municipal road vacations, widenings, or openings; removal or sale of public structures; adoption of an Official Map; or the construction, extension or abandonment of water, sewer or sewage treatment facilities. Finally, the Unionville-Chadds Ford School District will be required to submit for recommendations by the municipality on the location, demolition, removal, sale or lease of any school structures or land.

The Unionville Regional Plan fulfills and in many cases exceeds these requirements and sets forth a path that together, the three municipalities can follow in achieving their joint goals and objectives as set forth in this Plan.

Regional Setting

The Unionville Region is located in south-central Chester County, approximately 25 miles west of Philadelphia, five miles west of West Chester Borough, and adjacent to the Borough of Kennett Square. The study area comprises the Townships of East Marlborough, West Marlborough, and Newlin, encompassing approximately 45 square miles of area. Figure 1-1 on the next page shows the regional context of the Unionville Region.

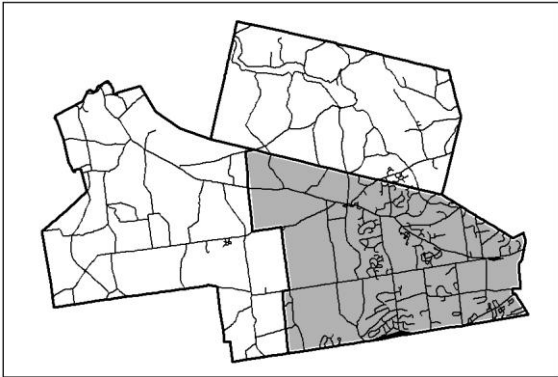
Figure 1-1
Regional Context Map



Municipal Overview

Each individual township in the planning area has specific physical, geographic, and land use characteristics. Planning on a regional basis can leverage the unique attributes of each for the benefit of all three municipalities in the planning area.

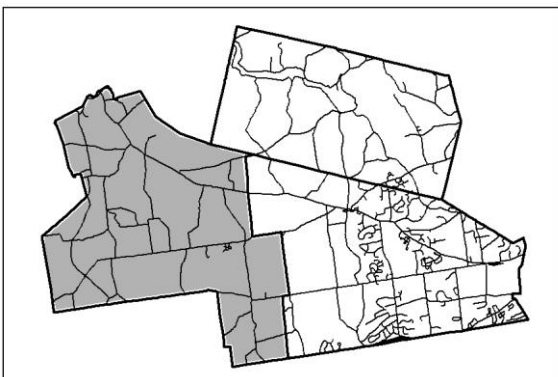
East Marlborough Township



East Marlborough Township is located in the southeastern portion of the study area, and comprises approximately 15.5 square miles. With its close proximity to major roadways, East Marlborough is the most developed of the three Townships in the study area, containing commercial, retail, and residential uses at varying densities, mostly situated along the main transportation routes. There are also significant

areas of agricultural uses exhibiting lower development density – these areas are located mostly in the western and northern portions of the Township. The Village of Unionville is a focal community feature of the Township, and is centrally located in the three-township study area.

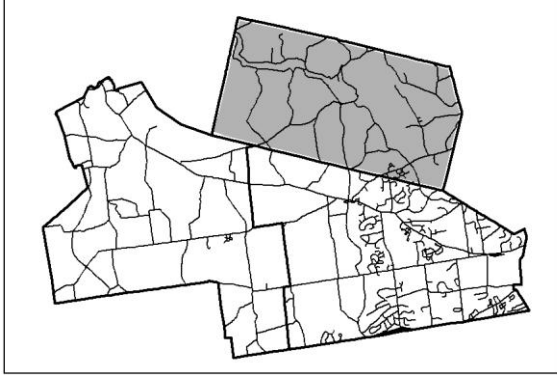
West Marlborough Township



West Marlborough Township comprises approximately 17 square miles in the western portion of the study area. The Township has retained its mostly rural character with farm uses characterized by the raising/breeding of horses and cattle, and the cultivation of crops and mushrooms in several large-scale operations. Significant portions of West Marlborough Township are under conservation easement, which has

prevented the development of much of the Township. The villages of Doe Run, Springdell, and London Grove are prominent community features in the Township.

Newlin Township



Newlin Township forms the northern portion of the study area, and comprises approximately 12 square miles. It is predominantly rural and characterized by undulating terrain and stream valleys. Newlin's zoning uses a performance-based system for managing the density and intensity of growth. The presence of preservation areas, significant ongoing agricultural uses, and development constraints consisting of steep slopes, wet

soils, floodplain areas, and sensitive environmental features have limited residential development at densities much higher than one unit to the acre in many portions of Newlin Township. The village of Embreeville is a prominent community feature in Newlin Township.

Chapter 2 – Goals & Objectives

Goals and objectives for this plan were established by the ad hoc Regional Plan Task force, and are based upon discussions among the group and with residents, business owners, and other stakeholders in the planning process. An online survey was launched in May, 2009 that was used to elicit opinions and feedback from the public. A public meeting was held in June, 2009 to provide information to the public and to encourage dialogue about the regional planning process. A second public meeting occurred on April 15, 2010 to update the residents of the community on the progress of the plan and to solicit additional comments. The general consensus among elected Township officials is that agricultural and open space preservation are very important priorities for the Region. The majority of residents who voiced their opinions, both in the survey and at the public meeting in June 2009 agreed that these preservation principles should be dominant factors in any plan that guides future land use policies for the Region.

The major goals are presented here by functional planning category. The results of the public survey are presented in the Appendix A of this report.

Natural and Environmental Resources

Goal 1: Preserve and protect the natural resources of the region including water, land, biotic, habitat, and scenic resources.

Objectives

- 1-A. Provide water resource protection measures to maximize flood control, groundwater recharge and infiltration, and to minimize the discharge of contaminants into the water resources of the region.
- 1-B. Develop suitable regulations to protect stream valleys, steep slopes, floodplains, woodlands, riparian corridors, and wetlands.
- 1-C. Develop suitable ordinances and regulations and promote the placement of agricultural and conservation easements to protect prime farmland soils (Class I, II, and III soils).
- 1-D. Consider the impacts of various land use actions as they affect wildlife habitat preservation.
- 1-E. Recognize trees as one of the most important elements in creating a desirable community. Trees absorb carbon dioxide, filter the air, and soften the landscape.

- 1-F. Protect scenic resources and viewsheds in concert with open space and agricultural preservation.
- 1-G. Encourage the use of native plants to provide wildlife habitat and food, aid in regeneration, ensure bio-diversity.
- 1-H. Ensure that municipal policies and regulations such as zoning and land development controls are targeted to protect important natural and environmental resources.

Cultural & Historic Resources

Goal 2: Protect and preserve the integrity of the historic resources as important community assets. Encourage reuse and adaptation to viable and compatible community uses.

Objectives

- 2-A. Develop and maintain a listing of the Region's historical and cultural resources and districts, including documentation of each according to importance.
- 2-B. Conduct historical evaluations in a consistent manner, such as in accordance with Pennsylvania Historic and Museum Commission (PHMC) standards.
- 2-C. Discourage the unnecessary demolition of historic resources.
- 2-D. Develop programs to highlight properties of historic value and seek property owner cooperation in their retention and preservation.
- 2-E. Consider implementing suitable incentives within land development regulations for homeowners to preserve historic resources.

Land Use & Housing

Goal 3: Protect the principal land use in the region – Farming - so that the agricultural heritage and prime farmland soils (Class I, II, and III soils) of the area can be maintained and agriculture can remain economically viable. Provide sufficient land and opportunities for all basic forms of housing to be provided for all population groups in the community.

Objectives

- 3-A. Support agriculture as a primary land use to ensure that it remains a viable commercial enterprise in the region.
- 3-B. Support secondary agricultural businesses and Community Supported Agriculture (CSAs) as viable commercial enterprises in the region.
- 3-C. Continue to work with landowners and land conservancies to promote land resource protection programs and the placement of agricultural and conservation easements that will promote farming as the principal land use in the Region.
- 3-D. Create land use policies that recognize the importance of pedestrian-friendly communities. Utilize village planning principles for new developments when practical.
- 3-E. Manage and control new development by directing development to those areas with infrastructure systems in place, and that are capable of handling new development.
- 3-F. Discourage sprawl throughout the region since such growth causes an unnecessary loss of farmland and can adversely impact the environmental resources of the region.
- 3-G. Encourage smart growth policies to manage what growth does occur, and that encourage cluster housing, walkable neighborhoods, quality architecture, and the preservation of open space and farmland.
- 3-H. Recognize the importance and positive aspects of varied housing opportunities for all residents.
- 3-I. Recognize that a diversity of land uses is desirable in creating a balanced community.
- 3-J. Encourage land use plans that cluster housing into compact neighborhoods, and provide open space within communities for recreation, scenic views, natural resource protection or other suitable uses.
- 3-K. Develop policies that allow for nonresidential growth to occur in appropriate locations, in order to meet the lifestyle needs of residents in the Region.
- 3-L. Develop a process that allows for joint municipal input on projects with a potential regional impact.
- 3-M. Investigate the desirability and feasibility of joint municipal land use regulations.

Open Space, Parks, & Recreation

Goal 4: Provide for a balanced mix of open space, parks, and recreation amenities that are integrated with and help to further the natural and environmental resources, land use, and public services goals of the Region.

Objectives

- 4-A. Develop greenways as a means for future hiking, biking, walking, and horseback riding, while also providing for wildlife corridors.
- 4-B. Continue to work with residents and land conservancies to promote land resource protection programs and the placement of conservation easements that will assist in the preservation of open spaces.
- 4-C. Balance passive open space and its benefits with the provision of limited active recreation facilities to serve not only the youth of the area, but also the diverse recreational needs of all age groups.
- 4-D. Encourage the shared use of recreation resources for the entire community.

Utilities and Infrastructure

Goal 5: Provide for drinking water and sewer systems that are consistent with planned future land use patterns. Discourage leapfrog development that causes infrastructure to be provided in an unplanned manner. Promote environmentally-sustainable stormwater management techniques that achieve local, state, and federal regulatory objectives. Support effective policies for solid waste disposal and recycling.

Objectives

- 5-A. Work with residents and property owners to understand the importance of effective stormwater management systems. Encourage infiltration policies for not only new developments, but for improvements to existing homes and businesses.
- 5-B. Enhance and promote water quality, vegetative and wildlife habitat through the provision of Best Management Practices (BMPs) for storm water management.
- 5-C. Require maintenance programs for on-lot septic systems to eliminate pollution into the ground.

- 5-D. Plan for the provision of drinking water through protection of groundwater sources and provision of public water where the future land use plan is supportive or as required to protect public health.
- 5-E. Educate the public about the importance of recycling, available opportunities for recycling, and the appropriate disposal of solid and hazardous waste.

Public Services

Goal 6: Provide for needed government services at the least possible cost to the community.

Objectives

- 6-A. Work to ensure a set of coordinated policies within the region that would jointly address land use controls, road improvements and maintenance, open space provision, purchasing, emergency services, and public safety concerns.
- 6-B. Provide cost effective municipal government by coordinating services where possible including library, parks, and recreation programs.
- 6-C. Avoid unnecessary duplication of facilities and procurements by examining cooperative purchasing policies.
- 6-D. Require that developments provide for the needed infrastructure improvements to support their impacts, consistent with the Pennsylvania Municipalities Planning Code (MPC).
- 6-E. Establish tax policies that are fair to the community and work to limit tax increases.
- 6-F. Support emergency services systems and personnel.

Transportation & Circulation

Goal 7: Provide for safe, environmentally positive, and scenic vehicular and non-vehicular circulation system.

Objectives

- 7-A. Recognize and protect the scenic, historic and environmentally sensitive nature of the roadway system.
- 7-B. Provide for the safe movement of agricultural machinery along the public roadway system, including crossing areas.
- 7-C. Recognize walking and biking as viable methods of transportation to reduce reliance on automobiles throughout the region and encourage links between communities when practical.
- 7-D. While it is recognized that mass transportation opportunities are very limited in the region, work with regional transportation agencies to provide service where feasible (Route 1 corridor).
- 7-E. Coordinate transportation planning efforts to link vehicular, pedestrian, biking, and public transit opportunities where possible.

Economy

Goal 8: Encourage a diversity of economic opportunities that are appropriate to the land use, demographics and infrastructure of the Region.

Objectives

- 8-A. In addition to the land use goal of agricultural preservation, recognize that agriculture is a business that supports the economy of this region.
- 8-B. Encourage agricultural related businesses such as community-supported agriculture (CSAs), farm markets, etc.
- 8-C. Recognize that sustainable economic development is important as a means to provide for a reasonable source of jobs and residential opportunities for the community.
- 8-D. Look to surrounding urban centers like Kennett Square, West Chester Borough and The City of Coatesville as the principal areas of commerce in the broader region, while recognizing the need to satisfy personal services to address the daily needs of residents in the Unionville Region.

- 8-E. Commercial development should utilize village planning concepts whenever feasible, to provide a scale of development appropriate to the Unionville Region. Village concepts include small compact centers, often near crossroads and often on smaller lots with architecture consistent with the region's heritage.

Conclusions

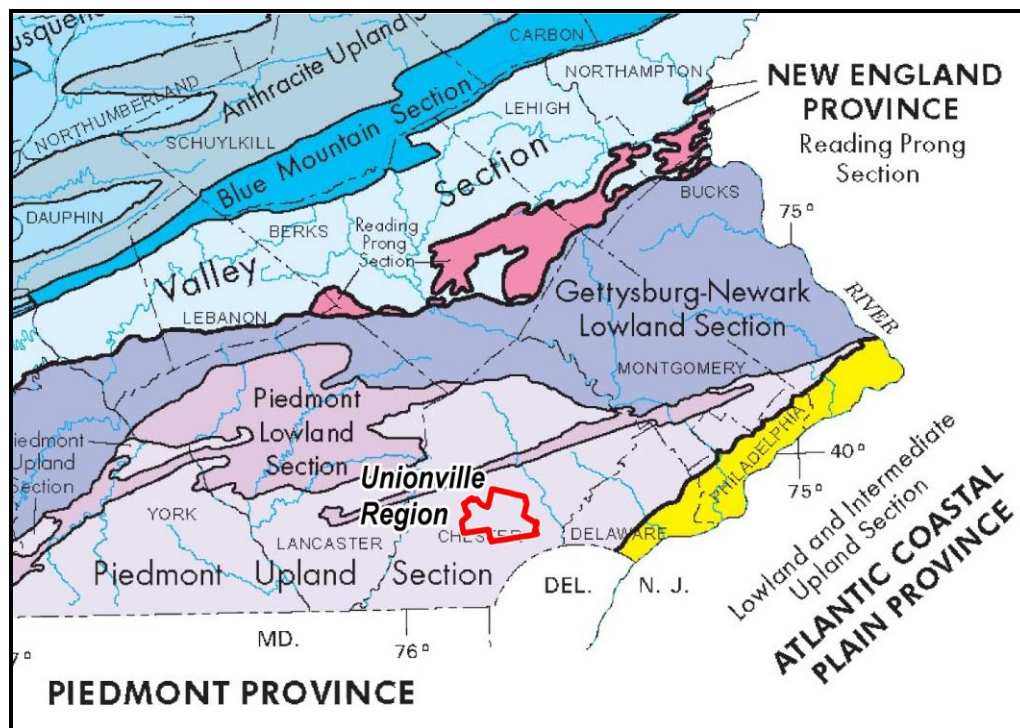
The goals and objectives presented in this chapter should be consulted by the Townships in the Region whenever new public policy is being considered. Chapter 14 of this Plan (Implementation Recommendations) presents specific implementation strategies that relate directly to these goals, suggests who should be responsible for overseeing or coordinating specific action items, and includes a timeline for implementing them. This plan aims to promote consistency among the three Townships when adopting new ordinances, promoting public policies, and making decisions that have implications to the Region as a whole.

Chapter 3 – Natural & Environmental Resources

Physiography

The Unionville Region is part of the Piedmont Uplands portion of the Piedmont province. The Piedmont province extends from the Hudson River in a gentle arc south to Montgomery, Alabama. It is a region of rolling hills and narrow valleys sandwiched between the sandy soils of the coastal plain and the Blue Ridge Mountains.

Physiographic Map of the Unionville Region¹



The Piedmont Uplands are underlain by hard metamorphic rocks that were formed during the creation of the Appalachian Mountains. About 250 million years ago the North American and African continental plates collided as the plates moved toward each other. The edge of the North American plate buckled and was forced upwards creating the Appalachians. The layers of sedimentary rock at the continent's edge tilted and folded as the plates ground together. The intense heat

¹ Source: <http://www.dcnr.state.pa.us/topogeo/maps/map13.pdf>

and pressure of the collision metamorphosed the sedimentary rocks into the crystalline rocks that are the foundation of the Piedmont Uplands.

Millions of years of weathering and differential erosion have weathered the rocks, wearing away the less resistant materials to create the familiar low hills and narrow valleys associated with the Piedmont region.

Geology

Newlin Township, the northern half of East Marlborough and the edges of West Marlborough are underlain by schists (metamorphosed shale). The southern half of East Marlborough and the center of West Marlborough rest on gneiss (metamorphosed granite) and wide zones of marble and quartzite. Narrow bands of diabase and pegmatite and small areas of serpentinite are scattered throughout the three townships. The following paragraphs describe the geology of the planning area in more detail, focusing on the physical, structural, and groundwater characteristics of each formation. Also, Map 3-1 depicts the geological features discussed herein.

Peters Creek Schist – A light grey stone with a distinctly banded appearance; weathers to a greenish grey with a rusty brown stain. Well yields vary but are generally good, with an average yield of 75 gallons per minute or more. Water is soft, with a high potential for Radon 222 concentrations. This formation underlies the northwestern end of Newlin Township.

Wissahickon Formation Schist – A dark grey schist that weathers to a silvery grey. Well yields vary widely but are generally acceptable for domestic wells. Water quality is good but with a high potential for Radon 222 concentrations.

Both the Peters Creek Schist and Wissahickon Formation Schist have very similar characteristics. They are fairly resistant to erosion with a surface topography of medium relief, undulating hills. They are moderately easy to excavate with fair cut slope stability. Unweathered rock will require blasting. Foundation support is good but it is necessary to excavate to sound material because bedrock is often overlain by a deep (30'-50') layer of soft, strongly weathered, 'rotten rock'. Joints and cleavage provide a low secondary porosity.

Cockeysville Marble – A white coarse to very coarse grained marble. It is moderately resistant to weathering, with a surface topography of low rolling val-

leys. It can provide a good quality foundation for heavy structures but because of the potential for sinkholes, solution cavities should be thoroughly investigated before undertaking excavation or construction. Well yields vary but are generally very good; yields of up to 1,000 gallons per minute are obtainable. Water tends to be hard and may have high levels of Radon 222. Due to joints and solution channels, the secondary porosity is of medium to high magnitude.

Setters Quartzite – A light gray, strongly metamorphosed sandstone found in East and West Marlborough. It is very hard and resistant to erosion and creates a surface topography of rolling hills of medium relief. This formation is difficult to excavate and requires blasting except where heavily weathered. Cut slope stability is good and it provides good foundation support in sound material. Well yields are generally sufficient for small supplies for domestic purposes. The secondary porosity of this formation is very low.

Gabbroic Gneiss & Granitic Gneiss – These rocks are highly resistant to weathering, resulting in a surface topography of medium to high relief hills and steep, stable natural slopes. Blasting is required to excavate in this formation and it provides a fair quality foundation for heavy structures. Median well yield is about 15 - 17 gallons per minute, though yields of 35 gallons per minute are obtainable. Wells should be sited in draws and 100-200 feet deep for maximum yield. Water quality is good, but may have high levels of Radon 222. These formations have extremely low primary porosity; joints provide a very low secondary porosity.

Serpentine – Small areas of serpentine rocks are scattered throughout the Unionville Area. The surface topography forms low undulating hills with gentle slopes. The overlying soil is thin and poor due to high magnesium content. Serpentine is difficult to excavate, requiring blasting. Well yields are small to moderate. Serpentine has a very low secondary porosity. Owing to a high level of toxic metals and a deficiency in nutrients, serpentinite outcrops sustain only certain types of plants. These desert-like barrens are ecologically unique and host rare plant and animal species.²

Diabase – An igneous rock, which forms narrow dikes where the molten rock is able to push its way up to the surface. It is a dark, fine-grained rock, which weathers to produce large rounded boulders. Isolated diabase dikes are located in West Marlborough and Newlin Townships. Wells provide small yields (10 gallons per minute or less). Diabase has a very low secondary porosity.

² Philadelphia Geological Society (website), "Notable Geologic Features of the Philadelphia Region." Online linkage: < http://www.philageo.org/features.html#_State-Line_Serpentine_Barrens >

Pegmatite – A very coarse grained granitic rock. Narrow dikes are found near Embreeville and Willowdale. Pegmatite yields small amounts of water, an average of 5-8 gallons per minute.

Topography

The terrain characteristics range from relatively flat in the south and eastern portions of the study area, to rolling hills interspersed with level areas throughout the central and western portions, and a mix of moderate to steep slopes in the northern portions. Development patterns have largely followed the terrain in the region, with the more dense residential and commercial developments occurring in the flatter southeastern portion of the study area. Agricultural activities and varying intensities of development have occurred where the terrain would allow throughout the study area, with the least amount of development occurring on more steeply-sloped areas. Slopes of moderate slope, generally defined as slopes of between 15%-25% are areas where runoff and erosion control starts to become more difficult to govern. These areas are interspersed throughout the Region, with the more concentrated areas being located along the northern portion of the Region. Oftentimes, these areas are found along stream valleys, which make the provision of zoning controls limiting disturbance and grading desirable. Very Steep slopes, typically those slopes of over 25%, are found in the same geographic area as the less steep slopes. Slopes of over 25% are particularly sensitive due to the difficulty of controlling runoff and erosion impacts, and the impact on wooded area when such slopes are disturbed. A generalized slope map is found on Map 3-4. All three municipalities have zoning ordinance controls regulating steep slopes in different manners.

Soils

Agricultural preservation is an important stated goal of all three Townships, and a primary reason for the preparation of this regional comprehensive plan. The study area contains an abundance of soil types that are well-suited for crop production, a fact that is borne out by the rich agricultural heritage of the region. Special attention should be given to planning policies that direct the location and intensity of new development in ways that promote the preservation of and access to valuable agricultural soils for farming uses, while achieving land use priorities that provide for a diversity of uses within the study area.

Table 3-1, beginning on the next page, lists the soil types in the region that have been mapped by the Natural Resources Conservation Service, along with selected soil characteristics that should be considered when developing policies to regulate growth and development in the study area.

Table 3-1
Soil Characteristics

Mapping Unit	Hydrologic Soil Group	Hydric Classification	Prime Farmland Classification	Area (Acres)	Percentage of Study Area
Ba	D	All Hydric	Not prime farmland	247	<1%
BaB	D	All Hydric	Not prime farmland	250	<1%
CaA	C	Partially Hydric	All areas are prime farmland	79	<1%
CaB	C	Partially Hydric	All areas are prime farmland	701	1.8%
CaC	C	Partially Hydric	Farmland of statewide importance	3	<1%
CbB	C	Partially Hydric	Not prime farmland	4	<1%
CdA	B	Not Hydric	All areas are prime farmland	10	<1%
CdB	B	Not Hydric	All areas are prime farmland	419	1.1%
ChB2	C	Not Hydric	All areas are prime farmland	219	<1%
ChC2	C	Not Hydric	Farmland of statewide importance	63	<1%
ChD2	C	Not Hydric	Not prime farmland	43	<1%
ChE2	C	Not Hydric	Not prime farmland	2	<1%
CIA	C	Partially Hydric	All areas are prime farmland	107	<1%
CIB	C	Partially Hydric	All areas are prime farmland	299	<1%
Co	C	Partially Hydric	All areas are prime farmland	1,048	2.6%
CpA	D	All Hydric	Not prime farmland	385	<1%
CpB	D	All Hydric	Not prime farmland	119	<1%
Cs	B	Partially Hydric	All areas are prime farmland	154	<1%
CtA	B	Not Hydric	All areas are prime farmland	133	<1%
CtB	B	Not Hydric	All areas are prime farmland	1,202	3.0%
CtC	B	Not Hydric	Farmland of statewide importance	236	<1%
CwB	C	Not Hydric	Farmland of statewide importance	10	<1%
DfB	B	Partially Hydric	All areas are prime farmland	44	<1%
EdB	B	Partially Hydric	All areas are prime farmland	438	1.1%
EdC	B	Partially Hydric	Farmland of statewide importance	540	1.4%
EdD	B	Partially Hydric	Not prime farmland	82	<1%
GaD	B	Not Hydric	Not prime farmland	182	<1%
GdA	B	Partially Hydric	All areas are prime farmland	46	<1%
GdB	B	Partially Hydric	All areas are prime farmland	4,556	11.4%
GdC	B	Partially Hydric	Farmland of statewide importance	1,241	3.1%
GdD	B	Partially Hydric	Not prime farmland	41	<1%
GeD	B	Not Hydric	Not prime farmland	102	<1%
GfB	B	Partially Hydric	Not prime farmland	10	<1%
GgA	B	Not Hydric	All areas are prime farmland	152	<1%
GgB	B	Not Hydric	All areas are prime farmland	9,938	24.9%
GgC	B	Not Hydric	Farmland of statewide importance	2,122	5.3%
GgD	B	Not Hydric	Not prime farmland	50	<1%
GIA	C	Partially Hydric	All areas are prime farmland	103	<1%
GIB	C	Partially Hydric	All areas are prime farmland	992	2.5%
GIC	C	Not Hydric	Farmland of statewide importance	7	<1%
Ha	D	All Hydric	Not prime farmland	811	2.0%
HIB	B	Not Hydric	All areas are prime farmland	2	<1%
HIC	B	Not Hydric	Farmland of statewide importance	7	<1%

Table 3-1 (continued)
Soil Characteristics

Mapping Unit	Hydrologic Soil Group	Hydric Classification	Prime Farmland Classification	Area (Acres)	Percentage of Study Area
HID	B	Not Hydric	Not prime farmland	22	<1%
Ho	B/D	All Hydric	Farmland of statewide importance	230	<1%
Ln	C	Partially Hydric	All areas are prime farmland	8	<1%
MaA	B	Not Hydric	All areas are prime farmland	9	<1%
MaB	B	Not Hydric	All areas are prime farmland	1,159	2.9%
MaC	B	Not Hydric	Farmland of statewide importance	3,208	8.0%
MaD	B	Not Hydric	Not prime farmland	2,270	5.7%
MaE	B	Not Hydric	Not prime farmland	1,104	2.8%
MaF	B	Not Hydric	Not prime farmland	285	<1%
MbD	B	Not Hydric	Not prime farmland	17	<1%
MbF	B	Not Hydric	Not prime farmland	222	<1%
MIB	C	Partially Hydric	All areas are prime farmland	5	<1%
NvB	B	Not Hydric	All areas are prime farmland	25	<1%
NvC	B	Not Hydric	Farmland of statewide importance	23	<1%
NvD	B	Not Hydric	Not prime farmland	22	<1%
PaB	B	Not Hydric	All areas are prime farmland	227	<1%
PaC	B	Not Hydric	Farmland of statewide importance	785	2.0%
PaD	B	Not Hydric	Not prime farmland	566	1.4%
PaE	B	Not Hydric	Not prime farmland	164	<1%
PaF	B	Not Hydric	Not prime farmland	5	<1%
PdA	C	Not Hydric	Farmland of statewide importance	146	<1%
PdB	C	Not Hydric	Farmland of statewide importance	171	<1%
Th	D	All Hydric	Not prime farmland	230	<1%
UdlB	C/D	Not Hydric	Not prime farmland	7	<1%
Udp	A	Partially Hydric	Not prime farmland	36	<1%
UdsB	B	Partially Hydric	Not prime farmland	16	<1%
UrB	n/a	Not Hydric	Not prime farmland	27	<1%
UrcB	n/a	Not Hydric	Not prime farmland	24	<1%
UrfB	n/a	Partially Hydric	Not prime farmland	5	<1%
UrgB	n/a	Not Hydric	Not prime farmland	67	<1%
UrgD	n/a	Not Hydric	Not prime farmland	4	<1%
UrhB	n/a	Partially Hydric	Not prime farmland	5	<1%
UrkB	n/a	Not Hydric	Not prime farmland	13	<1%
UrKD	n/a	Not Hydric	Not prime farmland	3	<1%
UrlB	n/a	Partially Hydric	Not prime farmland	503	1.3%
UrlD	n/a	Partially Hydric	Not prime farmland	65	<1%
UrmB	n/a	Not Hydric	Not prime farmland	27	<1%
UrmD	n/a	Not Hydric	Not prime farmland	17	<1%
UrvB	n/a	Not Hydric	Not prime farmland	3	<1%
UrvD	n/a	Not Hydric	Not prime farmland	43	<1%
UudB	n/a	Not Hydric	Not prime farmland	1	<1%
UugB	n/a	Not Hydric	Not prime farmland	429	1.1%
W	n/a	Unknown Hydric	Not prime farmland	446	1.1%
WaA	D	All Hydric	Not prime farmland	26	<1%
WaB	D	All Hydric	Not prime farmland	16	<1%

Agricultural Soils

The U.S. Natural Resources Conservation Service ranks agricultural suitability of soils using the Capability Classification System. This system is a way of grouping soils that shows, in a general way, how suitable they are for most kinds of farming. It is a practical grouping based on the limitations of the soils, on the risk of damage when they are used, and on the way they respond to treatment. There are eight capability classes, designated by Roman numerals I through VIII. Class I soils have the fewest limitations, the widest range of use, and the least risk of damage when used for farming. The soils in the other classes have progressively greater natural limitations. Chester County defines “Prime Farmland” as areas with soils in Capability Class I or II, and “Farmland of Statewide Importance” as areas with soils in Capability Class III. A significant proportion of the study area contains Class I, II, or III soils. The breakdown of soils by capability unit is described in Table 3-2. The locations of soils important for agriculture are shown on Map 3-2, Soil Resources.

Table 3-2
Soil Capability Class Summary

Soil Capability Class	Area (Acres)	Percentage of Study Area
Urban land, water, etc.	908	3.18%
I	400	1.40%
II	12,815	44.8%
III	7,781	27.2%
IV	4,252	14.9%
V	448	1.57%
VI	1,131	3.95%
VII	468	1.63%
VIII	396	1.39%
Total, study area:	28,600	100.0%

Hydric Soils

Hydric soils are defined in the Federal Register³ by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil horizon. In addition to the

³ Federal Register, Changes in hydric soils of the United States, July 13, 1994.

physical limitations that hydric soils can pose to different uses of the land, they can also indicate the presence of wetlands, which are regulated by State and Federal statutes. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979⁴; U.S. Army Corps of Engineers, 1987⁵; National Research Council, 1995⁶; Tiner, 1985). Criteria for all three wetland characteristics must be met for areas to be identified as wetlands; the presence of hydric soils warrants case-by-case field investigations to verify or refute the existence of wetlands at any given location. Hydric soils classifications are noted in Table 3-1 of this report, and are displayed on the Soils Resources map.

Table 3-1 lists the soil types in the region that have been mapped by the Natural Resources Conservation Service (NRCS), along with selected soil characteristics that should be considered when developing policies to regulate growth and development in the study area.

Water Resources

The Unionville Area is fortunate to contain the headwaters of many of its streams. As a result, unlike downstream communities, the Unionville Area suffers less from surface water impacts from decisions made by upstream municipalities. This geographic situation affords the three townships within the study area an opportunity to directly influence the streams within their boundaries. At the same time, it brings a responsibility for the three townships to be good stewards of those streams, and good neighbors to downstream communities.

Groundwater

Groundwater supplies drinking water and industrial uses, and provides approximately 60% of the flow for small streams (*Watersheds*, page 50). In 1998, over 75% of residents of the Unionville Area depended on private wells for their drinking water. It is estimated that in 2020, over 70% of Unionville Area residents will still rely on private wells (*Watersheds*, page 141). To a great extent, the availa-

⁴ Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, Classification of Wetlands and Deep-Water Habitats of the United States, U.S. Fish and Wildlife Service FWS/OBS-79/31 (1979).

⁵ United States Army Corps of Engineers, Environmental Laboratory. Corps of Engineers Wetlands Delineation Manual. Waterways Experiment Station Technical Report Y-87-1 (1987).

⁶ National Research Council. Wetlands: Characteristics and Boundaries. (1995).

bility and quality of groundwater supplies are determined by the underlying geology of an area. The crystalline bedrock underlying most of the Unionville Area supplies only moderate quantities of water. The Cockeysville Marble formation found in West Marlborough and East Marlborough is an excellent source of high quality groundwater. This formation is porous - natural breaks and fractures in the rock allow water to percolate rapidly, making it extremely valuable for groundwater recharge. However, its porosity makes it vulnerable to contamination by pollutants from septic systems, underground storage tanks and surface contaminants like pesticides, fertilizers and animal wastes. The East Marlborough Zoning Ordinance establishes a Groundwater Protection Overlay District for all land overlying this formation to protect this resource. There are no comparable protections in the ordinances of West Marlborough and Newlin Townships.

Watersheds

A watershed is defined as the land area that drains to a common stream or lake. Ridges and high points divide one watershed from another and define the edges of each watershed. The Unionville Region falls into three watersheds – White Clay Creek, Red Clay Creek, and West Branch Brandywine Creek.

A total of approximately 17,027 acres (27 square miles) within the study area drain into the West Branch of the Brandywine Creek. This area includes all of Newlin Township, the northern two-thirds of West Marlborough Township, and the northern rim of East Marlborough Township. One of the unnamed tributaries that drain into the West Branch of the Brandywine Creek in Newlin Township is designated as an Exceptional Value stream – the subwatershed that drains to this stream is identified on Map 3-3.

Most of East Marlborough and a strip of the eastern edge of West Marlborough are in the Red Clay Creek watershed. This area contains about half of the headwaters of the Red Clay Creek, and comprises an area of approximately 7,826 acres (12 square miles) within the study area.

The southern third of West Marlborough is situated in the White Clay Creek watershed, comprising an area of approximately 3,770 acres (6 square miles). The East Branch of the White Clay Creek is classified as an Exceptional Value stream.

Every watershed is comprised of sub-watersheds, and every watershed is a sub-watershed of a larger watershed. All three of the Unionville Region water-

sheds are sub-watersheds of the Christina River, which, in turn, is a sub-watershed of the Delaware River.

Surface Water Quality

The Clean Water Act requires all states to establish water quality standards that will ensure that all waters are fishable and swimmable. Pennsylvania has created five broad categories of uses for its streams: Aquatic Life, Water Supply, Recreation and Fish Consumption, Special Protection and Navigation. Each use category lists the activities that a water body should support. Specific water quality criteria have been established for each use. If a stream meets the water quality standards for a use then it is said to attain that use. At a minimum all streams have the Water Supply, Recreation and Fish Consumption uses as designated uses that they should support.

There are three parts to Pennsylvania's water quality standards program. Designated uses are determined for each stream by looking at historical data and current activities. Minimum water quality standards are developed for each designated use. Every three years the health of each stream is assessed in terms of its ability to support each of its designated uses. Streams that are unable to fulfill one or more designated uses are classified as impaired. The Pennsylvania Department of Environmental Protection (PADEP) is required to establish Total Maximum Daily Load (TMDL) levels for the pollutants that are causing the impairment and to develop a plan for restoring the impaired stream.

According to the 2008 Water Quality Monitoring and Assessment report from PADEP, approximately 9.8 miles of streams in the study area are classified as impaired. The main causes of impairment are nutrient and sediment runoff from agricultural lands and sediment runoff from storm sewers and urban areas. The East Branch of the Red Clay Creek at the southern edge of East Marlborough suffers from low levels of dissolved oxygen in addition to nutrient and sediment runoff. Habitat alterations and siltation due to agriculture have impaired several tributaries of Doe Run.

The Pennsylvania DEP lists the entire Red Clay Creek system as impaired for fish consumption due to PCB contamination. However, the Red Clay Watershed Association believes that PCB contamination is no longer a problem for the Red Clay Creek north of Route 1. The original source of the PCBs is believed to be an industrial facility in Kennett Square; Robert Struble of the Watershed Association has reportedly tested fish from sites north of Kennett Square and has not

found PCBs. Impaired streams are shown on the Water Resources Map 3-3, included as part of this Comprehensive Plan.

Exceptional Value and High Quality Streams

Special protection use designations are a valuable mechanism for protecting existing high quality stream waters. There are four special protection categories: “Exceptional Value” (EV), “High Quality Coldwater Fishery” (HQ-CWF), “High Quality Trout-Stocking Fishery (HQ –TSF), and “High Quality Warm-Water Fishery” (HQ-WWF). No degradation of water quality is permitted in an EV stream. Degradation of water quality is permitted in an HQ stream, but only if deemed necessary to accommodate important social or economic development, and only if there are no cost effective and environmentally sound non-discharge alternatives available.

A tributary of the West Branch of the Brandywine Creek in Newlin Township and the East Branch of the White Clay Creek north of Avondale have been designated as Exceptional Value streams. Many streams in Newlin Township have Cold Water Fishery as a designated special protection. Where certain streams meet the HQ or EV requirements that are not currently designated as such, upgrading their special protection status could give these streams significant additional safeguards against possible degradation in the future. PADEP recently published regulations regarding the protection of EV/HQ watershed through riparian buffers.

Wild and Scenic Rivers

The entire White Clay Creek watershed is a federally-designated Wild and Scenic Watershed. Federally-designated Wild and Scenic Rivers are to be maintained in a free-flowing condition (free of dams) and protected for the benefit and enjoyment of future generations. Development is not prohibited in the vicinity of such waterways; however, such development must not detract from the character of the stream.

The West Branch of the Brandywine Creek, including Buck and Doe Run, is designated as a Scenic river by the Commonwealth of Pennsylvania. According to the Pennsylvania Scenic Rivers Act, Scenic river areas are defined as “those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and undeveloped but accessible in places by roads. The Pennsylvania Department of Natural Conservation further specifies that Scenic

Rivers shall be free-flowing and capable of, under restoration, to support water-based recreation, fish, and aquatic life. The view from the river or its banks shall be predominately wild, but may reveal some pastoral countryside. The segment may be intermittently accessible by road.”

Wetlands

Wetlands are defined as lands that have enough water during the growing season at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions. They are located between dry upland areas and water bodies. They occur most frequently along streams and on the edges of lakes and ponds. They may also occur on slopes where springs exit the land. The changing nature and interrelationship of the three wetland determinants – water, soil and vegetation, determines the extent of the wetland. Wetlands include swamps, marshes, wet meadows and bogs. Wetlands provide a number of valuable flood control services by temporarily storing flood waters and slowly releasing them, filtering the water and allowing suspended sediments to settle out onto the wetland floor. Plant roots and microorganisms on plant stems and in the soil absorb excess nutrients from fertilizers, manure, leaking septic tanks and municipal sewage systems. Wetlands tend to be very productive environments, providing food and shelter for many different types of wildlife. In areas that rely upon on-lot wells for drinking water, wetlands serve as filters as runoff enters the groundwater supply. Wetland activities are regulated in the Commonwealth through PADEP, although East Marlborough has regulations in its zoning ordinance also.

The U.S. Fish and Wildlife service is the principal Federal agency that provides information to the public on the extent and status of the Nation’s wetlands. The agency has developed a series of topical maps to show wetlands. This geospatial information is stored in the National Wetlands Inventory (NWI), and is used by Federal, State, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI wetlands information depicted on Map 3-3 of this report is adapted from small-scale maps; locations and extent of these mapped wetlands is approximate, and is provided here as a guide for future planning. Wetlands locations should be verified in the field on the basis of hydrologic, landscape, and plant characteristics.

Floodplains

Floodplains are the lands adjacent to streams and rivers that are inundated when the stream overflows its banks. Floodplains have long been regulated by municipalities and all three members of the Region have floodplain regulations in their zoning ordinances. Many of the streams in the Unionville Area are first order streams. The floodplain is narrow along such streams and flooding problems are infrequent; one notable exception is the West Branch of the Brandywine Creek in Newlin Township, which has many upstream tributaries, is characterized by a wider floodplain profile, and is more prone to flooding than the first order streams in the Region. The 100-year floodplain is defined as an area that is subject to a 1% probability of a certain size flood occurring in any given year, and is depicted on Map 3-3. The 100-year floodplain presents land use challenges in certain areas of Newlin Township adjacent to the Brandywine Creek, where the floodplain is particularly wide. Similarly in West Marlborough Township, there are areas along Doe Run that exhibit a broad floodplain profile. Future land use decisions should ensure that these areas remain protected from inappropriate or overly dense development; existing floodplain regulations should continue to be applied to these areas, and enhanced regulations should be considered where necessary.

Riparian Corridors and Buffers

Because first order streams have low flows they are especially vulnerable to pollutants and groundwater withdrawals (*Watersheds*, page 63). The lands drained by first order streams strongly influence water quality. Water quality is a function of the interaction between land and water and there is a greater amount of interaction in the headwaters of a stream where rain water flows over and filters through the ground until it merges to form a first order stream. Riparian buffers are an essential tool for improving water quality. Forested riparian buffers stabilize stream banks and floodplains preventing erosion caused by high velocity flows. Such buffers also infiltrate and cleanse runoff before it reaches the stream, and keep the stream water shaded and cool. Chester County recommends maintaining a 100' wide forested buffer along each side of a stream (*Watersheds* page 34). Riparian buffers also serve to keep structures and paved surfaces away from streams, mitigating negative impacts to both the natural and built environments.

West Marlborough has specific riparian buffer regulations in its zoning ordinance that establish buffer zones and regulate the use and maintenance of streamside areas. Newlin and East Marlborough both have floodplain regulations, but no specific measures related to riparian buffers. The three townships should work together to evaluate methods of enhancing the management and protection

of streamside areas, and adopt a coordinated set of riparian buffer regulations in their zoning ordinances.

