

# BRANDYWINE CREEK GREENWAY

REGULATORY TOOLS TO KEEP THE GREENWAY GREEN



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# RURAL CONSERVATION ZONING

JOHN THEILACKER, AICP

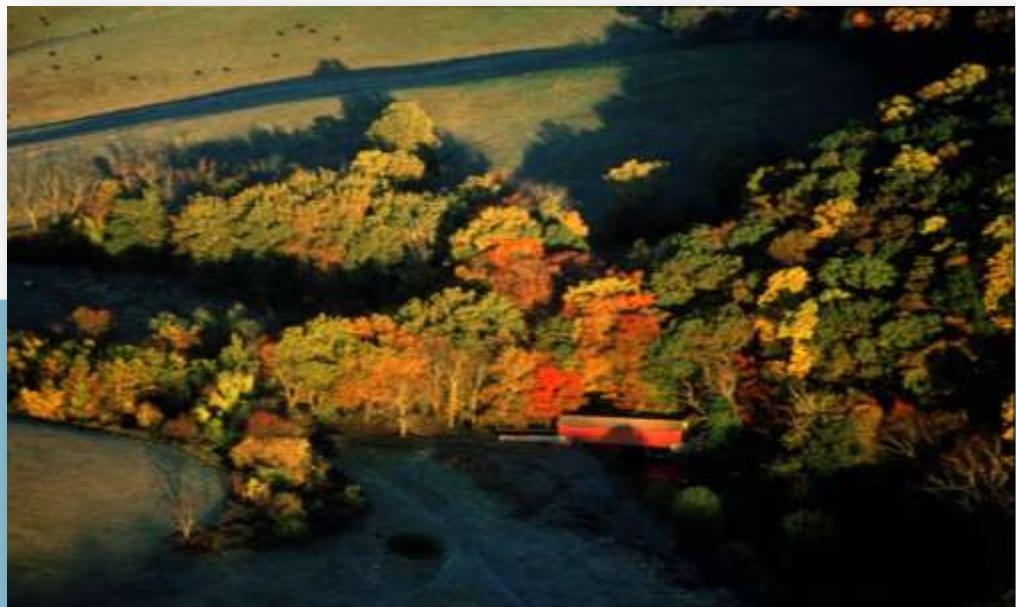




# RURAL CONSERVATION ZONING

## Introduction

- **What does this tool address?**
  - Loss of farms and forests
  - Loss of rural character
  - Suburban sprawl
- **What does this tool accomplish?**
  - Protects prime resource lands
  - Protects rural character while providing landowners with land use options



**Still the picture for a few?**



**More likely for most?**





# RURAL CONSERVATION ZONING

## Implementation

- **How is this tool implemented?**
  - Zoning Ordinance's Agricultural Preservation or Rural Conservation Districts. Permits the following:
    - Farms, forestry and other open space uses
    - Single-family residential
    - Large lot sizes for ag./open space uses
    - Very low- to low-density (1/10 to 1/5) for residential
    - Options: TDR, Conservation Design





# RURAL CONSERVATION ZONING

## Applicability

- Where has this tool been used successfully?
  - Used in various forms within the upper reaches of the Greenway, including Honey Brook, West Caln, West Nantmeal and West Brandywine Townships



Honey Brook Township  
Zoning





# RURAL CONSERVATION ZONING

## Applicability

- How can this tool be used in the Brandywine Creek Greenway?
  - Apply to remaining areas of farms and forests
  - Limit public infrastructure encroachment
  - Combine with natural/cultural resource protection regulations
  - Discourage cookie-cutter subdivisions
  - Promote use of conservation design/open space developments





# RURAL CONSERVATION ZONING

## More Information

- Where can someone learn more about this tool?
  - [www.co.lancaster.pa.us](http://www.co.lancaster.pa.us). Greenscapes Element of the Lancaster County Comprehensive Plan – Balance.
  - <http://conservationtools.org/guides/show/67-Agricultural-Protection-Zoning>,
  - The Center for Rural Pennsylvania, Zoning for Farming. A Guidebook for Pennsylvania Municipalities on How to Protect Valuable Agricultural Lands, 1995



# TRANSFERABLE DEVELOPMENT RIGHTS (TDR)

JOHN THEILACKER, AICP

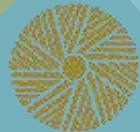
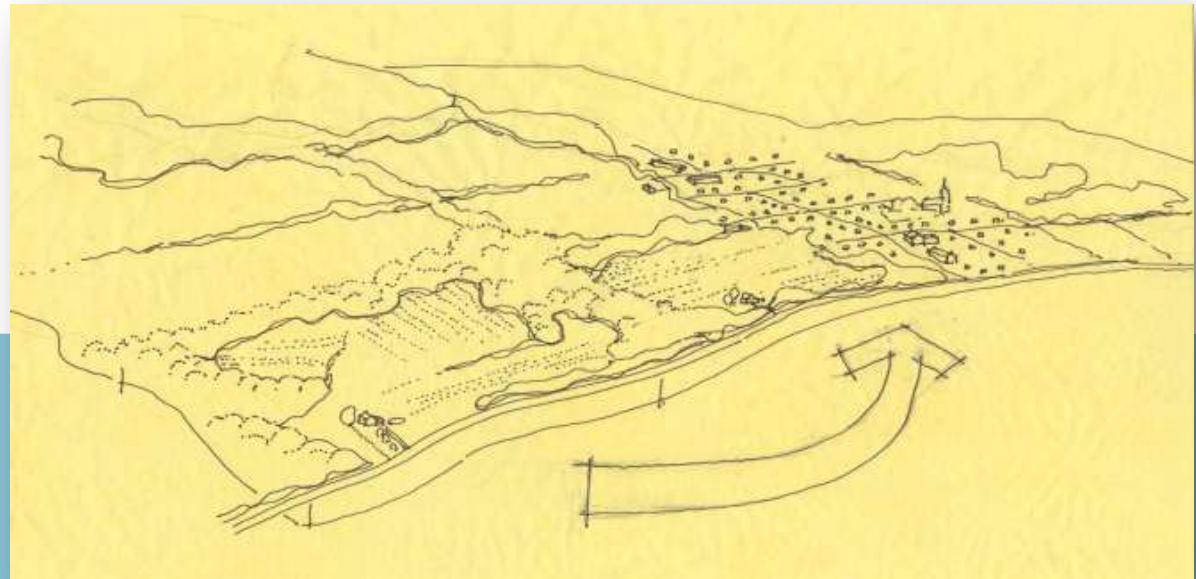




# TRANSFERABLE DEVELOPMENT RIGHTS (TDR)

## Introduction

- **What does this tool address?**
  - Loss of farms and forests
  - Development impacts to watersheds
  - Suburban sprawl
- **What does this tool accomplish?**
  - Saves land and manages growth
  - Landowners paid for development rights



## Implementation:

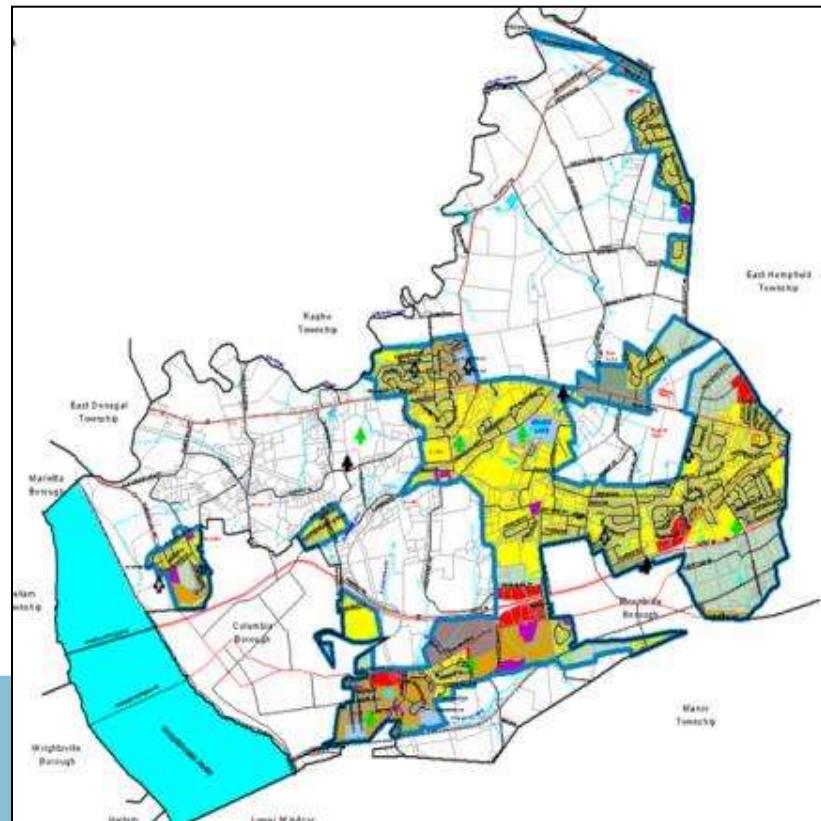
- How is this tool implemented?

