

NATURAL FEATURES PLAN

The living environment in Bally and Bechtelsville is comprised of both natural and man-made features. Natural features refer to steep slopes, flood-prone areas, woodlands and other facets of the local ecology, as described in the Chapter III. The following recommendations describe policies and techniques designed to help conserve the natural environment for future generations in both boroughs to enjoy.

OPEN SPACE PRESERVATION

Open spaces warrant protection because of their many essential functions:

- Preserving and protecting natural stormwater drainage channels such as streams and swales,
- Maintaining the natural environmental processes and balances, including ensuring adequate groundwater and high water quality,
- Providing an important aesthetic relief from built-up areas,
- Preserving areas of scenic beauty,
- Preserving lands that are not naturally suited for development,
- Providing land for active and passive recreation, both presently and in the distant future,
- Preserving habitats for birds, fish and wildlife, and
- Retaining area for farms and woodlots.

Open space can be preserved in public ownership, private ownership or by a semi-public organization, such as an association of homeowners. The difference is how much access the general public has to the preserved open space. The following is a summary of important open space preservation techniques.

- **Conservation Easements** - Conservation easements can be used to allow private owners to continue to own and use their land, while selling or donating the right to develop it. The land is then maintained by its owner, without public expense. This method is significantly less expensive than public purchase.
- **Zoning, Subdivision and Land Development Regulations** - These regulations can be used to preserve open space, especially on lands that are clearly physically unsuitable for building. For example, a higher net density might be permitted if a developer preserves key areas of a tract (such as the steep slopes and creek valleys) in some appropriate form of open space.
 1. **Clustering** - See the discussion of this zoning technique contained in the Land Use and Housing Plan section of this document.
 2. **Mandatory Dedication** - Municipalities can require (through subdivision and land development ordinance regulations) that residential developers donate land (or fees in lieu of land) for recreation. This technique primarily preserves land for active recreation. These active recreation lands can also have open space value.

PRESERVING SENSITIVE NATURAL FEATURES

Land varies greatly in the amount of development that it can naturally support. Some land, such as flood-prone and very steeply-sloped property, should remain in open space. Other lands are physically suited for moderate or intense development.

Future development in Bally and Bechtelsville should respect the natural features of the land. Remaining environmentally sensitive lands should be conserved to maintain environmental balances. The following table provides guidelines on how important natural features can be conserved.

<p align="center">TABLE XIII-1 Guidelines For Protecting Important Natural Features</p>			
Type of Natural Feature	Description	Potential Problems If Not Protected	Strategies for Protection
Steep Slopes	Slopes of 15% have 15 feet of vertical change for every 100 feet of horizontal distance. Very steep slopes of 25% above rise vertically 25 feet for every 100 feet. Steep slopes are sometimes wooded and along creeks. Bally is relatively flat with only small steeply sloped areas. Bechtelsville has significant sloped areas in the western and southern sectors of the Borough.	<ul style="list-style-type: none"> ● Difficulty of maintaining and snow-plowing steep roads. ● Higher costs of buildings. ● High rate of septic system failures. ● Increased erosion and runoff. ● Winter driving hazards from steep roads and driveways. ● Disturbance of scenic areas. ● Increased costs to extend public water and sewer lines. 	<ul style="list-style-type: none"> ● Use special precautions during building. ● Site houses on the most suitable land, while keeping steep slopes in open space. ● Keep natural vegetation intact. ● Enforce municipal regulations that protect steep slopes ● Require larger lot sizes in steep areas. ● Limit building on steep slopes of 15% to 25% and prohibit building on very steep slopes of 25% and above.
Groundwater	Groundwater is stored underground after entering through the soil or seeping from creeks. Both private wells and public water systems are dependent upon groundwater.	<ul style="list-style-type: none"> ● Polluted groundwater. ● Dry wells. 	<ul style="list-style-type: none"> ● Continue to control the percentage of lots covered by buildings and paving. ● Make sure remaining septic systems are designed and operated properly. ● Monitor underground storage tanks for leaks. ● Avoid polluted stormwater runoff. ● Avoid high volume withdrawals of groundwater.

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Floodplains	Areas that are prone to flooding. These include not only the legally designated floodplain, but also areas along drainage channels. Bechtelsville's 100-year floodplain includes developed property. No 100-year floodplains are delineated for Bally, however alluvial soils are indicators of limits of potential flooding.	<ul style="list-style-type: none"> ● Increased flooding in other areas. ● Loss of potential public recreation area. ● Threats to important wildlife and bird habitats. 	<ul style="list-style-type: none"> ● Prohibit construction of new structures within the 100 year floodway (which is the actual main flood channel) and along the adjacent 100 year flood-fringe. Prohibit construction within 100 feet of the centerline of a stream or significant drainageway where 100-year floodplains are not delineated. ● Seek to preserve natural vegetation immediately adjacent to creeks and drainageways. ● Seek to preserve more land along local streams and drainageways.
Wooded Areas	Areas with numerous mature trees. Bally has very little wooded land; Bechtelsville contains significant woodlands, particularly on its steep slopes.	<ul style="list-style-type: none"> ● Loss of important bird and wildlife habitats. ● Loss of hunting areas. ● Loss of air purification. ● Increased erosion and runoff. ● Loss of scenic resources. ● Noise and incompatible development may become more noticeable. 	<ul style="list-style-type: none"> ● Restrict cutting of trees during building. ● Seek to preserve tree stands in public or private open space. ● Seek replanting of woods that must be disturbed.
Shallow Depth to Bedrock	Areas with shallow soils, with bedrock close to the surface.	<ul style="list-style-type: none"> ● Expensive building. 	<ul style="list-style-type: none"> ● Avoid building in these areas.

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Creeks/Drainageways	There is one drainageway within Bally Borough: an unnamed tributary of the West Branch of the Perkiomen Creek. There are two streams within Bechtelsville: the Swamp Creek and an adjoining unnamed tributary.	<ul style="list-style-type: none"> ● Loss of potential public recreation areas. ● Threats to important bird, fish and wildlife habitats. ● Increased erosion and flooding. 	<ul style="list-style-type: none"> ● Prevent soil erosion to avoid sedimentation of creeks and drainageways. ● Consider areas along creeks and drainageways for public greenways. ● Prevent runoff from polluting creeks and drainageways with pesticides, grease and industrial wastes. ● Prevent runoff that is heated by parking lots in the summer from harming aquatic life. ● Require buildings and paving to be setback from creek banks and significant drainageways. ● Control the peak rates of stormwater runoff from development to avoid increased flooding.
Natural Drainage Channels	Channels that carry stormwater to creeks during heavy storms.	<ul style="list-style-type: none"> ● Increased flooding. ● Erosion of soil. 	<ul style="list-style-type: none"> ● Preserve adequate width along channels in open space. ● Prevent erosion.
High Water Table Soils or Hydric Soils	Soils that have a shallow depth to the seasonally high water table.	<ul style="list-style-type: none"> ● Flooded basements. ● Disturbance of natural drainage and groundwater recharge. ● Poor foundation stability. ● Failed on-lot septic systems. 	<ul style="list-style-type: none"> ● Continue to enforce the state and federal wetland regulations. ● Place on-lot septic systems and buildings outside these areas. ● Waterproof basements. ● Carefully design all facilities.