



# Preserving Open Space in Our Communities - Why & How



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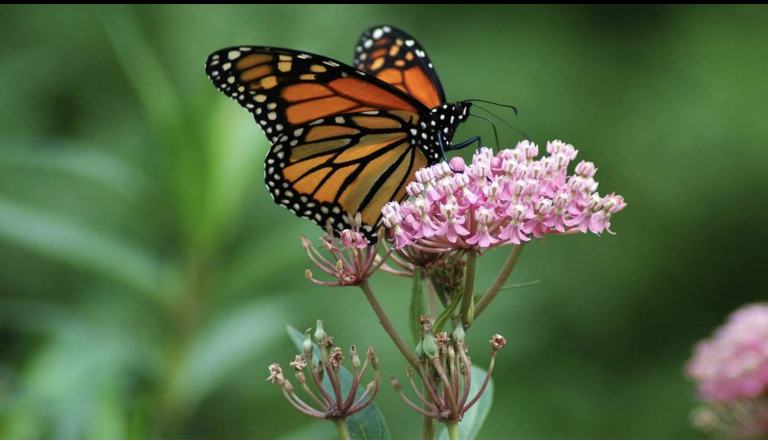


# Biodiversity...

Provides us with clean air, fresh water, good quality soil and crop pollination, helps us fight and adapt to climate change.

Survival of species depends on interactions in dynamic ecosystems, so the disappearance of one species can have a far-reaching impacts on other species, and the food chain.

## Main Causes of Biodiversity Loss:



## Changes in Land Use :

1. deforestation
2. intensive mono-culture
3. development

# Rural Character...

Why we love where we live, our scenic rural landscapes.



## Main Causes of Loss of Rural Character:

### Changes in Land Use:



1. Conversion of farmland to development
2. 2-Acre minimum lot size for residential use
3. No viewshed considerations in site plan approvals





**Liberty Ridge  
SUBDIVISION**

*Fully Improved Lots  
For Sale*

**NODOLF LUMBER, Inc.**  
(608) 762-5161

**PHASE 1**

**PHASE 2**

**PHASE 3**

**YOU ARE HERE**

**Map Labels:** Island Avenue, Argonne Drive, Cushman Court, Cuthbert Drive, George Street, Liberty Street, Clarissa Drive, Allene Street, Woods Court.

**Map Legend:** The map shows three phases of the subdivision. Phase 1 (red) is at the bottom, Phase 2 (green) is in the middle, and Phase 3 (blue) is at the top. A yellow arrow points to a lot in Phase 1, labeled "YOU ARE HERE".

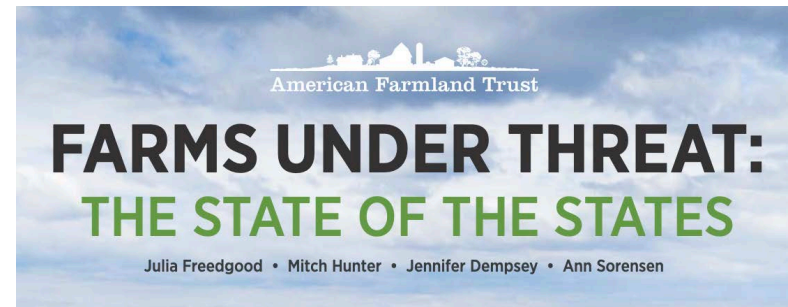
# **Comprehensive Plan Goals commonly identified in CNY:**

- Retaining Rural Character (scenic and aesthetic resources)
- Local Agriculture Viability
- Water Resources Protection
- Open Space and Farmland Preservation
- Compatible Growth & Development



# Protecting existing Open Space preserves Scenic Viewsheds, Biodiversity, and Water Quality

- We can protect these valuable assets & allow for growth and new development using both ***Traditional Neighborhood Development*** & ***Conservation Subdivision Design*** process
- Beginning with CSD, a Sketch Plan process for the subdivision of land allows full development rights, but protects significant Open Space and Rural Character
- To do this, the regulatory tool needs to be included in the local zoning and subdivision laws.



out along rural roads, increasing the local housing  
 nt agricultural fields intact (right image below). This  
 varied rural landscapes, such as forested areas of  
 farms and forests are intermingled. This increase in  
 the rural landscape and limits production, market-  
 ons for the remaining farms and ranches.

## Low-Density Residential Land Use

Compromised



in this color was recently converted to LDR land  
 016).

use along a continuum from areas that are developed to areas  
 d. In the left image, large-lot housing covers a field in Eagle,  
 e-acre lots. In the middle, development is putting pressure on  
 Illinois. In the right image, scattered home building along rural  
 viability in a mixed landscape in Litaker, North Carolina.



PHOTO: Adobe Stock

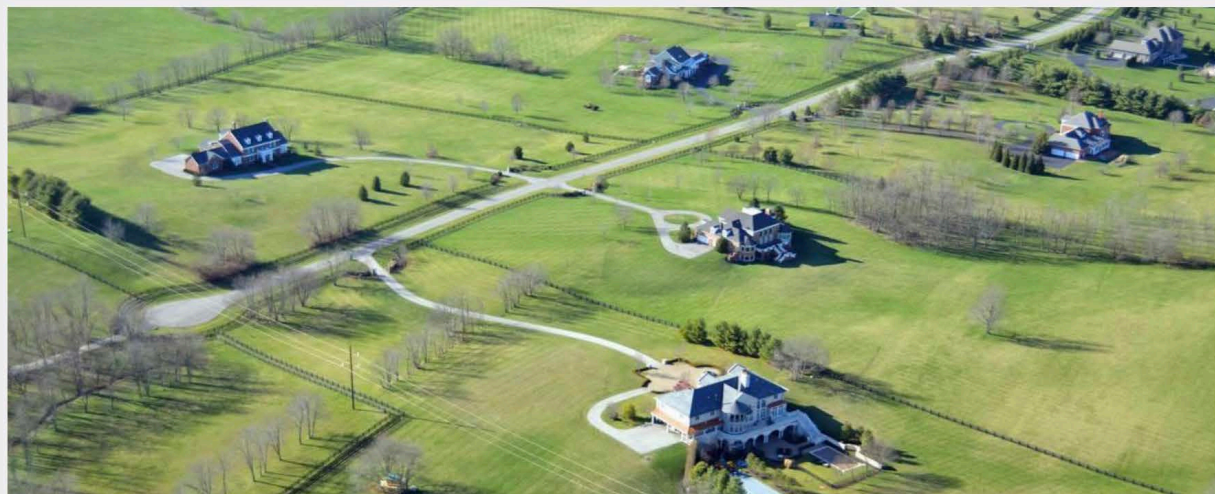
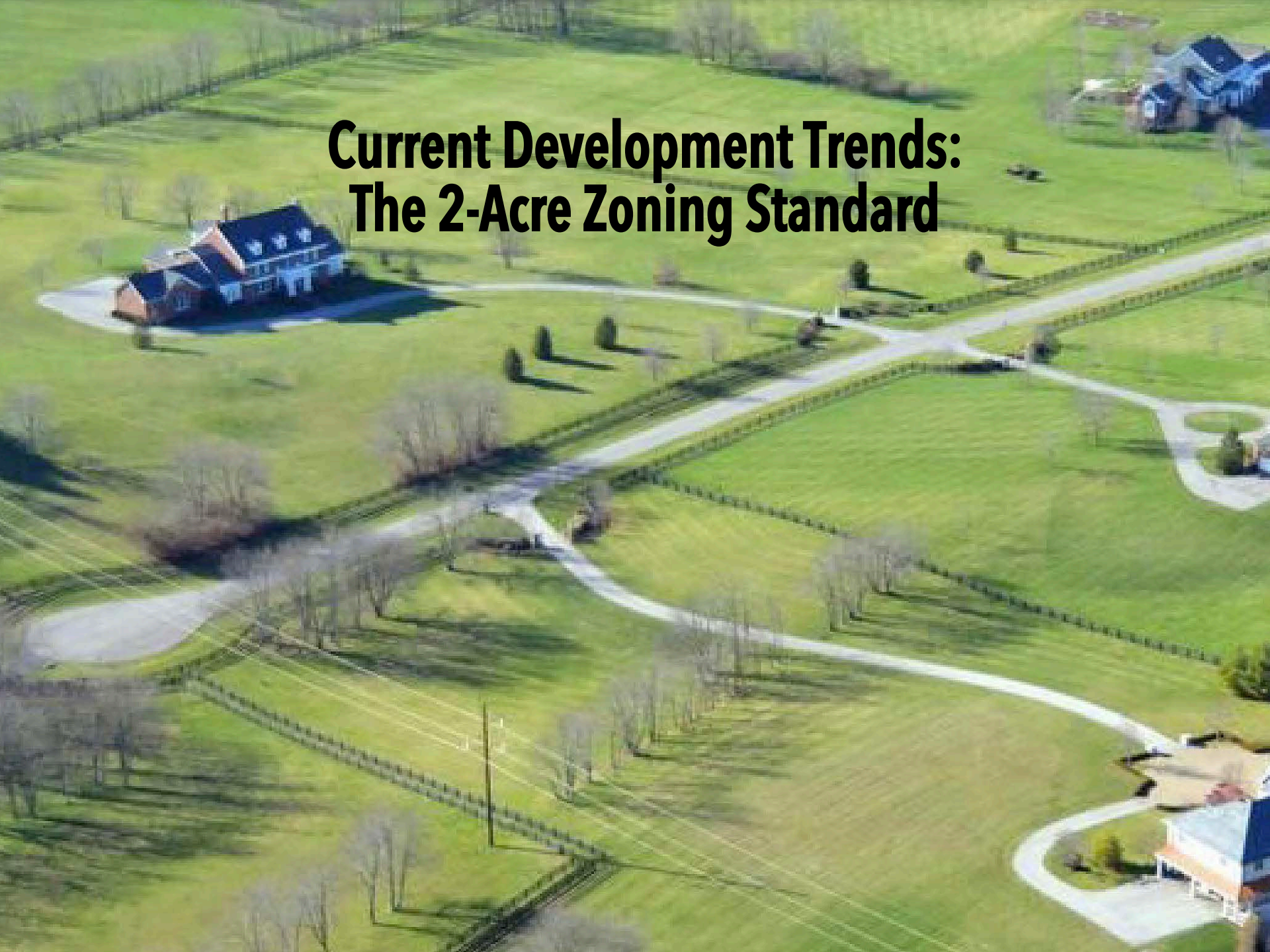


