

Open Space PLANNING

A Guide for Municipalities



A Linking Landscapes Resource

EPC



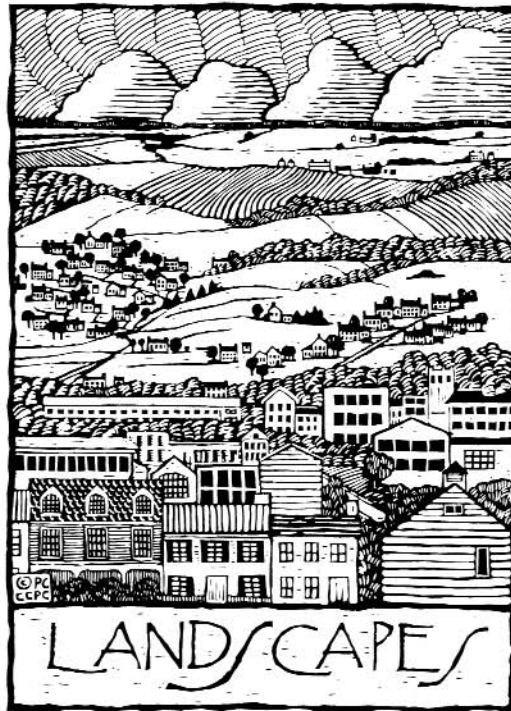
BOARD OF COUNTY COMMISSIONERS

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Open Space PLANNING

A Guide for Municipalities

A Linking Landscapes Resource
Prepared as an Implementation Tool of



Prepared by the Chester County Planning Commission

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Introduction

This Guidebook is Just the Beginning

The Chester County Planning Commission (CCPC) has prepared this guidebook to help municipalities conduct open space planning as part of their overall municipal comprehensive planning. Open space planning is still such a new field that there are no tried and true methods a municipality can rely on. Throughout Chester County, municipalities are trying out new techniques for protecting, funding and maintaining open spaces. Some of these techniques have worked well, others have not, and still others have not been in place for a long enough time to know if they will be effective.

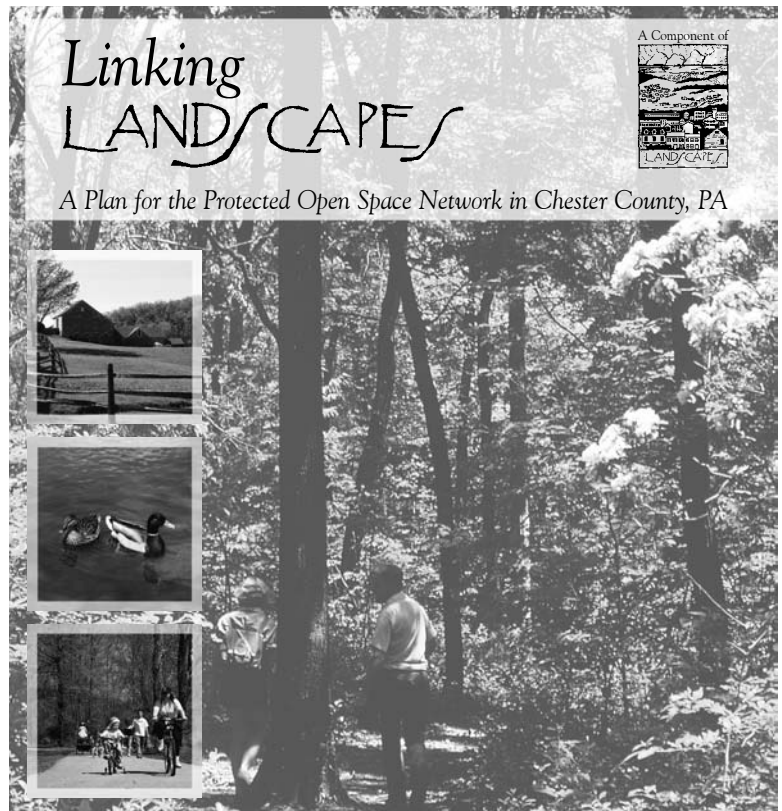
This publication provides guidance to municipalities, their elected officials and appointed members of boards or committees. It is written in laymen's terms and is meant to be the first step for anyone who is getting involved with open space planning. This guidebook includes practical advice based on the CCPC's experience and some basic technical assistance, but this document does not have all the answers. Each municipality is different and will have to develop a unique set of solutions to address its own particular open space planning issues.

The four most important things that a Chester County municipality can do when conducting open space planning are:

1. **Speak with and visit other municipalities.**

Find out what other municipalities have done to protect open space, create trails and adopt open space planning. In Pennsylvania, municipalities are the ones who are "down in the trenches," and they know what works and what does not. Ask your neighboring municipalities if they have an ordinance you can use as a model. Feel free to use the Internet to locate local governments in other states who have adopted open space planning that might meet your needs. Above all, do not rely only on this guidebook, or any one publication, consultant or planning program.

2. **Look through *LANDSCAPES* and *Linking Landscapes*.** In February of 2002, the Chester County Commissioners adopted *Linking Landscapes* as the open space element of the Chester County comprehensive plan. *Linking Landscapes* follows the policies of *LANDSCAPES*, which was adopted in 1996 as the policy element of the County comprehensive plan. *Watersheds* was adopted in 2002 as the watershed resources element of the County comprehensive plan. Each municipal comprehensive

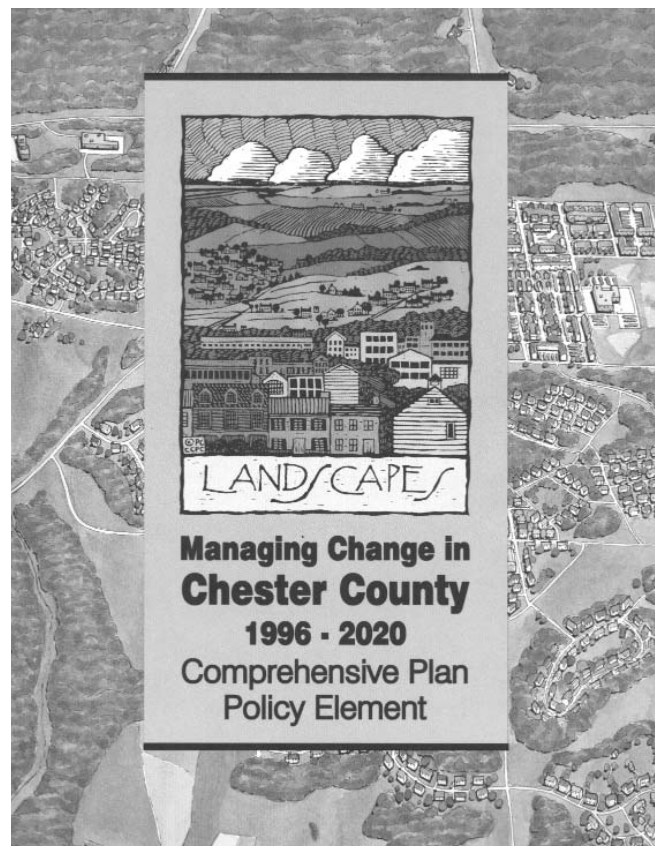


Linking Landscapes is the open space element of the County comprehensive plan, adopted in 2002.

plan in Chester County is reviewed by the CCPC to determine if it is consistent with the recommendations of these three publications. This review is required by PA Act 247, the Municipalities Planning Code (MPC).

3. **Involve the public.** Local residents commonly develop emotional attachments to open spaces like stream corridors, parks, or trails. It is essential to involve the public in all phases of open space planning, from preliminary concepts to ongoing management. Many open space grant programs require public involvement.
4. **Plan ahead.** Preserving open space or constructing a recreation facility requires a long term commitment, and it is not unusual for such projects to take ten years or more. Municipalities in all parts of Chester County that have abundant open land available should plan for the day when open land may be scarce.

Municipalities and local planners interested in conducting open space planning should not rely on just this publication to direct their comprehensive planning decisions. The MPC is the recommended vehicle for open space planning. This guidebook is not intended to be, and should not be considered to be a substitute for the requirements set forth in the MPC, adopted municipal plans or ordinances, or professional legal advice. Municipal officials, staff, and local planners that undertake suggestions presented in this document, should do so in a manner that complies with the requirements of the MPC and any other laws, policies and regulations applicable to land planning within their municipality and the Commonwealth of Pennsylvania.



LANDSCAPES is the policy element of the County comprehensive plan, adopted in 1996.

Chapter 1



Municipal Benefits and Responsibilities

Open Space: The Newest Municipal Infrastructure

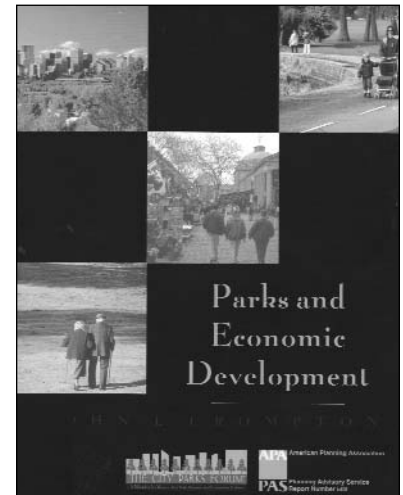
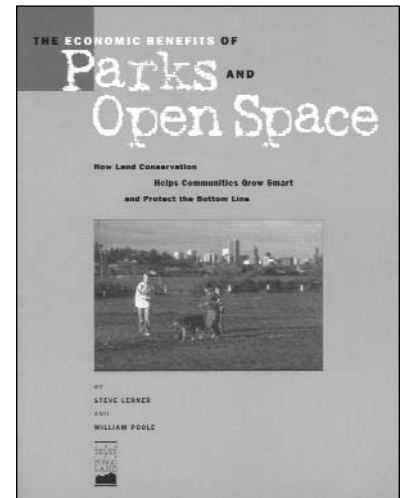
Establishing an open space network is much like establishing any public infrastructure. When sewer systems were first created in the late 1800s, they served only one property. In time, urban and suburban communities began to realize that the removal and processing of sewage required a public infrastructure of pipes and treatment facilities in order to maintain the general health and welfare of the community. In the early 1900s, a similar process occurred as phone service and electricity were extended throughout the nation. Today, local governments across the country are coming to realize that open space is a form of infrastructure that communities must have to function and compete in the modern economy.

Since the 1990s, there have been numerous case studies that have shown the benefits that open spaces provide to communities (Crompton, 2001). Open spaces with trails or sports facilities promote physical health, a growing concern given the growing number of elderly in America, and the unfortunate rise in obesity, which the US Center for Disease Control now regards as an epidemic affecting three out of ten Americans. Open space also adds to the overall quality-of-life and helps unite a community by creating sports fields and parks where neighbors can meet and get to know each other. And, of course, open spaces help maintain the environment by providing wildlife habitat and facilitating ground water recharge.

Open space has also been shown to be an important contributor to the economy of a community. The presence of open spaces helps to maintain property values. Open spaces are used by businesses as a means to attract employees, especially for high tech or service industries. Tourism, from fishing and bicycling to visiting historic sites or simply taking a scenic drive, is highly influenced by local open space planning. In Chester County, open space is also intertwined with agriculture and the breeding and training of horses, also known as the equine industry.

The growing interest in open space issues is not simply academic. In 2003, voters in seven Chester County municipalities passed referendums to raise money for open space preservation. In that year, two other municipalities adopted similar funding without a referendum. Clearly, open space is important to voters, and they are willing to pay for it. As a result, local governments are now faced with the new challenge of creating an open space infrastructure, and sometimes creating it from scratch.

This guidebook has been created to provide practical advice on how to address the wide range of open space issues now facing Chester County communities. This document presents information in laymen terms, however a bibliography is presented at the end in case more detailed information is needed. This publication is not an exhaustive technical manual, but it does address the key issues that frequently arise when a municipality begins to consider open space planning.



These two publications document how open spaces enhance the economy.

Open Space Planning at the State and County Level

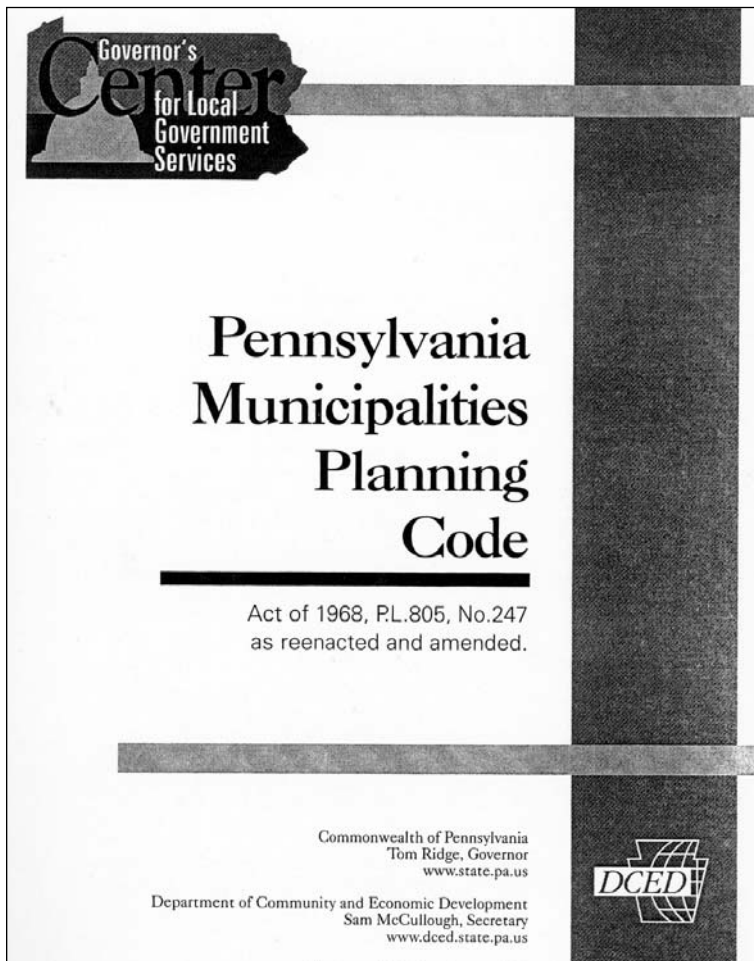
In August of 2000, PA Act 247, the Pennsylvania Municipalities Code (Act of 1968, P. L. 805, No. 247 as reenacted and amended) was amended to include a greater emphasis on planning for open space, natural resources, cultural resources, and recreation facilities. This act, usually called the “MPC,” is the enabling legislation that empowers municipal governments in Pennsylvania with the authority to plan and govern the development within their communities.

Some municipalities in Chester County have been quite active in open space planning and have integrated it into their comprehensive plans, their zoning ordinances and their subdivision and land development ordinances. In these municipalities, there may not be a need to update municipal plans to become consistent with the

updated MPC. However, many municipalities have plans that were adopted many years ago and may not have the kind of in-depth open space and recreation planning that is now appropriate. Each municipality should determine when their open space planning is out of date, but in general, all municipal planning documents should be updated at least every ten years.

During the 1990s most of Chester County’s municipalities adopted an Open Space, Recreation, and Environmental Resource (OSRER) Plan. Each OSRER Plan was a stand-alone document. Section 603 (g) (2) and Section 604 (1) of the MPC now call for each municipal zoning ordinance to address natural and historic resource planning. For this reason, municipalities that wish to update their OSRER, will have to merge it into their comprehensive plan.

Although the MPC grants municipalities with the final authority in land use issues, it also requires that municipalities submit comprehensive plans, zoning ordinances, and subdivision and land development ordinances to the Chester County Planning Commission (CCPC) for review. CCPC reviews each municipal submission to determine if it is consistent with the County comprehensive plan, which consists of a series of documents, each of which is known as an **element**.



The MPC was amended in 2000 to include a greater emphasis on open space planning.

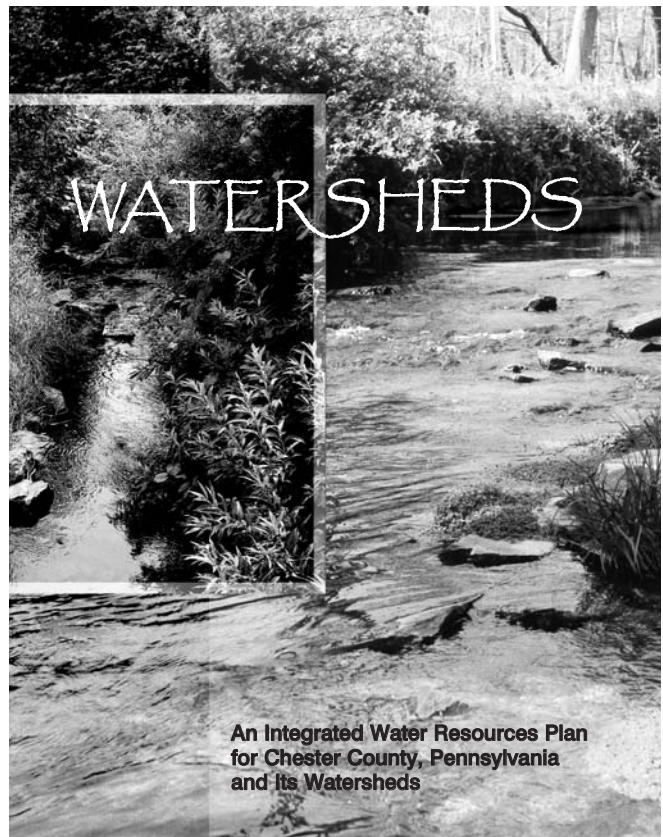
Over the past ten years, the Board of County Commissioners have adopted the following three elements:

LANDSCAPES—*Managing Change in Chester County 1996–2020*, was adopted in 1996 as the policy element of the comprehensive plan. It was last amended in 2004. This document sets forth policies for preserving and enhancing the unique character of Chester County’s landscapes by concentrating growth in the most appropriate areas.

Linking Landscapes—*A Plan for the Protected Open Space Network in Chester County PA*, was adopted in 2002 as the open space element of the County comprehensive plan. This plan emphasizes that open spaces can only function properly if they are linked together into a network. This document includes policies that County government will follow along with recommendations that municipalities may choose to initiate.

Watersheds—*An Integrated Water Resources Plan for Chester County Pennsylvania and Its Watersheds* was adopted in 2003 as the water resources element of the County comprehensive plan. This document highlighted the need to incorporate water resources managements as an integrated part of municipal planning. This document also contains specific strategies, criteria, and recommendations for municipalities and others to protect water resources while accommodating planned growth.

Most of Chester County’s municipalities have entered into a Memorandum of Understanding (MOU) with the County Commissioners, agreeing to work with the County to make their municipal planning documents consistent with the policies and recommendations set forth in all of the elements of the Chester County comprehensive plan. Local planners should therefore become familiar with these documents, and use them when formulating their own municipal planning documents.



Watersheds is the water resources element of the County comprehensive plan, adopted in 2002, and a great source of information.

Municipal Agencies and Authorities

In 1996,
The
Pennsylvania
Environmental
Council
published
*The EAC
Handbook.*

The MPC authorizes municipalities to establish municipal **planning agencies** that may be called boards, commissions or committees. These agencies consist of individuals appointed by elected municipal officials. The role of the planning agency is to provide advice and recommendations about land use and development to municipal governments. Municipalities can also create an **authority**, which is a non-governmental organization that is officially authorized by a municipality, or a number of municipalities, to perform specific services.

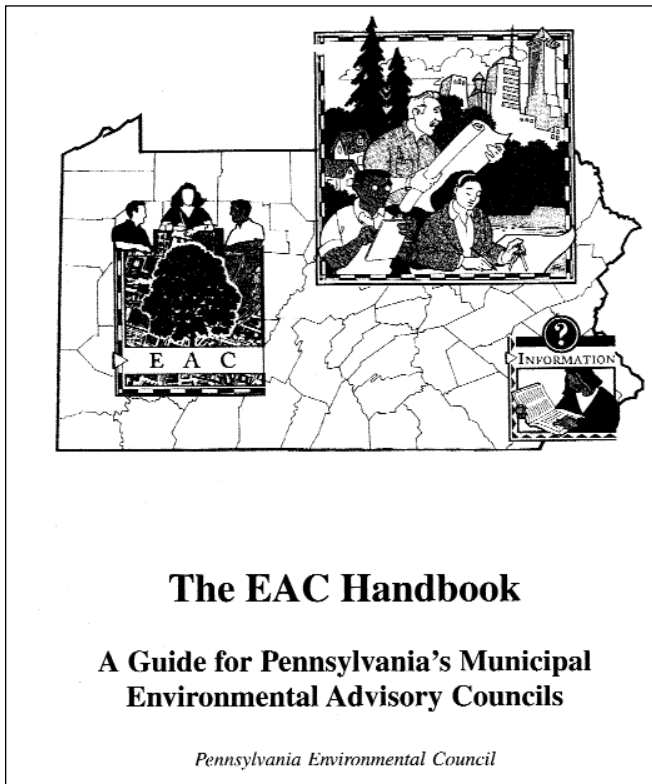
Not all planning agencies operate the same way. Some municipalities have paid staff working for an agency such as a planning department or a parks and recreation department. Any municipality that is considering creating such an agency, commission or a department should first contact a few of the municipalities listed in pages 12 and 13 that already have done so. Agencies and authorities that most often deal with open space planning include:

Planning Commission—Found in all of the County’s municipalities, this agency’s role is to review and provide recommendations on plans submitted for land development and subdivision. It also prepares and reviews the municipal comprehensive plan, zoning ordinance, the subdivision and land development ordinance (SLDO) and other documents.

Zoning Hearing Board—Found in all of the County’s municipalities, this agency’s role is to review submitted applications for variances or special exception to the adopted zoning code. It also hears challenges to the validity of zoning ordinance and appeals from the zoning officer or municipal engineer.

Historical Commission/Historic Architectural Review Board (HARB)—These agencies are found in nearly half of the County’s municipalities. The commission provides advice on historic resources and planning. A HARB reviews development plans proposed within a delineated Act 167 historic district in order to determine if they are consistent with the existing historic structures and features.

Environmental Advisory Council (EAC)/ Environmental Board—These agencies are found in about a dozen of the County’s municipalities. They advise local governments on issues such as environmental problems, natural resource protection, natural resource mapping and possible uses of open space.



Local officials can use guidebooks like this to identify projects that their agencies might like to pursue.

Open Space Commission/Conservancy Commission—These agencies are found in only a few of the County’s municipalities, and provide advice on protecting undeveloped lands through public or private easements.

Park and Recreation Board/Commission—Found in more than half of the County’s municipalities, this agency typically deals with issues including the acquisition of land for recreation, the construction of facilities, maintenance, security, events programming and educational programming.

Park and Recreation Authority—Usually serving multiple municipalities, this authority has paid staff that deal with recreation planning, land acquisition, park maintenance, recreation facilities, recreation programming and parkland management. It may even have some of the powers of government, such as the authority to issue bonds and condemn land.

Municipal Agencies/Boards in Chester County

Municipality	Park and Recreation Board	Open Space or Conservation Board	Environmental Board or EAC	Historic Preservation Board or HARB
Atglen				
Avondale	✓			
Birmingham	✓			✓
Caln	✓			
Charlestown	✓	✓		✓
Coatesville	✓			
Downingtown	✓ (Hist. & Park Board)			✓ (Hist. & Park Board)
East Bradford	✓	✓	✓	✓
East Brandywine	✓			✓
East Caln	✓ (Rec. Board)			
East Coventry	✓			✓ (Commission)
East Fallowfield	✓			
East Goshen	✓			✓ (Commission)
East Marlborough				
East Nantmeal				
East Nottingham				
East Pikeland	✓			✓ (Committee)
Easttown	✓			
East Vincent	✓			✓
East Whiteland	✓		✓	
Elk				
Elverson	✓			
Franklin	✓	✓		
Highland				
Honey Brook Boro.	✓ (Committee)			✓ (Committee)
Honey Brook Twp.				
Kennett	✓		✓	✓
Kennett Square	✓			
London Britain	✓			✓
London Grove	✓			✓ (Commission)
Londonderry	✓		✓	
Lower Oxford	✓		✓	
Malvern	✓		✓	✓
Modena	✓			
New Garden				
Newlin				
New London				✓ (Committee)

Municipal Agencies/Boards in Chester County (continued)

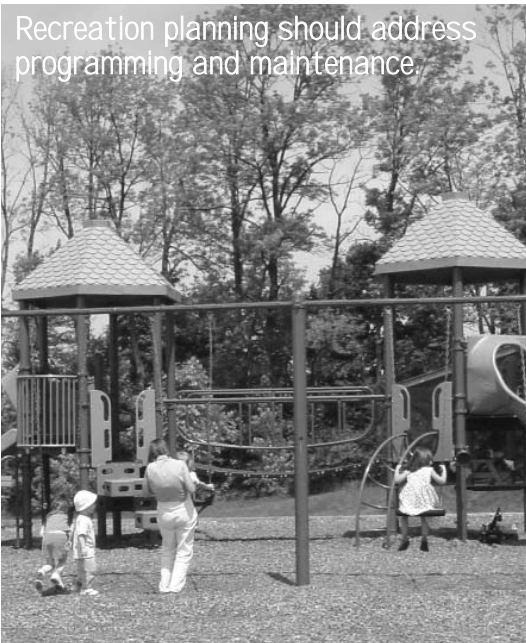
Municipality	Park and Recreation Board	Open Space or Conservation Board	Environmental Board or EAC	Historic Preservation Board or HARB
North Coventry	✓	✓	✓	✓ (Commission)
Oxford				
Parkesburg	✓			
Penn	✓			
Pennsbury	✓	✓	✓	
Phoenixville	✓			✓
Pocopson	✓			✓
Sadsbury	✓			
Schuylkill			✓	✓ (Commission)
South Coatesville				
South Coventry			✓	✓
Spring City	✓			
Thornbury	✓			✓
Tredyffrin	✓		✓	
Upper Oxford				
Upper Uwchlan	✓			✓
Uwchlan	✓			✓
Valley	✓			
Wallace	✓			✓
Warwick				✓
West Bradford				
West Brandywine	✓			
West Caln	✓			✓
West Chester	✓			✓
West Fallowfield				
West Goshen	✓			
West Grove				
West Marlborough				
West Nantmeal	✓			✓ (Commission)
West Nottingham				✓ (Commission)
West Pikeland	✓			✓ (Commission)
West Sadsbury				
Westtown	✓			
West Vincent		✓ (Adv. Committee)	✓	
West Whiteland	✓			✓
Willistown	✓	✓	✓	✓
Total out of 73 municipalities.	50	7	13	32

Source: Chester County Planning Commission, 2004.

What is “Open Space” Planning?

There is no one definition for **open space**, either in the planning profession or in legal terminology. In everyday conversation, the term open space can mean anything from a paved 10,000-square foot basketball court to a thousand-acre wildlife preserve. In municipal zoning, open space usually refers to land left undeveloped, such as wetlands or steep slopes, when a new development is constructed. Because of this ambiguity, local planners should always be careful to define what is meant by open space when using this term in official documents. Regardless of how one defines it, open space planning typically involves:

Recreation planning should address programming and maintenance.



Protected Open Space Planning—involves coordinating the efforts of national, state, County and municipal parks along with homeowner association lands and private property protected from future development by non-profit land trust, or farms protected by state and County funded easements.

Recreation Planning—involves planning, acquiring and constructing sports fields, trails and passive recreation facilities; planning for public park programs; coordinating sports leagues and facilities; and funding and maintaining recreational facilities. Recreation planning also includes trail planning. Technically speaking, a **trail** is a linear recreation feature that is open to the general public. It is usually a multi-use facility accommodating walkers, bicyclists, in line skaters, equestrians or any combination thereof. Trails may be paved, gravel, wood-chip or **primitive** packed earth, based on how the trail is to be used. A trail that is used for only one mode of transportation is usually called a **path**, such as a walking path. A bike **route** is usually located on a low volume road or the shoulders of a road, and so bike routes are usually discussed as part of transportation planning. A **greenway** is an undeveloped corridor that may or may not have a trail or path.

Natural Resources Planning—involves acquiring, maintaining or restoring naturally occurring features ranging from geology and soils, to plants, animals, streams and ground water.

Cultural Resources Planning—involves acquiring, maintaining or restoring landscapes or man-made structures ranging from historic buildings and landscapes where historic events occurred to scenic roads, historic industrial regions or unique ethnic communities.

A municipality could address all of these features in separate planning studies, but it is usually more economical to address them in just one document. Much of the background information needed to evaluate any one of these topics has applications to the others. For example, mapping of forests can be used to locate a potential recreational park site, or a forested trail, or a wildlife corridor. Mapping of historic structures can be used to locate potential trail destinations, scenic byways, or a historic district.

Open Space Planning can Lead to Grant Funding

Open space planning is a valuable approach for managing the long-term development of a community. In the short term, it is important as a tool for acquiring funding from the various open space grant programs available to municipalities. Grants to municipalities usually include an application form that asks if the proposed project is consistent with municipal open space planning. Grant applications may also ask for the date when the plan was adopted in order to determine if the plan has become outdated. In general, any plan over ten years old is regarded as outdated.

Most open space grants programs are highly competitive, so that different municipalities are competing against each other for a limited amount of money. A municipality with a recently updated open space plan will be more likely to get grant funding than one whose plan is over ten years old. In general, federal grants have a more extensive application process, relative to state or County grants.

Most open space grants also require a municipal match. In other words, the municipality has to provide some of the funding, at least 10 to 15 percent, in order for the grantor to consider funding the rest of the project cost. A total of 22 municipalities in Chester County have adopted some sort of dedicated funding for open space, and it is likely that this number will grow. One of the main reasons municipalities gather this local funding is so that they can use it for matching grants.

Over the past few decades, the County, the state and the federal government have offered open space grant programs to municipalities, as well as other organizations such as non-profit land trusts. These grant programs are constantly evolving and the names used to describe them are sometimes changed. Municipalities should therefore stay informed about the constantly changing grant opportunities by communicating directly with County and state representatives.

Public involvement is also becoming a more prominent factor in open space grants. Government agencies want to be sure that their grant funds go to projects that are supported by local residents and other stakeholders such as park users.

West Bradford Township uses many funding sources for its parks.

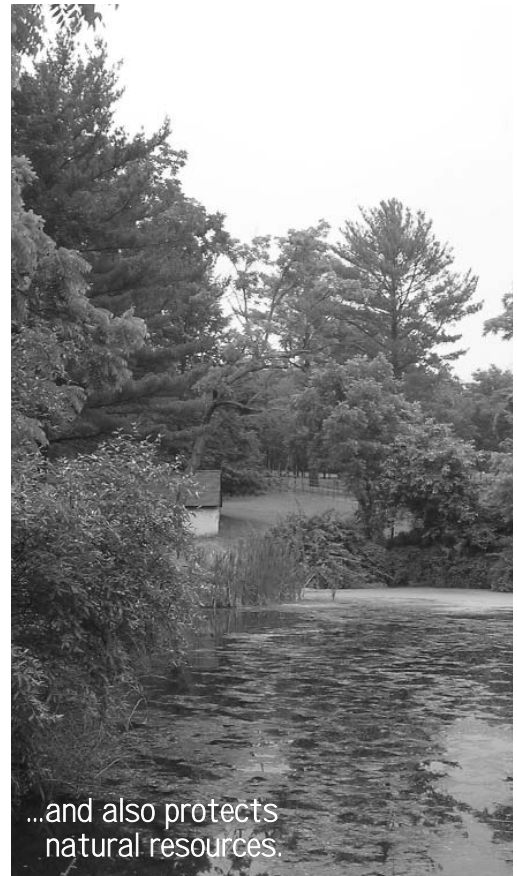


The most common grant programs currently funding municipal open space projects in Chester County include:

- **Vision Partnership Program (VPP) Tier 1 Grants**—are administered by the CCPC, and can be used for planning related projects such as updating the open space elements of a comprehensive plan or completing a regional trail plan.
- **Landscapes 21st Century Fund Grants**—are administered by the Chester County Director of Open Space Preservation, and they include the Parkland and Open Space Acquisition Grant, the Park Facilities Grant, the Trails Grant and the Greenways Grant.
- **Community Conservation Partnership Program (“C2P2”) Grants**—are administered by the PA Department of Conservation and Natural Resources, and they include Planning Grants, Programming Grants, Rails-to-Trails Grants, Land Trust Grants, Rivers Conservation Grants, and Community Recreation Management and Development Grants.



Broad Run Park in West Bradford Township provides recreation facilities....



...and also protects natural resources.

Chapter 2



Tools Available to Municipalities

The Municipal Comprehensive Plan: Integrating Open Space

A municipality adopts its comprehensive plan in order to set land use policies that are then implemented through zoning or subdivision and land development ordinances, or both. The comprehensive plan is therefore the appropriate place to establish municipal policies regarding protected open space, natural resources, cultural resources, and recreation, including trails. These topics, which are discussed in detail in Chapter 3 of this guidebook, are commonly discussed in separate sections or chapters within a comprehensive plan.

It is important to recognize that open space planning also relates to other sections or chapters of a municipal comprehensive plan. For example, open space planning can also be addressed in a limited fashion in the following sections or chapters of a municipal comprehensive plan:

The Community Facilities and Services

Section/Chapter—can address general funding and staffing costs needed for acquiring or expanding municipal parks or open spaces. It can also address the ongoing cost of maintaining these lands, and any funding that would be needed to conduct community activities on park property, also known as **recreation programming**.

The Population and Demographics

Section/Chapter—can be used to locate neighborhoods with a large elderly or teenage population, which can determine the need for a public garden versus a skate board park. Economic and ethnic information can also be used to assess recreation needs. For example, communities with newly-arrived Latin American immigrants might get more use from a soccer field than an ice rink.

The Transportation and Circulation

Section/Chapter—can locate sidewalks and abandoned rail corridors that may have a potential to be linked into a municipal-wide, pedestrian trail network. Since many trail projects are created as part of highway construction, anticipated highway projects can be evaluated to determine if they might provide opportunities to establish community trails.

Chapter 3 - Demographics

TABLE 3-1
POPULATION CHANGE
West Pikeland Township (1950 - 1990)

YEAR	POPULATION	NUMBER INCREASE	PERCENT INCREASE
1950	683	-	-
1960	782	99	14.5%
1970	1,420	638	81.6%
1980	1,536	116	8.2%
1990	2,323	787	51.2%
1997*	2,750	427	18.4%

*1997 Estimate, Chester County Planning Commission *Planning Data Sheet #55*
Source: US Census Bureau

Population Estimates

An estimate is an assessment of population based on calculation of current or past times. The Chester County Planning Commission annually produces estimates for all Chester County communities. The methodology used to produce the estimates is based on analysis of birth rates, death rates, and migration patterns for individual municipalities as well as analysis of building permits and real estate data.

Between 1990 - 1997, the population of West Pikeland is estimated to have risen by 427 people. This represents an increase of 18.4% over this seven-year period. While this number is higher than the estimated County growth rate of 13.5%, it is the lowest among the surrounding municipalities. For example, nearby Uwchlan and Upper Uwchlan Townships had estimated increases of 23.9% and 44.9% respectively. While West Pikeland will continue to grow, it is likely that the rate of growth will moderate and the large spikes in population seen in the past are unlikely to reoccur. Table 3-2 compares the estimated population of the municipalities surrounding West Pikeland Township.

TABLE 3-2
POPULATION ESTIMATES
West Pikeland Township and Surrounding Municipalities (1991-1997)

TOWNSHIP	1990*	1991	1992	1993	1994	1995	1996	1997
WEST PIKELAND	2,323	2,400	2,480	2,590	2,620	2,640	2,660	2,750
Charlestown	2,754	2,780	2,800	2,840	2,880	2,930	3,120	3,270
East Pikeland	5,825	5,980	6,170	6,300	6,440	6,570	6,700	6,930
Upper Uwchlan	4,396	4,550	4,690	5,010	5,360	5,810	6,060	6,370
Uwchlan	12,999	13,490	13,950	14,450	14,880	15,260	15,640	16,100
West Vincent	2,262	2,280	2,320	2,390	2,440	2,500	2,600	2,710

*Actual US Census figures.
Source: US Census Bureau (1990); Chester County Planning Commission *Population Estimates* (1991-1997)

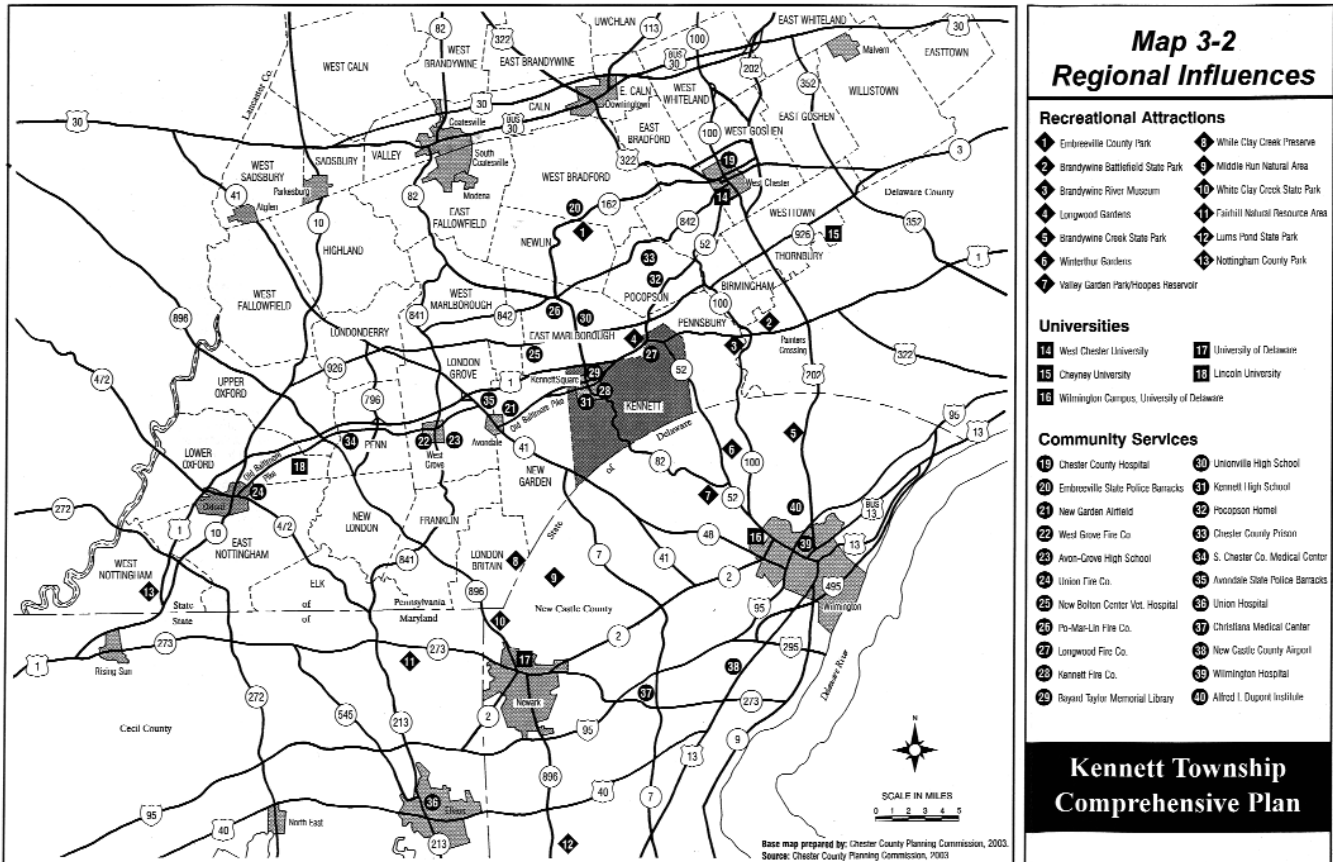
Page 3-2

Population evaluations like this are valuable to park and recreation planning.

Parks and trails in adjacent counties are detailed in Chapter 17 of *Linking Landscapes*.

The Land Use Element/Future Land Use Section/Chapter—can be used to identify future trails that might pass through utility corridors or the undeveloped lands within a homeowner association open space. It can also be used to locate low-density rural areas in need of agricultural protection, or high-density residential areas that could use a park or playground that was within walking distance.

The Regional Planning Section/Chapter—can be used to identify parks or trails outside the municipal boundaries that could be the destination for a municipal trail. It can also be used to identify opportunities for the municipal trail system that links into a larger municipal trail network.