# WEST HEMPFIELD TOWNSHIP, LANCASTER COUNTY

Created Through Zoning; Must Be Voluntary



**SENDING AREAS**

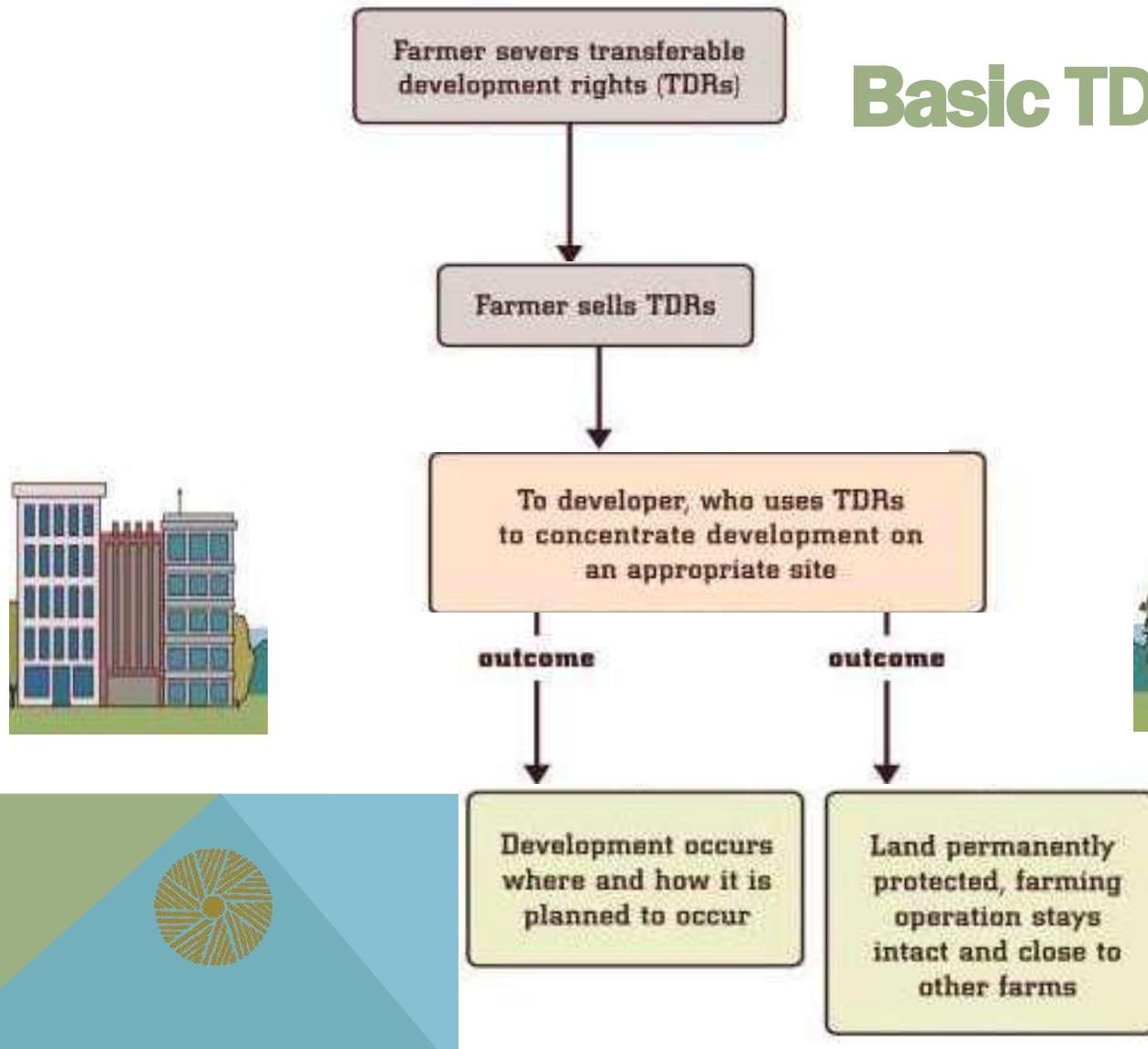


**RECEIVING AREAS**

## Implementation:

- How is this tool implemented?

# Basic TDR Steps



## Applicability:

- Where has this tool been used successfully?

## Warwick Township, Lancaster County

### Program Highlights to date

- 708 TDRs severed/sold
- 278 TDRs transferred to receiving development
- Warwick cooperates with County Ag. Preserve Board & Lancaster Farmland Trust.



### Preserved Farms since 1997

- 2,334 total acres have been preserved
- 1,450 acres preserved through TDRs

## Warwick Township Development Receiving TDRs

### Campus Industrial development



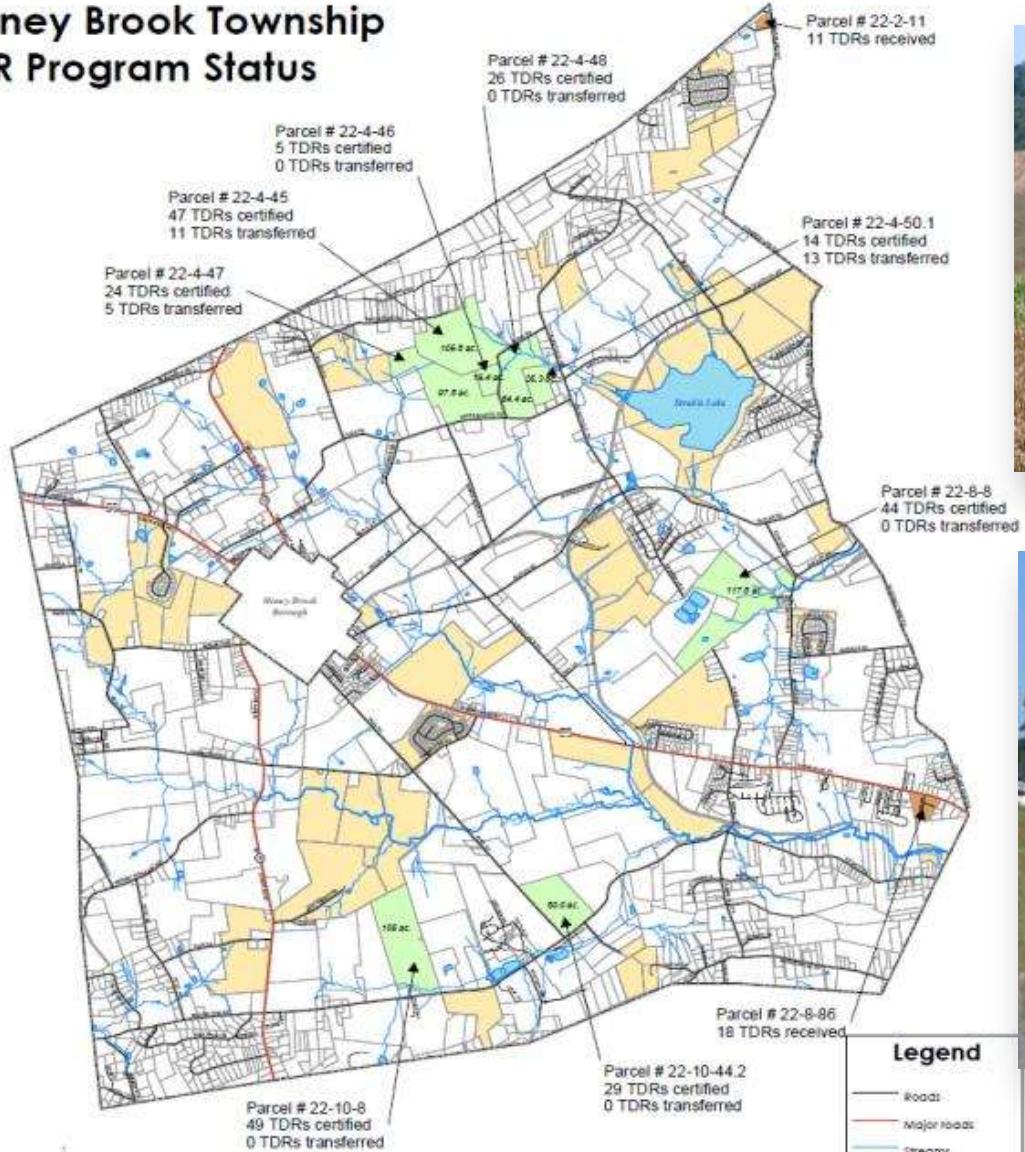
Additional Annual School Tax Revenues = \$544,000.00