Woodlands

The Unionville Area is part of an ecological community known as the Eastern Deciduous Forest. Prior to the arrival of European settlers, the entire region was wooded. Clearing for agriculture and more recently, suburban development has greatly reduced the amount of woodland in the Unionville Area. Today, approximately 6,500 acres, just under 24% of the study area, is wooded as depicted on Map 3-4

The woodlands that remain in the study area provide valuable functional and aesthetic benefits. Woodlands capture and recharge groundwater, prevent erosion, break the force of the wind, cool the air, and provide wildlife corridors and habitat. Riparian woodlands filter storm water runoff and prevent stream bank erosion. Woodlands are the most effective natural system available for protecting and improving surface water quality. Tree-lined roads, streamside forests, and farm fields bordered by woodlands and hedgerows are intrinsic characteristics of the rural beauty of the Unionville Area.

Large tracts of woodland are vital to certain types of wildlife. Woodlands and hedgerows provide corridors for wildlife migration and habitat for species that inhabit the edge between woodlands and fields. Healthy woodlands containing understory trees and shrubs support the greatest variety of wildlife.

Much of the remaining woodlands in the Unionville Area occur on land that is too steep, too rocky or too wet for agriculture; these woodlots are often quite mature. Woodlands that have regenerated on abandoned farm fields are younger and contain fewer species. The species composition of any woodland is heavily influenced by the soil, slope and solar orientation of the landscape. South facing slopes are warm and dry - they are populated by oaks, mixed with hickory, black cherry and tulip poplars. American beech dominate the north facing slopes, which tend to be more cool and moist. Trees in floodplains and wetlands include red maple, pin oak, ash, black walnut and sycamore.

Pennsylvania Natural Diversity Index (PNDI) Resources

The Region is home to numerous important plant and animal species that have been catalogued in the Pennsylvania Natural Diversity Index (PNDI), which is maintained as part of the Pennsylvania Natural Heritage Program. The locations of PNDI habitat areas, and specific natural resources that are contained within, are shown on Map 3-4. Natural communities, species of special concern, and geologic features are identified by the following map codes:

- **NC** = exemplary natural community
- **SP** = plant of special concern
- **SA** = animal of special concern
- **GE** = significant geologic feature

The locations noted on Map 3-4 are keyed to the descriptions in the following paragraphs, which have been adapted from the publication entitled “A Natural Areas Inventory of Chester County, Pennsylvania”.⁷ It should be noted that said publication was prepared in 1994; environmental conditions and landownership may have changed in the intervening years since these descriptions were originally written. It would be useful for the Region to re-visit some of the most important resources listed here, and update record information as necessary to ensure continued protection and management of environmental features.

Unionville Serpentine Barrens

Located in Newlin Township, the Unionville Serpentine Barrens is an Eastern Serpentine Barrens natural community (**NC505**). This is a mid-size barrens of approximately 170 acres, but some is apparently still in pasture or degraded by exotic, weedy plant species. There is a fair diversity of plant communities including open rock and gravel areas, grassy openings (glades), scrub oak, and juniper woodlands. About thirty acres contain open glades, and the rest is woodland. Much of the area is protected by the families that own it and through easements to the Natural Lands Trust, but the site does need management to control the exotics that are present on the barrens. There are still a number of plants of special concern at this site, although most populations are small. Others, once known to be here, can no longer be found. This loss indicates that the habitat quality may be declining and management will be needed. For management, open glades must be maintained and the spread of autumn olive (*Eleagnus* sp.) and

⁷ Davis, Anthony F., Julie A. Lundgren, et al. “A Natural Areas Inventory of Chester County, Pennsylvania”. Middletown, PA: Pennsylvania Science Office of The Nature Conservancy, 1994, revised and amended 2000.

Japanese honeysuckle needs to be controlled. Fire may be the best management tool to maintain the openings. Small, controlled burns at the edges of the glades and barrens would help to eliminate the weedy species, expand the glades, expose mineral soil, and reduce the fuel load.

The following species of special concern occur within this barrens community. All of them are plants found in the small grassy meadows and gravel barrens and swales. No animals of special concern have been found at this site but more extensive survey work is needed.

SP503 – This species occurs on the steeper open slopes that are facing south or southwest. Xeric conditions have excluded many woody species and reduced the amount and size of many others. This species appears to thrive where conditions are driest and competition is reduced. The population is small but will probably persist as long as the openings are maintained; it has been known from this site since at least 1883.

SP504 – This serpentine endemic species is found throughout the grassy and gravel barrens. Although the population is in good shape, its size does not compare to the nearby populations at Nottingham Park or Goat Hill Serpentine Barrens (both are in West Nottingham Township).

SP509 – These plants are found on an eroded swale, Approximately 50 individuals are known to occur over a few square yards in the bottom of the swale. Water periodically collects and flows in the swale and keeps the sand and gravel moist. This small sedge appears to persist where periodic inundation and scouring remove competing plants. Although the habitat appears unstable, the species has been known here since the early 1900's.

SP517 – This small sedge is scattered over the dry, open, bluestem-dominated grassland. The species appears to be doing very well and should continue to do so as long as the openings remain.

SP522 – All dry grassy openings contain this species and it appears to be using most of the available habitat open to it. It should remain a part of the flora (as well as the other glade species) as long as the openings are maintained by burning or some other method.

SP531 – This species was reported during a field survey in 1990. No field data was provided and it could not be relocated during subsequent field surveys. It is also a grass common to the Midwest; here it is only found on the serpentine grasslands and on limestone glades.

Red Lion Woodlot

Located in East Marlborough Township, Red Lion Woodlot is a small, mixed mesic hardwoods stand dominated by tulip poplar. There are a variety of wildflowers here but there are some weedy species as well, including Japanese honeysuckle, stiltgrass (*Microstegium vimineum*) and oriental bittersweet (*Celastrus orbiculatus*). The woods were selectively logged several years ago, which may have increased the presence of the weeds at the expense of the native plants. The owner is interested in protecting the woods. Therefore, monitoring the native and weedy species is suggested to determine management needs.

Red Lion Woods (two locations on Longwood Gardens property)

Located in East Marlborough Township, Red Lion Woods contains **SP535**, which represents one of two small subpopulations of a PA-listed (Tentatively Undetermined status) rush that is found in wet meadows near Red Lion. The rush is growing with little bluestem (*Schizachyrium scoparium*), Indian grass (*Sorghastrum nutans*) and other grasses, ironweed (*Vernonia noveboracensis*), goldenrod (*Solidago rugosa*) and other meadow plants. The species is on Longwood Gardens property and is subjected to infrequent mowing during dry periods. Mowing maintains these areas as meadows thus maintaining suitable habitat for the species.

SP536 is another Tentatively Undetermined species, a shrub that is more typical of the Coastal Plain, located in a woodlot adjacent to the wet meadow near Red Lion. The species grows near a small vernal pond that has characteristics of a Coastal Plain pond community.

SP538 also occurs in a small vernal pool at this site. This grass has just been added to the list of special concern species and little is known about its status in PA. This is a rather poor representation for the species across its range (throughout much of the US and Canada) but it may be one of the few sites in PA. The pool is mowed after it dries out and this mowing is probably beneficial to the species. Mowing should be done in late summer after the species has set seed.

Two small populations of **SP511**, a Pennsylvania-listed (Tentatively Undetermined status) rush were found in moist meadows with little bluestem (*Schizachyrium scoparium*), Indian grass (*Sorghastrum nutans*) and other grasses, New York ironweed (*Vernonia noveboracensis*), and goldenrod (*Solidago rugosa*). The species is on Longwood Gardens property and is subjected to infrequent mowing during dry periods. Mowing maintains this seepage area as wet meadow, thus maintaining suitable habitat for the species.

Stroud Water Research Center

Located in West Marlborough Township, the Stroud Water Research Center site is home to a good population of **SP522**, a Pennsylvania-endangered plant that occurs in filtered light at the edge of a woodland in Edgemont channery loam / Settlers quartzite soils. The area is occasionally mowed, which may reduce competition from some of the woody or invasive species present including stiltgrass (*Microstegium vimineum*), black raspberry (*Rubus occidentalis*), and multiflora rose (*Rosa multiflora*). However, mowing too often or before the plant has set seed could be a threat to the long-term survival of this population. Mowing should be done in the spring or in the late fall.

East Upland Site

Located in East and West Marlborough Townships, the East Upland Site contains **SP531**. This is a very poor population of this annual grass, found on a steep, south-facing open roadside with several other early successional species and Japanese honeysuckle. The species will probably persist with the continued mowing of this roadside. Mowing should be scheduled in early summer and not again until mid-autumn. The grass is a late-summer flowering species; allowing it to reach maturity and set seed will ensure its survival here. Herbicide application is not recommended although removing the honeysuckle may be warranted.

East Branch White Clay Creek

East Branch White Clay Creek (**NC536**), with headwaters in West Marlborough Township, is designated as an Exceptional Value stream in its upper basin. It is also listed as a High Gradient Clearwater Creek natural community.

Green Lawn South

The Green Lawn South Site is located in West Marlborough Township. A small population of SP529 occurs in a steep, narrow valley at this location. Between 50 and 100 individuals were found on this shaded rocky spring run. In or around the seep in wet to moist soil are red maple, tulip poplar, spicebush (*Lindera benzoin*), multiflora rose (*Rosa multiflora*), jewelweed (*Impatiens sp.*), Cuckoo flower (*Cardamine pennsylvanica*), jack-in-the-pulpit (*Arisaema triphyllum*), a violet (*Viola sp.*), and Christmas fern (*Polystichum acrostichoides*). The land is under conservation easement but care should be taken to protect the spring run from contamination with sediments from Route 841.

King's Ranch

The following important PNDI species are found in three areas on portions of the former King's Ranch:

SA528 (West Marlborough Township) – The area where this animal was found has several open, wet meadows nearby – the species' typical habitat. Only one individual has been found here but all of the wetlands should be the subject of further investigations to determine if the species is using all or some of these wetlands and getting an estimate of the population. Protecting the species will require maintaining not only the wetland but also the surrounding upland habitat for migration and nesting. The site is within portions of the King's Ranch land-holdings that are under conservation easement to the Brandywine Conservancy.

SP515 (West Marlborough Township) – This species occurs in a relatively mature beech-tulip poplar woodland within a portion of the King's Ranch land-holdings protected by the Brandywine Conservancy. Approximately one thousand individuals were growing in small to large clumps over a 10-acre area. The species was growing from the upper slope to the bottom in rich loam soil. This may be the best site for this species in Pennsylvania. While no threats or disturbance were evident during the last site survey, the area needs to be included in a management plan to protect the plant population.

Apple Grove Road Site

The Apple Grove Road Site in West Marlborough Township is home to SP532. This is a very poor population of the same annual grass that is found at the East Upland Site in East and West Marlborough Townships. It is found on a

steel, south-facing open roadside with several other grasses and early successional herbs. Avoiding herbicides and only mowing in spring and mid-autumn will maintain the area in an early successional stage without impacting the flowering and seed set of the species.

Laurel Natural Area

SP534 is found in Newlin Township, in the Laurel Natural Area (Brandywine Conservancy). This species is limited to a shaded, wet rockface below a spring that appears to be fairly rich in minerals based on the plant species found here. The species is utilizing all available habitat and is relatively well established. It should be monitored on a regular basis.

East Green Valley Road Site

The East Green Valley Road Site is an old field that is dominated by little bluestem (*Schizachyrium scoparium*) with a few trees scattered throughout. SP530 is a species that does best in dry fields and open woods. Mowing every year or two in the spring or early summer should allow the plant to flower and set fruit. Some of the associated plant species include: black cherry (*Prunus serotina*), flowering dogwood (*Cornus florida*), narrow-leaved mountain mint (*Pycnanthemum tenuifolium*) and Queen Anne's lace (*Daucus carota*).

Embreeville West Site

The Embreeville West Site in Newlin Township is home to SP539, which is found on a wooded slope above the West Branch of the Brandywine. A total of about 150 plants are known from two shaded rock outcrops. This population is reported to be in decline; the reasons are unknown but do not appear to be due to direct human disturbance. One subpopulation is below the nearby road and it should be protected from any future road work. Monitoring the population on a regular basis is the only recommendation at present.

Conclusions

From a landscape perspective, the Region is comprised of rolling farmland, areas of steep slopes along stream valleys and flat areas that have been developed with suburban subdivisions. When planning for the future, an integrated set of

public policies should focus on preservation of the many interrelated and interdependent natural resources in the Region. Each Township should consider the adoption of integrated, comprehensive, and consistent natural features ordinances that address protective measures for groundwater, surface water, floodplains, wetlands, steep slopes, woodlands and valued vegetation, specimen trees, soils, riparian buffers, sensitive habitats, and other important environmental features.

While all of the environmental features discussed herein are important to the health and character of the Region, agricultural soils and water resources stand out as particularly important to target for protection as this plan is implemented over the next decade.

Prime agricultural soils, which are prevalent throughout the Region, are the reason why agriculture has become such an important factor within the Region. These soils, which Chester County has identified as “some of the most productive non-irrigated farmland soils” in the country, allow the business of agriculture to prosper. It is important that these soils be recognized, and their continuity not be fragmented by suburban development, wherever possible. Land use and zoning policies should focus on strengthening the protection of agricultural soils from an environmental perspective, while recognizing the important roles that business and the agricultural economy play in promoting the future protection of this valuable natural resource.

Water resources are also particularly important, since the Region has the distinction of being the headwaters for several streams that ultimately drain to the Delaware River. It is imperative that the Region’s water resources be protected through strong floodplain, stormwater management, riparian buffer, wooded slope regulations, and wetland protection measures to ensure their continued health both within and outside of the Region. Integrated, watershed-based approaches should be used to protect water resources in the Region. Consideration should be given to upgrading the special protection use designations of more waterways; where certain streams and watersheds meet the HQ or EV requirements that are not currently designated as such, upgrading their status could give these waterways significant additional safeguards against degradation in the future.

Chapter 4 - Cultural & Historic Resources

Early History

The earliest inhabitants of Eastern Pennsylvania were nomadic hunter gatherers who arrived over 10,000 years ago. Over time, they developed a sustainable system of agriculture and adopted a more settled lifestyle. They built small villages along streams and grew their crops of corn, beans, and squash in small sunny clearings created by girdling trees. They called themselves the Lenni-Lenape and named their lands Lenapehoking – the Land of the Lenape. Remains of their encampments can still be found throughout the Unionville area.

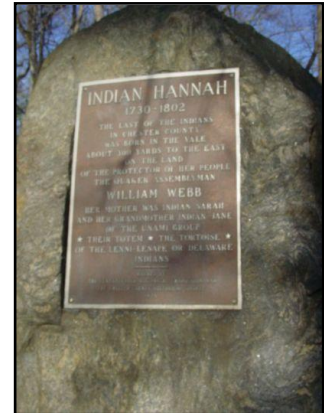
In 1681, King Charles II of England granted William Penn 45,000 acres along the Delaware River. Between 1682 and 1684 over 4,000 colonists arrived in Pennsylvania - lured by Penn's promises of affordable farm land and religious tolerance. The colonists came from all over Europe, but those who settled in the Unionville Area were mainly English and Irish Quakers.

In keeping with his Quaker principles, it was important to William Penn to establish peaceful relationships with the Lenape and to treat them fairly. Penn's first actions were to negotiate treaties with the local Lenape chiefs for access to their lands. He purchased the rights to all their land, and then re-conveyed to them a strip a mile wide on either side of the Brandywine from its mouth up to the source of the West Branch. In 1706, at the request of the colonists, the Pennsylvania Assembly re-purchased all the Lenape land rights along the Brandywine up to a "certain rock" on the West Branch. The Lenape kept their rights from the rock to the source of the West Branch. The rock can still be seen from Northbrook Road just east of the Newlin Township line.

William Penn himself established and named Marlborough Township in 1704. Penn also laid out Street Road (Rt. 926) through the middle of the township. It was part of a longer road that led from the Schuylkill River to the Susquehanna. Much of this road has been obliterated or re-routed, but the stretch through East Marlborough remains intact. In 1728 Marlborough Township was subdivided into East and West Marlborough Townships.

Not all the early settlers were as scrupulous as William Penn in their treatment of the Lenape. Newlin Township, established in 1840, was named for Nathaniel Newlin who at one time owned the entire township. He was granted the 7100 acre tract along the West Branch of the Brandywine in 1724 and quickly

began selling off parcels. In 1725 and again in 1726 the Lenape visited the Pennsylvania Assembly to complain that Newlin was selling the land they had been granted and denying them the right to use it. Newlin appeared before the Assembly and promised to leave the Lenape in peace but then continued to sell off parcels. Within a few years most of the Lenni Lenape left the Unionville Area for wilder lands in western Pennsylvania. Indian Hannah, the last of the Lenni-Lenape in Chester County, finished her days in the Chester County Poor House in Embreeville. She died there in 1802 and was buried nearby. A memorial plaque marking her birthplace is located along Route 52 just north of Route 1, and a stone marks what is believed to be her grave off Route 162 in Embreeville.



Plaque commemorating the birthplace of Indian Hannah.

Surveying the Mason Dixon Line

Charles Mason and Jeremiah Dixon were a well-respected team of surveyors. In 1763 they were hired to locate and mark the boundary between Maryland and Pennsylvania. The original land grant to William Penn placed the boundary on the 40th parallel but this would have put Philadelphia on the Maryland side. After much legal wrangling a compromise was reached that placed the boundary



Harlan Farm House, where Charles Mason and Jeremiah Dixon calculated longitude in winter, 1764.

15 miles south of the southern boundary of Philadelphia. Mason and Dixon began their task by locating the southern boundary of Philadelphia. From there they could have proceeded 15 miles south, but that would have meant crossing the Delaware River. Instead they traveled 31 miles due west to John Harlan's farm in Embreeville. There they placed a marker at precisely the same latitude as the southern boundary of Philadelphia. Mason and Dixon spent the winter at Harlan's farm making the detailed astrological observations necessary to determine their longitude. In the spring of 1764 they measured 15 miles south

where they set the first stone marking the border between Maryland and Pennsylvania. Mason and Dixon surveyed the line for 263 miles west before hostile Indians forced them to turn back. John Harlan's stone farm house still stands at the intersection of Embreeville and Stargazer Roads. The marker Mason and Dixon placed (now known as the Stargazers' Stone) is in a small stone enclosure just up Stargazer Road. Stargazers Vineyard, one of the special agricultural businesses in the region, is located very close to the aforementioned marker.



Mason & Dixon's "Stargazer Stone" is located just off Stargazer Road, and marks the latitude of the southern boundary of Philadelphia.

Agriculture & Commerce

By the end of the 18th century the Unionville Area had grown into a region known for its prosperous farms, and in fact, these agricultural uses continue to this day. Tobacco, flax and barley were grown but wheat was the major cash crop for the farmers. It grew well and there was an excellent market for it both locally and abroad. The villages of Unionville, Willowdale, Doe Run and Red Lion were founded in the mid-18th century. These villages followed the typical development



An example of Victorian-era architecture.

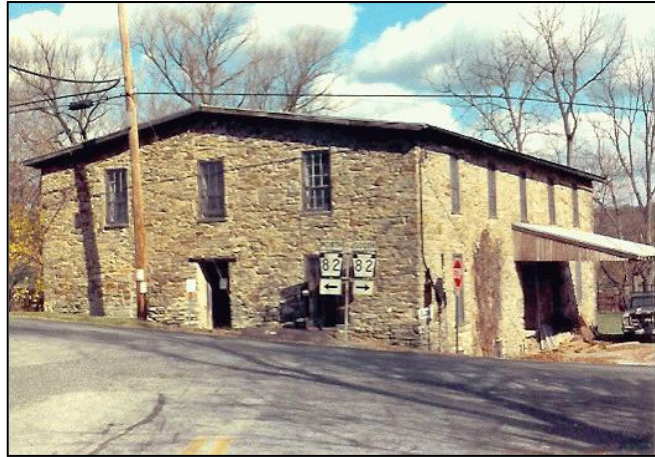
pattern of a crossroads village. An inn built at a busy crossroad to serve travelers formed the nucleus for each village. Soon residences and additional businesses located nearby. Each village had to be a self-sufficient community, which provided for all its own needs and served as the market place and economic hub for the surrounding farms. Villages included such vital specialized services as a blacksmith, tinsmith, cabinet maker, tannery, doctor, undertaker, post office and schools. Many of the early inns still exist, though most have been converted into private residences.

Industrial Enterprise

Water power was vital in the days before steam engines and many mills were built to harness the power of the Brandywine. The first mills built were grist mills to grind grain into flour and sawmills to provide boards for building. By the late 1700s there were five grist mills and six sawmills in the Unionville Area. During the 1800s paper mills, yarn mills, and rolling mills were built. Unfortu-



Wollaston Mill near Willowdale.



Harlan Hannum Mill.

nately, sawdust and flour dust could be as explosive as gunpowder and many mills were destroyed by explosions and fires. Mills that have survived to the present day include a grist mill in Doe Run, Wollaston Grist Mill near Willowdale, Passmore Mill on Green Valley Creek, and the Embreeville Mill.

The American Revolution

During the Revolutionary War, Chester County suffered little damage from the British troops probably because they did not wish to antagonize the local landowners who were believed to be loyal to the British crown. Many of those landowners actually sympathized with the Revolutionaries, but their Quaker beliefs required that they remain neutral. However, the Battle of the Brandywine took place in Chester County and the East Marlborough countryside played a pivotal role. On September of 1777, British troops under the command of General Howe were encamped in Kennett Square. After months of dilly-dallying, Howe was beginning his long expected campaign to capture Philadelphia. General Washington planned to stop the British advance at the Brandywine River. He stationed his men at Chadd's Ford, Brinton's Ford, Jones Ford and Wistar Ford. With his troops in place at what he believed were all the places it was possible for the British to cross the Brandywine, Washington waited for General Howe to approach

from the east. However, Howe knew something that Washington did not – just a few miles north were two additional fords, Jefferies Ford and Trimbles Ford. On the morning of September 11, Howe took his men east on Baltimore Pike. A small diversionary force of Hessians continued east to attack at Chadds Ford, but the main body of Howe's troops turned north on Route 82 and marched through East Marlborough Township to Northbrook where they forded both branches of the Brandywine. Then they marched southeast to Chadds Ford to surprise Washington's troops by attacking from the rear. It was almost a catastrophe for Washington, but fortunately he and his men were able to retreat to Chester.

Quakers and the Abolitionist Movement

In 1780 Pennsylvania became the first state to call for the abolition of slavery by passing the Gradual Abolition Act. Though the law did not actually free any slaves, it did make it illegal to acquire new slaves. The Pennsylvania border became the line between slavery and freedom and Chester County, with its large anti-slavery Quaker population just across the border, became an important destination for escaping slaves. A major route of the Underground Railroad funneled slaves from Wilmington into Kennett, East Marlborough & Newlin Townships. Many old homes in the Unionville area have secret hideaways where escaping slaves were concealed. However, it was still illegal to help escaping slaves and many Quakers did not want to be involved. The Longwood Progressive Meeting was founded by former members of the Kennett and Marlborough meetings who were asked to leave because of their strong abolitionist opinions. Progressive Quakers continued to hold services at the Longwood Meeting until 1940. Today it houses the Chester County Visitor's Center.



Longwood Meeting, currently home to the Chester County Visitor's Center.

Economic Growth in the 19th Century

As the population grew during the early 19th century, the economy continued to diversify. The self-sufficient farms of the early settlers became more commercial. Many focused on dairying, others specialized in mushroom growing, rose growing, or chicken hatcheries. A variety of industries developed. Mills were producing paper board, cotton fiber and iron plate. The Laurels ironworks were

built along the banks of Buck Run, where during the Civil War the plates for the ironclad ships were produced. There were greenhouses and nurseries in Willowdale and Marlborough Village. A whetstone manufacturing business operated in Embreeville. The Mutual Fire Insurance Company of Chester County was established in Doe Run.

In the late 19th century events conspired to halt the growth of the Unionville Area towns. As roads were improved, travel became faster and easier, and communities became less isolated. Rail lines were built to the north through Northbrook and Coatesville and to the south through Kennett Square. The villages of the Unionville Area found themselves at a competitive disadvantage. Growth slowed and many became mostly residential in nature as businesses relocated to growing towns along the railroad lines. Especially in East Marlborough, land became more valuable and some farms were sold for development. Today, some of the smaller villages, such as Red Lion, have all but disappeared into the fabric of modern suburban development. Others, like Unionville, Embreeville, and Marlborough Village remain as charming reminders of an earlier time but the businesses that used to thrive there have largely disappeared and the buildings that housed them are now private residences.

Education

The educational system was also affected by growth. During the 19th century each community had its own locally administered school. Most were one room school houses which educated children from the local community, though there were also privately owned boarding schools, such as the Unionville Academy and the Greenlawn Academy, which drew students from a wide area. In the 20th



Unionville Elementary School has been updated and enlarged over the years.

century it became possible for a single school to serve students throughout the Unionville Area. When the Unionville Joint Consolidated School opened its doors in 1923, it replaced 21 one-room school houses and taught 623 students in grades 1-12. Additional classroom space and a gym were added in 1927, and the west wing was added in 1953. Increases in population and a merger with the Chadds Ford schools in 1954 led to the construction of Unionville High School in 1959 and the Middle School in 1973. The original Unionville

Joint Consolidated School, updated and enlarged many times over the years, is now Unionville Elementary School.

Private Landowners and Rural Preservation

Throughout the 20th century, the actions of private landowners have been instrumental in preserving the rural character of the Unionville Region. In 1919 Lammot DuPont, concerned about Wilmington's drinking water, began purchasing land in Buck and Doe Run valley with a plan to dam Buck Run to create a reservoir. DuPont eventually abandoned the reservoir scheme, but continued to buy land under the St. Armour Company. By 1944, he had acquired almost 9,000 acres and many of the businesses in Doe Run village. In 1945, the King Ranch of Kingsville, Texas bought DuPont's holdings, operating the property as Buck and Doe Run Valley Farms, Inc. Every year the King Ranch would ship 4,000 – 5,000 of its beef steers to the farm to be fattened on the lush grass of West Marlborough and Newlin before being delivered to cattle markets for sale and slaughter. It was the largest privately-owned contiguous property in Chester County at this time. Higher fuel prices in the 1970s made the system unprofitable and it looked as though the farm might be sold to developers. In the 1980s, a group of private citizens formed the Buck & Doe Run Partnership to purchase the farm and permanently protect it via conservation easements.

A significant recent example of private land preservation with an historical perspective is ChesLen Preserve, which comprises approximately 1,458 acres in Newlin Township and is open to the public. As part of the old King Ranch and Chester County Park lands, it contains nine acres of historic serpentine barrens, 15 plant species of special concern in Pennsylvania, and is part of the "Important Bird Area". There are also unpaved trails, native grass meadows, and agricultural fields.

Longwood Gardens

Longwood Gardens is another large tract of privately preserved open space. Longwood began as a working farm owned by the Pierce family. Like many well-to-do Quaker gentlemen, Joshua and Samuel Pierce had an interest in botany and natural history. In 1798 they began planting an arboretum on the farm. By 1850, the site had one of the finest collections of trees in the nation. Pierre du Pont purchased the farm in 1906. Over the next 40 years he expanded the original farm house and built the gardens, conservatories and fountains so that today the entire property comprises 1,077 acres. In 1946, he placed the Gardens into the hands of a non-profit foundation so that the public could enjoy their beauty. In 2009, over 885,000 people visited Longwood Gardens.



The Pierce-DuPont House.



Topiary garden at Longwood Gardens.

Township Historic Preservation Efforts

Each Township in the Region has undertaken its own policy-based measures to effect historic preservation. East Marlborough Township has a Historical and Architectural Review Board and Historic Commission. In West Marlborough and Newlin, active volunteer citizen groups are working to inventory historic resources and promote protection and preservation efforts in coordination with each township's Board of Supervisors and Planning Commission.

National Register Historic Districts

The Unionville Region is home to six National Register-listed historic districts, and one district (London Grove) listed as eligible for National Register consideration. Contained within these districts are many of the Region's important historical structures, making them worthy of consideration for further protection. Described herein, these districts are also illustrated on the Historic Resources maps included in this document (maps 4-1, 4-2, and 4-3).

Unionville Village Historic District

The Unionville Village Historic District in East Marlborough Township comprises over sixty architecturally significant buildings, the majority of which are presently private residences. Brick is the mode of construction that is most evident in this village of late 18th Century dwellings, early to mid-19th Century townhouses, and residences in the Victorian style of architecture. There are also other fine examples of both frame and fieldstone structures still extant.

Doe Run Village Historic District

Doe Run village in West Marlborough Township is situated wholly within the valley drained by Doe Run Creek and its minor tributaries. The village is rather unusual in that its natural features, i.e., the stream, pasture, and meadowland, and backdrop of rolling hills, have been virtually undisturbed by man-made intrusions since the 19th century. In a visual sense, the integrity of these features forming the historic setting is as important to the significance of the district as its complement of historic structures.

Embreeville Historic District

The Embreeville Historic District is situated on the east and west banks of the West Branch Brandywine Creek in Newlin Township. Its 12 principal buildings are clustered in two groups and separated by the river, which makes a dramatic bend at this location. Route 162 parallels the river, and like it, twists and turns through the rolling countryside.

Green Valley Historic District

The Green Valley Historic District encompasses the drainage basin of Green Valley Creek, a tributary of the Brandywine River's West Branch running through the townships of East Marlborough and Newlin. The district is approximately 2.7 miles long and, in most places, less than one-half mile wide. The district's boundaries are based on natural features – specifically, the boundary lines are drawn from the 400-foot ridge tops that serve to enclose the valley and, in doing so, form a lush green backdrop for its principal buildings.

Longwood Gardens Historic District

The Longwood Gardens Historic District comprises 1,030 acres mostly within East Marlborough Township. Included among its most notable features are the Pierce House and Arboretum, Longwood Meeting, the Red Lion Inn, and the Conservatory and Fountains built by Pierre S. DuPont.

Northbrook Historic District

Northbrook is a small village situated on both banks of the Brandywine River's West Branch. Although located primarily in Pocopson Township, the Northbrook Historic District takes in two properties located in the adjacent townships of Newlin and West Bradford. The village is dominated by the river, which takes a large bend at this location. Much of the land is floodplain, and continues in agricultural use. Many of Northbrook's buildings are situated rather close to the river; virtually all of them are oriented to it or to Northbrook Road, which runs north-south and crosses the river. From the river, the land rises to form moderately steep hills. The tracks of the former Wilmington and Northern Railroad are a focal feature in the village – they hug the south riverbank, and like the river, bisect the village.

London Grove Township Agricultural Historic District

The London Grove Township Agricultural Historic District is located mostly within adjacent London Grove Township (outside the study area of this Comprehensive Plan), but a portion extends into West Marlborough Township. While not currently listed as a National Register District, it has been deemed “eligible” for the designation.

Conclusions

The Unionville area has a rich historic past that is directly traceable back to the Leni-Lenape Indians and William Penn. It is characterized by numerous historic properties and districts that are recognized by the National Register of Historic Places, the Chester County Historical Atlases, and the individual townships. When combined with the land, water, and agricultural landscape, this area captures a unique cultural heritage that needs to be maintained so that future generations can also enjoy and appreciate the unique charm of the Unionville region. Understanding how the cultures of the communities were formed, prospered, and, in some cases, declined, is important in determining the future direction of the region. National economic trends and private actions have combined to preserve many of the historic buildings and landscapes of the Unionville Region. Today we can only be grateful that so much of the region's history, culture, and agricultural heritage survive. Each Township in the study area has separately maintained inventories of historical resources, with West Marlborough most recently updating their inventory in 2009. Those inventories are included in this plan, and have been combined for consistency into one master list, which is included at the end of this chapter. The locations of important structures and historic districts are presented on maps 4-1, 4-2, and 4-3. Each point on the map

represents a location of an historic structure, and is keyed by a numerical identifier to the master list. Prioritizing historic resources and continuing efforts to preserve those deemed most important should be action items for plan implementation.

Encouraging the preservation of the historic resources that have been identified is of prime importance as the Region continues to evolve and change. Developing educational and outreach materials or assisting landowners to make them aware of the treasures that surround them will be an important task for the local historic organizations and elected officials to develop. Assisting with building design questions so landowners can make good choices regarding renovations to historic structures would be a useful tool to emphasize. If future development creates pressure on historic resources to be demolished, the Townships might consider including incentives into zoning ordinances to encourage the preservation of resources – for example, allowing flexibility in the application of use, area, and bulk regulations.

Chapter 5 – Existing Land Use

One of the major goals of a comprehensive plan is to provide an outline for future land use decisions so that the agricultural and open space heritage of the region is balanced with reasonable growth opportunities and landowner equity. Two maps are included in this document, which form the basis for understanding the land use characteristics of the Region. The Existing Land Use Map 5-1, included as part of this document, depicts the existing (2009) land uses. This is not a zoning map, nor does it recommend future land uses – rather, it is a snapshot in time of how the land is principally being used today. The Existing Land Use Map is based on data provided by the Chester County GIS office and is primarily based on assessment data: that is, how the land has been classified for taxing purposes. We have made minor adjustments to the plan in some cases, where we found through on-site inspections or local knowledge, that actual land uses were not precisely what was coded in the GIS database. For instance, some parcels in the GIS mapping are shown to be residential properties; however, upon further study, it was discovered that the principal use on such parcels is agricultural, with one house located on a very small portion of a larger parcel. In such cases, the land use is shown with an “agricultural” designation on the land use map.

A second issue that is instructive in understanding land use in the study area is protected lands. Map 8-1 illustrates lands that have been protected or are restricted to certain open space uses. Many properties in the region, particularly in West Marlborough and Newlin, have had conservation easements placed on them. These easements restrict future development on such parcels - in some cases, to no further development; in other cases, to very limited development on large tracts of land. Other parcels of land are actually under the ownership of organizations devoted to open space preservation such as Natural Lands Trust and The Brandywine Conservancy. Longwood Gardens, with its expansive land-holdings devoted to its arboretum and related uses, effectively functions to preserve open space as well. This pattern of voluntary restrictions has had, and will continue to have, profound impacts on the land uses of the region.

Categories of Existing Land Uses

Land use designations can have as few as four major categories – for example, residential, non-residential, agriculture/open space, and roads. However, this comprehensive plan has broken these generalized categories into a total of 15 land uses so that the fabric of land uses can be better understood (See Table 5-1). As noted previously, the land use designations in this comprehensive plan are primarily based on Chester County tax assessment records, but with appropriate

local alterations. For instance, the several parcels that comprise Longwood Gardens are designated by Chester County as Commercial, Residential, and Exempt, but for purposes of this comprehensive plan, these parcels have been assigned the land use designation of “Institutional”. Another example is the Landhope Farms property at Willowdale (the northeast corner of the intersection of Routes 926 and 82). The County designation for this entire 155-acre parcel is “commercial”; for the purposes of this comprehensive plan, only the small 5-acre portion of the parcel where the Landhope Farm store is located is considered “commercial” – the remaining 150 acres actually functions as private open space. Table 5-1 below provides land use types, their area in both acres and square miles and the percentage of the Region in each land use.

**Table 5-1
Land Use Classifications and Extent**

Land Use	Area (Acres)	Area (Square Miles)	Percentage of Study Area
Not Classified (Roads, etc.)	154.4	0.24	0.55%
Agriculture/Pasture	14,006.8	21.89	49.90%
Commercial	188.8	0.30	0.67%
Industrial	67.4	0.11	0.24%
Institutional	1,313.6	2.05	4.68%
Multi-Family Residential	60.1	0.09	0.21%
Municipal	182.4	0.28	0.65%
Private Open Space	1,074.1	1.68	3.83%
Recreation	299.8	0.47	1.07%
Residential/Commercial	5.5	0.01	0.02%
Single-Family Residential	3,673.3	5.74	13.09%
Two-Family Residential	40.2	0.06	0.14%
Utility/Transportation	98.4	0.15	0.35%
Vacant	282.4	0.44	1.01%
Water	57.1	0.09	0.20%
Wooded	6,564.6	10.26	23.39%
TOTAL AREA	28,068.8	43.86	100.00%
SOURCE: Chester County GIS data, Delaware Valley Planning Commission GIS data, and visual analysis by Glackin Thomas Panzak, Inc.			

Agriculture/Pasture Uses

Pennsylvania has preserved over 425,000 acres of farmland through various Farmland Protection Programs through 2009. Chester County has preserved over

25,000 acres of farmland, which is one of the highest county totals in the nation.⁸ The Unionville Region has been an important part of this effort in preserving farmland. Agriculture/Pasture is the dominant land use of the Unionville Region overall, comprising approximately 14,007 acres (21.9 square miles), or nearly 50% of the study area. This use is prevalent in the western half of East Marlborough Township where it connects with West Marlborough Township which is dominated by agricultural land uses. Agricultural uses then continue to the north, into Newlin Township. Steep slopes in large portions of Newlin Township limit the ability of the land to be used for farms; however, where the terrain allows, agriculture is strong in Newlin.

The U.S. Census of Agriculture is published every five years, with the last publication being 2007. This data source provides agricultural data for all states and counties in the United States. There are several findings from this census that apply to Chester County specifically and perhaps to the Region by implication:

- The number of farms in Chester County has declined by 10% since 2002.
- The acreage of farms has declined by only 1% from 2002.
- The average size of a farm was 96 acres, an increase of 8 acres since 2002.
- Chester County is second in Pennsylvania in total value of agricultural products sold.
- Nursery, greenhouse, floriculture, sod and mushroom sales cause Chester County to be ranked first in Pennsylvania in total sales value.
- Chester County is second in Pennsylvania in the sales volume of horses, ponies, mules, burros, and donkeys.

Farming activities are principally characterized by pasturing and growing of hay. There are some cattle operations, numerous equestrian facilities, and a few mushroom houses, along with areas of crop farming. The region is fortunate to have assembled and maintained over time large contiguous areas of predominantly agricultural land uses. In order to be economically viable on a regional scale, agriculture needs large tracts of land without interference from non-farm uses. While some farming operations may be able to function effectively on smaller parcels of around 25 acres, fragmentation can create issues with nuisance complaints, access to supplies, and conflicts with residential neighbors. Obviously, farmers have the right to sell their land if they desire, and a buyer has the right to

⁸ Chester County Agricultural Development Council

develop the land under the operative zoning. However, land use policies that discourage this fragmentation should be enacted if viable agricultural operations are to be sustained. The existence of good soils, and close proximity to major markets like Philadelphia and Wilmington makes agriculture an excellent land use within the scheme of the greater Philadelphia and Wilmington metropolitan areas. It is important to view agricultural land as a distinct land use, as it generates products that are necessary for the populace and requires few public services. Agricultural land should not be regarded simply as vacant land awaiting development; such a perspective implies a disregard for the importance of supporting such a critical land use for the region, and allowing it to continue in an economically viable manner. Agricultural uses, when properly managed, can impart other community benefits such as water resource protection, open space preservation, and the protection of pastoral, scenic vistas.

The Pennsylvania Municipalities Planning Code (MPC) gives special recognition to agriculture in several sections. Section 603 of the MPC specifically allows for the protection, preservation and regulation of prime agricultural land and activities. Section 603 also states that zoning ordinances shall protect prime agricultural land, and shall encourage the continuity, development and viability of agricultural operations. Zoning ordinances are restricted in how they may restrict agricultural operations or changes or expansions of agricultural operations in areas where agriculture has traditionally been present. In Section 604 of the MPC, one of the purposes of zoning is to preserve prime agriculture and farmland. Thus, the agriculture/pasture designation not only characterizes the predominant land use of the Unionville Region, but state law promotes and encourages policies that protect this land use going forward.



Looking south from Covered Bridge Road in West Marlborough Township.



Looking south from Green Valley Road in Newlin Township. Livestock farming is historically significant in the Region.

Private Open Space

Nearly 4% of the study area is comprised of lands classified as “Private Open Space”. This category includes common open space elements under the control of homeowners’ associations (HOAs) and portions of the privately-held ChesLen and Laurels preserves that are not otherwise classified as “Wooded”. It should be noted that while the ChesLen Preserve is privately owned, it is open to the public.

Of special note are the many acres of land protected through various conservation organizations. Local conservancies such as the Brandywine Conservancy, Natural Lands Trust, and East Marlborough Land Trust have contributed mightily to the open spaces found within the Region. The Brandywine Conservancy, for example, has permanently protected over 44,000 acres overall in their program area, the vast majority being within Chester County. The Conservancy also assists farmers in preparing agricultural conservation plans and implementing Best Management Practices like stream bank fencing and stabilized stream crossings. The Natural Lands Trust owns the 1,263 acre ChesLen Preserve which is a major parcel of open space in Newlin Township.

Vacant Lands

Lands in the “Vacant” category are based on land use mapping by the Delaware Valley Regional Planning Commission (DVRPC), and verified through aerial photographs and field surveys by Glackin Thomas Panzak, Inc. during the preparation of this comprehensive plan. “Vacant” lands are defined by the DVRPC as “areas that are not clearly wooded, agricultural, developed, landscaped, cleared, or unused but are clearly tied to other uses.”⁹

Wooded Areas

Lands in the “Wooded” category are based on land use mapping by the Delaware Valley Regional Planning Commission (DVRPC), and verified through aerial photographs and field surveys by Glackin Thomas Panzak, Inc. “Wooded” describes a land cover condition rather than a specific land use; however, the presence woods that are significant enough in size and extent at a particular location to warrant them being mapped essentially precludes any of the other designated land use activities as described in this plan from occurring there. Many of the wooded areas in the Unionville Region are clustered around environmentally

⁹ Source: DVRPC, [Analytical Data Report No. 16, Land Use in the Delaware Valley, 2005](#) (July 2008).

sensitive or constrained lands, such as stream valleys, steep slopes, wetlands, and in places where the underlying soils are not well-suited for agriculture.

Residential Land Uses

The Existing Land Use Plan divides residential land uses into four categories: single family, two-family, multi-family and mobile homes. Single family is the predominant residential land use in the region overall. When combining this map with Table 6-1, Population, and Table 6-10 Housing Units in a Structure, it is evident that most of the residential development that has occurred is in East Marlborough, principally east of Wollaston and Embreeville Roads.