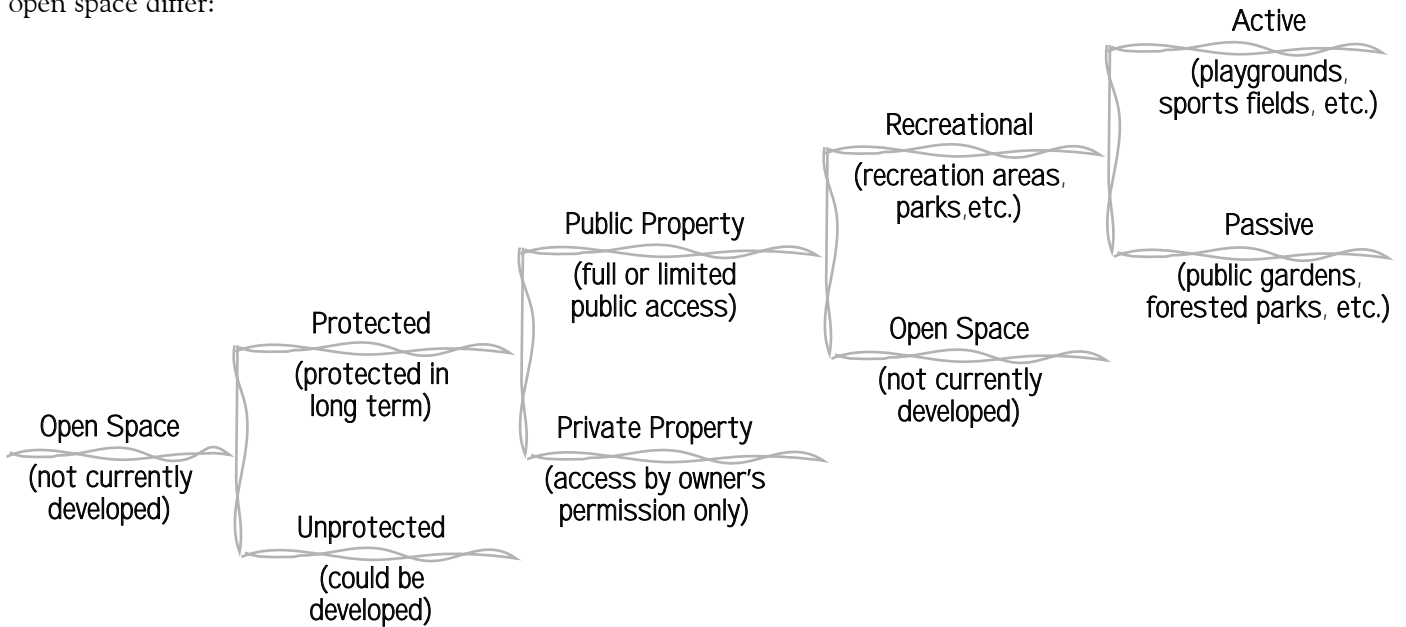


Maps showing regional influences are useful in recreation and transportation planning.

The Municipal Comprehensive Plan: Defining Open Space

As noted on page 14 of this guidebook, open space planning is a relatively new field and there is no one definition for open space, either in the planning profession or legal terminology. This situation is not uncommon. Terms such as **sprawl** and **development** do not have one specific definition either. Therefore local planners need to use their own best judgment, to clearly define the terminology regarding open space. These definitions should be included in comprehensive plans and all other ordinances.

Linking Landscapes includes the following chart to explain how the different kinds of open space differ:



Municipalities must be careful to document how their public parks and non-recreational open spaces are to be used. For example, some years ago a little league team began practicing early on Saturday mornings in a mowed meadow within a municipally owned open space. The nearby neighbors complained to local officials about the noise and cars parked along their residential street. The team manager responded that his team had the right to play on public land, while the neighbors said this land was not set aside for team sports. Fortunately the municipality had included text in their comprehensive plan that said this land was set aside for **passive** recreation, which does not include team sports. As a result, the team had to practice elsewhere.

A few months later, a similar situation arose in another municipality when a soccer team was practicing on a field set aside as open space, but this time the team was permitted to practice. In this case, the municipality had documented that the open space could be used for both passive and **active recreation**. Both of these examples present user conflicts, which are quite common on public land. In both instances, local planners had documented how public land was to be used, and did so in a document that was reviewed by the public at a public meeting. With many user conflicts one side wins and another loses. What is important is that the municipality can prove that their decision was based on sound planning that occurred before the conflict arose. Simply put, **define your terms** and **put it in writing**.

The glossary in *Linking Landscapes* defines the types of recreation as:

Passive Recreation—Recreation activities that are usually quiet and not rigorously athletic, and have a low impact on the surrounding environment. May include walking, hiking, fishing, bird watching, and quiet picnicking.

Active Recreation—Recreation activities that are usually rigorously athletic and not quiet, and have a noticeable impact on the surrounding environment. May include individual or team sports, child's play, large picnics, playground play, and recreational events with a high density of people.

In general, one person jogging, running, bicycling or riding on horseback can be regarded as passive recreation if it is done in a large facility like a multi-acre park. Group bicycling, group running or rigorous equestrian or bicycling that might damage trails should usually be regarded as active recreation.

Local planners should document how each existing or proposed municipality is to be used. Parks should be described as a passive recreation facility or an active recreation facility, or both if the park has multiple uses. Open space should be described as recreation or non-recreational. By including these definitions in a comprehensive plan, user conflicts can be reduced.

The Municipal Zoning Ordinance

Zoning is a tool that a municipality can use to regulate how land and structures are used. The purpose of zoning is to guide growth and development, and to protect public health, safety and welfare. Originally zoning was used mostly as a negative or restrictive tool that prevented landowners from using their property in a way that was harmful to their neighbors. However, courts now recognize that zoning can be a positive planning tool that encourages certain types of development that can improve the economy, ecology or quality of life within a municipality. It is this positive aspect of zoning that can be used for open space planning.

The comprehensive plan is a tool used to gather information on a municipality, and to set policies based on this information. The function of the zoning ordinance is to implement these policies by establishing criteria that landowners must follow when developing or managing their property. The subdivision and land development ordinance (SLDO) establishes a process for review, and establishes standards for public improvements, such as trails and roads. Thus, zoning deals with what kind of land use is permitted on a property, while the SLDO deals with the way the property is designed. Building codes provide additional rules for hard landscaping and construction.

A zoning ordinance is composed of two parts, namely the map and the text. The zoning map depicts the locations of specific zoning districts, or **districts**, each of which is to be used for a somewhat different land use, such as residential or commercial. The text of the zoning ordinance describes the land use permitted within each district. It also details features permitted with a district, such as building height, minimum lot size, or maximum impervious or building coverage. Zoning contains a certain level of flexibility and municipalities can grant a **variance** under certain circumstances. A variance permits a landowner to proceed with a project even though it may not meet one or more of the technical requirements of the ordinance.

The zoning ordinance can be a valuable tool for municipal open space planning. PA Act 247, the Municipalities Planning Code (MPC) designates the zoning ordinance as a tool for regulating land uses, including protected open space and recreational facilities. The MPC also notes that the zoning ordinance should include a statement of community objectives, which is the overall municipal land use philosophy. Protecting open space is a valid community objective, and it is appropriate to address it in municipal zoning.

NORTH COVENTRY TOWNSHIP

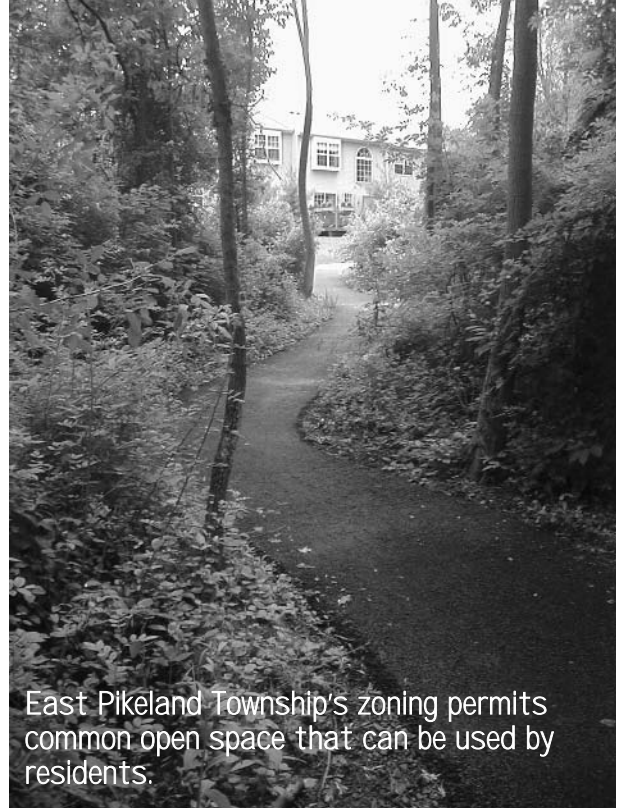
Chester County,
Pennsylvania



2003
**ZONING
ORDINANCE**

Municipal zoning should address open space.

There is no one technique or checklist that can be used to address open space and recreation in municipal zoning. The list on page 26 presents some of the more commonly used zoning techniques that deal with open space protection, natural resources, cultural resources and recreation including trails. Many of these techniques require amending the text in both the zoning ordinance and the SLDO. Mentioning these techniques in the municipal comprehensive plan is a good idea, as a way to ensure that the municipality at least considers including them when updating their zoning ordinance and SLDO. Presenting these techniques in the comprehensive plan also provides the policy support for including them in zoning, an important consideration if the zoning is challenged in court.

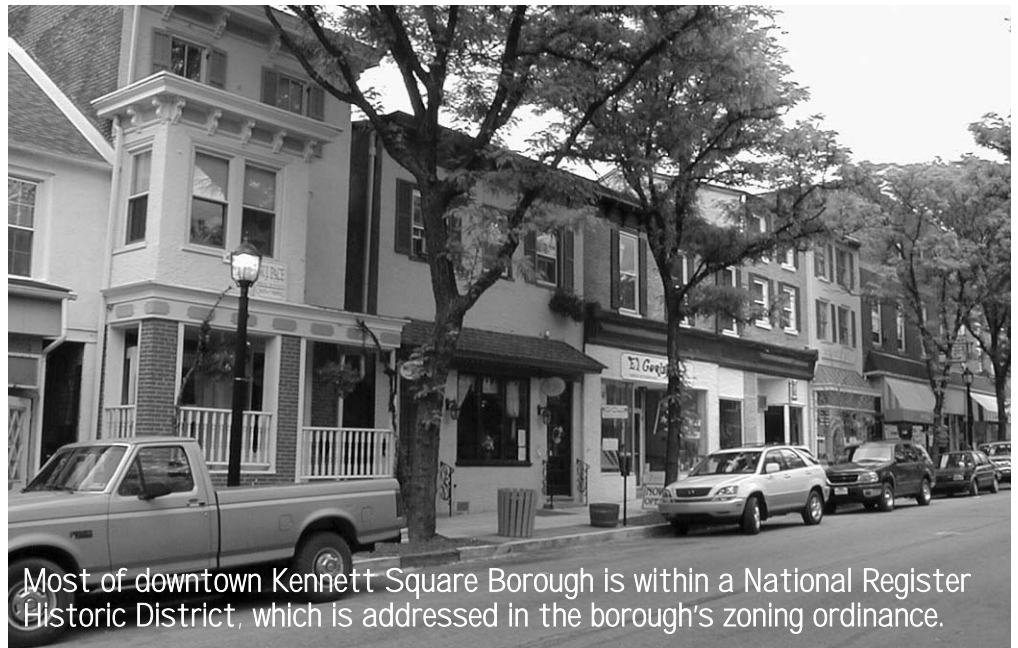


East Pikeland Township's zoning permits common open space that can be used by residents.

Some Zoning Techniques for Open Space Planning

The table on the following page lists some of the zoning techniques commonly used for open space planning. In general the techniques presented on this table deal with the layout and design of structures and other constructed features within a development. Those techniques that may require supplemental requirements or provisions in the subdivision and land development ordinance are noted with an asterisk.

Some municipalities also include an Act 167 Local Historic District in their zoning ordinance. PA Act 167 is the Local Historic District Ordinance Act, and it enables a municipality to create an ordinance that will protect structures within a municipally designated historic district. Act 167 requires that this district meet the criteria needed in order for it to be eligible for inclusion into the National Register of Historic Places. Under Act 167, municipalities may create a Historic Architectural Review Board (HARB) and regulate other activities within a historic district. Technically speaking, an Act 167 ordinance should be a separate document from zoning. However, out of convenience, municipalities commonly adopt Act 167 regulations along with their zoning.



Most of downtown Kennett Square Borough is within a National Register Historic District, which is addressed in the borough's zoning ordinance.

Open Space Zoning Techniques

Technique	Description
Act 167 Historic District	Permits parcels within a historic overlay zone to be regulated in terms of building facades, exterior building materials, exterior architectural detailing and building mass.
Conservation Subdivision Design*	Requires consideration and preservation of natural and cultural resources as part of design process of a development.
Effective Agricultural Zoning	Permits subdivision to be limited to densities of one unit for at least 10 to 25 acres in agricultural zoning districts. This restriction favors agriculture since there is a limited market for residential or commercial units with such low densities.
Historic Overlay Zoning	Permits area, bulk and incentive use regulations, and demolition regulations in regards to historic structures.
Lot Averaging	Permits subdivision designers to create lots that average the minimum allowable lot size in the applicable zoning district, rather than strictly adhering to the minimum lot size on every lot created. This technique can reduce the fragmentation of natural features and farmland soils, allowing these resources to be managed as a whole on one property.
Open Space/Cluster Development*	Permits residential units to be grouped together, usually on less than half of the property, leaving the majority of it permanently protected as open space.
Performance Zoning	Permits development on a given site to be limited to only those land uses that will not unduly impact natural features, or other constraints such as traffic capacity. It requires that performance zoning criteria be adopted to establish the development carrying capacity of a site.
Rural Center Zoning	Permits new development to be concentrated in villages within rural communities, while limiting the surrounding areas to farms and other open land uses.
Scenic River Overlay Districts*	Regulates developments so that they are visually consistent with a scenic river and its surrounding buffer.
Scenic Road Overlay District*	Permits parcels within a scenic overlay district zone to be regulated in terms of setbacks, design guidelines, signage, and buffers.
Transfer of Development Rights	Permits a landowner with an undeveloped parcel to transfer his or her development rights to another parcel, in which the land will be developed at a somewhat higher density than would otherwise be permitted. This permits rural landowners in a designated sending zone to retain their open space while selling their development rights to a developer building on a parcel in a receiving zone .
Village Protection Program	Permits development restriction within traditional villages, which can serve as trailheads and local tourist destinations, as a way to ensure that new development is consistent with the character of the existing village.

* Note: Techniques that may require supplemental requirements or provisions in the subdivision and land development ordinance are noted with an asterisk.

Zoning Techniques for Natural Resource Protection

The table below lists zoning techniques that relate to the natural features found within a proposed development. The **net-out of natural features**, is a useful tool for calculating density in a way that will be more sensitive to the natural features that commonly occur on a site proposed for development. However, this technique does not by itself provide protection for natural features. Therefore, specific resource protection and management standards, such as those presented below, should also be included in municipal zoning ordinances.

Natural Resource Zoning Techniques

Technique	Description
Floodplain Management	Limits or prohibits development on floodplains.
Net-out of Natural Resources*	Permits naturally sensitive resources, such as steep slopes, floodplains and wetlands, to be subtracted from a property before the density is calculated. Under Net-out, a 100-acre parcel with one acre zoning that is 20 percent wetlands would result in 80 permitted units. Net-out can also be applied to individual lots, in which case the area covered by sensitive features cannot be included when measuring the required minimum lot size.
Riparian Buffers*	Limits development within a buffer, usually ranging from 15 to 100 feet on either side of a waterway.
Slope Management*	Limits developments on steep slopes.
Tree Protection*	Limits the encroachment of construction activity within at least 15 feet of the drip line of trees that are to remain on the site after construction. The drip line is the area directly beneath the tree canopy.
Woodland/Vegetation Protection	Limits the disturbance of specimen trees, hedgerows or woodlands as defined in the zoning ordinance.
Wellhead Protection*	Manages land uses within a buffer surrounding a public well to protect ground water quality.
Wetlands Protection*	Prohibits the disturbance of wetlands delineated in the field, and establishes a non-disturbance buffer around the perimeter of the wetland.

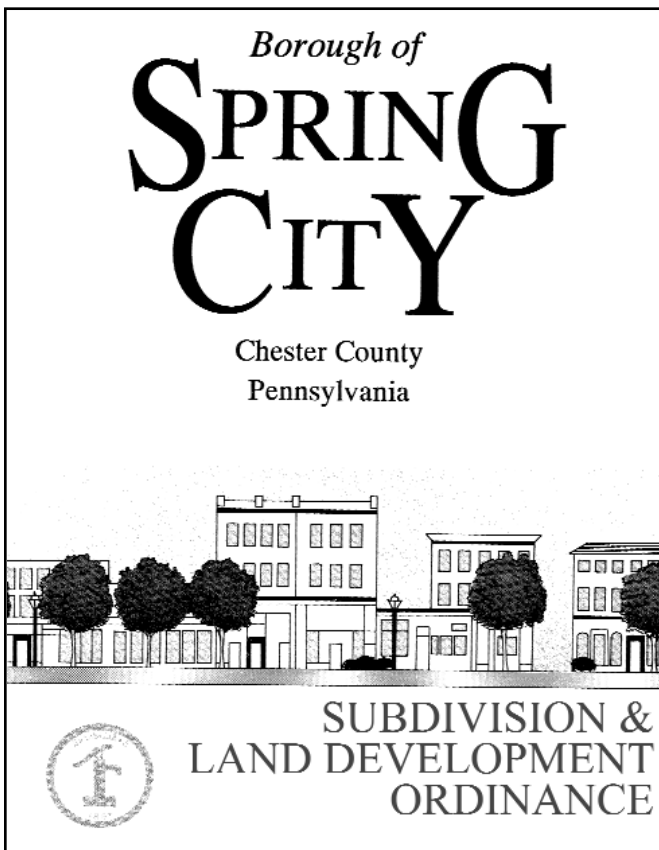
* Note: Techniques that may require supplemental requirements or provisions in the subdivision and land development ordinance are noted with an asterisk.

The Subdivision and Land Development Ordinance

The MPC authorizes each municipality to adopt a subdivision and land development ordinance, commonly referred to as the “Subdivision Ordinance” and abbreviated as SLDO. While zoning determines the type of land use permitted on a property, the SLDO regulates the subdivision and development of land. The MPC provides detailed definitions of **subdivision** and **development**. In general, subdivision is the division of a parcel into two or more parcels, or changing the location of a parcel boundary. Development includes activities that may involve the construction of buildings, roads, utility structures, park facilities and other activities. Technically speaking, a municipal park is a form of development.

The SLDO includes submission and processing requirements that developers must follow when submitting plans to the municipality for review. It also includes design standards and specifications.

The SLDO can include a number of techniques used for open space planning, some of which are presented in the table on page 29. Most of these techniques deal with encouraging homebuilders to set aside open space or natural features as part of the land development process. These activities are usually paid for by the homebuilder, but they add amenities to the development, that homebuilders use as a marketing tool. The SLDO should also require that development site plans include mapping of protected natural resources addressed in the zoning ordinance and SLDO.



The SLDO can include open space planning provisions.

Another commonly used open space protection technique is **fee-in-lieu of**, in which a homebuilder pays a fee to a municipality instead of creating open space within a development. The municipality then uses that money to create a park or open space at another location. Municipalities with fee-in-lieu provisions should review these provisions every few years and compare them with other municipalities in the County. Often municipalities find that their fee-in-lieu provisions are outdated and are only gathering a fraction of the money that their neighboring municipalities require. In general, homebuilders are willing to pay a reasonable market-based fee if it will help them receive a timely municipal approval. Some commonly used SLDO techniques for open space planning are shown in the table below.

Open Space SDLO Techniques

Technique	Description
Historic Preservation Design Guidelines	Used by a municipal historic architectural review board or historical commission to determine the appropriateness of physical changes within a historic district.
Locating Individual Sewage Systems in Open Space	Permits individual sewage systems to be extended in the common open space of a development thus promoting the establishment of open spaces in new developments. (See CCPC Planning Bulletin #54.)
Parkland Mandatory Dedication/Fee-in-lieu	Permits municipalities to require developers to dedicate public open space within proposed developments, or to provide a monetary fee in-lieu of land, or a combination of land and fee.
Pedestrian and Bicycle Facilities Design	Presents criteria to be used in constructing various types of pedestrian and bicycle paths or trails, and may include additional uses such as in-line skating and horseback riding.
Stormwater Management Best Management Practices (BMPs)	Permits BMPs that promote ground infiltration of surface water rather than run off. BMPs may include level spreaders, infiltration basins, wet ponds, grass swales and undisturbed open areas that protect natural infiltration.
Tree Replacement Standards	Requires the replacement of trees when more than a specified area of woodlands is removed.

The Official Map: Uses and Limitations

The Official Map is one of the most under used tools available to municipalities for planning open space and recreational facilities, especially public trails and wildlife corridors. The MPC grants municipalities the authority to create an Official Map in order to identify both private and public lands for which the public has a current or future need. The original intention of Official Map was to legally establish the location of existing and proposed streets, waterways, parks and other public lands and facilities. The table below gives a breakdown of what the Official Map can and cannot be used for.

Uses of the Official Map

What an Official Map is used for	What an Official Map is NOT used for
<ul style="list-style-type: none"> • It is a way to notify developers and landowners of long-term municipal goals for parks, roads and other public facilities. • It is a tool for implementing the municipal comprehensive plan and other planning goals. • It is a mechanism for protecting a wide range of features. • It can be used to reserve land for future facilities without immediate purchase. • It can be linked to municipal land use ordinances. Zoning and subdivision ordinances can include regulations that refer to the Official Map, such as the set back of buildings. 	<ul style="list-style-type: none"> • It is not a zoning map. • It is not a surveyed map, but must clearly present the location of features. • It does not have to cover the entire municipality. • It is not a taking of land. If a municipality wishes to acquire sites indicated on the Official Map, it must do so using normal purchase, condemnation or other types of legal acquisition.

The Official Map has proven to be a powerful tool in some Chester County municipalities, but it is still not common and many elected official and residents are unfamiliar with its uses. Municipal officials should therefore be careful to educate their constituents about the Official Map to ensure that it is not mistaken as a precursor for condemnation. In general terms, the Official Map lets the municipality have the right of first refusal to acquire the parcel or an easement, such as trail right-of-way. This right of first refusal will last for a period of one year, after which the landowner can sell the property just like any other.

Municipalities should coordinate with landowners that own a property being considered for inclusion on an Official Map. Local planners should be especially sensitive to landowners concerns when designating a potential trail corridor that crosses on or near private property. However, when the property owner is brought into the process, the Official Map can provide landowners with a tool that they can use to manage their overall financial estate or retirement plan.

Municipalities that have adopted an Official Map include:

- Birmingham Township (2002)
- Charlestown Township (2003)
- East Bradford Township (2002)
- East Clan Township (1993)
- Kennett Township (2001)
- London Britain Township (1998)
- Thornbury Township (2000)
- Uwchlan Township (2001)
- West Bradford Township (2003)
- West Whiteland Township (2000)
- Willistown Township (2002)



The East Bradford Township Official Map addresses public trails.

The Official Map: Opportunities and Benefits

In terms of open space planning, the Official Map gives the municipality a tool to identify properties for future parks and trails. It can also be used to preserve clusters of protected open space and a municipal-wide network of trails. This network approach helps local planners avoid situations where an open space parcel is protected in perpetuity, but then becomes surrounded by development and so cannot function in the way it was intended.

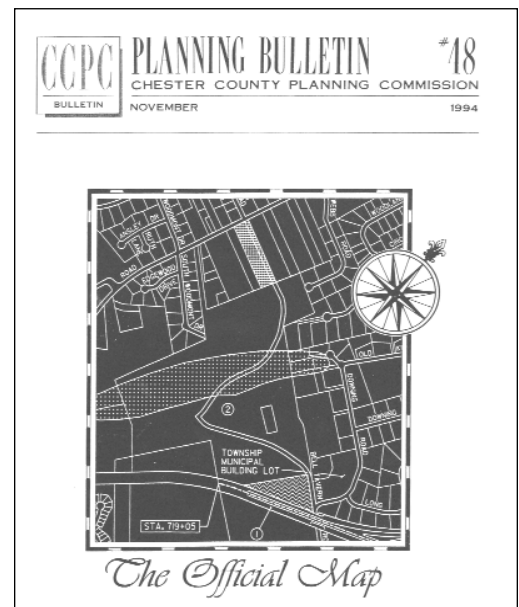
The Official Map should include only properties or easements that local planners and elected officials can realistically expect to acquire. If the municipality does not have the financial or organizational capacity to acquire a property or a right-of-way, it should not be presented on an Official Map. Local planners should use the comprehensive plan, and not the Official Map, to identify parcels that are well suited to be protected by a land trust or an agricultural conservation easement. The Official Map has these key benefits:

Reserving Park Lands—A municipality can use their Official Map to reserve private lands for future public facilities. For example, a municipality may wish to map an undeveloped field next to an existing park as a possible area for park expansion. By including this parcel on the Official Map, the municipality is not committing to acquire the parcel. However, if the parcel's owner submits a planned development or subdivision, the municipality or another public entity has one year in which to acquire the property or begin condemnation proceedings.

Public Trail Designation—Both existing and proposed right-of-way for pedestrian, bicycle and equestrian trails can be included on an Official Map. This can be an effective tool for creating municipal partnerships with homebuilders. It has been used in Chester County as a way to establish municipal trails as part of newly constructed developments.

Unique Natural Areas—Unique natural areas, like serpentine barrens or large wetland complexes can also be delineated on the Official Map. However, these features should only be included if there is a reasonable expectation that the municipality or another public entity will acquire them. An example might be a forested area next to a state or municipal park.

The Official
Map is
detailed in
Chester
County
Planning
Commission
*Planning
Bulletin #48.*



This bulletin provided an introduction to the Official Map.

Historic and Cultural Features—Historic structures or cultural features, such as Revolutionary War battlefields or significant streetscapes can also be delineated on the Official Map. Just like natural areas, these features should only be included if there is a reasonable expectation that the municipality or another public entity will acquire them. An example might be a one-room schoolhouse that is well suited for restoration as a community center.

Floodplains, Water Features and Ridgelines—Floodplains, water features and steep slopes along ridgelines can be identified on an Official Map for future possible acquisition. Some municipalities acquire these lands through developer donations and have worked to create a municipal-wide greenway network following the corridors presented on an Official Map.

Greenways—Wildlife corridors or linear woodland areas can be identified on an Official Map for future possible acquisition. Some municipalities acquire these lands through developer donations and have worked to create a municipal-wide greenway network following the corridors presented on an Official Map.

Increasing Public Involvement—The Official Map gives local residents a better understanding of where public facilities, like parks and trails, are most likely to be constructed.



Land Use and Planning Studies

A study is a document a municipality uses to evaluate a specific land use issue that can then be included in a comprehensive plan. A study is not adopted, and so permits local planners to evaluate an issue that may be inappropriate to include as an official element of the comprehensive plan. Pioneering open space planning techniques that warrant consideration but have not been extensively tested in the courts, would be well suited for such studies. Land use studies can also determine deficiencies or inconsistencies in zoning or other ordinances. Commonly used land use and planning studies that can assist in open space planning include:

Park Feasibility Studies—in which viable locations for municipal parks are identified along with the possible recreation facilities that would suit the land and meet community needs. Such a study might provide the justification for listing a property on an Official Map.

Inventorying Undeveloped Land—in which all undeveloped parcels are mapped in order to identify clusters or open space suitable for protection. It is important to be aware that such a study can also provide land speculators with a guide to undeveloped land that they can target for development.

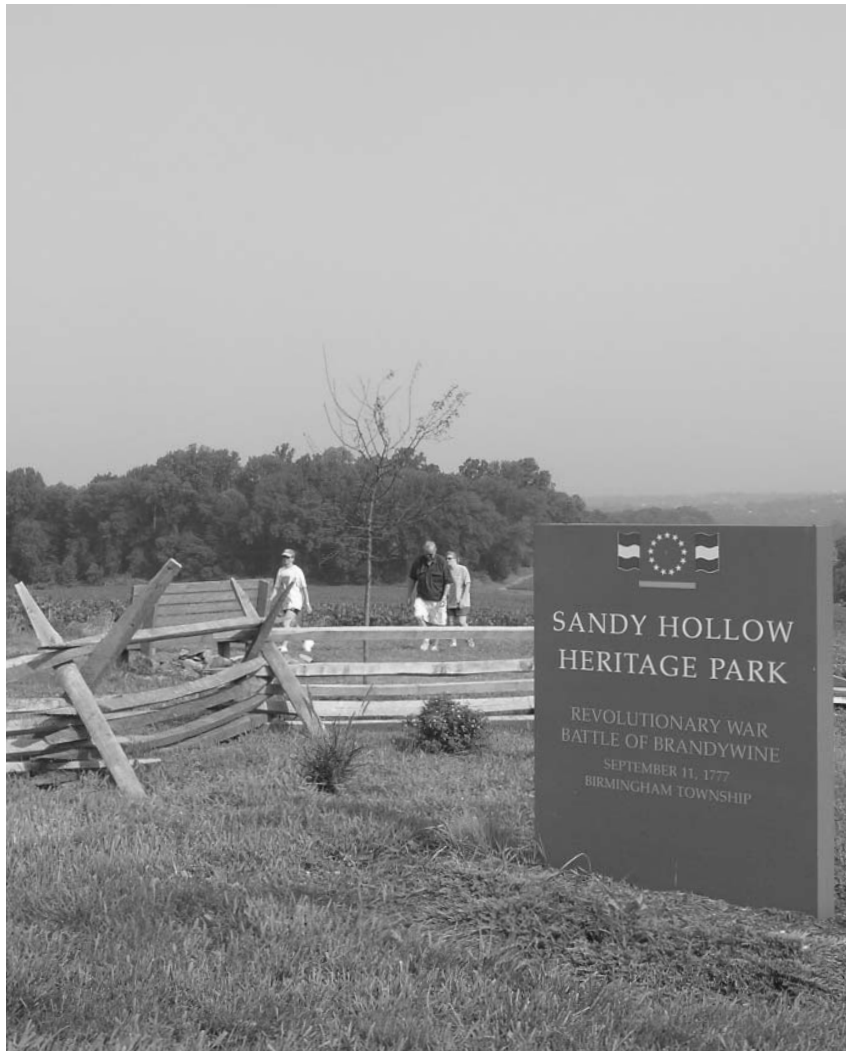
Evaluating Large Parcels—in which parcels measuring over 10, 20 or 50 acres are identified. In general, it is easier to protect large parcels as open space either through an agricultural conservation easement or a land trust easement. It is prudent to coordinate with the owners of such parcels when conducting such a study.

Identifying Redevelopment Zones—in which brown fields, traditional downtowns or underutilized commercial areas are identified and evaluated for redevelopment. Such studies often require educating the public about how brownfields are not always dangerous hazardous waste sites, and how they can be re-used.

Establishing Trail Corridors—in which existing trails, sidewalks, destination points, low volume roadways and on-road bicycle routes are mapped to identify links and their network potential. Extensive public input in the early phases of trail studies is essential.

Boating and Navigable Stream Access—in which streams and water bodies are evaluated for their recreational use, and existing and potential boat launches and swimming area are identified. Chester County's municipalities contain many boating resources that are greatly under utilized.

Chapter 3



Resources Evaluated in Municipal Plans

Planning for “Protected” Open Space

As noted on page 14, the term **open space** has no one definition. In general, open space is any land that does not have something built on it, and so can include farm fields or the lawn around houses or within industrial parks. It is impractical to attempt to conduct municipal planning for all open spaces within a parcel, because it would require mapping that would be too detailed to be practical. Local planners should therefore focus not simply on open space, but rather on **protected** open space.

Linking Landscapes defines protected open space as, “**Land and water areas that have little or no development; are used for recreation or preserving cultural or natural resources, including productive agricultural soils; and are protected either permanently or on a long term basis.**” Because this definition requires permanent protection, only the following land uses should be mapped as protected open space in a municipal comprehensive plan:

- Parcels owned by non-profit land trusts, such as the Nature Conservancy
- Parcels owned by private landowners but eased by non-profit land trusts
- National parks and historic sites, such as Valley Forge National Historic Site
- State parks, such as Marsh Creek State Park
- Managed lands, such as state forests or parcels owned by the County Water Resources Authority
- County parks and trails
- Municipal recreation areas, including parks, sports fields and playgrounds
- Municipally-owned open space, including undeveloped areas that are not used for recreation, like floodplains
- Parcels with agricultural conservation easements
- County funded spray and drip irrigation fields
- Homeowners association open space (if located on its own parcel)

Most unprotected parcels are farm fields or meadows located in rural, natural resource or low-density zoning districts. The comprehensive plan should also identify which unprotected parcels are suitable for protection. In urban settings, open lots that can be used for small parks or public trail corridors should be identified.

Unprotected parcels that would link together two or more existing protected open space parcels, should be designated as having the highest priority for protection.

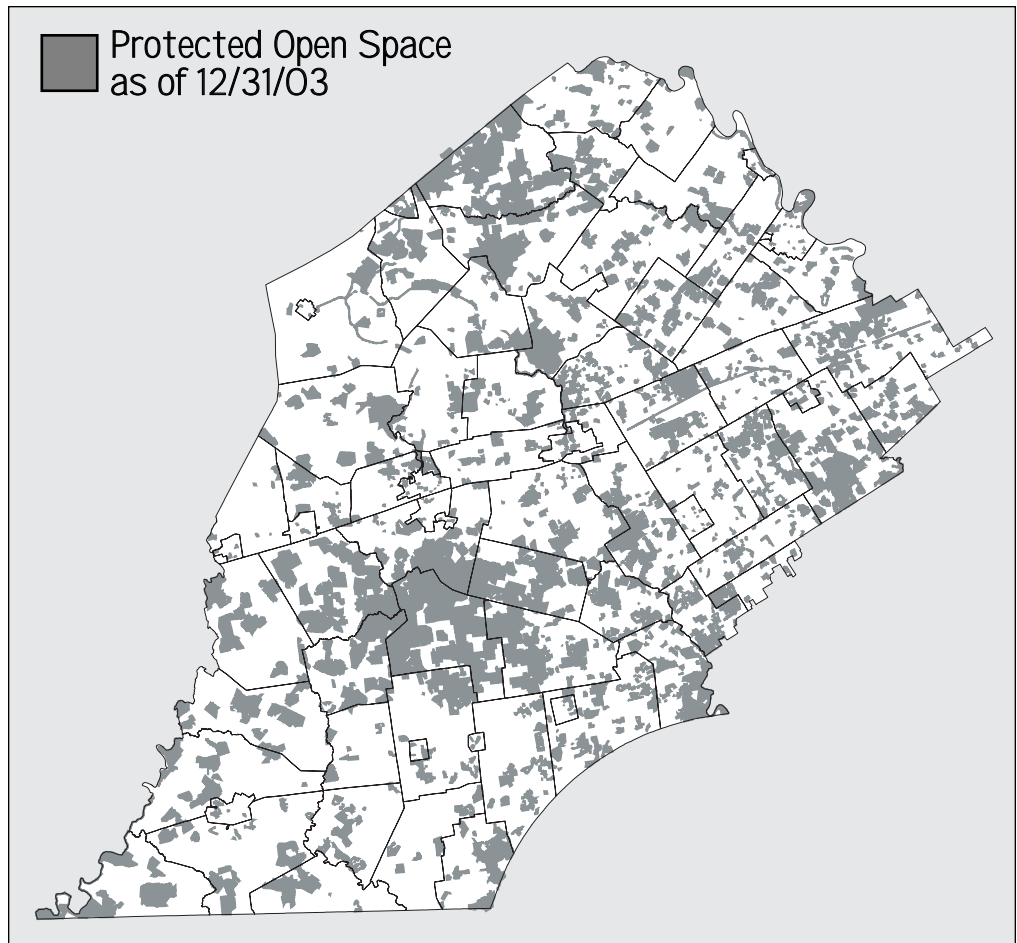
A comprehensive plan should also include mapping of all types of **unprotected** open space parcels, such as public schools and golf courses, which can be sold and developed. Unprotected open space also includes parcels on which development is limited due to zoning. These parcels are not permanently protected, because zoning is not permanent and can be changed. Parcels in an effective agricultural zoning district are not permanently protected. Parcels within an Agricultural Security Area are also not protected.

Other issues relating to protecting open parcels include:

Protection—Will the parcel be protected through in-fee acquisition or an easement? What will be the cost of protecting it, and who will bear it? What sort of staff time will be required? Will the parcel be protected by the municipality, or a land trust, or by the Chester County Agricultural Land Preservation Board?

Management—Once the parcel is protected, how will it be managed in perpetuity? What will be the land management costs, and who will bear them? What sort of staff time will be required to protect and manage the land? Will the parcel be managed by the landowner, the municipality, or by a land trust?

Just over 80,000 acres of Chester County was protected open space as of 12/31/03.



Note: This map includes homeowner association open spaces and eased farm fields. These properties are privately owned and should only be accessed after getting permission from the landowner.

The Four-Step Open Space Resource Evaluation Technique

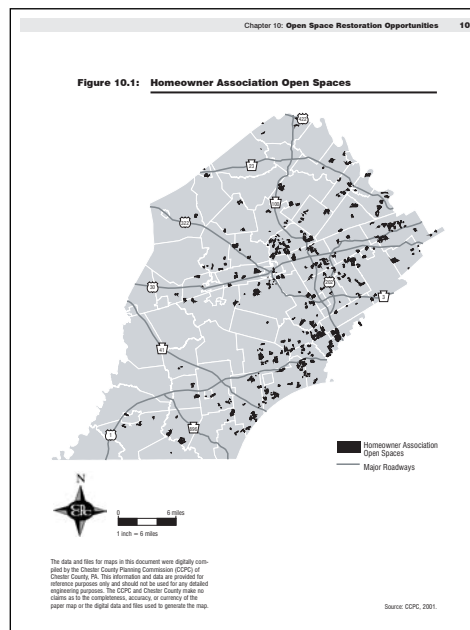
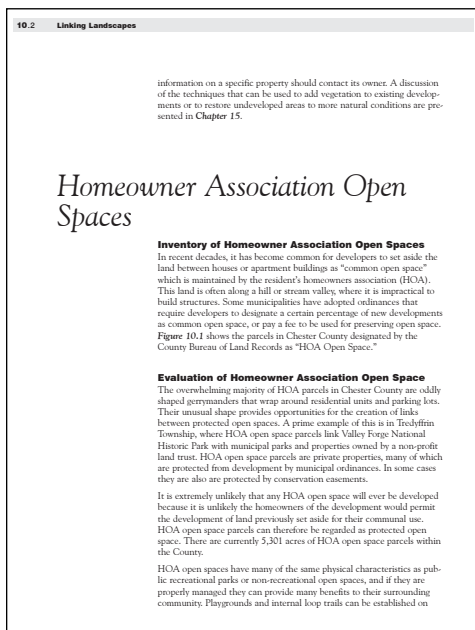
In municipal open space planning, it is important to understand the physical environment including natural, cultural and recreational resources. These resources can be analyzed using a four-step technique based on the more complicated multi-step technique commonly used in federal Environmental Impact Statements (EIS). The purpose of the four-step technique is to give open space planners a better understanding of the physical environment within a municipality.

The four-step technique presents an overview of all the physical resources available in a community, and then presents recommendations or action items that can be implemented to protect or restore those resources in such a way that is consistent with the community goals and objectives. This four-step technique does not replace the development of goals and objectives (see page 72). Goals and objectives are used to determine the concerns and needs of a community.

The four-step technique is as follows:

1. **Inventory**—In this step, information on the resource is gathered and presented, as a map, a table or a list. An example might be a map of historic structures along with a list of each building on the map and a brief description. The inventory presents descriptive data, but without additional commentary. This inventory can also be text, such as paragraphs describing the characteristics of geologic formations or the age and condition of municipal sports fields.

Linking Landscapes employs a four-step evaluation technique.



These pages from *Linking Landscapes* demonstrate how the four-step technique has been used at the County level.

2. **Evaluation/Vision**—In this step each resource listed in the inventory is evaluated to determine existing conditions, and how the resource has been used, protected or neglected in the past. An evaluation can also include a “vision” of how the resource could be better maintained or used. An alternatives analysis might also be included in the evaluation, but such in-depth analysis is usually not needed for most resources. For projects such as a multi-municipal trail corridor, this analysis can be useful.