# The end result

TDRs have preserved . . .



# Honey Brook Township TDR Program Status





# TRANSFERABLE DEVELOPMENT RIGHTS (TDR)

## Applicability

- How can this tool be used in the greenway?
  - Honey Brook Township example
  - Upper Uwchlan and West Brandywine examples
  - Multi-municipal hypothetical example:
    - Downingtown Borough receives TDRs
    - Upstream municipalities send TDRs
    - Benefits: Borough economic development  
Open lands minimize downstream flooding





# TRANSFERABLE DEVELOPMENT RIGHTS (TDR)

## More Information

- Where can someone learn more about this tool?
  - Brandywine Conservancy publication – Transfer of Development Rights, A Flexible Option for Redirecting Growth in Pennsylvania.
  - [http://www.co.lancaster.pa.us/toolbox/lib/toolbox/tools/tdr\\_handbook.pdf](http://www.co.lancaster.pa.us/toolbox/lib/toolbox/tools/tdr_handbook.pdf)
  - <http://conservationtools.org/guides/show/12-Transfer-of-Development-Rights>
  - [WWW.BEYONDTAKINGSANDGIVINGS.ORG](http://WWW.BEYONDTAKINGSANDGIVINGS.ORG) (An up-to-date TDR website)



# CONSERVATION DESIGN

JOHN THEILACKER, AICP





# CONSERVATION DESIGN

## Introduction

- **What does the Conservation Design tool accomplish?**
  - Offers multiple benefits over conventional lot-out
  - Avoids many of the negative aspects of “sprawl”
  - “Fits” new development into the character and landscape of the community
  - Enhances resource protection initiatives
  - Implements specific planning objectives

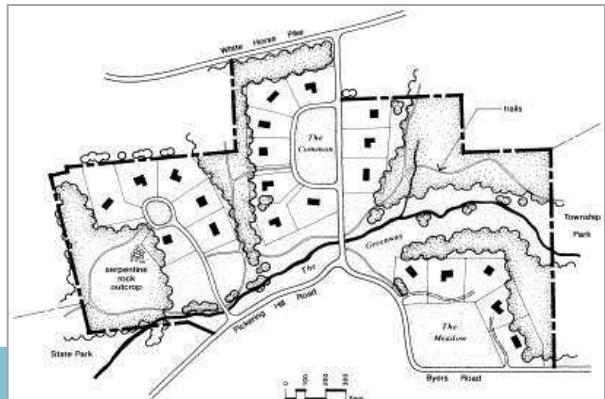
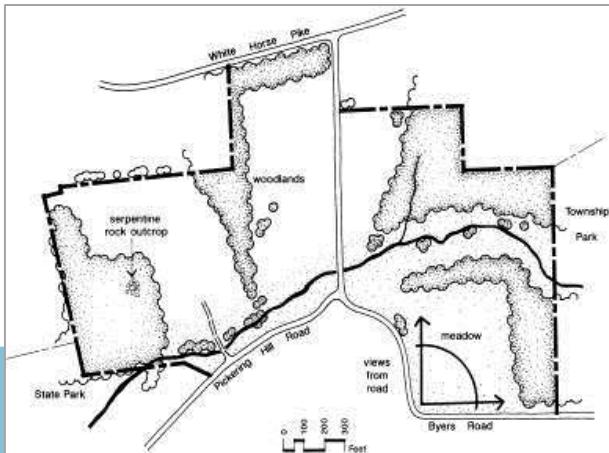
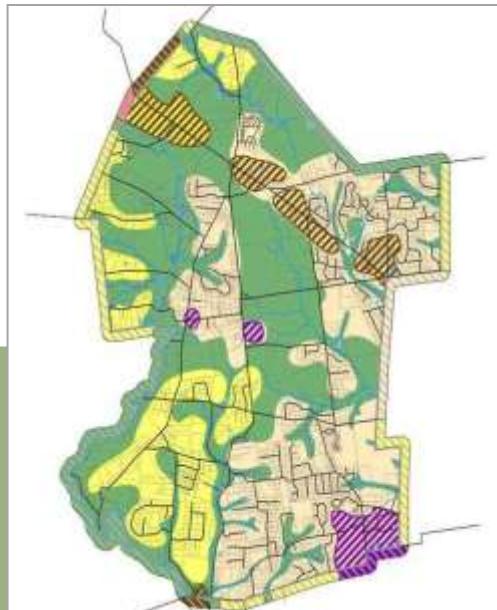




# CONSERVATION DESIGN

## Implementation

- How is Conservation Design implemented?
- Through local land use regulation
- Usually offered as a zoning option to conventional lot-out development
- Permitted “by right” or via conditional approval
- Zoning provisions provide for overall density, use types & lot sizes, and open space
- Design standards may be provided in Zoning or in the SALDO





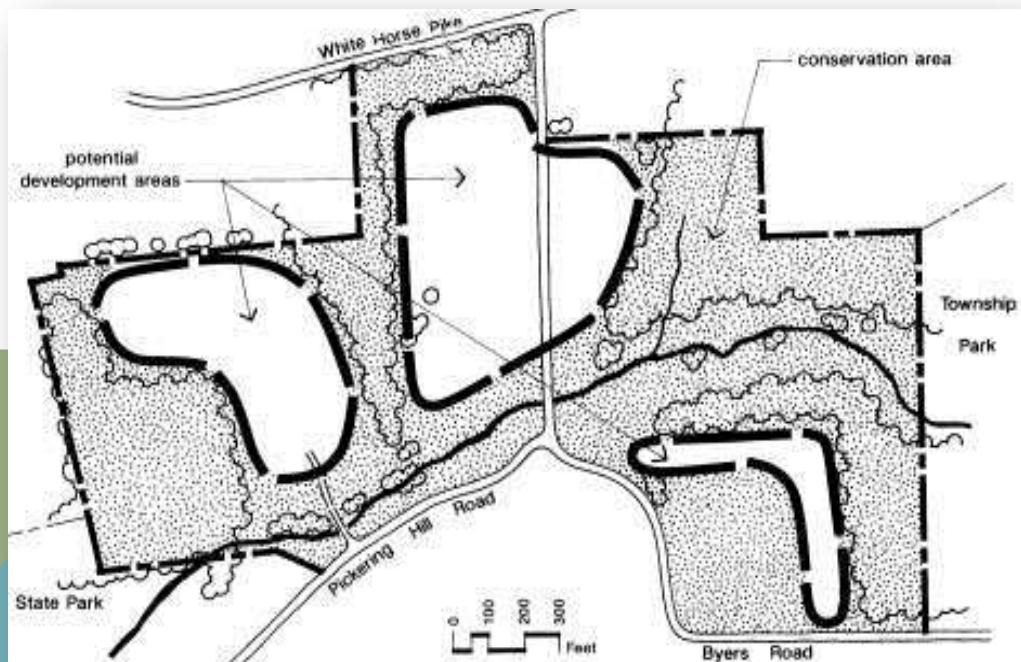
# CONSERVATION DESIGN

## Implementation

- How is this tool implemented?

