



Preserved section of Houghs Creek

Upper Makefield Township Open Space Plan 2009 Update

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Prepared by



In accordance with the
Bucks County Municipal Open Space Guidelines

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Background

Upper Makefield has financed its open space purchases with \$30 million in bond issues from three voter referendums on open space. In 1996 the voters of Upper Makefield approved a \$5.9 million bond issue to preserve open space. To guide the use of the funds, in June of 1998, Upper Makefield Township worked with Heritage Conservancy to produce a “Plan to Preserve Upper Makefield Township’s Farmland & Open Space.” It was quickly determined that the funding would not meet the township’s open space goals. In 2000, another referendum, for an additional \$15 million, was approved.

In 2005, the township Environmental Advisory Council (EAC) updated the plan to reflect new goals and to re-evaluate priorities in light of conservation successes with the original bond issue. A third bond referendum, for \$10 million, was approved in November 2005. This plan is now being updated to meet Bucks County’s 2008 Municipal Open Space Guidelines.

Upper Makefield has been extremely successful in preserving its open space. More than one third of the acreage in Upper Makefield Township is protected by conservation easement or deed restriction or owned by a unit of government. According to an August 2009 analysis as represented by the attached OpenSpace09 map, the total land protected in Upper Makefield Township totals 5,096.73 acres. Since the township contains 13,760 acres, this represents 37.04% of the township. This figure does not include several properties in the process of being preserved.

Bucks County Agricultural Program	(228.43 acres)
Heritage Conservancy	(698.22 acres)
Homeowner Association	(1,135.68 acres)
Municipal Parks and Land	(172.84 acres)
Private Preserved	(263.83 acres)
School, Recreation, Vacant	(181.3 acres)*
State Land	(314.41 acres)
Upper Makefield Township Protected Land	(1,932.92 acres)
Upper Makefield Township and Heritage Protected	(169.10 acres)

*This figure includes the Jericho National Golf Course property which is subject to a covenant that does allow future large-lot limited development.

The Map also shows the VA Cemetery which will be “developed” over several decades and will have many of the attributes of open space while not being expressly designated as permanently protected open space.

The attached OpenSpace09 map gives the location of the protected parcels; it should not be viewed as labeling what portions of the highlighted parcels are preserved. In many cases, the easements on the specified parcels only cover a portion of the parcel. Since the easements did not result in a subdivision of the parcels, the county data source does not provide the

outlines of the preserved areas. An example of this is the 49-acre Dutchess Farm HOA easement located in the center section of the map.

The original 1998 Upper Makefield open space plan had the following goals:

1. Farmland Preservation
2. Watershed Protection
3. Establish Greenway Corridors
4. Enhance Biological Diversity
5. Protect Significant Viewsheds
6. Establish Recreational Open Space



Lane leading to preserved property

Action Steps to achieve objectives

- Identify farmland and key parcels of land that are at risk for development or which block expansion of development into critical areas.
- ✓ The majority of properties preserved through purchases were predominantly farm fields. With the exception of the Marrazzo property and the Kudra property along Taylorsville Road and to a large extent, the Ryan property on Buckmanville Road, the land that has been preserved, and is currently under negotiation, includes a significant amount of farm fields.
- Identify those parcels of land that can be protected with non-acquisition based methods or interests acquired at below market value.
- ✓ Several smaller tracts were acquired through donations.

- Protect critical habitats along the Delaware River, the Canal and smaller streams.
 - Evaluate the natural habitat in these areas.
 - Complete a parcel identification survey in these areas.
 - Develop protection strategies and identify potential access points to those areas where habitat is less critical.
- ✓ The Marrazzo tract was one of the township's first acquisitions. Its location along the Delaware Canal made it a high priority. The township has worked on several other properties along the canal and river, including the Fløge property on the river and a 31-acre tract on the canal that has been in discussion since 2001.
- Protect wetlands and floodplains and promote effective, environmentally appropriate management strategies.
- ✓ The township acquired fee-simple interest in the Kudra property that forms a portion of the Timber Knoll wetlands, identified in the Bucks County Natural Areas Inventory as a priority 3 site.
- Develop strategies to link recreational and historic properties and provide access to those resources.
 - Waterways, streams, creeks and the river
 - Utility corridors
 - Highway buffers and right of ways
- ✓ One of the factors considered in prioritizing properties for acquisition is connectivity.

Implementation of the 1998 Open Space Plan

One property, the Marrazzo property, totaling 22 acres, was protected using the township's municipal allocation of the county open space funds. A copy of the most recent monitoring report is appended to this plan.

2005 Open Space Plan Update

The EAC methodology to evaluate and prioritize properties for preservation has been successfully applied and is reflected in the acquisitions to date. Because of the success in preserving farmland, the EAC re-evaluated and revised the action steps and ranking criteria to focus on the other important objectives of the open space plan.