PHOTO: Faron Collins

# **Current Development Trends: The 2-Acre Zoning Standard**



# West Vincent Township...

## ...Grows Greener



*Weatherstone, by the Hankin Group, Exton, PA combines conservation subdivision and traditional neighborhood design elements (Growing Greener Option 5). The 273 new homes, both single-family and townhouses, and associated commercial center are nestled within 190 acres of preserved open space featuring streamside forests, farm fields and a series of community greens for residents of the community. Of the 190 acres of open space, about 162 acres have been dedicated to the township, at no cost.*

“These ordinances have made a very significant difference for us.”

— Jim Wendelgass, Township Manager



West Vincent Township's 3,200 residents enjoy a rural lifestyle—of the 40 miles of roads, 16 miles are unpaved! Yet, the township lies in the path of development, situated at the crossroads of state routes 100 and 401, the two most heavily traveled roads in Northern Chester County. In only eight years, developers have submitted plans for 1,036 new dwelling units, nearly doubling the number of residences. So, how has a township facing so much new development managed to maintain the woodlands, scenic views and agricultural lands that residents cherish?

Land acquisition, enabled by two voter-approved open space referenda, and donation of conservation easements by generous landowners has played a key role in preserving land. The

township has also purchased transferable development rights (TDRs). These techniques have resulted in about 2,072 acres of land conserved by individuals and public money. However, township officials know that saving land with public money and landowner donations just won't go far enough in preserving their landscape. While their community is about 25% developed and 25% conserved, the neighboring township to the south is already 85% developed.

West Vincent Township worked with Natural Lands Trust planners, adopting *Growing Greener: Conservation by Design* ordinances in 1998. Catching the crest of the development wave, these ordinances have preserved 822 acres of open space out of the 1,307 acres subject to development. In other words, the township lightened the footprint of residential development by 63% by adopting regulations that generate open space each time a property is developed.

Open space in conservation subdivisions may be owned by individuals, homeowners' associations and the township. Lands preserved in these conservation subdivisions have preserved streamside trees that improve water quality, views of historic landscapes, agricultural lands, parkland and village greens. The township has received donations from developers, at no public cost, of 292 acres of permanently protected open space as a result of adopting the *Growing Greener* codes.



*Illustrating how even a small site can have conservation benefits, the Preserve at Birch Run by Woodstone Homes, preserved a horse farm and wetlands on a 13.4 acre country property. The remaining 22.1 acres have been developed with 11 new homes, shown above, surrounding 7½ acres of permanently protected open space.*

Facing development pressure of this magnitude is never easy. Township manager Jim Wendelgass says, "These ordinances have made a very significant difference for us, and every developer has open space in the marketing materials for their developments." West Vincent Township practices the art of land conservation through acquisition, outreach to landowners, and creative land use regulations that further preserve the rural landscape.

*Growing Greener: Conservation by Design is a collaborative program of the PA DCNR, the Governor's Center for Local Government Services, Natural Lands Trust, and advisors from state and local agencies. The program helps municipalities use the development process to their advantage to protect interconnected open space networks. Communities that adopt these standards are preserving an average of 62% of land each time a property is developed.*

*For more information, contact:*  
Natural Lands Trust  
1031 Palmers Mill Road  
Media, PA 19063  
610-353-5587 ext.270  
[www.natlands.org](http://www.natlands.org)

'Weatherstone' Exton, PA

# What are the Benefits?



**Traditional Neighborhood Development (TND)**  
**273 Homes**

**Conservation Subdivision Design (CSD)**  
**190 Acres of Protected Openspace**



**Views from the road show Rural Character is preserved**

# Conservation Subdivision Design (CSD) & Traditional Neighborhood Development (TND)

- ✓ Used to protect high-value natural resources while allowing for the maximum number of residences and attractive neighborhoods
- ✓ CSD: A simple 4-step approval process; TND: requires design standards
- ✓ Can preserve open space while keeping the same density standard
- ✓ Conserved land can be privately- or publicly- owned
- ✓ CSD or TND can be useful for Residential, Commercial & Mixed Uses

# **What are the Benefits of Conservation Subdivision Design (CSD)?**

1. Preserves scenic beauty, biodiversity, and cultural and agricultural resources
2. Protects the critical ability of undeveloped land to absorb and filter stormwater runoff
3. Accommodates new growth and economic development
4. Protects land owner rights to develop with a more flexible subdivision regulation
5. A simple 4-step approval process applies only to "Major Subdivision" applications



**Conservation Subdivision** process offers one of the best tools for **protecting rural character** while also providing development needs and protecting land owner rights. An easement permanently protects a property's streams, wetlands, forests or open spaces **WITHIN** a subdivision, creating a more sustainable pattern of development.



**Economic Studies** show that lots in conservation subdivisions carry a price premium, are less expensive to build, and sell more quickly than lots in conventional subdivisions.

# Land Use Tools used for Protecting Open Space

*Some are better than others*

## 1. Setting Large Minimum Lot Size:

Limits options for land owners, developers, and the community

## 2. Purchase or Transfer of Development Rights:

Very limited funding exists in NYS for PDRs  
TDR's are Complex to set up and administer  
and require a stable and predictable real estate market

## 3. OverlayZones

Variances are still possible which can dilute the usefulness of Overlay Zoning

## 4. Conservation Subdivision Design (CSD) & Traditional Neighborhood Development (TND)



**Simple process, super flexible, effective conservation,  
& effective design standards**

How is Open Space typically lost,  
or instead preserved, through the Subdivision process?



Standard Subdivision of large parcels often begins like this,  
with Lot-by-Lot subdivision along our roadsides.



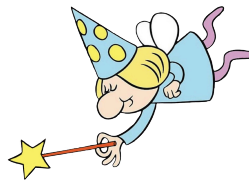
Over time, what was open space has converted to houselots with the loss of rural character and habitat value.



Alternatively, ***Conservation Subdivision*** allows the same number of house lots to be developed from the same parent parcels.



The house lots are located behind the Open Space with 50% preserved, along with the Town's rural character and habitat.



