

# THE WISSAHICKON ROUNDTABLE

## Land Development Practices to Protect Wissahickon Creek



June 2010

  
pennsylvania environmental council

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# ROUNDTABLE MEMBERS

***AMEC Earth & Environmental***

Nathan Walker

***Brandywine Conservancy***

Wes Horner

***Clean Water Action***

Brady Russell

***Delaware River Basin Commission***

Maggie Allio

***Delaware Valley Regional Planning Commission***

Chris Linn and James Bennett

***Home Builders Association of Bucks & Montgomery Counties***

Bridget Scanlon

***Montgomery County Conservation District***

Rich Kadwill

***Montgomery County Planning Commission***

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***Moulton Builders Inc. and Home Builders Association***

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***Natural Lands Trust***

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***Pennoni Associates***

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***Pennsylvania Department of Environmental Protection***

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***Upper Dublin Township***

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***Whitemarsh Township***

Leslie Richards and Bruce Horrocks

***Whitpain Township***

Jim Blanch

***Wissahickon Valley Watershed Association***

Bob Adams and Randy Gray

# ACKNOWLEDGMENTS



**The William Penn Foundation generously provided funding for the Wissahickon Roundtable. The Foundation's support of the Schuylkill Learning Community also contributed to the success of this project.**

All of the Roundtable members were generous with their time and energy. Particular thanks go to:

- Rich Kadwill of the Montgomery County Conservation District and Drew Shaw of the Montgomery County Planning Commission for co-sponsoring the Roundtable.
- Alexis Melusky of the Montgomery County Planning Commission for her help with understanding the municipal ordinances.
- Nathan Walker and Wes Horner for technical recommendations regarding commercial redevelopment.
- Colleagues at Pennsylvania Environmental Council, including Paul Racette, Khiet Luong, Liz Feinberg, Carol Meyers, Gwyn Rowland, Gretchen Sweeney, Jessica Anderson, Patrick Starr, and Jeffrey Knowles for designing this report.
- The Center for Watershed Protection for technical assistance and inspiration.

# WISSAHICKON CREEK CONTEXT

The Wissahickon Creek drains an area of 64 square miles, including parts of fourteen municipalities and the City of Philadelphia. The watershed is one of the most densely populated in the Commonwealth of Pennsylvania. More than half of the Wissahickon Creek watershed is covered by residential development, with parking lots, roadways, commercial areas and industrial sites taking up another 13% of the land. The Creek and surrounding open space are heavily used for recreation, including fishing, hiking, and biking. A drinking water intake for the City of Philadelphia is located just downstream from where the Wissahickon flows into the Schuylkill River.

The Wissahickon Creek is designated as impaired by the Pennsylvania Department of Environmental Protection, meaning that water in the Creek will not support the fish and wildlife that would be expected to live in the Creek if it were not so polluted. The primary problem is excessive sediment, which damages stream habitat. Some of the sediment washes from construction sites, but most of the sediment erodes from stream banks due to excessive volume and velocity of runoff from impervious surfaces on the land. This runoff is referred to as stormwater.

Stormwater management and sediment reduction were established as a municipal responsibility in 2003, marked by two significant regulatory changes. First, the Municipal Separate Storm Sewer System (MS4) permit program was implemented,

and all municipalities in the Wissahickon were required to obtain MS4 permits. That same year, the U.S. Environmental Protection Agency (EPA) Region III established Total Maximum Daily Loads (TMDLs) for nutrients and siltation (measured in pounds of sediment) in the Wissahickon Creek watershed. The TMDL establishes a limit on the amount of a pollutant that can be discharged into waterways and still protect water quality. Each Wissahickon municipality is assigned a sediment reduction amount. Making progress on reducing sediment is a requirement of the revised draft general permit for MS4 communities that will become final soon.

Pennsylvania Environmental Council offered the Roundtable process to municipalities in the Wissahickon watershed as one approach to meeting their sediment reduction requirements. The process depends upon the commitment of willing partners. The following four townships agreed to participate in the Roundtable process: Whitmarsh, Whitpain, Upper Dublin, and Springfield. These townships are assigned 40% of the total load reduction of 4,050,590 pounds per year. While removing this enormous volume of sediment is acknowledged as a long-term goal, meaningful progress toward the goal is essential. The recommendations presented here (in particular, the commercial redevelopment practices) offer ways to achieve sediment reductions at lower cost, while providing community amenities.