Prioritization of Goals Revised in 2005

1. Watershed Protection
2. Establish Greenway Corridors
3. Farmland Preservation
4. Enhance Biological Diversity
5. Protect Significant Viewsheds
6. Establish Recreational Open Space

2005 Goal 1. Watershed Protection

Watershed protection has become an increasingly important issue. In 1998, water quality and quantity were identified as critical issues. Since Upper Makefield does not have public water and sewer, it is very important to insure that there will be sufficient, high-quality

groundwater recharge to satisfy the community's needs. The best way to protect drinking water supplies and surface water quality is to protect the lands that surround our reservoirs, streams and aquifer recharge areas. As in 1998, the township does not have specific laws or regulations which will permanently protect watershed or recharge lands from development. The direct and indirect pollution from buildings, parking lots, storm sewers, lawn chemicals, etc., can degrade ground and surface water quality. The destruction of wetlands and impingement on floodplains, which provide a natural filter of run-off, further degrades our natural resources. Unless the lands that provide groundwater recharge or surround water supplies are permanently protected, the natural resources will be degraded by development. Stormwater management has become a critical issue in the township. Within the township, Hough's Creek and Jericho Creek have repeatedly flooded and caused major impact to properties along their banks. While the causes certainly extend well beyond the township, two large events caused major flooding along the Delaware River and Delaware Canal impacting the township within the last year. The township has instituted riparian buffer ordinances to protect its waterways, but additional protection along the streams is a major priority.

Objective:

The EAC recommends protection of lands that provide flood control, filtration of surface water, groundwater recharge, and lands surrounding the headwaters and water-supply streams.

Actions taken to date:

Several of the properties preserved since 1998 include significant riparian corridors. Within the Pidcock Creek Watershed the Magill, Reese and Ryan properties have been preserved; within the Jericho Creek Watershed the Heinicke, Schleyer, Baldwin, Buckman and Thorpe properties have been preserved; in the Hough's Creek Watershed the Russell property has been preserved, and the Rapuano property, which is part the watershed of an unnamed tributary that now empties into the Delaware Canal, has been preserved. The township has purchased a conservation easement on the Antoniaci-Rorer properties in order to protect over 1000 linear feet along Hough's Creek.

The township, through representation of EAC members, is participating in the recently formed Pidcock Creek Watershed Association's efforts along that stream.

2005 Goal 2. Greenway Corridors

Greenways, or connecting pathways and waterways between open spaces, give the opportunity for people to travel longer distances among changing landscapes and habitat types. Greenways make it possible for more people to enjoy the popular activities of hiking, biking, walking and boating. Parks can be linked together by trails and eventually wander far into the most rural areas of Upper Makefield. Wildlife need corridors too, so that they can migrate between nesting and foraging areas. Plant species also need a variety of environmental conditions to survive and regenerate. It is not enough to preserve isolated parcels of unconnected open spaces. Integrating Upper Makefield's system of open spaces would aid in preserving the natural links upon which both plant and animal species rely. Upper Makefield is fortunate to have both the Washington Crossing Historic Park and the Delaware Canal State Park that allow significant greenway linkages between the Delaware

River and the Delaware Canal and associated towpath which runs the entire length of the Township. The permanently protected lands of the David Library property and Sol and Rose Feinstone Nature Preserve link the canal and the river.

Objective:

The EAC recommends that the creation of additional greenway linkages through preservation of open space or purchase of easements and rights-of-way throughout the Township be explored. The Township is encouraging the development of linkages both within and between new residential subdivisions to allow residents to get to adjacent or nearby open spaces without the use of cars and to provide passive recreation opportunities on a larger scale than can be accomplished within a single subdivision.

Actions taken to date:

The *Park & Recreation Comprehensive Plan 2005 Plan Update* has addressed the township's potential needs. Land conservation efforts have focused on creating critical masses of open space and linking these preserved lands by preserving connecting parcels as compared to a linear greenway plan. Most of the township is rural and the areas best serviced by linear trails are connected through the Delaware Canal State Park. The Floge tract includes provisions for future trails that could connect the Delaware Canal State Park with Lookout Park.

2005 Goal 3. Farmland Preservation

As Upper Makefield has become an increasingly desirable location to live, the pressure to convert farmland to residential use has increased. Working with the Bucks County Farmland Preservation program and Heritage Conservancy, Upper Makefield has preserved several large tracts of farmland. Other properties are in the process of being preserved.

Objective:

The EAC recommends continuing to preserve the remaining farmland in an effort to establish a critical mass of preserved farmland to assure the sustainability of agriculture in the township and to maintain adequate groundwater recharge.

Actions taken to date:

Most of the properties preserved to date include significant farmland areas. See map for complete list of preserved farms.



2005 Goal 4. Biological Diversity

Since the 1998 plan was adopted, the Natural Area Inventory of Bucks County was completed. Sites were evaluated based on thirteen biological, ecological, geological, and hydrological criteria. The plan notes that though many of the sites may be partially protected, many require additional protection. Upper Makefield is also concerned with the protection of transition areas between ecosystems. While many of the sensitive natural areas are currently protected by ordinance, there is a need to establish buffer areas surrounding those resources to protect them. The plan established four levels of priority for the 115 most significant sites in the county:

Priority 1 sites—19 sites of state-wide and county-wide significance based on the uniqueness or exceptionally high quality of the natural features they encompass.

Priority 2 sites—33 sites of county-wide and in some cases state-wide significance due to their overall quality and the diversity and importance of the resources they contain. The difference between the sites in this list and those in the Priority 1 list is one of degree.

Priority 3 sites—39 sites of local or county-wide importance. Some locations with small or somewhat degraded occurrences of state-listed rare species are included here also.