The evaluation can refer to municipal goals and objectives. For example, a municipal objective may call for the preservation of forests. If an inventory finds that there is only one mature woodland remaining, the forestry objective can be used to justify a specific vision for that last remaining woodland.

3. **Recommendations/Actions**—In this step, the evaluation/vision is used to generate a list of activities that could realistically be implemented. In general, recommendations are broader, long-term activities, while actions are more of a checklist of specific activities to be completed in the short term. Sometimes it is impractical to include actions, especially when funding or staffing issues are uncertain, but they can be valuable in some situations. Recommendations and actions should also reflect the planning goals and objectives.

Always keep in mind that goals and objectives describe what a municipality would **like** to do. Recommendations and actions describe what a municipality **intends** to do.

4. **Prioritization**—In this step the recommendations/actions are ranked according to which ones the municipality wants to implement or address first, and which have a longer-term priority. Recommendations can be ranked in any number of ways.

Linking Landscapes ranked its action items as:

- Urgent—meaning the action should be addressed in the short term (1 to 2 years)
- Recommended—meaning the action should be addresses in the long term (1 to 10 years)
- Ongoing—meaning the action is currently being addressed and should be continued.

Natural Resources Planning

Most municipalities in Chester County have a comprehensive plan that includes a chapter or section dealing with natural resources. local mapping of a wide range of natural resource features is now readily available in Geographical Information System (GIS) format, and most planning and engineering consultants are familiar with this technology. Natural resource planning usually deals with the following features:

- Geology and ground water
- Soils
- Steep slopes
- Surface water resources
- Vegetation, wildlife habitat and natural areas
- Threatened and Endangered Species
- Unique natural areas
- Natural resource management
- Natural resource funding, staffing and programming
- Tools for implementing natural resource planning
- Wellhead protection areas (The land around a well is a natural resource.)

There is currently so much information available on natural resources that local planners can become overwhelmed. Twenty years ago, all of the natural resources in a municipality could be presented on one map. Now there are so many natural resource GIS layers available to local planners, that if they are all put on one map, every inch of the municipality may be covered. Such maps may be accurate and detailed, but they are simply too busy and complicated to be useful. Rather than one composite map, it is best for comprehensive plans to include at least the following five separate natural resource maps:

- Geology and ground water inventory
- Steep slopes inventory
- Soils inventory
- Surface water resources inventory
- Vegetation, wildlife, and natural areas inventory

In 2002, the Chester County Commissioners adopted *Watersheds* as the water resources management element of the Chester County comprehensive plan. Local planners should review this document because it contains a wealth of background information and maps about natural resources within Chester County, along with guidance regarding water resource planning at the municipal level. The Chester County Planning Commission (CCPC) also reviews all adopted municipal plans to determine if they are consistent with *Watersheds*.

Some of the tools municipalities can use to address natural resource planning are:

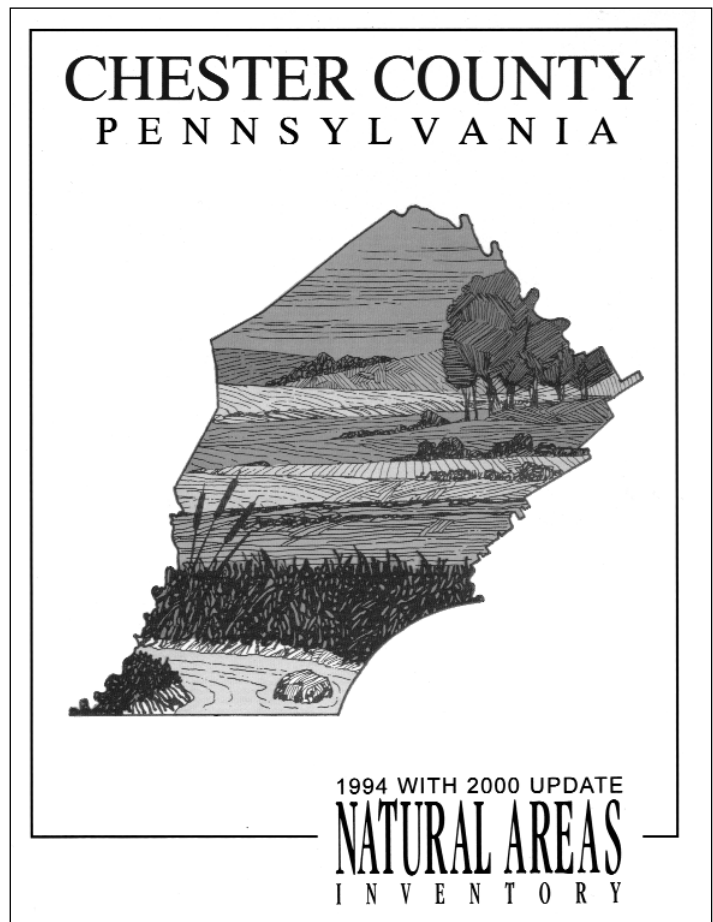
Zoning Techniques (see page 27)

- Floodplain protection
- Net-out of natural resources
- Performance zoning
- Slope protection
- Riparian buffers
- Wetlands protection
- Woodlands protection

SLDO Techniques (see page 29)

- Slope management
- Soil erosion/management
- Stormwater management best management practices
- Vegetation management/replacement
- Wetlands management

Unique habitats are mapped in the *Chester County Natural Areas Inventory 1994 with 2000 update*.



Each municipality should have a copy of this inventory.

Naturally Sensitive Areas

Certain natural features can be easily degraded or destroyed when impacted by construction activities. Wetlands for example, can be unintentionally filled by improper soil grading that permits silt to flow into low-lying areas during rain storms. Because wetlands serve a valuable ecological and economic function of maintaining streambank and water quality, there are a number of state and federal laws that protect them. Many municipalities have also adopted ordinances that protect or minimize impacts to wetlands along with other natural features that are especially sensitive to development.

In 2002, Geographic Information System (GIS) mapping presented in *Linking Landscapes* was used to determine that roughly 17 percent of Chester County was covered by **naturally sensitive areas** which consisted of the following five features:

- Lake, ponds and streams
- 100-Year floodplains
- Wetlands
- Hydric soils
- Steep slopes over 25 percent grade

Linking Landscapes also included the recommendation that all of these naturally sensitive areas within the County should be protected through municipal ordinances. Municipal ordinances are the best available option for this protection because these sensitive resources tend to be long linear features that pass over multiple properties and municipalities. Land trusts and other easement programs usually protect resources on just one property. They rarely have an opportunity to protect an entire feature, such as a floodplain that winds through many properties.

Over the years, almost all of Chester County's municipalities have adopted some sort of an ordinance that protects naturally sensitive areas. However, only a few municipalities have taken a more comprehensive approach that evaluated all the available resources as an interacting natural infrastructure. The following municipalities have adopted zoning that comprehensively protects naturally sensitive areas:

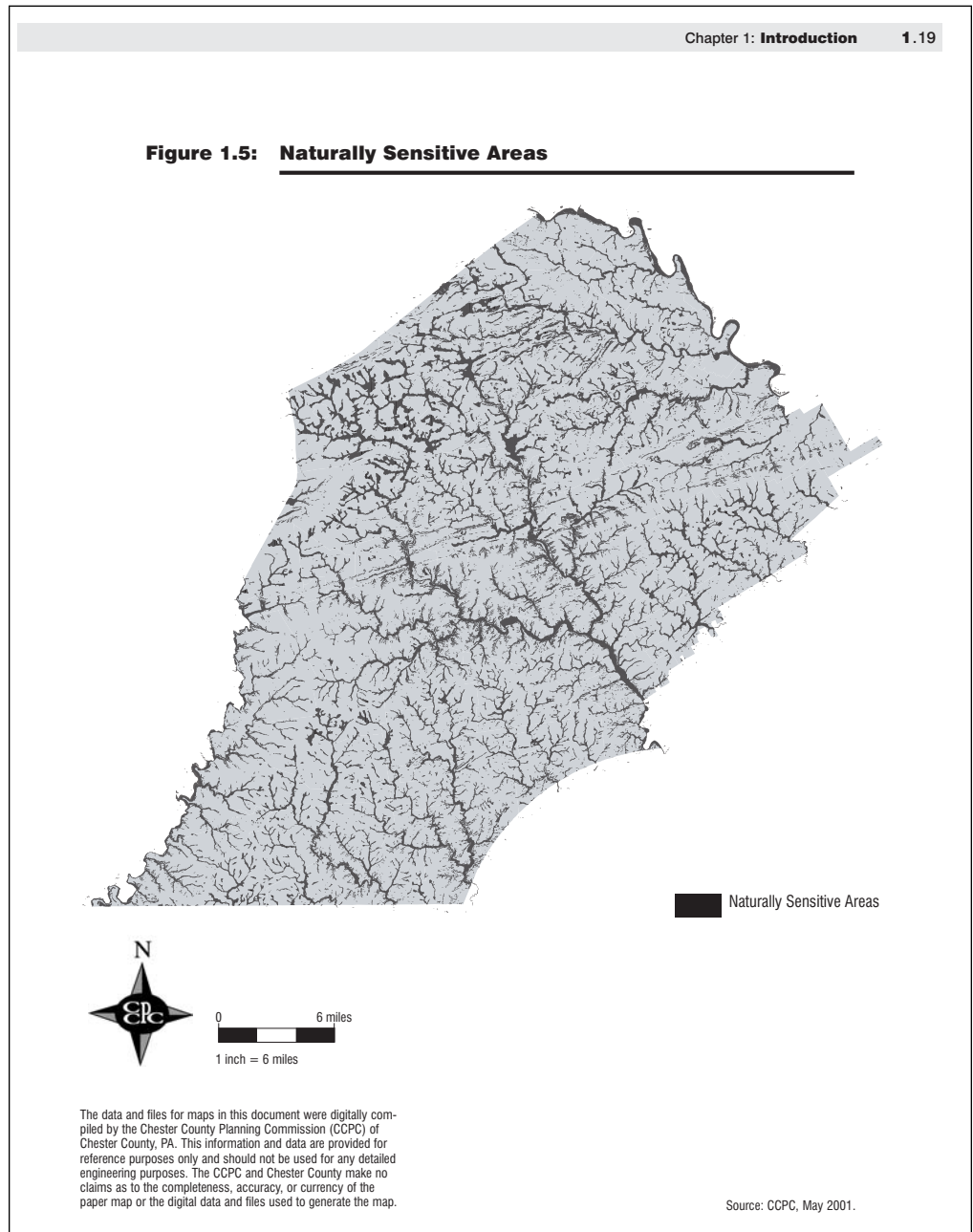
- East Fallowfield Township
- Franklin Township
- Kennett Township
- North Coventry Township
- Wallace Township
- Willistown Township

Municipalities reap financial benefits from limiting development on naturally sensitive areas. Properly functioning wetlands and floodplains reduce erosion, which can damage public infrastructure such as roads and bridge abutments. Wetlands and floodplains slow runoff and improve ground water recharge and quality, making pri-

vate wells more viable, and reducing the need for a publicly funded water treatment. They also reduce flooding, which in some Chester County communities causes significant problems that municipal officials must address. And because most sensitive features are too steep or too wet to build on, protecting them does not reduce the overall development potential of a parcel.

Some municipalities may also wish to protect documented habitats of threatened and endangered species using ordinances. The location of these habitats and the description of the species of concern should only be presented in general terms, in order to discourage illegal collecting or **poaching**.

Naturally sensitive areas were mapped countywide on Figure 1.5 of *Linking Landscapes*.



Naturally sensitive areas cross municipal borders.

Natural Resources Protection Standards

Through working with municipalities over the past decades, the CCPC has developed the following listing of recommended natural resource protection standards. This listing should be regarded as a practical minimum, which can be exceeded if local planners see fit to do so.

Protection Standards for Natural Resources

Protected Resource	Disturbance Limitations (Maximum Disturbance Allowed)	Suggested Location of Provisions	Other Protected Provisions to Include
Land Resources			
Steep Slopes <ul style="list-style-type: none"> • 15% to 25% • 25% and up 	30% 0 to 15%	Zoning	Standards to minimize disturbance, grading, erosion and to define method for measuring. Certain activities/uses prohibited on 25% or greater slopes
Woodlands, Hedgerows, Specimen Vegetation, & Pennsylvania Natural Diversity Index (PNDI) <ul style="list-style-type: none"> • Residential • Non-Residential (disturbance limitations apply to woodlands and hedgerows) 	35% 50%	Zoning and SLDO (tree replacement standards in SLDO)	Exceptions for forestry or timber harvesting, per MPC; Timber harvesting plan required. Protection standards (from construction activities) for trees to remain on site. Include hedgerows in protected vegetation. Specimen trees and PNDI sites cannot be disturbed unless no feasible alternative. Tree replacement requirements if more than specified area or number of trees are removed. Optional: Tree removal permit.

Protection Standards for Natural Resources (continued)

Protected Resource	Disturbance Limitations (Maximum Disturbance Allowed)	Suggested Location of Provisions	Other Protected Provisions to Include
Water Resources			
Wetlands	0%	Zoning	Specific identification and delineation standards for wetlands. Require state and federal permits.
Wetland Margins	20%	Zoning	Provisions for determining width of wetland margin. Minimum 50-foot margin recommended.
Riparian Buffers • Inner Buffer • Outer Buffer	0% 20%	Zoning	75 to 100 feet total width depending on conditions adjacent to stream - 100 feet preferred. Two-tier standard with stricter standards applied adjacent to stream. Re-vegetation provisions for unforested riparian buffers.
Floodplain	0%	Zoning	FEMA approved floodplain standards.
Stormwater Management	n/a	SLDO or separate ordinance	Stormwater standards that promote infiltration and innovative use of BMPs, reduce stormwater runoff volume produced, and that discourage typical detention basin solutions to stormwater management.
Administrative			
Site Plan Requirements	n/a	SLDO	Protected resources must be identified and mapped on site plan.
Continued Protection of Resources	n/a	Zoning and SLDO	Provisions for permanent protection of preserved resources.
Protection Standards Centrally Located	n/a	Zoning and SLDO	Majority of standards presented in one ordinance location for administrative ease and to avoid overlap and potential conflicts.

Source: Chester County Planning Commission, 2004.
 Note: Where resources overlap, the stricter protection standard applies.
 n/a: Not applicable.

Cultural Resources Planning

Chester County's rich history is a resource that can add to the quality-of-life and benefit the economy of its municipalities. The County was the location of some key events involving the Revolutionary War, the Industrial Revolution, the Abolitionist Movement, and the establishment of religious tolerance. The County is also unusual in that much of its original cultural heritage, a mixture of English, German, Irish and Scottish rural influences, is still intact. In addition, the County became home to smaller, but well-established communities of African American freemen, Eastern and Southern Europeans, and Hispanics.

A comprehensive plan should include a brief history of the municipality along with a description of federal and state legislation and programs dealing with historic and architectural resources. Partnerships, funding sources, community education, and local initiatives should also be addressed. Cultural resources addressed in municipal planning include:

Archaeological Resources—including significant ruins and major archaeological sites. In order to discourage illegal disturbance or looting, the locations of these resources should never be given in detail either in text or mapping.

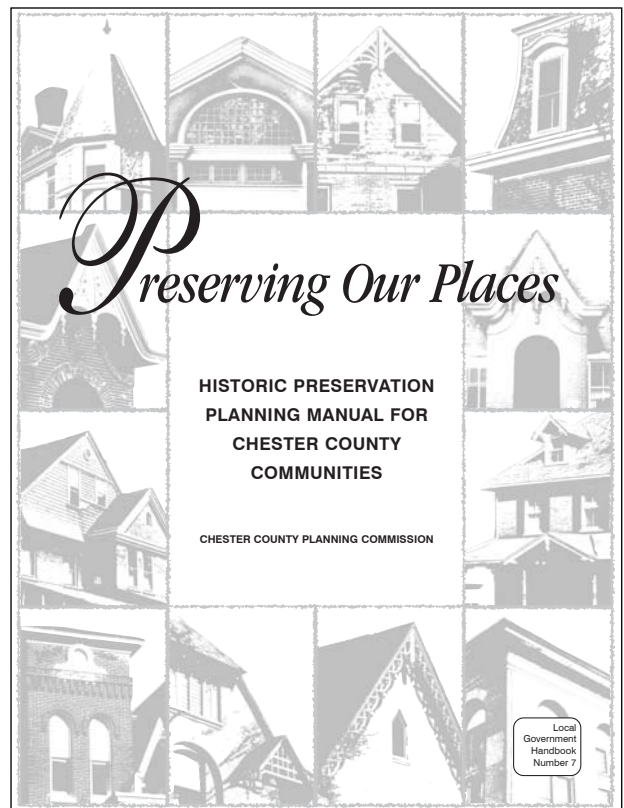
Historic Resources—including National Register listed and eligible historic sites, landmarks and districts. Comprehensive plans should also include municipally designated historic structures, sites, landmarks and districts, based on the opinions of local experts such as academics or volunteers with a historic society. By inventorying these features, the municipality is taking the first step in identifying these resources and recognizing their value, which will be important if there is an opportunity for a more thorough investigation at a later date. In general, a thorough historic resource evaluation can be expensive. As a result a scaled-down inventory may be the only viable option to a municipality.

Byways—including national and Pennsylvania byways. State and federal byways include scenic and culturally significant roads together. Comprehensive plans can include also municipally designated byways. Municipalities should avoid designating too many or too few roads as byways.

Scenic Resources—including architecturally significant streetscapes, scenic viewsheds, scenic roads and covered or historic bridges. All these features should be locally designated.

Heritage Areas—including National Heritage Corridors and Pennsylvania Heritage Corridors.

The CCPC published *Preserving Our Places: Historic Preservation Planning Manual* in 1998.

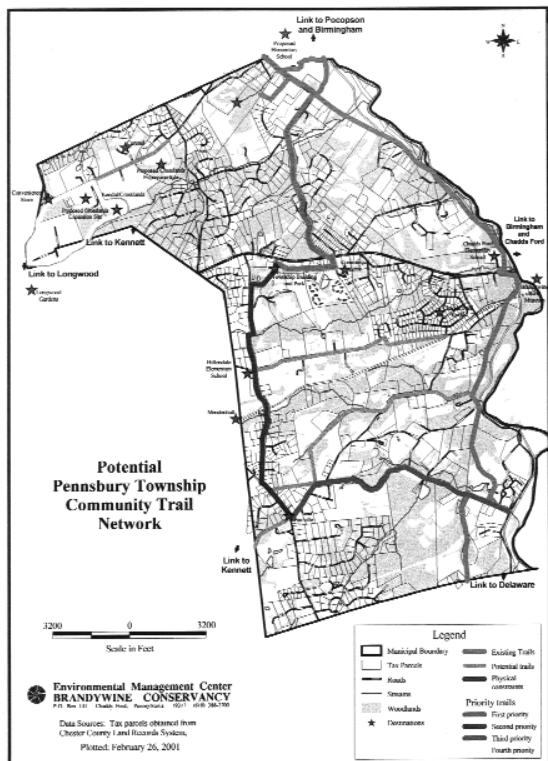


Historic preservation planning is a major issue throughout Chester County.

Trails Planning: A Network Approach

Chester County is especially well suited for a network of public trails. The County Parks and Recreation Department is committed to building the County Struble Trail from northern Chester County to Downingtown, where it will link to the County Chester Valley Trail, which will extend west and join trails that go into Valley Forge National Historic Site. Valley Forge is the “jewel in the crown” of regional trail planning because it links to the extensive trail system in Montgomery County, including the Schuylkill River (a.k.a. Manayunk) Trail, which now can be used to bike to the steps of the Philadelphia Museum of Art. Once the County Schuylkill Trail is completed, users will be able to go from Valley Forge north through Phoenixville, Pottstown and on to the Appalachian Trail.

The future County-managed trails leading into Valley Forge will serve as the backbone of the County’s overall trail network. These County trails are planned, built and managed by the Chester County Parks and Recreation Department. Any municipal trail that can link to the County Struble or Chester Valley Trails could become a part of this regional network. There are also conceptual but realistic local trail corridors that could link much of southwestern Chester County with Bi-state White Clay Creek State Park Preserve. Much of the Atglen/Parkesburg area could be linked with the future County park in West Fallowfield.



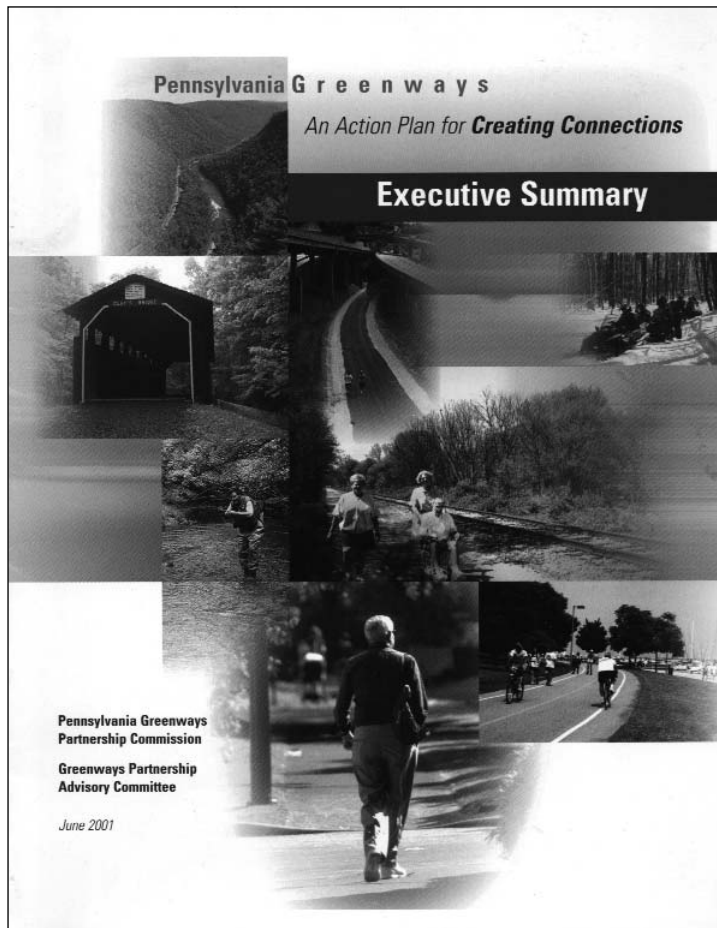
Pennsbury Township has implemented trail planning through its comprehensive plan.

Although Chester County’s trail network is not as extensive as in nearby counties, trail construction is becoming more popular. The reason for this interest in trails is quite simple; in many communities, trails are one of the only forms of open space available to be protected. Some municipalities, especially in the northeastern half of the County, have undergone so much growth that they have a limited amount of undeveloped land that is large enough to be protected by a land trust or converted into a large public park. In these communities the only open lands left are strips that can be linked together to form a trail.

Trail planning can be daunting, but the results can boost the quality-of-life and economy of a community. Studies such as *Parkland and Economic Development* (Crompton, 2001) show how real estate values increase the closer a residence is to a trail. In communities with well-designed, well-maintained and properly policed trails, it is common for real estate advertisements to list trail access as an amenity. Employers use access to recreation as a draw for attracting new employees. Public trails have been known to spur the creation of local businesses that that sell hiking or bicycling gear, or provide trail users with food and drinks.

Trail planning is often driven by the availability of public right-of-way that can be re-used as a public trail. Public features that can be converted into trails include abandoned rail lines, some utility corridors, and so called **paper roads**, which are areas where a road was proposed, but never built. Other features can be merged into a trail network such as sidewalks and limited access roads used only by logging or utility companies. Unfortunately, some municipalities are crossed by major highways or active rail corridors that create barriers that are difficult and expensive to bridge. Others are simply stuck with a “scattershot” or “checkerboard” development pattern that makes it difficult to establish trails.

Municipalities that have built trails in Chester County have been creative, linking together off-road trails with industrial park running tracks and corridors that pass through homeowner association open spaces. Any municipality wishing to pursue trails should start by visiting the trails that have been built here in Chester County and in our neighboring Counties. Local planners should also be aware of opportunities such as having homebuilders build public trail segments as part of the development process. PennDOT is also a resource, and in the past few years has become an active partner in funding trails as part of major roadway and bridge reconstruction projects, or creating bike lanes as part of road resurfacing.



Pennsylvania Greenways sets the state's policy for creating trail networks.

The state greenway policy calls for a state wide network of public hiking, biking and water trails.

Public Trails: Technical Considerations

Two of the keys to public trail planning include having a partial right-of-way already established and then using that existing corridor to link to a destination or **trail head**. The destination is just as important as the trail, because people are less likely to use a trail that does not go anywhere in particular. A trail destination can be a recreational park or a village downtown shopping area. A scenic river can serve as a destination. In some instances a destination can be a trail loop that passes through a wildlife preserve or historic landscape. Often a public trail will have a name and an identity that focuses on its destination.

Trail planning usually involves overcoming some serious challenges. When a municipality establishes a park, it must negotiate with one or two landowners to acquire the land, and then get input from the local community. A trail typically requires coordinating with a large number of landowners, and every community through which the trail passes. It is essential for local planners to coordinate with landowners and community stakeholders from the very start of a trail planning process. The Official Map can be an effective tool for reserving a public trail corridor.

In many respects, the physical construction of a trail is quite similar to building a roadway for motor vehicles. Both types of projects involve creating a transportation infrastructure that may include bridges, highways intersections, and impacts to existing houses, apartments and businesses. Trails can also be quite expensive and it is not unusual for a government agency to condemn at least part of the land used for a major trail, which is something elected officials generally try to avoid. A municipality that wishes to pursue trails planning must be willing to make a long-term commitment of funding, community support and political leadership.

Just as there is no one definition for open space, there is also no one definition for trail. *Linking Landscapes* includes the following definitions for linear recreation facilities, based on guidelines used at the state level:

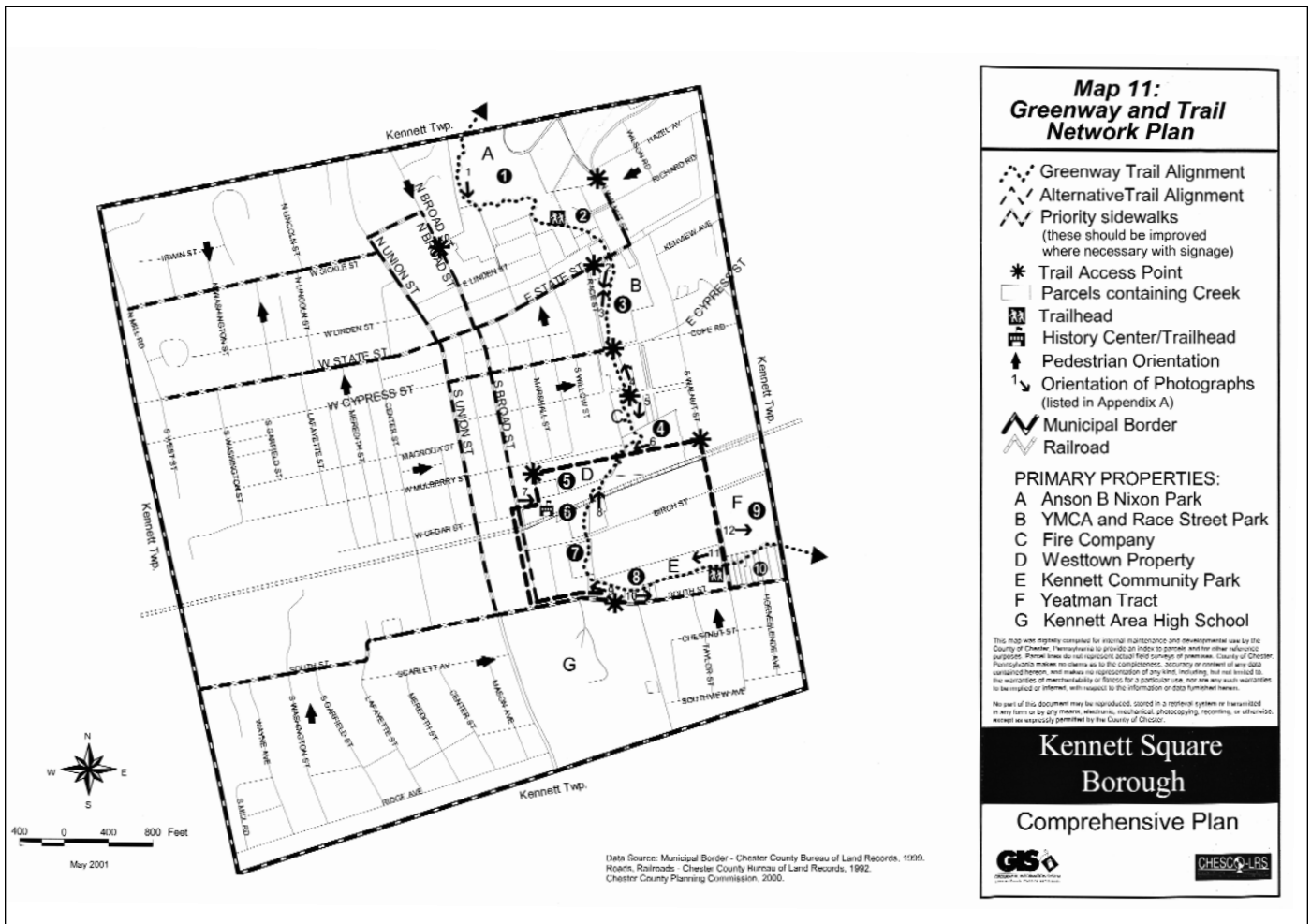
Trail—An off-road facility with a permanent alignment that is open to the general public, and that is designed, constructed and maintained as part of a public park system used for a variety of non-motorized forms of travel including walking, hiking, biking, cross-country skiing or horseback riding.

Path—A trail that is designed, constructed, maintained and used primarily for one form of travel, such as a bicycle path or a walking path.

Route—A roadway shoulder or a low volume roadway used for bicycle transportation.

Traditional Hiking Route—A hiking route that has been used for many years but that has not been constructed into a multi-use trail and is not maintained as part of a public park system. These routes are sometimes called **social trails**.

Many municipalities are crossed by traditional hiking routes, like the Horse-Shoe Trail, the Mason-Dixon Trail and the Brandywine Trail. These hiking routes have been used for decades and have become an important part of the County's distinctive culture. Unfortunately, increased development, higher traffic volumes and landowner concerns about liability are threatening the future viability of these facilities. Local planners that wish to preserve their hiking routes should consider turning them into public municipal trails or encouraging their protection by a land trust. Given current conditions, establishing some sort of formal right-of way preservation is probably the only option for saving these traditional hiking routes.



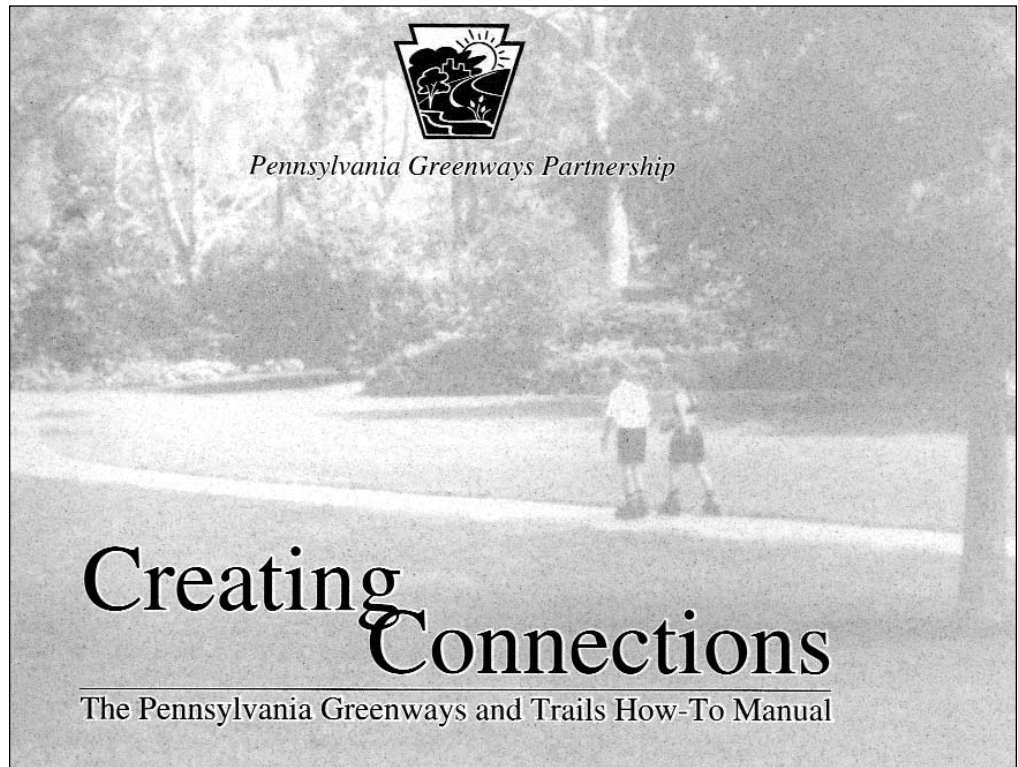
The trail plan in Kennett Square Borough's comprehensive plan addressed trail links to its surrounding region.

Recreation Planning: Park and Trail Facilities

The
Pennsylvania
Greenways
Partnership
published
*Creating
Connections*
in 1998.

In an ideal world, recreation facilities such as parks and playgrounds would be established in areas that best meet the needs of the community. In reality, local planners often must take a **reactionary** approach, in which they acquire land that is donated, or that comes on the market for a short period of time and must be purchased while funding is available. It is important for municipalities to conduct recreational planning in order to establish guiding policies, identify potential funding sources and provide documentation needed when applying for grants. However, this planning should be flexible enough to adapt to real world conditions.

Some municipalities in Chester County have no public recreation facilities, while others have an extensive park network managed by a Parks Department with a full time staff. In the past, some rural communities commonly had no recreational parks and did little recreational planning. Given that all of Chester County is now under development pressure, all communities should conduct comprehensive recreational planning. Recreational planning should also take a **network** approach, in which parks are designed with the forethought that they will be linked to public trails, thus giving local residents, especially children, the opportunity to access these facilities by walking or riding bicycles.



Creating Connections is an excellent guide for local planners. It can be downloaded at www.pagreenways.org.

Chester County has a long-standing policy that County Parks managed by the Chester County Parks and Recreation Department are to be used for passive recreation and not active recreation. In general, state and national parks are also passive recreation facilities. As a result, municipalities play the role of providing active recreation facilities. The County has provided assistance to this effort by awarding grants for parkland acquisition and the construction of park facilities, like sports fields and playground equipment. It is reasonable for municipalities to serve this function since local planners are in close contact with municipal residents and have a thorough understanding of their recreation needs.

Municipalities provide a variety of services for their residents, which usually include some kind of recreation facilities. As *Linking Landscapes* notes, it is not appropriate for a municipality to rely on facilities located in (and paid for by) another municipality in order to meet its own recreation needs. The same is true at the County level. A municipality should not rely on a nearby county or state park to fulfill its recreation needs, because the function of these facilities is different from a municipal recreational park. Likewise municipalities should never assume that non-recreational open spaces, like nature preserves, can serve the function of a recreational park.

There is no standard method for determining how much parkland a municipality needs. Beginning in the 1980s, the CCPC recommended that municipalities evaluate parks as **regional** or **neighborhood** or **community** parks based on the population each park served. This population-oriented approach was based on park standards developed by the National Park and Recreation Association (NRPA). Recently, the NRPA has dropped these standards because they were found to be too rigid to be useful at the local level. The County no longer uses them.

Linking Landscapes includes the 2002 Chester County Recreational Park Standards, which were presented as a general estimate of how much municipal recreational parkland is needed in each municipality based on populations. These standards are not the only appropriate method for evaluating local park needs. Instead the standards were used to compare the park needs in all of the County's 73 municipalities using just one method. Municipalities should consider using the *Linking Landscapes* standards, but ultimately it is up to local planners and their consultants to research and determine how much, and what type of recreational parkland is needed.

Conducting Appraisals

The last key information to be determined through property research is the value of the land, determined by conducting an appraisal. The value established by your appraisal will depend on whether you intend to have access agreements or easements, or to purchase the land. There are various appraisal methods. The most accurate is a rigorous survey comparing actual selling prices of similar properties. For most projects a "windshield" appraisal is all that is necessary to obtain preliminary cost estimates for acquisition. In this method, the appraiser takes an "over the fence" approach, estimating values based on neighboring properties.

If you seek grant funding from DCNR or PennDOT, certain appraisal requirements must be met. Those requirements and the format and content of the appraisal report should be discussed directly with the funding agency.

Appraising Easements: Guidelines for the Valuation of Historic Preservation and Land Conservation Easements, by the National Trust for Historic Preservation, provides useful guidance on this topic (see Bibliography). Appraisals may not only assist you in reaching a fair bargain if you purchase land or easements, they may also determine the tax benefit available to donors.

For long, linear features, such as road and railroad rights-of-way, and for stream corridors, it may be possible to use a center line survey. Rather than calling out metes and bounds, the deed or easement will give a center line and the width to either side if acceptable; a centerline survey is a less costly alternative to a survey based on the metes and bounds of a parcel.

A survey is also used to determine the acreage of a property and may produce a more accurate calculation of acreage than that shown on tax maps or purchased land. This information is necessary if you are recording land.

Using Maps

In the process of conducting property research, and later in working on feasibility studies and plans, you will spend a great deal of time working with maps. A copy of the official county highway map is useful to locate the official names and number of all roads and to locate political divisions. Use a USGS Quadrangle to identify features and contours. Tax maps are key to property owner and boundary information. More and more information is being converted to computerized Geographic Information System (GIS) mapping. If producing your own maps, consider using GIS-based software to do so. Samples of four commonly used types of maps follow.

SOURCES OF MAPS

- County and municipal planning offices
- County and municipal tax offices
- United States Geological Survey (USGS) (available locally through authorized retailers)
- Consulting firms
- Colleges with GIS capability
- Railroads (track maps, system maps)
- Utility companies (utility corridors and easements)
- State agencies, such as PennDOT, DCNR, DEP
- Game Commission, Fish and Boat Commission

Conducting Surveys

Determine the location of a property line very precisely to insure, for instance, that the parking lot built at the proposed trail head does not encroach on a neighbor's land. If adequate markers and monuments exist, the location of the lines can be determined. Check with the county recorder of deeds office to see if a survey was ever conducted and recorded. Otherwise a local surveyor should be contracted to conduct a survey.

Conducting Appraisals

"If you are going to tell a property searcher you want him to research a property formerly owned by a railroad or coal company, lock the door first!"

Bill Higgs
Anthracite Scenic Trails Association

USGS MAP 7-1/2 MINUTE SERIES QUADRANGLE

GIS-BASED MAP

MUNICIPAL TAX MAP

COUNTY HIGHWAY MAP

These two pages show some of the trail issues addressed in *Creating Connections*.

Recreation Planning: Programming

The term **recreation programming** refers to the process of creating programs for recreation. This concept includes educational programs for children or adults exploring the history or wildlife resource in a park. Special events programs, like a 4th of July fireworks or a municipally sponsored crafts festival, are also recreation programming. Recreation programming can include community sports leagues, private sporting events like a pro-am golf tournament, or organized non-competitive events like a charity bike ride or hiking club walk. Water based recreation from fishing to canoeing, is also part of such programming.

A municipal comprehensive plan should include an inventory of existing recreation programming including indoor and outdoor sports facilities, publicly and privately owned. Sports leagues and non-competitive clubs, such as hikers, cycling groups or bird watchers should be listed. Activities that focus on the elderly and the handicapped should be noted, along with activities for children which may include dance schools or activities programming such as day camp operated by the YMCA or another non-profit civic organization. By inventorying the wide range of activities included in recreation programming, local planners can get a good sense of the recreation opportunities offered in their community. This will assist them in identifying unmet needs.



The population and demographic section of the comprehensive plan should be used in evaluating what kind of programming is appropriate in a municipality. Municipalities with many young families will want to focus on playgrounds and tot lots. Communities with a large elderly population may wish to focus on trails and community volunteer activities popular with retirees. Municipalities with ethnic communities from Latin America and the Caribbean may focus on soccer, while a bocce ball court might be appropriate in neighborhoods with an older Italian population. The unique recreation needs of the County's Amish population should also be considered.



In most communities, public schools provide recreation programming through team sports. In some areas, school property also functions as a community park, with local residents using the running track. Public schools therefore should be featured prominently in open space planning, but with the understanding that public schools are educational facilities that serve a secondary function as recreation. It is important to remember that public school property can be sold and developed. Furthermore, schools can limit access to non-school users. In short, municipalities should not rely on public school property to meet their recreation needs.

