

## **FOX CHAPEL BOROUGH PARKS MASTER PLAN**

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### **General Principals:**

The basis of this study is to provide an environmentally sound plan to preserve, protect and enhance the existing park and trail systems of Fox Chapel Borough within acceptable budgetary limits.

### **Goals:**

The purpose of this master plan is to provide an overall working strategy for management of the park system. This requires sound decisions about proactively assisting nature by taking control measures for invasive plant and animal species, supplementing the existing native species with new native planting and making habitat adjustments that promote natural succession in the woodland and forest environments. Linking the Borough parks through an environmental continuum with adjoining land uses and adjoining municipalities will provide a community wide recreation and environmental impact. By providing trails for hiking, playfields for active use, and areas for dog walking and a natural environment for the younger and older residents, the park system will continue to serve the Borough. In the long term this natural system will provide ecologically balanced meadows and wooded parks that offer stability, economic value and opportunities for active living within the Borough while continuing to keep all parks pesticide free.

## Need for the study:

“Restoration must become a habit in our practices, a consistent and continual process occurring over the long term.”  
Ian McHarg

Hurricane Ivan on September 17th of 2004 and the resulting damage from the storm to the Borough's parks became a catalyst for providing a coordinated approach to the management of the entire park system. Observation of the extent to which the forest hillsides and stream valleys have become degraded by invasive plant species, deferred maintenance of the parks, and fragmentation of the forest leads to the conclusion that action to slow or reverse this degradation is required. It is understood that working with and not against nature makes both environmental and economic sense.

## Cultural History:

Less than 300 years ago all of the land west of the Allegheny Mountains was wilderness, used by Native Americans for hunting and primitive agriculture. The French and Indian Wars, The Revolutionary War, agricultural development, and the Industrial Revolution and the automobile brought the area to a point of residential development. The area that is now Fox Chapel was a district within the Township of O'Hara and a small portion of Indiana Township which was for the most part in the process of transforming from a farming community to a suburban community. The residents of the district had many concerns about taxes, roads, police protection etc. and felt that their concerns were not being addressed by the O'Hara commissioners. A court battle ensued and

the Borough of Fox Chapel was formed August 3, 1934 to keep its  
8.5 square miles of land in a “rural” character. A zoning map and a



The original Fox Chapel on top of the hill with Fox Chapel Road winding in front of it in 1900. The Teats farm is nestled in the valley, near what is now 203 Foxhurst Drive.



Cover of *The Fox Chapel Country*, July 1930. Shady Side Academy is center left, Field Club and Fox Chapel Golf Club courses can be seen on either side of Fox Chapel Road.

comprehensive plan establishing 1, 2, and 3 acre lots were adopted. This was achieved largely by the planning of the District Association and the group's desire to maintain the high quality of the Borough's natural environment. Ezra C. Stiles a Landscape Architect hired by the District Association was instrumental in recommending the preservation of five wooded stream valleys which could be acquired and kept in their "wild state"(Fox Chapel, A History of an Area and It's People, Frances C. Hardie, R R Donnelley Financial, 1987). The forethought of using stream valleys as the core of the park system has proven over the years to be a very sound decision. Although damage has occurred at times from major storms there have been no major losses of homes or infrastructure.

During the formative years of the Borough, Fox Chapel Garden Club purchased thousands of trees and shrubs and distributed them to Borough residents to plant on their property. Fox Chapel Garden Club and Squaw Run Garden Club convinced Borough Council in 1949 to purchase the 35 acre Trillium Tract that had been preserved as a natural area by Richard (the first Borough Manager) and Ruth Boyles.

## **PARKLANDS**

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The evolution of Fox Chapel Borough with its private open spaces, golf courses, schools, and large lot homes, etc. has perhaps moderated the public demand for more open space. It seems that expanding the public park areas is not generally as important as restoring and improving the existing parks. Providing a setting for recreational activities within the established environmental framework for Borough residents seems to be the appropriate focus. Thus the dialogue should not be toward large expansion of the parkland but to maintaining it and adding quality improvements where necessary.

### **Fay Park / Salamander Trail- 19.64 acres**

Starting at the southern limits of the Borough, Fay Park makes a direct link with Squaw Valley Park in O'Hara Twp. It was acquired as part of the Rockwood development. Salamander Trail runs from the playground at Squaw Valley Park along the edge of Squaw Run stream to Rockwood Drive. The trail continues past the "pump station" building and large electric transformer to a small bridge, and then crosses Fox Chapel Road to Salamander Park.

### **Salamander Park- 20.80 acres**

The park is named for the spotted salamanders that reproduce in the park's wetland pond each spring. There is history, educational value, wildlife habitat, and borough utilities in the park. The park links the walking trail from the Fox Chapel Road parking circle to the bridge at Field Club Road. It is part of the Squaw Run

floodplain and the dominant vegetation should be water tolerant plant species. This park is posted “No Dogs”.

**McCahill Park- 4.95 acres**

This is the active recreation area for the Borough, with two little league baseball fields, and one soccer/football field. There is room for adjustment of the soccer field’s location when wear patterns develop. There is one basketball court and both on street parking along the berm and a gravel parking lot. Porta-Johns are provided for restroom requirements and there is one water fountain. The adjoining Trasetti property of approximately 3 acres was added to the park in 2006. One acre of this land will be used by the Foxwall Paramedic Service and the remaining 2 acres can be developed for park use. This park is posted “No Dogs”.

**Trillium Trail- 46.87 acres**

This is the original parcel of land in the Borough Park System and the most valued. It is now comprised of two separate properties, the original 34.8 acres and a second 12.07 acre piece. Trillium Trail’s wildflower preserve has become a regional recreation and educational resource. This park is posted “No Dogs”.

**Scott Park- 2.77 acres**

The woodland at the corner of Squaw Run Road and Squaw Run Road East acts as an entry point to the Borough’s main natural area of Trillium Trail. The park also serves as a transition or directional point where walking north takes you to Trillium Trail and walking east takes you to Riding Meadow Park. This park is posted “No Dogs”.

**Riding Meadow Park- 34.28 acres**

This parkland was historically used for horse riding and jumping, which continues today, but the area has also become the dog park of the Borough. It also functions as a connection to the Lockhart Loop Trail and as a continuation of the trail to Beechwood Farms. Large areas of exotic invasives have taken over the once open field environment. Two streams connect in the park- Squaw Run and Glade Run. This park is posted “Maximum 3 Dogs on Leash”.

**Lockhart Trail- 99.27 acres**

This park property was developed in conjunction with “The Trillium” housing development. The Lockhart Family deeded the property to the Borough with the provision that it be used as a walking and horse trail. It provides a mildly challenging loop trail around “The Trillium” and two private residences. The trail also connects to Riding Meadow Park via a stream crossing and a horse trail. There are a wide variety of slopes, views, plant groupings, small waterfalls and physical demands on this trail. This park is posted “Maximum 3 Dogs on Leash”.

**Old Squaw Trail – 34.64 acres**

This park is the final connecting link to Beechwood Farms and the Audubon Society Nature Preserve. The trail travels through a narrow valley that is crisscrossed by electric power lines, sanitary sewer lines, storm water detention facilities, a natural gas line and Squaw Run stream. The park also serves as a natural recreation area for neighboring developments in Wilmar and Settler’s Ridge. It will also be impacted as Hidden Falls townhouse development

continues to build out. This park is posted “Maximum 3 Dogs on Leash”.

**The Oaks Park- .54 acres**

This park is located in the small valley at the intersection of Oaks Drive and Riverview Terrace. The park acts as a nature preserve and assists in managing storm water flows. The land was for a time maintained by a neighborhood group.

**Remaining Parkland**

There are approximately 66 additional acres of parkland within the Borough that are preserved as undisturbed open space. Public access is possible but not maintained because of steep slopes, narrow stream valley walls or proximity to neighboring residential properties. These lands serve the important functions of providing plant and animal habitat, erosion control and improving the quality of air, water and soil composition. The continuity of this green space is part of the natural character that gives Fox Chapel its high standard of living with environmental quality.

## **EXISTING CONDITIONS**

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### **Forest:**

“With each local extinction we lose some of the intelligence of the universe.”  
The Once & Future Forest, Leslie Jones Sauer, Island Press, 1998.

The forest of the Western Allegheny Plateau is losing ground to invasive/exotic species, rampant deer overpopulation and manmade alteration. With woodlands being the dominant feature of the Fox Chapel Borough Parks, a sustainable forest system is a goal that should be pursued as a major component of the Borough’s park management plan. The forest remnants that exist within the Borough and surrounding communities are a solid building block for the sustainability goal. The stream valleys and bordering slopes provide an environmental continuum that links the forest land within the Borough to the areas around us and helps sustain a healthy diverse region. The Fox Chapel Area exists within the E.P.A. defined ecoregion of the “Appalachian Oak Forest” 70C Pittsburgh Low Plateau (see appendix #1).