Priority 4 sites—24 sites with biological or ecological resources that are important at the local level. In some cases small remnant populations of rare species or rare natural communities are present that can provide a nucleus for future restoration efforts.

Upper Makefield Township contains six priority inventory sites as follows:

Priority 3:

- Bowman's Hill and Pidcock Creek
- Delaware Canal State Park Ellisia site
- Jericho Mountain
- Scudders Falls Islands
- Timber Knoll Wetlands

Priority 4:

- Washington Crossing—Marrazzo tract along Delaware Canal

Objective:

The EAC recommends that preservation of biodiversity be a criterion in all open space funding programs.

Actions taken to date:

Preservation of the Marrazzo tract and the Kudra tract (a portion of the Timber Knoll wetlands).

2005 Goal 5. Viewsheds

The value of open space to the community at large is often visual. There are many wonderful viewsheds in the Township. From the scenic beauty of Jericho Mountain to the beautiful, tranquil waters of the Delaware River, Upper Makefield has some of the most spectacular countryside in southeastern Pennsylvania. Habitat protection and agricultural preservation are very important; on a day-to-day basis, the appearance of open space has a significant effect on the community's perceived quality-of-life. Maintaining the wide open vistas and scenic viewsheds are an important part of preserving Upper Makefield's rural character.

Objective:

The EAC recommends that important vistas and viewsheds be protected, especially those visible from frequently traveled public thoroughfares and those along the Delaware River.

Actions taken to date:

The acquisition of the farmland of the Floge property preserves one of the last open spaces between River Road and the Delaware Canal. The land between the canal and the river has also been preserved. The township's preservation of the Lehman, Buckman, and Rapuano tracts along Wrightstown Road has preserved long range vistas across the township into New Jersey. The agricultural views along the westerly side of Eagle Road were preserved with conservation easements on the Antrobus and Magill properties.



Former farmland viewed from Bowman's Tower

2005 Goal 6. Recreational Open Space

The community needs beautiful, interesting, affordable, educational and enjoyable parks and open spaces. From quiet forests to athletic fields filled with children; favorite fishing spots to hiking and mountain bike paths; playgrounds to campgrounds; all manner of outdoor recreation pursuits, by all manner of able and disabled persons are in demand. Upper Makefield has addressed its recreational open space goals through its Comprehensive Park and Recreation Plan. (See also Appendices B & C). Cooperative efforts with the state parks

located in the Township can also serve to improve the quality of outdoor recreation for its citizens and should be actively pursued.

Objective:

The EAC agrees that recreational areas are needed in the Township and recommends utilizing existing lands dedicated for outdoor recreation (Biddle tract, Brownsburg Park and Lookout Park) as well as the state owned Bowman’s Hill property and the Washington Crossing Park. The EAC agrees that active recreation needs should be addressed through the Comprehensive Park and Recreation Plan.

Actions taken to date:

To date, none of the acquisitions under the EAC’s open space program have focused on recreational values of land. This function has been primarily accomplished through land dedicated to the Township or preserved by local homeowners associations.

The plan’s “Action Steps” have successfully guided conservation efforts to achieve objectives in the plan.

While not specifically outlined as a goal, the township does consider the historic significance of the properties and the structures on a property.

2009 Open Space Plan Update

The Public Participation Process

A public meeting was held by the EAC on May 12, 2009 to gather community input into the planning process. Input from the meeting has been incorporated in this plan. A review of past accomplishments and a “gap analysis” of what was still needed was the main focus of the meeting. The following list of properties was generated in response to perceived threats for the subdivision and conversion of remaining undeveloped properties.

<u>Parcel</u>	<u>Last name</u>	<u>Site Address</u>	<u>Acreage</u>	<u>Zoning</u>
47-001-016	Alden	2840 Windy Bush Rd	27	CM
47-001-021-1	Belding	2950 Windy Bush Rd	53.8	CM
47-020-108-3	Brick	Aqueduct Rd	15.001	CM
47-007-009	Eagle Rd Realty	1268 Eagle Rd	51.6	JM
47-004-006	Errato	359 Pineville Rd	25.71	JM
47-007-011-1	Ferreri	2 Deer Path La	21.17	CM
47-004-105-1	Foster	16 Stoney Brook Rd	20.4	CM
47-007-040-1	Geopedior Assoc	Brownsburg Rd	153.04	CM
47-007-050	Geopedior Assoc	Stony Brook Rd	46.74	CM
47-007-041	Geopedior Assoc	386 Brownsburg Rd	20.07	CM
47-007-038	Geopedior Assoc	Brownsburg Rd	8.4	CM
47-008-002	Holt	Eagle Rd	29	CM
47-001-001	Hyndman	Pine La	35.22	CM
47-006-006	King	1050 Eagle Rd	27.43	CM
47-001-013	M & N LP	1130 Street Rd	47.1	CM
47-001-032-5	Mangano	3032 Windy Bush Rd	20.681	CM
47-007-012-5	Mauro	430 Lurgan Rd	22.28	CM
47-001-023	McCarthy	2976 Windy Bush Rd	23.564	CM

47-004-085	McGuire	1425 Wrightstown Rd	20.72	CM
47-007-011	Newman	1310 Eagle Rd	24.39	CM
47-008-061-1	Pfundt	920 Highland Rd	37.03	CM
47-020-119	Polka	1069 River Rd	27.3	VC
47-004-027	R P S C Inc	426 Pineville Rd	29.76	CM
47-004-094	Schwartz	1070 Eagle Rd	42.26	CM
47-004-065	Wesley	Pineville Rd	111.11	JM
47-004-064	Wesley	Pineville Rd	<u>25.84</u>	CM
			966.616	

B. 2009 Open Space Goals

Based on the past experiences and the public participation process, the township will continue with the same goals as were outlined in the 2005 Revision to the Open Space Plan.