Municipalities with a professional parks department or even a strong volunteer base, can use their comprehensive plan to create a framework for recreation programming. If a municipality has a park that contains an historic farmstead, the comprehensive plan could note that recreation programming on that park should focus on events that deal with the farm community, or the time period when the farm was operating. Such a policy could then be used to justify acquiring land for municipal sports fields at a different location.

Recreation Planning: Administration and Management

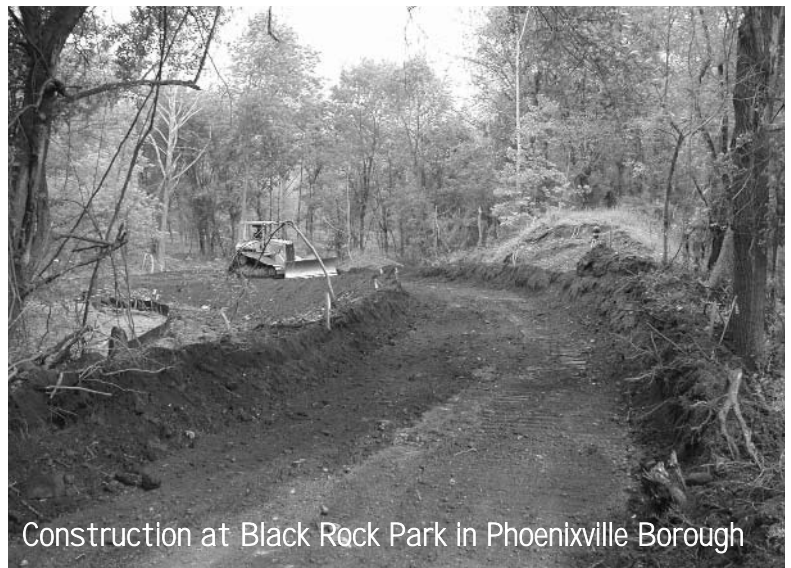
Most of Chester County's municipalities have at least one municipal recreation facility that requires some level of administration and land management. Usually these responsibilities are taken on by a combination of the municipal manager, a recreation board, local volunteers or professional recreation staff. Parks and trails can have thousands of users each year, giving them high visibility. As a result, parks often get a higher level of scrutiny than many other public properties. Addressing recreation administration and management in the comprehensive plan is valuable, because it documents municipal policies in a way that is open to public review. Such documentation can also be used as supporting information when applying for grants.

Three keys to a properly functioning municipal park, trail or recreation facility are:

- Design
- Maintenance
- Security

All three of these issues involve administration, management and maintenance, and they are of utmost importance because public lands that are poorly designed, poorly maintained or inadequately policed can become blight on a community. A park that is well designed, with public input, will require less maintenance and security. Park maintenance includes caring for equipment, trimming vegetation, controlling animal populations, and removing litter. Security involves not just patrolling a facility, but ensuring there is proper lighting and other design elements that discourage illegal activities. Removing litter is also a security issue. Littered areas get fewer users, increasing the likelihood of illegal activities.

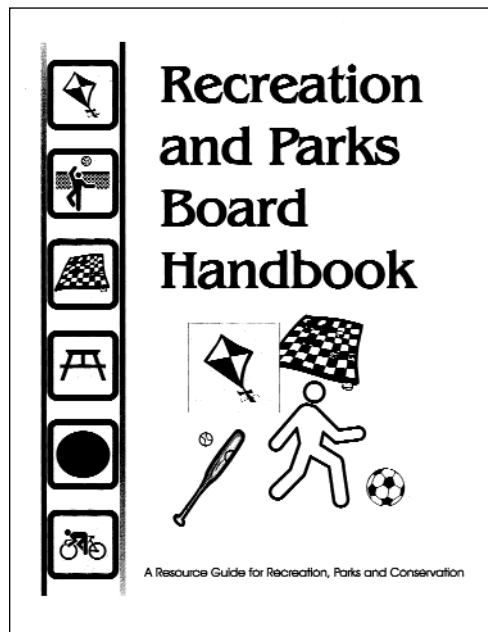
The success of a park is not judged by its features but rather by how much it is used. A simple meadow can get more use than a constructed playground. In order to ensure a park system is used, it should be run like any other hospitality business or tourist destination. Local planners should address issues such as advertising, public relations and appropriate user fees. Inspection schedules for maintenance equipment and facilities such as swing sets and trail surfaces should be established. Local planners should also be keenly aware that older recreation facilities may not meet the current safety code or the requirements of the Americans with Disabilities Act (ADA), and so the municipal solicitor should be involved with recreation planning.



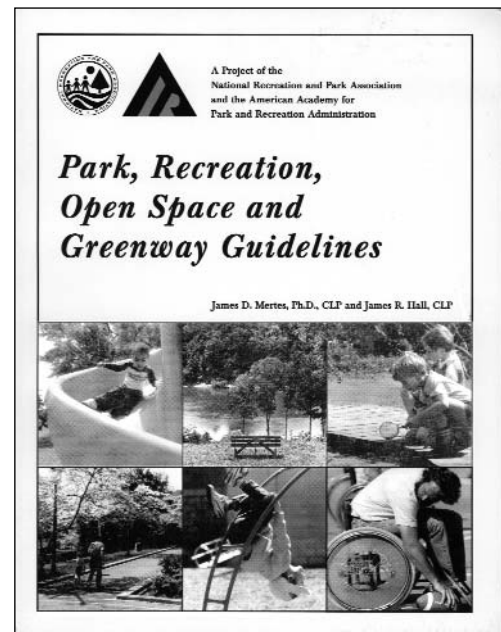
Construction at Black Rock Park in Phoenixville Borough

Municipal recreation staffing should also be addressed and should include individuals involved with physical maintenance, financing, programming and security. Organizational oversight should be discussed, as well as any cooperative agreements with other public entities such as a neighboring municipality or a regional park authority. Most municipalities do not have a ranger corps, but should still provide information on security staffing which may include local or State police. The use of volunteers and “friend of” groups should also be addressed. Municipalities that help organize volunteers can garner many hours of free labor, while building community awareness of ecological and recreation issues.

Policies regarding recreation financing are also a part of municipal recreation planning. To be realistic, a recommendation has to be financially feasible. Municipalities should therefore evaluate expenses for the last five years and project costs for the next five years. The operating and capitol budget should be discussed along with costs relating to liability and insurance. Possible fundraising such as a Capital Improvement Program and the municipality’s policy regarding accepting gifts should also be discussed since individuals or organizations often offer to make a charitable donation to a park or trail.



The PA DCNR published the *Recreation and Parks Board Handbook* in 2004.



The National Park and Recreation Association periodically updates its guidelines for local communities.

Recreation Clubs and Sports Leagues

A wide range of sports leagues are active in the County ranging from private polo clubs to children's leagues organized by non-profit organizations like the YMCA. There is no single umbrella organization for sports leagues in the County and leagues tend to expand, contract, appear and disappear, as funding and interest dictate. For this reason, it is important for municipalities conducting open space and recreation planning to identify and survey local sports leagues individually, so as to ensure that the information gathered is up to date. When conducting recreation planning, local planners should consider all forms of sports including golf, indoor sports and school-sponsored sports.

Chester County also hosts a number of clubs that focus on non-competitive recreation activities such as fishing, hiking, bicycling, weight training and the most popular form of recreation, walking. The list below shows some of the hiking and biking clubs active in the County. Open space planning should also consider organizations such as the YMCA, which provide a variety of indoor activities. Fitness centers and country clubs should also be considered. Public school properties with running tracks or tennis courts that are used by local residents should be evaluated in open space planning with the understanding that these facilities are not designed for use by the general public even though that is often how they are used.

Hiking and biking clubs can be valuable sources of information regarding trail routes that are commonly used even though they may not appear on any maps. These groups include:

- Bicycle Coalition of the Delaware Valley, Philadelphia, PA
- Brandywine Bicycle Club, West Chester PA
- Chester County Cycling Coalition, West Chester, PA
- Chester County Trail Club, Kimberton, PA
- Chester County Trails Coalition, Downingtown, PA
- Delaware Valley Bicycle Club, Media, PA
- Phoenix Iron Canal Trail Association, Phoenixville, PA
- Schuylkill River Trailway Association, Wyomissing, PA
- The Horse Shoe Trail Club, Birchrunville, PA
- Trails Preservation Association, Chester Springs, PA
- West Chester Bicycle Club, West Chester, PA
- White Clay Creek Bicycle Club, Landenburg, PA



West Chester Area YMCA

Agriculture Planning and Land Trust Easements

The piedmont soils that underlie western Chester County, all of Lancaster County and eastern York County are highly productive. They do not require extensive irrigation and they are located within a 24-hour drive of major markets serving half the nation's population. As a result, agriculture serves as the anchor of the County's economy, always present regardless of other economic conditions. A few Chester County municipalities have protected agriculture by adopting **effective agricultural zoning**. This approach establishes rural zoning districts where the permitted density is one unit for at least 10 to 25 acres. In general, such densities limit land use to only agricultural land uses. The 25-acre form of this zoning is quite common in Lancaster County.

There is, and may always be, a debate as to whether farm fields should be regarded as open space, and even farmers cannot agree on this issue. As agriculture becomes more highly mechanized and technologically advanced, some operations begin to look more like an industrial plant than the stereotype of a farmstead with a red barn and a silo. There are also some who feel that a property used for boarding or training horses is not a farm, while other say it is. *Linking Landscapes* does not define what is or is not agriculture, but it does state that agricultural land must be protected by a third party easement in order to be regarded as **protected open space**.

When a farmer sells his or her property, there are two parties involved, the buyer and the seller. When a farmer, or any landowner, sells or donates development rights to a non-profit land trust, the land trust becomes the third party. A third



Agriculture remains a major industry in Highland Township.

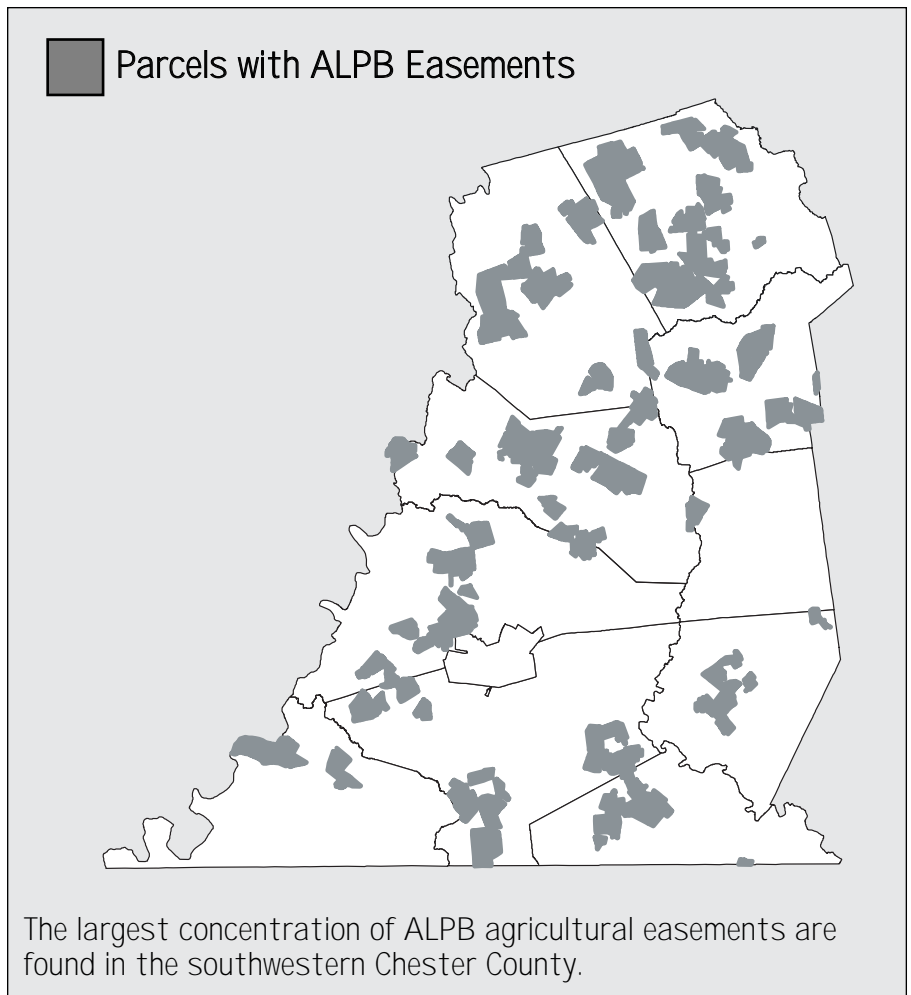
party easement occurs when the land trust owns a conservation easement, and no matter how many times the land is sold, the land trust remains the third party. The role of the land trust is to make sure that whoever buys the land will abide by the easement. The land trust therefore serves to enforce the easement, which may allow limited development or no development at all. The state or County can also fill the role of a third party.

The Chester County Agricultural Lands Preservation Board (ALPB) uses a combination of state, County and municipal funding to purchase conservation easements only on agricultural lands. The ALPB follows guidelines established by the state, and has protected over 15,000 acres of farmland in the County, making it one of the most successful farm preservation programs in the nation. Farms that are eased through the ALPB should be shown on the future land use map in a municipal comprehensive plan.

Before a farm can be eligible for ALPB protection, the farmer must enroll his or her land into an Agricultural Security Area or ASA. This is a voluntary program that the farmer can enroll in for free, and pull out of with no penalty. A farm that is within an ASA is protected from nuisance lawsuits, such as when neighbor takes legal action to stop odors that are a normal part of an agricultural operation.

It is more difficult for a farm within an ASA to be condemned, but ASA farms can be condemned. Farms within an ASA can still be developed, and so a farm within an ASA is not protected open space.

Municipalities, in which farming is a significant industry, should consider agricultural planning in their comprehensive plans. Farms are no longer just corn fields. Agriculture now includes raising fish, dogs and fur bearing animals or growing medicinal herbs, Christmas trees or mushrooms. A key feature of agricultural planning is that farms must be protected in large clusters. *Linking Landscapes* recommends that a minimum of 650 acres of farmland, owned by one or more farmers, are needed in order for farming to be viable in a community. If there are only one or two farms in a region, the farm support industries, like tractor mechanics and seed dealers, are more likely to go out of business. The focus of agricultural planning is not simply to save a farm land, but rather to save a viable community of farmers.



Source: Chester County Agricultural Land Preservation Board, 2004.

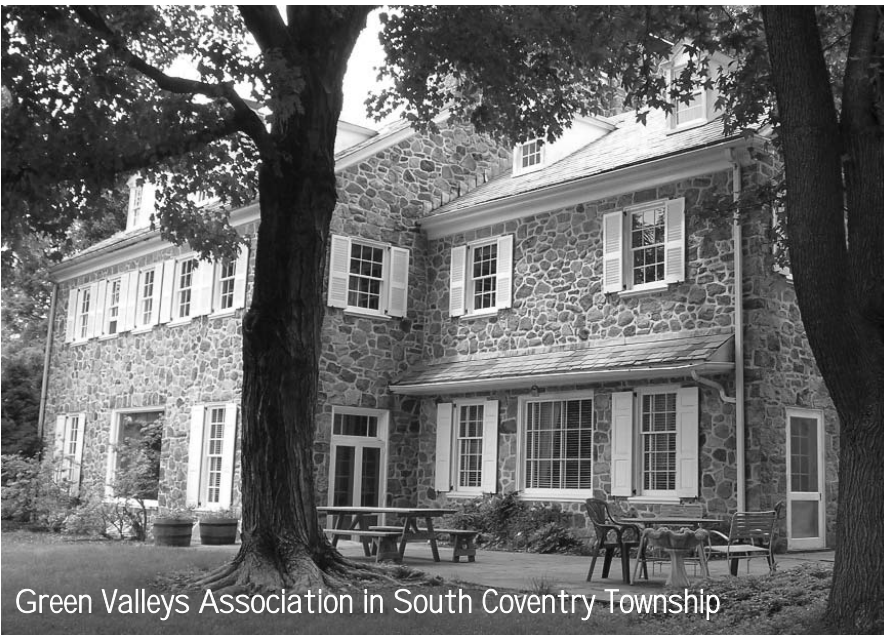
Land Trusts and Resource Conservation Organizations

Chester County is home to a number of non-profit organizations that protect open spaces or restore natural and cultural resources. These groups often generate studies that can enhance municipal open space planning. They can also receive grant funding that can be spent on resource restoration projects, or for the acquisition of land or easements. Local planners should consider coordination with these groups. The CCPC has found that watershed associations are the most active ecological groups in the County when it comes to local level projects. These organizations are involved with water monitoring and stream bank restoration. They should be considered in municipal open space planning as a mechanism for maintaining undeveloped land.

Land trusts are organizations that protect land from development by acquiring easements on private property owned by someone else. They rarely purchase property in fee. In past decades, land trusts purchased development rights from landowners, but now most easements are donated as charitable gifts. Land trusts often use a combination of private funding, landowner donations and state or county grants to finance a preservation project. In *Linking Landscapes*, land trusts are regarded as **regional** if they are active in more than one municipality. Most of the regional land trusts hold easements in more than one county. These land trusts usually have paid staff and some kind of endowment. Local land trusts are volunteer organizations active within

only one municipality. They usually acquire easements only through donations, but some have been awarded grants in order to pay landowners for some or all of their development rights.

Land trusts protect about half of the protected open space in the County. Lands eased by these trusts should be a major consideration in any municipal open space planning in Chester County.



Green Valleys Association in South Coventry Township

Land Trusts and Resource Organizations in Chester County

Type of Organization	Organizations Active as of 2003
<p>Local Lands Trusts—whose mission focuses on protecting open space within a single municipality, usually by accepting donated easements of private property.</p>	<ul style="list-style-type: none"> • East Marlborough Land Trust, Kennett Square, PA • Kennett Township Land Trust, Kennett Square, PA • London Britain Land Trust, Kemblesville, PA • Pennsbury Land Trust, Chadds Ford, PA • Wallace Land Trust, Glenmoore, PA • West Vincent Land Trust, Birchrunville, PA
<p>Regional Land Trusts—whose mission is to acquire and manage parcels in-fee as open space, or to acquire conservation easements on private property in more than one municipality.</p>	<ul style="list-style-type: none"> • Brandywine Conservancy, Chadds Ford, PA • French and Pickering Creeks Conservation Trust, Pottstown, PA • The Nature Conservancy; Pennsylvania Chapter, Harrisburg, PA • Natural Lands Trust, Media, PA • North American Lands Trust, Chadds Ford, PA • Open Land Conservancy of Chester County, Paoli, PA • Willistown Conservation Trust, Newtown Square, PA
<p>Watershed Conservation Organizations—whose mission is to monitor, maintain and restore waterways and their resources, particularly regarding water quality, wildlife and habitat issues.</p>	<ul style="list-style-type: none"> • Brandywine Valley Association/ Red Clay Valley Association, West Chester, PA • Chester Ridley Crum Watershed Association, Edgemont, PA • Crum Creek Watershed Partnership, Swarthmore, PA • Darby Creek Valley Association, Drexel Hill, PA • Elk Creeks Watershed Association, Oxford, PA • Green Valleys Association, Pottstown, PA • Octoraro Watershed Association, Nottingham, PA • White Clay Watershed Association, Landenburg, PA
<p>Other Resource Conservation Organizations—whose mission deals with a specific natural resource.</p>	<ul style="list-style-type: none"> • Schuylkill River Keeper, St. Peters, PA • Trout Unlimited-Valley Forge Chapter, West Chester PA • Valley Creek Restoration Partnership, West Chester, PA • West Chester Fish, Game and Wildlife Association, Downingtown, PA • White Clay Creek Wild and Scenic River Management Committee, Chester County, PA and New Castle County, DE

Resource Based Tourism

Every municipality in Chester County has the potential to improve its economy through resource-based tourism. The fact that Chester County is within a four-hour drive of New York, Washington DC, Baltimore, Philadelphia and Wilmington means that there is a great potential market for visitors traveling by car. Because of security concerns, Americans have become interested in alternatives to air travel. As a result, unique locations accessible by car have become more attractive to the consumer.

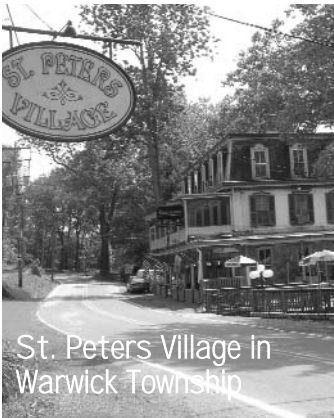
In many people's minds the term tourism conjures up visions of Disneyland or Las Vegas, with all of the positive and negative connotations of tourism on a large scale. However tourism is often small in scale and includes simple activities like traveling a short distance to go fishing, hike a trail, or visit a quaint village center filled with antique stores and coffee shops.

The key to tourism is creating a unique physical environment. People have a desire to visit places that are unlike anyplace they have been before. Unique places can be highly constructed amusement parks, or natural areas with distinctive features. A community can also be unique because of its culture, which explains why Lancaster County's Amish Country and Philadelphia's Chinatown are both major tourist draws. The uniqueness of a community can therefore be seen as an economic resource, bringing in outside money.

Ecologically based tourism is becoming more popular as people wish to find undeveloped places to bicycle, in-line skate, canoe and walk, which is the most popular form of recreation. Many communities in central and western Pennsylvania, whose economies were once dominated by mining and heavy industry, are now turning to eco-tourism and converting rail lines into trails. Parts of the nearby Schuylkill River Trail were also once industrial. The hotels, restaurants and bike shops that profit from the trail users add to the local economy.

More municipalities are including tourism and economic value of cultural resources in their comprehensive plans. Cultural features such as historic districts can be utilized to create an identity for a main street shopping area. The shops in Kennett Square Borough emphasize rural antiques and the horse culture of the region, while West Chester Borough promotes its restaurants and galleries. In commercial marketing this would be termed **branding**, in which consumers learn to trust that a given brand will produce a quality product, regardless of what the product is.

Municipalities can also use historic resources as tourist draws, such as the Springton Manor County Park or the Paoli Massacre Site. These sites have far fewer visitors than Valley Forge National Historic Site, and are more likely to attract Revolutionary War buffs or local residents on a bike ride. Historic sites often serve as scenic areas. Each tourist draw should be tailored to fit the needs and infrastructure of its community. Tourism need not be large scale in order to be economically viable.



St. Peter's Village in
Warwick Township

Open Space Management: Reducing Costs

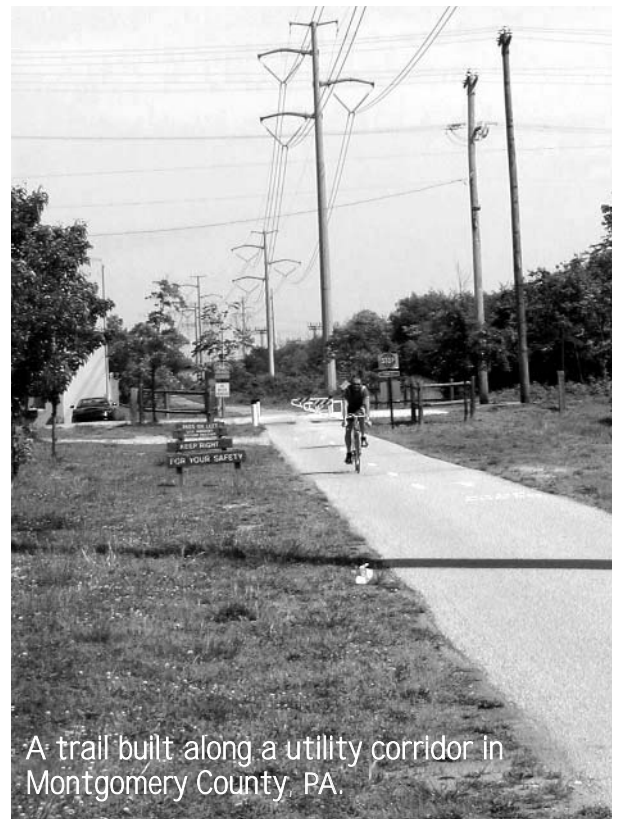
Chester County's municipalities, and its non-profit land trusts have been successful in protecting roughly 15 percent of the County as open space in perpetuity. Too often, any discussion of open space preservation focuses on acquiring the land, with little emphasis on maintaining it. Maintaining protected land requires staffing, policing and upkeep in perpetuity. In the long term, these ongoing costs require more money than the acquisition.

Even protected natural habitat, which for ecological and public safety reasons has limited public access, must be actively managed to assure that they are not overgrown by exotic plants or used for illegal dumping. Undeniably, it can be difficult to implement these open space land management issues through municipal comprehensive planning. Nevertheless, local planners should be aware of these issues as a matter to be addressed in municipal policies. Open space management issues that are appropriate for discussion in a municipal comprehensive plan include:

HOA Open Space—The open space within a development, known as Homeowner Association Open Space, or HOA Open Space, is becoming quite common in Chester County. These lands are usually managed by the HOA, but too often that management is minimal, consisting of nothing but mowed lawn, even on wetlands, steep slopes and stream banks. In many cases, HOA open space could be managed as natural areas or internal loop trails, enhancing the environment while reducing maintenance costs. An HOA should formulate an open space land management plan, so that all its member residents know what management activities will be undertaken. HOA open space can also be eased by land trusts.

Municipal Parks and Non-recreational Open Space—Many municipalities manage their public lands by simply mowing the grass and trimming the lower branches of the trees. They could realize cost saving by permitting meadows and mowing only seasonally. Similarly, municipal land managers could allow wetland plants to grow around streams and ponds, which would also reduce the Canada goose populations. These birds naturally fear all tall grass, as it is the habitat for the alligators that live in the southern part of their migratory range. A high concentration of these geese can be a public health issue, as their droppings can accumulate in play and picnic areas.

Utility Corridors—Utility corridors, including overhead power lines and buried pipeline or cable corridors, can in some instances be used as trail corridors. Certain utilities are sensitive to vandalism or terrorism, and so are poorly suited for recreation. However this sensitivity makes them ideal for wildlife



A trail built along a utility corridor in Montgomery County, PA.

habitat. These utility corridors can be planted with native warm-season grasses that can support bird habitat and serve secondary roles as wildlife corridors. Removing non-native species from these corridors is also beneficial, since the non-native plants that establish themselves in these areas can spread throughout the region.

Corporate Campuses, Colleges, Institutions and Public Schools—Many campuses are largely empty on the weekends, and their parking lots and walking paths are unused. These properties can be linked to municipal trail networks. This technique gives businesses an opportunity to demonstrate that they are “good neighbors,” and can, in some instances, improve weekend security. The campuses can also implement cost effective land management techniques like those mentioned above as an alternative to simple mowing.

Land Trust Owned Parcels—Most people assume that a parcel that is owned in-fee by a land trust is rigorously protected from development, but this is not entirely true. It is possible, but unlikely, that a land trust could go bankrupt and be compelled to sell some of the land it owns in-fee. For these reasons, many land trusts are now donating open space easements on their land to another land trust. This double protection may seem excessive, but land trusts want to ensure their holdings remain protected regardless of any unforeseen hardships they may encounter for literally hundreds of years to come.

Eased Parcels—Some landowners in Chester County have sold or donated the development rights to their property. These parcels are extremely cost effective because the land owner spends his or her own time and money to manage the land. However, the private land trust or the public agency that owns the easement must regularly monitor the easement, which involves visiting the property. The ongoing costs of monitoring easement should always be considered in open space planning.

Chapter 4



Plan Preparation and Public Involvement

Following a Planning Process: the Practical Benefits

In the past, open spaces and recreational facilities were often created on whatever land was available and affordable to a municipality, and in many instances this simple approach was very effective. However, the design, acquisition, construction and maintenance of parks and open spaces is now much more complex due to high competition for open land, liability issues and concerns about the efficient use of public funds. As a result, municipalities need to follow a well thought out project planning process. The benefits of such a process include:

Political Support—Following a planning process provides the kind of documentation of public involvement and technical evaluation that is needed for elected officials to make decisions that reflect the will of their constituents. Furthermore, high-visibility park or open space dedication ceremonies, more commonly known as “ribbon cuttings,” can be very useful in publicizing a facility. Political support is essential in pursuing open space projects and securing the funding needed to complete it.

Financial Considerations—Open space projects, even those involving the preservation of natural habitat, typically involve land acquisition along with the construction of roads, parking lots or structures such as restrooms. Such projects can be as complicated and expensive as any road or utility project. Properly planning open space and recreation projects helps to identify and resolve design issues early on, thus avoiding the need to redesign or reconstruct an inadequately planned project.

Legal Considerations—If the recommendations of an open space or recreation planning effort are challenged in a lawsuit, the documentation of proper planning can greatly aid in the municipality’s defense. Similarly, a lawsuit regarding a constructed facility or acquired property can be easier to defend if it is shown that proper planning and public input were involved in its creation.

Media Coverage—The planning process generates studies, memos and maps which can be shared with the media to garner input from the public and stakeholders. Public meetings also provide opportunities for media coverage. Such press coverage is especially important for recreation projects since public parks must be marketed to users in order to succeed. Privately owned recreation facilities, such as amusement park and golf courses, rely heavily on marketing.

Community Support—The success of open space and recreation projects are especially sensitive to both community support and public perception. If the public or a specific constituency feels that they have not been included in the planning of a project, they can, and have, convinced local officials to stop the project. Facilities like public trails, sport fields and natural areas are highly visible and residents are more likely to feel an emotional attachment to them than other public facilities like sewer plants or water lines. It is also important to document community support when apply for grants.



Community volunteers reduce costs.

Consultant Selection

For most open space or recreation planning projects, it is necessary for local officials to hire an outside consultant, which may be an individual or a team. Relying entirely on volunteers for such planning efforts is generally not advisable given the liability concerns involved with creating public facilities. When conducting municipal open space planning, a team approach is usually required. This planning team should include, but need not be limited to the following professionals:

Land Planner—who serves as the lead consultant for a comprehensive plan, has a working knowledge of all aspects of land planning and possesses a technical understanding of natural, cultural and historic resources. The land planner should:

- Know how to plan, evaluate, regulate, develop, and implement municipal open space and recreation planning.
- Hold a bachelor's degree in planning, landscape architecture, geography, environmental science, or a similar field from an accredited college or university.
- Have at least three to five years of experience in the development of municipal planning documents.
- Ideally be professionally certified with the American Institute of Certified Planners (AICP), or the American Society of Landscape Architects (ALSA).

Recreation Planner—who is responsible for the recreation element. Recreation planning is a somewhat specialized field with which most land planners are not thoroughly familiar. A recreation planner should have a working knowledge of the physical design of recreation facilities, and understand the philosophy and design of recreational programming and facilities. The recreation planner should:

- Know how to plan, administer, program, finance, staff, police and maintain public park and recreation systems.
- Hold a bachelor's degree in recreation and park administration from a college or university accredited by the National Recreation and Park Association (NRPA).
- Have at least three to five years of experience in the planning of municipal recreational systems.
- Ideally be certified with the NRPA.

GIS Mapping Specialist—who is responsible for gathering geographic information systems (GIS) data layers for the municipality and the surrounding areas. GIS mapping is quite easy to manipulate once a base map is created, however creating a base map can require a high level of technical ability. For this reason, it is common for a consulting team to include one person, usually a sub-consultant, as a GIS specialist.



GIS mapping is now common.

Geographic Information Systems

Geographic Information Systems, more commonly called GIS maps, are digitally drawn computer drawn maps that are linked to a database. GIS has been widely used in Chester County at the County and municipal level since the late 1990s. Some local governments still do not use it, however most planning consultants hired by municipal governments now generate their maps using GIS. (GIS mapping is also discussed on page 141 in Appendix B.)

It is a common misperception that any digital map is a GIS map, but this is not correct. A GIS map consists of two parts: the map, and the GIS database that is connected to the map. A GIS database is a spreadsheet, containing information in rows and columns. At least one row must contain a **common identifier**, such as a parcel number, which can be linked to a point, line or polygon drawn on the map. Three records from a GIS database linked to a map of covered bridges might look like this:

An Example GIS Database

Bridge ID	Bridge Name	Road Location	Municipality
12	Glen Hope	Hickory Hill Rd.	Elk
13	Speakman No. 1	McCorkles Rock Rd.	East Fallowfield
14	Kennedy	Seven Stars Rd.	East Vincent

The major benefit of GIS mapping is that it can be stored electronically and updated. A database of historic structures can be updated as new historic buildings are discovered. Or, if a new, more accurate map of municipal boundaries is created, this layer can replace the out-of-date older layer. GIS gives the user the option of having one map that can be used to show all of the municipality or just a part of it. It is possible for one GIS base map to show an area as small as a quarter-acre parcel or as large as a five-mile buffer around the municipality.

Municipalities should require that consultants who generate GIS mapping provide the municipality with a copy of the GIS map and database on CD in a usable format. In contracting for GIS services, the municipality should require that all products developed by the consultant become the property of the municipality.

The following maps are recommended for municipal open space planning:

Inventory Maps

- Geology and ground water
- Steep slopes
- Soils
- Surface water resources
- Vegetation, wildlife, and natural areas
- Natural resource development constraints
- Historic and cultural resources
- Park and recreation facilities
- Trails and trail destinations
- Protected open space and undeveloped parcels

Planning and Recommendation Composites

- Natural resource protection plan
- Historic and cultural resource protection plan
- Park and recreation plan
- Trail network plan
- Protected open space plan

A regional mapping approach has not always been used in municipal planning, but it is a necessity with open space planning since so many of the resources involved, like woodlands and streams, cross over jurisdictional boundaries. The Chester County Planning Commission (CCPC) recommends that municipal maps should extend 1,000 feet beyond the municipal boundary. This 1,000-foot buffer is a rule of thumb, and a map should use a smaller buffer if it helps to better situate the map drawing on the page.

In general, all maps should be presented in color. Black and white maps can be used for simple maps and are also appropriate for any pages that might be photocopied as grant application attachments. Large display-sized maps should be maintained and made available for public review at the municipal building.

GIS mapping is now so available that some local planners find that they are overwhelmed with maps. Municipalities should consider keeping some maps on file rather than binding all of them in their comprehensive plan. Appendix B and C provide guidance on how local planners can more effectively use GIS maps.

The Benefits of Mapping Beyond Municipal Boundaries

Many of the municipal comprehensive plans adopted over the past few decades in Chester County only map features within the municipality. This is largely because until recently it was technically difficult and often too expensive to create a map that extended beyond municipal boundaries. Furthermore, many public officials did not want to give the impression that they were attempting to make planning decisions for lands outside of their legal jurisdiction.

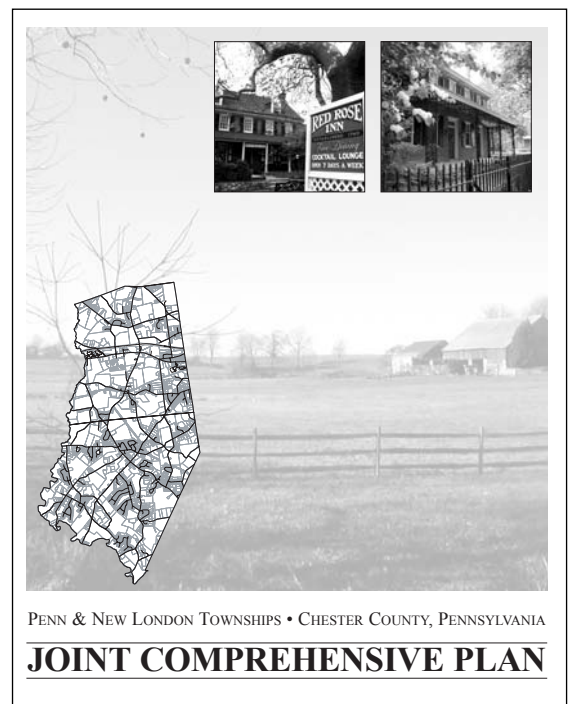
Now that GIS mapping is widely used, it is possible and affordable to map beyond the boundaries of a municipality. Base mapping of roads, tax parcels and major natural features like rivers, is available in digital format from the Chester County Department of Computer and Information Services and private sources. For many municipalities, this level of base mapping is all that is needed. Additional layers such as woodlands and historic districts can be easily created and overlaid on top of the above mentioned base map layers.

Developing base mapping beyond the municipal borders helps local planners to evaluate natural features and land use policies in surrounding communities. For example, when a municipality becomes aware of an endangered species habitat only 30 feet outside of its border, it can adopt zoning for that area that is compatible with the habitat. Similarly it would be prudent to map future land uses and zoning in adjacent communities to avoid locating a public amphitheater next to an odor producing land use right across the border.

Linking Landscapes, the open space element of the Chester County comprehensive plan noted that certain open space features could be mapped within a buffer area surrounding the municipality. These buffers ranged from one quarter to one mile wide, depending on the feature being mapped. From a practical standpoint, local planners cannot be expected to map each resource using a different sized buffer. As a result, it is best to develop a base map that includes a 1,000-foot wide buffer that can be applied to all the maps in the comprehensive plan. This buffer is roughly one fifth of a mile.

A 1,000-foot wide buffer is well suited for GIS clipping techniques, which can automatically create a 1,000-foot buffer. This buffer also is consistent with other maps. USGS quadrangles that have a scale of 1 inch = 2,000 feet, which would mean the 1,000 foot buffer extend be one half inch. NWI Wetland maps also use the USGS scale. The 1,000-foot buffer can also aid local planners in setting policies for other comprehensive plan topics, such as transportation and wastewater, which also require a regional perspective.

The August 2000 revision to PA Act 247, the Municipalities Planning Code promotes multi-municipal planning.



Some municipalities are now conducting joint planning initiatives.

Developing and Refining Goals and Objectives

Establishing goals and objectives is an effective tool local planners should use to maintain the focus and momentum of a municipal open space planning effort. Goals and objectives should be developed by a municipal task force in conjunction with the elected officials, municipal staff, the general public and members of municipal boards, such as a park and recreation board or an environmental advisory committee. Goals and objective are:



Goals and objectives are a key part of open space planning.

Goal—A general statement that comprehensively describes what a municipality would eventually like to achieve under a realistic best-case scenario, even if funding and staffing are not currently available. Goals are meant to be broad enough to provide an overall operating umbrella or philosophy for a municipality.

Objective—A more specific action that can be used to achieve a goal. Most goals have more than one objective. The objectives ought to be reasonable, achievable, and realistic to implement. They should refer to specific project sites or actions that can realistically be initiated in the short term, usually five years or less. Examples of objectives are listed on pages 73 and 74.

Preliminary goals and objectives should be developed early in the open space planning process (within the first six months) and presented in a Preliminary Goals and Objective Memorandum. This memo can be distributed to selected stakeholders for their review and comment, and its draft goals and objectives can be presented on a display board at a public meeting. This memo can then be revised as the goals and objectives are refined based on public and stakeholder input. The final revised goals and objectives should be included as formal recommendations in the adopted plan.

When conducting open space planning for a municipal comprehensive plan, at least one goal should be developed for:

- Cultural resources
- Naturally sensitive areas to be protected by municipal zoning or other ordinances
- Natural resources
- Public trail network
- Recreation facilities and programming
- Protected open spaces

At least one objective should be developed for each goal. Usually there is more than one objective for each goal.

Examples of Objectives

An example of a municipal open space planning goal might be: *Establish a municipal trail network of linked sidewalks and trails.* The objectives for this municipal trail network goal might include:

1. Identify areas of broken sidewalks that need to be replaced.
2. Extend sidewalks to heavily used bus stops.
3. Update the municipal zoning ordinance to permit public trails in the homeowner association open space of all new major developments.
4. Identify industrial park jogging paths that could be linked to a municipal trails network.