## Roundtable Participants



*Whitpain*



*Whitmarsh*



*Upper Dublin*



*Springfield*

# SITE DEVELOPMENT ROUNDTABLE



The Roundtable process originated with the Center for Watershed Protection (CWP) in Maryland. The CWP observed that local zoning and development ordinances often encouraged forms of development that were harmful to the Chesapeake Bay and to local streams. Typical ordinances allowed ever-increasing areas of impervious surfaces such as roads, parking lots, and sidewalks, that chopped up the landscape and funneled runoff to streams instead of allowing rainfall to sink into the soil. Developers said that they don't necessarily want to build these kinds of developments, but local ordinances made it difficult to build in more environmentally sensitive ways.

The CWP engaged environmental and development stakeholders and local governments in developing twenty-two Better Site Design principles as a benchmark for best practices to protect water quality by maintaining a landscape that absorbs rainfall. The CWP has worked with a series of local governments in the Site Development Roundtable process. The process engages local governments, developers, watershed organizations, and regulators in comparing current codes to the twenty-two Better Site Design principles. The stakeholders then develop a consensus on recommendations for updating municipal codes to support patterns of development that protect water quality. Roundtables have been conducted in many areas, and modified to fit each situation.

## HOW TO READ THIS REPORT



*The checkmark symbol alerts the reader to specific recommendations that came out of the Roundtable process.*



*The dialogue symbol alerts the reader to a discussion of the recommendations, shedding light on the Roundtable process itself.*

# PENNSYLVANIA ENVIRONMENTAL COUNCIL: OUR GOALS

Municipalities control land use through their land development and zoning powers. Because of this power, municipalities are crucial partners in protecting Pennsylvania's streams and landscapes. PEC brought the Site Development Roundtable process to southeastern Pennsylvania in order to answer two questions.

**1. What ordinance changes offer the greatest stream protection benefit in the region?**

**2. Is the Site Development Roundtable process an effective way to support southeastern Pennsylvania municipalities in adopting ordinances that protect and restore streams?**

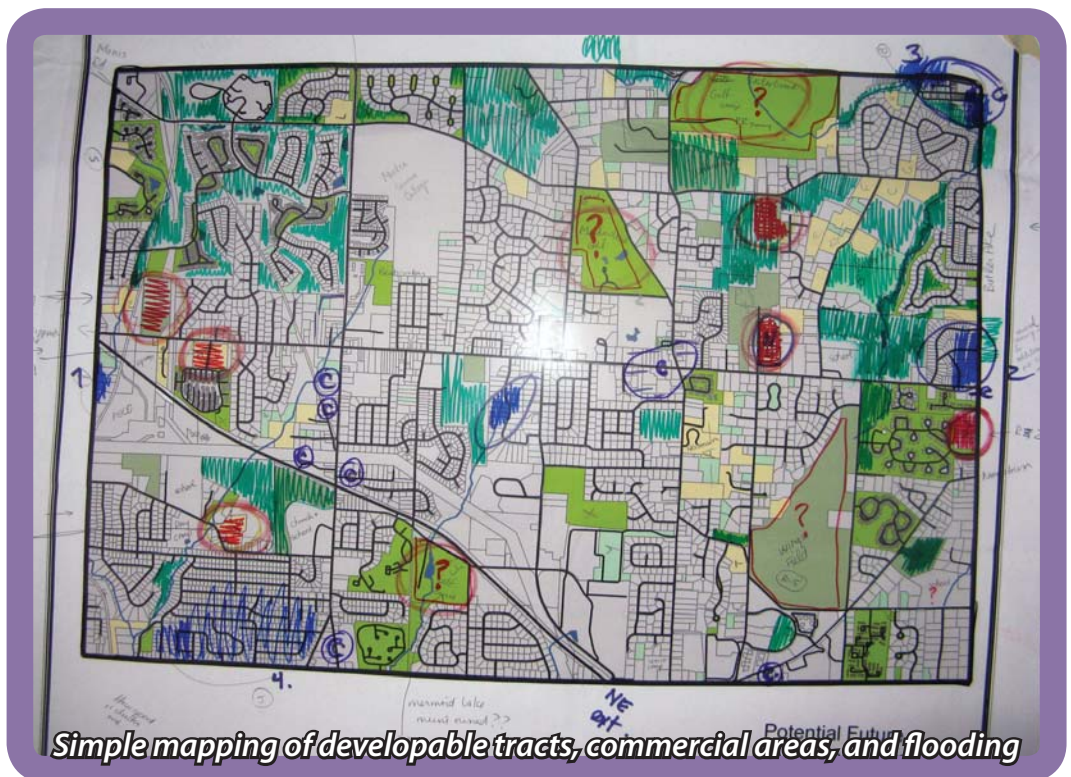
The Wissahickon Creek watershed was selected for the Roundtable pilot because of the importance of the Wissahickon to the region, the regulatory driver of the TMDL, the high level of municipal engagement, the engagement of other partners, and its value as a model for other watersheds in southeastern Pennsylvania and the Commonwealth.