Single-Family Residential. Single-family detached homes comprise approximately 82% of the housing stock in the region, according to the 2000 Census and building permit information. Many of these homes have been built over many years, and include historic homes scattered across the landscape from the eighteenth and nineteenth centuries, larger lot developments that were built in the 20th century, and newer clustered developments, such as Willowdale Crossing and the Traditions at Longwood, an age-restricted community, which have smaller lots, but have preserved areas of common open space within the developments. East Marlborough exhibits the greatest variety of housing in the region, with single-family detached homes on lots ranging from several acres, to lots in the 3,500 square-foot range that were permitted in order to preserve open space and to expand housing opportunities.

Newlin Township's residential development has primarily occurred on larger lots, usually as a result of individual lots being subdivided from farms or large properties. There are only a few suburban-style "housing developments" scattered throughout the township. These developments are located on the east side of the township, in the East Glenhall Road area, and along the northern tier of the township, above and along the Brandywine Creek. Newer cluster developments are best exemplified by Newlin Greene.

West Marlborough's residential development occurs primarily on larger agricultural land uses and perhaps can be better categorized as country residences. Suburban-type developments are limited to a few areas, such as Pinecrest Village located south of Rokeby Road at the far northern edge of the township. The Villages of Springdell, Doe Run and London Grove are well preserved neighborhoods with clusters of historic single family homes. Doe Run village in particular, has changed very little over the last century and represents a classic crossroads

settlement. Approximately one-third of the homes in West Marlborough are located upon farms, with the remainder being near crossroads.

Two-Family Residential. Two-family residential units are comprised of “twin” homes (side by side units sharing a common wall) or duplex units (under-and-over units sharing a floor and ceiling). Such units comprise a relatively few number of units in the region, as only a total of 54 units are in the three municipalities. These units are actually fairly evenly spread throughout the region. Most are of the “twin” nature, and some are conversions of older homes into two units that have often occurred years ago. As a result, these homes often appear visually to be single-family homes. Some two-family housing units are also found in the housing facilities for the New Bolton Center and Longwood Gardens.

Multi-Family Residential. Multi-family housing can take several forms. Typically, they are defined as containing three or more units. They can contain such housing types as townhouses, quadruplexes, and apartments/condominiums. Generally, these unit types are two or three stories, and in the case of apartments/condominiums, have living units above one another on multiple floors. Multifamily units are found primarily along the Route 1 corridor in East Marlborough, in developments such as Longwood Village, Orchard Valley and Belrose. Another cluster of such housing is found at the “Stone Barn” property in West Marlborough, where several buildings of rental apartments are located.



Townhouses in Longwood Village.



Townhouses in the Belrose community.

Mobile Homes. The mobile home category is characterized by residential dwellings that were fabricated in an off-site facility and placed at a home site, and includes both manufactured homes and trailers that have been fitted for residential use. Such units are noteworthy because they are specifically listed in §604 of the MPC as a type of housing that must be provided for in every municipality. Mobile homes are found within all three municipalities in the study area, but most

of the units in the region are located in East Marlborough and Newlin Townships. There are no mobile home parks in the study area.

Recreation Uses

There are numerous privately-owned recreational facilities located within the study area such as the Kennett Square Golf and Country Club, Longwood Gardens, and the Southern Chester County Sportsmen's and Farmers' Association archery, rifle and fishing club. The only municipal recreation facilities that exist in the study area are situated in East Marlborough Township: the baseball fields located on Doe Run Road in Unionville, and the new Unionville Community Park, that is planned for development adjacent to the Po-Mar-Lin Fire Company facility in East Marlborough. The Master Site Plan for the park is scheduled for completion by the consultant in June, 2011, with development planned in 2013 subject to adequate grant funding being made available. The school district provides additional recreational opportunities to the citizenry.

Non-Residential Uses

Commercial land uses are located principally along the Route 1 corridor. Route 1 is a regional highway that connects Delaware County and Route 202 to the areas of southwestern Chester County. Non-residential land uses along this area consist of a wide variety of uses including offices, shopping centers, "big box" retailers, hotels, gasoline stations, and fast food restaurants. These uses provide a range of services and job opportunities to the local residents, while also reducing vehicular trips out of the region for basic necessities and employment. In addition to Route 1, East Marlborough also has a neighborhood commercial node in the Village of Willowdale (at Routes 926 and 82), and a second node further north in the Village of Unionville (along Doe Run Road).



Schoolhouse Crossing, a retail/commercial/office development adjacent to Wal-Mart (Schoolhouse Lane near Route 1.)



Landhope Farms in Willowdale (corner of Routes 82 and 926).

West Marlborough's non-residential development is limited to only a few sites. The principal non-residential use is the Stone Barn Restaurant and Banquet Hall. This use is located in the eastern side of the township along Upland Road. It is actually part of a mixed-use site, with rental residential units located to the rear of the restaurant. The Village of Springdell contains a few commercial uses including the Whip Tavern, Springdell Garage, and a blacksmith shop, Springdell Forge.

Newlin Township's non-residential uses are quite limited and are generally scattered throughout the municipality. The KOA campground located on Embreeville Road is a mix of land uses, comprising elements of non-residential, open space, and recreational uses.

Institutional Uses

Institutional uses comprise nearly 870 acres of land, concentrated primarily in East Marlborough Township. These uses include churches, cemeteries, schools, and the New Bolton Center. These uses are important in that they help to provide a sense of community (i.e., churches and schools), provide employment opportunities, and often are important parts of an open space network (i.e., the New Bolton Center).

West Marlborough contains a portion of the New Bolton Center, the Stroud Water Research Center, and several small cemeteries. Newlin contains a portion of the lands associated with the Embreeville Center, located along the northern boundary of the township.

Industrial/Warehouse Uses

Industrial uses include activities like manufacturing, warehousing, junkyards, and assembly facilities. These land uses are businesses that provide jobs and help to support to the overall tax base of the community. Within the Unionville region, most of the industrial uses are found near Route 1 in East Marlborough Township, in areas like the Walnut Corporate Center, Longwood Business Park, Eagle Business Center, the 503 North Walnut Road Business Center. West Marlborough has only two small sites devoted to industrial uses: Petragnani Brothers' and Electro-Systems Company. Newlin Township has a few industrial uses, including CM Kristman Excavation, Stockton Supply, and Hicks' Machine Shop.

Utility and Transportation Uses

This grouping includes utilities, such as water and electricity uses, transportation uses, such as railroad lines and roads, and landfills. Roads are the major transportation use in the region. There are no significant railroads in the region, except for a lightly used at present (3-4 times a week) freight rail line that passes through Newlin Township. Electrical substations (located throughout the region) and the Kennett Square water supply (located on Walnut Road) are the principal utility uses in East Marlborough. West Marlborough contains a Columbia Gas Transmission line and PECO overhead transmission lines, both of which also pass through Newlin Township. Newlin Township also contains the Strasburg Landfill site, which is closed and undergoing remediation and monitoring for contamination.

Roads are dispersed throughout the region and are covered in more detail in the Transportation & Circulation chapter of this document. However, as a land use, roads are very important as they serve as the principal means for movement of people and goods in the region. A hierarchy of roads exists throughout the study area, ranging from fully-improved, major thoroughfares to rustic dirt roads. From a land use perspective, roads influence where growth is likely to occur and where growth could (and should) be accommodated.

Municipal Uses

Municipal uses include government buildings, public works garages, firehouses, water reclamation fields, spray irrigation areas, and related uses. The two largest areas of municipal use are the Water Reclamation fields located on Route 926 and along Wollaston Road in East Marlborough Township. These areas are used for the disposal of treated sewer effluent from East Marlborough, and provide for groundwater recharge opportunities.

Conclusions

The Unionville region has been and will continue to be an area characterized by a prevalence of agricultural land uses. Farming is the fabric of the region, and it is likely to remain the primary land use in the study area due to its ongoing economic viability. Conservation easement programs have been an important partner in preserving the open space of the Region. The efforts of private non-

profit organizations, Chester County, and private landowners have helped to maintain the open space character of the area.

Nevertheless, there have been ample opportunities for the provision of residential land uses, as demonstrated by the growth that has occurred in East Marlborough over the past 30 years. While West Marlborough and Newlin Townships remain overwhelmingly rural with only about 900 residences combined, and spread over 29 square miles (18,560 acres), East Marlborough has lost agricultural land while experiencing a rise in residential land uses. These land uses have been diverse and include multifamily units, age-restricted housing, mixed-use residential developments, and cluster developments. With the exception of the Route 1 corridor (which operates as a regional center of commerce), non-residential land uses form a relatively small portion of the region's land use, and include relatively small commercial nodes around historic villages and crossroads. Private and non-profit uses like Longwood Gardens, New Bolton Center, and numerous parcels owned by conservation organizations, add to the open space and institutional uses throughout the region. These additional areas of protected lands are important factors in supporting the existing rural character of the area.

Chapter 6 – Demographics & Community Profile

Demographics

One of the principal purposes of a comprehensive plan is to prepare for whatever growth and changes to the region that are likely to occur over the next ten years. Population and employment forecasting are central elements to assessing the magnitude of expected population and job growth. In this element of the plan, an analysis of the population, housing, and employment characteristics will be presented. While some of the data is a bit dated, and is from the 2000 U.S. Census, certain aspects of the data have been updated through the efforts of the U.S. Census Bureau, the Delaware Valley Regional Planning Commission (DVRPC) and the Chester County Planning Commission¹⁰. While the focus of this plan is for the period 2010 to 2020, it is instructive to understand past demographic trends before considering future forecasts.

Population

A key element of the plan is to understand the existing and projected population levels. This has a direct impact on the number of housing units, land use patterns, school aged children, traffic impacts and a host of other issues. Pennsylvania's population growth patterns show a persistent long-term trend of population decline in its urban centers, and continued population growth and expansion of its suburban and rural townships¹¹. This is seen within this region primarily by the growth in East Marlborough Township, but there has been little growth in West Marlborough and Newlin Townships. Births, deaths, in-migration, and out-migration are the basic measures of population change in the Region. Table 6-1 on the next page shows the population of the Unionville Region's communities, along with that of Chester County as a base comparison tool.

¹⁰ The 2010 Census is underway as of the preparation of this report. It is not expected that final data from this Census will be released until after the Regional Plan is completed.

¹¹ 2005 State Land Use and Growth Management Report, Governor's Center for Local Government Services (Center).

Table 6-1
Census 2000- Historic Population and Rate of Change

	1980 Population	1990 Population	2000 Population	Number Change 1980- 1990	Percent Change 1980- 1990	Number Change 1990- 2000	Percent Change 1990- 2000
<i>Chester County</i>	316,660	376,396	433,501	59,736	18.9%	57,105	15.2%
<i>Unionville Region:</i>							
East Marlborough	3,953	4,781	6,317	828	20.9%	1,536	32.1%
West Marlborough	941	874	859	-67	-7.1%	-15	-1.7%
Newlin	725	1,092	1,150	367	50.6%	58	5.3%
Total, Unionville Region	5,619	6,747	8,326	1,128	64.4%	1,579	35.7%

Source: Census Information, #C2-01, Chester County Planning Commission, April, 2001.

Various subcategories of the overall population are presented in the following tables, including population by sex, race and Hispanic/Latino Origin; and population by age.

Table 6-2
Population by Sex (Census 2000)

	Total Population (2000)	Male Population		Female Population	
		Number	Percentage	Number	Percentage
<i>Chester County</i>	433,501	212,739	49.1%	220,762	50.9%
<i>Unionville Region:</i>					
East Marlborough	6,317	3,166	50.1%	3,151	49.9%
West Marlborough	859	440	51.2%	419	48.8%
Newlin	1,150	581	50.5%	569	49.5%
Total, Unionville Region	8,326	4,187	50.3%	4,139	49.7%

Source: U.S. Department of Census (2000).

Table 6-3
Population by Race (Census 2000)

	Total Population	Hispanic or Latino	White	African American	Asian	Others
<i>Chester County</i>	433,501	16,126	377,925	26,395	8,400	4,655
<i>Unionville Region:</i>						
East Marlborough	6,317	250	5,790	75	147	55
West Marlborough	859	74	764	11	5	5
Newlin	1,150	23	1,105	9	5	8
Total, Unionville Region	8,326	347	7,659	95	157	68

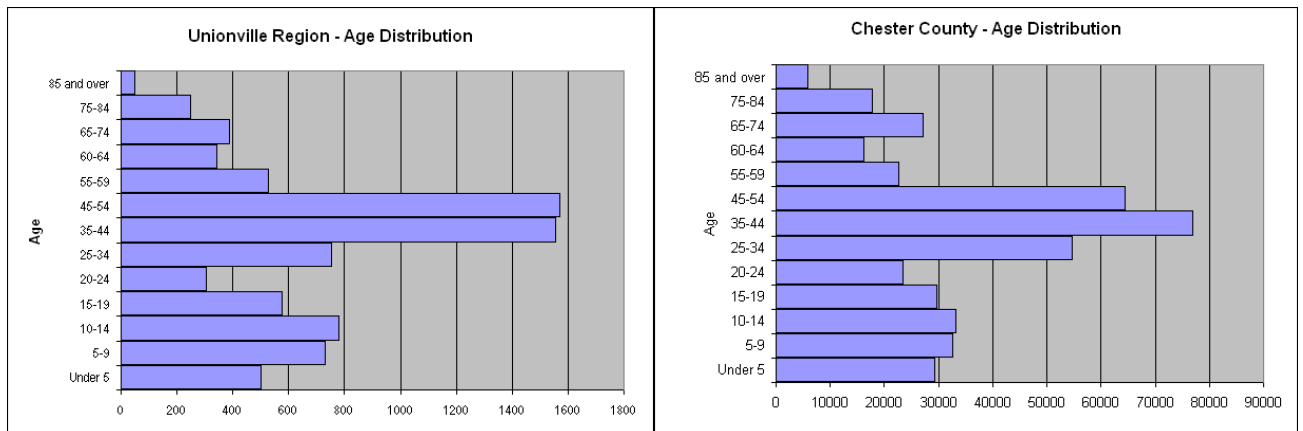
Source: Census Information, Chester County Planning Commission, April, 2001.

Table 6-4
Population by Age (Census 2000)

	Total Population (2000)	Age												85 and over
		Under 5	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-59	60-64	65-74	75-84	
<i>Chester County</i>	433,501	29,330	32,556	33,105	29,600	23,410	54,720	76,903	64,406	22,583	16,211	27,128	17,782	5,767
<i>Unionville Region:</i>														
East Marlborough	6,317	403	584	634	457	220	536	1,193	1,181	388	242	272	172	35
West Marlborough	859	43	66	68	48	43	119	147	143	55	43	49	28	7
Newlin	1,150	56	80	78	71	42	99	217	245	83	57	67	47	8
Total, Unionville Region	8,326	502	730	780	576	305	754	1,557	1,569	526	342	388	247	50

Source: U.S. Department of Census (2000).

Chart 6-1
Population by Age (Census 2000)



The final piece of the population analysis is to project future population levels. The U.S. Census Bureau provides annual estimates of the population changes to minor civil divisions (townships and boroughs in Chester County). With these estimates, DVRPC then prepares forecasts for population levels in 5 year increments out to 2035. The next two tables tabulate this information for the region.

Table 6-5
Population Change Since 2000 Census

	Total Population (2000)	July 1, 2009 Estimate	Change 2000-2009	Percent Change 2000-2009
<i>Chester County</i>	433,501	498,894	65,393	15.1%
<i>Unionville Region:</i>				
East Marlborough	6,317	8,075	1,758	27.8%
West Marlborough	859	877	18	2.1%
Newlin	1,150	1,295	145	12.6%
Total, Unionville Region	8,326	10,247	1,921	23.1%

Source: Population Division, U.S. Census Bureau, July, 2010.

The Census Bureau's Population Estimates Program produces on July 1 of each year estimates for the years following the last published decennial census (2000). Existing data such as births, deaths, federal tax returns, Medicare enrollment, and immigration are used to update the 2000 Census base counts.

West Marlborough's population growth from 2000-2009 is very small and represents one of the lowest growth rates in Chester County for a township. Newlin Township had a growth rate slightly lower than Chester County as a whole (12.6% v. 15.1%). East Marlborough's rate of population growth between 2000 and 2009 (27.8%) is higher than Chester County's, but was below nearby communities such as London Grove (30.6%); Londonderry (35.2%); and New Garden (31.3%) Townships. East Marlborough's growth rate has slowed dramatically between 2007 and 2009, only increasing by 1%, which is much lower than Chester County's rate of 2.7% between the same two years¹².

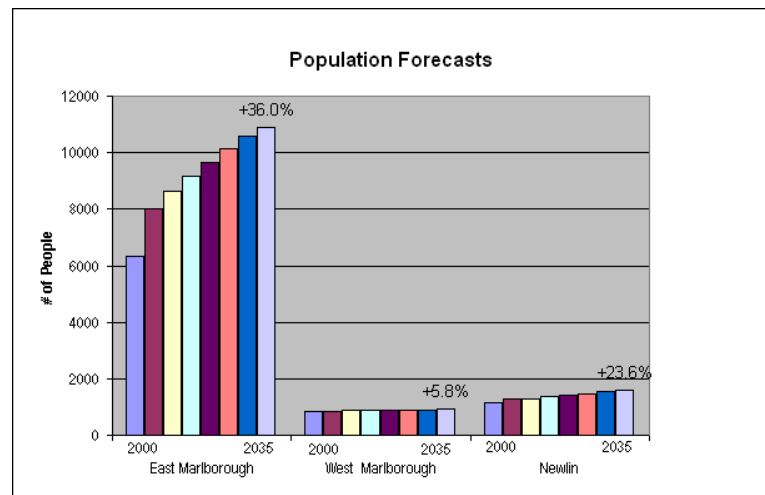
¹² The U.S. Census Bureau released population data for the region in March, 2011. The 2010 population of East Marlborough is 7,026; Newlin 1,285; and West Marlborough 814, which are all lower than previous estimates and projections.

Table 6-6
Municipal Population Forecasts 2005-2035

	Total Population (2000)	July 1, 2009 Estimate	2010 Forecast	2015 Forecast	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	Percent Change, 2009-2035
<i>Chester County</i>	433,501	498,894	505,395	531,791	557,623	582,047	605,271	622,498	24.8%
<i>Unionville Region:</i>									
East Marlborough	6,317	8,075	8,649	9,165	9,658	10,129	10,578	10,892	34.9%
West Marlborough	859	877	877	885	893	900	906	912	4.0%
Newlin	1,150	1,295	1,304	1,366	1,424	1,479	1,531	1,579	21.9%
Total, Unionville Region	8,326	10,247	10,830	11,416	11,975	12,508	13,015	13,383	30.6%

Source: U.S. Census Bureau, Delaware Valley Regional Planning Commission (DVRPC), June 2007, and calculations by Glackin Thomas Panzak, Inc.

Chart 6-2
Municipal Population Forecasts 2000-2035



Population estimates are completed periodically by the DVRPC and the Chester County Planning Commission. The DVRPC projections are based on four estimation methods that are detailed in the publication Delaware Valley Data, Analytical Data Report, Regional, County and Municipal Population and Employment Forecasts, 2005-2035. The projections include a growth rate analysis and known information about municipal population numbers from previous DVRPC work. These projections are reviewed with the Chester County Planning Commis-

sion. Projections are one of the most important factors in constructing the recommendations of this plan. They have a direct impact on the amount of housing that will likely be produced, and will impact many other decisions such as parks, schools, road improvements, and utility capacity.

West Marlborough and Newlin have low population growth projections through 2020 (11.4% and 9.4% respectively). East Marlborough's is somewhat higher than the overall county rate. Based on the 2009 estimates however, it appears that Newlin and West Marlborough will be on target with their 2010 estimated population numbers. However, East Marlborough will fall short of its projected population given the fact that only 84 people have been added to its population in the last two years. Thus, it is highly unlikely that it will add 574 people in one year to meet its 2010 estimate. In reviewing surrounding municipalities, the areas along the Route 1 corridor and south towards Delaware (East Marlborough, New Garden, Kennett and London Grove) generally exhibit higher absolute population growth levels than areas situated to the north (West Marlborough, Newlin, Pocopson, and Londonderry).

While projections are available to 2035, it is more reasonable to plan for the projected growth through 2020, and regard the last 15 years of the projection cycle as a rough guideline that will be subject to further analysis. The numbers from 2020 to 2035 will be reviewed several times by DVRPC and Chester County before a reasonable planning horizon occurs.

Housing

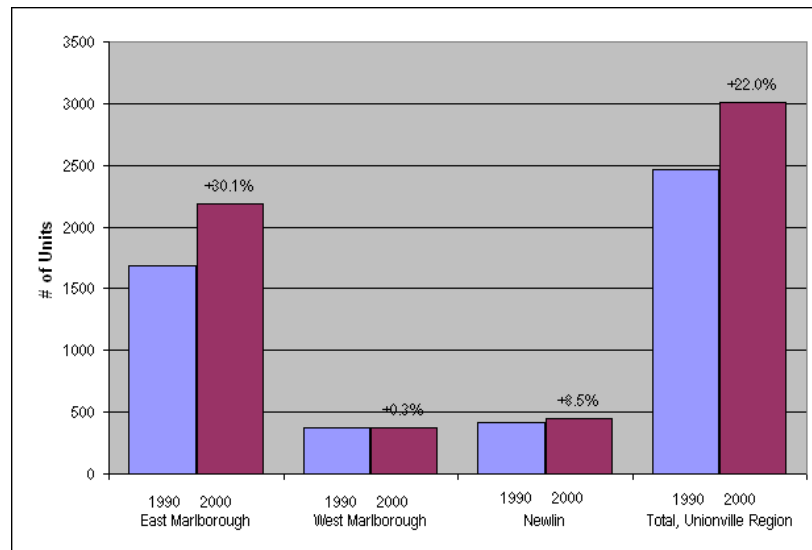
Along with population, another element that relates to how a community will change over time is the housing characteristics of a community. The mix of unit types, the age of the structures, the tenure and vacancy rates are all related to future issues that could face the region. The rate of growth that has occurred in the region, both from a population view and a housing type view is also important to understand in determining fair share issues. Tables 6-7 through 6-12 set forth the housing characteristics of the region and how it relates to the overall housing mix throughout Chester County.

Table 6-7
Total Housing Units

	1990	2000	Change 1990-2000	Percent Change 1990-2000
<i>Chester County</i>	139,597	163,773	24,176	17.3%
<i>Unionville Region:</i>				
East Marlborough	1,682	2,188	506	30.1%
West Marlborough	374	375	1	0.3%
Newlin	411	446	35	8.5%
Total, Unionville Region	2,467	3,009	542	22.0%

Source: Census Information, #C5-01, Chester County Planning Commission, July, 2001

Chart 6-3
Total Housing Units



The rate of change exhibited in housing closely correlates with population changes. East Marlborough, from 1990 to 2000, exhibited a significant change in the number of housing units, with the total number of units in the housing stock increasing by almost one-third. This is comparable to the population growth during this period of 32%. West Marlborough and Newlin, conversely, have seen very few new housing units constructed - a total of only 36 over the 10 year period.

Table 6-8
Housing Tenure (2000 Census)

	Occupied Housing Units	Owner Occupied	Renter Occupied	Average Household Size, Owner Occupied	Average Household Size, Renter Occupied	Total Average Household Size
<i>Chester County</i>	157,905	120,428	37,477	2.80	2.16	2.65
<i>Unionville Region:</i>						
East Marlborough	2,131	1,875	256	3.01	2.30	2.92
West Marlborough	349	189	160	2.48	2.34	2.41
Newlin	429	356	73	2.76	2.29	2.68
Total, Unionville Region	2,909	2,420	489	-	-	2.86

Source: U.S. Department of the Census, 2000

What is noteworthy regarding Housing Tenure is that West Marlborough has almost as many rental units as owner occupied units. This proportion is very different from the other two municipalities. This is largely due to landowners having structures on their properties that are suitable for rent, the number of units at the Stone Barn property, and rental units within the Village of London Grove. Another statistic in the tenure numbers is the fact that the average household size continues to decrease. This is true for Chester County as a whole, with the average household size declining from 2.9 in 1980; to 2.73 in 1990; to 2.65 in 2000. The three municipalities in the region have shown similar decreases since at least 1980. It is believed that this decrease is due to couples having fewer children and the aging of the population with people remaining in their homes after their children leave. However, it would not be surprising if the household size started to increase slightly as young adults are remaining with their parents longer because of the economy, and older residents may be moving back with their children due to both economic and health issues.

Table 6-9
Housing Occupancy (2000 Census)

	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Homeowner Vacancy Rate	Rental Vacancy Rate
<i>Chester County</i>	163,773	157,905	5,868	1.0%	4.8%
<i>Unionville Region:</i>					
East Marlborough	2,188	2,131	57	0.7%	2.7%
West Marlborough	375	349	26	2.1%	4.8%
Newlin	446	429	17	0.8%	0.0%
Total, Unionville Region	3,009	2,909	100	-	-

Source: U.S. Department of Census (2000).

The housing occupancy data reflects typically low homeowner vacancy levels, although West Marlborough, at least on a percentage basis, exhibits a homeowner vacancy rate twice that of the county.

Table 6-10
Housing Units in a Structure
(2000 Census)

	Total Housing Units	1-Unit Detached	1-Unit Attached	2 Units	3-4 Units	5-9 Units	10-19 Units	20 or More Units	Mobile Homes	Boat, RV, Van, Etc.
<i>Chester County</i>	163,773	101,669	27,258	3,389	5,288	5,919	6,798	8,359	5,030	93
<i>Unionville Region:</i>										
East Marlborough	2,188	1,795	269	22	40	27	0	0	35	0
West Marlborough	375	289	21	18	17	21	12	0	8	0
Newlin	446	401	11	14	0	0	0	0	20	0
Total, Unionville Region	3,009	2,485	301	54	57	48	12	0	63	0

Source: U.S. Department of Census (2000).

Table 6-10 and Chart 6-10 indicate the type of units that exist in a structure. The majority of housing in the region is single family detached, about 82.2% of the total. Attached housing in the form of one or two units in a building comprise 11.7% of the total housing, with approximately 6% devoted to three or more units in a building or mobile homes.

Chart 6-10
Housing Units in a Structure
(2000 Census)

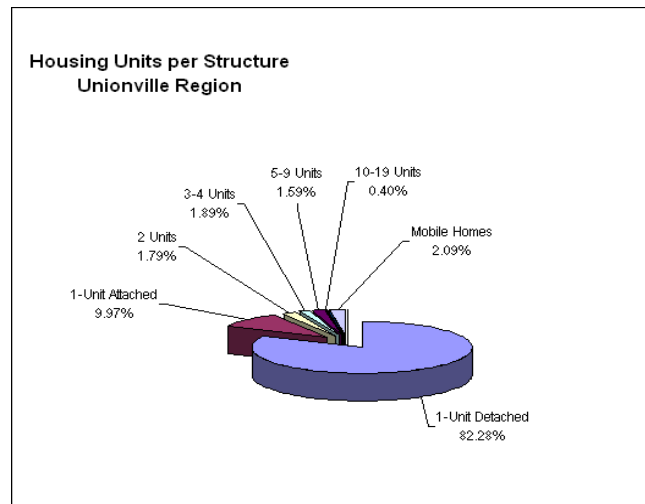


Table 6-11
Housing Units Authorized by
Residential Building Permits: 2000 through 2008¹³

	Single-Family Detached	Single-Family Attached	Mobile Homes	Multi-Family Units	Total
<i>Chester County</i>	20,674	4,732	1,626	3,620	30,652
<i>Unionville Region:</i>					
East Marlborough	489	126	1	2	618
West Marlborough	21	0	2	0	23
Newlin	74	0	0	0	74
Total, Unionville Region	584	126	3	2	715

Source: DVRPC, Regional Data Bulletin No. 88, (July 2007) and Chester County Planning Commission, Data Sheets #1-04 and #1-2009.

Table 6-11 indicates the number of permits issued, not necessarily the number of homes built, although the assumption is that they were built. It also does not account for lots approved for subdivisions or land developments that have not had building permits issued for the homes to date. While the information presented above is not compiled by year, the housing industry has historically been cyclical in nature and the totals represent the demand for new housing in the region. The data from 2000-2008 does not statistically alter the overall ratios of units by type throughout the region.

Table 6-12
Housing Values (2000 Census)

	Less than \$50,000 to \$199,999	\$200,000 to \$499,999	\$500,000 or more	Median Value
<i>Chester County</i>	61,030	41,237	3,987	\$182,500
<i>Unionville Region:</i>				
East Marlborough	432	1,210	108	\$265,800
West Marlborough	73	41	4	\$171,600
Newlin	103	98	15	\$205,800
Total, Unionville Region	608	1,349	127	-

Source: U.S. Department of Census (2000), Chester County Planning Commission.

¹³ For the years 2000-2002, single-family attached units are combined with single-family detached units due to reporting methods.

Table 6-12 shows the median value of all owner occupied housing in the region. It does not account for the value of rental housing. This data is 10 years old and does not reflect the sharp run-up in prices that occurred prior to 2007, nor does it reflect the reduced values that have resulted from the economic downturn of 2008-2010.

Employment

Employment is a final factor in understanding the demographics of a region and determining growth rates going forward. Employment relates to demand for housing, is important in financing the operations of the municipalities and school districts, and represents land uses that are sometimes at odds with citizen preferences. Job opportunities should roughly correlate with increased population levels, since additional residents require additional jobs to be obtainable, whether in the Region or in close proximity. Table 6-13 lists past employment levels, and provides projections for the future.

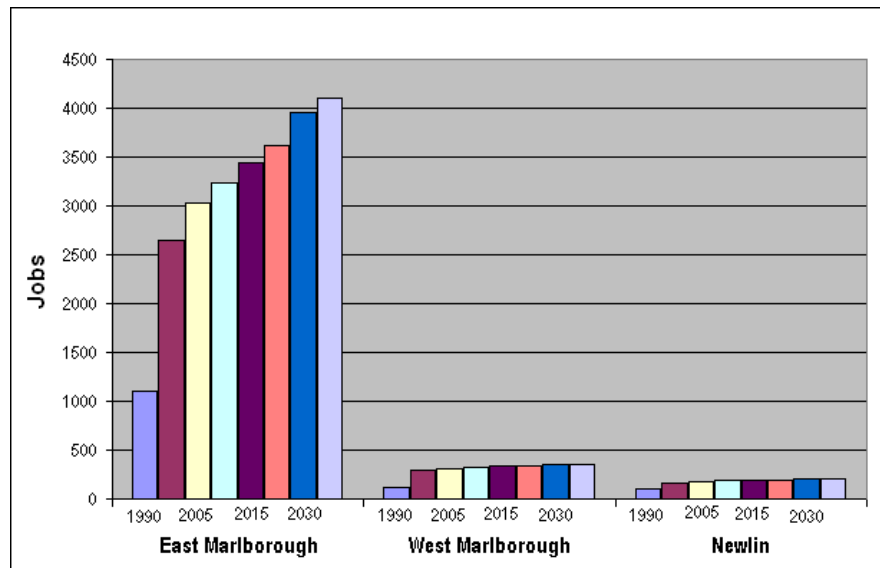
Table 6-13
Employment Forecasts by Municipality
2005-2035¹⁴

	1990 Census	2000 Census	2005 Estimate	2010 Forecast	2015 Forecast	2020 Forecast	Percent Change, 2005-2020	2030 Forecast	2035 Forecast	Absolute Change, 2005-2035	Percent Change, 2005-2035
<i>Chester County</i>	197,752	238,641	253,628	270,079	285,352	299,944	18.3%	326,992	337,093	83,465	32.9%
<i>Unionville Region:</i>											
East Marlborough	1,105	2,643	3,036	3,241	3,436	3,620	19.2%	3,956	4,107	1,071	35.3%
West Marlborough	123	290	307	327	335	342	11.4%	355	360	53	17.3%
Newlin	110	169	180	186	192	197	9.4%	207	211	31	17.2%
Total, Unionville Region	1,338	3,102	3,523	3,754	3,963	4,159	18.1%	4,518	4,678	1,155	32.8%

Source: DVRPC, *Analytical Data Report No. 14* (August, 2007).

¹⁴ Employment forecasts are based on U.S. Census data, Bureau of Labor Statistics data, Bureau of Economic Analysis data, and a model developed by DVRPC for calculating such projections.

Chart 6-11
Employment Forecasts by Municipality
2005-2035¹⁵



All three of the municipalities in the Unionville region are forecast to add jobs through the year 2020. All three employment growth rates are less than the county as a whole through 2020, and West Marlborough and Newlin have very low numbers in terms of absolute changes in employment. East Marlborough is forecast to add about 1,000 jobs over the planning period, and it is expected that most of these jobs will be within the Route 1 corridor, which is part of a larger regional employment center. Again, whether these jobs materialize during the planning period of this plan due to the economic downturn, only time will tell.

DVRPC has developed a report that designates 136 employment centers throughout the Delaware Valley region. Employment centers are defined as integrated, concentrated, areas of non-residential development that share transportation and land use linkages, have at least 500 employees, and have an employment density of at least .5 employees per acre. Some of the obvious employment centers are the cities and sections of the cities of the region such as Philadelphia and Wilmington, to which a number of local residents commute. Sub regional employment centers in Chester County include such areas as West Chester, the Route 202-Route 30/Great Valley-Malvern corridor, and Downingtown/Exton. Centers close to the Unionville region include Route 1/Kennett Square, Route 41/Avondale, and West Grove. As of 2000, these three local centers have combined for jobs for 17,256 employees.

¹⁵ Employment forecasts are based on U.S. Census data, Bureau of Labor Statistics data, Bureau of Economic Analysis data, and a model developed by DVRPC for calculating such projections.

Conclusions

In examining past trends and projections for the future, the three communities comprising the Unionville region are expected to show an overall low to moderate growth rate in population, housing and employment. In most instances, West Marlborough and Newlin are expected to have very low rates of change in the core demographic areas. East Marlborough, largely due to impacts from the Route 1 corridor, the availability of developable land, a desirable school district, and convenience to regional employment centers has seen and will continue to see growth at a low to moderate level. However, the growth rate will be very slow, at least in the short term through at least 2012, since the economic downturn of the past couple of years has severely impacted new housing construction in the country as well as the Unionville Region. Housing starts have declined from 2008 through 2010, and at this writing, show little inclination of returning to pre-2007 levels. While such housing downturns are cyclical in nature, the severity of the current one is expected to have a longer impact than earlier housing retreats, thus its impacts will be felt for several years from now. Further, due to land use decisions made in 2004 regarding the preservation of agricultural land in the western half of East Marlborough, growth rates will moderate going forward, and it is our opinion that the projections for population, housing and employment growth made by the regional agencies particularly for East Marlborough are on the high side, and that actual rates going forward for the plan's planning horizon will be less. In East Marlborough's case, the projected 2010 population of 8,649 is not likely to be reached. The most recent 2009 population estimate by the U.S. Census Bureau of 8,075 is approximately 500 fewer people than the total projected one year from now.

Employment growth has also been severely impacted by the recent recession. DVRPC employment growth rates projected moderate growth levels, perhaps 400± jobs from 2010 to 2020. This level of employment expansion is also likely to be curtailed for the short term. There are approximately 66 acres of undeveloped LMU and LI lands in East Marlborough, which has the potential for over 500,000 square feet of additional nonresidential development. In addition, there are small amounts of commercially-zoned vacant land available, and small parcels that could be considered for redevelopment. This amount of developable land is more than enough to satisfy the projected employment growth during the planning period. Thus, pressure for additional land to be made available for industrial and commercial growth is not expected.

Slower growth rates and thus a slower loss of open space would help to stem recent regional trends of land consumption. Local, state, and federal efforts

to strengthen boroughs and cities near the region should continue to be encouraged so that their population and housing levels stabilize, and perhaps increase. This, in turn, could relieve pressure to develop green fields in rural and suburban areas.

Chapter 7 – Buildout Analysis & Housing Plan

A mandatory element of all comprehensive plans in Pennsylvania is the inclusion of a housing plan. The plan is outlined in the Municipalities Planning Code, Section 301. Such a plan should outline strategies to meet the housing needs of present residents and those anticipated to reside in the Region. The plan may include elements related to the conservation of existing housing, rehabilitation of housing and accommodations of expected new housing in different dwelling types and at appropriate densities for all households. The MPC further states in Section 604 that zoning must provide for the use of land for residential housing of various dwelling types encompassing all basic forms of housing, including the specific housing types of single-family and two-family dwellings, a reasonable range of multifamily dwellings in various arrangements, mobile homes and mobile home parks¹⁶.

This section of the plan will examine future growth needs in relation to current land uses and allowable land uses under zoning. If enough land is not available to support projected growth for varied housing types due to zoning or other limitations, then the Region could be challenged by a curative amendment to provide additional housing choices and opportunities at locations not in keeping with the land use recommendations. A curative amendment requests site specific relief, which may or may not conform to where particular housing types should properly be located in a Region. The leading case on how a curative amendment on this matter is to be considered is *Surrick v. Zoning Hearing Board of Upper Providence Township*, 476 Pa. 182, 382 A.2nd 105 (1976). Briefly, the inquiry must focus on (1) whether the community in question is a logical area for growth and development; (2) if it is in the path of growth, the level of current development; and (3) if the area is located in the path of growth and is not already highly developed, then do the land use regulations unlawfully exclude the legitimate use in question.

Potential for Growth and Development in the Unionville Region

The first test of the *Surrick* case focuses on whether the region is a logical area for growth and development, or located in “the path of growth”. The Unionville area is projected to grow in population to 11,975 residents by the year 2020. This represents an additional 1,728 residents over the 2009 estimate of popula-

¹⁶ While municipalities should provide for commercial and industrial uses based on the needs of a community, Robert Ryan in his *Pennsylvania Zoning Law and Practice* writes that “fair share” claims involving commercial and industrial uses have had little success (§3.5.13).

tion provided by the U.S. Census Bureau and DVRPC (see Table 6-6). Very simply, with an average family size of 2.86 residents per occupied housing unit¹⁷, this would equate to a need for approximately 604 additional dwelling units by 2020. However, for reasons stated in the conclusion of Chapter 6, this population growth rate and need for additional housing is most likely at the high end of the scale since East Marlborough's rate of growth has slowed considerably from what was projected. Nevertheless, to be conservative, the analysis provided herein will analyze the need for 604 additional dwelling units by the year 2020 although such number is likely to be in excess of what is reasonably expected, and as such should be considered at the high end of the range when determining housing need.

The Region is located less than 10 miles from the major metropolitan area of Wilmington, Delaware and New Castle County lies to the south. The Region is situated approximately 25 miles southwest of Philadelphia, Pennsylvania, and even closer to the populous suburbs of Delaware County. The area is served by several transportation routes, particularly Route 1, but roads such as Routes. 82, 926, and 52 also allow for good access to employment centers. There have been consistent gains in population and employment in the Region, as there has been a 61% rate of employment growth from 1990 through the last estimate available in 2005 for the Region. Population growth in the Region grew by 64.4% from 1980-1990; by 35.7% from 1990 to 2000; and by 23.1% from 2000 through 2009. It is projected to grow by 16.8% from 2009 to 2020. Therefore, it is concluded that based on such projected growth and the Region's location that it is in the path of future growth.

Current Levels of Development in the Region

The second test of the *Surrick* case is whether the Region is fully developed. A 2003 decision by the Commonwealth Court determined that active use of land for crop farming, general farming, farm support nursery and horticultural uses was "developed" for purposes of fair share analysis. Almost 50% of the Region is currently occupied by agriculture and pasture uses, with 13.44% occupied by residential uses. (Table 5-1, Ibid.). Determining the amount of land in the Region that is vacant and available for development and land that is underdeveloped is critical in analyzing land available for future development. By analyzing GIS data, the plan is able to assess environmental limitations such as steep slopes or flood-plains, which significantly limit availability for future development. Other lands - both wooded and agricultural, particularly those in East and West Marlborough are under conservation easements, and thus as a practical matter, are also not available for development. Based on GIS calculations, there are approximately

¹⁷ Average for the 3 municipalities.

7,000 acres (see Table 7-3) of the 28,603 acres in the Region that are developable when constrained lands, developed lands and parcels under conservation easements are excluded from consideration, or 24.4% of the Region. Thus, the Region has land available for future development, as the Supreme Court of Pennsylvania has considered a community that was 96% developed, to be developed¹⁸.

The Delaware Valley Regional Planning Commission has published a map entitled 2030 Planning Areas. This map depicts municipalities in the Region as to whether they are Core Cities; Developed Communities; Growing Suburbs; or Rural Areas. East Marlborough is shown as a “Growing Suburb”, while West Marlborough and Newlin are classified as “Rural Areas”.

Based on all of the foregoing factors, it is the Plan’s finding that the Region is still developing.

Housing Analysis

If the Region is in the path of growth, and it is still developing, then an examination of the current housing mix is in order. Many factors impact the type of housing built in a community. The amount of land available by zoning, the suitability of the land from an environmental standpoint, the demand for a particular housing type in the marketplace, the availability of utilities, the capacity and condition of surrounding roads are all elements that impact the type of housing that is built and where it is ultimately constructed. The current (as of 2008) number of housing units in the Region by municipality is shown in Table 7-1.

Table 7-1
Total Housing Units in Region

	Total Number of Housing Units in 2000	Total Number of Housing Units Added 2000 to 2008	Total Number of Housing Units
East Marlborough	2,188	618	2,806
West Marlborough	386	23	409
Newlin	446	74	520
TOTAL	3,020	715	3,735

Table 7-2 on the next page provides a breakdown of the housing in the Region by housing type. Over the years, data for housing types has been collected in

¹⁸ Appeal of Elocin, Inc., 501 Pa. 348, 461 A.2nd 771 (1983).

different manners as explained in footnotes 18 and 19. Table 7-2 shows that the Region is comprised of primarily single family detached housing, which is typical of most rural communities in Chester County. The Unionville Region also possesses a reasonable range of multifamily housing and attached units, which provide housing choices for those not able or not wishing to live in detached structures. Mobile homes comprise a segment of the local housing market.