Other objectives may address the preservation of:

- Covered bridges
- Floodplains
- Ground water
- Headwaters
- Historic districts
- Historic downtowns
- Historic structures and sites
- Hydric soils
- Productive agricultural soils
- Scenic roads
- Scenic vistas or streetscapes
- Surface waters
- Threatened and endangered species habitat
- Wetlands

Objectives may also address the need to manage soils, vegetation, water resources and wildlife on:

- Educational facilities
- Golf courses
- Homeowner association open space
- Public parks
- Public non-recreational land
- Serpentine barrens
- Significant wetlands
- Steep slopes
- Utility corridors
- Woodlands



Objectives may also address other issues, such as the need to:

- Acquire additional recreational parks
- Adopt or revise fiscally responsible fee-in-lieu ordinances
- Adopt or update an Official Map
- Establish a Historic Architecture Restoration Board (HARB)
- Establish a historic commission
- Establish a municipal-wide network of bike routes
- Establish a municipal-wide network of trails
- Establish a municipal-wide network of public bridal paths
- Establish a non-profit, private local land trust
- Identify access points for water based recreation
- Identify waterways suitable for recreation
- Increase funding for the maintenance of public recreation facilities
- Join with an adjacent municipality or municipalities in a joint recreation authority
- Maintain or improve the maintenance of municipal recreational facilities
- Manage wildlife population
- Program recreational facilities at the municipal levels
- Promote coordination among recreation providers and sports leagues
- Promote native plant species
- Promote recreational tourism



Open Space Task Force and Stakeholder Involvement

Planning for open space involves land planning, natural resource planning, cultural resource planning and recreation planning. Because of its wide scope, it requires input from a variety of interested stakeholders from within municipal government, the business community and the general public. It is therefore best for elected officials to appoint an interdisciplinary Open Space Task Force to direct an open space planning effort on a temporary basis.

The membership of the Open Space Task Force should not be identical to the membership of any other municipal committee, such as the parks, recreation, open space or environmental advisory committees. The Open Space Task Force must work closely with the municipality's consultant, but the consultant should not be the task force chair.

The Open Space Task Force should include seven to nine individuals representing a variety of community interests and include:

- An elected official from the board of supervisors/commissioners or borough/city council.
- A member of the municipal planning commission.
- A member of each municipal committee that has an advisory function dealing with parks, recreation, open space, natural resources or the environment, if available.
- A member of the municipal staff who is responsible for parks and recreation acquisition, planning or maintenance, if available.
- A representative of the business community, if available.
- A representative of local sports leagues, if available.

The Open Space Task Force should hold regularly scheduled meetings, at least once every two months, and require that the hired consultant submit any draft text, plan or graphic to the task force members at least one week prior to any meeting. This way the task force members will be able to review and consider the draft materials before the meeting, instead of wasting time reading them during the meeting. This may seem like a minor issue, but it can delay a project tremendously, since task force members cannot always attend every meeting. A consultant that is not willing to agree to this approach should not be hired. Consultants should also be required to present summaries of previous meetings to assure that they understood what issues were discussed and what decisions were made.



Public input is essential to open space planning.

Stakeholders who might be impacted by the recommendation of municipal open space and recreation planning should also be included in the planning process. Outreach to stakeholders may consist of surveys, special meetings or presentations given to business groups or civic associations. Stakeholders include, but are not limited to:

- Chambers of Commerce
- Bicycling clubs
- Developers/homebuilders
- Equestrian groups
- Farmers organizations
- Golf courses
- Hiking clubs
- Historic societies
- Homeowners associations
- Industrial parks
- Local businesses
- Major land owners
- Minority group organizations
- Non-profit land trusts
- School districts
- Sports leagues
- Watershed conservation organizations
- YMCAs, Boy & Girl Scouts

Public Meetings and Hearings

Public meetings provide a variety of benefits to municipalities and are essential to open space planning. First, they spread the word to local residents, businesses and the media that the municipality is considering making changes to the open space infrastructure. These meetings also show that the municipal officials genuinely respect the opinions of their constituents. They are also a cost effective way to gather information from long-time residents who may have more information about a community's history or ecology than any hired consultant or scholarly publication.

The CCPC's experience has shown that a planning effort for open space and recreation usually takes 12 to 18 months from initiation to adoption. This is the length of time needed to gather data, create mapping and present findings at public meetings. It is best if this process does not last more than two years, because some key information, such as amount of undeveloped land suitable for protection, can become outdated over that period of time.

PA Act 247, the Municipalities Planning Code (MPC) requires that at least one public meeting and one public hearing be held in order for any element of a municipal comprehensive plan to be adopted. In general, it is prudent to hold at least three public meetings, followed by a hearing, when conducting any open space planning effort. Through this approach, there is ample opportunity for all the issues that might arise to be resolved so that the hearing can be brief and effective. Usually the hearing takes place at a regularly scheduled municipal official's hearing. The three recommended public meetings are:

Introduction/Information Gathering Meeting—should be held early in the process before any draft of the document is completed. This meeting will introduce the project to the public and the media, and so make it clear that the process is fair and open. This meeting can also be used to gather information and public opinions. Survey results and draft goals and objective can be presented for the project. Attendees might also be asked to write down ideas on cards or mark up base maps with suggestions for facilities or areas in need of protection.

Draft Plan Review Meeting—should take place after the mapping has been compiled so that maps can be presented showing the location of existing resources. This meeting should also present preliminary recommendations being considered for adoption in the final document. As with the first meeting, attendees should be asked to write down their comments, or perhaps even mark up any corrections or additions on the resource maps.



Final Plan Recommendations Meeting—should take place before the public hearing and subsequent adoption. This meeting can present final maps and recommendations that will be submitted to the elected municipal officials for adoption. This meeting can be used to identify, discuss and ideally resolve any outstanding controversies prior to the more formal setting of the public hearing. This is the meeting that is best suited for media coverage, and a press release can be distributed to raise media awareness.

Meeting minutes should be written down for all public meetings, and attendee's comments should be summarized in a memorandum along with a response. It is preferable that attendees physically write down their own comments, thereby reducing the risk that they will be misquoted. This documentation should be saved in case a controversy arises, and can even be included in an official report. In general, public comments are not included in the adopted comprehensive plan, however it is a tool that can be used to demonstrate public support or awareness of an issue.



A public meeting of the Northern Federation was held to define goals and objectives of the resource management plan.

Public Surveys

Public surveys should be used in open space planning to gauge the opinions of municipal residents or individuals who live or work within a municipality. Such surveys need not be overly detailed and should be tailored to the needs of the municipality. Some questions commonly included in open space and recreation surveys are:

- How long have you lived in the municipality?
- Do you work in the municipality and if so, how long have you worked there?
- What type of dwelling do you live in?
- What issues will affect the future quality-of-life in the municipality?
- How many people are in your household?
- How old are you?
- Why do you live here?
- Which items should have an increased share of the municipal budget?
- Where do you usually participate in recreation?

Commonly used questions relating to recreation are:

- What do adult members of your household do for recreation?
- What do the children of your household do for recreation?
- What recreational activities would interest you if they were available in the municipality?

June 2001

To: Oxford Borough Residents

From: Oxford Borough Open Space Planning Task Force
(Glenn Eters, Doug Griest, Etha McDowell, Tim Clark, David Sweet, Bob Glisson)

Borough Council appointed the Open Space Planning Task Force to develop an Open Space, Recreation, and Environmental Resources Plan for Oxford Borough. In this early phase of our work, we need your thoughts on issues facing the Borough, especially regarding recreation and open space. We also need to hear about the current recreational activities of your household and about any other activities you would like to see available.

We have made this survey form brief and to the point, hoping you will fill it out quickly and return it promptly. No names are needed and all information is confidential. Simply mail the form back in the enclosed envelope or drop it at Borough Hall.

Your participation in this Borough-wide planning process is critical to meaningful results. We plan to share the initial findings at a public meeting this fall; its date and location will be announced later in the summer. Thank you for your help.

1. How long have you lived in the Borough?

less than 5 years

5 to 10 years

11 to 20 years

more than 20 years

2. How old are the members of the household? Please indicate how many are in each bracket.

Infant 1 to 5 years

6 to 12 yrs 13 to 15 yrs

16 to 18 yrs 19 to 30 yrs

31 to 50 yrs 51 to 65 yrs

65 or more years

3. What type of dwelling do you live in?

Single family detached house

Twin, duplex, or double

Apartment, townhouse, or multi-unit

Mobile home

Retirement community

Other (Please specify) _____

4. Why do you live here? Check the three most important reasons.

Lived here all my life

Rural atmosphere

Housing availability or cost

Close to family and friends

Close to work

Scenic beauty

Small town lifestyle

Quality of schools

Real estate tax rate

Close to shopping

Other (Please specify) _____

5. What issues will affect the future quality of life in the Borough? Check the five that are most important to you.

Traffic safety and congestion

Open space preservation

Police protection

Employment opportunities

Parks and recreation

Housing opportunities

Shopping opportunities

Natural resource protection

Protection of historic buildings

Fire protection

Revitalizing commercial district

Other (Please specify) _____

6. Which items should have an increased share of the Borough budget? Check up to three that are most important to you.

Biking trails

Library

Downtown revitalization

Open space and natural habitats

Parks and playgrounds

Walking trails

Other (Please specify) _____

This survey was used in Oxford Borough.

These three questions are often followed by the following optional responses:

- Aerobics/exercise/yoga
- Baseball
- Basketball
- Bird watching
- Boating/canoeing
- Bowling
- Camping
- Dancing
- Fishing
- Football
- Golf
- Horseback riding
- Hunting
- In-line skating
- Martial arts
- Mountain biking
- Nature appreciation
- Off road vehicle use
- Picnicking
- Racquet ball
- Road bicycling
- Running
- Sight-seeing/pleasure driving
- Skateboarding
- Soccer
- Softball
- Swimming
- Tennis
- Volleyball
- Walking/hiking
- Weight training
- Winter sports

Survey results should be described in detail in a memorandum, but the detailed results do not need to be included as an appendix in a comprehensive plan. In general, the CCPC's experience is that that a brief summary of findings is sufficient documentation within a comprehensive plan. The full results should be kept on file in case an interested party requests it. Public surveys should be conducted early in the planning process (within the first three months) so that the results can be presented at the first public meeting.

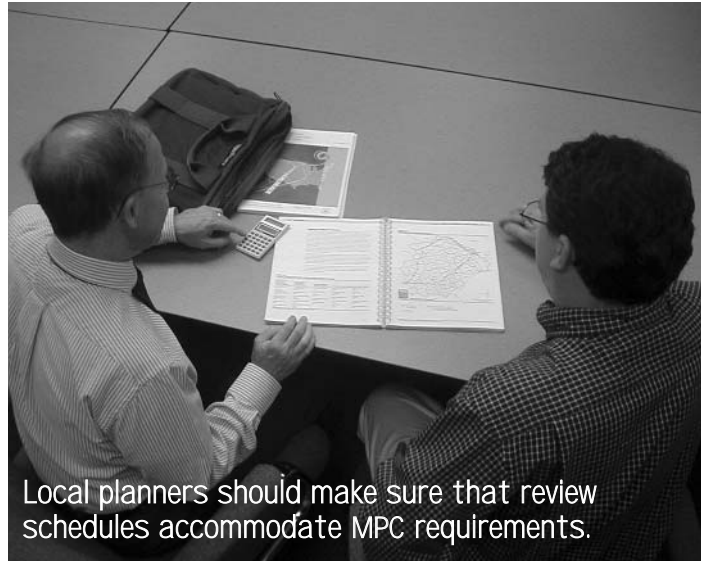
In some municipalities, there may need to be special outreach to spanish-speaking residents and the Amish. Planners should also be aware that some recent immigrants may have limited reading skills. If need be, special meetings can be held to get verbal input from these communities.

Review Schedule and Adoption Requirements

In order for a municipal open space plan element or amendment to be adopted as an element of a municipality's comprehensive plan, it must first undergo the review process required under PA Act 247, the Municipalities Planning Code (MPC) of 1969 as amended. Article III, Section 302 of the MPC requires that the municipal planning commission must hold at least one public meeting before submitting the final plan or plan amendment to the municipal elected officials for adoption at a public hearing.

The municipality must also provide a copy of the plan or plan amendment to the Chester County Planning Commission, all contiguous municipalities and the school district for a 45-day review before submitting the plan or plan amendment to the municipal elected officials for adoption. After 45 days, the municipal elected officials can proceed with or without the comments. It is the responsibility of the municipality to fully comply with these and all other regulations within the MPC.

Municipalities that receive Vision Partnership Program (VPP) funding from the County must first submit a copy of any text or mapping developed using VPP funding to the CCPC for a VPP consistency review. Once the CCPC determines that the submitted document is consistent with the VPP program requirements, the document must be resubmitted to the CCPC for County Act 247 review, as described above. The County VPP review and County Act 247 review cannot be conducted concurrently. Given all these requirements, the schedule for an open space planning project should take 16 to 18 months, as outlined on the next page. Other comprehensive planning projects may have a different schedule.



Local planners should make sure that review schedules accommodate MPC requirements.

A Recommended Open Space Planning Schedule

Months	Tasks
1 to 3	<ul style="list-style-type: none"> • Hire consultant / Begin gathering information and mapping • Write draft goals and objectives / Write and mail surveys
4 to 6	<ul style="list-style-type: none"> • Complete base mapping / Tabulate survey results • First public meeting / Present draft goals and objectives / Present survey results
7 to 9	<ul style="list-style-type: none"> • Revise draft goals and objectives • Compile draft maps / Write draft recommendations
10 to 12	<ul style="list-style-type: none"> • Second public meeting / Present revised goals and objectives / Present draft maps and draft recommendations
13 to 15	<ul style="list-style-type: none"> • Revise draft maps and draft recommendations
16 to 18	<ul style="list-style-type: none"> • Complete draft plan document / Submit for VPP review, if funded through VPP • Final public meeting / Distribute revised draft plan document for 45-day review • Revise plan / Public hearing / Plan adoption

Public meetings held between Thanksgiving and New Years are often poorly attended, and so should be avoided when setting a schedule. Likewise, meetings held during summer months are more difficult to organize due to vacations. However, summer meetings are often unavoidable.

Dealing with Controversy

Parks and natural areas are used for exercise, fun and relaxation, and so it is somewhat ironic that creating and managing these community amenities frequently generates public controversy. This unfortunate reality is probably because people have an emotional attachment to parkland and wildlife areas. Regardless of the reasons, municipalities engaged in open space planning should always assume that controversy will occur.

Most controversies can be avoided or resolved using common sense practices such as keeping good records, basing municipal recommendations on sound research, and conducting thorough planning with public input and surveys. Municipalities should be prepared to respond to stakeholders who have heartfelt and passionate concerns about the consequences of open space planning. Each controversy is unique, but in Chester County some of the most common controversies include:

Crime Prevention—During the 1960s and 70s, some urban areas in the United States reduced maintenance and security funding to parks, resulting in so called needle parks that became centers of drug use and crime. Undeniably, it is true that any public or private facility, from a schoolyard to a parking lot, can become prone to criminal activity if it is not properly designed, maintained or policed. This being the case, it is important for municipalities to inform the public that crime prevention has been considered in the planning process. Public meetings can also be used to gather information on areas that are prone to vandalism or illegal activity so that these concerns can be addressed through the planning process. Law enforcement should also be included in this process.

Public Access—There is general agreement that public money should be spent for the benefit of the public, but there are often differing opinions as to what constitutes public benefit. Some people feel that the general public should be permitted to enter any property paid for with tax dollars. Others are just as adamant that areas, like wetland habitat, would be destroyed by mountain bikes or horses if public access were provided. Public use is also an issue of homeland security, since the destruction of dams or utilities, or the intentional infection of livestock remains an ongoing concern. Municipalities should openly discuss these issues in a public setting in order to reach a consensus that will balance stakeholder concerns with the municipality's security, legal and liability requirements.

User Conflict—User conflicts typically involve two or more user groups that wish to use a public property at the same time. Common examples are mountain bikers, who ride fast on trails used by slow moving hikers, or equestrians whose horses might get tangled in long dog leashes. Another common conflict is between homeowners who regard nearby public open space as an area



Posted regulations at Marsh Creek State Park, Uwchlan Township

for quiet reflection, while little league teams view it as a location for early morning practice. Such user conflicts can often be easily resolved, but only if there is official documentation that the municipality has determined what uses are, and are not, permitted on its public lands. Likewise, the municipality should document when its facilities are open for public use. When resolving most user conflicts, one side usually wins the hours and the other loses. What is important is that both sides know that the municipality made a fair decision based on objective pre-existing guidelines that were developed through a planning process that was open to the public for input and review.



Marsh Creek State Park has detailed user rules to protect public safety.

Referencing Information Sources

Open space planning usually involves gathering a great deal of scientific information, such as the descriptions of soil types, wetland communities and floodplain features. Likewise information on population and demographics is used in determining recreational needs. Other information, such as the location of cracked sidewalks or locally important natural areas, can only be gathered by coordinating with community organizations, interviewing long-time residents or conducting field visits. Due to the sheer volume of data needed, it is important for all this information to be properly referenced.

Properly referencing information provides the municipality with valuable protection. If there is ever any public dispute or legal challenge, properly documented references can help resolve the issue before it becomes a controversy. Although a municipal comprehensive plan may not be a highly technical scientific document, it is nonetheless a legally adopted tool of government and its findings should be rigorously justified and properly referenced. Simply put, it can be embarrassing for a municipality to be unable to identify a source when a critic questions a statement that was adopted as part of a comprehensive plan.

Some commonly used site references include:

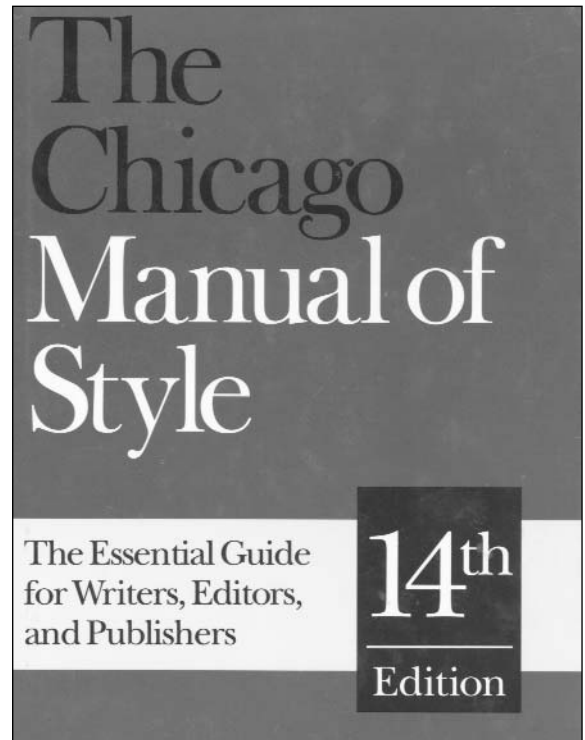
Footnotes—in which a number is inserted in the text, which refers to a bibliographic reference at the bottom of the page.

Endnotes—in which a number is inserted in the text, which refers to a bibliographic reference at the end of the chapter.

Author and Date—in which the author and date of a publication is inserted in the text in parentheses such as “(Twain 1884).” At the end of the chapter would be listed, “Twain, Mark. 1884. *The Adventures of Huckleberry Finn*. New York: Charles Webster.” This can also be presented as “(Twain 1884, 36)” for a reference to page 36. This style of referencing is common in technical and scientific publications.

Reference within the text—in which the text would read, “According to Mark Twain’s 1884 *The Adventures of Huckleberry Finn*, the Mississippi River was a major shipping route.”

The Chicago Manual of Style is generally regarded one of the standard reference guidebooks for writers, editors and publishers of American English. It provides examples of the various bibliographic reference options available in the print media, along with rules on punctuation, grammar and word usage. It is a comprehensive yet affordable publication that is updated periodically and is available at most book stores.



The Chicago Manual of Style is a standard text for preparing publications.

Chapter 5



Open Space Case Studies:
Process, not Product

Examples of Successful Open Space Planning

This chapter provides case studies on municipalities in Chester County that have already conducted some aspect of open space or resource planning. Each municipality took a unique approach to addressing the open space needs of their constituents, but one common trend can be seen in all these examples. In each case study, the local planners approached open space planning as an ongoing process, rather than one specific project to be initiated and then completed. In communities where open space goals have been achieved, open space planning has become a regular part of operating the municipality. This **process, not product**, approach can serve as a model for municipalities throughout Chester County.



West Fallowfield Township
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North Coventry Township
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Northern Federation
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Phoenixville Borough
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East Goshen Township
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Uwchlan Township
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London Britain Township
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Tredyffrin Township
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Warwick Township
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Birmingham Township
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Downingtown Borough
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Agricultural Protection through Zoning and Easements in West Fallowfield Township

In 1997, West Fallowfield Township adopted **effective agricultural zoning**, which by definition permits only very low density development within an agricultural zoning district, usually one unit per 10 to 25 acres. Very low densities protect agriculture by reducing opportunities for non-farm uses. Section 300 of the West Fallowfield Zoning Ordinance sets forth that the AG—Agricultural District will include landscapes well suited for farming, such as Class 1, 2, and 3 soils. This district permits a minimum lot size of 25 acres, eliminating most non-farm uses.

The municipality was directed to pursue this zoning based on policy set forth in their 1993 municipal comprehensive plan. Page 87 of the plan noted that agriculture remained as the township’s principle industry and that a public opinion survey recognized agriculture as “the primary land use to be protected” within the plan. The plan also recommended that, “a gross density of one unit per 10 acres should be maintained in areas allocated as agricultural.”

After coordinating with local farmers and holding public meetings, local planners determined that a 25-acre minimum lot size was preferable to 10 acres. Furthermore, Section 400 of the zoning ordinance established a higher density RN—Residential Neighborhood district around the traditional village center of Cochranville. This district provided an additional variety of land use to accommodate future residential growth that would not be viable in the AG District, thus meeting the “reasonable range of dwelling type,” requirements of Section 605 (5) of PA Act 247, the Municipalities Planning Code (MPC).

The township has also used its farming community to spread information on tools that protect farmlands. In 1990, the township created an Agricultural Security Area (ASA) that now has 159 parcels covering over 5,600 acres. As part of that process, farmers communicated among themselves about programs such as Act 319, which reduces the tax burden on farmlands. Currently, over 280 parcels covering over 8,900 acres (77 percent of the township) are enrolled in Act 319, including a number of Amish farms.

To date, 30 parcels of farmland covering over 1,500 acres are protected with agricultural conservation easements that were purchased by the County Agricultural Lands Preservation Board (ALPB) using state and County funding. Farms become eligible for this program only if they are within an ASA, and meet specific soils and lot size requirements. Simply put, the planning and zoning adopted by West Fallowfield created an environment that permitted farmers to protect their land in perpetuity.



Eased farmland in West Fallowfield Township.

Brownfield Reuse in Phoenixville Borough

In 1783, the Phoenix Iron Company established an iron smelter in Phoenixville Borough. By 1883, steel operations covered most of the lowlands along French Creek within the borough. The steel industry began to decline after World War II and in 1987, the Phoenix Steel Corporation had ceased production. The company reorganized as Phoenix Pipe and Tube, but it went bankrupt in 1992. One of Phoenix Pipe and Tube's consultants then took an interest in redeveloping the entire steel site, and created a development company called Phoenixville Property Group (PPG). PPG purchased the former steel site in 1997. By 1999, much of the factory infrastructure had been demolished.

While the steel operation was in the process of being dismantled, a number of studies were completed that addressed ways to link the borough's French Creek Corridor to a number of trails and recreation facilities along the Schuylkill River. These studies included:

- 1986, *Schuylkill River Greenway: Cromby to Parkersford Preliminary Design Concepts* Chester County Parks and Recreation Department (CCPRD).
- 1996, *Creating and Open Space Legacy; Montgomery County Open Space Plan*, Montgomery County Planning Commission.
- 2002, *Linking Landscapes: A Plan for the Protected Open Space Network in Chester County, PA* Chester County Planning Commission.
- 2001, *Pennsylvania Greenways: An Action Plan for Creating Connections*, the PA Greenways Partnership Commission, managed by the PA Department of Conservation and Natural Resources.

Two other studies were conducted to determine if the site and nearby properties could be redeveloped to include a rail station connecting Philadelphia to Reading. This proposed commuter line is commonly known as the Schuylkill Valley Metro (SVM). These studies included:

- 1998, *Schuylkill Valley Feasibility Study Final Report*, Berks Area Reading Transportation Authority and the Southeastern Pennsylvania Transit Authority.
- 2001, *Schuylkill Valley Major Investment Study/Draft Environmental Impact Statement*, Federal Transit Administration.



The Phoenixville foundry is located on a former brownfield.

During this time, a number of recreation projects were also initiated. In 1985 the Philadelphia Electric Company donated a series of recreation easements along the Schuylkill River to the CCPRD for use as future trails. In 2003, CCPRD opened the Black Rock Sanctuary Special Purpose Park in northern Phoenixville Borough. The entire Schuylkill River Watershed was designated a State Heritage Corridor in 1995, and a National Heritage Corridor in 2003. Funding from these programs was used by the Schuylkill River Greenway Association and the Phoenixville Area Economic Development Corporation to restore the historic steel site foundry as the Phoenixville Foundry Visitors Center.

By the late 1990s it became clear to local officials that the steel site had the potential to be redeveloped in a way that might include a commuter rail station, a major regional trail link and a variety of commercial and residential development. As a result, the Borough initiated community-planning efforts including:

- 2000, the borough created the Phoenixville Main Street Program.
- 2000, the borough adopted a strategic plan for the French Creek Corridor & Downtown Business District as an element of the borough's comprehensive plan
- 2001, the borough's Main Street Program commissioned the *Main Street Research Study*.
- 2004, the borough adopted the *Phoenixville Urban Centers Revitalization Plan*, as part of its comprehensive plan.

In January 2000, a land planning civic group called "Chester County 2020," sponsored a meeting with borough officials, PPG, local stakeholders and regional land planners. Input from this meeting helped PPG to refine its design concept for the steel site. In February 2000 PPG presented a redevelopment plan to the borough planning commission. PPG proposed building a 120-acre "French Creek Center," which would include town homes, apartments, office space, a SEPTA light rail station, a town center and a retail plaza. The project also called for the construction of new roadway called French Creek Parkway, which would link the new development into the borough's existing street grid.

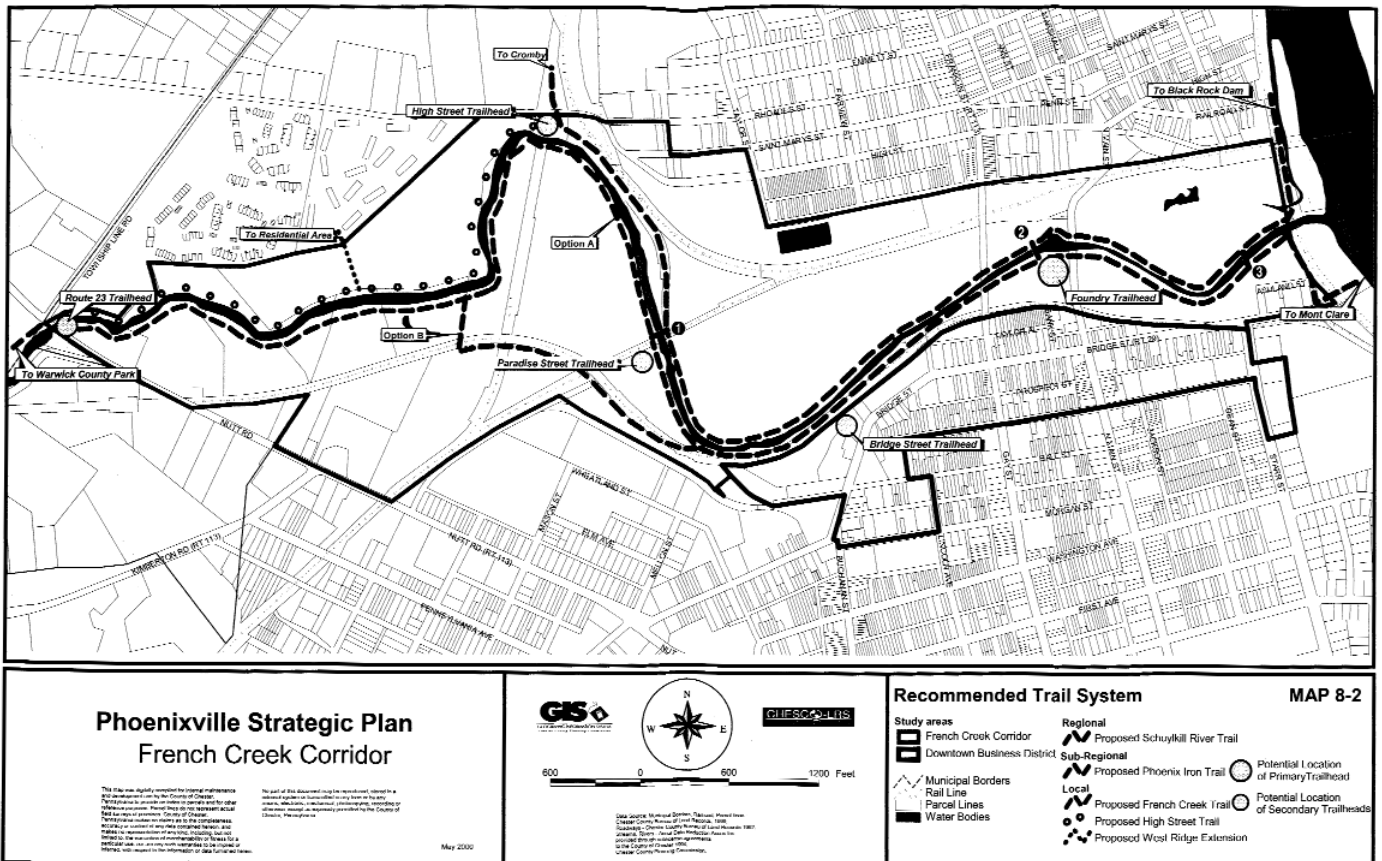
In order to construct this project, the borough needed to amend its zoning. Fortunately, the authors of the 2000 strategic plan coordinated with PPG, and so the plan included recommendations that gave the borough the option of altering their zoning if the PPG concept was consistent with local goals. In June 2001, the borough amended its zoning to include a unique urban development district that could permit French Creek Center to be built as part of a comprehensive redevelopment of the entire downtown area.

To date, some \$19 million worth of grants and low-interest loans have been leveraged for this project. In June of 2000, the Pennsylvania Recreational Trails Program awarded PPG a \$200,000 grant for the construction of trails on the site. In August of 2001, PPG and the borough were awarded over \$240,000 from the PA Department of Environmental Protection to develop a streambank restoration plan for French Creek. The borough was also awarded a \$275,000 grant from Chester County to construct a 3,500-foot sewer intercept that will serve the redevelopment site. In 2002, the US Department of Housing and Urban Development (HUD) awarded a

\$6 million Brownfields Economic Development Initiative grant for environmental remediation at the site, which was accompanied by a \$4.5 million low interest loan.

In September 2004, 157 townhouse units along Vanderslice Street were offered for sale, and within 24 hours 71 were sold, even though none of them had been built. Once completed, French Creek Center will have 30 percent vegetated open space, along with open sidewalks and parking areas. Some 40 acres will have trails or walkways. The historic foundry, the Phoenix Column Bridge and the Superintendent's building will be reused. PPG and the borough were able to create open spaces and trail links on a brownfields, but only as a part of a development that met overall community planning goals.

The lesson to be learned from Phoenixville's experience is that both the developer and the community must make a long-term commitment to promote open space, and join together in facing whatever obstacles arise along the way. Brownfields redevelopment is one of the most challenging forms of community development. However, it can also be dramatically transformative, turning blighted landscapes into community amenities and economic generators.



Phoenixville Borough's strategic plan calls for trails to be included in their brownfield redevelopment.

Cluster Development in South Coventry Township

South Coventry Township began addressing open space issues at far back as 1992, when they adopted their municipal *Open Space, Recreation and Environmental Resources (OSRER) Plan*. This document did not include specific recommendations regarding cluster development, but it did show how open space preservation related to the overall land use of the township. This document also inspired the township supervisors to pursue updating the comprehensive plan so that it would be more sensitive to natural and cultural resources.

In 1996, the township adopted a new comprehensive plan. This plan includes key land use plan actions that address cluster development in general terms. The future land use map of this comprehensive plan designates the vast majority of the township as “Open Space Residential,” in which newly constructed units would be “grouped on small portions of lots with up to 80 percent of parcels preserved as open space.” To provide for a full range of housing types, the Future Land Use Map includes two areas for **residential infill**. Both of these areas are located along major roadways and include existing developments along with open areas that are well suited for infill.

In 2002, South Coventry Township adopted a new zoning ordinance. This ordinance includes a map that designates most of the northern half of the township as RC—Rural Preservation District. Most of the southern half of the township is within an AP—Agricultural Preservation District. The ordinance also includes Article 12: Open Space Development Option, which presents general regulations, bonus density options and other open preservation and management provisions. The zoning ordinance permits conventional development in both the AP and RC districts, but only at very low densities. In the AP district, the permitted density is one unit is for every ten acres. Thus a 100-acre farm could have only 10 units.

To achieve more profitable densities, a developer must use the **open space development option** contained in Article 12. Under this option, densities of 0.55 units per acre are allowed, and even greater densities are possible with bonuses. In the AP district, a minimum of 65 percent of the original tract must be protected as open space. Thus on a 100-acre farm, 55 units could be built on 35 acres, while 65 acres would be protected as open space. A few additional units might be possible with the use of bonuses detailed in Article 12. The RC district uses a similar approach, but the densities and open space requirements are slightly different.

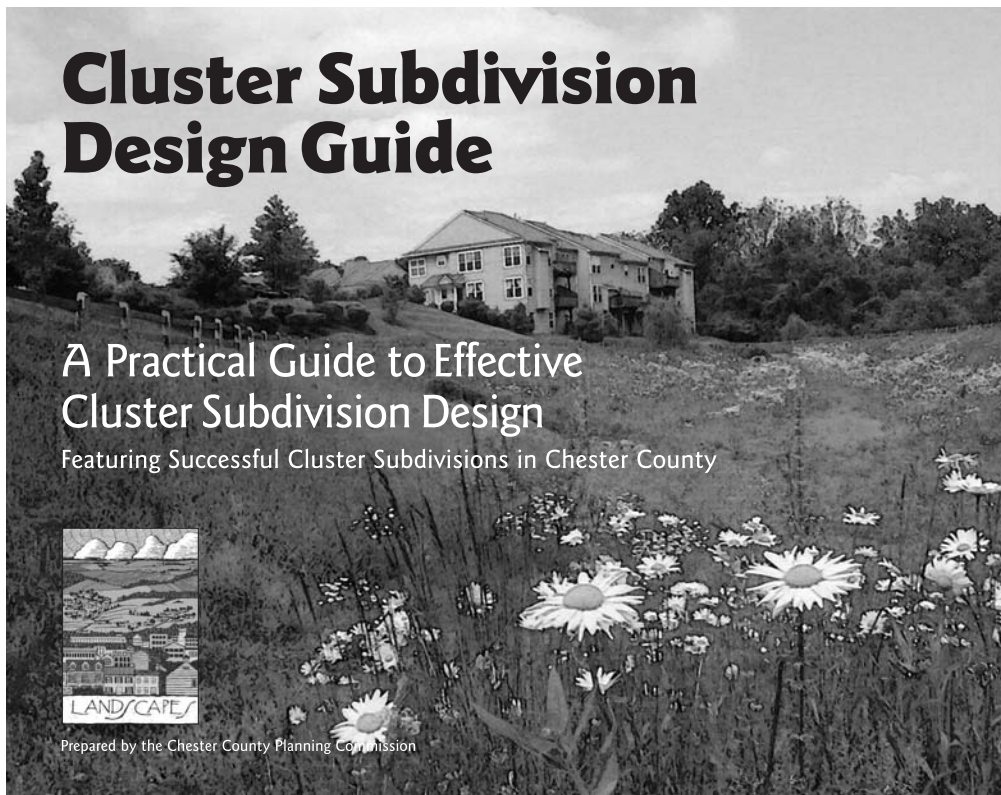
In both districts, conditional use approval is required to achieve a higher density. A developer must go



New cluster development in South Coventry Township

through a few extra procedural steps in order to get approval for conditional use. However the higher density provides a significant financial incentive to home-builders, making the conditional use process well worth the developer's time. Both the AP and RC districts have a slightly different set of requirements for tracts of less than 10 acres. This approach helps to promote infill development on smaller properties, many of which were already present before the ordinance was adopted.

The South Coventry zoning ordinance permits developers to build units with or without protecting open space. However, the developer has the opportunity to build more units if open space is protected. This is a market-based approach. Developers who set aside most of a tract as open space are rewarded by having an opportunity to build and sell more houses. Conversely, developers who choose not to set aside open space, are only able to build a limited number of units. This form of cluster zoning is also consistent with the *Cluster Subdivision Design Guide*, published by the Chester County Planning Commission (CCPC) in 2003. This document recommends that cluster zoning should protect greater than 50 percent of a tract as open space, in order to have a meaningful impact on natural and cultural resources.



Cluster development in South Coventry Township is featured in the County's *Cluster Subdivision Design Guide*.

Greenways Planning in London Britain Township

Half of the White Clay Creek Bi-State Preserve Park is located in eastern London Britain Township, with the other half being in New Castle County, Delaware. The Fair Hill Natural Resource Area is just south of the municipal border, in Cecil County, Maryland. For many years, residents of London Britain Township sought a way to create a protected open space corridor that would link these two resources. Recently, the township has used a variety of techniques to achieve this grass-roots desire for a greenway.

During the 1980s and 1990s, the White Clay Creek Watershed Association promoted the establishment of a greenway in southwestern London Britain Township as a way to improve biodiversity. This proposal was a general concept with no specific alignment. In 1992, the municipality adopted an open space plan element to their comprehensive plan, and it recommended a corridor in this same location. Much of

the property within this conceptual greenway was open land that was expected to be developed given recent land use trends. Because of this anticipated growth, London Britain decided to pursue the greenway protection as part of the land development process.

Prior to 2000, the township had a large residential/agricultural district requiring 1.75 lots on major subdivisions by-right. This land use became a conditional use in 2000, when the municipality amended its zoning ordinance by creating a by-right Conservation Design Overlay District covering the entire municipality. This district permits varying lots sizes, and requires 40 to 70 percent open space in any major subdivision (i.e. more than three lots). This district also allows two non-adjacent properties to be considered as one development when determining overall unit density. Thus, a homebuilder could buy two separated parcels, and cluster the majority of open space on just one parcel.

This approach is a small-scale variation of the Transfer of Development Rights (TDR) approach, which has been quite successful at the county level in other states. This type of zoning has allowed the municipality to direct developers to locate their open space on lots that are part of the greenway corridor. London Britain Township is also implementing municipal acquisition of parcels along the corridor, and it is coordinating with land trusts and the White Clay Creek Bi-State Preserve Park to pursue conservation easements on properties adjacent to the park.

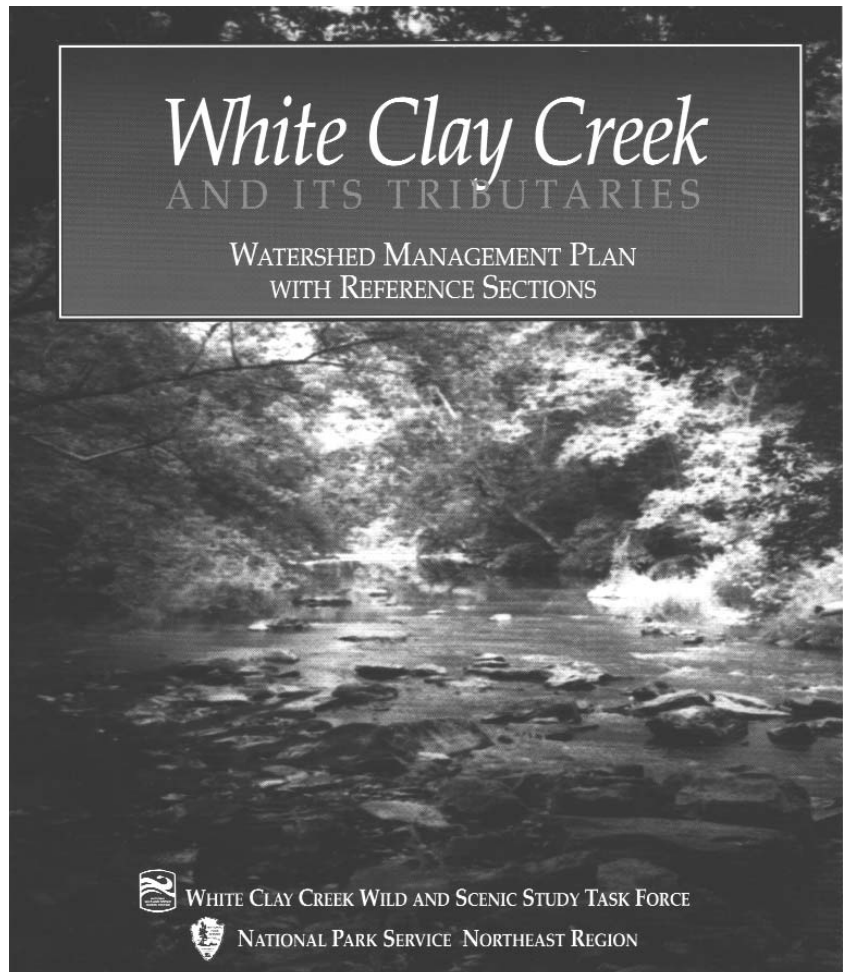


A section of the London Britain Greenway.