## Traditional Neighborhood Development (TND)



EXISTING ROAD

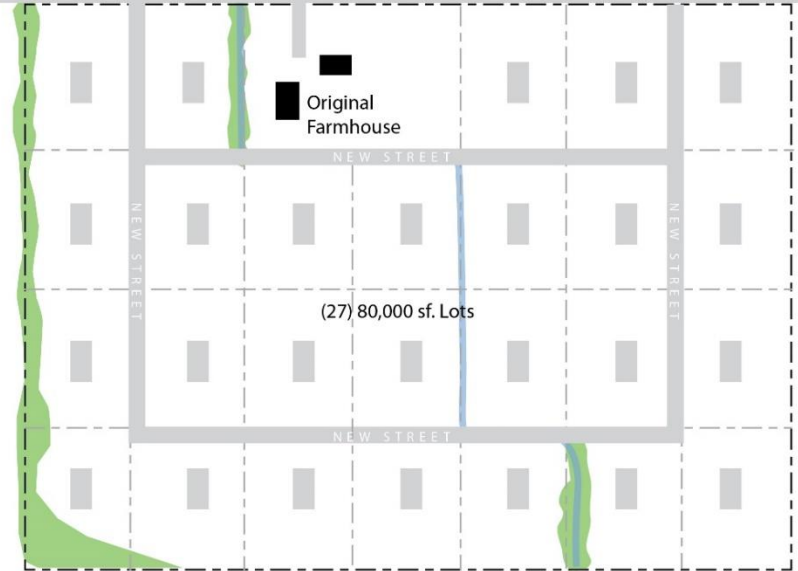


## Conservation Subdivision

## Conventional Residential Development

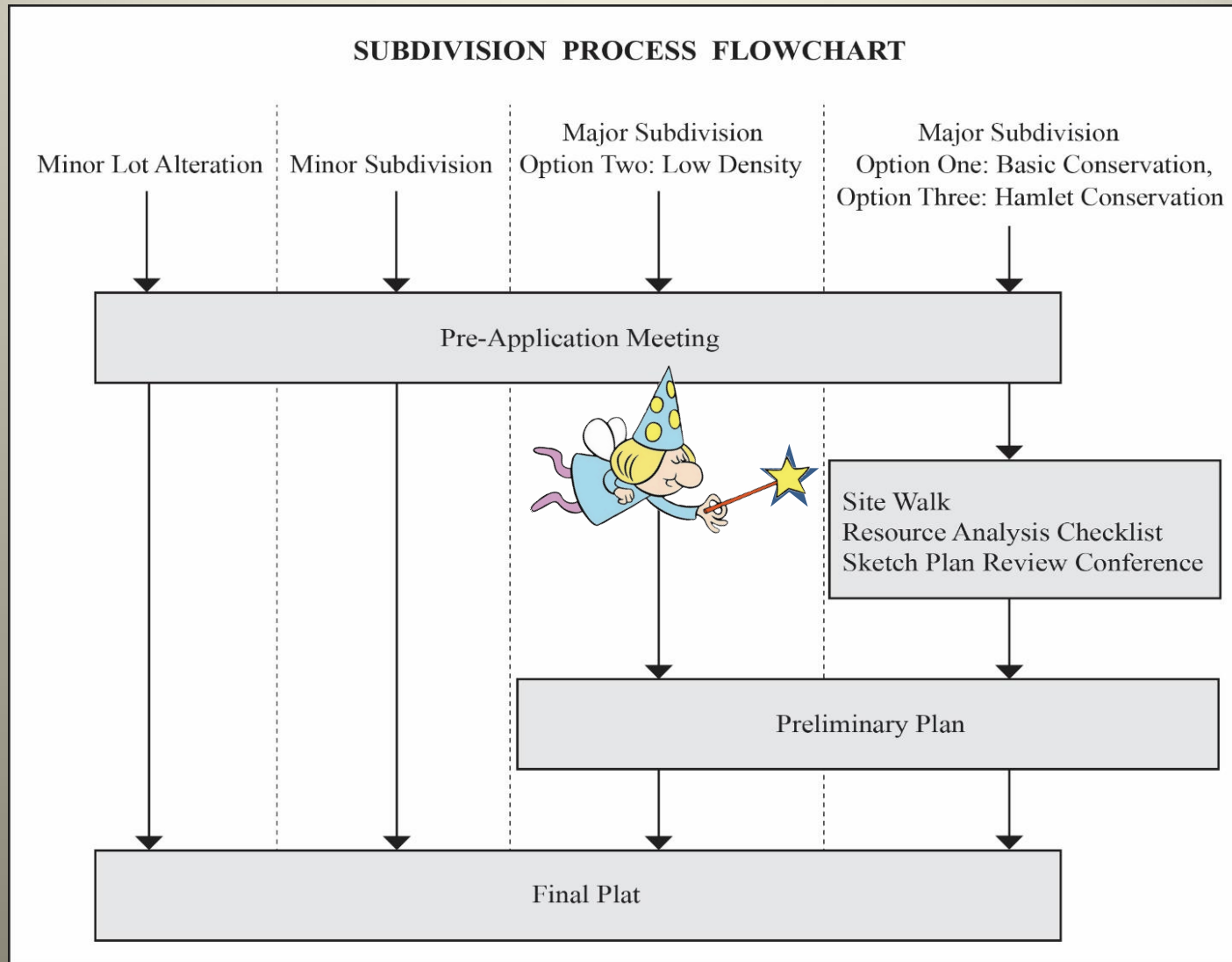


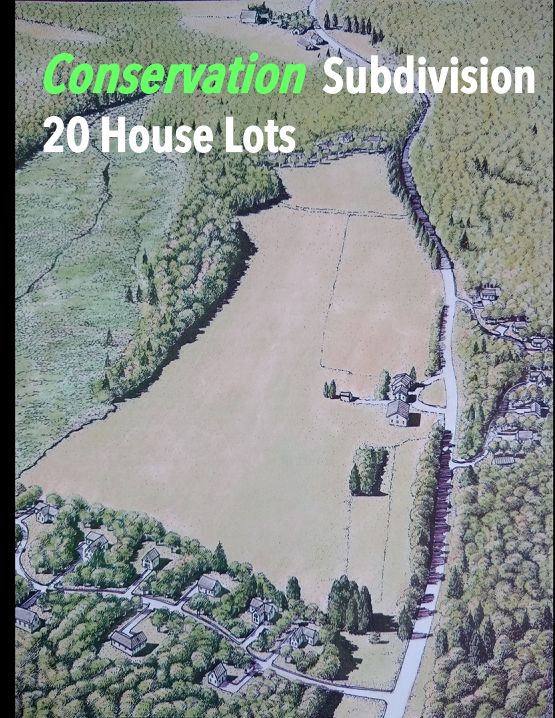
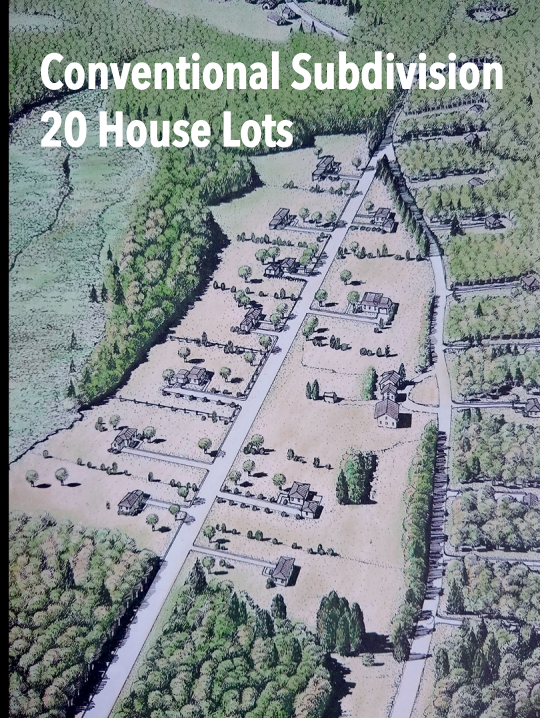
EXISTING ROAD



## Conventional Subdivision

# CSD is only used for "Major" subdivisions with approval in 4 Steps:



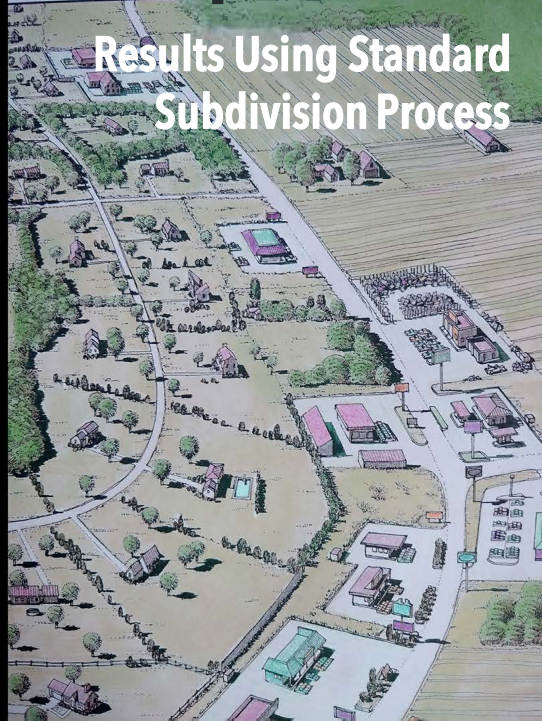


*Source: Dealing with Change in the Connecticut River Valley:  
A Design Manual for Conservation and Development, Randall Arendt*

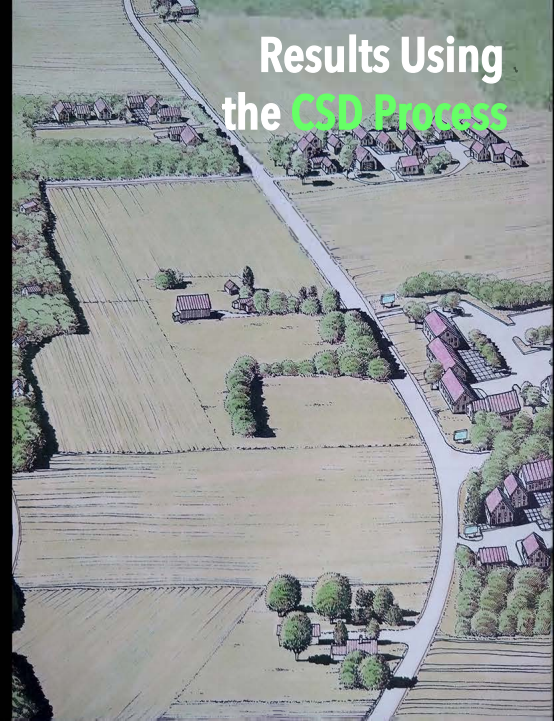
Open Space before...



Results Using Standard  
Subdivision Process



Results Using  
the CSD Process



Source: *Dealing with Change in the Connecticut River Valley:  
A Design Manual for Conservation and Development*, Randall Arendt

Open Space before...