Table 7-2
Number and Percentage of Housing Units by Type
In the Unionville Region (2008)^{19,20,21}

	Single-Family Detached		Multifamily & Attached		Mobile homes		Total
East Marlborough	2,284	81.4%	486	17.3%	36	1.3%	2,806
West Marlborough	310	75.8%	89	21.8%	10	2.4%	409
Newlin	475	91.3%	25	4.8%	20	3.8%	520
TOTAL	3,069	82.2%	600	16.1%	66	1.8%	3,735

SOURCE: U.S. Census information from Chester County Planning Commission

The Land Use classifications in Table 5-1 are viewed as accurate representations of the primary uses of land today. However, for fair share calculations, a different land use matrix should be used. For fair share purposes, we have combined land use information from the GIS data sets of Chester County and DVRPC, along with our own visual inspection of land characteristics, to create a GIS layer that describes land areas on the basis of their current level of development and their potential for future development. Within this aggregated data layer, attributes were assigned to areas, specifying whether they are already developed, developable, or undevelopable. Such a breakdown provides a much more accurate accounting of how much land is available for development, as lands considered “in use” from an existing land use perspective, might be capable of future subdivision, and additional development could occur. This information is summarized, by Township and zoning district, in Table 7-3.

¹⁹ Prior to 2003, the “Multifamily & Attached” category only included apartments. From 2003 to 2008, it included twins, townhouses, condominiums, and apartments.

²⁰ The “Mobile Homes” category includes mobile homes situated on individual parcels.

²¹ The 486 multifamily and attached units listed for East Marlborough Township does not include 60 townhouses proposed for Walnut Road.

**Table 7-3
Developability of Lands based on
Land Use/Land Cover Characteristics,
Summarized by Zoning District**

	Developable Acres	Developed Acres	Undevelopable Acres	Total Acres
<i>East Marlborough:</i>				
AP	874.18	109.36	2,810.44	3,794.00
RB	806.57	2,361.19	1,160.55	4,328.39
RM	0.00	18.25	9.41	27.66
C1	0.00	12.56	0.22	12.78
VMU	49.05	48.16	6.23	103.44
C2	0.36	18.55	6.42	25.33
MU	2.13	96.15	24.60	122.88
LMU	11.90	38.83	8.04	58.77
LI	76.41	101.29	58.53	236.23
ESI	776.13	336.68	130.66	1,243.50
TOTAL	2,596.73	3,141.02	4,215.10	9,952.99
<i>West Marlborough:</i>				
AC	2,476.42	225.54	7,981.17	10,683.19
R1	31.16	38.92	57.96	128.04
R2	18.90	2.14	0.96	22.00
B1	19.64	2.14	8.11	29.89
AR	59.48	0.08	7.67	67.23
TOTAL	2,605.59	268.82	8,055.88	10,930.35
<i>Newlin:</i>				
PBZ	1,803.70	775.71	5,170.82	7,750.29
TOTAL	1,803.70	775.71	5,170.82	7,750.29
Study Area Total	7,006.02	4,185.55	17,441.80	28,633.62

NOTE: "Developed Areas" include lots or parcels with buildings and parking constructed, and also includes most single-family lots (unless such lots are capable of further subdivision/development).

"Undevelopable" lands consist of the following areas, as classified in the geographic information system (GIS) data layers:

- Water bodies (ponds and streams)
- 100-year floodplain
- Lands under conservation easement
- Lands controlled by homeowners' associations
- Municipal and State-owned lands
- Steep Slopes (greater than 25% slope)
- Soils classified as "All Hydric" by the Natural Resources Conservation Service

If the Region were to grow according to current 2020 projections, then 604 additional dwelling units would be required to be constructed by 2020. If one assumes that between 15% and 20% of this new housing should be allowed to be built as some form of multi-family units, either townhouses or apartment/condominium units, then land should be available for between 91 to 121 units of such housing. The 15% to 20% figure is based on Chester County recommendations for such allocations, and it is consistent with the current distribution of multi-family units in the region, which is 16.1% as shown in Table 7-2.

All three municipalities allow for housing types other than single family detached dwellings and at various densities expressed in dwelling units per acre (du/ac). In East Marlborough, for instance, multifamily housing is allowed in the R-M, WMU, MU, LMU, and LI zoning districts. West Marlborough allows for such housing in their R-2 district, and Newlin allows for three and four family dwellings anywhere in the township under their Flexible Rural Development zoning. Based on the amount of land zoned for multi-family development; the amount that is developable; and based on an assumed level of utilization of such land for multi-family housing, the Region could accommodate approximately 456 new multi-family units, which exceeds the required future demand. This calculation can be found in Table 7-4.

Regarding Column “f” in Table 7-4 in the calculations, such percentages for future use are estimates based on whether additional uses are permitted in those zoning districts that offer alternative density options. It is the Plan’s position that to assign 100% of all future development in a particular zone to one specific land use would not yield a reasonable estimate of likely land uses, thus percentages of future uses were estimated. It should also be noted that the maximum permitted density allowed in various zones was used in the calculations since in most cases, it is our professional opinion, that such densities would be the ones utilized.

Table 7-4
Potential Future Development of
Multifamily Housing by Zoning District

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Maximum Permitted Density	Total Acreage in Zoning District	Acreage of Developable Lands	Less reduction factor for Environmental and Infrastructure Constraints: 15%	Net Developable Land in Acres	Amount of Land Assumed for Multifamily Use	Possible Number of Multifamily Units (a) x (e) x (f)
R-M	8 du/ac	27.7	0	0.0	0.0	0%	0
PRD	2 du/ac		0	0.0	0.0	0%	0
RET	2 du/ac		0	0.0	0.0	0%	0
VMU	8 du/ac	103.4	49	7.4	41.7	50%	167
MU	8 du/ac	122.9	2.1	0.3	1.8	75%	11
LMU	8 du/ac	58.8	11.9	1.8	10.1	75%	61
LI	8 du/ac	236.2	76.4	11.5	64.9	20%	104
R-2	6 du/ac	22.0	18.9	2.8	16.1	75%	72
Performance Zone	0.5445 du/ac	7,750.2	1803.7	270.6	1,533.1	5%	42
TOTAL							456

A similar analysis can be completed for mobile homes. Accordingly, if a total of 604 additional dwelling units are needed by 2020, and one assumes that approximately 5% of this new housing could be mobile home units, then enough land should be made available to accommodate 30 units of such housing. All three municipalities allow for mobile homes. In East Marlborough mobile homes are allowed in the MU and LI Districts. West Marlborough allows for such housing in their R-2 district, and Newlin allows for mobile homes anywhere in the township under their Flexible Rural Development zoning. Table 7-5 on the next page indicates that sufficient land is available to meet the potential demand for mobile homes in the region until at least 2020.

Table 7-5
Potential Future Development of
Mobile Homes by Zoning District

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Maximum Permitted Density	Total Acreage in Zoning District	Acreage of Developable Lands	Less reduction factor for Environmental and Infrastructure Constraints: 15%	Net Developable Land in Acres	Amount of Land Assumed for Mobile Home Use	Possible Number of Mobile Home Units (a) x (e) x (f)
MU	5 du/ac	122.9	2.1	0.3	1.8	0%	0
LI	5 du/ac	236.2	76.4	11.5	64.9	25%	81
R-2	6 du/ac	22.0	18.9	2.8	16.1	5%	5
Performance Zone	0.5445 du/ac	7,750.2	1803.7	270.6	1,533.1	2%	17
TOTAL							103

Most of the housing has been and will continue to be single-family detached dwellings. With 5,992 acres of developable land in the 3 townships within zoning districts that allow for single family detached dwellings, there is sufficient land to accommodate approximately 1,766 housing units (see Table 7-6). If this housing were occupied by an average family size of 2.48²², then the population in only single-family homes could increase by 4,379 residents, which accommodates projected population growth not only to 2020, but through 2035.

Table 7-6
Potential Future Development of
Single-Family Detached Homes by Zoning District

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Maximum Permitted Density	Total Acreage in Zoning District	Acreage of Developable Lands	Less reduction factor for Environmental and Infrastructure Constraints: 15%	Net Developable Land in Acres	Amount of Land Assumed for Single-Family Detached Use	Possible Number of Multifamily Units (a) x (e) x (f)
AP	0.05 du/ac	3,794.0	874	131.1	742.9	95%	35
RB	0.54 du/ac	4,328.0	807	121.1	686.0	95%	352
AC	0.05 du/ac	10,683.0	2476	371.4	2,104.6	95%	100
R-1	1 du/ac	128.0	31	4.7	26.4	95%	25
Performance Zone	0.5445 du/ac	7,750.2	1803.7	270.6	1,533.1	80%	668
TOTAL							1,180

²² This is the average household size in West Marlborough for owner occupied units, which is the lowest rate of the 3 municipalities in the Region. Overall, the average household size for the Region is 2.86.

Combined, the total number of possible units for single family detached, multifamily, and mobile homes is 1,739 housing units, which significantly exceeds the maximum demand for housing of 604 units estimated to the year 2020.

Conclusions

The foregoing analysis indicates that there are suitable opportunities from a land use and zoning perspective to offer existing and future residents a fair choice of housing options. Land for multifamily and mobile home development exists and will cover the projected demand. Of course, the actual provision of such housing will depend on the private sector to recognize an actual demand and to construct the homes. The analysis also considers the fact that over 17,400 acres of land is undevelopable for various reasons. Some of this land would be unsuitable for development due to environmental factors, but much of the 17,400 acres has been privately restricted to ensure the open space and agricultural heritage of the Region continues going forward. This extraordinary effort to preserve land has occurred without overly restricting housing choices within the Region.

A final note on this analysis is the plan's assertion that development in rural areas will be less vigorous in the next decade than in the recent past. A statistical reason for the comment is the decreasing rate of population growth in the Region as set forth earlier in this Chapter, 23.1% from 2000 to 2009, v. a 35.7% rate in the previous decade. This decrease does not totally include the significant decline in the housing market experienced locally, regionally and nationally since 2009 as the lingering impacts of the market will continue to effect growth going forward. Surely the housing market decline will not continue indefinitely, but it will reduce the housing and population growth for a multi-year period during this Plan's time period. A second reason for this change is the Plan's belief that people may choose to live in housing that is located closer to employment centers in order to spend less time and money commuting to work. Thus, immigration from communities to the east of the region will slow, although this may be balanced by people already residing in the region, deciding to remain and not move to other settings.

People are increasingly seeking ways to reduce housing maintenance and improve household energy efficiency, a trend that could portend a demand for smaller homes in more compact developments. This assumption is best demonstrated in East Marlborough through the Traditions at Longwood community, which provides for more compact living for those 55 years of age and older. As the current baby boomer generation ages, it is expected that a desire to be close to family and services, having smaller houses, and having maintenance free living

will influence their decisions to spend their retired years locally as opposed to moving out of the region.

Chapter 8 – Open Space, Parks, & Recreation

Parks and recreation are an essential part of a healthy community, with positive impacts on public health, the environment, the economy, and the quality of life. Community facilities, including parks and open spaces, are a source of community pride and help to create community identity. The Unionville Area has one public park currently, and one public park in the planning stages. None of the municipalities operate municipal recreation programs. Private organizations and school district facilities support the recreation needs of the population. The Region has an abundance of protected open space and many outdoor amenities available to its residents.

Planning Standards for Recreational Facilities

The first step in determining whether a region has sufficient park and recreation facilities is to compare them to established standards. The accepted standards for this purpose are those developed by the National Recreation and Park Association (NRPA). Such planning standards are applied in the context of the population characteristics of a given study area. According to the 2008 population estimates, the Unionville Area had a population of 10,149 residents in 2008. The DVRPC projects that the region's population will increase to 11,975 residents by 2020 and to 13,015 residents by 2030.

Table 8-1 describes the various types of park facilities as defined by the NRPA, and summarizes the acreage requirements for each.

Public Recreational Facilities

When compared to the NRPA planning standards, the Unionville Area is deficient in publicly-owned parks in all categories. However, the area has a multitude of non-municipal facilities that contribute towards filling the need for recreational facilities. Currently, the Unionville Area has one park – a seven acre facility consisting of four ball fields with some playground equipment just west of Unionville. A 20.55-acre community park is planned adjacent to the Po-Mar-Lin firehouse in Unionville. The site was acquired by East Marlborough Township in 2005, with the park's design currently underway. Due to budgetary limitations construction is planned to begin in 2012. When it is completed, the park could include soccer fields, baseball fields, an amphitheater and areas for passive recreation.

**Table 8-1
Types of Recreation Facilities and
Suggested Planning Standards**

Component	Use	Service Area	Desirable Size	Recommended Acres per 1,000 population	Acres Present (2010)	Acres Required if Implemented		Desirable Site Characteristics
						2008 population: 10,149	2020 projected population: 13,015	
Mini Park	Specialized facilities that serve a concentrated or limited population or specific group, such as kids or seniors.	Less than 1/4 mile radius	1 acre or less	0.25 to 0.5	0	2.5-5	3-6	Within neighborhoods in close proximity to apartment complexes, bwnhouse developments, or housing for the elderly.
Neighborhood Park	Area for intense recreational activities such as field games, court games, crafts, playground apparatus area, skating, picnicking, wading pools, etc.	1/4 to 1/2 mile radius to serve a population up to 5,000 (a neighborhood)	15+ acres	1.0 to 2.0	7	10-20	12-24	Suited for intense development. Easily accessible to neighborhood population - geographically centered with safe walking and bike access. May be developed as a school-park facility.
Community Park	Area of diverse environmental quality. May include areas suited for intense recreational facilities such as athletic complexes, large swimming pools, etc. May be an area of natural quality for outdoor recreation, such as walking, viewing, sitting, or picnicking. May be any combination of the above, depending on size.	Several neighborhoods; 1 to 2 mile radius	25+ acres	5.0 to 8.0	26	51-81	60-96	May include natural features such as water bodies, and areas suited for intense development. Easily accessible to neighborhood served.
Regional Park	Area of natural or ornamental quality for outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses may include play areas.	Several communities; 1 hour driving time	200+ acres	5.0 to 10.0	0	51-102	60-120	Contiguous to or encompassing natural resources.
Regional Park Preserve	Area of natural quality for nature-oriented outdoor recreation, such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, fishing, boating, camping, and trail uses. May include active play areas. Generally, 80% of land is reserved for conservation and natural resource management with less than 20% used for recreational development.	Several communities; 1 hour driving time	1,000+ acres; sufficient area to encompass the resource to be preserved and managed	Variable	0	Variable	Variable	Diverse or unique natural resources such as lakes, streams, marshes, flora, fauna, and/or topography.
Linear Park	Area developed for one or more varying modes of recreational travel such as hiking, biking, horseback riding, cross-country skiing, snowmobiling, canoeing, and pleasure driving. May include active play areas.	No applicable standard	Sufficient width to provide desired usability	Variable		Variable	Variable	Built or natural corridors such as utility rights-of-way, bluff lines, vegetation patterns, and roads that link other components of the recreation system or community facilities such as school libraries, commercial areas, and other park areas.
Special use	Areas for specialized or single-purpose recreational activities such as golf courses, nature centers, marinas, zoos, conservatories, arboreta, display gardens, arenas, outdoor theatres, gun ranges or downhill ski areas, or areas that preserve, maintain, and interpret buildings, sites, and objects of archaeological significance. Also, plazas or squares in or near commercial centers, boulevards, or parkways.	No applicable standard	Variable, depending on desired size	Variable		Variable	Variable	Located within communities.
Conservancy	Protection and management of the natural/cultural environment with recreation use as a secondary objective.	No applicable standard	Sufficient to protect the resource	Variable		Variable	Variable	Varies with the resource being protected.

Source: National Recreation and Parks Association

The Unionville-Chadds Ford school district has three schools on 148 acres in the Unionville Area. Facilities include a gym, playing fields, ball fields, tennis courts, and a running track. The School District has recently improved all of its fields, added three synthetic turf fields and constructed an additional running track. It is in the process of building a new, larger gymnasium. These facilities are, of course, primarily for the use of the schools, but they are available to Unionville Area residents when not being used by the schools. The school district maintains an open door policy to its facilities, although user fees may be charged.

The Brandywine Creek and its tributaries, while not a publicly-managed features, are important recreational assets to the Region. Numerous public access points along the Creek and its tributaries offer recreational opportunities for canoeing, kayaking, fishing, and simply appreciating natural beauty.

Privately-Owned Lands and Recreational Facilities

In a rural area like the Unionville Area where residential lots are large, private yards provide many open space and recreational opportunities, including places for children to play and for adults to engage in activities like gardening, equestrian activities, walking, and nature appreciation.

Homeowners associations (HOAs) own just over 480 acres, 402 acres in East Marlborough, 78 acres in Newlin, and 1 acre in West Marlborough. Most HOA lands are intended for passive recreation, but tot-lots and playgrounds are incorporated into some. These facilities tend to be well utilized due to their close proximity to homes and in some ways, are a substitute for publicly owned neighborhood parks.

There are also several privately-owned properties in the Region that contain some recreational or open space component, and that allow public access either for a fee or by membership in an organization. These include the Kennett Square Golf and Country Club, the ChesLen Preserve, Longwood Gardens, the Laurels Preserve, and the Southern Chester County Sportsmen's and Farmers' Association.

The 135-acre **Kennett Square Golf & Country Club** on East Locust Lane provides active recreational opportunities for its members. The club provides recreational opportunities for golf, tennis, paddleball, and swimming for all age groups.

The 1,263 acre **ChesLen Preserve** in Newlin Township is owned by the Natural Lands Trust, and is open to the public. The preserve contains serpentine barrens and numerous other valuable environmental resources, and offers 12 miles of trails for hiking and horseback riding. The preserve also provides an important public access point to the Brandywine Creek. Apart from a lack of active play areas, the preserve fits all the criteria for a Regional Park Preserve.

Longwood Gardens (in East Marlborough Township) charges admissions fees for public access. Longwood Gardens maintains an elaborate sustainability program, and is currently preparing a 40-year master plan of its facilities. It also has the potential for opening more of its lands for public use, since only about 27% of its acreage is currently accessible to visitors.



The **Laurels Preserve** (in West Marlborough, Newlin, and East Fallowfield Townships) is owned by the Brandywine Conservancy, and contains more than 770 acres of wildflower meadows, woodlands, wetlands, and important habitat areas. The Preserve is limited to access by Conservancy members and owners of eased lands within the King Ranch easement area.

The **Southern Chester County Sportsmen's and Farmers' Association (SCCSFA)** is an NRA-affiliated archery, rifle, pistol, shotgun, and fishing club located on Street Road in West Marlborough Township. SCCSFA maintains a wide variety of facilities for its members, including a clubhouse with restrooms, a kitchen, and an indoor archery range, a camping area behind the clubhouse, several shooting ranges and a trap field, and a lake that is stocked with trout annually.

The **Philadelphia/West Chester KOA** near Embreeville in Newlin Township is situated along the banks of the Brandywine Creek. A variety of camping and lodging facilities are available to the public for a fee, as well as numerous activities and campground-related amenities, including canoeing, kayaking, and fishing in the Brandywine Creek.

Organized Recreation and Sports Leagues

As of the 2000 Census, the Unionville Area had 2,588 children under the age of 18. Two volunteer organizations operate youth sports leagues and summer camps serving residents of the Unionville Area - Unionville Recreation Association (URA) and Kennett Area Parks and Recreation Board (KAPRB). As



none of the Unionville Area townships operate any organized municipal recreation programs, these groups fill an important role.

According to Claire Finrock of the KAPRB, participation in their programs has more than doubled since 2006, with approximately 8% of the partici-

pants coming from East Marlborough Township plus a few participants from West Marlborough and Newlin Townships. KAPRB programs utilize schools and parks in Kennett Township, they do not use any facilities in the Unionville Area. KAPRB's current needs are an additional recreation coordinator, and additional field space for flag football programs.

The URA uses the municipally-owned baseball fields in East Marlborough, and the playing fields and gymnasiums of the Unionville-Chadds Ford School District. A variety of sports and recreational activities are coordinated year-round through the URA, including baseball, softball, lacrosse, field hockey, basketball, and wrestling. The URA also offers sports-related summer camps.

Conclusions

The Region possesses major areas of open space, most of which is privately protected through easement programs. Such areas ensure the open space character of the Region in perpetuity. The Region also contains the major facilities of the Unionville Chadds Ford School District. These facilities, while subject to scheduling limitations, offer public recreational opportunities for the children of the Region, as well as for certain adult programming. The ChesLen nature preserve in Newlin Township, which is owned by the Natural Lands Trust, is open to the public for a variety of passive recreational activities. Longwood Gardens provides a world class arboretum for the enjoyment of the Region's residents, and the

Kennett Square Golf and Country Club provides for varied active recreational opportunities. Homeowner association lands provide for convenient open space. While not being open to the general public, such areas do fulfill the function of providing nearby open space to the residents of those communities. Policies should reflect the value of these operations, and should focus on allowing their continued presence in the community.

Municipal governments do not operate recreational programs, but the URA and KAPRB fill the need for organizing and operating active recreational programs for the children of the Region. The Region should continue to promote cooperation between public and private recreational organizations and the School District to ensure adequate public access to recreational programs and facilities. Finally, East Marlborough Township is planning a public park, which will include areas for active and passive recreation.

Based on existing and planned recreational amenities in the Region, along with projected population growth and community demographics, there exists a varied and sustainable open space network that serves the needs of the residents in the Region. Future planning of open space and recreational facilities should focus on enhancing linkages among and providing access to these amenities.

Chapter 9 – Utilities, Infrastructure, and Public Services

Chapter 9 covers a variety of inter-related topics including the utility systems in place and planned throughout the Region, and public services being provided by the municipalities, the county and local school districts. All of these elements are basic services that must be provided or provision made for same to guarantee the public health, safety and welfare. In addition to public involvement in many of the services, some are provided by outside agencies, such as electric, gas, and water service, while others are provided by private non-profit organizations like fire, emergency medical, and hospital services. Together these governmental groups and agencies help determine the quality of life in the Region going forward.

Sanitary Sewers

Sanitary sewers are a basic public service within a community. Having a properly operating sewer system is critical to maintaining the environmental integrity of surface and groundwater in and outside the Region, and it is essential for public health purposes. Without proper treatment of sewage, nitrogen and phosphorus will degrade water quality in local streams, and can have incremental adverse impacts as far away as the Delaware Bay. Excess nutrients come from not only poorly functioning sanitary sewer systems, but from such diverse activities as improperly managed agricultural operations; excess stormwater runoff from development; and air pollution. Effluent management is also necessary to protect the integrity of domestic groundwater wells, which are widespread throughout the Region. Finally, sanitary sewer systems often dictate where future growth and development will occur, thus, the importance of properly functioning and planned systems.

The treatment and disposal of sanitary sewage can occur in several ways. There are public sewer systems, where sewage from a home or business is transmitted via a collection system of gravity lines, force mains, and pumping stations to a central treatment facility, where the raw sewage is treated. The treated sewage may then be disposed of by several methods, although in this Region, the treated sewage is applied to the land (land application). Such systems are operated by a municipality or sewer authority. A second type of sewage disposal and the most prevalent in this Region is an individual sewage system, also referred to as a septic system or on-lot system. Such a system includes piping, tanks and other facilities that typically serve a single lot. The treated sewage is disposed of into the soil on the property, thus returning most of the water used in a home back into the local groundwater system. On-lot systems are the most cost effective method of disposing of small amounts of sewage, but they require regular maintenance by the property owner to ensure their continued proper operation. A final

type of system formerly found in the Region, but now obsolete with the Unionville Regional System available, is the community on-lot system. Such a system will collect and treat the sewage from multiple properties, and dispose of the treated effluent usually into the soil. Such a system is usually managed by an outside sewage management company, and can be an effective method of sewerage sites when public sewers are not available, and when individual systems are not appropriate, possibly due to poor soil absorption on certain of the properties.

The three municipalities in the region have managed their sanitary sewer needs independently of each other. East Marlborough has a combination public-private system consisting of a public lagoon treatment/spray facility (The Unionville Regional Sewer System); and private on-lot sewage disposal systems (OLDS) which are outlined in detail in the East Marlborough Act 537 Plan. In 2003, East Marlborough removed from service the Baltimore Pike Wastewater Treatment facility and that sewage is being treated at the Unionville Regional Sewer System. Other sewage at the Unionville System is sent there via a series of pumping stations located in subdivisions and other key locations in East Marlborough. The Unionville facility, which is permitted for 440,000 gallons per day (gpd) of treatment employs an environmentally sound method of treating wastewater – lagoon and spray irrigation. Such a system allows treated pollutants to be absorbed into the ground before they can reach streams. The treated effluent also evaporates into the air, soaks into the soil, or percolates through the soil and aids in recharging the groundwater. Such systems are preferred, because wastewater is then able to be returned to the groundwater system from whence it came, prior to its drawdown by on-site wells. This recharge of the groundwater also serves to increase base flows to streams, and through the recharge process, plants and other biota assist in removing nutrients from the wastewater prior to entering the groundwater. Other acceptable methodologies which might be employed in the future in the Region include drip irrigation or subsurface disposal. The use of stream discharge should be the last method considered in disposing of treated wastewater because it does not offer the benefits described above to groundwater recharge. The construction of the Unionville Regional System has allowed old community systems, such as La Reserve and Dalkeith Farm to be discontinued.

Newlin and West Marlborough rely on on-lot sewage disposal systems and do not maintain any municipally operated sewer facilities.

An important environmental consideration in any future sanitary sewer system plan is the existence of the Cockeysville marble geology that extends east and west through East Marlborough, and continues in a less defined manner through West Marlborough and into a small area of Newlin. This geologic formation is susceptible to sinkhole formation, which could result in contamination of local groundwater supplies in the event that an on-lot system does not operate properly either due to lack of maintenance or the age of the system.

When considering the Unionville Region as an entirety, there is a relatively small land area that has or is planned to have public sewers. The area is currently centered around more recent residential developments, such as La Reserve, Willowdale Crossing, Traditions at Longwood, Dalkeith Farms etc., and commercial development along the Route 1 Corridor. The Route 1 area also collects limited flows from adjacent areas of Kennett Township. The Route 82 South Study Area in the East Marlborough Act 537 Plan, located along Route 82 at East Locust Lane and south towards Kennett Township has recently had public sewers installed for the approximately 300± homes in Cedarcroft, Marlbrooke Lane, and other nearby areas. These areas are being served by grinder pumps, a new pump station and force mains for transmission to the Unionville Regional System. This expansion was necessary due to detailed studies conducted by the township in 2002 where past repair and current problems with the individual on-lot systems were identified.

Additional expansions to the regional system should only be considered where it is necessary for public health purposes. No capacity expansions are planned for the Unionville Regional System, although East Marlborough is considering drip irrigation disposal in the existing spray irrigation buffer areas as a means to facilitate operations. No capacity increase is anticipated as a result of such action, should it occur. Should expansion in disposal capacity ever be needed, it is likely that additional land would need to be acquired.

The remaining areas of the region are served and will continue to be served by individual on-lot systems or small community systems. For instance both Longwood Gardens and New Bolton Center have their own on-site treatment facilities with spray irrigation disposal. Newlin Green in Newlin Township has a community sewer system that services that subdivision. Upland Country Day School has an on-site septic system. The public schools in East Marlborough are all connected to the Unionville Regional System. It is anticipated that such individual systems will continue to operate for the term of this plan. It is possible that residential and commercial areas currently utilizing on-lot systems and which are in reasonably close proximity to public sewer facilities in East Marlborough may need to be linked into the public system in the future, if capacity is available or if there are public health reasons to connect.

Several villages within the region, such as Springdell and London Grove have sewer challenges related to the fact that their individual sewer systems were often built many years ago. Some of the systems are better maintained than others. In the Unionville community, public sewers have been provided, which has largely solved the on-lot system issues associated with this area. Springdell

and London Grove may become areas where small community systems are ultimately needed, particularly if limited future growth would occur near these village areas. In planning for community systems should they become necessary, soil limitations, slope, water table levels etc., may make community systems impractical. In such cases, new technologies may need to be relied upon to solve sanitary sewer issues. Yet modern engineering often comes with a high price tag when the costs can only be spread over small number of users. Detailed studies of these areas are more properly conducted in Act 537 Plan updates.

Water

As with sanitary sewage disposal, the provision of a sustainable potable water supply is a basic community need. As most of the properties in the Region rely on on-site wells, maintaining the integrity of these wells is of paramount importance as land use and other decisions are made. Local groundwater is a critical resource that services residents, businesses and agriculture in the Region. Maintenance of groundwater levels also protects the Region's streams as it provides a base flow to local streams. Certain human activities can adversely impact the Region's groundwater, such as agricultural activities, degraded underground storage tanks, runoff from parking lots and fertilizer and pesticides from lawns.

The Cockeysville marble formation found in the Region offers higher yields for groundwater. However, it is critical to protect this natural resource from contamination or degradation. East Marlborough's Groundwater Protection District exists to achieve this goal; other policy approaches, such as wellhead or springhead protection programs, might be considered within the study area to further safeguard the integrity of this important regional groundwater resource.

The provision of water is provided in the region by several sources – private on-lot wells; community water systems; and public water utilities like the Chester Water Authority and Aqua Pennsylvania. West Marlborough relies exclusively on on-lot wells for potable water. This includes a community on-lot well at the Stone Barn on Upland Road. Newlin Township also relies almost exclusively on on-lot wells, with the exception of a community system near the Commonwealth's Embreeville facility in the northern portion of the study area. East Marlborough has on-lot wells exclusively west of Wollaston Road. On the more developed eastern side of the township there is a combination of on-lot systems, primarily on larger lots or older properties, and public water supplied by Aqua America Inc., Pennsylvania, and the Chester Water Authority. The Water & Sewer Service Area Map 9-1 included herein shows the service areas of the two public water systems.

Solid Waste

The region's three municipalities are part of the Chester County's Solid Waste Management Plan, which has been approved by most of the County's 73 municipalities. This follows state actions to control solid waste through the Pennsylvania Solid Waste Management Act 1989 (Act 100) and the Pennsylvania Municipal Waste Planning Recycling and East Reduction Act of 1988 (Act 101). Only East Marlborough Township of the 3 participating townships has a population of 5,000 persons, and as such, is the only municipality required to establish and implement a source-separation and collection program for recyclable materials.

The Southeastern Chester County Refuse Authority (SECCRA) is a municipal authority that has provided a regional waste management approach to solid waste disposal in southern Chester County since 1968. All three of the municipalities in the Region are included in the 24 communities that comprise this authority. The SECCRA landfill is located in London Grove Township, but directly abuts the southwestern border of West Marlborough Township on Route 926 near Mosquito Lane. The landfill contains about 300 acres, of which only a portion is actually used for disposal purposes. Plans exist for expansion of the landfill further into London Grove Township so that the facility can continue to operate through the year 2051. The Chester County Solid Waste Authority owns and operates the Lanchester Sanitary Landfill in Honey Brook, Salisbury and Caernarvon Townships. This facility also accepts recycled materials from the communities in the Region.

Recycling is mandatory in East Marlborough Township, voluntary in West Marlborough and Newlin. In all 3 Townships, property owners contract with private haulers for collection and disposal of wastes. West Marlborough and Newlin residents are encouraged to take recyclables to the SECCRA facility.

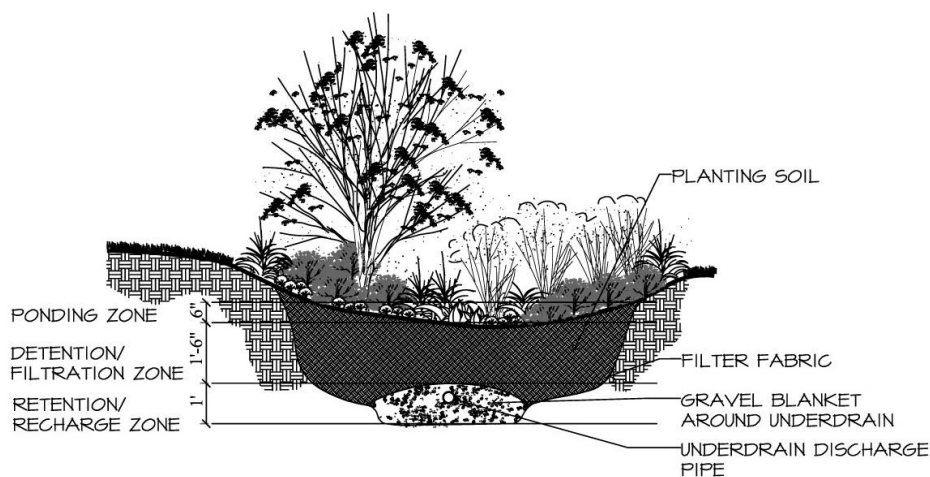
Stormwater Management

Stormwater management continues to be of prime importance in maintaining the quality of the Region's streams through enhancements to wetlands, the natural drainage systems in the region, and controlling flooding in developed areas. Stormwater management is directly related to the amount of precipitation that occurs, the rate at which it occurs, the condition and density of vegetation, soil characteristics, topography and the levels of impervious coverage. Obviously, one cannot control the amount or rate of rainfall, or soil characteristics, so government efforts are focused on attempting to maintain and improve the density of vegetation, minimizing amounts of impervious coverage, and the utilization of best

management practices. These efforts can be accomplished by the continuation of thorough engineering reviews for all new development in each of the municipalities. It can also be accomplished through public education and exemplary management of municipal lands.

Stormwater designs should focus on utilizing the inherent characteristics of the site to retain and absorb on site as much water as possible. Site features that maximize plant uptake and soil infiltration are factors that should be reviewed carefully in land development. Costly piping, channels and culverts can be reduced in scope with the proper utilization of Best Management Practices (BMPs) that encourage man-made solutions like vegetated swales, rain gardens, and bio-retention basins. By retaining the water on-site, recharging of the local groundwater aquifers can occur, runoff from the development site to adjacent properties can be reduced, and erosion and siltation can be minimized. These are important objectives in any area, but particularly in an area like the Unionville Region where there is a significant reliance on wells for drinking water. Properly designed systems also will reduce the amount of vegetation that must be removed, will reduce future maintenance costs of systems, improve water quality which in turn, improves groundwater quality and flows into local streams and water bodies. Efforts to utilize native vegetation and increasing the density of the plant material all help to encourage recharge. Native plants offer a preferred alternative to more exotic general nursery stock, due to their lower maintenance requirements. Native plants are usually more suitable to local water, soil and pest conditions.

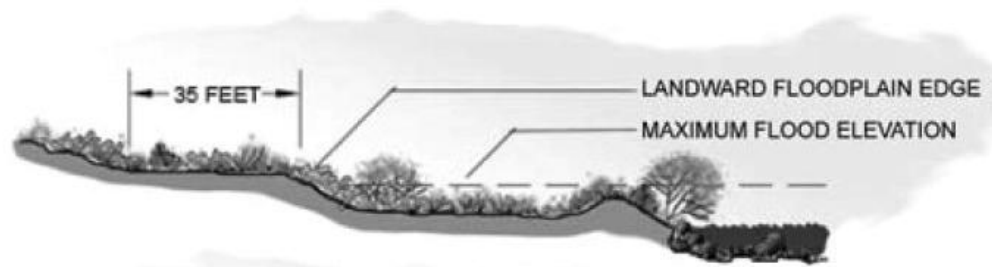
**Figure 9-1
Bioretention Basin for
Stormwater Management**



This cross-section shows a typical bioretention basin. Best Management Practices (BMPs) should be employed as part of a coordinated effort to promote stormwater infiltration and improve water quality , especially in watersheds that drain to Exceptional Value streams.

The highest quality streams are the two Exceptional Value (EV) streams in the Region – one being a tributary of the West Branch Brandywine Creek in Newlin Township and the other being the East Branch of the White Clay Creek. Stormwater entering these two areas should maximize groundwater infiltration before it reaches the streams, utilize systems that protect the structural integrity of the streams; and protect and maintain existing and designated uses.

**Figure 9-2
Riparian Buffer**



Riparian buffers can help to improve water quality in streams, mitigate flooding impacts, and protect streambanks from erosion. (SOURCE: U.S. Dept. of Agriculture)

Maintaining clean water through effective stormwater management programs can be advanced by homeowners also. The Brandywine Valley Association lists 14 Healthy Household Habits that can aid clean water. Some of the more important actions include using fertilizers and pesticides sparingly; compost or recycle yard waste; wash cars on unpaved areas; dispose of household hazardous waste only at designated collection locations; produce less waste – reduce, reuse, and recycle, and have your septic tank pumped and system inspected at least every three years.

Electric, Power and Pipelines²³

Columbia Gas Transmission Corporation maintains a 50 foot wide right of way for a 20 inch natural gas transmission pipeline that runs in a northeast-southwest direction through the northern sector of the West Marlborough, and

²³ Information in this section is taken from the West Marlborough Comprehensive Plan of 2006, prepared by Harry B. Roth, AICP.

across Newlin Township. Permitted construction is limited to streets, parking lots and rights of way within this area. Homes are not permitted on the right of way.

PECO, an Exelon Company, owns, operates, and maintains a 300 foot wide right of way that traverses West Marlborough and Newlin. This utility corridor contains a 230,000 volt overhead transmission line that runs between Conowingo, MD and Plymouth Meeting, PA. Construction is also limited within this right of way and is subject to approval from PECO.

PECO is the supplier of electric and natural gas service throughout the region, and in general, electric is available for any new development that occurs. Natural gas service is limited to those areas where gas lines already exist, or where extensions of existing lines are economically feasible.

Municipal Government

All three municipalities are townships of the second class under the Second Class Township Code. Townships of the Second Class typically have populations of less than 300 inhabitants to the square mile and are not home rule townships or townships of the first class.

Newlin and West Marlborough Township are governed by three-member Boards of Supervisors. East Marlborough has a five-member Board of Supervisors. Each municipality has advisory and quasi-judicial boards and commissions to assist in township governance such as zoning hearing boards, planning commissions and other advisory panels such as Historic and Architectural Review Boards; Traffic Committees; and a Safety Committee. These panels are important contributors in providing for community input and they serve to maintain the high quality of services currently found in the region.

The three municipalities maintain very efficient operational staffs and facilities. East Marlborough, which has the largest population of the three townships by far, has a professional administrative staff. Newlin and West Marlborough Townships do not have paid township managers, but rather rely on the elected members of the Boards of Supervisors and the Secretary/Treasurer to administer daily Township operations. Municipal facilities in the region are modest, with East Marlborough being the only municipality with a dedicated township building, located on Route 82. This building includes an attached road maintenance garage. West Marlborough operates from a leased facility on Doe Run Road that houses road maintenance equipment and meeting room areas. Newlin conducts

their business from the Po-Mar-Lin Fire Station in Unionville, but has its own maintenance garage. Newlin also owns a house that is to be renovated in the future for meeting and office space.

In all three townships, municipal finances are funded primarily through low real estate property taxes, the earned income tax (levied at 0.5% on wages), and the real estate transfer tax (levied at 0.5%). West Marlborough levies a per capita tax; and East Marlborough imposes a local services tax. All three municipalities also receive miscellaneous income from sources like building permits and licenses; cell tower leases; cable TV fees; intergovernmental revenues; and fines. As in most local governments, taxes to the local school districts comprise the major portion of residents' taxes as the school district millage rates are approximately 23 mills for the 2010-2011 school year for the Chester County communities. This compares with municipal tax rates of 1.433 mills in East Marlborough (including .2 mills for Open Space and .183 mills for the Library); .75 mills in Newlin; and 1.7 mills in West Marlborough for municipal services. Property reassessments have been a factor in maintaining township budgets during the last year or two. For instance, in East Marlborough, it has caused a reduction in revenues by approximately \$60,000 to \$70,000 annually. The Unionville-Chadds Ford School District estimates that reassessments within the school district have reduced revenues by approximately \$500,000 annually. It is important that property values be maintained to stem this loss of assessed valuation (and hence, tax revenue) which if continued, places additional tax burdens on all taxpayers in the Region.

Police Services

Police protection is a necessary service expected by all residences and businesses in a community. Historically, the three townships relied on the Pennsylvania State Police for services, operating from the Avondale and Embreeville Barracks. As rural communities, such an arrangement was suitable to cover the sparsely populated areas of the townships where most of the police incidents involve either property related crimes or traffic-related incidents. Such incidents do not occur at a high rate and involve few felonies. Response times for non-emergency State Police calls and the State Police's ability to provide suitable traffic enforcement services encouraged East Marlborough to establish a police department in 2002, and which now has two sworn officers providing part-time police coverage. In 2008, West Marlborough contracted with East Marlborough to have the East Marlborough police provide part-time coverage to their township. Newlin continues to utilize the State Police, which are based out of the Embreeville State Police Barracks.

The State Police still provide significant coverage to East and West Marlborough, and in fact they respond to approximately 120 calls per month just in East Marlborough in recent years. East Marlborough's police respond to another 55 calls per month. Currently the East Marlborough Police provide services for about 65 hours a week and West Marlborough is allocated about 10 hours per week. One officer on duty 24 hours a day, 7 days a week, 365 days per year would equal 8,760 hours. With East Marlborough's current staffing level, the police provide about 2,100 hours per year (before vacation, training, court appearances, sick time etc.), so the State Police still play a pivotal role in public safety functions. Tables 9-1 and 9-2 detail the principal service call categories, as reported by the East Marlborough Township Police Department.

Table 9-1
East Marlborough Township
Principal Police Service Call Activities
2007-2009

Principal Police Service Calls	Count
Traffic Citations	379
Medical Emergencies	107
Fires	64
Residential False Alarms	57
Traffic Accidents with Property Damage	57
Police Information	49
911 Hang-Ups	44
Community Police Service	44

Table 9-2
West Marlborough Township
Principal Police Service Call Activities
July, 2008 - February, 2010

Principal Police Service Calls	Count
Traffic Citations	136
West Marlborough Patrol	72
Traffic Speed Board	24
Extra Patrol	24
Traffic - Other	23

Fire and Emergency Medical Services (EMS)

Fire and EMS services are provided by the Po-Mar-Lin Fire Company, located on Route 82 in Unionville and the Longwood Fire Company, located on Baltimore Pike at the Region's southeastern boundary. Both fire companies are 100% volunteer, and their members provide an absolutely crucial service to the residents of the Region. The EMS personnel are paid through a combination of municipal contributions, fundraising and reimbursement for services.