To fund their open space initiatives, the municipality proposed a bond referendum dedicating \$0.02 per \$100 assessed property value to open space. The voters approved this referendum in 2000, thus providing funds that could be used as the local contribution to state and County matching grant programs.

Municipal representatives also coordinated with the Delaware Valley Regional Planning Commission so that the greenway would be included on their regional inventory of open space projects. Local planners also became active in the White Clay Creek Wild and Scenic River Management Committee, to ensure that the proposed greenway would be consistent with the mission of that organization.

In 2000, London Britain was awarded grants from the state and Chester County. This funding was then used for land acquisition. Currently one mile of the proposed five-mile corridor has been acquired. The County grant awarded to the township required that the greenway include public access, which could be a simple packed dirt **primitive** trail. This is the same sort of access that is provided to state game lands, and it is consistent with the municipality's desire to create a biodiversity link used for habitat and nature appreciation, rather than a highly engineered multi-use trail.



London Britain Township's proposed greenway is consistent with the White Clay Creek National Wild and Scenic Management Study.

Historic Resources Conservation in Birmingham Township

The Battle of Brandywine took place in 1777, and was the largest troop movement of the Revolutionary War. Many of the battle's events took place within Birmingham Township. The entire Battlefield National Historic Landmark extends over 10 square miles covering portions of five Chester County municipalities, and one in Delaware County. In 1949, a total of 50 acres in Chadds Ford Township were protected as the Brandywine Battlefield State Park. The 10-square mile Battlefield was named as a National Historic Landmark in 1961 and a Pennsylvania Commonwealth Treasure in 1997. However, neither of these honorary designations serves a preservation function, and so it was up to local planners to devise a program that would protect this site as open space.

In 1989, the *Brandywine Battlefield National Historic Landmark Cultural Resources Management Study* was completed by the Delaware County Planning Department. This document provided an assessment of resources and recommended management strategies. It was revised in 1992. In 1993, the Brandywine Battlefield Task Force was formed to educate the public about the significance of this landscape and to preserve the 10-square mile National Historic Landmark. The task force included municipal and land trust representatives, along with representatives of the CCPC and Chester County Parks and Recreation Department. From 1993 through 1999, undeveloped parcels within the Battlefield area were identified and prioritized for protection, which has led to over 500 acres being protected with open space easements by the Brandywine Conservancy.

Funding for Battlefield preservation, exceeding \$8.0 million, has come from a variety of sources including landowner donations. To date, Birmingham Township has provided over \$100,000. Chester County has provided over \$2.3 million for acquisition, and awarded grants to four battlefield municipalities to complete the open space elements of their comprehensive plans. State funding for preservation activities have exceeded \$3.0 million. The federal government has appropriated \$3.0 million under the Federal Patriot Act of 1999. This act authorized federal funds to be used as a match for local funds that will finance a number of Revolutionary War era projects.

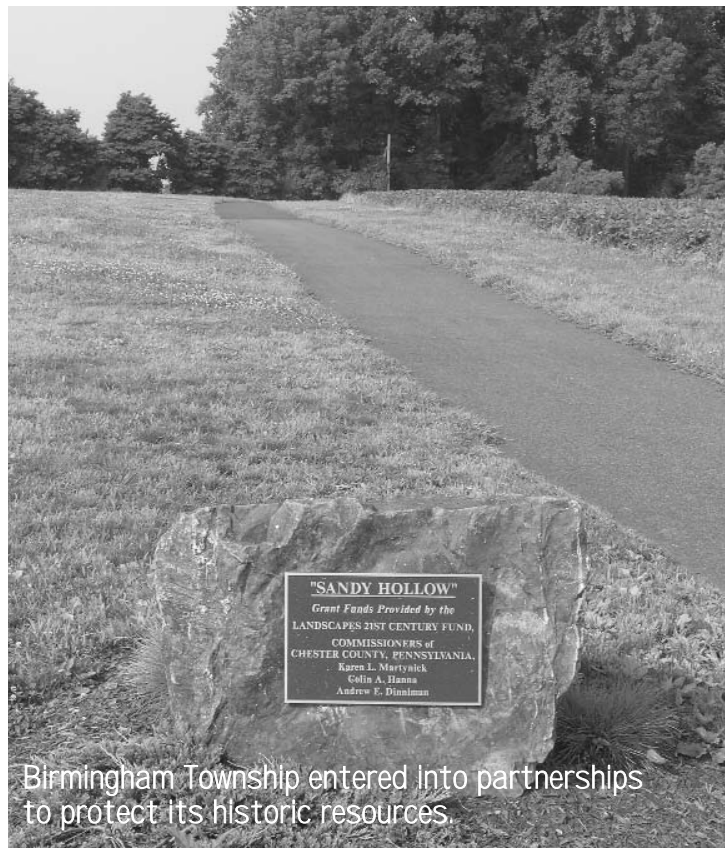
Birmingham Township has also helped to protect their battlefield landscapes through municipal ordinances. PA Act 167 of 1961, the



Sandy Hollow Heritage Park in Birmingham Township

Historic District Act, is the enabling legislation that permits municipalities to create a Historic District that meets the criteria similar to that of the National Register of Historic Places. Municipalities can establish design standards for properties with an Act 167 Historic District, and establish a Historic Architectural Review Board (HARB). Usually these districts are small clusters of buildings, but the Pennsylvania Historic and Museum Commission approved Birmingham Township's historic districts covering much of the eastern edge of the township.

Birmingham Township then took a further step and adopted an H—Historic District that matched the boundaries of the Act 167 District. This is a municipal-wide by-right overlay district detailed in Article VIII of the 2004 Birmingham Township Zoning Ordinance. This provision requires that certain procedures be followed for “determining the appropriateness of the erection, reconstruction, alteration, restoration, demolition or razing of any building” within the district before “any such action shall be undertaken.” Article VIII also permits cluster development in which the homeowners’ association open space is a **historic tract**. This zoning was adopted following recommendations in the 2002 *Birmingham Township Comprehensive Plan*, which included the Birmingham Township Cultural Resources Plan, as an appendix. In 2002, the township also adopted an Official Map listing proposed battlefield conservation easements.



Natural Resources Preservation in North Coventry Township

North Coventry Township has been one of Chester County's leading municipalities in terms of natural resource planning and protection. Currently, their zoning and their subdivision and land development ordinances (SLDO) address the following issues:

Land Resources

- Steep slopes (15 to 25%, 25% and over)
- Woodlands protection
- Timber harvesting plan required
- Specimen vegetation/PNDI sites
- Hedgerows
- Tree replacement required
- Tree protection during construction required
- Tree removal permit

Water Resources

- Wetlands
- Wetland margins
- Riparian buffers
- Floodplain
- Stormwater best management practices

Administrative

- Provisions for continued protection
- Protection standards centrally located
- Plan submission requirements for natural resources

The township's success in natural resource planning was largely due to their willingness to work with other organizations that were able to provide background information on natural resources and innovative planning techniques. In the mid 1990s, the North Coventry Township Planning Commission began to update selected portions of their zoning ordinance, some of which involved provisions for natural resource protection. In 1996 the township supervisors adopted a zoning amendment that included basic resource protection provisions for steep slopes, wetlands, surface waters, floodplains and woodlands.

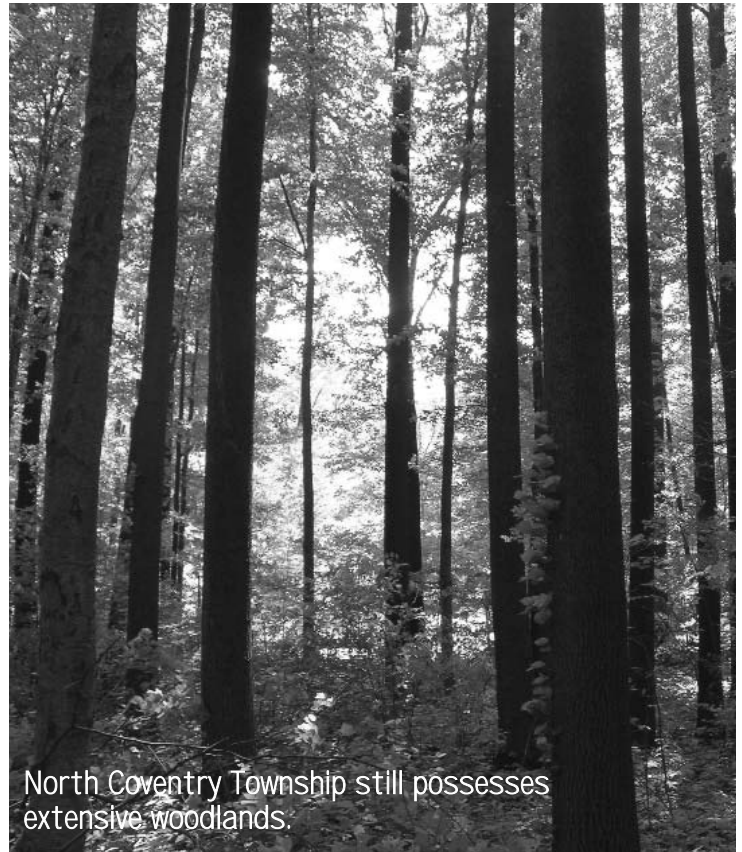
The township then began work on updating their SLDO, and in 1999 adopted an update that included storm water best management practices (BMPs). This update was reviewed by both the township engineer and Green Valleys Association (GVA), a watershed association active in northern Chester County. This dual review result-

ed in regulations that were sound from an engineering perspective, but also included sustainable watershed management techniques promoted by GVA.

In 2001, North Coventry Township adopted an updated comprehensive plan. Using technical assistance provided by GVA and the CCPC, local planners were able to include a much more thorough and detailed inventory and evaluation of natural resources than had been included in the previous comprehensive plan. Using this extensive background information served to support recommendations for innovative natural resource planning techniques.

In fall of 2002 the township updated their zoning again, and referenced policies set forth in the 2001 comprehensive plan. The natural resource protection standards were adopted before the other ordinance amendments were completed. Local planners felt that these protection standards needed to be adopted in a timely manner given development pressures. In winter 2003, the zoning ordinance was updated to include the “Growing Greener” approach promoted by the Natural Lands Trust. This provision gives homebuilders a number of options for protecting open space as part of the development process. The rest of the zoning ordinance was updated in 2003.

One of the keys to North Coventry Township’s success in natural resource protection was that they placed all their resource-oriented provisions in one article of the zoning ordinance, instead of being scattered through the document. This may seem like a minor administrative feature, but it serves to make the ordinance clear and easy for local residents and homebuilders to understand. More importantly, the protections standards are measurable and list maximum disturbance limitations.



North Coventry Township still possesses extensive woodlands.

Non-Recreational Open Space Planning in East Goshen Township

East Goshen Township was one of the first municipalities in Chester County to pursue the funding and planning of municipal open space. During the 1970s, the township pioneered the use of cluster development provisions in a zoning ordinance. In 1996 township voters approved a \$3 million bond for open space, which was only the third such open space referendum approved within the County. Currently, Supplemental Regulations in Section 240-36 of the 1998 zoning ordinance present criteria for a single-family Open Space Development. This type of development is a conditional use in the R-2 Low Density Residential District, which covers most of the township. Other sections in their zoning also address open space.

The Single-family Open Space Development (Section 240-36) calls for 55 percent open space, with a minimum density of one single-family dwellings per acre. It is only permitted on properties of 8 acres or more with public sewer and water. Section 240-36 (E) (1) states, "All land held for open space shall be designated on the plans. The plans shall contain the following statement: 'Open space land may not be separately sold, nor shall such land be further developed or subdivided,'" Furthermore, Section 240-36 (E) (2) (a) notes that, "The Board of Supervisors may, at its option, now or in the future, voluntarily accept the dedication of all or part of the common open space." Simply put, the open space cannot be developed, but the municipality retains the option to acquire it, or to have it managed by a homeowners association.

As a result of these open space provisions, East Goshen Township has acquired in-fee over 450 acres of open space, mostly along streams and floodplains. Most of these properties are connected, creating a network of linear parcels that have the general shape of a branching stream. This land is managed at the expense of the

municipality using the same workers who conduct road, sewer and park maintenance. However, because the parcels are connected as a network, they can be more economically maintained. If each of these parcels were isolated, maintenance crews would have to load and unload lawn mowers at every site. By acquiring these lands, the municipality has uniform control of the parcels, rather than allowing each one to be the responsibility of separate homeowners associations that may have varying levels of funding and capability.

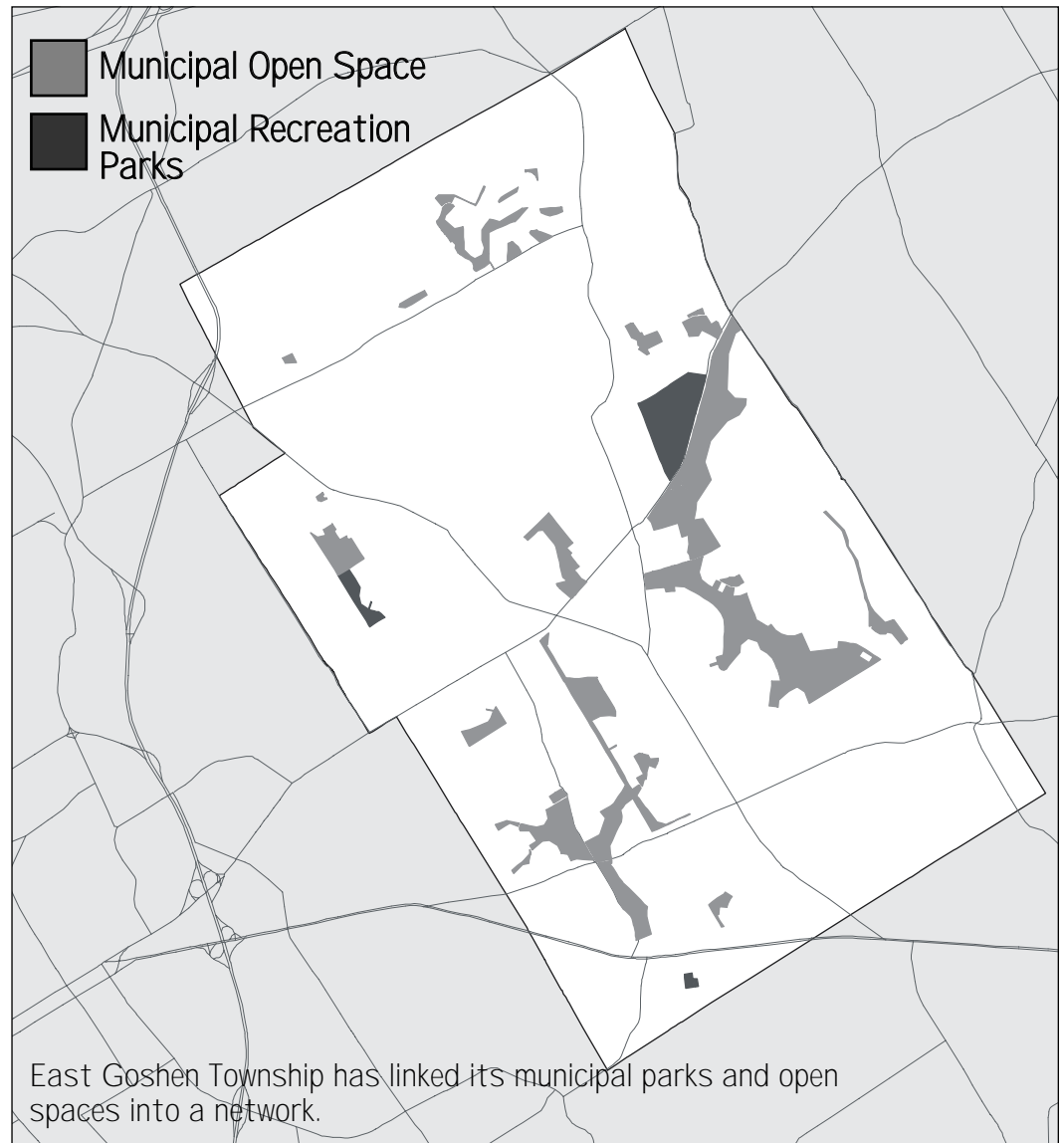
Recently, East Goshen Township effectively linked its municipal open space network with their 55-acre township park located on the north side of Paoli Pike. In the late 1990s, a large undeveloped property across the street from the park was put up for sale. When it became clear that the initial



Non-recreational floodplain in East Goshen Township

development plans were not progressing as expected, the municipality joined in a public-private partnership with a homebuilder and a golf course developer. This partnership developed most of the property as a golf course and residential units. However, the municipality acquired 100 acre of land across the street from the park. This strip linked to other municipal open spaces, and was also used for a trail corridor that led to the township park.

The township paid \$5 million for the parcel, of which \$2 million came from a County grant. It was the municipality's foresight and planning which made such a grant possible. When East Goshen Township applied to the County for this grant, this municipality was able to show that they had been conducting open space planning for many years. They also had a locally supported source of income dedicated to open space and could demonstrate a long track record of maintaining both recreational parkland and non-recreational open space. Simply put, this grant application was able to out-compete other applicants, because the municipality had already proven they had the ability, funding and political support to complete an open space project of this magnitude.



Source: Chester County Planning Commission, 2004.

Open Space Protection Using Easements in Pennsbury Township

Pennsbury Township experienced significant development starting in the 1980s. In response, the Brandywine Conservancy began reaching out to local landowners and ultimately placed conservation easements on over 1,000 acres of land within the municipality. In general, most of this eased land is located on parcels that are larger than 20 acres. Major land trusts find it much more economical to ease larger properties rather than those under 20 acres. The costs involved with surveying, appraising and legal advice for a large property are usually about the same as for a small property. Therefore it is understandable that a land trust, which relies on charitable donations for much of its funding, would prefer to ease one 40-acre parcel, rather than spending four times as much money to protect four 10-acre parcels.

During the 1990s, local planners became concerned that there was no effective mechanism to protect many of smaller undeveloped properties in the township. To address this issue, a group of residents and township officials formed a “local” land trust, focusing only on parcels within the municipality. In 1995, the Pennsbury Land Trust (PLT) was established. Soon after the PLT was founded, Pennsbury Township provided them with a \$10,000 start-up grant. PLT used this seed money to hire a consultant to help assist them with the all the paperwork required to establish a land trust according to IRS guidelines. Within five years, PLT was actively accepting land donations as a non-governmental entity with a volunteer staff. To date, they have acquired conservation easements on 14 parcels (12 of which are under 20 acres) covering over 150 acres.

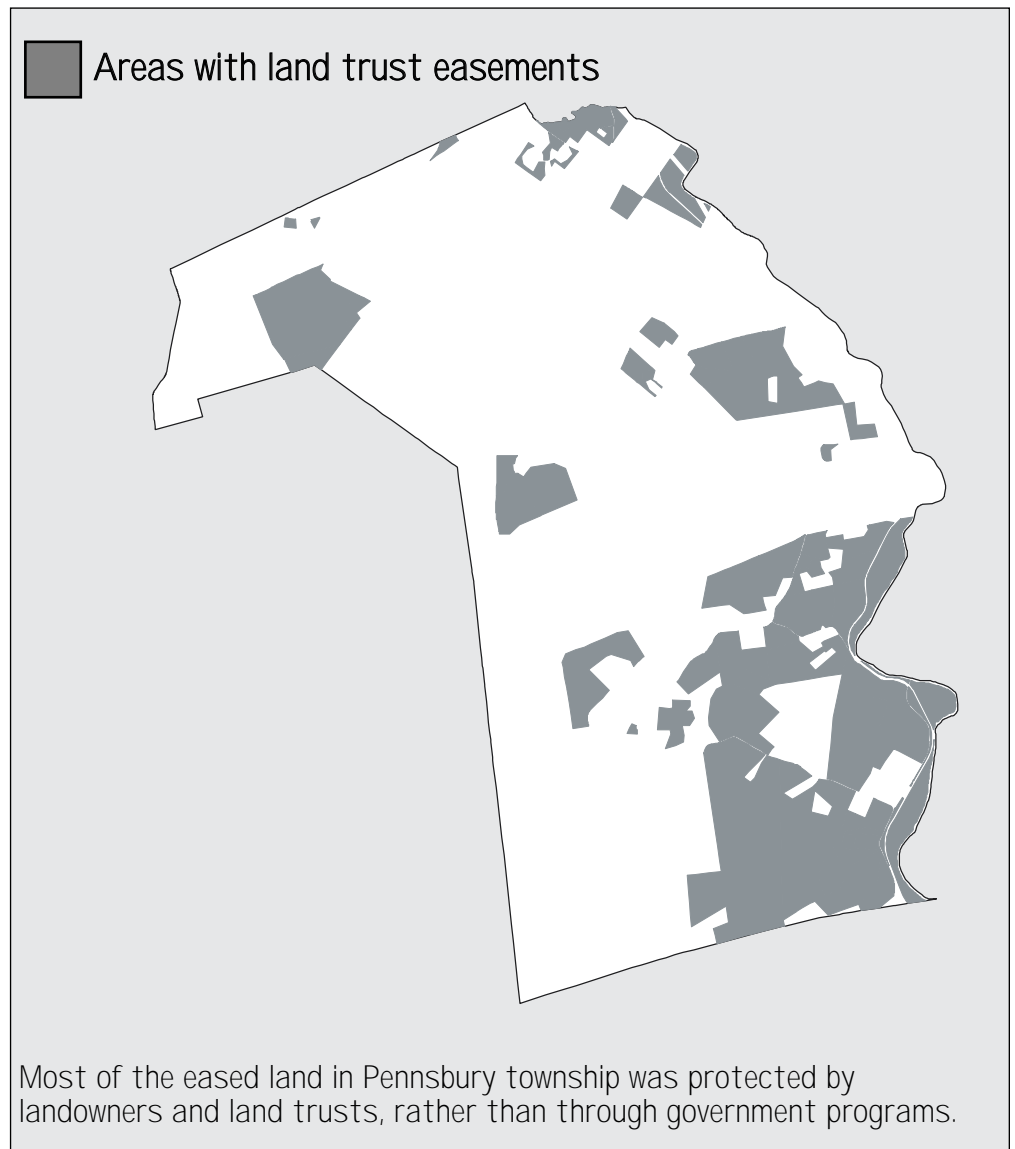
In 2001 the township adopted an addendum to its comprehensive plan entitled *Strategic Planning for Open Space Conservation*, which mapped greenways, areas suitable for open space conservation and those that were not suitable for protection. Page 10 of the addendum notes that the PLT should “consider the greenways map in prioritizing properties for conservation easement protection or fee-simple land acquisition.” Pennsbury Township was able to realistically evaluate open space protection because they already had a local land trust with a proven record of successfully acquiring easements. Conversely, the township knew the limitations of the PLT, and so was able to designate lands that were not suitable for protection and should therefore be used to accommodate future growth. By drawing on the



Eased land in Pennsbury Township

experience of the PLT, the township was able to make recommendations based on real world conditions, rather than academic assumptions, and create a practical map useful to both the local government and the local land trust.

In 2003, the Pennsbury Township Board of Supervisors adopted 0.188 percent earned income and 0.45 property tax dedicated to open space. In many municipalities, it is necessary to hold a voter referendum in order to budget any municipal revenue specifically to open space. In many cases voter referendums are used not only to gauge local opinion, but also as a way to educate the public about the benefits of open spaces and the costs required to protect and manage them. Because Pennsbury Township already had a successful and visible local land trust, its residents were already well-informed regarding land use issues, and so the township felt secure in adopting open space funding without a referendum. The fact that this funding was allocated as part of normal government operations demonstrates how the township and the PLT have helped to create what Aldo Leopold referred to a “land ethic” among local residents. As a result, open space preservation is now regarded as the norm in the township. This stands in contrast to the all too common “culture of development,” as described by Stephen Smalls, in which land is seen as having no value to society, unless it is made available for construction.



Note: Locations of areas with land trust easements are approximate.
Source: Chester County Planning Commission, 2004.

Park System Planning in Tredyffrin Township

The landscape of Tredyffrin Township serves as a kind of history lesson for municipal park planning over the last forty years. Starting in the 1960s, the township began to acquire land for parks, often through developer donation, but sometimes through in-fee purchase. The township's current zoning addresses open space in Article 14 "General Provisions." Section 208-107 (D) of this article requires a minimum of 20 to 30 percent open space, depending on environmental conditions. It also states that, "areas for common open space may be dedicated to the township or other government agency, conveyed to a private, nonprofit conservation organization or retained and managed by a legally constituted homeowners' association."

During the 1970s and 1980s, the township continued to add to its park system, mostly through developer donations. County Gate, Glenn Circle, LAD Park, Richards Road, and Teegarden Park were the result of cluster subdivision. Croton Open Space, Friendship Park and Radbill Park were gifts from property owners. During the 1990s, the township began to fund its parks system using the various grant programs that were being initiated by the County and state at that time. In some cases, property was acquired using grants and developer donations along with the in-fee purchase of property. The township also began to acquire multiple adjacent parcels which, when combined, created a total area that would be suitable for a public park.

In 1992, the township adopted a municipal open space plan as part of their comprehensive plan. The plan included a map entitled Recommendations for Open

Space/Recreation. This map showed existing open space along with existing and proposed trails and pathways. The plan also identified 11 different Candidate Sites for Open Space and/or Recreation. Of these 11 sites, the Open Lands Conservancy acquired one; one became the township municipal building; and the municipality acquired two other sites for open space. Municipal parks were also established near another three of these sites. All together, seven of the eleven park site recommendations were followed to some degree.



Friendship Park in Tredyffrin Township

Tredyffrin Township currently has one of the most extensive municipal park systems in Chester County. This 40-year old system now covers over 320 acres and includes the following park sites:

- Woodbine Park, 1960
- Stafford Park and Library, 1961
- Teegarden Park, 1965
- Friendship Park, 1966
- County Gate, 1971
- LAD Park, 1971
- Richards Road Open Space, 1980
- Mill Road Park, 1984
- Radbill Park, 1989
- Cedar Hollow Road Park, 1997
- DuPortail South Side Open Space, 1997
- Croton Road Open Space, 1997
- Walnut Lane Park, 1997
- Glen Circle Open Space, 1999
- Wilson Park, 1999
- Friendship Park, 2002
- Westover Park, 2002

Now that the township has established a variety of parks throughout the municipality, local planners are updating the municipal open space plan to include a greater emphasis on recreation and municipal trails. The goal of this approach is to create a municipal-wide network of trails that link to the existing parks. Under this scenario, municipal parks would serve as destinations, which are an essential part of a properly functioning trail system. This network of trails will also link into the future County Chester Valley Trail, which extends across the middle of the township.



Recreation Programming by the Downingtown Area Recreational Consortium

Multi-municipal recreation programming has been conducted in the Downingtown area since the 1960s. In 1972 the Downingtown-Uwchlan Joint Recreation Board was formally established. This Board was administered by Downingtown Borough, and in 1986, a full time director was hired to administer programming. In the early 1990s, seven other municipalities within the Downingtown School District, and the school district itself, decided that they would also like to join this effort and so the Downingtown Area Recreation Consortium (DARC) was created. At the time, this consortium was one of but a few that had been established within the Commonwealth of Pennsylvania.

DARC manages a wide variety of recreation programming including adult sports leagues, adult workshops, and night school courses in arts, language and computer instruction. DARC also sponsors day trips, tours and on-line computer courses. DARC manages after school youth clubs and classes, half-day playground programs, teen camps and summer youth camps focusing on sports, nutrition, science and nature. Little leagues in the region are managed by local non-profit organizations such as the Lionville Youth Association and the Glenmoore-Eagle Youth Association. Civic events, like street fairs and fireworks displays, are managed by individual municipalities.

DARC does not own or manage property. DARC has a full time staff of three employees, and an annual budget exceeding \$600,000. DARC users are charged fees, which are used to financially support the organization. In 2004, DARC had over 4,700 users from within the school district, with over 900 users from outside of it. The DARC partner-municipalities and the school district have each signed an Article of Agreement, in which they each agreed to cooperate in the funding the consortium. Municipalities contribute funding each year, depending on how much their residents use DARC services. Each year DARC staff reports on its users place of origin, and this information determines how much each partnering municipality contributes.



Tennis courts at Kerr Park in
Downingtown Borough

One of the values of DARC is that it provides a region-wide service, relieving individual municipalities from some recreation programming. Because DARC staff conducts recreation programming on an ongoing basis, local planners have access to detailed information they can use when establishing municipal policy, as is evidenced by the following comprehensive planning recommendations:

- *Downingtown Borough Comprehensive Plan, 1994*—recommends continued support for DARC.
- *East Brandywine Township Open Space Plan, 1992*—recommends cooperation with DARC.
- *East Caln Township Comprehensive Plan, 1999*—recommends financially supporting groups providing activities for its residents.
- *Upper Uwchlan Township Open Space Plan, 1992*—recommends continued cooperation with DARC.
- *Uwchlan Township Comprehensive Plan, 2000*—recommends, “Strengthening the shared facilities agreement for program use with the township... and DARC.”
- *West Bradford Township Open Space Plan, 1993*—recommends “participating in a regional recreation program, such as one based on a school district.”



Recreation facilities in Downingtown Borough require ongoing maintenance and periodic upgrades.

Regional Planning by the Northern Federation

The Federation of Northern Chester County Communities, more often called the Northern Federation, is a multi-municipal planning organization that currently includes nine municipalities. It was created in 1974 as a joint effort of five municipalities along French Creek. The initial mission of the group was the protection of the French Creek Corridor, and much of the technical support for this effort came from Green Valleys Association (GVA). GVA is a watershed association founded in 1964, which currently focuses on a number of watersheds in northern Chester County.

Throughout the mid 1970s, the Northern Federation developed background studies and regional plan alternatives that eventually resulted in their 1979 Regional Land Use Plan, which was adopted by the member municipalities in 1980. Since then, the Northern Federation has conducted a number of regional studies including:

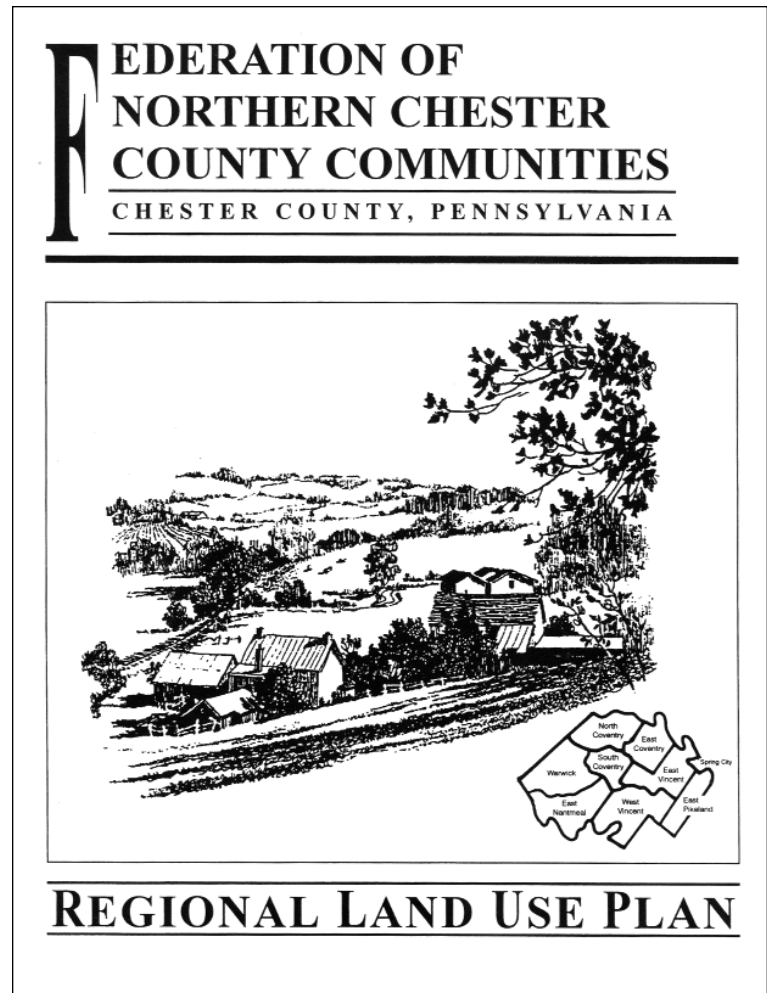
- Undated circa 1978, *Federation of Northern Chester County Communities Comprehensive Plan: Background Section*
- Undated circa 1978, *Federation of Northern Chester County Communities Comprehensive Plan: Plan Alternatives*
- 1979, *Regional Land Use Plan*
- 1984, *French Creek Scenic River Management Guidelines*
- 1986, *PA Route 100 Corridor Study*
- 1988, *Water Resource Management Study*
- 1990, *Wastewater Facilities Plan: Phases I and II*
- 1991, *Surface Water Runoff Study*
- 1993, *Pennhurst Center Land Use Feasibility Study*
- 1996, *Regional Land Use Plan*
- Undated circa 2000, *Sustainable Watershed Management: the Vision for Northern Chester County*
- Undated circa 2000, *A Model Program to Balance Water Resources and Land Development in the Schuylkill River Tributary Watersheds*



Green Valleys Association is active in northern Chester County.

The Northern Federation's regional approach has also provided cost savings to the municipalities involved. State grants paid for 50 percent of the cost of the 1988 *Water Resources Management Study*, with County funds being used for 25 percent, and the municipalities paying for the remaining 25 percent. The 1990 *Water Resource Management Study* was completed by just one consultant, but it provided baseline wastewater planning for seven municipalities. This study was designed in such a way that each member municipality could complete its own Phase III study, which is required in order for a municipality to be in compliance with the Pennsylvania Sewage Facilities Act of 1996 (PA Act 537).

The regional studies and plans completed by the Northern Federation have been successful because they evaluate regional conditions through one planning effort, rather than addressing them through a collection of municipal documents. Most natural features, such as streams, forests or productive agricultural soils, cross municipal boundaries and so are best managed through a multi-municipal planning process. Regional planning is also effective for certain cultural or man-made features. In 1993 the Northern Federation evaluated the Pennhurst Property, a former state-owned hospital that had the potential to be reused as a regional facility, such as a public park or a large-scale industrial park.



The Northern Federation has completed many regional plans and studies.

Trail Network Planning in Uwchlan Township

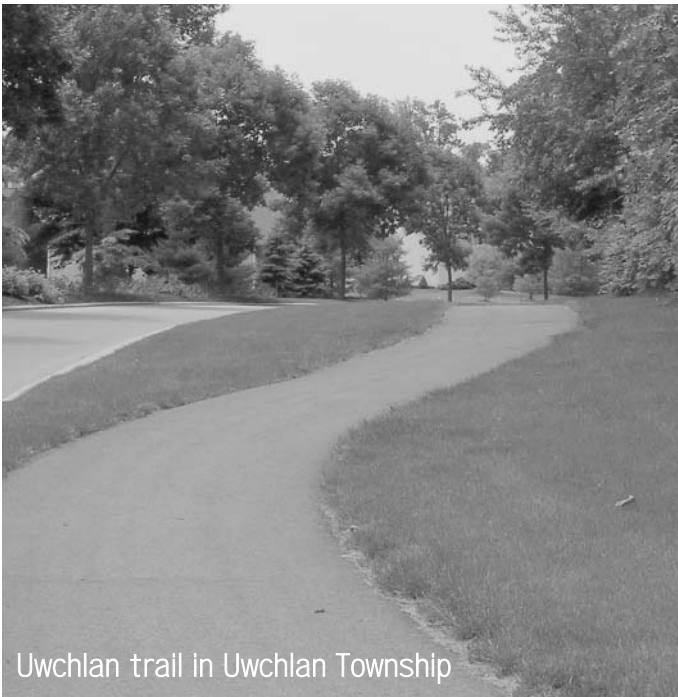
Uwchlan Township currently has the most well-established municipal trails network in Chester County. They have been building trails since the late 1970s, when the Chester County Parks and Recreation Department began constructing the County Struble Trail. Since that time, the township has instituted a number of initiatives, all of which have the goal of linking all parts of the municipality with the County Struble Trail. Much of the Uwchlan Township trail network has been acquired simply by using municipal right-of-way along roadways. A benefit of locating trails along roads is that they can be patrolled by police cruisers. Uwchlan Township does not have any fee in-lieu provisions in its zoning. However, since 1997 they have had an open space provision in three of their residential districts requiring all developments of 10 acres or more to set aside 35 percent of the property as open space, as a conditional use.

Uwchlan's municipal trails are managed by the township park department, which has three full time and one seasonal employee. Trail construction is funded through the general capital budget, enhanced with outside grants. They have been awarded 17 County matching grants and a number of state grants. Two of the three trail links with the County Struble Trail have been built by developers at the request of the municipality. In addition, local planners have worked with two pre-existing industrial parks in order to extend the trail network through their property. The trail also passes through the homeowner association open spaces within four developments.

For the most part, these trails have been built because local planners were able to show landowners how they would benefit by linking into the existing network.

Uwchlan Township has also made valuable use of their Official Map, which was last adopted in 2001. This map shows both the **existing trail system** and the **proposed trail system**, which when combined create a network that covers most parts of the township. The fact that this map uses the term **system** to describe its trails is significant, because it demonstrates to homebuilders and residents that each trail segment that is constructed will serve the community as a whole. In this way, trails are presented as a form of public infrastructure that adds value to the township's properties, making trail construction a responsible expenditure of public funds.

In 2001, the federal government awarded Uwchlan Township with a \$1.5 million grant funded through the Intermodal Surface Transportation Enhancement Act (ISTEA). The purpose of this grant was to assist in financing a trail bridge crossing PA Route 100 near Sheree



Uwchlan trail in Uwchlan Township

Boulevard. Grants of this scope usually are awarded to counties, regional partnerships or major cities, and it is quite remarkable that a single suburban township was able to garner this funding. Uwchlan Township was able to get this funding because they were able to demonstrate that they had the ability to plan, finance and maintain a trail system. They could also show how this bridge expenditure would fill a pivotal link in a network already in use.

In addition to the ISTE grant, Uwchlan Township has been able to extend their trail network eastward, linking it with the future County park in West Whiteland Township. In 1994, the Chester County Park and Recreation Department, in cooperation with West Whiteland Township acquired the Church Farm School as a future County park site. The southern part of this property is crossed by the Chester Valley Trail, which will likely link to Valley Forge National Historic Park in the next few decades. Seizing this opportunity, Uwchlan Township extended their trail network to link into the northern part of the future County park. There is every reason to believe that in the not too distant future, most Uwchlan residents will be able to ride a bike on public trails extending from their community out to Valley Forge, and from there ride to Manayunk in Philadelphia or to the Perkiomen Reservoir in northern Montgomery County.



Mile markers help trail users set goals for exercise.

Unique Habitat Planning in Elk Township

The western end of Elk Township contains the Chrome Serpentine Barrens, a 570-acre area that supports a dozen rare plant species and four animal species of concern. Most of this unique habitat is drained by Barren Run and Jordan Run, both of which flow into the Little Elk Creek. The 1984 *Elk Township Comprehensive Plan* identified areas underlain by serpentine, and noted that they are, “best used as woodland or for very low residential development.” In 1991 the Township acted on this recommendation when they acquired three parcels of land in the Chrome Serpentine Barrens, which were designated as the Chrome Barren Preserve.

In 1994, the Nature Conservancy (TNC), working under contract for the Chester County Board of Commissioners, completed the *Chester County Pennsylvania Natural Areas Inventory*. This document identified the Chrome Serpentine Barrens as one of only six “tops sites for the preservation of biological diversity in Chester County.” In that same year, Elk Township acquired two parcels adjacent to the parcels they acquired in 1991, which increased the municipal Preserve to over 220 acres.