Source: *Dealing with Change in the Connecticut River Valley:  
A Design Manual for Conservation and Development*, Randall Arendt

Standard  
Commercial Development

**CSD Process** Commercial  
Development

# 'Ringfield'

## A Planned Residential District - Homes Set among Woodlands, Meadows, and Ponds

by Randall Arendt

*Location:* Ring Road, Chadds Ford Township PA

*Developer:* Richard Chalfant, Wilmington, DE

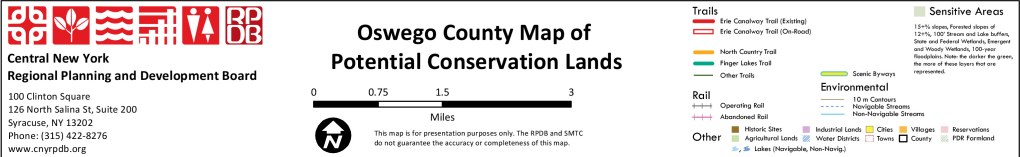
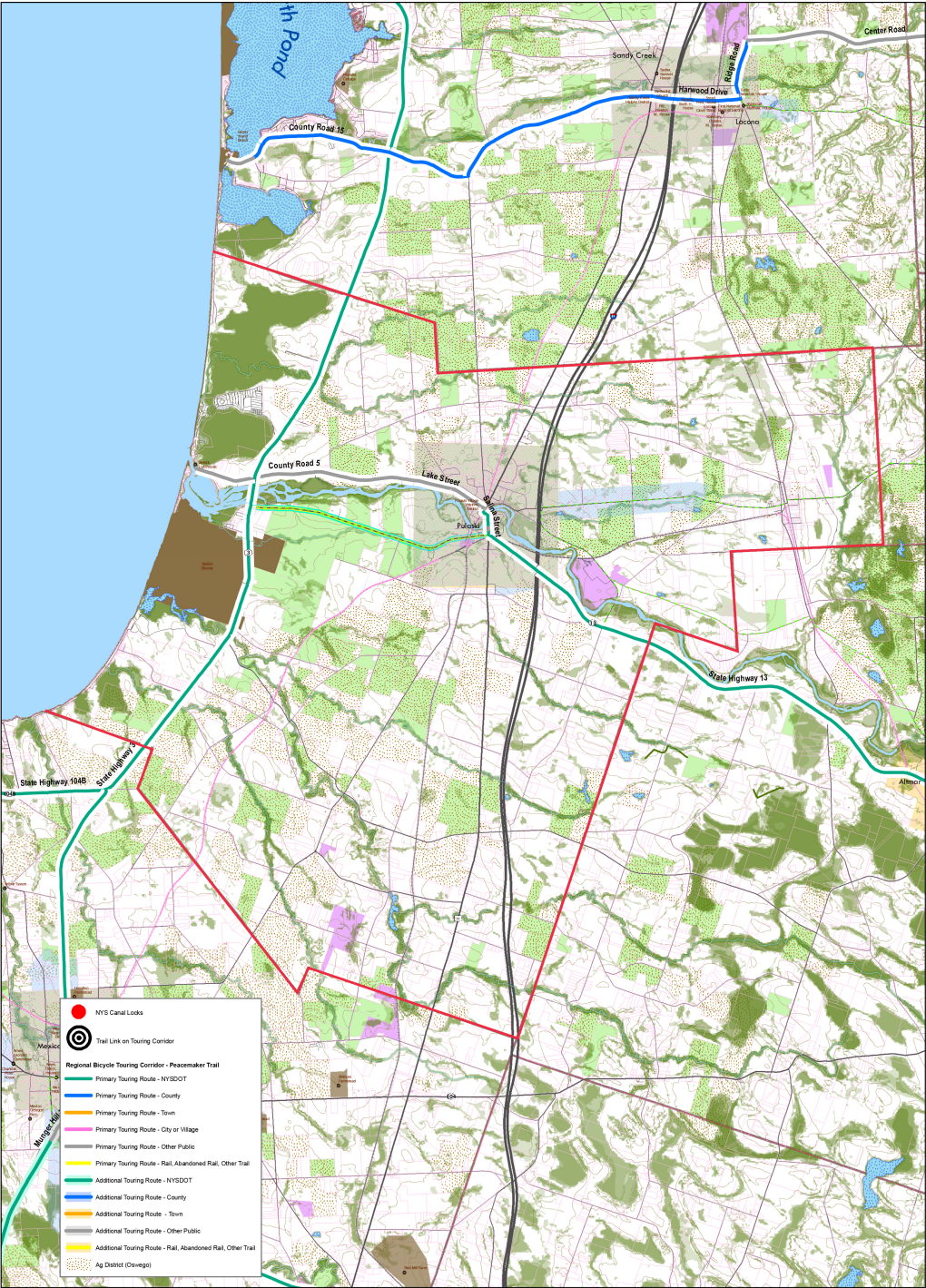
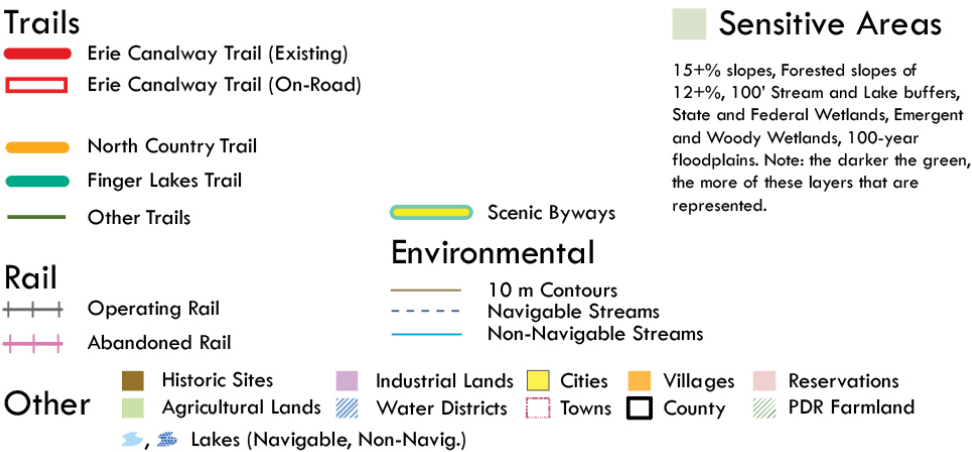
*Designer:* : Richard Chalfant, Wilmington, DE

*Development Period:* 1977-86

- 76-acre site
- 56 acres (74 %) preserved
- Network of woodland trails link the various neighborhood areas with three ponds
- Full density (at the 2-acre standard)
- 38 dwellings
- No lot size, width, or frontage restrictions
- Flexibility permitted latitude in fitting 6 condominium units, 6 attached townhouses, and 26 detached homes
- A stunning landscape resulted