### Keys to Ultimate Effectiveness of Conservation Design:

- Adoption of *flexible regulatory provisions*
- Careful plan review
- Deliberate crafting of conditions of approval
- Education regarding landowner options





# CONSERVATION DESIGN

## Success

- Where has this tool been used successfully and what were the outcomes?

Conservation Design has been used with varying degrees of success throughout the Greenway and the region . . .

- *Preserving Scenic Landscapes*
- *Providing for Traditional Neighborhood Design*
- *Treating Stormwater as a Resource*
- *Providing for Resource Enhancement*

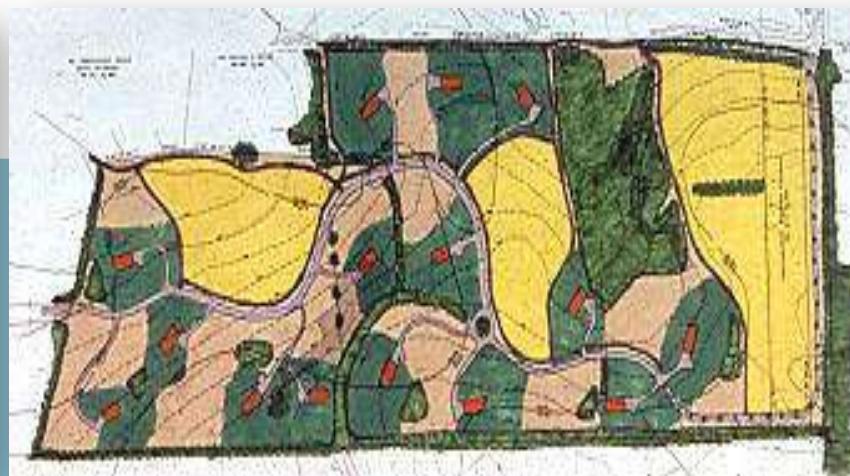
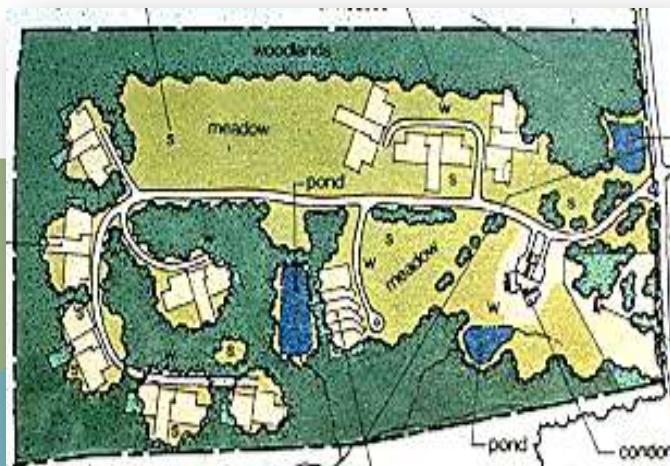




# CONSERVATION DESIGN

## Applicability

- How can this tool be used in the BCG?
- In which municipalities might this tool be suitable?
  - The Conservation Design tool is already used broadly and variably in the Brandywine Creek Greenway region.
  - The tool is applicable in every Township, less so in the Boroughs due simply to lack of larger-scale developable land.
  - Successful use of Conservation Design, whether termed “Open Space Design” or “Flexible Development” or “Cluster Development,” depends on both the design standards for development and open space AND the degree to which more conventional development options are more or less favorable for developers.



# CONSERVATION DESIGN



## More Information

- Where can someone learn more about this tool?

## Contact:

- Chester County Planning Commission
- Brandywine Conservancy
- Natural Lands Trust



# RESOURCE PROTECTION REGULATIONS

JOHN THEILACKER, AICP





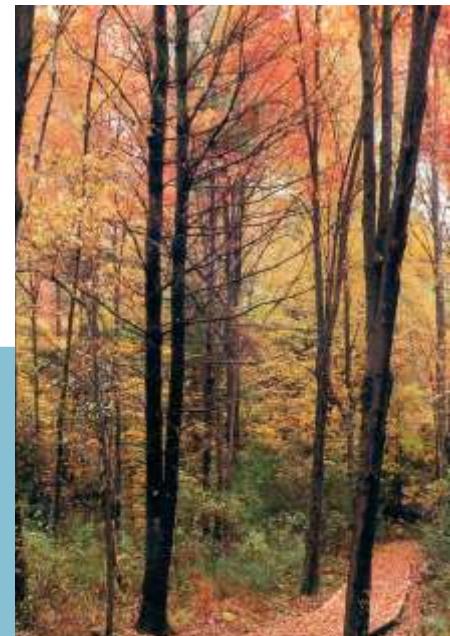
# RESOURCE PROTECTION REGULATIONS

## Introduction

- What issues does this tool address?
- What does this tool accomplish?

Promoting the conservation of a broad array of resources while providing for on-going community development

- *Flood Plains, Wetlands, and Steep Slopes*
- *Riparian Buffers*
- *Woodlands*
- *Unique Natural Areas*
- *Greenway Corridors*
- *Scenic Landscapes*
- *Historic Resources*





# RESOURCE PROTECTION REGULATIONS

## Implementation

- **How is this tool implemented?**
  - Most resource protection regulation is accomplished via the Zoning Ordinance, which applies all the time and not just to development scenarios.
  - Some municipalities regulate certain resources within the SALDO only, so as not to apply rigorous resource protection standards to the average homeowner.
  - Resource protection regulations may stipulate use limitations or outright prohibitions or may more liberally apply disturbance limitations and/or performance standards.
  - Historic resource protection requires provision for viable economic re-use or adaptation.

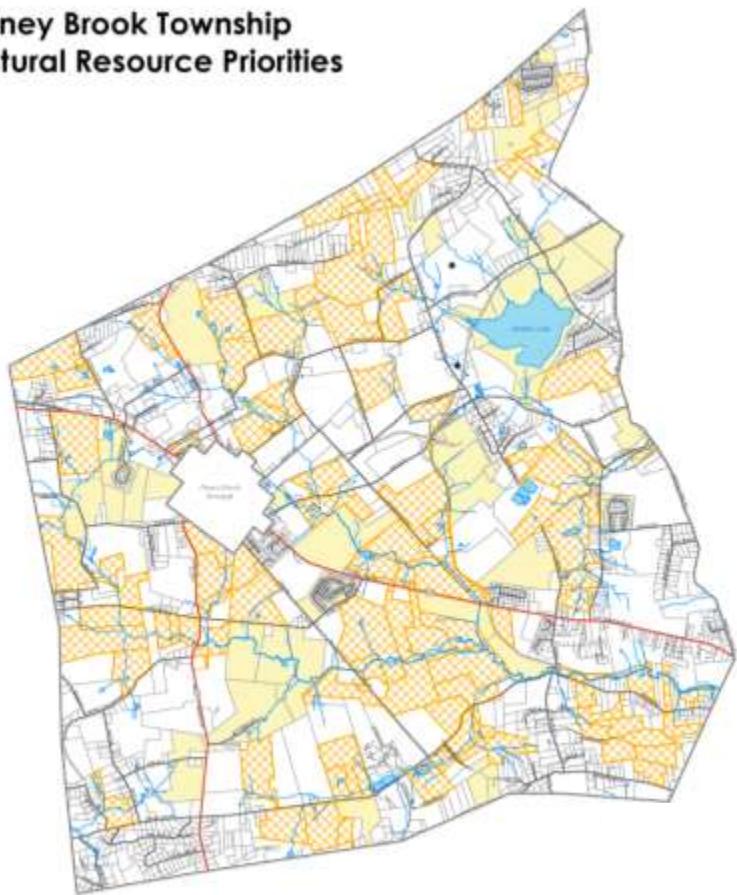


# RESOURCE PROTECTION REGULATIONS

## Implementation

- How is this tool implemented?
  - An import qualifier to resource protection regulation is to already have, or develop over time as permit applications are submitted, a clear and accurate Inventory of all subject resources!
  - All resource regulation should take into account the unique character of individual properties and the need for landowners to undertake lawful land use.