Watershed Protection
 Establish Greenway Corridors
 Farmland Preservation
 Enhance Biological Diversity
 Protect Significant Viewsheds
 Establish Recreational Open Space

C. 2009 Open Space Action Steps

Owners of the identified properties will be contacted to gauge their interest in the preservation process. From the list of vulnerable properties the EAC will continue to use its 2006 evaluation criteria to prioritize properties of those interested in participating. The EAC will make recommendations to the Board of Supervisors on which properties to target for acquisition.

Changes in the Community since 1998 – Key Studies

In addition to the 2005 revised open space plan, two key documents were reviewed:

- *Park & Recreation Comprehensive Plan 2005 Plan Update Prepared for Upper Makefield Township Board of Supervisors & the Park and Recreation Board May 2005*
- *Newtown Area Joint Comprehensive Plan, Bucks County, Pennsylvania Draft 2008*

Population Composition

The 2000 Park Plan update (citing the Profile of General Demographic Characteristics) states that the ten year period between 1990 and 2000 saw a 21% increase in the Township population with a density of persons per square mile increasing from 275 people per square mile to 332 people per square mile, or a 20% increase in persons per square mile of the township.

Population History and Projections (*)

1990	2000	2005*	2010*	2020*
5,949	7,180	8,060	9,020	11,320

Gender and Age Composition

The gender makeup of the township residents is at 50% male, 50% female with an 18% increase in males and a 23% increase in females between 1990 and 2000.

ive Breakdown by % of Total Population

Age Breakdown by % of total Population			
Category	1990	2000	Change
<i>Under 5 years</i>	5.6%	5.4%	-0.2%
<i>5 to 9 years</i>	8.0%	7.6%	-0.4%
<i>10 to 14 years</i>	7.6%	8.6%	1.0%
<i>15 to 19 years</i>	7.6%	7.1%	-0.5%
<i>20 to 24 Years</i>	5.3%	3.1%	-2.2%
<i>25 to 34 years</i>	9.1%	6.7%	-2.4%
<i>35 to 44 years</i>	20.0%	16.6%	-3.4%
<i>45 to 54 years</i>	17.4%	21.7%	4.2%
<i>55 to 59 years</i>	6.4%	7.9%	1.6%
<i>60 to 64 years</i>	4.6%	5.1%	0.5%
<i>65 to 74 years</i>	5.7%	7.0%	1.3%
<i>75 to 84 years</i>	2.2%	2.5%	0.4%
<i>85 years & over</i>	0.6%	0.7%	0.1%

Age Breakdown ranked highest to lowest

2000 Age Breakdown ranked highest to lowest		
Category	%	Rank
<i>45 to 54 years</i>	21.7%	1
<i>35 to 44 years</i>	16.6%	2
<i>10 to 14 years</i>	8.6%	3
<i>55 to 59 years</i>	7.9%	4
<i>5 to 9 years</i>	7.6%	5
<i>15 to 19 years</i>	7.1%	6
<i>65 to 74 years</i>	7.0%	7
<i>25 to 34 years</i>	6.7%	8
<i>Under 5 years</i>	5.4%	9
<i>60 to 64 years</i>	5.1%	10
<i>20 to 24 Years</i>	3.1%	11
<i>75 to 84 years</i>	2.5%	12
<i>85 years & over</i>	0.7%	13

Between 1990 and 2000, the population of the township showed an increase towards middle aged to older adults, ages 35 to 59, with a steady increase in children ages 5 to 14 years of age. Based on that trend, the plan recommended that recreation initiatives should be tailored to active, youth oriented programs and facilities as well as programs and facilities targeted to older adults. The National Recreation and Park Association (NRPA) Guidelines recommend

a range between 7.5 and 12.6 acres of parkland per 1,000 residents. The NRPA makes a distinction between “neighborhood parkland” which range in size from 4 to 20 acres and that are intended to serve at least 2,000 residents but not more than 10,000 residents and “community parkland” which are generally no less than 20 acres. The plan noted that the 18.1-acre Biddle Tract, if developed, would be considered a neighborhood park while Lookout Park at 27.78 acres and Brownsburg Park at 37.66 are considered community parks.

The plan concluded that the township’s distribution of parkland (22.6% neighborhood park and 77.4% community parks) was almost exactly opposite of NRPA standards and that it could be argued that there was a need for more neighborhood parkland in the northwestern and southwestern portions of the township.