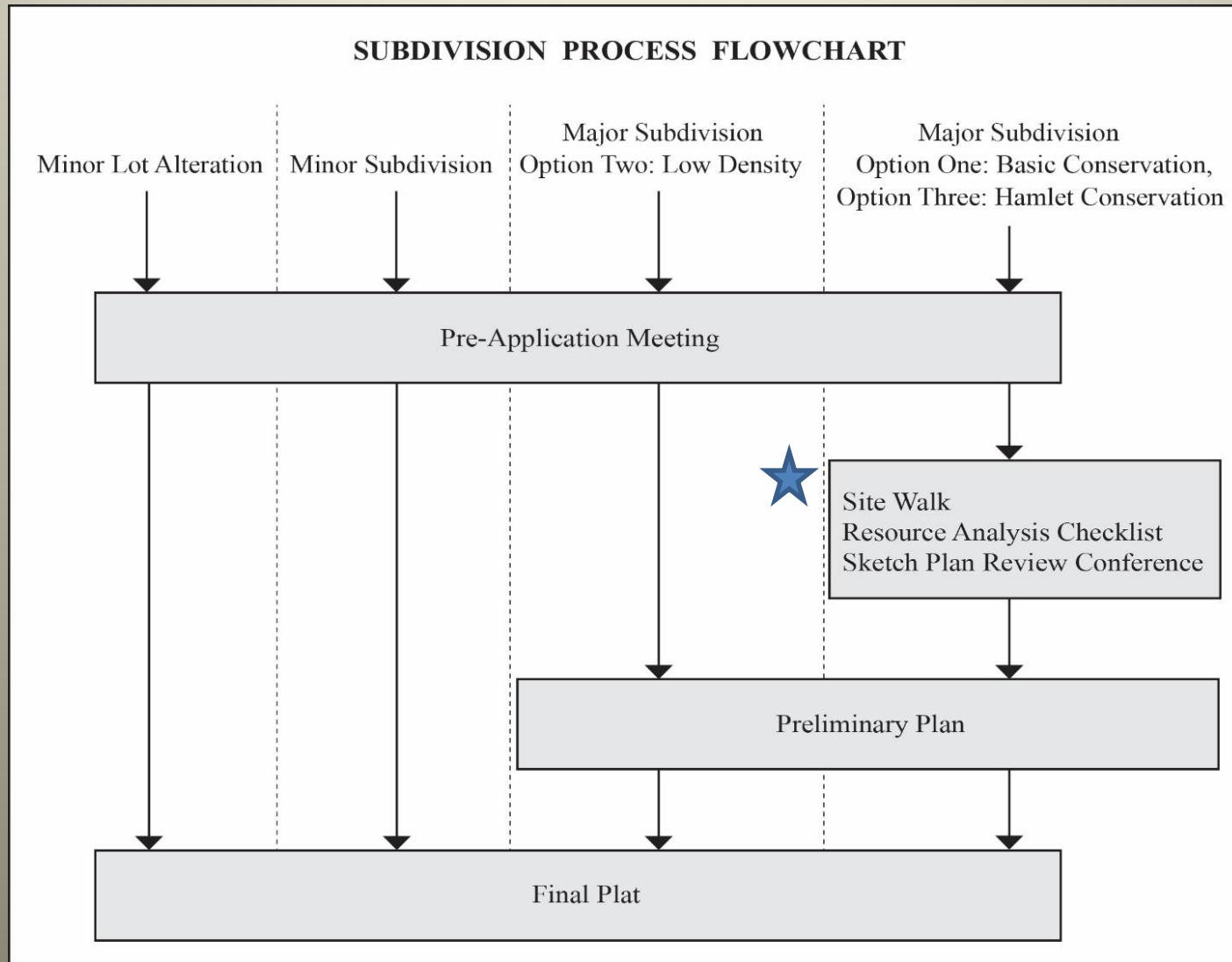


The Conservation Subdivision Design (CSD) process begins using a **"Map of Potential Conservation Lands"** that shows environmentally sensitive areas & existing parcels:



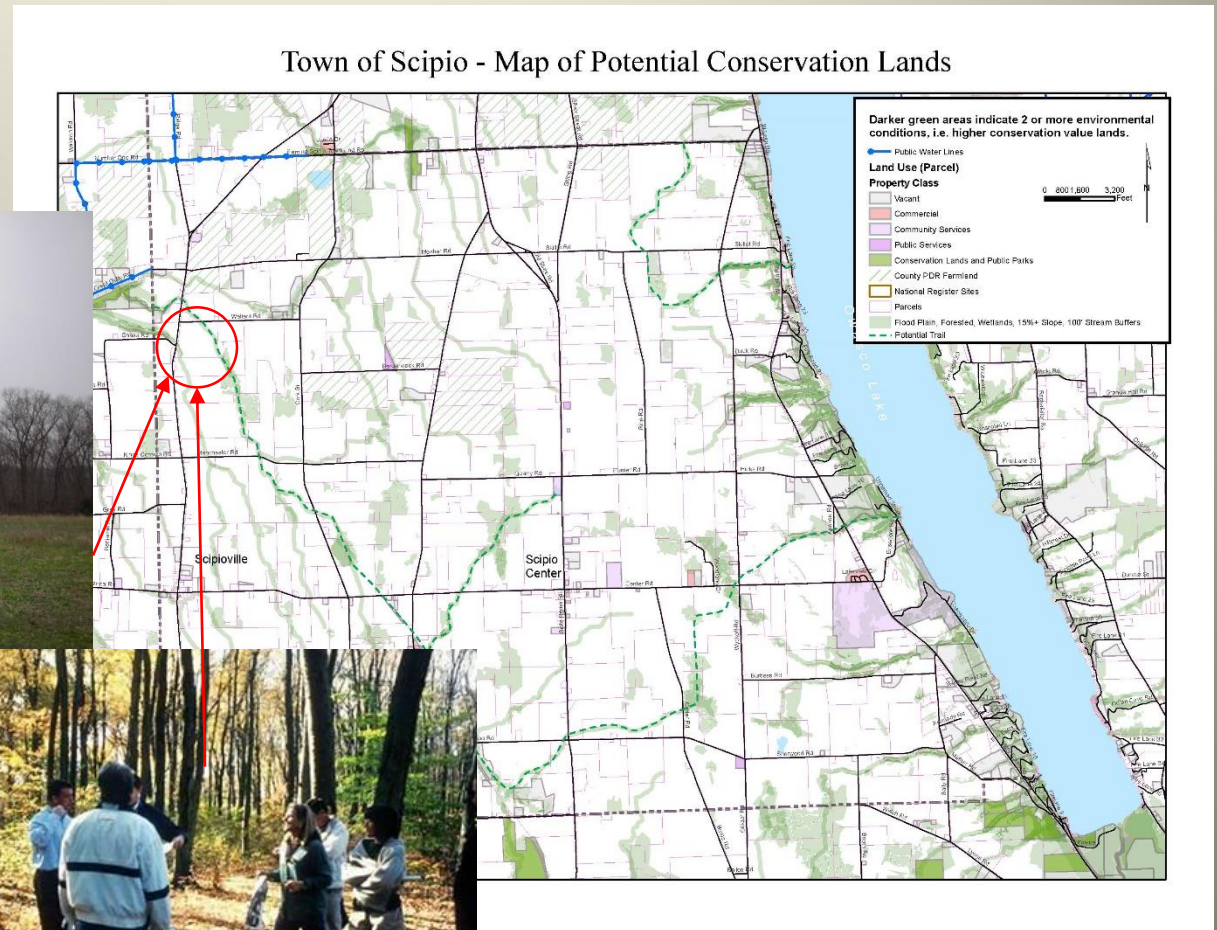
# So, how does the CSD process work?

## It is for "Major" subdivisions only



# A Pre-application meeting with the Planning Board is followed by a Site Walk and Sketch Plan

The developer, with two Planning Board members, and interested neighbors attend a site walk.



**A paper copy is made from the Town map showing the parent parcel and sensitive lands on that parcel (shown in green).**



**During the site walk, this map is used to rough sketch the analysis for locating individual houselots - 4 Steps:**

1. Delineating conservation areas
2. Identifying approximate house locations within potential development areas
3. Sketching alignment of streets and trails
4. Sketching in the lot lines

**A checklist is used  
during the site walk  
to identify specific  
resources:**

### Resource Analysis Checklist

Site Address \_\_\_\_\_ Scipio, NY

#### Land:

Farmland

- ☐ One acre or less
- ☐ Between one and five acres
- ☐ Five to less than twenty acres
- ☐ Twenty acres or more

Number of farmland acres preserved by deed restriction \_\_\_\_\_

- ☐ Steep Slope Areas (15% slope or greater)
- ☐ No Steep Slopes

#### Water:

- ☐ Stream Corridor
- ☐ Lake Shore
- ☐ Aquifers, Aquifer Recharge Areas
- ☐ Freshwater Wetlands
- ☐ Wooded Wetlands or Swamps

#### Woodlands (areas with trees 15" or greater in diameter):

- ☐ One acre or less
- ☐ Between one and five acres
- ☐ Five to less than twenty acres
- ☐ Twenty acres or more

#### Habitat/Biodiversity:

- ☐ Known Threatened or Endangered Species
- ☐ Ecologically Sensitive areas (vernal pools, fresh water springs, etc.)

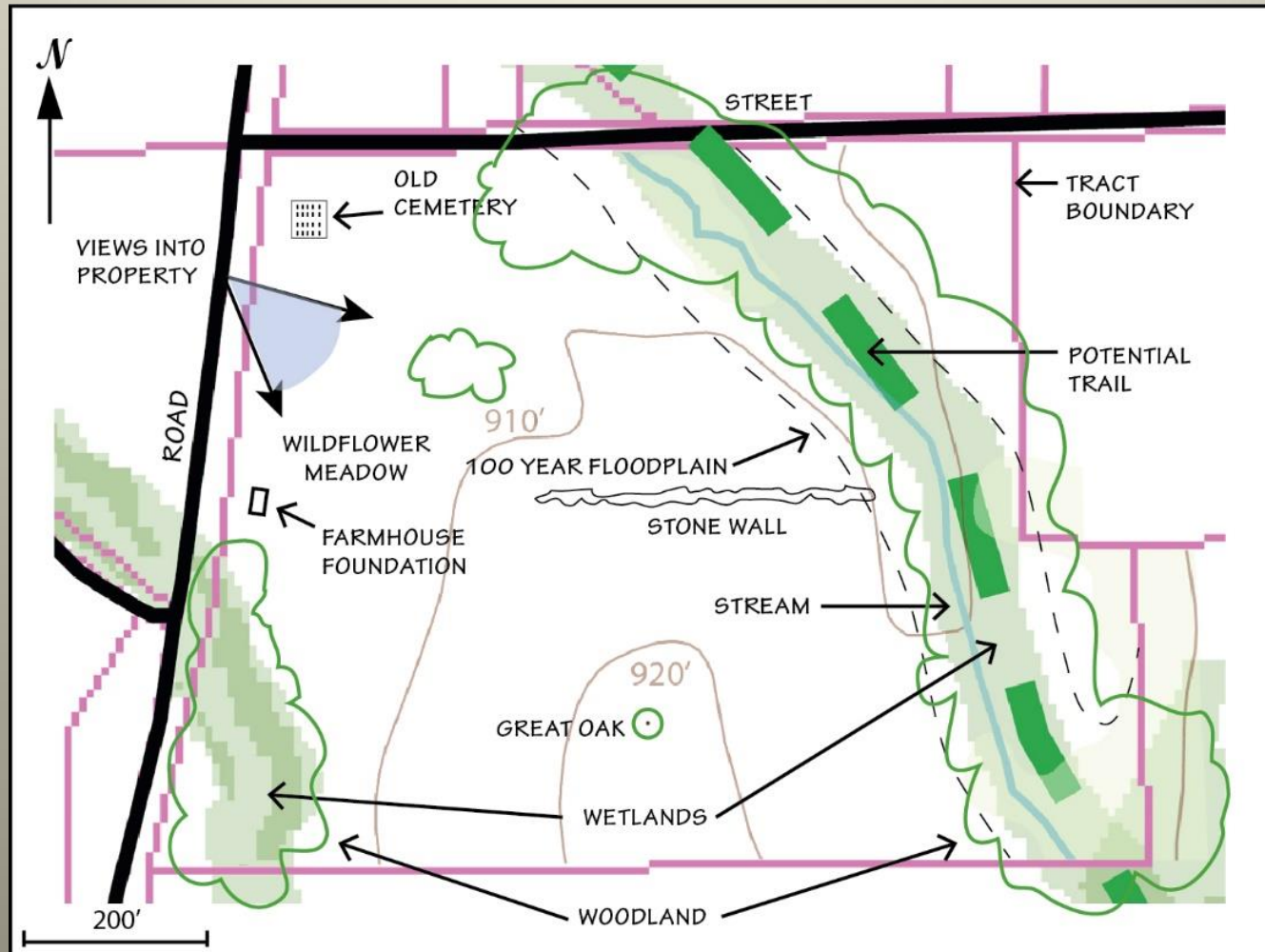
#### Cultural/Historic Resources:

- ☐ Buildings more than 75 years old
- ☐ Stone Walls
- ☐ Roads, Bridges, Culverts
- ☐ Cemeteries

**With the parcel map on a clipboard, the sketch analysis begins during the site walk.**



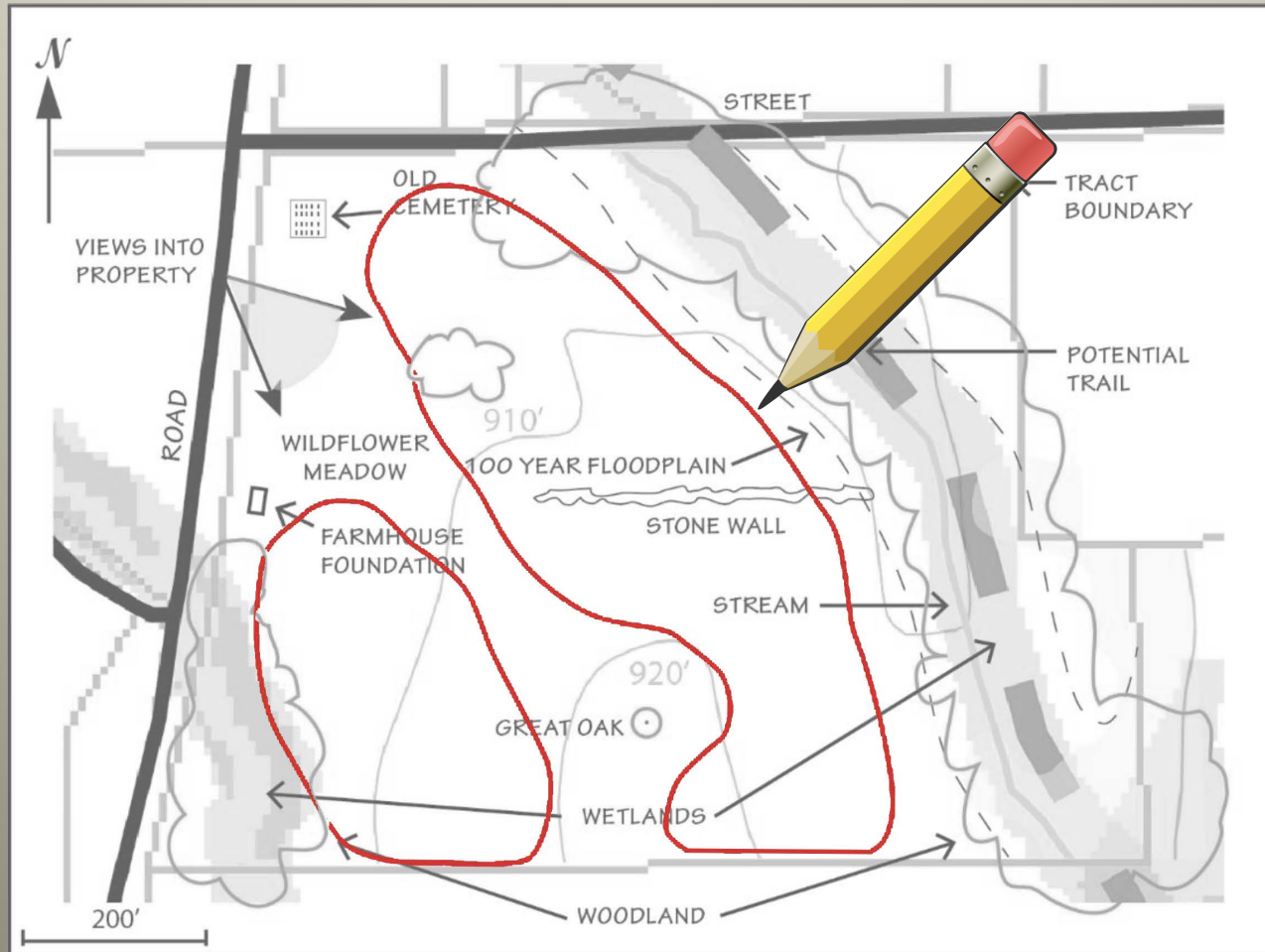
All potential Conservation Elements are noted in their approximate locations on the Parcel Map



Back at the office:

## Potential Development Areas are identified outside of the identified resources.

(generally 100' from streams, steep slopes, wetlands, etc.)



**Next, house locations are approximated within the identified potential development areas**



# Street alignments are then approximated to provide access to the house lots.

(Trail linkages through conservation area trails can be suggested)



# The last step is to sketch in approximate lot lines

(showing the approximate boundaries of individual lots and conservation lands)



# When completed, the 'Sketch Plan' is used by the Developer to begin engineering for the 'Preliminary Plan'



**The Sketch Plan shows how:  
this 36 Acre Parcel yields:**

(18) 1-acre house lots, and  
(18) acres of Conserved Land.

50% of the parent parcel  
(the most important lands)  
to be under permanent conservation  
easement, preserving open space  
views, habitat, and water quality.

# Through a simple easement, the land conserved from development (in pink) can be:



- a. privately held in one or two of the lots
- b. held in common in an HOA
- c. donated to a Land Trust, or to the Municipality

# What are the Benefits of Zoning for Traditional Neighborhood Design (TND)?

## Community Character

Better pedestrian and multimodal movement, new opportunities for public transit services, reduced traffic pressures and dependence on the automobile. TND regulations and design guidelines are written to complement existing development and perpetuate traditional existing community character.

## Housing Diversity

Broader choices for the consumer in terms of neighborhood settings, lot sizes, housing types and styles, and opportunities for more affordable housing or housing options for a variety of populations.

## Resource Conservation

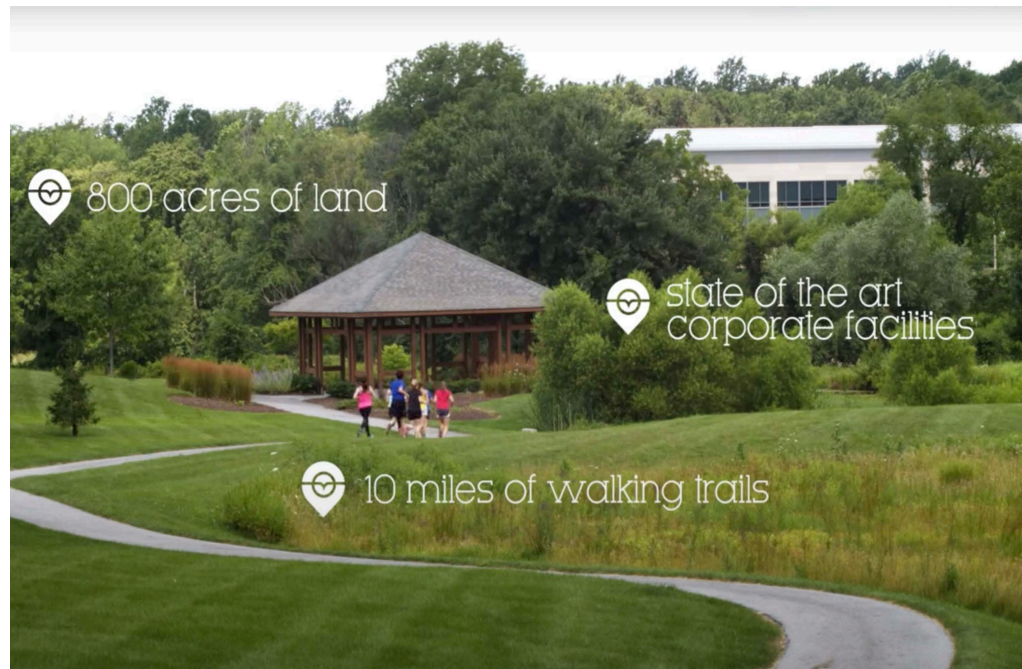
Energy conservation through land use efficiency, multimodal transportation, and public transit facilities. TNDs also reduce the amount of required new infrastructure, such as sewer, water and road facilities. TNDs can be paired with **Transfer of Development Rights (TDR)** to direct growth out of rural areas and into areas better served by infrastructure, and with **Conservation Subdivision Design (CSD)** to preserve natural areas, open space and trails.