### **Forest fragmentation:**

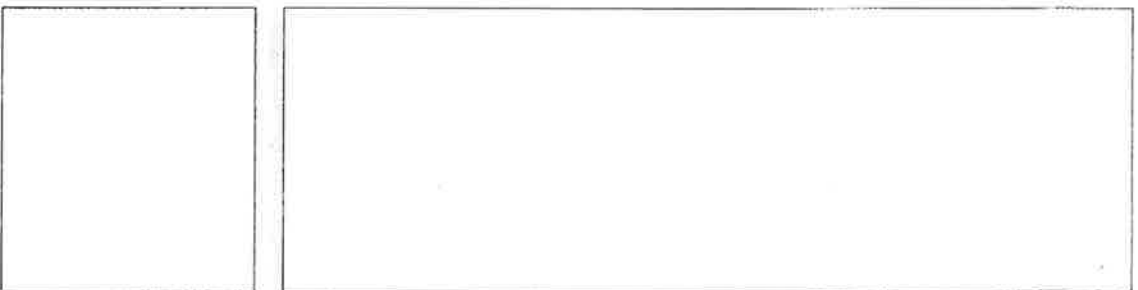
“Fragmentation is simply the division of habitat into smaller and smaller units. This is an important concept in conservation theory because as habitats are reduced in size and especially when they are bounded by uninhabitable zones, ecological viability and suitability for living species declines” ( The Once and Future

Forest, Leslie Jones Sauer, Island Press, 1998). Other conservation problems, such as high white-tail deer density and exotic invasive species, increase with smaller sized natural areas and forest fragmentation. The distress of a forest ecosystem is the regression



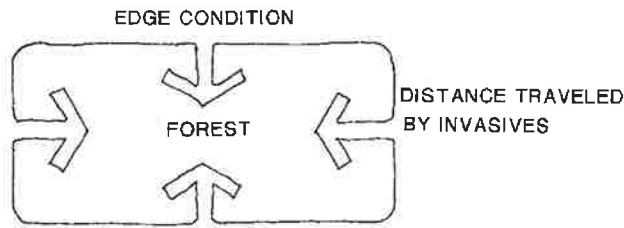
Fox Chapel 2000  
Forest Fragmentation

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from a well balanced forest to one that is simplified to a few opportunistic species.



### Forest Fragmentation

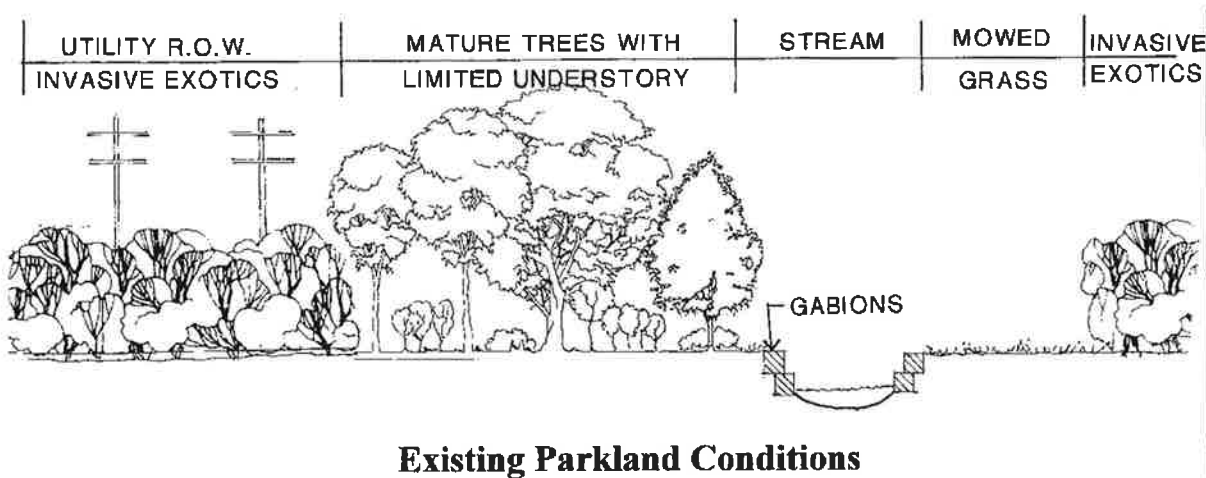
#### Succession & Recruitment:

Forest edges affect succession and recruitment of both plants and animals by giving invasives the opportunity to migrate into the forest. From the edges of the woodland, birds drop seeds, and vines and invasive plants penetrate further into the forest thereby providing entry for aggressive species. The geographically expansive larger multi-layered older forest does not give the opportunity to the exotics to succeed because of its diversity and micro climate conditions.

“The landscapes least disturbed over time show the most diverse and characteristic vegetation today.”

The Once & Future Forest, Leslie Jones Sauer, Island Press, 1998

As an example, some of the ground level herbaceous plants such as Trillium rely on vegetative reproduction (tubers, runners, etc.) and must hold their spot to survive. What we think of as a single Trillium or Mayapple may in reality be part of a large colony of a single plant just like the root system of a tree and just as old. If these plants are covered in vines, enclosed by garlic mustard, trampled by people and dogs, and overbrowsed by deer they will not survive. The fragility and rarity of Trillium Trail is obvious and the need to preserve this asset is clear.



### Invasive Exotics:

The disruption of our forest has led to the decline and sometimes the loss of biological groupings that have evolved over thousands of years into natural communities or ecosystems. Non native plants are species that have been introduced to an area from other ecosystems. Invasive exotics impact the forest by spreading faster than native colonists, displacing native plants, reducing food and shelter to native wildlife, eliminating host plants of native insects, and competing with native plant pollinators. They reproduce rapidly, spread over large areas and have few natural controls to keep them restrained. Not all non native species pose a threat to a sustainable forest ecosystem but there are many that do.

"Invasive species cost the United States an estimated \$34.7 billion each year in control efforts and agricultural losses." 1998  
U.S. Fish and Wildlife Service

Another problem that comes with exotic plants is exotic pests. Two well known examples of this are Dutch Elm disease and Chestnut blight. Chestnut loss in our forest ecosystem is well known

because at one time it was co-dominant along with White and Red Oak in the Appalachian Plateau forest. The loss of this tree also affected wildlife because of the loss of nut production. “The disease was first observed at the Bronx Zoological garden in 1904 and in fifty years the Chestnut was lost to the eastern forest. Other Once & Future Forest, Leslie Jones Sauer, Island Press, 1998)

The Hemlock wooly adelgid is an insect that is identified by white cottony sacs at the base of the needles and is present year round.

The adelgid sucks from the young twigs, causing needles to discolor and fall prematurely. Defoliation and tree death can occur within several years if not treated. Another serious disease in the Fox Chapel area is Sudden Oak Death, a pathogen (*Phytophthora ramorum*). The disease is spread aurally from tree to tree by wind or rain. The disease can be hard to detect but can occur on the trunk, branches, and leaves. Cankers can appear on the trunk of the tree and they expand around the tree girdling its growth.

(see Appendix 2 - Invasive plant list by Natural Park Service and US Fish and Wildlife Service – web site [www.nps.gov/plants/alien/plantinvasaders.htm](http://www.nps.gov/plants/alien/plantinvasaders.htm) - then go to brochure pdf (28mb)

### Wildlife Impacts:

Plants and animals co-evolved over millions of years and are co-dependent. The health and diversity of plant communities affects animal population by loss of habitat and the overpopulation of some species such as deer and squirrels. An example of this cause and effect is local birds eat Multiflora Rose hips and spread the seed, choking out native species. “Migratory birds that would feed

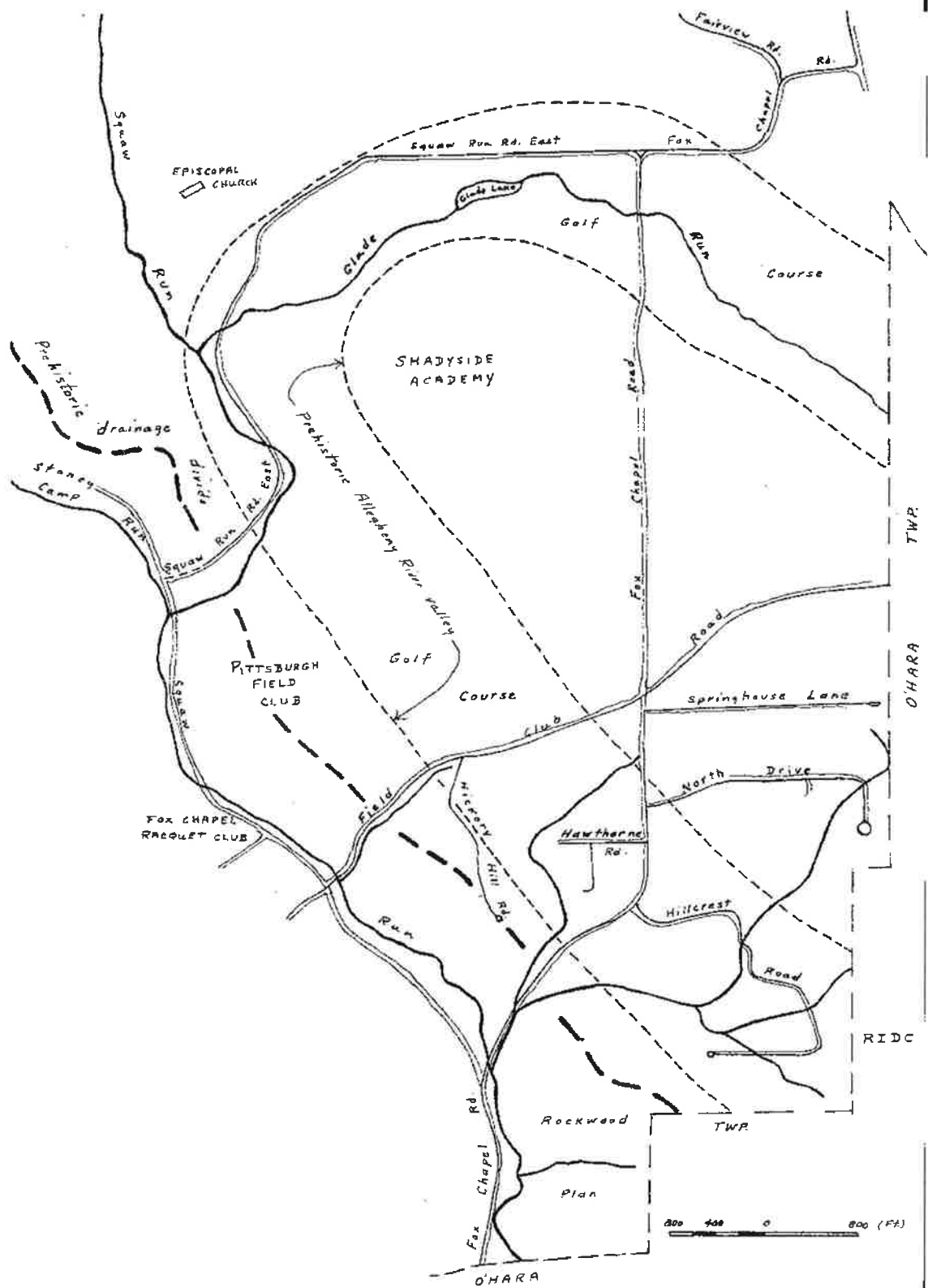
on the fruit from Dogwood, Viburnum, and Spicebush which supply needed lipids move to other forest locations because of the loss of these species.”