Po-Mar-Lin Fire Company (Station 36) has provided coverage to all three municipalities in the Region plus Pocopson Township, and has done so since 1949. The company has a new fire station which was constructed in 2005, and it houses 6 pieces of fire-fighting apparatus. The company responds to about 250 calls every year.

The Longwood Fire Company services Kennett, the eastern portion of East Marlborough, Pennsbury and Pocopson Townships. In addition to fire service, the company also provides for EMS services 24 hours a day, 365 days per year. The EMS service is provided by 3 ambulances and two mobile intensive care units. The Longwood Fire Company responds to about 2,500 calls per year, with about 80% of the calls being EMS-related. In addition to Longwood, EMS services are also provided to Newlin Township by the Good Fellowship Ambulance Club and Modena Fire Company and West Marlborough is serviced by both Modena and the Avondale Fire Company. The West Bradford Fire Company in West Bradford Township and the Modena Fire Company also service Newlin Township.

The Chester County 9-1-1 Communication Center is staffed 24 hours a day, seven days a week to provide the citizens of Chester County with emergency call receipt, interim assistance, response coordination and responder dispatch. 9-1-1 calls from the Region's communities are coordinated through the communication center. The Communications Center staff handles over 900 emergency calls each day from throughout the county. The dispatchers in the 9-1-1 Communication Center receive training on how to notify and coordinate police, fire, rescue and ambulance responses in a variety of situations from routine to major disasters.

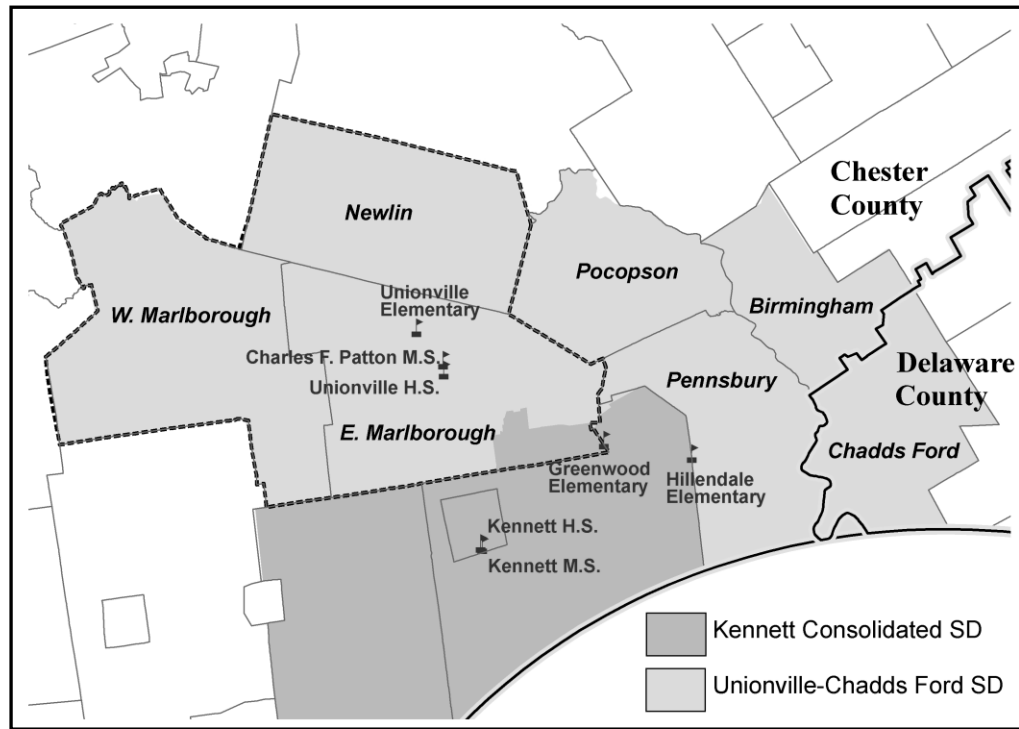
Schools

The Unionville-Chadds Ford School District provides public educational services to the 3 municipalities in the Region. The public school system reflects the values of a community, and strong school systems, such as those found in the

Region, help to enhance property values. The district educates children from neighboring Pocopson, Birmingham and Pennsbury and Chadds Ford (Delco) Townships. The district serves over 4,100 students in grades K-12 and covers 77 square miles of land area. This enrollment has increased since the year 2000, when the district enrollment was 3,795. Most children from the Unionville Region attend the Unionville or Hillendale Elementary Schools, Patton Middle School and Unionville High School. All but the Hillendale Elementary School (Pennsbury Township) are located in East Marlborough Township. Other schools in the District include Pocopson Elementary School (Pocopson Township) and the Chadds Ford Elementary School (Pennsbury Township.) Unionville High School is in the midst of a significant modernization program to its physical facilities, which should service the high school population for the term of this Plan.

The Kennett Consolidated School District serves a small portion of East Marlborough Township – the area near Dalkeith Farms, the area south of Longwood Road including Route 1. Those children attend the Greenwood Elementary School on Greenwood Road in Kennett Township. Older children then attend the Kennett Middle and Kennett High Schools. The Kennett Consolidated School District serves Kennett Borough, Kennett, and New Garden Townships. The district covers approximately 35 square miles and educates approximately 4,300 students. The district's enrollment has increased steadily since 2000, when the enrollment was 3,622. The Kennett School District sent 80% of its 2009 graduates to two-year, four-year, or technical colleges. No building expansions are planned for the one elementary school serving the Region – the Greenwood Elementary School. Recent improvements and expansions to the middle and high schools will accommodate projected growth to the overall school district.

**Figure 9-1
Public School Districts Serving the
Unionville Region**



Only about 12% of the Region's households send their children to private schools, with the Upland Country Day School being the only one located in the Region. The school district transports private school children to 47 schools, according to school district administrators. This is spread across 20 schools in Delaware and 27 schools in Pennsylvania. The private school enrollment rate is one of the lowest in the Chester, Bucks, Montgomery, and Delaware counties and contrasts with districts like Lower Merion and Marple Newtown where over 1/3 of the students attend private schools. Unionville High School in 2009 sent approximately 94% of its graduates to two-year or four-year colleges and universities, or technical college which was one of the highest rates in the five county Philadelphia area. The Unionville- Chadds Ford School District was also tied for first in the state for student achievement according to the Pennsylvania Department of Education. This program of educational excellence forms an important base for the current and future economic well-being of the Region.

The Unionville-Chadds Ford School District is planning for only modest growth from the three municipalities in the Region. The school district projects enrollment to reach 4,228 during the 2015-2016 school year, and to reach 4,420

by the 2019-2020 term²⁴. This growth is expected to come primarily from Birmingham and Pocopson Townships. There is no anticipated need for a second high school or middle school. However, the Patton Middle School may need renovation in the next ten years. Whether this will include any expanded capacity has not been determined at this time. Historical and projected enrollment figures are presented in Tables 9-3 and 9-4, respectively.

Table 9-3
Enrollment History
Unionville-Chadds Ford School District

Year	Grade Level			TOTAL
	K-5	6-8	9-12	
2005-2006	1,672	1,013	1,278	3,963
2006-2007	1,709	1,046	1,329	4,084
2007-2008	1,772	1,008	1,350	4,130
2008-2009	1,721	994	1,380	4,095
2009-2010	1,723	1,028	1,380	4,131

Table 9-4
Enrollment Projections
Unionville-Chadds Ford School District

Year	Grade Level			TOTAL
	K-5	6-8	9-12	
2010-2011	1,744	997	1,401	4,142
2011-2012	1,742	1,004	1,401	4,147
2012-2013	1,727	1,037	1,368	4,132
2013-2014	1,751	1,066	1,360	4,177
2014-2015	1,789	1,039	1,377	4,205
2015-2016	1,824	1,007	1,397	4,228
2016-2017	1,878	997	1,401	4,276
2017-2018	1,907	1,028	1,419	4,354
2018-2019	1,944	1,047	1,397	4,388
2019-2020	1,974	1,090	1,356	4,420

While the school district is funded primarily by local taxes, it does receive state funding. This funding has increased at a very moderate rate over the last few years, roughly a 1-2% increase per year.

Higher education facilities are in close proximity to the Region, with the New Bolton Center, operated by the University of Pennsylvania, being located in East

²⁴ Unionville-Chadds Ford School District Enrollment Projections, September 2, 2009.

Marlborough. West Chester University, Lincoln University, and Delaware County Community College are the closest institutions to the Region, but Villanova University, University of Delaware, and other prominent institutions are within near proximity to the region.

Libraries

The three municipalities in the Unionville Region do not operate any libraries. Library service is provided by the Chester County Library System, which is a federated system of 18 library facilities throughout Chester County. The closest library to the Unionville Region is the Bayard Taylor Memorial Library in Kennett Square Borough. The Bayard Taylor Memorial Library, as are most of the other libraries, is funded by a combination of sources including county, state, municipal and private sources. East Marlborough Township has a dedicated local tax to support its contribution to the library. Newlin and West Marlborough contribute voluntary amounts from their General Fund budgets. Other libraries that are convenient to the region include the Avon Grove Library and Coatesville Area Public Library.

Hospitals

No hospitals are located in the Region, but the Jennersville Regional Hospital, Brandywine Hospital and Chester County Hospital provide for convenient medical services to the Region's residents. Additional major hospitals are located in Wilmington and Philadelphia, as well as the more populous communities to the east of the Region in Delaware and Montgomery counties.

Conclusions

Utilities and infrastructure have been provided in a coordinated fashion and consistent with a low density, rural landscape. In the less populated areas of Newlin and West Marlborough, the utilities tend to be provided on a lot by lot basis, which given the location of the residences, is the proper and most efficient way to provide for sanitary sewer and water services. East Marlborough, with a larger and more compact population base in the eastern portion of the Township, has invested in a regional sewer system that provides for an environmentally sound method of disposing of effluent while recharging the groundwater system. Public water is generally available in East Marlborough east of Wollaston Road, as

shown on Map 9-1, and a small area in the southern tip of Newlin. Modest expansions of these systems may occur to resolve either public health or safety concerns.

Stormwater management will continue as a matter of great concern moving forward due to preservation of stream quality and to guard against flooding. New PADEP Chapter 102 stormwater regulations provide for stricter post construction stormwater best management practices and establish riparian buffers in exceptional value and high quality watersheds such as a tributary of the West Branch of the Brandywine Creek in Newlin Township and the East Branch of the White Clay Creek.

Municipal government functions are quite limited in the Region and are expected to stay as such. Coordination between the townships should continue so that efficiencies can occur in purchasing, police and emergency services. Support to local fire and EMS services will continue to be important services that require backing from the 3 municipalities. Police services are likely to be one area where periodic reviews will occur to determine whether the services are in line with the residents' desires. The school district encompasses communities outside of the Unionville Region. So, while the number of students from within the Region is expected to stay consistent with current enrollment, occurrences in Pocopson and Birmingham may ultimately determine whether some modest level of expansion is needed. Certain physical plant improvements and renovations may be needed however.

Chapter 10 – Transportation & Circulation

The movement of people and goods within and through the Region is a major element contributing to the quality of life in an area. Developing and maintaining a circulation system that is safe, efficient, and primarily rural in nature is a high priority. It is recognized that areas within the Region, such as Route 1, and portions of Routes 926, 52 and 82 serve as arterials that transport vehicles throughout the community, and require a condition commensurate with their function. On the following pages is a technical analysis of the road system in the Region.

Road Functional Classifications

Functional classifications group streets and highways according to the character of service they are intended to provide. The classification recognizes that individual roads and streets do not serve travel needs independently but that most travel involves movement through a network of roads. Functional classification systems take into account the following criteria:

- Average traffic volumes;
- Access and mobility;
- Corridor length;
- Relationship to other nearby roads;
- Truck traffic;
- Roadway design and capacity;
- On-street parking;
- Pass-through traffic;
- Posted speeds; and
- Bicycle and pedestrian facilities.

Functional classification systems are used as a guide to roadway design and land use planning so that appropriate design standards are used to balance the needs for mobility and accessibility of a particular roadway. In rural areas where limited future growth is anticipated, defining a functional classification can allow a municipality to place some controls on the level and type of development to occur, i.e. number and location of driveways, building setbacks, and presence of on-street parking and sidewalks. For urban and growing suburban areas, functional classifications can be reassessed in conjunction with improvement projects

if it is determined that an existing road is no longer serving the needs of the area now or in the foreseeable future.

PennDot (using Federal Highway Administration (FHWA) classification guidelines) and Newlin Township each have defined functional classification categories. Although the terminology differs slightly, the general structure of the roadway hierarchy is consistent within all systems. Rather than developing local functional classification systems, municipalities may defer to PennDot/FHWA classifications for roads classified as collector or above. The following are general descriptions of each of the major classifications:

Freeways and Expressways are designed to carry the maximum amount of traffic at high speeds by limiting the number of access points. These roadways carry regional traffic and provide high mobility for truck traffic. The only freeway in the area is a portion of Route 1 in East Marlborough Township.

Principal Arterials carry most of the trips entering and leaving an urban area as well as most of the traffic passing through the urban area and provide high mobility for truck traffic. They also accommodate travel between central business districts and outlying residential areas. The only principal arterial in the area is a portion of Route 1 in East Marlborough Township.

Minor Arterials interconnect with the principal arterials and accommodate trips of moderate length at a somewhat lower level of mobility. They distribute travel to smaller geographical areas than principal arterials. These types of roads place more of an emphasis on land access and connect to collector roads. Examples of minor arterials in the Unionville area include the entire length of Route 82 and a portion of Route 926 in East Marlborough Township.

Urban Collectors and Rural Major Collectors provide both land access and circulation over moderate distances. They collect traffic from the local streets and channel it to the arterial system. Major collectors in the area include Routes 841 and 162 and a portion of Route 926 from Route 41 to Route 82.

Rural Minor Collectors provide both land access and circulation to connect residential and commercial developments within a municipality. They collect traffic from the local streets and channel them to the arterial system. Rural minor collectors in the area include Brandywine Creek Road (S.R. 3095), Newark Road (S.R. 3033), and portions of Route 842 from Route 841 to Mill Road and from the Newlin-East Marlborough Township line to Wawaset Road in Pocopson Township.

Local Roads make up the majority of streets in the Region, and provide land access, circulation and link residential streets to the collector roadways and are generally defined as all other streets not classified in a higher category. Some variation in local street classification exists among the Unionville Region municipalities. For example, Newlin Township further classifies residential local roads as local access streets, secondary distributor streets and primary distributor streets. PennDot specified local roads include Green Valley Road (S.R. 3049) and Brandywine Drive (S.R. 3058).

Map 10-1 shows the functional classification of the roads in the Unionville Region. A comparison of the State and Township classifications is shown in Table 10-1.

Table 10-1
Road Functional Classifications

Road	State Route #	Township(s)	Penn DOT Classification	Township Classification
Brandywine Creek Rd.	3095	Newlin	Rural minor collector	N/A
Brandywine Drive	3058	Newlin	Local road	Local access
Chapel Road	3056	W. Marlborough	Rural major collector	N/A
Church Road	3035	W. Marlborough	Rural minor collector	N/A
Doe Run Road/ Unionville Road	82	W. Marlborough E. Marlborough	Minor arterial	N/A
East Doe Run Road	--	E. Marlborough	Urban collector	N/A
Embreeville Road	162	Newlin E. Marlborough	Rural major collector Urban collector	Minor collector N/A
Green Valley Road	3049	Newlin	Local road	Local access
Newark Road	3033	W. Marlborough	Rural minor collector	N/A
North Chatham Road	841	W. Marlborough	Rural major collector	N/A
Route 1	--	W. Marlborough	Freeway/expressway Principal arterial	N/A
Springdell Road	3045/3056	W. Marlborough	Local road/ Rural major collector	N/A
Stargazer Road	3051	Newlin	Local road	Local access
Strasburg Road	3062	Newlin	Rural major collector	Major collector
Street Road	926	W. Marlborough E. Marlborough	Rural major collector Minor arterial	N/A N/A
Unionville Wawaset Road	842	Newlin E. Marlborough	Urban Collector Rural minor collector	Minor collector N/A
Upland Road	842	W. Marlborough E. Marlborough	Rural minor collector Urban collector	N/A N/A

Traffic Volumes

Existing Daily Traffic Volumes

Table 10-2 on the next page provides annual daily traffic (ADT) volumes for major roads and streets in the Unionville Region. The table shows that the heaviest traffic volumes, ranging from approximately 25,600 to 37,800 vehicles daily, exist along Route 1, which is by far, the most heavily traveled road in the Region.

Volumes in excess of 5,000 vehicles per day exist on other roads in the area along portions of the following roads:

- Route 82 (Doe Run Road and Unionville Road)
- Route 926
- Strasburg Road
- Route 52

Table 10-2
Average Daily Traffic Volumes¹

Road	Segment	Count Year	ADT (vehicles per day) ²	Truck %
Route 82/Doe Run Road	Buck Run Road to DuPont Road	2008	4,016	4
	DuPont Road to N. Chatham Road	2009	7,165	9
	N. Chatham Rd. to Highland Dairy Road	2009	4,840	9
	Highland Dairy Rd. to Newark Rd.	2006	4,486	4
	Newark Road to Route 162	2007	4,942	9
	Route 162 to Route 82 Roundabout	2008	5,880	7
East Doe Run Road	Route 82 Roundabout to Route 926	2006	2,647	5
Route 162	Stargazers Road to Brandywine Creek Road	2008	3,185	5
	Brandywine Creek Road to Route 82/Doe Run Road	2006	3,354	6
Newark Road	Route 842/Upland Road to Route 926	2009	2,656	9
	Route 926 to Church Road	2005	3,761	9
	Church Road to Route 1	2007	4,352	13
Route 1	Newark Road to Route 82/Unionville Road	2009	30,988	SB- 10 NB- 15
	Route 82/Unionville Road to Baltimore Pike	2008	25,623	SB- 11 NB- 7
	Baltimore Pike to Route 52	2007	37,783	SB- 8 NB- 7
Strasburg Road	Brandywine Creek Road to Romansville Road	2006	6,215	9
Route 926	Newark Road to Route 82/Unionville Road	2006	3,880	3
	Route 82/Unionville Road to Route 52	2009	8,917	4
Route 82/Unionville Road	Route 82/Doe Run Road to Route 1	2008	5,880	7
Route 842/Unionville Wawaset Road	Northbrook Road to Route 82/Doe Run Road	2006	4,295	6

¹ Source: PennDot Internet Traffic Monitoring System (items)

² Only roads with an ADT greater than 2,000 vehicles per day are included in this table.

Roadway Conditions

The suburban and rural character of much of the Unionville Region creates a situation where historically rural roads must adjust to traffic safety and congestion as new development in and around the area forces these roads to accommodate increased demand. Smart Transportation design principles can be incorporated into the Townships' Subdivision and Land Development Ordinances to balance the provision of a safe and efficient roadway system with the preservation of the character of the Unionville Region. Smart Transportation principles meet the objectives of safety and mobility, while preserving the natural environment and community character.

Congestion and/or design concerns exist at limited locations within the Unionville Region, as identified below:

Corridor Congestion:

- Route 1

Intersection Congestion:

- Route 1 Ramps at Route 82/Unionville Road
- Route 82/Unionville Road and East Locust Lane

Design Concerns:

- Route 926 and Howell Moore Road
- Village of Unionville
- Newark Road
- Route 926 and Route 841
- Route 841 and Hood Road
- Age and condition of multiple bridges

Bridges

The municipalities that make up the Unionville Region currently have one municipal bridge, five County bridges and 32 State Bridges. The majority of the bridges in the area were constructed in the early 1900's, with one bridge dating to 1889. For safety reasons, bridges can be posted with weight restrictions or completely closed to traffic. Currently, one Township bridge, four of the County bridges, and two of the State bridges are posted with weight restrictions; however, there are no closed bridges within the Unionville Region. Table 10-3 on the next page summarizes the bridges in the East Marlborough, Newlin and West Marlborough Townships that have a sufficiency rating of 79 or less. Bridge locations in the Unionville Region are depicted on Map 10-1 of this report, and described in Table 10-3.

Table 10-3
Bridges in the Unionville Region with
PennDOT Sufficiency Rating of 79 or Less¹

Feature Carried	Map ID Number	Feature Intersected	Length (feet)	Year Built	Structurally Deficient	Functionally Obsolete	Sufficiency Rating
Township-Owned Bridges							
East Locust Lane	1	E. Branch Red Clay Creek	23	1934	--	--	50.42 ²
County-Owned Bridges							
County Park Road	2	W. Branch Brandywine Creek	144	1908	SD	FO	46.2
Laurel Road/Harvey's Bridge	3	W. Branch Brandywine Creek	136	1926	SD	FO	18.2
Thouron Road	4	Tributary to Doe Run	27	1919	--	FO	45 ²
Mill Road	5	W. Branch Red Clay Creek	60	1889	--	FO	67.6 ²
State-Owned Bridges							
Frog Hollow Road	6	Branch Buck Run	23	1930	SD	FO	49.5 ^{2,3}
Route 82/Unionville Road	7	Route 1 Bypass	209	1965	--	FO	66.1
Route 82/Doe Run Road	8	Branch Red Clay Creek	12	1924	--	FO	63.3
	9	Branch Doe Run Creek	16	1924	--	FO	56.3
	10	Branch Doe Run Creek	15	1922	SD	--	40.8
	11	Branch Doe Run Creek	57	1932	--	FO	54.5
	12	Branch Doe Run Creek	11	1922	--	FO	59.9
	13	Buck Run Creek	57	1926	SD	--	42.6 ²
Route 162	14	W. Branch Brandywine Creek	220	1923	--	FO	71.7
	15	W. Branch Brandywine Creek	12	1928	--	--	57.8
Route 841/North Chatham Road	16	Tributary to Doe Run	13	1947	--	FO	69
Springdell Road	17	Doe Run	76	1932	--	FO	60.6
Route 926	18	Branch of White Clay Creek	26	1938	--	--	64.2
	19	Branch of White Clay Creek	12	1933	SD	--	33.2
	20	W. Branch of Red Clay Creek	13	1935	SD	--	28.5
	21	E. Branch of Red Clay Creek	15	1905	--	FO	53.5
Green Valley Road	22	W. Branch Brandywine Creek	10	1935	SD	--	60.2
	23	W. Branch Brandywine Creek	13	1937	SD	--	31
Brandywine Creek Road	24	Buck Run & Doe Run	68	1915	SD	--	44.2 ²
	25	Buck Run & Doe Run	70	1937	SD	--	41.1 ²
	26	W. Branch Brandywine Creek	16	1915	--	FO	58.1
	27	Tributary to Brandywine Creek	10	1930	--	--	68

¹ Source: PennDOT *Lists of Bridges on State and Locally-owned Roads*, December 31, 2009.

² Bridge has been posted with a weight restriction.

³ Located on East Fallowfield/West Marlborough Township border.

As shown in Table 10-3, each bridge has been assigned a sufficiency rating that is calculated using three parameters:

1. The structure's adequacy and safety (accounting for 55% and based on inspection data),

2. The structure's serviceability and functional obsolescence (accounting for 30% and based on ability of bridge to meet current traffic conditions), and
3. How essential the bridge is for public use (accounting for 15%).

Source: PennDOT's *Bridge Inspection Terminology and Sufficiency Ratings*, Revised 8/24/07

This sufficiency rating determines a structure's eligibility for funding for rehabilitation or replacement. Currently funding is not available for those bridges with a sufficiency rating from 80 to 100. Those with a rating from 50 to 79 are eligible for rehabilitation or refurbishment funding, and those with a rating less than 50 are eligible for funding to completely replace the structure. Twelve of the area's 38 bridges are not currently eligible for funding; however, 16 of the bridges are eligible for refurbishment or rehabilitation. Ten bridges are currently eligible for full replacement. Competition for funding is keen as there are more than 25,000 bridges in Pennsylvania, and 5,600 of these throughout the Commonwealth are structurally deficient. So being eligible for funding does not assume that funds will become available on a short term basis.

In addition to sufficiency rating, a structure can also be identified as being structurally deficient and/or functionally obsolete. A bridge identified as "Structurally Deficient" (SD) has had deterioration of one or more of the main components. Nine bridges in the area have been identified as Structurally Deficient. A structure identified as "Functionally Obsolete" (FO) is of an older design or has structural features different from newer bridges. While these features may not be consistent with current design or construction practices, the FO identification is not an indication of a bridge's structural integrity. Seventeen of the area's bridges have been identified as Functionally Obsolete.

According to the Pennsylvania Historical & Museum Commission (PHMC) and the National Register of Historic Places, there are no registered historic bridges within the Unionville Region.

Public Transportation

The southern Chester County region is served by few public transportation services due to the limited and dispersed population levels. Public transportation service is provided via the Southern Chester County Organization on Transportation (SCCOOT), in conjunction with the Transportation Management Association of Chester County (TMACC), and the Rover bus system. SCCOOT is a bus service

that provides service between Oxford and West Chester, with three stops in the Unionville Region - Wal-Mart, the Shoppes at Longwood Village and Longwood Gardens. There are six scheduled stops at these locations Monday through Friday (three stops for the southbound route and three stops for the northbound route) and two scheduled stops on Saturday (one each northbound and southbound), with no service on Sunday. The Rover bus system is a county-wide, reservation based transportation service partially funded by the Pennsylvania State Lottery and the Commissioners of Chester County. The serviced is open to the public, and provides subsidized travel for seniors and those with disabilities.

The closest passenger regional rail lines to the Unionville Region are the Paoli/Thorndale line with stations in Thorndale and Downingtown, and the Media/Elwyn line with a station in Elwyn, Delaware County. These lines provide for service to Philadelphia and to other employment and population centers within the Philadelphia metropolitan area. In addition, Amtrak access is available in Downingtown, Coatesville, Wilmington, Delaware, and Newark, Delaware to provide access to Harrisburg and points west as well as the northeast corridor.

Parking

Parking in the Unionville Region, including village areas, is generally served by private lots associated with specific businesses or facilities. However, as more single family homes are being converted to twin or apartment homes or commercial facilities, primarily in the village areas; adequate onsite parking is not always available. These conditions may result in drivers parking in undesirable locations such as along narrow roadways or in lots not intended to serve offsite homes or businesses.

Freight Rail Facilities

One active regional freight rail line owned and operated by East Penn Railroad, known as the Wilmington & Northern Line, traverses the northern half of Newlin Township, connecting Coatesville to Wilmington, Delaware. This rail line generally follows the West Branch of the Brandywine Creek across the township with all roadway crossings being at-grade. This line is typically used three to four days per week, based on customer demand, and crosses through Newlin Township once in each direction on those days.

Pedestrian and Bicycle Facilities

Few roads or paths currently exist to accommodate bicyclists and pedestrians. Sidewalks are limited throughout the Unionville Region and when present, are primarily found in the village areas. Within the Village of Unionville, grant funding has been used to construct sidewalks linking community features such as schools and recreation areas to residential and business areas.

Many roads in the Unionville Region are attractive to bicycle riders due to the variety of terrain, low traffic volumes, and scenic views; however, these same roads tend to be narrow with minimal shoulders. In many locations, poor sight distance and steep roadside drop-offs can make for difficult interactions between cyclists and motor vehicles.

To better provide for bicyclists of varying abilities, the Chester County Planning Commission (CCPC) has identified recommended networks of bicycle facilities. This network identifies routes for beginner, intermediate, and advanced levels of recreation, as well as commuter/connector routes. Due to the terrain of the area, many routes have also had areas of steep uphill climbs identified.

Efforts are underway to make the area more bicycle friendly for all users with the design of bike lanes along Route 82. Construction of the bike lanes is not yet funded; however, the project is planned to include continuous bike lanes from Route 926 to the roundabout on Route 82, along with the extension of an existing sidewalk near Charles F. Patton Middle School. This program is part of the approved 2013-2014 Transportation Improvement Program (TIP) for Pennsylvania, as approved by DVRPC.

Scenic Byway

The rich historic and scenic nature of the region has led to the creation of Brandywine Valley Scenic Byway. The Brandywine Valley Scenic Byway connects to the Delaware Brandywine Scenic Byway and passes through the Unionville Region along Route 52, adjacent to Longwood Gardens. By being identified as part of a scenic byway, the affected roadways become eligible for funding intended to plan for and fund the maintenance and improvements needed to preserve and enhance the scenic byway. Route 52 is currently being realigned to the east, to a location that is outside the planning area of the Unionville Region.

Planned Roadway Improvements

Chester County Improvement Projects

The Chester County Planning Commission (CCPC) Transportation Improvements Inventory (TII) is an inventory of proposed improvements submitted by municipalities to the CCPC that are combined into a single report, which is updated every two years, most recently in 2009. Inclusion in the TII is the first step for a project to become listed in the DVRPC TIP. Several projects identified on the TII have been added to DVRPC's 2009 TIP; however, the majority is not yet funded. The following projects have been identified to address transportation needs in the municipalities of the Unionville Region, and are depicted on Map 10-2 where noted by the inclusion of a TII Map ID number:

- Route 1 interchange reconstructions from School House Road to the Maryland state line (TII Map ID MCF 8).
- Mill Road bridge over the West Branch of Red Clay Creek rehabilitation or replacement (TII Map ID CB 45).
- East Locust Lane bridge over the East Branch of the Red Clay Creek rehabilitation (TII Map ID MB 32).
- Brandywine Valley Scenic Byway corridor management plan (TII Map ID RW 2).
- Northern rail line rehabilitation with track and tie replacement (TII Map ID FRR 4).
- Brandywine Creek Road bridges over Buck Run rehabilitation or replacement.
- Laurel Road/Harvey's Bridge over the West Branch of Brandywine Creek replacement (TII Map ID CB 11).
- Brandywine Creek Road reconstruction and widening from Harvey's Bridge to Route 162 (TII Map ID RW 17).
- Route 162 reconstruction and widening from West Bradford Township to East Marlborough Township (TII Map ID RW 32).
- Stargazers Road reconstruction and widening (TII Map ID RW 52).
- Frog Hollow Road Bridge over Buck Run rehabilitation (TII Map ID SB 19).
- Route 841 bridge over Doe Run replacement (TII Map ID SB 50).
- Thouron Road bridge over Doe Run replacement (TII Map ID CB 26).

- Newark Road safety improvements from Line Road to Route 82/Doe Run Road (TII Map ID RW 49).
- Route 926 at Howell Moore Road safety improvements.

Capital Improvement Projects

The Transportation Improvement Program (TIP), prepared by the Delaware Valley Regional Planning Commission (DVRPC), is the regionally agreed upon list of priority transportation projects, as required by federal law. The TIP document must list all projects that intend to use federal funds, along with all non-federally funded projects that are regionally significant. Other state funded capital projects are also included. The projects include bicycle, pedestrian, freight related projects, innovative air quality projects, and the more traditional highway and public transit projects. The TIP is approved by the Pennsylvania legislature and Federal Highway Administration every other year, and was most recently adopted in 2009, with an update anticipated in 2011. The fiscal year 2009 TIP includes the following projects within the Unionville Region and their construction funding period:

- Route 82 Bicycle/Pedestrian trail parallel to Route 82 from the roundabout to Route 926- no funding in current TIP (TII Map ID BP 6).
- Route 1 widening and intersection improvements from Kennett Oxford Bypass to Greenwood Road- funded for construction in 2012 (TII Map ID MCF 6).
- Route 52 relocation from Route 926 to Route 1- This project is funded and construction was underway as of late 2010. This realignment project moves Route 52 outside of the Region's boundaries.
- Route 1 expressway reconstruction from Route 896 to Schoolhouse Road- no construction funding in current TIP.

Public Transportation Projects

Although not located in the municipalities that make up the Unionville Region, the following projects are planned by the Southeastern Pennsylvania Transportation Authority (SEPTA) to improve regional passenger rail lines that serve this area of southern Chester County:

- Extension of the Media/Elwyn line from its existing terminus at Elwyn, Delaware County to Wawa, Delaware County. Construction is funded through 2012.
- The feasibility of funding and constructing the extension of the Paoli/Thorndale line from its existing terminus in Thorndale to Coatesville is currently being evaluated.

Conclusions

Transportation infrastructure has historically influenced development patterns in the region. The townships should work together, and with County, State, and Federal agencies to prioritize and pursue necessary infrastructure improvements that promote public safety and efficient transportation and circulation in the Region. However, any such improvements should be given careful consideration to ensure that they are compatible with the rural character of the Region, and comport with future land use and growth management priorities articulated in this plan.

Chapter 11 – Economic Plan

The Economic Plan is based on the objective of creating a strong local economy which will directly benefit the welfare of its residents. While the importance of the agricultural sector is unquestioned, other employment and business opportunities are needed to keep the Region stable and well balanced.

Agriculture

The agricultural operations and businesses in the Unionville Region are extensive and varied, ranging from breeding and training of world class race and sport horses, to the growing of domestic and exotic mushrooms, organic fruit and produce. The former King Ranch holdings in the region have left a tradition of beef cattle farming with accompanying hay and crop production.

The Unionville Region is a nationally recognized center for the horse industry. It is home to multiple Hall of Fame and Eclipse award winning horse trainers for both flat racing and steeplechase racing. The region also has private training centers or farms for multiple Olympic and United States Equestrian Team champions. Training farms for these horses utilize hundreds of acres and employ a large number of individuals in supporting trades. Because of the rolling open hills, and the mineral rich land, many large and small scale horse breeding operations are located within the study area. Additionally there are multiple courses for racing and other equestrian events, riding clubs, polo groups, and bloodstock agents. A conservative estimate of the number of horses in the study area would exceed 1,000. The University of Pennsylvania, School of Veterinary Medicine, Widener Hospital for Large Animals at New Bolton Center is located in the study area. The Widener Hospital is considered to be one of the finest equine hospitals in the world, and all types of animals ship in from the entire East Coast to be treated there. There is a model dairy, swine breeding facility and 100's of acres in crop on the campus.

From the 1940's until the late 1970's and early 1980's, the King Ranch operated a "Santa Gertrudas" beef cattle breeding operation on 12,000 acres of land previously owned and leased by the Ranch across all three Townships in the Region. Although the King Ranch is no longer active in this region, the majority of these properties remain in agricultural use with horse farms, hay, corn and soybean production, and smaller beef cattle and buffalo operations.

The mushroom industry has historically been a major agricultural industry in the region. The neighboring borough of Kennett Square is referred to as the “mushroom capital of the world.” Agricultural operations in all three townships either grow mushrooms or produce substrate for the growth of mushrooms.

There are also a number of unique and economically important smaller agricultural businesses in the Region. These agricultural businesses produce a wide variety locally grown foods. Some examples include Barnard’s Orchard and Greenhouses, Inverbrook Farm C.S.A., Stargazers Vineyard, Highland Farm, Buffalo Run Farm, Buck Run Farm, Green Valley Farm. Many of these growers and producers are at the forefront of the County's “Buy Fresh Buy Local” movement.

Commercial and Industrial

Moving outward and examining the employment conditions at a macro level, the three municipalities in the Region are very close to three of the 136 Employment Centers in the Delaware Valley as defined by DVRPC²⁵. The southern border of East Marlborough is part of one of the employment centers while West Marlborough and Newlin are located to the north of the closest centers. Employment Centers are defined as “integrated, concentrated areas of non-residential development that share transportation and land use linkages, have at least 500 employees, and have an employment density of at least .5 employees per acre”. These centers exist largely due to such factors as demand for their services, proximity to transportation routes and modes, the availability of necessary utilities, and a skilled labor force. The sectors also serve as primary destinations for journey-to-work trips, and thus impact the local road system.

The nearby centers to the Unionville Region include *Kennett Square-Route 1; Route 41 Avondale; and West Grove-Kennett Oxford by-pass* centers. In addition, *the West Chester; Coatesville-Thorndale; Downingtown-Exton; and Route 202-Painters Crossroads* are employment centers that are within an easy commute for residents. Philadelphia, Montgomery County, and Delaware County are comprised of multiple employment centers, some of which have relevance to the Region as a location for employment. The growth of suburban employment centers such as the ones cited herein is reflective of statewide and national trends of jobs migrating away from more urbanized areas and into the suburban areas. This trend impacts land uses and commuting patterns of employees both into and out of the Region.

²⁵ 2000 Employment Centers in the Delaware Valley, Delaware Valley Regional Planning Commission, 2005.

The Wilmington-Newark Metropolitan Statistical Area (MSA) and its environs, while not part of the DVRPC study, is a major employment center proximate to the Unionville Region. According to the Bureau of Economic Analysis, the nearby Wilmington-Newark MSA grew by 20%, one of the highest growth rates between 1990 and 2000 recorded in the 12 nearby Metropolitan Statistical Areas. Private employers like The DuPont Company, Christiana Health Care Services, and Bank of America have many of their employees living within the Region.

The *Route 1* and *West Grove* employment centers are characterized as primarily “service” sectors, which is the category in which most of the other centers in southeastern Pennsylvania have been placed. The *Route 41/Avondale* center is best characterized as an “agricultural” center, and is the only one in the entire DVRPC report with this designation. Table 11-1 summarizes employment by category within the three centers and individually for East Marlborough. West Marlborough and Newlin are not identified as being formal parts of the employment centers, so their employment figures are not available from the DVRPC study. Outside of the DVRPC employment center designations, it is noted that there are more localized areas of employment found in the Region including Unionville, Willowdale, Stone Barn area (Stone Barn restaurant and banquet hall), and the Village of London Grove (Petragrani Brothers marble and tile).

Table 11-1
Employment within Local Employment Centers
By Major Employment Category

	All Sectors	Agric./Mining	Const.	Manuf.	Transp./Utilities	Whol.	Retail	F.I.R.E.	Service	Gov't.	Military
Rte. 1/Kennett Square	10,621	2,059	944	930	289	297	1,369	385	3,910	438	0
E. Marlborough Twp.	1,690	113	40	83	0	67	308	120	831	128	0
Rte. 41/Avondale	4,852	1,759	428	424	219	189	604	109	873	247	0
West Grove	1,783	144	206	111	166	111	84	163	609	189	0
TOTAL	18,946	4,075	1,618	1,548	674	664	2,365	777	6,223	1,002	0

Source: 2000 Employment Centers in the Delaware Valley, DVRPC, 2005.

F.I.R.E is an abbreviation for Finance, Insurance and Real Estate.

A sampling of the specific uses within the employment sectors include the Walnut Corporate Center on Gale Lane in East Marlborough, and which contains such companies as the Tri-M Group, Lancaster Truck Bodies and FARO Technologies; and the Longwood Business Park. Other nearby business parks include the Longwood Corporate Center and the Longwood Corporate Center South, both located in Kennett Township. Shopping centers, a primary source of retail jobs

and an important source of local services to the community, are found at the Shoppes at Longwood Village, Marlborough Square Shopping Center and the Wal-Mart near Route 1 in East Marlborough. Other nearby retail shopping centers are located in New Garden Township and Kennett Square.

The Unionville-Chadds Ford School District is the largest employer in the region. Longwood Gardens and New Bolton Center are important institutional employers providing for a wide range of job opportunities. However, there is no one employer to which the economic well-being of the Region is tied, which is very beneficial when economic cycles adversely impact that one particular industry.

Redevelopment of existing employment nodes such as the Walnut Road Business Park or Shoppes at Longwood Village may not be an issue in the immediate future, as these centers appear to be thriving. But eventually there will likely be a need to retrofit or transform such centers. Successful redevelopment of such centers could be linked to making them sustainable, walkable centers, possibly with a mix of uses, which would be different from the single use that defines them today. Any redevelopment should be encouraged to make the buildings “green”, that is, designed to improve energy and environmental performance, reduce water usage, and improve natural light, air quality and noise levels. Encouraging property owners to incorporate Leadership in Energy and Environmental Design (LEED) principles or comparable standards in their designs should be considered whenever feasible. Redevelopment can be an additional opportunity to direct the growth that is expected to occur towards greyfield sites and relieve pressure to develop agricultural lands. Redevelopment has been occurring for years in older built up areas, and it will occur in selected areas within the Region at some point in time.

Occupational and Labor Force Characteristics

Examining the occupations of employees found within the three municipalities, the Unionville Region residents are primarily characterized as management, professional and related occupations. While this may seem odd given the significant agricultural land use of the area, it is reflective of the suburban development patterns found in the Region where residents migrate to an area for the residential, employment and open space opportunities. Farming is less labor intensive and more high-tech in nature than in the past, as only 2.2% of the employed civilian population 16 years of age and older in the three townships identify themselves as working in farming and related industries (see Table 11-2). Manufacturing has declined as an industry within Chester County and the Delaware Valley region for many years, although this change has only been felt on the edges of the Unionville Region.

Table 11-2
Employment by Occupation – 2000²⁶

	Employed Civilian Population, 16 Years and Older	Occupations											
		Management, Professional, and Related		Service		Sales and Office		Farming, Fishing, and Forestry		Construction, Extraction, and Maintenance		Production, Transportation, and Materials Moving	
E. Marlborough	3,327	1,949		211		729		48		166		224	
Newlin	615	284		90		125		13		52		51	
W. Marlborough	494	203		71		100		38		37		45	
Total	4,436	2,436	54.9%	372	8.4%	954	21.5%	99	2.2%	255	5.7%	320	7.2%

Source: U.S. Census, 2000.

Despite the relatively low employment figures for farming, agriculture represents the heart of the Region's economic base due to its significant land area. It is believed that many of those working in the agricultural sector in the Region live in other areas, but perform work locally in agriculture, and thus are not counted in the employment totals for farming in Table 11-2. For instance in Chester County, there are approximately 166,891 acres of farmland according to the 2007 U.S. Census of Agriculture, or approximately 34.5% of the entire county land mass. The average size of a farm in the county is 96 acres. By contrast, the Region has approximately 14,000 acres of agriculture and pasture uses which is 55% of the Region's total acreage. Within Chester County, mushrooms are the chief agricultural product and largest cash crop. The Commonwealth is the leader in mushroom production for the entire country. Additional major products include corn, grain, dairy products, orchard crops, poultry and livestock. Other important job sources within the county include manufacturing, retail trade, technology/service/biotech, and tourism.