## Cultural Heritage Preservation

Traditional village patterns are designed to complement historic development patterns, and be compatible with existing historic town centers. Historic structures can be incorporated within the development making TNDs well-suited for an expansion of existing village development patterns. **Design Guidelines for TND** typically include features and architecture based on existing local structures and development patterns - they fit in.



## Traditional Neighborhood Development (TND) or Village Residential District (VRD)



800 acres of land



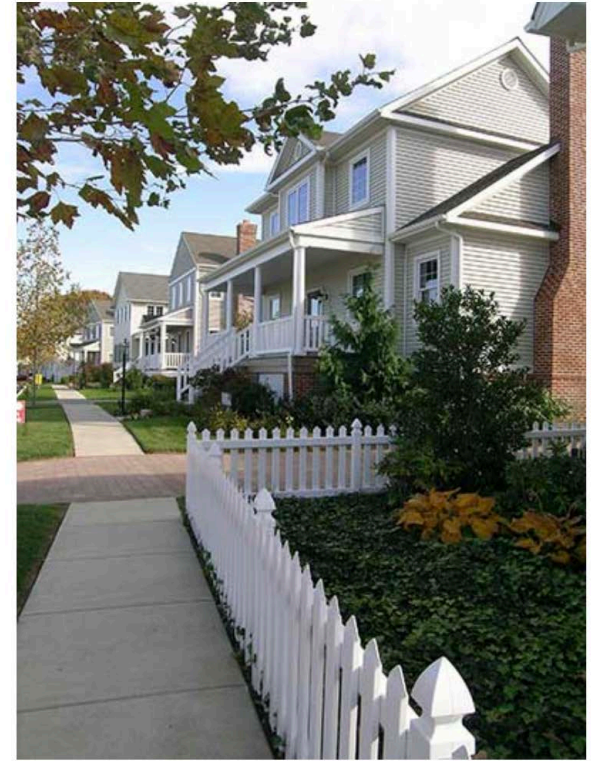
state of the art  
corporate facilities



10 miles of walking trails

## Where Should the Village Residential District Be Used?

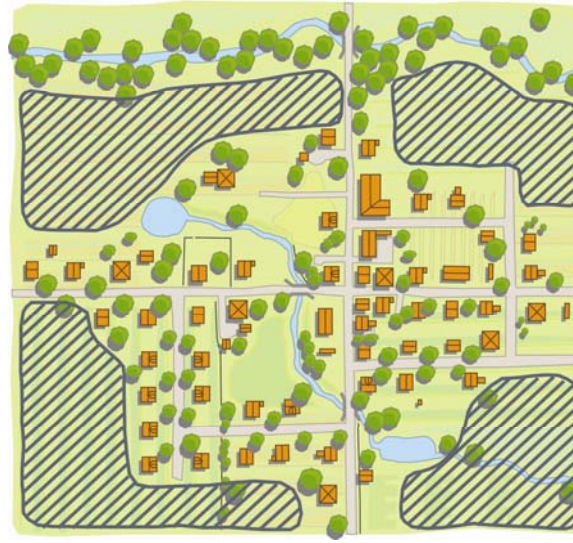
The Village Residential District should be used any place that is appropriate for high-density multifamily development. In particular, the VR District should be located near existing villages, shopping areas, schools, offices, institutions, parks, and any other destination points that are accessible by walking. These destination points should be clustered together to create a new town or village - a place that people can identify, where it is possible to walk or drive a short distance from one destination to another, where sewers, water, and roads can be provided economically.



*Three situations where VR zoning might be applied:*



*Infill within a village*



*Extension of a village*



*Creation of a new village*

*POTENTIAL INFILL SITES IN AN EXISTING VILLAGE*



## Suitable Location - Infill Within a Village

Across Montgomery County, there are many boroughs and villages that have a large concentration of older housing. Within these areas, there are often larger lots or vacant lots that can be developed. Unfortunately, in the past, these areas have often been developed with “parachute” housing - housing that looks like it was dropped in from the air and does not belong. This “parachute” housing is often set back further from the street than the existing housing stock and often has parking or a garage directly facing the street. It clearly does not belong. The VR District, on the other hand, would encourage housing that more closely matches the character of the village or borough.

*DEVELOPABLE LAND ON EDGE OF VILLAGE*



## Suitable Location - Extension of a Village

Many communities in Montgomery County have concentrated their higher-density residential and retail commercial zoning near existing villages or other concentrations of development. This is a good way to plan. By concentrating new higher-intensity development around cores of existing development, the community makes it easier to economically provide sewers and water lines, matches up new development with the most compatible form of existing development, creates a walkable environment, and helps create a sense of place.

Unfortunately, in the past, the new high-density residential development built next to existing villages has not always matched the character of the existing village. The VR District would require development to have more of an “old-fashioned” village character that would fit in with the existing historic character found in Montgomery County’s villages and boroughs.



*VACANT LAND (INCLUDING A FORMER AIR STRIP)*

## Suitable Location - Creation of a New Village

Some communities do not have existing developed areas that can be extended. Or they want to preserve their existing villages and hamlets within their historic context, with a greenbelt around these villages, and do not want new high-density residential development next to the villages. In these cases, it is necessary to put the high-density housing somewhere else. When high-density housing is outside of an existing core, this housing should be designed to create a new, identifiable core. It should probably encompass a total of 150 to 200 acres, preferably on more than one parcel, and should also be near new commercial or institutional zoning so there are destination points nearby.



Fully Mixed Village Residential Development

VS.

Typical High Density Development



## Mixing Requirements

One of the most visible features of older towns and villages is the mix of homes that exist in these communities. These places don't consist of one identical box after another, like so much suburban housing that has been built over the last 40 years. Instead, they contain a variety of housing types and sizes, mixed together, providing a range of housing choices for people with different incomes, ages, or lifestyles.

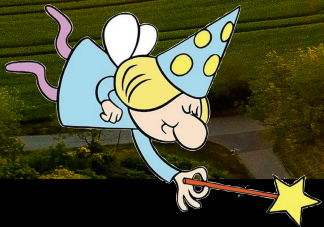
In the VR District, village residential developments between 5 and 10 acres must have at least two of the permitted housing types, while those with 10 or more acres must have at least three housing types, with no one type comprising less than 15% of the total. Furthermore, to guarantee more of a mixture from block to block, the village residential district also sets limits on the number of homes of any one type that can be located in a row along a street.

Although village residential developments must be mixed, the ordinance does not mandate the type of mix and lets the various housing types be driven by the market. A developer could choose to go relatively low-density, with singles, village homes, and twins, or a developer could choose to go relatively high-density, with apartments, townhouses, and twins.

# How can your municipality can implement CSD & TND to grow and conserve Open Space?

- Establish a Local Zoning Commission & Begin Local Law Review
- Tailor appropriate CSD & TND language to be included in a Draft Town Zoning & Subdivision Update
- Ammend the Town's Zoning & Subdivision regulations to include the CSD & TND
- Present a coordinated Zoning & Subdivision package for SEQRA review, public review, hearing & adoption