**Park & Recreation Comprehensive Plan
2005 Plan Update**



**Potential Build Out Analysis
Potential Build Out Analysis
Potentially Developable parcels**

Zone	Acreage	Du/Acre	Total Units	Total Residents
CM*	1,113	1.00	1,113	3,183
CR-1*	110	1.22	134	384
JM	300	0.20	60	172
VC1	27	1.00	27	77
Totals	1,550		1,334	3,816

* Performance Subdivision

Current & Pending Developments

Residential Development	Acreage	Du/Acre	Total Units	Total Residents
Developments Under Consideration				
Dollington Land Group	300		280	801
Reeve Tract	230		68	194
Gray Tract	32		96	275
Sub Total	562		444	1,270
Developments Under Construction				
Vintage Farms	80		21	60
Merrick Farm	91		8	23
Ely Farm	150		31	89
Stone Mount @ Jericho	67		12	34
Hérons Watch	77		7	20
Traditions II	32		80	229
London Court	54		12	34
Pisani Builders	60		29	83
Sub Total	611		200	572
Total	1173		644	1,842

SUMMARY	Acreage	Du/Acre	Total Units	Total Residents
Potential Build Out	1,550		1,334	3,816
Current & Pending Developments	1173		644	1,842
Grand Total	2,723		1,978	5,658
2005 Estimated Population				8,060
Estimated Population at Full Build out				13,718

- *Newtown Area Joint Comprehensive Plan, Bucks County, Pennsylvania Draft 2008*

Upper Makefield is part of a three-township jointure that includes Newtown and Wrightstown Townships. The jointure is in the process of revising its comprehensive plan.

One of the purposes of the plan is to answer the question, “How do we continue to preserve our important farmlands, natural areas, and open spaces?”

The plan reveals in the discussion of “Loss of Farmland and Undeveloped Land” that Upper Makefield had the largest loss of acreage within the Newtown Jointure between 1990 and 2005 with the loss of acreage of 1,537 acres (a decline from 37 percent to 26 percent). Land not actively farmed, but undeveloped, was also converted during this period of time. Upper Makefield dropped 10 percent of the total land area.

Parks, recreation and open space increased by 683 acres during this same period. “Since 2005, further additions to open space have swelled this total. By expanding the category to include all lands that have been protected from future development, such as land owned by homeowners’ associations, under private deed restrictions or open space set aside as part of developments, the total protected is much greater. In Upper Makefield Township alone, the land set aside and not developable totals approximately 5,000 acres.” (page 4)

The plan establishes goals and strategies to protect critical natural resources including:

- i. Floodplains and floodplain soils
...along the Delaware River, Jericho Creek, Houghs Creek, and tributaries to Pidcock Creek in Upper Makefield.
- ii. Wetlands
- iii. Lakes and Ponds
- iv. Watercourses and Streams
- v. Steep Slopes
- vi. Woodlands
- vii. Prime Agricultural Soils

Significant Natural Areas

The plan notes that the Natural Areas Inventory of Bucks County, Pennsylvania (1999) was conducted by the Morris Arboretum of the University of Pennsylvania (Ann F. Rhoads and Timothy A. Block) for the Bucks County Commissioners and provides guidance for implementation of the natural areas protection component of the Bucks County Open Space Program.

Upper Makefield Township’s Priority 3 sites include Bowman's Hill and Pidcock Creek, Delaware Canal State Park Ellisia Site, Jericho Mountain, Scudders Falls Islands, and Timber Knoll Wetlands. A Priority 4 site, the former Marazzo Tract, is now owned by the Pennsylvania Department of Conservation and Natural Resources. Of these sites, about 48 acres of the Timber Knoll wetlands have been preserved. Several other sites are located within the boundaries of state parks and preserves. The natural resources of Jericho Mountain were identified in a report titled, “Environmental Assessment of Jericho Mountain.”

Principle 4 of the Plan is “Preserve Open Space and Protect Agriculture”

"Farming and related uses remain important parts of the landscape of the Jointure, but the pressure from development threatens to fragment these resources and counters the efforts to preserve them. Agricultural and horticultural practices continue to expand, and related

activities, such as pick-your-own produce and farmers' markets, help support the area's farming community and provide local food sources." (page 4-1)

The Jointure municipalities have successfully preserved thousands of acres of land for farming and open space purposes. The Plan supports continuing the protection of meaningful open space as part of the development process and through purchase of conservation easements.

When the jointure formed in the 1970s, no jointure members could have predicted the overwhelming public and governmental support for preserving farmland. In the past 20 years, the momentum has grown, and millions of dollars have been spent to ensure that farming remains a strong sector in our local economy and a visible part of our landscape.

Several farms have been preserved in perpetuity through the Bucks County Agricultural Land Preservation program and through the land preservation programs in place in the township. These consist of the two Gunser properties (93.1 and 131.7 acres), the Siegel property (90.9 acres), the Rapuano Estate (172.8 acres), and the Slack farm (100 acres).

Upper Makefield Township includes in its open space calculations everything that cannot be further developed, whether it is open space in a development, agricultural easements, open space easements, parkland or outright ownership by the township or a conservancy. They also include lands owned by the school district. Using this definition, about 5,000 acres of land in Upper Makefield cannot be developed in the future.

Water Resources

The availability of reliable sources of water should play a major role in planning for the future. Protecting the environment and water resources requires consideration of the entire water cycle. This means focusing on the amount of water available and how it is being used. Stormwater management, water withdrawal for home and business use, wastewater disposal, and protection of lakes and streams all have an effect on water quality and water quantity.