Unemployment has been an ongoing national concern from late 2007 through the date of this plan. National rates have spiked to slightly above 10% in early 2010 due to the longest contraction in the economy since the 1930s. Pennsylvania has fared slightly better, with a January, 2011 unemployment rate of 8.6%. Chester County has one of the lowest rates in the state with an unemployment rate of 6.3% as of January, 2011. Individual rates for the Region's municipalities are not available, but it is expected that the Region's rate is lower than the County's as a whole. Yet, it is useful to remember that the county rate represents a significant increase from 2000, when the unemployment level was 3.6%. While the unemployment rate is a constantly changing factor in evaluating the Region's economic condition, and the rate is largely dependent of forces outside the control

²⁶ It should be noted that the various occupations reported by the U.S. Census are different from the DVRPC Sectoral employment categories, thus making direct comparisons difficult.

of the municipalities, the relatively low unemployment rate is encouraging, and indicates the resiliency and stability of the labor pool. With about 55% of the residents in the “Management, Professional and Related Occupations” grouping, the Region is well situated to continue to have a relatively low unemployment rate and to be a leader as a high-quality, productive labor force area. More specifically, it is well positioned for being a strong market for such important future labor sectors like biotechnology, computer systems, research and development and bio-research. The knowledge labor pools make the Region also well positioned to be further strengthened in the future with growth in the *green economy*.

Table 11-3
Total Labor Force, Employment and Unemployment

	Population 16 years and Older, 2000	Civilian Labor Force, 2000			Unemployment Rate, 2000
		Total	Employed	Unemployed	
E. Marlborough	4,601	3,410	3,327	83	2.4%
Newlin	913	643	615	28	4.4%
W. Marlborough	671	505	494	11	2.2%
Total	6,185	4,558	4,436	122	2.7%

Source: U.S. Census Bureau, Census 2000, and Southeastern Community Profile, Chester County, PA, Chester County Planning Commission, 2006, p.52.

Income Characteristics

Directly related to the employment picture is the income characteristics of the Region. In Table 11-4 is found the household income characteristics for the Region as of the 2000 Census. Comparable income data for the Unionville-Chadds Ford School District, as provided by the American Community Survey is contained in Table 11-5. This information for the school district’s six municipalities (Birmingham, East Marlborough, Newlin, Pennsbury, Pocopson, and West Marlborough) reasonably represents current household income characteristics for the three municipalities in the Unionville Region. Both tables are presented to give the reader an idea of how income levels have changed over the last decade.

Table 11-4
Household Income-1999

	Total Households, 1999	Household Income, 1999			Median Household Income, 1999
		Less than \$40,000	\$40,000 to \$74,999	\$75,000 or more	
E. Marlborough	2,133	336	476	1,321	\$95,812
Newlin	423	107	129	187	\$68,828
W. Marlborough	346	126	130	90	\$52,283
Total	2,902	569	735	1,598	n/a

Source: U.S. Census Bureau, Census 2000, and Southeastern Community Profile, Chester County, PA, Chester County Planning Commission, 2006, p.58.

Table 11-5
Household Income for
Unionville-Chadds Ford School District-2006-2008

	Total Households	Household Income				Median Household Income
		Less than \$49,999	\$50,000 to \$99,999	\$100,000 to \$199,999	\$200,000 or more	
Unionville- Chadds Ford School District	8,422	1,283	1,821	3,022	2,296	\$130,263

Source: U.S. Census Bureau, Unionville-Chadds Ford School District, Seleted Economic Characteristics: 2006-2008, Data Set: 2006-2008 American Community Survey 3-Year Estimates.

Conversely, while most residents in the Region have adequate incomes, there are families that have incomes under \$49,999, and in fact, are below the official poverty level. For a family of four, the poverty level for 2009 is \$22,050. For the entire school district, approximately 1.8% of the district's population lives at or below the poverty level, a figure that is believed to be consistent within the Unionville Region. For comparison purposes, the Commonwealth's level of individuals and families below the poverty level are 12.1% and 8.2% respectively.

Conclusions

The economy of the Region is well balanced and diverse, and it is well positioned to take advantage of technological changes in the 21st century.

Agriculture is the backbone of the Region. It touches all facets of life in the community from land use, to open space, to employment, to environmental protection, and to the very nature and character of the Unionville Region. With a large agricultural land base, the region is inextricably linked to this industry. Therefore, its continued health is regarded as the primary economic goal of this plan.

Employment opportunities are limited within the municipalities, (East Marlborough has 1,690 jobs), so the continued health of the Route 1 service sector corridor will be important. Redevelopment opportunities exist on a small scale presently, but continued vigilance is necessary to maintain the health and viability of Route 1. The corridor provides retail services and provides for employment for residents. It contains a significant portion of the nonresidential land uses in the region and it lies adjacent to the industrial parks of East Marlborough.

The industrial and office uses provide a third tier of employment opportunities within the region through their management, professional, and related occupations. Jobs will be in demand as employers search for workers skilled in green and bio technologies, financial services, health care services, computer systems and research and development. Even with the agriculture, retail, and industrial/office components within the Region, many jobs lie outside of the Region in Wilmington, Philadelphia, and surrounding municipalities. Therefore, there will continue to be interdependence between the Unionville region and surrounding areas for the economic health of the three townships to continue.

Chapter 12 – Planning in Adjacent Municipalities

The Pennsylvania Municipalities Planning Code requires that comprehensive plans consider the planning policies of adjacent municipalities, and should promote land use policies that are compatible across municipal boundaries. The following paragraphs briefly summarize the planning context and land use character of neighboring townships in the region.

Highland Township

Highland Township is part of the Octoraro Regional Planning Area, along with neighboring Londonderry Township. The Highland Township Comprehensive Plan was adopted in November 2001, and was prepared by local officials with assistance from the Brandywine Conservancy. The entire common boundary with the Unionville Regional Planning Area is identified as “Agricultural Preservation”, which recommends a residential density of one dwelling unit per 25 acres, and has three stated objectives, all of which are consistent with the future land use vision for adjacent areas within the Unionville Region:

1. Promote the continued use of prime farmlands for farming;
2. Enable landowners to capture economic value while farming; and
3. Support the protection of scattered sensitive environmental features.

East Fallowfield Township

East Fallowfield Township is situated to the north of the study area. The Township’s Comprehensive Plan was adopted in November 1999, and was prepared by representatives from the Township with assistance from the Grafton Association. The Future Land Use Map in East Fallowfield’s Comprehensive Plan designates most of the area that is contiguous to the Unionville Region as “Agricultural/Rural.” This land use category intends to accommodate active farming operations and protect prime farmlands and environmentally sensitive areas. This area also contains significant parcels that are enrolled as Agricultural Security Areas. A small area is also designated as “Large-Lot Single-Family Detached”, just west of Doe Run Road, reflecting the current land use pattern in this area. No specific land use densities are noted in the Comprehensive Plan for either land use category designated for this locale. The land uses planned for this portion of East

Fallowfield Township are consistent with the future land use vision for adjacent areas of the Unionville Region.

West Bradford Township

West Bradford is located along the northeastern boundary of the Unionville Region. The Township's comprehensive plan was adopted in 2009, and was prepared by a task force group of Township residents with assistance from the Brandywine Conservancy and the Chester County Planning Commission. The predominant future land use designated for most of the Township's shared boundary with Newlin Township is **"Low Density Single Family Residential"**. The area adjacent to the landfill property (a USEPA Superfund site) in Newlin Township is designated for **"Commercial / Office"**. The area encompassing the existing Vision Quest facility is designated as **"Continuing Care / Mixed-Use"**. The future land uses envisioned in West Bradford Township are compatible with those of the Region along the shared border.

Pocopson Township

Pocopson Township adjoins the Unionville Region to the northeast, and shares borders with both East Marlborough and Newlin Townships. The southern portion of Pocopson Township is zoned mostly for residential uses on 2 acre lots, and for agricultural uses. The land uses planned for this portion of Pocopson Township are consistent with the future land use vision for adjacent areas of the Unionville Region.

Pennsbury Township

Pennsbury Township is located to the east of the Unionville Region, adjacent to the southeastern boundary of East Marlborough Township. The Township's Comprehensive Plan was last updated in 2006, and was prepared by a task force of Township residents with the assistance of the Chester County Planning Commission. The future land use categories designated for the areas adjacent to the Township's shared boundary with the Unionville Region are consistent with the future land use goals for that locale as defined by this comprehensive plan, and are classified as:

Suburban Residential – This use designation is characterized by single-family houses on one to two acre lots in a traditional suburban development pattern. For this area, the plan recommends continued infill development that is consistent with the character of the existing neighborhoods, at densities of 0.5 to 1 dwelling units per acre.

Planned Neighborhood Residential – This category includes medium to higher density residential communities already built within the Township, such as Ponds Edge, Chadds Ford Knoll, and Cartmel. Also included are some undeveloped parcels that would be suitable for similar types of development. The Plan recommends a range of housing types for this area, including twins, townhouses, apartments, and single-family houses on smaller lots. Recommended densities range from 2.0 to 4.0 dwelling units per acre. This land use category provides the primary areas for meeting fair share obligations for multi-family housing in Pennsbury Township.

Kennett Township

Kennett Township abuts the Unionville Region to the south, and contains a mix of suburban and rural uses, with higher intensity uses surrounding the Borough of Kennett Square. The future land use categories designated for the areas adjacent to the Township's shared boundary with the Unionville Region are consistent with the future land use goals for that locale as defined by this comprehensive plan, and are classified as:

Rural Resource Area: Resource Conservation – These areas contain major portions of the Township's most sensitive environmental resources. Residential uses are scattered through the Resource Conservation area, but at very low densities. The future land use recommendations for these areas focus on the preservation of open space, sensitive resources, and farmland.

Growth Area: Planned Neighborhood – This category includes those medium to higher density residential communities already building within the Township. The future land use recommendation for these areas suggest that infill development should occur, in a range of housing types and densities that are similar in character to their surrounding neighborhood.

Growth Area: Office Campus – This designation recognizes the major office development (Exelon) located between Route 1 and Baltimore Pike. The future land use recommendation for this area suggests that land use regulations should

continue to accommodate office parks and related business uses – retail trade is not intended to be a major use in this area.

Growth Area – Suburban Residential – This land use category is characterized by medium density single-family houses in a traditional suburban development pattern. The future land use recommendation for this land use area suggests continued infill development that is consistent with the character of existing neighborhoods.

New Garden Township

New Garden Township adjoins the Unionville Region to the south. The Township's comprehensive plan was last updated in 2005 by local officials with the assistance of the Chester County Planning Commission. The future land use categories designated for the areas adjacent to the Township's shared boundary with the Unionville Region are generally consistent with the future land use goals for that locale as defined by this comprehensive plan, and are classified as:

Resource Conservation Area: Site Sensitive Residential – The plan recommends the continuation of the existing land use pattern in this area, which is characterized by low-density residential uses and lands used by the mushroom industry.

Growth Area: Suburban Residential – The plan recommends that this area be allowed to develop in a similar character as existing suburban residential developments that prevail at this location.

London Grove Township

London Grove Township is located to the southwest of the Unionville Region. The Township's comprehensive plan was adopted in 1992, and was prepared by Township representatives with assistance from the Grafton Association. An update to the comprehensive plan is currently underway. Much of the shared boundary with West Marlborough Township is designated as "Agriculture", which suggests a minimum lot size of 10 acres for residential uses but also enables the transfer of development rights (TDRs) at a rate of 1 unit per 2 acres. The TDR receiving areas are limited to the Medium and High Density Residential land use categories, none of which are directly adjacent to the Unionville Region. A small node of Rural Residential land use adjoins the southwest corner of West Marlbor-

ough Township; this zone suggests a minimum lot size of 1 to 2 acres, and is intended to act as a transition between the agricultural and residential areas of Township. The land uses planned for this portion of London Grove Township are consistent with the future land use vision for adjacent areas of the Unionville Region.

Londonderry Township

The southwestern edge of the Unionville Region adjoins Londonderry Township. The Township's comprehensive plan was adopted in 1993 and updated in 2007, and was prepared by Township representatives with assistance from planning consultant David Sweet and the Brandywine Conservancy. Londonderry Township is part of the Octoraro Region. Most of the area along Londonderry's common boundary with West Marlborough Township is designated as "Agriculture-Open Space" for the purposes of future land use planning, which supports the 25-acre minimum lot size in this portion of the Township. The stated intention of this land use designation is to "retain the protection of the AP district where it now exists" and to "strengthen the protection of agricultural land where possible through the additional sale or donation of conservation easements by owners." The land uses planned for this portion of Londonderry Township are consistent with the future land use vision for adjacent areas of the Unionville Region.

Conclusions

The Unionville Region represents an area of significant transition in south-central Chester County, between more developed suburban land uses in the east and north, and the more rural agricultural land uses to the west. Existing land use in the Region is generally consistent with that of adjacent municipalities. The future land use plan that follows in Chapter 13 recognizes the geographic context of the three Townships that comprise the Region, and anticipates continued consistency with adjacent municipalities.

Chapter 13 – Future Land Use Plan

Assembling data and information on the region coupled with understanding the goals and objectives of the municipalities leads to constructing a plan for future protection and growth. Some growth is inevitable and as forecast in the Buildout Analysis, there will be the need for some additional housing going forward. A principal land use goal of this Plan is to protect the Region's farmland and agricultural heritage while this growth occurs. Achieving this goal requires that development be directed in a fashion that does not compromise the ability of the farms in the Region to thrive into the next decade. Consistent with this goal, is the need to direct whatever growth does occur to areas that are suitable for additional development due to the availability of existing or planned infrastructure, public services, schools, and open space being sufficient to accommodate the growth.

Interrelationships Among Plan Components

The Unionville Regional Plan presents a snapshot of the three municipalities in 2010. Through its goals and objectives, it contains the aspirations and desires of the communities as they enter the next decade. That is, a continuation of the agricultural and open space that defines the Region, while strengthening the Region as a desirable place to live and work. The Plan has mapped important elements in the Region, including its natural features, its land use patterns, its historic resources, and its infrastructure network. It has collected the best available data on demographics, housing and employment, and has analyzed projections as to the future growth expected in both population and employment. With this information in place, it is necessary to ensure that all of the facts support the recommendations made, and that recommendations are compatible with one another.

Two prominent goals for the Region are to protect the farms and agricultural heritage, and to preserve and protect the Region's natural resources. Many other stated goals and objectives support these intentions, but with these primary aspirations in mind, the various plan relationships begin to fall into place. Mapping environmental features serves as the base upon which all other land use decisions are made. Are the soils suitable for agriculture? Is the land suitable for development? Are the proper land use controls in place to protect the environmentally sensitive areas of the Region? The Plan considers all of these factors, with particular concern with preserving the agricultural uses, recognizing the land conservation easements that are in place, and protecting the most sensitive environmental lands in making decisions about growth and development.

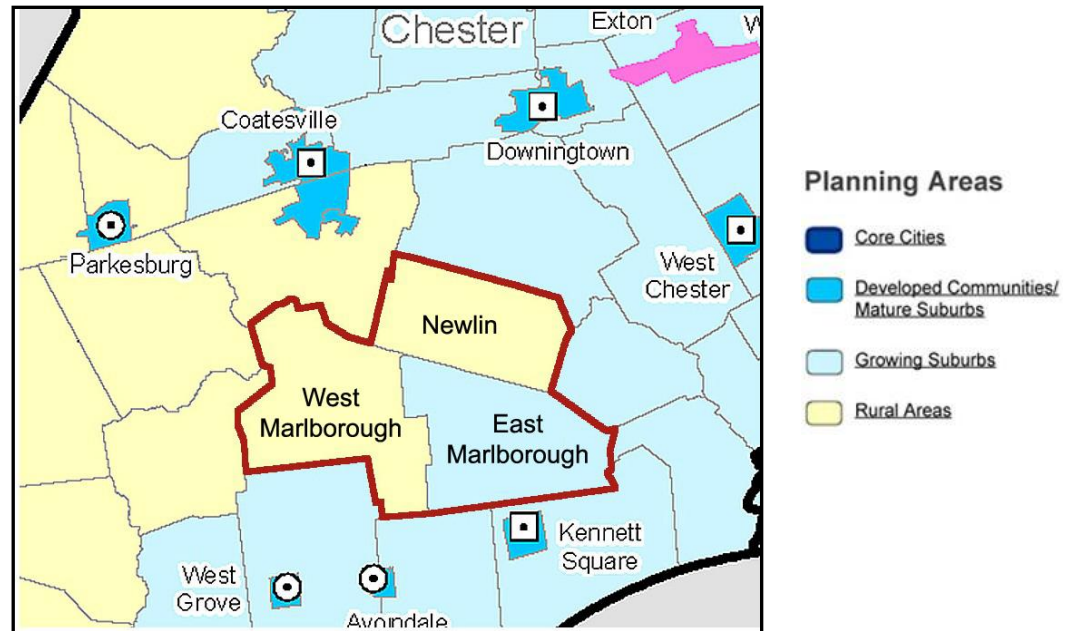
Making sustainable land use decisions depends on a myriad of factors. The Plan forecasts future housing needs based on projections of future population and employment levels. Accommodating young households just starting out, providing choices for families in housing types, locations and sizes, and offering choices for the aging residents of the Region who wish to remain in the area are critical in maintaining a healthy and balanced community. The growth that does occur should be where lands are best suited for development, that is, with adequate transportation systems, with proper public infrastructure, near schools and employment, and in locations that do not compromise the two principal goals of preserving agriculture and environmental features. The area's historic and cultural resources are "gems" spread across the landscape that are worthy of protection within the context of other compatible land uses. To the extent that the historic and cultural resources are clustered within the Region's villages, their continued viability depends upon ensuring that the villages remain vibrant going forward.

The Unionville Regional Plan effectively synthesizes the various plan elements to provide the citizens and elected officials of the Region a guide to the future. The Plan also strives to develop a sustainable and responsible policy document upon which ordinances and regulations can be developed to meet the Plan's goals and objectives.

Regional Planning Influence on Future Land Use

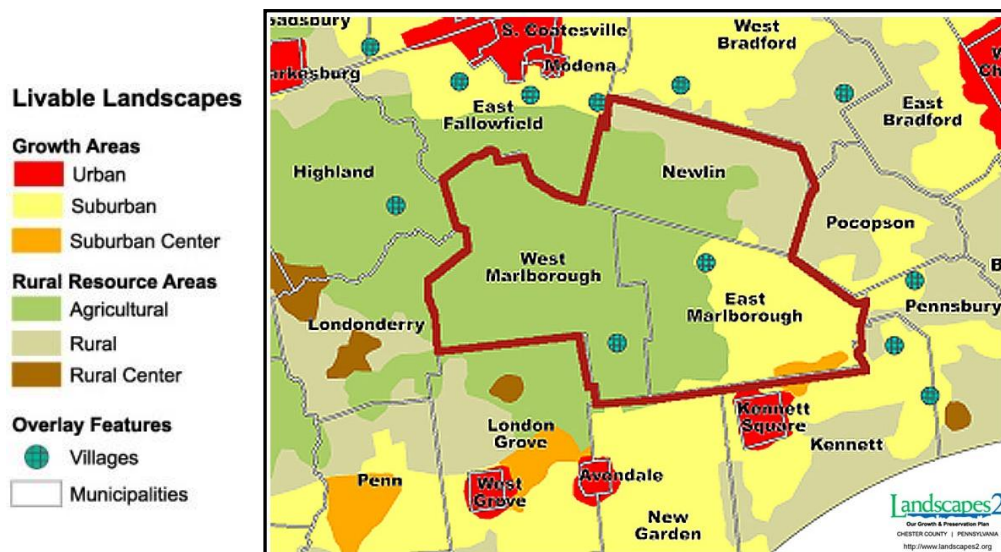
The Unionville Regional Plan has not been developed in a vacuum, and for multi-municipal planning to be effective, it needs to have the support of regional, county, and adjacent municipal governments to insure that the land use decisions made are complementary among governmental agencies. In November, 2009 the DVRPC completed their long-range plan for the future- Connections, The Regional Plan for a Sustainable Future. This plan covers four counties in New Jersey and five in Pennsylvania, including Chester County. Connections delineates areas where growth has already occurred and areas for Future Growth, a Greenspace Network and Rural Conservation Lands, which include agricultural areas. The DVRPC recommendations for Land Use to 2035 are shown in Figure 13-1 on the next page. This plan depicts Newlin and West Marlborough as Rural Areas, and East Marlborough as a Growing Suburb.

**Figure 13-1
DVRPC Planning Areas and Centers**



Chester County adopted Landscapes2 in November, 2009. The county plan also details future growth and preservation locations at the county level. Chester County has developed a Livable Landscapes map that illustrates Growth Areas and Rural Resource Areas, with sub-categories within the two growth areas. The County plan is more detailed than the Connections Plan, and is shown in Figure 13-2. The County classifies most of the Region as “Agricultural Resource Area”. Portions of the Region are classified as “Rural Resource Areas”, “Natural Landscapes”, and “Suburban Growth Areas”. The Landscapes2 Plan classifies Unionville and London Grove as “Villages”, and the Route 1 corridor as a “Suburban Center Growth Area”.

**Figure 13-2
Chester County Landscapes2 Plan**



Both the Landscapes2 and Connections Plan are generally consistent with one another. The only real area of difference is the western portion of East Marlborough which is zoned and planned for agricultural preservation, which means the Landscapes2 plan more accurately depicts the likely future land uses than the Connections Plan does. The Unionville Regional Plan, in designating its growth areas, finds the Landscapes2 Plan to be a viable view of the future. As such, and allowing for a local, more detailed view of the Region, the Unionville Regional Future Land Use Plan (Map 13-1) is generally consistent with Landscapes2, and shows where agricultural uses, natural resource protection, suburban and commercial growth, and village preservation should occur into the next decade.

Rural Resource Areas in the Unionville Region

The Pennsylvania Municipalities Planning Code defines “Rural resource area” as:

“an area described in a municipal or multi-municipal plan within which rural resource uses including, but not limited to, agriculture, timbering, mining, quarrying and other extractive industries, forest and game lands and recreation and tourism are encouraged and enhanced, development that is compatible or supportive of such uses is permitted and public infrastructure services are not provided except in villages.”

The following future land use categories are designated rural resource areas within the Unionville Region, where it is envisioned that land preservation and low-density development will occur.

Agricultural Preservation Areas

Agricultural Preservation Areas have been and will continue to be the predominant land use in the region. The Region is a significant part of the reason why Chester County is second among Pennsylvania counties in the value of agricultural products sold²⁷. With 50% of the Region's land area currently in an agricultural land use, it is the goal of the plan to ensure that active farms not only maintain their place in the region, but that future land use decisions do not compromise the viability of the land through sprawl development, a lack of public support, or services. It is important to understand that growth is not the only obstacle to continued agriculture viability, rather it is fragmented and sprawl growth that is the real enemy of sustaining agriculture in an area. Properly planned, growth can be beneficial in that it provides needed services, employees, and a market for the sale of goods to maintain farms as a business, and can help to sustain the viability of existing villages within the agricultural landscape.

West Marlborough, the western portion of East Marlborough, and the southwestern quadrant of Newlin represent the agricultural core within the Region. This area is the eastern most edge of one of the most important agricultural zones in the eastern United States, which begins in the Unionville Region and extends westward into Lancaster County. This regional agricultural landscape extends from just south of the suburban and urban growth areas along Route 30 in the northern portion of the Unionville Region, southward to Route 1. Future land use policies in the Region should continue to build on the agricultural zoning enacted in East and West Marlborough to ensure that inappropriate development does not intrude within these areas, which would result in a loss of prime agricultural land. Planning efforts should focus on limiting incompatible land uses and their associated negative impacts within this magnificent expanse of land.

The Agricultural Preservation Area will include approximately 17,200 acres of land, or nearly 60% of the Region's land total.

²⁷ Landscapes2, Chester County Comprehensive Policy Plan, Chester County Planning Commission, p. 34, 2009.

Natural Areas

Natural Areas can be found throughout the Region, even within areas that have been developed. However, it is important to preserve and protect areas that have not been subject to development, and to enforce and perhaps enhance regulations designed to protect such important features. This protection can occur through floodplain regulations; wetland protection; prime farmland soils protection; tree protection ordinances; and steep slope ordinances. These site specific regulations are important as individual sites develop, but it is also important to recognize that large natural areas exist that provide many benefits to the community and that are worth protecting. In examining the Region's soils (Map 3-2); water resources (Map 3-3); and natural and biological features (Map 3-4), it is clear that portions of the region contain extraordinary natural features and beauty. The Region's land trust easements, natural areas like the Laurels, ChesLen Preserve, and Longwood Gardens enhance and protect the Region's natural features.

Historic Village Areas

The Region has seven historic villages, which are generally centered around crossroads areas. Unionville and London Grove are the largest in terms of area and overall scale; Springdell, Doe Run, Mortonville, Marlborough, and Embreeville are less expansive, but exemplify the unique charm of historic rural villages throughout the Commonwealth. These villages provide an important cultural element to the Region, reminding residents on a daily basis of the Region's rural heritage. These early cluster developments of primarily residences with only a sprinkling of commercial uses are architectural gems that deserve protection and encouragement from the residents of the Region. Should they be lost or compromised, their demise would diminish the sense of place enjoyed throughout the entire Region.

The Region's cultural and historic resources, while not located exclusively in villages, are significant components of the village centers. Protection of the villages will necessarily provide for preservation of the historic resources so long as the Historic Commissions and Historic and Architectural Review Boards continue their vigilance over the architecture of the past.

The villages are not planned for growth, save for small additions along their edges and context-appropriate infill development, where space is available. Protection and enhancement of the existing buildings is seen as the most important goal of village preservation. Being cognizant of and working with village owners on

their special issues such as water and sewer, parking, renovations, additions to buildings, speed limits, and signage are concerns associated with village preservation. The Future Land Use Plan delineates the village areas for preservation and envisions only minimal growth.

Growth Areas

The Pennsylvania Municipalities Planning Code defines “Designated growth area” as:

“a region within a county or counties described in a municipal or multi-municipal plan that preferably includes and surrounds a city, borough, or village, and within which residential and mixed use development is permitted or planned for at densities of one unit to the acre or more, commercial, industrial and institutional uses are permitted or planned for and public infrastructure services are provided or planned.”

The following future land use categories are designated growth areas within the Unionville Region, to accommodate “fair share” of land uses as required by law. These areas are proximal to existing development, and are located either within or reasonably close to portions of the Region that are currently served by utility infrastructure.

Flexible Rural Areas

A large portion of Newlin Township is designated for “flexible rural” uses, which can be characterized by the low-density, mostly rural pattern of development that currently exists in portions of the Township today. Newlin’s performance-based zoning permits a variety of uses throughout the Township, including residential, mixed-use, non-residential, commercial, and preservation-oriented uses. Density and intensity of development is regulated and managed through a site-specific performance standard system that nets out environmental features and development constraints, and requires set-asides for open space and preservation of sensitive features. The “Flexible Rural” land use designation anticipates a continuation of this development pattern in the future, and is generally the least dense form of development specified for the “Growth Area” category.

Suburban Areas

From a regional perspective, as East Marlborough serves as the eastern boundary to the agricultural resource area. Most of the population in the region lives within the eastern portion of East Marlborough. The area is characterized by suburban subdivisions, retail commercial and industrial parks near Route 1, a prominent open space resource, Longwood Gardens, and public lands owned by the Unionville Chadds Ford School District. This Suburban Area continues to the north into Newlin Township, but at less intensity, and is characterized by newer cluster developments like Newlin Greene, and Pocopson Creek near Unionville-Wawaset Road. Within the Suburban Area, there are infill parcels of land where future growth might occur. Further, if larger developed commercial parcels become appropriate for redevelopment due to age or changes in shoppers' preferences, strategies to retrofit retail parcels into mixed use neighborhood centers could be considered. This could have the advantage of directing growth to existing centers, thus lessening pressure to develop open space areas, while at the same time providing for additional housing choices. The Region will likely see a demand for housing designed for older adults as the Region's and the entire County's population ages. This could take the form of active adult communities (Traditions at Longwood); Continuing Care Retirement Communities (nearby Kendal at Longwood) assisted living facilities (nearby Victoria Gardens); or skilled nursing facilities. While certain of these facilities are located in adjacent townships and boroughs, the Region should expect that such specialized housing will be proposed during the life of this Plan.

Public water and sewer are generally found within this area which affords the opportunity to provide for approved utility services. If the infrastructure is not readily available, growth could be accommodated through extensions in certain cases if capacity is available. Consumer services such as retail stores are accessible along Route 1, and jobs are found in the Kennett Square-Route 1 Employment Center. This proximity to services and jobs reduces travel times and costs.

Public schools are within walking distance to some of the developed areas, which is highly desirable in a community. The advantages of directing future development to such areas is augmented by East Marlborough's zoning policies that establish a healthy mix of uses and residential densities to accommodate the Region's projected growth. The Plan recommends that the Suburban Areas be the primary location for most of the Region's future growth. This area contains approximately 8,700 acres, of which approximately 2,300 acres is undeveloped.

As growth occurs in the Suburban Areas, certain principles should be followed. The growth should occur in such a way that some open space is preserved

as part of any development through cluster or lot averaging provisions. Utilizing smart growth techniques such as allowing for different housing types and densities; protecting natural resources; encouraging walkable communities; and developing in accordance with the capacity of existing and planned infrastructure are all elements that should be considered as new developments are proposed. Not every situation lends itself to all of these principles, but they are attributes of smart growth that should be applied when feasible.

If the Region were to experience the projected demand for upwards of 600 new housing units by 2020, as unlikely as that may seem today, not all of these homes will be built in the Suburban Area. However, as an example, if 50% of those homes (or 300 of the projected number) were built in the RB zoning district of East Marlborough (80,000 square foot lots), approximately 600 acres could be developed with houses, streets, stormwater basins and lots. If those 300 homes were instead developed on one-acre lots with the remaining 50% being retained as common open space, only 300 acres would be lost to development, and 300 acres could be part of a permanent, sustainable open space network of resource protection, and active and passive open space.

Crossroads Mixed-Use Area (Willowdale)

Centered at the intersection of Rtes. 926 and 82 at Willowdale, this area is a minor commercial node in the Region. While Willowdale exhibits similar physical and functional characteristics of the historic villages found elsewhere in the Region, it lacks the historical context of those areas and is more modern and automobile-centric in its form. This area can accommodate some future growth; however, any expansion in this locale should be properly managed to ensure that growth occurs at appropriate densities and in a form that is consistent with surrounding land uses.

Suburban Center/Mixed-Use Areas

The most intensely developed area of the region is a mile-and-a-quarter stretch along Route 1 in the southeastern portion of the Region. Also included herein are the southern ends of Walnut and Schoolhouse Roads. While there are other less significant areas of commercial activities within the Region, their magnitude is quite small and does not rise to the level of a Suburban or Mixed Use Center. Willowdale and the Village of Unionville are other minor centers in the region, comprising a mix of uses at slightly higher densities.

The Route 1 corridor currently contains a mix of uses including residential, commercial, and industrial. This 366-acre area adequately services the daily shopping needs of the Region, and functions as a suburban extension of the Urban Growth Area of Kennett Square Borough. The uses along the Route 1 corridor provide for a variety of local services, and one can find several residential communities at a slightly higher density than typically found in the Region within this area.

It is not recommended that there be major additions to this nonresidential corridor. The retail commercial areas are adequate to service the needs of the Region's residents. Services that are not available locally may be available in nearby urban growth areas like Kennett Square. It is anticipated that it will not be necessary for the Route 1 area to grow or expand significantly to meet the needs of the Region's residents. There will be opportunities for the development of in-fill parcels that could become available, and through redevelopment of some of the older businesses along the corridor. With population growth expected to grow by a maximum of 2,553 persons between 2010 and 2035, there is not a significant demand for commercial growth within the Region. What limited growth does occur can be handled as redevelopment of parcels along Route 1, or through modest and controlled expansions of villages and the Crossroads Mixed Use area at Willowdale. The Route 1 area contains several older houses and closed businesses that are either not presently being used or require rehabilitation. These are located near Route 1's intersection with School House Lane, and near Pennock Avenue. Re-use of these buildings as productive commercial ventures should be encouraged.

Conclusions

Future land use planning in the Region is consistent with visions previously established by the DVRPC and the Chester County Planning Commission. While certain terminology differs, West Marlborough, most of Newlin, and the western portion of East Marlborough Township are envisioned to remain in agricultural preservation. Newlin Township is planning to more formally define areas within the southwestern sector of the township with zoning overlays to make the future land use vision in that locale more consistent with that of the Region overall.

What growth does occur is expected to primarily occur in the eastern sector of East Marlborough and to a lesser extent, the eastern sector of Newlin Township. These are areas with fewer environmental limitations, areas where public sewers and water facilities are more feasible, and areas where suburban development has occurred in the past. The schools are located in proximity to these areas, and jobs and shopping opportunities are convenient as Route 1, Willowdale, and

Unionville are nearby. The road infrastructure is more developed in these areas, and the prevalence of large agricultural parcels is less than in the more rural sectors of the Region. Considering projections for population and employment growth, there is no need to look outside of the Suburban areas and Suburban Center Mixed Use areas to accommodate growth through 2020. The projection for population increase is expected to be at the high end of the range. Thus, adequate land is available for the residential growth as analyzed in Chapter 6. Non-residential growth can occur on undeveloped land, on underutilized parcels in the form of redevelopment, and in very limited areas around Willowdale. The other villages in the Region are not expected to see much growth overall but may provide minor opportunities for nonresidential growth. While there may be opportunities for very selected and limited growth at the edges of the historic villages in the Region (with the exception of Willowdale), the need or desire to expand their boundaries is not a recommendation of this Plan.

Chapter 14 – Implementation Recommendations

The tables contained in the following pages contain strategies for implementing the Comprehensive Plan, based on the Goals and Objectives chapter of this document. The action items associated with each plan objective intend to provide some focus to future policy discussions and decisions within the Region, and emphasize the overarching goals of this Comprehensive Plan, as grouped by the following thematic areas:

- Natural and Environmental Resources
- Cultural and Historic Resources
- Land Use & Housing
- Open Space, Parks, & Recreation
- Utilities and Infrastructure
- Public Services
- Transportation and Circulation
- Economy

How to Use the Implementation Tables

The implementation tables identify who should be responsible for overseeing or coordinating specific action items, and includes a timeline for implementing them. Implementation strategies that are indicated as “short term” should be addressed in the next one to three years after this plan is adopted; “long term” strategies are those that might be undertaken three to five years after plan adoption. “Ongoing” strategies should be periodically evaluated and addressed on an as-needed basis over the life of this plan.

Key Strategies

While special attention should be initially given to implementation strategies identified as having “Short Term” and “Ongoing” timelines, there are several key items that can be undertaken immediately, and which would help to establish the credibility and relevance of this comprehensive plan as an important regional planning tool. The three townships should consider the following

strategies for early action items as they begin to develop policies based on this plan:

Land Use & Housing, Item 3-L.1: “Establish an implementation committee consisting of representatives from each township to oversee the application of the Comprehensive Plan to the development of new policies in the Region.”

Land Use & Housing, Item 3-K.1: “Establish a process that fosters regular/periodic discussions in a forum that allows each township within the Region to express and act upon local concerns about projects of regional scope.”

Land Use & Housing, Item 3-I.1: “Adopt consistent land use terminologies throughout the Region that pertain to conservation-oriented land development designs, such as net-out provisions, use regulations, open space definitions, steep slope designations, etc.”

Natural and Environmental Resources, Item 1-E.2: “Evaluate and amend zoning ordinances as necessary to ensure that building setbacks, area and bulk, and other zoning regulations that influence the form of development are appropriate.”

Public Services, Item 6-C.1: “Elected officials and Township staff should communicate on a regular basis with their counterparts in each municipality in the Region to coordinate municipal procurements on a regional basis or through existing consortia.”

Conclusions

Implementation priorities may evolve or shift in importance over time, based on numerous social, political, and economic factors. The strategies presented herein reflect the values and vision of the Townships in the Region at the time of plan adoption, and should be viewed through this prism. However, the policy suggestions presented in this chapter were conceived as being applicable to a reasonable comprehensive planning timeframe, i.e., ten to fifteen years. They were also developed with a view towards promoting consistency with broader regional planning goals of Chester County as defined in Landscapes2, and hence, represent more than just local interests. Implementation strategies should be periodically re-evaluated and adjusted as necessary to effect policies that are in the best interest of the Unionville Region.

Natural and Environmental Resources			
Goal 1: Preserve and protect the natural resources of the region, including water, land, biotic, habitat, and scenic resources.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
1-A. Provide water resource protection measures to maximize flood control, groundwater recharge and filtration, and to minimize the discharge of contaminants into the water resources of the region.	<p>1. Adopt watershed-based approaches to water resource protection and stormwater management. Chester County's integrated water resources plan ("Watersheds") lists priority management objectives for each watershed in the Region. Future land use and public policy decisions should consider the guidance of "Watersheds", and specifically aim to:</p> <ul style="list-style-type: none"> - Reduce stormwater runoff. - Restore water quality of "impaired" streams. - Protect vegetated riparian corridors. - Increase public access and recreational use of streams. - Undertake integrated water resources planning for growth areas. - Implement other source water protection measures for water supply intakes, reservoirs, and wells. - Protect/enhance water-based cultural, historic, and recreational resources. - Protect first order streams. <p>2. Require the use of Best Management Practices in all land disturbance activities, including agriculture and development, to preserve stream quality.</p> <p>3. Require the planting of trees in new developments as a landscape stabilization technique to protect the land from erosion and promote water quality.</p> <p>4. Adopt regulations that require the use of porous paving or other methods that allow rainwater recharge, where appropriate. Portions of parking lots, athletic facilities, and walkways could utilize such materials.</p> <p>5. Coordinate efforts with County and State environmental agencies to upgrade the special protection use designations of more waterways within the Region. Where certain streams meet the HQ or EV requirements that are not currently designated as such, upgrading their special protection status could give these streams significant additional safeguards against possible degradation in the future.</p>	Each Township's Board of Supervisors, under advisement of Planning Commissions and EACs	Long Term / Ongoing

Natural and Environmental Resources			
Goal 1: Preserve and protect the natural resources of the region, including water, land, biotic, habitat, and scenic resources.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
1-B. Ensure that municipal policies and regulations are comprehensive and targeted to protect important natural and environmental resources.	<p>1. Adopt a comprehensive set of natural features ordinances in each township that address protective standards for groundwater, surface water, floodplains, wetlands, steep slopes, woodlands and valued vegetation, specimen trees, soils, riparian buffers, sensitive habitats, and other important environmental features.</p> <p>2. Consider eventually codifying separate natural features ordinances into one common ordinance that can be applied across the Region.</p>	Each Township's Board of Supervisors, under advisement of Planning Commissions and EACs	Long Term
1-C. Develop suitable ordinances and regulations and promote the placement of agricultural and conservation easements to protect prime farmland soils (Class I, II and III soils).	<p>1. Adopt ordinance provisions that minimize the potential for development in areas containing Class I, II, and III soils.</p> <p>2. Encourage the use of best management practices to prevent soil erosion in connection with farming activities.</p> <p>3. Develop ways for the Region to facilitate land preservation.</p> <p>4. Consider funding mechanisms for land acquisition and / or the establishment of agricultural or conservation easements.</p> <p>5. Educate citizens about the benefits of land preservation using public outreach methods such as newsletters, websites, and other media.</p>	<p>Each Townships' Board of Supervisors, under advisement of Planning Commissions</p> <p>Township Supervisors and Staff</p>	<p>Long Term / Ongoing</p> <p>Short Term / Ongoing</p>
1-D. Consider the impacts of various land use actions as they affect wildlife habitat preservation.	1. In reviewing land development plans, work to establish linked wildlife corridors within open space areas to protect existing habitats and connect natural areas to wildlife preserves and/or other important habitat areas in the region.	Each Townships' various boards and commissions, during plan review/approvals process	Ongoing

Natural and Environmental Resources			
Goal 1: Preserve and protect the natural resources of the region, including water, land, biotic, habitat, and scenic resources.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
1-E. Recognize trees as one of the most important elements in creating a desirable community. Trees absorb carbon dioxide, filter the air, and soften the landscape.	<p>1. Require the planting of trees in new developments, and the replacement of trees that are damaged or have been removed within existing residential and commercial areas. This could be achieved through additions or amendments to subdivision/land development ordinances.</p> <p>2. Promote the preservation of trees in the region that have important historic or ecological value. This could be achieved through public education, the compilation of a scenic resources inventory, and/or additions or amendments to zoning and subdivision/land development ordinances.</p>	<p>Township staff at direction of Supervisors, PCs</p> <p>Historic commissions, EACs, PCs and Supervisors</p>	Ongoing
1-F. Protect scenic resources and viewsheds in concert with open space and agricultural preservation.	<p>1. Establish review processes and performance criteria to be applied during the land development approvals process that protects scenic views. The development of scenic resources inventories for individual townships or the Region overall might help to further this objective.</p> <p>2. Evaluate and amend zoning ordinances as necessary to ensure that building setbacks, area and bulk, and other zoning regulations that influence the form of development are appropriate.</p> <p>3. Limit density of development on high-quality agricultural lands.</p> <p>4. Discourage development on hilltops along ridgelines.</p>	<p>Twp. PCs</p> <p>Twp. PCs</p> <p>Twp. PCs</p> <p>Twp. PCs</p>	<p>Short Term</p> <p>Short Term / Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>
1-G. Encourage the use of native plants to provide wildlife habitat and food, aid in regeneration, and ensure bio-diversity.	<p>1. Establish a list of township-approved street trees, shrubs, and grasses throughout the Region; use a common rationale across the region for deciding which non-native plants should (or should not) be used in the landscape. These lists should be used for all landscaping regulated by zoning and subdivision/land development ordinances.</p> <p>3. Encourage the removal of invasive plant species.</p>	<p>Twp. Staff, Implementation Committee, PCs, and EACs</p> <p>Twp. Staff, Supervisors, PCs, and EACs</p>	<p>Short Term</p> <p>Ongoing</p>

Cultural and Historic Resources

Goal 2: Protect and preserve the integrity of the historic resources as important community assets. Encourage reuse and adaptation to viable and compatible community uses.

Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
2-A. Develop and maintain a listing of the region's historical and cultural resources and districts, including documentation of each according to importance.	<p>1. Encourage active and ongoing cooperation among the historic preservation groups in each township.</p> <p>2. Build upon the integrated historic resource database that was developed for this regional comprehensive plan, incorporating a common inventory structure that accommodates the important characteristics of historic resources across all three townships.</p>	Implementation Committee and Historic Commissions / HARBs	Short Term / Ongoing
2-B. Conduct historical evaluations in a consistent manner, such as in accordance with Pennsylvania Historic and Museum Commission (PHMC) standards.	1. Develop shared methodologies for evaluating the important historic characteristics of designated resources, based on a mutual protection plan.	Historic Commissions / HARBs	Long Term
2-C. Discourage the unnecessary demolition of historic resources.	<p>1. Work with property owners to actively pursue the listing of the region's most important historic resources in state and national registers, based on a common hierarchy shared among all three townships.</p> <p>2. Strengthen township ordinances to deter demolition and encourage property owners to find creative ways to adaptively re-use historic buildings. For buildings that are to be demolished, require the property owner to allow sufficient time for historic organizations to adequately study and catalog historic attributes and features related to the building being demolished.</p>	<p>Historic Commissions / HARBs</p> <p>Historic Commissions / HARBs, Planning Commissions, and Supervisors</p>	<p>Ongoing</p> <p>Long Term</p>
2-D. Develop programs to highlight properties of historic value and seek property owner cooperation in their retention and preservation.	<p>1. Educate property owners about the value of historic preservation. Assemble useful information about historic preservation techniques that balance the needs of property owners with the goals of the region.</p> <p>2. Allow/encourage public access to educational materials, studies, inventories, and databases related to historic resources in the Region.</p>	<p>Twp. Supervisors and Historic Commissions / HARBs</p> <p>Historic Commissions / HARBs and Twp. Staff</p>	<p>Long Term / Ongoing</p>

Cultural and Historic Resources

Goal 2: Protect and preserve the integrity of the historic resources as important community assets. Encourage reuse and adaptation to viable and compatible community uses.

Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
2-E. Consider implementing suitable incentives within land development regulations for homeowners to preserve historic resources.	1. Adopt zoning ordinance provisions that are common to all three townships, encouraging adaptive re-use, preservation, and/or context-sensitive solutions to effect the preservation of historic resources.	Twp. Supervisors under advisement of PCs / Historic Commissions / HARBs	Long Term

Land Use & Housing			
Goal 3: Protect the principal land use in the region - farming - so that the agricultural heritage and prime farmland soils (Class I, II, and III soils) of the area can be maintained and expanded, and agriculture can remain economically viable.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
3-A. Support agriculture as a primary land use to ensure that it remains a viable commercial enterprise in the region.	1. Incorporate provisions into zoning ordinances that insulate agricultural operations from nuisance lawsuits, while protecting surrounding non-agricultural uses. 2. Maintain and enhance agricultural zoning in the Region to preserve farmland. 3. Expand and strengthen agricultural preservation in the Region with targeted zoning regulations in areas that are not currently protected or preserved.	Twp. Supervisors with Implementation Committee and PCs	Short Term / Ongoing
3-B. Support secondary agricultural businesses and Community Supported Agriculture (CSAs) as viable commercial enterprises in the region.	1. Review local regulations and ordinances to ensure that CSAs and secondary uses on agricultural lands are permitted to remain competitive in the marketplace for the production of agricultural products to be consumed locally.	Twp. Supervisors and PCs	Ongoing
3-C. Continue to work with land owners and land conservancies to promote resource protection programs and the placement of agricultural and conservation easements that will protect farming as the principal land use in the Region.	1. Develop ways for the Region to facilitate land preservation. 2. Consider funding mechanisms for land acquisition and / or the establishment of agricultural or conservation easements. 3. Educate citizens about the benefits of land preservation using public outreach methods such as newsletters, websites, and other media.	Township Supervisors and Staff	Short Term / Ongoing
3-D. Create land use policies that recognize the importance of pedestrian friendly communities. Utilize village planning principles for new developments when practical.	1. Ensure that township codes and regulatory policies result in land develop plans that are compatible with the preservation of historic village cores within the Region. 2. Consider the development and adoption of design guidelines/standards for new developments occurring near village areas, based on existing and historic design typologies for the villages in the region.	Twp. Supervisors, PCs and Historic Commissions	Long Term

Land Use & Housing			
Goal 3: Protect the principal land use in the region - farming - so that the agricultural heritage and prime farmland soils (Class I, II, and III soils) of the area can be maintained and expanded, and agriculture can remain economically viable.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
3-E. Manage and control new development by directing development to those areas with infrastructure systems in place, and that are capable of handling new development.	<ol style="list-style-type: none"> 1. Ensure that zoning codes remain attuned to the climate of growth/development in the region. 2. Update zoning district boundaries and use regulations as necessary to direct land development activities appropriately. 3. Consider the use of overlay zoning districts for specific areas in the Region to control the location and intensity of new development and focus growth in appropriate locations. 	Twp. Staff with PCs and other boards and commissions	Ongoing
3-F. Discourage sprawl throughout the region since such growth causes an unnecessary loss of farmland and can adversely impact the environmental resources of the region.	<ol style="list-style-type: none"> 1. Continue to balance density and growth pressures with zoning district classifications that are consistent in scope and definition, and that are legally defensible throughout the Region. 2. Adopt appropriate ordinances that are consistent with the future land use goals of the Regional Comprehensive Plan. 	Twp. Staff with PCs and other boards and commissions	Ongoing
3-G. Encourage smart growth policies to manage what growth does occur, and that encourage cluster housing, walkable neighborhoods, quality architecture, and the preservation of open space and farmland.	<ol style="list-style-type: none"> 1. Promote the use of appropriate design guidelines for new developments within the zoning ordinances of the Region that are consistent with the land use context in which they are being applied. 	Twp. Supervisors under advisement of Planning Commission	Short Term / Ongoing
3-H. Recognize the importance and positive aspects of varied housing opportunities for all residents.	<ol style="list-style-type: none"> 1. Ensure that zoning provisions continue to promote a balance of housing types and densities in the Region. 	Twp. Staff under direction of Supervisors and Planning Commissions	Short Term / Ongoing
3-I. Recognize that a diversity of land uses is desirable in creating a balanced community.	<ol style="list-style-type: none"> 1. Evaluate zoning provisions to accommodate effective "Smart Growth" principles. 2. Make sure that housing opportunities for all age groups and economic levels remain in balance. 	Implementation Committee, Twp. Planning Commissions	Long Term / Ongoing

Land Use & Housing

Goal 3: Protect the principal land use in the region - farming - so that the agricultural heritage and prime farmland soils (Class I, II, and III soils) of the area can be maintained and expanded, and agriculture can remain economically viable.

Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
3-J. Encourage land use plans that cluster housing into compact neighborhoods, and provide open space within communities for recreation, scenic views, natural resource protection or other suitable uses.	<ol style="list-style-type: none"> 1. Adopt consistent land use terminologies throughout the Region that pertain to conservation-oriented land development designs, such as net-out provisions, use regulations, open space definitions, steep slope designations, etc. 2. Assess and identify areas that might be suitable for mandating cluster designs for new developments. 	Implementation Committee in coordination with Twp. Supervisors and Planning Commissions	Long Term
3-K. Develop policies that allow for nonresidential growth to occur in appropriate locations, in order to meet the lifestyle needs of residents in the Region.	<ol style="list-style-type: none"> 1. Promote the appropriate redevelopment of abandoned or underutilized commercial properties along the Route 1 corridor. 2. Amend and adopt ordinances that promote and effectively manage a higher intensity of commercial development where appropriate. 3. Ensure that zoning policies work to maintain and support surrounding existing "centers" to accommodate regional non-residential development. 	Twp. Supervisors and Planning Commissions	Short Term / Ongoing Long Term / Ongoing Ongoing
3-L. Develop a process that allows for joint municipal input on projects with a potential regional impact.	<ol style="list-style-type: none"> 1. Establish a process that fosters regular/periodic discussions in a forum that allows each township within the Region to express and act upon local concerns about projects of regional scope. 	Implementation Committee in coordination with Twp. Supervisors	Short Term / Ongoing
3-M. Investigate the desirability and feasibility of joint municipal land use regulations.	<ol style="list-style-type: none"> 1. Establish an implementation committee consisting of representatives from each township to oversee the application of the Comprehensive Plan to the development of new policies in the Region. 2. Critically examine and amend existing ordinances to ensure consistent terminology in zoning provisions throughout the region. 	Twp. Supervisors / Implementation Committee / Planning Commissions	Short Term / Ongoing

Open Space, Parks, & Recreation			
Goal 4: Provide for a balanced mix of open space, parks, and recreation amenities that are integrated with and help to further the natural and environmental, land use, and public services goals of the Region.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
4-A. Develop greenways as a means of future hiking, biking, walking, and horseback riding trails, while also providing for wildlife corridors.	<p>1. Work with landowners and conservation organizations to coordinate open space networks among parcels to create a pattern of linked greenways. This can be achieved using various methods, including voluntary easements, donations of property, etc.</p> <p>2. As development occurs within suburban areas, coordinate the configuration of open space to create physical linkages.</p>	<p>Township policymakers working with landowners</p> <p>Each township's various boards and commissions, during plan review/approvals process</p>	Ongoing
4-B. Continue to work with residents and land conservancies to promote land resource protection programs and the placement of conservation easements that will assist in the preservation of open spaces.	<p>1. Develop ways for the Region to facilitate land preservation.</p> <p>2. Consider funding mechanisms for land acquisition and/or the establishment of conservation easements.</p> <p>3. Educate citizens about the benefits of land preservation using public outreach methods such as newsletters, websites, and other media.</p>	Twp. Supervisors and Staff	Short Term / Ongoing
4-C. Balance passive open space and its benefits with the provision of limited active recreation facilities to serve not only the youth of the area, but also the diverse recreational needs of all age groups.	<p>1. Ensure that provisions are included in subdivision/land development ordinances that require the mandatory dedication of open space or park lands, or fee-in-lieu of such provisions.</p> <p>2. Ensure connectivity among passive and active recreational areas by adding new trails and pedestrian amenities throughout the region, and continue to maintain existing trails.</p>	<p>Twp. Supervisors, Planning Commissions</p> <p>Planning Commissions</p>	<p>Short Term</p> <p>Short Term / Ongoing</p>
4-D. Encourage the shared use of recreation resources for the entire community.	1. Promote continued cooperation between public and private recreational organizations and the School District to ensure adequate public access to recreational programs and facilities.	Implementation Committee and individual townships	Short Term / Ongoing

Utilities and Infrastructure			
Goal 5: Provide for water and sewer systems consistent with planned future land use patterns. Discourage leap-frog development that causes infrastructure to be provided in an unplanned manner. Promote environmentally sustainable stormwater management techniques that achieve local, state, and federal regulatory objectives. Support effective policies for solid waste disposal and recycling.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
5-A. Work with residents and property owners to understand the importance of effective stormwater management systems. Encourage infiltration policies for not only new developments, but for improvements to existing homes and businesses.	1. Foster public knowledge of stormwater management methodologies through public newsletters or website postings, educational programs, and the application of consistent policy tools across the Region.	Twp. Staff	Ongoing
5-B. Enhance and promote water quality, vegetative and wildlife habitat through the provision of Best Management Practices (BMPs) for storm water management.	1. Evaluate each Township's stormwater management regulations and enact policies that incorporate the best elements from each into the Regional framework. Establish new regulations where appropriate, based on the latest engineering and scientific protocols, and any applicable legal requirements of the County and other levels of government.	Twp. PCs with Implementation Committee	Long Term
5-C. Require maintenance programs for on-lot septic systems to eliminate pollution into the ground.	1. Enact policies and ordinances that require maintenance of on-lot septic facilities.	Twp. Supervisors	Short Term
	2. Ensure that property owners adhere to maintenance programs for on-lot septic facilities through active enforcement of regulations.	Twp. Staff	Short Term / Ongoing
5-D. Plan for the provision of drinking water through the protection of groundwater sources and provision of public water where the future land use plan is supportive or as required to protect public health.	2. Manage the expansion of public water supply systems in a manner that provides adequate water to residents, while balancing land use goals with future development in the region. 3. Ensure that groundwater resources are adequately protected and managed. East Marlborough Township utilizes a groundwater protection overlay district in their zoning ordinance; such regulations could be applied elsewhere throughout the Region to promote protection of groundwater resources in areas that could benefit from such additional controls.	Twp. Supervisors and PCs, under advisement from Twp. Staff and various boards and commissions	Ongoing

Utilities and Infrastructure			
Goal 5: Provide for water and sewer systems consistent with planned future land use patterns. Discourage leap-frog development that causes infrastructure to be provided in an unplanned manner. Promote environmentally sustainable stormwater management techniques that achieve local, state, and federal regulatory objectives. Support effective policies for solid waste disposal and recycling.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
5-E. Educate the public about the importance of recycling, available opportunities for recycling, and the appropriate disposal of solid and hazardous waste.	<p>1. Use newsletters or website postings and other communications media to educate citizens of the Region about recycling policies and solid waste disposal, as well as additional/alternative recycling opportunities for items and materials that are not otherwise regulated by existing policies.</p> <p>2. Ensure that recycling policies are consistent with the requirements of Pennsylvania Act 101 "Municipal Waste Planning, Recycling and Waste Reduction Act", and with the current best practices for waste disposal.</p>	Township Staff	Ongoing

Public Services			
Goal 6: Provide for needed government services at the least possible cost to the community.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
6-A. Work to ensure a set of coordinated policies within the region that would jointly address land use controls, road improvements and maintenance, open space provision, purchasing, emergency services, and public safety concerns.	1. Address policy coordination in the context of an Implementation Task Force, charged with executing the goals of the joint Comprehensive Plan.	Implementation Committee under direction of Twp. Supervisors	Short Term / Ongoing
6-B. Provide cost effective municipal government by coordinating services where possible including library, parks, and recreation programs.	1. Consider the formation of joint administrative boards to oversee the coordination of specified municipal services on a regional basis.	Twp. Supervisors	Long Term
6-C. Avoid unnecessary duplication of facilities and procurements by examining cooperative purchasing policies.	1. Elected officials and Township staff should communicate on a regular basis with their counterparts in each municipality in the Region to coordinate municipal procurements on a regional basis or through existing consortia.	Twp. Supervisors and Staff	Ongoing
6-D. Require that developments provide for needed infrastructure improvements to support their impacts, consistent with the Pennsylvania Municipalities Planning Code (MPC).	1. Review ordinances appropriately to ensure that processes are in place requiring developers to provide necessary infrastructure improvements.	Twp. PCs and other boards and commissions, working with Twp. Staff	Ongoing
6-E. Establish tax policies that are fair to the community and work to limit tax increases.	1. Work to ensure that tax policies accomplish the necessary revenue needs of each taxing authority, while balancing the tax burden to citizens in the Region.	Twp. Supervisors and Staff	Ongoing / Annual
6-F. Support emergency services systems and personnel.	1. Monitor staffing and response times to ensure public safety. 2. Funding levels for public safety services (police, fire, and EMS) should be carefully reviewed annually and Township budgets adjusted accordingly.	Twp. Staff in coordination with Supervisors and Public Safety providers	Short Term / Ongoing

Transportation and Circulation			
Goal 7: Provide for safe, environmentally positive, and scenic vehicular and non-vehicular circulation system.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
7-A. Recognize and protect the scenic, historic and environmentally sensitive nature of the roadway system.	<p>1. Accept lower levels of service on certain roads in order to preserve the natural beauty and rural character of the area and protect the environment.</p> <p>2. Recognize that, in spite of the foregoing, certain operational road improvements are needed for safety, to eliminate hazards, and for the purpose of general welfare.</p> <p>3. Establish road rights-of-way suitable for the projected service level of the roads, while providing the minimum required right-of-way to limit environmental disturbance.</p> <p>4. Coordinate Regional transportation improvement priorities with projects identified in Chester County's Transportation Improvements Inventory (TII) and the DVRPC's Transportation Improvement Program (TIP).</p>	Twp. Supervisors, under advisement from Twp. Staff, Planning Commissions, and transportation authorities	Ongoing
7-B. Provide for the safe movement of agricultural machinery along the public roadway system, including crossing areas.	1. Ensure that adequate safety devices exist (i.e., signs, signals, and well-marked crossings) in areas where agricultural machinery is in operation on and in close proximity to roadways.	Individual Twps. Working with transportation authorities	Ongoing
7-C. Recognize walking and biking as viable methods of transportation to reduce reliance on automobiles throughout the region and encourage links between communities when practical.	<p>1. Promote ongoing initiatives that will result in new sidewalks and trails where appropriate.</p> <p>2. Prioritize sidewalk and trail projects that facilitate connections between areas that experience high pedestrian traffic.</p>	Twp. Supervisors, Planning Commissions, and recreation / transportation planners	Short Term / Ongoing

Transportation and Circulation			
Goal 7: Provide for safe, environmentally positive, and scenic vehicular and non-vehicular circulation system.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
7-D. While it is recognized that mass transportation opportunities are very limited in the region, work with regional transportation agencies to provide service where feasible (Route 1 corridor).	<ol style="list-style-type: none"> 1. Encourage SEPTA and other public agencies to plan for and fund the expansion of public transit and alternative modes of transportation. 2. Identify expanded and new bus routes to serve commercial and employment centers. 3. Support the extension of regional rail service to southern Chester County. 4. Identify opportunities for developing pedestrian linkages to community facilities. 	Twp. Supervisors, Planning Commissions, and recreation / transportation planners	Long Term / Ongoing
7-E. Coordinate transportation planning efforts to link vehicular, pedestrian, biking, and public transit opportunities where possible.	<ol style="list-style-type: none"> 1. Seek funding opportunities to assist in the design and construction of transportation-related improvements in the Region, including inter-modal facilities. 2. Ensure that trails are an integral component of transportation planning decisions within the Region. 	Twp. Staff working with transportation authorities	Ongoing
7-F. Consider the use of traffic calming measures to promote traffic safety within the Region.	<ol style="list-style-type: none"> 1. Identify opportunities for small-scale traffic calming measures where significant road improvements or widening are not desirable or feasible. 2. Evaluate potential traffic calming measures in terms of expected benefit, construction and maintenance costs, and effect on quality of life. 	Twp. Planning Commissions working with Twp. Staff and transportation authorities	Long Term / Ongoing
7-G. Preserve the safety and capacity of roadway corridors in the Region through the use of effective access management regulations.	<ol style="list-style-type: none"> 1. Implement best Access Management practices through municipal Subdivision and Land Development Ordinances (SALDOs). 2. Incorporate Smart Transportation principles into ordinances and planning guidelines, as recommended in PennDOT's <i>Smart Transportation Guidebook</i>. 3. Identify opportunities to employ frontage and access roads for existing uses and future development in the Region. 	Twp. Supervisors, under advisement from Twp. Staff, Planning Commissions, and transportation authorities	Long Term

Transportation and Circulation			
Goal 7: Provide for safe, environmentally positive, and scenic vehicular and non-vehicular circulation system.			
Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
7-H Obtain adequate funding for transportation projects.	<p>1. Pursue funding on the PennDOT Transportation Improvement Program, via the Chester County Planning Commission's Transportation Improvement Inventory (TII). This funding would be necessary for any of the improvements discussed in Chapter 10 of this comprehensive plan.</p> <p>2. Pursue federal and state funds with local legislators for improvements to the Route 1 corridor.</p> <p>3. Pursue funds through the PennDOT Hometown Streets and Safe Routes to School Program for the construction of bicycle and pedestrian facilities, particularly in village areas.</p> <p>4. Pursue funds from the Delaware Valley Regional Planning Commission (DVRPC) and Chester County for planning initiatives and studies that will result in transportation improvement projects.</p>	Twp. Supervisors and Implementation Committee, working with Twp. Staff and transportation authorities	Long Term
7-I. Ensure the safety of bridges in the region.	<p>1. Seek funding (federal, state, regional, or local) to restore, repair and maintain bridges to ensure public safety and efficient transportation/circulation in the Region.</p> <p>2. Ensure that bridges remain sized appropriately, in accordance with the rural nature of roads in the Region.</p>	Individual Twps. Working with transportation authorities	Ongoing

Economy

Goal 8: Encourage a diversity of economic opportunities that are appropriate to the land use, demographics and infrastructure of the region.

Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
8-A. In addition to the land use goal of agricultural preservation, recognize that agriculture is a business that supports the economy of this region.	1. Ensure that zoning regulations do not unnecessarily restrict agriculture as a principal land use throughout the Region.	Twp. Planning Commissions, Staff	Short Term / Ongoing
8-B. Encourage agriculture related businesses such as community-supported agriculture (CSAs), farm markets, etc.	1. Ensure that zoning regulations do not unnecessarily restrict CSA operations and secondary agricultural uses throughout the Region. 2. Encourage the production and availability of fresh produce and other agricultural products for local sale and consumption.	Twp. Planning Commissions, Staff	Short Term / Ongoing
8-C. Recognize that sustainable economic development is important as a means to provide for a reasonable source of jobs and residential opportunities for the community.	1. Encourage major regional employers to maintain jobs within the region. 2. Recognizing that pedestrian access through certain commercial areas may not always be practical, encourage walkable design solutions where appropriate.	Twp. Supervisors, economic development authorities, and business leaders	Short Term / Ongoing
8-D. Look to surrounding urban centers like Kennett Square, West Chester Borough and the City of Coatesville as principal areas of commerce in the broader region, while recognizing the need to satisfy personal services to address the daily needs of residents in the Unionville Region.	1. Route 1 provides the principal commercial uses for the region. Evaluate zoning regulations and design standards to maintain the viability of commerce at this location. 2. Redevelopment of parcels along Route 1 should be managed through encouraging master planning of multiple lots rather than piecemeal development of small parcels.	Twp. Supervisors, under advisement of Planning Commissions	Long Term

Economy

Goal 8: Encourage a diversity of economic opportunities that are appropriate to the land use, demographics and infrastructure of the region.

Objectives	Implementation Strategies / Action Items	Responsible Party	Implementation Timeline
8-E. Commercial development should utilize village planning concepts whenever feasible, to provide a scale of development appropriate to the Unionville Region. Village concepts include small compact centers, often near crossroads and often on smaller lots with architecture consistent with the region's heritage.	<p>1. Maintenance of village areas are vitally important to the character of the Region, so zoning regulations should be reviewed to ensure they permit and encourage appropriate development / redevelopment.</p> <p>2. Make design review of changes in existing villages a part of the overall approvals process.</p>	Implementation Committee, Twp. Planning Commissions, and Twp. Historic Commissions	Long Term

APPENDIX A

Public Survey Results

Survey Results Summary: Unionville Area Regional Plan Public Survey:

Filtered by: all responses

Survey Views: 146

Respondents: 77 53.0% of Survey Views

Questions and Answers	Responses	Percentage of Total Respondents	Percentage of Question Respondents
Q1: Overall, which of the following planning-related topics do you think represent the most important future planning considerations for the three townships located within the Study Area??* (Multi-answer multiple choice)	0	0.0%	
Recreation, active (playing fields, courts, etc.)	21	27.27%	0.0%
Agricultural preservation	43	55.84%	0.0%
Energy efficiency/conservation	18	23.38%	0.0%
Historic preservation	33	42.86%	0.0%
Increased employment opportunities	5	6.49%	0.0%
Low taxes	30	38.96%	0.0%
Natural resource conservation	26	33.77%	0.0%
Open space preservation	51	66.23%	0.0%
Recreation, passive recreation (trails, natural areas, etc.)	22	28.57%	0.0%
Provision of affordable housing	8	10.39%	0.0%
Road improvements	7	9.09%	0.0%
School improvements	17	22.08%	0.0%
Sewer/water system improvements	8	10.39%	0.0%
Q2: Would you be willing to financially support programs, policies, or activities (either publicly or privately) in order to achieve planning goals related to the topics you identified as "important" in the previous question?? (Single-answer multiple choice)	72	93.51%	
Yes	57	74.03%	79.17%
No	15	19.48%	20.83%
Q3: How do you regard the use of zoning and other land use controls to preserve agricultural businesses & lands located within the Study Area?? (Single-answer multiple choice)	77	100.0%	
Critically important	46	59.74%	59.74%
Very Important	20	25.97%	25.97%
Somewhat important	11	14.29%	14.29%
Not important	0	0.0%	0.0%
Q4: Which types of recreational facilities would you like to see considered in future recreation planning for the Study Area?? (Multi-answer multiple choice)	0	0.0%	
Amphitheater	8	10.39%	0.0%
Bicycle trails	44	57.14%	0.0%
Fitness circuit with exercise stations	6	7.79%	0.0%
Nature preserves	48	62.34%	0.0%
Playgrounds	9	11.69%	0.0%
Playing fields	20	25.97%	0.0%
Sitting/picnic facilities (gazebos, tables, etc.)	18	23.38%	0.0%

Court-type sports	16	20.78%	0.0%
Walking trails	62	80.52%	0.0%
Other:	6	7.79%	0.0%
Q5: If growth occurs within the Study Area in the next 10 years, please rank the desirability of OPEN SPACE & AGRICULTURE as a future land use type:? (Rating Scale)			
5 - More desirable	58	75.32%	75.32%
4	9	11.69%	11.69%
3	7	9.09%	9.09%
2	3	3.9%	3.9%
1 - Less desirable	0	0.0%	0.0%
Q6: If growth occurs within the Study Area in the next 10 years, please rank the desirability of SINGLE-FAMILY RESIDENTIAL as a future land use type:? (Rating Scale)			
5 - More desirable	5	6.49%	6.58%
4	17	22.08%	22.37%
3	23	29.87%	30.26%
2	15	19.48%	19.74%
1 - Less desirable	16	20.78%	21.05%
Q7: If growth occurs within the Study Area in the next 10 years, please rank the desirability of MULTI-FAMILY RESIDENTIAL as a future land use type:? (Rating Scale)			
5 - More desirable	3	3.9%	3.9%
4	7	9.09%	9.09%
3	13	16.88%	16.88%
2	9	11.69%	11.69%
1 - Less desirable	45	58.44%	58.44%
Q8: If growth occurs within the Study Area in the next 10 years, please rank the desirability of COMMERCIAL/RETAIL as a future land use type:? (Rating Scale)			
5 - More desirable	6	7.79%	7.79%
4	7	9.09%	9.09%
3	14	18.18%	18.18%
2	17	22.08%	22.08%
1 - Less desirable	33	42.86%	42.86%
Q9: If growth occurs within the Study Area in the next 10 years, please rank the desirability of LIGHT INDUSTRIAL as a future land use type:? (Rating Scale)			
5 - More desirable	3	3.9%	3.9%
4	5	6.49%	6.49%
3	8	10.39%	10.39%
2	21	27.27%	27.27%
1 - Less desirable	40	51.95%	51.95%
Q10: Please select the land use that you prefer the most for the Study Area from the following list (select one):? (Single-answer multiple choice)			
Open Space & Agriculture	63	81.82%	81.82%
Single-Family Residential	2	2.6%	2.6%
Multi-Family Residential	2	2.6%	2.6%

Commercial/Retail	7	9.09%	9.09%
Light Industrial	3	3.9%	3.9%
Q11: RANKING GROWTH AREAS (QUESTION 1 of 5) For the next 5 questions: If growth/development occurs within the Study Area over the next 10 years, rate your preference for WHERE it should occur: Should growth be located NEAR EXISTING VILLAGES?? (Rating Scale)			
5 - Yes, growth should occur here	35	45.45%	47.3%
4	14	18.18%	18.92%
3	9	11.69%	12.16%
2	5	6.49%	6.76%
1 - No, growth should NOT occur here	11	14.29%	14.86%
Q12: RANKING GROWTH AREAS (QUESTION 2 of 5) - Should new growth/development be located NEAR EXISTING TRANSPORTATION CORRIDORS?? (Rating Scale)			
5 - Yes, growth should occur here	36	46.75%	48.0%
4	17	22.08%	22.67%
3	11	14.29%	14.67%
2	4	5.19%	5.33%
1 - No, growth should NOT occur here	7	9.09%	9.33%
Q13: RANKING GROWTH AREAS (QUESTION 3 of 5) - Should new growth/development be located NEAR EXISTING RESIDENTIAL SUBDIVISIONS?? (Rating Scale)			
5 - Yes, growth should occur here	16	20.78%	21.33%
4	11	14.29%	14.67%
3	26	33.77%	34.67%
2	9	11.69%	12.0%
1 - No, growth should NOT occur here	13	16.88%	17.33%
Q14: RANKING GROWTH AREAS (QUESTION 4 of 5) - Should new growth/development be located NEAR EXISTING BUSINESSES?? (Rating Scale)			
5 - Yes, growth should occur here	33	42.86%	43.42%
4	22	28.57%	28.95%
3	14	18.18%	18.42%
2	3	3.9%	3.95%
1 - No, growth should NOT occur here	4	5.19%	5.26%
Q15: RANKING GROWTH AREAS (QUESTION 5 of 5) - Should new growth/development be located IN EXISTING RURAL AREAS?? (Rating Scale)			
5 - Yes, growth should occur here	1	1.3%	1.32%
4	5	6.49%	6.58%
3	4	5.19%	5.26%
2	12	15.58%	15.79%
1 - No, growth should NOT occur here	54	70.13%	71.05%
Q16: Would you be willing to accept more growth/development occurring near you, if it means that open space areas located elsewhere within the Study Area could be preserved?? (Single-answer multiple choice)			
	76	98.7%	

Yes	37	48.05%	48.68%
No	39	50.65%	51.32%
Q17: Which of the following statements most closely represents your ideas about how planning and zoning functions should be administered in the Study Area over the next 10 to 20 years?? (Single-answer multiple choice)			
Planning and zoning should happen exclusively within each Township, like they've always been handled.	12	15.58%	15.58%
Some planning activities (i.e., open space preservation, recreation) should happen across the study area, but all zoning functions should be administered by each Township on their own.	32	41.56%	41.56%
All planning and zoning functions should be administered on a shared basis by all three municipalities.	33	42.86%	42.86%
Q18: In which Township do you reside?? (Single-answer multiple choice)			
East Marlborough Township	43	55.84%	55.84%
West Marlborough Township	9	11.69%	11.69%
Newlin Township	22	28.57%	28.57%
I don't know	0	0.0%	0.0%
I live outside the Study Area (specify where)	3	3.9%	3.9%
Q19: Do you own or rent your home?? (Single-answer multiple choice)			
I own my home	75	97.4%	98.68%
I rent my home	1	1.3%	1.32%
Q20: If you live within the Study Area, how long have you lived here?? (Single-answer multiple choice)			
0-5 years	13	16.88%	17.57%
5-10 years	9	11.69%	12.16%
10-20 years	22	28.57%	29.73%
More than 20 years	30	38.96%	40.54%
Q21: If you have school-aged children living in your household, do they attend public or private schools?? (Single-answer multiple choice)			
Attend public schools	29	37.66%	38.67%
Attend private schools	4	5.19%	5.33%
No school-aged children living in household	42	54.55%	56.0%
Q22: Where are you employed?? (Single-answer multiple choice)			
East Marlborough Township	13	16.88%	17.11%
West Marlborough Township	4	5.19%	5.26%
Newlin Township	5	6.49%	6.58%
Retired/Not Currently Employed	19	24.68%	25.0%
I work outside of the Study Area (specify where)	35	45.45%	46.05%
Q23: Do you own a business in the Study Area?? (Multi-answer multiple choice)			
Yes, I own a business in East Marlborough Township	5	6.49%	0.0%
Yes, I own a business in West Marlborough Township	4	5.19%	0.0%

Yes, I own a business in Newlin Township	5	6.49%	0.0%
No, I don't own a business in the Study Area	61	79.22%	0.0%
Q24: How old are you?? (Single-answer multiple choice)	76	98.7%	
Under 18 years old	0	0.0%	0.0%
18 to 25 years old	1	1.3%	1.32%
25 to 50 years old	27	35.06%	35.53%
50 to 65 years old	33	42.86%	43.42%
65 to 80 years old	14	18.18%	18.42%
> 80 years old	1	1.3%	1.32%
Q25: Enter any additional thoughts you may have regarding the comprehensive planning process in the space below.? (Text Field)	26	33.77%	
Answer Provided	26	33.77%	100.0%

Survey Title: Unionville Area Regional Plan Public Survey:

Filtered by: all responses

Q4: Which types of recreational facilities would you like to see considered in future recreation planning for the Study Area?

6 text responses are below

Respondent	Response
71.175.2.79	riding trails
69.137.140.107	Equine Competition centers
96.227.165.65	water sports/pond
128.175.44.115	Hunting and Fishing Access
173.59.57.192	Golf Course
69.137.141.12	Nothing that costs one red cent

Survey Title: Unionville Area Regional Plan Public Survey:

Filtered by: all responses

Q18: In which Township do you reside?

3 text responses are below

Respondent	Response
199.221.7.30	pennsbury
192.190.237.203	Pocopson
66.153.112.217	Chadds Ford

Survey Title: Unionville Area Regional Plan Public Survey:

Filtered by: all responses

Q22: Where are you employed?

35 text responses are below

Respondent	Response
71.175.2.79	
71.244.111.229	Wilmington, DE
69.253.52.232	DE
96.227.84.221	New Jersey
69.253.31.11	Delaware
69.142.126.79	Exton
71.246.0.188	West Chester
204.108.252.113	West Chester
146.209.130.213	Wilmington, DE
96.245.210.97	Wilmington, DE
199.221.7.30	Wilmington
96.245.54.209	Memphis, TN
71.185.23.105	
69.253.63.55	Delaware
98.114.131.60	West Chester
96.245.54.198	Thorndale
68.32.36.83	West Chester
173.59.57.204	southern chester county - primarily
173.75.249.61	Kennett Borough
96.245.210.98	Philadelphia
69.137.140.107	kennett township
98.114.131.190	
96.227.165.65	delaware
72.94.32.12	Kennett Borough

72.37.171.44	lionville
71.185.23.7	Wilmington
204.108.148.150	West Goshen Township
12.54.84.193	Northern Chester County
66.153.112.217	
96.227.84.247	Newtown Square
65.215.10.1	
72.78.227.9	Delaware
96.245.210.23	delaware
68.80.217.149	Maryland
69.137.141.12	Delaware

Survey Title: Unionville Area Regional Plan Public Survey:

Filtered by: all responses

Q25: Enter any additional thoughts you may have regarding the comprehensive planning process in the space below.

26 text responses are below

Respondent	Response
71.175.2.79	Thank you for doing this.
69.253.52.232	A park or village green with a gazebo and picnic tables and playground would be nice (something with character)
69.253.31.11	Survey should be mailed out to each homeowner or else no one will know you are conducting this survey. Growth should take into consideration providing a tax relief and assistance for the UHS renovation project.
69.142.126.79	Linking of preserves with (ie.eco-corridors) should be part of the plan.
71.246.0.188	Open space IS Unionville. Keep development closest to those areas already developed.
74.103.168.129	West Marlborough has the right idea to preserve open space. Everytime I drive up 82 I think how lucky I am to be able to enjoy the scenery because of their efforts to preserve. East Marlborough and Newlin have had so much development that the schools are now in need of expansion. There is so much more her than when I came 27 years ago. I have seen a lot of farmland go to housing. We have enough shopping centers now.
71.224.1.236	Automobile transportation systems will be severely compromised by energy (petroleum) considerations. Planning must revolve around local units and must be linked to public transportation (trains,trolleys,buses).
204.108.252.113	Keep future growth near Rt1/926/82 or existing villages. Provide more public recreation facilities. Change zoning ordinances to allow/encourage more multi-family housing to provide affordable housing.
96.227.16.70	I am concerned that a regional plan will result in all new multi family housing and commercial activities will be pushed into E. Marlborough Township on the East side of 82. The Agricultural preservation area will protect the west side of the township but the East side is left unprotected. I am all for preserving open space and maintaining the tone of the countryside but I feel the same consideration should be given to all areas of the township not just the more rural areas.
72.78.227.145	we would like to see cluster neighborhoods and keep open space - more walking trails picnic areas & park settings

71.246.0.80	The regional approach should also be applied to gas pipe lines/ transmission lines and similar issues.
71.185.23.94	Thank you for this undertaking and for seeking input from the residents.
68.32.36.83	While a comprehensive regional plan is desireable, each individual municipality, should maintain the right to self govern and the ultimate decision on what happens within an individual municipality regading land use must remain with that municipality. For example the larger municipalities in the area should not have the right to dictate to the smaller municipalities what type of zoning and regulations regarding land use they should be allowed, and while most open space is currently in some municipalities, that open space has beed maintained and created by the residents ofthe municipality where it exists. This open space shiold not become public parkland to the benefit of the larger municipalities, at the servitude of the smaller municipalities whre the open space exists. Also, the contol of this space should remain in the private control where it curently exists and current private rights should not be diminished or taken by the creation now or in the future of an agreed upon comprehensive plan.
96.245.210.98	Keep open space open!
69.142.66.138	Thanks for taking this planning initiative.
96.227.165.65	we need to develop areas to attract more residents and families; not the schools but the facilities people use for recreation instead of having to go elsewhere and shopping to keep money local instead of it going outside our area
71.175.78.57	Affordable housing should be established with existing buildings whenever possible rather than new building. I know that may be difficult in our area, but it's important.
71.185.23.7	I think this is a great initiative and love the idea of the townships working together to undertake a plan for the benefit of the residents that would be too daunting for one township to create and execute alone. We recently moved to the Unionville area with young children, and have been somewhat disappointed with the lack of a substantial township/regional park. This was very common and appreciated in the area we moved from in Montgomery county. We would love to see such a place with trails, playgrounds, sporting field/courts, etc. be established to enhance our quality of life in this beautiful area. Thank you to all working on this initiative.
209.195.234.19	It is extremely important for building contractors and subcontractors to stop victimizing homeowners. It is extremely important, too, for homeowners to be able to obtain permits and inspections for certain home repairs such as replacement of heat pumps, shingles, decks and such.

71.185.46.168	The ultimate goal would be for all planning and zoning to be done across the 3 townships, however, there needs to be trust developed before I feel comfortable with that.
71.185.23.77	Keep it simple Keep the farmers around Give the kids more playing fields Stop building homes
12.54.84.193	The most important thing our elected officials can do is preserve the open space and agricultural lands in our region, not only for current residents but for generations to come.
69.253.55.193	Please continue with your good work and efforts. Thank you
72.78.227.9	Open space should be available throughout the township and not only in specific areas that benefit a few individuals.
173.59.57.187	Keep W. Marlborough the way it is!!!
69.137.141.12	I see no need for three township governments. Everybody else in the world is flattening organizations and elimination overhead cost. We don't need four layers of government -- federal, state, county and township. I would eliminate two layers and give the money back to the taxpayers.