**NYS Department of State  
offers grants of up to 90%  
of the cost of municipal Smart  
Growth Zoning Updates.**



# and Welcome Good Development!

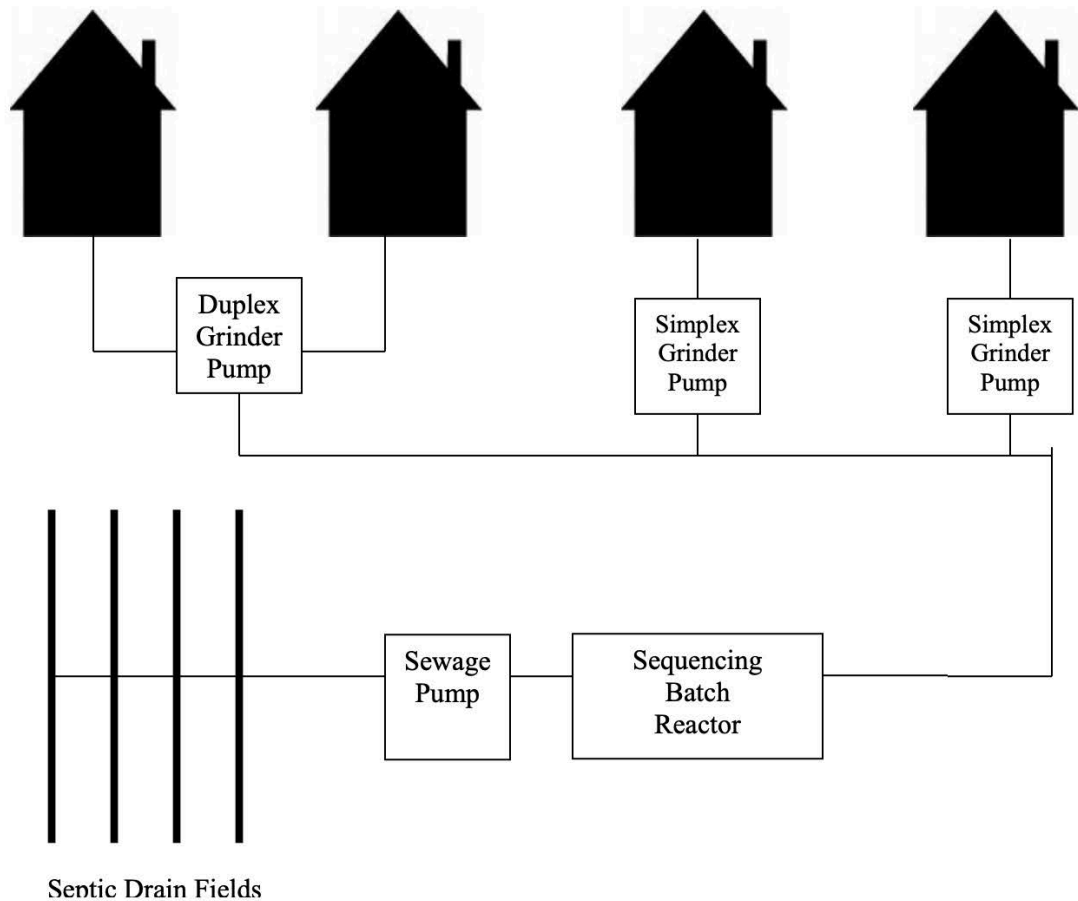


Central New York Regional Planning & Development Board

## Walnut Grove, MD Shared Septic:

### System Features:

Residents in areas with public sewer have their sewage piped to a municipal treatment plant where it is usually treated and discharged to a receiving body of water. Other residents have their sewage treated in individual On-Site Sewage Disposal Systems (OSDS) where treatment begins in a septic tank and then discharges to a drain field on their property. Your community is served by a shared septic system, which combines features of both the municipal treatment plant, and OSDSs. Referring to the diagram below, sewage leaves your house and a grinder pump pumps the sewage into a collection system located in the public right of way. The collection system pipes the untreated sewage to your neighborhoods wastewater treatment system, which is a Sequencing Batch Reactor (SBR). The treated sewage is then pumped to a use-in-common drain field located on property owned by the homeowners association.



## **What are the advantages to using a shared septic system?**

1. Homes that are hooked into a shared septic system have yards with no restrictions on building accessory structures, pools, and decks other than maintaining a 30-foot separation from the water well. Homes with on-site septic systems often have limitations or will not accommodate accessory structures, pools and decks.
2. The Howard County Bureau of Utilities (BOU) is responsible for the operation, maintenance and ultimate replacement of the shared septic system. The BOU is also responsible for the operation and maintenance of the grinder pump located in the utility easement at the front of your property. This includes emergency response by a maintenance professional 24 hours a day, 7 days a week. You are only responsible for the maintenance of the line from your house to the metal cleanout by the grinder pump cover. Owners of individual OSDs are responsible for the operation, maintenance and replacement of their entire system.
3. It is better for the environment! Nitrogen is a type of nutrient that contributes to the Chesapeake Bay's poor water quality. In a shared septic system, the added treatment by the SBR discharges effluent that has less nitrogen (8 to 10 mg/L) than that from an on-site sewage disposal system (200 – 400 mg/L).
4. It returns water to the ground rather than discharging it to surface waters like a municipal treatment system does.
5. The use of a shared septic system leads to the clustering of homes, which allows for the preservation of open space and agriculture.

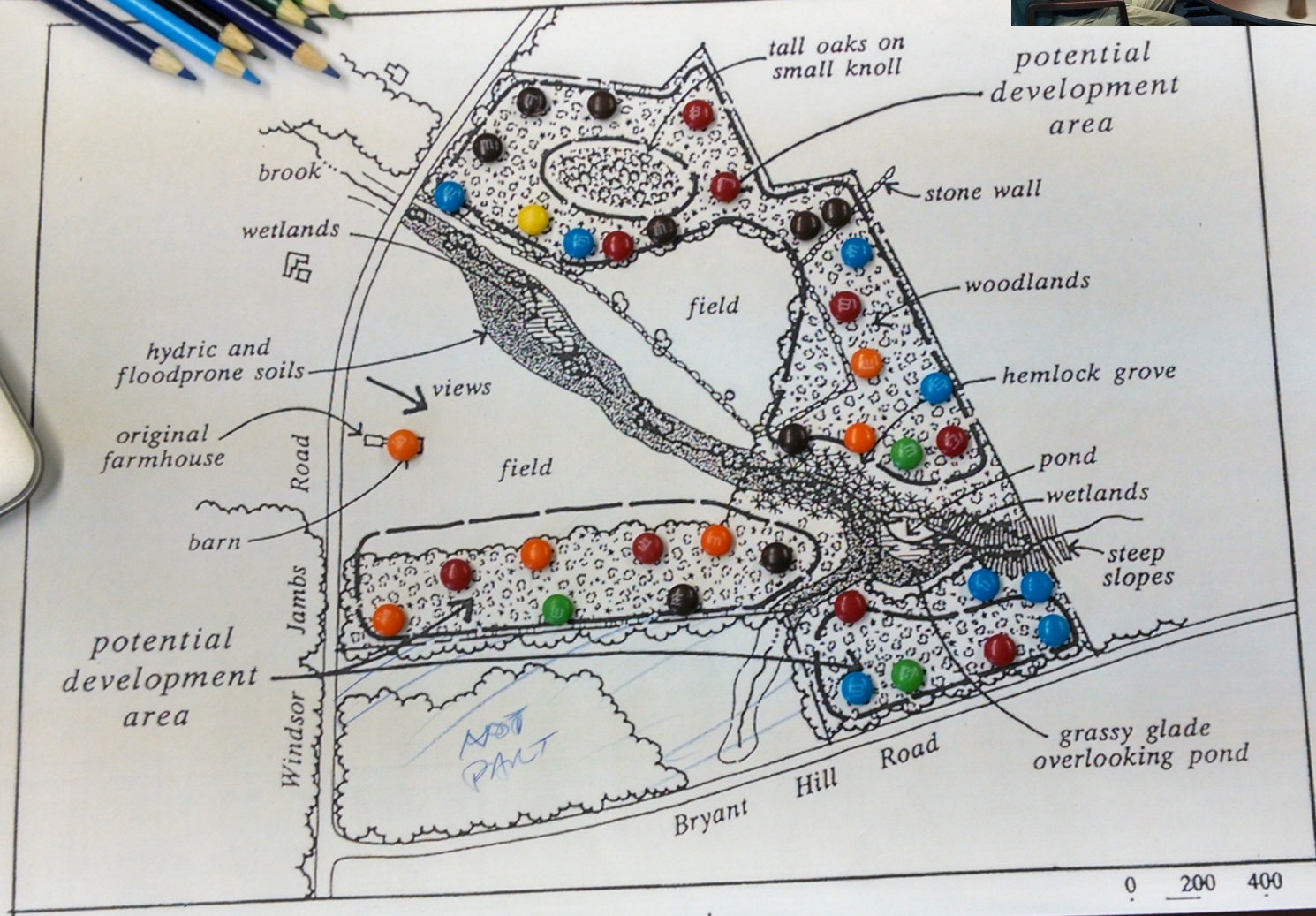
## **How are the fees for use of the shared septic system decided upon?**

Initially, the fees for using the shared septic system are set by the developer of the subdivision, Walnut Grove LLC. They are responsible for the operation and maintenance of the system for at least one year past 80% occupancy of the lots utilizing the shared septic system. Once the system is dedicated to Howard County, the Bureau of Utilities then becomes responsible for the setting of fees. Each shared septic system is unique, therefore, fees are calculated on what it actually costs to maintain and ultimately replace the system in your neighborhood. Your user fees may be higher than typically charged for the use of a municipal treatment system because the costs are shared by only eighty six homeowners. There are three components to the total fee amount:

- Approximately 80% of the yearly costs are associated with the general operation and maintenance of the system. This includes but may not be limited to County labor costs, contract services for operation and maintenance, lawn care, replacement equipment and any necessary parts and supplies.
- A fund is set aside for the future replacement of the drain fields.
- There is a risk pool set aside for the *pre-mature* failure of the drain fields.

Each year the costs are compared to the total revenues collected. If there is a need for a fee increase or decrease, your homeowner's association will be notified.

# The Sketch Map Exercise





Lake

Wetland Edge

Stone Wall

Hydric  
Soils &  
Steep  
Slopes

Hemlock  
Grove

Mossy Bank

Community  
Park

Meadow

Meadow

Views

NATURE TRAIL

Potential  
Development  
Area

Mixed  
Woodland

Views

Field

Original  
Farmhouse

Barn

Views

Town Planning Associates

Conserve Rural Lands

Grow Smart

Farmland  
Transitioning to  
Residential Subdivision  
46 Acres  
2-Acre Standard  
23 Homes