The typical Roundtable process was adapted to suit the environmental, regulatory, and governmental context. Key process changes are identified in the table on the following page.

Two insights about how change occurs helped to guide the process. First, offering too many choices overwhelms

decision-makers. Local elected officials are busy people. A limited number of specific and focused recommendations is more likely to engage their energy than a more global set of recommendations. Second, municipal staff and elected officials are problem-solvers. The Wissahickon Roundtable offers recommendations that help to solve local problems of flooding, TMDL implementation, and outdated commercial districts.

Pennsylvania Environmental Council believes that focused recommendations that solve local problems, and are supported by a range of stakeholders will be adopted by the Roundtable municipalities. PEC and other Roundtable members will be meeting with the township elected officials over the next months to present and discuss the recommendations in this report. Watch the Pennsylvania Environmental Council website (PECPA.org) to learn about our progress.



# ADAPTING THE ROUNDTABLE PROCESS

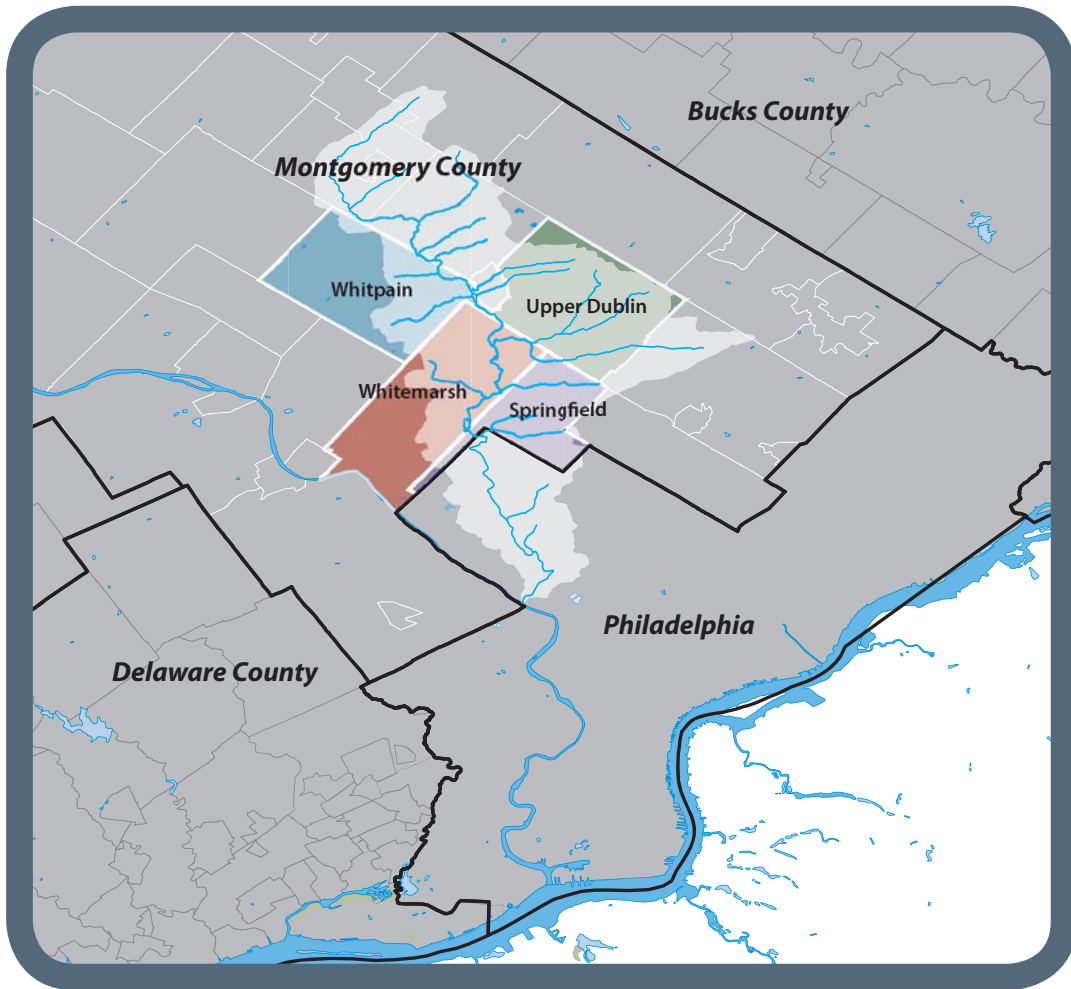
<i>Typical Roundtable Context</i>	<i>Wissahickon Roundtable</i>	<i>Modifications to Roundtable Process</i>