APPENDIX B

Historic Resources Inventory

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
1	W001	001	West Marlborough	105 SPRINGDELL RD	3	no		
2	W002	002	West Marlborough	109 SPRINGDELL RD	2b	no		
3	W003	003	West Marlborough	427 ROKEBY RD	3	no		
4	W004	004	West Marlborough	1210 DOE RUN RD	2a	no		
5	W005	005	West Marlborough	1212 DOE RUN RD	2a	no		
6	W006	006	West Marlborough	1222 DOE RUN RD	2a	no		
7	W007	007	West Marlborough		1 NR	yes		
8	W008	008	West Marlborough	3625 DOE RUN CHURCH RD	1	no		
9	W009	009	West Marlborough	12 DUPONT RD	1	no		
10	W010	010	West Marlborough	1229 DOE RUN RD	1	no		
11	W011	011	West Marlborough	1230 DOE RUN RD	1	no		
12	W012	012	West Marlborough	10 CHAPEL RD	1	no		
13	W013	013	West Marlborough	1530 N CHATHAM RD	1	no		
14	W014	014	West Marlborough	12 DUPONT RD	1	no		
15	W015	015	West Marlborough	1251 DOE RUN RD	1	no		
16	W016	016	West Marlborough	1259 DOE RUN RD	1	no		
17	W017	017	West Marlborough	1259 DOE RUN RD	1	no		
18	W018	018	West Marlborough	1265 DOE RUN RD	1	no		
19	W019	019	West Marlborough	10 CHAPEL RD	1	no		
20	W020	020	West Marlborough	1273 DOE RUN RD	1	no		
21	W021	021	West Marlborough	1305 DOE RUN RD	1	no		
22	W022	022	West Marlborough	10 HIGHLAND DAIRY RD	1	no		
23	W023	023	West Marlborough	10 HIGHLAND DAIRY RD	1	no		
24	W024	024	West Marlborough	20 HIGHLAND DAIRY RD	1	no		
25	W025	025	West Marlborough	65 HIGHLAND DAIRY RD	1	no		
26	W026	026	West Marlborough	1286 DOE RUN RD	1	no		
27	W027	027	West Marlborough	1286 DOE RUN RD	1	no		
28	W028	028	West Marlborough	1286 DOE RUN RD	1	no		
29	W029	029	West Marlborough	1286 DOE RUN RD	1	no		
30	W030	030	West Marlborough	1286 DOE RUN RD	1	no		
31	W031	031	West Marlborough	1286 DOE RUN RD	1	no		
32	W032	032	West Marlborough	1286 DOE RUN RD	1	no		
33	W033	033	West Marlborough	1340 DOE RUN RD	2a	no		
34	W034	034	West Marlborough	1325 DOE RUN RD	2a	no		
35	W035	035	West Marlborough	500 APPLE GROVE RD	2b	no		
36	W036	036	West Marlborough	1395 DOE RUN RD	3	no		
37	W037	037	West Marlborough	1390 DOE RUN RD	3	no		
38	W038	038	West Marlborough	1420 DOE RUN RD	2b	no		
39	W039	039	West Marlborough	1450 DOE RUN RD	2b	no		
40	W040	040	West Marlborough	13 TAPEWORM RD	2b	no		
41	W041	041	West Marlborough	420 APPLE GROVE RD	3	no		
42	W042	042	West Marlborough	346 APPLE GROVE RD	2a	no		
43	W043	043	West Marlborough	326 APPLE GROVE RD	3	no		
44	W044	044	West Marlborough	1815 NEWARK RD	2b	no		
45	W045	045	West Marlborough	1825 NEWARK RD	2a	no		
46	W046	046	West Marlborough	499 UPLAND RD	2a	no		
47	W047	047	West Marlborough	1797 NEWARK RD	3	no		
48	W048	048	West Marlborough	1797 NEWARK RD	3	no		
49	W049	049	West Marlborough	545 UPLAND RD	2a	no		
50	W050	050	West Marlborough	1790 NEWARK RD	2b	no		
51	W051	051	West Marlborough	1759 NEWARK RD	3	no		
52	W052	052	West Marlborough	1720 NEWARK RD	3	no		
53	W053	053	West Marlborough	1717 NEWARK RD	2a	no		
54	W054	054	West Marlborough	1711 NEWARK RD	2a	no		
55	W055	055	West Marlborough	515 W STREET RD	2b	no		

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
56	W056	056	West Marlborough	501 W STREET RD	2a	no		
57	W057	057	West Marlborough	1683 NEWARK RD	2a	no		
58	W058	058	West Marlborough	1683 NEWARK RD	2a	no		
59	W059	059	West Marlborough	Newark Rd	2a	no		
60	W060	060	West Marlborough	Newark Rd	2a	no		
61	W061	061	West Marlborough	486 W STREET RD	2a	no		
62	W062	062	West Marlborough	1704 NEWARK RD	2b	no		
63	W063	063	West Marlborough	495 W STREET RD	2b	no		
64	W065	065	West Marlborough	487 W STREET RD	2a	no		
65	W066	066	West Marlborough	447 BARTRAM RD	2a	no		
66	W067	067	West Marlborough	466 W STREET RD	2a	no		
67	W068	068	West Marlborough	718 SPORTSMANS LA	3	no		
68	W069	069	West Marlborough	427 W STREET RD	3	no		
69	W070	070	West Marlborough	430 W STREET RD	2b	no		
70	W071	071	West Marlborough	439 BARTRAM RD	2b	no		
71	W072	072	West Marlborough	439 BARTRAM RD	2b	no		
72	W073	073	West Marlborough	1640 NEWARK RD	2a	no		
73	W074	074	West Marlborough	1640 NEWARK RD	2a	no		
74	W075	075	West Marlborough	1663 NEWARK RD	2b	no		
75	W076	076	West Marlborough	1652 NEWARK RD	2b	no		
76	W077	077	West Marlborough	1639 NEWARK RD	(demolished)	no		
77	W078	078	West Marlborough	Newark Rd	(demolished)	no		
78	W079	079	West Marlborough	500 SPENCER RD	2a	no		
79	W080	080	West Marlborough	970 SPENCER RD	2a	no		
80	W081	081	West Marlborough	997 SPENCER RD	2b	no		
81	W082	082	West Marlborough	1617 NEWARK RD	2a	no		
82	W083	083	West Marlborough	1610 NEWARK RD	3	no		
83	W084	084	West Marlborough	1610 NEWARK RD	3	no		
84	W085	085	West Marlborough	1601 NEWARK RD	3	no		
85	W086	086	West Marlborough	726 CHURCH RD	3	no		
86	W087	087	West Marlborough	718 CHURCH RD	3	no		
87	W088	088	West Marlborough	526 W STREET RD	2a	no		
88	W089	089	West Marlborough	535 W STREET RD	2a	no		
89	W090	090	West Marlborough	551 W STREET RD	2a	no		
90	W091	091	West Marlborough	555 W STREET RD	2a	no		
91	W092	092	West Marlborough	302 LAMBORNTOWN RD	2a	no		
92	W093	093	West Marlborough	329 LAMBORNTOWN RD	2a	no		
93	W094	094	West Marlborough	345 LAMBORNTOWN RD	2a	no		
94	W095	095	West Marlborough	361 LAMBORNTOWN RD	2b	no		
95	W096	096	West Marlborough	354 LAMBORNTOWN RD	2a	no		
96	W097	097	West Marlborough	115 WILSON RD	3	no		
97	W098	098	West Marlborough	790 WEYMOUTH LA	2a	no		
98	W099	099	West Marlborough	561 UPLAND RD	2a	no		
99	W100	100	West Marlborough	397 WILSON RD	3	no		
100	W101	101	West Marlborough	233 WILSON RD	2b	no		
101	W102	102	West Marlborough	249 CLONMELL UPLAND RD	2b	no		
102	W103	103	West Marlborough	245 CLONMELL UPLAND RD	2b	no		
103	W104	104	West Marlborough	223 RYAN RD	2a	no		
104	W105	105	West Marlborough	119 HICKS RD	3	no		
105	W110	110	West Marlborough	220 CLONMELL UPLAND RD	3	no		
106	W111	111	West Marlborough	515 SHARITZ RD	2a	no		
107	W112	112	West Marlborough	515 SHARITZ RD	2a	no		
108	W113	113	West Marlborough	129 HICKS RD	3	no		
109	W114	114	West Marlborough	425 THOURON RD	2b	no		
110	W115	115	West Marlborough	524 THOURON RD	2a	no		

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
111	W116	116	West Marlborough	524 THOURON RD	2a	no		
112	W117	117	West Marlborough	1425 North Chatham Road	1	no		
113	W118	118	West Marlborough	15 CHAPEL RD	1	no		
114	W119	119	West Marlborough	10 CHAPEL RD	1	no		
115	W120	120	West Marlborough	25 CHAPEL RD	2b	no		
116	W121	121	West Marlborough	488 SPRINGDELL RD	3	no		
117	W122	122	West Marlborough	180 SPRINGDELL RD	3	no		
118	W123	123	West Marlborough	193 SPRINGDELL RD	2a	no		
119	W124	124	West Marlborough	200 SPRINGDELL RD	1 NR	yes		
120	W125	125	West Marlborough	1381 N CHATHAM RD	3	no		
121	W126	126	West Marlborough	1379 N CHATHAM RD	1 NR	yes		
122	W127	127	West Marlborough	1375 N CHATHAM RD	3	no		
123	W128	128	West Marlborough	1001 OLD HILTON RD	2a	no		
124	W129	129	West Marlborough	23 RUNNYMEDE RD	3	no		
125	W130	130	West Marlborough	1355 N CHATHAM RD	3	no		
126	W131	131	West Marlborough	29 RUNNYMEDE RD	2b	no		
127	W132	132	West Marlborough	420 DOE RUN STATION RD	2a	no		
128	W133	133	West Marlborough	950 N CHATHAM RD	2b	no		
129	W134	134	West Marlborough	298 HOOD RD	2b	no		
130	W135	135	West Marlborough	955 N CHATHAM RD	2b	no		
131	W136	136	West Marlborough	828 N CHATHAM RD	1 NR	yes		
132	W137	137	West Marlborough	119 SPRINGDELL RD	2b	no		
133	W138	138	West Marlborough	1200 DOE RUN RD	2a	no		
134	W139	139	West Marlborough	154 SPRINGDELL RD	2a	no		
135	W140	140	West Marlborough	150 SPRINGDELL RD	3	no		
136	W141	141	West Marlborough	70 CHAPEL RD	3	no		
137	W142	142	West Marlborough	1301 Doe Run Rd	3	no		
138	W143	143	West Marlborough	490 APPLE GROVE RD	2a	no		
139	W144	144	West Marlborough	420 APPLE GROVE RD	2a	no		
140	W145	145	West Marlborough	5 RUNNYMEDE RD	3	no		
141	W146	146	West Marlborough	N Chatham Road	3	no		
142	W147	147	West Marlborough	1017 OLD HILTON RD	3	no		
143	W148	148	West Marlborough	10 TAPEWORM RD	3	no		
144	W149	149	West Marlborough	1115 N CHATHAM RD	2b	no		
145	W150	150	West Marlborough	1075 N Chatham Rd	3	no		
146	W151	151	West Marlborough	1125 N Chatham Rd	3	no		
147	W152	152	West Marlborough	202 SHARITZ RD	3	no		
148	W153	153	West Marlborough	325 HICKS RD	2b	no		
149	W154	154	West Marlborough	230 HICKS RD	2b	no		
150	W155	155	West Marlborough	500 WILSON RD	3	no		
151	W156	156	West Marlborough	776 WEST RD	2b	no		
152	W157	157	West Marlborough	152 GREENLAWN RD	2b	no		
153	W158	158	West Marlborough	148 GREENLAWN RD	2a	no		
154	W159	159	West Marlborough	101 GREENLAWN RD	2b	no		
155	W160	160	West Marlborough	1000 N CHATHAM RD	2b	no		
156	W161	161	West Marlborough	947 N CHATHAM RD	2a	no		
157	W162	162	West Marlborough	200 CLONMELL UPLAND RD	2a	no		
158	W163	163	West Marlborough	281 BIG SPRINGS RD	2b	no		
159	W164	164	West Marlborough	254 Big Springs Rd	3	no		
160	W165	165	West Marlborough	200 BIG SPRINGS RD	2b	no		
161	W166	166	West Marlborough	253 CLONMELL UPLAND RD	2b	no		
162	W167	167	West Marlborough	268 CLONMELL UPLAND RD	2b	no		
163	W168	168	West Marlborough	275 CLONMELL UPLAND RD	2b	no		
164	W169	169	West Marlborough	100 RYAN RD	2a	no		
165	W170	170	West Marlborough	104 CIDER HOUSE LA	2a	no		

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
166	W171	171	West Marlborough	552 UPLAND RD	2a	no		
167	W172	172	West Marlborough	1781 NEWARK RD	2a	no		
168	W173	173	West Marlborough	430 UPLAND RD	2b	no		
169	W174	174	West Marlborough	501 N MOSQUITO LA	2a	no		
170	W175	175	West Marlborough	394 STREET RD	2a	no		
171	W176	176	West Marlborough	825 N CHATHAM RD	3	no		
172	W177	177	West Marlborough	835 N CHATHAM RD	3	no		
173	W178	178	West Marlborough	534 STREET RD	3	no		
174	W179	179	West Marlborough	546 STREET RD	3	no		
175	W180	180	West Marlborough	485 W STREET RD	3	no		
176	W181	181	West Marlborough	483 W STREET RD	3	no		
177	W182	182	West Marlborough	455 W STREET RD	3	no		
178	W183	183	West Marlborough	446 W STREET RD	3	no		
179	W184	184	West Marlborough	444 W STREET RD	3	no		
180	W185	185	West Marlborough	423 W STREET RD	3	no		
181	W186	186	West Marlborough	421 W STREET RD	2b	no		
182	W187	187	West Marlborough	419 W STREET RD	3	no		
183	W188	188	West Marlborough	407 W STREET RD	3	no		
184	W189	189	West Marlborough	405 W STREET RD	3	no		
185	W190	190	West Marlborough	403 W STREET RD	3	no		
186	W191	191	West Marlborough	401 W STREET RD	3	no		
187	W192	192	West Marlborough	1660 NEWARK RD	2b	no		
188	W193	193	West Marlborough	972 SPENCER RD	3	no		
189	W194	194	West Marlborough	1629 NEWARK RD	3	no		
190	W195	195	West Marlborough	214 MCCUE RD	3	no		
191	W196	196	West Marlborough	187 Springdell Rd	3	no		
192	W197	197	West Marlborough	Wilson Rd	3	no		
193	W198	198	West Marlborough	1530 N Chatham Rd	2b	no		
194	W199	199	West Marlborough	1055 N Chatham Rd	2b	no		
195	W200	200	West Marlborough	1637 Newark Rd	2b	no		
196	W201	201	West Marlborough	1781 Newark Rd	3	no		
197	W202	202	West Marlborough	632 Wilson Rd	3	no		
198	E1	1	East Marlborough	387 Green Valley Road	Historic Site	no		
199	E2	2	East Marlborough		Historic Site	yes	Part of Unionville	
200	E3	3	East Marlborough	Doe Run Road	Historic Site	no	Gosnell Property	
201	E4	4	East Marlborough		Historic Site	yes	Part of Unionville	
202	E5	5	East Marlborough	Northwest Road	Historic Site	no	Hazzard Property	
203	E6	6	East Marlborough	Doe Run Road	Historic Site	no	Hazzard Tenant	
204	E7	7	East Marlborough	Embreeville - Unionville Road	Historic Site	no	My Way Log House	
205	E8	8	East Marlborough	Embreeville - Unionville Road	Historic Site	no	My Way Tenant	
206	E9	9	East Marlborough	115 E. Doe Run Road	Historic Site	no		
207	E10	10	East Marlborough	221 Marlborough Road	Historic Site	no		
208	E11	11	East Marlborough	Rt 82. & Doe Run Road	Historic Site	no	Mine House	
209	E12	12	East Marlborough	831 Newhall Road	Historic Site	no	Glenelg Farm	
210	E13	13	East Marlborough		Historic Site	no	Marlborough Meeting House	
211	E14	14	East Marlborough	901 Marlborough Springs Road	Historic Site	no	Marlborough Village	
212	E15	15	East Marlborough	403 Marlborough Road	Historic Site	no	Marlborough Village	
213	E16	16	East Marlborough	405 Marlborough Road	Historic Site	no	Marlborough Village	
214	E17	17	East Marlborough	407-409 Marlborough Road	Historic Site	no	Marlborough Village	
215	E18	18	East Marlborough	411 Marlborough Road	Historic Site	no	Marlborough Village	
216	E19	19	East Marlborough	418 Marlborough Road	Historic Site	no	Marlborough Village	
217	E20	20	East Marlborough	402 Marlborough Road	Historic Site	no	Marlborough Village	
218	E21	21	East Marlborough		Historic Site	no	No Longer Exists	
219	E22	22	East Marlborough	837 Marlborough Springs Road	Historic Site	no		
220	E23	23	East Marlborough	737 Northbrook Road	Historic Site	yes		

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
221	E24	24	East Marlborough	753 Northbrook Road	Historic Site	no		
222	E25	25	East Marlborough	268 Unionville Lenape Road	Historic Site	no		
223	E26	26	East Marlborough	229-231 Unionville-Lenape Road	Historic Site	no		
224	E27	27	East Marlborough	150 E. Doe Run Road	Historic Site	no		
225	E28	28	East Marlborough	160 E. Doe Run Road	Historic Site	no		
226	E29	29	East Marlborough	231 E. Doe Run Road	Historic Site	no	Burt Property	
227	E30	30	East Marlborough	E. Doe Run Road	Historic Site	no	Burt Property	
228	E31	31	East Marlborough	713 Folly Hill Road	Historic Site	no		
229	E32	32	East Marlborough	Folly Hill Road & Wendover Way	Historic Site	no		
230	E33	33	East Marlborough	Folly Hill Road & Valley Road	Historic Site	no		
231	E34	34	East Marlborough	Valley Road & Beversrede Trail	Historic Site	no		
232	E35	35	East Marlborough	Longwood Gardens	Historic Site	no	Red Lion Inn	
233	E36	36	East Marlborough	700 Folly Hill Road	Historic Site	no		
234	E37	37	East Marlborough	329 Doe Run Road	Historic Site	no		
235	E38	38	East Marlborough	327 East Street Road	Historic Site	no		
236	E39	39	East Marlborough	160 E. Street Road	Historic Site	no	School House	
237	E40	40	East Marlborough	300 E. Doe Run Road	Historic Site	no		
238	E41	41	East Marlborough	394 E. Street Road	Historic Site	no		
239	E42	42	East Marlborough	396 E. Street Road	Historic Site	no		
240	E43	43	East Marlborough	232 E. Street Road	Historic Site	no		
241	E44	44	East Marlborough	224 E. Street Road	Historic Site	no	Simpers Property	
242	E45	45	East Marlborough	201 E. Street Road	Historic Site	no	Hicks Farm	
243	E46	46	East Marlborough	700 Willowdale Lane	Historic Site	no		
244	E47	47	East Marlborough	160 E. Street Road	Historic Site	no	Edgar Property	
245	E48	48	East Marlborough	Walnut Road	Historic Site	no	Edgar Tenant House	
246	E49	49	East Marlborough	101 E. Street Road	Historic Site	no		
247	E50	50	East Marlborough	Unionville Road	Historic Site	no	Willowdale Village	
248	E51	51	East Marlborough		Historic Site	no	No Longer Exists	
249	E52	52	East Marlborough	100 E. Street Road	Historic Site	no	Corner Store	
250	E53	53	East Marlborough	E. Street Road	Historic Site	no	Willowdale Village	
251	E54	54	East Marlborough	Unionville Road	Historic Site	no	Willowdale Chapel	
252	E55	55	East Marlborough	122 W. Street Road	Historic Site	no	Willowdale Village	
253	E56	56	East Marlborough	W. Street Road	Historic Site	no	Willowdale Village	
254	E57	57	East Marlborough	W. Street Road	Historic Site	no	Willowdale Village	
255	E58	58	East Marlborough	W. Street Road	Historic Site	no	Willowdale Village	
256	E59	59	East Marlborough	181 W. Street Road	Historic Site	no		
257	E60	60	East Marlborough	166 W. Street Road	Historic Site	no		
258	E61	61	East Marlborough	650 Unionville Road	Historic Site	no	Pratt Farm	
259	E62	62	East Marlborough	131 E. Locust Road	Historic Site	no		
260	E63	63	East Marlborough	207 Longwood Road	Historic Site	no		
261	E64	64	East Marlborough	226 Longwood Road	Historic Site	no		
262	E65	65	East Marlborough	Longwood Road	Historic Site	no	Dalkeith Farm	
263	E66	66	East Marlborough	607 School House Road	Historic Site	no		
264	E67	67	East Marlborough	Longwood Road	Historic Site	no	Pyle House	
265	E68	68	East Marlborough	320 Longwood Road	Historic Site	no		
266	E69	69	East Marlborough		Historic Site	no	Not in Township	
267	E70	70	East Marlborough	Greenwood Road	Historic Site	no	Windswept Farm	
268	E71	71	East Marlborough	550 Schoolhouse Road	Historic Site	no		
269	E72	72	East Marlborough	545 Schoolhouse Road	Historic Site	no	Foxfire Farm	
270	E73	73	East Marlborough	N. Walnut Road	Historic Site	no	Gale Lane	
271	E74	74	East Marlborough	511 N. Walnut Lane	Historic Site	no		
272	E75	75	East Marlborough	106 Spottswood Lane	Historic Site	no		
273	E76	76	East Marlborough	108 Bayard Drive	Historic Site	no	Cedarcroft	
274	E77	77	East Marlborough	605 Unionville Road	Historic Site	no		
275	E78	78	East Marlborough	401 W. Locust Street	Historic Site	no		

**Unionville Regional Plan
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Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
276	E79	79	East Marlborough	Wollaston Road	Historic Site	no	Welling Property	
277	E80	80	East Marlborough	606 Wollaston Road	Historic Site	no		
278	E81	81	East Marlborough	605 Wollaston Road	Historic Site	no		
279	E82	82	East Marlborough	619 Mill Road	Historic Site	no		
280	E83	83	East Marlborough	Mill Road	Historic Site	no	Justamere Farm	
281	E84	84	East Marlborough	Mill Road	Historic Site	no	Weisbrod Property	
282	E85	85	East Marlborough	655 Mill Road	Historic Site	no		
283	E86	86	East Marlborough	Line Road	Historic Site	no	Sellers Property	
284	E87	87	East Marlborough	18 Deer Creek Crossing	Historic Site	no		
285	E88	88	East Marlborough	Line Road	Historic Site	no	Einstein Property	
286	E89	89	East Marlborough	500-502 Byrd Road	Historic Site	no		
287	E90	90	East Marlborough	Byrd Road	Historic Site	no	Poultry Building	
288	E91	91	East Marlborough	Byrd Road	Historic Site	no	Upland Country Day School	
289	E92	92	East Marlborough	Byrd Road	Historic Site	no	Upland Country Day School	
290	E93	93	East Marlborough	Byrd Road	Historic Site	no	New Bolton Center	
291	E94	94	East Marlborough	Byrd Road	Historic Site	no	New Bolton Center	
292	E95	95	East Marlborough	695 Byrd Road	Historic Site	no		
293	E96	96	East Marlborough	389 W. Street Road	Historic Site	no		
294	E97	97	East Marlborough	369 W. Street Road	Historic Site	no		
295	E98	98	East Marlborough	New Bolton Drive	Historic Site	no	New Bolton Center	
296	E99	99	East Marlborough	New Bolton Drive	Historic Site	no	New Bolton Center	
297	E100	100	East Marlborough	350 W. Street Road	Historic Site	no		
298	E101	101	East Marlborough	334 W. Street Road	Historic Site	no	Southside Pennbrook	
299	E102	102	East Marlborough	325 W. Street Road	Historic Site	no		
300	E103	103	East Marlborough	W. Street Road	Historic Site	no	Cocks Property	
301	E104	104	East Marlborough	W. Street Road	Historic Site	no	Cocks Property	
302	E105	105	East Marlborough	W. Street Road	Historic Site	no	Walker Property	
303	E106	106	East Marlborough	W. Street Road	Historic Site	no	Welling Property	
304	E107	107	East Marlborough	W. Street Road	Historic Site	no	Welling Tenant	
305	E108	108	East Marlborough	N. Wollaston Road	Historic Site	no	Walker Property	
306	E109	109	East Marlborough	705A N. Wollaston Road	Historic Site	no	Walker Property	
307	E110	110	East Marlborough	N. Wollaston Road	Historic Site	no	Walker Property	
308	E111	111	East Marlborough	N. Wollaston Road	Historic Site	no	Walker Property	
309	E112	112	East Marlborough	N. Wollaston Road	Historic Site	no	Walker Property	
310	E113	113	East Marlborough	N. Wollaston Road	Historic Site	no		
311	E114	114	East Marlborough	N. Wollaston Road	Historic Site	no	Walker Property	
312	E115	115	East Marlborough	N. Wollaston Road	Historic Site	no	Sellers Property	
313	E116	116	East Marlborough	116 Unionville Road	Historic Site	no		
314	E117	117	East Marlborough	113 Lutece Court	Historic Site	no		
315	E118	118	East Marlborough	N. Mill Road	Historic Site	no	Sellers Property	
316	E119	119	East Marlborough	Upland-Unionville Road & Mill Road	Historic Site	no		
317	E120	120	East Marlborough	Upland-Unionville Road	Historic Site	no	Hannum Property	
318	E121	121	East Marlborough	370 Upland-Unionville Road	Historic Site	no		
319	E122	122	East Marlborough	Upland-Unionville Road	Historic Site	no	Hannum Property	
320	E123	123	East Marlborough	115 Corman Drive	Historic Site	no		
321	E124	124	East Marlborough	107 W. Locust	Historic Site	no		
322	E125	125	East Marlborough	1003 N. Union Street	Historic Site	no		
323	E126	126	East Marlborough	903 Fairthorn Drive	Historic Site	no	Bayard Taylor Barn	
324	E127	127	East Marlborough	100 Spottswood Lane	Historic Site	no	Taylor's Hazeldell	
325	E128	128	East Marlborough	101 Winding Lane	Historic Site	no	Bonnie Brae	
326	E129	129	East Marlborough	100 Winding Lane	Historic Site	no		
327	E130	130	East Marlborough	Longwood Gardens	Historic Site	yes	Pierce-DuPont House	
328	E131	131	East Marlborough	400 Marlborough Road	Historic Site	no	Marlborough Village	
329	E132	132	East Marlborough	360 Marlborough Road	Historic Site	no	Marlborough Village	
330	E133	133	East Marlborough	509 School House Lane	Historic Site	no		

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331	E134	134	East Marlborough	630 Unionville Road	Historic Site	no	Pratt Farm	
332	E135	135	East Marlborough	Mill Road	Historic Site	no	Weisbrod School House	
333	EOther1	1	East Marlborough		Other	no	Lime quarry	
334	EOther2	2	East Marlborough		Other	no	Lime kiln	
335	EOther3	3	East Marlborough		Other	no	Indian campsite	
336	EOther4	4	East Marlborough		Other	no	Brick yard	
337	EOther5	5	East Marlborough		Other	no	Indian campsite	
338	EOther6	6	East Marlborough		Other	no	Mica mine	
339	EOther7	7	East Marlborough		Other	no	Indian campsite	
340	EOther8	8	East Marlborough		Other	no	Approximate site of log school house	
341	EOther9	9	East Marlborough		Other	no	Site of one room school	
342	EOther10	10	East Marlborough		Other	no	Indian campsite	
343	EOther11	11	East Marlborough		Other	no	Indian campsite	
344	EOther12	12	East Marlborough		Other	no	Mill with wooden mill wheel (undershot mill)	
345	EOther13	13	East Marlborough		Other	no	Pusey's double lime kiln	
346	EOther14	14	East Marlborough		Other	no	Pusey's lime kiln	Large kiln is in very good condition
347	EOther15	15	East Marlborough		Other	no	Pusey's lime kiln - old kiln ruins	
348	EOther16	16	East Marlborough		Other	no	Pusey's quarry	
349	EOther17	17	East Marlborough		Other	no	Indian campsite	
350	EOther18	18	East Marlborough		Other	no	Site of log cabin school	
351	EOther19	19	East Marlborough		Other	no	Probable site of Caleb Pusey's log cabin	
352	EOther20	20	East Marlborough		Other	no	Indian campsite	
353	EOther21	21	East Marlborough		Other	no	Cedarcroft pond	Supposed to have been source for Mansion brick
354	EOther22	22	East Marlborough		Other	no	Deb Smith's hut	(Rachel McMullen) "The Story of Kennett" by Bayard Taylor
355	EOther23	23	East Marlborough		Other	no	Indian campsite	
356	EOther24	24	East Marlborough		Other	no	Sandy Flash farm	
357	EOther25	25	East Marlborough		Other	no	Sandy Flash's cabin	
358	EOther26	26	East Marlborough		Other	no	Indian quartz quarry	
359	EOther27	27	East Marlborough		Other	no	Indian campsite	
360	EOther28	28	East Marlborough		Other	no	Indian campsite	
361	EOther29	29	East Marlborough		Other	no	Blue clay pit.	Clay used by Brosius Pottery in Kennett Square
362	EOther30	30	East Marlborough		Other	no	Approximate location of Tramp's Roost or Fort Lundy	
363	EOther31	31	East Marlborough		Other	no	Possible Sandy Flash Cave	
364	EOther32	32	East Marlborough		Other	no	Indian campsite	
365	EOther33	33	East Marlborough		Other	no	Old house ruin	Possible miller's house
366	EOther34	34	East Marlborough		Other	no	Old lime kiln ruin	
367	EOther35	35	East Marlborough		Other	no	Lime quarry	
368	EOther36	36	East Marlborough		Other	no	Lime quarry	
369	EOther37	37	East Marlborough		Other	no	Old borrow pit	
370	EOther38	38	East Marlborough		Other	no	Old dam revetment	
371	N1	30	Newlin	950 BRANDYWINE CREEK RD	On Twp. List	no	82CC ID 4	Year built 1700
372	N2	144	Newlin	1066 WAWASET RD	On Twp. List	no	82CC ID 26	Year built 1730
373	N3	120	Newlin	1001 CANNERY RD	On Twp. List	no	82CC ID 32	Year built 1740
374	N4	142	Newlin	940 MARLBORO SPRING RD	On Twp. List	no	82CC ID 25	Year built 1742
375	N5	17	Newlin	615 HARVEYS BRIDGE RD	On Twp. List	no	82CC ID 12	Year built 1750
376	N6	143	Newlin	156 SCOTTS RD	On Twp. List	no	82CC ID 38	Year built 1750
377	N7	80	Newlin	1652 EMBREEVILLE RD	On Twp. List	no	82CC ID 71	Year built 1760
378	N8	50	Newlin	673 HARVEYS BRIDGE RD	On Twp. List	yes		Year built 1771
379	N9	39	Newlin	910 STARGAZER RD	On Twp. List	yes		Year built 1778
380	N10	118	Newlin	1220 KELSALL RD	On Twp. List	no	82CC ID 36	Year built 1780
381	N11	92	Newlin	299 BRANDYWINE DR	On Twp. List	yes	82CC ID 19	Year built 1877
382	N12	75	Newlin	899 STARGAZER RD	On Twp. List	no	82CC ID 15	Year built 1793
383	N13	117	Newlin	1121 CANNERY RD	On Twp. List	no	82CC ID 34	Year built 1796
384	N14	31	Newlin	162 GREEN VALLEY RD	On Twp. List	no	82CC ID 52	Year built 1800
385	N15	72	Newlin	1299 CANNERY RD	On Twp. List	no	82CC ID 63	Year built 1800

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386	N16	103	Newlin	2220 HILLTOP VIEW RD	On Twp. List	no	82CC ID 41	Year built 1800
387	N17	107	Newlin	2225 HILLTOP VIEW RD	On Twp. List	no	82CC ID 42	Year built 1800
388	N18	110	Newlin	255 GREEN VALLEY RD	On Twp. List	no	82CC ID 48	Year built 1800
389	N19	9	Newlin	2096 STRASBURG RD	On Twp. List	no		Year built 1800
390	N20	57	Newlin	638 HARVEYS BRIDGE RD	On Twp. List	no		Year built 1800
391	N21	60	Newlin	1655 EMBREEVILLE RD	On Twp. List	no		Year built 1800
392	N22	77	Newlin	1662 EMBREEVILLE RD	On Twp. List	no		Year built 1800
393	N23	78	Newlin	1656 EMBREEVILLE RD	On Twp. List	no		Year built 1800
394	N24		Newlin	1699 WARPATH RD	On Twp. List	no	82CC ID 18	Year built 1800
395	N25	145	Newlin	107 INDIAN HANNA RD	On Twp. List	no	82CC ID 21	Year built 1800
396	N26		Newlin	2079 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1900
397	N27		Newlin	2064 STRASBURG RD	On Twp. List	no	RANCH	Year built 1948
398	N28		Newlin	2082 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1900
399	N29		Newlin	2084 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1900
400	N30		Newlin	2088 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1920
401	N31		Newlin	2090 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1900
402	N32		Newlin	2086 STRASBURG RD	On Twp. List	no	OLD STYLE	Year built 1900
403	N33		Newlin	2094 STRASBURG RD	On Twp. List	no	RESTAURANT	Year built 1870
404	N34		Newlin	735 LAUREL RD	On Twp. List	no	OLD STYLE	Year built 1900
405	N35		Newlin	907 LAUREL RD	On Twp. List	no	OLD STYLE	Year built 1840
406	N36		Newlin	1111 LAUREL RD	On Twp. List	no	OLD STYLE	Year built 1900
407	N37		Newlin	1105 LAUREL RD	On Twp. List	no	OLD STYLE	Year built 1800
408	N38		Newlin	300 YOUNGS RD	On Twp. List	no	OLD STYLE	Year built 1800
409	N39		Newlin	250 YOUNGS RD	On Twp. List	no	OLD STYLE	Year built 1820
410	N40		Newlin	351 YOUNGS RD	On Twp. List	no	TRADITIONAL	Year built 1900
411	N41		Newlin	609 HARVEYS BRIDGE RD	On Twp. List	no	CONVENTIONAL	Year built 1948
412	N42		Newlin	901 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1837
413	N43		Newlin	999 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
414	N44		Newlin	1001 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
415	N45		Newlin	102 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
416	N46		Newlin	104 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
417	N47		Newlin	528 BRANDYWINE CREEK RD	On Twp. List	no	TRADITIONAL	Year built 1900
418	N48		Newlin	528 BRANDYWINE CREEK RD	On Twp. List	no	CONV BARN/SCHL	Year built 1900
419	N49		Newlin	650 BRANDYWINE CREEK RD	On Twp. List	no	TRADITIONAL	Year built 1900
420	N50		Newlin	2251 HILLTOP VIEW RD	On Twp. List	no	RANCH	Year built 1946
421	N51		Newlin	2255 HILLTOP VIEW RD	On Twp. List	no	CONVENTIONAL	Year built 1952
422	N52		Newlin	2257 HILLTOP VIEW RD	On Twp. List	no	TRADITIONAL	Year built 1900
423	N53		Newlin	198 E GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1900
424	N54		Newlin	147 GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1900
425	N55		Newlin	147 GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1900
426	N56		Newlin	109 GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1800
427	N57		Newlin	1268 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
428	N58		Newlin	1302 BRANDYWINE CREEK RD	On Twp. List	no	TRADITIONAL	Year built 1900
429	N59		Newlin	1500 POWELL RD	On Twp. List	no	TRADITIONAL	Year built 1900
430	N60		Newlin	932 STARGAZER RD	On Twp. List	no	OLD STYLE	Year built 1940
431	N61		Newlin	930 STARGAZER RD	On Twp. List	no	CONVENTIONAL	Year built 1930
432	N62		Newlin	924 STARGAZER RD	On Twp. List	no	RANCH	Year built 1954
433	N63		Newlin	918 STARGAZER RD	On Twp. List	no	RANCH	Year built 1940
434	N64		Newlin	916 STARGAZERS RD	On Twp. List	no	CONVENTIONAL	Year built 1945
435	N65		Newlin	914 STARGAZER RD	On Twp. List	no	OLD STYLE	Year built 1900
436	N66		Newlin	914 STARGAZER RD	On Twp. List	no	CONVENTIONAL	Year built 1949
437	N67		Newlin	908 STARGAZER RD	On Twp. List	no	CONVENTIONAL	Year built 1954
438	N68		Newlin	902 STARGAZERS RD	On Twp. List	no	CAPE COD	Year built 1940
439	N69		Newlin	1691 EMBREEVILLE RD	On Twp. List	no	TRADITIONAL	Year built 1841
440	N70		Newlin	651 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1940

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441	N71		Newlin	649 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1954
442	N72		Newlin	645 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1955
443	N73		Newlin	647 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1950
444	N74		Newlin	641 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1957
445	N75		Newlin	639 HARVEYS BRIDGE RD	On Twp. List	no	RANCH	Year built 1954
446	N76		Newlin	1661 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1810
447	N77		Newlin	1657 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1820
448	N78		Newlin	1651 EMBREEVILLE RD	On Twp. List	no	TRADITIONAL	Year built 1800
449	N79		Newlin	1625 EMBREEVILLE RD	On Twp. List	no	CONV BARN/SCHL	Year built 1800
450	N80		Newlin	1626 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1820
451	N81		Newlin	370 BRANDYWINE CREEK RD	On Twp. List	no	OLD STYLE	Year built 1900
452	N82		Newlin	370 BRANDYWINE CREEK RD	On Twp. List	no	CONVENTIONAL	Year built 1950
453	N83		Newlin	1599 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1800
454	N84		Newlin	1601 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1930
455	N85		Newlin	1592 EMBREEVILLE RD	On Twp. List	no	WAREHOUSE	Year built 1932
456	N86		Newlin	1592 EMBREEVILLE RD	On Twp. List	no	RESIDENTIAL 1 FAMILY	Year built 1932
457	N87		Newlin	1580 EMBREEVILLE RD	On Twp. List	no	CAPE COD	Year built 1953
458	N88		Newlin	1308 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1850
459	N89		Newlin	1628 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1820
460	N90		Newlin	1751 EMBREEVILLE RD	On Twp. List	no	OFFICE BLDG L/R 1-4S	Year built 1930
461	N91		Newlin	1640 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1900
462	N92		Newlin	1636 EMBREEVILLE RD	On Twp. List	no	WAREHOUSE	Year built 1850
463	N93		Newlin	1636 EMBREEVILLE RD	On Twp. List	no	WAREHOUSE	Year built 1850
464	N94		Newlin	1636 EMBREEVILLE RD	On Twp. List	no	RESIDENTIAL 1 FAMILY	Year built 1850
465	N95		Newlin	1632 EMBREEVILLE RD	On Twp. List	no	TRADITIONAL	Year built 1900
466	N96		Newlin	1630 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1830
467	N97		Newlin	1780 EMBREEVILLE RD	On Twp. List	no	WAREHOUSE	Year built 1947
468	N98		Newlin	651 BRANDYWINE DR	On Twp. List	no	RESIDENTIAL 1 FAMILY	Year built 1953
469	N99		Newlin	651 BRANDYWINE DR	On Twp. List	no	RESIDENTIAL 1 FAMILY	Year built 1900
470	N100		Newlin	401 BRANDYWINE DR	On Twp. List	no	CAPE COD	Year built 1959
471	N101		Newlin	491 BRANDYWINE DR	On Twp. List	no	SPLIT LEVEL	Year built 1956
472	N102		Newlin	299 BRANDYWINE DR	On Twp. List	yes	OLD STYLE	Year built 1877
473	N103		Newlin	494 BRANDYWINE DR	On Twp. List	no	RANCH	Year built 1958
474	N104		Newlin	1060 GLENHALL RD	On Twp. List	no	RANCH	Year built 1957
475	N105		Newlin	1058 GLENHALL RD	On Twp. List	no	RANCH	Year built 1955
476	N106		Newlin	934 STARGAZER RD	On Twp. List	no	OLD STYLE	Year built 1811
477	N107		Newlin	1056 GLENHALL RD	On Twp. List	no	CONVENTIONAL	Year built 1952
478	N108		Newlin	1669 WARPAT RD	On Twp. List	no	CAPE COD	Year built 1951
479	N109		Newlin	251 BRANDYWINE DR	On Twp. List	no	TRADITIONAL	Year built 1838
480	N110		Newlin	208 BEAGLE RD	On Twp. List	no	CAPE COD	Year built 1955
481	N111		Newlin	2226 HILLTOP VIEW RD	On Twp. List	no	TRADITIONAL	Year built 1850
482	N112		Newlin	306 APPLE GROVE RD	On Twp. List	no	OLD STYLE	Year built 1908
483	N113		Newlin	2229 HILLTOP VIEW RD	On Twp. List	no	TRADITIONAL	Year built 1820
484	N114		Newlin	2229 HILLTOP VIEW RD	On Twp. List	no	OLD STYLE	Year built 1900
485	N115		Newlin	301 GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1888
486	N116		Newlin	255 GREEN VALLEY RD	On Twp. List	no	OLD STYLE	Year built 1800
487	N117		Newlin	1351 SCOTTS RD	On Twp. List	no	TRADITIONAL	Year built 1900
488	N118		Newlin	1354 SCOTT RD	On Twp. List	no	TRADITIONAL	Year built 1820
489	N119		Newlin	1354 SCOTT RD	On Twp. List	no	RANCH	Year built 1959
490	N120		Newlin	1228 SCOTT RD	On Twp. List	no	OLD STYLE	Year built 1900
491	N121		Newlin	1572 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1900
492	N122		Newlin	1564 EMBREEVILLE RD	On Twp. List	no	OLD STYLE	Year built 1900
493	N123		Newlin	461 463 KELSALL RD	On Twp. List	no	RESIDENTIAL 1 FAMILY	Year built 1920
494	N124		Newlin	1008 UNIONVILLE WAWASET RD	On Twp. List	no	OLD STYLE	Year built 1890
495	N125		Newlin	1067 UNIONVILLE WAWASET RD	On Twp. List	no	CONVENTIONAL	Year built 1959

**Unionville Regional Plan
Historic Resources**

Regional Plan ID (Map No.)	Unique Township ID	Original Township ID	Township	Address	Township Designation	National Register	Description (if available)	Notes (if available)
496	N126		Newlin	1053 UNIONVILLE WAWASET RD	On Twp. List	no	OLD STYLE	Year built 1900
497	N127		Newlin	1053 UNIONVILLE WAWASET RD	On Twp. List	no	OLD STYLE	Year built 1900
498	N128		Newlin	1069 UNIONVILLE WAWASET RD	On Twp. List	no	RANCH	Year built 1956
499	N129		Newlin	1013 GLENHALL RD	On Twp. List	no	OLD STYLE	Year built 1925
500	N130		Newlin	1013 GLENHALL RD	On Twp. List	no	OLD STYLE	Year built 1880
501	N131		Newlin	455 CANNERY RD	On Twp. List	no	OLD STYLE	Year built 1785
502	N132		Newlin	819 OAK SCHOOL RD	On Twp. List	no	BUNGALOW	Year built 1860
503	N133		Newlin	1061 GLENHALL RD	On Twp. List	no	OLD STYLE	Year built 1880
504	N134		Newlin	1069 GLENHALL RD	On Twp. List	no	CONTEMPORARY	Year built 1955
505	N135		Newlin	1075 GLENHALL RD	On Twp. List	no	RANCH	Year built 1956
506	N136		Newlin	389 BEAGLE RD	On Twp. List	no	OLD STYLE	Year built 1850
507	N137		Newlin	1002 GLENHALL RD	On Twp. List	no	RANCH	Year built 1953
508	N138		Newlin	1077 WAWASET RD	On Twp. List	no	OLD STYLE	Year built 1862
509	N139		Newlin	1024 GLENHALL RD	On Twp. List	no	OLD STYLE	Year built 1816
510	N140		Newlin	1030 GLENHALL RD	On Twp. List	no	RANCH	Year built 1951
511	N141		Newlin	1040 GLENHALL RD	On Twp. List	no	RANCH	Year built 1954
512	N142		Newlin	1046 GLENHALL RD	On Twp. List	no	COLONIAL	Year built 1952
513	N143		Newlin	1050 WAWASET RD	On Twp. List	no	COLONIAL	Year built 1950
514	N144		Newlin	1080 UNIONVILLE WAWASET RD	On Twp. List	no	OLD STYLE	Year built 1850
515	N145		Newlin	171 INDIAN HANNA RD	On Twp. List	no	OLD STYLE	Year built 1900
516	N146		Newlin		On Twp. List	yes	Stargazer's Stone	