(The Once and Future Forest, Leslie Jones Sauer, Island Press, 1998)

### Topography, Drainage and Terrain Modification:

Management of soil and water affects the health of the entire forest ecology. Increased runoff, erosion, soil compaction, and low water infiltration all adversely affect the soil's gas exchange of oxygen and carbon dioxide needed by the plants and other organisms living in the soil. As an example Beech and White Oak need to be able to tap ground water flow to survive in a healthy condition and are adversely affected when there is not good groundwater recharge. Deeply eroded stream channels can also affect the ground water level and quality of the water which can cause long term degradation of the forest when problems are left unattended. As is typical for the Pittsburgh region, the hills and valleys of present day were formed by erosion and geologic movement from a relatively flat plateau that once was an inland sea millions of years ago. The lowest point in the Borough is at Squaw Run stream as it enters O'Hara Twp. at an elevation of 770 feet. The highest

# From: FOX CHAPEL NATURAL RESOURCES PLAN



point is east of Shadow Ridge Drive at an elevation of 1304 feet. The total elevation change in the Borough is 534 feet. To give an example of the changes that have occurred over time, the Allegheny River once flowed in a wide loop through what are now the Fox Chapel Golf Club, The Pittsburgh Field Club and the R.I.D.C. in O'Hara Twp. This broad valley provides an excellent setting for the golf courses and playing fields that are now the current land uses.

The major stream system in the Borough parks is the Squaw Run stream and its tributary Stoney Camp Run. The majority of Borough Park land is steep and narrow valleys. The only naturally occurring pond in this Borough is in Salamander Park and is a remnant of Squaw Run stream that used to flow along the north valley wall of the park. The pond is the breeding area for the spotted salamander. Prior to the formation of this Borough, ice from the pond was cut into blocks for the local residents.

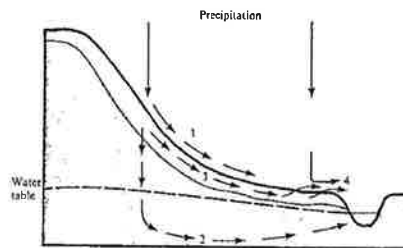


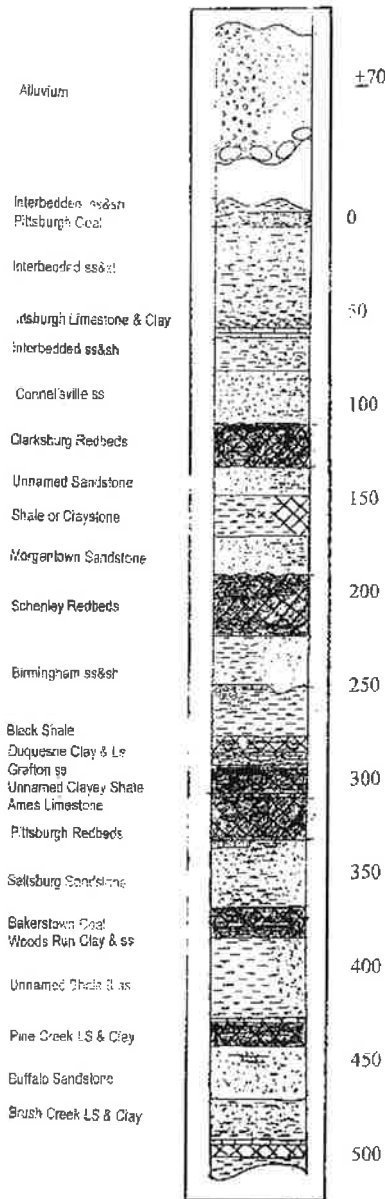
FIGURE 14. Possible paths of water moving downhill. This is a more detailed breakdown of downslope flows than that in Figure 7. The unshaded zone is the porous root zone just below the ground surface; the shaded zone is the relatively impermeable rock below the root zone. Source: Dunne and Leopold, 1978, Figure 9-1.

Legend:

1. Horton overland flow: overland flow due to lack of infiltration.
2. Groundwater flow: deep subsurface flow due to infiltration into and movement through the fractures and pores of the underlying rock, ultimately becoming part of 4.
3. Shallow subsurface flow: subsurface flow due to infiltration into and movement through the soil, ultimately becoming part of 4.
4. Saturation overland flow: overland flow due to groundwater flow and shallow subsurface flow that have discharged to the surface, and precipitation onto the saturated zone.

## Geology :

Feet below Pittsburgh Coal



**GENERALIZED STRATAGRAPHIC  
SECTION SQUAW RUN AREA**

“The stratigraphy of Fox Chapel Borough consists of various rock layers that occur one on top of the other from the lowest or oldest one to the highest or youngest one. These are all sedimentary rock layers; most of them of bedrock type, but some of unconsolidated non-bedrock type are also present.

The bedrock types include shale, sandstone, clay (or claystone), limestone and coal in order of decreasing abundance. These are consolidated rocks that were deposited as layers of sediment some 300 million years ago and have become compacted through time as they were weighted down by rocks deposited on top of them. Although they are all consolidated, some types such as claystone are relatively soft, whereas other types like sandstone are relatively hard.

Commonly, the bedrock layers are not “pure”, that is, sandstone is not all sandstone, shale is not all shale, etc. It is common to find sandstone that is partly shaly (shaly sandstone), shale that is partly sandy (sandy shale), and claystone that contains some limestone (limy or calcareous claystone). It is also true that a given layer of rock does not maintain constant composition laterally. In one place a sandstone layer or member may be composed of essentially all sandstone and in another place it may have thin layers

of shale alternating (interbedded) with sandstone. So too does the thickness of the layers change from place to place, but there is an overall continuity to both the thickness and the composition (lithology) of the various rock layers that allows them to be traced throughout the Borough.” (Fox Chapel Borough Natural Resources Plan, Norman Flint and Bruce Ferguson, 1981)

Overlying the bedrock and alluvial deposits (stream-laid) are soils that are unconsolidated and geologically speaking very young. These soils are clay, silt, sand, and gravel that are in layers and may be only a few hundred years old. Mixed into the surface layer are some glacial deposits that are thousands of years old but have not been covered by heavy layers of soil. These are from the “Glacial Epoch (Pleistocene)”.

Waterfalls occur at several locations throughout the park system and very often are where a stream exposes the Birmingham sandstone shale member. One of the falls in Trillium Trail along the upper trail is a tributary to Stoney Camp Run and drops about 12 feet. There are a number of other waterfalls in the Borough but only a few that occur within the parks system. There are two small falls on Old Squaw Trail, one on Lockhart Trail and one near the intersection of Squaw Run Road and Old Mill Road. There is also one in the Delafield Road greenspace and two in the steep valleys next to Hunt Road.

Ames limestone is a layer in the geologic structure that has been used as a base datum point that you can go up or down from and know what bedrock strata will be found. It is identifiable in the field and outcrops at numerous places so that a change in elevation of this layer of limestone shows the dip in the rock layer above and below. The Ames limestone is also of interest because of the marine fossils that are found as part of the formation. A piece of this formation can be found in the northern parking lot at Trillium Trail. This boulder has marine fossils that can be seen with a magnifying glass. Another component of the Ames limestone formation is that it has the Pittsburgh Redbed formation below it which is very landslide prone. In areas of steep road excavations shelves of Ames limestone can be seen when the softer layer above and below it have eroded and the limestone protrudes.