**Honey Brook Township  
Natural Resource Priorities**





# RESOURCE PROTECTION REGULATIONS

## Success

- Where has this tool been used successfully and what were the outcomes?
  - Every municipality is subject to Flood Plain regulation and Wetland regulation which have minimized disturbance of these resources in recent decades.
  - Most municipalities regulate disturbance of Steep Slopes with relative success.
  - Few municipalities regulate Unique Natural Areas or Riparian Buffers beyond regulation imposed by the state.
  - Limited regulation has successfully been imposed at the municipal level for Woodlands, Greenways, Scenic Landscapes and Historic Resources, although we enjoy some excellent examples in the Brandywine Creek Greenway region.

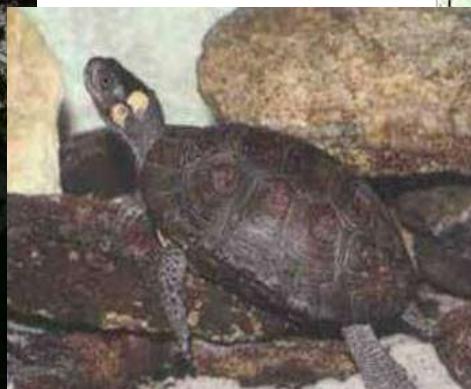




# RESOURCE PROTECTION REGULATIONS

## Applicability

- How can this tool be used in the BCG and in which municipalities might it be suitable?
  - Local regulation of natural and cultural resources can be enacted or enhanced in every municipality within the Brandywine Creek Greenway region.
  - Suitability of specific forms and applicability of regulations are dependent upon both the unique characteristics of each municipality (e.g., what resources are present?) and the community conservation and development objectives.





# RESOURCE PROTECTION REGULATIONS

## More Information

- Where can someone learn more about this tool?
  - Chester County Planning Commission
  - Brandywine Conservancy



# STORMWATER MANAGEMENT WITH BMPS

WES HORNER





# STORMWATER MANAGEMENT WITH BMPS

## Introduction (aka Low Impact Development or LID and Green Infrastructure)

- **What issues does this tool address?**
  - Localized and downstream flooding
  - Groundwater recharge
  - Stream baseflow
  - Water quality
    - Streambank erosion
    - Nonpoint source pollutant loadings in runoff
    - Temperature impacts
  - Source water protection
- **What does this tool accomplish?**
  - Balances land development with water resource needs/values
  - Quantitatively, minimizes runoff volumes and slows peak rates to minimize local and downstream flooding, protect recharge and baseflow, and mimic pre-development hydrology
  - Qualitatively, minimizes addition of sediment, nutrients, toxics, other runoff-borne pollutants in order to protect aquatic biota/macroinvertebrates and to protect water supplies and minimize treatment costs and protect recreational values and overall quality of life in the watershed
  - Satisfy increasing legal/regulatory/permitting requirements from State and Federal





# STORMWATER MANAGEMENT WITH BMPS

## Implementation

- How is this tool implemented?
  - Municipal Prominence with County Role and State Role and Federal Role
  - For Existing Sources of Stormwater
    - MS4/TMDL
      - Most, not all are MS4s
      - All have TMDLs though varies with Urbanized Areas, Regulated Outfalls, etc.
  - For New Sources of Stormwater
    - New Act 167 Model Ordinance Minimum
    - Relatively New Chapter 102 and other Regs
    - -PADEP BMP Manual, other sources for LID, Green Infrastructure, Smart Growth, etc.
    - See our GreenTreks/StormwaterPA Site Design Process.





# STORMWATER MANAGEMENT WITH BMPS

## Success

- **Where has this tool been used successfully?**
  - In many Chester County municipalities and beyond
- **What were the outcomes of using the tool?**
  - When BMPs are properly matched to site and development being proposed, then installed and maintained correctly, there is proven quantitative/qualitative success.





# STORMWATER MANAGEMENT WITH BMPS

## Applicability

- **How can this tool be used in the BCG?**
  - MS4/TMDL requirements must be satisfied. Act 167 model ordinance requirements must be satisfied.
  - Integrate BCG “extras” to provide added benefits and achieve Greenway goals and objectives.
- **In which municipalities might this tool be suitable?**
  - Virtually all municipalities can/should use this tool to the maximum, given that it's basically a requirement, and provides maximum environmental and quality of life/community enhancement bang for the buck.
  - Perhaps a BCG overlay that sorts out special MS4/TMDL and 167/New Source provisions for LID/Green Infrastructure/Smart Growth varying by municipal density context?





# STORMWATER MANAGEMENT WITH BMPS

## More Information

- **Where can someone learn more about this tool?**
  - Call me at 610-388-8124 or [whorner@brandywine.org](mailto:whorner@brandywine.org).
  - CCWRA website.
  - PADEP and EPA websites.
  - Center for Watershed Protection website.
  - Many many more.



# SOME EXAMPLES:

Keeping in mind:

- Prevention (Non-Structural) and Mitigation (Structural)
- Blurred line with Low Impact Development
- Blurred line with Green Infrastructure