Provide Parks and Recreation

"Foster the development of active and passive recreation to promote the physical and mental well-being of residents of all ages. Parks, recreation facilities, and open areas are important improvements and are vital aspects of sound communities." (page 6-1)

Parks and recreation areas are important community features, ranking high by jointure residents as valued assets of the community. The jointure townships have planned for and provided recreation, park land, and passive open space, by preparing park and recreation plans and by working with developers and residents to meet recreation needs. The areas designated for parks, recreation and open space do not include those areas dedicated to agriculture and farmland preservation. Local township parks and recreation areas are supplemented by parks provided by the county and the state.

State Parks

Upper Makefield has two state parks: Washington Crossing Historic Park, and Delaware Canal State Park. Washington Crossing Historic Park, operated by the Pennsylvania Historic and Museum Commission, is located along the Delaware River in Upper Makefield

Township in two sections: McConkeys Ferry and Thompson's Mill. The McConkey's Ferry section is located at the village of Taylorsville and contains about 139 acres. Amenities in this section include a visitor's center, historic buildings, and picnic pavilions. The Thompson's Mill section is located within Upper Makefield and Solebury townships. The park contains Bowman's Tower and Wildflower Preserve on about 91 acres. The wildflower preserve features walking trails, birding opportunities, classes and guided tours, and an arboretum. The Delaware Canal State Park is located along the Delaware River in Upper Makefield Township. The canal and towpath extend 5 miles through the township and encompass about 43 acres. A national historic landmark, the park provides opportunities for walking, biking, horseback riding, picnicking, fishing, and nature study. In 2004, 2005, and 2006 the canal sustained damage from flooding. The canal, towpath, and locks require repairs to bring them back to pre-flood conditions.

Municipal Park and Open Space

The recreational areas of the Township are considered distinct from the open space needs. While the township has acquired several tracts in fee simple ownership, the greatest amount of land preserved through the open space program is through conservation easements. Many of the properties are agricultural in nature, and active public recreation has not been a priority of the program. The township will continue to use existing lands dedicated for outdoor recreation (Biddle tract, Brownsburg Park and Lookout Park). Of the larger tracts purchased through open space funds, the Kudra tract is open for passive recreation while the Marazzo tract has been transferred to the state Department of Conservation and Natural Resources.

Schools

Upper Makefield Township contains private and public schools. They are the Sol Feinstone Elementary School (28.2 acres) located on Eagle Road and the Washington Crossing Christian School (2.1 acres,) a private school located at the corner of Lord Sterling and General Sullivan roads.

Private Recreational Areas

The Jericho National Golf Club, a private golf course and country club, contains 171 acres of land located along Brownsburg Road.

Municipal-Based Open Space Link Planning

Upper Makefield Township did not place a high priority on developing new open space linkages in its 1998 plan, *Plan to Preserve Upper Makefield Township's Farmland and Open Space*. The Delaware Canal along the Delaware River is the main open space linkage in the township, which connects the north and south sites of Washington' Crossing State Park as well as connects the township with the towpath municipalities to the north and south.

Relationship to other plans

As noted in other sections of this plan, several previous plans have been reviewed as part of this update in addition to the original 1998 open space plan and the 2005 revised open space plan. These include:

- *Park & Recreation Comprehensive Plan 2005 Plan Update Prepared for Upper Makefield Township Board of Supervisors & the Park and Recreation Board May 2005*

- *Newtown Area Joint Comprehensive Plan, Bucks County, Pennsylvania Draft 2008*

Summary

Upper Makefield Township has been one of the leaders in the land preservation movement in Bucks County. The township has developed an open space plan, implemented the plan through extensive acquisitions funded through its own initiatives and partnering with county and state programs. In 2005, the plan was reviewed, public comment solicited, and the goals of the plan were modified to meet new priorities. Since that time, the township has instituted a systematic review of potential open space properties for protection.