#### Identifying Landslide Prone Conditions

Look for the following:

- A. Steep slopes
- B. Evidence of previous landslides such as-
  - 1. Scarp at the head of a slump mass
  - 2. A bench on a hillside created by slumping
  - 3. Hummock terrain
  - 4. Wet and soggy areas on a hillside
  - 5. Disturbed vegetation such as fallen trees, tilted and fallen trees, curved trees, cleared patches and abundant vines.
- C. Manmade fills without proper drainage.
- D. Outcrops of weak rock layers / clay beds

(The Fox Chapel Borough Natural Resource Plan, Norman Flint and Bruce Ferguson, 1981)

### Parks Use and Misuse:

When the park system is largely nature trails and greenspace, the problems of overuse can easily shift attractive and healthy park space to a degraded landscape. Public enjoyment of a space and the need to preserve that space are sometimes in conflict. All user groups feel they have a right to access a park and people who visit regularly have a sense of ownership. Not providing adequate amenities for the users can lead to unofficial use and conflict. An example of this conflict is the dog walker vs. the bird watcher. Dogs can search out ground nesting birds and generally disrupt bird habitat.

## **PARK RESTORATION PROCESS**

- A. The forest will not be restored to its pre-European development condition because of forest fragmentation, pollution, species extinction and human interactions as discussed earlier. However a proactive approach to restoring biodiversity to the park system and reaching a sustainable natural potential is the goal.  
The first step that needs to be taken is a long term phased renovation process of the parks' landscape by yearly removal of exotics that would also include control measures for the removed

plants. This should be followed by the planting of diverse native species with the attendant soil preparation, weeding and fertilization. This could be called forest gardening or forest horticulture and will need to become part of the yearly park budget.

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- B. Improve the circulation and connections of the trail system where appropriate and discourage inappropriate active use in other areas.
- C. Combine some other public functions with park use such as flood management.
- D. Partner with private land holders to achieve the functional, esthetic, and environmental goals of the plan.
- E. Mitigate concerns of private property owners about encroachment of public use on private land (i.e. maintenance of a parking lot, fence or railing along a trail to limit access and accepting liability for park users).
- F. Engage park users to become stewards of the park system through on site information, the Borough newsletter, and other educational sources.

## **PLANT ENVIRONMENTS**

The Fox Chapel Park System has a range of indigenous species of plants in varied environmental settings



A. Meadows / Ballfields / Lawns- Break these down into high and low maintenance categories that must be maintained by mowing. Ballfields and lawns require fertilization, aeration, and infield upkeep to keep the turf grass usable for active play (McCahill Park). Tall grasses and wildflower areas are not

currently maintained in the park system but could be established in Salamander Park, Old Squaw Trail, Fay Park and Riding Meadow Park



B. Savanna / Grass - Shrubs, trees and grasses typically make up these areas and they are evolving through the old field succession process. These areas can be maintained in this state for decades providing that invasive plants are controlled. Riding Meadow Park is the prime example of a savanna.



C. Woodland-These areas have approximately 50% tree cover. The borders of these woodland and forest areas need to have their “edges sealed” with layered plantings of tall grasses, then shrubs and small trees. Portions of Salamander Park, Riding Meadow and Old Squaw Trail are examples of woodland areas.



D. Forest-A large tree canopy forest is multilayered, multi-aged, and multi-specied with intermittent openings that allow succession. Trillium Trail and Lockhart Trail are examples of a forest.

## **PARK MANAGEMENT**

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### **A. Water Quantity and Quality:**

The Fox Chapel Park System helps attenuate the effects of stormwater quantity and velocity by aiding water infiltration and by providing storage capacity for storm events. The parks also help increase water quality by filtering pollutants and providing shaded stream corridors that keeps water from overheating.

Storm frequency and intensity seem to have increased over recent years. Along with this, human development has narrowed the flood plain and siltation has also restricted the stream channels in some parts of the system to a point where they are more like pipes.

Where the opportunity exists within the parks, restoration of the historic drainage pattern can be of benefit. This can be accomplished by doing the following:

1. Surface flows should be slowed by allowing forest litter to build up. Isolated wet spots should be allowed to remain. Broader level areas should remain to aid rainfall runoff storage and infiltration. Fallen trees can be turned to lay across the slope to act as an interruption to surface flows.
2. Forest and shrub shaded stream banks should be protected and developed. The gabions in Salamander Park need to be planted to restore some of the shaded riparian edge.
3. Streambank restoration, where possible, would widen the stream channel by the removal of recent sediment (Hurricane Ivan) and debris that has accumulated. This can be accomplished without

entering the stream channel. Work should be limited to stream edges that are above the two year flood plain and less than 400 feet in length to fall within the general permit requirements of the Pennsylvania Department of Environmental Protection. The 400 foot length limitation is a yearly maximum set by the PA D.E.P. Some other velocity reducers and stream habitat for wildlife could also be added with the use of small check dams (12" to 18" heights) or deflectors. Other bioengineering methods, such as fiber rolls, brush layering, and log cribbing should also be considered along Salamander Trail and Riding Meadow Park. All work in or around any stream requires a permit from the PA D.E.P. called a General Permit or an Individual Permit.

#### B. Soils:

Soil is the recent geologic history of a site. In the floodplains phlo silt loam, an alluvial soil is typically 9 inches deep and is underlain by 25 inches of gray brown subsoil. This soil, which is subject to flooding and a seasonal high watertable, is good for crops when good drainage can be achieved. On the steep valley slopes the major soil component is the Gilpin Weirent shaley silt loam. Because of the steep slopes and shallow depth to bedrock these soils are best suited for woodland and wildlife habitat. (Soil Conservation Service)

Keeping the woodland and meadow soils in a healthy, fertile condition is the goal for the park master plan. Allowing deadwood and woody debris to remain on the ground layer is an essential component of maintaining a good native soil. Beneficial bacteria, fungi, and micro fauna break down lignin, the woody component

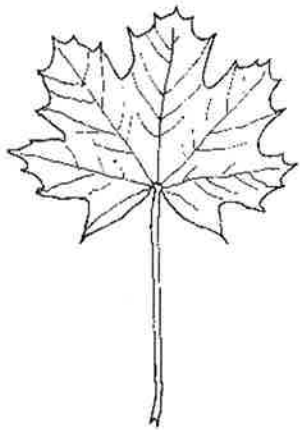
of plant matter which is then used by plants for photosynthesis. Upended roots from fallen trees are a good bed for seedlings and spreading wood chips is a good incubator for soil fungi. Leave standing dead trees.

To avoid damaging the good soils that are present in the parks make sure that access to the site is good and does not force people to make their own trail. When paths become worn they tend to get worse over time causing erosion and washouts into the adjoining woodlands. When construction takes place use the lowest impact methods possible to avoid compaction and damage to surrounding vegetation. If possible, topsoil should be excavated (scooped out) in large mats and reset as a unit.

#### C. Controlling Invasives:

Exotic invasives spread rapidly and indigenous vegetation is reduced year after year. The loss of natural, diverse, multilayered forest has also brought about the loss of wildlife and ground layer diversity.

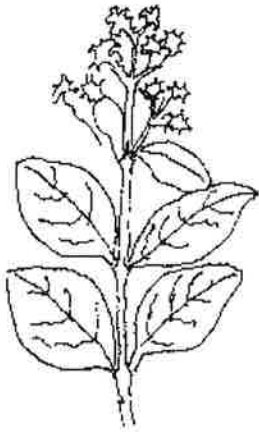
Invasive plants of primary concern for the Park System are:



1. Norway Maple- *Acer Platanoides*-The leaves are very similar to sugar maple, a native, but can be identified by breaking the leaf veins and stalk and looking for the presence of a milky white sap.



2. Multiflora Rose- *Rosa Multiflora*-It has a typical rose leaf with sharply toothed leaflets at the base of each stalk, small fringed stipules, and upright arching branches.



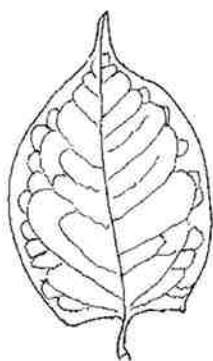
3. Privets- *Ligustrum*-many varieties. A hedge plant used at many homes and as horse jumps in Riding Meadow Park, with small white flowers and 1/8" blue-black fruit in the winter. The plant can grow to a 15 foot height.



4. Spiraea-*Spiraea japonica*- This is a landscape shrub with pink flowers, an alternate simple toothed leaf that is sometimes hairy and grows to about 5 feet in height.



5. Garlic Mustard-*Alliaria petiolata*-This a biennial herb weed that is 1 to 4 feet high with small white flowers. The fruits are slender erect capsules and the crushed leaves smell like garlic. To control it, pull the entire plant and use an herbicide. Controlling or limiting this plant is a long term project. This is because of its prolific nature and due to seeds that can live in the soil for years before germinating.



6. Japanese Knotweed- *Polygonum cuspidatum* Sieb and Zucc.-and Giant Knotweed-*Polygonum sachalinensis* F. Schmidt ex Maxim- These are invasive, exotic perennials. They were introduced from eastern Asia as ornamental plants. These species are found throughout Pennsylvania especially along riparian, roadway and railway corridors. This plant can grow to a height of 10 feet. The stems are similar to bamboo with swollen rims where the leaf meets the stem. It has long drooping white flowers and 3 to 4 inch wide leaves. This plant is very difficult to control because it spreads by fine seeds and vegetative suckers and pieces. Either with time or as the Borough gains control of these plants, other plants may become a concern (stilt grass, mile-a-minute, Japanese honeysuckle, Tatarium honeysuckle, and Autumn olive to name a few).