# NON-STRUCTURAL BMP CATEGORIES WITH SPECIFIC NON-STRUCTURAL BMPS

## 1.0 *PROTECT SENSITIVE AND SPECIAL VALUE RESOURCES*

BMP 1.1 PROTECT SENSITIVE/SPECIAL VALUE FEATURES

BMP 1.2 PROTECT/CONSERVE/ENHANCE UTILIZE RIPARIAN AREAS

BMP 1.3 PROTECT/UTILIZE NATURAL FLOW PATHWAYS IN OVERALL STORMWATER  
PLANNING AND DESIGN

## 2.0 *CLUSTER AND CONCENTRATE*

BMP 2.1 CLUSTER USES AT EACH SITE; BUILD ON THE SMALLEST AREA POSSIBLE

BMP 2.2 CONCENTRATE USES AREAWIDE THROUGH SMART GROWTH PRACTICES

## 3.0 *MINIMIZE DISTURBANCE AND MINIMIZE MAINTENANCE*

BMP 3.1 MINIMIZE TOTAL DISTURBED AREA – GRADING

BMP 3.2 MINIMIZE SOIL COMPACTION IN DISTURBED AREAS

BMP 3.3 RE-VEGETATE AND RE-FOREST DISTURBED AREAS, USING NATIVE SPECIES

## 4.0 *REDUCE IMPERVIOUS COVER*

BMP 4.1 REDUCE STREET IMPERVIOUSNESS

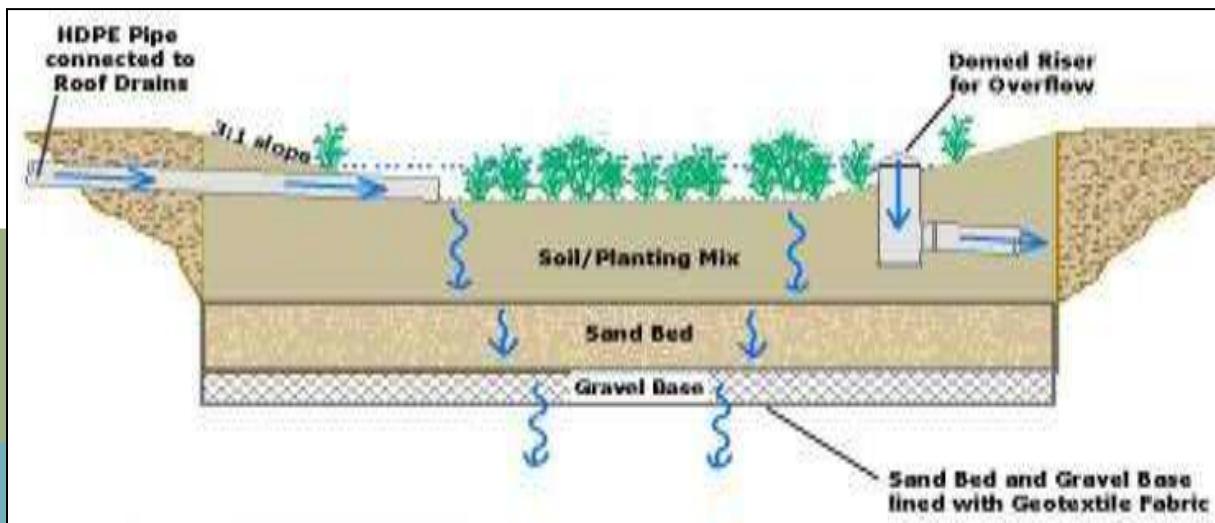
BMP 4.2 REDUCE PARKING IMPERVIOUSNESS

## 5.0 *DISCONNECT/DISTRIBUTE/DECENTRALIZE*

BMP 5.1 ROOFTOP DISCONNECTION

BMP 5.2 DISCONNECTION FROM STORM SEWERS

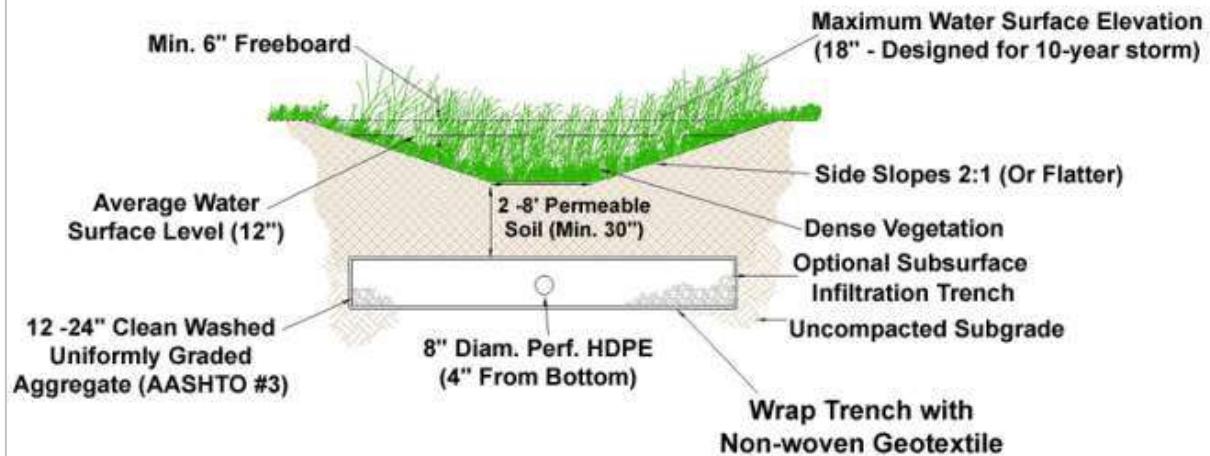
# RAIN GARDENS / BIORETENTION



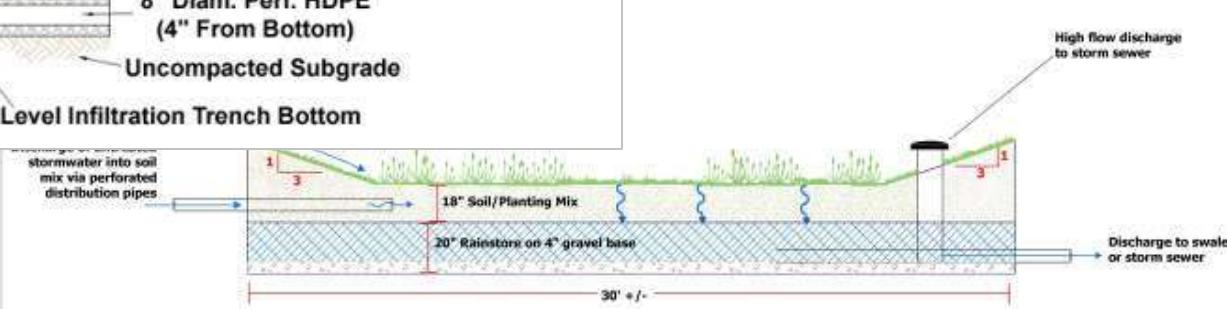
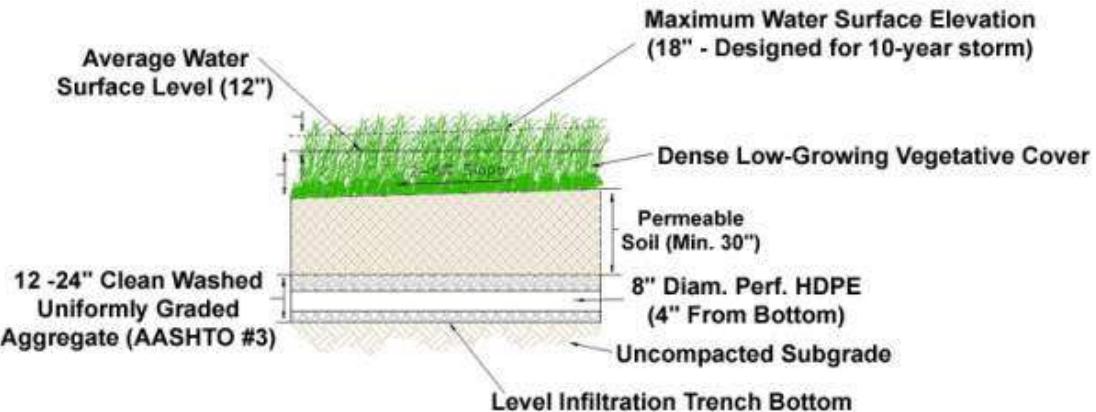
Rainwater can support the landscape and soils, reducing pipes and basins.

# VEGETATED SWALE (ENHANCED)

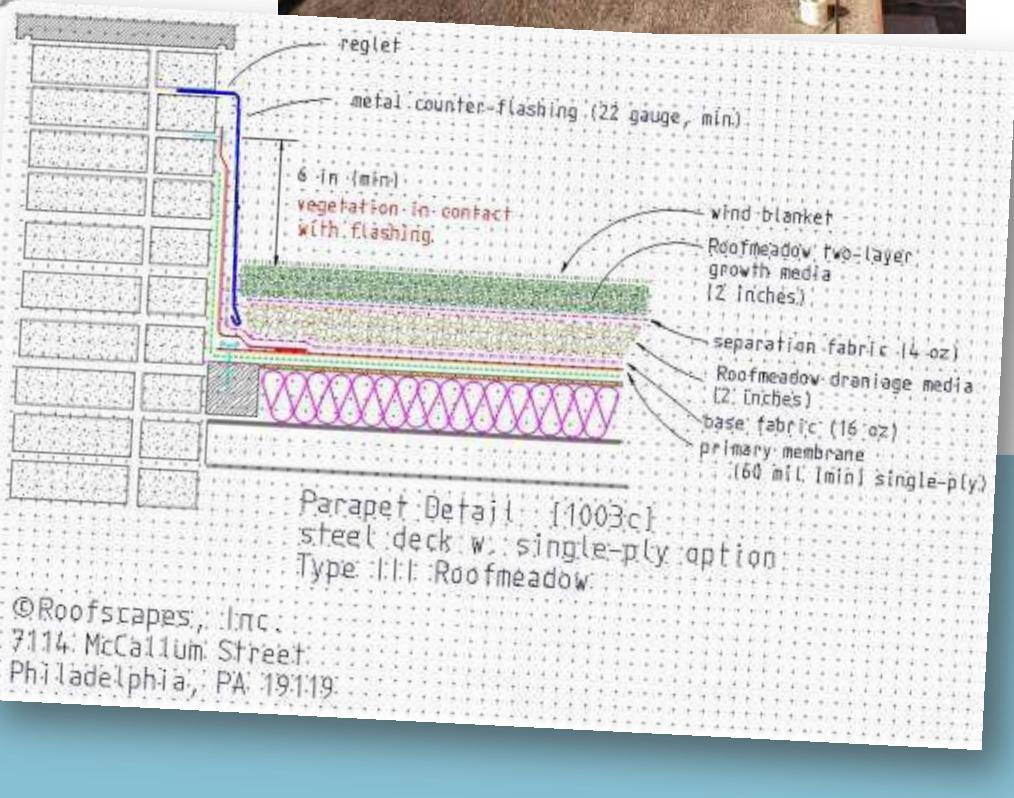
## CROSS-SECTION



## PROFILE



# VEGETATED ROOF



©Roofscapes, Inc.  
7114 McCallum Street  
Philadelphia, PA 19119

# POLLUTANT REMOVAL EFFECTIVENESS

POLLUTANT	INFILTRATION PRACTICES	Stormwater Wetlands	Stormwater Ponds Wet	Filtering Practices	Water Quality Swales	Stormwater Dry Ponds
<i>Total Phosphorus</i>	70	49	51	59	34	19
<i>Soluble Phosphorus</i>	85	35	66	3	38	-6
<i>Total Nitrogen</i>	51	30	33	38	84	25
<i>Nitrate</i>	82	67	43	-14	31	4
<i>Copper</i>	N/A	40	57	49	51	26
<i>Zinc</i>	99	44	66	88	71	26
<i>TSS</i>	95	76	80	86	81	47