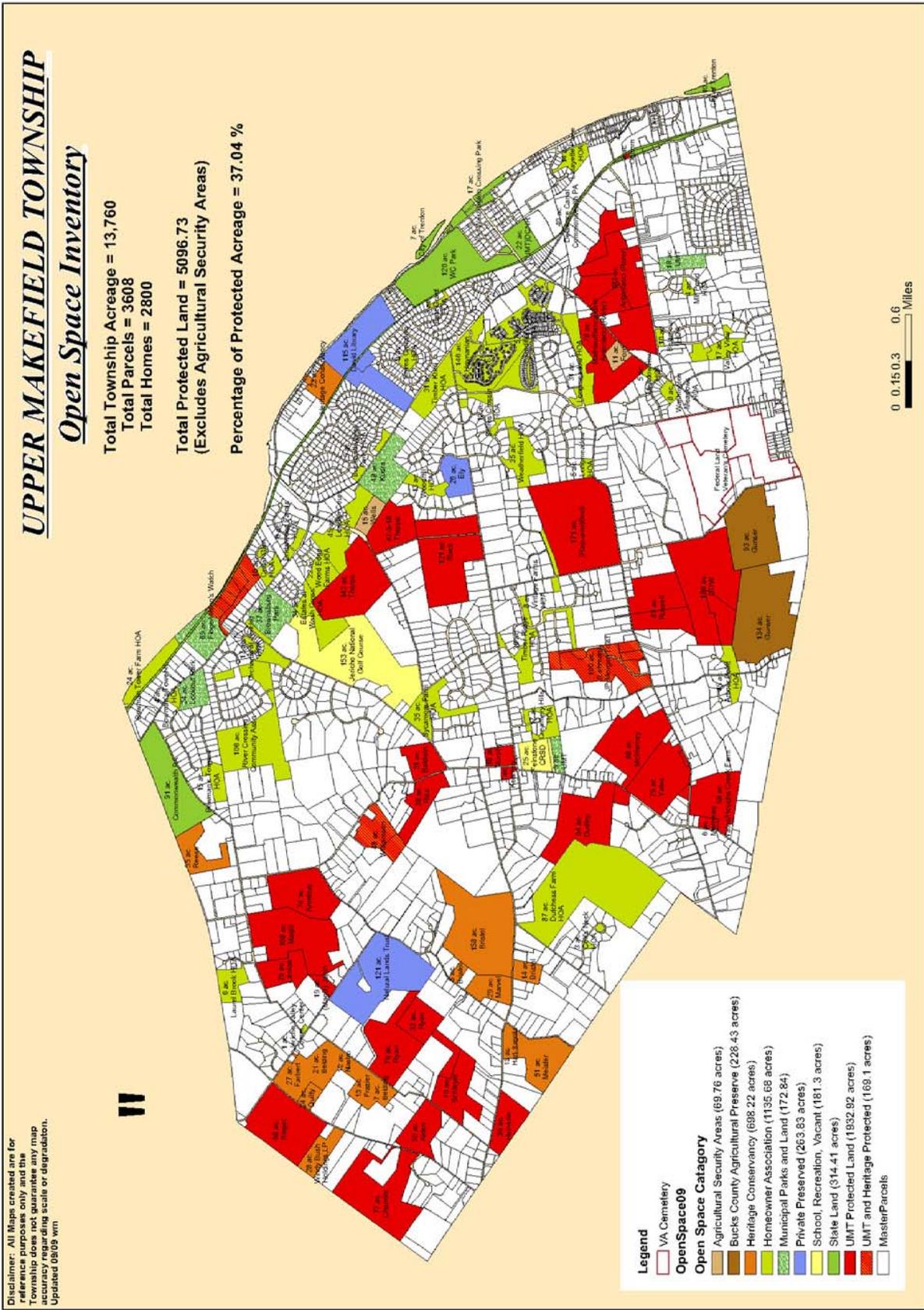
As part of the current update, past successes were reviewed within the current context, and priorities were again discussed with the goal of continuing the process of educating the community and preserving key parcels for future generations to enjoy.



Upper Makefield Township Open Space Plan 2009 Update

Appendix

Upper Makefield Open Space Inventory Map



Upper Makefield Township Open Space Criteria Assessment 2006

Total Resource Values **xxx possible points**

Resource Values Farmland **120 possible points**

Farmland Preservation—only one applies **35 possible points**

Actively farmed and adjacent to protected farmland	35
Actively farmed and adjacent to an active farm (but not a protected farm)	30
Actively farmed and not adjacent to an active farm, or not actively farmed but adjacent to protected farm, and soil is agriculture class 1, 2, 3 or 4	25
Not actively farmed but adjacent to active farm; soil is agriculture class 1, 2, 3 or 4	20
Not actively farmed and not adjacent to active farm; soil is agriculture class 1, 2, 3 or 4	10

Farmland Preservation—additional resource values **85 possible points**

Property has resources worth preserving	
Wetlands	20
Stream	20
Steep slopes (>15% slope)	10
Floodplain or floodplain soils	15
Woodlands (as watershed protection) (managed in a sustainable manner)	20

Resource Values Natural Area **120 possible points**

Watershed Protection **110 possible points**

Property includes more than de minimus:	
Wetlands	20
Stream	20
Steep slopes (>15% slope)	20
Floodplain	20
Woodlands (as watershed protection)	20
Erodable soil (>5%, <15% slope)	15
Property is within 300 feet of additional wetlands or stream (buffer)	10

Additional Resource Values Farmland & Natural Areas **110 possible points**

Linkage to Other Available Public Open Space **50 possible points**

Adjacent to existing available permanently protected Open Space, or could have an active linkage (i.e. conservation easement or trail)	35 or
Within 300 feet of existing permanently protected Open Space	15

Ecologically Significant Habitat **25 possible points**

Habitat for breeding, feeding or wintering area for species of concern present on property	20 or
Criteria not present on property but on an adjacent property within 300 feet	5

Viewshed **25 possible points**

Has public access and provides, a significant view from property	25 or
Property is part of a significant viewshed	5

Historic Significance **15 possible points**

Property include structures of historical significance	15 or
Property located adjacent to criterion	5

Pursuant to the EAC Open Space Criteria Process

Other Factors to Consider:

1) Economic: acquisition of conservation easement or restriction on future development below market value-	YES /NO	YES /NO
2) Accessibility by roadway -	YES /NO	YES /NO
3) Barrier potential (future development)	YES /NO	YES /NO
4) Suitability for recreation (active/passive) -	YES /NO	YES /NO
5) Availability of additional state and county funds -	YES /NO	YES /NO