The first priority should be the richest site. Remove exotics on the interior of the site and identify edge areas where invasive species need control. Removed plants should be taken off site for composting. Along the edges and in gaps made by fallen trees a test plot should be established in the first year and a multilayered planting of natives should be started to “seal” the edges.

#### Control Techniques-

1. Japanese Knotweed and Garlic Mustard-Hand use recommended herbicides. This process will need to be repeated yearly for several years.

(From The Todd W. Bowersox study for The National Park Service)-Giant and Japanese knotweed populations sampled in this study have the potential to produce viable seeds, some more

abundantly than others. Seeds were found to have no dormancy requirement, remained viable in the seedbed and were capable of establishing new, perennial populations. Greatest potential for

sexual expansion from existing populations will be into nonshade locations that are free of a well-developed leaf litter. Conversely, Giant and Japanese knotweed are unlikely to become established in forested ecosystems that contain sufficient amounts of herbaceous, shrub and tree plants to provide abundant shade to a seedbed that has abundant amounts of litter. In addition, all construction and maintenance activities should be carefully planned to minimize the amount of exposed mineral soil.

2. Woody species removal- To control these species, pull saplings and repeatedly cut and treat the stumps and suckers by licensed applicator. Sequentially remove older plants first, because of seed production and location.

3. Suppressive Mulches-Use thick mulches of leaves which do not support plant growth.

#### Planting-

Returning complex native plant communities to the varied environments within the Fox Chapel Park System is a goal, but simply planting native species is not enough to have success.

In woodland and forest settings plant both canopy trees and understory shrubs in loose groups. Plant woody seedlings and whips around stumps, logs, fallen trees and upturned roots. In

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openings and at edges plants should be spaced randomly and mulched with leaves or leaf compost. At the time of planting, use mycorrhizal inoculants and wetting gels in lieu of traditional fertilizer methods. Deer fencing is a must for any new planting and may need to be kept in place until the plantings are well established

#### Methods of planting-

1. Balled and burlapped planting is limited to areas of easy foot or vehicle access.
2. Container grown plants are good for hard to transplant trees such as Hickory, Sassafras, Blackgum, as well as herbaceous species.
3. Plugs can be used for herbaceous plants and grasses
4. Rootstocks, corms, rhizomes, and bulbs are good for ferns, wildflowers and wetland plants. One technique for wetland plants is to wrap them in burlap with a +1 lb stone and drop them in the mud.
5. Bareroot plants are good for large quantity plantings in early spring. Watering is critical and use of wetting gels is recommended.
6. Cuttings and live stakes can be done during dormant periods for large quantities and are often used in streambank stabilization projects.

New plantings should be protected by fencing for a minimum of one year and tree tubes should only be used for a year because the seedlings tend to weaken if the tubes are left on too long.

#### Lawn and Meadow-

High intensity use areas within the park system such as the playfields at McCahill Park and some trails in Salamander and Riding Meadow Parks require mowing. These areas will need to be maintained in the same manner; however some of the trails will be reduced in width. This practice will reduce mowing costs and with the addition of meadow planting and forest edge planting will help “seal” the edges of woodlands

Tall grass and wildflower meadows are a transition to woodland areas and are a return to a more historic land use at Riding Meadow Park. Establishing and maintaining some park area in this manner will in the long run reduce maintenance costs, provide greater biologic and wildlife diversity, and give park users a broader range of environmental experiences.

To install a meadow the first priority is to remove exotic invasives like privet from an area by cutting and herbicide application. Phasing this work to manageable portions and yearly budgets will allow for adjustment of planting and maintenance of the most successful species

The second part of the work will be soil preparation which will consist of a close mowing followed by an herbicide application to remove existing plants with a light tilling to open the soil in the spring. Tilling and another herbicide application will be needed in two weeks to a month to remove aggressive weeds. Within the Fox Chapel Parks System, we will be dealing with two generalized types of seeding requirements. Meadow sites are well drained silt loam/clay loam that are of moderate fertility and the second type is

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the wet meadow/riparian sites. Seeding mixes for these environments are produced by commercial growers and are seeded at a rate of 15 lbs. / acre. After the seed bed is raked to an even grade (do not over till) seed by broadcast or hydro seed followed by light raking, rolling, and a mulch application will be required.

First year maintenance - When growth reaches 12-18 inches mow to a height of no less than a 6 inches, hand pull weeds and use a selective herbicide application for stubborn weeds.

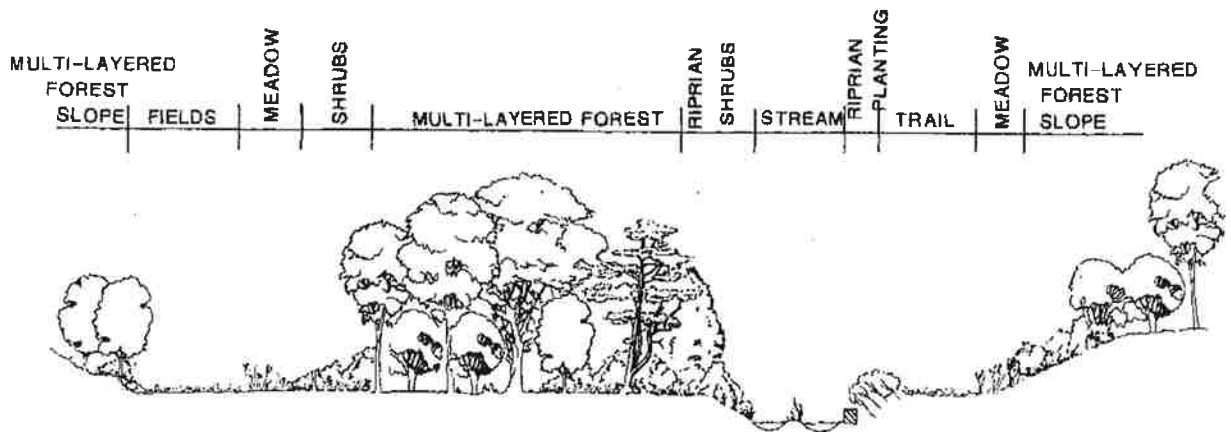
Second year and beyond maintenance - The first mowing in early spring should be close to the ground. The second mowing should not be done before July 4th. Once a year hand pull weeds and use a selective herbicide treatment that is designed to remove selected species.

In existing lawn areas, a turf to meadow process can be used to gradually reduce mowing. Over a 5 year period reduce mowing from 5 the first year to 4 the second year to a once a year mowing. During this process, interseed by slit seedings with warm season grasses such as little bluestem, switchgrass and Indian grass.

#### Wildlife-

Two basic approaches to wildlife management are 1. To modify the environment and improve habitat – or 2. Remove or add species. Indigenous species depend upon native plants for their survival and the ground layer of microorganisms is the start of the food chain. Diversity at the ground layer affects diversity of the entire forest system.

White tailed deer over browse favored species such as hemlock and hardwood saplings and as they disappear they move to less desirables. “At least 98 plant and animal species that are threatened or endangered in this country are negatively affected by deer” (The Once and Future Forest, Leslie Jones Sauer, Island Press, 1998). The existing Borough practices of culling deer, installing fencing and using repellants should be continued in an effort to reach a goal of ten deer per square mile.



**Idealized Parkland Section**

## **PROPERTY ACQUISITION**

The Borough should continue to acquire land adjacent to existing parklands and property that could link the trail system to form loops or connections between points of interest. As stated earlier in this report (p.3) large acquisitions of land are not necessary to have an active, viable park system. When and if large tracts of land

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become available, every effort should be made to acquire these properties through dedication.

Having stated the above, there are several smaller acquisitions or easements that I would recommend that the Borough pursue.

1. The lower portion of the property across Guyasuta Road from the little league field at McCahill Park should be acquired for parking purposes.

2. Try to acquire an easement from Shady Side Academy for a walking trail along Squaw Run Road East that would separate the trail from the road..
3. Obtain a trail easement along Squaw Run Road East that is on Field Club property.
4. Confirm the existing easements along the upper trail from Riding Meadow Park to Old Mill Road.
5. Linking parklands, trails and unique natural resources.