*Water quality benefits of porous pavement with infiltration from  
 "National Pollutant Removal Performance Database for Stormwater  
 Treatment Practices" Center for Watershed Protection, June 2000*

# FLOODPLAIN REGULATIONS (ENHANCED)

WES HORNER





# FLOODPLAIN REGULATIONS (ENHANCED)

## Introduction

### What issues does this tool address?

- Defined here as minimum FEMA program requirements....
- Reduces property loss and human health impacts from flooding, as currently defined, mapped , regulated
- Modest environmental benefits; current FEMA allows for substantial impacts on floodplain vegetation and soils

### What does this tool accomplish?

- Reduces property loss impacts and human health impacts
- This tool does not reduce flooding itself; existing regulations allows for worsening of flooding,, even without considering climate change issues such as worsening storm events, changes in upstream watershed hydrology, etc.
- Upgraded floodplain regulations could further reduce





# FLOODPLAIN REGULATIONS (ENHANCED)

## Implementation

- How is this tool implemented?

Through minimum FEMA program requirements, adopted by each municipality (subsidized flood insurance as carrot)

What are the problems here?

Fails to protect the floodplain on site

Can obliterate natural floodplain functions

Fails to acknowledge changing upstream watershed hydrology

More volume, faster peaks

Fails to acknowledge changing climate and precip patterns

Increased storm intensity and frequency

Fails to integrate need for buffer and therefore does not guarantee protection for property/human health risks





# FLOODPLAIN REGULATIONS (ENHANCED)

## Success

- **Where has this tool been used successfully?**
  - Used for years throughout County, State, Nation
- **What were the outcomes of using the tool?**
  - Reduced human health impacts, though still substantial property losses, though paid for through insurance



THANK GOODNESS!  
A FEDERAL  
BUREAUCRAT!!

F.E.M.A.

GET THE  
GOVERNMENT  
OFF OUR BACKS!



# FLOODPLAIN REGULATIONS (ENHANCED)

## Applicability

- **How can this tool be used in the BCG?**
  - We are urge municipalities to adopt more stringent floodplain regulations which work, in tandem, with riparian zone regulations, which work to protect and preserve naturally vegetated (ideally forested) floodplains and riparian zones.
  - Furthermore, these floodplain zones/lines need to be increased/expanded so that impacts from worsened flooding in the future is anticipated and managed/reduced (i.e., functionally increase the 100-year flood elevation).
- **In which municipalities might this tool be suitable?**
  - Virtually all municipalities, although the farther “down” in the watershed system you go, the greater the seriousness of this issue.
  - This issue can be dealt with aggressively/proactively better in less developed municipalities than highly developed ones. Ounce of prevention...tons of cure.





# FLOODPLAIN REGULATIONS (ENHANCED)

## More Information

- **Where can someone learn more about this tool?**
  - FEMA is changing! Learn more about FEMA though their website for FEMA and the Flood Insurance Administration (FIA). There are Pennsylvania sources as well. We hope to host a Subscribers Meeting on this soon.
  - [www.fema.gov](http://www.fema.gov)
  - <http://www.fema.gov/national-flood-insurance-program>



# PUBLIC LAND DEDICATION & FEE-IN-LIEU

TONY ROBALIK, AICP





# PUBLIC LAND DEDICATION & FEE-IN-LIEU

## Introduction

- **What issues does this tool address?**
- **What does it accomplish?**
  - Communities need open space for passive and active recreation, and natural areas where wildlife can flourish
  - Municipalities can require developers to provide land for this purpose, while also permitting several voluntary alternatives, include a fee-in-lieu
  - Sometimes called “mandatory dedication” by land-use planners





# PUBLIC LAND DEDICATION & FEE-IN-LIEU

## Implementation

- **How is this tool implemented?**
  - First adopt a parks and recreation plan
  - Then amend an existing, or adopt a new, subdivision and land development plan that provides for public dedication
  - Ordinance must contain definite standards
- **Voluntary alternatives to public dedication—can be offered but not mandated**
  - Developers may pay a “fee-in-lieu” to be used for parks and rec facilities accessible to the new development
  - Developers may construct recreational facilities
  - Developers may reserve private land within the development for parks and rec use
- **Fees-in-Lieu**
  - Must be used within 3 years of being collected—unless the muni successfully negotiated with the developer
  - Can be used to buy parkland, provide infrastructure, buy new equipment, or improve existing parkland that is accessible to the new development
  - *Cannot* be used to maintain existing parkland or buy maintenance equipment





# PUBLIC LAND DEDICATION & FEE-IN-LIEU

## Success

- **Where has this tool been used successfully?**
  - Up to hundreds of municipalities statewide, concentrated in high-growth areas such as Chester County
  - Local examples include Pocopson, East Brandywine, East Bradford, and Upper Uwchlan Townships





# PUBLIC LAND DEDICATION & FEE-IN-LIEU

## Applicability

- **How can this tool be used in the BCG?**
  - To preserve open space
  - To provide recreational trails
  - To provide recreational facilities
- **In which municipalities might this tool be suitable?**
  - Any municipality experiencing growth





# PUBLIC LAND DEDICATION & FEE-IN-LIEU

## More Information

- The Brandywine Conservancy's Environmental Management Center
- Where can someone learn more about this tool?

*Public Dedication of Land and Fees-in-Lieu for Parks and Recreation.*

- 1) <http://conservationtools.org/guides/show/17>
- 2) [http://conservationtools.org/libraries/1/library\\_items/253-Public-Dedication-of-Land-and-Fees-in-Lieu-for-Parks-and-Recreation](http://conservationtools.org/libraries/1/library_items/253-Public-Dedication-of-Land-and-Fees-in-Lieu-for-Parks-and-Recreation)





# OFFICIAL MAP

TONY ROBALIK, AICP





# OFFICIAL MAP

## Introduction

- What issues does this tool address?
- What does it accomplish?

## The Official Map...

- Provides the right of first refusal to municipalities
- Helps focus limited financial resources on projects to meet community goals
- Helps municipalities make improvements such as improving the local street network; protecting important natural areas; and providing more green space, recreation facilities, trails, and sidewalks
- Saves time and money by informing property owners and developers of municipal goals and intentions ahead of development plans
- Helps to ensure that development is compatible with and supportive of public goals
- Supports zoning and subdivision/land development ordinances by helping provide infrastructure and acquire public spaces
- Helps secure grants

Official Map  
East Bradford  
Township





# OFFICIAL MAP

## Implementation

- **How is this tool implemented?**
  - Based on a current, adopted Comprehensive Plan
  - And possibly other plans and studies, such as traffic studies, open space & recreation plans, etc.
  - Public education
  - The map is the ordinance
  - The Zoning and Subdivision ordinances should be amended to reference the Official Map





# OFFICIAL MAP

## Success

- **Where has this tool been used successfully?**
  - 64 municipalities in the state have an Official Map (as of 6/2011)
  - 16 in Chester County
  - 6 in the Brandywine Creek Greenway (Birmingham, East Bradford, East Caln, Honey Brook, Uwchlan, and West Bradford Townships)
- **What were the outcomes of using the tool?**
  - Open space preservation and multi-use trails in East Bradford Township
  - Development of an extensive, interconnected trail network in Uwchlan Township
  - Preservation of important natural areas in Bushkill Township, Northampton County





# OFFICIAL MAP

## Applicability

- **How can this tool be used in the BCG?**
  - The top four goals for the entire Greenway have been identified as
    - 1. Recreation:** The Official Map can be used to prioritize land for acquisition and use as public parks and trails.
    - 2. Conservation:** It can also be used to identify land as a conservation priority.
    - 3. Water quality:** If that land includes riparian areas, conserving it can protect and improve water quality.
    - 4. Transportation:** The Official Map can be used to identify multi-use trail corridors, as well as to improve the street network.
  - **In which municipalities might this tool be suitable?**
    - Any municipality!