Rapidly developing areas, transforming from agricultural to suburban	Inner ring suburbs of Philadelphia, mostly built out	Not all twenty-two Better Site Design principles are important in the Wissahickon. Based on problems facing the townships and the potential for development, Roundtable participants selected three topics that offered the greatest opportunity to protect streams.
Preserving streams with good water quality	Wissahickon has nutrient and sediment TMDL	Focus on ordinances that will drive proactive steps to reduce sediment input to the Creek, as required in MS4 permits
One jurisdiction, such as a county with a single set of codes and ordinances	Four townships with four different sets of codes and ordinances	While each set of codes and ordinances was reviewed, changes are recommended only for the three topics that offer the greatest potential benefit to streams
Each jurisdiction has a relatively large staff and can send multiple representatives	Each township has a small staff, with one person participating from each	Rather than split up in to subcommittees focused on separate topics, the Wissahickon Roundtable worked as a single committee on a much smaller group of topics

**“The goal should be to make it easy for a landowner to do the right thing.”**

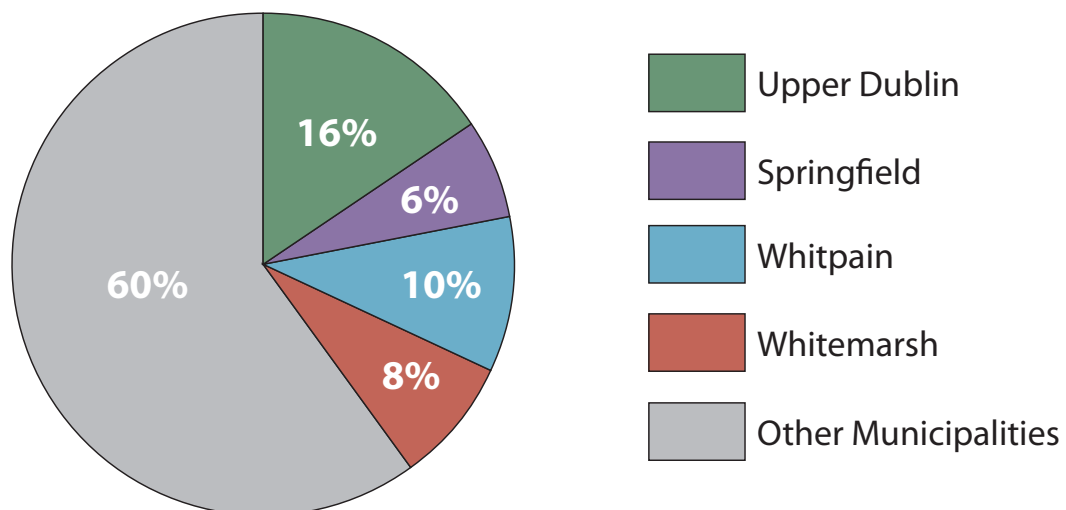
Jim Moulton, President, Moulton Builders Inc. and past president of the Bucks/Montgomery Home Builders Association