HERITAGE CONSERVANCY
Conservation Easement Annual Monitoring Inspection Form

GENERAL INFORMATION

CURRENT

OWNER NAME: PA Department for Conservation and Natural Resources

GRANTOR NAME: Wildlands Conservancy
Upper Makefield Township

GRANTEE NAME: County of Bucks

EASEMENT ADDRESS: Washington Crossing Road and General Hamilton Road
Washington Crossing, PA 18977

MAILING ADDRESS: Mr. Rick Dalton
Park Operations Manager
Delaware Canal State Park
11 Lodi Hill Road
Upper Black Eddy, PA 18972

cc: PA Department of Conservation and Natural Resources
Rachel Carson State Office Building
Harrisburg, PA 17105-8511

cc: Allison Hamilton
Assistant to Land Preservation Programs
Bucks County Open Space Programs
Bucks County Planning Commission
1260 Almshouse Road
Doylestown, PA 18901

TELEPHONE: (610) 982-5560 Rick Dalton's office

TOWNSHIP: Upper Makefield

TAX PARCEL #'S: 47-022-098

PARCEL ACRES: 21.9

EASEMENT ACRES: 21.9

HC PROJECT #: 2202

MONITORING & INFORMATION FILING

MONITOR: Lisa Cruz (accompanied by Allison Hamilton, BCPC)

DATE: April 23, 2009

LAST VISIT: June 20, 2008

METHOD: ground

PHOTOGRAPHS TAKEN? Yes (see below)

EVALUATION:

Based on my site visit/observations, the property appears to have:

- Issues
- No Issues

CURRENT USE(S) OF PROPERTY:

- Preservation
- Public Recreation

CONSERVATION VALUES OF THE PROPERTY:

- Open Space
- Scenic View
- Natural Resource Values
- Public Recreation

SITE CHANGES and OBSERVATIONS:

- As shown in Photographs 1 and 2 below, the adjacent business owner, Washington Crossing Excavating Contractors, is still using the gravel parking area to store construction vehicles, a boat, trailers, dumpsters. Page 5 of the Easement document, Section 5B, states that a total area of impervious ground coverage limited to 40,000 square feet is permitted. This gravel parking area may have expanded slightly over the past year. Its current size is unknown, but it is shown on the 2000 Orthophoto Map as being substantively the same.
- According to Upper Makefield Township Public Works, the pile of stone and top soil observed on the gravel parking area is being stored there by Tri-State Dredging, Inc., who is the contractor currently working on restoration of the Delaware Canal.
- Photograph 3 below shows an old fort that was observed on the property.
- Photograph 4 below shows an area of scattered, old debris.
- Photograph 5 below shows what appears to be an old party site.
- Photographs 6 and 7 below show the changes to the sidewalk and stormwater management systems constructed along Washington Crossing Road.

ISSUES AND ACTIONS REQUIRED IN ORDER TO COMPLY WITH THE TERMS OF THE CONSERVATION EASEMENT

- **Issue:** None at this time.

Corrective Action: Not needed at this time.

NEXT SCHEDULED MONITORING VISIT

- Unless otherwise needed, the 2010 annual monitoring visit will be conducted in the winter/early spring of 2010 in order to view the property during a different season. As is customary, you will receive notification of the 2010 schedule one to two weeks prior to the visit.

Recommended season/time of year for next monitoring:

- No necessary recommendation.

STEWARDSHIP RECOMMENDATIONS

Short-term stewardship follow-up recommendations:

- Regular removal of man-made debris along Washington Crossing Road and the canal is recommended to protect the natural and scenic resources of the property.

Long-term stewardship follow-up recommendations:

- As resources allow, control of invasive species, such as multiflora rose, Japanese privet, periwinkle, *Phragmites*, and purple loosestrife, is recommended and encouraged to protect the natural resources of the property. These species out compete more desirable, native species and threaten the biodiversity and health of our region's natural resources.
- Continued conscientious and responsible deer management is also recommended and appreciated to promote regeneration of our forests and to protect agricultural productivity.

REMINDERS

- Please keep us updated on current owner information.
- **Property Transfer Notification Reminder:** Please inform Heritage Conservancy and Upper Makefield Township of any potential sale of your eased property. Please keep potential buyers aware of the easement agreement and direct them to Upper Makefield Township if they have any questions or would like to discuss the terms and conditions of the easement.
- If you would like to make comments and/or corrections to this report, please put them in writing and submit them to Heritage Conservancy. Your monitoring report will be updated and a new copy will be sent.

2009 Monitoring Photographs

(See the enclosed Orthophoto Map showing the approximate location and direction of the photographs below)



Photograph 1: Looking northwest at the southern portion of the stone parking/storage area along General Hamilton Road.



Photograph 2: Looking north northwest at the stone parking/storage area along General Hamilton Road.



Photograph 3: Looking southwest at an old fort observed on the property.



Photograph 4: Looking northeast at old, scattered debris observed on the property.



Photograph 5: Looking southwest at what appears to be an old party site with numerous aluminum beer cans remaining.



Photograph 6: Looking northeast from the new sidewalk along Washington Crossing Road at the stormwater drainage grate and improved area around the existing culvert conveying water under Washington Crossing Road and on to the preserved property.



Photograph 7: Looking southwest from the new sidewalk along Washington Crossing Road at the same stormwater drainage grate and improved area around depicted in Photograph 6.