# OFFICIAL MAP—IMPLEMENTATION EXAMPLES

HOLLOW CREEK GREENWAY  
SPRINGFIELD TOWNSHIP  
(YORK COUNTY)



UWCHLAN TOWNSHIP  
TRAILS





# OFFICIAL MAP

## More Information

- **Where can someone learn more about this tool?**
  - *The Official Map: A Handbook for Preserving and Providing Public Lands & Facilities.* [http://conservationtools.org/libraries/1/library\\_items/931](http://conservationtools.org/libraries/1/library_items/931)
  - The Brandywine Conservancy's Environmental Management Center



# EXISTING RESOURCES AND SITE ANALYSIS PLAN

SHEILA FLEMING, ASLA





# SITE ANALYSIS

## Introduction

- **What issues does this tool address?**
- Typical Land Development Application
- Problem - no requirement to identify important natural features: sensitive habitat; specimen trees; high quality woodlands; woodland interior; hydric soils; site hydrology; prime agricultural soils.
- Problem - no requirement to consider site context: regional complex of natural areas; connections among habitat areas; habitat corridors; woodland complexes; existing or planned greenways or trails.
- Problem – no analysis of impact required



# SITE ANALYSIS

## Introduction

- **What does this tool accomplish?**
  - Fits the development to the site
  - Fits with stormwater management and conservation of natural features
  - A Site Analysis Plan provision in the SALDO would help municipal officials to understand which areas on a proposed land development site have the least sensitive natural features and are most suitable for development
  - A Site Analysis Plan would empower municipal officials to require that the most sensitive natural features are left undisturbed





# SITE ANALYSIS

## Implementation

- **How is this tool implemented?**
  - Botanical Survey, Exceptional Natural Areas Inventory, Historic Resource Inventory (optional)
  - Draft a Natural Resource Protection Ordinance update to the SALDO
  - Bundle with Conservation Design Option, Stormwater Ordinance, and/or Sketch Plan Review, EAC, Conditional Use (optional)
  - Maximize use of publicly-available information (GIS)





# SITE ANALYSIS





# SITE ANALYSIS

## Applicability

- How can this tool be used in the BCG?
- In which municipalities might this tool be suitable?
  - Relevant for municipalities that are in the path of new development or potentially subject to future development pressures
  - Effective in municipalities with woodland interior habitat, wetlands, Pennsylvania Natural Diversity Inventory sites, Important Bird Areas, confirmed populations of state-endangered or threatened plants or animals
  - Suitable in municipalities with sensitive natural features that are not protected by state and/or federal regulation (such as floodplains, surface waters, wetlands) or conservation easements





# SITE ANALYSIS

## More Information

- Where can someone learn more about this tool?
  - Pocopson Township  
SALDO Subsection 190-23
  - Upper Uwchlan Township  
SALDO Subsection 162-9.D
  - Brandywine Conservancy  
Environmental Management Center





# SKETCH PLAN

SHEILA FLEMING, ASLA





# SKETCH PLAN

## Introduction

- **What issues does this tool address?**
- **What does this tool accomplish?**
  - Preliminary land development application after engineering is substantially complete
  - Applicant has a considerable investment in the preliminary plan, he/she is often reluctant to make dramatic (or even modest) changes in the final plan.
  - Provide an incentive for the developer to meet with municipal officials in order that both may discuss the land development project at the conceptual level before preliminary engineering begins.
  - This allows the municipality and the developer to articulate their goals for the project and to discuss site layout and design alternatives.
  - Facilitate the approval process for the developer (= less \$)
  - Municipality is better able to achieve its community development objectives.





# SKETCH PLAN

## Implementation

- **How is this tool implemented?**
  - Update Comprehensive Plan, OSRER, Official Map, and gather other relevant municipal planning documents
  - Amend the “Plan Process and Content” provisions in the SALDO Procedure: Sketch Plan and Site Visit; Preliminary Plan; Final Plan
  - Bundle with ERSAP, Conservation Design Option, Natural Features Protection Ordinance, Historic Resource Protection Ordinance, EAC (optional)

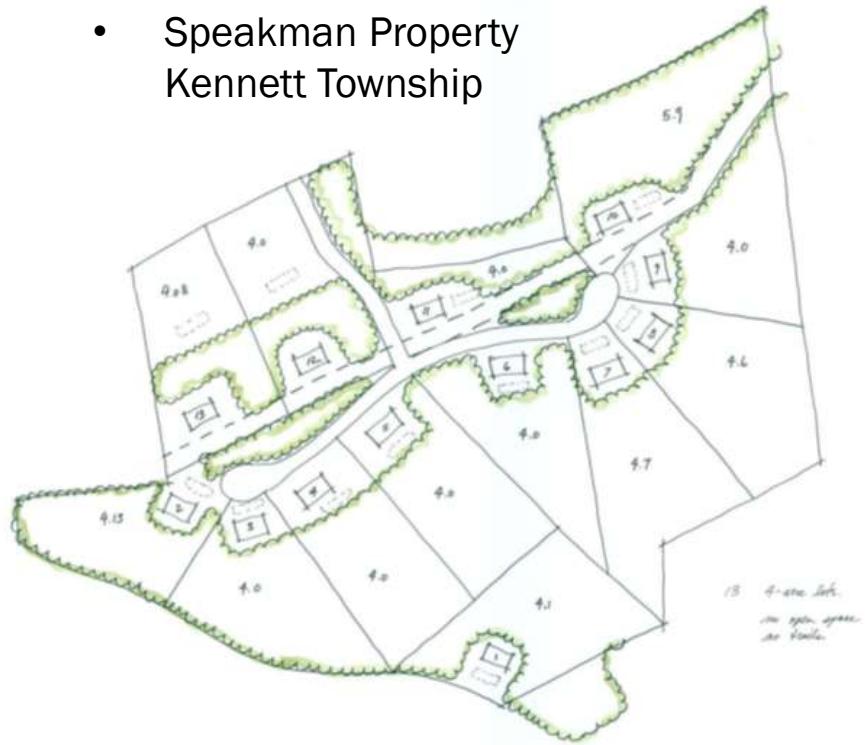




# SKETCH PLAN

## Implementation

- Ponds of Woodward  
Kennett Township
- Speakman Property  
Kennett Township





# SKETCH PLAN

## Applicability

- **How can this tool be used in the BCG?**
- **In which municipalities might this tool be suitable?**
  - Balance new development with resource protection
  - Relevant for municipalities that are in the path of new development or potentially subject to future development pressures
  - Effective in municipalities with scenic roads or byways, scenic rivers, historic resources, prime agricultural soils, community trail plans, transportation improvement plans, open space preservation plans, greenway plans
  - Requires municipal representatives to be willing to accommodate an additional step in the land development application process
  - Developers should not expect to achieve maximum density under the zoning





# SKETCH PLAN

## More Information

- Where can someone learn more about this tool?
  - Kennett Township  
SALDO Subsection 206-305
  - Thornbury Township, Delaware County  
SALDO Subsection 22-402
  - Brandywine Conservancy  
Environmental Management Center



# BRANDYWINE CREEK GREENWAY

REGULATORY TOOLS TO KEEP THE GREENWAY GREEN