### **MANAGEMENT by Park Commission and Administration**

1. Provide yearly continuing education for selected maintenance staff, who have responsibility for care of the parks. Plant identification, equipment updates, athletic field maintenance, etc. are topics that should be taught.
2. Monitor and record all projects with base maps, logs, costs, and photos on a yearly basis. Record changes on overall maps.
3. Work with local naturalists, scientists, landscape architects, and horticulturists to monitor the health of the parks. Volunteers can be trained to do many projects. It is a good practice to start small with volunteer projects, in order to have success and get people involved. Local landscape maintenance firms can provide integrated pest management (IPM) that is the most environmentally friendly control method available and can't be done without a license.
4. The management team needs to define objectives and prioritize a yearly project list.
5. Aesthetics and the natural forest condition, which are very often messy and complex, need to be explained. This can be accomplished on the Borough web site or newsletter. Links or web site addresses for information about native species planting and invasive plant identification

can also be provided in this form. (invasive plants-

[www.nps.gov/plants/alien/plantinvasaders.htm](http://www.nps.gov/plants/alien/plantinvasaders.htm) and native plants

[www.dcnr.state.pa.us/forestry/wildplant/sixbasics.aspx](http://www.dcnr.state.pa.us/forestry/wildplant/sixbasics.aspx))

6. The view from the road is an important aspect of experiencing the Borough parks. Managing the safety concerns including removing hazardous trees and keeping intersection sight triangles clear is one aspect of maintenance. Another is the appearance of the parkland for the public using the roads that are within the parks. Keeping a balance of maintained/mowed lawn and the transition to meadow and forest conditions will be a continuous process of public education and maintenance oversight.

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7. Each park has entry/exit points that provide a place for information about the park. A small map of the park can be installed which would describe the trail, stream crossings, difficult terrain, dog policy, etc.

### **Recommendations from Todd W. Bowersox, Professor Emeritus, The Pennsylvania State University**

#### **Riding Meadow Park**

- It will be helpful to determine the species of shrubs and trees present, and their relative abundance. This can be done by a walk through the meadow and placing the different species with three classes of stem abundance in the meadow — few (<20 stems), common (21 to 100 stems) and abundant (>100 stems) for the shrubs; and - few «10 stems), common (11 to 25 stems) and abundant (>25 stems) for the trees. This information will be useful if abundance is a criterion for plants to retain.
- Establish a shrub-tree to grass coverage goal, and a phased process for reaching the goal. For example, if currently Riding Meadow is 20% open and the goal is to be 80% open, then this could be achieved in two treatments, one in 2006 increasing open coverage to 50% and the second in 2008 increasing open coverage to 80%.
- Identify locations where shrubs and trees would be the preferred cover type. These areas would have the highest priority for retention.
- Secure a plan to solve water drainage problems for the trails by changing the trail bed and increasing the sunlight to the trail surface. Increasing sunlight to the trail could be done by removing overhanging shrubs and trees, and removing shrubs and trees to the south of the trail.
- Consider treating adjacent areas to provide for the loss of wildlife habitat.

- Develop a plan of chemicals and cutting to remove undesirable shrubs and trees.
- Develop a plan to maintain the open areas in grass. Consider different mowing schedules for use areas - frequent for trails and once every 1 to 3 years for grass areas.
- Develop a similar management plan for other open-tree communities, like Salamander Park.

### The Trillium Trail

- A healthy community of multiple-aged or -sized trees dominates this area. This stand of trees is a rich mixture of species in the over story (>12 species). However, the mid-story and under-story was dominated by sugar maple. As the trees in the over story die the stand will become dominated by sugar maple. Will this be acceptable long-term community?

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- The fence to exclude white-tailed deer has increased the coverage and overall health of the highly desirable Trillium as well as shrub and tree seedlings. At this time the fence is in good condition but in 10 to 15 years it may become less effective. Will the fence be replaced? Are there others areas that should be fenced to exclude white-tailed deer?
- The highly desirable Trillium plants are recovering from the white-tailed deer foraging but the increase in dominance of sugar maple in the understory may start to affect the health and vigor of the Trillium. Will there be a need to reduce the density of shrubs and trees in specific parts of the community?
- I suggest developing a long-term management plan for each of the tree-dominated communities in the Borough. These plans should have present and future goals, current conditions as well as future expectations and suggested activities to best meet the Borough's master plan goals of having natural ecosystems that are ecologically sustainable.
- These plans will provide guidance to those caring for the Borough's parks. For example, the Trillium Trail stand appears to be progressing from a multiple species stand to a single species stand. If this trend is not desirable, then suggestions for reversing the trend could be included in the plan, and in-acted when the opportunity becomes available. One way to reverse the trend would be to plant non-sugar maple trees in locations where over story trees are lost for the canopy. Another would be to selectively remove under-story and mid-story sugar maple stems that are in a competitively superior position with a non-sugar maple stem.

### **ACCESSIBILITY (Jim's office to review)**

The Fox Chapel Parks system does not lend itself to easy accessibility because of its location in steep, narrow stream valleys and having a focus that is primarily nature/hiking trails. Three parks do allow for access to varying degrees. Americans with Disabilities Act (ADA) standards can be applied to McCahill Park and partially at Riding Meadow Park and Trillium Trail. The remainder of the parks and trails in the system do not lend themselves to accessibility requirements because of terrain and wet and swampy conditions.

Accessibility to the parks and trail system should be provided to the greatest extent possible. Where constructing an access would destroy natural features or change the purpose of the facility, compliance with A.D.A. standards is not required. After reviewing the physical conditions of all the parks in the system, the following improvements could be installed to create more accessibility.

1. McCahill Park's nature oriented playground is in compliance with A.D.A. guidelines for accessibility. Play components that provide play experiences such as sliding, swinging, climbing, etc. should also be combined with areas for learning and socialization. Pathways should be five feet wide and can be surfaced with engineered wood fiber. This material is also used as the cushioned surface under play equipment fall zones. The playground should provide age appropriate (2-5 years for this play area) components at ground level and at elevated positions, which are accessed by max 1:12 ramps or transfer points. All equipment shall meet the requirements of the U.S. Consumer Product Safety Commission and A.S.T.M. guidelines.

2. The second area is the North entrance to Trillium Trail. Although the majority of the trail is inaccessible because of terrain, the entry area

could be improved to include all visitors. Interpretive information could be provided, representative plants identified and the bench / instruction area improved.

3. A portion of Riding Meadow Park can also be improved with better parking and some aggregate paving for a limited loop trail allowing access to the lower/ flat portions of the site.

## **Fay Park / Salamander Trail**

**19.64 acres**

Starting at the southern limits of the Borough, Fay Park makes a direct link with Squaw Valley Park in O'Hara Twp. It was acquired as part of the Rockwood development. Salamander Trail runs from the playground at Squaw Valley Park along the edge of Squaw Run stream to Rockwood Drive. The trail continues past the "pump station" building and large electric transformer to a small bridge, and then crosses Fox Chapel Road to Salamander Park.



## Fay Park and Salamander Trail

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### Existing Conditions / Comments

1. There is an interesting rock outcropping that is obscured from view by invasive shrubs in the summer.
4. Major erosion has occurred on both sides of the stream for a length  $\pm 300$  feet.
6. This low-lying area is a mowed lawn area with random trees that is drained by a subsurface drain. There is a sign that states, "Fox Chapel Borough a Wildlife and Nature Preserve".
7. On the west side of the stream, there is a steep eroded bank that is  $\pm 200'$  long. On the east side of the stream, there is a large area of stream deposited debris that is  $\pm 300'$  long and  $\pm 30'$  wide.
9. Opposite the sanitary manhole is a low area that holds about a foot of water.
10. There is an existing side trail that runs close to the stream edge and has a bench at a good vantage point.
11. The wooded and brushy area is all low lying and in a wetland condition with areas of invasive shrubs and vines.
12. In the area below an impressive rock outcropping and along both sides of the stream are large areas of Japanese knotweed.
13. The low area on the west side of the stream below the bridge is in poor condition and is crisscrossed with overhead electric lines.

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### Proposed Renovations

1. Continue to clear the invasives in front of the rock outcropping to open up a view and plant with low native species.
3. Continue to maintain the mowed lawn for a  $\pm 75$  foot width from the road. For the remaining turf area gradually reduce mowing in the "turf to meadow" process.
4. Starting at the entry boulders cut in two new trails, staying back from the stream edge to allow for future stream bank stabilization.
5. A long-term view is needed for the correction of the extensive stream bank erosion in this portion of the park. Cutting back areas that project into the stream and installing bioengineering stabilization methods should be a long-term goal. A D.E.P. general permit will be required.
6. Remove dead and diseased trees as required.
8. Additional stepping stones or a culvert is needed at this small drainage channel as required.
9. A wide shallow swale is needed from this low area which will provide the needed drainage and should not interfere with walking or mowing and should be maintained.
11. The road side of the existing vegetation is all low, wet and filled with invasives such as privet, honeysuckle and poison ivy. Removal of invasives in phases and the introduction of wetland species is needed.
12. Planting along the western stream edge should be low grasses to provide a view of the stream and rock outcropping. The eastern side should be planted with riparian shrubs and native species.

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## Salamander Park

**20.80 acres**

The park is named for the spotted salamanders that reproduce in the park's wetland pond each spring. There is history, educational value, wildlife habitat, and borough utilities in

the park. The park links the walking trail from the Fox Chapel Road parking circle to the bridge at Field Club Road. It is part of the Squaw Run floodplain and the dominant vegetation should be water tolerant plant species.



## Salamander Park

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### Existing Conditions / Comments

3. Rip rap and gabions at new (2005) construction has removed stream bank vegetation and has a stark appearance.
5. The major invasive species on the site is privet.
6. The dominant tree species in low damp areas is horse chestnut.
8. A  $\pm$  50' ft. section of the loop trail is wet and needs repair.
13. There is an old stone quarry and wetland on the high side of the park.