# WISSAHICKON ROUNDTABLE MUNICIPALITIES



Percentage of Sediment Reductions Required by Wissahickon Creek Municipalities<sup>1</sup>

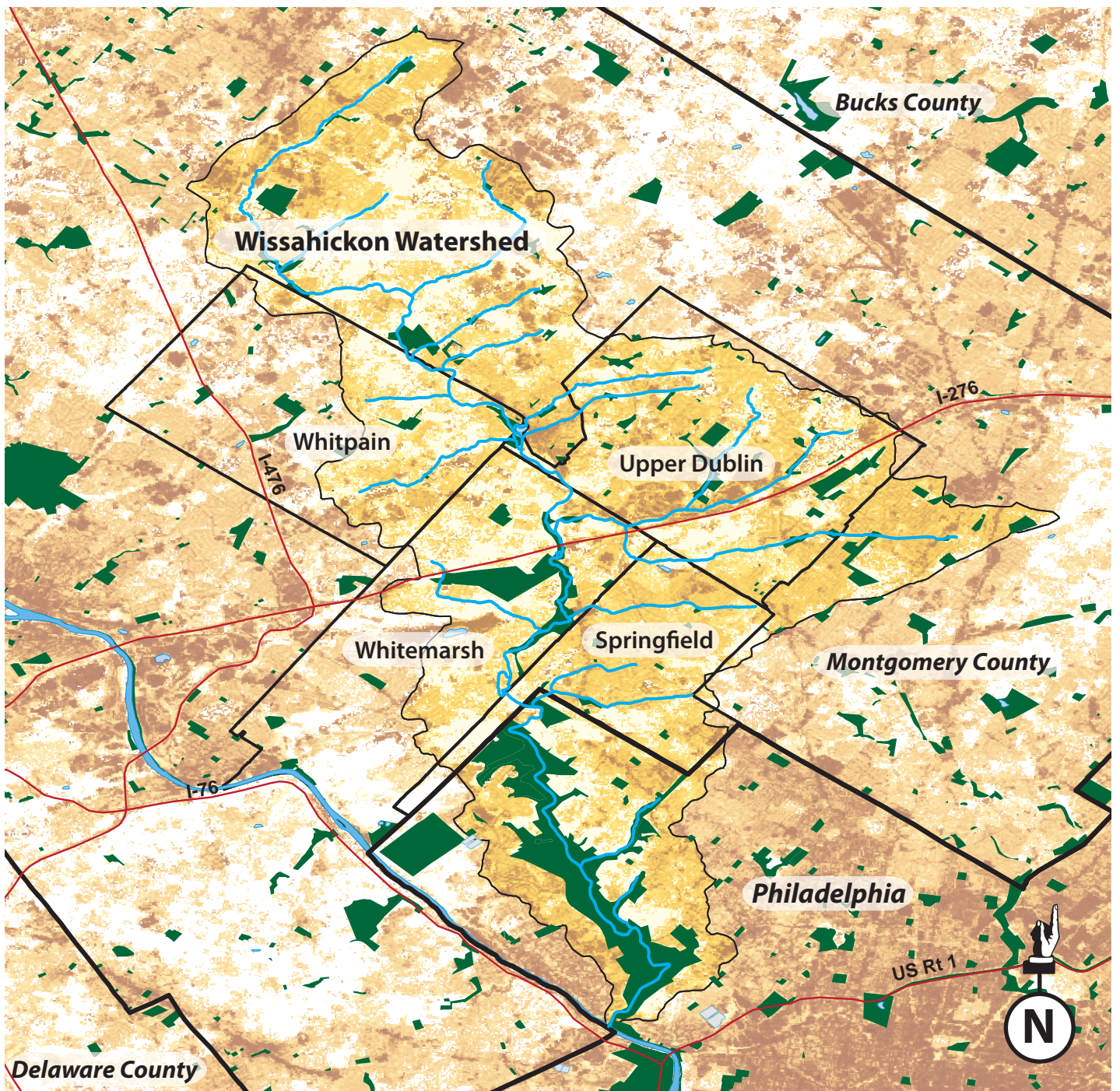


<sup>1</sup> United States Environmental Protection Agency, Nutrient and Siltation TMDL Development for Wissahickon Creek, Pennsylvania, Final Report, October 2003, p. 4-24.