From 1993 through 1995, over 500 acres of farmlands south and east of the Preserve were protected from development through agricultural conservation easements, which are administered through the County Agricultural Lands Preservation Board. In 1999, TNC acquired another parcel south of the Preserve, which was enlarged to

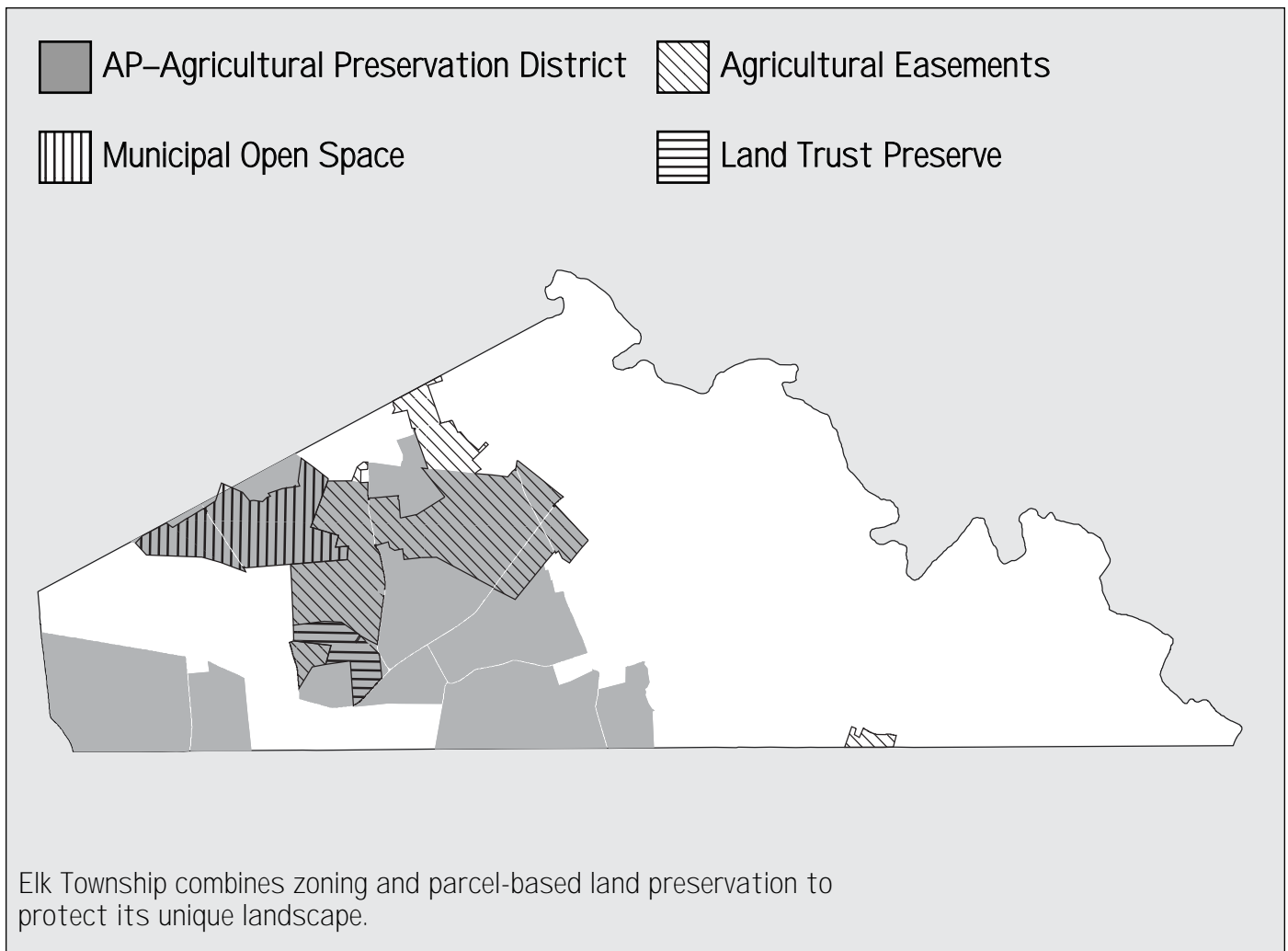
over 60 acres by another TNC acquisition in 2002. All together, the Preserve, the TNC property and eased farms create a cluster of over 780 acres. This preserve is not a public recreational park to be used for sports activities and major community events. This limited access approach is appropriate since the sensitive habitats within the preserve could be destroyed if not protected from the physical impacts usually associated with active recreation.

In 1995, Elk Township adopted an open space element as part of their municipal comprehensive plan. One of the ongoing recommendations of this plan was to, “seek to acquire additional land in the Serpentine Barrens to increase the size of the preserve, which would provide additional protection to the rare and endangered species of the township.” In 2002, Elk Township updated their zoning ordinance, creating an



AP—Agricultural Preservation District that covers all of the protected Chrome Barrens properties and extends down along Little Elk Creek to the Maryland state line. Within this district the minimum lot size is 10 acres, thus discouraging many non-farm or non-forestry uses.

Although Elk Township has not targeted the Chrome Barrens preservation as the central focus in their planning, they have nonetheless used acquisition and zoning to establish an area that could possibly protect roughly 1.5 square miles of serpentine barrens, productive farmland and river corridors. At other locations in the township, local planners have created commercial and higher density zoning districts to accommodate growth and economic development. In a sense, this municipality has become a kind of large-scale cluster development, in which its various sensitive natural features are all merged into one protected corridor, while future development is clustered around existing residential and commercial centers.



Note: Locations of of the AP-Agricultural Preservation District are approximate.
Sources: Chester County Planning Commission, 2004 and Elk Township Zoning Ordinance, 2002.

Water Resources Planning in Warwick Township

In 1986, the Warwick Township began work on updating its zoning ordinance. They began by holding a public meeting. Some 200 concerned citizens attended and filled out surveys with about 20 questions designed to determine local planning priorities. When the results were tabulated, it became clear that open space and natural resource protection were high priorities. This result was not surprising given that the township contains three state game lands, and parts of a county park, a state park and a national historic site. It also includes Pine Swamp, the Buzzards Mountain ridgeline and the Upper French Creek corridor, much of which is protected by land trusts or agricultural conservation easements.

In 1989, the township's zoning ordinance was updated once more to keep it in compliance with changes that had been made to MPC. In 1992, the township received a \$19,000 grant from Chester County to complete the open space element of their municipal comprehensive plan. This document included detailed water resource

mapping. It also recommended creating a new zoning ordinance article entitled Environmental Protection Overlay, which would address French Creek Scenic Corridor standards and a ground water protection district, as well as wellhead protection and well interference standards. Following the adoption of this open space element, the township amended their zoning ordinance yet again, and also amended their SLDO.



French Creek in Warwick Township

As a result of nearly two decades of refining their plans and ordinances, Warwick Township now has some of the most progressive water resource protection standards in the County, as presented below.

Warwick Township Water Resource Planning Elements

Resource and Ordinance	Description of Protection or Standard
Wetlands, Zoning, Sections 2502 (A) and (B)	<ul style="list-style-type: none"> No structures or earth disturbance is permitted within wetlands or within 100 feet of delineated wetlands, as set forth in the 2003 amendment. Final plan approval is contingent on applicant receiving all wetlands permits and/or waivers permits. Structures and/or subsurface sewage systems are not permitted on or within any soil type with a seasonally high water table.
Wetland Margins, Zoning Section 2502 (A) (3)	<ul style="list-style-type: none"> 2003 amendment established a 100-foot buffer around the edge of a wetland, within which no structure or earth disturbance is permitted.
Riparian Buffers, Zoning Section 2510 (A)	<ul style="list-style-type: none"> 2003 amendment established a 100-foot buffer from the top bank of a watercourse or the edge of a pond or other waterbody, within which no structure or earth disturbance is permitted.
Floodplain, Zoning Article 15	<ul style="list-style-type: none"> Structures are not permitted in the 100-year floodplain.
Stormwater BMP's, SLDO Section 810	<ul style="list-style-type: none"> Requires the use of Best Management Practices (BMPs) and cross-references <i>PA Handbook of BMPs for Developing Areas</i>. Comprehensive standards for erosion and sedimentation control.

To ensure that their zoning would accommodate all forms of development required by the MPC, Warwick Township conducted a density evaluation early on in their resource planning effort. In 1987, a land use lawyer was hired to evaluate various development scenarios possible with existing zoning. Through this study, the municipality was able to adopt their progressive water resource protection standards with full confidence that they were not putting excessive limitations on future development.

Warwick Township has been a pioneer in water resources planning, but it is now becoming more common. In 2003, West Vincent Township adopted zoning that included a water resources overlay district. This document presents all of the water resource protection standards together in one article of the zoning ordinance. Their zoning map includes a water resource protection area overlay that, “coincides with local and regional recharge areas and areas susceptible to ground and surface water contamination.”



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Open Space Planning: A Guide for Municipalities

Appendix A



Open Space Topics Included
in Comprehensive Plans

Addressing Open Space in the Comprehensive Plan

Purpose of this Appendix

The purpose of this appendix is to provide each Chester County municipality with guidance on updating its municipal comprehensive plan so that it better addresses the following open space planning issues:

- Protected Open Space Planning
- Recreation Planning
- Natural Resource Planning

New Planning Issues for Municipalities to Consider

This appendix addresses some topics that are commonly included in comprehensive plans, such as an evaluation of natural features. Most municipal officials and planning consultants have experience with these issues. However, this appendix also addresses some topics, such as recreation programming and trail network planning, which may be new to local planners. Open space planning is a young field, and so it is understandable that certain facets of it are not widely known. Local planners should always keep an eye out for any new open space planning techniques and not rely solely on just this memorandum for guidance.

Negative Results Should be Documented

Municipal comprehensive plans should consider including text that addresses each of the topics and subtopics presented beginning on page 130. Some features, such as major archaeological sites, do not occur in most municipalities. Researching some features may lead to **negative results**, indicating that they were looked for but not found. When a specific resource does not exist in a municipality, it should be documented in the text of the comprehensive plan with a statement such as, “A historic resource survey was conducted and found that there are no major archaeological sites located within the municipality.” By documenting the absence of a resource in writing, the municipality is also documenting that it gave consideration to all of the issues pertinent to open space planning.

The Limitations of this Appendix

Municipalities and local planners interested in conducting open space planning should not rely on just this appendix to direct their comprehensive planning decisions. This appendix is not intended to be, and should not be considered be a substitute for the requirements set forth in PA Act 247 the Municipalities Planning Code (MPC), adopted municipal plans or ordinances, or professional legal advice. Municipal officials, staff, and local planners that undertake suggestions presented in this appendix, should do so in a manner that complies with the requirements of any other laws, policies and regulations applicable to land planning within their municipality and the Commonwealth of Pennsylvania.

Open Space Planning Topics to be Considered

The following listing presents the topics that are appropriate for including in a municipal comprehensive plan in order to address open space planning in a way that is consistent with sound planning and *Linking Landscapes*. The topics are organized by section/chapter, topic and subtopic. Other open space topics that are not listed below may also be included in a comprehensive plan if they are important to local planning. The topics are listed in the order that they should occur within a municipal comprehensive plan. Some of these topics may also be addressed in maps, while others can only be discussed in narrative text.

Some subtopics listed below, such as serpentine barrens, do not occur in most of Chester County's municipalities. The list below also includes some topics that can only be addressed if detailed mapping or studies have already been completed. For example, sinkholes should be evaluated if there are maps or publications already available. No municipality could be expected to spend time and money mapping sinkholes for a comprehensive plan, but if the information already exists, it should be used. All of these subtopics that are optional or that may not apply in some municipalities, are marked with an asterisk (*).

The Natural Resources Section or Chapter

Geology

- Geologic formations
- Ground water
- Rock outcrops/serpentine outcrops (A **serpentine barren** is not a geologic feature, but rather a type of habitat that can form on a area with serpentine outcrops.)*
- Sinkholes, caves, faults, dikes and sills*

Soils

- Hydric soils
- Seasonal high water table soils
- Agricultural soils, class 1 and 2 (Typically not evaluated in suburban or urban communities.)*
- Agricultural soils, class 3 (Typically not evaluated in suburban or urban communities.)*

Steep Slopes

- Slopes of 15-25%
- Slopes greater than 25%

Surface Water Resources

- 100-Year floodplains (500-Year floodplains do not need to be addressed.)
- 1st order streams and 2nd order streams
- Subbasins (As delineated in Figure 5-3 in *Watersheds*)
- Subbasins for PA Chapter 93 Special Protection Waters
- Surface water features (Named and un-named streams, ponds, lakes, reservoirs, etc.)
- Watershed boundaries within the municipality
- Headwater drainage areas*
- National wild and scenic rivers*
- Pennsylvania state scenic rivers*
- Springs and other natural water features*
- Stormwater management ponds/facilities*
- Class A trout waters (As designated by the PA Fish and Boat Commission)*

Vegetation, Wildlife Habitat and Natural Areas

- *Chester County Natural Areas Inventory* Areas of local significance, if present
- *Chester County Natural Areas Inventory* Sites of statewide significance, if present
- NWI mapped wetlands
- Pennsylvania Natural Diversity Index (PNDI) Sites (PNDI lists documented sensitive habitats.), if present
- State and national threatened and endangered species (plant and animal), if present
- Woodlands
- Locally significant, champion or DCNR designated “big” trees*
- Hedgerows*
- Surveyed streams having verified trout reproduction*

Unique Natural Areas

- Locally important natural areas (May include woodlots, ridgelines, springheads, etc.)
- Major river corridors*
- Major swamps/wetland complexes*
- Serpentine barrens*

Natural Resource Management (Should address general policies regarding land management)

- Controlling animal populations (Canada geese, deer, deer ticks, mosquitoes, etc.)
- Exotic and invasive plants
- Controlled burning*
- No mow buffer within 15 feet of all water bodies*
- Protecting rare species from poaching*
- Seasonal mowing/lawn reduction*
- Vegetated riparian buffers*

Natural Resource Funding, Staffing and Programming

- Municipal
- County*
- State (DEP, DCNR)*
- Federal*
- Private organizations (land trusts, watershed associations, etc.)*

The Recreation Section or Chapter

Regional Public Park and Recreational Facilities Inventory

- National parks sites
- State parks
- State natural resource areas (Including state game lands, state forests, fish and boat commission lands, etc.)
- County parks
- County special purpose parks
- The 2002 Chester County Recreational Park Standards (From Chapter 4 in *Linking Landscapes*)
- Water based recreation facilities*

Municipal Park and Recreation Facilities Inventory

- Municipal parks and recreation facilities, active recreation (Include indoor public facilities such as ice rinks.)
- Municipal parks and recreation facilities, passive recreation
- Municipal population-based recreation standards or guidelines
- Previously conducted municipal recreation planning*

Regional and Municipal Trails Inventory

- County trails
- Municipal trails
- Trails in adjacent municipalities
- Regional trail heads and destinations
- Internal trails within national, state and County parks*
- Internal trails within private property*
- Bicycle route connections with trails*
- Sidewalk connections with trails*
- Water trails in navigable and accessible streams*
- Bridal paths*

Traditional Hiking Routes*

- Brandywine trail*
- Horse-shoe trail*
- Mason-Dixon trail*
- Social trails (Locally used but unofficial hiking routes)*

Private Recreation Facilities Inventory

- Non-profit facilities (YMCA, Boys & Girls Club of America, 4-H Club, etc.)
- Public school facilities
- Private indoor facilities (gyms, fitness centers, tennis clubs, etc.)
- Private outdoor facilities (golf courses, country clubs, etc.)
- Camping*

Tourism Resources Inventory

- Previously conducted tourism planning
- Tourist destinations serving regional markets (Countywide, multi-county or multi-state)*
- Tourist destinations serving local markets (municipal or multi-municipal)*

Equestrian Recreation Inventory (To determine the viability of equestrian trails, public stables, etc.)*

- Previously conducted equestrian planning*
- Types of equestrian recreation within the municipality (Trail riding, hunts, dressage, etc.)*
- Equestrian clubs and facilities*

Municipal Park and Recreation Facilities Policies

- Activities requiring a permit (Special events, large picnics, weddings, etc.)
- Americans With Disabilities Act
- Public access restrictions (Dusk-to-dawn, seasonal, etc.)
- Restricted or limited activities (Include policy on picnicking, cross-country skiing, skateboarding, rollerblading, motorized vehicles, horses, mountain bikes, dog leash requirements, etc.)

Municipal and Multi-municipal Trail Policies

- Americans with Disabilities Act (ADA)
- Restricted or limited activities (Include policy on cross-country skiing, skateboarding, in-line skating, motorized vehicles, horses, mountain bikes, dog leash requirements, etc.)
- Bridal paths*
- Linking public trails to private restricted-use trails*
- Public access restrictions (Dusk-to-dawn, seasonal, etc.)*

Recreation Programming and Programs Inventory

- Municipal recreation programs (Include sponsoring group, type of program, participants, duration and fees.)
- Non-profit recreation programs/athletic leagues and clubs (Include sponsoring group, type of program, participants, duration and fees.)
- Private recreation programs/athletic leagues and clubs (Include name of organization, type of program, participants, duration and fees.)
- Public school recreation programs/athletic leagues and clubs (Include sponsoring school, type of program, participant, duration and fees.)
- State recreational programs (Include sponsoring group, type of program, participants, duration and fees.)*
- County recreation programs (Include sponsoring group, type of program, participants, duration and fees.)*
- General recreation programming trends (Include at least the last five years.)*
- Elderly programming*
- Handicapped programming*
- Gender specific programming (Girl Scouts, Boy Scouts, etc.)*
- Natural resource appreciation programming (Nature centers, etc.)*

Municipal Recreation Financing

- Recreation budget
- Recreation capital budget (Include the budget for the past five years and projections out to five years.)
- Recreation operating budget (Include the budget for the past five years and projections out to five years.)
- Recreation revenue resources
- Recreation user fees and charges (Include where charged, resident versus non-resident fees, etc.)
- Rationale for recreation user fees and charges (Include general philosophy, formula used for calculating, etc.)
- Policy regarding the acceptance of gifts (Including donated property, easements, etc.)*
- Other pertinent financial information*

Recreation Staff Duties and Responsibilities

- Recreation staff (Include how many employees are full time, part time, seasonal, etc.)
- Grounds keeping and maintenance staff (Include staff that also maintains non-recreational municipal open space)
- Security staff (Include municipal or state police if they patrol municipal recreation facilities.)

Recreation Administration

- Organizational oversight (Include lines of authority up to elected officials.)
- Recruitment and hiring procedures (Include standards for hiring new or replacement personnel.)*
- Employee incentives in place (Include salary, benefits, insurance, in-service training, etc.)*
- Recreation staff policy manual (Describe the status)*

Recreation Planning and Procedures

- Procedures used for recreation planning
- Procedures used for acquiring property
- Procedures used for recreation facility master plans and design
- Procedures used for recreation facility development and construction
- Procedures used for prioritizing land acquisitions*
- Procedures used for establishing and modifying recreation programming*
- Procedures for marketing and public relations*
- Procedures for developing distributing advertising and press releases*
- Procedures for organizing volunteers*
- Coordination and cooperation agreements with other public entities*
- Coordination and cooperation agreements with private organizations*

Park and Recreation Facility Maintenance, Security and Liability

- Major maintenance equipment (Include age and purpose)
- Equipment replacement program
- Efforts undertaken for risk management
- Equipment inspection efforts
- Play equipment inspection efforts
- Schedule of regular site inspections
- Compliance with Americans with Disabilities Act
- Security
- Liability
- Existing routine maintenance program*
- Effectiveness and adequacy of the current maintenance program*
- Special event management*
- Volunteer group co-ordination/friends-of-groups*

Public Trail Maintenance, Security and Liability

- Municipal/multi-municipal trail network
- Municipal/multi-municipal maintenance
- Municipal/multi-municipal security
- Municipal/multi-municipal liability
- Volunteer group coordination/friends-of-groups*

Municipal Parks and Recreation Facilities Needs and Recommendations

- Recreational parks acquisition
- Municipal non-recreational open space acquisition
- Facilities
- Programs
- Personnel
- Administration
- Maintenance needs
- Programming
- Security needs
- Municipal planning
- Property acquisition
- Enlarging existing facilities*
- Rehabilitating of existing facilities*

Municipal/Multi-municipal Public Trail Funding, Staffing and Programming Recommendations

- Municipal
- County*
- State (DCNR)*
- Federal*
- Private organizations (land trusts, developers, etc.)*

Recreation Financing and Management Recommendations

- General recreation financing projections
- Feasibility of a five year capital program
- Opportunities for volunteer coordination*
- Opportunities for public-private cooperation*
- Opportunities for multi-municipal cooperation*
- Opportunities for inclusion in a recreation authority*
- Opportunities for cooperation with federal, state or County agencies*

The Protected Open Space Section or Chapter

Protected Recreational Facilities

- National parks, if present
- State parks, if present
- County parks, if present
- Municipal parks, if present

Protected Resource and Non-recreational Areas

- Municipal non-recreational open space
- Fish commission lands, if present
- Game commission lands, if present
- Protected watershed buffers*
- Protected riparian forest buffers*
- Protected cultural resources*
- Other protected resource areas*

Areas Protected by Non-Profit Land Trusts

- Types of conservation easements used within the municipality
- Regional land trusts active within the municipality, if present
- Local land trusts active within the municipality (Local lands trusts are active within only one municipality.), if present
- Parcels with land trust easements, if present
- Parcels owned by land trust in-fee, if present
- Parcels with multiple easements*

Protected Agricultural Lands

- Agricultural Security Areas (A farm within an ASA is protected from nuisance lawsuits, not condemnation or development.)
- Agricultural conservation easements, if present

Non-municipal Managed Lands with Public Sector Easements

- County water resource authority easements
- Water supply company or other easements*

Homeowner Association Open Spaces

- Homeowner Association (HOA) land or open space
- Developer donation of open space*

Unprotected Open Space

- Schools, cemeteries and institutions
- Locally significant privately-owned open space (May include arboretums, campgrounds, etc.), if present
- Undeveloped parcels*
- Unprotected parcels over 10 acres*
- Unprotected large parcels (To be determined by the Open Space Task Force)*
- Unprotected parcels well suited for protection* (To be determined by the Open Space Task Force)*

Protected Open Space Management

- Municipal parks and open space management
- Homeowners Associations (Should address efforts to manage HOA land for recreation, trails, natural resource restoration, etc.)
- Local land trusts (Should address responsibilities for land management on eased and in-fee parcels.)*
- Regional land trusts (Should address responsibilities for land management on eased and in-fee parcels.)*

Protected Open Space Funding, Staffing and Programming

- Municipal
- County (Including Agricultural Lands Preservation Board easements) *
- State (DCNR, game commission, fish and boat commission)*
- Federal*
- Private organizations (land trusts, developers, etc.)*

Municipal Techniques for Preserving Open Space

- Zoning techniques (such as Effective Agricultural Zoning, etc.)
- Subdivision and land development techniques (such as fee-in-lieu, etc.)
- Official Map
- Land use studies*

Linking/Clustering Open Space

- Establishing greenways
- Establishing a trail network
- Clustering farms with Agricultural Conservation Easements
- Establishing a municipal/multi-municipal protected open space network

Appendix B



Inventory & Composite Maps
Used for Comprehensive Plans

Mapping Open Space Resources

Purpose of this Appendix

The purpose of this appendix is to provide local planners with guidance on creating open space resource protection and recreation maps they can use when updating their municipal comprehensive plan. The number of maps and kinds of maps will vary based on each municipality's composition and landscape type. These maps should all be available on file for public review even if they are not all included in the comprehensive plan document. These maps should ideally include:

1. Geology and Ground Water Inventory Map (see page 143)
2. Steep Slopes Inventory Map (see page 144)
3. Soils Inventory Map (see page 145)
4. Surface Water Resources Inventory Map (see page 146)
5. Vegetation, Wildlife, and Natural Areas Inventory Map (see page 147)
6. Natural Resource Development Constraints Map (see page 148)
7. Historic and Cultural Resources Inventory Map (see page 149)
8. Park and Recreation Facilities Inventory Map (see page 150)
9. Trails and Trail Destinations Inventory Map (see page 152)
10. Protected Open Space and Undeveloped Parcels Inventory Map (see page 153)

Using GIS Maps for Open Space Planning

Now that Geographic Information System (GIS) mapping is readily available, municipalities have a greater capacity to gather and evaluate information useful in open space planning (see page 69). Because open space planning deals with features on the landscapes, GIS maps are especially useful when local planners are formulating open space policies and recommendations. Most maps used for open space planning fall into the following categories:

- **Inventory Maps**—which show the location of existing features. Usually these maps depict one type of feature, such as a “soils inventory” or a “historic structures” inventory. These maps should extend 1,000 feet beyond the municipal boundary. Many of these maps are generated as part of the overall comprehensive planning process.
- **Composite Maps**—are a kind of inventory map that shows a number of inventoried features together on one map. The purpose of the composite map is to show how different features relate to each other. A composite map for natural features might include endangered species habitat, serpentine rock outcrops and cold water streams that support breeding trout populations. These maps should extend 1,000 feet beyond the municipal boundary.
- **Plan Maps**—which show existing features along with selected recommended features. A pedestrian access plan map might show existing sidewalks, public schools and parks, along with the recommended sidewalks that will link them (See examples at the end of Appendix C). These maps do not need to extend 1,000 feet beyond the municipal boundary, unless they relate to features outside the municipi-

pality, like trail links or streamside greenways. Plan maps are discussed in detail in Appendix C.

Avoiding Too Many Maps

In the past, most municipalities had a comprehensive plan that included inventory, composite and recommendations maps, all bound together as part of one document. Before GIS mapping was available, these maps were difficult to compile. For this reason, there were only a few in each comprehensive plan. However, with GIS, municipal planners now may find that they have too many maps, often with multiple folds and color images. The cost of reproducing these maps can be a problem, and a plan with too many folded maps can be difficult to use.

Most of Chester County's municipalities already have both a comprehensive plan and a stand-alone Open Space Recreation and Environmental Resources (OSRER) plan. Some maps, such as geology and soils maps, are presented in both documents. Chester County Planning Commission (CCPC) now recommends that municipalities should include open space planning as a part of their comprehensive plan, which means that the OSRER plans will be merged into the comprehensive plan. This approach will avoid the duplication of maps, and will help to make open space planning a more integrated part of overall community planning.

CCPC recommends that municipalities include the five plan maps listed in Appendix C as part of their comprehensive plan document. The inventory or composite maps, presented on pages 143–154, may also be included in the comprehensive plan, or else kept on file at the municipal office and made available for public review. Local officials should use their best judgment to determine what maps should be bound with the comprehensive plan, and which would be kept on file. If a municipality chooses to keep maps on file, two copies should be kept in a secure and easily assessable location, with one as a backup. Compact discs containing GIS information should also be kept on file, along with a paper copy of whatever mapping is on the disc.

The Open Space Task Force Can Help Create Inventory Maps

A municipality that wishes to conduct open space planning should establish an Open Space Task Force, as described on page 75 of this guidebook. The primary role of this task force is to make recommendations, some of which will be illustrated on maps. The Open Space Task Force may also be called upon to inventory or even draw some features, such as sidewalks in need of repair. In many cases, the members of the local task force know more about local features than any hired consultant.

If need be, the task force may require assistance from outside experts to assist in inventories. For example, locally designated historic structures may be mapped by members of a task force after consultation with a consultant. Under this approach, a professional historian could identify a number of streets that have the potential historic streetscapes. Task force volunteers would then determine the historic owners of each house by searching records and interviewing local residents. This form of local “in-kind” contribution can also reduce the cost of a municipal planning project.

Recommended Inventory and Composite Maps

The following pages present a description of maps that can be used to evaluate open space planning topics in a municipal comprehensive plan. It is assumed that all these maps will be generated using GIS, since this technology is affordable, widely available and already in use in many municipalities. Many municipalities already have most of these maps in their adopted comprehensive plans, although not always in GIS format. CCPC recommends that these maps be included in comprehensive plans or regarded as background study maps, as described on page 141.

Geology and Ground Water Inventory Map

Map Purpose

The purpose of this map is to illustrate the underlying geology, which influences many natural features that develop on the surface. Most municipalities already have this map in their comprehensive plan. Ground water features can also be included in this map.

Map Content

- Geologic formations
- Sinkholes, carbonate, and Karst features, if present
- Ground water features*
- Other subsurface geologic structures (Faults, etc.)*
- Major rock outcrops/serpentine outcrops*
- Well locations*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) USGS geological maps or topographic quadrangles, 2.) PA Bureau of Geology and Topography maps.

Open Space Planning Considerations

- Geologic formations are layers of rock that share the same mineral composition, age and formation history. Examples include the Wissahickon Schist Formation or the Conestoga Limestone Formation. They should not be confused with general types of rock such as schist or limestone.
- Geological maps are usually presented at the very beginning of a municipality's natural resource evaluation. All other natural features, such as soils, waterways and patterns of vegetation are greatly influenced by the underlying geology.

- In scientific publications, geologic formations are listed chronologically with the youngest formation listed on top and the oldest on the bottom. With GIS mapping it is easier to list formations alphabetically, which is acceptable.
- Technically speaking, this map shows **surficial geology** which depicts conditions close to the surface. Local planners should be aware a formation presented on a geology map may have a different formation beneath it.
- Serpentine is a kind of rock. However, a **serpentine barren** is a kind of habitat consisting of plants and animals that may be found in areas where there are abundant serpentine rock outcrops. A barren should not be mapped as a geologic feature.

Comprehensive Plan Mapping Examples

- Geology Map, *London Grove Comprehensive Plan*, 2002.
- Geologic Resources Map, *Highland Township Comprehensive Plan*, 2001.
- Geology Map, *West Vincent Township Comprehensive Plan*, 1998.

Steep Slopes Inventory Map

Map Purpose

The purpose of this map is to identify areas with slopes that are so steep that they may be inappropriate for most forms development. Most municipalities already have this map in their comprehensive plan. GIS programs can allow slopes to be mapped in greater detail.

Map Content

- Slopes of 15-25%
- Slopes greater than 25%
- Topography*
- Other slope related features (Landslide prone areas, etc.)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) USGS topographic quadrangles, 2.) PA Bureau of Geology and Topography maps or 3.) Chester County GIS steep slope mapping.

Open Space Planning Considerations

- Steep slopes are often found on wooded ridgelines or near streams and floodplains. These features are all **linear**, meaning that they are long and thin. The linear nature of these features and the fact that they are not used for development or day-to-day human activity, make them ideal locations for wildlife corridors.
- Many municipalities now have access to affordable topographic mapping. This mapping can be used to generate steep slope mapping. Steep slopes can usually be shown on maps along with topography. Topographic intervals of five to 10 feet are often appropriate for a municipal map. Intervals of two feet are usually too detailed, and create a map that is too busy to be readable.

Comprehensive Plan Mapping Examples

- Slopes Map, *East Whiteland Township Comprehensive Plan*, 2001.
- Slopes Map, *West Vincent Township Comprehensive Plan*, 1998.
- Slopes Map, *London Britain Township Comprehensive Plan*, 1990.

Soils Inventory Map

Map Title and Purpose

The purpose of this map is to illustrate soils types, which influence many natural and cultural features. Most municipalities already have this map in their comprehensive plan. This map should identify soils that are well suited for agriculture, soils that are poorly suited for most forms of development, and soils that are more likely to contain wetlands.

Map Content

- Hydric soils
- Seasonal high water soils
- Agricultural soils, class 1 and 2 (Should be addressed in rural communities.)*
- Agricultural soils, class 3 (Should be addressed in rural communities.)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) USDA NRCS Soil Survey for Chester and Delaware County 2.) Chester County GIS soils mapping.

Open Space Planning Considerations

- It is likely that all of the municipality will be covered by one of the four soil types listed above. Class 1, 2 and 3 agricultural soils usually form on flat and well-drained landscapes. Hydric soils and seasonal high water table soils usually form on more rolling topography.
- Class 1, 2 and 3 agricultural soils are ideal for farming, but they are also well suited for most forms of development. As a result, this map can also be used to determine areas that are likely to be under future development pressure.
- Paved, disturbed and developed land is often presented in a soils map under the categories of “made land” or “urban land.”

Comprehensive Plan Mapping Examples

- Soils Composite Map, *Charlestown Township Comprehensive Plan*, 2001.
- Soil Resources Map, *Highland Township Comprehensive Plan*, 2001.
- Soils Map, *Franklin Township Comprehensive Plan*, 1991.

Surface Water Resources Inventory Map

Map Purpose

The purpose of this map is to illustrate the location of surface waters features that may be permanently inundated, like a stream. It also shows features that are periodically flooded, like a floodplain. This map also shows water features that are sensitive to development, or that are protected through government regulations. Some municipalities do not yet have this map in their comprehensive plan.

Map Content

- 100-Year floodplains, if present in the municipality (500-year floodplains should not be mapped.)
- All streams, ponds, lakes, reservoirs and other natural or constructed water bodies.
- 1st order streams and 2nd order streams should be designated
- Subbasins (As delineated in Figure 5-3 in *Watersheds*. An example is F4 Upper French Creek.)
- Watershed boundaries within the municipality (An example is Elk Creek Watershed.)
- Headwater drainage areas (Drainage areas of all 1st order streams).*
- National wild and scenic rivers, if present in the municipality*
- Pennsylvania state scenic rivers, if present in the municipality*
- Springs and other natural water features (If mapping is available).*
- Subbasins for PA Chapter 93 special protection waters (An example is “Exceptional Value” or “High Quality Waters”)*
- Class A trout waters (As designated by the PA Fish and Boat Commission)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) *Watersheds*, 2.) USGS topographic quadrangles, 3.) PA Bureau of Geology and Topography maps, 4.) Floodplain maps available from FEMA or 5.) PA Chapter 93.

Open Space Planning Considerations

- Wetlands are not a water feature but a type of habitat that should be mapped with other vegetation features.
- 1st order streams warrant greater protection than larger streams.
- Flooding within a municipality can be the result of stream conditions upstream and outside a municipality. Local planners should consider including a small scale inset map showing the entire extent of each watershed, including areas beyond the municipal boundaries.
- This map can serve as the focus of stormwater management and stream water protection.

- Surface water mapping can serve as the focus of wildlife and natural habitat planning. Most stream corridors are largely undeveloped and many still contain riparian woodlands and wetlands. Likewise wildlife is attracted to these corridors because animals use streams for drinking water, usually at night.
- This map can be used to identify water-based recreation. The depth of water is a key indicator of what sort of recreation, such as boating or fishing, is possible.

Comprehensive Plan Mapping Examples

- Surface Water Resources Map, *Highland Township Comprehensive Plan*, 2001.
- Water Resources Map, *Oxford Borough Open Space Plan* (comprehensive plan element), 2001.
- Surface Water Resources Map, *Birmingham Township Open Space Plan* (comprehensive plan element), 1994.

Vegetation, Wildlife and Natural Areas Inventory Map

Map Purpose

The purpose of this map is to illustrate the location of plant and animal communities that should be considered when conducting land planning. Some municipalities do not yet have this map in their comprehensive plan. This map also gives the general location of rare, sensitive, or unique plants and animal. It also shows plant communities, animal habitats or ecosystems that could be degraded by inappropriate development.

Map Content

- Chapter 93 Protected Water Uses (An example is CWF—Cold Water Fisheries)
- County Natural Areas Inventory Areas of local significance and sites of statewide significance, if present
- NWI mapped wetlands
- Pennsylvania Natural Diversity Index (PNDI) Sites, if present
- Woodlands (To be determined by the Open Space Task Force)
- DCNR designated “big” trees and locally significant or champion trees (To be determined by the Open Space Task Force)*
- Hedgerows (To be determined by the Open Space Task Force)*
- Locally important natural areas (To be determined by the Open Space Task Force)*
- Publicly owned natural resource areas/preserves (May include state game lands, PA Fish and Boat Commission properties, state forests, or other national, state or County properties.) *
- Surveyed streams having verified trout reproduction*
- Unique natural areas (Examples are serpentine barrens or spring heads.)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) US Fish and Wildlife National Wetland Inventory (NWI) quadrangles, 2.) *Watersheds*, 3.) PA Fish and Boat Commission listing of surveyed streams having verified trout reproduction, 5.) Aerial photos, 6.) PA Chapter 93, 7.) County Natural Areas Inventory 1994 with 2000 Update or 8.) DCNR's PNDI listing.

Open Space Planning Considerations

- Most municipalities will possess only some of the many features listed above, but each feature should be investigated to determine if it is present.
- NWI wetlands are mapped by the US Fish and Wildlife Service using aerial photographs. There are usually more wetlands on the ground than just those included on NWI maps. A more detailed assessment of wetlands requires an on-site field survey, which does not need to be done for a comprehensive plan, but is usually conducted when a parcel is developed.
- Maps that are distributed to the public should not give a detailed description of threatened or endangered species, or the location of their habitat. This precaution discourages illegal collecting or poaching, which unfortunately is an ongoing concern.

Comprehensive Plan Mapping Examples

- Biotic Resources Map, *East Fallowfield Township Comprehensive Plan*, 1999.
- Biotic Resources Map, *East Pikeland Township Comprehensive Plan*, 1984.
- Nottingham Pine Barrens Map, *West Nottingham Township Comprehensive Plan*, 1982.

Natural Resource Development Constraints Map

Map Purpose

The purpose of this map is to identify natural resources that receive either full or limited protection from development due to municipal, state or federal regulations. Some municipalities do not yet have this map in their comprehensive plan. This map should be used to identify how resource protection within a municipality relates to the resource protection as recommended in *Linking Landscapes*.

Map Content

- *Linking Landscapes* Naturally Sensitive Areas, which include NWI wetlands, hydric soils, 100-year floodplains and slopes of 25 percent or more. These three features should be mapped as hatched or stippled overlay on top of the other features presented on this map.
- Primary constraints—which includes each natural feature upon which development is usually not permitted due to state or federal regulations, or municipal zoning or subdivision and land development ordinances.*
- Secondary constraints—which includes each natural feature on which only limited development is permitted due to state or federal regulations, or municipal zoning or subdivision and land development ordinances.*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from previous inventory maps.

Open Space Planning Considerations

This map should identify how well sensitive resources are protected through existing municipal ordinances. Local planners can use it to determine if further protection should be recommended, or if there is redundancy that should be changed.

Comprehensive Plan Mapping Examples

- Development Constraints Map, *Charlestown Township Comprehensive Plan*, 2001.
- Natural Areas and Constraints to Development Map, *East Goshen Township Comprehensive Plan*, 1992.
- Development Constraints Map, *East Marlborough Township Comprehensive Plan*, 1990.

Historic and Cultural Resources Inventory Map

Map Purpose

The purpose of this map is to identify existing historically or culturally significant resources in order to protect them from destruction by inappropriate development. Some municipalities do not yet have this type of map in their comprehensive plan. These resources should also serve as the focus for recreation, tourism or cultural resource protection initiatives.

Map Content

- Covered and historic bridges, if present
- Municipal scenic roads (From previously adopted municipal plans.)
- Municipal scenic viewsheds (From previously adopted municipal plans.)
- National register eligible and listed historical sites structures, landmarks, and districts, if present
- Major archaeological sites*
- Municipal architecturally significant streetscapes (From previously adopted municipal plans.)*
- Municipally designated historic structures or sites (From previously adopted municipal plans and surveys.)*
- National byways*
- National Heritage Corridor boundaries*
- Pennsylvania byways*
- Pennsylvania Heritage Corridor boundaries*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) Department of the Interior, National Park Service, National Register of Historic Places, 2.) The Pennsylvania Historical and Museum Commission, 3.) the Chester County Historical Society, 4.) Chester County Department of Computing and Information Services GIS, 5.) Local historic societies, 6.) Municipal historic commissions and 7.) PennDOT.

Open Space Planning Considerations

- In order to discourage illegal digging, all archaeological sites should be mapped with a symbol that indicates only a general location. Unfortunately, this is an ongoing concern.
- In general, a structure or feature is considered as historic if it is over 50 years old. Either well-kept or neglected properties may be designated as historic.
- Chester County has a higher concentration of historic resources than most parts of the United States. Therefore, a detailed professional historic investigation can be expensive. As an alternative, local planners may consider conducting only preliminary studies, or detailed studies of a particular area.
- Municipally designated historic structures and sites can be mapped using reasonable criteria developed by the Open Space Task Force, with assistance from an historic commission or a professional consultant. Volunteers with a local historic commission or other local experts are often willing to assist in a historic resource inventory. Such volunteer efforts have been very successful in Chester County.

Comprehensive Plan Mapping Examples

- Historic Properties Map, *Easttown Township Comprehensive Plan*, 2001.
- Historic Resources Map, *Charlestown Township Comprehensive Plan*, 2001.
- Scenic, Historic and Cultural Resources Map, *Avondale Borough Comprehensive Plan*, 1993.