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## Proposed Renovations

4. Add live staking of native shrubs and herbaceous perennials in the two new riprap slope areas.
5. Add streambank shrub planting above the gabions at the bend in the stream.
6. Keep mowing the lawn at a distance of  $\pm$  100' from the road. Define the upper trail connection to the circle.
9. Add interpretive signs at the old quarry and salamander breeding area.
12. Seed with wildflower mix in areas of reduced mowing.
15. Continue a yearly program of invasive plant removal and a phased introduction of native trees, shrubs and perennials.

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## McCahill Park **4.95 acres**

This is the active recreation area for the Borough, with two little league baseball fields, and one soccer/football field. There is room for adjustment of the soccer field's location when wear patterns develop. There is one basketball court and both on street parking along the berm and a gravel parking lot. Porta-johns are provided for restroom requirements and there is one water fountain. The adjoining Tresatti property of approximately 3 acres was added to the park in 2006. One acre of this land will be used by the Foxwall Paramedic Service and the remaining 2 acres can be developed for park use.

The goal is to have this park pesticide free.



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## McCahill Park

### Existing Conditions / Comments

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2. Parking at the eastern end of the park is limited to 6 cars along the road.
3. Parking along Squaw Run Road provides space for 20 cars and is separated from the fields by a split rail fence.
4. The fields and back stops are in good condition. There is a water fountain at the west end of the park and porta-johns near the playground.
5. The existing parking lot can hold about 30 cars. Damage is done by trucks and trailers to the fence and wheel stops.
7. Winter ice rink.

#

### Proposed Renovations

- 1.
2. Pursue acquiring a portion of the property across Guyasuta Road.
3. An aggregate trail could be installed along the split rail fence that would continue the hiking trail. This trail could also be looped around the active fields which would provide an exercise loop for an older age group.
- 4.
5. Trail map and interpretive information for the park system should be installed.
6. The playground should be evaluated for yearly updates.

- 7.
8. The park will be improved to become completely accessible.

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## **Trillium Trail**

**46.87 acres**

This is the original parcel of land in the Borough Park System and the most valued. It is now comprised of two separate properties, the original 34.8 acres and a second 12.07 acre piece. Trillium Trail's wildflower preserve has become a regional recreation and educational resource



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## Trillium Trail

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### Existing Conditions / Comments

1. Path repair and replacement is needed throughout the trail system.
2. This is the existing deer fence.
3. Deer protection study enclosure.
4. The bridge and boardwalk are in poor condition and have caused stream sedimentation to build up behind them.
5. Deer Study enclosure.
6. The old path to Hidden Pond.

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### Proposed Renovations

1. Install heavy stone curbing and a trail sign.
2. Repair the stone stairs and reset the stream crossing stones.
3. Replace the wood stairs with stone stairs and a handrailing.
4. The entire trail system should be resurfaced with new materials as detailed.
5. The lower trail should be widened and directional markers placed at several locations.
6. The stream crossing stones should be reset as detailed.
7. Completely replace the boardwalk as detailed ( $\pm$  96 feet).

8. Replace the boardwalk deck (42 feet) and add joists as detailed.
9. Replace the boardwalk with a stone wall ( $\pm$  30 feet) and walk as detailed.
10. Reset the stepping stones and clean out the sediment.
11. Clean out the debris and sediment for fifty feet above the stepping stones.
12. Excavate and reset the stone steps further into the slope and elevate the path with a 6 inch depth of aggregate for 50 feet.
13. Install a new bench.
14. Install a stone wall and path as detailed.
15. Install 320 l.f. of trail edging as detailed at various locations along the trail.
16. Install a new gabion / stonewall trail section as detailed. This will require a D.E.P. permit.
17. Install a new stonewall trail section as detailed.
18. Completely replace the boardwalk as detailed.
19. Clean out debris behind the stepping stones.
20. Build up the trail with with a 6 inch depth of stone aggregate and install 2-4 inch underdrains.
21. Replace the 4 existing benches.
22. Re-install the loop trail as detailed.
23. Replace the existing benches.
24. Rebuild the viewing platform and add a bench.
25. Install new stone steps to replace the wooden steps.
26. Install additional planting to screen the old trail.
27. Retrieve the cut stones from the slope and use them to build a "council ring" as a terminus to the trail.
28. Remove the bridge, platform, and stop maintenance on this trail.
29. Install interpretive sign as detailed for history, wildflowers and geology.
30. This loop trail is closed off by overgrowth. (Evaluate)

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## **Scott Park**

**2.77 acres**

The woodland at the corner of Squaw Run Road and Squaw Run Road East acts as an entry point to the Borough's main natural area of Trillium Trail. The park also serves as a transition or directional point where walking north takes you to Trillium Trail and walking east takes you to Riding Meadow Park.



## Scott Park

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### Existing Conditions / Comments

1. Parking circle is adequate for the areas limited use.
2. There is the typical bridge narrowing that prohibits simultaneous car and pedestrian use.
3. There is an interesting rock outcropping.
4. There is severe erosion near the sewer line.
5. The "Park ends here" sign was posted at the end of the mowed trail because of the buckshot fall area from the Field Club skeet range.
6. Guardrail runs close to the road which does not allow pedestrian use of the berm for  $\pm 800$  feet.
7. Beyond the guardrail is a cinder pull off area and good pedestrian access.
8. The mowed grass area is not useful.
9. There is another narrow bridge that leads to property owned by Shady Side Academy. This property could potentially be used for a trail to Riding Meadow Park.



## Proposed Renovations

1. Entry circle-Define the edge with rough stone curb.
2. Do minor brush clearing to expose rock outcropping.
3. Erosion control along the streambank is required  $\pm$  200 feet.
4. Revise existing sign to direct walkers to the new trail.
5. Acquire a right of way from the Field Club for the trail to avoid the buckshot fall zone.
6. Install a new steel bridge walkway.
7. Improve the road berm with milled asphalt.
8. Acquire a right of way from Shady side Academy for a trail to the parking lot at Riding Meadow Park.
9. Do not mow this area-kill grass and seed with wildflowers.
10. Remove invasives along grass path and plant with native species.

## **Riding Meadow Park**

**34.28 acres**

This parkland has been historically used for horse riding and jumping, which continues today, but the area has also become the dog park of the Borough. It also functions as a connection to the Lockhart Loop Trail and as a continuation of the trail to Beechwood Farms. Large areas of exotic invasives have taken over the once open field environment.

Two streams connect in the park- Squaw Run and Glade Run.



## Riding Meadow Park

### Existing Conditions / Comments

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1. There are 5 parking spaces on the Shady Side pull off area and 6 parallel spaces along the park side. There is more traffic than I expected, including vans, buses and trucks.
2. Access to the park is a small controlled opening in the split rail fence.
3. Mowed paths comprise the major use areas on the lower portion of the park. These trails have developed over the years around and through the rampant growth of invasives, that includes privet and many others, with mixed hardwood trees and Hawthorns.
4. The bridge over Squaw Run is a typical narrow point for pedestrians.
5. Guardrail forces pedestrians to walk on the road cartway.
6. On the high side trail there are wet areas and depressions, an old steel drain pipe and an old building foundation.

7. The path to the steep trail to old Mill Road is not well defined.
8. The low area trail can end at the stream. The trail to the stream is now "v" shaped and drops abruptly at the stream edge. There is also a horse trail across the stream that leads to the Lockhart Trail.
9. All of the benches are in poor condition.
10. The existing Shady Side Academy parking lot is chained off, overgrown, and in generally poor condition.
11. The stream side trail is wide, wet, and in poor condition, where the path narrows it turns to mud almost all the way back to the entry.
12. The stream crossing is awkward. Remove the old concrete blocks.

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## Proposed Renovations

1. Extend the trail shown on the Scott Park plan and acquire the appropriate right of way from Shady Side Academy for the trail and parking lot.
2. The bridge will require the typical trail connection detail.
3. Provide a parking lot for 10-15 cars on the Shady Side Academy property and restrict street parking.
4. Start a program of phased removal of the invasive plants, with a goal of returning the park to a meadow with shade trees (Savanna). Start next to the woods and work to the center.
5. Wet spots should be filled with gravel and topsoil. Subsurface drains can be installed to direct water to the stream, or permanent low Ephemeral Bogs areas.
6. Use the existing stone and concrete foundation for a rustic shelter.
7. Start the trail to the upper old Mill Road path closer to the road.
8. Loop the trail back at the stream to in effect end the lower (dog) portion of the park at that point. Cut back the stream bank and provide some clearing for the horse trail, that connects to Lockhart Trail
9. streambank erosion control will be needed at sections of the stream. Large numbers of invasives (under the electric utility lines) need to be controlled.
10. Place a large natural stone at the stream crossing and cutback the slope to allow access to the horse trail. A future consideration would be to install a permanent bridge or culvert at two locations for stream crossing.
11. Dog impact and conclusions will be handled as a separate report with Borough Council.
12. Install a new aggregate paved trail from the parking lot that loops on the lower portion of the park which will provide handicapped access for this park. Subsurface drainage will be required under the trail.

## Lockhart Trail

**99.27 acres**

This park property was developed in conjunction with "The Trillium" housing development. The Lockhart Family deeded the property to the Borough with the provision that it be used as a walking trail. It provides a mildly challenging loop trail around "The Trillium" and two private residences. The trail also connects to Riding

Meadow Park via a stream crossing and a horse trail. There are a wide variety of slopes, views, plant groupings, small waterfalls and physical demands on this trail.