# Protected Open Space & Development in the Wissahickon Creek Watershed

Development Density    Protected Open Space



# RECOMMENDATIONS

***The Wissahickon Roundtable Members decided to focus on the following three main topics that offer the greatest potential benefit:***

**Supporting stronger cluster development ordinances**

**Managing the impact of small increases in impervious surfaces, referred to as “impervious creep”**

**Requiring significant improvements in stormwater management as commercial sites are redeveloped**



*Bank erosion in Wissahickon Creek tributary*

# RECOMMENDATIONS

## *Cluster Development Recommendations*

Cluster development is the practice of grouping homes on a portion of a parcel being developed, reserving a significant amount of the site as protected open space. Grouping homes allows for shorter roads and driveways, thereby reducing the total impervious surface on a parcel. Protected open space can be maintained to infiltrate runoff, as well as provide habitat and passive recreation areas. The Roundtable supports the following changes to ordinances and practices in the Roundtable townships.

<i>Township</i>	<i>Recommendations for Cluster Development</i>
Springfield	Expand cluster option to large institutional properties along Stenton Avenue and Bethlehem Pike, and to sites smaller than 10 acres.
	Threshold for cluster development is 10 acres. Consider reducing to 5 acres.
	Consider mandatory subdivision design process.
	Ordinance should include optional, but strongly encouraged, sketch plan.
	Strengthen requirement that open space is managed for water quality benefits.
Upper Dublin	Reduce the credit given for undevelopable land as required open space.
Whitemarsh	If the Township wants to encourage residential development, consider easing the strong density incentives and disincentives.
Whitpain	Consider mandatory subdivision design process for all new residential development applications.
	Minimize area of streets and driveways.
	Ordinance should include optional, but strongly encouraged, sketch plan.
	Strengthen requirement that open space is managed for water quality benefits. See examples from other municipalities.
	Make rural cluster allowed by-right in R5 low density rural residential zone.





## Cluster Development Discussion

All of the Roundtable Townships have cluster ordinances with many good features. In particular, Whitmarsh has the gold standard– the Conservation Subdivision process developed by the Natural Lands Trust. The discussion centered on the following topics:

### Where does cluster apply? Is it by-right in areas where it applies?

Whitpain’s standard cluster ordinance calls for only 25% open space, however it applies in R1, which has almost no developable land. Therefore the group did not focus on revisions to this ordinance. They also have an R5 rural cluster ordinance, however the cluster option is a conditional use. The Roundtable recommends that the cluster option be by-right in the R5 zone, because the process of applying for a conditional use is a deterrent to use of the cluster development process.

Springfield’s cluster ordinance is an overlay on AA single family zone, and applies primarily in the township’s golf courses. The Roundtable was concerned about the large private schools such as the Carson Valley School and St Joseph’s Academy, both right on tributaries to the Wissahickon. While the risk of these sites being developed might seem low, planning should look beyond the next few years. Furthermore, either the schools or the golf courses might opt for residential development on parts of their property. Cluster development should be an option or a requirement for those sites. Also Springfield requires at least 10 acres for cluster development, while Upper Dublin and Whitmarsh have smaller thresholds. The Township should consider reducing the threshold to 5 acres.



### Does the cluster ordinance provide a meaningful set of incentives and disincentives for developers to do cluster developments?

Whitmarsh Township’s conservation subdivision ordinances offer no open-space credit for undevelopable land such as steep slopes or wetlands. They provide density benefits for added open space, and a disincentive for standard subdivisions. Environmentally this is ideal, however no proposals have been submitted since it was adopted. Developers may need more incentive to use the cluster option.

The other townships allow some credit for undevelopable land, and none provide the same level of incentives for added open space as Whitmarsh Township. Upper Dublin allows up to 75% of required open space to be undevelopable land. Each township should consider their policy for an appropriate balance between the environmental benefits and the incentive to developers.