Park and Recreation Facilities Inventory Map

Map Purpose

The purpose of this map is to locate publicly-owned and privately-owned recreation facilities used for both passive or active recreation. Given the growing importance of park and recreation planning, such a map is now recommended.

Map Content

- Municipal recreational parks
- Municipal non-recreational open spaces
- Public schools
- County parks, if present
- County special purpose parks, if present
- State parks, if present
- National parks and historic sites, if present
- Non-profit fitness and recreation centers (Examples are the YMCA, Boys & Girls Club, 4-H, etc.)*

- Private indoor recreation facilities (Examples are tennis clubs and bowling alleys)*
- Private outdoor active recreation facilities (Examples are little league fields and golf courses)*
- Private outdoor passive recreation facilities (Examples are campgrounds, arboretums, etc.)*
- Future County park sites (Also known as undedicated County park property.)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) Field views, 2.) Chester County Department of Computing and Information Services GIS, 3.) State park maps, and 4.) National Park and historic site maps.

Open Space Planning Considerations

- The CCPC and the Parks and Recreation Department no longer classify parks as “regional” or “community” or “neighborhood” parks. This approach has been found to be impractical by the National Park and Recreation Association and is no longer recommended.
- In the past, some comprehensive plans included public recreation facilities on the same map as community facilities and services. This approach is not recommended, as it does not illustrate the relationship between public and private recreational facilities, or the wide variety of national, state, county and municipal recreational facilities.
- Public schools can be recreation facilities in two ways. Their sports fields are often used by nearby residents. The act of walking to school is also a form of exercise for children.
- Chester County has acquired many acres of land that will be used as future County parks. It takes years for these park facilities to be designed, constructed and open to the public. On some maps these parcels are referred to as **undedicated**, because they have not been formally dedicated.

Comprehensive Plan Mapping Examples

- Community Facilities Map, *East Whiteland Township Comprehensive Plan*, 2001.
- Community Facilities and Services Map, *West Pikeland Township Comprehensive Plan*, 1999.
- Parks and Recreation Facilities Map, *Parkeburg Borough Comprehensive Plan*, 1980.

Trails and Trail Destinations Inventory Map

Map Purpose

The purpose of this map is to identify existing public trail corridors, and undeveloped linear features that are well suited for reuse or restoration as trail corridors. Given the growing importance of trail and recreation planning, such a map is now recommended.

Map Content

- Chester County bike routes
- Municipal public trails, if present
- Publicly owned natural resource areas or parks (May include state game lands, PA Fish and Boat Commission properties, state forests, or other national, state or County parks.)
- Sidewalks
- Existing trail heads and trail destinations (To be determined by the Open Space Task Force.)
- Active, abandoned and demolished rail corridors*
- Bicycle PA routes*
- County trails*
- Internal park trails (Including municipal, County, state and national parks.)*
- Municipal greenways or wildlife corridors*
- Traditional hiking routes (Examples are the Horse-Shoe Trail, Brandywine Trail, Mason-Dixon Trail)*
- Underground and overhead utility corridors (May include rights-of-way)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) Aerial photography, 2.) Field observations, 3.) Municipal sidewalk mapping, 4.) Tax assessment records listing utility-owned parcels, 5.) *Linking Landscapes* for rail corridors, 6.) CCPC recommended bike routes mapping, 7) PennDOT mapping of bicycle PA routes.

Open Space Considerations

- Public trails often link into a larger pedestrian and bicycle network that includes sidewalks and low volume roadways.
- Trail heads and trail destinations can include downtown centers, shopping areas or public schools.
- Traditional hiking routes may include any number of mapped or informal trails that are used by the public even though the trail is not formally designated a trail. These routes are sometimes called social trails. Hiking some social trails may even be illegal trespassing, but it is important to know where residents hike as a way to address their needs in a legal setting.

- Ideally, a wildlife corridor should not be used for trail recreation by humans. Human activity and even the scent left behind by humans, can frighten away many of the wild animals such corridors are supposed to attract. In practice such a separation is not always possible, but it should be considered.
- When mapping utility corridors, only obvious features should be mapped. Due to homeland security concerns, detailed mapping of buried lines should not be made easily accessible to the general public.

Comprehensive Plan Mapping Examples

- Sidewalks Map, *West Grove Borough Comprehensive Plan*, 2003.
- Protected Lands Map, *East Fallowfield Township Comprehensive Plan*, 1999.

Protected Open Space and Undeveloped Parcels Inventory Map

Map Purpose

The purpose of this map is to identify undeveloped parcels that are protected from development and those that are not. Mapping large undeveloped and unprotected parcels along with the protected parcels can show an overall pattern of how well protected land is linked together. This mapping can also identify undeveloped lands that form gaps, which could be filled to link existing clusters of protected open space. Given the growing importance of open space protection, such a map is now recommended.

Map Content

- Publicly owned parks/natural resource areas/preserves (May include state game lands, PA Fish and Boat Commission properties, state forests, or other national, state or County properties.)
- County funded spray and drip irrigation fields (Only County funded fields are protected from development), if present
- Homeowner association open spaces (Sometimes called common open spaces), if present
- Parcels with an ALPB Agricultural Conservation Easement, if present
- Large undeveloped parcels (Size to be determined by Open Space Task Force)*
- Parcels owned by a non-profit land trust*
- Parcels with a non-profit land trust easement (As defined in *Linking Landscapes*)*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

Possible sources of information for this map include: 1.) Chester County Office of Assessment, 2.) Chester County Agricultural Land Preservation Board and 3.) Land Trusts.

Open Space Planning Considerations

- Parcels with an ALPB Agricultural Conservation Easement are protected from development.
- Parcels enrolled in an Agricultural Security Area are not protected from development, and they can be developed. These parcels are protected from nuisance lawsuits and are more difficult to condemn, but they can be condemned.
- The Open Space Task Force must develop its own criteria for determining what is an undeveloped parcel, since there is no one standard definition for either the terms **developed** or **undeveloped**. In general, farm fields with no structures are usually regarded as undeveloped, even though farm fields are highly managed landscapes.
- The Open Space Task Force must develop its own criteria for determining what constitutes a large undeveloped parcel. In general, an undeveloped parcel can be considered large when it is 40 to 50 acres. In urban areas, a parcel of 10 acres might be considered as large.
- Undeveloped parcels of 40 to 50 acres are easier to protect than those under 40 to 50 acres. Undeveloped parcels under 10 acre are commonly difficult or impossible to protect, unless they are adjacent to other protected parcels and can become part of a cluster of protected open space.

Comprehensive Plan Mapping Examples

- Large Parcels Map, *East Coventry Township Comprehensive Plan*, 2003.
- Protected Lands Map, *Pennsbury Township Comprehensive Plan*, 2001.
- Protected Lands Map, *East Fallowfield Township Comprehensive Plan*, 1999.

Appendix C



Plan Maps Used in
Comprehensive Plans

Plan Maps Should Document Municipal Recommendations

Purpose of the Appendix

The purpose of this appendix is to provide each Chester County municipality with guidance on updating its municipal comprehensive plan so that the plan contains maps, including but not limited to:

1. Natural Resource Protection Plan (see page 157)
2. Historic and Cultural Resource Protection Plan (see page 159)
3. Park and Recreation Plan (see page 160)
4. Trails Network Plan (see page 161)
5. Protected Open Space Plan (see page 162)

The following pages present a description of plan maps that can be used to formulate open space recommendations in a municipal comprehensive plan. It is assumed that all of these maps will be generated using GIS since this technology is affordable, widely available and already used by many municipalities and consultants. Some municipalities do not yet have these maps in their adopted comprehensive plans. Given that open space is now regarded as a form of infrastructure, the Chester County Planning Commission (CCPC) recommends that these maps should be included as an element of all comprehensive plans.

According to PA Act 247, Municipalities Planning Code (MPC), a **plan map** serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan. Plan maps can be used to present an illustration of a proposed facility, like a trail or greenway, which might be difficult to describe using only a written narrative. **When creating a plan map that will be included in a comprehensive plan, local planners should be aware that they are also establishing adopted recommendations.**

Natural Resource Protection Plan Map

Map Purpose

The purpose of this plan map is to locate parcels that contain significant natural resources that warrant protection. This map should be used to identify undeveloped areas that could be managed as wildlife corridors and linked together to form a functioning municipal-wide network. For some urban communities, these corridors may only be thin stream buffers or small wooded areas used by primarily by birds.

According to the MPC, a plan map serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan.

Map Content

- Recommended future municipal non-recreational open space
- Recommended future wildlife corridors*
- *Linking Landscapes* wildlife biodiversity corridors (Should be mapped as a hashed or stippled overlay)
- Recommended expansion of publicly owned natural resource areas/preserves (May include state game lands, PA Fish and Boat Commission properties, state forests, or other national, state or County properties.)*
- Other features that relate to natural resource protection*

[Note: * Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from previously created inventory maps (See Appendix B). It should also include layers showing recommendations generated by the Open Space Task Force.

Open Space Planning Considerations

- The term **greenway** is sometimes used to describe a wildlife corridor, but it can also refer to any linear corridor that is largely composed of natural areas, parks or streamside habitat.
- Ideally, a wildlife corridor should not be used for active recreation by humans. Human activity and even the scent left behind by humans, can frighten away many of the wild animals such corridors are supposed to attract. In practice such a separation is not always possible, but it should be considered.
- Some grant programs will only fund a wildlife corridor if public access is provided. Such access is often a simple parking area and a dirt path or **primitive** trail. State game lands permit public access, with certain limitations, and are effective at promoting managed animal habitat.
- Although it is not common for a state agency to enlarge an existing park or natural area, it has occurred in the County in recent years. Often a land trust takes a role in coordinating such an effort.
- This map should also show how locally developed wildlife corridors relate to the region-wide wildlife biodiversity corridors presented in *Linking Landscapes*. It is likely that the locally generated corridors will be thinner and more detailed.

Comprehensive Plan Mapping Examples

- Natural Resources Protection Plan Map, *Warwick Township Comprehensive Plan*, 2003.
- Proposed Greenway Map, *Pennsbury Township Comprehensive Plan*, 2001.
- Resource Protection Priorities Map, *East Bradford Township Open Space Plan* (comprehensive plan element), 1993.

Historic and Cultural Resource Protection Plan Map

Map Purpose

The purpose of this plan map is to locate parcels that contain historically or culturally significant resources that warrant protection. This map should be used to identify resource-rich areas that could be managed as a unit, such as a historic district or a byway. Cultural resources in an urban setting may be quite different from those in a rural setting, and so these maps may vary in content. According to the MPC, a plan map serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan.

Map Content

- Recommended municipal historic structures or sites (To be designated by the Open Space Task Force, after consultation with a local historic commission.)
- Recommended municipal scenic roads
- Recommended municipal scenic viewsheds
- Recommended municipal architecturally significant streetscapes*
- Recommended municipal historic districts* (To be designated by the Open Space Task Force, after consultation with a local historic commission.)
- Other features that relate to historic and cultural resource protection*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from the inventory maps (See Appendix B.) along with layers showing recommendations generated by the Open Space Task Force.

Open Space Planning Considerations

- The federal and state governments use the term **byway** to refer to roads that are scenic, or historically or culturally significant. Local planners can still designate **scenic roads**, but they should be aware that this term is not used at the state and federal level.
- Scenic roads should not be short or isolated segments. Rather they should be lengths of roadway that can be driven as part of a short trip, preferable connecting destinations that would be a part of the overall traveling experience.
- Local planners should avoid designating too few scenic roads. When there are too few, there is not a linked network that could realistically be driven.
- When local planners designate too many scenic roads in a municipality, developers may have no option but to impact a scenic road. If some roads are scenic, but others are not, the municipality can direct developers toward the non-scenic roads, thus preserving the scenic roads.
- Scenic roads are not always low volume. In some parts of Pennsylvania, scenic roads have been established by communities in order to generate tourism-related traffic or to spur development or economic growth.

- Scenic viewsheds should be visible from roads, sidewalks or other public facilities. Scenic roads are meant to be viewed while driving.
- Historic and architecturally significant structures are not limited to quaint residential buildings and farm buildings. Commercial properties such as stores and offices, or industrial sites such as factories, mills and foundries can become important historical assets to a local community.

Comprehensive Plan Mapping Examples

- Potential Historic District Map, *West Grove Borough Comprehensive Plan*, 2003.
- Recommendations Plan Map, *Parkesburg Borough Open Space Plan* (comprehensive plan element), 1993.
- First Priority Resources Targeted Map, *Willistown Township Open Space Plan* (comprehensive plan element), 1993.

Park and Recreation Plan Map

Map Purpose

The purpose of this plan map is to locate parcels that could be used for future active or passive recreation. This map should also be used to identify undeveloped parcels adjacent to existing recreational facilities that could be used to expand those facilities. According to the MPC, a plan map serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan.

Map Content

- Recommended future municipal non-recreational open space
- Recommended future municipal recreational parks
- Potential future public schools sites*
- Recommended expansion of publicly owned recreation areas or parks (May include state game lands, PA Fish and Boat Commission properties, state forests, or other national, state or County properties.)*
- Potential future privately-owned recreation facilities (Examples are tennis clubs, equestrian facilities, and gyms.)*
- Proposed non-profit fitness and recreation centers (Examples are the YMCA, Boys & Girls Club, 4-H, etc.)*
- Proposed private outdoor active recreation facilities (Examples are little league fields and golf courses)*
- Other features that relate to parks or recreation*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from the inventory maps (See Appendix B.) along with layers showing recommendations generated by the Open Space Task Force.

Open Space Planning Considerations

- Local planners may consider including proposed trails on the same map as recreation facilities to show how they are connected. However, drawing trail lines on a map that already contains many recreation features can make a map that is too busy to be easily read.
- The CCPC and the Parks and Recreation Department no longer evaluate future parks as **regional** or **community** or **neighborhood** parks. This approach has been found to be impractical by the National Park and Recreation Association and is no longer recommended.
- Areas that are identified for future parks or open spaces should be considered for inclusion on an Official Map as described on page 32 of this guidebook.

Comprehensive Plan Mapping Examples

- Recreation Facilities Map, *Oxford Borough Open Space Plan* (comprehensive plan element), 2002.
- Community Facilities and Services Map, *West Vincent Township Comprehensive Plan*, 1994.
- Open Space, Parks and Recreation Map, *Uwchlan Township Comprehensive Plan*, 2000.

Trail Network Plan Map

Map Purpose

According to the MPC, this plan map serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan. The purpose of this map is to locate:

- Areas that are well-suited for public trail destinations or trail heads. In some municipalities all the trail destinations may be outside the municipal boundaries.
- Undeveloped corridors that are well-suited for public trails.
- Developed corridors with enough open areas to accommodate public trails.
- A potential municipal-wide network of trails that may link to sidewalks and bike routes.

Map Content

- *Linking Landscapes* regional priority trail corridors, if present
- *Linking Landscapes* regional recreation corridors
- Recommended bike routes
- Recommended future sidewalks
- Recommended municipal trail network (Trail corridors must be a minimum of 30 feet wide.)
- Recommended future trail destinations*
- Other features that relate to the trail network*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from the inventory maps (see Appendix B.) along with layers showing recommendations generated by the Open Space Task Force.

Open Space Planning Considerations

- The recommended municipal trail network should include internal or loop trails within municipal property such as recreational parks or natural areas.
- Recommended municipal trail corridors should be at least 30-feet wide to accommodate a realistic trail right-of-way. Proposed corridors should always be mapped using a thick dotted or dashed line to make it clear that a final trail route has not been determined.
- Recommended trail corridors are usually changed during design and construction to accommodate conditions on the ground. The goal of trails planning is to connect two or more destinations, even if the alignment does not follow the initial recommended corridor.
- Recommended trail destinations can include existing or proposed recreation facilities, downtown centers, shopping areas or public schools. It is best to map these destinations as a general location or node, rather than highlighting a specific property or parcel.
- Corridors that are identified for future trails should be considered for inclusion on an Official Map as described on page 32 of this guidebook.

Comprehensive Plan Mapping Examples

- Bicycle Routes and Improvement Needs Map, *Easttown Township Comprehensive Plan, 2001*.
- Greenway and Trail Network Plan Map, *Kennett Square Borough Comprehensive Plan, 2001*.
- Potential Community Trail Network Map, *Pennsbury Township Comprehensive Plan, 2001*.

Protected Open Space Plan Map

Map Purpose

According to the MPC, this plan map serves as a graphic recommendation, comparable to recommendations written in the text of the comprehensive plan. The purpose of this map is identify:

- Unprotected open space parcels that are undeveloped and are well-suited for protection as open space.
- Unprotected open space parcels that are undeveloped and are not well-suited for protection as open space because they cannot realistically be protected from development.
- Potential clusters of protected open space, which may include linear open space corridors.
- Opportunities for enlarging or linking together existing clusters of protected open space, which may include linear open space corridors.

Map Content

- Parcels Enrolled in Act 319 or Act 515. (Should be mapped as a stippled overlay pattern.)
- Parcels enrolled in an Agricultural Security Area. (Should be mapped as a stippled overlay pattern.)
- Recommended future municipal park and non-recreational open space parcels
- Undeveloped parcels undergoing the development process (Should include all parcels for which a subdivision or development plan has been submitted to the municipality for review for the past 5 years.)*
- Undeveloped parcels well-suited for protection as open space (To be determined by the Open Space Task Force. Should not include parcels already protected.)*
- Parts of the municipality that are well-suited for an Effective Agricultural Zoning District*
- Other features that relate to protected open space*

[Note: *Indicates map features that are optional, or that may not be applicable in some municipalities.]

Map Information Sources

This should be a composite map generated using data layers compiled from the inventory maps (See Appendix B.) along with layers showing recommendations generated by the Open Space Task Force.

Open Space Planning Considerations

- Some municipalities may wish to compile mapping of “Undeveloped Parcels Well-Suited for Protection as Open Space,” but use it only as un-published study map. This approach shows sensitivity to the owners of the parcels, who may not wish to have mapping of their land holdings widely distributed to the general public. Local planners should always contact the owners of parcels considered for inclusion on this map before distributing a draft for review by the public or a public agency.
- Parcels enrolled in an Act 319 or Act 515 are not protected from development, and can be developed. Taxes are reduced on parcels enrolled in Act 319 and Act 515 as long as they remain undeveloped. Developing these parcels requires the landowner to pay back the value by which his or her taxes were reduced, for as many years as the land was enrolled in Act 319 or Act 515. An additional penalty must also be paid. Thus parcels in enrolled PA 319 and Act 515 are more costly to develop. As a result, parcels enrolled in Act 319 and Act 151 are usually better suited for protection as open space, relative to those not enrolled.
- Parcels enrolled in an Agricultural Security Area (ASA) are not protected from development, or condemnation. They are protected from nuisance lawsuits and must be reviewed by the state Agricultural Lands Condemnation Approval Board, before they can be condemned. A farm must be within an ASA in order to be eligible to apply for an agricultural conservation easement. In general, parcels enrolled within an ASA are better suited for protection as open space, relative to those not enrolled.

Comprehensive Plan Mapping Examples

- Open Space Conservation Strategies Map, *Pennsbury Township Comprehensive Plan*, 2001.
- Resource Priorities/Undeveloped Land Map, *Birmingham Township Open Space Plan* (comprehensive plan element), 1994.

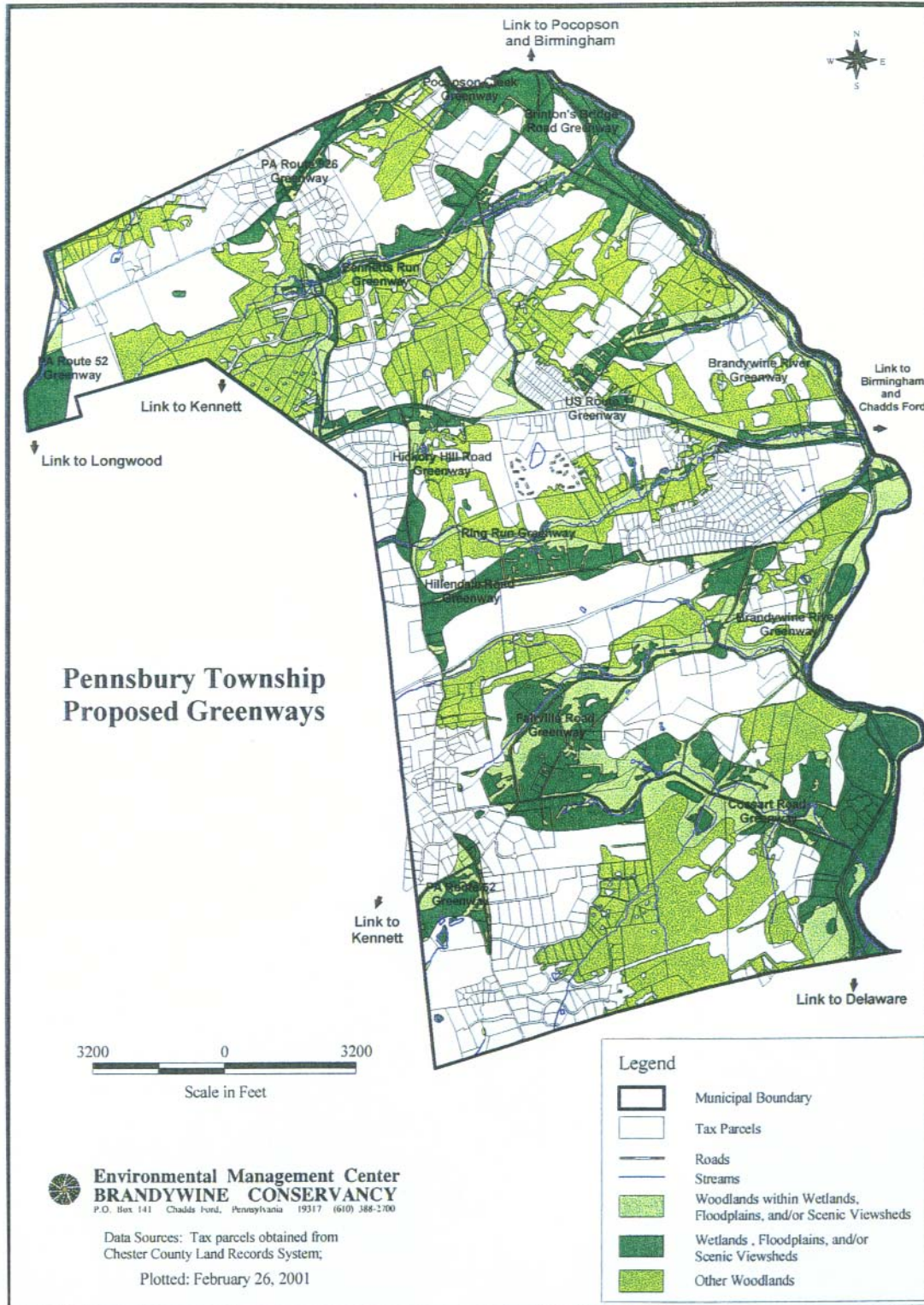
Examples of Plan Maps with Municipal Recommendations

The following graphics provide examples of plan maps that have already been adopted by Chester County municipalities as part of a comprehensive plan. The purpose of presenting these maps is to show that it is possible for local governments to achieve the kind of detailed of open space recommendations that are promoted in this guidebook, and also in *Linking Landscapes*. These plan maps do not include all of the features that are suggested in this appendix because these maps pre-date this guidebook and *Linking Landscapes*.

The examples are

- Figure 1: [Natural Resource Plan Map—Pennsbury Township Proposed Greenways](#) (page 167)
- Figure 2: [Historic and Cultural Resource Plan Map—Potential Historic District, Borough of West Grove](#) (page 168)
- Figure 3: [Park and Recreation Plan Map—Recreation Facilities, Oxford Borough](#) (page 170)
- Figure 4: [Trails Network Plan Map—Trails Map, West Bradford Township](#) (page 172)
- Figure 5: [Protected Open Space Plan Map—Recommendation Summary, East Bradford Township](#) (page 174)

Figure 1: Natural Resource Plan Map



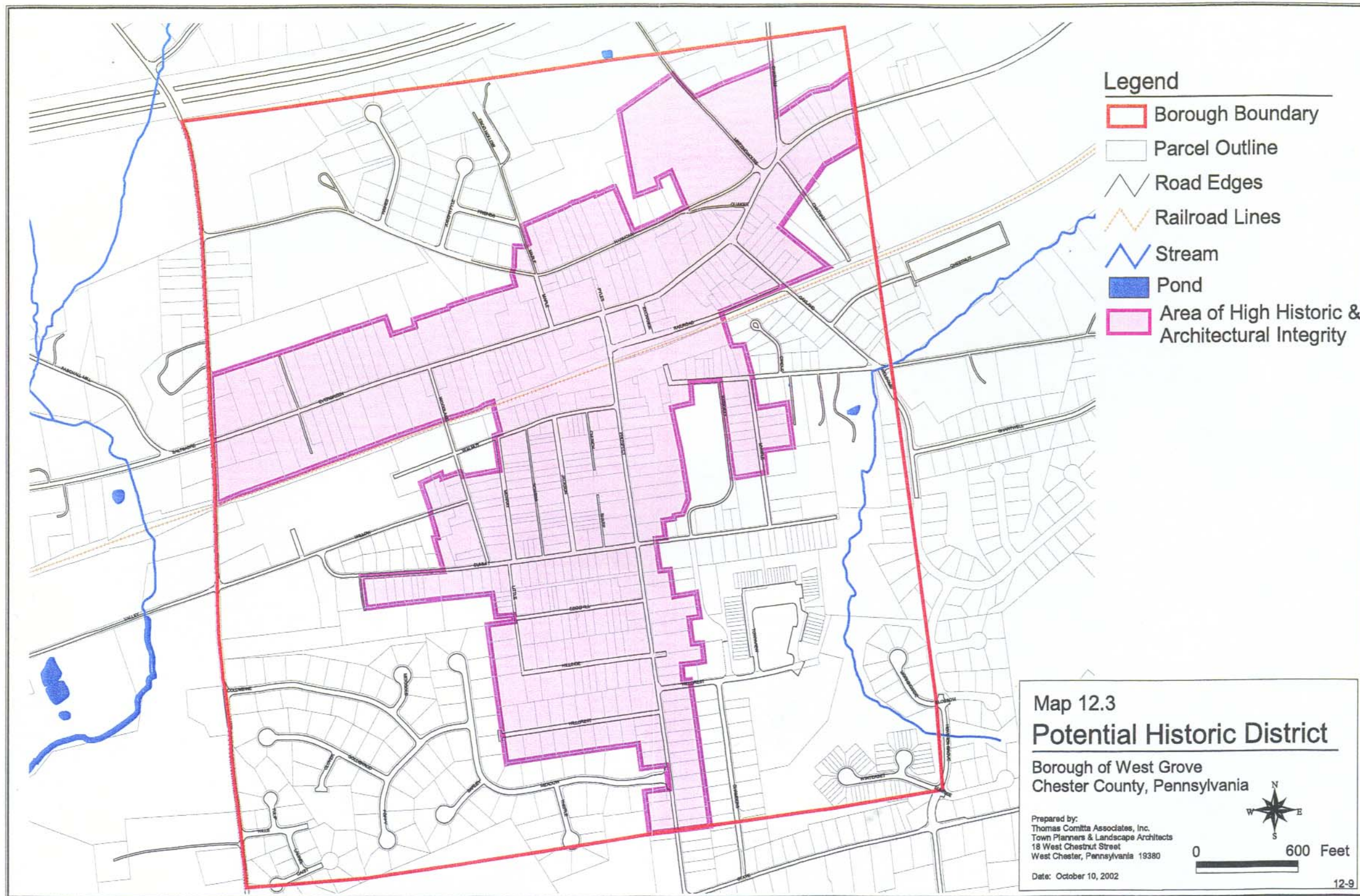
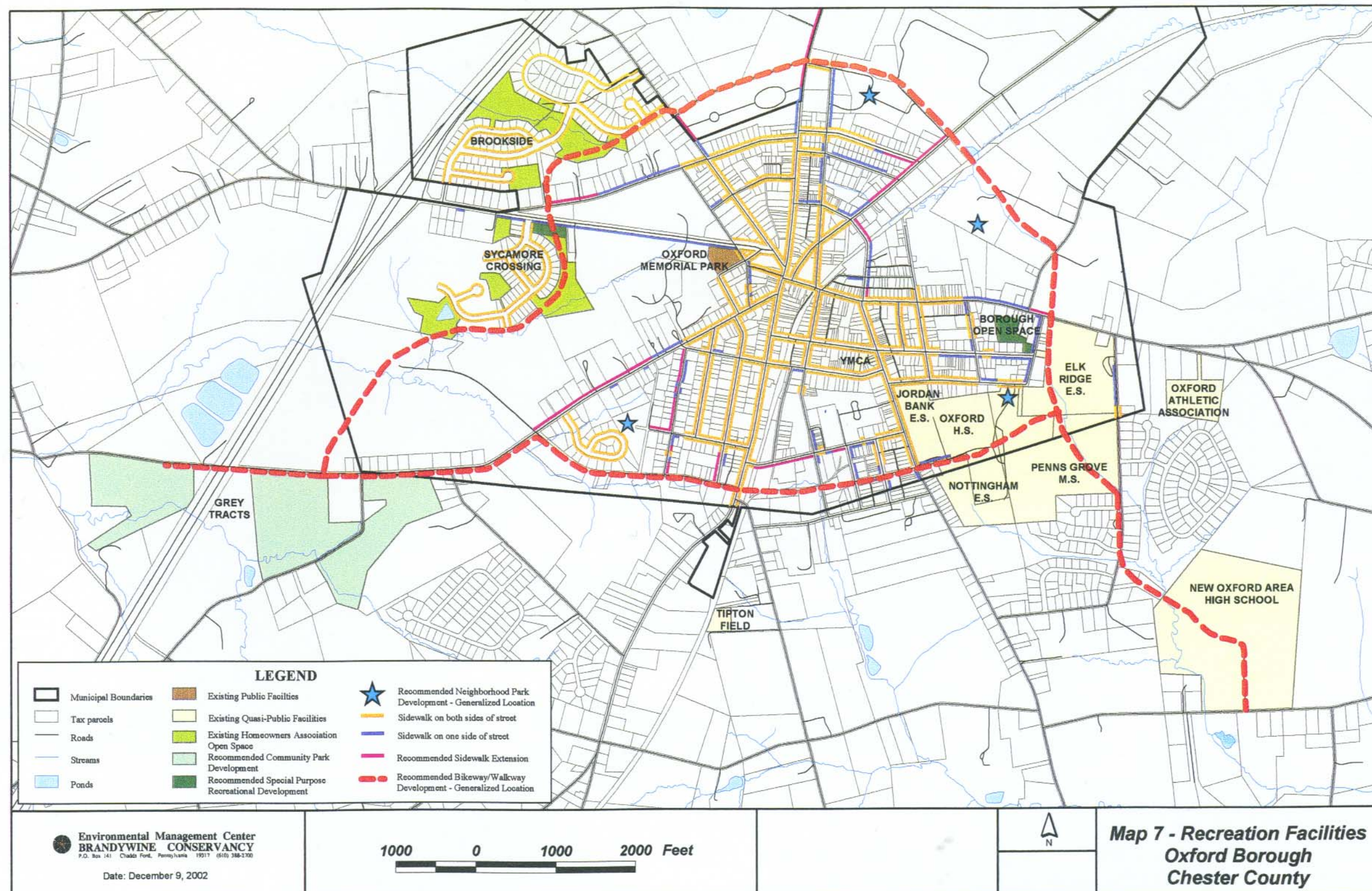


Figure 2:
 Historic
 and
 Cultural
 Resource
 Plan Map

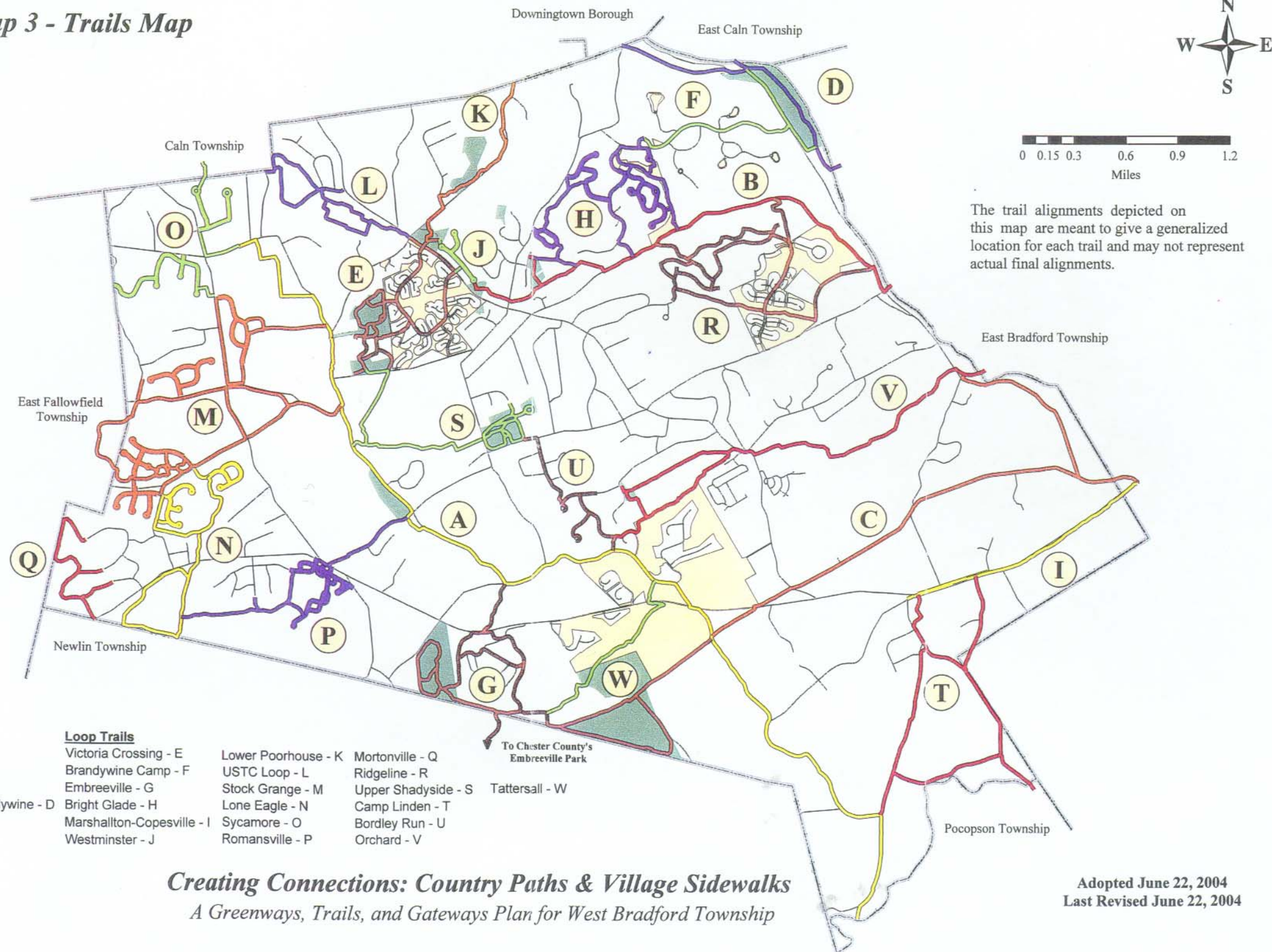
Source:
 West Grove Comprehensive Plan, 2003

Figure 3:
Park and
Recreation
Plan Map

Source:
Oxford Borough Open Space, Recreation
and Environmental Resources Plan, 2002



Map 3 - Trails Map



Trails

Core Trails

- Broad Run - A
- Sawmill Run - B
- Telegraph - C
- East Branch Brandywine - D

Loop Trails

- | | | |
|----------------------------|---------------------|---------------------|
| Victoria Crossing - E | Lower Poorhouse - K | Mortonville - Q |
| Brandywine Camp - F | USTC Loop - L | Ridgeline - R |
| Embreeville - G | Stock Grange - M | Upper Shadyside - S |
| Bright Glade - H | Lone Eagle - N | Camp Linden - T |
| Marshallton-Copesville - I | Sycamore - O | Bordley Run - U |
| Westminster - J | Romansville - P | Orchard - V |
| | | Tattersall - W |

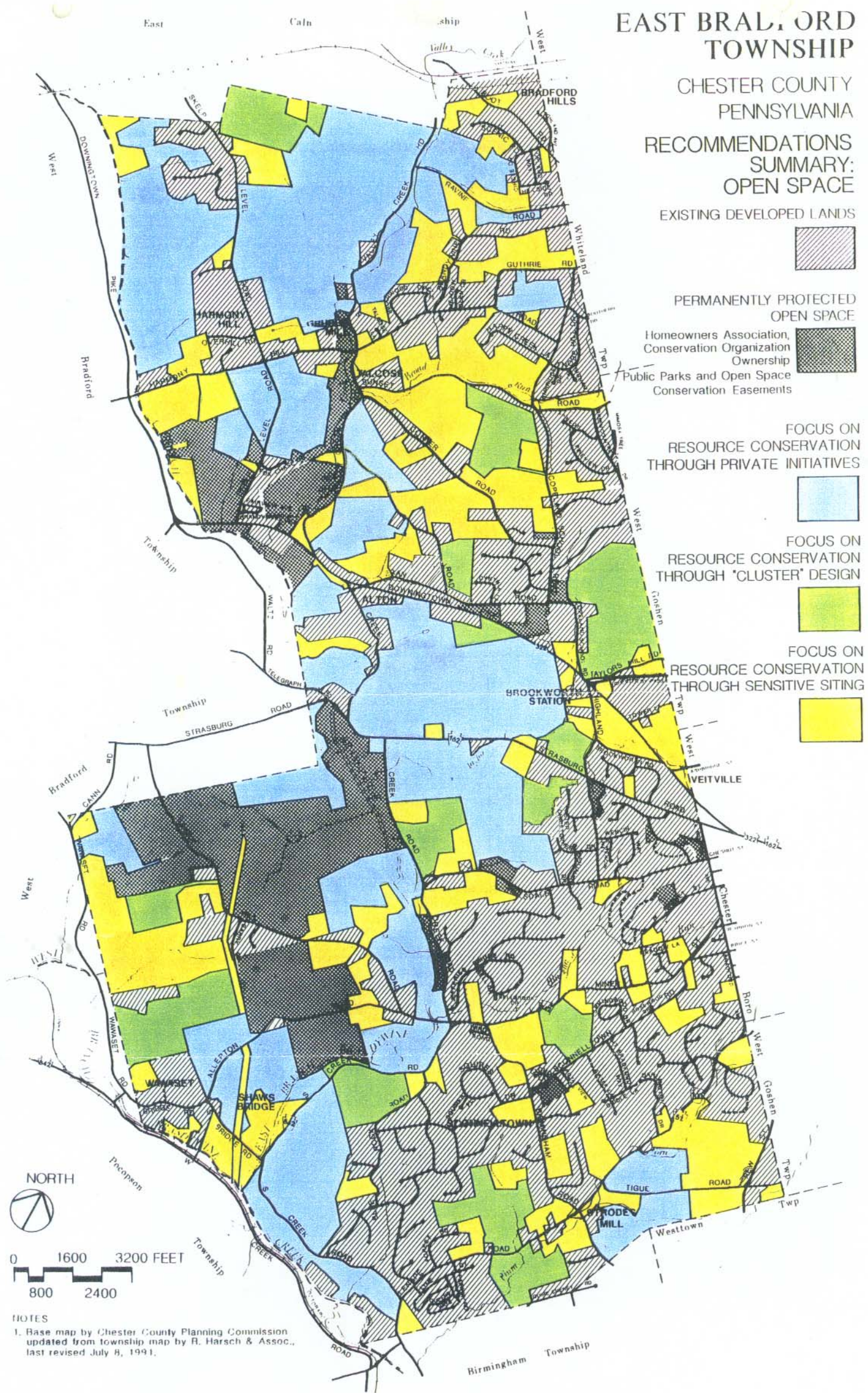
Creating Connections: Country Paths & Village Sidewalks
A Greenways, Trails, and Gateways Plan for West Bradford Township

Adopted June 22, 2004
 Last Revised June 22, 2004

Figure 4:
 Trails
 Network
 Plan Map

Source:
 West Bradford Township Comprehensive
 Plan Amendment, 2004

Figure 5: Protected Open Space Plan Map



Source: East Bradford Township Open Space Recreation, and Environmental Resources Plan, 2002

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The Chester County Planning Commission would like to thank the following individuals for reviewing and providing comments on the preliminary draft of this guidebook.

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