## Lockhart Trail

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### Existing Conditions / Comments

1. The entry gate for "The Trillium" requires that park visitors enter from the road circle, which has limited parking space.
2. The start of the trail has signage stating "No more than 3 dogs per person permitted in park and leashed dogs only". The first 400 feet of the trail surface is in a very poor, muddy, wet and overgrown condition.
3. There is an old roadbed that functions well as a trail but needs maintenance.
4. An old path and drainage course is eroded and in very poor condition. There is a "horse trail" sign at this point.
5. There is about 300 feet of wet trail in this area, a secondary trail and a lack of direction for the trail.
6. There is about 230 feet of wet, muddy trail in this section of the trail. There is also the start of a secondary trail that shortens the walk distance.
7. A fence enclosure was installed by residents to protect Pine and Spruce seedlings that have germinated in this area. There are exposed roots and erosion along the trail in this area.

8. The secondary trail ends and the next  $\pm 600$  feet have a number of wet spots and a group of mature Spruce trees.
9. The "Ross" Beech is at the start of a steep section of trail that has 19 stone steps in the upper portion of the trail and 11 steps in the lower portion.
10. After crossing an area disturbed by sewer installation for "The Trillium", a narrow section of trail begins.
11. Two timber crib walls with stone aggregate fill have become clogged with silt and no longer function as drains for two springs.
12. A lower portion of path from the Trillium Trail parking area is visible from the Lockhart Trail at this point. This lower trail is a dead end.
13. There is a large area of oriental bittersweet vine in this section of trail.
14. The trail from Riding Meadow Park connects at this point.
15. The existing culvert and trail are clogged with silt and debris.
16. There is not a good point to view the waterfall.
17. There are random wet areas along this section of trail.
18. There is a horse trail from Riding Meadow Park entering at this point.
19. There are two culverts and wet areas along this section of trail.
20. An old horse trail connects to the trail at this point and there is a somewhat level area before the steep climb to the upper portion of trail. This is a good location for a bench.
21. There are a lot of invasives, including bittersweet, privet, rose, etc. in the area between the private drive and the pond.



### Proposed Renovations

1. A parking area for 4-5 cars should be installed and "No parking" signs should be installed on both sides of the road.
2. The first 400 feet of trail should be widened to a minimum of 5 feet in width with a new surface as detailed. Pipe culverts will be required at the low point. Invasive plants in this area need to be controlled.
3. Use an herbicide to remove garlic mustard and other weeds along the old road bed. Grade a swale for  $\pm 450$  feet along the high side of the trail to drain to the two existing pipe culverts and clean the pipes.
4. Install stone aggregate berms to reduce storm water velocity at several points along the drainage course.
5. Install new aggregate paving for  $\pm 300$  feet down the trail to Squaw Run Road and  $\pm 200$  feet along the loop trail. Install a directional sign at this trail intersection.
6. Install new trail paving with an edge restraint over the exposed roots in this area.
7. This area is typical of the trail in general; wet areas should be drained, the trail widened and paving installed.
8. Bush-hammer the top surface of the stone steps for better traction. At the top of the stairs install a bench.
9. Install  $\pm 550$  feet of trail edging/rail and install  $\pm 100$  feet of aggregate drain at the two timber walls.
10. Remove the boardwalks on this trail and abandon the trail.
11. There is a potential linking trail to the Trillium Trail parking lot. I would not recommend constructing this trail.
12. There is a large area of invasives, predominantly Oriental bittersweet, that should be removed and replanted with native trees and shrubs.
13. Install directional signs at these points indicating the continuation of Lockhart Trail and the connection to Riding Meadow Park.
14. Excavate and remove silt and debris behind and below the existing culvert.
15. Typical trail widening and paving is required.
16. Clean the culverts and install an overlook for the waterfall.

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## Old Squaw Trail

**34.64 acres**

This park is the final connecting link to Beechwood Farms and the Audubon Society Nature Preserve. The trail travels through a narrow valley that is crisscrossed by electric power lines, sanitary sewer lines, storm water detention facilities, a natural gas line and

Squaw Run Stream. The park also serves as a natural recreation area for neighboring developments in Wilmar and Settler's Ridge. It will also be impacted as Hidden Falls townhouse development continues to build out.



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## Old Squaw Trail

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### Existing Conditions / Comments

1. There is a very large area of mowed grass around the fire hall and there is a trail marking sign and a sign saying "no more than 3 dogs per person permitted in park".
2. The trail follows a graded path that is next to a future townhouse development. There are utility poles, storm drainage inlets, pipes from the development and a  $\pm 1000$  foot long swath of invasives.
3. The trail passes the beginning of a large stormwater management basin and crosses over a 4 foot wide bridge made of utility poles and is supported on stone and mortar abutments.
4. The trail then passes a neighbor's horse pasture, an emergency spillway and is under a double pole utility line, which has large areas of invasive species. There is a 12 foot wide concrete slab bridging a small tributary stream that is supported on massive dry stonewalls.

5. There is a trail coming from Hidden Falls Court that connects to the trail that follows the utility poles to the fire hall.
6. There are five stream crossings that use stepping-stones placed in the streambed. These are washed out during large storm events.
7. There is a small waterfall and a very nice stand of Hemlocks in this area.
8. There are exotic invasive species in large areas under the electric utility overhead wires in the park. Some of these species have encroached into the wooded slopes and along the stream bank.
9. The existing parking area at Old Mill Road requires drivers to back out onto the public road which does not have good sight distance. There are drainage issues that will also need attention in this area to provide a usable entry point to the trail.



## Proposed Renovations

1. The mowed lawn should be continued in the area around the fire hall and for approximately 100 feet back from the road to allow for good site distance. In the remainder of the mowed area maintain a  $\pm 20$  foot wide path and do yearly reduction mowing on the rest of the grass areas.
2. Plant the steep slope next to the trail with small native trees and large shrubs that can grow under the electric utility lines. This will provide a buffer between the trail and the future townhouses. Do minor grading for proper drainage to the existing inlets along the trail and make necessary pipe connections.
3. The 4 foot wide bridge should be made wider to allow maintenance vehicle access to the upper portions of the park.
4. Dealing with utility right of ways and the maintenance practices that tend to encourage the spread of invasive species is a significant problem in this park. Phased removal of invasives and planting of native species should be started at the interior of the park near the Hemlock stand and work to the more exposed areas.
5. The five stream crossings in this park should also be addressed in a phased process. The first step is to provide solid stepping-stones at each crossing. Phase two will be to provide either culverts or bridges that would need to be designed for each of the crossings.
6. The parking area at Old Mill Road should be designed to eliminate the need for backing out onto the road. The schematic plan shown provides the general layout needed.
7. The connection to the Riding Meadow Park trail should be marked with a directional sign and the stream crossing should be improved.
8. Stream bank erosion control will be needed at sections of the stream.
9. Easement language is needed to formalize the existing trail use at Hidden Falls Court.

## **The Oaks Park**

**.54 acres**

This park is located in the small valley at the intersection of Oaks Drive and Riverview Terrace. The park acts as a nature preserve and assists in managing storm water flows.

The land was for a time maintained by a neighborhood group.



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## Oaks Park

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### Existing Conditions / Comments

1. The park is near the headwater of a stream that is a tributary to the Allegheny River and it carries spring water and stormwater runoff. There are mature Oak, Ash, Maple, and Hickory on the site. There are also many invasives in the park.
2. There is a culvert and a headwall that has silt and debris collected behind them.

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### Proposed Renovations

1. Remove the silt and debris from the stream and install two or three weirs to reduce stormwater velocity. A D.E.P. permit may be required to do this work.
2. Remove invasive plants and replant the disturbed areas with natives, while keeping a view from the road into the park open.

## **Squaw Run Trail Connection**

The trail connection tract acts as the link between the active use space at McCahill Park and the major natural areas of the Borough park system. Improving and defining the existing trail along Squaw Run Road and installing a safe way to traverse the two stream crossings is the primary focus of this section of the plan.



## Squaw Run Trail Connection



### Existing Conditions / Comments

1. This level lawn area provides a direct trail connection.

2. The Hunt road, Squaw Run Road intersection is busy, but has adequate sight distance.
3. There is space below the Racquet Club for the trail installation next to the road.
4. This is a typical narrow road bridge with concrete end walls and gabions that are mis-aligned.
5. Guardrail connects to the bridge end walls.
6. There is  $\pm 35'$  of tight walking space between the streambank and the edge of the road.
7. There is space in this area for the trail to meander.
8. Additional streambank protection is needed in this area to provide space for the trail.
9. A pedestrian road crossing is needed at this point to connect to the Scott Park trail.
10. There is a second narrow bridge and guardrail connection at this point.



### Proposed Renovations

1. Extend the trail through the Foxwall property and provide pedestrian road crossing signs and pavement markings at Hunt Road.
2. Continue the trail within the road right of way (ROW) at the Racquet Club to the bridge.
3. The bridge will require the addition of the typical bridge walkway and gabion repairs to continue the trail.
4. Some streambank stabilization will be required to widen the road berm for the trail in this area.
5. The pedestrian road crossing will require signage, pavement markings, and a guardrail opening to make the connection to Scott Park.
6. A typical bridge walkway is required at this stream crossing.